

Town of Topsfield



KEVIN HARUTUNIAN
TOWN ADMINISTRATOR

PROJECT MANUAL
BID AND CONTRACT DOCUMENTS

Project Title: TOPSFIELD VILLAGE PARK

Prepared By: J THOMA LAND DESIGN STUDIOS, LLC

Preparation Date: APRIL 12, 2024

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SECTION 00 11 13: ADVERTISEMENT FOR BIDS

ADVERTISEMENT
TOWN OF TOPSFIELD, MA

NOTICE TO CONTRACTORS

Invitation for Bids Topsfield Village Park

Contact Information:

Debi Morong
Town of Topsfield
Purchasing Agent
8 W Common St.
Topsfield, MA 01983
(978) 887-1504
dmorong@topsfeld-ma.gov

The Town of Topsfield, hereinafter referred to as the Awarding Authority, hereby invites sealed bids for the project listed above.

Bids shall be on a form supplied by the Town of Topsfield, shall be clearly identified as a bid and signed by the bidder. Bids shall clearly be labeled with the project name. All bids for this project are subject to all applicable provisions of law and in accordance with the terms and provisions of the contract documents entitled:
Topsfield Village Park.

Bids shall be submitted before **2:00 P.M., Thursday, May 9, 2024**, at which time the bids will be opened and read aloud. All bids will be taken under advisement and be awarded at a later date.

The Bid Opening will take place in the Select Board Conference Room, which is in the Town Hall.

Bids shall be filed with the **Town of Topsfield, Purchasing Office, Town Hall, 8 W Common Street, Topsfield, MA** accompanied by the bid deposit previous to the time named for opening of bid.

SPECIFICATIONS AND PLANS will be available starting **Wednesday April 17, 2024, from 9:00 A.M. to 4:00pm Mon. -Thurs.**, or request electronically via email to: dmorong@topsfeld-ma.gov, **Debi Morong, Town of Topsfield Purchasing Agent.**

There will be no informational pre-bid conference for this project.

Kevin Harutunian
Town Administrator

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SECTION 00 11 16: INVITATION FOR BIDS

1. INVITATION

- 1.01 The Town of Topsfield/County of Essex, acting by the Official designated in the advertisement, invites sealed bids for providing the goods or services and performing the work as described in the Purchase Description and Specifications (Section 01 11 00) attached hereto, in accordance with the terms and conditions of the attached contract documents.

2. SUBMISSION OF BIDS

2.01 *Filing Of Bid and Form Of Bid Deposit*

The original bid shall be signed. The original bid and a duplicate copy thereof (which may be a photocopy) shall be enclosed in an envelope. The envelope shall be sealed and plainly marked on the outside thereof with a description of the goods or services to be provided, bid opening date, and the bid number, if applicable. The bid shall be filed before the time and at the place designated in the Advertisement attached and incorporated by reference herein and shall be accompanied by a bid deposit in the form of a bank check, a certified check, treasurer's or cashier's check issued by a responsible bank or trust company, payable to the Town of Topsfield, or a bid bond in a form satisfactory to the Official with a surety company qualified to do business in Massachusetts if, and as specified, in the Advertisement.

2.02 *Time For Filing Bids; Time of Bid Opening*

Bids shall be filed no later than the time and date designated in the Advertisement; the opening of bids shall be on the date and at the time specified in said Advertisement.

2.03 *Withdrawal of Bids*

No bid may be withdrawn after the time set for bid opening except by written notice received by the Official prior to the time and date set for bid opening as set forth in the Advertisement. No bid filed by any responsible and responsive bidder may be withdrawn after the date and time of opening, nor prior to the execution and delivery of a contract to the lowest and responsible and responsive bidder. The Official shall award a contract prior to the expiration of ninety (90) days (Saturdays, Sundays and legal holidays inclusive) after the opening of bids, or within such other time specified in the Advertisement.

3. BID DEPOSITS: AMOUNT; RETURN OF DEPOSIT; FAILURE OF PERFORMANCE/LIQUIDATED DAMAGES

3.01 *Amount Of Bid Deposit*

The amount of any bid deposit shall be five percent (5%) of the value of the bid, including alternates, as specified in the Advertisement. All bid deposits of twenty-five dollars (\$25.00) or less shall be retained by the Town as a bid filing charge.

3.02 *Return of Deposit*

All other bid deposits, as specified in Section 2.01, except those of the three lowest responsible and responsive bidders, shall be returned upon notice of award of a contract, or if no award is made, no later than ninety (90) days after the date of the opening of bids. The bid deposits of the three lowest responsible and responsive bidders shall be returned only upon the execution and delivery of the contract to the Town or, if no award is made, no later than ninety (90) days after the date of the opening of bids or, if federal, state or other government approval is required, within thirty (30) days (Saturdays, Sundays, and legal holidays included) after the date of such approval.

3.03 *Failure of Performance; Liquidated Damages*

If the successful bidder fails to perform his agreement to execute a contract and furnish the required security for performance within ten (10) days (Saturdays, Sundays and legal holidays excluded) after an award is made to him, or within such additional time as the Official may authorize in writing, the bid deposit shall become and be the property of the Town of Topsfield as liquidated damages; provided, that the amount of the bid deposit which becomes the property of the Town shall not, in any event, exceed the difference between the bidder's price and the price of the next lowest eligible and responsible bidder; and provided further, that, in case of death, disability or other unforeseen circumstance affecting the bidder, the bid deposit shall be returned to the bidder after submission of a sworn affidavit delivered to, and accepted by, the Official.

4. SPECIFICATIONS

4.01 Before submitting any bids, bidders shall fully inform themselves in regard to all conditions pertaining to the Invitation For Bids and all required terms and conditions for carrying out the contract. By filing a bid the bidders do thereby represent that they have so informed themselves. Any estimates, plans or other information relating to the goods, services, labor or materials or work required by the contract documents are to be considered for the purpose of comparing the several bids. Neither the Town/County, nor its officers, agents or employees shall be responsible for the accuracy of, or bound by, such estimates, plans or information.

5. BIDS FOR EQUAL ITEMS

5.01 *Equal Bids Shall Be Considered*

Except where otherwise specifically provided to the contrary in the contract documents, any proprietary name mentioned in the Purchase Description and Specifications is for the purpose of information only and is not intended to limit competition. Bids for any article, assembly, system or any component part thereof (hereinafter "item") equal to that named in the specifications will be considered. An item shall be considered equal to the item so named if (1) it is at least equal in quality, durability, appearance, strength, and design, (2) it will perform at least equally the function imposed by the general design for the work being contracted for or the material being purchased, and (3) it conforms substantially, even with deviations, to the detail requirements for the item in the said specifications.

5.02 *Notice of "Equal"*

A bidder submitting a bid on proprietary item(s) other than the specific item(s) named in the specifications shall submit, with the bid forms filed, a written notice containing the name and full particulars pertaining to such item(s) including, but not necessarily limited to, the manufacturer's name, catalogue number model number and price.

5.03 *Judgment As To Equality*

The decisions of the Official as to whether an item(s) is or is not equal shall be final.

5.04 *Expense of Proving Equality*

Any and all expense necessary to prove to the Official the quality of items offered as equal to the specific item or specified names shall be borne exclusively by the bidder submitting any proposed substitutions.

6. INFORMATION AS TO PROPOSED MATERIALS

6.01 Before any contract is awarded, the bidder may be required to furnish, without expense to the Town, a complete statement of the original composition and manufacture of any or all materials proposed to be used in the performance of the work, together with all samples, which may be subjected to any reasonable tests required by the Official to determine their quality and fitness for the work. The particulars of tests, if any, may be set forth on the form entitled Evaluation Criteria.

7. PRICE BASIS ON CONTRACTS FOR THE PURCHASE OF GOODS AND SERVICES

7.01 *Purchase of Goods Defined*

The purchase of goods shall mean goods as defined in the Uniform Commercial Code, G.L.c.106, §2-105, or all property, other than real property, including equipment, materials, printing and insurance, and further including services incidental to the delivery, conveyance and installation of such property.

7.02 *Purchase of Service Defined*

The purchase of services shall mean the furnishing of labor, time, or effort by a Contractor, not involving the furnishing of a specific end product other than reports.

7.03 *Firm Bid Price; Exception*

Except where otherwise specifically provided to the contrary in the Advertisement, or in the Purchase Description and Specifications, or Evaluation Criteria, as the case may be, prices bid will be accepted by the Town as firm prices unless the Official has specifically requested and a bidder specifically responds in writing in its bid consistent with the Official's request that the prices bid are subject to decrease or increase and the basis for calculation of the amount thereof.

7.04 **Price Escalation**

In the event that the Advertisement, or Purchase Description and Specifications, or Evaluation Criteria, as the case may be, provides that prices for contracts are subject to price change, the bidder shall strictly respond to the Invitation For Bids with respect to price requirements, including the amount or percentage of price change and applicable time period(s).

8. TAXES

8.01 The Town is exempt from federal excise taxes and from the Massachusetts sales and use tax. Exemption Certificates will be provided, if requested, following award to the successful bidder.

9. BASIS FOR ACCEPTANCE/CONFLICT OF INTEREST

9.01 Any bid made will be accepted only on the basis that the bidder, by filing its bid, represents that it is made in good faith without fraud, collusion or connection of any kind with any other bidder for the same work; that the bidder is competing solely in its own behalf without connection with, or obligation to, any undisclosed person, firm or corporation; that no other person, firm or corporation has any interest in the contract; that no officer, agent or employee of the Town/County is financially interested in the contract; that the bidder is fully informed in regard to all provisions of the contract documents, including, without limitation, the specification and drawings, if any; the time for performance and the provisions with respect to liquidated damages, bonds and insurance, if any.

10. QUESTIONS

10.01 All questions as to the interpretation of the Invitation for Bids, Purchase Description and Specifications, Evaluation Criteria and all other contract documents shall be submitted in writing to the Official. Written answers to such questions will be sent by the Official to each person on record as having received an Invitation For Bids and all documents incorporated by reference therein. No questions will be answered unless received by the Official at least seventy-two hours prior to the expiration of the time set for filing bids.

11. CONTRACT AWARD

11.01 **Bid Opening**

Bids shall be publicly opened and read aloud at the time and place designated in the Advertisement.

11.02 **Right To Accept Or Reject**

The Official reserves the right to waive any minor informality and to accept or reject any or all bids. In the event the Purchase Description and Specifications require bids for goods and multiple items each of which has separate price components, the Official reserves the right to accept or reject any item(s) therein and award contracts therefore. The Official shall award the contract to the bidder the Official determines to be the lowest responsible and responsive bidder.

11.03 **Agreement by Bidder**

The submission of a bid shall constitute agreement on the part of the bidder that, if the bidder is given or mailed a notice of acceptance within ninety (90) days (or such other time specified in the Advertisement) of the bid opening, the bidder shall within ten (10) calendar days (Saturdays, Sundays and legal holidays excluded) of receipt of such notice or within such additional time as the Official may authorize in writing, deliver to the Official a contract properly executed together with the required security for performance and any other required contract forms requested by the Official.

12. PERFORMANCE BOND

12.01 A performance bond of a surety company authorized to do business in Massachusetts and satisfactory in form to the Official, or a certified check, or a treasurer's or a cashier's check, issued by a responsible bank or trust company, payable to the Town of Topsfield, may be required of the successful bidder as a security to guarantee the faithful performance of the contract. If security is required, the penal sum of such bond or amount of such check shall be as specified in the Advertisement.

12.02 Simultaneously with the execution of the contract, the successful bidder shall deliver such bond or other security to the Official. Failure to provide the required bond or other security within the time herein specified in paragraph 11.03 shall render the contract award void and result in the forfeiture of the bid deposit as liquidated damages.

13. HARMONIOUS LABOR RELATIONS

13.01 The submission of a bid shall constitute the certification of the bidder that the bidder is able to and will furnish labor that can work in harmony with all elements of labor employed or to be employed on the work.

14. QUALIFICATIONS OF BIDDERS

14.01 It is the purpose and intention of the Official not to award the contract to any bidder who does not furnish evidence, when requested, satisfactory to the Official that he has the ability and experience to perform the pertinent class of work.

15. UNIT PRICE PROPOSALS

15.01 The bidder shall submit the bid upon the Bid Response Form (00 41 13) furnished by the Official. If the bid is on a unit price basis, the bidder shall respond to and specify a unit price, in both words and figures, if so required in the price specifications, for each item for which a quantity is given, and shall show the products of the respective unit prices and quantities written in figures in the column provided for that purpose and the grand total amount of the bid obtained by adding the amounts of the several items. All words and figures shall be typewritten or in pen and ink. In case of a discrepancy between the prices written in words and those written in figures, the written words shall govern. In the event there is a discrepancy between the unit prices and the total sum of all items, the unit prices shall govern.

16. ADDENDA

16.01 Any supplemental instructions, amendments or changes in the Invitation For Bids, or attached documents, shall be in the form of written addenda to this Invitation. If issued, such addenda shall be sent by email to all parties who have obtained the Bidding Documents at the address listed in the Advertisement for Bids and have furnished to the Official a valid email address. Such addenda, if any, will be sent no later than forty-eight (48) hours prior to the time set for the opening of bids.

16.02 Failure of any bidder to respond to any such addenda shall not relieve such bidder from any obligation under the bid as submitted. At the time of the opening of bids, each bidder shall be conclusively presumed to have received and understood all bid documents, including all addenda, and the failure of any bidder to examine any form, instrument or other document which is part of the Invitation For Bids shall in no way relieve such bidder from any obligation arising under law from the submission of a bid.

17. TOXIC OR HAZARDOUS SUBSTANCES

17.01 A bidder filing a bid concerning materials containing toxic or hazardous substances must submit a Material Safety Data Sheet with such bid. This document must accompany any deliveries of materials containing such substances when made by the successful bidder, his agent, or contractor. A bidder agrees to comply with the so-called "Right-To-Know Law", G.C.c.111F, in respect to the labeling, handling and delivery of substances subject to the jurisdiction of said law.

18. INVITATION FOR BIDS INCLUDES BY REFERENCE ALL DOCUMENTS REFERRED TO AND INCLUDED THEREIN

18.01 This Invitation For Bids hereby expressly incorporates by reference any and all documents referred to therein, including without limitation the Advertisement, the Purchase Description and Specifications, the Evaluation Criteria, and all contractual terms and conditions applicable to the procurement.

18.02 This Invitation For Bids expressly incorporates by reference the Project Standard Contract General Conditions and such other contractual terms as the Official deems necessary.

19. PUBLIC RECORDS

19.01 All responses and information submitted in response to this solicitation are subject to the Massachusetts Public Records Law, M.G.L., c. 66, s. 10, and to c. 4, s. 7, ss. 26. Any statements in submitted responses that are inconsistent with these statutes shall be disregarded.

SECTION 00 20 13: INSTRUCTIONS TO BIDDERS

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TOWN OF TOPSFIELD

ARTICLE 1 - TERMINOLOGY

1.1 Defined terms (i.e., capitalized terms) used in this Instructions to Bidders, Section 00 20 13, have the intent and meanings assigned to them in the General Conditions, Section 00 70 00.

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

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.1 Neither the **Town** nor the **Designer** assumes any responsibility for errors or misinterpretations resulting from the

use of incomplete sets of Bidding Documents in preparing Bids.

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

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

ARTICLE 3 - BIDDING DOCUMENTS; SITE CONDITIONS; LAWS

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

3.2 It is the responsibility of all Bidders to refer to Section 00 20 13, Instructions to Bidders, for identification of:

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

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

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

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

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

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

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

3.7.1 The attention of all Bidders is called to, and all Bids submitted shall be subject to, all applicable provisions of Massachusetts General Laws, including but not limited to M.G.L. Chapter 30, Sections 39F, 39K, 39M and 39N, Chapter

149, Sections 29 and 44A through and including 44J. Pursuant to M.G.L. Chapter 60, § 93, it is understood, agreed and acknowledged by the Contractor, and the Contractor by the execution of this Contract so certifies, that the Collector-Treasurer of the Town of Topsfield may withhold from any amounts owing and payable to the Contractor under this Contract any and all sums owed to any department or agency of the Town of Topsfield, together with interest and costs, which remain wholly or partially unpaid. This shall include but not be limited to unpaid taxes and assessments, police details, fire watches, and any other fees and charges until such sums owed have been paid in full. The Collector-Treasurer further may apply any amounts owing and payable to the Contractor to satisfy any sums owed to the Town. Any Contractor who is delinquent in payments to the Topsfield Police Department Detail Billing and Payment Account will be prohibited from bidding on Town of Topsfield Contracts until such detail accounts are paid in full. Any payments due to Contractors currently under contract with the Town that are delinquent in their payments to the Topsfield Police Detail Account will be withheld to the extent of the amount past due, plus interest and costs, until such detail accounts are paid in full.

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

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

3.8.2 The Bidder awarded the Contract shall bear responsibility for the cost and time required to obtain all permits, approvals, licenses and fees necessary for prosecution and completion of the Work.

3.8.3 The **Town of Topsfield** is exempt from the provisions of the Massachusetts sales tax.

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

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

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

3.12 It is the responsibility of each Bidder in the preparation of his/her Bid to account for all other general, local and prevailing conditions at or contiguous to the site which may in any manner affect the cost, schedule, progress, performance or furnishing of the Work. Examples of such other conditions include, but are not limited to (a) the nature and location of the Work, (b) conditions relating to the transportation, disposal, handling and storage of materials, (c) the availability and suitability of labor, materials, water, electric power, telephone, sanitary services and roads, (d) daily and monthly weather variations, including any related subsurface conditions, river stages, or similar conditions, (e) the character, quality and quantity of surface and subsurface conditions at the site, including but not limited to ground water table variations, and the location, configuration and condition of existing structures and Underground Utilities, (f) the character of equipment and facilities needed preliminary to and during Work performance, (g) conditions related to the maintenance of the uninterrupted operation of existing services or facilities and (h) the nature, characteristics and use of adjacent or nearby property insofar as they may affect site operations.

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

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

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

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

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

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

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

ARTICLE 4 - INTERPRETATIONS; ADDENDA

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

4.2 Any interpretation, clarification, correction, addition, or deletion to the Bidding Documents will be binding only if given by a written Addendum, signed by the **Official**. Interpretations, clarifications, corrections, additions, or deletions made orally or in any other manner are not binding and should not be relied upon by the Bidders. Issued Addenda will be sent by email to all parties who, according to the **Official's** records, have obtained Bidding Documents, and have furnished to the Official a valid email address for the purpose of receiving the Addenda. It is the responsibility of the Bidder to check with the **Official** for any addenda issued before submitting bid. Addenda may also be issued to modify the Bidding Documents as deemed advisable by the **Official**.

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

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

ARTICLE 5 - BID SECURITY

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

5.2 All bid deposits, except those of the three (3) lowest responsible and eligible Bidders, shall be returned within five (5) business days after the opening of the Bids. The bid deposits of the three lowest responsible and eligible Bidders

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

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

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

ARTICLE 6 - CONTRACT TIME

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

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

ARTICLE 7 - LIQUIDATED DAMAGES

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

ARTICLE 8 - ITEMS SPECIFIED; SUBSTITUTES

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

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

ARTICLE 9 - BID FORM & BID FORM ATTACHMENTS

9.1 The Bidding Documents include Section 00 41 13: Form for Bid, Section 00 43 13: Bid Bond Form, and any other documents included in the "**Bid Submission Packet**" provided. All blank spaces shall be properly printed in ink or typed in accordance with the requirements of these Instructions to Bidders, and the Bid Form, as applicable. All bid prices shall be entered in both words and figures.

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

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

9.4 Bids by corporations shall be signed by the legal corporate name. The signature of the authorized officer shall be

manually written below the corporate name.

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

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

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

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

ARTICLE 10 - PREPARATION AND SUBMISSION OF BIDS

10.1 Bids must be received by 2:00 PM on the date and at the place stated in the Advertisement. Late bids will not be accepted. Bids submitted orally, or by telephone, or by telegraph or facsimile are invalid and will be rejected without consideration.

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

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

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

ARTICLE 11 - WITHDRAWAL OF BIDS

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

11.2 After the time for receiving Bids has expired, if any Bidder wishes to withdraw his/her Bid because of a bona fide mechanical or clerical error s/he shall submit to the **Official** within five (5) business days after the date of the Bid Opening evidence in the form of estimate sheets showing the purported error together with a notarized statement explaining the reason for the withdrawal request. If the **Official** determines the evidence to be sufficient the **Town** will accept withdrawal and return the Bid Deposit to the Bidder.

ARTICLE 12 - OPENING OF BIDS

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

12.2 Upon inspection of the Bids, if any Bidder who submitted a Bid to the **Town** has any objections to the award of

the Contract to any other Bidder, that Bidder shall lodge that protest, in writing, with the **Town** within two (2) Business Days after the date when the Bids become available for inspection. The protest shall describe in detail the basis for the protest, and shall request a determination under this Article.

ARTICLE 13 - BIDS TO REMAIN OPEN

13.1 All Bids shall remain open for acceptance by the **Town** for no less than the period during which bids shall remain open stated in the Advertisement, if any, or in accordance with applicable law, whichever is greater.

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

ARTICLE 14 - BIDS

14.1 Bids shall be submitted on the Bid Form furnished by the **Town**, which is attached separately and bound to the Bidding Documents. The Bid shall be completely filled in, signed, enclosed in an envelope, sealed, and plainly marked with the Bidder's name, address, and telephone number and the name of the Project. Bids will be valid only when accompanied by a bid deposit in accordance with the requirements of Article 5. The Bid shall be filed with the **Town** at the place designated in the Advertisement. The Bid shall be filed before 2:00 PM on the date stipulated in the Advertisement. Bids received after precisely 2:00 PM will not be accepted and will be returned unopened.

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

14.3 Every Bid shall be accompanied by a bid deposit in the form and amount specified herein. This bid deposit shall become and be the property of the **Town** as liquidated damages if, after a contract is awarded, the bidder shall fail to enter into the required contract within ten (10) days, Saturdays, Sundays and Legal Holidays excluded, after such notice of award is received by him.

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

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

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

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

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

ARTICLE 15 - SUB-TRADES PERFORMED BY BIDDERS

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

ARTICLE 16 - REJECTION OF BIDS

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

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

16.3 The **Town** further reserves the right to reject any or all Bids if it be in the public interest to so do; and to reject any Bid if it determines that such Bid does not represent the Bid of a person competent to perform the work as specified, or that the prices are not reasonable for acceptance without further competition.

ARTICLE 17 - AWARD TO NEXT LOWEST RESPONSIBLE AND ELIGIBLE BIDDER

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

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

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

ARTICLE 18 - CONFLICT OF INTEREST

18.1 A Bidder filing a bid thereby certifies that the bid is made in good faith, without fraud, collusion, or connection of any kind with any other Bidder for the same work, and that the Bidder is competing solely on its own behalf without connection with, or obligation to, any undisclosed person or firm. If any officer, agent, or employee of the **Town** has a financial interest in the Bidder, s/he should consult with the Town of Topsfield Law Department, Room 615, Town Hall, to learn what must be done to comply with the provisions of the Conflict of Interest Law (MGL, Chapter 268A) and the **Town** Charter (Statutes 1909, Chapter 486).

ARTICLE 19 - BIDDERS AS FOREIGN CORPORATIONS

19.1 Pursuant to M.G.L. Chapter 30, Section 39L, the Town will not enter into a contract with a Bidder and shall not

approve as a Subcontractor any foreign corporation until the Bidder or Subcontractor has filed with the **Town** a certificate of the Secretary of State for the Commonwealth of Massachusetts, stating that such corporation has complied with the requirements of section 15.03 of subdivision A of Part 15 of Chapter 156D and the date of such compliance, and further has filed all annual reports required by section 16.22 of subdivision B of Part 16 of Chapter 156D.

**- END OF SECTION 00 20 13 -
INSTRUCTIONS TO BIDDERS**

**SECTION 00 41 13: FORM FOR BID
SECTION 00 43 13: BID BOND FORM**

NOTE TO CONTRACTOR:

Section 00 41 13: Form for Bid, Section: 00 43 13 Bid Bond Form (pages 20-26 respectively) must be deposited with the Awarding Authority and are included in the ***“Bid Submission Packet.”*** If your Project Manual did not contain a separate document entitled ***“Bid Submission Packet”*** you must contact the Awarding Authority immediately to obtain a copy of the required bid forms.

All forms required as part of the bid submission are included as part of the ***“Bid Submission Packet.”*** Please fill out all forms in accordance with the instructions outlined herein and acknowledge any addenda issued during the bid period.

ALL BIDS shall be filed with the Awarding Authority at Town of Topsfield, Purchasing Agent’s Office, Town Hall, 8 W Common St, Topsfield, MA 01983, **before 2:00 pm**, on the date specified herein.

NOTE TO AWARDING AUTHORITY:

This page shall be replaced with completed Section 00 41 13: Form for Bid, Section: 00 43 13 Bid Bond Form (pages 20-26 respectively) upon contract award

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SECTION 00 41 13: FORM FOR BID

PROJECT TITLE: _____

BIDDER: _____

BIDDER'S EMAIL ADDRESS: _____

TO THE AWARDING AUTHORITY, acting on the name and on behalf of the Town of Topsfield:

A. The undersigned proposes to furnish labor and materials required for the Project specified above, located in TOPSFIELD, Massachusetts, in accordance with the accompanying Contract Documents, prepared by TOPSFIELD Purchasing Agent, and the plans and specifications, prepared by the Town's Consultant:

BIDDER: _____

(Name of Bidder/Legal Business Name)
for the Contract Price specified below, subject to additions and deductions, according to the terms of the Contract Documents.

B. The bidder acknowledges the following addendum: _____

C. The drawings in PDF format are the official documents to be used for bidding purposes. The bidder shall acknowledge the receipt of the bid documents in digital form. It is the responsibility of the bidder to review all bid documents included in digital form. It is the responsibility of the bidder to print the drawing set to scale. The contractor shall verify scale accuracy prior to bidding. Any discrepancies in the bid submission due to skewed drawing scales and other inaccuracies are the sole responsibility of the bidder.

The bidder acknowledges the above statement: _____

D. The proposed Contract Price is (written in words): _____

_____ DOLLARS (\$ _____)

<u>FOR ALTERNATE NO.</u>	ADD
1 – Perform all work necessary to	\$ _____ <u>Written:</u> _____ _____
2 – Perform all work necessary to	\$ _____ <u>Written:</u> _____ _____
3 – Perform all work necessary to	\$ _____ <u>Written:</u> _____ _____

E. The Supplemental Unit Prices set forth herein shall be used to determine any equitable adjustment of the

Contract Price in connection with the changes or extra work performed under this Contract as directed by the Town. It is mutually understood and agreed that such Unit Prices include all items of costs, equipment, taxes and insurance of every kind, overhead, and profit for the Contractor and they shall be used uniformly, without modification for addition and deductions. Prices listed under ADDITIONS and DEDUCTIONS are to be the complete total price billed to and paid by the Town therefore. There can be no more than fifteen (15) percent difference in price between the additions and deductions.

SUPPLEMENTAL UNIT PRICES FORM

ITEM DESCRIPTION	UNIT	ADDITIONS	Owner Approval
1. Unclassified excavation below normal depth:			
a. On site disposal, excavation by hand	C.Y.	\$	
b. On site disposal, excavation by machine	C.Y.	\$	
c. Off site disposal, excavation by hand	C.Y.	\$	
d. Off site disposal, excavation by machine	C.Y.	\$	
2. Ledge excavation (pneumatic hammer) including disposal off-site, including replacement with equal volume of gravel:	C.Y.	\$	
3. Trench excavation by machine; material left on site as directed:	C.Y.	\$	
4. Trench excavation by machine; material removed from site:	C.Y.	\$	
5. Rock excavation in trenches and for piers, using explosives; material removed from site:	C.Y.	\$	
6. Rock excavation in trenches and for piers where explosives are prohibited; material removed from site:	C.Y.	\$	
7. Boulder excavation including disposal off site:	C.Y.	\$	
8. Gravel Borrow in place, excluding excavation:	C.Y.	\$	
9. Sand Borrow in place, excluding excavation:	C.Y.	\$	
10. Ordinary Borrow in place, excluding excavation:	C.Y.	\$	
11. Crushed stone in place, excluding excavation:	C.Y.	\$	
12. Formwork for foundation per Contract area including stripping:	S.F.	\$	
13. Formwork for footings:	S.F.	\$	
14. Reinforcing steel in place, not including forms or reinforcing	L.B.	\$	
15. Concrete for foundations in place, not including forms or reinforcing:	C.Y.	\$	
16. Concrete for slabs and similar work, not including forms or reinforcing:	C.Y.	\$	
17. 4 1/2" bituminous concrete pavement with gravel and dense graded crushed stone base sealcoated:	S.Y.	\$	
18. 6" concrete pavement with welded wire mesh, gravel and dense graded crushed stone base:	S.Y.	\$	
19. Dry set prick pavers with gravel and dense graded crushed stone base:	S.Y.	\$	
19. Deciduous Shrub, 2 1/2 -3', B&B:	EA	\$	
20. Evergreen Shrub, 2 1/2 -3', B&B:	EA	\$	
21. Deciduous Tree, 3- 3 1/2" Caliper, B&B:	EA	\$	
22. 6" PVC schedule 40 conduit:	L.F.	\$	
23. 6" Vertical Granite Curb:	L.F.	\$	

F. The undersigned agrees that if s/he is selected as the Contractor, s/he will within ten (10) days, Saturday,

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

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

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

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

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

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

Corporation is incorporated in the State of _____

President: _____

Treasurer: _____

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

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

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

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

3. If the Bidder is a Joint Venture, state the names and business addresses of each person, firm, or company

that is party to the joint venture:

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

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

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

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

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

6. References:

Notice to Bidder: Failure to provide the following information will result in a non-responsive bid. Attach additional sheets as needed.

List three or more contracts on which you served as General Contractor within the past three (3) years (unless a lesser or greater period is specified by the Official) for work of similar size and scope to this project as required in the Specifications in this Invitation For Bids. **INSERT ADDITIONAL QUALIFICATION LANGUAGE PERTINENT TO PROJECT**

Reference 1

Scope of Contract: _____

Company or Entity _____

Contact Name & Phone # _____

Amount of Contract: _____

Reference 2

Scope of Contract: _____

Company or Entity _____

Contact Name & Phone # _____

Amount of Contract: _____

Reference 3

Scope of Contract: _____

Company or Entity _____

Contact Name & Phone # _____

Amount of Contract: _____

7. Bank References: _____

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

9. The Federal Social Security Identification Number of the Bidder (the number used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941) is:

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

1. Have been in business under present business name _____ years.

2. Ever failed to complete any work awarded? _____ Explain: _____

3. Has your organization been restructured or operated under a different name in the past three (3) years?

a. What was the name of the company? _____

b. What was the reason for the restructuring or name change? _____

c. If your company was restructured due to financial hardships or challenges, please explain the circumstances:

4. Is your organization currently involved in any lawsuits with a municipality or public agency? _____

Explain: _____

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

Date: _____

Name of Bidder: _____

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

Business Address: _____

Business Phone: _____ Home Phone: _____

Do you have any answering service: Yes _____ No _____

**END OF SECTION 00 41 13
FORM FOR BID**

SECTION 00 43 13: BID BOND FORM

TOWN OF TOPSFIELD

KNOW ALL PERSONS BY THESE PRESENTS

That _____
of _____, as
PRINCIPAL, and _____,
a _____ Corporation, as **SURETY**, are held firmly bound unto the Town of Topsfield, as
OBLIGEE in the sum of

_____ Dollars (\$ _____), for
the payment of which sum, well and truly to be made, the **PRINCIPAL** and **SURETY** bind themselves, their heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

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

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

IN WITNESS WHEREOF, the parties have signed, sealed and delivered this instrument at TOPSFIELD, MA this
_____ day of _____, 20_____.

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

(Signature/Title of **PRINCIPAL**)

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

(Attorney-in-Fact)

[Attach Power of Attorney to this page]

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

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SECTION 00 51 00: CONTRACT LETTER OF AWARD PAGE

NOTE TO AWARDING AUTHORITY:

The letter of award must be attached to this page.

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

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SECTION 00 52 13: AGREEMENT

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THE TOWN OF TOPSFIELD, a municipal corporation of the Commonwealth of Massachusetts, acting by its Purchasing Agent and, by its Town Administrator and of _____

(The **Contractor**)

hereby mutually agree as follows:

ARTICLE 1 – THE CONTRACT DOCUMENTS

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

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

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

Addenda _____ through _____.

Letter of Award.

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

General Conditions, Section 00 70 00.

Divisions 00 and 01 of the Specifications.

Divisions 10, 31, 32 and 33 of the Specifications, and Drawings, bearing the title 100% Construction Documents, dated April 12, 2024.

Advertisement for Bids and Instructions to Bidders.

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

The **Contractor's** Bid Form.

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

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

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

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

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

ARTICLE 2 - GENERAL DESCRIPTION OF THE WORK

2.1 The Contractor shall furnish all of the materials and perform all of the Work required by the Contract Documents entitled Topsfield Village Park - 100% Construction Documents dated April 8th, 2024.

ARTICLE 3 - THE DESIGNER

3.1 The **Town** has retained J Thoma Land Design Studios, LLC to act as the **Town's** representative, to assume all duties and responsibilities of and have the rights and authority assigned to the **Designer** in the Contract Documents with respect to completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIME

4.1 Contract Time shall commence upon the execution of this Contract by the **Town of Topsfield**, acting by the Town Purchasing Agent and Administrator after the approval of this Contract by the required **Town** Authorities, and the certification of the availability of an appropriation the **Contractor** shall bring the Work to Substantial Completion within 60 calendar days, and to Final Completion within 120 calendar days. The **Contractor** represents to the **Town** that the Contract Time is sufficient to perform the original scope of work in accordance with the Contract Documents. The Contract Time shall be exclusive of lead times for manufactured products that are not readily available within specified time frame. The **Contractor** shall supply proof of order and estimated delivery dates from product vendor for review by **Town**, and **Designer** for determining impacts to schedule. The Town and Designer shall determine any necessitated changes in contract time due to verified long lead times for manufactured products.

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

4.2.1 The **Contractor** agrees to allow the **Town** to deduct from progress payments and retention and to pay to the **Town** as liquidated damages, and not as a penalty, the amount of Five Hundred Dollars and No Cents (\$500.00) for each day that expires after the Contract Time specified in paragraph 4.1 for Substantial Completion until the Work is Substantially Complete. The **Contractor** further agrees to allow the **Town** to deduct from progress payments or retention and to pay to the **Town** as liquidated damages, and not as a penalty, the amounts designated subject to the terms and conditions specified, for each day that expires after each of the Contract Time(s) specified for Substantial Completion or Partial Completion of each of those separable parts of the Work until each of the parts is so substantially or partially complete. After Substantial Completion of the Work, if the **Contractor** neglects, refuses or fails to complete the remaining Work within the Contract Time or any proper extension granted by the **Town**, the **Contractor** agrees to allow the **Town** to deduct from progress payments and retention, and to pay to the **Town** as liquidated damages, and not as a penalty, the amount of Five Hundred Dollars and No/Cents (\$500.00) for each day that expires after the Contract Time specified in paragraph 4.1 for completion and readiness for final payment until the Work is completed and ready for final acceptance. These liquidated damages are cumulative and represent a reasonable estimate of the **Town's** extra expenses, which expenses are difficult to estimate with accuracy, for each day that expires after the associated Contract Times.

ARTICLE 5 - CONTRACT PRICE

5.1 The **Town** shall pay and the **Contractor** shall accept, as full compensation for everything furnished, done by or resulting to the Contract in carrying out this Contract, subject to additions and deductions in the Contract Documents, the amount included on the contract Bid Form. The **Contractor** agrees that the Contract Price complies with prevailing wage requirements and is sufficient to properly staff the Work within the Contract Time.

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

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

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

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

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

ARTICLE 6 - CONTRACTOR'S REPRESENTATIONS

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

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

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

ARTICLE 7 - MISCELLANEOUS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

7.15 Unless otherwise specified in writing, any notice or other communication to the **Town** or **Contractor** shall be sufficiently given if delivered to the intended individual in person or at the corresponding address designated in this Agreement.

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

ARTICLE 8 – AVAILABILITY OF APPROPRIATION

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

- END OF SECTION 00 52 13 -
AGREEMENT

STANDARD CONTRACT DOCUMENT

CONTRACT ID: _____

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

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

Contract Details

Begin Date: _____ End Date: _____
 Rate: \$ _____ Not to Exceed Amount: \$ _____
 (Attach details of all rates, units and charges)

Contract Signatures

\$ _____

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

No payment will be made until the original copy of the executed contract is filed with the Auditing Department

STANDARD CONTRACT GENERAL CONDITIONS

ARTICLE 1 -- DEFINITION OF TERMS:

1.1 The following terms in these Contract Documents shall be construed as follows:

1.1.1 "Town" shall mean the Town of Topsfield, Massachusetts.

1.1.2 "Contract" and "Contract Documents" shall include, in the following hierarchy of document precedence, as applicable: the Town's Standard Contract Document; these Standard Contract General Conditions; the Invitations for Bids, Requests for Proposals, or other solicitations; the Contractor's responses including Contractor Certifications and Applications, excluding any language stricken by Town as unacceptable and including any negotiated statements of work contemplated by the solicitation; and Performance Bonds, which documents are incorporated herein by reference.

1.1.3 "Contractor" shall mean the individual, partnership, corporation or other entity to which this Contract is awarded.

1.1.4 "Official" shall mean the awarding authority/officer acting on behalf of the Town in the execution of the Contract.

ARTICLE 2 -- PERFORMANCE:

2.1 The Contractor shall conform to all determinations and directions, in accordance with provisions of this Contract, of the Official concerning all questions which may arise relating to the performance of services under this Contract.

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

2.3 Town is entitled to ownership and possession of all deliverables purchased or developed with Contract funds. All work papers, reports, questionnaires and other written materials prepared or collected by the Contractor in the course of completing the work to be performed under this Contract shall at all times be the exclusive property of the Town. The Contractor shall not use such materials for any purposes other than the purpose of this Contract without the prior written consent of the Official. All Contractor proprietary rights shall be detailed in the Contract Documents.

2.4 Prior to beginning performance under this Contract, Contractor must receive a Purchase Order from Town.

ARTICLE 3 -- ACCEPTANCE OF GOODS OR SERVICES:

3.1 Performance under this Contract shall include services rendered, obligations due, costs incurred, goods and deliverables provided and accepted by Town. The Town shall have a reasonable opportunity to inspect all goods and deliverables, services performed by, and work product of the Contractor, and accept or reject such goods, deliverables, services, or work product.

ARTICLE 4 -- TIME:

4.1 It is understood and agreed that Contractor's performance shall be timely and meet or exceed industry standards for the performance required.

ARTICLE 5 -- COMPENSATION:

5.1 The Contractor may, in the absence of a payment schedule, periodically submit to the Official invoices, itemizing goods, services, labor and expenses for which compensation is due and requesting payment for goods received or services rendered by the Contractor during the period covered by the invoice.

5.2 Thereupon the Official shall estimate the value of goods or services accepted by the Town in accordance with the specific terms and conditions of a Contract, and Town shall pay to the Contractor such amount less sums retained under the provisions of Article 8 of these General Conditions.

5.3 The Town shall pay in full and complete compensation for goods received and accepted and services performed and accepted under this Contract in an amount not to exceed the amount shown on the face of this Contract paid in accordance with the rate indicated or in accordance with a prescribed schedule.

Acceptance by the Contractor of any payment or partial payment, without any written objection by the Contractor, shall in each instance operate as a release and discharge of the Town from all claims, liabilities or other obligations relating to the performance of a Contract.

5.4 In the event that this Contract provides for reimbursement by the Town to the Contractor for travel or other expenses, the Contractor shall submit such proposed expenses to the Official for approval prior to the incurrence of such expenses, unless the Contract specifically provides otherwise, and all travel reimbursement shall be consistent with the Town's Travel Policies and Procedures.

5.5 The Contractor shall furnish such information, estimate or vouchers relating to the goods or services or to documentation of labor or expenses as may be requested by the Official.

ARTICLE 6 -- RELATIONSHIP WITH THE TOWN

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

6.2 Unless all the terms and conditions for the delivery or provision of goods or services by the Contractor to the Town specified by this Contract are expressly set forth in a writing incorporated herein by reference, such delivery of goods or services shall require written approval of or direction by the Official prior to the incurrence of any liability by the Town. The Town has no legal obligation to compensate a Contractor for performance that is not requested and is intentionally delivered by a Contractor outside the scope of a Contract.

6.3 All alterations or additions, material or otherwise, to the terms and conditions of this Contract must be in writing and signed by the Official and Contractor and filed with the Town Auditor. The Town's Standard Contract Document and Standard Contract General Conditions shall supersede any conflicting verbal or written agreements relating to the performance of a Contract, including contract forms, purchase orders, or invoices of the Contractor.

6.4 Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any way limit the legal or equitable remedies available to that party. No waiver by either party of any default or breach shall constitute a waiver of any subsequent default or breach.

ARTICLE 7 -- ASSUMPTION OF LOSS AND LIABILITY:

7.1 The Contractor shall pay and be exclusively responsible for all debts for labor and material contracted for by Contractor for the rental of any appliance or equipment hired by Contractor and/or for any expense incurred on account of services to be performed under this Contract. (Form CM 11)

7.2 The Contractor shall bear the risk of loss for any Contractor materials used for a Contract and for all goods and deliverables, until possession, ownership and full legal title to the goods and deliverables are transferred to and accepted by the Town.

7.3 To the fullest extent permitted by law, the Contractor shall indemnify, hold harmless, and assume the defense of the Town, its officers, agents or employees, with counsel acceptable to Town, which acceptance shall not be unreasonably withheld, from all liabilities, suits, claims, losses, and costs or any other damages against them or any of them arising from any act or omission of the Contractor, its agents, officers, employees, or subcontractors in any way connected with performance under this Contract.

ARTICLE 8 -- REMEDIES OF THE TOWN:

8.1 If the Contractor provides goods and/or services that do not comply with Contract specifications and requirements as reasonably determined by the Official, the Official may request that the Contractor refurbish services or provide substitute goods at no additional cost to the Town until approved by the Official. If the Contractor shall fail to provide satisfactory goods or services, the Official, in the alternative, may make any reasonable purchase or Contract to purchase goods or services in substitution for those due from the Contractor. The Town may deduct the cost of any substitute Contract or nonperformance of services together with incidental and consequential damages from the Contract price and shall withhold such damages from sums due or to become due to the Contractor. The Town otherwise retains all rights and remedies at law or in equity.

8.2 If the damages sustained by the Town as determined by the Official exceed sums due or to become due, the Contractor shall pay the difference to the Town upon demand.

8.3 The Contractor shall not be liable for any damages sustained by the Town due to the Contractor's failure to furnish goods or services under the terms of this Contract if such failure is in fact caused by the occurrence of a contingency the nonoccurrence of which was a basic assumption under which this Contract was made, including but not necessarily limited to a state of war, act of enemies, embargoes, expropriation or labor strike or any unanticipated federal, state, or municipal governmental regulation or order, provided that the Contractor has notified the Official in writing of such cause as soon as practicable.

8.4 The Town may terminate this Contract for cause if the Contractor has breached any material term or condition and has not corrected the breach within a reasonable period of time after written notice from the Town identifying the breach. This Contract may be terminated at any time for the convenience of the Town at the option of the Official by delivering or mailing to the Contractor at the Contractor's business address a written notice of termination setting forth the date, not less than seven (7) days after the date of such delivery or mailing, when such termination shall be effective. In the event of such termination for convenience, the Contractor shall be compensated for services rendered to the effective date of said termination in accordance with the rates of compensation specified

in this Contract. The parties agree that if Town erroneously, improperly or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

ARTICLE 9 -- REMEDIES OF CONTRACTOR:

9.1 If damages, other than loss on nonconforming services or on services not performed, are actually sustained by the Contractor due to any act or material omission for which the Town is legally responsible, the Town may allow a sum equal to the amount of such damages sustained by the Contractor as determined by the Official in writing, provided the Contractor shall have delivered to the Official a detailed written statement of such damages and cause thereof within thirty (30) days after the act or material omission by the Town.

ARTICLE 10 -- PROHIBITION AGAINST ASSIGNMENT:

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

ARTICLE 11 -- COMPLIANCE WITH LAWS AND PUBLIC POLICY:

11.1 This Contract is made subject to all laws of the Commonwealth of Massachusetts. If the Contractor is a business, the Contractor certifies that it is listed under the Secretary of State's website as licensed to do business in Massachusetts, as required by law.

11.2 The Contractor shall provide, at its sole expense, all necessary licenses, permits or other authorizations required by the Town, the Commonwealth of Massachusetts or any other governmental agency with proper jurisdiction.

11.3 The Contractor shall where applicable take out and maintain during the term of this Contract such Worker's Compensation insurance as may be reasonably necessary to protect the Contractor from claims under General Laws c. 152 (the Worker's Compensation Law). The Contractor shall at all times maintain professional, liability, and other appropriate insurance as required by the solicitation or as otherwise required by Town, but in no event less than the amount and type of insurance coverage sufficient to cover the performance.

11.4 The Contractor agrees and shall require any subcontractor to agree not to discriminate in connection with the performance of work under the Contract against any employee or applicant for employment because of sex, race, color, sexual orientation, gender identity or expression, marital status, parental status, ex-offender status, prior psychiatric treatment, military status, religious creed, disability, national origin, ancestry, source of income, or age, unless based upon a legally permissible and bona fide occupational qualification. The Contractor agrees and shall require any subcontractor to agree to post in conspicuous places notices to be provided by the Massachusetts Commission Against Discrimination, setting forth provisions of the Fair Employment Practice Law of the Commonwealth.

11.5 The Contractor's attention is called to General Laws c. 268A (the Conflict of Interest Law). The Contractor shall not act in collusion with any Town officer, agent, or employee, nor shall the Contractor make gifts regarding this Contract or any other matter in which the Town has a direct and substantial interest.

11.6 The Contractor shall keep himself fully informed of all Town Ordinances and Regulations, and State and Federal laws, which in any manner affect the work herein specified. The Contractor shall at all times observe and comply with said ordinances, regulations or laws, and

shall defend, hold harmless, and indemnify the Town, its officers, agents and employees against any claim or liability arising from or based on the violations of such ordinances, regulations or laws, caused by the negligent actions or omissions of the Contractor, its agents, or employees.

11.7 The Contractor certifies that neither it nor any of its subcontractors are currently debarred or suspended by the U.S. government, the Commonwealth of Massachusetts, or any of its subdivisions.(Form CM 11)

ARTICLE 12 -- AVAILABLE APPROPRIATION:

12.1 This Contract and payments hereunder are subject to the availability of an appropriation therefor. Any oral or written representations, commitments, or assurances made by the Official or any other Town representatives are not binding. Contractors should verify funding prior to beginning performance.

12.2 If the Contract is funded under a grant with the Federal Government, it is being executed without further appropriation pursuant to General Laws c. 44,s.53A.

12.3 When the amount of the Town Auditor's certification of available funds is less than the face amount of the Contract, the Town shall not be liable for any claims or requests for payment by the Contractor which would cause total claims or payments under this Contract to exceed the amount so certified.

12.4 Unless otherwise expressly provided in a writing incorporated herein by reference, the amount certified by the Town Auditor as available funds under this Contract may be increased or decreased by the Official with the written approval of such change by the Town Auditor. In the event of any decrease in the amount certified, the Contractor

shall be compensated for services rendered to the effective date of such reduction, in accordance with the rates of compensation specified in this Contract.

ARTICLE 13 -- RELEASE OF TOWN ON FINAL PAYMENT:

13.1 Acceptance by the Contractor of payment from the Town for final services under this Contract shall be deemed to release forever the Town from all claims and liabilities, except those which the Contractor notifies the Official in writing within six (6) months after such payment.

ARTICLE 14 – PUBLIC RECORDS AND ACCESS

14.1 The Contractor shall provide full access to records related to performance and compliance to the Town for seven (7) years beginning on the first day after the final payment under this Contract or such longer period necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving this Contract. Access to view Contractor records related to any breach or allegation of fraud, waste and/or abuse may not be denied and Contractor cannot claim confidentiality or trade secret protections solely for viewing but not retaining documents. Routine Contract performance compliance reports or documents related to any alleged breach or allegation of non-compliance, fraud, waste, abuse or collusion may be provided electronically and shall be provided at Contractor's own expense. Reasonable costs for copies of non-routine Contract related records shall not exceed the rates for public records under 950 C.M.R. 32.00.

ARTICLE 15 -- STATE TAXATION CERTIFICATION:

15.1 Pursuant to M.G.L. c. 62C, s. 49A, the Contractor certifies under penalties of perjury, that to the best of Contractor's knowledge and belief, Contractor has complied with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support. (NOTE: The Taxpayer Identification Number will be furnished to the Massachusetts Department of Revenue to determine compliance with the above referenced law).

ARTICLE 16 -- MONIES OWED TO THE TOWN:

16.1 Pursuant to M.G.L. c. 60, s. 93, the Contractor agrees that the Collector/Treasurer of the Town of Topsfield may withhold from amounts owing and payable to the Contractor under this Contract any sums owed to any department or agency of the Town of Topsfield which remain wholly or partially unpaid. This shall include but not be limited to unpaid taxes and assessments, police details, and any other fees and charges until such sums owed have been paid in full, and the Collector/Treasurer may apply any amount owing and payable to the Contractor to satisfy any monies owed to the Town.

ARTICLE 17 -- BID COLLUSION:

17.1 The Contractor certifies under penalties of perjury that his/her bid or proposal has been made and submitted in good faith and without collusion, fraud, or unfair trade practice with any other person. As used in this article, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity or group of individuals. Any actions to avoid or frustrate fair and open competition are prohibited by law, and shall be grounds for rejection or disqualification of a Response or termination of this Contract.

ARTICLE 18 – FORUM AND CHOICE OF LAW:

18.1 Any actions arising out of this Contract shall be governed by the laws of Massachusetts, and shall be brought and maintained in a State or federal court in the state of Massachusetts which shall have exclusive jurisdiction thereof.

CERTIFICATE OF AUTHORITY
(For Corporations Only)

(Current Date)

At a meeting of the Directors of the _____
(Name of Corporation)

duly called and held at _____

on the _____ day of _____, at

which a quorum was present and acting, it was VOTED, that

(Name)

the _____ of this corporation is hereby
(Office)

authorized and empowered to make, enter into, sign, seal and deliver in behalf of this

corporation a contract for _____

(Describe Service)

with the Town of Topsfield, and a performance bond in connection with said contract.

I do hereby certify that the above is a true and correct copy of the record, that
said vote has not been amended or repealed and is in full force and effect as of this date,

and that _____
(Name)

is the duly elected _____
(Office)

of this corporation.

Attest:

(Affix Corporate Seal Here)

(Clerk) (Secretary) of the Corporation

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SECTION 00 52 15: CORPORATION COUNSEL SIGNATURE PAGE

The Attached contract number _____ between the Town of Topsfield,

acting by Purchasing Agent as the Awarding Authority (the Town), and

_____, (the Contractor) for the

Project entitled

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

Approved as to matters of form.

Corporation Counsel

EXAMPLE

**- END OF SECTION 00 52 15 -
CORPORATION COUNSEL SIGNATURE PAGE**

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SECTION 00 60 10: LIST OF STANDARD FORMS

NOTE TO CONTRACTOR:

The forms included in this section are included as part of the project manual during the bid period for reference only. If you are selected for this project the Awarding Authority will provide you with original copies of these forms to be completed. These will be included as part of the executed contract with the Official.

NOTE TO AWARDING AUTHORITY:

Upon contract award the following form examples shall be replaced with originals completed by the Contractor and made part of the final contract award.

- 1.1 **00 61 13.13** The form to be used by the **Contractor** as the Performance Bond is attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.2 **00 61 13.16** The form to be used by the **Contractor** as the Payment Bond is attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.3 **00 62 16** The Page to be used by the **Contractor** to attach the Certificate(s) of Insurance.
- 1.4 **00 62 23** The form to be used by the **Contractor** for the Certification of Disposal Facilities is attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.5 **00 62 43** The forms to be used by the **Contractor** for CORI compliance are attached to these Project Forms and incorporated into the Contract Documents by this reference.
- 1.6 **00 62 44** The forms to be used by the **Contractor** for Wage Theft Prevention are attached to these Project Forms and incorporated into the Contract Documents by this reference.

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

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SECTION 00 61 13.13: PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

that we, _____, as Principal,

and _____, as Surety,

are held and jointly and severally bound unto the TOWN OF TOPSFIELD, TOPSFIELD, Massachusetts, as Obligee,

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

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

WHEREAS, the said Principal has entered into a Contract with the Town of Topsfield acting through its Purchasing Agent for a project entitled Topsfield Village Park;

Contract Number _____;

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

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

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

IN WITNESS WHEREOF, the parties hereto have signed, sealed and delivered this instrument at TOPSFIELD,

Massachusetts, this _____ day of _____ 20_____.

Principal

Surety

By: _____

By: _____

Name and Title
(Affix Corporate Seal Here)

Attorney-in Fact
(Affix Corporate Seal Here)

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

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

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SECTION 00 61 13.16: PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

that we, _____, as Principal,
and _____, as Surety,
are both jointly and severally bound unto the TOWN OF TOPSFIELD, TOPSFIELD, Massachusetts, as Obligee,
in the sum of _____ Dollars (\$_____),

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

WHEREAS, the said Principal has entered into a Contract with the Town of Topsfield acting through its Purchasing
Agent for a project entitled Topsfield Village Park;

Contract Number _____;

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

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

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

IN WITNESS WHEREOF, the parties have signed, sealed and delivered this Payment Bond at TOPSFIELD,

Massachusetts this _____ day of _____, 20_____.

Principal **Surety**

By: _____

By: _____

Name and Title
(Affix Corporate Seal Here)

Attorney-in Fact
(Affix Corporate Seal Here)

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

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

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

NOTE TO AWARDING AUTHORITY:

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

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

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SECTION 00 62 23: CERTIFICATION OF DISPOSAL FACILITIES

CONTRACT NUMBER: _____ DATE: _____

I, _____

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

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

Signature of Authorized Representative of Contractor: _____

Name and Address of Contractor: _____

**END OF SECTION 00 62 23
CERTIFICATION OF DISPOSAL FACILITIES**

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SECTION 00 62 43: CRIMINAL OFFENDER RECORD INFORMATION (CORI) AND FORMS

4-7 CORI SCREENING BY VENDORS OF THE TOWN OF TOPSFIELD

4-7.1 Purpose

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

4-7.2 Definitions

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

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

Awarding Authority means any department, agency, or office of the Town of Topsfield that purchases goods and/or services from a vendor.

CHSB means the Criminal History Systems Board defined by MGL c[^] and 803 CMR 2.00

Town means the Town of Topsfield or department, agency or office thereof

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

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

4-7.3 CORI-Related Standards of the Town of Topsfield

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

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

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

- a. The Town does not conduct a CORI check on an applicant unless a CORI check is required by law or the Town has made a good faith determination that the relevant position is of such sensitivity that a CORI report is warranted.
- b. The Town reviews the qualifications of an applicant and determines that an applicant is otherwise qualified for the relevant position before the Town conducts a CORI check. The Town does not conduct a CORI check for an applicant that is not otherwise qualified for a relevant position.
- c. If the Town has been authorized by the CHSB to receive CORI reports consisting solely of conviction and case-pending information and the CORI report received by the Town contains other information (i.e. cases disposed favorably for the applicant such as not guilty, dismissal)

then the Town informs the applicant and provides the applicant with a copy of CHSB's information for the applicant to pursue correction.

- d. When the Town receives a proper CORI report of an applicant that contains only the CORI information that the Town is authorized to receive and the Town is inclined to refuse, rescind, or revoke the offer of a position to an applicant then the Town fully complies with 803 CMR 6.11 by, including but not limited to, notifying the applicant of the potential adverse employment action, providing the applicant with a photocopy of the CORI report received by the Town, informing the applicant of the specific parts of the CORI report that concern with the Town including an opportunity for the applicant to present information rebutting the accuracy and/or relevance of the CORI report, reviewing any information and documentation received from the applicant, and documenting all steps taken to comply with 803 CMR 6.11.
- e. The Town makes final employment related decisions based on all of the information available to the Town, including the seriousness of the crime(s), the relevance of the crime(s), the number of crime(s), the age of the crime(s), and the occurrences in the life of the applicant since the crime(s). If the final decision of the Town is adverse to the applicant and results in the refusal, rescission, or revocation of a position with the Town then the Town promptly notifies the applicant of the decision and the specific reason(s) therefor.

4-7.4 Waiver

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

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

4-7.5 Data Collection and Report

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

4-7.6 Applicability

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

4-7.7 Regulatory Authority

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

4-7.8 Severability

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

4-7.9 Implementation

The provisions of these sections are currently in effect.

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CM FORM 15A

CORI COMPLIANCE

The Town of Topsfield intends to ensure that persons and businesses supplying goods and/or services to the Town of Topsfield deploy fair policies relating to the screening and identification of person with criminal backgrounds through the CORI system. Vendors entering into contracts with the Town must affirm that their policies regarding CORI information are consistent with the standards set by the Town of Topsfield.

CERTIFICATION

The undersigned certifies under penalties of perjury that the vendor is in compliance with the provisions of 4-7.3 described in this section 00 62 43 **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 on the attached CM Form 15B.
3. _____ CORI checks are performed on some or all Applicants. The Vendor's CORI policy is not consistent with the standards set forth on the attached CM Form 15B (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)

NOTE:

The Awarding Authority may grant a waiver of CBC 4-7.3 under exigent circumstance on a contract-by-contract basis.

Instructions for Completing CM Form 15B:

A Vendor should not check Line 1 unless it performs NO CORI checks on ANY applicant.

A Vendor who checks Lines 2 certifies that the Vendor's CORI policy conforms to the standards set forth in CM Form 15B. A Vendor with a CORI policy that does NOT conform to the standards set forth on CM Form 15B must check Line 3. Vendors who check Line 3 will not be permitted to enter into contracts with the Town, absent a waiver, as provided for in CBC 4-7.4. For any waiver to be granted, a completed CM Form 15C must be completed by the awarding authority and attached hereto.

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CM FORM 15B

CORI COMPLIANCE STANDARDS

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

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

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CM FORM 16

WAGE THEFT PREVENTION

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

CERTIFICATION

The undersigned certifies under penalties of perjury that the vendor is in compliance with the provisions of the Executive Order titled “Establishing Requirements for Town Contracts in an Effort to Prevent Wage Theft,” as currently in effect. **All Vendors must certify the following:**

- 1. Neither this firm nor any subcontractor has been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c149, c151, or the Fair Labor Standards Act within three (3) years prior to the date of this bid/proposal submission.

- 2. This firm, or a subcontractor of this firm, has been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c149, c151, or the Fair Labor Standards Act within three (3) years prior to the date of this bid/proposal submission and such documentation is included in the bid/proposal submission.

- 3. Any federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c149, c151, or the Fair Labor Standards Act imposed while any bid/proposal is pending and, if awarded a contract, during the term of the contract, will be reported to the Official within five (5) days of receiving notice.

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

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

(Typed or printed name of person signing quotation, bid or proposal)

Signature

(Name of Business)

Instructions for Completing CM Form 16:

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

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

<http://www.mass.gov/ago/docs/workplace/wage/wagehourposter.pdf>

SECTION 00 70 00: GENERAL CONDITIONS

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TOWN OF TOPSFIELD

ARTICLE 1 - CONTRACT DOCUMENTS

1.1 Use of Terms:

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

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

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

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

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

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

Town - The Town of Topsfield, a municipal corporation in the Commonwealth of Massachusetts, acting by its Purchasing Agent and Town Administrator.

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

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

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

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

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

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

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

Day – A calendar day.

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

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

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

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

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

M.G.L. - Massachusetts General Laws.

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

Official – The assigned Town Agent, acting on behalf of the **Town** in the execution of the Agreement, or his/her authorized representative.

Owner - The Town of Topsfield: see definition for "Town."

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

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

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

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

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

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

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

Substantial Completion - Either the Work has been completed except for Work items representing less than one percent (1%) of the adjusted Contract Price, or completed and opened to public use except for minor incomplete or unsatisfactory items that do not materially impair the usefulness of the Work required by the Contract.

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

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

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

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

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

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

1.2 Interpretations:

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

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

1.2.3. Whenever a provision covering delay, extension, or acceleration which in the Contract Documents covers delay, rescheduling, extended performance, disruption, interference, inefficiency, productivity, and production losses, acceleration, or hindrance and associated cost(s) for which the **Town** is not responsible, or which is not unreasonable under the circumstances, or which was within the contemplation of the parties, specifies that "the **Town** shall authorize the necessary change in Contract Time **only**", the authorized change in Contract Time shall be the **Contractor's** sole and exclusive remedy with respect to the **Town** for any such delay, extension, or acceleration, however caused, resulting from the event contemplated by that provision.

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

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

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

1.3 Applicable Law:

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

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

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

1.4 Intent of the Contract Documents:

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

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

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

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

1.5 Priority of the Contract Documents:

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

1.5.2 If the issue of priority involves the technical Specifications and the Drawings, figured dimensions shall govern over scaled dimensions. Work not particularly shown, identified, sized, or located shall be the same as similar Work that is shown or specified. Detail Drawings shall govern over general Drawings, larger scale Drawings take precedence over smaller scale Drawings and Contract Drawings govern over Shop Drawings. Whenever notes, specifications, dimensions, details, or schedules in the Specifications or in the Drawings, or between the Specifications and the Drawings, or between Change Order or Change Authorization Drawings and Contract Drawings, conflict, the higher performance requirement shall be furnished by the **Contractor** at no increase in the Contract Price or the Contract Time.

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

1.6 Information and Instructions for Contract Documents:

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

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

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

1.7 Ownership and Use of the Contract Documents:

1.7.1 Unless otherwise provided in the Supplementary Conditions, the **Official** shall furnish to the **Contractor** five (5) copies of the Contract Documents at no cost.

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

1.7.3 All work papers, questionnaires and other written material prepared or collected by the **Contractor** in the course of completing the Work to be performed under this Contract shall at all times be the exclusive property of the **Town**. The **Contractor** shall not use such materials for any purposes other than the purpose of this Contract without the prior written consent of the **Official**.

1.8 Relationship with the Town:

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

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

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

ARTICLE 2 - THE TOWN - GENERAL PROVISIONS

2.1 The Town May Stop the Work:

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

2.2 Availability of Lands (Including Properties):

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

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

2.3 Reference Points:

2.3.1 The **Town** through the **Designer** shall provide reference points and will verify them in the field if requested to do

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

2.4 Clerk of the Works:

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

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

2.5 Limitations on the Town's Responsibilities

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

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

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

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

2.6 No Waiver of Legal Rights:

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

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

2.7 Miscellaneous Provisions:

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

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

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

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

Law.

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

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

2.7.7 Decisions for which the **Town** is responsible under the Contract Documents shall be made promptly and, in any event, within thirty (30) days after receipt of written submission but if a decision requires extended investigation and study, it will be made as permitted by M.G.L. Chapter 30, Section 39P.

2.8 Rights to Data

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

ARTICLE 3 - THE DESIGNER-GENERAL PROVISIONS

3.1 General:

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

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

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

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

3.2 Interpretations: Time for Decisions, Approval:

3.2.1. The **Designer** will be the initial interpreter of the requirements for the Contract Documents, and in such capability will render determinations as to the acceptability of Work performed. Unless otherwise provided in the Contract Documents, notices, proposals, or other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents shall be referred initially to the **Designer** in writing with a request for a written decision, which the **Designer** will render within a reasonable time. Once given, the **Designer's** determination shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **Official** written notice of a claim within thirty (30) days after receipt of such determination, in which case the provisions of Article 15 will apply.

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

similar matter.

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

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

3.3 Limitations on the Designer's Responsibilities

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

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

3.4 Clarifications and Interpretations; Unit Price Work:

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

3.4.2. The **Designer**, subject to a prior review with the **Official**, will make determinations about the actual quantities and classes of Unit Price Work done by the **Contractor**.

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

ARTICLE 4 -THE CONTRACTOR - GENERAL PROVISIONS

4.1 General Responsibility

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

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

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

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

4.2 Review of the Contract Documents:

4.2.1. Before undertaking each part of the Work, the **Contractor** shall study and compare the Contract Documents with

each other, verify pertinent figures and applicable field measurements, and coordinate related requirements for dependent Work such as location, dimensions, fit, completeness, consistency, etc.

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

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

4.3 Supervision and Project Management:

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

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

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

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

4.4 Personnel, Materials, and Equipment:

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

4.4.2. Unless otherwise provided in the Contract Documents, the **Contractor** shall furnish, pay for and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water (including water for testing, flushing, and construction), sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

4.4.3. All materials and equipment shall be of good quality and new, unless otherwise allowed, and the **Contractor** shall furnish satisfactory evidence (including reports of required tests) as to their kind and quality. Materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned following the Manufacturer and Suppliers instructions, unless otherwise provided in the Contract Documents. All materials and equipment shall be properly protected against damage throughout the furnishing and performance of the Work so that they remain of good quality and in the as-new condition. For each item, the **Contractor** shall furnish complete information as to preventive maintenance and operating requirements, parts lists in sufficient detail to facilitate ordering replacements, and any applicable special condition. Should the manner or method of installation, specified performance or test results

be contrary to the manufacturer's recommendations, the **Contractor** shall promptly notify the **Designer** in writing of that conflict before proceeding with that Work; otherwise, s/he shall be deemed to have certified that Specifications will be met by the materials or equipment.

4.5 Wage Rates:

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

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

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

4.6 Working Hours:

4.6.1. No laborer, workman, mechanic, foreman, or inspector working within the Commonwealth in the employ of the **Contractor**, Subcontractor, or others shall be required or permitted to work more than 8 hours in any one day, or more than 48 hours in any one week, or more than 6 days in any one week, except in cases of emergency.

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

4.7 Equal Employment Opportunity:

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

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

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

4.8 Lodging, Boarding, and Trading of Employees:

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

4.9 Preference in Employment:

4.9.1. The **Contractor** and each Subcontractor shall give preference in the employment of mechanics and apprentices, teamsters, chauffeurs and laborers, first to the citizens of the Commonwealth who have been residents of the

Commonwealth for at least six months at the commencement of their employment, and who are veterans as defined in M.G.L. Chapter 4, Section 7, clause 43, and who are qualified to perform the Work to which the employment relates; and secondly, to citizens on the Commonwealth generally, and if they cannot be obtained in sufficient numbers, then to citizens of the United States; and shall give preference to veterans and citizens who are residents of the Town of Topsfield.

4.10 Substitutes or "Or-Equal" Items:

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

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

4.10.3. The application shall contain an itemized estimate of all costs that will result directly or indirectly from evaluation and acceptance of the proposed substitute, including, but not limited to costs and delays of redesign, or claims of other contractors affected by the substitute, and changes in operating, maintenance, repair, replacement or spare part costs. The **Contractor** is solely responsible for verifying that substitutes are in accordance with the Contract Documents, and that dimensions, arrangement, design and construction details, and all other features of substitutes are suited to the specified purpose. The **Contractor** assumes full responsibility for the time and cost required to make substitute items conform to the requirements of the Contract Documents, or to implement any changes in the Work or in other work which may be required because of or to accommodate the substitute, or both.

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

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

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

4.11 Schedule Submittals:

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

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

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

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

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

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

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

4.12 Project Photographs:

4.12.1. Before the **Contractor** commences any work at the Site, and on the first work day of each month thereafter until Substantial Completion of the Work, the **Contractor** shall, at his/her expense, have digital photographs with disc storage taken by a competent photographer from different viewpoints, as directed by the **Official** or **Designer**. The **Official** and **Designer** shall have the right to increase or decrease the number of photographs required at each period, maintaining an overall average number of exposures per period.

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

4.12.3. If the **Contractor** fails to provide the photographs as required by the Contract Documents, the **Town** shall be entitled to a corresponding cost set-off against the **Contractor's** next Application for Payment, or may choose to have

the photograph taken by another photographer, and correspondingly charge those associated costs to the **Contractor**.

4.13 Shop Drawing, Samples and Printed Data:

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

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

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

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

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

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

4.14 Shop Drawing Submittals:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

4.15 Samples:

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

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

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

4.15.4. All other samples shall be delivered to the location specified by the **Designer**, with sample identification tags attached and properly filled in. A transmittal notice of listing the delivered samples shall be submitted to the **Designer** and to the **Official** by the **Contractor**.

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

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

4.16 Printed Data:

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

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

4.17 Responsibilities for Repeat Submittals:

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

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

4.18 Operating and Maintenance Instructions and Stock Items:

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

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

4.18.3 Upon the date of Substantial Completion, the **Contractor** shall provide verbal instructions and demonstrations to the **Official** and other **Town** representatives at the Site concerning maintenance of all equipment.

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

4.19 Record Documents:

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

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

4.19.3 Upon Substantial Completion, the **Contractor** shall return the complete set of record documents to the **Designer**. The **Designer** will review these documents and return them to the **Contractor** with any necessary comments. The **Contractor** shall revise the same with no change in Contract Price until satisfactory to the **Designer**, as evidenced by his/her approval endorsed thereon. Upon approval of the **Designer**, the **Contractor** shall, at no increase in the Contract Price, make reproducible transparencies of record drawings on .004 mil polyester base Mylar and provide all copies to the **Designer**.

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

4.20 Instruction Relating to Existing Conditions:

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

4.20.2 Pursuant to M.G.L. Chapter 30, Section 39N, if, during the progress of the Work, the **Contractor** or the **Town** 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 **Town** may request an equitable adjustment in the Contract Price applying to Work affected by the differing Site condition. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a **Contractor**, or upon its own initiative, the **Town** shall make an investigation of such physical conditions and, if they differ substantially or materially from those shown on the plans, or indicated in the Contract Documents, or from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the plans and Contract Documents and are of such a nature as to cause an increase or decrease in the cost or performance of the Work or a change in the construction methods required for the performance of the Work which results in an increase or decrease in the cost of the Work the **Town** shall make an equitable adjustment in the Contract Price and the Contract shall be modified in writing accordingly.

4.21 Removal of Existing Work:

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

4.21.2 On and above existing grades, unless designated in the Contract Documents to be reused, remain, or be altered,

all existing items shall become the property of the **Contractor** and shall be completely removed from the Site by the **Contractor**, at no change in Contract Price.

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

4.22 Marks and Lines:

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

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

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

4.23 Materials, Inspection, Disposition, and Suitable Storage:

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

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

4.23.3 The **Contractor** shall store all delivered materials in proper locations which will not interfere with the Work. If any stored materials are rejected, a notice of rejection will be given to the **Contractor** by the **Official** or the **Designer** in writing. Upon receipt of a rejection notice, the **Contractor** shall, within twenty-four (24) hours thereafter, proceed to remove all such rejected materials from the Site, and completely remove such materials within five (5) working days.

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

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

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

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

4.24 Cutting and Patching:

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

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

4.25 Existing Utilities:

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

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

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

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

4.26 Maintenance of Site:

4.26.1 At all times prior to Final Completion, the **Contractor** shall keep the Site free from accumulation of waste materials or rubbish and be responsible for all landscape maintenance through the contract period within the limit of work.

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

4.26.3 At the end of each work week, the **Contractor** shall thoroughly clean the Site of all rubbish and debris of any nature, and remove such from the Site. The **Contractor** shall thoroughly clean the entire Project and Site. Specific cleaning requirements, prior to final inspection, shall be as set forth in Section 01 70 00 Contract Closeout.

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

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

4.26.6 The **Contractor** shall keep the premises free accumulations of waste materials, rubbish, and other debris. Upon

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

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

4.27 Inspection and Testing of the Work:

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

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

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

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

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

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

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

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

4.28 Claims by the Contractor for Loss or Injury:

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

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

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

4.29 Responsibility for Labor, Material, and Equipment Costs:

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

4.30 Conflict of Interest:

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

4.31 Emergencies:

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

4.32 Miscellaneous Provisions:

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

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

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

4.32.4 The **Contractor** shall give seventy-two (72) hours advance notice of Work on or across private driveways to the owners of the private driveways and the **Designer**. The interference from such Work shall be minimized by restoring service as soon as possible. Except as otherwise provided in the technical Specifications, open excavations shall be bridged with steel plates.

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

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

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

substitute is equivalent to that indicated or required by the Contract Documents.

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

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

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

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

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

4.33 Quality Control:

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

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

4.34 Incidents with Historic Property Deposits:

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

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

4.35 Related Work at Site:

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

4.35.2 The **Contractor** shall afford each other person or the **Town** when performing other work proper and safe access to the Site and a reasonable opportunity for the handling, unloading and storage of materials and equipment and the

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

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

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

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

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

4.36 Mutual Duties and Responsibilities:

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

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

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

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

4.37 The Contractor's Responsibility for Town Costs:

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

the **Town** incurs costs contrary to the provisions of this Article, the **Contractor** shall reimburse those cost to the **Town**.

ARTICLE 5 - SUBCONTRACTORS AND SUPPLIERS

5.1 Use of Subcontractors:

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

5.2 Relation Between Subcontractors and Contractor:

5.2.1 In the event that a suspension, delay, interruption or failure to act of the **Town** increases the cost of performance to any Subcontractor, that Subcontractor shall have the same rights against the **Contractor** for payment of an increase in the cost of his/her performance as provided for the **Contractor** under M.G.L. Chapter 30, Section 39O, paragraphs (a) and (b). Nothing in these paragraphs (a) and (b) shall in a way change, modify, or alter any other rights the **Contractor** or the Subcontractor may have against each other.

5.3 The Contractor's Continuing Responsibilities:

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

5.4 Subagreements:

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

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

ARTICLE 6 - PROJECT COORDINATION

6.1 General Coordination:

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

6.2 Subcontractor Coordination and Communications:

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

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

6.3 Coordination of Electric Service:

6.3.1 The **Contractor** shall coordinate the installation of the permanent primary electrical service with the appropriate

power company, to assure availability of sufficient power for all Project requirements so as not to cause any delay in the Work.

6.4 Coordination with other Contractors:

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

ARTICLE 7 - PROSECUTION AND COMPLETION

7.1 Progress and Completion:

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

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

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

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

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

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

7.2 Compliance with Contract Time Requirements:

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

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

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

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

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

7.3 Substantial Completion; Partial Completion:

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

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

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

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

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

7.4 Partial Utilization:

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

7.4.2 The **Contractor** agrees to permit the Partial Utilization of any part of the Work, by the **Town** prior to Substantial

Completion, in accordance with the following terms:

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

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

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

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

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

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

7.5 Town-Caused Delay:

7.5.1 The **Town** may order the **Contractor** in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as it may determine to be appropriate for the convenience of the **Town**; provided however, that if there is a suspension, delay or interruption for fifteen (15) days or more or due to a failure of the **Town** to act within the time specified in this Contract, the **Town** shall make an adjustment in the Contract Price for any increase in the cost of performance of this Contract but shall not include any profit to the **Contractor** on such increase; and provided further, that the **Town** shall not make any adjustment in the Contract Price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which the Contract provides for an equitable adjustment of the Contract Price under any other Contract provisions.

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

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

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

7.6 Division of Responsibilities:

7.6.1 At the time of Substantial Completion of the Work, or Substantial Completion of a portion of the Work under Partial Utilization, the **Designer** will attach a written recommendation as to division of responsibilities between the **Town** and **Contractor** for security, operation, safety, maintenance, utilities, insurance, and warranties and guarantees, pending final payment (or Substantial Completion of the Work), which shall be binding upon the **Town** and **Contractor**, unless the **Town** and **Contractor** have otherwise agreed in writing and so informed the **Designer**.

7.6.2 Any **Designer's** recommendation as to division of responsibilities under Partial Utilization shall bind the **Town** and **Contractor** at the time when the **Town** starts that Partial Utilization following receipts of evidence of compliance with the requirements of paragraph 10.8 regarding property insurance.

7.7 Unreasonable Delay, Extension, or Acceleration:

7.7.1 For the purposes of justifying increases in Contract Price, no delay or extension (or acceleration in lieu of any such delay or extension) for which the **Town** is responsible under the Contract Documents shall be unreasonable under the circumstances, however caused, unless it extends completion of all or a specified part of the Work beyond the time specified or contemplated for all or a part of the Work in the Progress Schedule.

7.8 Use of Float:

7.8.1 Total Float and Contract Float, whether expressly disclosed in the Progress Schedule or implied by the use of float suppression techniques, are not for the exclusive benefit of the **Contractor** or **Town**, and shall be available to the **Town**, **Designer** and **Contractor** to offset delays which postpone, extend or in any other manner alter the schedule or completion of all or part of the Work.

7.8.2 Adjustment or removal by the **Contractor** of any float suppression techniques used, e.g. preferential sequencing, crew movements, equipment use, form reuse, etc., extended duration, imposed dates, scheduling Work not required for a Contract Time as required Work anyhow, and others will be a prerequisite to an increase in Contract Price or Contract Time.

ARTICLE 8 - PROGRESS PAYMENTS, FINAL PAYMENT & ACCEPTANCE

8.1 Schedule of Values; Application for Payment

8.1.1 The Contractor shall utilize AIA standard 702 and 703 forms for all payment applications. The Schedule of Values shall subdivide the Work into component parts in sufficient detail to facilitate and serve as the basis for progress payments, as specified in these General Conditions, and if not specified, by further detailing of the **Contractor's** bid breakdown. The work breakdown shall be suitable to cover primary work tasks on a percentage basis provided that in no case shall the following values be exceeded: 5% for General Conditions, 5% for Insurance and Bonding, and 2% for Shop Drawings and Submittals.

8.1.2 Pursuant to M.G.L. Chapter 30, section 39K, within fifteen (15) days after receipt from the **Contractor**, of an Application for Payment, the **Town** will make a periodic payment to the **Contractor** for the work performed during the preceding month, and for the materials not incorporated in the Work but delivered and suitably stored at the Site, or at some other location approved in writing by the **Official** to which the **Contractor** has title or to which a Subcontractor has title and has authorized the **Contractor** to transfer title to the **Town**, less (1) a retention based on its estimate of the fair value of its claims against the **Contractor**, and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of M.G.L. Chapter 30, Section 39F, and less (3) a retention not exceeding five percent (5%) of the approved amount of the periodic payment. Payment for materials and equipment stored on or off the Site shall be conditioned on compliance by the **Contractor** with procedures satisfactory to the **Town** to establish the **Town's** title to such materials or equipment or otherwise protect the **Town's** interest, at a minimum to include a fully executed Transfer of Title Form.

8.1.3 The **Contractor's** Application for Payment shall be delivered on the day of each month established by the **Official**, by hand or by registered or certified mail, with return receipt requested, to the office of the **Designer**. The **Designer** shall mark the Application with the date of receipt. The date of receipt of an Application for Payment received on a Saturday shall be the first working day thereafter.

8.1.4 Such Application for Payment shall be in accordance with the Schedule of Values and made on a form approved by the **Official** and shall be arithmetically correct and shall show (a) the value of labor and materials used in the work, and (b) the value, quantity of each item of materials not incorporated in the work but delivered and suitably stored at the Site or elsewhere in accordance with this Article, and shall be accompanied by receipted bills for or other acceptable

evidence of the ownership of, and satisfactory authority to transfer title to the **Town** of, the materials not incorporated in the Work, and in addition, on a form satisfactory to the **Official**, an instrument transferring to the **Town** title to the aforesaid materials.

8.1.5 The **Designer** will submit the **Contractor's** Application for Payment, as checked and approved by the **Designer**, together with the **Designer's** certificate, to the **Official** not later than five (5) working days from the date the **Designer** receives an Application in the proper form from the **Contractor**.

8.1.6 The **Contractor** shall also submit, when requested by the **Official** or the **Designer**, vouchers and such other information showing payments already made by him for labor and materials used in the Work.

8.1.7 The **Designer** shall issue certificates for payments monthly, based on the **Contractor's** monthly Application for Payment. All orders and certificates shall be approved by the **Official** and shall not be binding on the **Town** until so approved.

8.1.8 An Application for Payment covering Work of Subcontractors or Suppliers shall exclude amounts the **Contractor** or a Subcontractor does not intend to pay to Subcontractors or Suppliers for any reason.

8.2 Intent of Review of Application for Payment:

8.2.1 The **Designer's** recommendation of any payment requested constitutes a representation to the **Town**, based on on-Site observations and on the **Designer's** review of the Application for Payment and the accompanying data and schedules, that the Work has progressed to the point indicated, that, to the best of the **Designer's** knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents subject to an evaluation of the Work for conformance with the Contract Documents as a functioning whole prior to and upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work, and to any other qualifications stated in the recommendation, and that the **Contractor** is entitled to payment of the amount recommended.

8.2.2 In the case of final payment, the **Designer's** recommendation that the Work is acceptable shall be an additional representation by the **Designer** to the **Owner** that the conditions governing final payment to the **Contractor** have been met.

8.3 Review of Applications for Payment:

8.3.1 The **Official's** review of an Application for Payment will be based on on-Site observations by the **Designer**, and on the **Designer's** review of the Application for Payment and of the accompanying data and schedules, and shall indicate that, to the best of the **Designer's** knowledge, information and belief, the Work has progressed to the point indicated, and that the quality of the Work is in accordance with the Contract Documents, subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests specified in the Contract Documents, a final determination of quantities and classifications for Unit Price Work, and any other qualifications so stated.

8.3.2 The **Official** may make changes in any Application for Payment submitted by the **Contractor**, and the payment due on said Application shall be computed in accordance with the changes so made, but such changes or any requirement for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment shall be computed in accordance with the changes made as provided herein; provided that the **Official** may, within seven (7) days after receipt, return to the **Contractor** for correction any Application which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such Application shall be the date of receipt of the corrected Application in the proper form and with arithmetically correct computations.

8.3.3 No certificate given or payment made shall be evidence of the performance of this Contract, either wholly or in part and no payment, whether made upon the final certificate or otherwise, shall be construed as an acceptance of *defective* work or materials.

8.3.4 No payment will be made for General Conditions by the **Town** to the **Contractor** until the Contractor provides the following: 1) Schedule of Values; 2) Work Schedule; 3) Submittals Log and Shop Drawing Log. 20% of General Conditions will be withheld until the record drawings are provided in accordance with 4.19. The **Town** may withhold such amounts from progress payments or from the final payment due or to become due to the **Contractor** as are necessary to satisfy any obligations of the **Contractor** under the Contract, or to satisfy other obligations of the Contractor not related to the Contract which the **Town** is ordered to satisfy by a court of competent jurisdiction or is required to satisfy

by law. Obligations of the **Contractor** under the Contract that may result in withholding all or part of a payment if, in the discretion of the **Town**, are not satisfactorily provided include but are not limited to: obtain all required permits and licenses; provide the required temporary facilities; security of the Site; maintenance and weekly cleaning of the Site; fire protection; wind protection; noise/pollution control; establishment of a quality control system; coordination of sub-trades and suppliers; provide a full-time licensed superintendent and competent foreman; payment of police detail and fire watch accounts; payment of **Town** costs for evaluation of substitution requests; payment for Site utilities; payment for all labor and materials; compliance with the TOPSFIELD Resident Jobs Policy requirements; correction of defective work; provide project photographs; establish and maintain on-Site permanent benchmarks; provide operating, service and maintenance instructions; delivery of warranties and guarantees and follow all required close-out and commissioning procedures.

8.4 Refusal to Recommend or to Make Payment:

8.4.1 The **Town** may withhold from any payment an amount based on the **Official's** estimate of the fair value of its claims against the **Contractor**, including but not limited to, any liquidated damages that would become or have been determined to be due; claims made against the **Town** on account of the **Contractor's** performance or furnishing of the Work; direct payments due to Subcontractors in accordance with the provisions of M.G.L. Chapter 30, §39F; subsequently discovered evidence or other items entitling the **Town** to a withholding or set-off against the amount recommended; or because of the **Designer's** refusal to recommend payment. The **Official** will give the **Contractor** immediate written notice stating the reasons for such action.

8.4.2 The **Designer** may refuse to recommend the whole or any part of any payment, or because of subsequently discovered evidence or inspection or test results, nullify any such payment previously recommended, as may be necessary in the **Designer's** opinion, to protect the **Town** from loss because: the Work is *defective*, or completed Work has been damaged requiring correction or replacement; the Contract Price has been reduced by Change Order; the **Town** has been required to correct *defective* Work or to complete Work; reasonable evidence exists that the Work, or specified part, cannot be completed for the Contract Price or will not be completed within the Contract Time; third party claims filed or reasonable evidence indicating the probable filing of such claims; failure of the Contractor to make payments properly to Subcontractors for labor, materials or equipment; persistent failure to carry out the Work in accordance with the Contract Documents.

8.5 Payment Upon Substantial Completion:

8.5.1 Within sixty-five (65) days after the date of Substantial Completion, the **Official** shall send to the **Contractor** for acceptance a Substantial Completion estimate for the quantity and price of the Work done and all but one percent (1%) retainage on that Work, including the quantity, price and all but one percent (1%) retainage for the undisputed part of each work item and extra work item in dispute but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory items and less the total progress payments made to date for the Work. The **Official** also shall deduct from the Substantial Completion estimate an amount equal to the sum of all demands for direct payment filed by Subcontractors and not yet paid to Subcontractors or deposited in joint accounts pursuant to M.G.L. Chapter 30, Section 39F, but the **Official** shall not deduct any amount by virtue of claims asserted against the **Contractor** by Subcontractors or Suppliers.

8.5.2 Within fifteen (15) days after the effective date of declaration of Substantial Completion, the **Official** shall send to the **Contractor** by certified mail or fax, return receipt requested, a complete list of all incomplete or unsatisfactory Work items, and, unless delayed by causes beyond his/her control, the **Contractor** shall complete all such items within forty-five (45) days after the receipt of such list or before the date for final payment and acceptance, whichever is later. If the **Contractor** fails to complete the Work items within such time, the **Official** may, subsequent to seven (7) days written notice to the **Contractor** by certified mail, return receipt requested, terminate the Contract and complete the incomplete or unsatisfactory items and charge the cost of same to the **Contractor**.

8.5.3 If the **Official** fails to prepare and send to the **Contractor** any Substantial Completion estimate required by this paragraph on or before the date specified, the **Town** shall pay to the **Contractor** interest on the amount which would have been due pursuant to such Substantial Completion estimate at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of TOPSFIELD from such date to the date on which the **Official** sends that Substantial Completion estimate to the **Contractor** for acceptance or to the date of payment, whichever occurs first. The **Official** shall include the amount of such interest in the Substantial Completion estimate.

8.5.4 Not later than the sixty-fifth (65th) day after each Subcontractor substantially completes his/her Work in accordance with the Contract Documents, the entire balance due under the Subcontract, less amounts retained by the **Official** as the estimated cost of completing the incomplete and unsatisfactory items of Work, shall be due the Subcontractor; and the **Town** shall pay that amount to the **Contractor**. The **Contractor** shall pay to the Subcontractor

the full amount received from the **Town** less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the **Contractor**.

8.5.5 If, within seventy (70) days after the Subcontractor has substantially completed his/her Work, the Subcontractor has not received from the **Contractor** the balance due under the Subcontract including any amount due for extra labor and materials furnished to the **Contractor**, less any amount retained by the **Town** as the estimated cost of completing the incomplete and unsatisfactory items of Work, the Subcontractor may demand direct payment of that balance from the **Town**. The demand shall be by a sworn statement delivered to or sent by registered mail to the **Official**, and a copy shall be delivered to or sent by registered mail to the **Contractor** at the same time. The demand shall contain a detailed breakdown of the balance due under the Subcontract and a statement of the status of completion of the Subcontract Work. Any demand made after Substantial Completion of the Subcontract Work shall be valid even if delivered or mailed prior to the seventieth (70th) day after the Subcontractor has substantially completed the Work. Within ten (10) days after the Subcontractor has delivered or so mailed the demand to the **Official** and delivered or so mailed a copy to the **Contractor**, the **Contractor** may reply to the demand. The reply shall be by a sworn statement delivered to or sent by registered mail to the **Official** and a copy shall be delivered to or sent by registered mail to the Subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the Subcontract including any amount due for extra labor and materials furnished to the **Contractor** and the amount due for each claim made by the **Contractor** against the Subcontractor.

8.5.6 Within fifteen (15) days after receipt of the demand by the **Official**, but in no event prior to the seventieth day after Substantial Completion of the Subcontract Work, the **Official** shall make direct payment to the Subcontractor of the balance due under the Subcontract including any amount due for extra labor and materials furnished to the **Contractor** less any amount (i) retained by the **Town** as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the **Contractor** in the sworn reply; provided, that the **Official** shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by paragraph 8.5.5 above. The **Town** shall make further direct payments to the Subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this paragraph.

8.5.7 The **Town** shall deposit the amount deducted from a direct payment as provided in part (iii) of paragraph 8.5.6 in an interest-bearing joint account in the names of the **Contractor** and Subcontractor in a bank in Massachusetts selected by the **Official** or agreed upon by the **Contractor** and the Subcontractor and shall notify the **Contractor** and the Subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the **Contractor** and the Subcontractor or as determined by decree of a court of competent jurisdiction and appropriate venue.

8.5.8 All direct payments and deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant in a paragraph 8.5.7, shall be made out of amounts payable to the **Contractor** at the time of receipt of a demand for direct payment from a Subcontractor and out of amounts which later become payable to the **Contractor** and in the order of receipt of such demands from Subcontractors. All direct payments shall discharge the obligation of the **Town** to the **Contractor** to the extent of such payment.

8.5.9 The **Official** shall deduct from payments to the **Contractor** amounts which, together with the deposits in interest-bearing accounts pursuant to paragraph 8.5.7, are sufficient to satisfy all unpaid balances of demands for direct payment received from Subcontractors. All such amounts shall be designated for such direct payments, and the Subcontractors all have a right in such deductions prior to any claims against such amounts by creditors of the **Contractor**.

8.6 Payment to Subcontractors (Chapter 30 §39F):

8.6.1 Forthwith after the **Contractor** receives payment on account of a periodic estimate, the **Contractor** shall pay to each Subcontractor the amount paid for the labor performed and the materials furnished by that Subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the **Contractor**. Not later than the sixty-fifth day after each Subcontractor substantially completes his/her work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the **Town** as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the Subcontractor and the **Town** shall pay that amount to the **Contractor**. The **Contractor** shall forthwith pay to the Subcontractor the full amount received from the **Town** less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the **Contractor**.

8.6.2 Each payment made by the **Town** to the **Contractor** for the labor performed and the materials furnished by a Subcontractor shall be made to the **Contractor** for the account of that Subcontractor; and the **Official** shall take

reasonable steps to compel the **Contractor** to so pay such Subcontractor, however the **Town** shall have no obligation to pay or to see to the payment of money to any Subcontractor or Supplier, except as may otherwise be required by law or by a court of competent jurisdiction. If the **Official** has received a demand for direct payment from a Subcontractor for any amount which has already been included in a payment to the **Contractor** or which is to be included in a payment to the **Contractor** for payment to the Subcontractor, the **Official** shall act upon the demand as provided in this Article.

8.6.3 Any assignment by a Subcontractor of the rights under this paragraph 8.6 to a surety company furnishing a bond under the provisions of M.G.L. Chapter 149, §29 shall be invalid. The assignment and subrogation rights of the surety to amounts included in a demand for direct payment which are in the possession of the **Town** or which are on deposit pursuant to paragraph 8.5.7 shall be subordinate to the rights of all Subcontractors who are entitled to be paid under this Section and who have not been paid in full.

8.6.4 A **Contractor** or Subcontractor shall enforce a claim to any portions of the amount of a demand for direct payment deposited as provided in this Article, by a petition in equity in the Superior Court against the other and the bank shall not be a necessary party. A Subcontractor shall enforce a claim for direct payment or a right to require a deposit as provided in this Article by a petition in equity in the Superior Court against the **Town** and the **Contractor** shall not be a necessary party.

8.6.5 "Subcontractor" as used in this paragraph 8.6 shall mean a person who is approved by the **Official** in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the **Contractor**.

8.7 Final Application for Payment:

8.7.1 Upon written notice from the **Contractor** that the entire Work or a specified part is complete and ready for final payment, the **Designer** will make final inspection with the **Official** and the **Designer** will notify the **Contractor** in writing of all instances of incomplete or *defective* Work revealed by the final inspection. The **Contractor** shall immediately undertake any necessary measures to correct the deficiencies.

8.7.2 After the **Contractor** has completed all such corrections to the satisfaction of the **Designer** and delivered all maintenance and operating instructions, guarantees, bonds, certificates of inspection, marked-up record documents (revised to reflect any changes or corrections made after Substantial Completion) and all other required documents, and after the **Designer** has consented to review the Work to determine whether it is acceptable, the **Contractor** may make application for final payment. The application for final payment shall enclose: affidavits certifying that the bonds and insurance are in effect and that insurance coverage will not be canceled, adversely changed or renewal refused except as provided under paragraph 10.5.5; AIA document G707 certifying that the surety agrees that final payment shall not relieve the surety of any of its obligations under the Bond; affidavits of compliance; complete and legally effective waivers acceptable to the **Official** from all persons holding payment claims against the Work, or if any Subcontractor or Supplier refuses or fails to furnish such waiver, a bond or other security acceptable to the **Official** to indemnify the **Town** against any such payment claim; and a list of all property damage and injury insurance claims arising due to Work performed handled by the **Contractor** and the **Contractor's** insurer identifying the claimant, the nature and the action taken.

8.8 Final Payment and Acceptance:

8.8.1 If, on the basis of the **Designer's** observation of the Work and final inspection, and his/her review of the final Application for Payment, the **Designer** is satisfied that the Work, or specified part of the Work, has been completed and the **Contractor's** other obligations under the Contract Documents have been fulfilled, the **Designer** will, within thirty (30) days after receipt of the final Application for Payment, furnish to the **Official** and the **Contractor** the **Designer's** recommendation of acceptance. If not satisfied, the **Designer** will return the Application to the **Contractor** indicating in writing the reasons for not recommending final payment and acceptance, in which case the **Contractor** shall make the necessary corrections and resubmit the Application.

8.8.2 After the receipt of an Application for final payment, and within sixty-five (65) days after (a) the **Contractor** fully completes the Work or substantially completes the Work so that the value of the Work remaining to be done is, in the estimate of the **Official**, less than one percent (1%) of the original Contract Price, or (b) the **Contractor** substantially completes the Work and the **Town** takes possession for occupancy, whichever occurs first, the **Town** shall pay the **Contractor** the entire balance due on the Contract less (1) a retention based on its estimate of the fair value of its claims against the **Contractor** and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of M.G.L. Chapter 30, §39F, or based on the record of payments by the **Contractor** to the Subcontractors under this Contract if such record of payment indicates that the **Contractor** has not paid Subcontractors as provided in §39F.

8.8.3 In consideration of execution of this Contract by the **Town**, the **Contractor** agrees that simultaneously with the acceptance of what the **Town** tenders as the final payment by it under this Contract, s/he will execute and deliver to the **Town** an instrument under seal releasing and forever discharging the **Town** of and from any and all claims, demands, and liabilities whatsoever of every name and nature both at law and in equity arising from growing out of, or in any way connected with this Contract, save only such claims, demands, and liabilities as are expressly excepted in said instrument. It is agreed that the person who in fact executes and delivers said instrument shall be deemed to be authorized and empowered to execute and deliver the same on behalf of the **Contractor**.

8.8.4 If the **Town** does not concur with the **Designer's** determination, the **Town** will return the application to the **Contractor** indicating in writing the reasons for refusing final acceptance, in which case the **Contractor** shall make the necessary corrections and resubmit the application. The **Town's** written determination will be binding upon the **Contractor**, unless s/he delivers to the **Town** a written Notice of Claim within thirty (30) days after receipt of the determination in compliance with Article 15.

8.8.5 If through no fault of the **Contractor** final completion of the Work is significantly delayed and if recommended by the **Designer**, the **Town** may, upon receipt of the **Contractor's** Final Application for Payment, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the balance to be held by the **Town** for Work not fully completed or corrected is less than the retainage on that Work, the affidavits specified in paragraph 8.7.2 and the releases or waiver, or bonds, shall be furnished as required and submitted by the **Contractor**. Payment of the balance due shall be made under the provisions for final payment, but it shall not constitute a waiver of claims.

8.9 Payment for Labor and Materials by Contractors and Subcontractors:

8.9.1 The **Contractor** agrees that s/he and all Subcontractors performing the Work shall pay for all Labor performed or furnished and materials used or employed in the performance of the Work including lumber so employed which is not incorporated in the Work and is not wholly or necessarily consumed or made so worthless as to lose its identity, but only to the extent of its purchase price less its full salvage value, and including also any material specially fabricated at the order of the **Contractor** or Subcontractor for use as a component part of the Work so as to be unsuitable for use elsewhere, even though such material has not been delivered and incorporated into the Work, but only to the extent that such specially fabricated materials is in conformity with the Contract Documents, or any charges for materials used or employed therein which are consigned to the **Contractor** or to a Subcontractor who has a direct contractual relationship with the **Contractor**, and shall pay all sums due for the rental or hire of vehicles, steam shovels, roller propelled by steam or other power, concrete mixers, tools, and other appliances and equipment employed in the Work; and shall pay the transportation charges directly related to such rental or hire; and shall pay all sums due trustees or other persons authorized to collect such payments from the **Contractor** or Subcontractors based upon the labor performed or furnished as aforesaid for a maximum of one-hundred twenty (120) consecutive calendar days, for health and welfare plans and other fringe benefits which are payable in cash, and provided for in collective bargaining agreements between organized labor and the **Contractor** or Subcontractors.

8.9.2 In the event that the Contract Documents provide for reimbursement by the **Town** to the **Contractor** for travel or other expenses, the **Contractor** shall submit such proposed expenses to the **Official** for approval prior to the incurrence of such expenses.

8.10 Penalties for False Claims:

8.10.1 The attention of the **Contractor** is directed to each of the following sections of the M.G.L. regarding penalties for presentation to the **Town** of what the **Contractor** or Subcontractor knows to be a false claim or claims.

8.10.1.1 M.G.L. Chapter 266, §67B provides for criminal penalties of a fine of not more than Ten Thousand Dollars (\$10,000.00) or for imprisonment for not more than five years in State Prison or for not more than two and one half years in the House of Correction, or both; M.G.L. Chapter 12, §5B provides for civil penalties of not less than Five Thousand Dollars (\$5,000.00) and not more than Ten Thousand Dollars (\$10,000.00) per violation, plus three times the amount of damages sustained by the Town as well as the cost to recover said damages; and M.G.L. Chapter 29, §29F provides for debarment from bidding on all public work for a specified period of time that may be imposed for willfully supplying materially false information incident to performing any public contract or subcontract.

8.11 Contractor's Continuing Obligation:

8.11.1 The **Contractor's** obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following constitutes acceptance of Work not in accordance with the Contract Documents or a

release of the **Contractor's** obligation to perform the Work in accordance with the Contract Documents: (a) a recommendation of any progress or final payment by the **Designer**, (b) the issuance of a certificate of Substantial Completion, (c) any payment by the **Town** to the **Contractor**, (d) any Partial Utilization by the **Town**, (e) any act of acceptance by the **Town** nor any failure to do so, (f) any review and approval of a Shop Drawing, sample, test procedure, or other Submittal, (g) any review of a Progress Schedule, (h) any inspections, tests or approvals, (i) the issuance of a notice of acceptability by the **Designer**, (j) any correction of *defective* Work by the **Official**.

8.12 Waiver of Claims:

8.12.1 The making and acceptance of final payment will not constitute a waiver by the **Town** of any rights in respect of the **Contractor's** continuing obligations under the Contract Documents, nor will it constitute a waiver of (a) any claims by the **Town** against the **Contractor** still unsettled, (b) any claims arising from unsettled payment claims, *defective* Work appearing after final inspection or failure by the **Contractor** to comply with the Contract Documents or the terms of any special warranties or guarantees provided by the Contract Documents or by Law.

8.12.2 The making and acceptance of final payment will constitute a waiver of all claims by the **Contractor** against the **Town** other than those previously made on a timely basis in writing and still unsettled.

ARTICLE 9 - PROTECTION OF PERSONS AND PROPERTY

9.1 General:

9.1.1 The **Contractor** shall be responsible for all Site security and s/he shall protect everything on, in, or at the Site from injury by water, frost, wind, fire, accident, theft, vandalism or other cause, and any interference; take charge of, protect, and be liable for any loss of or damage to the materials for use under this Contract delivered at or in the vicinity of the Site, and whether or not suitably stored at the Site, or at some other location agreed upon in writing by the **Official**, pursuant to this Section by whomever furnished; take all proper precautions to protect the **Town's** property or adjoining property from damage or unnecessary interference; provide proper means of access to the property and replace or put in a good condition every public or private way, conduit, catch basin, fence, trees, or other things damaged by the **Contractor** in performing the Work, unless permanently done away with on approval of the **Official**, for the proper performance of the Work; take all proper precautions to protect persons from injury, unnecessary interference or inconvenience, and be responsible for the results of any failure in doing so; leave an obstructed way along public and private places for pedestrians and vehicular traffic and leave direct access to hydrants; provide proper walks over and around any obstruction made in public places in the performance of the Work; maintain from the beginning of twilight through the whole of every night, on or near the obstruction, sufficient lights and guards to protect travelers from injury thereby; when the Work is suspended keep all roadways and sidewalks in proper condition, and put and leave the same in safe condition at the completion of the Work, all to the satisfaction of the **Official**.

9.1.2 Any additional requirements for protection of persons and property shall be as set forth in these General Conditions and in the Supplementary Conditions.

9.2 Safety and Protection:

9.2.1 The **Contractor** shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs. The **Contractor** shall take all necessary precautions for the safety of, and shall erect and maintain all necessary safeguards and provide the necessary protection to prevent damage, injury or loss to: (a) all employees on the Work, (b) other persons who may be affected, (c) all the Work and materials and equipment to be incorporated into the Work whether in storage on or off the Site and (d) other property at or adjacent to the Site including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Utilities not designated for removal, relocation or replacement. Unless otherwise stated in writing by the **Contractor** to the **Official**, the **Contractor's** safety representative at the Site shall be the superintendent.

9.2.2 The **Contractor** shall, and shall require all Subcontractors to comply with all Laws including **Town** ordinances and regulations governing the safety and protection of persons or property, including but not limited to (a) the Occupational Safety and Health Act and the Hazard Communication Act, as promulgated by the Federal Government and as adopted by the Commonwealth of Massachusetts, and (b) all applicable State health and safety requirements. The **Contractor** shall be responsible for all fines and penalties imposed for any related violation(s) of Federal, State and **Town** health and safety requirements.

9.2.3 The **Contractor** shall notify owners of adjacent property, including Underground Utility owners, in writing seventy-

two hours in advance when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to that property caused, directly or indirectly, in whole or in part, by the **Contractor**, any Subcontractor or Supplier shall be remedied by the **Contractor**, except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of the **Town** or the **Designer**, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the **Contractor**. The **Contractor** shall shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to the Site. These **Contractor's** duties and responsibilities shall continue until the **Designer** has issued written notice to the **Town** and the **Contractor** that the Work is acceptable.

9.2.4 Blasting operations, if any are specifically approved by the **Official**, shall be conducted by competent and suitably trained and qualified persons and in strict accordance with the rules and regulations of the Massachusetts Department of Public Safety governing the keeping, storage, use, manufacturer, sale, handling, transportation or other disposition of explosives, and such other rules and regulations as may be promulgated from time to time by authorities having jurisdiction. The **Contractor** shall obtain all required permits prior to the use of explosives, and shall furnish a copy of those permits to the **Official** prior to their use. When using other hazardous materials or equipment, the **Contractor** shall exercise the utmost care and shall carry on such activities under the supervision of competent and properly qualified persons.

9.2.5 The **Contractor** is fully responsible for initiating, maintaining and supervising all safety precautions and programs related to safety on the Site. The **Contractor** shall submit to the **Official** no later than fifteen (15) days after the Date for the Commencement of Work, his/her written plan for Site Safety and Accident prevention. This plan must be submitted to the **Official** prior to the **Contractor's** submittal of the first Application for Payment.

9.2.6 Except as otherwise may be provided in the technical specifications, if the **Contractor** encounters material at the Site reasonably believed to be asbestos or polychlorinated biphenyl (PCB) which has not been rendered harmless, the **Contractor** shall immediately stop all affected Work, report the condition to the **Official** in writing and take appropriate health and safety precautions. Upon receipt of any such notice, the **Official** will investigate the conditions. If in fact the material is asbestos or PCBs which have not been rendered harmless, the **Official** shall suspend all affected Work and proceed to have the asbestos or PCB material removed or rendered harmless by either negotiating a Change Order or Change Authorization with the **Contractor**, by means of separate contract or as the **Official** may otherwise deem expedient, or in the alternative, terminate the affected Work or the entire Agreement for convenience, as provided in Article 14.

9.2.7 Once the material has been removed or rendered harmless, the affected Work shall be resumed as directed by the **Official**. If any such incident causes or will cause delay, extension or acceleration that postpones, extends or in any other manner alters the schedule or completion of all or part of the Work, the **Owner** shall, pursuant to the provisions in Articles 8 and 11, make or negotiate with the **Contractor**, an adjustment in Contract Price or Contract Time for any increases in the **Contractor's** actual documented cost or the time required to perform the Work. The **Contractor** assumes responsibility for any related delay, extension or acceleration that is reasonable under the Contract Documents.

9.3 Accident Prevention:

9.3.1 The **Contractor** shall comply with all recommendations and requirements for accident prevention of the Associated General Contractors of America and the provisions for accident prevention included in the Commonwealth of Massachusetts, 454, CMR 10.0 "Construction Industry Rules and Regulations." The **Contractor** should note that these aforementioned recommendations and requirements are the minimum standards that are to be adhered to.

9.3.2 Neither the **Town** nor the **Designer** nor any officer, agent or employee of either of them shall be responsible for providing safe working places, safety measures, means or techniques for the **Contractor**, Subcontractors or their employees or any individual.

9.4 Fire Protection and Prevention:

9.4.1 The **Contractor** will ensure that the requirements in the Contract Documents and any and all permits issued regarding Fire Protection and Prevention, including firewatch, are strictly adhered to during the entire Contract Time, until Final Completion of the Work.

9.5 Wind Protection:

9.5.1 The **Contractor** shall take every precaution to minimize danger to persons, damage to the Work, and damage to adjacent properties resulting from winds. These precautions shall include, but not limited to, removing all loose

materials, tools, and/or equipment from exposed locations, and removing or securing scaffolding or other temporary work.

9.6 Insurance Inspection:

9.6.1 The **Contractor** shall provide for periodic inspections by his/her insurance underwriters and shall submit written evidence of the same to the **Official**. The **Contractor** shall, at his/her expense, promptly carry out their recommendations.

9.7 Watchmen:

9.7.1 The **Contractor** shall provide, at no increase in Contract Price, a sufficient number of watchmen at the Site when specifically necessary or as deemed appropriate by the **Contractor** when the **Contractor's** personnel are not present for the protection of all Work, materials, equipment, and property at the Site, from the Commencement of the Work until Substantial Completion of the Project. If the **Contractor** elects, in addition, to use dogs for such purpose, each dog shall at all times be accompanied by an adult handler.

9.8 Welding and Cutting:

9.8.1 All welding and cutting shall be in accordance with TOPSFIELD Fire Department regulations. Torch cutting and/or welding operations by Subcontractors shall have the approval of the **Contractor** prior to start of such operations. In addition to the requirements of this Article, wherever electric or gas welding or cutting work is done in the vicinity of combustible material, or over areas where persons may be found, interposed shields of fireproof material shall be used to protect against fire damage or injury. Personnel with suitable fire extinguishing equipment shall be stationed near welding and cutting operations to prevent the sparks from lodging in floor cracks or passing through floor or wall openings and from lodging in combustible materials. Chemical extinguishers shall be available and ready for use in all locations where torch cutting and/or welding operations are in progress.

9.9 Overloading:

9.9.1 The **Contractor** shall neither cause nor allow the design live load of any or all parts of the structure to be exceeded at any time during the performance of the Work.

9.10 Noise and Pollution Control:

9.10.1 All Work performed under the Contract Documents shall conform to the requirements of M.G.L. Chapter 111, §§ 31C and 142D, Rules and Regulations adopted by the Commonwealth of Massachusetts Department of Public Health, Division of Environmental Health, Metropolitan TOPSFIELD Air Pollution Control District, and the Town of Topsfield Environment Department, Inspectional Services Department, TOPSFIELD Public Health Commission and all other regulatory agencies having jurisdiction.

9.11 Weather Protection:

9.11.1 The **Contractor** shall be responsible for initiating, maintaining, and supervising all weather protection precautions and programs in connection with the Work. As part of this responsibility, the **Contractor** shall provide temporary enclosures and heat to permit construction work to be carried on during the months of November through March, and shall furnish, if required by the **Official**, one (1) accurate Fahrenheit thermometer with daily high and low readings for every 2,000 square feet of floor space where the work areas exceed 2,000 square feet.

9.11.2 "Weather Protection" shall mean the temporary protection of that Work adversely affected by moisture, wind, and cold, by covering, enclosing and/or heating. This protection shall provide adequate working areas during the months of November through March as determined by the **Official** and consistent with the approved Progress Schedule to permit the continuous progress of all Work necessary to maintain an orderly and efficient sequence of construction operations. The **Contractor** shall furnish and install all "weather protection" material and be responsible for all costs, including heating required to maintain a minimum temperature of 40 degrees Fahrenheit at the working surface. This provision does not supersede any specific requirements for methods of construction, curing of materials or the applicable general conditions set forth in the Contract Documents with added regard to performance obligations of the Contract, the **Contractor** shall submit to the **Official** the required number of copies of his/her proposed methods for "Weather Protection."

9.11.3 Weather protection and heating devices shall comply with safety regulations, including provisions for adequate

ventilation and fire protection devices. Heating devices that may cause damage to finish surfaces shall not be used.

ARTICLE 10 - LEGAL REQUIREMENTS AND INSURANCE

10.1 Laws; Permits and Licenses:

10.1.1 The **Contractor** shall become familiar with and comply with all applicable Laws, and shall give all notices required by laws, ordinances, rules, regulations and lawful orders of public authorities applicable to the performance of the Work. Unless otherwise expressly stated, references in the Contract Documents to Laws shall mean the current version or edition of the Law. Unless expressly required by Law, neither the **Town** nor **Designer** shall be responsible for monitoring the **Contractor's** compliance with any Laws. If the **Contractor** believes the Contract Documents deviate from the requirements of any permits, codes or Laws, the **Contractor** shall give the **Designer** and the **Town** prompt written notice. If the **Contractor** performs any Work knowing or having reason to know it is contrary to any permits, codes or Laws, the **Contractor** shall bear responsibility for all resulting cost and delay. Except as provided in paragraph 10.1.3, the **Contractor** shall bear responsibility for all costs and delays arising from these obligations.

10.1.2 The **Contractor** shall obtain and pay for all legally required permits and licenses, and the **Contractor** shall pay all governmental charges, impact fees, inspection fees and other fees necessary for the prosecution of the Work including Work involved in a Change Order, Change Authorization or claim, and submit copies to the **Designer**. The **Contractor** shall meet all requirements of those permits, licenses and fees. If the **Official** has obtained any permits or licenses, the **Contractor** shall meet all requirements of those permits and licenses. The **Contractor** shall pay all charges of utility Officials for connections to the Work. Except as provided below, the **Contractor** shall bear all costs and delays arising from these responsibilities.

10.1.3 If the requirements of any issued permit or license, or of any Laws applicable to the Work, differ from those specified in the Contract Documents, or if not specified, enacted before the date of Bid opening, the **Contractor** shall, promptly after becoming aware, notify the **Designer** in writing. If the **Official**, with the advice of the **Designer**, concludes that the Contract Documents require changing because of that variance, the **Official** shall authorize the required changes together with any adjustment in Contract Price necessitated solely by the variance. If the variance causes or will cause delay, extensions or acceleration that postpones, extends or in any other manner alters the schedule or completion of all or part of the Work, the **Official** shall, pursuant to the provisions in Articles 11 and 12, make or negotiate with the **Contractor**, an adjustment in Contract Price or Contract Time for any increases in the **Contractor's** cost or the time required to perform the Work. The **Contractor** assumes responsibility for any related delay, extension, or acceleration under the Contract Documents.

10.1.4 If the **Contractor** observes that the Contract Documents are at variance with the requirements of any permits, licenses, or Laws, the **Contractor** shall give the **Designer** prompt written notice. If the **Contractor** performs any Work knowing or having reason to know that it is contrary to permits or licenses, or Laws, the **Contractor** shall assume all resultant costs and delays.

10.1.5 If the **Contractor** delays the progress of any related work at the Site let by the **Town** under a separate contract apart from this Contract so as to cause loss for which the **Town** becomes liable, then s/he shall reimburse the **Town** for such loss based on actual costs incurred by the **Town**.

10.2 Patent Fees and Royalties:

10.2.1 The **Contractor** shall pay all license fees and royalties and bear all costs incident to the use, in the performance of the Work or the incorporation into the Work, of any invention, design, process, product or device covered by patent rights or copyrights. If a particular item is specified in the Contract Documents or is selected by the **Contractor** for use in the performance of the Work, and its use is subject to patent rights or copyrights calling for the payment of any license fees or royalties, it shall remain the responsibility of the **Contractor** to assume all costs incident to its use. Whenever the **Contractor** is required or elects to use any such item, the right for its use shall be provided for by suitable agreement(s) with the patentee or owner, and copies of the agreement(s) shall be filed with the **Designer**. However, whether or not agreement(s) is/are made or filed as noted, the **Contractor** and his/her surety shall in all cases defend, indemnify and hold harmless the **Owner** and **Designer** from and against all claims, causes of action, lawsuits, damages, losses and expenses, whether direct, indirect or consequential, including but not limited to charges of engineers, attorneys and other professionals and costs of both defense and appeal, if any, in the remainder of this Article 10 referred to collectively as "claims", arising from patent rights or copyrights infringements.

10.3 Taxes:

10.3.1 Except as otherwise provided in the Instructions to Bidders, the **Contractor** shall pay all sales, consumer, use, and other taxes assessed against the **Town** or the **Contractor** in accordance with Laws covering the Work. The **Official** shall make an adjustment in Contract Price for any increased taxes covering the Work paid by the **Contractor**, provided that those increases in taxes were enacted after the date of Bid opening. The **Town of Topsfield** is exempt from Massachusetts Sales Tax. The Certificate of Exemption Number is E-046-001-380.

10.3.2 M.G.L. Chapter 64, §6(f) exempts, from Massachusetts sales tax, materials and supplies consumed, employed or expended in the Work, materials and supplies physically incorporated in the Work, and rental charges for construction vehicles and equipment rented specifically for use on the Work or while being used exclusively for the transportation of materials for the Work.

10.4 Performance, Payment, and Other Bonds:

10.4.1 The **Contractor** shall furnish Performance and Payment Bonds with good and sufficient surety, each in an amount equal to the Contract Price, as the security required by the Contract Documents. All bonds shall be in the forms specified in the Contract Documents, and shall only be issued by a surety currently licensed to do business by the Commonwealth of Massachusetts Division of Insurance and appearing on the current U.S. Treasury Circular 570 List of Approved Sureties and remain in effect until the end of the Correction Period. Attorneys-in-Fact who sign Bonds shall attach a certified copy of their Power of Attorney to conduct business in the Commonwealth of Massachusetts.

10.5 The Contractor's Insurance-General:

10.5.1 The insurance the **Contractor** shall purchase and maintain at his/her expense shall include the coverage required by the laws of the Commonwealth of Massachusetts as well as that specified in this Article and the Supplementary Conditions, and be written for not less than the limits of coverage required in the Supplementary Conditions. Deductible amounts shall be reduced or eliminated upon the **Official's** written request. The insurer's costs of providing the insured(s) a defense and appeal, including attorney's fees, may not be included in, and shall be in addition to, the limits of the policy coverages. Certificates of Insurance must be delivered to the **Official** before any work is started, and shall be in the form required by Paragraph 7.1.4 and in the coverages and minimum policy limits required in Section 00 73 16 Supplementary Conditions

10.5.2 The **Contractor** shall not start or continue to perform any Work unless s/he has in full force and effect all required insurance; nor shall s/he allow any Subcontractor or Supplier to perform any Work until that Subcontractor or Supplier has in full force and effect all required insurance or the **Contractor's** insurance has been endorsed to add that Subcontractor or Supplier as an additional insured.

10.5.3 Insurance shall only be provided by insurers licensed to transact business in the Commonwealth of Massachusetts.

10.5.4 Deductible amounts shall be reduced or eliminated upon the **Official's** written request. The insurer's costs of providing the insureds a defense and appeal, including attorney's fees, may not be included, and shall be in addition to, the limits of the coverage provided.

10.5.5 All the policies of insurance shall be endorsed to provide that the coverage afforded will not be canceled, adversely changed or renewal refused until the expiration of at least thirty (30) days prior written notice to the **Official** by registered mail. Should any coverage approach expiration during the period in which it is to remain in full force and effect, it shall be renewed prior to its expiration, and a renewal certificate filed with the **Official** at least fifteen (15) days prior to expiration.

10.5.6 If any of the **Contractor's** sureties or insurers is declared bankrupt or placed into receivership, ceases to meet the requirements of the Contract Documents, or its license to do business in the Commonwealth of Massachusetts is terminated, the **Contractor** shall immediately substitute other bonds/sureties or insurers/policies, which shall conform to the requirements of the Contract Documents, and shall file the appropriate bonds or certificates of insurance with the **Official**.

10.6 The Contractor's Liability Insurance:

10.6.1 The **Contractor** shall purchase and maintain commercial general liability and other insurance appropriate for the Work and which will provide protection from claims itemized below which may arise out of or result from the **Contractor's** performance and furnishing of the Work and the **Contractor's** other obligations under the Contract Documents, whether the Work and other obligations will be performed or furnished by the **Contractor**, any

Subcontractor or Supplier:

10.6.1.1 Claims under worker's compensation, disability benefits, and other applicable similar employee benefits acts; claims for damages because of bodily injury, occupational sickness or disease, or death of the **Contractor's** employees.

10.6.1.2 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the **Contractor's** employees; claims for damages insured by personal injury liability coverage sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by the **Contractor**, or (b) by any other person for any other reason; claims for damages because of injury to or destruction of tangible property wherever located, including loss of use resulting from any such injury or destruction.

10.6.1.3 Claims arising out of operation of laws for damages because of bodily injury or death of any person or for damage to property.

10.6.1.4 Claims for damages because of bodily injury or death of any person, or property damage arising out of ownership, maintenance, operation, use or loading and unloading of any owned, hired or non-owned motor vehicle used in the Work, including employee non-ownership use.

10.6.2 The **Contractor's** liability insurance shall include contractual liability coverage sufficient to cover to the **Contractor's** indemnification obligations under the Contract Documents. The **Contractor** agrees to pay on behalf of the **Official**, and to provide and pay a defense for all claims covered by the **Contractor's** obligations under the indemnification provisions.

10.6.3 The **Contractor's** liability insurance shall be endorsed to include the **Official** as an additional insured, and the **Designer**, the **Official's** and **Designer's** consultants, any of their subsidiaries or affiliates, and each of their respective directors, officers, shareholders, agents or employees as additional insureds. The insurance afforded to the **Official** and those other parties shall be primary insurance, and neither the coverage nor the amount of insurance provided under the **Contractor's** policies shall be reduced or prorated by the existence of any other insurance applicable to any loss the **Official** or those other parties may have sustained.

10.6.4 The **Contractor's** liability insurance shall remain in effect until the end of the Correction Period and at all times after that when the **Contractor** may be correcting, or removing and replacing *defective* Work. The Products and Completed operations insurance shall be maintained for two (2) years after final payment. Evidence of insurance shall be furnished to the **Official** upon request and no less frequently than yearly.

10.6.5 These requirements shall not be construed to limit the liability of the **Contractor** or his/her insurers. The **Town** does not represent that the specified coverages or limits of insurance are sufficient to protect the **Contractor's** interests or liabilities.

10.6.6 If the **Town** or the **Contractor** suffers injury or damage to person or property because of error, omission or act of the other, any of the other's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observation of that injury or damage. This provision is not and shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or statute of repose.

10.9 Waiver of Rights:

10.9.1 The **Town** and the **Contractor** waive all rights against each other for all losses and damages caused by any of the perils covered by the insurance provided in response to paragraphs 10.6, 10.7 and 10.8 and any other insurance applicable to the Work and also waive all such rights against the **Town**, and all other persons named as insureds or additional insureds in such policies for losses and damages so caused. Each Sub-agreement shall contain similar waiver provisions by the Subcontractor or Supplier in favor of the **Town**, the **Designer**, and all other parties named as insureds or additional insureds. None of these waivers shall extend to the rights that any of the insured may have to the proceeds of insurance held by the **Town** as trustee or otherwise payable under a policy so issued.

10.9.2 The **Town** and the **Contractor** intend that any policies of insurance shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered. Accordingly, all such policies shall be endorsed to provide that in the event of payment of any loss or damage the insurer will have no rights of subrogation or other recovery against any of the parties named as insured or additional insured, and if the insurers require separate waiver forms to be signed by the **Designer** or the **Town's** and the **Designer's** consultants, the **Town** will obtain separate waiver forms, and if such forms are required of any Subcontractor or Supplier, the **Contractor** will obtain

them.

10.10 Receipt and Application of Proceeds:

10.10.1 Any insured loss under the policies of property insurance required by paragraph 10.8 will be adjusted with the **Town** and made payable to the **Town** as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 10.10.2. The **Town** shall deposit in a separate account any money so received, and shall distribute it in accordance with any agreement that the parties in interest may reach. If no other distribution agreement is reached the damaged Work shall be repaired or replaced, the monies so received applied for that purpose, and the Work and the associated costs covered by Change Order.

10.10.2 The **Town** as trustee shall have power to adjust and settle any loss with the insurers, unless one of the parties in interest objects in writing within fifteen (15) days after the occurrence of loss to the **Town's** exercise of this power. If an objection is made, the **Town** as trustee shall settle with the insurers pursuant to any agreement the parties in interest may reach.

10.11 Indemnification:

10.11.1 To the fullest extent permitted by law the **Contractor** shall assume the defense of and hold the **Town**, **Designer**, their officers, agents and employees harmless from all suits and claims against them, or any arising from the use of any invention, patent or patent right, and by or from any act or omission or neglect of the **Contractor**, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

10.11.2 For any and all claims against the **Town** or the **Designer** or any of their officers, agents, or employees by an employee of the **Contractor**, and Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation of the **Contractor** shall not be limited in any way by any limitation of the amount or type of damages, compensation or benefits payable by or for the **Contractor** or any **Contractor** under Worker's Compensation Acts, disability benefit acts or other employee benefit acts.

10.11.3 To the fullest extent permitted by law the **Contractor** shall defend, indemnify and hold harmless the **Town** and **Designer** from and against all claims for bodily injury, sickness, disease, or death, or injury to or destruction of property, including loss of use, which claims arise out of, relate to, or are in any way connected with: the Work; the failure of the **Contractor** or any Subcontractor to provide a safe work place; or noncompliance with Law by the **Contractor**, any Subcontractor or Supplier. With respect to all claims against the **Town** or **Designer** by any employee of the **Contractor**, the indemnification obligation under this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the **Contractor**, any Subcontractor or Supplier under worker's compensation, disability benefit or other employee benefit acts.

10.11.4 The obligations of the **Contractor** under paragraph 10.11.3 shall not extend to the liability of the **Designer** arising out of or resulting from (a) the preparation or approval of maps, drawings, opinions, reports, surveys, designs or specifications, or (b) the giving or failure to give directions or instructions by the **Designer**, but only if such giving or failure to give is the sole cause of the injury or damage.

10.11.5 The **Contractor** shall defend, indemnify and hold harmless the **Town** and **Designer** from and against all claims as referred to in this paragraph, claims for damages to the Work itself, and claims for any other costs which any of them may incur arising from (a) failure, neglect or refusal of the **Contractor** to faithfully perform the Work and other obligations under the Contract Documents, or (b) the failure of the **Contractor**, any Subcontractor or Supplier to obtain or renew the insurance coverages required by the Contract Documents.

10.12 Partial Utilization-Property Insurance:

10.12.1 Any Partial Utilization by the **Town** shall be subject to the insurers providing the property insurance having acknowledged receipt of notice and in writing effected the necessary changes in coverage. Those insurers shall consent by endorsement, but the property insurance shall not be canceled or lapse on account of any Partial Utilization.

10.13 Non-Conforming Bonds or Insurance:

10.13.1 If any of the **Contractor's** surety(ies) or insurer(s) is declared bankrupt, placed into receivership or otherwise becomes insolvent, or ceases to meet the requirements of the Contract Documents, or its license to do business in the Commonwealth is terminated, the **Contractor** shall at once substitute another bond and surety, or insurer and policy, which shall conform to the requirements of the Contract Documents.

10.14 Medical and Sanitary Requirements:

10.14.1 The **Contractor** shall promptly and fully comply with all sanitary and medical requirements as may from time to time be promulgated so that the health of all workers, local communities, and persons residing on or near the Work may be preserved and safeguarded. The **Contractor** shall dismiss, and shall not rehire, any person who violates sanitary and medical requirements.

10.14.2 The **Contractor** shall rigorously prohibit the committing of nuisances upon the lands of the **Town** or upon adjacent property. Structures for the sanitary necessities of all persons employed on the Work shall be provided and maintained by the **Contractor**.

10.14.3 As to health and sanitation, the **Contractor** shall promptly and fully comply with the Laws and Regulations of the State Department of Public Health, and those of all other local Authorities. The **Contractor** shall provide all articles necessary for first aid, and s/he shall make proper and satisfactory provisions for the transportation of sick and injured employees to, and their care at, established hospitals in the vicinity of the Work.

10.15 Required Provisions, Chapter 30, §39R:

10.15.1 The **Contractor** shall make, and keep for at least six (6) years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the **Contractor**, and until the expiration of six (6) years after final payment, the Office of the Commonwealth's Inspector General and the Deputy Commissioner of Capital Asset Management and Maintenance shall have the right to examine any books, documents, papers or records of the **Contractor** or of any Subcontractor that directly pertain to, and involve transactions relating to, the **Contractor** or that Subcontractor. The **Contractor** shall describe any change in the method of maintaining records or recording transactions that materially affect any statements filed with the **Official**, and the date of the change and reasons for the change, and shall accompany the description with a letter from the **Contractor's** Independent Certified Public Accountant approving or otherwise commenting on the changes. The **Contractor** certifies that prior to executing the Contract, the **Contractor** has filed a statement of management of Internal Accounting Controls and an audited financial statement for the most recent completed fiscal year, and s/he will continue to file such statements annually.

10.15.2 The **Contractor** shall file with the **Official** a statement of management as to whether his/her and his/her subsidiaries system of Internal Accounting Controls reasonably assures that: (1) transactions are executed in accordance with management's general and specific authorization; (2) transactions are recorded as necessary (i) to permit preparation of financial statements in conformity with generally accepted accounting principles, and (ii) to maintain accountability for assets; (3) access to assets is permitted only in accordance with management's general or specific authorization; and (4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any difference.

10.15.3 The **Contractor** shall also file with the **Official** a statement prepared and signed by an Independent Certified Public Accountant, stating that s/he has examined the statement of management of internal accounting controls and expressing an opinion as to whether: (1) the representations of management in response to this paragraph 10.15 are consistent with the result of management's evaluation of the system of internal accounting controls; and (2) such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

10.15.4 The **Contractor** shall annually, during the term of the Contract, file with the Deputy Commissioner of Capital Asset Management and Maintenance a financial statement prepared by an Independent Certified Public Accountant based on an Audit by that Accountant. The final statement filed shall include the date of final payment. All statements shall attach an Accountant's report, and shall be made available to the **Official** upon request.

10.15.5 Failure by the **Contractor** to satisfy any of the requirement of M.G.L. Chapter 30, §39R, or to comply with any such rules, regulations and guidelines as may be promulgated from time to time, may be grounds for debarment pursuant to M.G.L. Chapter 149, §44C.

10.15.6 Records and statements required to be made, kept or filed under these provisions shall not be public records as defined in M.G.L. Chapter 4, §7, and shall not be open to public inspection; provided, however, that such records and statements shall be made available as stated in paragraph 10.14.1.

10.16 No Conflict with Laws or Regulations:

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

10.17 Notice and Service:

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

10.17.2. Any notice or other communication to the **Contractor** shall be sufficiently given if delivered to the intended individual, officer or partner of the **Contractor** in person or at the office of the **Contractor** designated in the Contract.

10.17.3 All notices or other communication to the **Official** shall, unless otherwise specified in writing to the **Contractor**, be sufficiently given if delivered to the intended individual in person or at the office designated in the Contract.

ARTICLE 11 - CHANGES IN THE WORK

11.1 Changes in the Work:

11.1.1 Without invalidating the Agreement and without notice to any surety, the **Town** may, at any time, by Change Order or Change Authorization signed by the **Town**, order changes in the Work (a) consisting of additions, deletions or other revisions within the scope of the Work in the requirements of the Specifications and Drawings, the means, methods, techniques or sequences applicable to the Work, the **Town**-furnished lands, equipment, materials, or services, or (b) directing acceleration of the Work, and unilaterally make or provide the basis for making an adjustment in Contract Price or Contract Time. Upon receipt of any such unilateral order, the **Contractor** shall promptly proceed or continue with the Work involved as directed. Any such unilateral adjustment in Contract Price or Contract Time made by Change Order, or authorized by Change Authorization, shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **Official** written Notice of Claim, in strict compliance with all of the requirements of Article 15, within thirty (30) days after receipt of the unilateral order.

11.1.2 The **Official** reserves the right to negotiate with the **Contractor** changes in the Work by delivering to the **Contractor** an unsigned Change Authorization describing the change under consideration and requesting that the **Contractor** submit a proposal for an adjustment in Contract Price or Contract Time.

11.1.3 Any other written or oral order from the **Official** or the **Designer**, including instruction, interpretation, determination, or approval that causes a change shall be treated as a change in the Work; but only if the **Contractor** or the **Official** gives prompt written notice to the other by means of an unsigned Change Authorization detailing the circumstances, and the scope and character of the Work involved.

11.1.4 If after evaluation of an unsigned Change Authorization received under paragraph 11.1.3, the **Official**, with the advice of the **Designer**, concludes that changes in the Work have been ordered, the **Official** shall by Change Order or Change Authorization signed by the **Town** correspondingly amend the Contract Documents. If the **Official**, on the other hand, concludes that a change has not been ordered, the **Official's** determination shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **Official** written Notice of Claim that complies with Article 15 within thirty (30) days from receipt of that decision.

11.1.5 Except as provided in this paragraph, no written or oral order from the **Official** or the **Designer**, shall be treated as a change in the Work or entitle the **Contractor** to an increase in Contract Price or Contract Time under this paragraph.

11.1.6 Adjustments in Contract Price or Contract Time made necessary by changes in the Work ordered or negotiated under this paragraph shall be based on changes, as specified in Articles 7 and 12, in the **Contractor's** cost or the time

required to perform any part of the Work, except that no increase in Contract Price or Contract Time shall be due under this paragraph if excluded by another provision of the Contract Documents.

11.1.7 No proposal nor claim by the **Contractor** on account of changes under paragraph 11.1.3 shall be allowed for any costs or delay incurred more than twenty (20) days before the **Contractor** gives written notice as required.

11.2 Changes Due to Differing Site Conditions:

11.2.1 If, during the progress of the Work, the **Contractor** or the **Official** discovers that the actual subsurface or latent physical conditions encountered at the Site differ substantially or materially from those shown on the plans or indicated on the Contract Documents, either the **Contractor** or the **Official** may request an equitable adjustment in the Contract Price applying to the Work affected by the differing Site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered.

11.2.2 Upon receipt or delivery of such a claim from a Contractor or upon its own initiative, the **Official** shall investigate such physical conditions, and if they do materially or substantially differ, from those shown on the plans or indicated in the Contract Documents, or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and Contract Documents, and are of such a nature as to cause an increase or decrease in the cost of the Work or a change in the construction methods required for the performance of the Work which results in an increase or decrease in the cost of the Work, the **Town** shall make an equitable adjustment in the Contract Price and the Contract shall be modified in writing accordingly.

11.2.3 If the **Official** decides that the Contract Documents do not need amending or decides to make or not to make a change in Contract Price or Contract Time, or that a change in reference points is not required, any such decision shall be final and binding on the **Contractor** unless s/he delivers a written Notice of Claim that complies with Article 15 within thirty (30) days of receipt of that decision.

11.2.4 Except in the case of newly-discovered underground utilities, all costs involved and time required to perform the specified **Contractor's** responsibilities for underground utilities shall be considered as having been included in the Contract Price and in the **Contractor's** schedule for performing the Work within the Contract Time.

11.2.5 If Underground Utilities cause or will cause delays which postpone, extend or in any other manner alter the schedule or the completion of all or part of the Work, the **Contractor** shall assume all of the **Contractor's** related delay, extension or acceleration costs, however caused; except that, if the **Official** believes that the delays require a change in Contract Time, the **Official** shall authorize the necessary change in Contract Time only.

11.2.6 At least thirty (30) days, plus the time required by the **Contractor** to deliver a proposal shall be allowed to the **Official** to resolve any report of differing Site conditions.

11.2.7 No proposal or claim by the **Contractor** due to differing Site conditions shall be allowed unless the **Contractor** has given written notice as required by this Article or Article 15.

11.3 Changes Due to Overruns or Underruns in Quantities:

11.3.1 For all Unit Price Work the Contract Price includes an amount equal to the sum of the unit prices Bid for each item of Unit Price Work times its estimated quantity. Each unit price will be deemed to include an amount sufficient to cover all costs, including supplemental and administrative costs, and profit. Prior to final payment, a Change Order will be issued as recommended by the **Designer** to reflect actual quantities for Unit Price Work, and to correspondingly adjust the Contract Price.

11.3.2 The **Contractor** shall promptly, before proceeding with any affected Work, notify the **Official** in writing whenever the actual quantity for a significant item of Unit Price Work, differs materially from its estimated quantity, and request a re-evaluation of that item's unit price or the Contract Time, or inform the **Official** that a re-evaluation is not warranted. Promptly after receipt of the notice, the **Designer** will review conditions about that item of Work and evaluate their effect on the unit prices and the Contract Time(s). If the **Official** consents to quantities so varying from those estimated, or does not make written objection, the **Contractor** shall proceed with the affected Unit Price Work as directed by the **Designer**.

11.3.3 If the **Official** determines that the additional or reduced quantities for such an item of Unit Price Work justify an adjustment in the unit price, or in Contract Time, or both, the **Official** shall authorize a revised unit price applicable to actual quantities for that item above one hundred twenty-five percent (125%) or below seventy-five percent (75%) of

the estimated quantity, or a change in Contract Time, or both; except that, no adjustment shall be provided unless the variation between actual and estimated quantities for all Unit Price Work results in an increase or decrease in the Contract Price by more than ten percent (10%). If the **Official** decides that the unit prices are valid even for the additional or reduced quantities, or that no adjustment in the Contract Time is warranted, solely due to the variation in quantities, or both, that decision shall be final and binding on the **Contractor** unless s/he delivers to the **Official** a written Notice of Claim within thirty (30) days from receipt of that decision pursuant to the requirements of Article 15.

11.3.4 In evaluating unit prices, or changes in Contract Time due to quantity variations, the **Contractor** and the **Official** shall take into account increases or decreases in the **Contractor's** costs to perform the Work involved solely as result of the variation in quantities, as opposed to the **Contractor's** fault or negligence, errors in the **Contractor's** Bid, or other similar factors.

11.4 Change Orders; Change Authorizations:

11.4.1 A Change Order or Change Authorization executed by the **Town** and also by the **Contractor** without a **Contractor's** notice of reservation of rights to claim additional adjustments constitutes an all inclusive settlement for all changes and for all direct, supplemental, indirect, consequential and cumulative costs and delays, including the Contractor's overhead and profit, and the **Contractor's** signature represents a waiver of any and all rights to file a claim on account of that instrument, the Work or the Work involved in that instrument and all prior Change Orders.

11.4.2 A Change Order or Change Authorization, signed by the **Town**, and also by the **Contractor**, with a notice of reservation of rights to claim additional compensation, shall become final and binding on the **Contractor**, without consideration of his/her reservation of rights, unless the **Contractor** delivers to the **Official** a clearly marked written Notice of Claim within thirty (30) days after the date when a Notice of Claim on account of the Change Order or Change Authorization executed by the **Town** becomes due in strict compliance with the requirements of Article 15, and in any event no later than thirty (30) days after the date the **Contractor** signs the Change Order containing a notice of reservation of rights to claim additional compensation.

11.4.3 The **Town** and the **Contractor** shall sign Change Orders with reasonable promptness covering changes in the Work including any necessary adjustments in Contract Price or Contract Time ordered or agreed to by the parties, changes in Contract Price or Contract Time which are agreed to in total or in part or previously executed Change Authorizations. Amounts for Work involved in a Change Order may be included in Application for Payment only after it has been completely executed by the **Town**.

11.4.4 When signed by the **Town**, the **Town** may use Change Authorizations to order changes in the Work, provide the basis for a subsequent adjustment in Contract Price or Contract Time, order changes not warranting an adjustment in Contract Price or Contract Time, or authorize minor deviations. Amounts for Work involved in a Change Authorization are not allowable for payment until that Change Authorization has been incorporated into a Change Order that has been signed by the **Official**, approved as to form by the Corporation Counsel, and approved to have a sufficient appropriation by the Town Auditor.

11.4.5 The **Town** reserves the right to decrease the adjustments made in any Change Order if, upon an audit of the **Contractor's** records including but not limited to records pertaining to all cost and pricing data used by the **Contractor** in estimating the **Contractor's Bid** for the work and in monitoring costs incurred, that audit reveals that the **Contractor** provided false or inaccurate cost and pricing data in negotiating that Change Order.

11.5 Deviations:

11.5.1 In accordance with M.G.L. Chapter 30, §39I, every **Contractor** having a contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or public works for the Commonwealth, or of any political subdivision thereof, shall perform all the work required by such contract in conformity with the Plans and Specifications contained therein. No willful and substantial deviation from said Plans and Specifications shall be made unless authorized in writing by the **Official** or by the **Designer** in charge of the work who is duly authorized by the **Town** to approve such deviations. In order to avoid delays in the execution of the work, such deviation from the Plans and Specifications may be authorized by a written order of the **Official** or **Designer** so authorized to approve such deviation. Within 30 days thereafter, such written order shall be confirmed by a certificate of the **Official** stating: (1) if such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why such materials, fixtures or equipment were included in the first instance and the reasons for substitution or elimination and, if the deviation is of any other nature, the reason for such deviation giving justification therefor; (2) that the specified deviation does not materially damage the Project as a whole; (3) that either the work substituted for the work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the **Official** and the **Contractor**, and the amount in dollars of said adjustment; and (4) that the deviation in the best interest of the **Town**.

Such certificate shall be signed under the penalties of perjury and shall be a permanent part of the file record of the Work. Whoever violates any provision of this paragraph willfully and with intent to defraud shall be punished by a fine of not more than \$5,000 or by imprisonment for not more than 6 months, or both.

11.6 Delay and Waiver Provisions:

11.6.1 At least twenty (20) days plus the time required by the **Contractor** to deliver a proposal shall be allowed to the **Owner** to negotiate and resolve any changes in the Work, any changes in unit prices or any report of differing Site conditions.

11.6.2 If a change in the Work, a case of differing Site conditions or a case of variation in quantities causes or will cause delay, extension or acceleration that postpones, extends or in any other manner alters the schedule or completion of all or part of the Work, the **Official** shall, pursuant to Articles 8 and 11, make or negotiate with the **Contractor**, an adjustment in Contract Price or Contract Time for any increase in the **Contractor's** cost or the time required to perform the Work. The **Contractor** assumes responsibility for any related delay, extension, or acceleration caused by or resulting to the **Contractor**.

11.6.3 No proposal nor claim by the **Contractor** on account of changes in the Work, differing Site conditions or variation in quantities shall be allowed if made after final payment.

ARTICLE 12 - CHANGES IN CONTRACT PRICE OR CONTRACT TIME

12.1 Changes in Contract Price or Contract Time:

12.1.1 The Contract Price or Contract Time shall be changed only by Change Order. The basis for a subsequent change in Contract Price or Contract Time may also be authorized by a Change Authorization signed by the **Official**.

12.1.2 Contract Time whether stated in the Agreement or changed by Change Order shall not be changed due to a delay in a **Contractor's** early completion date until all Contract Float is used and performance of the specified Work extends necessarily beyond that Contract Time.

12.1.3 Contract Price whether stated in the Agreement or changed by Change Order shall not be changed due to a delay in a **Contractor's** early completion date until half of the Contract Float available in the Progress Schedule at the time of the start of the delay is used and performance of the specified Work is necessarily extended.

12.2 Proposals or Claims Substantiating Adjustments:

12.2.1 All **Contractor** proposals must at a minimum contain the reasons for the proposed change; the effect of the proposed change on the Progress Schedule; the effect on the Contract Time and the proposed price for the change, all in sufficient detail to be evaluated by the Official. All **Contractor** proposals shall be due within twenty (20) days after receipt of the **Official's** written notice requesting a proposal or delivery to the **Official** of the **Contractor's** written notice of the occurrence of an event which the **Contractor** believes justifies a change in Contract Price or Contract Time. Any delay in the submittal of a **Contractor's** proposal will not justify or constitute basis for an increase in Contract Price or Contract Time. Proposals shall not be subject to change for at least sixty (60) days from their receipt by the **Official**. If no Contractor proposal has been received by the **Official** within the twenty (20) day period allowed by this Article, or if the **Contractor's** proposal does not contain the information required, then the **Official**, in his/her sole discretion, will use any of the methods described in Article 12.3 to determine the adjustment, if any, in the Contract Price.

12.2.2 Contractor proposals shall be documented on a completed Town approved Change Order Pricing Form and shall cover all aspects of the Work involved, and shall be fully documented and itemized as to all costs, as specified in this Article, quantities, and Fee which shall segregate percentages for profit and administrative costs. Proposals shall certify in writing that the amounts would be or were necessarily incurred despite reasonable mitigation efforts. Amounts for Subcontractors or Suppliers shall be equally supported, and must be reviewed by the Contractor before being submitted to the **Official**.

12.2.3 Where the change in Contract Price arises from changes in the time required to perform any Work, or where a change in Contract Time is sought, the **Contractor's** itemized estimates shall include a detailed analysis of the Progress Schedule.

12.3 Methods for Determining Adjustments in Contract Price:

12.3.1 The methods to be used to determine an adjustment in Contract Price necessitated by changes ordered or under negotiation, delay ordered, caused or under negotiation or Work covered by any proposal or claim, all pursuant to these General Conditions are referred to collectively as "the Work involved", and are limited to the following:

12.3.2 Where the Work involved is covered by lump sum prices or unit prices in the Contract Documents, on the basis of those lump sum prices or unit prices, respectively;

12.3.3 Where the Work involved is not covered by lump sum prices or unit prices, by mutual acceptance of a lump sum price negotiated on the basis of the **Contractor's** itemized good faith estimate of the anticipated cost of the Work involved as specified in this Article plus a fee for the Work involved calculated per paragraph 12.11;

12.3.4 Where the Work involved is not covered by either of the first two methods, and **Official** and the **Contractor** cannot agree, on the basis of the **Official's** estimate of the cost of the Work involved plus a fee for the Work involved of eighty-five percent (85%) of the maximum fee allowed in paragraph 12.11;

12.3.5 Where the **Official** and the **Contractor** cannot agree, and the **Official** directs the **Contractor** to proceed with the Work involved with payments to be made per actual costs, on the basis of an itemized breakdown of the actual cost of the Work involved as specified in this Article plus a fee for the Work involved of seventy percent (70%) of the maximum fee allowed in paragraph 12.11. Where the **Official** and the **Contractor** agree and the **Official** directs the **Contractor** to proceed with the Work involved with payment to be made per actual costs on a time and materials basis, on the basis of an itemized breakdown of the actual cost of the Work involved as specified in this Article, plus a fee for the Work involved of one hundred percent (100%) of the maximum fee allowed in paragraph 12.11;

12.3.6 Where the Work involved is not covered by any of the preceding methods, and if payment is to be determined by a court of competent jurisdiction and appropriate venue, it is agreed that the actual cost and fee methods in paragraph 12.3.5 shall be the only appropriate method for determining the cost and the fee of the Work involved.

12.3.7 In computing the cost of the Work involved, costs shall be in amounts no higher than those prevailing in the locality of the Project, and include only the appropriate items for labor, material or equipment, construction equipment, and supplemental costs specified in this Article.

12.4 Labor, Subcontract, and Material/Equipment Costs:

12.4.1 The cost of the Work involved includes payroll costs for craft labor including foremen in the direct employ of the **Contractor** assigned to the Site and engaged in furnishing and incorporating materials or equipment in the Work involved. Payroll costs shall include wages at the minimum wage rates for Contractor's personnel established for this Contract pursuant to M.G.L. Chapter 149, §§ 26-27H plus labor burdens, e.g. social security, unemployment, workers' compensation, health and retirement benefits, vacation and holiday pay, etc. When determining actual payroll costs per paragraph 12.3.5, daily time sheets certified by the **Contractor** and verified by the **Designer** will be the record upon which payroll costs shall be based. When determining actual payroll costs per paragraph 12.3.6, daily time sheets shall be valid only if they expressly correlate to the Work involved, and if developed when the Work involved was performed for the purposes of establishing payroll.

12.4.2 The cost of the Work involved includes payments by the **Contractor** to Suppliers for material and equipment used in the Work involved, including transportation, storage, and necessary Supplier's field services. If required by the **Official**, the **Contractor** shall obtain bids for designated items of materials or equipment and nominate at least two (2) suppliers for selection by the **Official**. When determining actual material and equipment costs, invoices segregating items associated with the Work involved shall be the record upon which to base actual costs.

12.4.3 The cost of the Work involved includes payments made by the **Contractor** to Subcontractors for the Work involved performed by the Subcontractors. When determining Subcontractors' cost of the Work involved, the methods to be used shall be those used to determine the **Contractor's** costs, except that the term "Subcontractor" shall replace the term "the **Contractor**" if the context will permit. If required by the **Official**, the **Contractor** shall obtain detailed competitive bids and nominate at least two (2) Subcontractors for the performance of any Work involved, subject to selection by the **Official**.

12.5 Construction Equipment Costs:

12.5.1. The cost of the Work involved includes costs for individual construction equipment with replacement value in excess of \$500.00. Transportation, loading and unloading, installation, dismantling and removal costs shall be allowed only if prior consent is obtained from the **Designer**, and if the equipment is or was transported to the Site solely for the

Work involved. Shipping costs will be allowed if the equipment requires the use of a carrier, and provided the travel distance does not exceed that for similar equipment available from sources in the TOPSFIELD metropolitan area. Equipment costs shall cease when the equipment is no longer needed for the Work involved. Payroll costs for labor operating the equipment shall be as in paragraph 12.4.1. Equipment costs shall be computed using the same accounting and estimating rules, and prices, whether related to added or deleted items of Work.

12.5.2. When determining actual equipment costs under paragraph 12.3.5, daily records listing the equipment, operators, and actual usage, and verified by the **Designer** shall be the records upon which costs will be based. When determining actual equipment costs under paragraph 12.3.6, similar daily records shall be valid only if developed when the Work involved was performed.

12.5.3. Rented or owned equipment at the Site, idled solely by actions of the **Official** or the **Designer**, shall be paid at the rates for rented equipment, or on the basis of fifty (50%) percent of the rates for owned equipment, respectively, provided that the idle period exceeds that normally experienced for such equipment and occurs during normal working hours.

12.6 Rented or Leased Equipment:

12.6.1. Except as provided below, for equipment rented or leased, the **Contractor** or Subcontractors shall be entitled to amounts based on negotiated rental or lease rates, but in no event shall the amounts exceed the rates listed in the Rental Rate "Blue Book" published by Equipment Watch, Inc. for the region covering the TOPSFIELD metropolitan area applicable to that equipment model number and year. The equipment rate for second or third shifts shall not exceed fifty percent (50%) of the base rate. Operating costs shall not exceed the hourly operation rate in the Blue Book. Hourly rates for equipment previously in use at the Site for at least a month (or a week) shall be based on the monthly rate divided by 176 hours (or the weekly rate divided by 40 hours). Equipment not previously in use at the Site shall not be billed to the **Official** at rates higher than:

Equipment Usage	Payment Category
Less than 8 hours	Hourly Rate
1 day but less than 7 days	Daily Rate
1 week but less than 30 days	Weekly Rate
30 days or more (when in use)	Monthly Rate

12.6.2 For equipment rented or leased from firms associated with or owned by the **Contractor**, costs shall be treated as though the equipment was owned equipment.

12.7 Owned Equipment:

12.7.1 For equipment owned by the **Contractor**, or by his/her affiliates, the **Contractor** shall be entitled to costs based on billings established by his/her normal accounting practices, but in no event shall those costs exceed the rates listed in the Custom Cost Evaluator published by Equipment Watch, Inc. for the region covering the TOPSFIELD metropolitan area. The owned equipment hourly rate plus the estimated operation cost per hour from the Custom Cost Evaluator will be the basis for determining owned equipment costs. For shift Work, the equipment rate shall not exceed the shift Work hourly costs in the Custom Cost Evaluator.

12.8 Supplemental Costs:

12.8.1 The cost of the Work involved includes a proportion of necessary supplemental costs, to the extent those supplemental costs increase or decrease on account of (a) labor, material/equipment, Subcontract or equipment costs of the Work involved, or (b) an extension in Contract Time, including:

12.8.1.1 Payroll costs, and subsistence expenses, for the **Contractor's** full-time resident superintendent, and payroll costs for other personnel in the employ of the **Contractor** engaged in Site activities and listed in the schedule of indirect personnel classifications agreed to by the **Official**, if those costs arise solely from an extension in Contract Time.

12.8.1.2 Costs not exceeding two percent (2%) of the labor costs under paragraph 12.4.1 excluding burdens of field supplies consumed in the performance of the Work involved, and purchase costs not exceeding two percent (2%) of the labor costs under paragraph 12.4.1, less burdens; tools individually valued at less than \$500.00 and not owned by the workers which are used and consumed in the performance of the Work involved, and purchase cost less market value if used but not consumed.

12.8.1.3 Costs of office and temporary facilities at the Site, inclusive of materials, supplies, equipment and appliances,

if those costs arise solely from an extension in Contract Time;

12.8.1.4 The costs of utilities, fuel and sanitary facilities, long distance telephone calls, telephone service at the Site, if those costs arise solely from an extension in Contract Time;

12.8.1.5 Costs of consultants or Subcontractors not covered under paragraph 12.4.3; provided those costs were authorized by the **Official** prior to proceeding with the Work involved, and if not covered by paragraph 12.4 or are not excluded by paragraph 12.11.

12.8.1.6 Taxes related to the Work involved, and for which the **Contractor** is liable, and fees for permits and licenses, if they related solely to the Work involved.

12.8.1.7 Physical losses, damages and expenses to the Work involved not compensated by property insurance or otherwise, sustained by the **Contractor** in the performance and furnishing of the Work, except losses and damages within the deductible amounts of property insurance, but only if the losses, damages and expenses result from causes beyond the control and not due to the fault or negligence of the **Contractor**.

12.8.1.8 The actual documented cost of premiums for increases in bonds and insurance required solely because of the Work involved will be paid based on invoices from the surety.

12.9 Limitation on Equipment and Supplemental Costs:

12.9.1 The **Contractor** shall not be allowed to recover construction equipment or supplemental costs not attributable to the performance of the Work involved. Payroll costs for the full-time resident superintendent are an example of costs that are not recoverable.

12.10 Costs Covered by the Fee for the Work Involved:

12.10.1 The Cost of the Work involved shall not include any of the following costs that are considered administrative costs or contingencies covered by the Fee for the Work involved:

12.10.1.1 Payroll costs and other compensation of (a) the **Contractor's** executives, general and administrative managers, project managers, estimators, claim consultants, attorneys, accountants, labor relation coordinators, contract and subcontract administrators, purchasers, expeditors, and other administrative staff, whether employed at the Site or in his/her principal or branch offices, and (b) construction managers, engineers, schedulers, detailers, Designers, safety personnel, clerks and other administrative staff employed in his/her principal or branch offices;

12.10.1.2 The market value of small tools used but not consumed.

12.10.1.3 Any part of the **Contractor's** capital expenses, including interest on capital for the Work involved, lost interest, on unpaid retainage, and charges for delinquent payments.

12.10.1.4 Costs associated with the preparation of Change Orders or Change Authorizations whether or not ultimately authorized by the **Official**, or the preparation or filing of claims.

12.10.1.5 Costs of consultants or attorneys, in the direct employ of the **Contractor** or otherwise, utilized for services related to the Work.

12.10.1.6 Other administrative expense(s), lost profits, lost interest on unpaid retainage, and the costs of any item not specifically and expressly included in this Article 12.

12.10.1.7 Expenses of the **Contractor's** principal and branch offices, including, but not limited to storage and yard facilities.

12.11 Fee for the Work Involved:

12.11.1 Any adjustment in Contract Price for Work involved shall also include a Fee for costs under paragraph 12.10 and negotiated profit, shall not exceed the following amounts:

12.11.1.1 For Work involved performed by the **Contractor**, the **Contractor's** Fee shall not exceed fifteen percent (15%) of the Cost of the Work involved, less supplemental costs. For Work involved performed by a Subcontractor, the Subcontractor shall receive a Fee of ten percent (10%) of the Cost of the Work involved, less supplemental costs.

12.11.1.2 In addition to the Fee(s) specified in paragraph 12.11.1.1, for Work involved that is performed by Subcontractors, the **Contractor** shall receive a mark-up Fee of five percent (5%) of the performing Subcontractors' costs. No Fee shall be payable to the **Contractor** on the basis of the performing Subcontractors' Fee or supplemental costs.

12.11.1.3 The credit to be allowed to the **Town** for any adjustment in Contract Price yielding a net decrease in cost, *i.e.* the cost of the Work involved is negative, shall be the amount of the net decrease together with a Fee credit equal to one-third of the Fee which would be allowed under paragraphs 12.11.1.1 and 12.11.1.2.

12.11.1.4 When more than one individual adjustment in Contract Price, each resulting in a net increase or decrease in the Cost of the Work involved, is covered in one specific Change Order or Change Authorization or proposal or claim, the combined Fee shall be computed as the sum of the individual Fees.

12.12 Payment for Extension in Contract Time:

12.12.1 Subject to the applicable requirements of the Contract Documents, an extension in Contract Time may be combined with an increase in Contract Price to cover costs solely associated with the time extension in the case of changes in the Work, differing Site conditions, or significant variation in quantities. No such adjustment in Contract Price shall be made to the extent that performance would have been extended by any other cause, including fault or negligence of the **Contractor**, Subcontractors, or Suppliers, or for which an adjustment is excluded by any other provision of the Contract Documents.

12.12.2 The cost of the Work involved arising from an extension in Contract Time, shall exclude amounts not solely related to the extension in Contract Time, such as: operating costs of construction equipment assigned to the Work on a continuing basis but primarily used in the furnishing and incorporating of materials and equipment into the Work; owned, or rental, costs plus operating costs of construction equipment used solely in the furnishing and incorporating of materials or equipment into the Work such as crane costs for specific lifts and concrete pump truck costs; supplemental costs unaffected by the increase in Contract Time, or otherwise allocable to Work other than the Work involved e.g. small tools, Site facilities fully paid for in previous payments, etc.

12.12.3 If delays entitling the **Contractor** to increase in Contract Price under the Contract Documents extend performance or completion of the entire Work beyond the Contract Time stated in Article 4 of Section 00 52 13 and if, upon a request from the **Contractor**, the **Town** concludes that because of such extension a portion of the **Contractor's** costs itemized in paragraph 12.10 will be or were unabsorbed prior to the expiration of the Contract Time, the **Contractor** shall be allowed Fee to cover any such unabsorbed costs given by the portion of the Contract Price unbilled prior to the expiration of the Contract Time times the ratio of the **Contractor's** administrative costs to billings, not to exceed five percent (5%).

12.12.4 The **Contractor** shall not recover from the **Town**: acceleration costs to keep progress despite **Town**-caused delays or other delays which warrant extensions in Contract Time but exclude increases in Contract Price; escalation costs for any part of the Work not delayed beyond the Late Dates in the Progress Schedule; or delay costs not expressly allowed for in this Article.

12.13 Criteria for Determining Adjustments in Contract Time:

12.13.1 The criteria to be used to determine an adjustment in Contract Time necessitated by changes ordered or under negotiation as provided in these General Conditions, or Work covered by a proposal or a claim, are limited to the following:

12.13.2 An adjustment in a specified Contract Time will not be granted unless (a) the time required to perform or complete the furnishing or performance of Work controlling achievement of that particular Contract Time is extended pursuant to paragraph 12.13.3, and (b) all of the Total Float, and therefore Contract Float, in the Progress Schedule is used and consumed.

12.13.3 An extension in Contract Time will not be granted unless the **Contractor** can demonstrate through an analysis of the Progress Schedule that unforeseeable causes beyond the control and without the fault or negligence of both the **Contractor** and the Subcontractors or Suppliers led to performance or completion of all or part of the Work beyond the corresponding Contract Time despite the **Contractor's** reasonable and diligent actions. Examples of such causes include: (1) acts of God or of the public enemy; (2) acts of the **Town** in its sovereign or contractual capacity; (3) acts of the U.S. Government or another Public Authority or Agency; (4) acts of another party in the performance of a contract with the **Town**; (5) fires, floods, epidemics, quarantine restrictions; (6) incidents with archaeological features; (7) strikes,

freight embargo; (8) unusual weather and related adverse subsurface conditions, unusual meaning expectation, frequency, severity, or unseasonable; (9) a case of differing Site conditions or differing reference points; (10) a case of an emergency; (11) a case of a reasonable objection to a nominated Subcontractor; (12) unusually severe shortages of construction materials from such causes as area-wide shortages, an industry-wide strike, or a natural disaster affecting all feasible sources of supply; (13) variation in quantities of Unit Price Work as provided in Article 11; (14) delays, as itemized in this paragraph, to Subcontractors or Suppliers arising from unforeseeable causes beyond the control and without fault or negligence of both the **Contractor** and those Subcontractors or Suppliers; (15) work stoppages caused by or initiated by other **Town** or public agencies.

12.13.4 An extension in Contract Time, if any granted, shall be the **Contractor's** sole and exclusive remedy for any delay, disruption, interference, or hindrance and associated costs, however caused, resulting from causes contemplated in paragraph 12.13.3.

12.14 Negotiating Changes in Contract Price or Contract Time:

12.14.1 In addition to the notice requirements in Articles 7 and 11, the **Contractor** shall give written notice to the **Official** of any written or oral order of the **Official** or the **Designer** which justifies a change in Contract Price or Contract Time by delivering a proposed Change Authorization itemizing in sufficient detail the related circumstances and the justification for the adjustments proposed. If the **Official**, with the advice of the **Designer**, concludes that a change in Contract Price or Contract Time is warranted, the **Town** shall make or negotiate with the **Contractor** the appropriate adjustments. If the **Official** finds otherwise, the **Official's** decision shall be final and binding on the **Contractor** unless the **Contractor** delivers to the **Official** a clearly marked written Notice of Claim within thirty (30) days from receipt of that decision in strict compliance with the requirements of Article 15.

12.14.2 The **Official** may notify the **Contractor** of proposed changes in Contract Price or Contract Time by delivering to the **Contractor** an unsigned Change Authorization requesting that the **Contractor** signoff on the proposed changes in Contract Price or Contract Time or submit an alternate proposal.

12.14.3 If the **Official** makes the decision to order any changes in Contract Price or Contract Time, whether unilaterally or in negotiations with the **Contractor**, those changes in Contract Price or Contract Time shall be binding on the **Contractor**, unless the **Contractor** delivers to the **Official** clearly marked written Notice of Claim within thirty (30) days from receipt of that decision in strict compliance with the provisions of Article 15.

12.14.4 If the **Contractor** is directed or ordered to stop the Work, or any part of the Work by any **Town** or public agency, other than the **Official** the **Contractor** is required to so inform the **Official** within four (4) hours of such action.

ARTICLE 13 - GUARANTEES

13.1 General Guarantees:

13.1.1 In consideration of the execution of this Contract by the **Town** and the Contract Price herein stipulated to be paid and received for the performance of the work, the **Contractor** binds and obligates himself, and his/her successors and assigns, jointly and severally, and agrees to bring all portions of the Work under this Contract to completion in accordance with the Contract Documents and within the Contract Time, free of all defects of material and workmanship, and guarantees that the Work shall remain free of all defects of material and workmanship for a period of one year from the date of Substantial Completion. The **Contractor** guarantees, on written notice from the **Official**, to immediately repair and make good, or cause to be repaired and made good, at the **Contractor's** expense, all defects of material or workmanship in the Work and to pay for or cause to be paid for any damage to other work resulting therefrom, or from the repair thereof which may develop during the period of one year from the date of Substantial Completion.

13.1.2 Warranties for all specified or substitute items of materials and equipment shall include a certification endorsed by the **Contractor** warranting their merchantability, and that they are functionally suitable and fit for their intended purpose.

13.1.3 The warranties, guarantees, and obligations for correction of Work specified in this Article are in addition to and not in limitation of any other specific remedies provided in the Contract Documents or by Laws or Regulations.

13.2 Tests and Inspections:

13.2.1 The **Official**, the **Designer**, their representatives, testing agencies and Public Authorities or Agencies with

jurisdiction shall be permitted access to the Work for their observation, inspection and testing. The **Contractor** shall provide proper and safe conditions for such access. The **Contractor** shall give the **Designer** and Clerk of the Works timely notice of readiness of, and access to, the Work for all required inspections, tests, or approvals. Test, inspections, or approvals shall not in any way relieve the **Contractor** from his/her obligations to perform the Work in accordance with the Contract Documents, or to warrant and guarantee the Work as provided in the Contract Documents.

13.2.2 The **Contractor** shall assume full responsibility for any specific testing, inspection or approval required by Laws or Regulations, or indicated in or required by the Contract Documents including, but not limited to sufficient inspection and testing of the Work to support the warranty and guarantee requirements. The **Contractor** shall pay all related costs, schedule related activities, and secure and furnish the **Designer** the required certificates of inspection, testing, or approval. The **Contractor** shall be responsible for and pay all costs of any inspection or testing required for the **Designer's** acceptance of a Supplier, or of materials or equipment submitted for approval by the **Contractor**. All inspections, tests, or approvals other than those required by Laws and Regulations of a Public Authority or Agency shall be performed, subject to the **Official's** consent, by organizations acceptable to the **Designer** and the **Contractor**.

13.2.3 If a Public Authority or Agency enforces testing, inspection or approval differing from those specified, or if not specified, from those enacted on or before the date of Bid opening, necessitating an amendment to the Contract Documents, the **Official** shall authorize the required changes in the Work, together with any adjustment in Contract Price necessitated by the changes. If the changed testing, inspection or approval causes or will cause delays which postpone, extend or in any manner alter the schedule or the completion of all or part of the Work, the **Contractor** shall absorb all of the **Contractor's** related delay, extension or acceleration costs, however caused; except that if the **Official** and the **Contractor** believe that the delays require a change in Contract Time, the **Official** shall authorize the necessary change in Contract Time **only**.

13.2.4 If any testing, inspection or approval reveals failure of any part of the Work, the **Contractor** shall not be allowed to recover any associated costs, and s/he shall reimburse the **Official** for all of direct, indirect and consequential costs made necessary by that failure including those of repeated procedures and compensation for the **Designer's** additional services.

13.2.5 Tests, inspections or approvals shall not in any way relieve the **Contractor** from the **Contractor's** obligations to perform the Work in accordance with the Contract Documents and to warrant and guarantee the Work as provided in the Contract Documents

13.3 Special Guarantees:

13.3.1 It is expressly agreed and understood that the general guarantee set forth under this Article is in addition to and not in substitution of such guarantees as may be required under any other Section of the Contract Documents.

13.3.2 All guarantees required in the Contract Documents shall be in the form set forth by the **Official** and must be delivered to the **Official** before final payment to the **Contractor** will be made.

13.3.3 The **Contractor** and Subcontractors shall be jointly and severally liable to the **Town** under the terms of all guarantees originating with any Subcontractor.

13.3.4 The failure to deliver a required guarantee shall be held to constitute a failure of the **Contractor** to fully complete his/her work in accordance with the Contract Documents.

13.3.5 The period of all special guarantees, unless otherwise specified, shall be one year from the date of Substantial Completion.

13.4 Correction or Removal, or Acceptance of Defective Work:

13.4.1 If required by the **Official** or **Designer**, the **Contractor** shall promptly, as directed, either correct all *defective* Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the **Designer** or if any testing, inspection or approval of all or part the Work reveals failure of that part of the Work to comply with the requirements of the Contract Documents, remove it from the Site and replace it at the **Contractor's** expense. If, instead of requiring correction or removal and replacement of *defective* Work, the **Official** prefers to accept it, the **Official** may do so, in which case the **Contractor** shall not be entitled to any increase in Contract Time or Contract Price, and s/he shall reimburse the **Town** for all direct, indirect and consequential costs of the **Town** incurred because of the correction or removal of or due to the **Town's** evaluation and determination to accept *defective* Work.

13.4.2 If the **Official's** acceptance of *defective* Work occurs prior to the **Designer's** recommendation of final payment,

a Change Order will be issued incorporating the necessary revisions in the Contract Documents; and the **Town** shall be entitled to an appropriate decrease in the Contract Price. If the acceptance occurs after that recommendation, an appropriate amount shall be deducted from the final payment, or if the final payment has been made, an appropriate amount shall be paid by the **Contractor** to the **Town**.

13.5 The Town May Correct Defective Work:

13.5.1 If the **Contractor** fails within a reasonable time after written notice of the **Designer** to proceed to correct *defective* Work or to remove and replace rejected Work as required by the **Designer**, or if the **Contractor** fails to perform the Work in accordance with the Contract Documents, or if the **Contractor** fails to comply with any other provision of the Contract Documents, the **Official** may, after seven (7) days' written notice to the **Contractor**, correct and remedy any such deficiency. To the extent necessary to complete corrective action, the **Official** shall have full power and authority to exclude the **Contractor** from all or part of the Site, and to exercise all of the rights and remedies in paragraph 14.1. The **Contractor** shall allow the **Official**, the **Official's** representatives, agents and employees whatever access to the Site that may be necessary to enable the **Official** to exercise the rights and remedies under this paragraph. The **Contractor** shall not be allowed an extension in Contract Time or increase in Contract Price because of any delay in performance of the Work attributable to the exercise by the **Town** of these rights and remedies, and s/he shall reimburse the **Town** for all direct, indirect and consequential costs of the **Town** in exercising such rights and remedies, such costs to include, but not be limited to, all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of defective Work, and a Change Order will be issued incorporating the necessary changes.

13.6 Uncovering Work:

13.6.1 If Work that is to be observed by the **Designer** or inspected, tested or approved is covered without written concurrence or contrary to the written request of the **Official** or the **Designer**, it shall when requested by the **Official**, be uncovered, exposed or otherwise made available for observation, testing, inspection or approval, as the **Official** may require and if necessary, replaced at the **Contractor's** expense.

13.6.2 The **Contractor**, at the **Designer's** request, shall uncover, expose or otherwise make available for observation, inspection or testing as the **Designer** may require, any covered Work if the **Designer** considers it advisable that such covered Work be observed by the **Designer** or inspected or tested by others.

13.6.3 The **Contractor** shall not be entitled to an increase in Contract Price or Contract Time, and s/he shall reimburse the **Town** for all direct, indirect and consequential costs incurred by the **Town** due to any uncovering or exposure, including but not limited to, the costs of that uncovering or exposure, observation, inspection, testing and satisfactory reconstruction, whenever Work covered without the written concurrence or contrary to the written request of the **Designer** or **Official** under paragraph 13.6.1 is uncovered, or whenever covered Work uncovered at the **Designer's** request under paragraph 13.6.2 is found to be *defective*. If Work is uncovered or exposed under paragraph 13.6.2 and not found to be *defective*, the **Contractor** shall be entitled to an increase in Contract Price or Contract Time, either or both, directly attributable to such uncovering.

13.7 Correction Period:

13.7.1 The Correction Period shall commence on the date of Substantial Completion of the Work, or a later date if so specified in the Contract, and last for one (1) year or such a longer period of time as may be specified in the Contract Documents.

13.7.2 If within the designated Correction Period, the Work, or any part of the Work is discovered to be *defective*, the **Contractor** shall promptly, without an adjustment in Contract Price and in accordance with the **Official's** written instructions, either correct that *defective* Work, or if it has been rejected by the **Official**, remove it from the Site and replace it with *non-defective* Work. If circumstances warrant it, including, but not limited to, in an emergency, the **Official** may have the *defective* Work corrected or the rejected Work removed and replaced. In that event, the **Contractor** shall not be allowed to recover any associated costs, and s/he shall reimburse the **Town** for all of the **Town's** reasonable direct, indirect, and consequential costs so incurred. If that event takes place after final payment and the **Contractor** fails to pay such costs to the **Town** within thirty (30) days after presentation for payment, the **Town** will give written notice to the **Contractor** of a claim, in which case the provisions of Article 15 shall apply.

13.7.3 The specified warranties and guarantees and the **Contractor's** obligations for correction of Work specified in this Article are in addition to and not in limitation of any other specific remedies provided in the Contract Documents or by Law. Nothing contained in this paragraph or this Article shall be construed as establishing a period of limitation for or limiting the obligations of the **Contractor** under the Contract Documents.

13.8 Extended Warranties and Guarantees:

13.8.1 Following written notice to the Contractor, the **Town** may in its sole discretion advance or defer the date for commencement of the Correction Period, in which case the **Contractor** shall maintain the warranties and guarantees until the revised date for commencement of the Correction Period. If such advancement or deferral in the date for commencement of the Correction Period causes an increase or decrease in the cost of the warranties and guarantees provided by the **Contractor**, the **Official** shall make an adjustment in Contract Price or Contract Time, as provided in Articles 8 and 11.

13.8.2 Whenever the **Town** undertakes Partial Utilization of a portion of the Work which was specifically identified in the Contract Documents, or the **Contractor** fails to complete the Work or a separable portion of the Work within the corresponding Contract Time and the **Town** undertakes Partial Utilization under paragraph 7.4, the **Contractor** shall maintain the warranties and guarantees in full force and effect during the period between the applicable commencement of Partial Utilization date, and the date of commencement of the Correction Period, and for such maintenance of the warranties and guarantees the **Contractor** shall receive no adjustment in Contract Price.

13.8.3 Any *defective* Work that is either corrected or rejected and replaced will be warranted and guaranteed in accordance with the provisions of this Article 13 for a period of one (1) year from the date of such correction or removal and replacement. If within such extended Correction Period, that Work is once again found to be *defective*, the **Town** may exercise any of the **Town's** rights and remedies under this Article.

13.9 Special Maintenance Requirements:

13.9.1 In special circumstances where the Work, or a designated part, progresses to Substantial Completion or Partial Completion but is not placed in continuous service until the commencement of the Correction Period, the **Contractor** shall maintain the Work, or designated part, in good order and in proper working condition and take all other actions as are necessary for its protection during the period between the applicable Substantial or Partial Completion date and the date of commencement of the Correction Period, and for such maintenance the **Contractor** shall receive no adjustment in Contract Price.

13.9.2. If the Work suffers loss or damage, however caused, the **Contractor** shall rebuild, repair, restore and make good without an increase in Contract Price all losses or damages to any portion of any Work. The occurrence of **Town**-caused delay or the granting of an extension in Contract Time for any cause shall not relieve the **Contractor** of his/her responsibility for the Work, or designated part, as specified in this paragraph.

ARTICLE 14 - TERMINATION

14.1 Notice of Intention to Terminate for Cause:

14.1.1 If at any time reasonable doubt of the **Contractor's** due performance arises, the **Official** may demand adequate, written assurance of due performance. In addition, the **Official**, acting on knowledge or belief, may include with the demand for assurance a written notice to the **Contractor** and surety of the **Town's** intent to terminate the **Contractor's** right to complete the Work within seven (7) days, or sooner if safety to persons or property is in question, because of occurrence of any of the following events, which constitute lack of due performance and are reasonable grounds for terminating the **Contractor**.

14.1.2 The **Contractor** fails to complete the Work, or separable part, within the corresponding Contract Time; fails or refuses to prosecute the Work, or separable part of the Work, with the diligence required for completion within the corresponding Contract Time; or fails or refuses to supply sufficient skilled workers, materials or equipment in adherence to the Progress Schedule, as revised from time to time;

14.1.3 The **Contractor** admits in writing, or the **Town** otherwise establishes, the **Contractor's** inability to pay his/her debts generally as they become due; or in response to the **Town's** demand, fails to promptly provide adequate, written assurance, the adequacy of which the **Town** shall be the sole judge, of due performance in accordance with the Contract Documents;

14.1.4 A trustee, receiver, custodian or agent of the **Contractor** is appointed under applicable Law or under contract, whose appointment or authority to take charge of property of the **Contractor** is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of the **Contractor's**

creditors; or

14.1.5 The **Contractor** disregards the authority of the **Designer**, otherwise violates in any substantial way any provision of the Contract Documents, fails to perform the Work in accordance with the Contract Documents, or disregards the Laws, ordinances, codes, rules or regulations of any governmental entity with jurisdiction.

14.1.6 The **Contractor** fails to make payment to Subcontractors for materials or labor in accordance with the written agreements between the **Contractor** and Subcontractors.

14.1.7 The **Contractor** is guilty of a substantial breach of a provision of the Contract Documents.

14.1.8 Promptly after the **Contractor** receives either a demand for assurance or a notice of termination, the **Contractor** and surety shall meet with the **Official** and present the plan they intend to follow to give adequate assurance of due performance to the **Town** and to avoid or cure any default. If at or after the meeting, the **Official** decides to allow the **Contractor** to continue prosecution of the Work to completion, that decision shall not waive the **Town's** right to declare the **Contractor** in default subsequently nor affect any rights or remedies of the **Town** against the **Contractor** or surety, or both, then existing or which may accrue in the future.

14.2 Termination for Cause:

14.2.1. If the **Contractor** at any time refuses or neglects to supply a sufficient number of properly skilled workers or of materials of the proper quality, or fails in any respect to perform the Work, or separable part of the Work, with promptness and diligence, or fails in the performance of any of the agreements herein contained, and such refusal, neglect or failure has been certified to by the **Official**, the **Town** shall have full power and authority to give written notice to the **Contractor** and the surety of the **Town's** intention to terminate the services of the **Contractor** seven (7) days after giving notice, or sooner if safety to persons or property is in question.

14.2.2 If the **Contractor** seeks relief in bankruptcy, or if s/he makes a general assignment for the benefit of his/her creditors, or if a receiver of his/her property is appointed, or if the Work to be done under this Contract is abandoned, or if this Contract or any part thereof is sublet or assigned without the previous written consent of the **Official**, or if the **Contractor** becomes insolvent, or if at any time the **Official** shall certify in writing that the **Contractor** has refused or neglected to supply a sufficient number of properly skilled workers or of materials of the proper quality, or has failed in any respect to perform the Work with promptness and diligence, or has failed in the performance of any agreements herein contained, the **Town** acting by the **Official** and at his/her discretion, may without prejudice to any right or remedy, and after giving the **Contractor** and his/her surety seven (7) days prior written notice, notify the **Contractor** to terminate the Work and the **Town**, acting by the **Official** and at his/her discretion, and without prejudice to any other remedies that the **Town** may have, may thereupon by contract or otherwise, complete the Work and charge the entire expense of so completing the Work to the **Contractor**; and the **Contractor** shall not be entitled to receive any further payment under this Contract until Final Completion of the Work, at which time, if the unpaid balance of the amount to be paid under this Contract shall exceed the expense incurred by the **Town**, such excess shall be paid by the **Town** to the **Contractor**. If the expense of completing the Work exceeds such unpaid balance, an appropriate credit Change Order shall be issued deducting from the Contract an amount then or thereafter due to the Contractor equal to the actual cost of correcting such deficiencies, including the Town's expenses and compensation for the additional services of the Designer made necessary by such failure, refusal or default. For the purpose of completing the Work, the **Town**, acting by the **Official**, may take possession of and use, or cause to be used, any materials, implements, machinery and tools of every description as may be found upon the Site of the Work.

14.3 Termination for Convenience:

14.3.1 Upon not less than seven (7) days written notice to the **Contractor** and the surety, or sooner if reasonable under the circumstances; the **Official** may, without cause and without prejudice to any other right or remedy, elect to terminate any part of the Work, or the Contract in whole or in part as the **Town** may deem appropriate for its convenience. Upon receipt of any such termination notice, the **Contractor** shall immediately proceed in accordance with any specific provisions or instructions, protect and maintain the Work, and make reasonable and diligent efforts to mitigate costs associated with the termination.

14.3.2 In any such termination for the convenience of the **Town**, the **Contractor** shall be paid for Work completed in accordance with the Contract Documents prior to receipt of the notice of termination, and for reasonable termination settlement costs relating to commitments which had become firm prior to the termination, based solely on supporting documentation that is provided to the **Town** by the **Contractor**, the adequacy of which will be determined by the **Town** in its sole discretion; provided, however, that the payment to the **Contractor** will exclude any and all anticipated supplemental costs, administrative expenses and profit on uncompleted work; and provided, further, that if no

agreement can be reached as to reasonable termination costs, the parties will follow the provisions in the Federal Acquisition Regulations, clause 52.249-2 found in 48 CFR PART 52.

14.3.3 If, after notice of termination of the services of the **Contractor** for any of the causes listed in paragraph 14.1, it is determined that the **Contractor** was not in default, the termination shall be deemed to have been for the convenience for the **Town**. In such event the **Contractor** may recover from the **Town** payment in accordance with this paragraph 14.3.

14.3.4 Upon any such termination for convenience, the **Town** shall have full power and authority to take possession of the Work, assume any Sub-agreements with Subcontractors and Suppliers which the **Town** so selects, and prosecute the Work to completion by contract or as the **Town** may deem expedient.

14.4 Surety Default:

14.4.1 If upon receipt of a notice of termination for cause, the surety fails to perform its obligations under the Performance Bond with reasonable promptness, the **Town** shall declare the surety in default under the Performance Bond in accordance with the provisions of this paragraph.

14.4.1.1 No default of the surety under the Performance Bond shall be declared however, until the expiration of seven (7) days after receipt by the surety of a written notice from the **Official** demanding that the surety perform its obligations under the Performance Bond.

14.4.1.2 If the **Town** declares the surety in default, the **Town** shall have full power and authority to exclude the surety and **Contractor** from the Site, assume any Sub-agreements which the **Town** so selects, and take possession of the Work, incorporate into the Work all materials and equipment stored at the Site or for which the **Town** has paid the **Contractor** but which are stored elsewhere, and prosecute the Work to completion by contract or as the **Town** otherwise may deem expedient.

14.4.2 If the **Town** has terminated the **Contractor** or defaulted the surety, any such termination or default will not affect any rights or remedies of the **Town** against the **Contractor** or surety, or both, then existing or which may accrue after termination. Any retention or payment of monies due the **Contractor** or surety by the **Town** will not release the **Contractor** or surety from any liability. All provisions of the Contract Documents that by their nature survive final acceptance of the Work shall remain in full force and effect after a termination for cause of the **Contractor** or default of the surety, or both, as applicable.

14.4.3 The **Town** may, in its sole discretion, permit the **Contractor** or surety to continue to perform Work when the **Contractor** or surety has been terminated or declared in default for any reason. Such decision by the **Town** shall in no way operate as a waiver of any of the **Town's** rights under the Contract Documents or the Performance Bond, nor in the event of a subsequent default, entitle the **Contractor** or surety to continue to perform or prosecute the Work to completion.

14.5 The Contractor May Stop Work or Terminate:

14.5.1 To the extent permitted by Law, if through no act or fault of the **Contractor**, the **Designer** fails to act on any Application for Payment within thirty (30) days after it is submitted, or the **Town** fails for ninety (90) days to pay the **Contractor** any Application for Payment sum finally determined by the **Designer** and **Town** to be due, then the **Contractor** may, upon thirty (30) additional days written notice to the **Town** of a suspension of work, suspend the Work.

14.5.2 If the **Town** fails to correct the conditions, if any, which under this paragraph justify the **Contractor's** suspension of the Work within ninety (90) days from the commencement of the suspension, the **Contractor** may upon thirty (30) days additional written notice to the **Town** and the **Designer** terminate the Contract and recover from the **Town** payment in accordance with paragraph 14.4.2. Except as specifically provided in this paragraph, these provisions shall not relieve the **Contractor** of the obligations under Article 8 to carry on the Work in accordance with the Progress Schedule and without delay during disputes and disagreements with the **Town**.

ARTICLE 15 - DISPUTES

15.1 Claims Under This Article:

15.1.1 All Notices of Claims, Claims and any other matters in dispute between the **Town** and the **Contractor** arising from or related to the Contract Documents or a claimed breach thereof, specifically including those matters arising from Paragraphs 4.28.1; 7.5.3 and 11.4.2, shall be subject to, processed and resolved as provided in this Article 15.

15.1.2 A "Claim" under this Article 15 shall mean a written demand or assertion by the **Town** or **Contractor**, which is properly certified according to the requirements of Paragraph 15.2.1, seeking an adjustment in Contract Price and payment of monies due, an extension or shortening in Contract Time, the adjustment or interpretation of Contract terms, or any other relief arising under or relating to the Contract, after a determination by the **Designer** or **Town** under the appropriate provision of the Contract Documents.

15.1.3 A Claim arising under the Contract is a Claim that can be resolved under a provision within the Contract Documents that provides for or excludes the relief sought by the claimant. Such Claims shall be resolved in accordance with the applicable provisions of the Contract Documents.

15.1.4 No Claim shall be valid unless it is based upon the prior submission of a clearly marked written "Notice of Claim" that states the general nature of the Claim delivered by the party making the Claim to other party promptly, but in no event later than thirty (30) days after the **Designer's** or **Official's** determination giving rise to the Claim. The receipt by the **Town** of a timely Notice of Claim shall be a condition precedent to the **Town** receiving a valid Claim submitted from the **Contractor** for evaluation. The clearly marked written "Claim" itself together with all supporting data shall be delivered within sixty (60) days after the determination. The responsibility to substantiate Claims shall rest with the party making the Claim. Notwithstanding anything to the contrary in this Article, the **Official** shall not be required to deliver notice of any Claim for liquidated damages or involving retention until sixty (60) days after the final acceptance.

15.1.5 A Claim by the **Contractor** shall be submitted to the **Official** with a copy to the **Designer** for a written decision from the **Town**. The **Town** will provide the **Contractor** with a written acknowledgement of receipt of the Claim within seventy-two (72) hours, and will notify the **Contractor** as to the status of the Claim within thirty (30) days of receipt. A Claim by the **Town** shall be submitted to the **Contractor** and the **Designer** for a written determination from the **Designer**.

15.1.6 Once given, the **Town's** final decision on a Claim submitted by the **Contractor** shall be final and binding on the **Contractor** unless the **Contractor** files suit within thirty (30) days after receipt of the **Town's** decision.

15.2 Requirements for Contractor Claims:

15.2.1 For all **Contractor** Claims seeking an increase in Contract Price or Contract Time, the **Contractor** shall submit a statement signed under the penalties of perjury and executed by an officer or partner in charge, or by a responsible senior officer or general managing partner of the **Contractor** certifying that the Claim is made in good faith; the amount claimed accurately reflects the adjustments in Contract Price or Contract Time for which the **Contractor** believes the **Town** is liable, and covers all costs and delays to which the **Contractor** is entitled from the occurrence of the claimed event; and supporting costs and pricing data are current, accurate, complete and represent the best of the **Contractor's** knowledge and belief.

15.3 Determination on a Claim:

15.3.1 Pending final resolution of any Claim, including litigation, the **Contractor** shall proceed diligently with the Work, and comply with any decision of the **Official** or the **Designer**.

15.3.2 After settlement or final adjudication of any Claim under this Article if, upon demand, payment by the **Contractor** is not made to the **Town**, the **Town** may offset the appropriate amounts against (a) payments due to the **Contractor** under any other contract between the **Town** and the **Contractor**, or (b) any amounts for which the **Town** may be obligated to the **Contractor** in any capacity.

15.4 Venue:

15.4.1 The **Contractor**, the **Contractor's** sureties, and the Subcontractors and Suppliers agree, consent and submit to the service of process at the address and in the manner specified in Article 10.17.

15.4.2 The **Contractor**, the **Contractor's** sureties, and the Subcontractors and Suppliers waive jurisdiction and venue and shall submit to the jurisdiction of the County of Essex only, regardless of residence or domicile, with respect to any actions or suits at law or in equity arising under or related to the bidding, award, performance, or completion of the Work, payment for work performed, or any Claim.

15.4.3 The **Contractor** shall insert a provision containing the venue and service of process requirements of paragraph 15.4.1 and 15.4.2 in all sub-agreements and agreements between the **Contractor** and his/her sureties and insurers, altering the provisions only as necessary to properly identify the contracting parties.

- END OF SECTION 00 70 00 -
GENERAL CONDITIONS

SECTION 00 73 10: LIST OF STANDARD SUPPLEMENTARY FORMS

TOWN OF TOPSFIELD

These Supplementary Forms supplement the General Conditions and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

- 1.1 **00 73 16** The form used by the **Town** to specify the types and limits of insurance required for the Project are attached to these Supplementary Forms and incorporated into the Contract Documents by this reference.
- 1.2 **00 73 46** The schedule of Minimum Wage Rates is attached to these Supplementary Forms and incorporated into the Contract Documents by this reference.
- 1.3 **00 73 85.10** The Excavation and Trench Safety Regulations (520 CMR 14.00) are attached to these Supplementary Forms and incorporated into the Contract Documents by this reference. If the requirements of the contract meet the regulations set forth by 520 CMR 14.00, the **Contractor** shall complete the necessary permits to comply with the conditions of the regulation.

- END OF SECTION 00 73 10 -
LIST OF STANDARD SUPPLEMENTARY FORMS

SECTION 00 73 16: INSURANCE REQUIREMENTS – COVERAGE AND POLICY LIMITS

TOWN OF TOPSFIELD

1.2.1 POLICY TYPES AND LIMITS

1.2.2 The Contractor shall purchase and maintain, at his/her expense, all insurance required by the Contract Documents and all insurance required by the applicable laws of the Commonwealth of Massachusetts. The Town shall be named as an Additional Insured on all policies for the covered project, except Worker's Compensation. Before any work is performed, the Contractor shall obtain and submit to the Official signed certificates of insurance that indicate proof of the insurance coverage that are listed below.

1.2.3 The Contractor shall purchase and maintain such insurance as will protect him from claims under workmen's compensation acts and from claims or damages because of bodily injury, death and all property damage, including without limitation damage to the land and buildings adjoining the site of construction which might arise from and during operations under the Contract, whether such operations are by the Contractor, or by any Subcontractor or anyone directly or indirectly employed by either of them including but not limited to :

1. Commercial General Liability – Occurrence Form:
 - \$2,000,000 General Aggregate per Project / Per Location;
 - \$1,000,000 Products / Completed Operations Aggregate;
 - \$1,000,000 Personal and Advertising Injury;
 - \$1,000,000 Each Occurrence;
 - \$ 500,000 Fire Damage;
 - \$ 5,000 Medical Expense.
2. Automobile Liability – Any Auto / Hired Autos / Non-Owned Autos:
 - \$1,000,000 Combined Single Limit.
3. Worker's Compensation and Employer's Liability: Statutory Limits
 - \$1,000,000 EL Each Accident;
 - EL Disease – Policy Limit;
 - EL Disease – Each Employee.
4. Umbrella Liability:
 - \$2,000,000 Each Occurrence;
 - \$2,000,000 Aggregate.

**- END OF SECTION 00 73 16 -
INSURANCE REQUIREMENTS**

**SECTION 00 73 46: MINIMUM WAGE RATES
SCHEDULE OF PREVAILING WAGE RATES**

Per Chapter M.G.L. Chapter 149, §§26-27

The prevailing wage rates for this project are included on the following 41 pages (p 123 – 163)



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: Town of Topsfield
Contract Number: **City/Town:** TOPSFIELD
Description of Work: Work to include, but not limited to demolition and removal of materials, installation of crushed stone, granite curbing, benches bollards, pavement, stone dust, lighting, furniture & plantings.
Job Location: Main Street (near #30)

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 annual update requirement is not applicable to 27F "rental of equipment" contracts. **The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.**
- 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>	01/01/2024	\$38.95	\$15.07	\$18.67	\$0.00	\$72.69
	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>	01/01/2024	\$39.02	\$15.07	\$18.67	\$0.00	\$72.76
	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>	01/01/2024	\$39.14	\$15.07	\$18.67	\$0.00	\$72.88
	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 1)</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>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2023	\$40.80	\$14.50	\$11.05	\$0.00	\$66.35
	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>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$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>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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)	02/01/2024	\$62.40	\$11.49	\$23.59	\$0.00	\$97.48
BRICKLAYERS LOCAL 3 (LYNN)	08/01/2024	\$64.50	\$11.49	\$23.59	\$0.00	\$99.58
	02/01/2025	\$65.80	\$11.49	\$23.59	\$0.00	\$100.88
	08/01/2025	\$67.95	\$11.49	\$23.59	\$0.00	\$103.03
	02/01/2026	\$69.30	\$11.49	\$23.59	\$0.00	\$104.38
	08/01/2026	\$71.50	\$11.49	\$23.59	\$0.00	\$106.58
	02/01/2027	\$72.90	\$11.49	\$23.59	\$0.00	\$107.98

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.20	\$11.49	\$23.59	\$0.00	\$66.28
2	60	\$37.44	\$11.49	\$23.59	\$0.00	\$72.52
3	70	\$43.68	\$11.49	\$23.59	\$0.00	\$78.76
4	80	\$49.92	\$11.49	\$23.59	\$0.00	\$85.00
5	90	\$56.16	\$11.49	\$23.59	\$0.00	\$91.24

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.25	\$11.49	\$23.59	\$0.00	\$67.33
2	60	\$38.70	\$11.49	\$23.59	\$0.00	\$73.78
3	70	\$45.15	\$11.49	\$23.59	\$0.00	\$80.23
4	80	\$51.60	\$11.49	\$23.59	\$0.00	\$86.68
5	90	\$58.05	\$11.49	\$23.59	\$0.00	\$93.13

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN	12/01/2023	\$45.48	\$9.65	\$18.22	\$0.00	\$73.35
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2024	\$46.96	\$9.65	\$18.22	\$0.00	\$74.83
	12/01/2024	\$48.43	\$9.65	\$18.22	\$0.00	\$76.30
	06/01/2025	\$49.93	\$9.65	\$18.22	\$0.00	\$77.80
	12/01/2025	\$51.43	\$9.65	\$18.22	\$0.00	\$79.30
	06/01/2026	\$52.98	\$9.65	\$18.22	\$0.00	\$80.85
	12/01/2026	\$54.48	\$9.65	\$18.22	\$0.00	\$82.35

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
<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"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
	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>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
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For apprentice rates see "Apprentice- LABORER"

CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2024	\$47.12	\$9.83	\$19.97	\$0.00	\$76.92
	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 - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.20	\$9.83	\$1.73	\$0.00	\$32.76
2	45	\$21.20	\$9.83	\$1.73	\$0.00	\$32.76
3	55	\$25.92	\$9.83	\$3.40	\$0.00	\$39.15
4	55	\$25.92	\$9.83	\$3.40	\$0.00	\$39.15
5	70	\$32.98	\$9.83	\$16.51	\$0.00	\$59.32
6	70	\$32.98	\$9.83	\$16.51	\$0.00	\$59.32
7	80	\$37.70	\$9.83	\$18.24	\$0.00	\$65.77
8	80	\$37.70	\$9.83	\$18.24	\$0.00	\$65.77

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

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME	10/01/2023	\$25.55	\$7.02	\$4.80	\$0.00	\$37.37
<i>CARPENTERS-ZONE 3 (Wood Frame)</i>	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
<i>BRICKLAYERS LOCAL 3 (LYNN)</i>						

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

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

CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$56.13	\$15.00	\$16.40	\$0.00	\$87.53
	06/01/2024	\$57.45	\$15.00	\$16.40	\$0.00	\$88.85
	12/01/2024	\$58.93	\$15.00	\$16.40	\$0.00	\$90.33
	06/01/2025	\$60.26	\$15.00	\$16.40	\$0.00	\$91.66
	12/01/2025	\$61.73	\$15.00	\$16.40	\$0.00	\$93.13
	06/01/2026	\$63.06	\$15.00	\$16.40	\$0.00	\$94.46
	12/01/2026	\$64.54	\$15.00	\$16.40	\$0.00	\$95.94
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2024	\$56.06	\$9.95	\$23.95	\$0.00	\$89.96
	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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$9.95	\$0.00	\$0.00	\$37.98
2	55	\$30.83	\$9.95	\$6.66	\$0.00	\$47.44
3	60	\$33.64	\$9.95	\$7.26	\$0.00	\$50.85
4	65	\$36.44	\$9.95	\$7.87	\$0.00	\$54.26
5	70	\$39.24	\$9.95	\$20.32	\$0.00	\$69.51
6	75	\$42.05	\$9.95	\$20.93	\$0.00	\$72.93
7	80	\$44.85	\$9.95	\$21.53	\$0.00	\$76.33
8	90	\$50.45	\$9.95	\$22.74	\$0.00	\$83.14

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

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
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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
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For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS LABORERS - ZONE 2	12/01/2023	\$45.23	\$9.65	\$18.07	\$0.00	\$72.95
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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
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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
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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
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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>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</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 1)</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 1)</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 1)</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 103</i>	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$24.74	\$13.00	\$0.74	\$0.00	\$38.48
2	40	\$24.74	\$13.00	\$0.74	\$0.00	\$38.48
3	45	\$27.84	\$13.00	\$16.67	\$0.00	\$57.51
4	45	\$27.84	\$13.00	\$16.67	\$0.00	\$57.51
5	50	\$30.93	\$13.00	\$17.17	\$0.00	\$61.10
6	55	\$34.02	\$13.00	\$17.67	\$0.00	\$64.69
7	60	\$37.12	\$13.00	\$18.17	\$0.00	\$68.29
8	65	\$40.21	\$13.00	\$18.68	\$0.00	\$71.89
9	70	\$43.30	\$13.00	\$19.18	\$0.00	\$75.48
10	75	\$46.40	\$13.00	\$19.69	\$0.00	\$79.09

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$25.51	\$13.00	\$0.77	\$0.00	\$39.28
2	40	\$25.51	\$13.00	\$0.77	\$0.00	\$39.28
3	45	\$28.70	\$13.00	\$16.69	\$0.00	\$58.39
4	45	\$28.70	\$13.00	\$16.69	\$0.00	\$58.39
5	50	\$31.89	\$13.00	\$17.20	\$0.00	\$62.09
6	55	\$35.08	\$13.00	\$17.70	\$0.00	\$65.78
7	60	\$38.27	\$13.00	\$18.21	\$0.00	\$69.48
8	65	\$41.46	\$13.00	\$18.71	\$0.00	\$73.17
9	70	\$44.65	\$13.00	\$19.22	\$0.00	\$76.87
10	75	\$47.84	\$13.00	\$19.74	\$0.00	\$80.58

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86
ELEVATOR CONSTRUCTORS LOCAL 4						

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.81	\$16.03	\$0.00	\$0.00	\$48.84
2	55	\$36.09	\$16.03	\$20.21	\$0.00	\$72.33
3	65	\$42.65	\$16.03	\$20.21	\$0.00	\$78.89
4	70	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
5	80	\$52.50	\$16.03	\$20.21	\$0.00	\$88.74

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
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For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21

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

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2023	\$50.30	\$14.50	\$16.15	\$0.00	\$80.95
	05/01/2024	\$51.54	\$14.50	\$16.15	\$0.00	\$82.19
	11/01/2024	\$52.83	\$14.50	\$16.15	\$0.00	\$83.48
	05/01/2025	\$54.27	\$14.50	\$16.15	\$0.00	\$84.92
	11/01/2025	\$55.56	\$14.50	\$16.15	\$0.00	\$86.21
	05/01/2026	\$57.00	\$14.50	\$16.15	\$0.00	\$87.65
	11/01/2026	\$58.29	\$14.50	\$16.15	\$0.00	\$88.94
	05/01/2027	\$59.72	\$14.50	\$16.15	\$0.00	\$90.37

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2023	\$51.87	\$14.50	\$16.15	\$0.00	\$82.52
	05/01/2024	\$53.12	\$14.50	\$16.15	\$0.00	\$83.77
	11/01/2024	\$54.42	\$14.50	\$16.15	\$0.00	\$85.07
	05/01/2025	\$55.87	\$14.50	\$16.15	\$0.00	\$86.52
	11/01/2025	\$57.17	\$14.50	\$16.15	\$0.00	\$87.82
	05/01/2026	\$58.62	\$14.50	\$16.15	\$0.00	\$89.27
	11/01/2026	\$59.92	\$14.50	\$16.15	\$0.00	\$90.57
	05/01/2027	\$61.37	\$14.50	\$16.15	\$0.00	\$92.02

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2023	\$24.93	\$14.50	\$16.15	\$0.00	\$55.58
	05/01/2024	\$25.66	\$14.50	\$16.15	\$0.00	\$56.31
	11/01/2024	\$26.42	\$14.50	\$16.15	\$0.00	\$57.07
	05/01/2025	\$27.27	\$14.50	\$16.15	\$0.00	\$57.92
	11/01/2025	\$28.03	\$14.50	\$16.15	\$0.00	\$58.68
	05/01/2026	\$28.88	\$14.50	\$16.15	\$0.00	\$59.53
	11/01/2026	\$29.64	\$14.50	\$16.15	\$0.00	\$60.29
	05/01/2027	\$30.49	\$14.50	\$16.15	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$49.49	\$13.00	\$20.19	\$0.00	\$82.68
	09/01/2024	\$51.02	\$13.00	\$20.24	\$0.00	\$84.26
	03/01/2025	\$51.98	\$13.00	\$20.27	\$0.00	\$85.25
	09/01/2025	\$53.51	\$13.00	\$20.32	\$0.00	\$86.83
	03/01/2026	\$54.47	\$13.00	\$20.34	\$0.00	\$87.81
	09/01/2026	\$56.00	\$13.00	\$20.39	\$0.00	\$89.39
	03/01/2027	\$56.95	\$13.00	\$20.42	\$0.00	\$90.37
	09/01/2027	\$58.49	\$13.00	\$20.46	\$0.00	\$91.95
03/01/2028	\$59.45	\$13.00	\$20.49	\$0.00	\$92.94	
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$44.47	\$15.00	\$16.40	\$0.00	\$75.87
	06/01/2024	\$45.53	\$15.00	\$16.40	\$0.00	\$76.93
	12/01/2024	\$46.71	\$15.00	\$16.40	\$0.00	\$78.11
	06/01/2025	\$47.77	\$15.00	\$16.40	\$0.00	\$79.17
	12/01/2025	\$48.94	\$15.00	\$16.40	\$0.00	\$80.34
	06/01/2026	\$50.00	\$15.00	\$16.40	\$0.00	\$81.40
	12/01/2026	\$51.18	\$15.00	\$16.40	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$25.48	\$9.65	\$17.14	\$0.00	\$52.27
	06/01/2024	\$26.51	\$9.65	\$17.14	\$0.00	\$53.30
	12/01/2024	\$26.51	\$9.65	\$17.14	\$0.00	\$53.30
	06/01/2025	\$27.59	\$9.65	\$17.14	\$0.00	\$54.38
	12/01/2025	\$27.59	\$9.65	\$17.14	\$0.00	\$54.38
	06/01/2026	\$28.71	\$9.65	\$17.14	\$0.00	\$55.50
	12/01/2026	\$28.71	\$9.65	\$17.14	\$0.00	\$55.50
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FLOORCOVERER	03/01/2024	\$54.73	\$8.83	\$20.27	\$0.00	\$83.83
<i>FLOORCOVERERS LOCAL 2168 ZONE I</i>	09/01/2024	\$56.23	\$8.83	\$20.27	\$0.00	\$85.33
	03/01/2025	\$57.73	\$8.83	\$20.27	\$0.00	\$86.83
	09/01/2025	\$59.23	\$8.83	\$20.27	\$0.00	\$88.33
	03/01/2026	\$60.73	\$8.83	\$20.27	\$0.00	\$89.83
	09/01/2026	\$62.23	\$8.83	\$20.27	\$0.00	\$91.33
	03/01/2027	\$63.73	\$8.83	\$20.27	\$0.00	\$92.83

Apprentice - FLOORCOVERER - Local 2168 Zone I

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$24.63	\$8.83	\$1.76	\$0.00	\$35.22
2	45	\$24.63	\$8.83	\$1.76	\$0.00	\$35.22
3	55	\$30.10	\$8.83	\$3.52	\$0.00	\$42.45
4	55	\$30.10	\$8.83	\$3.52	\$0.00	\$42.45
5	70	\$38.31	\$8.83	\$16.75	\$0.00	\$63.89
6	70	\$38.31	\$8.83	\$16.75	\$0.00	\$63.89
7	80	\$43.78	\$8.83	\$18.51	\$0.00	\$71.12
8	80	\$43.78	\$8.83	\$18.51	\$0.00	\$71.12

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.30	\$8.83	\$1.76	\$0.00	\$35.89
2	45	\$25.30	\$8.83	\$1.76	\$0.00	\$35.89
3	55	\$30.93	\$8.83	\$3.52	\$0.00	\$43.28
4	55	\$30.93	\$8.83	\$3.52	\$0.00	\$43.28
5	70	\$39.36	\$8.83	\$16.75	\$0.00	\$64.94
6	70	\$39.36	\$8.83	\$16.75	\$0.00	\$64.94
7	80	\$44.98	\$8.83	\$18.51	\$0.00	\$72.32
8	80	\$44.98	\$8.83	\$18.51	\$0.00	\$72.32

Notes: Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	01/01/2024	\$45.56	\$9.95	\$23.95	\$0.00	\$79.46
	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 - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$9.95	\$0.00	\$0.00	\$32.73
2	55	\$25.06	\$9.95	\$6.66	\$0.00	\$41.67
3	60	\$27.34	\$9.95	\$7.26	\$0.00	\$44.55
4	65	\$29.61	\$9.95	\$7.87	\$0.00	\$47.43
5	70	\$31.89	\$9.95	\$20.32	\$0.00	\$62.16
6	75	\$34.17	\$9.95	\$20.93	\$0.00	\$65.05
7	80	\$36.45	\$9.95	\$21.53	\$0.00	\$67.93
8	90	\$41.00	\$9.95	\$22.74	\$0.00	\$73.69

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

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.27	\$15.00	\$0.00	\$0.00	\$45.27
2	60	\$33.02	\$15.00	\$16.40	\$0.00	\$64.42
3	65	\$35.77	\$15.00	\$16.40	\$0.00	\$67.17
4	70	\$38.52	\$15.00	\$16.40	\$0.00	\$69.92
5	75	\$41.27	\$15.00	\$16.40	\$0.00	\$72.67
6	80	\$44.02	\$15.00	\$16.40	\$0.00	\$75.42
7	85	\$46.78	\$15.00	\$16.40	\$0.00	\$78.18
8	90	\$49.53	\$15.00	\$16.40	\$0.00	\$80.93

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.98	\$15.00	\$0.00	\$0.00	\$45.98
2	60	\$33.80	\$15.00	\$16.40	\$0.00	\$65.20
3	65	\$36.61	\$15.00	\$16.40	\$0.00	\$68.01
4	70	\$39.43	\$15.00	\$16.40	\$0.00	\$70.83
5	75	\$42.25	\$15.00	\$16.40	\$0.00	\$73.65
6	80	\$45.06	\$15.00	\$16.40	\$0.00	\$76.46
7	85	\$47.88	\$15.00	\$16.40	\$0.00	\$79.28
8	90	\$50.70	\$15.00	\$16.40	\$0.00	\$82.10

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2024	\$61.86	\$13.00	\$22.21	\$0.00	\$97.07
	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89

For apprentice rates see "Apprentice- ELECTRICIAN"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2023	\$53.50	\$14.75	\$19.61	\$0.00	\$87.86
	09/01/2024	\$56.92	\$14.75	\$19.61	\$0.00	\$91.28
	09/01/2025	\$60.34	\$14.75	\$19.61	\$0.00	\$94.70
	09/01/2026	\$63.76	\$14.75	\$19.61	\$0.00	\$98.12

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.75	\$14.75	\$14.32	\$0.00	\$55.82
2	60	\$32.10	\$14.75	\$15.37	\$0.00	\$62.22
3	70	\$37.45	\$14.75	\$16.43	\$0.00	\$68.63
4	80	\$42.80	\$14.75	\$17.49	\$0.00	\$75.04

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.46	\$14.75	\$14.32	\$0.00	\$57.53
2	60	\$34.15	\$14.75	\$15.37	\$0.00	\$64.27
3	70	\$39.84	\$14.75	\$16.43	\$0.00	\$71.02
4	80	\$45.54	\$14.75	\$17.49	\$0.00	\$77.78

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER IRONWORKERS LOCAL 7 (LAWRENCE AREA)	03/16/2024	\$49.56	\$8.35	\$26.70	\$0.00	\$84.61
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Apprentice - IRONWORKER - Local 7 Lawrence

Effective Date - 03/16/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$29.74	\$8.35	\$26.70	\$0.00	\$64.79
2	70	\$34.69	\$8.35	\$26.70	\$0.00	\$69.74
3	75	\$37.17	\$8.35	\$26.70	\$0.00	\$72.22
4	80	\$39.65	\$8.35	\$26.70	\$0.00	\$74.70
5	85	\$42.13	\$8.35	\$26.70	\$0.00	\$77.18
6	90	\$44.60	\$8.35	\$26.70	\$0.00	\$79.65

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
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For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 2	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 2

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.72	\$9.65	\$16.89	\$0.00	\$49.26
2	70	\$26.50	\$9.65	\$16.89	\$0.00	\$53.04
3	80	\$30.29	\$9.65	\$16.89	\$0.00	\$56.83
4	90	\$34.07	\$9.65	\$16.89	\$0.00	\$60.61

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$39.19	\$9.65	\$17.14	\$0.00	\$65.98
	12/01/2024	\$40.52	\$9.65	\$17.14	\$0.00	\$67.31
	06/01/2025	\$41.91	\$9.65	\$17.14	\$0.00	\$68.70
	12/01/2025	\$43.29	\$9.65	\$17.14	\$0.00	\$70.08
	06/01/2026	\$44.73	\$9.65	\$17.14	\$0.00	\$71.52
	12/01/2026	\$46.17	\$9.65	\$17.14	\$0.00	\$72.96

Apprentice - LABORER (Heavy & Highway) - Zone 2

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.72	\$9.65	\$17.14	\$0.00	\$49.51
2	70	\$26.50	\$9.65	\$17.14	\$0.00	\$53.29
3	80	\$30.29	\$9.65	\$17.14	\$0.00	\$57.08
4	90	\$34.07	\$9.65	\$17.14	\$0.00	\$60.86

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.51	\$9.00	\$16.89	\$0.00	\$49.40
2	70	\$27.43	\$9.00	\$16.89	\$0.00	\$53.32
3	80	\$31.35	\$9.00	\$16.89	\$0.00	\$57.24
4	90	\$35.27	\$9.00	\$16.89	\$0.00	\$61.16

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
LABORERS - ZONE 2						

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER	12/01/2023	\$38.36	\$9.40	\$16.89	\$0.00	\$64.65
LABORERS - ZONE 2						

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
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>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2024	\$47.89	\$11.49	\$21.37	\$0.00	\$80.75
	08/01/2024	\$49.57	\$11.49	\$21.37	\$0.00	\$82.43
	02/01/2025	\$50.61	\$11.49	\$21.37	\$0.00	\$83.47
	08/01/2025	\$52.33	\$11.49	\$21.37	\$0.00	\$85.19
	02/01/2026	\$53.41	\$11.49	\$21.37	\$0.00	\$86.27
	08/01/2026	\$55.17	\$11.49	\$21.37	\$0.00	\$88.03
	02/01/2027	\$56.29	\$11.49	\$21.37	\$0.00	\$89.15

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$11.49	\$21.37	\$0.00	\$56.81
2	60	\$28.73	\$11.49	\$21.37	\$0.00	\$61.59
3	70	\$33.52	\$11.49	\$21.37	\$0.00	\$66.38
4	80	\$38.31	\$11.49	\$21.37	\$0.00	\$71.17
5	90	\$43.10	\$11.49	\$21.37	\$0.00	\$75.96

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.79	\$11.49	\$21.37	\$0.00	\$57.65
2	60	\$29.74	\$11.49	\$21.37	\$0.00	\$62.60
3	70	\$34.70	\$11.49	\$21.37	\$0.00	\$67.56
4	80	\$39.66	\$11.49	\$21.37	\$0.00	\$72.52
5	90	\$44.61	\$11.49	\$21.37	\$0.00	\$77.47

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH	02/01/2024	\$62.42	\$11.49	\$23.56	\$0.00	\$97.47
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2024	\$64.52	\$11.49	\$23.56	\$0.00	\$99.57
	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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.21	\$11.49	\$23.56	\$0.00	\$66.26
2	60	\$37.45	\$11.49	\$23.56	\$0.00	\$72.50
3	70	\$43.69	\$11.49	\$23.56	\$0.00	\$78.74
4	80	\$49.94	\$11.49	\$23.56	\$0.00	\$84.99
5	90	\$56.18	\$11.49	\$23.56	\$0.00	\$91.23

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

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	01/01/2024	\$42.76	\$10.08	\$21.47	\$0.00	\$74.31
	01/06/2025	\$45.09	\$10.08	\$21.47	\$0.00	\$76.64
	01/05/2026	\$47.42	\$10.08	\$21.47	\$0.00	\$78.97

Apprentice - MILLWRIGHT - Local 1121 Zone 2

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.52	\$10.08	\$5.50	\$0.00	\$39.10
2	65	\$27.79	\$10.08	\$6.50	\$0.00	\$44.37
3	75	\$32.07	\$10.08	\$18.97	\$0.00	\$61.12
4	85	\$36.35	\$10.08	\$19.97	\$0.00	\$66.40

Effective Date - 01/06/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.80	\$10.08	\$5.50	\$0.00	\$40.38
2	65	\$29.31	\$10.08	\$6.50	\$0.00	\$45.89
3	75	\$33.82	\$10.08	\$18.97	\$0.00	\$62.87
4	85	\$38.33	\$10.08	\$19.97	\$0.00	\$68.38

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 <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
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For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$24.41	\$15.00	\$16.40	\$0.00	\$55.81
	06/01/2024	\$25.01	\$15.00	\$16.40	\$0.00	\$56.41
	12/01/2024	\$25.67	\$15.00	\$16.40	\$0.00	\$57.07
	06/01/2025	\$26.27	\$15.00	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.93	\$15.00	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.52	\$15.00	\$16.40	\$0.00	\$58.92
	12/01/2026	\$28.19	\$15.00	\$16.40	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$29.86	\$15.00	\$16.40	\$0.00	\$61.26
	06/01/2024	\$30.58	\$15.00	\$16.40	\$0.00	\$61.98
	12/01/2024	\$31.38	\$15.00	\$16.40	\$0.00	\$62.78
	06/01/2025	\$32.10	\$15.00	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.90	\$15.00	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.62	\$15.00	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.42	\$15.00	\$16.40	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2024	\$56.06	\$9.95	\$23.95	\$0.00	\$89.96
	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 - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$9.95	\$0.00	\$0.00	\$37.98
2	55	\$30.83	\$9.95	\$6.66	\$0.00	\$47.44
3	60	\$33.64	\$9.95	\$7.26	\$0.00	\$50.85
4	65	\$36.44	\$9.95	\$7.87	\$0.00	\$54.26
5	70	\$39.24	\$9.95	\$20.32	\$0.00	\$69.51
6	75	\$42.05	\$9.95	\$20.93	\$0.00	\$72.93
7	80	\$44.85	\$9.95	\$21.53	\$0.00	\$76.33
8	90	\$50.45	\$9.95	\$22.74	\$0.00	\$83.14

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2024	\$46.96	\$9.95	\$23.95	\$0.00	\$80.86
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$48.16	\$9.95	\$23.95	\$0.00	\$82.06
	01/01/2025	\$49.36	\$9.95	\$23.95	\$0.00	\$83.26

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.48	\$9.95	\$0.00	\$0.00	\$33.43
2	55	\$25.83	\$9.95	\$6.66	\$0.00	\$42.44
3	60	\$28.18	\$9.95	\$7.26	\$0.00	\$45.39
4	65	\$30.52	\$9.95	\$7.87	\$0.00	\$48.34
5	70	\$32.87	\$9.95	\$20.32	\$0.00	\$63.14
6	75	\$35.22	\$9.95	\$20.93	\$0.00	\$66.10
7	80	\$37.57	\$9.95	\$21.53	\$0.00	\$69.05
8	90	\$42.26	\$9.95	\$22.74	\$0.00	\$74.95

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2024	\$45.02	\$9.95	\$23.95	\$0.00	\$78.92
PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$46.22	\$9.95	\$23.95	\$0.00	\$80.12
	01/01/2025	\$47.42	\$9.95	\$23.95	\$0.00	\$81.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.51	\$9.95	\$0.00	\$0.00	\$32.46
2	55	\$24.76	\$9.95	\$6.66	\$0.00	\$41.37
3	60	\$27.01	\$9.95	\$7.26	\$0.00	\$44.22
4	65	\$29.26	\$9.95	\$7.87	\$0.00	\$47.08
5	70	\$31.51	\$9.95	\$20.32	\$0.00	\$61.78
6	75	\$33.77	\$9.95	\$20.93	\$0.00	\$64.65
7	80	\$36.02	\$9.95	\$21.53	\$0.00	\$67.50
8	90	\$40.52	\$9.95	\$22.74	\$0.00	\$73.21

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2024	\$45.56	\$9.95	\$23.95	\$0.00	\$79.46
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$9.95	\$0.00	\$0.00	\$32.73
2	55	\$25.06	\$9.95	\$6.66	\$0.00	\$41.67
3	60	\$27.34	\$9.95	\$7.26	\$0.00	\$44.55
4	65	\$29.61	\$9.95	\$7.87	\$0.00	\$47.43
5	70	\$31.89	\$9.95	\$20.32	\$0.00	\$62.16
6	75	\$34.17	\$9.95	\$20.93	\$0.00	\$65.05
7	80	\$36.45	\$9.95	\$21.53	\$0.00	\$67.93
8	90	\$41.00	\$9.95	\$22.74	\$0.00	\$73.69

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2024	\$43.62	\$9.95	\$23.95	\$0.00	\$77.52
PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$44.82	\$9.95	\$23.95	\$0.00	\$78.72
	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.81	\$9.95	\$0.00	\$0.00	\$31.76
2	55	\$23.99	\$9.95	\$6.66	\$0.00	\$40.60
3	60	\$26.17	\$9.95	\$7.26	\$0.00	\$43.38
4	65	\$28.35	\$9.95	\$7.87	\$0.00	\$46.17
5	70	\$30.53	\$9.95	\$20.32	\$0.00	\$60.80
6	75	\$32.72	\$9.95	\$20.93	\$0.00	\$63.60
7	80	\$34.90	\$9.95	\$21.53	\$0.00	\$66.38
8	90	\$39.26	\$9.95	\$22.74	\$0.00	\$71.95

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

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$39.19	\$9.65	\$17.14	\$0.00	\$65.98
	12/01/2024	\$40.52	\$9.65	\$17.14	\$0.00	\$67.31
	06/01/2025	\$41.91	\$9.65	\$17.14	\$0.00	\$68.70
	12/01/2025	\$43.29	\$9.65	\$17.14	\$0.00	\$70.08
	06/01/2026	\$44.73	\$9.65	\$17.14	\$0.00	\$71.52
	12/01/2026	\$46.17	\$9.65	\$17.14	\$0.00	\$72.96

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

PANEL & PICKUP TRUCKS DRIVER	01/01/2024	\$38.78	\$15.07	\$18.67	\$0.00	\$72.52
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 1)</i> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.54	\$9.40	\$23.12	\$0.00	\$57.06
2	60	\$29.44	\$9.40	\$23.12	\$0.00	\$61.96
3	70	\$34.35	\$9.40	\$23.12	\$0.00	\$66.87
4	75	\$36.80	\$9.40	\$23.12	\$0.00	\$69.32
5	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
6	80	\$39.26	\$9.40	\$23.12	\$0.00	\$71.78
7	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68
8	90	\$44.16	\$9.40	\$23.12	\$0.00	\$76.68

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$34.01/ 3&4 \$41.46/ 5&6 \$62.80/ 7&8 \$69.25

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PIPEFITTER Local 537 (Local 138)

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.11	\$12.70	\$9.05	\$0.00	\$47.86
2	45	\$29.38	\$12.70	\$21.80	\$0.00	\$63.88
3	60	\$39.17	\$12.70	\$21.80	\$0.00	\$73.67
4	70	\$45.70	\$12.70	\$21.80	\$0.00	\$80.20
5	80	\$52.22	\$12.70	\$21.80	\$0.00	\$86.72

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.83	\$12.70	\$9.05	\$0.00	\$48.58
2	45	\$30.19	\$12.70	\$21.80	\$0.00	\$64.69
3	60	\$40.25	\$12.70	\$21.80	\$0.00	\$74.75
4	70	\$46.96	\$12.70	\$21.80	\$0.00	\$81.46
5	80	\$53.66	\$12.70	\$21.80	\$0.00	\$88.16

Notes:

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

Apprentice to Journeyworker Ratio:**

PIPELAYER LABORERS - ZONE 2	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
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For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21

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

PLUMBER PLUMBERS & GASFITTERS LOCAL 12 (Local 138)	03/03/2024	\$67.74	\$14.32	\$19.11	\$0.00	\$101.17
	09/01/2024	\$69.54	\$14.32	\$19.11	\$0.00	\$102.97
	03/02/2025	\$71.34	\$14.32	\$19.11	\$0.00	\$104.77

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

Effective Date - 03/03/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$23.71	\$14.32	\$6.88	\$0.00	\$44.91
2	40	\$27.10	\$14.32	\$7.82	\$0.00	\$49.24
3	55	\$37.26	\$14.32	\$10.65	\$0.00	\$62.23
4	65	\$44.03	\$14.32	\$12.53	\$0.00	\$70.88
5	75	\$50.81	\$14.32	\$14.41	\$0.00	\$79.54

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.34	\$14.32	\$6.88	\$0.00	\$45.54
2	40	\$27.82	\$14.32	\$7.82	\$0.00	\$49.96
3	55	\$38.25	\$14.32	\$10.65	\$0.00	\$63.22
4	65	\$45.20	\$14.32	\$12.53	\$0.00	\$72.05
5	75	\$52.16	\$14.32	\$14.41	\$0.00	\$80.89

Notes: ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
 Steps are 1 yr
 Step 4 with lic\$69.00, Step5 with lic\$76.87

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.)	03/01/2024	\$65.28	\$12.70	\$21.80	\$0.00	\$99.78
PIPEFITTERS LOCAL 537 (Local 138)	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38

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

PNEUMATIC DRILL/TOOL OPERATOR	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
LABORERS - ZONE 2						

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21

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

POWDERMAN & BLASTER	12/01/2023	\$38.86	\$9.65	\$17.14	\$0.00	\$65.65
LABORERS - ZONE 2						

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER (HEAVY & HIGHWAY)	12/01/2023	\$39.36	\$9.40	\$16.89	\$0.00	\$65.65
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$40.69	\$9.40	\$16.89	\$0.00	\$66.98
	12/01/2024	\$42.02	\$9.40	\$16.89	\$0.00	\$68.31
	06/01/2025	\$43.41	\$9.40	\$16.89	\$0.00	\$69.70
	12/01/2025	\$44.79	\$9.40	\$16.89	\$0.00	\$71.08
	06/01/2026	\$46.23	\$9.40	\$16.89	\$0.00	\$72.52
	12/01/2026	\$47.67	\$9.40	\$16.89	\$0.00	\$73.96

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 42 - J.G. MacLeallan (Wakefield)</i>	05/01/2023	\$29.25	\$12.00	\$7.00	\$0.00	\$48.25
	05/01/2024	\$29.50	\$12.00	\$7.00	\$0.00	\$48.50
	05/01/2025	\$30.00	\$12.00	\$7.00	\$0.00	\$49.00
	05/01/2026	\$30.50	\$12.00	\$7.00	\$0.00	\$49.50
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) ROOFERS LOCAL 33	02/01/2024	\$50.03	\$12.78	\$21.45	\$0.00	\$84.26
	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

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.02	\$12.78	\$6.21	\$0.00	\$44.01
2	60	\$30.02	\$12.78	\$21.45	\$0.00	\$64.25
3	65	\$32.52	\$12.78	\$21.45	\$0.00	\$66.75
4	75	\$37.52	\$12.78	\$21.45	\$0.00	\$71.75
5	85	\$42.53	\$12.78	\$21.45	\$0.00	\$76.76

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

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 ROOFERS LOCAL 33	02/01/2024	\$50.28	\$12.78	\$21.45	\$0.00	\$84.51
	08/01/2024	\$51.78	\$12.78	\$21.45	\$0.00	\$86.01
	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 SHEETMETAL WORKERS LOCAL 17 - A	02/01/2024	\$57.22	\$14.59	\$27.50	\$2.98	\$102.29
	08/01/2024	\$58.97	\$14.59	\$27.50	\$2.98	\$104.04
	02/01/2025	\$60.72	\$14.59	\$27.50	\$2.98	\$105.79
	08/01/2025	\$62.57	\$14.59	\$27.50	\$2.98	\$107.64
	02/01/2026	\$64.52	\$14.59	\$27.50	\$2.98	\$109.59

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$24.03	\$14.59	\$6.13	\$0.00	\$44.75
2	42	\$24.03	\$14.59	\$6.13	\$0.00	\$44.75
3	47	\$26.89	\$14.59	\$12.11	\$1.61	\$55.20
4	47	\$26.89	\$14.59	\$12.11	\$1.61	\$55.20
5	52	\$29.75	\$14.59	\$13.09	\$1.72	\$59.15
6	52	\$29.75	\$14.59	\$13.34	\$1.73	\$59.41
7	60	\$34.33	\$14.59	\$14.75	\$1.91	\$65.58
8	65	\$37.19	\$14.59	\$15.73	\$2.03	\$69.54
9	75	\$42.92	\$14.59	\$17.69	\$2.26	\$77.46
10	85	\$48.64	\$14.59	\$19.15	\$2.47	\$84.85

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$24.77	\$14.59	\$6.13	\$0.00	\$45.49
2	42	\$24.77	\$14.59	\$6.13	\$0.00	\$45.49
3	47	\$27.72	\$14.59	\$12.11	\$1.63	\$56.05
4	47	\$27.72	\$14.59	\$12.11	\$1.63	\$56.05
5	52	\$30.66	\$14.59	\$13.09	\$1.75	\$60.09
6	52	\$30.66	\$14.59	\$13.34	\$1.76	\$60.35
7	60	\$35.38	\$14.59	\$14.75	\$1.94	\$66.66
8	65	\$38.33	\$14.59	\$15.73	\$2.06	\$70.71
9	75	\$44.23	\$14.59	\$17.69	\$2.30	\$78.81
10	85	\$50.12	\$14.59	\$19.15	\$2.52	\$86.38

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	01/01/2024	\$39.24	\$15.07	\$18.67	\$0.00	\$72.98
	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>	01/01/2024	\$39.53	\$15.07	\$18.67	\$0.00	\$73.27
	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 550 - (Section B) Zone 2</i>	03/01/2024	\$62.78	\$10.90	\$23.20	\$0.00	\$96.88
	10/01/2024	\$64.40	\$10.90	\$23.20	\$0.00	\$98.50
	03/01/2025	\$66.02	\$10.90	\$23.20	\$0.00	\$100.12

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

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$21.97	\$10.90	\$12.80	\$0.00	\$45.67
2	40	\$25.11	\$10.90	\$13.60	\$0.00	\$49.61
3	45	\$28.25	\$10.90	\$14.40	\$0.00	\$53.55
4	50	\$31.39	\$10.90	\$15.20	\$0.00	\$57.49
5	55	\$34.53	\$10.90	\$16.00	\$0.00	\$61.43
6	60	\$37.67	\$10.90	\$16.80	\$0.00	\$65.37
7	65	\$40.81	\$10.90	\$17.60	\$0.00	\$69.31
8	70	\$43.95	\$10.90	\$18.40	\$0.00	\$73.25
9	75	\$47.09	\$10.90	\$19.20	\$0.00	\$77.19
10	80	\$50.22	\$10.90	\$20.00	\$0.00	\$81.12

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$22.54	\$10.90	\$12.80	\$0.00	\$46.24
2	40	\$25.76	\$10.90	\$13.60	\$0.00	\$50.26
3	45	\$28.98	\$10.90	\$14.40	\$0.00	\$54.28
4	50	\$32.20	\$10.90	\$15.20	\$0.00	\$58.30
5	55	\$35.42	\$10.90	\$16.00	\$0.00	\$62.32
6	60	\$38.64	\$10.90	\$16.80	\$0.00	\$66.34
7	65	\$41.86	\$10.90	\$17.60	\$0.00	\$70.36
8	70	\$45.08	\$10.90	\$18.40	\$0.00	\$74.38
9	75	\$48.30	\$10.90	\$19.20	\$0.00	\$78.40
10	80	\$51.52	\$10.90	\$20.00	\$0.00	\$82.42

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

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$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>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2024	\$49.49	\$13.00	\$20.19	\$0.00	\$82.68
	09/01/2024	\$51.02	\$13.00	\$20.24	\$0.00	\$84.26
	03/01/2025	\$51.98	\$13.00	\$20.27	\$0.00	\$85.25
	09/01/2025	\$53.51	\$13.00	\$20.32	\$0.00	\$86.83
	03/01/2026	\$54.47	\$13.00	\$20.34	\$0.00	\$87.81
	09/01/2026	\$56.00	\$13.00	\$20.39	\$0.00	\$89.39
	03/01/2027	\$56.95	\$13.00	\$20.42	\$0.00	\$90.37
	09/01/2027	\$58.49	\$13.00	\$20.46	\$0.00	\$91.95
	03/01/2028	\$59.45	\$13.00	\$20.49	\$0.00	\$92.94

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.27	\$13.00	\$0.67	\$0.00	\$35.94
2	45	\$22.27	\$13.00	\$0.67	\$0.00	\$35.94
3	50	\$24.75	\$13.00	\$16.16	\$0.00	\$53.91
4	50	\$24.75	\$13.00	\$16.16	\$0.00	\$53.91
5	55	\$27.22	\$13.00	\$16.57	\$0.00	\$56.79
6	60	\$29.69	\$13.00	\$16.97	\$0.00	\$59.66
7	65	\$32.17	\$13.00	\$17.38	\$0.00	\$62.55
8	70	\$34.64	\$13.00	\$17.78	\$0.00	\$65.42
9	75	\$37.12	\$13.00	\$18.18	\$0.00	\$68.30
10	80	\$39.59	\$13.00	\$18.58	\$0.00	\$71.17

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.96	\$13.00	\$0.69	\$0.00	\$36.65
2	45	\$22.96	\$13.00	\$0.69	\$0.00	\$36.65
3	50	\$25.51	\$13.00	\$16.16	\$0.00	\$54.67
4	50	\$25.51	\$13.00	\$16.16	\$0.00	\$54.67
5	55	\$28.06	\$13.00	\$16.57	\$0.00	\$57.63
6	60	\$30.61	\$13.00	\$16.97	\$0.00	\$60.58
7	65	\$33.16	\$13.00	\$17.38	\$0.00	\$63.54
8	70	\$35.71	\$13.00	\$17.78	\$0.00	\$66.49
9	75	\$38.27	\$13.00	\$18.18	\$0.00	\$69.45
10	80	\$40.82	\$13.00	\$18.58	\$0.00	\$72.40

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS	02/01/2024	\$61.34	\$11.49	\$23.59	\$0.00	\$96.42
BRICKLAYERS LOCAL 3 - MARBLE & TILE	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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.67	\$11.49	\$23.59	\$0.00	\$65.75
2	60	\$36.80	\$11.49	\$23.59	\$0.00	\$71.88
3	70	\$42.94	\$11.49	\$23.59	\$0.00	\$78.02
4	80	\$49.07	\$11.49	\$23.59	\$0.00	\$84.15
5	90	\$55.21	\$11.49	\$23.59	\$0.00	\$90.29

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

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$48.33	\$9.65	\$18.22	\$0.00	\$76.20
	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>	12/01/2023	\$44.45	\$9.65	\$18.22	\$0.00	\$72.32
	06/01/2024	\$45.93	\$9.65	\$18.22	\$0.00	\$73.80
	12/01/2024	\$47.40	\$9.65	\$18.22	\$0.00	\$75.27
	06/01/2025	\$48.90	\$9.65	\$18.22	\$0.00	\$76.77
	12/01/2025	\$50.40	\$9.65	\$18.22	\$0.00	\$78.27
	06/01/2026	\$51.95	\$9.65	\$18.22	\$0.00	\$79.82
	12/01/2026	\$53.45	\$9.65	\$18.22	\$0.00	\$81.32

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
	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"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$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>	01/01/2024	\$39.82	\$15.07	\$18.67	\$0.00	\$73.56
	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>	12/01/2023	\$56.56	\$9.65	\$18.67	\$0.00	\$84.88
	06/01/2024	\$58.04	\$9.65	\$18.67	\$0.00	\$86.36
	12/01/2024	\$59.51	\$9.65	\$18.67	\$0.00	\$87.83
	06/01/2025	\$61.01	\$9.65	\$18.67	\$0.00	\$89.33
	12/01/2025	\$62.51	\$9.65	\$18.67	\$0.00	\$90.83
	06/01/2026	\$64.06	\$9.65	\$18.67	\$0.00	\$92.38
	12/01/2026	\$65.56	\$9.65	\$18.67	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2023	\$58.56	\$9.65	\$18.67	\$0.00	\$86.88
	06/01/2024	\$60.04	\$9.65	\$18.67	\$0.00	\$88.36
	12/01/2024	\$61.51	\$9.65	\$18.67	\$0.00	\$89.83
	06/01/2025	\$63.01	\$9.65	\$18.67	\$0.00	\$91.33
	12/01/2025	\$64.51	\$9.65	\$18.67	\$0.00	\$92.83
	06/01/2026	\$66.06	\$9.65	\$18.67	\$0.00	\$94.38
	12/01/2026	\$67.56	\$9.65	\$18.67	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2023	\$48.63	\$9.65	\$18.67	\$0.00	\$76.95
	06/01/2024	\$50.11	\$9.65	\$18.67	\$0.00	\$78.43
	12/01/2024	\$51.58	\$9.65	\$18.67	\$0.00	\$79.90
	06/01/2025	\$53.08	\$9.65	\$18.67	\$0.00	\$81.40
	12/01/2025	\$54.58	\$9.65	\$18.67	\$0.00	\$82.90
	06/01/2026	\$56.13	\$9.65	\$18.67	\$0.00	\$84.45
	12/01/2026	\$57.63	\$9.65	\$18.67	\$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>	12/01/2023	\$50.63	\$9.65	\$18.67	\$0.00	\$78.95
	06/01/2024	\$52.11	\$9.65	\$18.67	\$0.00	\$80.43
	12/01/2024	\$53.58	\$9.65	\$18.67	\$0.00	\$81.90
	06/01/2025	\$55.08	\$9.65	\$18.67	\$0.00	\$83.40
	12/01/2025	\$56.58	\$9.65	\$18.67	\$0.00	\$84.90
	06/01/2026	\$58.13	\$9.65	\$18.67	\$0.00	\$86.45
	12/01/2026	\$59.63	\$9.65	\$18.67	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.24	\$15.07	\$18.67	\$0.00	\$72.98
	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
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12 (Local 138)</i>	03/03/2024	\$68.74	\$14.07	\$18.36	\$0.00	\$101.17
	09/01/2024	\$70.54	\$14.07	\$18.36	\$0.00	\$102.97
	03/02/2025	\$71.34	\$14.32	\$18.61	\$0.00	\$104.27
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.

- END OF SECTION 00 73 46 -
SCHEDULE OF PREVAILING WAGE RATES

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SECTION 00 73 85: EXCAVATION AND TRENCH SAFETY REGULATION SUMMARY

1.01 520 CMR 14.00 Trench Safety Regulation

This summary was prepared by the Massachusetts Department of Public Safety pursuant to M.G.L.c.82A and does not include all requirements of the 520 CMR 14.00. To view the full regulation and G.L.c.82A, go to www.mass.gov/dps

Pursuant to M.G.L. c. 82, § 1, the Department of Public Safety, jointly with the Division of Occupational Safety, drafted regulations relative to trench safety. The regulation is codified in section 14.00 of title 520 of the Code of Massachusetts Regulations. The regulation requires all excavators to obtain a permit prior to the excavation of a trench made for a construction-related purpose on public or private land or rights-of-way. All municipalities must establish a local permitting authority for the purpose of issuing permits for trenches within their municipality. Trenches on land owned or controlled by a public (state) agency requires a permit to be issued by that public agency unless otherwise designated.

In addition to the permitting requirements mandated by statute, the trench safety regulations require that all excavators, whether public or private, take specific precautions to protect the general public and prevent unauthorized access to unattended trenches. Accordingly, unattended trenches must be covered, barricaded or backfilled. Covers must be road plates at least ¾" thick or equivalent; barricades must be fences at least 6' high with no openings greater than 4" between vertical supports; backfilling must be sufficient to eliminate the trench. Alternatively, excavators may choose to attend trenches at all times, for instance by hiring a police detail, security guard or other attendant who will be present during times when the trench will be unattended by the excavator.

The regulations further provide those local permitting authorities, the Department of Public Safety, or the Division of Occupational Safety may order an immediate shutdown of a trench in the event of a death or serious injury; the failure to obtain a permit; or the failure to implement or effectively use adequate protections for the general public. The trench shall remain shut down until re-inspected and authorized to re-open provided, however, excavators shall have the right to appeal an immediate shutdown. Permitting authorities are further authorized to suspend or revoke a permit following a hearing. Excavators may also be subject to administrative fines issued by the Department of Public Safety for identified violations.

1.02 1926 CFR Subpart P-OSHA Excavation Standard Summary

This is a worker protection standard, and is designed to protect employees who are working inside a trench. This summary was prepared by the Massachusetts Division of Occupational Safety and not OSHA for informational purposes only and does not constitute an official interpretation by OSHA of their regulations, and may not include all aspects of the standard. For further information or a full copy of the standard go to www.osha.gov.

1.02.01 Trench Definition per the OSHA standard: An excavation made below the surface of the ground, narrow in relation to its length. In general, the depth is greater than the width, but the width of the trench is not greater than fifteen feet.

1.02.02 Protective Systems to prevent soil wall collapse are always required in trenches deeper than 5', and are also required in trenches less than 5' deep when the competent person determines that a hazard exists. Protection options include:

- Shoring. Shoring must be used in accordance with the OSHA Excavation standard appendices, the equipment manufacturer's tabulated data, or designed by a registered professional engineer.
- Shielding (Trench Boxes). Trench boxes must be used in accordance with the equipment manufacturer's tabulated data, or a registered professional engineer.
- Sloping or Benching. In Type C soils (what is most typically encountered) the excavation must extend horizontally 1 ½ feet for every foot of trench depth on both sides, 1 foot for Type B soils,

- and $\frac{3}{4}$ foot for Type A soils.
 - A registered professional engineer must design protective systems for all excavations greater than 20' in depth.
- 1.02.03 Ladders must be used in trenches deeper than 4'.
- Ladders must be inside the trench with workers at all times, and located within 25' of unobstructed lateral travel for every worker in the trench.
 - Ladders must extend 3' above the top of the trench so workers can safely get onto and off of the ladder.
- 1.02.04 Inspections of every trench worksite are required:
- Prior to the start of each shift, and again when there is a change in conditions such as a rainstorm.
 - Inspections must be conducted by the competent person (see below).
- 1.02.05 Competent Person(s) is:
- Capable (i.e., trained and knowledgeable) in identifying existing and predictable hazards in the trench, and other working conditions which may pose a hazard to workers, and
 - Authorized by management to take necessary corrective action to eliminate the hazards. Employees must be removed from hazardous areas until the hazard has been corrected.
- 1.02.06 Underground Utilities must be:
- Identified prior to opening the excavation (e.g., contact Digsafe).
 - Located by safe and acceptable means while excavating.
 - Protected, supported, or removed once exposed.
- 1.02.07 Spoils must be kept back a minimum of 2' from the edge of the trench.
- 1.02.08 Surface Encumbrances creating a hazard must be removed or supported to safeguard employees. Keep heavy equipment and heavy material as far back from the edge of the trench as possible.
- 1.02.09 Stability of Adjacent Structures:
- Where the stability of adjacent structures is endangered by creation of the trench, they must be underpinned, braced, or otherwise supported.
 - Sidewalks, pavements, etc. shall not be undermined unless a support system or other method of protection is provided.
- 1.02.10 Protection from water accumulation hazards:
- It is not allowable for employees to work in trenches with accumulated water. If water control such as pumping is used to prevent water accumulation, this must be monitored by the competent person.
 - If the trench interrupts natural drainage of surface water, ditches, dikes or other means must be used to prevent this water from entering the excavation.
- 1.02.11 Additional Requirements:
- For mobile equipment operated near the edge of the trench, a warning system such as barricades or stop logs must be used.
 - Employees are not permitted to work underneath loads. Operators may not remain in vehicles being loaded unless vehicles are equipped with adequate protection as per 1926.601(b)(6).
 - Employees must wear high-visibility clothing in traffic work zones.
 - Air monitoring must be conducted in trenches deeper than 4' if the potential for a hazardous atmosphere exists. If a hazardous atmosphere is found to exist (e.g., O₂ <19.5% or >23.5%, 20% LEL, specific chemical hazard), adequate protections shall be taken such as ventilation of the space.
 - Walkways are required where employees must cross over the trench. Walkways with guardrails must be provided for crossing over trenches > 6' deep.
 - Employees must be protected from loose rock or soil through protections such as scaling or protective barricades.

Town of Topsfield

Permit Number _____

Date Issued _____

Expiration Date _____

TRENCH PERMIT

**Pursuant to G.L. c. 82A §1 and 520 CMR 14.00 et seq., & Applicable Town Requirements
(as amended)**

THIS PERMIT MUST BE FULLY COMPLETED PRIOR TO CONSIDERATION

Name of Applicant			Phone	Cell
Street Address				
Town/Town	MA	ZIP		
Name of Excavator (if different from applicant)			Phone	Cell
Street Address				
Town/Town	MA	ZIP		
Name of Owner(s) of Property			Phone	Cell
Street Address				
Town/Town	MA	ZIP		
Other Contact			Permit Fee Received No () Yes ()	

Description, location and purpose of proposed trench(es): <i>Please describe the exact location of the proposed trench(es) and its purpose (include a description of what is (or is intended) to be laid in proposed trench (e.g.; pipes/cable lines etc..) Please provide a site map with the proposed location of work indicated.</i>	
Insurance Certificate #:	
Name and Contact Information of Insurer:	
Policy Expiration Date:	
Dig Safe #:	
Name of Competent Person (as defined by 520 CMR 7.02):	
Massachusetts Hoisting License #	Expiration Date:
License Grade:	

BY SIGNING THIS FORM, THE APPLICANT, OWNER, AND EXCAVATOR ALL ACKNOWLEDGE AND CERTIFY THAT THEY ARE FAMILIAR WITH, OR, BEFORE COMMENCEMENT OF THE WORK, WILL BECOME FAMILIAR WITH, ALL LAWS AND REGULATIONS APPLICABLE TO WORK PROPOSED, INCLUDING OSHA REGULATIONS, G.L. c. 82A, 520 CMR 7.00 et seq., AND ANY APPLICABLE MUNICIPAL ORDINANCES, BY-LAWS AND REGULATIONS AND THEY COVENANT AND AGREE THAT ALL WORK DONE UNDER THE PERMIT ISSUED FOR SUCH WORK WILL COMPLY THEREWITH IN ALL RESPECTS AND WITH THE CONDITIONS SET FORTH BELOW.

THE UNDERSIGNED OWNER AUTHORIZES THE APPLICANT TO APPLY FOR THE PERMIT AND THE EXCAVATOR TO UNDERTAKE SUCH WORK ON THE PROPERTY OF THE OWNER, AND ALSO, FOR THE DURATION OF CONSTRUCTION, AUTHORIZES PERSONS DULY APPOINTED BY THE MUNICIPALITY TO ENTER UPON THE PROPERTY TO MONITOR AND INSPECT THE WORK FOR CONFORMITY WITH THE CONDITIONS ATTACHED HERETO AND THE LAWS AND REGULATIONS GOVERNING SUCH WORK.

THE UNDERSIGNED APPLICANT, OWNER AND EXCAVATOR AGREE JOINTLY AND SEVERALLY TO REIMBURSE THE MUNICIPALITY FOR ANY AND ALL COSTS AND EXPENSES INCURRED BY THE MUNICIPALITY IN CONNECTION WITH THIS PERMIT AND THE WORK CONDUCTED THEREUNDER, INCLUDING BUT NOT LIMITED TO ENFORCING THE REQUIREMENTS OF STATE LAW AND CONDITIONS OF THIS PERMIT, INSPECTIONS MADE TO ASSURE COMPLIANCE THEREWITH, AND MEASURES TAKEN BY THE MUNICIPALITY TO PROTECT THE PUBLIC WHERE THE APPLICANT OWNER OR EXCAVATOR HAS FAILED TO COMPLY THEREWITH INCLUDING POLICE DETAILS AND OTHER REMEDIAL MEASURES DEEMED NECESSARY BY THE MUNICIPALITY.

THE UNDERSIGNED APPLICANT, OWNER AND EXCAVATOR AGREE JOINTLY AND SEVERALLY TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE MUNICIPALITY AND ALL OF ITS AGENTS AND EMPLOYEES FROM ANY AND ALL LIABILITY, CAUSES OR ACTION, COSTS, AND EXPENSES RESULTING FROM OR ARISING OUT OF ANY INJURY, DEATH, LOSS, OR DAMAGE TO ANY PERSON OR PROPERTY DURING THE WORK CONDUCTED UNDER THIS PERMIT.

APPLICANT SIGNATURE

_____ DATE _____

EXCAVATOR SIGNATURE (IF DIFFERENT)

_____ DATE _____

OWNER'S SIGNATURE (IF DIFFERENT)

_____ DATE: _____

For Town's Use Only – Do not write in this section	
PERMIT APPROVED BY	\$ _____ Application Fee
PERMITTING AUTHORITY _____ Date _____	
CONDITIONS OF APPROVAL	

CONDITIONS AND REQUIREMENTS PURSUANT TO G.L.C.82A AND 520 CMR 14.00 et seq., and applicable Town requirements (as amended)

By signing the application, the applicant understands and agrees to comply with the following:

- i. No trench may be excavated unless the requirements of sections 40 through 40D of chapter 82, and any accompanying regulations, have been met and this permit is invalid unless and until said requirements have been complied with by the excavator applying for the permit including, but not limited to, the establishment of a valid excavation number with the underground plant damage prevention system as said system is defined in section 76D of chapter 164 (DIG SAFE);
- ii. Trenches may pose a significant health and safety hazard. Pursuant to Section 1 of Chapter 82 of the General Laws, an excavator shall not leave any open trench unattended without first making every reasonable effort to eliminate any recognized safety hazard that may exist as a result of leaving said open trench unattended. Excavators should consult regulations promulgated by the Department of Public Safety in order to familiarize themselves with the recognized safety hazards associated with excavations and open trenches and the procedures required or recommended by said department in order to make every reasonable effort to eliminate said safety hazards which may include covering, barricading or otherwise protecting open trenches from accidental entry.
- iii. Persons engaging in any in any trenching operation shall familiarize themselves with the federal safety standards promulgated by the Occupational Safety and Health Administration on excavations: 29 CFR 1926.650 et.seq., entitled Subpart P "Excavations".
- iv. Excavators engaging in any trenching operation who utilize hoisting or other mechanical equipment subject to chapter 146 shall only employ individuals licensed to operate said equipment by the Department of Public Safety pursuant to said chapter and this permit must be presented to said licensed operator before any excavation is commenced;
- v. By applying for, accepting and signing this permit, the applicant hereby attests to the following: (1) that they have read and understands the regulations promulgated by the Department of Public Safety with regard to construction related excavations and trench safety; (2) that he has read and understands the federal safety standards promulgated by the Occupational Safety and Health Administration on excavations: 29 CMR 1926.650 et.seq., entitled Subpart P "Excavations" as well as any other excavation requirements established by this municipality; and (3) that he is aware of and has, with regard to the proposed trench excavation on private property or proposed excavation of a Town or town public way that forms the basis of the permit application, complied with the requirements of sections 40-40D of chapter 82A.
- vi. This permit shall be posted in plain view on the site of the trench.

For additional information please visit the Department of Public Safety's website at www.mass.gov/dps

- END OF SECTION 00 73 85.10 -
EXCAVATION AND TRENCH SAFETY REGULATION PERMIT

SECTION 00 91 00: ADDENDA

[Awarding Authority to attach copies of all Addenda issued for the Project to this page.]

- END OF SECTION 00 91 00 -
ADDENDA

DIVISION 01: GENERAL REQUIREMENTS

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SECTION 01 11 00: SUMMARY OF WORK/SITE LOCATION

1.01 LOCATION

The project site is an existing 0.25 acre parcel of land in Topsfield, MA at the address of 30 Main Street.

1.02 GENERAL REQUIREMENTS

The General Conditions, Supplementary Conditions and applicable parts of Division 01 General Requirements are all included as part of this Section. The **Contractor** is required to examine all other sections of the specifications for requirements that may affect the work of this Section. The **Contractor** is also required to coordinate the Work with that of all trades affecting or affected by the Work of this Section, and to cooperate with such trades to assure the continued progress of the Work.

The intent of the Contract Documents is to require that the **Contractor** provide all material, labor and equipment needed in order to furnish a complete Project, and that all of the material, labor and equipment be furnished complete in every respect.

1.03 SCOPE OF WORK

A. Work covered by this contract includes but may not be limited to site-work; construction; re-construction; alterations; remodeling or repair of the public works Project described in this paragraph 1.03 including the following major work.

1. Site preparation and demolition work required to perform the project, including the removal of a portion of the existing site drive, site sign and site curbing.
2. The installation of new crushed stone trench, perforated pipe and associated drainage structures.
3. The installation of new solar, post top site lighting and associated footings.
4. The removal, stockpile and reinstallation of existing granite street curbing.
5. The installation of new granite curbing
6. Installation of pedestrian pavement for the new plaza spaces including concrete, brick and granite pavement.
7. The installation of new bituminous concrete pavement parking area and associated pavement marking.
8. The installation of new traffic and parking signage.
9. The installation of new granite block benches.
10. The installation of new backed metal benches.
11. The installation of new granite bollards.
12. The installation of new site furniture, tables, chairs and umbrellas.
13. The installation of new stabilized stone-dust pavement and metal edging.
14. The installation of new landscape plantings including trees, shrubs, groundcover and perennials.

1.04 DOCUMENTATION

L0.0	Cover Sheet
L-0.1	Existing Conditions Plan
L-1.0	Site Preparation and Demolition Plan
L-2.0	Materials Plan
L-2.1	Layout Plan
L-2.2	Pavement Marking Plan
L-3.0	Grading Plan
L-4.0	Planting Plan
L-5.0	Landscape Details
L-6.0	Landscape Details
L-7.0	Landscape Details

- END OF SECTION 01 11 00 -
SUMMARY OF WORK SITE LOCATION

SECTION 01 21 00: ALLOWANCES

- 1.1 Refer to Section 00 20 00 Instructions to Bidders for any specific requirements for cash allowances.
- 1.2 The cash allowances listed in this Section 01 21 00 shall be included in the Bidders proposed Contract Price stated in Paragraph C of the Form for Bid.
- 1.3 **Allowances**

List of Cash Allowances:

ITEM DESCRIPTION	\$ COST
• Police Department Traffic Detail	\$8,000.00

- END OF SECTION 01 21 00 -
ALLOWANCES

SECTION 01 22 00: UNIT PRICES

PART 1 -- GENERAL

- 1.01 The Unit Prices set forth herein shall be used to determine any equitable adjustment of the Contract Price in connection with the changes or extra work performed under this Contract as directed by the **Town**.
- 1.02 It is mutually understood and agreed that such Unit Prices include all items of costs, equipment, taxes and insurance of every kind, overhead, and profit for the **Contractor** and they shall be used uniformly, without modification for addition and deductions. Prices listed under ADDITIONS and DEDUCTIONS are to be the complete total price billed to and paid by the **Town** therefor. There can be no more than fifteen (15) percent difference in price between the additions and deductions.
- 1.03 Sufficient prior notice shall be given in accordance with the General Conditions so that proper measurements of materials removed or to be replaced may be taken. All quantities used in the determination of additions to or deductions from the Contract Price due to Unit Prices shall only be those that have been determined and approved by the **Town** in advance.
- A. The unit price bid shall be taken to include all labor and materials necessary to make the item of work complete in place.
- B. In case of substitution of items shown on the Drawings or called for in the Contract Documents, the change to the Contract Price for both item deleted and the item added, if of the same class of work, shall be based on the addition column.

1.04 UNIT PRICES FORM

ITEM DESCRIPTION	UNIT	ADDITIONS	O w n e r A p p r o v a l
1. Unclassified excavation below normal depth:			
a. On-site disposal, excavation by hand	C.Y.	\$	
b. On-site disposal, excavation by machine	C.Y.	\$	
c. Off-site disposal, excavation by hand	C.Y.	\$	
d. Off-site disposal, excavation by machine	C.Y.	\$	
2. Ledge excavation (pneumatic hammer) including disposal off-site, including replacement with equal volume of gravel:	C.Y.	\$	
3. Trench excavation by machine; material left on site as directed:	C.Y.	\$	
4. Trench excavation by machine; material removed from site:	C.Y.	\$	
5. Rock excavation in trenches and for piers, using explosives; material removed from site:	C.Y.	\$	
6. Rock excavation in trenches and for piers where explosives are prohibited; material removed from site:	C.Y.	\$	
7. Boulder excavation including disposal off site:	C.Y.	\$	
8. Gravel in place, excluding excavation:	C.Y.	\$	
9. Sand in place, excluding excavation:	C.Y.	\$	
10. Loam in place, excluding excavation:	C.Y.	\$	
11. Crushed stone in place, excluding excavation:	C.Y.	\$	
12. Formwork for foundation per Contract area including stripping:	S.F.	\$	
13. Formwork for footings:	S.F.	\$	
14. Reinforcing steel in place, not including forms or reinforcing	L.B.	\$	
15. Concrete for foundations in place, not including forms or reinforcing:	C.Y.	\$	
16. Concrete for slabs and similar work, not including forms or reinforcing:	C.Y.	\$	
17. 4 1/2" bituminous concrete pavement with gravel and dense graded crushed stone base seal coated:	S.Y.	\$	

18. 6" concrete pavement with welded wire mesh, gravel and dense graded crushed stone base:	S.Y.	\$	
19. Dry set prick pavers with gravel and dense graded crushed stone base:	S.Y.	\$	
19. Deciduous Shrub, 2 ½ -3', B&B:	EA	\$	
20. 20. Evergreen Shrub, 2 ½ -3', B&B:	EA	\$	
21. 21. Deciduous Tree, 3- 3 ½" Caliper, B&B:	EA	\$	
22. 6" PVC schedule 40 conduit:	L.F.	\$	
23. 6" Vertical Granite Curb:	L.F.	\$	

1.05 METHOD OF MEASUREMENT OF EARTH EXCAVATION

- A. For walls, the excavation will be computed from the surface of the ground as it existed at the time of commencing work to the underside of the structure and to vertical planes 2'-0" outside of the footings of the structure, except where the limit of payment is specifically shown or specified.
- B. For pipe line trenches in earth, except as otherwise indicated on the Drawings or directed by the **Designer**, the excavation will be computed from the existing surface of the ground, as mentioned above, to the bottom of the barrel of the pipe measured vertically and between vertical planes to width of 24" plus the outside diameter of the pipe regardless of the actual width of the trench. In rock, where the excavation shall be carried 6" below the bottom of the barrel of the pipe and to vertical planes as specified for the trenches in earth.
- C. Where concrete or gravel fill under foundations is required, the excavation will be computed to the bottom of such foundations.
- D. No payment will be made for the excavation of bell or coupling holes.
- E. Excavation outside the specified lines, whether due to slides or other causes, or made for any reason, will not be paid for. Any material sliding into the excavation shall be removed by the Contractor at his/her own expense.
- F. Excavation in each excavation shall be measured to nearest cubic yard.
- G. Basis of Payment: The unit price per cubic yard for excavation shall include the cost of furnishing all labor, materials, and equipment necessary to complete the earth excavation work, except shoring, sheeting and bracing required by state and local codes.

1.06 ROCK EXCAVATION

- A. Material to be excavated is assumed to be earth and other materials that can be removed by power excavation equipment. The following items, if they can be removed by power excavation equipment and require the use of drills or explosives, as defined as rock excavation (a) rock or stone in original ledge; (b) hard shale in original ledge; (c) boulders over one cubic yard.
- B. When during the process of general excavation rock is encountered, uncover and expose it and notify the **Designer** before proceeding further. The areas in question shall then be cross-sectioned as specified. Any rock removed prior to notification to the **Designer** and the subsequent cross-sectioning shall be considered "general excavation" and unit price bid for rock excavation shall not apply.
- C. Carefully examine rock excavation for foundations and remove loose or shaken rock down to solid bearing; level the rock surface or shelve it to a slope not exceeding 1" per foot or, as directed, leaving no undrained pockets in the surface.
- D. Remove all excavated rock from the site and legally dispose of same.

- E. Blasting: Obtain written permission and approval of method from local or other authorities having jurisdiction before proceeding with rock excavation. Store, handle, and employ explosives in accordance with state and local regulations or, in the absence of such, in accordance with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc.

In general, no blasting will be allowed within 100 feet of new or existing construction or in trenches within 25 feet of laid utility piping. Notify the **Designer** at least 48 hours before any intended blasting and do no blasting operation until the **Designer** has had the opportunity to perform an inspection. However, such inspection shall not relieve the **Contractor** of any of his/her obligations or liabilities under the Contract. Cover all rock blasting with heavy mats or timber chained together and do not damage to the existing buildings, foundations, and glazed areas. Repair any damage caused by this work to the full satisfaction of the **Town**. Use time delay fuses where possible to reduce shock.

- F. If any part of the rock excavation at footings is carried beyond the depth and the dimensions indicated on the Drawings or called for in the Specifications, the **Contractor** shall at his/her own expense furnish and install concrete of the same strength as footings to the required level. Where rock excavation is carried below depths and dimensions indicated or specified at other areas, the **Contractor** shall at his/her expense furnish and install compacted fill, as specified herein, to the required level.
- G. Method of Measurement: The quantity of rock excavation to be paid for by the **Town** under this item will be the number of cubic yards of rock excavation measured in its original position.
- H. Payment lines for wall footings shall be vertical line 1 foot from the toe of the footings; the depth shall be measured at 6 inches below the bottom elevations shown on the Drawings.
- I. Payment lines for manholes and catch basins shall be 1 foot outside of the outer walls and 6 inches below the bottom of the structure.
- J. Basis of Payment: The unit price bid per cubic yard for this item shall include the cost of furnishing all labor, materials and equipment necessary to complete the rock excavation work.

- END OF SECTION 01 22 00 -
UNIT PRICES

SECTION 01 23 00: ALTERNATES

1.0 INSTRUCTIONS AND PROVISIONS

- 1.1 Each Bidder shall be held fully responsible for examining the scope of the alternates generally defined herein and for recognizing any modifications to the Work caused by any alternate whether or not the particular trade Section is mentioned therein.
- 1.2 All sections of the Work that are affected by the alternates will be considered Work to be performed by the **General Contractor**.
- 1.3 General Bidders shall enter a single amount in the appropriate space provided in the Form for Bid, which total amount shall consist of the amount for all work to be performed by the **General Contractor**.
- 1.4 The Work of the various Subcontractors and trades to be performed under alternates shall be in strict accordance with the requirements of the particular trade Section of the Specifications.

2.0 ALTERNATE NO. 1

- 2.1 Scope - Provide the following additional Site Furnishings:
1. Provide Four (4) "Carousel" 42-inch Table and 5 backless Chair Sets with Equinox Umbrella. See specification section number 32 33 00 - Site Furnishings, Part 2, Paragraph 2.04 for information on alternate site furnishings.

3.0 ALTERNATE NO. 2

- 3.1 Scope- Provide the following additional Plantings:
1. Provide One Hundred and Eight (108) #1 Pot, Sargent Juniper.
 2. Provide Twelve (12) #7 Pot, Summersweet Clethra.
 3. Provide Thirty-Two (32) #1 Pot, Coloratus Winter Creeper Euonymus.
 4. Provide Forty-Seven (47) #3 Pot, Little Henry Sweetspire.

4.0 ALTERNATE NO. 3

- 4.1 Scope – Provide the following additional Granite Pavement:
1. Provide 255 SF of 2" thick Granite Paving and Border in lieu of Concrete Pavement.
 2. See Detail No.'s 1 and 2 on sheet L-7, and Detail No. 9 on Sheet L-5 for information on the Granite Paving and border to be included in Alternate No. 3.
 3. See specification section number 32 14 13 – Brick and Granite Pymt., Part 2, Paragraph 2.02 for information on alternate granite pavement.

5.0 ALTERNATE NO. 4

- 5.1 Scope – Provide the following additional Solar Light Poles and Fixtures:
1. Provide Two (2) additional Solar Light Poles and Fixtures (Luminaires) with concrete footings and all required components. See specification section number 32 33 00 - Site Furnishings, Part 2, Paragraph 2.03 for information on Solar Light Pole, Fixture (Luminaire) and internal components.
 2. See Detail No.8 Sheet L-6, for information on additional Solar Light Poles and Fixtures (Luminaires).

**- END OF SECTION 01 23 00 -
ALTERNATES**

SECTION 01 30 00: ADMINISTRATIVE AND PROCEDURAL PROVISIONS

TABLE OF CONTENTS

ARTICLE #	TITLE
1.1	REQUIREMENTS INCLUDED
1.2	THIS SECTION INCLUDES THE FOLLOWING ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR THE WORK, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
1.3	WORK UNDER THIS CONTRACT
1.4	CONTRACT METHOD
1.5	CONTRACTOR USE OF THE PREMISES
1.6	USER AGENCY OCCUPANCY
1.7	ADJACENT CONTRACTS AND CONCURRENT WORK
1.8	OWNER FURNISHED AND INSTALLED PRODUCTS
1.9	FIELD ENGINEERING
1.10	REFERENCE STANDARDS
1.11	PRE-CONSTRUCTION MEETING
1.12	PROJECT MEETINGS
1.13	INSPECTION AND TESTING REQUIRED
1.14	FIRE SAFETY REGULATIONS
1.15	LASER RAYS OR BEAMS
1.16	EXISTING UTILITIES
1.17	DIG SAFE REQUIREMENTS
1.18	MASSACHUSETTS RIGHT TO KNOW LAW
1.19	PERMITTING
1.20	TOPSFIELD PUBLIC WORKS DEPARTMENT REQUIREMENTS
1.21	TOPSFIELD WATER AND SEWER COMMISSION REQUIREMENTS
1.22	TOPSFIELD TRANSPORTATION DEPARTMENT REQUIREMENTS

1.3 **WORK UNDER THIS CONTRACT**
 The work to be done under this contract consists of provision and payment for all materials, labor, tools, equipment, pumping, water, light, heat, power, transportation, superintendence, temporary construction of every nature, permits, taxes legally collectible because of the Work, and all other services and facilities of every nature whatsoever necessary to execute the Work and to finally complete it in every respect.

1.4 **CONTRACT METHOD**
 Construct and bring the Work to final completion under a single lump sum contract per § 00 52 13. In order to fully comply with the Construction Progress Schedule for the Work, the Contractor shall order all materials immediately after the approval of shop drawings and shall obtain a fixed delivery date to the Site for all materials ordered which shall not impede or otherwise interfere with the Construction Progress Schedule.

1.5 **CONTRACTOR USE OF PREMISES**
 The **Contractor** will be permitted access to the Site as necessary for work operations, subject to procedures and limitations defined within the Contract Documents.

1.6 **USER AGENCY OCCUPANCY**
 The User Agency shall occupy the Site no later than the contract date for Substantial Completion. The **Town** may elect to occupy and use the land, buildings, systems, and grounds at the Site before achieving contract dates under contract terms providing for partial use and occupancy by the **Town**. Equipment installation or set-up is not to be considered occupancy by the **Town** under this Contract. The **Contractor** shall schedule and coordinate the Work so that there will be no interference with the activities of the **Town**, and shall make no claim for delay in the Work caused by said activities.

- 1.7 **ADJACENT CONTRACTS AND CONCURRENT WORK**
The **Contractor** shall schedule and coordinate the Work so that there will be no interference with the activities of other contracts, if any, and s/he shall make no claim for delay in the Work caused by said other contracts.
- 1.8 **OWNER-FURNISHED AND INSTALLED PRODUCTS**
Certain Owner furnished and installed furnishings and equipment may be installed during the term of the Contract. The **Contractor** shall schedule and coordinate his/her work and the work of his/her subcontractors so that there will be no interference or conflict with the activities of outside contractors and or vendors and the execution of the Work. The **Contractor** shall make no claim for delay in Contract Time caused by said activities except which conforms to Articles 7 and 12 of the General Conditions.
- 1.9 **FIELD ENGINEERING**
The **Contractor** shall provide field engineering services, establish grades, lines and levels, by using recognized engineering survey practices, and shall locate and protect control and reference points. Control datum for survey is that shown on the drawings.
- 1.10 **REFERENCE STANDARDS**
For products specified by an association or trade standard, the **Contractor** shall comply with the requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- 1.11 **PRE-CONSTRUCTION MEETING**
A pre-construction meeting shall be scheduled by the Owner at the office of the Official as soon as practical after the award of the Contract, to review the construction sequence and the procedures for the administration of the Contract. The following parties are to be present at the pre-construction meeting: the Designated Town **Official**; the **Designer**; the **Contractor's** project team. If s/he has not already done so, the **Contractor** shall present for review at this meeting a Preliminary Progress Schedule in conformance with § 01 32 17, a Submittal Schedule, a Preliminary Schedule of Values, and a list of Subcontractors
- 1.12 **PROJECT MEETINGS**
Project meetings shall be held at the Site on a weekly basis, or more frequently as may be required by the Town **Official**. The Town Official will chair the Project Meetings. The following parties are required to be present at Project Meetings: The Town's **Official**; the **Designer**; the User Agency; the **Contractor's** Project Manager and Project Superintendent; Subcontractor's Project Manager and Project Superintendent if required; additional contractors and/or vendors if required. As a prerequisite for each Project Meeting, the **Contractor** shall prepare, update and submit: material ordering schedules, shop drawing schedules and logs, construction schedules, RFI submittals and log, the change order request submittal log, and a detailed summary by trade of all current construction activity. Minutes of Project Meetings will be prepared by the **Designer**, or his/her designated representative. The Project Meeting minutes are the official project record.
- 1.13 **INSPECTION AND TESTING REQUIRED**
If the Contract Documents or any laws, ordinances, regulations or orders of any public authority having jurisdiction require or request that any portion of the Work be inspected, tested or approved, the **Contractor** shall schedule and perform all required testing and inspections to the satisfaction of the public authority having jurisdiction with no increase in the Contract Time or the Contract Price. The **Contractor** shall give the **Designer**, the Owner, and such authority timely notice so each may observe such inspecting, testing or approval.
- 1.14 **FIRE SAFETY REGULATIONS**
All construction procedures shall comply strictly with the Massachusetts State Building Code, 780 CMR. The TOPSFIELD Fire Department and the Inspectional Services Department will enforce code compliance. In addition, use only fire resistant tarpaulins for all concrete and weather protection work above basement level. Any salamanders used must exhibit an approval tag by the Massachusetts State Fire Marshal. All hot work including cutting, welding, brazing, etc. shall require a permit from the TOPSFIELD Fire Department. The cost of any TOPSFIELD Fire Department paid details is the responsibility of the **Contractor**.
- 1.15 **LASER RAYS OR BEAMS**
Any use of a laser ray or beam device shall require notification to the Town Project Manager at least two working days prior to the intended use and must comply with the requirements of 105 CMR 121 et seq.
- 1.16 **EXISTING UTILITIES**
Interruptions to critical existing neighborhood utility services will not be allowed.

Sanitary sewer, storm drainage and water changeovers as affecting existing services shall be done with no disruptions of existing services.

All relocations of and connections to existing electrical, gas, cable and telephone services required under this contract shall be performed by utility company having ownership unless permitted otherwise by the utility company having ownership. Any charges by the utility companies or contracted service or utilities providers for such work shall be the responsibility of the **Contractor**. The coordination of all the above work is also a part of the Contract.

The **Contractor** shall locate and record on drawings all existing utilities along the course of the Work by such means as the **Town** may approve, and shall preserve such marked locations until the Work has progressed to the point where the encountered utility is fully exposed and protected as required. It shall be the **Contractor's** responsibility to notify the proper authorities and/or utility company before interfering therewith. Existing utilities that are shown on the drawings or the location of which is made known to the **Contractor** prior to excavations, though accuracy and information as to grades and elevations may be lacking, shall be protected from damage during the excavation and backfilling operations, and if damaged, shall be repaired by the **Contractor** at his/her own expense. Materials below existing utilities that are removed or disturbed during excavation operations shall be carefully replaced during backfilling and thoroughly compacted to prevent future settlement and damage to the utility. Utilities damaged due to the subsequent settlement of the back fill shall be repaired by, or at the expense of the **Contractor**.

All exposed conduits, wires, and/or cables shall be provided with sufficient protection and support to prevent failure, fraying or damage due to backfilling or other construction operations. Supporting bridgework of two-inch timber planking shall be placed under the cable and shall span the entire excavation or void, and shall be removed when backfilling.

The repair, replacement, and/or restoration of existing electrical, drain, water or sewer lines, or other utility shall be completed in accordance with the applicable technical provisions of these Contract Documents for new work, or in accordance with recognized technical specifications as may be prescribed by the respective utility company or the **Town** using experienced, competent labor, and materials meeting specifications and current codes.

The **Contractor** shall not obstruct access to existing active utility systems, which continue to serve facilities other than the project construction site. The **Contractor** shall exercise measures to prevent placement of temporary facilities, stored materials, and mobile equipment in such a way as to impede continuous access by authorized utility companies to such utility structures, at any time and shall be required to reimburse the utility companies for any expense incurred as a result of need to remove any such impediments to access.

1.17 DIG-SAFE REQUIREMENTS

Within the Commonwealth, "Dig-Safe" is the name of the utility Underground Plant Damage Prevention Authority. They are located at 331 Montvale Avenue, Woburn, MA 01801. The phone number is 1-888-322-4844.

The **Contractor** must notify "Dig-Safe" of contemplated excavation, demolition, or explosive work in public or private ways, and any Utility Company Right-of-Way or Easement. This notification must be made at least 72 hours prior to the work, but not more than 60 days before the contemplated work. Such notice shall set forth the name of the street or the route number of said way and an accurate description of the location and nature of the proposed work. The **Town** requires that the notification be sent to "Dig-Safe" by certified mail with copies to the Official. The **Town** requires a copy of the signed receipt of delivery.

Dig-Safe is required to respond to the notice within 72 hours from the time said notice is received by designating at the locus the location of pipes, mains, wires, or conduits. The **Contractor** shall not commence work until "Dig-Safe" has responded as noted above. The Work shall then be performed in such a manner, and with reasonable precautions taken, to avoid damage to utilities under the surface in said areas of work.

Prior to the Dig-Safe notification, the **Town** requires contractors to provide their superintendent with current Dig-Safe regulations, and a copy of Massachusetts General Laws, Chapter 80, §40.

1.18 MASSACHUSETTS RIGHT TO KNOW LAW

The **Contractor** is responsible for complying with the provisions of Chapter 111 F of the Massachusetts General Laws, the so-called "Right to Know Law."

1.19 PERMITTING

The **Contractor** shall obtain all required project building permits from the Town of Topsfield Inspectional Services Department and any and all **Town**, State or Federal permits required from governmental agencies having jurisdiction. If required by the Inspectional Services Department the Contractor shall assemble and submit all required affidavits, documentation, and reports required for permitting and final certification. The

Contractor shall provide and maintain the project LOG BOOK in the format and method as described in Bulletin 87-1.

1.20 TOPSFIELD PUBLIC WORKS DEPARTMENT REQUIREMENTS

The **Contractor** shall obtain all construction permits required by the TOPSFIELD Public Works Department, Permit Division for work on or access in public ways. Permit fees are to be paid by the **Contractor**.

1.21 TOPSFIELD WATER AND SEWER

The **Contractor** shall obtain all construction permits required by the TOPSFIELD Water and Sewer Permit Division for work associated with water, storm water, and sewer connections. Permit fees are to be paid by the **Contractor**.

1.22 TOPSFIELD TRANSPORTATION/POLICE DEPARTMENT The **Contractor** shall obtain all construction permits required by the TOPSFIELD Transportation/Police Department, Permit Division, for work or access public ways. Permit fees are to be paid by the **Contractor**. The **Contractor** shall, at all times, keep sidewalks along public streets clear for public access, or provide and maintain an alternate covered pedestrian walkway. The alternate walkway shall be at least 6 feet wide, and meet the requirements of the TOPSFIELD Transportation/Police Department for temporary walkways in public ways.

Temporary Roadway Occupation: It may be possible to allow the **Contractor** to occupy a travel lane provided that the roadway remains open at all times. At NO time shall the **Contractor** allow any vehicle to stop, even momentarily, outside of the allowed occupation and NO vehicles shall stop, even momentarily, along any curb line. Violation of these requirements will result in the loss of use of the right travel lane and the removal of all fences or barricades from the public way. Work in the adjacent streets shall be restricted to weekends or weekdays between 9:30 am and 3:30 pm. At a minimum, a 12 foot wide travel lane shall be maintained in each direction and on the proper side of the double yellow line, median strip or traffic island.

Temporary curb cuts for access to the Site shall be limited, as required by the Project and as approved by the Awarding Authority and all other Town agencies having jurisdiction

The **Contractor** shall be responsible for restoring all loop detectors, signal conduit, and signal wiring that are distributed during completion of site utility work beneath adjacent streets or sidewalks, in accordance with both the TOPSFIELD Transportation/Police Department and the TOPSFIELD Department of Public Works standards.

The General Criteria for Street Occupancy Applications and Traffic Maintenance Plan Criteria of the town of Topsfield Police, Transportation and Public works departments shall apply to work associated with this project.

- END OF SECTION 01 30 00 -
ADMINISTRATIVE AND PROCEDURAL PROVISIONS

SECTION 01 32 17: CONSTRUCTION PROGRESS SCHEDULE

TOWN OF TOPSFIELD

PART 1 – GENERAL

1.01 REQUIREMENT

- A. Defined terms used in this Section have specific intent and meanings assigned, as stated in Section 00 70 00.
- B. Neither the Town's or Designer's review of a Progress Schedule, nor a statement of "Re-submittal Not Required", will relieve the Contractor from responsibility for complying with the Contract Times and sequences of Work indicated in or required by the Contract Documents, or completing any Work omitted from that Progress Schedule within the Contract Times. The Town's review of the Construction Progress Schedule shall not extend to the accuracy or other matters dealt with in the schedule, including but not limited to whether work is omitted, whether duration of activities is reasonable, the level of labor, materials or equipment, the Contractor's means, methods, techniques procedures or sequencing of the Work, or whether the sequence and timing of the remaining work are practical. The accuracy of the schedule shall remain the responsibility of the Contractor.

1.02 SUBSTITUTES; ALLOWANCES

- A. All issues of the Rev. 0 Progress Schedule shall be based solely on (a) the furnishing of named or specified materials and equipment, and (b) those means and methods indicated in or required by the Contract Documents for the Work as awarded. Rev. 0 Progress Schedules shall exclude substitute proposals, even if the Contractor pursues substitutions under Articles 4.10 or 5.1 of the General Conditions. The Designer's final decision on any substitutions may not be made until after the As-Planned Schedule is established.
- B. The Progress Schedule shall incorporate the Contractor's best estimate of the Activities and sequences contemplated. The Contractor shall schedule those requisite Activities of the Town, Designer and others performing other work, as indicated in or required by the Contract Documents, within the Contract Time(s), and the Progress Schedule shall include appropriate Activities and sequences for all of them.

1.03 RECOVERY

- A. The Contractor shall promptly take appropriate action to recover schedule whenever the Contractor fails to achieve a Contract Time, or progress falls behind that required to comply with that Contract Time. The Contractor shall promptly submit a schedule recovery plan describing the cause of schedule slippage or delayed progress and the actions taken to correct them within the shortest reasonable time.

1.04 NON-COMPLIANCE

- A. The Designer may refuse to recommend any part of any payment if, in the Designer's judgment, the Contractor's failure or neglect to provide the required Progress Schedule information precludes a proper evaluation of the Contractor's progress.

PART 2 – PRODUCTS

2.01 PROGRESS SCHEDULE

- A. Subject to the requirements of paragraph 2.01.B, the Progress Schedule shall breakdown the Work into Activities and relationships only to the extent required to show the Contractor's overall approach to the Work. The Progress Schedule shall divide the Work into Activities such that the progression from commencement to completion is clearly defined by separate Activities covering: Work performed at the site; Work associated with the procurement of items of materials or equipment which Activities shall segregate the time required for the preparation of Submittals, review and return of Submittals, and deliveries to the site or storage; interfaces with other work; and significant construction, pre-operational and start-up tests.
- B. Unless otherwise directed by the Designer in writing, an Activity covering Work at the site shall span thirty (30) Business Days or less, and shall not combine (a) Work located in separate locations or distinct areas or elevations within a location, (b) Work corresponding to separate and significant Sections of the Specifications, (c) Work performed by different Subcontractors, or (d) rough-in and finish Work of the same trade. Submittal and delivery Activities shall track the level of detail of the corresponding installation Activities.

2.02 SCHEDULE NARRATIVE

- A. A progress Schedule narrative shall (a) compare current Activity dates vs. As-Planned dates and the Contract Times; (b) provide sufficient detail to allow verification of the progress of the Work; (c) identify assumptions

made and Activities affected in incorporating Work involved in Change Orders and Change Authorizations; (d) describe actual and potential delays, their extent, related causes and actions taken to mitigate their impact; and (e) itemize any revisions made in Activities and sequences.

- B. A narrative shall also include monthly and cumulative payment plots in a form acceptable to the Town comparing the Contractor's anticipated rate of progress in the most current Progress Schedule and in the As-Planned Schedule.

2.03 SCHEDULE OF VALUES

- A. The Schedule of Values shall allocate the Contract Price to the Activities, and shall tabulate for each Activity: Activity Value, percent complete, Value of Work performed. Activity Values for Activities covering Work performed at the site shall break down labor from other costs. In addition, if approved by the Designer, Activity Values may separate costs for stored materials and equipment from costs for Work installed.

PART 3 – EXECUTION

3.01 TOLERANCES

- A. Contract float in an early-completion Progress Schedule shall be computed to equal the appropriate number of Business Days regardless of the Contract Float on that Progress Schedule.

3.02 REV. 0 PROGRESS SCHEDULE

- A. The Contractor's first Progress Schedule Submittal shall be identified as "Rev. 0" and shall consist of the Bar Chart Diagram, Schedule of Values, and Schedule narrative. The Rev. 0 Submittal shall be due with the first Application for Payment. The Rev. 0 Submittal shall reflect the Work as awarded, and shall not include any delays, Work added or deleted by Change Order or Change Authorization, any changes under negotiation nor any substitutions. Receipt by the Designer of a compliant Rev. 0 Submittal shall be a condition precedent to processing the first Application for payment.
- B. The Designer will return the Rev. 0 Submittal to the Contractor within thirty (30) days. If a resubmission is required, the Contractor shall resubmit the revised and adjusted Progress Schedule Submittal, labeled as Rev. 0A, within fifteen (15) days. Once the Contractors' Rev. 0, or Rev. 0A, etc. Submittal is returned by the Designer as "Resubmittal Not Required", with or without comments or objections noted, it will represent the As-Planned Schedule, and be (a) the basis for monitoring the Contractor's progress against the Contract Times, and (b) the base schedule from which versions of the Record Schedule will be developed and used by the Contractor, Town and Designer when resolving issues affecting Contract Price or Contract Time, or liquidated damages due because of late completion.

3.03 PROGRESS SCHEDULE REV. 1, 2, ETC.

- A. Progress Schedule Revisions shall become due within five (5) days after the cut-off date of each Application for Payment, and shall update and revise the Progress Schedule with data as of the cut-off date. Each Submittal shall consist of the updated Bar Chart diagrams, Schedule of Values, and narrative.
- B. The Rev. 1 Progress Schedule shall become due in conjunction with the second Application for Payment, regardless of whether the As-Planned Schedule has been established or not as provided in paragraph 3.02.B. Subsequent revisions of the Progress Schedule shall become due on a monthly basis.
- C. Insofar as Work remaining, Progress Schedule Revisions shall be solely for the purpose of (a) showing how the Contractor's approach to the Work remaining demonstrates continued compliance with the Contract Times and those sequences of Work indicated in or required by the Contract Documents, and (b) preparing schedule recovery plans. Progress Schedule Revisions shall accurately represent all changes, adjustments or updates in the sequencing and timing of Work remaining made or required to be made by the Contractor to (a) see that the chosen plan for performing/furnishing Work remaining, and (b) recover schedule if progress falls behind to the extent that the requirements for a schedule recovery plan comes into effect.
- D. Insofar as Work performed, Progress Schedule Revisions shall accurately show how completed Work was performed as to sequencing and timing and any delays and any other significant events experienced since the previous Progress Schedule Revision. The Contractor shall ensure that the Progress Schedule and Schedule of Values accurately reflect for each Activity "as-built" information shown on daily reports, Submittal logs, and all other pertinent documents. As a minimum, as-built data shall include actual start dates, remaining days of Work, percent complete, Value of Work performed and actual finish dates.
- E. Insofar as changes in the Work, Progress Schedule Revisions shall incorporate (a) changes in Activities and sequences agreed upon in previously authorized Change Orders or Change Authorization; and (b) any proposed changes in Activities and sequences pertaining to changes in the Work or Work affected by delays which are being negotiated about responsibility and extent between the Town and Contractor.
- F. Monthly meetings shall be held between the Town, Designer, and Contractor within five (5) days after the cut-off date of each progress payment period. The Contractor shall respond to any comments or objections noted by making appropriate adjustments in the Progress Schedule due with the next Application for Payment. The

most current Progress Schedule Revision, subject to any comments or objections noted by the Designer and/or Town, shall be the basis for the monitoring of the Contractor's performance and progress.

- G. Each Progress Schedule Revision Submittal shall include a statement signed by the Contractor certifying that the Contractor has not, as of the cut-off date of that Progress Schedule revision, been delayed by any actions of or failure to act by the Town or Designer, except as otherwise specifically stated.

- END OF SECTION 01 32 17 -
CONSTRUCTION PROGRESS SCHEDULE

SECTION 01 35 00: SPECIAL PROJECT PROCEDURES

PART I - GENERAL

1.01 SAFETY REGULATIONS

- A. This Project is subject to compliance with Public Law 91-596 the "Occupational Safety and Health Act of 1970" (OSHA), as amended, with respect to all rules and regulations pertaining to construction, as amended, and as published by the U.S. Department of Labor.
- B. The committing of nuisances on the Site or adjacent property is prohibited.

1.02 SAFETY PRECAUTIONS

- A. The Contractor shall take all precautions to safeguard the health and well-being of all workers and all others rightfully on the Project site who may be affected by work done under this Contract. The Contractor is solely responsible for safety on the Site of the Project, both during construction hours and non-construction hours.
- B. All safety laws and regulations of the U.S. Department of Labor, the Commonwealth of Massachusetts and the Town of Topsfield applicable to work performed under this Contract shall be adhered to by the Contractor.

1.03 LEGAL RELATIONS/RESPONSIBILITY TO PUBLIC

- A. Laws to be Observed:
 1. The Contractor shall keep himself fully informed of all existing and future State and National Laws and Municipal ordinances and regulations in any manner affecting those engaged or employed in the Work, or the materials used or employed in the Work, or in any way affecting the conduct of the Work, and all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same and of all provisions required by Law to be made a part of this Contract, all of which provisions are hereby incorporated by reference and made a part hereof. The Contractor shall cause all Subcontractors, Suppliers, agents and employees to observe and comply with, all such existing and future Laws, ordinances, regulations, and orders.
 2. If the Contractor uses or stores toxic or hazardous substances s/he is subject to certain additional laws and regulations including but not limited to M.G.L. Chapter 111F, Section 2, (the "Right to Know" law) and regulations promulgated by the State Department of Public Health, the Department of Public Safety and those of Town of Topsfield agencies.

1.04 FIRE PROTECTION AND PREVENTION

- A. The Contractor shall keep the Project Site free of rubbish and debris at all times.
 1. The Contractor shall provide metal barrels located at appropriate areas into which all refuse and garbage shall be deposited. All barrels shall have tight fitting covers.
 2. At the end of each work week, the Contractor shall thoroughly clean the Project Site of all rubbish and debris of any nature and remove such from the premises.
 3. In addition, to the requirements in this Section, the Contractor shall, until Final Completion of the Work, provide and maintain fire extinguishers ready for use distributed around the Project Site and in and about temporary structures, if any.
 4. Gasoline and other flammable liquids shall be stored in and dispensed from UL listed safety containers in conformance with the National Board of Fire Underwriters recommendations and the Commonwealth of Massachusetts Department of Public Safety requirements, and in no event within the confines of the permanent structures.
 5. All tarpaulins used shall have UL approval and comply with Federal Specifications CCC-C746. Polyethylene shall not be used.

1.05 RUBBISH REMOVAL

- A. The Contractor shall remove all rubbish, waste, tools, equipment, and appurtenances caused by and used in the execution of the Work; but this shall in no way be construed to relieve the Contractor of his/her primary responsibility for maintaining the Project Site clean and free of debris, leaving all work in a clean condition satisfactory to the Official.
- B. Immediately after unpacking, the Contractor shall collect and remove from the Project Site all packing materials, case lumber, excelsior, wrapping, and other rubbish.

1.06 SITE DRAINAGE AND PUMPING

- A. The Contractor shall be responsible at all times for proper and sufficient site drainage and shall maintain such drainage during the life of the Contract in a manner acceptable to the Designer and so as not to adversely affect the adjacent areas.
- B. The Contractor shall provide and maintain all pumps, suction and discharge lines, and power in sufficient number and capacity. Town to keep all excavations, pits, trenches, foundations, and the entire property area free from accumulation of water from any source whatsoever at all times and under all circumstances and

contingencies that may arise.

- C. For additional requirements of excavation and dewatering, refer to the specification section entitled "EARTH WORK AND SITE PREPARATION."

1.07 SNOW AND ICE REMOVAL

- A. The Contractor shall promptly remove all snow and ice which may impede the Work, damage the finishes or materials, be detrimental to any crafts or trades, or impede trucking, delivery or moving of materials at the Site, or prevent adequate drainage of the Site or adjoining areas.
- B. The Contractor shall be responsible for removing snow from sidewalks in the Right of Way outside the project site, or as directed by the Owner. Snow shall be removed in a timely manner as per TOPSFIELD Code of Ordinances, 16-12.16.

1.08 WINTER CONSTRUCTION

- A. The Contractor shall provide protection against damage to materials and work installed in freezing weather, including special heat and coverings to prevent damage by the elements. The ground surface, under footings, under pipe lines, under masonry, under concrete, and other work subject or damage shall be protected against freezing or ice formations.
- B. Refer to SECTION 01 50 00 - TEMPORARY FACILITIES, for additional requirements applicable to winter construction.

1.09 BROKEN GLASS

- A. The Contractor shall be held responsible at all times prior to Substantial Completion of the Work, or occupancy by the Town, whichever occurs first, for all broken or scratched glass, or glass which had been damaged as a result of the Work, or otherwise and, when so directed by the Official, the Contractor shall replace at no increase in Contract Price or Contract Time, all such glass broken, missing, or damaged prior to Substantial Completion.

1.10 CLEANING AND POLISHING

- A. The Contractor shall at all times keep the site free from accumulation of waste materials or rubbish.
- B. Immediately prior to final inspection, the entire Project Site shall be thoroughly cleaned by the Contractor including, without limitation:
 - 1. All construction facilities, tools, equipment, surplus materials, debris, and rubbish shall be removed from the Project site and the entire Work shall be left broom clean.
 - 2. All finished surfaces shall be left in perfect condition, free of stains, spots, marks, dirt, and other defects. The Contractor shall be responsible for the cleaning and polishing of the Work of all trades, whether or not cleaning by such trades is included in their respective Sections of the Specifications.
 - 3. All glass shall be washed and polished on both sides.
 - 4. All metals, hardware, fixtures, and equipment shall be left in undamaged, bright, polished condition. In cleaning items that have a manufacturer's finish, or items previously finished by a Subcontractor, care shall be taken so as not to damage such finish.
- C. In cleaning glass and finish surfaces, care shall be taken not to use cleaning agents that may stain any finish materials. Any damage to finishes caused by operations shall be corrected and repaired by the Contractor at no increase in Contract Price.

1.11 OPERATIONS IN OCCUPIED STRUCTURES

- A. The Contractor shall segregate all of the Work from the public and/or the user group work force. The Contractor shall submit the method of segregation to the Town for approval before the start of any work.
- B. The Contractor shall ensure that its agents and employees, including agents and employees of all Subcontractors, do not have any direct and unmonitored contact with children at any time on the Site.
- C. In the event that the Contractor believes a portion of the Work cannot be completed without the possibility of direct and unmonitored contact with a child, the Contractor shall notify the Town and obtain prior written consent before proceeding with that portion of the Work. Workers who may have direct and unmonitored contact with children will be subject to verification of their Criminal Offender Record Information (CORI).

1.12 RODENT CONTROL

- A. Following Town Ordinance, prior to construction, the Contractor shall employ a pest management company to set rodent traps throughout the project area (6 traps minimum). Traps shall be inspected weekly, fresh bait placed and any trapped rodents removed. Control to continue for the duration of the project.

- END OF SECTION 01 35 00 -
SPECIAL PROJECT PROCEDURES

SECTION 01 50 00: TEMPORARY FACILITIES

ARTICLE	TITLE	ARTICLE	TITLE
1.01	TEMPORARY TOILETS	1.06	TEMPORARY STAIRS, RAMPS, AND CHUTES
1.02	TEMPORARY WATER	1.07	TEMPORARY FACILITIES
1.03	TEMPORARY ELECTRICITY	1.08	WEATHER PROTECTION
1.04	TEMPORARY STRUCTURES	1.09	TEMPORARY HEAT
1.05	HOISTING, SCAFFOLDING, STAGING, AND PLANKING	1.10	TEMPORARY CONSTRUCTION FENCING
		1.11	TEMPORARY SIGNS
		1.12	TEMPORARY WORK IN PUBLIC WAYS

1.01 TEMPORARY TOILETS

- A. The Contractor shall provide toilet booths with chemical type toilets, as necessary for all persons engaged in the Work
- B. The toilets shall be erected in locations acceptable to the Official, shall be maintained by the Contractor in a clean and orderly condition in compliance with all local and state health requirements, and shall be removed when written direction is received from the Official.
- C. When the permanent sanitary system is in operating condition, the Contractor may use portions of the system as directed by the Official. The Contractor assumes full responsibility for the portions of the sanitary system so used, and shall pay all costs for operation, maintenance, cleaning, and restoration of those used portions.

1.02 TEMPORARY WATER

- A. The Contractor shall make all arrangements for obtaining temporary water connections including extensions required for the needs of the Project, and shall pay all costs incurred. S/he shall furnish, install, and remove all equipment and piping required to provide temporary water.
- B. The Contractor shall pay the costs of water for all Subcontractors and trades.
 - 1. All water used for construction purposes shall be metered as follows:
 - a. All persons desiring to use such water from a hydrant or any other appurtenances shall apply for a Hydrant Permit at the TOPSFIELD Water and Sewer Commission, TOPSFIELD, Massachusetts. A deposit is required for each permit which is renewable, if necessary, every ninety (90) days. The permit provides for a meter and all necessary couplings to allow the connection of the meter to a hydrant.
 - b. A non-refundable service charge for each permit, along with the cost of water consumed (determined by use recorded on the meter at current water rate) will be deducted from the deposit. If total water consumed exceeds the deposit amount, the **Contractor** shall be responsible for the additional cost of such consumption or any damage to the hydrant or any damage to or loss of the meter, wrench, couplings, or any other appurtenance as billed by the Commission.
 - c. Water used for temporary supply to bypass existing services during construction will not be subject to this provision.
 - d. Water used for cleaning and cement re-lining work shall not be subject to this provision.
- C. The Contractor shall provide cool drinking water and paper cups for all Subcontractors and trades, Contractor personnel, the Official, the Designer, and the Clerk of the Works.
- D. When the permanent water distribution has been installed and tested it may be used as a source of water for construction purposes, provided that the Contractor pays all costs of operation, maintenance, and restoration of the system.

1.03 TEMPORARY ELECTRICITY

- A. The Contractor shall at his/her own expense make all arrangements for and provide all temporary light and power for all Subcontractors and trades, except as otherwise specified herein. The temporary electrical service shall include, but not be limited to, all labor, materials, and equipment necessary to supply temporary power of adequate capacity for the Project operations and testing. Transformers and meters, when required by the power company will be furnished and installed by the appropriate power company, and the Contractor shall pay all costs therefor. No connection shall be made to the Town's power supply.
- B. All temporary electrical work shall be performed under the direct supervision of at least one Master Electrician who shall be present on the Project at all times when such work is being performed.
- C. The Contractor shall provide a temporary 120/280 V, 3-phase, 4-wire service to the Project as required to provide electrical light and power while the Project is under construction and until the permanent feeders have been installed and tested. The Contractor shall install and maintain feeders of sufficient capacity for the requirements of the Site as applicable.
- D. Temporary electric service shall be based on:
 - 1. Outlets shall be located at convenient points so that extension cords of not over fifty feet (50') long will reach all parts of the Work requiring light or power.
 - 2. Temporary electric service shall be provided for the offices of the Contractor and the Clerk of the Works until such time as removal of these offices is ordered by the Official.
- E. All necessary overhead pole lines, transformers, meters, cables, panel boards, switches, and accessories required by the temporary light and power installation shall be provided by the Contractor at no increase in Contract Price.
- F. The Contractor shall pay the cost of all electrical energy consumed during prosecution of the Work. The Contractor at his/her own expense shall maintain all lamps in operating condition. The Contractor and each Subcontractor shall furnish their own extension cords and all additional lamps as they may require. Temporary wiring of a special nature not otherwise specified, shall be furnished, installed, maintained, and paid for by the trade requiring such wiring.

- G. All temporary work shall be furnished and installed in conformity with the National Electrical Code and state and Town laws, and requirements of the applicable power company. Particular attention is called to the Commonwealth of Massachusetts 454 CMR 10.0, "Construction Industry Rules and Regulations."
- H. The Contractor shall dismantle and completely remove from the Project all temporary wiring and other temporary electrical accessories only when the permanent electrical system has been installed and in operation, and then only with written approval of the Official.

1.04 TEMPORARY STRUCTURES

- A. The Contractor shall provide, maintain, and remove such additional storage sheds, temporary buildings, or trailers as required for performance of the Work. Location of all such temporary structures shall be acceptable to the Official. If the Contractor is required to relocate these Temporary Structures during the prosecution of the Work, the Contractor shall promptly do so at no increase in Contract Price or Contract Time.

1.05 HOISTING, SCAFFOLDING, STAGING, AND PLANKING

- A. Except as otherwise specified in the various Sections of the Specifications, the Contractor shall provide, set up and maintain all derricks, hoisting machinery, scaffolding, staging, and planking, and do all hoisting required for the Work, or any part of the Work.
- B. Except as otherwise specified in the various Sections of the Specifications, the Contractor shall at his/her own expense furnish, install, and maintain in a safe condition, all staging, planking and scaffolding above eight (8) feet in height for use by all Subcontractors and trades. All staging, planking, and scaffolding required by Subcontractors up to eight (8) feet in height shall be furnished installed and maintained by each respective Subcontractor.
- C. Scaffolds shall have solid backs and floors to prevent materials dropping to the floors or ground.
- D. Refer to Section 00 70 00 - GENERAL CONDITIONS for any additional insurance requirements covering hoisting equipment.

1.06 TEMPORARY STAIRS, RAMPS, AND CHUTES

- A. The Contractor at his/her own expense shall furnish, install, and maintain all temporary ramps, stairs, ladders, and chutes as required by the Contractor, all Subcontractors and trades for the proper completion of the Work, and all temporary stairs and ramps required by any occupants of the building or facility. The Contractor shall remove these and other like items when they are no longer required and permanent stairs are installed.
- B. When permanent stairs are erected the Contractor shall provide all required safety measures including temporary railings, protective treads, and other protective measures.
- C. The Contractor shall furnish and install properly supported covered chutes from openings in the exterior walls of the building levels in convenient and accessible locations which will permit direct disposal of rubbish and debris directly into trucks or disposal units. Chutes shall be for the use by the Contractor, all Subcontractors and trades, and the Contractor shall bear all costs for furnishing, installing, relocating, maintaining, and removal of same when no longer needed. Loaded trucks shall be covered while in transit.
- D. No materials, rubbish, or debris shall be allowed to drop free, or be thrown from openings in the exterior walls of any structures on the Site.

1.07 TEMPORARY FACILITIES

- A. The Contractor shall perform the following work:
 - 1. Protect excavations, trenches, buildings, and materials at all times from rain and/or ground water, backing-up or leakage of sewers, drains or other piping, and from water damage of any origin. S/he shall provide all pumps, piping, coverings, and other materials and required equipment as specified.
 - 2. In addition to the weather protection during November through March specified in paragraph 1.10, s/he shall provide temporary weather-tight enclosures when and as required to protect the Work from damage by inclement weather, and to protect occupied spaces. Such protection must be acceptable to the Official.
 - 3. Permanent window enclosures may be utilized, except that at least one-quarter of the total window area in each space shall be provided with temporary cloth screens to permit the exit of water vapor from the building at all times and shall be otherwise equipped to effect the same result. Permanent door enclosures shall not be used as temporary enclosures, but temporary framed plywood or wood batten doors with proper self-closing hardware shall be provided.
 - 4. Protect sills, jambs, and heads of openings through which materials are handled.
 - 5. Protect concrete surfaces which are to receive work of other Subcontractors and trades from any soiling which will prevent proper adhesion of subsequent work. The Contractor shall leave surfaces broom clean and free of all blemishes at the time other Subcontractors and trades begin the application of their work.
 - 6. Protect all exposed concrete surfaces, pavement, and finished floors against damage, plaster droppings, oil, grease, paint, or other materials which will stain the floor finish. The Contractor shall install and maintain protective coverings on finished floors in areas where other work will be done.
 - 7. Roof and waterproofed surfaces shall not be subjected to traffic nor used for storage of materials. The

Contractor shall provide protection for such surfaces where some activity must take place in order to carry out the Work.

- B. After the Work of a Subcontractor has been properly completed, the Contractor shall be responsible for its protection and for repairing, replacing, or cleaning any such Work which has been damaged by other subcontractors or trades or by any other cause, so that the entire Work is in perfect condition at the time of Substantial Completion or partial utilization.
- C. All temporary protection and coverings shall be removed only as directed by the Designer.

1.08 WEATHER PROTECTION

- A. The Contractor's attention is directed to M.G.L. Chapter 149, §44G(d), and to "Weather Protection Standards" established by the Deputy Commissioner of the Massachusetts Division of Capital Asset Management and Maintenance.
 - 1. It is the intent of these Specifications to require the Contractor to provide temporary enclosures and heat to permit construction work to be carried on during November through March in compliance with M.G.L. Chapter 149, §44G(d). These Specifications are not to be construed as requiring enclosures or heat for operations that are economically not feasible in the judgment, in writing, of the Official. Included in this category, but without limitation, are such items as site work, excavation, and similar operations.
 - 2. "Weather Protection" shall mean the temporary protection of that work adversely affected by moisture, wind, and cold, by covering, enclosure, and/or heating. This protection shall provide adequate working areas during November through March, inclusive as determined by the Official and consistent with the approved construction necessary to maintain an orderly and efficient sequence of construction operations. The Contractor shall furnish and install all weather protection materials required for the Work or any part thereof, and shall be responsible for all costs, including heating required to maintain a minimum temperature of 40 degrees F. at the working surface. This provision does not supersede any specific requirements for methods of construction and/or curing of materials.
 - 3. The Contractor may, with the prior written approval of the Official, elect to utilize the permanent heating system for temporary heat after the building is enclosed and after it has been tested and is ready to operate. However, it shall be the Contractor's responsibility to have all portions of the permanent heating system that are used during construction thoroughly cleaned and restored to first-class condition to the satisfaction of the Official.
 - 4. Installation of weather protection and heating devices shall comply with all safety regulations including provisions for adequate ventilation and fire protection devices.
 - 5. The Contractor shall furnish and install one accurate automatic recording digital Fahrenheit thermometer with recorded daily high and low readings at a place designated by the Official and one additional accurate digital Fahrenheit thermometer with recorded daily high and low readings for every 2,000 sq. ft. of floor space, located as directed by the Official in order to determine if specified temperatures are maintained. Readings will be recorded by the Clerk of the Works each morning.
 - 6. Within thirty (30) calendar days after execution of the Contract by the Town, the Contractor shall submit three written copies of his/her proposed methods for weather protection to the Official. If the Official rejects or objects to the Contractor's proposed methods, in whole or in part, the Contractor shall resubmit a revised proposed method for temporary heat until satisfactory to the Official, at no increase in Contract Price or Contract Time.
- B. Responsibility for Weather Protection:
 - 1. The Contractor shall be entirely responsible for all weather protection during the Contract Time, and shall be liable for any damage to the Work, or any part thereof caused by the Contractor's failure to supply adequate and proper weather protection.
 - 2. Any work damaged by frost shall be promptly removed and replaced by the Contractor at no increase in Contract Price or Contract Time.

1.09 TEMPORARY HEAT

- A. The Contractor shall be responsible for all temporary heat. The temporary system shall be completely independent of the permanent heating system, except the permanent oil tanks may be used for storage of oil if approved in advance by the Official. The Contractor shall furnish, install, and pay for an independent system of sufficient capacity to service the needs of the Project and to protect the existing building's fixtures, equipment finishes, and mechanical systems from damage during the Contract Time.
- B. Installation of heating devices shall comply with all safety regulations including provisions for adequate ventilation and fire protection devices. In addition to these requirements, the following conditions shall apply:
 - 1. If used, unit heaters shall be of the smokeless type and be installed and operated in such a way that finished work will not be damaged thereby. Salamanders shall not be used.
 - 2. The Contractor shall pay a HVAC Subcontractor to operate any portion of the permanent heating system used for temporary heating until Substantial Completion.
 - 3. The Contractor shall pay a HVAC Subcontractor for the final cleaning and for any repairs or replacements

necessary to restore the permanent heating system to the quality required by these Specifications.

4. The Contractor shall pay the costs of all fuel and electricity required for temporary heating until Substantial Completion.

The Contractor shall furnish and install one accurate automatic recording Fahrenheit thermometer at each place designated by the Official to ensure that specified temperatures are maintained.

- C. Within thirty (30) days after execution of the Contract by the Town, the Contractor shall submit three (3) written copies of his/her proposed methods for temporary heat to the Official. If the Official rejects or objects to the Contractor's proposed methods, in whole or in part, the Contractor will be informed in writing. The Contractor shall resubmit a revised proposed method for temporary heat until satisfactory to the Official, at no increase in Contract Price or Contract Time.
- D. If used, unit heaters shall be of the smokeless type and be installed and operated in such a way that finished work will not be damaged thereby. Salamanders shall not be used.
- E. The Contractor shall pay costs of all fuel, electricity temporary boilers, devices, accessories, and all necessary wiring and controls required for temporary heating until Substantial Completion.
- F. The Contractor shall be responsible for all temporary heat during the Contract Time, and shall be liable for any damage to the Work, or any part thereof caused by the Contractor's failure to supply adequate and proper temporary heat.

1.10 TEMPORARY CONSTRUCTION FENCING

- A. Prior to any excavation work the Contractor shall provide temporary construction fencing if shown on the Drawings and/or as required to completely protect the work area and injury to persons or property.
- B. The Contractor shall furnish and install temporary fencing of the following type only where existing fencing lengths are inadequate to enclose the construction area.
 1. Chain link fencing, eight feet (6') high, fabricated from No. 6 gauge galvanized wire woven in a 2" diamond mesh with top salvage and having galvanized steel H or pipe intermediate and terminal posts. Post spacing shall not exceed eight feet (8') on center. Cross bracing, reinforcing gates and other parts of fencing shall conform to standard Specifications of the National Chain Link Manufacturers Association. All posts shall be set into temporary concrete footings.
- C. The Contractor shall furnish and install matching gates equipped with suitable locks and other hardware where necessary to provide access for construction apparatus or firefighting equipment.

1.11 TEMPORARY SIGNS

- A. No signs, notices, or advertisements shall be displayed without written approval of the Official.
- B. The Contractor shall furnish and install one exterior sign in accordance with the design shown on the Drawings and/or included in the Specifications.
- C. The signs shall be maintained in good condition by the Contractor for the duration of the Project and removed only with written approval of the Official.

1.12 TEMPORARY WORK IN PUBLIC WAYS

- A. Prior to commencing any work in public ways and other areas which are legally used by vehicles or pedestrians, the Contractor shall submit in writing the proposed methods of protection to the Official. Work shall not be commenced in these areas until written approval is received from the Official.
- B. In general, all excavations in public ways shall be protected by substantial barriers which will offer complete protection against accidents for pedestrian and vehicular traffic without interrupting the normal flow of traffic. All barriers must be properly lighted with electric or battery powered safety lights and must be maintained in good working order by the Contractor for the duration of the time such barriers are required.
- C. Trenches across sidewalks shall be completely covered with a temporary walkway, comprised of properly supported nominal 2" thick lumber laid with butt joints and covered with exterior grade plywood, 1/2" minimum thickness. Provide continuous 2" x 4" rails and posts secured to the temporary walkway conforming to the requirements of the Occupational Safety and Health Act (OSHA).
- D. Wherever temporary chutes are to be extended over sidewalks or other pedestrian or vehicular traffic areas, the bottom and sides of the chutes shall be provided with continuous dustproof and weatherproof lining, applied to the exterior surfaces.
- E. The Contractor will be required to furnish, install, and maintain in good condition, at no increase in Contract Price or Contract Time, all other safety measures which in the judgment of the Official are required to protect the public from accidents due to work performed under this Contract. This requirement is supplementary to the Contractor's rights and obligations to provide and employ safety measures as s/he may deem necessary or as may be required by law or standard safety practices.

**- END OF SECTION 01 50 00 -
TEMPORARY FACILITIES**

SECTION 01 70 00: CONTRACT CLOSE-OUT

PART 1 - GENERAL

1.01 CLOSEOUT PROCEDURES

- A. The **Contractor** shall comply with the procedures stated in Section 00 70 00 - General Conditions for specific requirements for Substantial Completion and Final Completion.
- B. The **Town** may occupy adjacent areas of the Site for the purpose of conducting business.
- C. When the **Contractor** considers that the Work has reached Substantial Completion, the **Contractor** shall submit written certification that the Contract Documents have been reviewed, the Work has been inspected, and that the Work is complete in accordance with the Contract Documents and ready for the **Designer's** and **Official's** inspection.
- D. In addition to submittals required by Section 00 70 00 - General Conditions, the **Contractor** shall provide to the **Official** prior to Substantial Completion, submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Price, previous payments and amounts remaining due.

1.02 FINAL CLEANING

- A. The Contractor shall, as a minimum, perform the following tasks regarding Final Cleaning, prior to final inspection by the Designer and the Official:
 1. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains, and foreign substances, polish transparent and glossy surfaces. Clean equipment and fixtures to a sanitary condition. Clean drainage systems.
 2. Remove waste and surplus materials, rubbish, and construction facilities from the Project and from the Site.
 3. Pursuant to Paragraph 4.26.4 of the General Conditions, and without limiting the generality thereof, the following specific final cleaning work shall be completed by the Contractor before the Work is turned over to the Owner.
 - a. Concrete and masonry surfaces shall be cleaned free of all foreign matter.
 - b. Ceramic tile, glazed coatings, porcelain, and other surfaces with integral finishes shall be washed with clean water, mild soap and soft rags, thoroughly rinsed, and then wiped with clean soft white rags. Abrasive cleaners shall not be used.
 - c. Painted surfaces shall be cleaned free of all foreign matter, and if necessary, shall be lightly scrubbed at specific stains with clean water, mild soap, and soft rags, thoroughly rinsed, and wiped with clean, soft white rags.
 - d. Metal surfaces, hardware fixtures, appliances, equipment and similar items shall be cleaned free of all foreign matter and, if necessary, shall be lightly scrubbed at specific stains with clean water, mild soap and soft rags thoroughly rinsed and wiped with clean, soft white rags. Abrasive cleaners shall not be used.
 - e. Glass, plastic glazing, and mirrors shall be thoroughly cleaned by professional window cleaners. All damaged, broken, or scratched items shall be replaced without cost to the Owner.
 - f. All advertising matter and temporary instructional materials shall be removed from any exposed surfaces throughout.
 - g. All lawn areas shall be properly mowed, trimmed, and edged.
 - h. All beds shall be mulched to a minimum 3" depth

1.03 PROJECT RECORD DOCUMENTS

- A. The Contractor shall, as a minimum, perform the following tasks regarding Project Record Documents:
 1. Store documents separate from those used for construction.
 2. Keep documents current and record information from on-going work weekly on record drawings; do not permanently conceal any Work until required information has been recorded.
 3. At Contract close-out, submit documents to the Official with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.
 4. Pursuant to Paragraph 4.19.2 of the General Conditions, the Contractor shall maintain at the Site for the benefit of the Owner, readily available for inspection by the Owner or the Designer, one record copy of all drawings, specifications, addenda, change authorizations and change orders, in good order and marked currently, i.e. updated no less frequently than weekly, to mark all changes made during construction and one set of approved shop drawings, product data and samples. Record drawings submitted by the Contractor shall be verified in the field by the Designer during the construction process and prior to the related work being completed and covered up. The proper condition and updating of these record drawings and documents shall be a condition precedent to approval of requisitions for periodic and final payments. One set of prints of all of the documents that are required for this purpose will be provided by the Owner without charge to the Contractor. All the record documents, shop drawings, product data and samples shall be made available and delivered to the Designer upon completion of the Work.
 - 5.

1.04 OPERATION, MATERIALS AND MAINTENANCE DATA

- A. The Contractor shall provide operation and maintenance data for any systems required by the Contract Documents.
- B. Pursuant to Paragraph 4.18 of the General Conditions, The Contractor shall prepare and deliver to the Designer for approval and transmittal to the Owner, one (1) digital pdf file and three (3) sets of the manual of all the operation and maintenance data, in 8-1/2 x 11 inch (216 x 279 mm) hardbound three-ring side binders with durable plastic covers.
- C. The manual shall contain full descriptive information, catalog cuts, maintenance instructions, and a parts lists for each item of operating equipment, fixtures, accessories and specialties; schematic diagrams of control systems; circuit directories for each electrical panel board; and charts showing the tagging of all valves.
- D. The manual shall also include service, maintenance, and cleaning instructions for all manufactured products, finishes, and systems.
- E. Each volume of the manual shall be clearly indexed, and shall include a directory of all Subcontractors, Material suppliers, and local maintenance organizations indicating the responsibility of each, and the name and telephone number of the responsible person in each organization.
- F. All materials shall be ordered and sequenced conforming to the numbering system of the specification and utilize the Summary of Equipment and Park Features and the Table of Contents templates as provided by Parks Staff. Typewritten, drawn, or photographic material shall be protected with clear plastic sleeves.
- G. The manuals shall be submitted at the time of Substantial Completion of the Work.

1.05 WARRANTIES AND BONDS

- A. The Contractor shall provide duplicate, notarized copies of all warranties and bonds; execute Contractor's submittals and assemble documents executed by Subcontractors, suppliers, and manufacturers; provide table of contents and assemble in binder with durable plastic cover. These documents shall be submitted with 1.04.

**- END OF SECTION 01 70 00 -
CONTRACT CLOSE OUT**

SECTION 01 56 39 – TREE PROTECTION & PRUNING

PART 1 GENERAL

1.01 GENERAL PROVISIONS

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

1.02 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Protection of existing trees.
 - 2. Selective thinning and pruning and evaluation of all existing trees to remain.

1.03 QUALITY ASSURANCE

- A. Pruning of existing trees shall be done by a certified arborist as approved by the Designer/Landscape Architect.

PART 2 MATERIALS

2.01 TREE PROTECTION MATERIALS

- A. Tree protection shall consist of 6 foot high construction fence, forming an enclosure around trees to be protected as designated on Contract Drawings at the canopy line or drip line of each tree.
- B. Trunk protection shall consist of burlap and standard snow fence, secured with wire.
- C. The Designer/Landscape Architect shall approve the tree protection locations and installation before any construction or demolition can begin.
- D. Wood Chip Mulch shall be aged six months minimum.
- E. Water shall be potable and suitable for use on plants.
- F. Slow release fertilizer shall be reviewed and approved by the Designer/Landscape Architect, prior to use.

PART 3 EXECUTION

3.01 GENERAL PROVISION

- A. Prior to any construction, the Contractor shall arrange a conference on the site with the Designer/Landscape Architect and the Owner to identify trees to be protected.

3.02 TREE PROTECTION

- A. Fencing shall be erected before site demolition activity of any kind begins. Fencing shall be securely erected, be vertically plumb, be maintained until directed for removal by the Designer/Landscape Architect, and shall protect individual trees or shrubs or groups of trees or shrubs.
- B. Tree protection fencing shall be located below the dripline of the tree or around shrubs.
- C. Damage no trees to remain by burning, by pumping of water, by cutting of live roots or branches, or by any other means. No trees to be saved shall be used for crane stays, guys or other fastenings. Vehicles shall not be parked where damage may result to trees to be saved, i.e. under the canopy of the existing trees. Construction materials shall not be stored beneath trees to be saved.
- D. The Contractor shall be liable for all damage and/or disturbance to existing trees. Actual penalties for damage to plants shall be in accordance with the schedules defined herein, with assessed damages to be deducted from sums payable under the Construction Contract. Trees that are damaged during construction shall be removed by the Contractor at their expense if instructed to do so by the Designer/Landscape Architect, and the Contractor shall pay the Town for each tree judged by a

Massachusetts Certified Arborist to be significantly damaged or injured, whether or not it is removed, based on the following schedule:

1. \$1500 per tree from 2" through 6" caliper
2. \$3,000 per tree for over 6", through 12" caliper
3. \$6,000 per tree for over 12" through 18" caliper
4. \$12,000 per tree for over 18" caliper

- E. No material shall be stored within the dripline of any tree that is to be saved.
- F. During demolition operations, the trunks of the trees shall be effectively protected burlap and snow fencing placed as protective housing. Particular care shall be taken in the use of heavy machinery during demolition operations to prevent injury to roots and branches.

3.03 TREE ROOT PROTECTION

- A. The Contractor shall assume that the majority of tree roots extend to the tree dripline or edge of canopy. Any disturbance within this zone shall result in root reduction. In certain instances, demolition may need to occur within this zone. Tree protection fencing shall be located at the tree's dripline, or as indicated on the drawings. The roots shall be first cut by a trencher and roots over 2 inches in diameter shall be hand trimmed. Digging by backhoe at tree roots under canopy is not permitted until trencher has been through first and shall be grounds for assessing tree damage.

3.04 WATERING / INSECT AND DISEASE CONTROL

- A. The trees which have roots that are over 20 percent affected by demolition, as determined by a certified arborist and reviewed by the Designer/Landscape Architect, shall be deep root watered during the growing season twice, and deep root fertilized with a slow-release fertilizer between November and April under the direction of a certified arborist. The arborist shall also recommend any remedial insect or disease control measures that may be required for trees and shrubs to remain.

3.05 ROOT COVERING

- A. Tree roots that are exposed during the growing season for more than two weeks shall be covered with filter fabric staked securely or covered with aged woodchips to a minimum depth of 3 inches.
- B. Trees that have over a 30 percent root zone loss due to demolition shall have their entire remaining root zone covered by aged wood chips to a minimum depth of 3 inches.

3.06 TREE PRUNING

- A. No Pruning of existing trees shall take place without written approval from the Designer/Landscape Architect. The Contractor shall engage certified arborists who shall be responsible to perform all work of tree pruning as indicated on drawings only after having been approved by the Designer/Landscape Architect and the Town Arborist.
- B. Tree pruning shall include the following minimum work requirements:
1. Five full days of an arborist and 2 crew members for trees specified to be pruned in the construction documents. This time does not include work due to construction damage or loss of root zone by construction.
 2. All dead wood or suckers and all broken or badly bruised branches shall be removed. In addition, selective pruning shall be undertaken as necessary to improve the appearance of each tree and to allow additional light to reach lawn areas.
 3. Tree pruning shall apply to the full height of trees.
 4. During the length of Construction and tree damaged by wind or other causes shall be pruned initially in accordance with the Class II National Arborist Association Standards to preserve the natural character of the plant, upon the approval or direction of the Designer/Landscape Architect.
 5. Trees with a loss of root systems of over 20 percent due to demolition operations shall be construction pruned. In addition to Class II pruning, the tree canopy shall be pruned in

proportion to the amount of root zone lost to the demolition operations. All pruning shall include collar cuts. No flush cuts are permitted.

- C. All tree pruning work must be approved by the Designer/Landscape Architect and the Town Arborist before final payment is made.
- D. Any damage done to existing tree crowns or root systems, including compensatory pruning for root loss, shall be repaired immediately by an approved tree surgeon under observation by the Designer/Landscape Architect at no cost to the Owner.
- E. Any accidental injuries to the bark, trunk and branches shall be repaired immediately by pruning and trace cutting with a clean, sharp knife, in each instance.
- F. Within the branch spread of trees, the Contractor will not excavate or fill more than two inches unless directed to do so by the Designer/Landscape Architect.

3.07 DISPOSAL OF CLEARED AND GRUBBED MATERIAL/PROJECT CLOSE-OUT

- A. Upon completion of the operations, all debris shall be removed within the limit of work including clippings and debris within the protected root zones of trees and shrubs to remain.
- B. At the completion of operations, Contractor shall submit to the Designer/Landscape Architect a request to visit the site to review with the certified arborists the overall health and maintenance requirements of the plant material to remain and to be protected within the tree protection fencing, as shown on the plans or amended in the field as a condition of final acceptance.

END OF SECTION

SECTION 10 14 00 - SITE SIGNAGE

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 010000 – GENERAL REQUIREMENTS, which are hereby, made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements that affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with trades affecting, or affected by, work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 WORK INCLUDED

- A. Perform all work required to complete the work of the Section, as indicated. Signage work includes, but is not limited to, the following:
 - 1. Traffic and Parking Signage
 - 2. Park Rules Sign

1.03 RELATED WORK UNDER OTHER SECTIONS

- A. Earthwork
- B. Bituminous Concrete Paving

1.04 REFERENCES

- A. Commonwealth of Massachusetts Highway Department - Standard Specifications for Highways and Bridges (MHD Specifications).
- B. Commonwealth of Massachusetts Highway Department - Manual on Uniform Traffic Control Devices (MHD Manual).
- C. Americans with Disabilities Act (ADA) and Massachusetts Architectural Access Board (MAAB).

1.05 QUALITY ASSURANCE

- A. Source: For each type of product required for the work of this Section, provide products of one manufacturer and source for consistency.
- B. Codes and Standards: Perform signage work in compliance with applicable requirements of governing authorities having jurisdiction.
- C. Work under this section shall conform to the relevant provisions of MHD Specifications Section 828 of the "Supplementary Specifications for Traffic Signs and Supports".
- D. Work under this section shall comply with the Commonwealth of Massachusetts 521 CMR MAAB requirements.

1.06 SUBMITTALS

- A. Shop Drawings: Shop drawings of signage shall be submitted indicating size, shape, dimensions, letter style, method of anchoring and spacing.
- B. Product Data: Provide manufacturer's product data showing installation and limitations in use of each signage type.
- C. Material Selection and Samples: Submit samples showing the complete range of colors, textures and

finishes available for all components required for construction. Work includes but is not limited to the following:

1. Provide one sample of sign representative of each of the varying signage thicknesses required on the Project.

PART 2 – PRODUCTS

2.01 EXTERIOR SIGNAGE

- A. Exterior signage shall be post and panel sign systems. Posts shall be 2" square extruded aluminum with minimum 0.160 in. wall. Sign panels shall be single thickness (minimum 0.125 in.) aluminum with copy on front panel and rear panel left blank unless otherwise noted. Sign panels shall be secured to posts with a clip system to provide a 9/16" reveal between the post and sign panel.
- B. Exterior Signage systems shall be:
 1. Safety Sign.com a division of Brimar Industries, 800-274-5271, www.safetysign.com
- C. Refer to drawings for sign content, quantities, thickness and size.
- D. Posts shall be fabricated 3'-0" longer than height shown to allow for embedment in concrete footings.
- E. Copy shall be pressure sensitive vinyl graphics lettering or approved equivalent.
- F. Post finish and Sign colors shall be selected by landscape architect and owner.
- G. Concrete for footings shall be 3500 psi cement concrete and shall conform to MHD Specifications Section M4.02.00.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Signs shall be installed in conformance with MHD Specifications Section 828.
 1. Provide concrete footing for aluminum signposts.
 - a. Locate as directed by the Designer/Landscape Architect.
 2. Contractor shall submit mounting methods for all signs to the Designer/Landscape Architect for review and approval.
 3. Any exposed mounting hardware shall be painted a color to be selected by the Designer/Landscape Architect.

3.02 FINAL CORRECTION

- A. The Landscape Architect reserves the right to inspect the work to determine if adjustments are necessary in grade, alignment, or layout. The Contractor shall make such adjustments without further compensation.

3.03 CLEAN-UP

- A. The Contractor shall remove all debris, construction equipment and scrap material from all areas within the limit of work prior to the final inspection and acceptance.
- B. The Contractor shall clean all stains from the surface of all site signage. Sign surfaces that cannot be cleaned shall be replaced.

**- END OF SECTION 10 14 00 –
SITE SIGNAGE**

SECTION 31 10 00 - SITE PREPARATION

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 010000 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements, which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with trades affecting, or affected by, work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 DESCRIPTION OF WORK

- A. Work Included: Perform all work required to complete the work of the Section, as indicated. Such work includes, but is not limited to, the following:
 - 1. Protection of existing utilities.
 - 2. Protection of existing vegetation and trees.
 - 3. Stripping, screening and stockpiling of existing materials for reuse on-site.
 - 4. Installation and maintenance of temporary construction fencing.

1.03 JOB CONDITIONS

- A. General: The Contractor shall visit and accept the site as he finds it, and shall inform himself of the character and the type of site items to be removed. The Contractor shall walk the site with the Landscape Architect and Owner prior to commencing work to review the full scope of demolition and items to remain. The Owner assumes no responsibility for the actual condition or structural adequacy of any existing construction to be demolished.
- B. Damage or loss to site improvements shall be at the risk of the Contractor from and after the date of Contract execution, and no such damage or loss shall relieve the Contractor from any obligation under the Contract.
- C. Disposal: Dispose of cleared, grubbed, and removed materials off the site. Burning of materials on the job site will not be permitted. All items must be disposed of in a safe and legal manner.
- D. Traffic: Conduct operations and removal of debris to ensure minimum interference with the normal use of corridors, public ways and other adjacent facilities. Do not close or obstruct traffic ways, corridors, streets, walks or other used facilities without the written permission of the Owner and authorities having jurisdiction.
- E. Protection: Prevent injury to persons and damage to property. Immediately repair collapse or damage to existing structures or utilities.
- F. Tree Protection: Trees that are damaged during construction shall be removed by the Contractor at their expense if instructed to do so by the Designer/Landscape Architect, and the Contractor shall pay the Town for each tree judged by a Massachusetts Certified Arborist to be significantly damaged or injured, whether or not it is removed, based on the following schedule:
 - 1. \$1500 per tree from 2" through 6" caliper
 - 2. \$3,000 per tree for over 6", through 12" caliper
 - 3. \$6,000 per tree for over 12" through 18" caliper
 - 4. \$12,000 per tree for over 18" caliper

Assessed damages shall be deducted from sums payable under the Construction Contract.

- G. Shoring and Bracing: Provide adequate shoring and bracing to prevent uncontrolled collapse or damage to existing structures and utilities.
- H. Dust and Noise Control: Take effective measures to prevent windblown dust and to control noise to avoid creating a nuisance. Avoid creating ice hazards in freezing weather.
- I. Utilities: Maintain all utilities except those requiring removal or relocation. Keep utilities in service and protect from damage. Do not interrupt utilities serving use areas without first obtaining permission from the utility company and the Owner. Provide temporary services as required.

PART 2 - PRODUCTS

2.01 TEMPORARY CONSTRUCTION FENCING

- A. Construction fence shall be a minimum of 6'-0" high and shall be equivalent to Driven Rental Fence Construction Fence as manufactured by Steelco Fence, 19 Brook Road, Needham Heights, MA 02494.

2.02 STOCKPILE COVER

- A. Reinforced polypropylene tarps, resistant to ultraviolet radiation.
- B. Secured with ropes and anchors, as required and approved by the Landscape Architect.

PART 3 - EXECUTION

3.01 TEMPORARY CONSTRUCTION FENCING

- A. Erect temporary construction fencing as directed in areas as shown on the construction documents.
- B. Existing Chain Link Fence, 6' or higher, scheduled to be removed and replaced under the contract may be used as construction fence until it is replaced by new chain link fencing.
- C. Contractor must maintain a secure site at all times.

3.02 DEMOLITION

- A. General: Demolish completely and legally remove from site and dispose of properly. Proceed with demolition systematically.
- B. Demolish all existing above and below grade improvements except as indicated in the drawings. Wherever areas of new construction area shown to go over or encompass existing construction or improvements, the Contractor shall notify the Landscape Architect immediately for a determination on the conflict.

3.03 SALVAGE

- A. Salvage indicated material or materials determined to be suitable and required for reuse, including: granite curb, grates, frames or other metal castings and miscellaneous parts of inlets and manholes; metal fences; and other miscellaneous site items as indicated on the Drawings. Stockpile items to be salvaged in off-site location, as designated by Owner and Landscape Architect.
- B. Protect (metallic) coatings on salvaged items. Remove adhering concrete from salvaged items.
- C. Items to be Packaged and Stored Off-Site: Items to be packaged and stored off-site shall be

carefully packaged in a substantial manner with all related components, accessories, and fasteners, clearly tagged for reassembly. Photocopies of reassembly documents shall be included in each package of each group of related components.

1. Type of label components with identifying code to provide proper reassembly.
2. Packaging shall be suitable for material, and shall be secure.
3. Dry components thoroughly; coat components susceptible to corrosion and all threaded areas with anti-corrosion coating.

3.04 STRIPPING, SCREENING AND STOCKPILING TOPSOIL AND FILL MATERIALS

- A. Prior to starting general excavation, strip all topsoil within areas to be occupied by structures and pavements, as well as all areas to be regarded, or used for construction operations for later use in loaming and finish grading. Topsoil shall be stockpiled at locations as indicated on drawings or as approved on site by the Owner and Landscape Architect/Engineer. Should the topsoil be stockpiled in an area without prior approval of the Landscape Architect/Engineer, the Landscape Architect/Engineer may direct the Contractor to relocate such stockpile to another portion of the site, and the Contractor shall do so at no additional cost to the Owner.
- B. Do not strip without clear understanding of existing soil, planting and site conditions to be preserved.
- C. All loam encountered during stripping operation, regardless of depth, shall be excavated, stockpiled and covered on site, where directed. All other stripped material, which can be classified as fill under other Sections, shall be used or stockpiled for re-use in rough grading or backfill.
- D. All stripped topsoil and/or loam to be re-used as topsoil on berms and landscape areas shall be screened in accordance with standard practices and per Landscape Architect's recommendations.

3.05 BACKFILL

- A. Backfill trenches and excavations resulting from work under this Section in accordance with Section 310000, EARTHWORK.

3.06 SAWCUTTING

- A. Contractor shall use mechanical equipment that produces a clean, straight edge.

**- END OF SECTION 31 10 00 –
SITE PREPARATION**

SECTION 31 20 00 - EARTHWORK**PART I - GENERAL****1.01 GENERAL PROVISIONS**

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

1.02 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Stripping of all existing topsoil and subsoil within the limits indicated on the plans.
 2. Excavating for utility and site improvements.
 3. Filling, grading and subgrade preparation.
 4. On-site management of all excavated materials.
 5. Furnishing, placement and compaction of all fill materials specified herein or shown on the Drawings.
 6. Protecting stockpiles of excavated fill material and natural soils intended for on-site reuse against increases in moisture content, and freezing temperatures.
 7. Frost protection.
 8. Rock excavation as may be required to attain the specified grades.
 9. Off-site disposal of all unsuitable and excess excavated materials, including any chemical analysis that may be required for disposal.
 10. Pumping and other dewatering procedures necessary to maintain excavated areas free of water from any source whatsoever and to avoid disturbance of the subgrade.
 11. Storm water control.
 12. Rough grading.
 13. Dust control.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
1. Section 334000 - Drainage
- C. Special Conditions For Site Preparation and Earthwork Operation: The Contractor shall adhere to normal haul times allowed by the local authorities having jurisdiction.

1.03 SUBMITTALS

- A. Issue submittals in accordance with the bid documents. The Submittal Requirements under this Section shall include the following:
1. Proposed schedule, sequence, and procedures for all earthwork operations. Proposed earthwork sequencing and procedures shall include detailed descriptions of all methods, operations and equipment proposed for soil excavation, subgrade preparation, and backfilling.
 2. Details of compaction equipment, including descriptions, product literature, specifications and ratings, proposed for use in compacting fill and backfill materials.

3. Plan for control of surface water runoff during site work.
4. Plan for control of dust during site work.

1.04 EXAMINATION OF SITE AND DOCUMENTS

- A. It is hereby understood that the Contractor has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions as indicated in the Contract Documents, or obvious from observation at the Site.
- B. Plans, surveys, measurements, and dimensions under which the work is to be performed are believed to be correct, but the Contractor shall have examined them for himself during the bidding period, as no allowance will be made for any errors or inaccuracies that may be found except as otherwise provided herein.

1.05 STANDARDS AND DEFINITIONS

- A. Massachusetts Highway Department Standard Specifications for Highways and Bridges (MHD Specifications).
- B. American Society for Testing and Materials (ASTM)
- C. American Association of State Highway and Transportation Officials (AASHTO).
- D. Occupational Safety and Health Administration (OSHA).
- E. MCP: Massachusetts Contingency Plan, 310 CMR 40.0000
- F. Massachusetts Solid Waste Management Facility Regulations 310 CMR 19.00.
- G. Massachusetts Site Assignment Regulations for Solid Waste Facility Regulations 310 CMR 16.000.
- H. Backfill: Soil materials 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.
- I. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
- J. Unsuitable Soil: Soils which, due to their consolidation properties, degree of saturation, gradation, or other deleterious characteristics will not provide a stable subgrade, or cannot be used as backfill, or do not conform to the requirements of these specifications, shall be considered unsuitable. The Owner & Designer shall be the sole and final judge as to the suitability of soils at the site.
- K. Excavation: Removal of material encountered above subgrade elevations.
 1. Additional Excavation: Excavation below subgrade elevations as directed by the Owner & Designer. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 2. Bulk Excavation: Excavations more than 10 feet in width and pits more than 30 feet in either length or width.
 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by the Designer. Unauthorized excavation, as well as remedial work directed by the Designer, shall be without additional compensation.
- L. Trench Excavation: Excavations of any length where the width is less than twice the depth and where the shortest distance between payment lines does not exceed ten (10') feet.

- M. Open Excavation: All excavations not conforming to the definition of Trench Excavation shall be defined as Open Excavation.
- N. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material 3/4 cu. yd. or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2 inches.
- O. Invert or Invert Elevation: The elevation at the inside bottom surface of the pipe or channel.
- P. Bottom of pipe: The base of the pipe at its outer surface.
- Q. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, catch basins, manholes, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- R. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- S. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.06 EXAMINATION OF SITE AND DOCUMENTS

- A. The Contractor shall fully inform himself of existing conditions at the site before submitting his bid, and shall be responsible for carrying out all site work required to fully and properly execute the work of the Contract, regardless of the conditions encountered in the actual work. No claim for extra compensation or extension of time will be allowed on account of actual conditions inconsistent with those assumed, except those conditions described in the GENERAL REQUIREMENTS.
- B. Plans, surveys, measurements and dimensions under which the work is to be performed are believed to be correct to the best of the Owner's knowledge, but the Contractor shall have examined them for himself during the bidding period and formed his own conclusions as to the full requirements of the work involved.

1.07 SUBSURFACE CONDITIONS

- A. A Geotechnical Data Report, which includes the logs of borings performed at the site, has been prepared for this project, and is included herein as a reference.
- B. The subsurface explorations were made in order to provide data for generalized subsurface conditions and the results are included solely as information to bidders. Interpretation of the data for purposes of construction is the responsibility of the Contractor.
- C. All subsurface exploration data obtained is given on the borings logs enclosed herein. These data are representative of the ground conditions at each boring location and do not necessarily apply elsewhere.
- D. By submitting a bid, the Contractor affirms that he has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.
- E. The Contractor may, at his own expense, conduct additional subsurface testing as required for his own information after approval by the Owner & Designer.

1.08 SAMPLES AND TESTING

- B. The Contractor shall provide submittals for all products used on site that indicate conformance with specifications provided herein.
- C. A 1 lb. sample of each off-site material proposed for use, and of any on-site, shall be submitted to the Designer or Soils Engineer for review and testing at least ten (10) days prior to first use on-site.
 - 1. Samples shall be delivered to office of the Soils Engineer, as directed.

2. The Contractor shall provide the location and name of material source, including on-site sources.
 3. The Contractor shall indicate the proposed on-site use of each material submitted.
 4. Product Data: Submit location of pits for all borrow material and source site usage.
- D. The Owner & Designer will be the sole and final judge of suitability of all materials.
- E. As applicable, the Soils Engineer will determine maximum dry density and optimum water content in accordance with ASTM D1557, Method C, and in-place density in accordance with ASTM D1556 or ASTM D2167.
- F. Tests of materials as delivered may be made from time to time. Materials in question may not be used, pending test results. Remove rejected materials and replace with new, whether in stockpiles or in place.
- G. All off-site material submitted for use on the project site shall be subject to chemical testing to determine its conformance with existing environmental regulations. If directed by the Owner & Designer or Soils Engineer (due to the nature of the material), the Contractor shall conduct testing on proposed fill material and submit results prior to delivery to the site, at no additional cost to the Owner & Designer. Testing shall be conducted by a DEP-certified testing laboratory and shall include one or more of the following analytical test data depending on the source location and use:
1. Total Petroleum Hydrocarbons (EPA Method 418.1) every 100 yards.
 2. Volatile Petroleum Hydrocarbons (DEP VPH/VOA Method) every 500 yards.
 3. Extractable Petroleum Hydrocarbons (DEP EPH/PAH Method) every 500 yards.
 4. PCB and Pesticides (EPA Method 8080) every 500 yards.
 5. Total RCRA Metals (EPA Method 6000-7000 series) every 500 yards.
 6. TCLP for those total parameters, which exceed twenty (20), times the TCLP criteria every 500 yards.
- H. Off-site materials determined to be subject to specialized disposal in conformance with current environmental criteria shall not be utilized on the project site.
- I. For all imported soil material, including commercial, natural bank-run borrow source, or materials provided through the crushing and processing of pure rock from a quarry, one test for each parameter noted in Section 1.08(G)(1) through (6) shall be conducted for every 1,000 CY of material imported to the site.

1.09 COORDINATION

- A. The work of this Section shall be coordinated with that of other trades affecting, or affected by, this work, as necessary to assure the steady progress of all work of the Contract.
- B. As construction proceeds, the Contractor shall be responsible for notifying the Owner & Designer prior to start of earthwork operations requiring inspection and/or testing.

1.10 SPECIAL SITE CONSIDERATIONS

- A. It is the responsibility of the Contractor under this Contract to do the excavation, filling, grading and rough grading to bring the existing grades to subgrade and parallel to finished grades as specified herein and as shown on the Drawings for this Work. The Contractor shall visit the site prior to submitting a bid to become familiar with the extent of the work to be done under this Contract. The Contractor shall be responsible for determining the quantities of earth materials necessary to complete the work under this Section. All earth materials shall be included in the Contractor's base bid.

1.11 QUALITY ASSURANCE

- C. Pre-excavation Conference: Conduct conference at Project site with the Owner & Designer, Designer and Soils Engineer to comply with requirements in Section 013100 Project Management and for the purpose of establishing Contractor's schedule of operations and scheduling inspection procedures and requirements.
- A. The Owner & Designer shall retain a Soils Engineer to perform on-site observations and testing during the following phases of the construction operations. The services of the Soils Engineer may include, but not be limited to the following:
 - 1. Observation of activities during excavation and subgrade preparation.
 - 2. Observation and testing during placement and compaction of fills.
 - 3. Laboratory testing and analysis of fill and bedding materials specified, as required.
 - 4. Observation, construction and performance of water content, gradation, and compaction tests at a frequency and at locations to assure conformance of this Specification. The results of these tests will be submitted to the Owner & Designer, copy to the Contractor, on a timely basis so that the Contractor can take such action as is required to remedy indicated deficiencies. During the course of construction, the Soils Engineer will advise the Owner & Designer, in writing, with copy to Contractor if, at any time, in his opinion, the work is not in substantial conformity with the Contract Documents.
- B. The Contractor shall allow the Soils Engineer sufficient time to make the necessary observations and tests and shall provide safe access to the work area at all times.
- C. The Soils Engineer's presence does not include supervision or direction of the actual work by the Contractor, his employees or agents. Neither the presence of the Soils Engineer, nor any observations and testing performed by him, nor any notice or failure to give notice shall excuse the Contractor from defects discovered in his work.

1.12 PERMITS, CODES AND SAFETY REQUIREMENTS

- A. All work shall conform to the Drawings and Specifications and shall comply with applicable codes and regulations.
- B. Comply with the rules, regulations, laws and ordinances of the Local authorities having jurisdiction, appropriate agencies of the Commonwealth of Massachusetts and all other authorities having jurisdiction. Provide all required traffic control and safety measures, including uniformed police officers per University requirements. All labor, materials, equipment and services necessary to make the work comply with such requirements shall be provided without additional cost to the Owner & Designer.
- C. Comply with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc., the Commonwealth of Massachusetts Rules and Regulations For the Prevention of Accidents in Construction Operations, and the requirements of the Occupational Safety and Health Administration (OSHA), United States Department of Labor.
 - a. Contractor shall be responsible for means and methods required for the support of excavation sidewalls and for the support of utilities and structures as required to complete the work.
- D. The Contractor shall procure and pay for all permits and licenses required for the complete work specified herein and shown on the Drawings.
- E. The Contractor shall not close or obstruct any street, sidewalk, or passageway unless authorized in writing by the Owner & Designer. The Contractor shall so conduct his operations as to interfere as little as possible with the use ordinarily made of roads, driveways, sidewalks or other facilities near enough to the work to be affected hereby. The Contractor shall comply with the time limits established by the terms for trucking onto and off of the site.
- F. Any apparent conflict between the Drawings and Specifications and the applicable codes and regulations shall be referred to the Owner & Designer in writing, for resolution before the work is started.

1.13 LAYOUTS AND GRADES

- A. The Contractor shall maintain and/or reestablish benchmarks and survey monuments shown on the Drawings or found to exist on the site to provide a base reference for the construction. Replace any which may become destroyed or disturbed. The Contractor shall employ and pay all costs for a registered Civil Engineer or Land Surveyor who is licensed within the jurisdiction of the project site to lay out all lines and grades in accordance with the Drawings and Specifications, and as necessary or required for the construction. The selection of the Civil Engineer or Land Surveyor shall be subject to the Owner & Designer approval.
- B. The words "finished grades" as used herein shall mean final grade elevations indicated on the Drawings. Spot elevations shall govern over proposed contours. Where not otherwise indicated, project site areas outside of the building shall be given uniform slopes between points for which finished grades are indicated or between such points and existing grades.

1.14 DISPOSITION OF EXISTING UTILITIES

- A. Active utilities existing on the site and work areas shall be carefully protected from damage and relocated or removed as required by the work. When an active utility line is exposed during construction, its location and elevation shall be plotted on the record drawings as described in this Section and both Owner & Designer and Utility Owner & Designer notified in writing.
- B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner & Designer or others unless permitted in writing by Owner & Designer. Provide temporary utility services as required by the Owner & Designer. The Owner & Designer shall be notified a minimum of 10 days in advance of proposed utility interruptions.
- C. Inactive or abandoned utilities encountered during construction shall be removed if within the area of site improvement or grouted, plugged or capped. The location of such utilities shall be noted on the record drawings and reported in writing to the Owner & Designer.
- D. The Contractor shall notify "Dig Safe" and local utility companies a minimum of seven (7) working days prior to the start of construction. The "Dig Safe" number shall be submitted by the Contractor in writing to the Owner & Designer prior to construction.
- E. In case of any damage or injury caused in the performance of the work, the Contractor shall at his own expense make good such damage or injury to the satisfaction of, and without cost to the Owner & Designer. Existing streets, sidewalks and curbs damaged during the project work shall be repaired or replaced to their condition prior to commencement of earthwork operations, at no additional cost to the Owner & Designer.

1.15 TEMPORARY DRAINAGE AND DEWATERING

- A. The Contractor shall control the grading in areas under construction on the site so that the surface of the ground will properly slope to prevent accumulation of water in excavated areas and adjacent properties.
- B. Should surface, rain or ground water be encountered during the operations, the Contractor shall furnish and operate pumps or other equipment, and provide all necessary piping to keep all excavations clear of water at all times and shall be responsible for any damage to work or adjacent properties for such water. All piping exposed above surface for this use, shall be properly covered to allow foot traffic and vehicles to pass without obstruction.
- C. Presence of ground water in soil will not constitute a condition for which an increase in the contract price may be made. Under no circumstances place concrete fill, soil fill, lay piping or install appurtenances in excavation containing free standing water. Keep utility trenches free of water until pipe joint material has hardened and new utility backfilled to prevent flotation.
- D. If discharge is necessary, the Contractor shall discharge all pumped water away from the work area, and to a temporary sedimentation basin on site. Approval from the Owner & Designer shall be obtained prior to the discharge of pumped water from dewatering operations to the drainage system. Any disposal of water shall be done in accordance with all applicable local codes and laws. Requirements specified herein for Erosion and Siltation Control shall be met during this process.

- E. All fill material shall be placed and compacted in-the-dry. The Contractor shall dewater excavated areas as required to perform the work and in such a manner as to preserve the undisturbed state of the natural inorganic or other subgrade soils.
- F. For further information refer to paragraphs on SPECIAL REQUIREMENTS FOR SEQUENCE OF CONSTRUCTION OPERATIONS AND DRAINAGE AND EROSION CONTROL as specified herein.

1.16 FROST PROTECTION

- A. Do not excavate to full indicated depth when freezing temperatures may be expected, unless work can be completed to subgrade or piping can be installed and backfilled the same day. Protect the excavation from frost if placing of concrete or piping is delayed.
- B. The Contractor, at no additional cost to the Owner & Designer, shall keep the operations under this Contract clear and free of accumulation of snow within the limits of Contract Lines as required to carry out the work.
- C. No work shall be installed on frozen ground.
- D. Should protection fail, remove frozen materials and replace with suitable fill material as directed and approved by the Owner & Designer at no cost to the Owner & Designer.

1.17 DISTURBANCE OF EXCAVATED AND FILLED AREAS DURING CONSTRUCTION

- A. The Contractor shall take the necessary steps to avoid disturbance of underlying fill material, natural subsoil, natural glacial till and compacted ordinary fill during excavation and filling operations. Methods of excavation and filling operations shall be revised as necessary to avoid disturbance of the subgrade and underlying natural soils/compacted fill, including restricting the use of certain types of construction equipment and their movement over sensitive or unstable materials. The Contractor shall coordinate with the Owner & Designer and Soils Engineer to modify his operations as necessary to minimize disturbance and protect bearing soils.

1.18 PROTECTION OF BEARING SUBGRADES

- A. The Contractor shall be required to maintain stable, dewatered, and frost free subgrades for pavement areas, utility trenches, and other areas as directed by the Owner & Designer or Soils Engineer.
- B. The Contractor shall take precautions to reduce subgrade disturbance. Such precautions may include diverting storm water runoff away from prepared subgrades, reducing traffic in sensitive areas, thermal protection during cold weather periods, and subgrade stabilization such as placement of filter fabric and crushed stone or compacted gravel fill.
- C. Soils exhibiting weaving/instability or which become frozen, as determined by the Soils Engineer, shall be over-excavated (removed) to competent bearing material and replaced with compacted gravel fill or lean concrete at no additional cost to the Owner & Designer.

1.19 SPECIAL REQUIREMENTS FOR SEQUENCE OF CONSTRUCTION OPERATIONS AND DRAINAGE AND EROSION CONTROL

- A. An initial procedure for sequencing of construction operations is specified under Section 311000, SITE CLEARING AND PREPARATION. This procedure shall be extended through Earthwork operations as follows:
 - 1. Perform initial procedures as specified under Section 311000, SITE CLEARING AND PREPARATION.
 - 2. Repair any broken or damaged sections of haybales or siltation fencing installed during site preparation and install any additional sections necessary for proper erosion control.
 - 3. Throughout earthwork operations, in addition to drainage swales, check dams, siltation sumps, and other items shown on the Drawings, the Contractor shall take other necessary precautions, including installation of temporary drainage swales, siltation sumps, check dams, haybales, silt fencing and temporary pipe to direct and control drainage from disturbed areas on the site so that erosion and

siltation is minimal. In addition, no erosion or discharge of silt or larger particles shall occur in water bodies to remain undisturbed or onto adjacent properties.

4. Damaged or loose hay bales and siltation fence shall be replaced as necessary to maintain their function of controlled erosion and siltation. Damaged or broken down check dams and filtration dams shall be replaced immediately.
5. Throughout construction, remove any accumulation of silt or soil build-up behind hay bales, silt fences, check dams and filtration dams as it occurs. Remove accumulations of silt and soil build-up from the siltation sumps and silt traps when it is approximately 18 inches deep.
6. Replace the gravel layer on the inside of all siltation sumps as necessary to permit adequate flow through the gravel and to maintain their function as a filter of silt and larger particles. Excavate silt and other material from the basins of all siltation sumps as it accumulates.
7. Remove temporary drainage swales, check dams, siltation sumps, haybales and other temporary drainage, erosion and siltation control measures when permanent drainage control measures have been installed, and grass is established in drainage areas leading to the siltation sumps. Do not remove the above items without approval of the Owner & Designer. If, in the Owner & Designer's opinion, these measures are still necessary, they shall stay in place.

PART 2 – PRODUCTS

2.01 GENERAL

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM, or a combination of these group symbols; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT, or a combination of these group symbols.
 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Gradation requirements shall be determined by ASTM D422 unless otherwise specified.
- E. Uses of Fill Materials: Fill materials listed below shall be utilized as follows and as otherwise indicated on the Drawings, specified or directed.
 1. Gravel Borrow:
 - a. Pipe bedding
 - b. Backfill around manholes.
 - c. Elsewhere as shown on the Drawings or specified herein.
 2. Aggregate Base Course:
 - a. Base for all walkways, pavement.
 - b. Elsewhere as shown on the Drawings or specified herein.
 3. ¾ inch Crushed Stone:
 - a. Pipe bedding and as fill around perimeter/infiltrator drains.

- b. Elsewhere as shown on the Drawings or specified herein.
- 4. 1 1/2" Double Washed Crushed Stone
 - a. Around subsurface drainage structures intended for infiltration
- 5. Common Fill
 - a. For general site backfilling to raise existing grades in lawn and landscaped areas.
 - b. As backfill at depths in excess of 2 feet below finished grade of paved surfaces.
 - c. For backfilling, as required, below specified sub-grade materials.

2.02 MATERIALS

A. Geotextile Fabric:

- 1. Non-woven polypropylene geotextile which is chemically and biologically inert and shall meet the following requirements:
 - a. AASHTO M288 Class 2
- 2. Woven polypropylene geotextile which is chemically and biologically inert and shall be meet the following requirements:
 - a. AASHTO M288 Class 1

B. Aggregate:

- 1. GRAVEL BORROW, also referred to as crushed bank run gravel, shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings, and deleterious materials. Maximum size of stone in gravel shall be two inches (2") largest dimension. Gradation shall conform to DOT Specification Designation, M1.03.0, Type C, and the following:

Sieve Designation	% Passing by Weight	
	Minimum	Maximum
2 in.	100	
1/2 in.	50	85
No. 4	40	75
No. 50	8	28
No. 200	0	10

- 2. 3/4 inch CRUSHED STONE shall consist of inert angular material derived from a stone quarry that is hard, durable, washed stone, free of deleterious materials. Gradation shall conform to the following:

Sieve Designation	% Passing by Weight	
	Minimum	Maximum
1 in.	100	
3/4 in.	90	100
1/2 in.	30	60
3/8 in.	25	45
No. 4	5	30
No.10	0	10

- 3. 1 1/2" DOUBLE WASHED CRUSHED STONE shall consist of inert angular material derived from a stone quarry that is hard, durable, washed stone, free of deleterious materials. Material shall be free of fines. Material shall meet MDOT's Standard Specifications for Highways and Bridges specification for M2.01.1, Crushed Stone. Stone shall be double washed and free or any stone dust or fine materials. The Designer shall determine whether the material is "clean" by placing a sample of the stone into a jar

of water. If the water becomes turbid or cloudy when the stone is placed into it, then the stone will not be considered "clean". The Designer shall be the sole judge of whether the material is acceptable for use for drainage.

- a. Gradation shall conform to the following:

Sieve Designation	% Passing by Weight	
	Minimum	Maximum
1 in.	100	
3/4 in.	90	100
1/2 in.	30	60
3/8 in.	25	45
No. 4	5	30
No.10	0	10

- 4. AGGREGATE BASE COURSE, SANDY GRAVEL BASE, or DENSE-GRADED CRUSHED STONE shall consist of a combination of crusher-run coarse aggregates of crushed stone and fine aggregates of natural sand or stone screenings. Coarse aggregate shall consist of a hard, durable particles of fragments of stone. Fine aggregate shall consist of natural or crushed sand. The composite material shall be free from loam and clay, and deleterious materials. Gradation shall conform to MDPW Specification Designation, M2.01.7, and the following:

Sieve Designation	% Passing by Weight	
	Minimum	Maximum
2 in.	100	
1 1/2 in.	70	100
3/4 in.	50	85
No. 4	30	55
No. 50	8	24
No. 200	3	10

- 5. RIP RAP shall consist of hard, durable angular shaped stones which are the produce of the primary crushing of a stone crusher. Rounded stone, boulders, sandstone, or similar soft stone or relatively thin slab will not be acceptable. Stone shall be free from overburden, spoil, shale, organic material and meet the following gradation requirements:

Sieve Designation	% Passing by Weight	
	Minimum	Maximum
8 in.	95	100
4 in.	0	25
2 1/2 in.	0	5

- 6. COMMON or ORDINARY FILL shall be retained from on-site sources and shall consist of mineral soil, free of organic materials, loam, trash, wood, trash, snow, ice, frozen soil, plastic clay and other compressible or deleterious materials. It shall have physical properties such that it may be readily spread and compacted for the formation of compacted fills without excessive weaving or instability, as judged by the Soils Engineer. It shall be free of highly plastic clays, of all materials subject to decay, decomposition or dissolution, and of cinders or other materials which will corrode piping or other metal.

- a. Fill material, subsoil and glacial till from excavation on the site shall be used as Ordinary Fill. The Contractor shall take precautions to maintain suitability of excavated on-site fill, subsoil and glacial till for re-use, particularly in regard to moisture maintenance and prevention of freezing.
- b. The Contractor shall bear all costs associated with the off-site disposal of soils that have become unsuitable after excavation and stockpiling of these soils due to the Contractor's failure to protect the stockpiled soils from moisture and/or freezing.

Note: The maximum particle size shall be 3 inches for backfill placed within 2 feet of utilities and 6 inches elsewhere.

7. SAND BEDDING shall consist of clean, inert, hard, durable grains of quartz or other hard, durable rock, free from loam or clay, surface coatings and deleterious materials, and shall conform to the following gradation requirements:

Sieve Designation	% Passing by Weight	
	Minimum	Maximum
1/4 in. No. 200	100 0	10

C. UNSUITABLE MATERIAL

1. Material containing organic matter, frozen materials, debris, materials subject to decomposition, silts and silty materials which are too wet to be stabilized and existing fill which, in the opinion of the Soils Engineer, do not satisfy the design requirements, shall be unsuitable material.
2. Unsatisfactory Soils: ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT, or a combination of these group symbols.
 - a. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction
3. Suitable Soil that is allowed to become frozen, saturated, or unstable because of the Contractor's failure to employ appropriate dewatering, excavation methods, or weather protection is considered unsuitable material.
4. Unsuitable material shall be legally disposed off-site by the Contractor at no additional cost to the Owner & Designer.

2.03 EQUIPMENT

- A. Provide sufficient equipment units of suitable types to spread, level, and compact fills promptly upon delivery of materials.
- B. Contractor may use any compaction equipment or device which he finds convenient or economical, but the Owner & Designer retains the right to disapprove equipment which, in his opinion, is of inadequate capacity or unsuited to the character of material being compacted.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations. All frames/covers within the affected work area shall be set flush with the proposed pavement grade.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust.

3.02 STRIPPING

- A. Stripping: Prior to starting general excavation, all existing topsoil within the Limit of Work as shown on the Contract Drawings shall be stripped to its full depth, screened and stockpiled in approved locations for later on-site reuse. All stockpiled topsoil shall be screened under the work of this Section and as specified in Section Lawns. All stockpiled topsoil shall be tested for suitability as loam as specified in Sections Planting. If topsoil does not meet the specifications for loam, it may be reused as ordinary fill, beneath landscaped areas only, if it meets the requirements as specified, or removed from the site and disposed of in a legal manner. Stockpiled topsoil for re-use as loam shall be free from trash, brush, stones over three-quarter inch (3/4") in diameter and other extraneous matter. All excess loam quantities shall be removed from the site at no additional cost to the Owner & Designer after Owner & Designer is satisfied that there is enough existing

screened and acceptable material stockpiled on site to complete the project. The Contractor shall perform all chemical analysis that may be required for off-site disposal of the excess topsoil, at no additional cost to the Owner & Designer. Do not strip without a clear understanding of existing soil, planting and site conditions to be preserved. Contractor shall supply additional quantities of loam if there is not enough on-site material to complete the work at no additional cost to the Owner & Designer.

- B. All topsoil containing excessive amounts of stones or organics shall be stockpiled separately and removed from the site at no additional cost to the Owner & Designer.
- C. The Contractor shall perform all work necessary to strip, store, stockpile, transport, clean and re-spread existing topsoil, and to furnish any additional topsoil required to complete the work.

3.03 EXCAVATION

- A. Excavate all materials, on an unclassified basis, encountered to allow construction of the proposed site improvements, utilities and site work as shown on the Drawings and as specified herein.
- B. Excavate to levels shown for site improvements and utilities, as required to provide working clearance and to allow adequate inspection.
- C. All excavation shall be performed in the dry. Excavation and dewatering shall be accomplished by methods which preserve the undisturbed state of subgrade soils.
- D. Excess excavated material shall be reused on site to the fullest extent possible. No off-site removal of soil will be permitted unless directed by the Owner & Designer.
- E. In landscaped areas, remove boulders and other obstructions to a depth of at least two feet below finished grade.
- F. When excavations have reached the prescribed depths, the Owner & Designer shall be notified and will make an inspection of the conditions. After inspection, the Contractor will receive approval to proceed if conditions meet design requirements.
- G. Should an excavation be carried beyond the depth indicated on the drawings or as specified herein as a result of Contractor's error, the Contractor shall provide and place compacted ordinary fill, as directed by the Owner & Designer, to the required elevation at no additional cost to the Owner & Designer.
- H. Localized sumps and temporary ditches shall be made as needed to drain off surface water and groundwater to avoid damage to areas of cut or fill. Such ditches shall be maintained as required for efficient operation, at no additional cost to the Owner & Designer.
- I. Prior to placing subbase and base course materials required for support of pavements and concrete walkways, proof compact subgrades consisting of existing fill material with a minimum of 5 passes of a vibratory roller exerting a minimum of 20,000 foot-pounds of energy to the soil and weighing a minimum of 5-tons. Specific attention should be paid to those areas of the site in which former structures that were recently demolished and removed. Any soft or spongy areas revealed by the proof-compacting process shall be removed and replaced with compacted Ordinary Fill as directed by the Owner & Designer, at no additional cost to the Owner & Designer.

3.04 TRENCH EXCAVATION

- A. Excavate as necessary for all drainage pipes, utilities and related structures and appurtenances, and for any other trenching necessary to complete the work.
- B. Trench excavation shall include the removal of all materials encountered. During excavation, materials determined to be suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. All excavated materials not required or unsuitable for backfill shall be reused on site. The banks of trenches shall be cut as near vertical as practicable to the extent allowed by OSHA.

- C. The Contractor shall provide, at his own expense, suitable bridges over trenches where required for accommodation and safety of the traveling public and as necessary to satisfy the required permits and codes.
- D. Trenches shall be excavated to the necessary width and depth for proper laying of pipe or other utility and shall have vertical sides or slopes as required by codes. Minimum width of trenches shall provide clearance between the sides of the trench and the outside face of the utility. Maximum trench sizes are as shown on the Drawings or as specified herein. The depth of the trench shall be six inches below the bottom of the pipe barrel or respective utility.
- E. Coordinate all utility and trench backfilling with the trades involved.

3.05 FILLING AND GRADING

- A. Placing Fills:
 - 1. Provide all specified fill materials.
 - 2. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills
 - 3. Areas to be filled shall be natural undisturbed soil or existing fill material that has been proof compacted as specified herein, and shall be free of construction debris, refuse, compressible or decayable materials and standing water. Do not place fill when subgrade or layers below it are unsuitable. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
 - 4. Notify the Owner & Designer when excavations are ready for inspection. Filling shall not be started until conditions have been approved by the Owner & Designer.
 - 5. Furnish approved materials. Place fill in layers not exceeding 6 inches compacted thickness and compact as specified below for various fill conditions.
 - 6. All fill is to be placed "in the dry", to which end dewatering may be required. Spreading and drying of each layer may also be required. The Contractor shall dewater excavated areas as required to perform the work and in such a manner as to preserve the undisturbed state of the existing subgrade.
 - 7. Conversely, if the Soils Engineer determines that the fill material is too dry for proper compaction, water shall be added to provide the specified optimum moisture content, as necessary for proper compaction.
 - 8. At the completion of excavation and before placing any fills, proof-roll excavated subgrades, as specified in subparagraph 3.03(l). Subgrade compaction shall be observed by the Soils Engineer before proceeding further.
 - 9. All fill within the new paved parking areas shall be placed and compacted under continuous monitoring by the Soils Engineer.
 - a. Place all specialized fill materials, as specified herein or as shown on the Drawings, within the new paved parking areas and pedestrian walkways in uniform lifts not exceeding 6 inches compacted thickness) and compact to 95 percent of maximum modified Proctor density.
 - b. Place Ordinary Fill in uniform lifts not exceeding 6 inches (compacted thickness) and compact to 92 percent of maximum dry Proctor density.
 - 10. Within landscaped areas:
 - a. All fills shall be compacted to between 88 and 90 percent of its maximum modified dry Proctor density.
 - 11. In the case of landscaped areas, compaction requirements for subgrades and fills shall be considered minimums and maximums within the density percentages called for, and any overcompaction of subgrades or fills which would be detrimental to lawn or planting objectives shall be corrected by

loosening subgrades or fills through tilling or other means and recompacting to specified compaction limits.

12. The Contractor shall notify the Owner & Designer three (3) days in advance when the rough grades are established and ready for formal inspection.

B. Backfilling of Trenches and Structures:

1. Areas to be backfilled shall be free of construction debris, refuse, compressible or decayable materials and standing water. Do not place fill when fill materials or layers below it are frozen unless specifically approved by the Soils Engineer.
2. Gravel borrow shall be used as Backfill around manholes and other structures as indicated on the Drawings. Excavated material may be used if approved by the Owner & Designer or Soils Engineer.
3. Place and compact gravel borrow 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.
4. Do not commence backfilling operations of utility trenches until all piping, conduits, etc. have been installed, tested and approved and the locations of all pipe and appurtenances have been recorded. Backfill carefully by hand around pipe to depth of one foot above top of pipe using material specified herein, and tamping firmly in layers not exceeding six inch layers, compacting by hand rammers or mechanical tampers. When a manufacturer of utility line materials suggests backfill materials and methods other than those specified herein, such requirements shall govern providing the finished work equals or exceeds the result obtained by the materials and methods specified herein.
5. Carefully compact material under pipe haunches by hand tamping and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system. From the centerline of the pipe to a point 12 inches above the top of the pipe the backfill shall be placed by hand and hand tamped. Above this point, backfill shall be placed in layers six inches deep and each layer shall be compacted with mechanical tampers to not less than 95% of maximum density at optimum moisture of the material. This backfill shall be carried up to the bottom of materials specified to be placed for surfacing requirements.
6. Utilities shall not be laid directly on boulders or other hard material. This material shall be removed as specified herein within trench limits, and within vertical planes one foot outside of structure walls. Backfill will be placed in eight inch lifts and thoroughly compacted. If hand guided compaction equipment is used, fill shall be placed in six inch lifts. Ordinary Fill may be used as backfill in areas as specified herein.
7. Coordinate all utility and trench backfilling with the trades involved.

C. Moisture Control:

1. Variation of moisture content in fill and backfill materials shall be limited to Optimum Moisture (-1% to +2%). Moisture content shall be as Uniformly distributed as practicable within each lift, and shall be adjusted as necessary to obtain the specified compaction.
2. Material which does not contain sufficient moisture to be compacted to the specified densities shall be moisture conditioned by sprinkling, discing, windrowing, or other method approved by the Soils Engineer.
 - a. Material conditioned by sprinkling shall have water added before compaction. Uniformly apply water to surface of subgrade or layer of soil material to obtain sufficient moisture content. The Contractor shall maintain sufficient hoses and/or water distributing equipment at the site for this purpose.
3. Material containing excess moisture shall be dried to required Optimum Moisture before it is placed and compacted. Excessively moist soils shall be removed and replaced and shall be scarified by use of plows, discs, or other approved methods, and air-dried to meet the above requirements.

4. Materials which are within the moisture requirements specified above, but which display pronounced elasticity or deformation under the action of earthmoving and compaction equipment, shall be reduced to Optimum Moisture Content, or below, to secure stability.
5. In the event of sudden downpours or other inclement weather, exposed subgrades and fills which, in the opinion of the Soils Engineer become inundated or excessively moistened shall have excess water removed and soil dried as specified above.

3.06 ROUGH GRADING

- A. Rough grading shall include the shaping, trimming, rolling and finishing the surface of the sub-base, shoulders, and earth slopes, and the preparation of the sub-base for loam, seeding and paved surfaces. The grading of shoulders and sloped areas may be done by machine methods. All ruts shall be eliminated. Grading of subgrades for roadway and parking areas shall be finished at the required depth below and parallel to the proposed surface.
 1. If, during the progress of rough grading work, water pipe, sewer conduit, drain, or other construction is damaged due to operations under this Contract, the Contractor shall repair all such damage at no additional cost to the Owner & Designer and restore damaged areas to their original condition.
 2. Do all other cutting, filling and grading to the lines and limits indicated on the Drawings. Grade evenly to within the dimensions required for grades shown on Drawings and specified herein. No stones larger than four inches (4") in largest diameter shall be placed in upper six inches (6") of fill. Fill shall be left in a compacted state at the end of the work day and sloped to drain.
 3. The Contractor shall bring all areas to grades as shown on the Drawings and in the details. The Owner & Designer, however, may make such adjustments in grades and alignments as are found necessary to avoid special conditions encountered.
 4. No rubbish of any description shall be allowed to enter fill material. Such material shall be removed from the site.
 5. Complete the grading operations after the utilities installed, site improvements constructed, and all materials, rubbish and debris removed from the site. Leave subgrade for lawns clean at required grades. There must be sufficient grade staking to provide correct lines and grades.
 6. Wherever streets, lawns, sidewalks, or other items contained within or outside of Limits of Contract lines have been excavated in fulfilling the work required under this Contract, the Contractor shall furnish and install all materials necessary to bring finished surfaces level with the existing adjacent surfaces. All work shall be installed to match the existing conditions in accordance with the governing authority. Notify the proper authorities prior to restoring surfaces outside the Contract Limit Lines.

3.07 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage and reimburse an independent geotechnical engineering testing agency approved by the Owner & Designer to perform field quality-control testing as requested by the Designer.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
 1. 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. Trench Backfill: At each compacted initial and final backfill layer, at least one test for each 150 feet or less of trench length, but no fewer than two tests.

3. 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 to depth required; recompact and retest until specified compaction is obtained.

3.08 DUST CONTROL

- A. The Contractor shall take all necessary measures and provide equipment and/or materials to minimize dust from rising and blowing across the site and from impacting neighboring residential property. In addition, the Contractor shall control all dust created by construction operations and movement of construction vehicles, both on the site and paved ways at all times using sprinklered water, or other approved means.
- B. Dust control is required off-site due to work under this Contract, in addition to watering, sweeping and other methods, the Contractor shall apply calcium chloride in the required amounts to properly control dust. These amounts shall be reviewed by the Owner & Designer prior to application. The Contractor shall maintain and clean public roadways from soil and mud resulting from work under this Contract by use of street sweepers or other approved methods.
- C. Do not use oil or similar penetrants. Chemical materials may not be used on subgrades of areas to be seeded or planted.

END OF SECTION

SECTION 32 12 16 - BITUMINOUS CONCRETE PAVING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 010000 - GENERAL REQUIREMENTS, which are hereby, made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements that affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with trades affecting, or affected by, work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 DESCRIPTION OF WORK

- A. Work Included: Perform all work required to complete the work of the Section, as indicated. Such work includes, but is not limited to, the following:
 - 1. Bituminous concrete pavement for drives, parking areas, walkways and all other areas as shown on the drawings outside of public ways.
 - 2. Repairs to existing bituminous concrete pavements.

1.03 RELATED WORK

- A. Cast-In-Place Concrete
- B. Cement Concrete Pavement
- C. Site Preparation
- D. Earthwork
- E. Unit Pavers
- F. Vertical Granite Curb
- G. Pavement Striping
- H. Storm Drainage System

1.04 REFERENCES

- A. Work shall conform to codes and standards of the following:
 - 1. ASTM – American Society of Testing Materials
 - 2. AASHTO – American Association of State Highway and Transportation Officials
 - 3. Massachusetts Highway Department Standard Specifications for Highways and Bridges (MHD Specifications).
 - 4. Americans with Disabilities Act (ADA) Appendix to Part 1191 Accessibility Guidelines for Building and Facilities.
 - 5. Massachusetts Architectural Access Board (MAAB).

1.05 QUALITY ASSURANCE

- A. Unless otherwise specified, work and materials for construction of the bituminous concrete pavement shall conform to the applicable portions of the following:
 - 1. MHD Specifications Section 460 for bituminous pavement for roadways and parking areas, Section 701 for bituminous sidewalks, and Section 405 for aggregate base course.
 - 2. MHD Specifications Section 472 for repairs to existing pavements after installation of new curb.
- B. Codes and standards: Perform site improvement work in compliance with applicable requirements of governing authorities having jurisdiction.

- C. Qualifications of workers: Use adequate numbers of skilled workers who are trained in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.
- D. Layout and Grading: After staking and layout out the work, and before beginning final construction, obtain the Designer/Landscape Architect's approval of layout and grades. Contactor shall make minor adjustments as determined by the Landscape Architect/Engineer.
- E. The Contactor and his Subcontractors shall inspect all subbases for unstable, unsuitable or improperly prepared areas. Do not begin work over unacceptable areas. Beginning work means the Contractor and his Subcontractors accept the subbase, previous work and conditions and shall be held responsible for any corrections required to properly implement the Construction Documents.

1.06 SUBMITTALS

- A. Product Information: Provide manufacturer's data showing installation and limitations in use. Supply Certificates of Compliance for all materials required for fabrication and installation. Work includes but is not limited to the following items:
 - 1. Bituminous Concrete – mix data

1.07 JOB CONDITIONS

- A. Environmental Requirements: The Subcontractor shall verify site conditions to assure that the requirements for installation procedures conform to the following:
 - 1. Paving shall not be placed when the ambient temperature is below 40 degrees Fahrenheit or when there is frost in the base course or any other time when weather conditions are unsuitable for the type of material being placed.
 - 2. After final rolling of bituminous concrete pavement, no vehicular traffic of any kind shall be permitted until it has cooled for 24-hours.
- B. Site Information: Data on indicated grades, utilities and other existing conditions are not intended as representations or warranties of accuracy.
- C. Existing Utilities: Locate existing utilities in areas of work. If utilities are to remain in place, provide adequate means of protection during installation of site improvements.
- D. Protection: The Contractor shall use all means necessary to protect the materials of this Section before, during and after installation. In the event of damage, make all repairs and replacements necessary to approval of the Designer/Landscape Architect and at no additional cost to the Owner. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving to remain, existing fencing, existing plant materials, and adjoining properties.
- E. The Contractor shall remove all debris, construction equipment and scrap material from areas within the limit of work prior to inspection for acceptance.
- F. The Drawings indicate, in general, the alignment and finished grade elevations. The Designer/Landscape Architect, however, may make minor adjustments to grades and alignment as are found necessary.

1.08 ADA AND UNIVERSAL ACCESSIBILITY CODE

- A. Special attention is to be given to compliance with the American with Disabilities Act (ADA) and the requirements of the Universal Accessibility Code and the Massachusetts Architectural Access Board (MAAB).
 - 1. Slopes: The cross pitch (perpendicular to travel) for all pedestrian walkways of travel shall be constructed at 1.5% (2% maximum, 1% minimum). The longitudinal slope (parallel to travel) for all pedestrian walkways shall not exceed 4.5%. The slope of all handicapped curb cuts shall be constructed at 7.5% (8.3% maximum).

- 2. The Contractor shall assume that all walkways, curb cuts and handicap accessible parking areas will be verified/checked with a 2-foot electronic "Smart Level".
- B. The above requirements shall supersede the grades shown on the grading plan. If the requirements cannot be met with the grades shown on the plans, the Contractor shall notify the Landscape Architect/Engineer immediately.
- C. The location and construction of all handicap curb cuts shall be reviewed and approved by the Town Engineer prior to construction.

PART 2 - PRODUCTS

2.01 BITUMINOUS CONCRETE PRODUCT MIX REQUIREMENTS

- A. As noted below, materials shall conform with the following table:

Standard Sieves	Base Course	Binder Course	Dense Binder Course	Surface Course	Modified Surface Course	Dense Mix	Surface Treatment
2 inch	100						
1 inch	55-80	100	100		100		
¾ inch		80-100	80-100		95-100		
5/8 inch				100			
½ inch	40-65	55-75	65-80	95-100	75-90	100	
3/8 inch				80-100	60-75	80-100	100
No. 4	20-45	28-50	48-65	50-76	40-60	55-80	80-100
No. 8	15-33	20-38	37-51	37-54	32-44	48-63	64-85
No. 16				26-40	24-34	36-49	46-68
No. 30	8-17	8-22	17-30	17-29	16-26	24-38	26-50
No. 50	4-12	5-15	10-22	10-21	8-18	14-27	13-31
No. 100*				5-16	4-13	6-18	7-17
No. 200	0-4	0-5	0-6	2-7	2-7	4-8	3-8
Bitumen	4-5	4.5-5.5	5-6	5.5-7.0	5.5-6.5	7-8	7-8

*Percentages shown in table above for aggregate sizes are stated as proportional percentages of total aggregate for the mix.

2.02 BITUMINOUS CONCRETE PAVEMENT

- A. Bituminous concrete for the drives, parking areas, walkways, etc. shall be Class I, Type I-1 hot plant mix, conforming to Section 2.01 A (above) and shall consist of two (2) courses of bituminous concrete with a minimum finished pavement depth after rolling of three (3") inches.
 - 1. Binder Course shall be three (3") inches in thickness consisting of one (1) lift of Binder Course Bituminous Concrete.
 - 2. Surface Course shall be one and one half (1 1/2") inches in thickness consisting of one (1) lift of Surface Course Bituminous Concrete.

2.03 BITUMINOUS MATERIALS

- A. Bituminous material for prime coat shall be one of the following:
 - 1. Cut-back asphalt (rapid-curing type) conforming to AASHTO M81, Grade RC-70 or
 - 2. Emulsified asphalt rapid-setting type conforming to AASHTO M140, Grade RS-1.
- B. Bitumen shall be a rapid-setting type emulsified asphalt conforming to AASHTO M140, Grade RS-1.
- C. Bituminous crack sealer shall be a hot-applied bituminous sealer conforming to Fed. Spec. SS-S-1401.

PART 3 - EXECUTION**3.01 GRADING**

- A. Areas to be paved will be compacted and brought approximately to subgrade elevation before work of this Section is performed. Final fine grading, filling, and compaction of subgrade to receive paving, as required to form a firm, uniform, accurate, and unyielding subgrade at required elevations and to required lines, shall be done under this Section and Section 310000 - Earthwork.
- B. Existing subgrade material, which will not readily compact as required, shall be removed and replaced with satisfactory materials. Additional materials needed to bring subgrade to required line and grade (and to replace unsuitable material removed) shall be material conforming to this Section and Section 310000 – Earthwork.
- C. Subgrade of areas to be paved shall be re-compacted as required to bring top 8 inches of material immediately below bituminous concrete pavement to a compaction of at least 95% of maximum density, as determined by ASTM D 1557, Method D. Subgrade compaction shall extend for a distance of at least 1 foot beyond pavement edge.
- D. Excavation required in pavement subgrade shall be completed before fine grading and final compaction of subgrade are performed. Where excavation must be performed in completed subgrade or subbase subsequent backfill and compaction shall be performed as directed by the Designer/Landscape Architect. Completed subgrade after filling such areas shall be uniformly and properly graded.
- E. Areas being graded or compacted shall be kept shaped and drained during construction. Ruts greater than or equal to 2 inches deep in subgrade, shall be graded out, reshaped as required, and re-compacted before placing dense graded crushed stone base course materials and pavement.
- F. Materials shall not be stored or stockpiled on subgrade.
- G. Disposal of debris and other material excavated and/or stripped under this Section, and material unsuitable for or in excess of requirements for completing work of this Section shall be legally disposed off-site, unless otherwise directed by the Designer/Landscape Architect or Owner.
- H. Prepared subgrade will be inspected by the Designer/Landscape Architect. Subgrade shall be approved by the Designer/Landscape Architect before installation of bituminous concrete pavement. Disturbance to subgrade caused by inspection procedures shall be repaired under this Section of the specification.

3.02 BITUMINOUS PAVING

- A. Bituminous paving mixture, equipment, methods of mixing and placing, and precautions to be observed as to weather, condition of base, etc., shall conform to MHD Specifications Section 460 Class I Bituminous Concrete Pavement for roadway and parking areas and Section 701 Sidewalks, Wheelchair Ramps, and Driveways for sidewalks.
- B. Bituminous binder and surface courses shall each be applied individually, in single lifts of full thickness as indicated on the Drawings.
- C. Work shall not be performed during rainy weather or when temperature is less than 40 degrees Fahrenheit.
- D. Adjacent concrete work, etc., shall be protected from stain and damage during entire operation. Damaged and stained areas shall be replaced or repaired to equal their original condition.
- E. Deliveries shall be timed to permit spreading and rolling all material during daylight hours, unless artificial light, satisfactory to Designer/Landscape Architect, is provided. Loads which have been wet by rain or otherwise will not be accepted. Hauling over freshly laid or rolled material will not be permitted.
- F. Placing and rolling of mixture shall be as nearly continuous as possible. Rolling shall begin as soon

after placing as mixture will bear the operation without undue displacement. Delays in rolling freshly spread mixture will not be permitted. Rolling shall proceed longitudinally, starting at edge of newly placed material and proceeding toward previously rolled areas. Rolling overlap on successive strips shall be greater than or equal to $\frac{1}{2}$ width of roller rear wheel. Alternate trips of roller shall be of slightly different lengths. Corrections required in surface shall be made by removing or adding materials before rolling is complete. Skin patching of areas where rolling has been complete will not be permitted. Course shall be subjected to diagonal rolling, crossing lines of the first rolling while mixture is hot and in compactable condition. Displacement of mixture or other fault shall be corrected at once by use of rakes and application of fresh mixture or removal of mixture, as required. Rolling of each course shall be continued until roller marks are eliminated. Roller shall pass over unprotected edge of course only when paving is to be discontinued for sufficient time to permit mixture to become cold.

- G. In places not accessible to roller, mixture shall be compacted with hand tampers. Hand tampers shall weigh at least 50 lbs. and shall have a tamping face less than or equal to 100 square inches. Mechanical tampers capable of equal compaction will be acceptable in areas which they can be employed in the work.
- H. Portions of pavement courses which become mixed with foreign material or are in any way defective shall be removed, replaced, replaced with fresh mixture, and compacted to density of surrounding areas. Bituminous material spilled outside lines of finished pavement shall be immediately and completely removed and the areas restored. Such material shall not be employed in the work.
- I. Joints shall present same texture, density, and smoothness as other sections of the course. Continuous bond shall be obtained between portions of existing and new pavements between successive placements of new pavement. New material at joints shall be thick enough to allow for compaction when rolling. Compaction of pavement, base, and subgrade at joints shall be such that there is no yielding of new pavement relative to existing pavement when subjected to traffic.
- J. Contact surfaces of previously constructed pavement (if greater than or equal to seven days since binder placed), manholes, and similar structures shall be thoroughly cleaned and painted with a thin uniform coating of bitumen immediately before fresh mixture is placed. Tack coat shall be applied at rate which will leave asphaltic residue of 5 to 7 gal./100 sq. yd. after evaporation of vehicle. Base surface shall be dry and clean tack coat is applied. Bituminous paving material shall not be placed until vehicle has completely evaporated from tack coat. Adjoining new paving shall be placed before tack coat has dried or dusted over.
- K. Earth or other approved material shall be placed along pavement edges in such quantity as will compact to thickness of course being constructed, allowing at least 1 foot of shoulder width to be rolled and compacted simultaneously with rolling and compacting surface. Pavement edge shall be trimmed neatly to line before placing earth or other approved material along edge.
- L. After final rolling, vehicular traffic shall not be permitted on pavement until it has cooled and hardened, and in no case less than six hours.
- M. Variations in smoothness of finished surface shall be less than or equal to the following tolerances when tested with a 10 foot straightedge, applied both parallel to and at right angles to centerline of paved area.
 - 1. For walkway and roadway pavement surface courses – $\frac{1}{4}$ inch in 10 feet.
 - 2. At joint with existing pavement, and at other locations where an essentially flush transition is required, pavement elevation tolerance shall not exceed 0.01 feet.
 - 3. At other areas pavement elevation tolerance shall not exceed ± 0.05 feet.
 - 4. Irregularities exceeding these amounts, or which retain water on surface shall be corrected by removing defective work and replacing with new material conforming to this Specification.
- N. The Contractor shall check the final surface for depressions by applying water in the presences of the Designer/Landscape Architect. Minor depressions (less than $\frac{1}{8}$ " in depth) need not be corrected, however, in cases where the variation in the surface course exceeds $\frac{1}{8}$ ", the entire area affected shall be removed and replaced with new surface course at the expense of the

Contractor.

3.03 REPAIRS TO EXISTING PAVEMENT

- A. Subgrade shall be done in strict accordance with section 3.01, above.
- B. Bituminous concrete paving mixture, equipment, and methods of mixing and placing shall conform to MHD Specifications Section 472 for Bituminous Concrete for Patching, and section 3.02, above.

**- END OF SECTION 32 12 16 –
BITUMINOUS CONCRETE PAVING**

SECTION 32 13 13 - CONCRETE PAVING**PART 1 - GENERAL****1.01 GENERAL REQUIREMENTS**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 010000 - GENERAL REQUIREMENTS, which are hereby, made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements, which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 WORK INCLUDED

- A. Perform all work required to complete the work of the Section, as indicated. Such work includes, but is not limited to, the following:
 - 1. Cement concrete pavement at walkways, plazas, bench pads, and all areas shown on the Drawings.

1.03 RELATED WORK UNDER OTHER SECTIONS

- A. Bituminous Concrete Paving
- B. Earthwork
- C. Granite Curb
- D. Site Furnishings
- E. Storm Drainage System

1.04 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirement shall govern.
- B. American Society for Testing and Materials (ASTM):
 - A 185 Welded Steel Wire Fabric for Concrete Reinforcement
 - C 33 Concrete Aggregates
 - C 91 Masonry Cement
 - C 94 Ready-Mix Concrete
 - C 143 Slump of Cement Concrete
 - C 150 Portland Cement
 - C 171 Sheet Materials for Curing Concrete
 - C 231 Air Content of Freshly Mixed Concrete by the Pressure Method
 - C 260 Air Entraining Admixtures for Concrete
 - C 309 Liquid Membrane-Forming Compounds for Curing Concrete
 - C 494 Chemical Admixtures for Concrete
 - D 1557 Moisture – Density Relations of Soils and Soil Aggregate Mixtures Using 10 lbs. (4.54-kg) Rammer and 18-in. (457 mm) Drop.
 - D 1752 Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
- C. Massachusetts Highway Department Standard Specifications for Highways and Bridges (MHD Specifications).
- D. Americans with Disabilities Act (ADA) Appendix to Part 1191 Accessibility Guidelines for Building and Facilities.
- E. Massachusetts Architectural Access Board (MAAB).

1.05 QUALITY ASSURANCE

- A. Unless otherwise specified, work and materials for construction of the cast-in-place concrete paving shall conform to ACI 316R.
- B. Paving work, base course, etc., shall be done only after excavation and construction work, which might injure them, has been completed. Damage caused during construction shall be repaired before acceptance.
- C. Existing paving areas shall, if damaged or removed during course of the project, be repaired or replaced under this Section of the specification. Workmanship and materials for such repair and replacement, except as otherwise noted, shall match as closely as possible those employed in existing work.
- D. Pavement, base, or subbase shall not be placed on a muddy or frozen subgrade.
- E. The Owner reserves the right to retain an independent testing laboratory to perform inspection and testing of paving and associated work.

1.06 SUBMITTALS

- A. Submit manufacturer's product data for the following:
 - 1. Concrete job mix formula and any additives.
 - 2. Prefomed joint filler.
- B. Submit samples of the following:
 - 1. Minimum 6' x 6' sample panel showing expansion joints, tooling and finish.
 - 2. Prefomed joint filler.
 - 3. 12" x 12" Pedestrian Warning Strip Paver.

1.1 QUALITY ASSURANCE

- A. Source: For each type of product required for the work of this Section, provide products of one manufacturer and source for consistency.
- B. Codes and Standards: work in compliance with applicable requirements of governing authorities having jurisdiction. Workmanship and finish shall be equal to the best practice of modern shops for each item of work.
- C. Qualifications of Workers: Use adequate numbers of skilled workers who are trained in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.
- D. The work of this Section shall be completely coordinated with the work of other Sections. Verify dimensions and work of other trades that adjoin materials of this Section before installing items specified.
- E. Unless otherwise specified, work and materials for construction of the Portland cement concrete paving shall conform to ACI 316R.
- F. Paving work, base course etc., shall be done only after excavation and construction work which might injure them have been completed. Damage caused during construction shall be repaired before acceptance.
- G. Existing paving areas shall, if damaged or removed during course of this project, be repaired or replaced under this section of the specification. Workmanship and materials for such repair and replacement, except as otherwise noted, shall match as closely as possible those employed in existing work.
- H. Pavement, base, or sub-base shall not be placed on a muddy or frozen sub-grade.
- I. The Owner reserves the right to retain an independent testing laboratory to perform inspection and testing of paving and associated work in accordance with the QUALITY CONTROL section of this specification.

1.2 ACCESSIBILITY COMPLIANCE

- A. Special attention is to be given to compliance with the Americans with Disabilities Act (ADA) and the requirements of the Massachusetts Architectural Access Board (MAAB).
1. Slopes: The cross pitch (perpendicular to travel) for walkways shall be constructed at 1.5% (2% maximum, 1% minimum). The longitudinal slope (parallel to travel) for walkways shall not exceed 4.5%. The slope of handicapped curb cuts shall be constructed at 7% (8% maximum).
 2. Verify slopes with a 2-foot electronic "Smart Level". Pedestrian pavements that do not meet these requirements shall be replaced at the Contractor's expense.
 3. A 5'-0" minimum level (1.5% pitch) area shall be provided at entrances to buildings, which are at an exterior grade continuous with the interior floor grade. Puddling of water at the entrances shall not be allowed.
- B. These requirements supersede the grades shown on the plans. If these requirements cannot be met with the grades shown on the plans, notify the immediately for direction.
- C. The location and construction of handicapped curb cuts shall be reviewed and approved by the Municipal Engineer prior to construction.

1.07 TESTING AND INSPECTION

- A. The Owner reserves the right to have tests made on mortar materials and mortar, at his option, as the job progresses. A recognized Testing Laboratory, selected by the, with all costs paid by the Owner, will perform tests. The Contractor shall agree to abide by the results of the tests; he shall make all adjustments and changes to mortar and materials to meet the specification requirements at no additional cost to the Owner.
- B. Notwithstanding, Contractor to perform his own testing and results to be provided to and Owner.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver manufactured products in manufacturer's original, unopened, and undamaged containers with labels intact and legible.
- B. Store and handle manufactured products to prevent damage and deterioration.

PART 2 - PRODUCTS**2.01 COMPACTED DENSE GRADED CRUSHED STONE BASE COURSE**

- A. Refer to Section 310000 - Earthwork.

2.02 STEEL REINFORCEMENT

- A. Reinforcing bars shall consist of #4 deformed bars unless otherwise specified. The bars shall be rolled from new billet steel conforming to the requirements of ASHTO-M31, Grade 60.
- B. Welded wire fabric reinforcement shall conform to the applicable requirements of ASTM A 185. Fabric reinforcement shall be furnished in flat sheets. Fabric reinforcement in rolls will not be permitted.

2.03 PORTLAND CEMENT CONCRETE

- A. Portland cement concrete for pavements and slabs shall be air-entrained type with a maximum water-cement ratio of 5.0 conforming to ACI 316R. Minimum compressive strengths at 28 days shall be as follows: Flexural strength with third point loading - 650 psi; compressive strength - 4000 psi.
1. Concrete shall be air-entrained type, conforming to ASTM C 94. Air content by volume

- shall be 6% +/- 1%, and shall be tested in accordance with ASTM C 231.
2. Concrete slump shall be no less than 2 in. nor greater than 4 in., determined in accordance with ASTM C 143.
 3. Cement shall be Portland cement, conforming to ASTM C 150, Type I or II. Only one color of cement, all of the same manufacturer, shall be used for the work. Type III cement shall be used only with the prior approval of the Designer/Landscape Architect
 4. Fine and coarse aggregates shall conform to ASTM C 33.
 5. Concrete shall contain a water reducing agent to minimize cement and water content of the concrete mix at the specified slump. Water reducing agent shall conform to ASTM C 494.
 6. No calcium chloride or admixtures containing calcium chloride shall be added to the concrete. No admixtures other than those specified shall be used in the concrete without the specific written permission of the in each case.

2.04 CURING MATERIALS

- A. Curing shall be by moist curing or by use of curing compound.
- B. Curing paper shall be non-staining, fiber reinforced laminated kraft bituminous product conforming to ASTM C 171. Four mil polyethylene sheeting may be substituted for curing paper.
- C. Curing compound shall be a resin-base, white pigmented compound conforming to ASTM C 309, Type 2.

2.05 EXPANSION JOINTS

- A. Unless otherwise indicated on the Drawings, expansion joints shall be located 30' on center, maximum.
- B. Expansion joint filler shall be preformed, non-bituminous type joint filler conforming to ASTM D 1752, Type II, similar to Sealtight Cork Expansion Joint Filler, manufactured by W.R. Meadows, Inc., Elgin, IL 60120, or approved equal.
 1. Premolded filler shall be one piece for the full depth and width of the joint leaving a sealant recess as recommended by the manufacturer.
 2. Use of multiple pieces of lesser dimensions to make up required depth and width of joints will not be permitted.
 3. Except as otherwise noted on the Drawings, joint filler shall be 1/2" thick.
- C. Expansion joints shall receive joint backer rod and shall be sealed with approved self leveling joint sealant.

2.06 CONTROL JOINTS

- A. Control joints shall be installed per the Drawings.

2.07 CONSTRUCTION JOINTS

- A. Transverse construction joints shall be placed whenever placing of concrete is suspended for more than 30 minutes.
 1. Butt joint with dowels or thickened edge joint shall be used if construction joints occur at a location of a control joint.
 2. Keyed joints with tiebars shall be used if the construction joint occurs at any other location.

2.08 GROUT

- A. Grout shall be mixed in the proportions of one part Portland cement to two parts sand, by volume. Only sufficient water shall be used to enable grout to barely hold its shape when squeezed into a ball in the hand. Sand for grout shall be "Fine Aggregate", conforming to ASTM C 33.
- B. Nonshrink grout shall be pre-mixed non-shrinking, high strength grout. Compressive strength in 28

days shall be 5,000 psi minimum, but in no case less than the specified strength of the adjacent concrete. Manufacturer shall provide evidence that the material meets the requirements of the COE CRDC 621 (558). Grout permanently exposed to view shall be nonoxidizing; metallic grout may be used in other locations.

1. Nonshrink grout shall be one of the following, or approved equal:

<u>Manufacturer</u>	<u>Product</u>
Gifford-Hill Co.	Supreme
Master Builders Co.	Embeco
U.S. Grout Corporation	Five Star Grout

2.09 BOND BREAKER

- A. Bond breaker shall be asphalt felt conforming to ASTM D 226, Type I or 6 mil polyethylene sheeting.

2.10 TACTILE WARNING STRIPS

- A. Tactile warning strips for pedestrian curb cuts to be constructed with 24" x 24" x 2" Precast Concrete Detectable Warning Pavers as manufactured by Hanover Pavers, 5000 Hanover Rd, Hanover PA 17331. (717) 637-0500. www.hanoverpavers.com.
 1. Color to be "Charcoal"
 2. Submit Sample for approval.

PART 3 - EXECUTION

3.01 PREPARATION OF SUBGRADE

- A. Areas to be paved will be compacted and brought to subgrade elevation under Section 310000 – Earthwork before work of this section is performed. Final fine grading, filling, and compaction of areas to receive paving, as required to form a firm, uniform, accurate, and unyielding subgrade at required elevations and to required lines, shall be done under this Section.
- B. Existing subgrade material, which will not readily compact as required, shall be removed and replaced with satisfactory materials. Additional materials needed to bring subgrade to required line and grade and to replace unsuitable material removed shall be material conforming to this Section.
- C. Subgrade of areas to be paved shall be re-compacted as required to bring top 8 in. of material immediately below gravel base course to a compaction at optimum moisture of at least 95% of maximum density, as determined by ASTM D 1557. Subgrade compaction shall extend for a distance of at least 1 ft. beyond pavement edge.
- D. Excavation required in pavement subgrade shall be completed before fine grading and final compaction of subgrade are performed. Where excavation must be performed in completed subgrade, subbase, base, or pavement, subsequent backfill and compaction shall be performed as directed by the as specified in Section 310000 - Earthwork. Completed subgrade after filling such areas shall be uniformly and properly graded.
- E. Areas being graded or compacted shall be kept shaped and drained during construction. Ruts greater than or equal to 2 in. deep in subgrade, shall be graded out, reshaped as required, and re-compacted before placing pavement.
- F. Materials shall not be stored or stockpiled on subgrade.
- G. Disposal of debris and other material excavated under this section, and material unsuitable for or in excess of requirements for completing work of this section shall be disposed of off-site.
- H. Prepared subgrade will be observed by the prior to installation of compacted dense graded crushed stone base course. Disturbance to subgrade caused by inspection procedures shall be repaired

under this section of the specification.

- I. Install polyethylene vapor barrier prior to placement of any steel reinforcing, and after subgrade has been installed and compacted, including any dense graded crushed stone base course.

3.02 COMPACTED DENSE GRADED CRUSHED STONE BASE COURSE

- A. Refer to Section 310000 – Earthwork.

3.03 STEEL REINFORCEMENT

- A. Before being placed in position, reinforcing for reinforced concrete shall be thoroughly cleaned of loose mill and rust scale, dirt, ice, and other foreign material that may reduce the bond between the concrete and reinforcing. Where there is delay in placing concrete after reinforcing is in place, bars shall be re-inspected and cleaned when necessary.
- B. Unless otherwise indicated on the Drawings, reinforcing shall extend within 2 in. of formwork and expansion joints. Reinforcing shall continue through control joints.
- C. After forms have been coated with form release agent, but before concrete is placed, reinforcing steel shall be securely wired in the exact position called for, and shall be maintained in that position until concrete is placed and compacted. Chair bars and supports shall be provided in a number and arrangement satisfactory to the .

3.04 PORTLAND CEMENT CONCRETE PAVING

- A. Paving mix, equipment, methods of mixing and placing, and precautions to be observed as to weather, condition of base etc., shall meet the requirements of ACI 316R. Pavement shall be constructed in accordance with the Drawings.
- B. The Designer/ Landscape Architect shall be notified of concrete placement sufficiently in advance of start of operation to allow his representative to complete preliminary inspection of the work, including subgrade, forms, and reinforcing steel, if used.
- C. Normal concrete placement procedures shall be followed. Concrete shall arrive at the jobsite so that no additional water will be required to produce the desired slump. When conditions develop that required addition of water to produce the desired slump, permission of the Designer/Landscape Architect must be obtained. The concrete shall be transported from the mixer to its place of deposit by a method that will prevent segregation or loss of material.
- D. Work shall not be performed during rainy weather or when temperature is less than 40°F. (4.4°C).
- E. Adjacent work, etc., shall be protected from stain and damage during entire operation. Damaged and stained areas shall be replaced or repaired to equal their original conditions.
- F. Existing concrete, earth, and other water-permeable material against which new concrete is to be placed shall thoroughly damp when concrete is placed. There shall be no free water on surface.
- G. Concrete that has set or partially set before placing shall not be employed. Re-tempering of concrete will not be permitted.
- H. Concrete shall be thoroughly spaded and tamped to secure a solid and homogeneous mass, thoroughly worked around reinforcement and into corners of forms.
- J. When joining fresh concrete to concrete which has attained full set, latter shall be cleaned of foreign matter, and mortar scum and laitance shall be removed by chipping and washing. Clean, roughened base surface shall be saturated with water, but shall have no free water on surface. A coat of 1:1 cement-sand grout, approximately 1/8 in. thick, shall be well scrubbed into thoroughly dampened concrete base. New concrete shall be placed immediately, before grout has dried or set.

3.05 FINISHING

- A. Concrete flatwork surfaces shall be screeded off and finished true to line and grade, and free of hollows and bumps. Surface shall be dense, smooth, and at exact level and slope required.
 - 1. Finished concrete surface for concrete pads shall be wood-floated and steel troweled to a smooth surface. Surface shall not deviate more than 1/8 in. in 10 ft.
- B. Unless otherwise indicated, horizontal surfaces of concrete surfaces that will be exposed shall be given a light broomed finish, with direction of grooves in concrete surface perpendicular to length of concrete band, slab, or pad. After concrete has set sufficiently to prevent coarse aggregate from being torn from surface, but before it has completely set, brooms shall be drawn across it to produce a pattern of small parallel grooves. Broomed surface shall be uniform, with no smooth, unduly rough or porous spots, or other irregularities. Brooming operations shall not dislodge coarse aggregate.
- C. Where finishing is performed before end of curing period, concrete shall not be permitted to dry out, and shall be kept continuously moist from time of placing until end of curing period, or until curing membrane is applied.

3.06 CURING

- A. It is essential that concrete be kept continuously damp from time of placement until end of specified curing period. It is equally essential that water not be added to surface during floating and troweling operations, and not earlier than 24 hours after concrete placement. Between finishing operations surface shall be protected from rapid drying by a covering of waterproofing paper. Surface shall be damp when the covering is placed over it, and shall be kept damp by means of a fog spray of water, applied as often as necessary to prevent drying, but not sooner than 24 hours after placing concrete. None of the water so applied shall be troweled or floated into surface.
- B. Concrete surfaces shall be cured by completely covering with curing paper or application of a curing compound.
 - 1. Concrete cured using waterproof paper shall be completely covered with paper with seams lapped and sealed with tape. Concrete surface shall not be allowed to become moistened between 24 and 36 hours after placing concrete. During curing period surface shall be checked frequently, and sprayed with water as often as necessary to prevent drying, but not earlier than 24 hours after placing concrete.
 - 2. If concrete is cured with a curing compound, compound shall be applied at a rate of 200 sq. ft. per gallon, in two applications perpendicular to each other.
 - 3. Curing period shall be seven days minimum.

3.07 COLD WEATHER CONCRETING

- A. Materials for concrete shall be heated when concrete is mixed, placed, or cured when the mean daily temperature is below 40 degrees F. or is expected to fall to below 40 degrees F. within 72 hours, and the concrete after placing shall be protected by covering, heat, or both.
- B. Details of handling and protecting of concrete during freezing weather shall be subject to the approval and direction of the . Procedures shall be in accordance with provisions of ACI 306R.

3.08 HOT WEATHER CONCRETING

- A. Concrete just placed shall be protected from the direct rays of the sun and the forms and reinforcement just prior to placing shall be sprinkled with cold water. Every effort shall be made to minimize delays which will result in excessive mixing of the concrete after arrival on the job.
- B. During periods of excessively hot weather (95 degrees F, or above), ingredients in the concrete shall be cooled insofar as possible and cold mixing water shall be used to maintain the temperature of the concrete at permissible levels all in accordance with the provisions of ACI 305. Any concrete with a temperature above 95 degrees F, when ready for placement will not be acceptable, and will be rejected.
- C. Temperature records shall be maintained throughout the period of hot weather giving air

temperature, general weather conditions (calm, windy, clear, cloudy, etc.) and relative humidity. Records shall include checks on temperature of concrete as delivered and after placing in forms. Data should be correlated with the progress of the work so that conditions surrounding the construction of any part of the structure can be ascertained.

3.09 PROTECTION OF CONCRETE SURFACES

- A. Concrete surfaces shall be protected from traffic or damage until surfaces have hardened sufficiently. If necessary 1/2 in. thick plywood sheets shall be used to protect the exposed surface.

3.10 TACTILE WARNING PANELS

- A. Install truncated dome tactile warning panels per details.

**- END OF SECTION 32 13 13 –
CONCRETE PAVING**

SECTION 32 14 13 – BRICK & GRANITE PAVMT.**PART 1 - GENERAL****1.01 GENERAL REQUIREMENTS**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 010000 – GENERAL REQUIREMENTS, which are hereby, made a part of this Section of the Specifications.
- B. Examine all Drawings and other Sections of the Specifications for requirements therein affecting the work of this Section whether or not such work is specifically mentioned in this Section.
- C. This Section contains information that applies to all work performed under the Contract and is hereby made a part of each specification section.

1.02 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Brick Pavers.
 - 2. Dimensional Granite Pavers.
 - 3. Truncated Dome Concrete Paver.
 - 4. Sand Setting Bed.
 - 5. Aggregate Base Course

1.03 RELATED WORK

- A. Other specifications sections which directly relate to the work of this section include, but are not limited to, the following:
 - 1. Earthwork
 - 2. Concrete Pavement
 - 3. Bituminous Concrete Pavement
 - 4. Site Furnishings
 - 5. Loam and Seed/Sod
 - 6. Planting

1.04 SUBMITTALS

- A. Manufacturer's Product Data: Manufacturer's product data shall be submitted for each type of product specified.
- B. Samples:
 - 1. Brick Pavers: Submit a minimum of five individual Brick pavers, showing extreme variations in color and texture.
 - 2. Dimensional Granite: submit 12" x 12" sample of each type of granite proposed, and for each type of finish proposed.
 - 3. Truncated Dome Paver: submit 12" x 12" sample paver of color and finish specified.
 - 4. Sand: Submit a 1 lb. bag.
 - 5. Joint filler. Submit MFR's Product Data
 - 6. Polymer reinforced Mortar and Grout, Submit MFR's Product Data
- C. Testing for Brick Pavers:
 - 1. Requirements for Brick Pavers shall conform to ASTM C 902 for Pedestrian and Light Traffic Paving Brick.
 - 2. Test report shall show compliance with the following criteria:
 - a. Min. Compressive strength: 8,000 psi.
 - b. Max. Cold Water Absorption: 8%.
 - c. Max. Saturation Coefficient: 0.78.
 - d. Max. abrasion index: 0.11.
- D. Shop drawings shall be submitted for Granite Pavers
 - 1. The size, finish, layout, pattern and relationship of paving joints to fixtures and project formed details shall be indicated on the Shop Drawings.
- E. Testing for Truncated Dome Pavers:
 - 1. Testing shall be done by an independent testing laboratory. Test procedures shall conform to ASTM C 936 methods, where applicable.

2. Test report shall indicate, as a minimum, the following:
 - a. Compressive strength, psi.
 - b. Absorption, 5 hr. submersion in cold water.
 - c. Absorption, 24 hr. submersion in cold water.
 - d. Maximum saturation coefficient.
 - e. Initial rate of absorption (suction).
 - f. Abrasion index.
 - g. Freeze-thaw.

1.05 QUALITY ASSURANCE

- A. Sample Panel: Construct a sample panel of each type of unit paving on the specified base and setting bed before start of any unit paver work.
 1. Sample panel shall exhibit proposed color range, texture, bond, jointing, pattern, and workmanship.
 2. Size of panel shall be 6 ft. x 6 ft., minimum.
 3. The Designer/Landscape Architect shall observe the sample panel. If the sample is not acceptable, construct additional panels at no cost to the Owner until an acceptable panel is constructed. Accepted panel shall become the standard for the entire job, and shall remain undisturbed until completion of all work.
- B. A Contractor or Subcontractor and crew with at least 3 years of experience in placing Brick pavers on projects of similar size and scope shall perform installation.
- C. The Contractor shall conform to all local, state and federal codes.

1.06 ACCESSIBILITY COMPLIANCE

- A. Special attention is to be given to compliance with the Americans with Disabilities Act (ADA) and the requirements of the Massachusetts Architectural Access Board (MAAB).
 1. Slopes: The cross pitch (perpendicular to travel) for walkways shall be constructed at 1.5% (2% maximum, 1% minimum). The longitudinal slope (parallel to travel) for walkways shall not exceed 4.5%. The slope of handicapped curb cuts shall be constructed at 7% (8% maximum).
 2. Verify slopes with a 2-foot electronic "Smart Level". Pedestrian pavements that do not meet these requirements shall be replaced at the Contractor's expense.
 3. A 5'-0" minimum level (1.5% pitch) area shall be provided at entrances to buildings, which are at an exterior grade continuous with the interior floor grade. Puddling of water at the entrances shall not be allowed.
- B. These requirements supersede the grades shown on the plans. If these requirements cannot be met with the grades shown on the plans, notify the Designer/Landscape Architect immediately for direction.
- C. The location and construction of handicapped curb cuts shall be reviewed and approved by the Designer/Landscape Architect prior to construction.

1.07 PROJECT CONDITIONS

- A. Protection: The Contractor shall use all means necessary to protect the materials of this Section before, during and after installation. In the event of damage, make all repairs and replacements necessary to approval of the Designer/Landscape Architect and at no additional cost to the Owner. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving to remain, existing plant materials, and adjoining properties.
- B. The Contractor shall remove all debris, construction equipment and waste material from areas within the limit of work prior to inspection for acceptance.
- C. The Drawings indicate, in general, the alignment and finished grade elevations. The Designer/Landscape Architect, however, may make minor adjustments in grades and alignments as are found necessary.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Brick, Granite and Concrete Pavers shall be carefully packed by the supplier for shipment in steel banded, plastic banded or plastic wrapped cubes capable of transfer by fork lift or clamp lift. The pavers shall be unloaded at the job site in such a manner that no damage occurs to the product.
- B. Pavers shall be stored off the ground and protected against staining and other damage.
- C. Bedding and joint sand shall be protected and covered with a secure waterproof covering to prevent exposure to rainfall, site water, contaminant or removal by wind.

- D. Pavers, bedding sand or joint sand damaged in any manner will be rejected and replaced with new materials at no additional cost to the Owner.

1.09 ENVIRONMENTAL CONDITIONS

- A. Do not install bedding sand, Joint Sand or Pavers during heavy rainfall or snowfall.
- B. Do not install bedding sand or unit pavers over frozen base material. Do not install frozen bedding or joint sand.

PART 2 - PRODUCTS

2.01 BRICK PAVERS

- A. Brick Pavers: Provide City Hall Paving Brick as manufactured by Stiles and Hart Brick Company, P.O. Box 367, Bridgewater, MA 02324; 800.320.8700; www.stilesandhart.com.
 - a. Size is: 4" X 8"
 - b. Thickness: 2"

2.02 GRANITE PAVERS

- A. Granite for PAVERS shall be "Woodbury Gray" granite a light grey granite as available from Swenson Granite, www.swensongraite.com. OR APPROVED EQUAL
 - 1. Granite shall be structurally sound, free from all defects and seams, cosmetic or otherwise.
 - 2. Thickness of granite shall be 2"
 - 3. Finish shall be a THERMAL FINISH on pavement surface, and SAWN on all other faces, as indicated in drawings.
 - 4. Provide shop drawings for review and approval.

2.03 TRUCATED DOME PAVERS

- A. 24" x 24" x 2" Detectable Warning Paver, as manufactured by Hanover Architectural Products, 5000 Hanover Rd, Hanover, PA 17331; 717.637.0500; www.hanoverpavers.com.
 - 1. Color shall be Charcoal; Finish is Tudor
 - 2. An integrally colored concrete paver with a compressive strength of 8,000 psi; Flexural strength of 1,100 psi; Density of 155 lbs./cu ft; Absorption Rate less than 4%

2.04 COMPACTED DENSE GRADED CRUSHED STONE

- A. Refer to Section 310000 – Earthwork.

2.05 SAND SETTING BED

- A. Sand for bedding shall be a clean, non-plastic washed concrete sand free from deleterious materials conforming to ASTM C 33 and as shown in the Table below. Do not use mason sand, limestone screenings or stone dust for setting pavers.

Sieve Size	Percent Passing
3/8 in. (9.5 mm)	100
No. 4 (4.75 mm)	95 to 100
No. 8 (2.36 mm)	85 to 100
No. 16 (1.18 mm)	50 to 85
No. 30 (600 µm)	25 to 60
No. 50 (300 µm)	10 to 30
No. 100 (150 µm)	2 to 10

- B. Sand shall be supplied from a single source.

2.06 JOINT FILLERS

- A. Polymeric Sand for joint filler shall be "Dominator" polymeric sand as manufactured by Black Diamond Coatings, 6063 Nature Coast Blvd, Brooksville FL 34602; www.blackdiamondcoatings.com; OR APPROVED EQUAL
 - 1. Color shall be Camel Brown.
 - 2. Install per manufacturer's recommendations.

3. Submit brochure with full range of colors for approval by Designer

2.07 POLYMER REINFORCED MORTAR AND GROUT

- A. Mortar and Grout for wet setting Truncated Domes Pavers on Concrete HC Ramps shall be Laticrete 3701 Fortified Mortar and PermaColor Select Grout, as manufactured by Laticrete, One Park North, Bethany CT 06524; 203.393.0010; www.laticrete.com.
 1. Grout Color shall be dark Grey.
 2. Provide brochure with full range of color samples.
 3. Use as directed by manufacturer.

2.08 ALUMINUM EDGING

- A. Product: Permaloc Asphalt Edge, 3" deep x 3" high x 8 feet (2.44 meters) long, extruded aluminum, alloy 6005, T-5 hardness as manufactured by Permaloc Corporation, Holland MI 49424, telephone (800) 356-9660; www.permaloc.com. Horizontal base to have upward facing angle profile designed to integrate restraint and restrained materials for straight-line and curvilinear applications. Section shall have holes in base spaced 4 inches (102 mm) apart along its length to receive anchors.
- B. Connection Method: Section ends shall splice together with horizontal 0.060 inch (1.52 mm) thick x 1 inch (25 mm) wide, or 0.530 inch (13.5 mm) wide for 1 inch (25 mm) high edging x 4 inches (102 mm) long aluminum sliding connector.
- C. Anchors: 3/8 inch x 10 inches (9.5 mm x 254 mm) bright spiral steel spike, **spaced 8" O.C.**
- D. Finish: Natural Mill Aluminum

PART 3 - EXECUTION

3.01 ACCEPTABILITY OF BASE

- A. The Contractor and his Subcontractors shall inspect all subbases for unstable, unsuitable or improperly prepared areas. Do not begin work over unacceptable areas. Beginning work means the Contractor and his Subcontractors accept the subbase, previous work and conditions and shall be held responsible for any corrections required to properly implement the Construction Documents.
- B. Refer to Section 310000 – Earthwork.

3.02 COMPACTED DENSE GRADED CRUSHED STONE

- A. Refer to Section 310000 – Earthwork.

3.03 SAND SETTING BED

- A. Bedding sand shall be screeded to a compacted depth as shown on the details but in no case more than 1-1/2". Do not use sand to fill depressions in the base material.

3.04 SETTING BRICK PAVERS

- A. Brick pavers shall be set on the compacted setting bed as detailed or specified herein. Competent masons, under adequate supervision, shall perform setting of all unit pavers.
- B. Brick pavers shall be set true to the required lines and grades and pattern indicated on the Drawings. Brick pavers shall be neatly cut and fitted at all perimeters and closures to fit neatly and closely, with joints uniform in thickness. Brick pavers shall be cut with a water-cooled, cut-off wheel masonry saw using a diamond blade.
- C. The finished surface shall not deviate more than 1/4" in 10'-0" under a straight edge.

3.05 JOINT TREATMENT

- A. Joints between pavers shall be aligned and shall be uniform in thickness. Joint thickness shall not exceed 3/8 in.
- B. Polymeric Sand joint filler shall be swept dry into the joints between pavers until the joints are completely filled. Surface shall be swept clean. Swept surface shall then be thoroughly dampened with a low volume fine spray of water, per manufacturer's instructions to avoid polymer film residue on surface of pavers.
- C. Polymer film residue on brick surface is unacceptable.

3.06 PROTECTION OF FINISHED SURFACES

- A. Finished surfaces adjacent to the unit paving work shall be adequately protected from soiling, staining, and other damage during construction.

END OF SECTION

SECTION 32 16 13 - GRANITE CURBS

PART 1 – GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements that affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with trades affecting, or affected by, work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 SUMMARY

- A. Provide all labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Granite curbs, vertically, transitionally, and flush set.
 - 2. Resetting existing granite curbs

1.03 REFERENCES

- A. Work shall conform to codes and standards of the following:
 - 1. ASTM - American Society for Testing and Materials.
 - 2. Massachusetts Highway Department Standard Specifications for Highways and Bridges (MHD Specifications).

1.04 SUBMITTALS

- A. Shop Drawings: Supply shop drawings at an approved scale for location, installation and erection of all parts of the work under this section including but not limited to the following items:
 - 1. Granite Curb

1.05 QUALITY ASSURANCE

- A. Unless otherwise indicated, granite curb materials and construction shall conform to the applicable portions of the following:
 - 1. MHD Specification Section 500, "Curb and Edging".
- B. Curb Layout: After staking and performing layout for the curb work, and before beginning curb installation, obtain the Designer/Landscape Architect's approval of layout. Contractor shall make minor adjustments as determined by the Designer/Landscape Architect.
- C. Suitability of Sub-base: The Contractor and his Subcontractors shall inspect all subbases for unstable, unsuitable or improperly prepared areas. Do not begin work over unacceptable areas. Beginning work means the Contractor and his Subcontractors accept the subbase, previous work and conditions and shall be held responsible for any corrections required to properly implement the Construction Documents.
- D. Suitability of Existing Granite Curb: The Contractor, his Subcontractors, the Landscape Architect and the Designer/Landscape Architect shall inspect existing granite curbs for suitability for resetting. Broken, chipped, or otherwise damaged curbs shall be replaced with new granite curb unless otherwise directed by the Landscape Architect and the Designer/Landscape Architect.

- E. All granite shall be obtained from quarries having adequate capacity and facilities to meet the specified requirements. Cutting and finishing shall be done by a firm equipped to process the material promptly on order and in strict accord with specifications.

1.06 PROJECT CONDITIONS

- A. Protection: The Contractor shall use all means necessary to protect the materials of this Section before, during and after installation. In the event of damage, make all repairs and replacements necessary to approval of the Designer/Landscape Architect and at no additional cost to the Owner. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving to remain, existing plant materials, and adjoining properties.
- B. The Contractor shall remove all debris, construction equipment and waste material from areas within the limit of work prior to inspection for acceptance.
- C. The Drawings indicate, in general, the alignment and finished grade elevations. The Designer/Landscape Architect, however, may make minor adjustments in grades and alignment as are found necessary.
- D. Salvage Existing Curb: Maximum reuse shall be made in the new work of existing granite curbing which is removed and stockpiled. Additional granite curbing shall be provided by the Contractor. Coordination and use of additional granite curbing to be responsibility of the Contractor. Existing curb to be reused shall be reset in accordance with the requirements of this Section.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products and supplies to the job adequately protected from damage during transit.
- B. Store products and supplies off the ground with wood cribbing between each unit. Curb shall be protected against staining, chipping, and other damage. Cracked, badly chipped, or stained units will be rejected and shall not be employed in the work.

1.08 SUBMITTALS

- A. Shop Drawings: Supply shop drawings at an approved scale for location, installation and erection of all parts of the work under this section including but not limited to the following items:
 - 1. Granite Curbs
- B. Shop drawings shall accurately show the dimensions, sections and jointing of all granite work.
- C. Samples: Supply sample for approval of granite color(s) and finish(es).

PART 2 – PRODUCTS

2.01 GRANITE CURBING

- A. Granite shall be a structural granite conforming to ASTM C 615, Class I Engineering Grade, suitable for curbstone use.
 - 1. Curb shall be light grey, free from seams which impair structural integrity, and with percentage of wear less than 32%, as determined by ASTM C 131.
- B. Curb materials shall conform to MHD Specifications Section M9.04.0 and shall meet requirements specified in the following subsection of Division III, Materials of the MHD Specifications:

Item	Section	Type
Granite Curb	M9.04.1 VA4	
Granite Curb Corners	M9.04.6	

2.02 CEMENT MORTAR

- A. Mortar for pointing joints between curbstones shall be a cement mortar composed of one part Portland cement and two parts sand, by volume with sufficient water to form a workable, stiff mixture.

2.03 CONCRETE

- A. Concrete for foundation at granite curb shall conform to MHD Specifications Section M4.00.0, 4000 psi, 1-1/2 in., 565 (Class A).

PART 3 – EXECUTION

3.01 SETTING CURB

- A. Set curb in accordance with MHD Specifications Section 501 and approved Shop Drawings.
- B. Set curb with continuous concrete setting bed.
- C. Vertical face of vertical curb shall be plumb, with curb top parallel to adjacent surface.
- D. Set curb accurately to line and grade. Fit curb units together as closely as possible. Do not field cut curbs.
- E. Joints between curb units shall be carefully filled with a cement mortar, and neatly pointed on the top and front exposed portions. After pointing excess mortar shall be cleaned from curb surface.
- F. Backfill material on each side of curb shall be as specified for adjacent surface and shall be thoroughly compacted by means of power tampers. Extreme care shall be taken not to destroy alignment. Curb sections disturbed during backfilling or otherwise shall be reset to line and grade, and properly backfilled.

**- END OF SECTION 31 16 13 -
GRANITE CURBS**

SECTION 32 17 23 - PAVEMENT MARKINGS**PART 1 - GENERAL****1.01 GENERAL REQUIREMENTS**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 010000 – GENERAL REQUIREMENTS, which are hereby, made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements that affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with trades affecting, or affected by, work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 WORK INCLUDED

- A. Perform all work required to complete the work of the Section, as indicated. Such work includes, but is not limited to, the following:
 - 1. Roadway and Parking Striping and Marking.

1.03 RELATED WORK UNDER OTHER SECTIONS

- A. Bituminous Concrete Paving

1.04 REFERENCES

- A. Work shall conform to codes and standards of the following:
 - 1. Massachusetts Highway Department Standard Specifications for Highways and Bridges (MHD Specifications), 1988 Edition.
 - 2. U.S. Department of Transportation Federal Highway Administration "Manual on Uniform Traffic Control Devices", 1988 Edition.
 - 3. AAB and ADA Regulations for all handicap parking.

1.05 SUBMITTALS

- A. Product Data: Submit suppliers' certificate of conformance.
- B. Test Reports: Submit test reports for required performance.
- C. Layout: Furnish layout computations.

1.06 QUALITY ASSURANCE

- A. Source: Provide the products of one manufacturer and source for consistency.
- B. Standards: Conform to all requirements of the U.S. Department of Transportation Federal Highway Administration "Manual on Uniform Traffic Control Devices", 1988 Edition (herein after referred to as MUTCD), together with all issued errata, addenda, additions, revisions and supplemental specifications. Conform to all requirements of the latest ADA standards for handicap parking.

1.07 LAYOUT OF WORK

- A. The Contractor shall furnish to the Landscape Architect/Designer for approval a schedule of pavement marking operations in accordance with MHD Specifications Section 860.61.

1.08 TRAFFIC CONTROL

- A. Suitable warning signs shall be placed near the beginning of the work site and well ahead of the work site for alerting approaching traffic from both directions.

- B. Place traffic cones along newly painted lines to control traffic and prevent damage to newly painted surfaces. Remove when paint has dried fully.
- C. Painting equipment shall be marked with large warning signs indicating slow moving painting equipment in operation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials for pavement markings shall conform to MHD Specifications Section 860.40 as applicable.
- B. Reflectorized White and Yellow Pavement Markings: Provide white and yellow thermoplastic pavement markings conforming to the requirements of Section M7.01.5 in Reference (1) of the Standard Specifications for thermoplastic reflectorized pavement markings conforming with the requirements for Section M7.01.03 in Reference (1) of the Standard Specifications. Provide glass beads conforming to the requirements of Sections M7.01.07 in Reference (1) of the Standard Specifications.
- C. Glass Beads: Provide glass beads conforming to the requirements of Section M7.01.07 in Reference (1) of the Standard Specifications.
- D. Paint shall be in sealed containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's name, formulation number and directions, all of which shall be plainly legible at time of use.
- E. Paint shall be homogeneous, easily mixed to smooth consistency, and shall show no hard settlement or other objectionable characteristics during a storage period of six months.

2.02 MARKING EQUIPMENT

- A. Machines, tools and equipment used in the application of pavement markings shall conform to MHD Specifications Section 860.60 and shall be approved and maintained in satisfactory operating condition.
- B. Push-type machines of a type commonly used for application of paint to pavement surfaces shall be acceptable for marking roadway and parking areas. Applicator machine shall have the necessary paint tanks and spraying nozzles, and shall be capable of applying paint uniformly at coverage specified. Hand-operated spray guns shall be provided for use in areas where push-type machines cannot be used.
- C. Sandblasting equipment shall be provided as required for cleaning surfaces to be painted. Sandblasting equipment shall include an air compressor, hoses, and nozzles of proper size and capacity as required. Compressor shall be capable of furnishing not less than 150 cfm of air at a pressure of not less than 90 psi at the nozzle for each nozzle used.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

- A. New pavement surfaces shall be allowed to cure for a period of not less than 48 hours before application of marking materials.
- B. Dust, dirt, and other granular surface deposits shall be removed by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods, as required. Rubber deposits, surface laitance, existing paint markings, and other coatings adhering to the pavement shall be completely removed using scrapers, wire brushes, sandblasting, approved chemicals, or mechanical abrasion, as directed.

- C. Where oil or grease are present on old pavements to be marked, affected areas shall be scrubbed with several applications of tri-sodium phosphate solution or other approved detergent or degreaser, and rinsed thoroughly after each application. After cleaning, oil-soaked areas shall be sealed with cut shellac to prevent bleeding through the new paint.

3.02 APPLICATION

- A. Marking materials shall be applied to clean, dry surfaces in accordance with the requirements of MHD Specifications Section 860.62.
- B. Paint shall be applied pneumatically with approved equipment.
- C. Pavement marking materials shall be applied evenly to the pavement surface to be coated at a rate specified in MHD Specifications Section 860.62.
- D. Guidelines and templates shall be employed as necessary to control paint application. Special precautions shall be taken in marking numbers, letters, and symbols.
- E. Edges of markings shall be sharply outlined.
- F. Maximum drying time requirements of the paint manufacturer shall be enforced to prevent undue softening of bitumen, and pickup, displacement, or discoloration by vehicle tires.
- G. If markings require more drying time than stated by the paint manufacturer, painting operations shall be discontinued until cause of the slow drying is determined and corrected.

3.03 PROTECTION OF MARKINGS

- A. Markings shall remain protected in accordance with MHD Specifications Section 860.63.

3.04 GUARANTEE

- A. Contractor is to furnish the Owner with a one (1) year unconditional guarantee against fading, chipping, peeling, wearing, etc. The Contractor is to provide said guarantee in writing, in a form acceptable to the Landscape Architect/Designer. If said guarantee is not in an acceptable form, the Contractor will have (10) days after receipt of notice from the Landscape Architect/Designer to correct the form.

**- END OF SECTION 32 17 23 –
PAVEMENT MARKINGS**

SECTION 32 33 00 - SITE FURNISHINGS**PART 1 - GENERAL****1.01 GENERAL REQUIREMENTS**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 010000 – GENERAL REQUIREMENTS, which are hereby, made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 DESCRIPTION OF WORK

- A. Work Included: Perform all work required to complete the work of the Section, as indicated. Such work includes, but is not limited to, the following:
 - 1. Bike Racks
 - 2. 6' Backed Benches
 - 3. Metal Table and Chair Sets
 - 4. Solar Light Pole and Fixture

1.03 RELATED WORK

- A. Cast-In-Place Concrete
- B. Brick Paving
- C. Site Preparation
- D. Earthwork
- E. Planting

1.04 REFERENCES

- A. Work shall conform to codes and standards of the following:
 - 1. ASTM – American Society of Testing Materials
 - 2. Massachusetts Highway Department Standard Specifications for Highways and Bridges (MHD Specifications)

1.05 QUALITY ASSURANCE

- A. Source: For each type of product required for the work of this Section, provide products of one manufacturer and source for consistency.
- B. Codes and Standards: Perform site improvement work in compliance with applicable requirements governing authorities having jurisdiction. Workmanship and finish shall be equal to the best practice of modern shops for each item of work.
- C. Qualifications of Workers: Use adequate numbers of skilled workers who are trained in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performances of the work of this Section.
- D. The work of this Section shall be completely coordinated with the work of other Sections. Verify dimensions and work of other trades which adjoin materials of this Section before installing items specified.

1.06 SUBMITTALS

- A. Shop Drawings: Supply shop drawings at an approved scale for location, installation and erection

of each site furnishing item under this Section.

- B. Product Information: Provide manufacturer's data showing installation and limitations in use of each site furnishing item. Supply Certificates of Compliance for all materials required for fabrication and installation.
- C. Material Selection and Samples: Submit samples showing the complete range of colors, textures and finishes available for all components required for construction. Work includes but is not limited to the following:
 - 1. Provide one sample, 6 inch x 6 inch of shop-applied finish for each site furnishings item.

PART 2 - PRODUCTS

2.01 BIKE RACK

- A. Bike rack shall be:
 - 1. "Ring" as manufactured by Landscape Forms, 7800 E. Michigan Ave, Kalamazoo, Michigan 49048, (800) 430.6209, www.landscapeforms.com, or approved equal.
 - a. Color and finish to be powder coated "Gloss Black"
 - b. Quantity: Three (3)
 - c. Installation Method: Embedded in Concrete pavement

2.02 6' BACKED BENCH

- A. Backed Bench shall be:
 - 1. "58 SERIES" Metal bench as manufactured by DuMor; P.O. Box 142 Mifflintown, PA 17059; www.dumor.com; 800-598-4018, or approved equal
 - a. Model Number: 58-60
 - b. Length 6'
 - c. Finish & Color, Polyester Powder Coated, "Textured Black"
 - d. Surface Mounted on Concrete Slab

2.03 SOLAR LIGHT POLE AND FIXTURE

- A. Available through Speclines; 4 Railroad Ave, Suite 208, Wakefield, MA01880; 508-362-5337; www.speclines.net
- B. COMPONENTS:
 - 1. Luminaire
 - a. Manufacturer: Spring City Electrical Mfg. CO.
 - b. Catalog No.: ALMAGS-M17-LE030-SO1-2F2-30-CR3-YPLF-FPA-CU.
 - c. Style: Augusta M17 LED Luminaire with Meriden Fitter.
 - d. Dimensions: 18" O.D. x 35 7/8" Tall
 - e. Material: Cast Aluminum Alloy ANSI 356 Per ASTM B26-95
 - f. Panel: Frosted Acrylic – Dark Sky with Low Glare Opaque Lense
 - g. Light Source: LED
 - h. Optical System: Type III Optics
 - i. Wattage: 30W
 - j. Voltage: DC (Refer to Battery Specification)
 - k. CCT: 3000K (Warm Wight)
 - l. Finish: Powder Coat – RAL 9005 Jet Black
 - m. Options: Meriden Fitter with 9" DC Style Transition Ring
 - 2. Pole
 - a. Manufacturer: Flexsol Solutions
 - b. Style: Decorative Solar
 - c. Material: 6063 Aluminum Alloy, Heat Treated after Welding
 - d. Height: 14'
 - e. Shaft Diameter: 7.0"
 - f. Access Door: Flush, Locking Hand Hole with Key

- g. Mounting Method: Anchor Base
 - h. Bolt Circle: 16.7" Diameter
 - i. Anchor Bolts: .75" x 24" Long x 3" Hook, H.D. Galvanized F1554 GR55 Steel
 - j. Finish: Powder Coat – RAL 9005 Jet Black (Gloss)
 - k. Options: Twin Flower Bracket Arms
3. Decorative Base
- a. Manufacturer: CMT Valmont
 - b. Style: D23M/2, 2-Piece Clamshell
 - c. Material: Elastomeric Urethane
 - d. Dimensions: 16" O.D. x 48" Tall
 - e. Finish: RAL 9005 Jet Black (Gloss)
4. Solar Module
- a. Manufacturer: Flexsol Solutions
 - b. Technology: Monocrystalline Silicon Solar Cells
 - c. Cell Efficiency: Greater Than 23%
 - d. Module Encl.: Borosilicate Glass
 - e. Module Dim.: 7.8" x 43.7" L (200mm x 1100mm)
5. Battery
- a. Manufacturer: Flexsol Solutions
 - b. Technology: Lithium
 - c. Capacity: up to 1200Wh
 - d. Service Life: 10 Years
 - e. Location: Inside Pole Shaft, Opposite Access Door
 - f. Charge Efficiency: 99.5%
 - g. Temp Range: -4 Degrees F to 140 degrees F
6. Control Electronics
- a. Manufacturer: Flexsol Solutions
 - b. Mobile Comm: GSM/LTE-M
 - c. Encryption: TLS 1.2
 - d. GNSS: GPS, BeiDOU, Galileo, Glonass, Qzss
 - e. Cable Update: USB Programmable
 - f. Remote Update: Yes
 - g. Time and Date: Astronomical Clock
 - h. Dimming Scheme: Seasonal Dynamic Dimming

2.04 METAL TABLE AND CHAIR SETS

- A. Table and Chair sets shall be:
1. "Carousel" table and Chair set by Landscape Forms. 7800 E. Michigan Ave, Kalamazoo, Michigan 49048, (800) 430.6209, www.landscapeforms.com, or approved equal.
 2. Table style: Dining height, five seat unit
 3. Seat style: Backless metal grid
 4. Table Top: Catena 42" Diameter, Powder Coated Steel
 5. Color: Matte Black
 6. Umbrella Hole: 2" diameter hole, with grommet installed for use with 1 ½" diameter pole.
- B. Umbrella shall be:
1. "Equinox" Umbrella by Landscape Forms. 7800 E. Michigan Ave, Kalamazoo, Michigan 49048, (800) 430.6209, www.landscapeforms.com, or approved equal.
 2. Style: Plain Edge, 97 inches diameter, 90 inches height
 3. Mounting: Table mounted, provide stainless steel hardware.
 4. Testing: Tested to withstand 65 MPH with no damage
 5. Material: Sunbrella Marine Grade Fabric
 6. Color: Forest Green

PART 3 - EXECUTION

3.01 GENERAL

- A. All site furnishings shall be laid out in the field for approval by the Designer/Landscape Architect prior to installation.
- B. Site furnishings shall be erected as indicated on the Drawings, plumb, level, snug, and free from rocking. Make necessary shimming and final adjustments.
 - 1. Shims shall be stainless steel and sized so that they do not protrude beyond the base of the item so as to be visible in completed installation.

3.02 SITE FURNISHINGS

- A. Install per Manufacturer's recommendations for embedment option and approved shop drawings.

**- END OF SECTION 32 33 00 -
SITE FURNISHINGS**

SECTION 32 50 00 - DIMENSIONAL GRANITE**PART 1. GENERAL****1.01 GENERAL REQUIREMENTS**

- A. Include GENERAL CONDITIONS and SUPPLEMENTARY CONDITIONS as part of this Section.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with trades affecting, or affected by, work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 WORK INCLUDED

- A. Perform all work required to complete the work of this Section, as indicated. Such work includes, but is not limited to, the following:
 - 1. Granite Bollard
 - 2. Granite Block Bench

1.03 RELATED WORK UNDER OTHER SECTIONS

- A. Earthwork
- B. Site Preparation
- C. Concrete (footings)

1.04 REFERENCES

- A. Work shall conform to codes and standards of the following:
 - 1. American Society for Testing and Materials (ASTM):
 - C 615 Structural Granite
 - C 131 Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

1.05 QUALITY ASSURANCE

- A. Layout: After staking and laying out the work, and before beginning installation, obtain the Designer's approval of layout. Contractor shall make minor adjustments as determined by the Designer.
- B. The Contractor and his Subcontractors shall inspect all subbases for unstable, unsuitable or improperly prepared areas. Do not begin work over unacceptable areas. Beginning work means the Contractor and his Subcontractors accept the subbase, previous work and conditions and shall be held responsible for any corrections required to properly implement the Construction Documents.

1.06 SUBMITTALS

- A. Shop Drawings: Supply shop drawings at an approved scale for location, installation and erection of all parts of the work under this section including but not limited to the following items:
 - 1. Granite Bollards.c
 - a. Provide 4, 12"x 12" X 1" granite samples showing color and finish. Samples to be approved by Designer
 - b. Provide additional samples as required, until approval from Designer is garnered.
 - 2. Granite Block Benches
 - a. Provide 4, 12"x 12" X 1" granite samples showing color and finish. Samples to be approved by Designer
 - b. Provide additional samples as required, until approval from Designer is garnered.

1.07 PROJECT CONDITIONS

- A. Protection: The Contractor shall use all means necessary to protect the materials of this Section before, during and after installation. In the event of damage, make all repairs and replacements necessary to approval of the Designer and at no additional cost to the Owner. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving to remain, existing plant materials, and adjoining properties.
- B. The Contractor shall remove all debris, construction equipment and waste material from areas within the limit of work prior to inspection for acceptance.
- C. The Drawings indicate, in general, the alignment and finished grade elevations. The Landscape Architect, however, may make minor adjustments in grades and alignment as are found necessary.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Granite Block Benches and Granite Bollards shall be delivered to the job adequately protected from damage during transit.
- B. Granite Block Benches and Granite Bollards shall be stored off the ground with wood cribbing between each unit. Curb shall be protected against staining, chipping, and other damage. Cracked, badly chipped, or stained units will be rejected and shall not be employed in the work.

PART 2. PRODUCTS**2.01 GRANITE BLOCK BENCH**

- A. Granite for BLOCK BENCH shall be "Woodbury Gray" a light grey granite as available from Swenson Granite, www.swensongraite.com. OR APPROVED EQUAL
 1. Granite shall be structurally sound, free from all defects and seams, cosmetic or otherwise.
 2. Finish shall be a thermal finish on top and two faces, and Rock Face on sides, as indicated in drawings.
 3. Provide shop drawings for review and approval.

2.02 GRANITE BOLLARD

- A. Granite for BOLLARD shall be "Woodbury Gray" granite a light grey granite as available from Swenson Granite, www.swensongraite.com. OR APPROVED EQUAL
 1. Granite shall be structurally sound, free from all defects and seams, cosmetic or otherwise.
 2. Finish shall be a thermal finish two faces, and Rock Face on two faces and top, as indicated in drawings.
 3. Provide shop drawings for review and approval.

2.03 CONCRETE

- A. Concrete for foundation (where indicated) shall conform to MHD Specifications Section M4.00.0, 4000 psi, 1-1/2 in., 565 (Class A).
- B. Concrete foundation for Granite Bollards and Benches shall be reinforced with #5 Steel Rebar @ 12" O.C. vertical and horizontal. This specification shall supersede any information or lack thereof in the drawings and details. Contractor shall provide shop drawings indicating size and location of reinforcement for concrete foundations.

PART 3. EXECUTION

3.01 SETTING GRANITE BOLLARD AND BENCH

- A. Granite Bollard and Bench shall be set in accordance with MHD Specifications Section 501 and as shown on the plans.
- B. Vertical face of Bench and Bollard shall be plumb, with top level.
- C. Vertical sections of Bench shall be plumb, and Horizontal Surfaces shall be level.
- D. Curb shall be set accurately to line and grade. Curb units shall be fitted together as closely as possible. Curb shall not be field cut.
- E. Joints, between curb units shall be carefully filled with a cement mortar, and neatly pointed on the top and front exposed portions. After pointing excess mortar shall be cleaned from curb surface.
- F. Backfill material on each side of curb shall be as specified for adjacent surface and shall be thoroughly compacted by means of power tampers. Extreme care shall be taken not to destroy alignment. Curb sections disturbed during backfilling or otherwise shall be reset to line and grade, and properly backfilled.

END OF SECTION

SECTION 32 15 40 - STABILIZED STONEDUST PATH

PART 1: GENERAL

1.01 RELATED DOCUMENTS

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

1.02.1 DESCRIPTION OF WORK

- A. Install crushed stabilized stonedust path to lines and grades shown on the drawings.

1.03 SUBMITTALS

- A. Products; sample and sieve analysis for grading of aggregate.

1.04 TESTS

- A. Provide the following test results:
 1. Swell Volume: The blended binder/aggregate paving material shall have a 35% to 40% swell volume. Contractor shall provide proof of compliance to this performance value through the use of independent testing. The test, ASTM D4546 "one Dimensional Swell or Settlement Potential of Cohesive Soil" shall be performed by an independent testing agency. The Contractor shall test a half-pound sample for the first 1,000 square feet and for every 5,000 square feet thereafter. Test results shall be submitted to the Owner's Representative. Any areas found to be non-compliant shall be removed at no additional cost to the Owner.
 2. Binder Content: Contractor shall provide proof of the binder content in the paving material as defined by ASTM-F1647-95, Method B (Testing for Organic Matter). Once paving material has been blended with the appropriate aggregate/binder and previous to installation, a one-gallon sample bag shall be sent to an independent testing agency. The Contractor shall test a half-pound sample for the first 1,000 square feet and for every 5,000 square feet thereafter. Test results shall include the percentage of organic matter in the sample and a conversion of this data to number of pounds of binder per ton of aggregate. If the tested ratio of binder to aggregate is more than one half pound per ton (plus or minus) from the specified ratio, the material will be considered non-compliant. Any materials found to be non-compliant shall be removed at no additional cost to the Owner.

1.05 MOCK-UPS

- A. Install 3.5 ft. wide x 10 ft. long mock-up of crushed aggregate paving with Stabilizer additive at location as directed by owner's representative.

1.06 ENVIRONMENTAL CONDITIONS

- A. Do not install stabilized aggregate paving during rainy conditions.

1.07 QUALITY ASSURANCE

- A. installer - provide evidence to indicate successful experience in providing aggregate paving containing stabilizer binder additive.

1.08 EXCESS MATERIALS

- A. Provide Town with the following excess materials for use in future decomposed granite or 3/8" crushed aggregate paving repair:

1. 20 - 50 lb. bags of the aggregate paving
2. 1- 15 lb. bag of the Stabilizer additive

PART 2: PRODUCTS

2.01 STABILIZED AGGREGATE PAVEMENT

- A. Crushed stone mixture shall consist of inert materials that are hard, durable, stone free from surface coatings and deleterious materials. Color shall be Natural Gray as approved by the Designer. Classification of crushed stone shall be 3/8" minus. Gradation requirements shall be as follows:

<u>Sieve Designation</u>	<u>% Passing by Weight</u>
1/2"	100
3/8"	86-100
No. 4	70-94
No. 8	56-83
No. 16	38-69
No. 30	22-50
No. 50	12-35
No. 100	8-25
No. 200	5-15

2.02 STABILIZER BINDER

- A. Organic binder shall be a natural, non-toxic, non-staining, odorless, environmentally safe powder consisting of 95% Psyllium with 70% Mucilliod content. The powder shall be of a size that not more than 10% is retained on a U.S. Standard #40 mesh sieve. The powder binder shall be "Stabilizer" as manufactured by Stabilizer Solutions, Inc., Phoenix, Arizona (1-800-336-2468) or an approved equal.

PART 3: EXECUTION

3.01 PATHWAY LAYOUT

- A. Prior to the start of installation, the Contractor shall stake the centerline of the pathway every 50' on center or more as required in the field.
- B. The Contractor shall obtain approval of the staking prior to the start of work and shall adjust the pathway layout as necessary or as directed by the Landscape Architect.
- C. The stabilized pathway is intended to be ADA compliant and shall not exceed 5% gradient or 2% cross slope unless otherwise approved.

3.02 GRADING

- A. Areas to receive stabilized stonedust pavement shall be compacted and brought to subgrade elevation and all work specified and paid under Section 02200 Earthwork. Provide final fine grading, furnishing and installation of stabilized aggregate surface and compaction of these materials as required to form a firm, uniform, accurate, and unyielding stabilized aggregate surface. Surface shall be constructed as

required elevations and to the lines and grades shown on the drawings.

- B. Areas being graded or compacted shall be kept shaped and drained during construction. Ruts greater than or equal to one inch deep in subgrade shall be graded out, reshaped as required, and recompacted before placing stabilized aggregate surfacing.
- C. Materials shall not be stored or stockpiled on subgrade.

3.03 PLACEMENT OF STABILIZED AGGREGATE SURFACING

- A. Aggregate binder shall be thoroughly pre-mixed with crushed aggregate/stonedust at the ratio of 15 lbs. of binder per ton of aggregate. The aggregate must be damp before mixing, but not wet. Drop spreading of binder over pre-placed aggregate or mixing by rototilling is not acceptable. Binder shall be mechanically pre-mixed on or off-site per manufacturer's recommendations, using a cement mixer or flowable mixer that will adequately mix and blend the binder with aggregate while controlling the specified water content. The binder shall not be applied during, prior to, or immediately following rainfall or when the temperature is 40 degrees Fahrenheit and falling.
- B. After mixing, place the aggregate and binder mixture on a prepared subgrade to the desired grade and cross section. Place material to sufficient depth to allow 3" depth after compaction with 1 ton (min.) roller. Contractor shall wait a minimum of six hours or until such time that the paving material is able to accept compaction from a one-ton roller without separation, plowing or any other physical compromise of the paving material.
- C. Water lightly to achieve full depth moisture penetration of the mix. Trail surfacing shall be watered with light spray to not disturb the surface. To activate the binder, full depth penetration with water is necessary.

3.04 QUALITY ASSURANCEW AND WARRANTY

- A. Contractor shall engage an experienced stabilized aggregate binder product representative during installation of the path paving. Such a representative shall be trained by the binder manufacturer and experienced in work similar to that required for this project as approved by Owner's Representative.
- B. Contractor shall provide warranty as outlined by the binder manufacturer for performance of the product. Contractor shall warranty installation of product for the time of one year. Contractor shall provide, for a period of sixty days, unconditional maintenance to included repairs to any area that fails.

END OF SECTION

SECTION 32 93 00 - PLANTING

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 010000 – GENERAL REQUIREMENTS, which are hereby, made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements that affect work of this Section, whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with trades affecting, or affected by, work of this Section. Cooperate with such trades to assure the steady progress of all under the Contract.

1.02 DESCRIPTION OF WORK

- A. Refer to the Drawings for extend and details of this work.
- B. The work of this Section consists of all landscaping and related work as shown on the Drawings or required herein and includes, but is not limited to the following:
 - 1. Planting of trees, shrubs and perennials
 - 2. Maintenance and guarantee

1.03 RELATED WORK UNDER OTHER SECTIONS

- A. Site Preparation
- B. Earthwork
- C. Erosion and Sediment Control

1.04 QUALITY ASSURANCE

- A. Source: For each type of product required for the work of this Section, provide products of one manufacturer and source for consistency.
- B. Codes and Standards: work in compliance with applicable requirements of governing authorities having jurisdiction. Workmanship and finish shall be equal to the best practice of modern shops for each item of work.
- C. Qualifications of Workers: Use adequate numbers of skilled workers who are trained in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section. Use a qualified landscape installer whose work has resulted in successful establishment of plants.
 - 1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
 - 2. Experience: 3 years' experience in landscape installation in addition to requirements in Division 01 Section "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. Certification program in first subparagraph below is administered by the Professional Landcare Network. See Evaluations.
 - 5. Personnel Certifications: Installer's foreman shall have certification in at least one of the following categories from the Professional Landcare Network:
 - a. Certified Landscape Technician - Exterior, with installation specialty area(s), designated CLT-Exterior.
 - b. Certified Ornamental Landscape Professional, designated COLP.
 - 6. Pesticide Applicator: State licensed, commercial.

- D. The work of this Section shall be completely coordinated with the work of other Sections. Verify dimensions and work of other trades that adjoin materials of this Section before installing items specified.
- E. All plant materials shall be true to name according to "Standardized Plant Names", published by the American Joint Committee on Horticulture Nomenclature, 1942 edition. Each plant or bundle shall be tagged with the name and size of plants in accordance with the standards of the American Association of Nurserymen (AAN). In all cases, botanical names shall take precedence over common names.
- F. Quality and size shall conform to the current edition of "Horticultural Standards" for number one grade nursery stock as adopted by the AAN.
- G. All plants and plant materials shall comply with all Federal, State and local laws and regulations requiring inspection for plant disease and insect control.

1.05 SUBMITTALS

- A. Refer to Division 1 for specific requirements.
- B. Materials list: Submit a complete list of all materials proposed for use in this work, demonstrating complete conformance with the requirements specified.
- C. Submit soil analysis results for review by the Designer.
- D. Submit a list of plant nurseries to the Designer for approval of selected plant material species.
 - 1. For all plant materials, submit a complete list showing each type, each source of materials, and the measured size of each.
- E. Manufacturer's certificate of compliance for controlled release fertilizer issued by the manufacturer only, showing quantity of material order and specific job application.

1.06 PRODUCT HANDLING

- A. Delivery and Storage:
 - 1. Deliver all items to the job site in their original containers with all labels intact and legible at time of Designer's inspection.
 - 2. Immediately remove from the site all plants that are not true to name, and all materials that do not comply with the specified requirements.
 - 3. Use all means necessary to protect plant materials before, during, and after installation and to protect the work and materials of all other trades.
 - 4. Replacements: in the event of damage, immediately make all repairs and replacements necessary to the approval of the Designer and at no additional cost to the Owner.

1.07 SCHEDULING

- A. Spring Planting:
Planting shall take place Prior to July 1st. Planting after July 1st will require written permission from Owner and Designer.
- B. Fall Planting:
Deciduous Materials – October 1 through December 1
Evergreen Materials – August 15 through October 15

1.08 JOB CONDITIONS

- A. Utilities: Determine location of underground utilities and perform work in a manner that will avoid possible damage. Hand excavate as required. Maintain grade stakes set by others until all parties concerned mutually agree upon removal.
- B. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Designer before planting.

PART 2 - PRODUCTS**2.01 GENERAL**

- A. Topsoil
 1. Utilize existing on-site topsoil to the extent practicable to complete the work. Refer to Section 329219 – Loam and Seed for topsoil requirements.
 2. Loam - friable, typical of local cultivated topsoil containing 5% (min.) decayed organic matter (humus), no toxic materials, from well drained, arable site, reasonably free of subsoil, stones, earth, clods, sticks, roots or debris.
 3. Test for acidity, fertility and general texture by a recognized commercial or government agency. Report findings and recommendations to the Designer. Add soil conditioners as per testing agency's report and recommendations.
 4. Deliver no topsoil in frozen or muddy condition.
- B. Superphosphate – finely ground phosphate rock eighteen percent (18%) minimum available phosphoric acid.
- C. Bone Meal – commercial raw bone meal, finely ground, 1% nitrogen and 18% phosphorus acid (min.).
- D. Manure – well rotted, unbleached, cattle manure, reasonably free of wood shavings, sawdust, or other litter and no chemicals or other ingredients harmful to plants. Dehydrated manure (Bovung) is acceptable.
- E. Fertilizer – all plants will be fertilized with a controlled release 16-8-16 analysis fertilizer contained in polyethylene perforated bags with micropore holes. The bag shall contain 4 ounces minimum of water soluble fertilizer to be effective for 8 years. Pills, spikes, tablets and injections are not considered controlled release packets.
 1. Deliver as specified in standard containers, showing weight, analysis and manufacturer. Store in weather-proof place.
- F. Peat – domestic or imported, of partially decomposed vegetable matter of natural occurrence, brown, clean, low in content of mineral and woody material; mildly acid, granulated or shredded, free from weedy grasses, sedges or rushes.
- G. Lime – ground, dolomite limestone, 95% passing 100 mesh screen.
- H. Planting mixture – topsoil thoroughly incorporated with well rotted manure or equivalent dehydrated manure or bone meal and peat proportioned 1 c.y. to 7 c.y. topsoil.
- I. Mulch – aged pine bark consisting of the outer bark of pine trees with minimum hardwood bark. Bark shall be thoroughly mixed and aged in stock piles a minimum of 6 months, partially decomposed, dark brown in color, and generally free of chunks of wood thicker than 1/4". Aged pine bark containing an excess of fine particles will not be acceptable. (Mulch is to be provided as part of Base bid.)
- J. Water – The Contractor will furnish hose, hose connections and water as necessary to provide regular, required watering for all plant materials that are not properly irrigated by the proposed

automatic irrigation system until completion of the project. Trees that are not properly irrigated by the automatic irrigation system have Tree Gator Bags (or an approved equal) installed at the base of the trees to allow for slow release watering of the plant material. Bags shall be filled with water on a regular basis by the Contractor at the manufacturer's specified frequency (and potentially more often during periods of drought) until the project reaches Final Completion.

2.02 PLANT MATERIALS

- A. Furnish all plant materials consistent with the kinds and sizes indicated in these Specifications.
- B. All plants nursery grown unless authorized to be collected.
- C. Plants – in accordance with USDA Standard for Nursery Stock, latest edition, Hardy under climatic conditions similar to locality of project, typical of species or variety, normal habit of growth, sound, healthy, vigorous, well-branched, densely foliated when in leaf, free of disease, insect pests, eggs, or larvae, with well developed root systems.
- D. If plants of specified kind or size are not available, substitutions may be made upon request, if approved by Designer.
- E. Plant Dimensions – conform to USDA Standard for Nursery Stock, latest edition, as specified. Exceptions as follows:
 - 1. Plants larger than specified may be used if approved by Designer at no increase in contract price. Increase spread of roots or earth ball in proportion to size of plant.
 - 2. Undersize plants (10% max.) in any one variety or grade may be used if approved by the Designer. Provide sufficient plants above size to make average size of next smaller grade.
- F. Balled and burlapped (B & B) plants – dig with firm natural earth roots. Made balls are unacceptable.
- G. Container grown plants – grown in container long enough for root system to have developed sufficiently to hold its soil together firm and whole. Plants loose in container will not be acceptable.
- H. Protect B & B plants not planted immediately upon delivery with soil, wet moss, or other acceptable material. Prevent voids among roots with careful filling. Bind no plants with wire or rope so as to damage bark or break branches.
- I. Plants are subject to inspection and approval at place of growth for conformity to Specifications as to quality, size, and variety. The cost of expenses incurred by the Designer for such inspections shall be born by the Contractor. Designer reserves right of inspection upon delivery at the site or during progress of work or right of rejection due to damage suffered in handling or transportation. Remove defective plants immediately from site. Plants to be accompanied by State Nursery inspection certification, if required.

PART 3- EXECUTION

3.01 INSPECTION

- A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 PLANTING OPERATIONS

- A. Plant nursery stock immediately upon delivery to the site and approval by the Designer. Layout individual tree and shrub locations and areas for multiple plantings. Stake locations, outline plant beds and obtain the Designers approval before proceeding with planting work.
- B. Planting may be done whenever weather and soil conditions are favorable or as otherwise authorized by Designer. If this is not feasible, heel-in material with damp soil or mulch to protect

from sun and wind.

- C. Notify Designer at least one week prior to beginning planting operations. Stake locations of all plant material with surveyors bean poles 48 hours prior to planting for approval by Designer.
- D. Excavate tree pits as shown on plans.
- E. Locate pits prepared and backfilled with planting mixture to grade prior to planting by staking and recording on plans for location when planting proceeds.
- F. Set plants in center of pits, plumb and straight, with crown of plant 1" higher, after settlement, than surrounding finished grade.
- G. When B & B trees are set, compact topsoil mixture around bases of balls to fill all voids. Remove burlap, ropes or wires from tops of balls and tuck them down on the sides before filling in with loam.
- H. Container grown plants with well-developed root systems shall have roots cut vertically along sides of root ball with utility knife to encourage outward root growth.
- I. Thoroughly compact planting mixture around roots or balls and water immediately after plant pit is backfilled. Form a shallow basin slightly larger than pit with a ridge of sod to facilitate and contain watering. Cultivate soil shrub beds, rake smooth and neatly outline after planting. Provide 12" (min.) of loam between all shrubs and 6" (min.) between all ground covers.
- J. Distribute controlled release fertilizer packets equidistant within the planting pit adjacent to the root ball but not in direct contact with the roots. Placement depth shall be 6 to 8 inches. Packets shall not be cut, ripped or damaged.

- 1. Application rates as follows:

<u>Planting Item</u>	<u>Size</u>	<u>No. of Packets</u>
Deciduous Trees:	2 1/2-3" cal.	3
	4-6" cal.	4
Shrubs:	2-3'	2
	Over 3'	3
Evergreen Trees:	6-10'	4
	Over 10'	5
Groundcover:		1 packet per four plants

- K. Prune each plant in accordance with AAN standards to preserve natural character. Remove all dead wood, suckers, and or broken or badly bruised branches. Prune with clean, sharp tools. Paint cuts over 1" in diameter with approved tree paint; cover all exposed cambium and living tissue.
- L. Cover all tree and shrub pits immediately after planting with 3" (min.) layer on specified mulch. Limit of mulch for trees shall be area of pit; for shrubs in beds, entire area of shrub bed.
- M. If rock or underground obstructions are encountered in plant pit excavation, remove obstructions to 3' (min.) below grade and 12" (min.) below bottom of ball or roots.
- N. Contractor shall furnish plans showing locations of underground utilities, as required.

3.03 MAINTENANCE - PLANTING

- A. Planting Maintenance
 - 1. Maintenance shall begin immediately after each plant is planted and shall continue for a minimum of ninety days following the completion of all planting installations, and until the final acceptance of all planting work.
 - 2. Maintenance shall consist of keeping the plants in a healthy growing condition and shall

include but is not limited to watering, weeding, cultivating, re-mulching, tightening and repairing of guys, removal of dead material, resetting plants to proper grades or upright position, and maintaining the planting saucer.

- a. Plants shall be inspected for watering needs at least twice each week and watered as necessary to promote plant growth and vitality.
 - b. Stakes shall be kept plumb and neat in appearance. Guys, wires and anchoring cables shall be tightened and repaired weekly.
 - c. Planting beds and individual plant pits shall be kept free of weeds, and mulch shall be replaced as required to maintain the specified layer of mulch. Beds and individual pits shall be neat in appearance and maintained to the designed layout.
 - d. Plants that die during the maintenance period shall be removed and replaced at once, unless designated otherwise by the Designer.
 - e. Spraying for both insect pests and diseases shall be included during the maintenance period as required and as directed.
3. During the maintenance period, any decline in the condition of plantings shall require the Contractor to take immediate action to identify the potential problems and undertake corrective measures. If required, the Contractor shall engage professional arborists and/or horticulturalists to inspect plant materials and to identify problems and recommend corrective procedures.

3.04 ACCEPTANCE STANDARDS FOR PLANTING

- A. Following the minimum required maintenance periods for planting, the Contractor shall request the Designer in writing for a formal inspection of the completed work. If the plant materials and workmanship for the site are acceptable, written notice will be given to the Contractor stating that the work has received acceptance and that the guarantee period has commenced from the date of acceptance.
- B. If a number of plants are sickly or dead at the time of inspection, or if the Designer's opinion, workmanship is unacceptable, written notice will be given by the Designer to the Contractor in the form of a punch list, which itemizes necessary planting replacements and/or other deficiencies to be remedied. The Contractor's responsibility for maintenance of all the plants shall be extended until replacements are made or other deficiencies are corrected. All dead and unsatisfactory plants shall be removed promptly from the project. Replacements shall conform in all respects to the Specifications for new plants and shall be planted in the same manner.

3.05 WARRANTY FOR PLANT MATERIALS

- A. Tree plantings shall be warrantied for a period of two (2) years after written notification of acceptance and shall be alive and in satisfactory growth at the end of the guarantee period. Shrub and perennials shall be warrantied for a period of one (1) year after written notification of acceptance and shall be alive and in satisfactory growth at the end of the guarantee period.
- B. At the end of the warranty period, a final inspection will be held to determine whether any plant material replacements are required. Each plant shall show at least 75% healthy growth and shall have the natural character of its species as determined by the Designer. Plants found unacceptable shall be removed promptly from the site and replaced during the normal planting season, until the plants live through one year. A final inspection for acceptance will be made after the replacement plantings have lived through one (1) and two (2) years per respective warranty times.

3.06 REMOVAL OF EXISTING INVASIVE SPECIES

- A. The Contractor shall provide the necessary protocol management and removal of invasive species around the site. All pesticide applications shall be completed by personnel licensed in the Commonwealth of Massachusetts.

- END OF SECTION 32 93 00 -

SECTION 334000 - STORM DRAIN

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Equality of material, article, assembly or system other than those named or described in this Section shall be determined in accordance with the provisions of Article IV of the CONTRACT AND GENERAL CONDITIONS.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Stone filled trench with Perforated 6" HDPE pipe and associated 12" PVC Basin and Risers with Beehive Ductile Iron Grate.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
 - 1. Section 312000 – EARTHWORK for trenching, materials and compaction.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Section 013300 –Submittal Requirements.
- B. Product Data: Submit manufacturer's product data for all products required to complete the work of this section.
- C. Shop Drawings: Submit detailed shop drawings for the following:
- D. 12" PVC Basin and Riser with outlet for 6" Corrugated and perforated HDPE drain pipe.
- E. Environmental Agency Compliance: Comply with regulations pertaining to storm drainage systems.
- F. Utility Compliance: Comply with regulations pertaining to storm drainage systems. Include standards of water and other utilities where appropriate.
- G. Source: For each type of product required for the work of this Section, provide products of one manufacturer and source for consistency.
- H. Qualifications of Workers: Use adequate numbers of skilled workers who are trained in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.
- I. The work of this Section shall be completely coordinated with the work of other Sections. Verify dimensions and work of other trades that adjoin materials of this Section before installing items specified.

- J. All castings shall be subject to a hammer inspection by the DESIGNER. Castings rejected upon delivery to the site shall be marked as such and removed from the site. All castings damaged after delivery or after installation shall be removed and replaced as directed by the DESIGNER and at the CONTRACTOR'S expense.

1.4 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research public utility records, and verify existing utility locations.
- B. Existing Utilities: Do not interrupt existing utilities except when permitted under the following conditions and then only after arranging to provide acceptable temporary utility services.
 - 1. Notify Designer not less than 48 hours in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without receiving written permission from Designer and Town.
- C. Protection: The Contractor shall use all means necessary to protect the materials of this Section before, during, and after installation. In the event of damage, make all repairs and replacements necessary to approval of the Designer and the Town and at no additional cost to the Town. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving to remain, existing plant materials, and adjoining properties.
- D. The Contractor shall remove all debris, construction equipment, and waste material from areas within the limit of work prior to inspection for acceptance.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic pipe or fittings in direct sunlight.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.
- C. Deliver products and supplies to the job adequately protected from damage during transit.
- D. Store products and supplies off the ground and protected against damage. Damaged products and/or supplies will be rejected and shall not be employed in the work.
- E. Store in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.1 CASTINGS

- A. The castings shall be of good quality, even-grained cast iron, free from scale and defects of any nature which would render them unfit for the service for which they are intended. Contact surfaces of covers and frame seats shall be machined at the foundry, before shipment to prevent rocking of covers in any orientation. All materials for storm drainage system shall be new and unused. All materials shall meet Town of Amherst and University Standards.
 - 1. Frame and grate for PVC basins shall be integrated ductile iron to match basin outside diameter.
 - 2. Grates shall be "domed" or "bee hive" style grates. Submit MFR's product data and brochure for review and approval
- B. All castings shall be thoroughly cleaned and subject to a careful hammer inspection.

2.2 STORM DRAIN PIPING

- A. High Density Corrugated Polyethylene Perforated Pipe and Fittings as manufactured by ADS or approved equal. Advanced Drainage Systems, www.adspipe.com.
1. Pipe shall be 6" diameter, corrugated and perforated.
 2. Pipe Requirements:
 - a. Single wall high density corrugated polyethylene heavy duty pipe shall have annular interior and exterior corrugations.
 - b. 3- through 15-inch (75 to 375 mm) pipe shall meet ASTM F667.
 - c. Joint Performance Joints for 3- to 15- inch (75 – 375 mm) shall be made with split or snap couplings.
 - d. Standard connections shall meet the requirements of the ASTM F667.
 - e. Gasketed connections shall incorporate a closed-cell synthetic expanded rubber gasket meeting the requirements of ASTM D1056 Grade 2A2.
 - f. Gaskets, when applicable, shall be installed by the pipe manufacturer.
 - g. Fittings shall conform to ASTM F667.
 - h. Material Properties Pipe and fitting material shall be high density polyethylene conforming with the minimum requirements of cell classification 323410C or 333410C as defined and described in the latest version of ASTM D3350.
 - i. Installation shall be in accordance with ASTM D2321 and manufacturer recommended installation guidelines.

2.3 DRAIN BASINS

- A. Drain basins shall be Nyloplast 12" heavy duty PVC drain basin with one outlet for 6" corrugated HDPE pipe, and 12" sump, or approved equal.

2.4 FILTER FABRIC

- A. Filter Fabric shall be MIRAFAI 140N. A needle punched nonwoven geotextile composed of polypropylene fibers, formed into a stable network such that their fibers retain their relative position. Manufactured by Tencate Geosynthetics, 365 South Holland Drive; Pendergrass, Georgia 30567; www.tencategeo.us; 706.693.2226
1. Meets AASHTO M288 Class 3 for elongation greater than 50%
 2. Grab Tensile Strength 120lbs
 3. UV Resistance at 500 hours retains 70% of its strength.
 4. Apparent opening size is US Sieve 70 (.212 mm)

2.5 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Section 312000 "Earthwork."

2.6 EXAMINATION

- A. Examine area to receive storm water detention modules. Notify Designer if area is not acceptable. Do not begin installation until unacceptable conditions have been corrected.
- B. Verify in field before installation, dimensions and soil conditions, including groundwater and soil bearing capacity.

2.7 INSTALLATION, GENERAL

- A. General Locations and Arrangements: Drawings (plans and details) indicate the general location and arrangement of underground drainage systems piping. Location and arrangement of piping layout take into account many design considerations. Install piping as indicated, to the extent practical.

2.8 PIPE JOINT CONSTRUCTION AND INSTALLATION

- A. As soon as the excavation is completed to the normal grade of the bottom of the trench, the Contractor shall immediately place the bedding material in the trench. Then the pipe shall be firmly bedded in the compacted bedding material to conform accurately to the lines and grades indicated on the Drawings.
- B. Install pipe, fittings, and accessories in accordance with manufacturer's instructions.
- C. Excavation, backfilling and compaction shall be as required to support the conditions above the pipe, and as directed by the designer
- D. Maintain optimum moisture content of bedding material to attain required compaction density.

2.9 PVC DRAIN BASINS

- A. PVC Drain Basins shall be installed at the locations and to the lines, grades, dimensions and design noted on Drawings or as required.
- B. Inlet and Outlet adapters shall be the appropriate size and class of pipe.
- C. All materials, accessories and construction methods used in making the joints shall be supplied or approved by the manufacturer of the Pipe and Drain Basin
- D. Openings for pipe in the walls of the Basin shall be provided by the manufacturer at the required locations during the manufacturer of the Basin. Incorrectly manufactured pipe openings will be rejected.
- E. The CONTRACTOR shall take all necessary precautions to prevent flotation of the sections in the excavation. Compacted crushed stone shall support the manholes.

2.10 SETTING FRAMES, COVERS AND GRATES

- A. Frames shall be set with the tops conforming accurately to the grade of the pavement or finished ground surface or as indicated on the Drawings. Frames shall be adjusted to grade as required by the designer
- B. Clear interior of piping and structures of dirt and superfluous material as the work progresses. Maintain swab or drag in piping and pull past each joint as it is completed.
- C. 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 the Project.
 - 1. Replace defective piping using new materials and repeat inspections until defects are within allowances specified.
 - 2. Reinspect and repeat procedure until results are satisfactory.
- D. 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 according to authorities having jurisdiction.
3. Schedule tests, and their inspections by authorities having jurisdiction, with at least 24 hours' advance notice.

2.11 CLEANING

- A. At the completion of the work, clean all piping, structures, as well as open drainage courses through and to which water from this construction is directed to the satisfaction of the U.M.A. Project Manager.

END OF SECTION 334000