

**TOWN OF  
BUCKLAND, MASSACHUSETTS**

**CONTRACT DOCUMENTS  
&  
SPECIFICATIONS**

**ASHFIELD STREET  
IMPROVEMENT PROJECT**

**Prepared by:  
GCG Associates, Inc.  
84 Main Street  
Wilmington, MA 01887**

**February 24, 2021**

## **TABLE OF CONTENTS**

### **SECTION NO.**

### **TITLE**

#### **DIVISION 0**

00010	Invitation to Bid
00100	Instructions and Information for Bidders
	-eBidding Instruction to Bidders
	-eBidding Registration Tutorial
00220	Subsurface Data
00300	General Bid Form
00301	Bid Pricing Sheets
00400	Bid Certifications
	- Form 1: Certificate of Non-Collusion – (Fair Bid Certification)
	- Form 2: Certificate of Tax Compliance – (Reap Certification)
	- Form 3: Bid Bond
	- Form 4: Statement of Bidder Qualifications
	- Form 5: Bidder's References
	- Form 6: Form of Subcontractor Designation
	- Form 7: Debarment Statement
	- Form 8: Certificate of Non-Discrimination and Equal Opportunity
	- Form 9: Certificate of Completion
00500	Agreement – Additional Contract Documents
00700	General Conditions
00810	Supplemental Conditions
00820	Additional Articles, State and Federal Wage Rates and Forms
	- Weekly Payroll Records Report
	- State Prevailing Wage Rates
	- Davis Bacon Federal Wage Rates
	- Weekly Payroll Records Report & Statement of Compliance
	- Payroll Form WH347
00821	Permits

#### **DIVISION 1 - GENERAL REQUIREMENTS**

01000	General Requirements
01010	Summary of Work
01023	Alternates
01025	Measurements and Payment
01050	Abbreviations
01110	EEO Processing Requirements
01300	Submittals
01381	Audio-Video Taping
01500	Temporary Provisions and Protection of Utilities and Properties
01562	Dust Control
01567	Pollution Control & Environmental Protection
01570	Traffic Control and Policing
01710	Cleaning Up

#### **DIVISION 2 - SITE WORK**

02016	Pre/Post Construction Survey
02200	Earthwork
02221	Rock Excavating and Disposal

**SECTION NO.****TITLE****DIVISION 2 – SITE WORK CONT'D**

02224	Fill and Backfill Materials
02226	Sand Blanket
02250	Compaction Control and Testing
02270	Slope Protection and Erosion Control
02380	Sheeting and Bracing
02401	Dewatering
02525	Curb
02575	Paving and Road Construction
02602	Sewer Manhole, Frames and Covers
02615	Ductile Iron Pipe and Fittings
02622	Polyvinyl Chloride (PVC) Pipes and Fittings
02635	High Density Polyethylene Pipe and Fittings (Buried Potable Water)
02641	Water Piping Specialties
02647	Connections to Existing Water Mains
02651	Casing Pipe Boring and Jacking
02675	Water Distribution System, Disinfecting & Testing
02722	Gravity Sewer and Force Main Pipe - General
02728	Modification and Connections to Existing Structures
02731	Handling Existing Flows
02910	Establishment of Growth
02995	Miscellaneous Work

**DIVISION 3 – CONCRETE**

03300	Cast-In-Place Concrete-Sidewalks
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**DIVISION 4 – MASONRY**

04200	Masonry Work
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**DIVISION 5 – METALS**

05540	Miscellaneous Metals – Frames and Covers, grates, etc.
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**APPENDIX – I**

Railroad Permit Requirements  
Railroad Service Agreement  
Railroad Insurance Policy

**APPENDIX – II**

COVID-19 Requirements

**INCLUDED SEPARATELY**

Drawings, Sheets 1 through 19, Dated: February 24, 2021, prepared by GCG Associates, Inc.

## SECTION 00010

### INVITATION TO BID

#### Ashfield Street Improvement Project, Buckland, MA

Town of Buckland, Massachusetts invites bids from general contractors for construction of the Ashfield Street Improvement Project in accordance with documents prepared by GCG Associates, Inc. The Ashfield Street project is approximately 500 feet in total length of roadway reconstruction and approximately 1,500 feet in total length of sidewalk improvements and involves the following major items of work on Ashfield St., from Clement St. to Spring St., and at various locations on State St. north of Ashfield St.: water and sewer system improvements, horizontal pipe jacking/boring, concrete sidewalk construction, granite curb, roadway pavement full depth road excavation and backfill, reclaim, grading, stone masonry walls, and HMA paving. The work is estimated to cost \$680,000.00.

No oral interpretation will be made to any bidder as to the meaning of any of the Contract Documents or be effective to modify any of the provisions of the Contract Documents. All questions shall be submitted in writing to the Engineer by March 5, 2021. At least five (5) days prior to the receipt of bids, the Engineer will issue addenda responding to each question.

The award will be to the lowest, responsible, and eligible bidder. The successful bidder must furnish a 100% **PERFORMANCE** and **PAYMENT BOND** and will be required to execute the Contract Agreement within five (5) days following notification of the acceptance of his Bid. The **OWNER** reserves the right to reject any or all bids, to accept any bid, to waive any informality on bids received, and to omit any item or items deemed advisable for the best interests of the **OWNER**. All costs associated with the preparation of the bids shall be the responsibility of the bidder, regardless of whether or not the Contract is awarded. By submission of a bid, the Bidder agrees that this bid shall be good and may not be withdrawn for a period of 60 days, Saturdays, Sundays and legal holidays excluded after the opening of bids.

This project is being funded in part by a CDBG 2020 Grant from the Mass. Dept. of Housing & Community Development and in part from the MassDOT Complete Streets Tier 3 Construction Program. The award of the contract is contingent upon the final approval of CDBG and MassDOT funding. Bids are subject to Chapter 30-Section 39M, Federal Labor Provisions, and to Massachusetts minimum wage rates as required by M.G.L. Chapter 149- Sections 26 to 27H inclusive, or by the Davis/Bacon Wage Rate, whichever hourly rate pays more. The project is subject to Title VI of the Civil Rights Act of 1964, Section 3 of the Housing and Urban Development Act of 1968 and Equal Employment Opportunity. Buckland is an Equal Opportunity Employer.

**THIS PROJECT IS BEING ELECTRONICALLY BID AND HARD COPY BIDS WILL NOT BE ACCEPTED.** Please review the instructions in the bid documents on how to register as an electronic bidder. The bids are to be prepared and submitted at [www.biddocsonline.com](http://www.biddocsonline.com). Tutorials and instruction on how to complete the electronic bid documents are available online (click on the "Tutorial" tab at the bottom footer).

General Bids will be received until **11:00 A.M., March 11, 2021** and publicly opened online, forthwith. General bids shall be accompanied by a bid deposit that is not less than five (5%) of the greatest possible bid amount (considering all alternates) and made payable to the **Town of Buckland**. A MassDOT prequalification must be in place prior to bid award.

Bid Forms and Contract Documents will be available for pick-up at [www.biddocsonline.com](http://www.biddocsonline.com) (may be viewed electronically and hardcopy requested) or at Nashoba Blue, Inc. at 433 Main Street, Hudson, MA 01749 (978-568-1167). There is a plan deposit of **\$50.00** per set (maximum of 2 sets) payable to BidDocs ONLINE, Inc. Plan deposits may be electronically paid or by check. The deposit will be refunded for up to two sets for general bidders and for one set for sub-bidders upon the return of the sets in good condition within thirty (30) days of receipt of general bids. Otherwise, the deposit shall be the property of the Awarding Authority. **Additional sets may be purchased for \$50.00.** Bidders requesting Contract Documents to be mailed to them shall include a separate check for **\$40.00** per set for UPS Ground (or \$65 per set for UPS overnight), payable to BidDocs ONLINE, Inc., to cover mail handling.

SECTION 00100

INSTRUCTIONS AND INFORMATION FOR BIDDERS

PART 1      GENERAL

- 1.01 SCOPE OF WORK
- 1.02 EXAMINATION
- 1.03 QUESTIONS
- 1.04 OMISSIONS AND DISCREPANCIES
- 1.05 BIDDER'S QUALIFICATIONS
- 1.06 INFORMATION NOT GUARANTEED
- 1.07 SUBSTITUTION
- 1.08 BIDS
- 1.09 ITEMS, INDETERMINATE ITEMS, AND COMPARISON OF BIDS
- 1.10 TIME FOR COMPLETION
- 1.11 BID SECURITY
- 1.12 SUBCONTRACTORS
- 1.13 FORMS TO BE COMPLETED
- 1.14 BONDS
- 1.15 EXECUTION OF CONTRACT
- 1.16 INSURANCE CERTIFICATES
- 1.17 BID ITEM BREAKDOWN
- 1.18 LIQUIDATED DAMAGES
- 1.19 SALES AND USE TAXES
- 1.20 BID SUBMISSION (EBIDDING)
- 1.21 WITHDRAWAL OF BIDS
- 1.22 WAGE RATES
- 1.23 INFORMAL BIDS
- 1.24 RIGHT TO REJECT BIDS
- 1.25 BASIS OF AWARD
- 1.26 MANUFACTURER'S EXPERIENCE
- 1.27 ALTERNATES
- 1.28 DELETED
- 1.29 ADDENDA
- 1.30 BITUMINOUS CONCRETE PRICE ADJUSTMENT CLAUSE
- 1.31 CONTRACTOR'S CERTIFICATION

PART I      GENERAL

- 1.01 SCOPE OF WORK
  - A. The location, general characteristics and principal details of the work are indicated on the set of accompanying drawings, titled "**Town of Buckland**", **Massachusetts, Ashfield Street Improvement Project**
  - B. The successful bidder shall furnish all materials, labor, tools, and equipment, and perform all work required for the completion of this Contract.
  - C. The word "Owner" as used herein shall mean the "**Town of Buckland**", **Massachusetts**.
- 1.02 EXAMINATION

- A. Bidders must examine each of the Contract Documents that form the Contract and become thoroughly familiar with the Contract Documents. The Contract Documents shall in no way relieve any bidder from any obligation in respect to his bid.

1.03 QUESTIONS

- A. No oral interpretation will be made to any bidder as to the meaning of any of the Contract Documents or be effective to modify any of the provisions of the Contract Documents. All questions shall be submitted in writing to the Engineer at least seven (7) days before the established date for bid opening. The Engineer will arrange an agenda, which shall become part of the Contract, all questions received as provided above, and his decision regarding each. At least five (5) days prior to the receipt of bids, the Engineer will send a copy of these addenda to each of those who has obtained a set of the Contract Documents.

Copies of addenda will be made available for inspection at the locations listed in the Advertisement where Contract Documents are on file or available at [www.biddocsonline.com](http://www.biddocsonline.com) under the "addenda tab".

1.04 OMISSIONS AND DISCREPANCIES

- A. Should a bidder find discrepancies in and/or omissions from the Contract Documents, or should he be in doubt as to their meaning, he should at once notify the Engineer, who shall send a written instruction for clarification to all prospective bidders.

1.05 BIDDER'S QUALIFICATIONS

- A. It is the purpose of the Owner not to award this Contract to any bidder who does not furnish satisfactory evidence that he has the ability and experience in this class of work and that he has sufficient capital to enable him to prosecute the work successfully and to complete it in the time named. The Owner's decision or judgment on these matters shall be final, conclusive, and binding.
- B. The Owner may take such investigations, as he deems necessary to determine the ability of the bidder to perform the work.
- C. No award will be made to any bidder who cannot meet all of the following requirements:
- (1) He shall not have defaulted on any contract within three years prior to the bid date.
  - (2) He shall maintain a permanent place of business.
  - (3) He shall have adequate personnel and equipment to perform the work expeditiously.
  - (4) He shall have suitable financial status to meet obligations incident to the work.
  - (5) He shall be registered with the Secretary of State to do business in Massachusetts.

(6) He shall not have failed to perform satisfactorily on contracts of similar nature.

(7) He shall not have failed to complete previous contracts on time.

(8) Prequalified by Massachusetts Highway Department

#### 1.06 INFORMATION NOT GUARANTEED

- A. All information given on the drawings or in the Contract Documents relating to test pits, subsurface conditions, and existing pipes and other structures is from the best sources presently available to the Owner. All such information and the drawings of existing construction are furnished only for the information and convenience of bidders.
- B. It is agreed and understood that the Owner does not warrant or guarantee that the materials, pipes, or other structures encountered during construction will be the same as those indicated by the logs of test pits or by the information given on the drawings or in the Contract Documents.
- C. The bidder must satisfy himself regarding the character, quantities, and conditions of the various materials and the work to be done.
- D. It further is agreed and understood that the bidder or the Contractor will not use any of the information made available to him or obtained in any examination made by him in any manner as a basis or ground of a claim or demand of any nature against the Owner or the Engineer, arising from or by reason of any variance which may exist between the information offered and the actual materials or structure encountered during the construction work, except as may otherwise be provided for in the Contract Documents.

#### 1.07 SUBSTITUTION

- A. In the various detailed sections of the specifications where any item of equipment or product is specified by two or more manufacturer's names or trade names, with the addition of such expressions as "or approved equal", it is to be understood that equal quality equipment or products of either a manufacturer named or of a manufacturer not named, which meets the detailed requirements of the specifications is intended, subject to the approval of the Engineer as to the equality thereof. It is distinctly understood: (1) that the Engineer is to use his own judgment in determining whether or not any item of equipment or product proposed is equal in quality to that specified; (2) that the decision of the Engineer on all such questions of equality shall be final.
- B. If, subsequent to the award of the Contract, for the normally rare occurrences that it becomes necessary (because of delays in delivery, strikes, discontinuance of manufacture of items specified or the equal thereof) to use a different type than the equipment or product specified, or the approved equal thereof, the Engineer in his discretion may authorize the use of such different type of equipment or product. Each such different type of item (and possibly changes in other parts of the work related to the item) may be the same, more or less, in cost, than the item specified. In his request for use of such different type of item, the Contractor shall submit to the Engineer a complete description of the proposed item, including dimensions, operational characteristics, changes (if any) that will be required to other related parts of work, etc. He shall also

submit to the Engineer in writing full information as to costs of the item specified, the cost of the different type of item being proposed, as well as costs (additional or credits) of changes (if any) to any related parts of the work. Such information shall be in such form and detail as to permit the Engineer to check, to his satisfaction, the costs involved. Upon approval of such different type item, when the cost thereof is less or greater, the Engineer will authorize, in writing, the proper credits to be allowed the Owner, or the proper additional payments to be made to the Contractor.

1.08

#### BIDS

**THIS PROJECT IS BEING ELECTRONICALLY BID AND HARD COPY BIDS WILL NOT BE ACCEPTED.** Please review the instructions in the bid documents on how to register as an electronic bidder. The bids are to be prepared and submitted at [www.biddocsonline.com](http://www.biddocsonline.com) . Tutorials and instructions on how to complete the electronic bid documents are available online (click on the "Tutorial" tab at the bottom footer).

1.09

#### ITEMS, INDETERMINATE ITEMS, AND COMPARISON OF BIDS

- A. The work to be done has been divided into items to enable each bidder to bid on the different portions of the work in accordance with his estimate of his cost and so that the actual quantity of work executed under each item may be paid for at the price bid for that particular item, even though such quantity is greater or less than the estimated quantity stated in the bid.

1.10

#### TIME FOR COMPLETION

- A. The Contractor will be required to complete the work under this Contract within the time stated in SECTION 00500 - AGREEMENT.

1.11

#### BID SECURITY

- A. Each bid must be accompanied by a bid deposit in the form of a bid bond, or a certified check, issued by a surety or a bank duly authorized to do business in the State of Massachusetts and made payable to the order of the Owner. Attorneys who sign bid bonds (or payment or performance bonds) must file with each bond a certified and effective dated copy of their power of attorney.
- B. The amount of the deposit shall be in an amount of not less than five percent (5%) of the bid.
- C. Note: Both the "bid bond" or "check" bid deposits are to be scanned and uploaded to the system as a pdf file. **IMPORTANT NOTICE:** If the bidder elects to make a bid deposit in the form of "cash" or "check" the bidder must have the cash or check physically delivered to the Town of Buckland prior to the date and time of the bid opening.
- D. Each bid deposit may be held by the Owner as security for fulfillment of the bidder's promises, set forth in his bid, that he will not withdraw his bid while it is being considered and will execute the Contract Agreement and furnish the required bonds and insurance certificates if his bid is accepted. Should the bidder fail to fulfill such promises, his bid deposit shall become the property of or be payable to the Owner as payment for damages.

- E. Unless it shall become the property of or be payable to the Owner, said deposit shall be returned to the bidder as hereinafter provided. Deposits or bid bonds will be returned to all except the three lowest bidders within fifteen (15) days (Sundays and legal holidays excluded) after the formal opening of bids and to the three (3) lowest bidders within (5) days (Sundays and legal holidays excluded) after the Owner and the accepted bidder have executed the Contract Agreement. In the event that the Contract Agreement has not been executed by both the accepted bidder and the Owner within one hundred twenty (120) consecutive calendar days after the opening of the bids, bid security will be returned promptly upon demand of any bidder who has not been notified of the acceptance of his bid.
- F. None of the three (3) lowest bids shall be deemed rejected, notwithstanding acceptance of one of the bids, until the Contract Agreement has been executed by both the Owner and the Accepted bidder.

#### 1.12 SUBCONTRACTORS

- A. Names of intended principal subcontractors must be listed in SECTION 00400 - FORM FOR SUBCONTRACTOR DESIGNATION. There shall be only one subcontractor named for each part of the work to be subcontracted. The Owner in no way implies acceptance of the intended subcontractors by acceptance of bids. Subcontractor acceptance shall be in accordance with SECTION 00700 - GENERAL CONDITIONS. The Contractor shall not be permitted to substitute subcontractors not listed in SECTION - 00400 without written approval of the Owner.

#### 1.13 FORMS TO BE COMPLETED

- A. All forms within sections 00300 through 00400 will be completed as part of the Bid.

#### 1.14 BONDS

- A. A Performance Bond and a Labor and Materials Payment Bond in the forms which are inserted after the Contract Agreement and each in the sum as herein specified and duly executed by the successful bidder as Principal and by a surety company qualified to do business under the laws of the State of Massachusetts and satisfactory to the Owner, as Surety, will be required for the faithful performance of the Contract, including maintenance of the work, and the payment for the labor and materials.

<u>Performance Bond</u>	Full amount of the Contract
<u>Labor and Material Bond</u>	Full amount of the Contract

- B. Performance and Labor and Material Payment Bonds must be furnished simultaneously with the delivery of the executed Contract by the successful bidder.

#### 1.15 EXECUTION OF CONTRACT

- A. The bidder to whom the Contract is awarded will be required to execute the Contract Agreement and furnish the required Bonds within Five (5) days (Sundays and legal holidays excluded) after receipt of notification that the Contract Agreement is ready for signature.

1.16 INSURANCE CERTIFICATES

- A. The Contractor will not be permitted to start any construction work under this Contract until he has submitted certificates covering all insurance called for under SECTION 00810 - SUPPLEMENTAL GENERAL CONDITIONS and has obtained approval in writing of these certificates from the Engineer. The Town of Buckland will be named additional insured on the certificate.

1.17 BID ITEM BREAKDOWN

- A. At least ten (10) days prior to the preparation of the first estimate for payment, the Contractor shall provide a complete breakdown of the cost of his work for each lump sum bid item. The breakdown shall be prepared in such a manner that it may be used as a basis for estimating the value of the work completed to the end of any month. The extent and basis of the breakdown shall be subject to the approval of the Engineer.

1.18 LIQUIDATED DAMAGES

- A. Should a Contractor fail to complete his work on or before the time set forth or as provided in the Contract Documents covering extension of time, the Owner may retain an amount as set forth in SECTION 00500 - AGREEMENT as liquidated damages for each calendar day in accordance with the provisions of that section.

1.19 SALES AND USE TAXES

- A. The bidder shall study all tax laws for the jurisdiction in which the work is done, particularly so-called "Sales and Use Taxes" for which he may be liable as a consumer or user of goods. The bid shall be made in accordance with such laws and shall include such taxes in the bid amount. The bidder shall also obtain, where applicable, sales and use tax exemption.

1.20 BID SUBMISSION - PREPARATION AND SUBMISSION OF BIDS

A **Forms and Bid Preparation**

Bids shall be submitted electronically on the "**Form for General Bid**" at [www.biddocsonline.com](http://www.biddocsonline.com), as appropriate and available at no cost. The forms enclosed in the Project Manual shall not be extracted or used. **All forms within sections 00300 through 00400 will be completed as part of the Bid.**

All bidders must complete and submit the **electronic bidder registration form** (Signature Authorization Form – hard copy) to BidDocs ONLINE Inc. [61 Skyfields Drive, Groton, MA 01450]. The form must be received by BidDocs ONLINE Inc. at least three business days prior to the bidding opening for processing. The Awarding Authority, the designer or BidDocs ONLINE Inc. will not be held accountable if the bidder fails to submit the electronic bidder registration form in a timely manner. Instructions to submit the form are in the

Contract Documents and are available at [www.biddocsonline.com](http://www.biddocsonline.com) (click on the "Tutorial" tab at the bottom footer – **Tutorial #1**).

1. All entries on the bid form shall be made online. Any documents that are attached to the bid must be in a pdf format.
2. Sums shall be expressed in both words and figures in the space indicated on the bid form. Where there is a discrepancy between the bid sum expressed in words and the bid sum expressed in figures, the words shall control. Note: The electronic bid forms automatically match the "word" amount to the numeric "figure" amount entered.

**B**

**Bid Deposits shall be:**

1. at least five percent (5%) of the greatest possible bid amount, considering all alternates;
2. made payable to the **Town of Buckland**;
3. conditioned upon faithful performance by the principal of the agreements contained in the bid, and
4. in the form of:
  - a) cash,
  - b) certified check, treasurer's or cashier's check issued by a responsible bank or trust company, or
  - c) a bid bond issued by a surety company licensed to do business in the Commonwealth of Massachusetts.
5. retained until the execution and delivery of the Owner/Contractor Agreement if they represent the bid deposit of one of the three (3) lowest responsible and eligible General Bidders.

Note: Both the "bid bond" or "check" bid deposits are to be scanned and uploaded to the system as a pdf file. **IMPORTANT NOTICE:** If the bidder elects to make a bid deposit in the form of "cash" or "check" the bidder must have the cash or check physically delivered to the Awarding Authority prior to the date and time of the bid opening.

**C**

**Electronic Submission of General Bids**

General Bids, including the bid deposit, shall be submitted electronically online at [www.biddocsonline.com](http://www.biddocsonline.com) . **No hard copy bids will be accepted.** The **Bidder will receive an email confirmation** upon clicking the "submit bid or resubmit bid" button. Contact BidDocs ONLINE Inc. at [admin@biddocsonline.com](mailto:admin@biddocsonline.com) or call 978-888-3350 if you do not receive a confirmation email upon submitting a bid.

1. Date and time for receipt of bids is set forth in the Advertisement.
2. Timely submission of a bid online shall be the full responsibility of the Bidder.

**1.21**

**WITHDRAWAL OF BIDS**

**A.**

The attention of bidders is directed to the fact that, in submitting his bid, the bidder agrees that he will not withdraw it within one hundred twenty (120) consecutive calendar days after the actual date of the opening of bids.

- B. Any bid may be withdrawn (retracted) prior to the time designated for receipt of his upon clicking the tab to "Retract Bid". The bidder and Awarding Authority will receive an email confirming that the bidder retracted the bid.
- C. Withdrawn bids may be modified and resubmitted up to the time designated for the receipt of bids.
- D. Unless a bid is formally withdrawn, it shall be deemed open for acceptance until the Contract Agreement has been executed by all parties thereto or until the Owner manifests that he does not intend to accept the bid. Notice of acceptance of a bid shall not constitute rejection of any other bid.

#### 1.22 MINIMUM WAGE RATES

- A. Massachusetts Wage Rates, as determined, as determined by the Commission of the Department of Labor and Industries under provision of the Massachusetts General Laws, Chapter 149, Section 27 to 27A, as amended, apply to this project.
- B. Both Federal (Davis/Bacon) and State Wage Rates are attached to these specifications. Where Federal and State wage rates differ, the high rate shall be considered as the minimum rate.

#### 1.23 INFORMAL BIDS

- A. The Owner may reject as informal, bids that contain erasures not properly initialed, improperly executed, or incomplete bid documents. The Owner reserves the right to waive any informalities.

#### 1.24 RIGHT TO REJECT BIDS

- A. The Owner reserves the right to reject any or all bids, to accept any bid, or to waive any informality on bids received. The Owner also reserves the right to omit any item or items that he deems advisable.
- B. A conditional or qualified bid will not be accepted. The Owner reserves the right to reject unbalanced bids.

#### 1.25 BASIS OF AWARD

- A. The Contract will be awarded to the lowest responsible bidder. The Owner will require satisfactory proof that the low bidder is responsible and able to prosecute the work successfully in the time named. The Owner's decision on these matters shall be final.

#### 1.26 MANUFACTURER'S EXPERIENCE

- A. Wherever it may be written that an equipment manufacturer must have a specified period of experience with his product, equipment which does not meet the specified experience period can be considered if the equipment supplier or manufacturer is willing to provide a bond or cash deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of failure.

1.27 ALTERNATES

- A. Where alternate items of work are indicated in the Bid, bidders shall submit prices for all alternates. The Owner reserves the right to select the alternates deemed to be in the best interest of the owner.
- B. Each General Bidder shall acknowledge Alternates in Section C on the Form for General Bid by entering the dollar amount of addition or subtraction necessitated by each alternate.
- C. In the event an Alternate does not involve a change in amount of the base bid, the Bidder shall so indicate by entering "0" (numeric figure) in the space provided for that Alternate.
- D. General Bidders shall enter on the Form for General Bid a single amount for each Alternate
- E. The Low Bidder will be determined on the basis of the sum of the base bid and the accepted alternate(s).

1.28 DELETED

1.29 ADDENDA

- A. All modifications to the bid documents will be issued via an addendum. All registered plan holders will be electronically notified when addenda are issued. Hard copies of the addenda will **not** be forwarded to the plan holders. The bidder is solely responsible for reviewing all addenda posted on the project website. The bidder must acknowledge all addenda have been reviewed by selecting "yes" or "no" as part of the eBIDDING process. If the bidder selects "no", the bidder will automatically be directed to the Addenda icon on the project page.

1.30 BITUMINOUS CONCRETE PRICE ADJUSTMENT CLAUSE

- A. This project includes a bituminous concrete price adjustment clause. The in place bituminous concrete pavement cost bid for the base bid, chosen alternates, and supplementary unit price items for all bituminous paving items shall be based on the February 2021 liquid asphalt price per ton, which is \$512.50 as published on the MassDOT website. During the month of purchase/installation of the bituminous concrete pavement, any change (increase or decrease) of the liquid asphalt price per ton of 5% or greater as published on the MassDOT website for that month shall cause a price adjustment for bituminous concrete pavement.
- B. If a lump sum price is bid for the bituminous concrete pavement, the quantity (tons) of bituminous concrete pavement subject to price adjustment (increase or decrease) will be determined by the following method: (area paved in square yards as specified) multiplied by (the in place paved depth in inches as specified) multiplied by (0.056 tons per inches-square yards).
- C. Calculations for price adjustments for bituminous concrete bid shall be made in conformance with document 00811 (latest revision date 07/08/2016) as published on the MassDOT website. Due to the delay in published liquid asphalt prices by MassDOT, monthly pay requisitions shall include a line for the previous months bituminous concrete adjustment (if an adjustment is due)

Backup documentation and calculations shall be provided with the pay requisition. A change order may also be issued in lieu of a line item for adjustments upon approval.

1.31 CONTRACTOR'S CERTIFICATION

- A. All employees who work on this construction site must have no less than 10 hours of OSHA-approved safety and health training. See Chapter 306 of the Acts of 2004.
- B. The Contractor and all subcontractors on this project will be required to provide certification of this compliance with this requirement in accordance with the provisions of these Contract Documents.

END OF SECTION

# eBIDDING INSTRUCTIONS TO BIDDERS

**THIS PROJECT IS BEING ELECTRONICALLY BID AND HARD COPY BIDS WILL NOT BE ACCEPTED.** Please review the instructions in the bid documents on how to register as an electronic bidder. The bids are to be prepared and submitted at [www.biddocsonline.com](http://www.biddocsonline.com) . Tutorials and instructions on how to complete the electronic bid documents are available online (click on the "Tutorial" tab at the bottom footer).

## ARTICLE 1 - PREPARATION AND SUBMISSION OF BIDS

### 1.1 Forms and Bid Preparation

Bids shall be submitted electronically on the "**Form for General Bid**" at [www.biddocsonline.com](http://www.biddocsonline.com), as appropriate and available at no cost. The forms enclosed in the Project Manual shall not be extracted or used.

- 1.1.1 All bidders must complete and submit the electronic bidder registration form (Signature Authorization Form – hard copy) to BidDocs ONLINE Inc. The form must be received by BidDocs ONLINE Inc. at least three business days prior to the bidding opening for processing. The Awarding Authority, the designer or BidDocs ONLINE Inc. will not be held accountable if the bidder fails to submit the electronic bidder registration form in a timely manner. Instructions to submit the form are in the Contract Documents and are available at [www.biddocsonline.com](http://www.biddocsonline.com) (click on the "Tutorial" tab at the bottom footer).
- 1.1.2 All entries on the bid form shall be made online. Any documents that are attached to the bid must be in a pdf format.
- 1.1.3 Sums shall be expressed in both words and figures in the space indicated on the bid form. Where there is a discrepancy between the bid sum expressed in words and the bid sum expressed in figures, the words shall control. Note: **The electronic bid forms automatically matches the "word" amount to the numeric "figure" amount entered.**

### 1.2 Bid Deposits shall be:

- 1.2.1 at least five percent (5%) of the greatest possible bid amount, considering all alternates;
- 1.2.2 made payable to the **Awarding Authority**;
- 1.2.3 conditioned upon faithful performance by the principal of the agreements contained in the bid, and
- 1.2.4 in the form of:
  - .1 cash,
  - .2 certified check, treasurer's or cashier's check issued by a responsible bank or trust company, or
  - .3 a bid bond issued by a surety company licensed to do business in the Commonwealth of Massachusetts.

Note: Both the "bid bond" or "check" bid deposits are to be scanned and uploaded to the system as a pdf file. **IMPORTANT NOTICE:** If the bidder elects to make a bid deposit in the form of "cash" or "check" the bidder must have the cash or check physically delivered to the Awarding Authority prior to the date and time of the bid opening.

### 1.3 Electronic Submission of General Bids

General Bids, including the bid deposit, bidder's reference form and any required miscellaneous forms noted in the bid documents shall be submitted electronically online at [www.biddocsonline.com](http://www.biddocsonline.com) . No hard copy bids will be accepted.

- 1.3.1 Date and time for receipt of bids is set forth in the Advertisement.
- 1.3.2 Timely submission of a bid online shall be the full responsibility of the Bidder.

## 1.4 Addenda

- 1.4 .1** All modifications to the bid documents will be issued via an addendum. All registered plan holders will be electronically notified when addenda are issued. Hard copies of the addenda will not be forwarded to the plan holders. The bidder is solely responsible for reviewing all addenda posted on the project website. The bidder must acknowledge all addenda have been reviewed by selecting “yes” or “no” as part of the ebidding process. If the bidder selects “no”, the bidder will automatically be directed to the Addenda icon on the project page.

## ARTICLE 2 - ALTERNATES

- 2.1** Each General Bidder shall acknowledge Alternates in Section C on the Form for General Bid by entering the dollar amount of addition or subtraction necessitated by each Alternate.
- 2.2** In the event an Alternate does not involve a change in the amount of the base bid, the Bidder shall so indicate by entering **"0" (numeric figure)** in the “Add” space provided for that Alternate.
- 2.4** General Bidders shall enter on the Form for General Bid a single amount for each Alternate.
- 2.5** The low Bidder will be determined on the basis of the sum of the base bid and the accepted alternates.

## ARTICLE 3 - WITHDRAWAL OF BIDS

### 3.1 Before Opening of Bids

- 3.1.1** Any bid may be withdrawn (retracted) prior to the time designated for receipt of bids upon clicking the tab to “Retract Bid”. The bidder and Awarding Authority will receive an email confirming that the bidder retracted the bid.
- 3.1.2** Withdrawn bids may be modified and resubmitted up to the time designated for the receipt of bids.

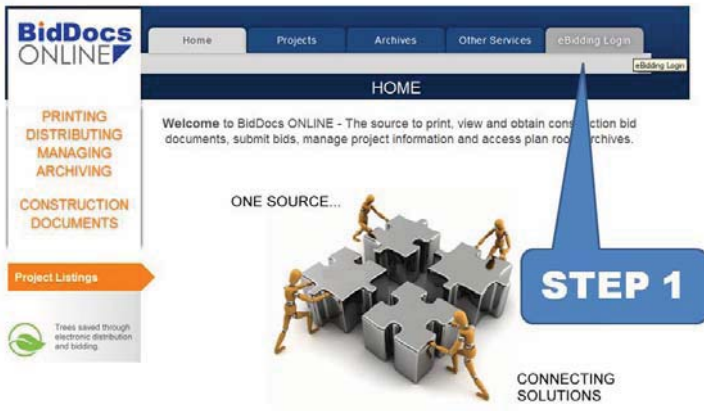
**END OF SECTION**

# Tutorial #1

## eBidding REGISTRATION INSTRUCTIONS

Below are the step by step instructions on how to register to use BidDocs ONLINE eBidding. There is no cost to register. Start by going to

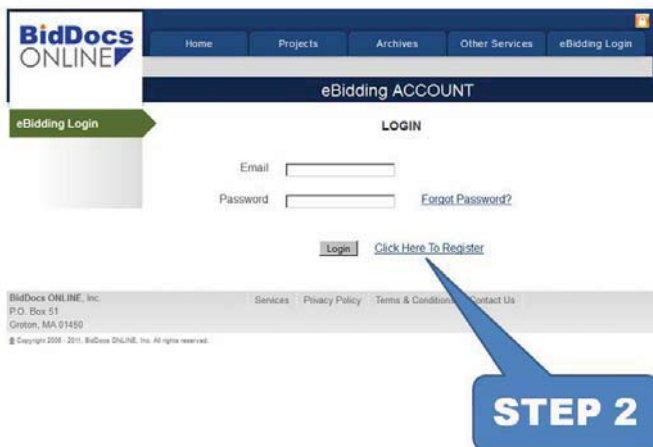
[www.biddocsonline.com](http://www.biddocsonline.com)



eBidding Registration Instructions

1

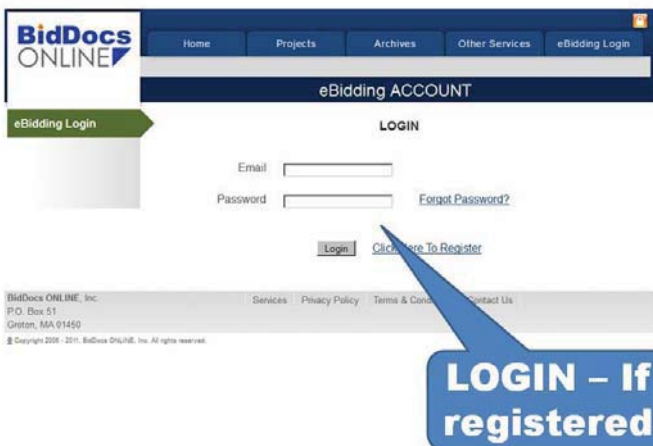
**STEP 1:** Click on the “eBidding Login” tab at the top of the page.



eBidding Registration Instructions

2

**STEP 2:** If your company has not previously registered, click on the text “[Click Here To Register](#)”.



eBidding Registration Instructions

3

**STEP 3:** If your company has previously registered, login by entering the registered email address and password and then click the “Login” button.

Note: Your company will have only one registration and must use the same password.

**eBidding ACCOUNT**

**REGISTRATION**

All fields must be completed to continue to your Electronic Bidder Account. Please remember to print, sign and forward your registration form and forward to BidDocs ONLINE, Inc. at least 3 days prior to submitting a bid.

User Name:  Title:

Person authorized to sign bids:

Company Name:

Type of Entity:  SBO Certification: ☐ YES ☐ NO ☐ DSE

☒ Check if same as street address

Street Address:

City/Town:  State:  Zip Code:

Phone:  Fax:

Federal ID:  or Social Security Number:

Email:  User ID:

Password:  (8 characters and/or numbers)

Verify Password:

Your company must register as an Electronic Bidder in order to submit a bid on projects designated for Electronic Bidding on BidDocs ONLINE. The Electronic Bidder designation is separate and different from the Electronic Plan reader designation.

**IMPORTANT:** The original copy of the registration form must be forwarded to BidDocs ONLINE, Inc. It must be received three (3) business days prior to the bid date. The form must be sent via a delivery method that can trace the delivery to BidDocs ONLINE. An electronic bid may not be submitted unless the original form received by BidDocs ONLINE and authorization is confirmed.

Once your company is registered as an Electronic Bidder, your company may modify any information at any time. The ELECTRONIC BIDDING SIGNATURE AUTHORIZATION FORM must be resubmitted if your company name or the person authorized to submit your bids changes. In such a case, an updated ELECTRONIC BIDDING SIGNATURE AUTHORIZATION FORM must be received by BidDocs ONLINE, Inc. no later than three (3) days prior to the bid date.

☐ I have read and agree to all terms and conditions

**STEP 3:** All fields must be completed in the registration form.

**STEP 4:** After completing the registration form, you must read and acknowledge the Terms and Conditions. Click the "Submit" button.

**BidDocs ONLINE**

Home Projects Archives Other Services eBidding Login

**eBidding ACCOUNT**

**LOGIN**

Email:

Password:  [Forgot Password?](#)

[Click Here To Register](#)

BidDocs ONLINE, Inc.  
P.O. Box 51  
Groton, MA 01459

Services Privacy Policy Terms & Conditions Contact Us

© Copyright 2008 - 2011, BidDocs ONLINE, Inc. All rights reserved.

**STEP 5:** Enter the email and password previously created during the registration process and click "Login".

**BidDocs ONLINE**

Home Projects Archives Other Services eBidding

**ELECTRONIC BIDDING**

**ACCOUNT AUTHORIZATION**

**IMPORTANT:** The original copy of the registration form must be forwarded to BidDocs ONLINE, Inc. no later than three (3) business days prior to the bid date. The form must be sent via a delivery method that can trace the delivery to BidDocs ONLINE. An electronic bid may not be submitted unless the original form is received by BidDocs ONLINE and authorization is confirmed.

**Note:** If your company name or authorized person submitting bids changes, you must complete a new authorization form and submit it to BidDocs ONLINE, Inc. at least 3 days prior to submitting a bid.

BidDocs ONLINE Inc.  
P.O. Box 51  
61 Skyfields Drive  
Groton, MA 01450  
Attn: eBid Signature Authorization Form

**STEP 6:** After logging in, the account authorization screen will appear. You must click "Print Form" to proceed to Step 7.

**STEP 7**

**STEP 7:** Print and notarize the form (sign in blue ink). Return the original “Electronic Bidder Signature Authorization Form” to BidDocs ONLINE Inc.

The mailing address is:  
**BidDocs ONLINE Inc.**  
**P.O. Box 51**  
**61 Skyfields Drive (for overnight)**  
**Groton, MA 01450**

Your company is responsible for ensuring that BidDocs ONLINE receives the signed Electronic Bidder Signature Authorization Form a minimum of three (3) business days prior to the bid date. BidDocs ONLINE will notify you by email that your form has been received and processed. A unique bar code will identify your bid paperwork.

*Note: The registration form will remain “active” until such time that your company requests a change in the person signing the form, the company address or other pertinent company information. Your company is responsible for printing and resubmitting an updated form as required.*

**STEP 8**

**STEP 8:** While the Electronic Bidder Signature Authorization Form is being processed, you may commence completing the common forms (DCAM Eligibility and Sections 1-4 of the DCAM Update Statement) that are required for MGL c. 149 bids. (See Tutorial #2 - eBidding Common Forms Instructions)

Please note that you are responsible for completing the associated forms for each sub-trade and/or general bid as applicable.

**Summary: THIS PROJECT IS BEING ELECTRONICALLY BID AND HARD COPY BIDS WILL NOT BE ACCEPTED BY THE AWARDING AUTHORITY.** You must submit your bid electronically at [www.biddocsonline.com](http://www.biddocsonline.com). At any time during the bidding process, you may print the various bid documents for your company's records. Additional instructions to complete the other bid forms are accessible on the BidDocs ONLINE website (click on the “Tutorial” tab at the bottom footer).

SECTION 00220

SUBSURFACE DATA

PART 1        GENERAL

- 1.01        TEST HOLES & LOCATION
- 1.02        INFORMATION NOT GUARANTEED
- 1.03        TEST PIT FIELD NOTES

PART 1        GENERAL

1.01        TEST HOLES & LOCATION

- A. The Owner has made test holes in the project area, the approximate locations of which are noted on the Contract Drawings. The data obtained from these test holes is contained within this section.

1.02        INFORMATION NOT GUARANTEED

- A. Any available data concerning subsurface materials or conditions, which are based upon soundings, test pits or test borings, have been obtained by the retained Engineers for their own use in designing this project. These are not representations or warranties as to the accuracy or completeness thereof by the Owner or the Engineer. Boring information is presented in plan and profile on the Contract Documents. The Contractor shall assume all risks in excavating for this project.
- B. Subsurface information is offered in good faith solely for the purpose of placing the Contractor in receipt of all information available to the Owner.

END OF SECTION

Boring #B1

Location: By the hydrant in front of #24 Ashfield

0' - 7' – Gravel Fill

7' - 11'3" – Glacial Till

11'3" - Refusal

Boring #B2

Location: End of Existing Sidewalk on West Side of Ashfield by Rail Road Tracks

0' - 6' – Gravel Fill

6' – 15' – Glacial Till

Boring #B3

Location: In front of Gravel Driveway of #18 Ashfield

0' – 4' – Gravel Fill

4' – 10' – Glacial Till

Boring #B4

Location: In front of walk for #10 Ashfield

0' – 5' – Gravel Fill / Coarse Sand

5' – 10' – Glacial Till

Boring #B5

Location: Intersection of 2 Stone Masonry Walls, at property corners of #10 and #2 Ashfield

0' – 1'3" – Gravel Fill

1'3" – Refusal

Boring #B5-2

Location: Intersection of 2 Stone Masonry Walls, at property corners of #10 and #2 Ashfield

0' – 2'6" – Gravel Fill

2'6" – Refusal

Boring #B5-3

Location: Intersection of 2 Stone Masonry Walls, at property corners of #10 and #2 Ashfield

0' – 3'6" – Gravel Fill

3'6" – Refusal

Boring #B6

Location: In front of stairs of #2 Ashfield

0' – 5' – Gravel Fill / Coarse Sand

5' – 6'4" – Dense Sand

6'4" – Refusal

Boring #B7

Location: South of Catch Basin in front of #28 Ashfield

0' – 7' – Gravel Fill

7' – 15' – Glacial Till

Borings were performed by Soil X. Corp. on July 26, 2019.

# FORM FOR GENERAL BID

## TO THE AWARDING AUTHORITY

A. The undersigned proposes to furnish all labor and materials required for \_\_\_\_\_ for the

PROJECT

in \_\_\_\_\_, Massachusetts,

in accordance with the accompanying plans and specifications prepared by

Name of Engineer/Architect

For the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. This bid includes addenda numbered: \_\_\_\_\_

C. The proposed contract price is:

Dollars \$

Bid Amount in Words		Bid Amount in Numbers	
For Alternate	No. _____	Add \$	Subtract \$ _____
	No. _____	\$	\$ _____
	No. _____	\$	\$ _____
	No. _____	\$	\$ _____
	No. _____	\$	\$ _____

Each Alternate shall be listed separately

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

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

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

---

**NAME OF BIDDER**

---

**SIGNATURE AND TITLE OF PERSON SIGNING BID**

**Date:**

---

**BUSINESS ADDRESS**

---

**ELECTRONIC BID - HARD COPY SUBMISSIONS WILL NOT BE ACCEPTED**

SECTION 00301

BID PRICING SHEETS

PART 1      GENERAL

1.01      SCHEDULE OF BID ITEMS

1.02      DEFINITIONS OF TERMS AND ABBREVIATIONS USED IN THE BID

PART 2      BID

PART 1      GENERAL

1.01      SCHEDULE OF BID ITEMS

- A.      The following Schedule of Bid Items shall be completed in ink or typewritten. All item prices must be entered in both words and figures and extended by the Bidder. In case there is a discrepancy between the item prices shown in words and figures, the amount shown in words shall govern. In case there is a discrepancy between the total bid price and the correct extension and the sum of the amounts for each bid item, the latter will govern.
- B.      Where the Schedule of Items consists of more than one (1) item, the total bid price for the Contract, calculated as above and entered at the end of the schedule, is not a part of the Bid, but is to be used solely for the comparison of bids to determine the apparent low bidder. The Apparent Low Bidder will be determined based on the sum of the (base) Bid.
- C.      Failure to submit a formal Bid in accordance with the requirements of the INSTRUCTIONS AND INFORMATION FOR BIDDERS will be considered sufficient grounds for rejection of the entire Bid Proposal.
- D.      Bidders must fill in a price for all items in the bid.
- E.      Project Award: The project will be awarded to the lowest bidder. The lowest bidder is defined as the bidder with the lowest price summing the Bid including chosen alternates by the Town.

## 1.02 DEFINITIONS OF TERMS AND ABBREVIATIONS USED IN THE BID

- A. Where any of the following abbreviations are used in the Bid, they shall have the meaning set forth opposite each. Periods may or may not be used in abbreviations.

Alt.	Alternate
CMP	Corrugated Metal Pipe
C.Y.	Cubic Yard
D.I.	Ductile Iron
Dia.	Diameter
EA.	Each
F/I	Furnish and Install
F.A.	Fees Allowance
HDPE	High Density Polyethylene
HMA	Hot Mix Asphalt
LBS.	Pounds
L.F.	Linear Feet
L.S.	Lump Sum
Min.	Minimum
MFBM	Thousand Board Feet
M.H.	Man-hour
M.D.	Man-day
N/A	Not Applicable
PE	Polyethylene
psi	Pounds per Square inch
PVC	Polyvinylchloride
R.C.P.	Reinforced Concrete Pipe
R.O.W.	Right of Way
SDR	Standard Dimensional Ratio
S.F.	Square Foot
S.Y.	Square Yard
V.C.	Vitrified Clay
V.F.	Vertical Feet
w/	with

## BID FORM FOR

### TOWN OF BUCKLAND, MASSACHUSETTS ASHFIELD STREET IMPROVEMENT PROJECT

The undersigned Bidder declares that the only parties interested in this Bid as principals are as stated; that the bid is made without collusion with any other person, firm, or corporation; that no officer or agent is directly or indirectly interested in this Bid; that he has carefully examined all Contract Documents and Contract Drawings as prepared by GCG Associates, Inc., 84 Main Street, Wilmington, Massachusetts and dated February 24, 2021.

The undersigned Bidder understands that the information relative to existing structures, apparent and latent conditions and natural phenomena as furnished to him on the Contract Drawings or in the Contract Documents or by the Owner or the Engineer, carries no guarantee expressed or implied as to its completeness or accuracy and he has made all due allowance, therefore. The quantities of work tabulated in this Bid and indicated on the drawings or in the specifications are only approximate and are subject to increase or decrease.

The undersigned Bidder agrees that the amount of the bid security deposited with this Bid fairly and reasonably represents the amount of damages the Owner will suffer due to his failure to fulfill his agreements as hereinafter set forth and he further understands that should he so fail; the Owner shall have the right to retain as liquidated damages for the entire amount of the bid security.

In submitting this Bid the undersigned Bidder agrees:

- A. To hold this Bid open for one hundred and twenty (120) calendar days.
- B. To accept the provisions regarding disposition of security.
- C. To enter into and execute a contract, if awarded on the basis of this Bid, and to furnish guarantee bonds.
- D. To accomplish the work in accordance with the Contract Documents.
- E. To complete the work by the time stipulated in the agreement.

The undersigned further understands and agrees that he is to furnish and provide for the respective bid price all the necessary material, machinery, tools, labor, services, and other items of whatever nature, and to do and perform all the work necessary under the aforesaid conditions, to complete the above mentioned project in accordance with the plans and specifications for the project.

The undersigned Bidder further understands that the Documents of the Contract for which his Bid is being submitted establish that liquidated damages in the amount of \$500.00 per calendar day shall be applied for breach of Contract in accordance with the provisions of AGREEMENT.

The undersigned Bidder acknowledges receipt of Addenda numbered\_\_\_\_\_

The undersigned Bidders also agree as follows:

- A. To do any extra work, not covered by the Contract, which may be ordered by the Engineer, and to accept as full compensation therefore such prices as may be agreed upon in writing by the Engineer and the Contractor in accordance with SECTION 00700 - GENERAL CONDITIONS.
- B. Within ten (10) days from the date of the "Notice of Award", to execute the Contract and to furnish the Owner a satisfactory Performance Bond and Labor and Material Payment Bond as set forth in INSTRUCTIONS AND INFORMATION FOR BIDDERS.
- C. To begin work at the site on the day designated in the "Notice to Proceed" and to prosecute said work in such a manner that the entire project shall be completed within the time specified in the AGREEMENT.

Accompanying this Bid is a certified bid bond or check, for 5% of the bid, in the amount of \$\_\_\_\_\_ (Bidder to fill in) payable to the Owner to secure said Owner against the failure of the undersigned to execute the Contract and furnished satisfactory bonds under the Conditions and within the time specified in this Bid.

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
----------	---	--------------------	-------------------------------------

1. DRAINAGE AND SEWER SYSTEM

1A.	Catch Basin (CB) Frame and Grate, as specified, Each. _____dollars and _____cents (\$_____)	6	EA.	\$_____
1B.	Drainage Manhole (DMH) Frame and Cover, as specified, Each. _____dollars and _____cents (\$_____)	2	EA.	\$_____
1C.	Sewer Manhole (SMH) Frame and Cover, as specified, Each. _____dollars and _____cents (\$_____)	1	EA.	\$_____
1D.	Furnish and Install 4' Dia. Standard Precast Sanitary Manhole, Depth As Specified, Each. _____dollars and _____cents (\$_____)	1	EA.	\$_____
1E.	Furnish and Install 4" Dia. SDR35 PVC Gravity Sewer Pipe and Fittings, all depths of cover, per Linear Foot _____dollars and _____cents (\$_____)	50	L.F.	\$_____

Subtotal for page \$\_\_\_\_\_

**Base Bid**

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
----------	---	--------------------	-------------------------------------

1. DRAINAGE AND SEWER SYSTEM CONT'D

1F. Furnish and Install 12" Dia. SDR35  
PVC Gravity Sewer Pipe and  
Fittings, all depths of cover, per Linear Foot  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 30 L.F. \$ \_\_\_\_\_

2. SIDEWALK AND CURB

2A. Cement Concrete Sidewalk  
With Monolithic Curb, All widths,  
4" Min. Depth, per Square Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 330 S.Y. \$ \_\_\_\_\_

2B. Cement Concrete Driveway Aprons  
With Monolithic Curb (Sidewalk), All widths,  
6" Min. Depth, Per Square Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 95 S.Y. \$ \_\_\_\_\_

2C. Cement Concrete Wheelchair Ramp  
With Monolithic Curb, All widths,  
6" Min. Depth, per Square Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 35 S.Y. \$ \_\_\_\_\_

2D. Cement Concrete Sidewalk  
Without Monolithic Curb, All widths,  
4" Min. Depth, per Square Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 280 S.Y. \$ \_\_\_\_\_

Subtotal for page \$ \_\_\_\_\_  
**Base Bid**

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
----------	---	--------------------	-------------------------------------

2. SIDEWALK AND CURB CONT'D

2E. Cement Concrete Driveway Aprons  
Without Monolithic Curb (Sidewalk),  
All widths, 6" Min. Depth, per Square Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 200 S.Y. \$ \_\_\_\_\_

2F. Cement Concrete Wheelchair Ramp  
Without Monolithic Curb, All widths,  
6" Min. Depth, per Square Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 55 S.Y. \$ \_\_\_\_\_

2G. Furnish and Install Detectable  
Warning Panel, All Wheelchair Ramps,  
as specified, Each  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 8 EA. \$ \_\_\_\_\_

2H. Remove and Reset Existing  
Granite Curb, all lengths of  
straight, curved and transition curb,  
per linear foot,  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 775 L.F. \$ \_\_\_\_\_

2I. Furnish and Install Vertical Granite  
Curb (VGC), All lengths of straight,  
curved and Transition curb,  
per linear foot,  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 50 L.F. \$ \_\_\_\_\_

Subtotal for page \$ \_\_\_\_\_  
**Base Bid**

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
----------	---	--------------------	-------------------------------------

3. EARTH WORK

3A.	Unclassified Excavations, General Excavation and Test Pit Excavation And Backfill, per Cubic Yard _____dollars and_____cents (\$_____)	100* C.Y.	\$_____
3B.	Roadway Excavation and Disposal, As specified, per Cubic Yard _____dollars and_____cents (\$_____)	1,090 C.Y.	\$_____
3C.	Roadway Gravel Backfill, as specified, Per Cubic Yard _____dollars and_____cents (\$_____)	725 C.Y.	\$_____
3D.	Fine Grading and Compacting of Roadway Subgrade areas, Per Square Yard _____dollars and_____cents (\$_____)	2,180 S.Y.	\$_____
3E.	Rock Excavation, Disposal and Backfill, per Cubic Yard _____dollars and_____cents (\$_____)	120* C.Y.	\$_____

\*Indeterminate Quantity assumed for Bid Comparison only.

Subtotal for page \$\_\_\_\_\_

**Base Bid**

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
----------	---	--------------------	-------------------------------------

3. EARTH WORK CONT'D

- 3F. Gravel Borrow fill and /or  
Gravel Borrow refill of unsuitable  
Material, Per Cubic Yard

\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$\_\_\_\_\_)

50\* C.Y. \$ \_\_\_\_\_

\*Indeterminate Quantity assumed for Bid Comparison only.

4. PAVEMENT

- 4A. Furnish and Place (Machine Method)  
2 ½" HMA Intermediate Course Pavement,  
Per Ton

\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$\_\_\_\_\_)

315 TON \$ \_\_\_\_\_

- 4B. Furnish and Place (Machine Method)  
1 ½" HMA Surface Course Pavement,  
Per Ton

\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$\_\_\_\_\_)

190 TON \$ \_\_\_\_\_

- 4C. Furnish and Place HMA  
Pavement (Hand Method)  
For Test Pits, Driveways, temporary  
Miscellaneous areas, per Ton

\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$\_\_\_\_\_)

160 TON \$ \_\_\_\_\_

- 4D. Furnish and Place HMA Trench  
Pavement, 2" Minimum Depth,  
per Linear Foot

\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$\_\_\_\_\_)

975 L.F. \$ \_\_\_\_\_

Subtotal for page \$ \_\_\_\_\_

**Base Bid**

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
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5. MISCELLANEOUS WORK

- 5A. Traffic Police Details,  
Allowance

Twenty-Five Thousand dollars  
and zero cents

**Allowance** \$ 25,000.00

NOTE: Traffic Police Detail invoices will be paid by the Contractor and reimbursed by the Contract allowance up to a maximum of \$20,000. The Contractor shall coordinate all Traffic Police Detail Assignments.

- 5B. Remove and Reset Street And  
Traffic Sign and Post Assembly,  
As specified, Each

\_\_\_\_\_ dollars  
and \_\_\_\_\_ cents  
(\$\_\_\_\_\_)

6 EA. \$\_\_\_\_\_

- 5C. Painted Traffic Lines, 4" wide,  
Yellow or white, reflectorized, epoxy,  
as specified, per linear foot

\_\_\_\_\_ dollars  
and \_\_\_\_\_ cents  
(\$\_\_\_\_\_)

1800 L.F. \$\_\_\_\_\_

- 5D. Painted Traffic Lines, 12" wide,  
White, reflectorized, epoxy,  
As specified, per linear foot

\_\_\_\_\_ dollars  
and \_\_\_\_\_ cents  
(\$\_\_\_\_\_)

350 L.F. \$\_\_\_\_\_

- 5E. Concrete (3000 psi) for Encasement  
Cradles and Miscellaneous  
Work, per Cubic Yard

\_\_\_\_\_ dollars  
and \_\_\_\_\_ cents  
(\$\_\_\_\_\_)

10\* C.Y. \$\_\_\_\_\_

\*Indeterminate Quantity assumed for Bid Comparison only.

Subtotal for Page  
**Base Bid**

\$\_\_\_\_\_

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
<hr/>			
<b>5. MISCELLANEOUS WORK CONT'D</b>			
5F.	Stone Masonry Wall, as specified, per square foot _____dollars and _____cents (\$_____)	375 S.F.	\$_____
5G.	Furnish and Install Loam & Seeding, As specified, per Square Yard _____dollars and _____cents (\$_____)	300 S.Y.	\$_____
5H.	Furnish, Install and Maintain Temporary Catch Basin Silt Sack, and Remove and Dispose after construction As specified, each _____dollars and _____cents (\$_____)	13 EA.	\$_____
<b>6. LUMP SUM ITEMS</b>			
6A.	Mobilization, the Lump Sum of _____dollars and _____cents	1 L. S.	\$_____
6B.	Miscellaneous Work and Cleanup, The Lump Sum of _____dollars and _____cents	1 L. S.	\$_____
Subtotal for Page <b>Base Bid</b>			\$_____

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
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6. LUMP SUM ITEMS CONT'D

- 6C. Traffic Control Systems for Vehicle And Pedestrian Safety,  
The Lump Sum of \_\_\_\_\_dollars  
and \_\_\_\_\_cents 1 L. S. \$ \_\_\_\_\_
- 6D. Railroad Permit and Service Contract,  
The Lump Sum of \_\_\_\_\_dollars  
and \_\_\_\_\_cents (\$ \_\_\_\_\_) 1 L.S. \$ \_\_\_\_\_
- 6E. Railroad Flagger, Allowance  
Ten Thousand \_\_\_\_\_dollars and  
No \_\_\_\_\_cents  
( \$10,000 ) Allowance \$ **10,000.00**

NOTE: Flagger invoices will be paid by the Contractor and reimbursed by the contract allowance up to a maximum of \$10,000. The Contractor shall coordinate all Flagger Assignments.

7. WATER PIPE, FITTINGS & APPURTENANCES

- 7A. Furnish and Install 12" Dia. CL-52  
CLDI Water Pipe as specified,  
per Linear Foot  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 520 L.F. \$ \_\_\_\_\_
- 7B. Furnish and Install 6" Dia. CL-52  
CLDI Water Pipe as specified,  
per Linear Foot  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 40 L.F. \$ \_\_\_\_\_

Subtotal for Page \_\_\_\_\_  
**Base Bid**

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
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7. WATER PIPE, FITTINGS & APPURTENANCES CONT'D

7C.	Furnish and Install Additional Ductile Iron Fittings, Per Pound _____dollars and_____cents (\$_____)	500 LBS.	\$_____
7D.	Furnish and Install 12" Gate Valve w/ Valve Box, As Specified, each _____dollars and_____cents (\$_____)	3 EA.	\$_____
7E.	Furnish and Install 6" Gate Valve w/ Valve Box, As Specified, each _____dollars and_____cents (\$_____)	2 EA.	\$_____
7F.	Furnish and Install Hydrant, As Specified, each _____dollars and_____cents (\$_____)	1 EA.	\$_____
7G.	Furnish and Install 1" Dia., Type K Copper Tubing for Services, all Depths, per Linear Foot _____dollars and_____cents (\$_____)	65 L.F.	\$_____
7H.	Furnish and Install 1" Dia., Corporation Cocks, as specified, Each _____dollars and_____cents (\$_____)	3 EA.	\$_____

Subtotal for page \$\_\_\_\_\_

**Base Bid**

## BRIEF DESCRIPTION

## BASE BID

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
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7. WATER PIPE, FITTINGS & APPURTENANCES CONT'D

7I.	Furnish and Install up to 1" Dia., Curb Stop w/box, as specified, Each _____dollars and _____cents (\$_____)	3 EA.	\$_____
7J.	Furnish and Install Railroad Crossing, Steel Pipe Sleeve, & 12" HDPE DR9 Water Pipe, as specified, per Lump Sum _____dollars and _____cents (\$_____)	1 L.S.	\$_____
7K.	Furnish and Install 2" Dia., Type K Copper Tubing for Services, all Depths, per Linear Foot _____dollars and _____cents (\$_____)	35 L.F.	\$_____
7L.	Furnish and Install 2" Dia., Corporation Cocks, as specified, Each _____dollars and _____cents (\$_____)	1 EA.	\$_____
7M.	Furnish and Install up to 2" Dia., Curb Stop w/box, as specified, Each _____dollars and _____cents (\$_____)	1 EA.	\$_____

Subtotal for page \$\_\_\_\_\_

**Base Bid**

**End of Base Bid**

## BRIEF DESCRIPTION

## ADDITIVE ALTERNATE NO. 1

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
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**The cost for roadway excavation and disposal, roadway gravel backfill and HMA trench paving will be deducted from the Contract.**

\*The cost for Items 3B and 3C below must match the cost for Items 3B and 3C in the Base BID.

3B. Roadway Excavation and Disposal,  
As specified, per Cubic Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 1,090 C.Y. \$ \_\_\_\_\_

3C. Roadway Gravel Backfill, as specified,  
Per Cubic Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 725 C.Y. \$ \_\_\_\_\_

4D. Furnish and Place HMA Trench  
Pavement, 2" Minimum Depth,  
per Linear Foot  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 975 L.F. \$ \_\_\_\_\_

**The cost for reclamation of base course will be added to the Contract.**

3G. Reclamation of Base Course,  
Per Square Yard  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 2,180 S.Y. \$ \_\_\_\_\_

The limit of work for Ashfield Street will remain unchanged.

**Total for Additive Alternate No. 1** \$ \_\_\_\_\_  
(Price for Item 3G) minus (Price for Items 3B+3C+4D)

**If Additive Alternate No. 1 is accepted by the Town, the Total for Additive Alternate No. 1 above shall be added to the contract. The total added may lower or raise the contract amount.**

**End of Additive Alternate 1 Bid**

## BRIEF DESCRIPTION

## ADDITIVE ALTERNATE NO. 2

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
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**The cost for Stone Masonry wall be deducted from the Contract.**

\*The cost for Item 5F below must match the cost for Item 5F in the Base BID.

5F. Stone Masonry Wall, as specified,  
per square foot  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 375 S.F. \$ \_\_\_\_\_

**The cost for Landscape Concrete Block Wall will be added to the Contract.**

5G. Furnish and Install Landscape Concrete  
Block Wall, as specified,  
per square foot  
\_\_\_\_\_dollars  
and \_\_\_\_\_cents  
(\$ \_\_\_\_\_) 375 S.F. \$ \_\_\_\_\_

The limit of work for Ashfield Street will remain unchanged.

**Total for Additive Alternate No. 2** \$ \_\_\_\_\_  
(Price for Item 5G) minus (Price for Item 5F)

**If Additive Alternate No. 2 is accepted by the Town, the Total for Additive Alternate No. 2 above shall be added to the contract. The total added may lower or raise the contract amount.**

**End of Additive Alternate 2 Bid**

## BRIEF DESCRIPTION

## ADDITIVE ALTERNATE NO. 3

ITEM NO.	BID PRICE ENTERED IN BOTH WORDS AND FIGURES	ESTIMATED QUANTITY	TOTAL PRICE (UNIT PRICE X QUANTITY)
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\*The cost for Items 2A, 2B, 4C and 5G below must match the cost for Items 2A, 2B, 4C and 5G in the Base BID.

2A.	Cement Concrete Sidewalk With Monolithic Curb, All widths, 4" Min. Depth, per Square Yard _____dollars and _____cents (\$_____)	90 S.Y.	\$_____
2B.	Cement Concrete Driveway Aprons With Monolithic Curb (Sidewalk), All widths, 6" Min. Depth, Per Square Yard _____dollars and _____cents (\$_____)	25 S.Y.	\$_____
4C.	Furnish and Place HMA Pavement (Hand Method) For Test Pits, Driveways, temporary Trench pavement and Miscellaneous areas, per Ton _____dollars and _____cents (\$_____)	15 TON	\$_____
5G.	Furnish and Install Loam & Seeding, As specified, per Square Yard _____dollars and _____cents (\$_____)	30 S.Y.	\$_____

The limit of work for Ashfield Street will be increased by the additional sidewalk shown on the construction plans between Green Street and School Street.

**Total for Additive Alternate No. 3** \$\_\_\_\_\_

(Sum of Items 2A, 2B, 4C and 5G)

**If Additive Alternate No. 3 is accepted by the Town, the Total for Additive Alternate No. 3 above shall be added to the contract.**

**End of Additive Alternate 3 Bid**

**SUMMARY SHEET**  
**BASE BID AND ADDITIVE ALTERNATES NO. 1, 2 and 3**

**BID TOTALS:**

TOTAL BASE BID \$ \_\_\_\_\_  
(Pages 00301-5 through 00301-14)

(Amount in Words)

TOTAL ADDITIVE ALTERNATE NO. 1 \$ \_\_\_\_\_  
(Page 00301-15)

(Amount in Words)

TOTAL ADDITIVE ALTERNATE NO. 2 \$ \_\_\_\_\_  
(Page 00301-16)

TOTAL ADDITIVE ALTERNATE NO. 3 \$ \_\_\_\_\_  
(Page 00301-17)

(Amount in Words)

Bids for this WORK will be compared based on the aggregate sums of the products of the various unit prices or lump sum items multiplied by the quantities given in the BID Form for such items. In case of discrepancy in any BID between unit price and amount, or between words and figures, the listed unit price in words will govern in comparing BIDS.

**SIGNATURE FORM – (BID CERTIFICATION)**

If a Corporation:

Name of Contractor: \_\_\_\_\_

Signature of Bidder: \_\_\_\_\_  
(Name) (Title)

Business Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Incorporated under the Laws of the State of: \_\_\_\_\_

President: \_\_\_\_\_  
(Name) (Title)

Officers:

Secretary: \_\_\_\_\_  
(Name) (Title)

Treasurer: \_\_\_\_\_  
(Name) (Title)

Dated: \_\_\_\_\_

(Affix Corporation Seal Here)

If a Partnership, Individual, or Non - Incorporated Organization:

Name of Company: \_\_\_\_\_

Signature of Bidder: \_\_\_\_\_  
(Name) (Title)

Name and Address of  
Member of Company: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

END OF SECTION

# BID DOCUMENTS

## **FORMS TO BE COMPLETED AND SUBMITTED WITH BID PROPOSAL**

- Form 1: Certificate of Non-Collusion – (Fair Bid Certification)
- Form 2: Certificate of Tax Compliance – (Reap Certification)
- Form 3: Bid Bond
- Form 4: Form of Statement of Bidder Qualifications
- Form 5: Bidder's References
- Form 6: Form of Subcontractor Designation
- Form 7: Debarment Statement
- Form 8: Certificate of Non-Discrimination and Equal Opportunity
- Form 9: Certificate of Completion

**Form 1:**

**CERTIFICATE OF NON-COLLUSION - (FAIR BID CERTIFICATION)**

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals

---

Authorized Signature

---

Date

---

Typed name

---

Title

---

Name of Business

**Form 2:**

**CERTIFICATE OF TAX COMPLIANCE – (REAP CERTIFICATION)**

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A (b), I, \_\_\_\_\_

\_\_\_\_\_ (Name of individual) authorized signatory

for \_\_\_\_\_ (Name of Contractor) do hereby certify

under the pains and penalties of perjury that said contractor has complied with all laws of the Commonwealth of Massachusetts, and the Town of Buckland and is current with all local, state, and federal taxes and assessments, including child support payments.

Contractor: \_\_\_\_\_

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

\_\_\_\_\_  
Signature of authorized representative                      Title                      Date

**Form 3:**

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned \_\_\_\_\_  
\_\_\_\_\_ as Principal,  
and \_\_\_\_\_  
as Surety are hereby held and firmly bound unto \_\_\_\_\_  
as Owner in the penal sum of \_\_\_\_\_  
for the payment of which, well and truly to be made, we hereby jointly and severally bind  
ourselves, successors, and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

The Condition of the above obligation is such that whereas the Principal has submitted to  
\_\_\_\_\_ a certain BID  
attached hereto and hereby made a part hereof to enter into a contract in writing for the  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the  
Form of Contract attached hereto (properly completed in accordance with said BID) and  
shall furnish a BOND for his faithful performance of said contract, and for the payment of  
all persons performing labor or furnishing materials in connection therewith, and shall in  
all other respects perform the agreement created by the acceptance of said BID.

then this obligation shall be void, otherwise the same shall remain in force and effect; it being  
expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall,  
in no event, exceed the penal amount of this obligation as herein stated.

The Surety: for value received, hereby stipulates and agrees that the obligations of said Surety and its  
BOND shall be in no way impaired or affected by any extension of the time within which the OWNER  
may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

\_\_\_\_\_(L.S.)  
Principal

\_\_\_\_\_  
Surety

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

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

**Form 4:**

**FORM OF STATEMENT OF BIDDERS QUALIFICATIONS**

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder: \_\_\_\_\_

2. Permanent main office address, including ZIP Code:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. When organized: \_\_\_\_\_

4. How many years have you been engaged in the contracting business under your present firm of trade name? \_\_\_\_\_

5. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion.)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. General character of work performed by your company. \_\_\_\_\_

\_\_\_\_\_

7. Have you ever failed to complete any work awarded to you? If so, where and why?

\_\_\_\_\_  
\_\_\_\_\_

8. Have you ever defaulted on a contract? \_\_\_\_\_

9. List the more important projects recently completed by your company, stating the approximate cost for each and the month and year completed.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

List your major equipment available for this contract.

\_\_\_\_\_



## BIDDER'S REFERENCE FORM

Bidders Name: \_\_\_\_\_

Project Title: \_\_\_\_\_

The bidder must provide five (5) business references for projects performed & completed within the past five (5) years.

(1) Reference Name: \_\_\_\_\_ Contact: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: (     ) \_\_\_\_\_

Description and date(s) of work: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(2) Reference Name: \_\_\_\_\_ Contact: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: (     ) \_\_\_\_\_

Description and date(s) of work: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(3) Reference Name: \_\_\_\_\_ Contact: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: (     ) \_\_\_\_\_

Description and date(s) of work: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(4) Reference Name: \_\_\_\_\_ Contact: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: (     ) \_\_\_\_\_

Description and date(s) of work: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(5) Reference Name: \_\_\_\_\_ Contact: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: (     ) \_\_\_\_\_

Description and date(s) of work: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

References will be contacted to confirm the bidder's skills, abilities and qualifications to faithfully perform the work specified. The Authority reserves the right to contact references not listed above. The Bidder will be given the opportunity to explain any unfavorable references received from such outreach.

**Form 6:**

FORM FOR SUBCONTRACTOR DESIGNATION

TYPE OF  
SUBCONTRACT WORK

DESIGNATED SUBCONTRACTOR  
(NAME & PLACE OF BUSINESS)

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

**Form 7:**

**DEBARMENT STATEMENT  
(MUST BE SIGNED BY ALL CONTRACTORS)**

(To be used for any public construction project)

Any person or corporation that fails to date, sign with original signature, and submit the following statement shall not be awarded this contract.

**Debarment (Chapter 550, Acts of 1991)**

The undersigned certifies under penalties of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section 29F of Chapter 29 of the General Laws, or any other applicable debarment provisions of any other Chapter of the General Laws, or any Rule or Regulation promulgated there under; and further is not listed on the HUD Debarred Contractors or Subcontractors list.

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

\_\_\_\_\_  
Authorized Official's Signature

\_\_\_\_\_  
Typed or Printed Name of Person Signing

\_\_\_\_\_  
Title

\_\_\_\_\_  
Company or Corporation

**Form 8:**

**CERTIFICATE OF NON-DISCRIMINATION AND EQUAL OPPORTUNITY**

***Certification of Bidder Regarding Equal Employment Opportunity***

CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY (EEO)	
Instructions	
<p>This certification is required pursuant to Executive Order 11246 (30 CFR 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed sub contractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or sub contract subject to the equal opportunity clause, and if so, whether it has filed all compliance reports due under applicable instructions.</p> <p>Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless such report is submitted.</p>	
Certification by Bidder	
Name and Address of Bidder (include zip code)	
1. Bidder has participated in a previous contract or sub-contract subject to the Equal Opportunity Clause. Yes _____ No _____	
2. Compliance Reports were required to be filed in connection with such contract or sub contract. Yes _____ No _____	
3. Bidder has filed all compliance reports due under applicable instructions, including Monthly Employment Utilization Report (257). Yes _____ No _____ None Required _____	
4. Have you ever been or are you being considered for sanction due to a violation of Executive Order 11246, as amended? Yes _____ No _____	
Name and Title of Signer (please type)	
Signature	Date

**Form 9:**

**CERTIFICATE OF COMPLETION**

The bidder hereby certifies that if awarded the contract for the Lower Ashland Street Roadway Improvement Project in Buckland, Massachusetts sets will guarantee completion of all work required in accordance with the Contract documents, specifications and plans within 14 days from the Notice to Proceed and per time requirements in Section 500, page 2, Article 3.3.1.

Contractor: \_\_\_\_\_

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

---

Signature of authorized representative

Title

Date

End of Section

# AGREEMENT AND ADDITIONAL CONTRACT DOCUMENTS

## Document List

- Agreement
- Notice to Award and Notice to Proceed & Preconstruction Conference
- Notice of Award
- Notice to Proceed
- Contract Conditions
- Exhibit A: Form of Performance Bond
- Exhibit B: Form of Payment Bond
- Exhibit C: Certificate of Insurance
- Exhibit D: Certificate of Owner's Attorney Regarding Contract Execution
- Exhibit E: Assurance of Compliance (Section 3, Hud Act of 1968)
- Exhibit F: Section 3 Plan – Example
- Exhibit G: Federal Labor Standards Provisions
- Exhibit H: Attachment to Federal Labor Standards Provisions
- Exhibit I: Labor Certification
- Exhibit J: Prevailing Wages to be Paid by the Contractor
- Exhibit K: Certification of a Drug-Free Workplace
- Exhibit L: State EO 481 Form
- Exhibit M: HUD Financial Disclosure Form
- Exhibit N: Registration of a Foreign Corporation
- Exhibit O: Corporate Votes
- Exhibit P: Certificate by Corporation to Sign Document

1.

## AGREEMENT

This AGREEMENT made as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year 20\_\_\_\_ by and between \_\_\_\_\_ hereinafter called the Contractor, and the **Town of Buckland, Massachusetts**, hereinafter called the OWNER. OWNER and CONTRACTOR in consideration of the mutual covenants hereinafter set forth, agree as follows.

### ARTICLE 1. WORK

1.1 The Contractor shall furnish all the materials and perform all of the work shown on the Contract Drawings, entitled "**Town of Buckland, Massachusetts, Ashfield Street Improvement Project**" and as described in the specifications, as prepared by GCG Associates, Inc., and shall do everything required by the Contract Documents.

### ARTICLE 2. ENGINEER

2.1 The project has been designed by GCG Associates, Inc., 84 Main Street, Wilmington, MA who will act as ENGINEER in connection with completion of the work in accordance with the Contract Documents.

### ARTICLE 3. CONTRACT TIME

3.1 The work to be performed under this Contract shall be commenced on the date designated in the Notice to Proceed. All items related to pipe installation, road reconstruction to intermediate course of pavement, sidewalk construction shall be completed within 90 calendar days of the Notice to Proceed. Surface coat of pavement shall be placed in the Fall of 2021 within a two-week period from the point of authorization to pave. Liquidated damages for breach of Contract, as set forth in the GENERAL CONDITIONS, are established at \$500.00 per calendar day.

3.2 CONTRACTOR agrees that the work shall be prosecuted regularly, diligently, and uninterruptedly and at such rate of progress as will insure full completion thereof within the Contract Time stated above. It is expressly understood and agreed, by and between CONTRACTOR and OWNER, that the Contract Time is reasonable for the completion of the work, taking into consideration the average climatic range and usual conditions prevailing in this locality.

### ARTICLE 4. CONTRACT SUM

4.1 OWNER will pay CONTRACTOR for performance of the work in accordance with the Contract Documents in current funds at the lump sum and unit prices agreed upon in the CONTRACTOR'S Bid Form attached to this Agreement.

4.2 The OWNER shall pay the CONTRACTOR in current funds the performance of the Work; subject to additions and deductions by Change Order(s) the Contract Sum of \$ \_\_\_\_\_ including chosen alternates.

### ARTICLE 5. APPLICATIONS FOR PAYMENT

5.1 CONTRACTOR shall submit Application for Payment in accordance with Article 14 of the General Conditions of the Contract. Applications for Payment will be processed by ENGINEER as provided in the General Conditions of the Contract.

## ARTICLE 6. PROGRESS AND FINAL PAYMENTS

6.1 OWNER will make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Application for Payment as recommended by ENGINEER, monthly during construction as provided below. All progress payments will be on the basis of the progress of the work measured by the schedule of values provided for in paragraph 14.1 of the General Conditions of the Contract.

6.2 OWNER will make progress and final payments as provided in Article 14 of the General Conditions of the Contract and in accordance with the application Massachusetts General Law.

## ARTICLE 7. LIQUIDATED DAMAGES

7.1 OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the work is not completed within the Contract Time specified in Article 3 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by OWNER if the work is not completed on time. Accordingly, instead of requiring any such proof OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) \$500.00 per day for each calendar day of delay until the work is completed.

7.2 Provided, that CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is for reasons included in paragraph 12.2 of the General Conditions.

7.3 Provided, further, that CONTRACTOR shall furnish OWNER the required notification of such delays in accordance with paragraph 12.1 of the General Conditions.

## ARTICLE 8. ASSURANCE

8.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, work, locality, and with all local conditions and Federal, State, and Local Laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the work.

8.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the work which were relied upon by the ENGINEER in the preparation of the drawings and specification and which have been identified in Article 4 of the Supplemental Conditions.

8.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in the above paragraph as he deems necessary for the performance of the work at the Contract Price within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by him for such purposes.

8.4 CONTRACTOR has correlated the results of all such observations, examinations, investigation, tests, reports and data with the terms and conditions of the Contract Documents.

8.5 CONTRACTOR has given ENGINEER written notice of any conflict, error or discrepancy that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

8.6 CONTRACTOR agrees that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the work.

## ARTICLE 9. CONTRACT DOCUMENTS

The following, together with this Agreement form the Contract and all are as fully a part of the Contract as if attached to this Agreement or repeated herein: the Advertisement, Bidding Documents, Contract Forms, Conditions of the Contract, the Drawings as enumerated in the List of Contract Drawings; Addenda; Change Orders authorized by the Owner, and Modifications issued after execution of the Contract. Terms used in this Agreement which are defined in the Conditions of the Contract, shall have the meanings designated in those Conditions.

9.1 The Contract Documents which comprise the Contract between OWNER and CONTRACTOR are attached hereto and made a part hereof and consist of the following:

- 9.1.1 Invitation to Bid.
- 9.1.2 Instructions to Bidders.
- 9.1.3 Bid Form and Bid Documents included in Section 00400
- 9.1.4 This Agreement and Contract Documents included in Section 00500
- 9.1.5 Construction Performance Bond, Construction Payment Bond, and other required Bonds.
- 9.1.6 Certificate of Insurance
- 9.1.7 Contract Conditions, Provisions and Additional Forms
- 9.1.8 Specifications (as listed in Table of Contents).
- 9.1.9 "Ashfield Street Improvement Project - Buckland, Massachusetts" – Construction Drawings and dated February 24, 2021, prepared by GCG Associates, Inc.
- 9.1.10 Addenda number \_\_\_\_\_ to \_\_\_\_\_ inclusive.
- 9.1.11 Any modifications, including Change Orders, duly delivered after execution of Agreement.
- 9.1.12 General and Supplemental Conditions, Additional Articles and permits

## ARTICLE 10. MISCELLANEOUS

10.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions of the Contract shall have the meanings assigned in the General Conditions of the Contract.

10.2 Neither OWNER nor CONTRACTOR shall, without the prior written consent of the other, assign or sublet in whole or in part his interest under any of the Contract Documents; and, specifically but without limitation, CONTRACTOR shall not assign any monies due or to become due without the prior written consent of OWNER. In case 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.

10.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

10.4 The Contract Documents constitute the entire agreement between OWNER and CONTRACTOR and may only be altered, amended or repealed by a modification.

## ARTICLE 11. INDEMNIFICATION

11.1 The Contractor shall indemnify and save harmless the Town, the Town's agents and employees, from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against them by reason of any act or omission of the said Contractor, his agents or employees, in the execution of the work or in guarding the same.

**JURISDICTION:** This Contract shall be interpreted by the laws of the Commonwealth of Massachusetts and any suit brought pursuant to this Contract shall be commenced only in the Trial Court for Bristol County, Massachusetts.

DISPUTE RESOLUTION: All disputes arising under this Agreement shall be resolved through Arbitration subject to the following:

- a. In the event the CONTRACTOR intends to bring a claim under this Agreement, the CONTRACTOR shall notify the TOWN in writing of its intent to Arbitrate. The TOWN may, within 30 days from receipt of such notice, give notice to the Contractor that it rejects arbitration. In the event the TOWN rejects arbitration, and the CONTRACTOR intends to pursue its claim, the CONTRACTOR shall bring suit in the Trial Court for Bristol County, Massachusetts.
- b. In the event the TOWN intends to bring a claim under this Agreement, the TOWN may elect to either arbitrate the claim or bring its claim directly in the Trial Court for Bristol County, Massachusetts.
- c. Unless otherwise agreed in writing by the parties, arbitration shall be governed by the rules of the American Arbitration Association."

#### ARTICLE 11 ALTERNATES

The following Alternates have been accepted and their costs are included in the Contract Sum stated in Article 4 of this Agreement:

Alternate No(s): (To be determined)

#### ARTICLE 12 REAP CERTIFICATION

Pursuant to Massachusetts General Laws, Chapter 62C, Section 49A, the undersigned certifies under the penalties of perjury that to the best of his/her knowledge and belief I am in compliance with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

COPYRIGHT: No material prepared in whole or in part under this agreement shall be subject to copyright in the United States of America or in any other country except with the prior written approval of Mass. CDBG.

Note: If CONTRACTOR is a corporation, an affidavit giving the principal the right to sign the Agreement must accompany the executed Agreement.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in sextuple. Six copies each have been delivered to OWNER, and one copy each to CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement shall become effective on \_\_\_\_\_, \_\_\_\_\_

OWNER

CONTRACTOR

Town of Buckland

BY

BY

(CORPORATE SEAL)

(CORPORATE SEAL)

Town of Buckland

OWNER

CONTRACTOR

Attest

Attest

Address for giving notices

Address for giving notices

Town of Buckland

Town Offices

17 State Street

Buckland, MA 01370

As required by Chapter 693 of the Acts of 1964 (M.G.L. Chapter 44, Section 31c,) this is to certify that the Town of Buckland, Massachusetts has an appropriation, which is adequate to cover the cost of this Contract

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Title

Approved as to form only:

\_\_\_\_\_  
Buckland Counsel

\_\_\_\_\_  
Date

Note: If CONTRACTOR is a corporation, an affidavit giving the principal the right to sign the Agreement must accompany the executed Agreement.

## **2. Notice to Award and Notice to Proceed & Preconstruction Conference**

A written Notice to Proceed shall be issued to the Contractor after receipt of the following: acceptance of the Notice of Award, the payment and performance bonds, proof of required insurances, and the completed contract documents. These items must be completed within five (5) days of the receipt of a Notice of Award from the Owner. The successful contractor must post on the project site an EEO poster has been posted in a conspicuous place at the job site, the Contractor has designated an EEO Coordinator, the State and Federal Wage Decision has been posted in a conspicuous place, the Contractors Certification Concerning Labor Standards and Prevailing Wage Requirements has been submitted to the project manager, and the Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements has been submitted to the awarding authority.

No work shall be performed by the Contractor until he has received the Notice to Proceed.

Prior to the start of construction, the Contractor, all subcontractors, the project manager, and the owner shall attend a preconstruction conference. The conference will serve to acquaint the participants with the general plan of contract administration and requirements under which the construction operation is to proceed, and will inform the Contractor, in detail, of the obligations imposed on him and his subcontractors by the Executive Orders concerning Equal Employment Opportunity and Davis-Bacon Act requirements and other Federal labor standards requirements.

The Resident Inspector or the Clerk of the Works will furnish the date, time, and place of the preconstruction conference to the Contractor.

**NOTICE OF AWARD**

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROJECT DESCRIPTION: \_\_\_\_\_  
Ashfield Street Improvement Project, Buckland, MA

The Owner has considered the BID submitted by you for the above-described WORK in response to its Advertisement for Bids dated \_\_\_\_\_ and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of: \_\_\_\_\_  
\_\_\_\_\_ which includes the total of base bid, Alternates #'s \_\_\_\_\_.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and Certificate of Insurance and all other forms included in the contract documents within five (5) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within five (5) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated: \_\_\_\_\_ OWNER: Town of Buckland - Select Board

BY \_\_\_\_\_

BY \_\_\_\_\_

BY \_\_\_\_\_

**ACCEPTANCE OF NOTICE**

**Receipt of the above NOTICE OF AWARD is hereby acknowledged**

BY \_\_\_\_\_

Dated: \_\_\_\_\_

BY \_\_\_\_\_

TITLE \_\_\_\_\_

**NOTICE TO PROCEED**

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_

PROJECT: \_\_\_\_\_ Ashfield Street Improvement Project, Buckland, MA \_\_\_\_\_

You are hereby notified to commence WORK in accordance with the Agreement dated \_\_\_\_\_  
\_\_\_\_\_ on or before \_\_\_\_\_ and you are to complete the work  
within \_\_\_\_\_ consecutive calendar days thereafter. The date of completion of all WORK is  
therefore \_\_\_\_\_

Dated: \_\_\_\_\_ OWNER: Town of Buckland - Select Board

BY \_\_\_\_\_

BY \_\_\_\_\_

BY \_\_\_\_\_

**ACCEPTANCE OF NOTICE**

**Receipt of the above NOTICE TO PROCEED is hereby acknowledged**

BY \_\_\_\_\_

Dated: \_\_\_\_\_

BY \_\_\_\_\_

TITLE \_\_\_\_\_

**CONTRACT CONDITIONS** (see also general conditions-00700, special supplemental conditions-00810 and Additional Articles-00820)

### **3. Funding Source**

The project to be constructed and pursuant to this Contract will be financed with assistance from the (Massachusetts Community Development Block Grant Program) and the Department of Housing and Community Development's (DHCD) and is subject to all applicable Federal, State, and local regulations.

### **4. Contract Plans and Specifications**

All plans, specifications and addenda, hereinafter enumerated or referenced in this contract, shall form part of this Contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein set fully forth. The tables of contents, titles, headings, running headlines and marginal notes contained herein and in said documents are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or cast light on the interpretation of the provisions to which they refer.

### **5. Additional Instructions and Detail Drawings**

The Contractor will be furnished additional instructions and detail drawings as necessary to carry out the work included in the contract. The additional drawings and instructions thus supplied to the Contractor will coordinate with the Contract Documents and will be so prepared that they can be reasonably interpreted as part thereof. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions. The Contractor and the Engineer will prepare jointly: (a) a schedule, fixing the dates at which special detail drawings will be required, such drawings, if any, to be furnished by the Engineer in accordance with said schedule, and (b) a schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment, and the completion of the various parts of the work; each such schedule to be subject to change from time to time in accordance with the progress of the work.

### **6. Shop Drawings**

The Contractor shall submit promptly to the Engineer five (5) copies of each shop drawing prepared in accordance with the schedule predetermined as aforesaid. After examination of such drawings by the Engineer and the return thereof, the Contractor shall make such corrections to the drawings as have been indicated and shall furnish the Engineer with two corrected copies. If requested by the Engineer, the Contractor must furnish additional copies. Regardless of corrections made in or approval given to such drawings by the Engineer, the Contractor will nevertheless be responsible for the accuracy of such drawings and for their conformity to the plans and specifications, unless he notifies the Engineer in writing of any deviations at the time he furnishes such drawings.

### **7. Materials, Services and Facilities**

- (a) It is understood that except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature and all other services and facilities of every nature whatsoever necessary to execute, complete and deliver the work within the specified time.
- (b) Any work necessary to be performed after regular working hours, on Sunday or Legal Holidays, shall be performed without additional expense to the Owner.

## **8. Contractor's Title to Materials**

No materials or supplies for the work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work, free from all liens, claims or encumbrances.

## **9. Title to Work**

The title to all work completed and in the course of construction and of all material on account of which any payment has been made shall be in the Owner.

## **10. Inspection and Testing of Materials**

- (a) All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Owner. The Owner will pay for all laboratory inspection service direct, and not as a part of the Contract.
- (b) Materials of construction, particularly those upon which the strength and durability of the structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for uses intended.

## **11. Express Warranty**

The Contractor guarantees to Owner that all materials incorporated into the work will be new unless otherwise specified or agreed. Contractor also guarantees that all work will be done in a workmanlike manner, free from defects, and in conformance with any specifications mentioned in this contract.

## **12. Maintenance and Guarantee**

The Contractor hereby guarantees that the entire work constructed by him under the contract will meet fully all requirements thereof as to quality of workmanship and of materials furnished by him. The Contractor hereby agrees to make at his/her own expense any repairs or replacements made necessary by defects in materials or workmanship supplied to him that become evident within one (1) year after the date of the final payment, and to restore to full compliance with the requirements set forth herein for any part of the work constructed hereunder, which during said one (1) year period is found to be deficient with the respect to any provisions of the specifications. The Contractor also agrees to hold the Owner harmless from claims of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written orders for same from the Owner. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work and the Contractor shall be liable to the owner for the cost thereof.

## **13. Or "Equal" Clause**

Whenever a material, article or piece of equipment is identified on the plans or in the specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, etc., it is intended merely to establish a standard; and, any materials, article or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article or equipment so proposed is, in the opinion of the Architect of equal substance and function. It shall not be purchased or installed by the Contractor without the Architect's written approval.

#### **14. Surveys, Permits and Regulations**

Unless otherwise expressly provided for in the specifications, the Owner will furnish to the Contractor all surveys necessary for the execution of the work. The Contractor shall procure and pay for all permits, licenses and approvals necessary for the execution of his contract as part of their cost, and shall comply with the provisions of HUD 24 CFR 85.36 Parts 1-3 and Massachusetts General Laws with respect to bonding or other insurance requirements.

The Contractor shall comply with all laws, ordinances, rules, orders and regulations relating to performance of the work, the protection of adjacent property and the maintenance of passageways, guard fences or other protective facilities.

#### **15. Contractor's Obligations**

The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this Contract, within the time herein specified, in accordance with the provisions of this Contract and said specifications and in accordance with the plans and drawings covered by this Contract and all supplemental plans and drawings, and in accordance with the directions of the Engineer as given from time to time during the progress of the work. (S)he shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required.

The contractor shall observe, comply with, and be subject to all terms, conditions, requirements and limitations of the Contract and specifications, and shall do, carry on and complete the entire work to the satisfaction of the Engineer and the Owner.

#### **16. Weather Conditions**

In the event of temporary suspension of work, or during inclement weather, or whenever the Engineer shall direct, the Contractor will, and will cause his Subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors so to protect his work, such materials shall be removed and replaced at the expense of the Contractor.

#### **17. Protection of Work and Property - Emergency**

The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Contract. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury unless such is caused directly by errors contained in the Contract or by the Owner, or his duly authorized representatives.

In case of an emergency which threatens loss or injury of property, and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Engineer, in a diligent manner.

He shall notify the Engineer immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Engineer for approval.

Where the Contractor has not taken action but has notified the Engineer of an emergency threatening injury to persons or damage to the work or any adjoining property, he shall act as instructed or authorized by the Engineer.

The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided in Paragraph 21 below.

#### **18. Inspection**

The authorized representatives and agents of the Owner, the Executive Office of Communities and Development, the Commonwealth, the grantee, and the Department of Housing and Urban Development shall be permitted to inspect all work.

**19. Reports, Records and Data**

The Contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this Contract. The Contractor must retain all records for a period of (7) seven years from completion of the work.

**20. Superintendence by Contractor**

At the site of the work, the Contractor shall employ a construction superintendent or foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Engineer and shall be one who can be continued in that capacity for the particular job involved unless he ceases to be on the Contractor's payroll.

**21. Changes in Work**

No changes in the work covered by the approved Contract Documents shall be made without having prior written approval of the Owner. Charges or credits for the work covered by the approved change shall be determined by one or more, or a combination of the following methods:

- (a) Unit bid prices previously approved.
- (b) An agreed lump sum.
- (c) The actual cost of:
  - (1) Labor, including foremen.
  - (2) Materials entering permanently into the work.
  - (3) The ownership or rental cost of construction plant and equipment during the time of use on the extra work.
  - (4) Power and consumable supplies for the operation of power equipment.
  - (5) Insurance.
  - (6) Wages to be paid.

To the cost under (c) there shall be added a fixed fee to be agreed upon but not to exceed fifteen percent (15%) of the actual cost of work the fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expenses.

**22. Time for Completion and Liquidated Damages**

It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion of the work to be done hereunder are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the work embraced in this Contract shall be commenced on a date to be specified in the "Notice to Proceed."

The Contractor agrees that said work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

If the said Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a partial consideration for the awarding of this Contract, to pay to the Owner the amount specified in the Contract, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the work.

The said amount of liquidated damages is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages

the Owner would sustain in such event and said amount shall be retained from time to time by the Owner from current periodic estimates.

It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract. Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner; provided, further, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- (a) To any preference, priority or allocation order duly issued by the Government.
- (b) To unforeseeable cause beyond the control and without the fault of negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and severe weather.
- (c) To any delays of Subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article.

Provided further, that the Contractor shall within ten (10) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the Contract, notify the Owner, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

### **23. Correction of Work**

All work, all materials, whether incorporated in the work or not, all processes of manufacture, and all methods of construction shall be at all times and places subject to the inspection of the Engineer who shall be the final judge of the quality and suitability of the work, materials, processes of manufacture and methods of construction for the purposes for which they are used. Should they fail to meet his approval, they shall be forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by the Contractor at his own expense. Rejected materials shall immediately be removed from the site. If, in the opinion of the Engineer, it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the Contract Documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as in the judgment of the Engineer shall be equitable.

### **24. Subsurface Conditions Found Different**

Should the Contractor encounter subsurface and/or latent conditions at the site materially differing from those shown on the plans or indicated in the specifications, he shall immediately give notice to the Engineer of such conditions before they are disturbed. The Engineer will thereupon promptly investigate the conditions, and if he finds that they materially differ from those shown on the plans or indicated in the specifications, he will at once make such changes in the plans and/or specifications as he may find necessary, any increase or decrease of cost resulting from such changes to be adjusted in the manner provided in Paragraph 21 of the General Conditions.

### **25. Right of Owner to Terminate Contract**

The Owner may terminate this Contract by providing the Contractor and the Surety with 10 days written notice specifying the reasons for termination as outlined below:

- (a) Violation of any of the provisions of this Contract by the Contractor or any of his/her subcontractors.

- (b) A determination by the Owner that the Contractor has engaged in fraud, waste, mismanagement, misuse of funds, or criminal activity with any funds provided by this Contract.
- (c) Failure of the Contractor, for any reason, to fulfill in a timely and proper manner its obligations under this Contract including compliance with applicable federal, state or local laws or regulations, and such procedures or guidelines as may be established for the Massachusetts Community Development Block Grant by DHCD;
- (d) Cancellation, revocation, suspension or termination by HUD of the grant agreements to the Commonwealth under which the Owner's Community Development Block Grant Agreement is made, or the portion thereof funding this contract.

In the event of any such termination, the Surety shall have the right to take over and perform the Contract; provided, however, that if the Surety does not commence performance within ten (10) days from the date of the mailing to such Surety of notice of termination, the Owner may take over the work and prosecute the same to completion at the expense of the Contractor and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned by the Owner thereby, and in such event the Owner may take possession of and utilize in completing the work, such materials, appliances and plant as may be on the site of the work and necessary therefore.

If the Owner determines that a continuation of work on the project would endanger the life, health, or safety of those working or living at or near the project site, or that immediate action is necessary to protect public funds and/or property, the Owner may suspend work or terminate this agreement by providing notice to the Contractor in the form of telegram, mailgram, hand-carried letter, or other appropriate written means.

## **26. Payments to Contractor**

The OWNER may retain a portion of the amount otherwise due the Contractor except the amount the OWNER retains shall be limited to the following:

- (a) Withholding of not more than 5 percent of the payment claimed until work is substantially complete.
  - (b) When the work is substantially complete (operational or beneficial occupancy), the withheld amount shall be further reduced below 1 percent (1%) or to only that amount necessary to assure completion.
  - (c) The OWNER may reinstate up to 5 percent (5%) withholding if the OWNER determines, at its discretion that the CONTRACTOR is not making satisfactory progress or there is other specific cause for such withholding.
  - (d) The OWNER may accept securities negotiable without recourse, condition or restrictions, a release of retainage bond, or an irrevocable letter of credit provided by the CONTRACTOR instead of all or part of the cash retainage.
  - (e) NON PAYMENT PROVISION: The OWNER will not make a payment to the Contractor if they have determined that the Contractor has not provided them with current certified payrolls on the Federal Payroll Form, provided the accompanying Federal Compliance Statement(s), it has been determined that an employee is not being paid the correct wage rate for this project, or the Contractor has failed to provide the State Compliance Statement(s).
- (a) Not later than the tenth day of each calendar month the Owner shall make a progress payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this Contract, but to insure the proper performance of this Contract, the Owner shall retain five percent (5%) of the amount of each estimate until final completion and acceptance of all work covered by this Contract. The Contractor shall submit his estimate not later than the first day of the month; provided further, that on completion and acceptance of each separate building, public work or other division of the Contract on which the price is stated separately in the Contract, payment may be made in full, including retained percentages thereon, less authorized deductions.

- (b) In preparing estimates the material delivered on the site and preparatory work done may be taken into consideration.
- (c) Payment for this project is directly tied to the funding schedule of the funding sources. Not later than the tenth day of receipt of payment from the funding sources (or other fixed date to be mutually established prior to commencing work) the Owner shall make a progress payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this Contract, but to insure the proper performance of this Contract, the Owner shall retain five (5%) of the amount of each estimate upon final completion and acceptance of all work covered by this Contract; provided that the Contractor shall submit his estimate not later than the first day of the month; provided, further that on completion and acceptance of each separate building, public work or other division of the Contract, on which the price is stated separately in the Contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
- (d) The General Contractor is responsible for informing Filed Sub Contractors of the specific amounts approved by the architect. If this amount differs from the amount the Filed Sub contractor has invoiced the General Contractor, there shall NOT be a claim for direct payment levied to the Town. The General Contractor is responsible for coordinating this information.
- (e) In preparing estimates the material delivered on the site and preparatory work done may be taken into consideration.
- (f) Contractor is to provide a detailed Schedule of Values that is directly tied to available funds from each funding source. Architect, Project Manager and Grant Administrator can assist in organizing and approving this document. This document must be submitted for approval no later than ten (10) days after receipt of Notice to Proceed.

#### **27. Indemnification.**

The Contractor shall comply with the requirements of all applicable laws, rules and regulations in connection with the services of the Contractor, and shall exonerate, indemnify and hold harmless the Owner's officers, agents, the Town and its agents, and all project employees from and against them, and local taxes or contributions imposed or required under the Social Security, Worker's Compensation, and Income Tax laws. Further, the Contractor shall exonerate, indemnify and hold harmless the Owner with respect to any damages, expenses or claims arising from or in connection with any of the work performed or to be performed under this Contract. This shall not be construed as a limitation of the Contractor's liability under the Contract or as otherwise provided by law.

#### **28. Acceptance of Final Payment Constitutes Release**

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor. No payment, however, final or otherwise, shall operate to release the Contractor or his Sureties from any obligations under this Contract or the performance and payment bond.

#### **29. Insurance**

The Contractor shall not commence work under this Contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any Subcontractor to commence, work on this subcontract until the insurance required of the subcontractor has been so obtained and approved.

##### **(a) Workmen's Compensation Insurance**

The Contractor shall procure and shall maintain during the life of this contract Workmen's (worker's) Compensation Insurance as required by applicable State law for all of its employees to be engaged in work at the site of the project under this contract and, in case of any such work, sublet, the Contractor shall require the subcontractor similarly to provide Workmen's (worker's) Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's (worker's) Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this contract is not protected under the Workmen's Compensation Statute, the Contractor shall provide and shall cause each

subcontractor to provide adequate employer's liability insurance for the protection of such of his/her employees as are not otherwise protected.

(b) Scope of Insurance and Special Hazards

The insurance required hereunder shall provide adequate protection for the Contractor and its subcontractors, respectively, against damage claims which may arise from operations under this contract, whether such operations be by the insured or by anyone directly or indirectly employed by it and, also against any of the special hazards which may be encountered in the performance of this contract as enumerated elsewhere in this document.

(c) Proof of Carriage of Insurance

The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statement: 'The insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the Owner'.

(d) **(Deleted).**

(e) Owners Protective Liability Insurance

The Contractor shall take out and furnish to the Owner and maintain during the life of this contract complete Owners Protective Liability Insurance in amounts as specified below, for Bodily Injury Liability Insurance and for Property Damage Liability Insurance.

(f) Public Liability and Property Damage

The Contractor shall secure and maintain during the life of the Contract such insurance policies as will protect himself, his Subcontractors and the Owner from claims for bodily injuries, death or property damage which may arise from operations under the Contract whether such operations be by himself or any Subcontractor or anyone employed by them directly or indirectly.

A. For insurance purposes, the site of work and/or the project site includes not only the limited physical work areas involved but also certain other areas of operations set up for utility, sanitary, electrical, water, pollution control, disposal and cleaning purposes; to furnish materials for the work including storage and stock pile areas and all routes between and among them.

B. Contractor and Subcontractor(s) shall provide a comprehensive general liability policy with a combined single limit provision for bodily injury and/or property damage of a minimum of \$1,000,000/occurrence, \$3,000,000 aggregate written on an occurrence basis. Include XCU coverage (explosion, collapse, underground) and fire protection for property under their care, custody and control.

C. Comprehensive Automobile Liability and Property Damage Insurance. The Contractor shall provide comprehensive automobile liability insurance with a single limit provision, written on an occurrence basis, covering all owned vehicles, hired vehicles, or non-owned vehicles for all personal and property damages arising out of bodily injuries, death or destruction of property and subject to minimum limits below.

D. The Town shall be named as an additional insured on all policies of liability insurance.

The minimum limits of liability of such insurance shall be as follows:

**General (Comprehensive) Liability**

Bodily Injury or Death - Each Person	\$ 1,000,000
Bodily Injury or Death - Each Accident	\$ 1,000,000
Property Damage - Each Accident	\$ 1,000,000
Property Damage - Aggregate	\$ 3,000,000

**Automobile and Truck Liability**

Bodily Injury or Death - Each Person	\$ 1,000,000
Bodily Injury or Death - Each Accident	\$ 1,000,000
Property Damage - Each Accident	\$ 1,000,000
Property Damage - Aggregate	\$ 3,000,000

**(g) Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance**

The Contractor shall either (1) require each of its subcontractors to procure and to maintain during the life of the subcontract, Subcontractor's Public Liability and Property Damage insurance and Vehicle Liability Insurance of the type and in the amounts specified for herein or (2) insure the activities of its subcontractors in its policy.

If the required liability insurances are not issued in the designated amounts, the Contractor shall purchase Umbrella insurance with a limit of \$3,000,000/occurrence, \$3,000,000 aggregate and the policy's deductible must be covered by the individual policies described above.

**30. Flood Disaster Protection**

The owner of land subject to acquisition or improvement under this contract, and its successors or assigns, are hereby obligated to obtain and maintain, during ownership of the land which is the subject of this contract, such flood insurance as is required with respect to financial assistance for acquisition or construction purposes under section 102 (a) of the Flood Disaster protection Act of 1973. This obligation is binding notwithstanding the fact that construction on the land which is the subject of this contract is not itself funded out of assistance provided under the Housing and Community Development Act of 1974, as amended.

**31. Contract Security**

The Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the contract prices as security for the faithful performance of this Contract and also a payment bond in an amount not less than one hundred percent (100%) of the contract price or in a penal sum not less than that prescribed by State or local law, as security for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract.

**32. Assignments**

The Contractor shall not assign or subcontract the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the Owner. In case 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 of services rendered or materials supplied for the performance of the work called for in this Contract.

**33. Engineer's Authority**

The Engineer shall give all orders and directions contemplated under this Contract and specifications relative to the execution of the work. The Engineer shall determine the amount, quality, acceptability and fitness of the several kinds of work and materials which are to be paid for under this Contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Engineer's

estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said Contract and specifications, the determination or decision of the Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this Contract affected in any manner or to any extent by such question.

The Engineer shall decide the meaning and intent of any portion of the specifications and of any plans or drawings where the same may be found obscure or be in dispute.

#### **34. Notice and Service Thereof**

Any notice to any Contractor from the Owner relative to any part of this Contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by certified or registered mail, to the said Contractor at his last given address, or delivered in person to the said Contractor or his authorized representative on the work.

#### **35. Subcontract**

The Contractor will insert in any subcontracts the Federal Labor Standards Provisions contained herein and such other clauses as the Department of Housing and Urban Development may, by instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

#### **36. Interest of Member of or Delegate to Congress**

No member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this Contract or to any benefit that may arise there from, but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

#### **37. Other Prohibited Interests**

No official of the Owner, project team, or the Town who is authorized in such capacity and on behalf of the Town to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving any architectural, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this Contract or in any part hereof. No officer, employee, architect, attorney, Architect or inspector of or for the Town who is authorized in such capacity and on behalf of the Town to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract or any other contract pertaining to the project.

#### **38. Suspension of Work**

Should the Owner be prevented or enjoined from proceeding with work either before or after the start of construction by reason of any litigation or other reason beyond the control of the Owner, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay; but time for completion of the work will be extended to such reasonable time as the Owner may determine will compensate for time lost by such delay with such determination to be set forth in writing.

#### **39. Access to Records**

The Contractor shall maintain accounts and records, including personnel, property and financial records, adequate to identify and account for all costs pertaining to the Contract and such other records as may be deemed necessary by the Owner to assure proper accounting for all project funds - both CDBG and non-CDBG shares. These records will be made available for audit purposes to the Owner or any authorized representative, and will be retained for seven years after final Mass. CDBG audit.

#### **40. Age Discrimination Act of 1976 (for contracts over \$2,000)**

No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination from receiving Federal financial assistance.

The Contractor shall comply with the provisions of the Age Discrimination Act of 1975 (42 USC. 6101 et seq.). The Age Discrimination in Employment Act prohibits arbitrary age discrimination in employment.

#### **41. Non-Discrimination**

The Contractor shall adhere to the requirements set forth in Title VI of the Civil Rights Act of 1964 (Public Law 88-352), and the regulations issued pursuant thereto by HUD (24 CFR Part 1); Title VIII of the Civil Rights Act of 1968 (Public Law 90-284), as amended; Section 109 of the Housing and Community Development Act of 1974, and the HUD regulations issued pursuant thereto (24 CFR 570.601); Federal Executive Order 11063, as amended by Executive Order 12259 and the HUD regulations issued pursuant thereto (24 CFR 107); Executive Order 11246 and the rules, regulations and relevant orders of the U.S. Secretary of Labor, if applicable; The Age Discrimination Act of 1975 (42 U.S.C. 6101 et seq.); Section 402 of the Veterans of the Vietnam Era Act (for projects of \$10,000 or more), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), Massachusetts General Laws Chapter 151B, section 1 et seq.; State Executive Order 74 as amended and revised by Executive Orders 116, 143 and 227, and Massachusetts CDBG regulations, procedures or guidelines as contained in the CDBG Manual; Title 11 of the Uniform Relocation Assistance and Real Property, Acquisition Policies Act of 1979; and MASS CDBG guidelines, procedures, or regulations including the CDBG Manual.

The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, handicap, veteran's status, national origin. The Contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, age, handicap, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation and selection for training, including apprenticeship.

The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of this non-discrimination clause. The Contractor shall state in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, handicap, veteran's status, or national origin. The Contractor shall incorporate the foregoing requirements of this paragraph in all contracts for work to be performed in this paragraph in all contracts for work to be performed in accordance with this Contract and will require all of its subcontractors to incorporate such requirements in all subcontracts for program work.

Contract subject to Federal Executive Order 11246 as amended, shall be subject to HUD Equal Employment Opportunity regulation at 24 CFR Part 130 applicable to HUD assisted construction contracts.

The Contractor shall send to each labor union or representative or workers with which they have a collective bargaining agreement or other contract or understanding, a notice advertising the said labor union or worker's representatives of the Contractor's commitment under this subsection and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

In the event of noncompliance by the Contractor with the nondiscrimination clauses of this Agreement or with any such rules, regulations, or orders of the Secretary of Labor, the Contract may be canceled, terminated or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contract or federally assisted construction contract procedures authorized in Executive Order 11246, or by rules, regulations, or orders of the Secretary of Labor, as otherwise provided by law.

The Contractor shall include the provisions set forth herein in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of

Executive Order 11246, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such actions with respect to any subcontract or purchase order as HUD or MASS CDBG may direct as a means of enforcing such provisions, including sanctions for noncompliance: provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interest of the United States.

#### **42. Termination of Contract**

The Owner may suspend or terminate this Contract by providing the recipient with ten-(10) day's written notice for reasons outlined as follows:

1. Failure of the Grantee, for any reason, to fulfill in a timely and proper manner its obligations under this Contract including compliance with applicable federal, state or local laws or regulations, and such procedures or guidelines as may be established for the Massachusetts Community Development Block Grant;
2. Cancellation, revision, suspension or termination by HUD of the grant agreements to the Commonwealth under which the Owner's Community Development Block Grant Agreement is made, or the portion thereof funding this contract.

#### **43. Non Federal Labor-Standards Provisions**

The Massachusetts Labor-Standards Provisions, including the provisions concerning maximum hours of work, minimum rates of pay, and overtime compensation, with respect to the categories and classifications of employees hereinafter mentioned are included in this Contract pursuant to the requirements of applicable State or local laws. The inclusion of such provisions shall not be construed to relieve the Contractor or any Subcontractor from the pertinent requirements of any corresponding Federal Labor-Standards Provisions of this Contract. If the minimum rates of pay set forth below are higher than the minimum rates of pay required by or set forth in the Federal Labor Standards Provisions of this Contract for corresponding classifications, the minimum rates of pay set forth below shall, for the purposes of this Contract, be the applicable minimum rates of pay for such classifications. The limitations, if any, in these Massachusetts Labor-Standards Provisions upon the hours per day, per week or per month which employees engaged on the work covered by this Contract may be required or permitted to work thereon shall not be exceeded.

#### **44. Schedule of Salaries and Wages**

The minimum wage rates and health and welfare fund contributions applicable to this Contract as determined by the HUD/Davis Bacon Wage rates and the Massachusetts Wage Rates for the project, whichever is higher, and contained in the bid documents and other regulations and shall be paid under this contract and reported as required. In the case of federal wage rates the hourly wage shall consist of the hourly rate plus the amount identified for benefits. It shall be the responsibility of the Contractor to comply with the appropriate and current wage rate for this project.

#### **45. Labor Provisions**

- (a) In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers by the Contractor and Subcontractors, preference shall first be given to citizens of the Commonwealth who have been residents of the Commonwealth for at least six months at the commencement of their employment, who are male veterans as defined in clause forty-third of M.G.L. c. 4, s. 7 and who are qualified to perform the work to which the employment relates; and secondly, to citizens of the Commonwealth generally who have been residents of the Commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States, in accordance with M.G.L. c. 149, s.26.
- (b) The minimum rates of wages to be paid mechanics and apprentices, chauffeurs, teamsters and laborers shall be set forth in the schedule of rates of wages determined by the Commissioner of Labor and Industry unless the Federal rates are higher.
- (c) In accordance with M.G.L. c. 149, s 34A, the Contractor shall, before commencing performance of the contract, provide by insurance for the payment of compensation and the furnishing of other

benefits under M. G. L. c. 152 to all persons to be employed under the contract, and the Contractor shall continue such insurance in full force and effect during the terms of the contract. Sufficient proof of compliance with this section must be furnished at the time of execution of this contract. Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the contract and shall operate as an immediate termination thereof. The attention of the Contractor is directed to that portion of G.L. c. 149, s. 34A which provides that whoever violates any of its provisions shall be punished by a fine of not more than one hundred dollars or by imprisonment for six months, or both; and, in addition, any Contractor who violates any provision of this section shall be prohibited from contracting, directly or indirectly, with the Commonwealth or any political subdivision thereof for the construction, alteration, demolition, maintenance or repair of, or addition to, any public works or public building for a period of two years from the date of conviction of said violation.

- (d) The Contractor shall pay to any reserve police officer employed by him the prevailing rate of wage paid to regular police officers, as required by M.G.L. c. 149, s. 34B.
- (e) The Contractor shall provide the Owner with copies of each current permanent OSHA card or temporary OSHA certificate for each employee working on this project with the initial payment request; along with each journeyman's certificate for each employee claiming this work category.

#### **46. Environmental Requirements**

The Contractor shall comply, where applicable, with: federal Executive Order 11988, Floodplain Management, May 24, 1977 (42 FR 26951 et. seq.) particularly section 2 (a); the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et. seq.), as amended, particularly section 307 (c) and (d) (16 U.S.C. 1456 (c) and (d)); the Safe Water Drinking Act of 1974 (42 U.S.C. 201, 300 (f) et seq., and 21 U.S.C. 349), as amended; the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) as amended, particularly section 7 (16 U.S.C. 1536; the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 et seq.) as amended, particularly section 7 (b) and (c) (16 U.S.C. 1278 (b) and (c)); the Clean Air Act (42 U.S.C. 7401 et seq.), as amended, particularly section 176 (c) and (d) (42 U.S.C. 7506 (c) and (d)); HUD Environmental Criteria and Standards (44 FR 40860-40866, July 12, 1979); "The American Standard Specification for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped," Number A-117.4-R 1971, subject to the exceptions contained in 41 CFR 101-19-604; and any corresponding provisions of State and local laws and regulations. The Contractor shall also comply, where applicable, with the National Environmental Policy Act of 1969, Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, Flood Disaster Protection Act of 1973, National Flood Insurance Act of 1968, and Protection of Wetlands Laws.

#### **47. Responsibility to the Public Wage Rates**

##### **A. Laws to be Observed**

The Contractor shall keep him/herself 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 thereof. If any discrepancy or inconsistency is discovered in the plans, drawings or specifications or Contract for this work in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same to the Department in writing. S/He shall cause all his/her agents and employees to observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees.

##### **B. Anti-Boycott Covenant (Executive Order # 130)**

The Contractor warrants, represents and agrees that during the time this Contract is in effect, neither it nor any affiliated company, as hereafter defined, participates in or cooperates with an international boycott, as defined in Section 9999 (b), (3) and (4) of the Internal Revenue Code of 1954, as amended. If there shall be a breach in the warranty, representation and agreement contained in this paragraph then without limiting such other rights as it may have the Town shall

be entitled to rescind this Contract. As used herein, an affiliated comp- shall be any business entity of which at least 51% of the Ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interests of the Contractor or which directly or indirectly owns at least 51% of the ownership interests of the Contractor.

#### **48. Environmental Requirements**

The Contractor shall comply where applicable, with Federal Executive Order 11988, Floodplain Management, May 24, 1977 (42 FR 26951 et. seq.) particularly section 2 (a); the Coastal Zone Management Act of 1972 (16 U.S.C. 14-51 et. seq.), as amended, particularly section 307 (c) and (d) (16 U.S.C. 1456 (c) and (d)); the Safe Water Drinking Act of 1974 (42 U.S.C. 201, 300(f) et seq., and 21 USC 349), as amended, the Endangered Species Act of 1973 (16 USC 1531 et seq.) as amended, particularly section 7 (16 U.S.C. 1536; the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 et seq.) as amended, particularly section 7 (b) and (c) (16 U.S.C. 1278 (b) and (c)); the Clean Air Act (42 U. S. C. 7401 et seq.), as amended, particularly section 176 (c) and (d) (42 U.S.C. 7506 (c) and (d)); HUD Environmental Criteria and Standards (44 FR 40860-40866, July 12, 1979); "The American Standard Specification for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped," Number A- 11 7.4-R 1971, subject to the exceptions contained in 41 CFR 101-19-604; and any corresponding provisions of State and local laws and regulations. HUD lead protocols and hazardous materials laws particularly those regarding residential rehabilitation. The Contractor shall also comply, where applicable, with the National Environmental Policy Act of 1969, Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, Flood Disaster Protection Act of 1973, National Flood Insurance Act of 1968, Protection of Wetlands Laws, and HUD Lead Abatement contained in 24 CFR Sec. 35.

#### **49. Historic Preservation**

The Contractor shall, in the performance of environmental assessments under the National Policy Act, and the Massachusetts Environmental Policy Act, comply with section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470), federal Executive Order 11593, and the Preservation of Archaeological and Historic Data Act of 1966(17 U.S.C. 469 a-1 et seq.), by (a) consulting with the State Historic Preservation Officer to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Part 800.8) by the proposed activity, and (b) complying with all requirements established by HUD to avoid or mitigate adverse effects upon such properties.

#### **50. Compliance with Air and Water Acts (for contracts exceeding \$100,000)**

In addition to the foregoing requirements, all nonexempt Contractors and Subcontractors shall furnish to the Owner, the following:

- A. A stipulation by the Contractor or Subcontractors, that any facility to be utilized in the performance of any nonexempt contract or subcontract, is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.
- B. Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 USC 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 USC 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 11 4 and Section 308, and all regulations and guidelines issued there under.
- C. A stipulation that as a condition for the award of the Contract prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized, or to be utilized for the Contract, is under consideration to be listed on the EPA List of Violating Facilities.
- D. Agreement by the Contractor that he will include, or cause to be included, the criteria and requirements in paragraphs A through D of this section in every nonexempt subcontract and requiring that the Contractor will take such actions as the Government may direct as a means of enforcing such provisions.

**51. Special Conditions Pertaining to Hazards, Safety Standards and Accident Prevention**

A. Lead-Based Paint Hazards (applicable to contracts for construction or rehabilitation of residential structures)

B. The construction or rehabilitation of residential structures is subject to the HUD-Lead Based Paint regulations, 24 CFR Part 35, and the parts relating to the rehabilitation of federally funded projects. The Contractor and Subcontractors shall comply with the provisions for the elimination of lead-based paint hazards under subpart B of said regulations. The Owner will be responsible for the inspections and certifications required under Section 35.14(5) thereof, and requirements of M.G. L. Ch. 111, Sec. 190-19 1, and the regulations for Lead Poisoning.

**52. Compliance with the Massachusetts Community Development Block Grant Program Contract (Grant Agreement)**

Unless modified or changed by any special terms or conditions set forth in the Grant Contracts, all activities authorized by this Contract shall be subject to and performed in accordance with Appendix A (The Town's Grant Agreement), including approval by DHCD of any Special Conditions and completion of the Environmental Review and all other provisions of said Grant Contract, and all applicable federal, state, and local laws and regulations, including but not limited to those cited within the said Agreement, and any applicable regulations issued by HUD published in 24 CFR Part 570, as may be amended from time to time, and any procedures and guidelines as may be established by MASS CDBG for the Massachusetts Community Development Block Grant Program.

**53. Interest of Contractor and Employees**

The Contractor covenants that he presently has no interest and shall not acquire interest, direct or indirect, in the study area or any parcels therein or any other interest which would conflict in any manner or degree with the performance of his services hereunder. The Contractor further covenants that in the performance of this contract no person having any such interest shall be employed on this project. Further, the Contractor shall adhere to the provisions of the Hatch Act (5 U.S.C. 1501 et seq.) which limits political activities by employees whose principal employment is in connection with an activity which is financed in whole or in part by federal funds.

**54. Severability**

If any provision of this Agreement is held invalid, the remainder of the Agreement shall not be affected thereby, and all other parts of this Agreement shall nevertheless be in full force and effect.

**55. GOVERNING LAW**

This Agreement is to be governed by the laws of the Commonwealth of Massachusetts.

**56. DISPUTE RESOLUTION**

All disputes arising under this Agreement shall be resolved through Arbitration subject to the following:

- a. In the event the CONSULTANT intends to bring a claim under this Agreement, the CONSULTANT shall notify the TOWN in writing of its intent to Arbitrate. The TOWN may, within 30 days from receipt of such notice, give notice to the Consultant that it rejects arbitration. In the event the TOWN rejects arbitration, and the CONSULTANT intends to pursue its claim, the CONSULTANT shall bring suit in the Trial Court for Bristol County, Massachusetts.
- b. In the event the TOWN intends to bring a claim under this Agreement, the TOWN may elect to either arbitrate the claim or bring its claim directly in the Trial Court for Bristol County, Massachusetts.
- c. Unless otherwise agreed in writing by the parties, arbitration shall be governed by the rules of the American Arbitration Association."

**57. Statement - Political Activity Prohibited**

None of the funds, materials, property or services provided directly or indirectly under this Contract may be used for any partisan political activity or to further the election or defeat of any candidate for public office.

**58. Statement - Lobbying Prohibited**

None of the funds provided under this Contract shall be used for publicity purposes designed to support or defeat legislation pending before the Congress.

**59. Identification**

All advertisements, notifications, publications, signs, brochures, and other promotional or informational material shall identify the project as being funded by the Town and a Small Cities grant from the Massachusetts Department of Housing and Community Development.

**60. Grant Close-out Procedures**

The Owner reserves the right to issue procedures to close out the Grant Project, the observance of which would be mandatory. This contract shall remain in full force and effect until DHCD closes out the project in writing to the Owner.

**61. Availability of Funds**

The compensation provided by this agreement is subject to the continued availability of federal funds for the Massachusetts Small Cities Program (MASS CDBG – HDSP Program), and to the continued eligibility of the Commonwealth and the Owner to receive such funds.

**62. Confidentiality**

The Contractor will protect the privacy of, and respect the confidentiality of information provided by, program participants, consistent with applicable federal and state regulations, including M.G.L. c.66, section 10, regarding access to public records.

**63. Project Sign**

A project sign displaying information related to the work contemplated under this Contract shall be fabricated by the Contractor at their expenses and erected at a location acceptable to the Owner. The names and agencies funding this project are to be included, the name of the project, individual names of each member of the Select Board, the Owner's representative, the name of the engineering firm, and the contractor on the project sign. This information shall be provided to the Contractor by the Owner at the preconstruction meeting. The project sign shall be constructed of the materials and to the dimensions as prescribed by the Owner. No separate payment shall be made for this work, the costs of which shall be deemed included in the various unit and lump sum prices contained in the Contractor's Bid.

**64. Construction Schedule**

A Bar Chart or Gant chart type construction schedule shall be submitted for approval no later than ten (10) days following receipt of Notice to Proceed. Schedule is to indicate major milestones, critical selling dates, lead time items, etc. Construction Schedule is to be updated monthly for project meetings.

**65. Fair Housing**

In addition to the Federal laws and regulations, particularly those under Title VII of 1988 as revised; Section 109 of the Housing and Community Development Act of 1974, as amended, and actions taken by the owner and contractor to further fair housing under Section 104( b) of the Housing and Community Development Action of 1974 , as set forth herein with respect to ensuring fair housing opportunities, the contractor shall adhere to the provisions of State Executive Orders 215 and 227.

**66. Conflict Of Interest**

Each party shall adhere to the provisions of the Massachusetts and the federal Conflict of Interest Provisions at 24 CFR 570.489 and the federal Hatch Act, 5 U.S.C. ss 1501 et seq. with respect to the Conduct of Public Employees. In addition, no member, officer, or employee of either party, or its designee, or agents, no member of the governing body of the locality in which the program is situated, and no other public official of

such locality or localities who exercises any functions or responsibilities with respect to the program during his tenure or for one (1) year thereafter shall have any interest in any contract or subcontract, or the proceeds thereof, for work to be performed in connection with the program assisted under this Contract. Each party shall incorporate, or cause to be incorporated, in all such contracts or subcontracts a provision prohibiting such interest, pursuant to the purposes of this subsection.

**EXHIBITS ATTACHED TO THIS AGREEMENT:**

- Exhibit A: Form of Performance Bond
- Exhibit B: Form of Payment Bond
- Exhibit C: Certificate of Insurance
- Exhibit D: Certificate of Owner's Attorney Regarding Contract Execution
- Exhibit E: Assurance of Compliance (Section 3, HUD Act of 1968)
- Exhibit F: Section 3 Plan - Example
- Exhibit G: Federal Labor Standards Provisions
- Exhibit H: Attachment to Federal Labor Standards Provisions
- Exhibit I: Labor Certification
- Exhibit J: Prevailing Wages to be Paid by Contractor
- Exhibit K: Certification of a Drug-Free Workplace
- Exhibit L: EO 481 Form
- Exhibit M: HUD Financial Disclosure Form
- Exhibit N: Registration of a Foreign Corporation
- Exhibit O: Corporate Votes
- Exhibit P: Certificate by Corporation to Sign Documents

**Exhibit A:**

**PERFORMANCE BOND**

**COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT**

**KNOW ALL PERSONS BY THESE PRESENTS:**

That we, TYPE NAME OF CONTRACTOR HERE

as **Principal**,

And TYPE NAME OF SURETY HERE

as **Surety**, are held and firmly bound unto

The TYPE CITY OR TOWN NAME HERE, as **Obligee**, in the sum of

TYPE CONTRACT AMOUNT IN WORDS HERE

dollars

\$

**NNN.NNN.NNN.00**

to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the said **Principal** has made a contract with the **Obligee**, bearing the date of TYPE MONTH DAY, 200Y

for the construction of Type Project Description Here in Type City or Town Name Here,  
Massachusetts

Project Title

**NOW**, the condition of this obligation is such that if the **Principal** and all Subcontractors under said contract shall well and truly keep and perform all the undertakings, covenants, agreement, terms and conditions of said contract on its part to be kept and performed during the original term of said contract and any extensions thereof that may be granted by the Obligee, with or without notice to the **Surety**, and during the life and any guarantee required under the contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of any and all duly authorized modifications, alterations changes or additions to said contract that may hereafter be made, notice to the **Surety** of such modifications, alterations, changes or additions being hereby waived, then this obligation shall become null and void; otherwise, it shall remain in full force and virtue.

**IN THE EVENT**, that the contract is abandoned by the **Principal**, or in the event that the Obligee, under the provisions of Article 19 of the General Conditions of said contract terminates the employment of the **Principal** or the authority of the **Principal** to continue the work, said **Surety** hereby further agrees that said **Surety** shall, if requested in writing by the Obligee, take such action as is necessary to complete said contract.

**IN WITNESS WHEREOF**, the **Principal** and **Surety** have hereunto set their hands and seals this:

NNth Day of Type Month of 200Y

**PRINCIPAL TYPE CONTRACTORS'S NAME**

**SURETY**

**TYPE SURETY NAME HERE**

**By:**

**By:**

Seal

Attorney-in Fact

**Attest:**

**Attest**

The rate for this bond is **NNN%** for the first \$ **NNN,NNN,NNN** and **NNN %** for the next \$**NNN,NNN,NNN.00**

The total premium for this bond is \$ **NNN,NNN,NNN.00**

**Exhibit B:**

**PAYMENT BOND**

**COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT**

**KNOW ALL PERSONS BY THESE PRESENTS:**

That we, TYPE CONTRACTOR'S NAME HERE as **Principal**,  
And TYPE SURETY NAME HERE as **Surety**, are held and firmly bound  
unto  
The TYPE NAME OF CITY OR TOWN HERE, as **Obligee**, in the sum of

TYPE CONTRACT AMOUNT IN WORDS HERE dollars **\$ NNN,NNN,NNN.**

to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the said **Principal** has made a contract with the **Obligee**, bearing the date of TYPE MONTH DAY, 200Y

for the construction of TYPE PROJECT DESCRIPTION Here in TYPE CITY OR TOWN HERE,  
Massachusetts

Project Title

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

**IN WITNESS WHEREOF**, the **Principal** and **Surety** have hereunto set their hands and seals this:

NN th Day of Type Month here 20YY

**PRINCIPAL** Type Contractor's Name Here

**SURETY** Type Surety Name Here

By:

By:

Seal

Attorney-in Fact

Attest:

Attest  
t

The rate for this bond is NNN% for the first \$NNN,NNN,NNN.00 and NNN% for the next \$NNN,NNN,NNN.00

The total premium for this bond is \$NNN,NNN,NNN.00

**Exhibit C:**

**CERTIFICATE OF INSURANCE**

To: \_\_\_\_\_

NOTE: THIS CERTIFICATE MUST BE FILLED OUT BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY ONLY.

This is to certify that (INSURED) \_\_\_\_\_

(ADDRESS) \_\_\_\_\_

by this certificate, insured by the Insurance Company listed below with respect to the types of insurance required between the Town of Buckland, Massachusetts, and the above named insured for work in

(LOCATION(S)) \_\_\_\_\_

The Town of Buckland, Massachusetts and GCG Associates, Inc will be named additional insured on the Certificate of Insurance.

NAME & ADDRESS OF INSURANCE CO.	POLICY NO.	TYPE OF POLICY	LIMITS OF LIABILITY	INCLUSIVE DATES
_____	_____	WORKER'S COMPENSATION	_____	_____
_____	_____	PUBLIC LIABILITY	_____	_____
_____	_____	PROPERTY DAMAGE LIABILITY	_____	_____
_____	_____	PROTECTIVE PUBLIC LIABILITY	_____	_____
_____	_____	PROTECTIVE PROPERTY DAMAGE LIABILITY	_____	_____
_____	_____	VEHICLE LIABILITY AND PROPERTY DAMAGE	_____	_____

Before the above stated expiration date the Company will not cancel or reduce the Insurance afforded under the above numbered policies prior to 30 days after notice of such cancellation has been mailed to the Select Board, 17 State Street, Buckland, MA 01370.

List Name, Address, and Title of person or persons in Massachusetts authorized to accept, service, or notice on behalf of above insurance company (ies).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Date  
\_\_\_\_\_  
Authorized Signature of Insurance Company

**Exhibit D:**

**Certificate of Owner's Attorney Regarding Contract Execution**

I, the undersigned, \_\_\_\_\_ the duly authorized and acting legal representative of

\_\_\_\_\_, do hereby certify as follows:

I have examined the attached Contract(s) and performance and payment bond(s) and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements is adequate and has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

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

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

**Exhibit E:**

Assurance of Compliance (Section 3, HUD Act of 1968)  
TRAINING, EMPLOYMENT, AND CONTRACTING OPPORTUNITIES  
FOR BUSINESSES AND LOWER INCOME PERSONS

- A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
- C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- E. The contractor will certify that any vacant employment positions, including training positions that are filled
- (1) after the contractor is selected but before the contract is executed, and
- (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible
- (i) preference and opportunities for training and employment shall be given to Indians, and
- (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

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

Contractor \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Authorized Signature \_\_\_\_\_

**Exhibit F:**

**Section 3 Plan - Example**  
(Contractor must insert plan)

**SECTION 3 RESIDENTS AND SECTION 3 BUSINESSES**

**COMPLIANCE PLAN**

For the  
Ashfield Street Improvement Project  
Buckland, Massachusetts 01370

By

(Contractor Information)

\_\_\_\_\_, the "General Contractor," views the policy requirements of the Department of Housing and Urban Development (HUD) set forth in Section 3 of the Housing and Urban Development Act of 1968 as amended, as requirement, which will be met as outlined in this plan.

**1. Policy**

Section 3 states that each grantee, sub-grantee, contractor or sub-contractor undertaking work funded in whole or in part with Community Development Block Grant program funds shall ensure to the greatest extent feasible that:

- a. Opportunities for training and employment be given to lower income residents of the project area; and,
- b. Contracts for work to be performed are awarded to business concerns located within the project area owned in substantial part by project area residents.

**2. Definitions**

- a. The Section 3 project area means the Franklin County, MA (part) HUD Metro FMR area
- b. A Section 3 "low income" person means any person(s) residing in the project area that have a gross household income of less than:

Household Size	1 Person	2 Persons	3 Persons	4 Persons	5 Persons	6 Persons	7 Persons	8 Persons
For Households of Buckland the Maximum Income Per Household (Low Income Limit)	\$47,850	\$54,650	\$61,500	\$68,300	\$73,800	\$79,250	\$84,700	\$90,200

- c. An eligible Section 3 business means any business that is 51% or more owned by an income eligible project area resident, or whose permanent full-time workforce includes no less than 30% project area residents, or that sub-contract in excess of 25% of the total amount of sub-contracts to project area businesses.

### **3. Preliminary State of Workforce Needs**

The contractor does not anticipate additional hiring or the enrollment of trainees or apprentices as a result of work to be performed under this contract. Therefore, no goal has been established for the employment or training of lower income project area residents. The overall goal of Section 3 compliance for the community is 9% of the CDBG dollar contribution or \$16,000, whichever is less. In the event that employment of regular, permanent employees or enrollment of trainees or apprentices becomes necessary, the Contractor pledges that it will make a good faith effort to utilize eligible Section 3 residents or firms.

### **4. Affirmative Action Plan for Utilization of Section 3 Businesses**

The contractor pledges that it will make a good faith effort to the greatest extent feasible to utilize Section 3 businesses and subcontractors under this contract.

This good faith effort will include:

- a. The direct notification of eligible Section 3 businesses that a contract will be awarded and the provision of the information necessary to allow them maximum feasible opportunity to develop and submit responsive bids;
- b. The inclusion in bid specifications of the Section 3 project area definition and income limits for qualification as a lower income person;
- c. Requiring the bidders to submit their own Section 3 plans. Failure to submit a Section 3 plan would result in rejection of the bidder as not being responsive.
- d. Notification and documentation to the CDBG grant administrator that the following steps are taken for any job opportunities:
  - a. post job opportunities at the Town Hall at the Town Clerk's office,
  - b. the regional anti-poverty agency,
  - c. the regional jobs training agency, and
  - d. any HUD Job Works group in the area
- e. Notification Address Information:  
Buckland Jobs:

First Baptist Church  
6 Laurel Street  
Shelburne Falls, MA 01370

St. Joseph Rectory  
34 Monroe Ave.  
Shelburne Falls, MA 01370

Shambhala Center 71B  
Ashfield St.  
Shelburne Falls, MA 01370

Mohawk Trail Association  
P.O. Box 1044  
North Adams, MA 01247

Pratt Memorial Library (Arms)  
Corner of Bridge & Main St.  
Shelburne Falls, MA 01370

First Congregational Church of Shelburne  
22 Church Common Rd.  
Shelburne, MA 01370

Trinity Church Parsonage  
P.O. Box 96  
Shelburne Falls, MA 01370

Linda Dunleavy  
Franklin Reg. Council of Gov. 12 Olive St.  
Greenfield, MA 01301

Town of Shelburne  
Joseph J. Judd, Town Clerk  
51 Bridge Street  
Shelburne Falls, MA 01370

Town of Buckland  
Town Clerk  
17 State Street  
Shelburne Falls, MA 01370

GSFABA  
P.O. Box 42  
Shelburne Falls, MA 01370

John Waite  
Franklin County CDC  
324 Wells Street  
Greenfield, MA 01301

Sara Cummings  
Community Action Pioneer Valley  
393 Main Street  
Greenfield, MA 01301

Terry Narkewicz, Town Administrator  
Town of Shelburne  
51 Bridge Street  
Shelburne Falls, MA 01370

Heather Butler, Town Administrator  
Town of Buckland  
17 State Street  
Shelburne Falls, MA 01370

Sheryl Stanton, Superintendent  
Mohawk Trail Regional HS  
24 Ashfield Road  
Shelburne Falls, MA 01370

Gina Govoni, Executive Director  
Franklin County HRA  
241 Millers Falls Road  
Turners Falls, MA 01376

Franklin/Hampshire Regional Employment Board  
1 Arch Street  
Greenfield, MA 01301

The contractor further agrees whenever possible to purchase materials necessary for performance of the work under this contract from eligible Section 3 businesses.

## **5. Record Keeping and Reporting**

The contractor agrees to maintain data on employment, contracting, and purchase of materials in sufficient detail as to allow accurate preparation of Section 3 compliance reports.

The contractor agrees to submit to the grantee each month Section 3 compliance reports (attached) for employment of lower income residents and for utilization of businesses.

Assurance of

Assurance of Compliance (Section 3, HUD Act of 1968)  
TRAINING, EMPLOYMENT, AND CONTRACTING OPPORTUNITIES  
FOR BUSINESSES AND LOWER INCOME PERSONS

- A. The work to be done under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701 u (section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 2, shall, to the greatest extent feasible, be directed to low income persons who are recipients of HUD assistance for housing.
- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
- C. The contractor agrees to send each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job title subject to hire, availability of apprenticeships and training positions, the qualifications for each and the name and location of the person(s) taking applications for each of the positions, and the anticipated date the work shall begin.
- D. The contractor agrees to include this Section 3 clause in every subcontract for compliance with regulations in 24 CFR part 135, after the contractor is selected but before the contract is executed, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- E. The contractor will certify that any vacant employment positions, including training positions that are filled with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- F. Non compliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

Executed by:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: XXX, Inc. Address:  
XXX Street  
XXX, MA XXXXX

Signature \_\_\_\_\_

Date \_\_\_\_\_

Section 3 Resident & Section 3 Business  
Requisition Payment Report

Project Name: \_\_\_\_\_ Payment Requisition #: \_\_\_\_

	(A)	(B)	(C)	(D)	(E)	(F)
	Subcontractor, business or resident name *	Minority Owned Firm or Individual	Women Owned Business	Section 3 Firm or Individual	Total Contract Value	% Completed w/This Requisition
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Instruction:

1. List all contractors and subcontractors in Column A
2. Mark with an X the column that applies (B, C, and/or D)
3. Identify the total value of their contract or subcontract
4. Identify the % of their work that is completed with this payment request

By:

\_\_\_\_\_

XXX, Inc.

Contractor (name & title)

\_\_\_\_\_

Date

\*Please provide a complete list of all contracts awarded to Sec. 3 subs/residents to date.

\*\*Please DO NOT subtract retainage from number

## Federal Labor Standards Provisions

## U.S. Department of Housing and Urban Development Office of Labor Relations

### Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

**A. 1. (I) Minimum Wages.** All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section I(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(II) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

**2. Withholding.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

**3. (i) Payrolls and basic records.** Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

**(ii) (a)** The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

**(b)** Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

**(1)** That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and Trainees.

(i) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

**7. Contract termination; debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act Requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

**10. (i) Certification of Eligibility.** By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

**11. Complaints, Proceedings, or Testimony by Employees.** No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

**B. Contract Work Hours and Safety Standards Act.** The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

**(1) Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

**(2) Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

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(3) **Withholding for unpaid wages and liquidated damages.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

**C. Health and Safety.** The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

## **Exhibit H:**

### **Attachment to Federal Labor Standards Provisions**

So-Called "Antikickback Act" and Regulations Promulgated Pursuant Thereto by the Secretary of Labor. United States Department of Labor- Title 18, U.S.C., Section 874 (HUD-4010-1, 2-76) (Replaces section I of the Act of June 13, 1934 (48 Stat. 948.40 U.S.C., section 276B) pursuant to the Act of June 25, 1948, 62 Stat. 862).

#### *Kickbacks from Public Works Employees*

Whoever, by force, intimidation, or threat of procuring dismissal from employment, or by any other manner whatsoever induces any person employed in the construction, prosecution, completion or repair of any public building, public work, or building or work financed in whole or in part by loans or grants from the United States, to give up any part of the compensation to which he is entitled under his contract of employment, shall be fined not more than \$5,000 or imprisoned not more than five years, or both.

Section 2 of the Act of June 13, 1934, as amended (48 Stat, 948, 62 Stat. 862, 63 Stat I 08, 72 Stat. 967, 40 U.S.C., section 276c)

The Secretary of Labor shall make reasonable regulations for contractors and subcontractors engaged in the construction, prosecution, completion or repair of buildings, public works or buildings or works financed in whole or in part by loans or grants from the United States, including a provision that each contractor shall furnish weekly a statement with respect to the wages paid each employee during the preceding week. Section 1001 of Title 18 (United States Code) shall apply to such statements.

Pursuant to the aforesaid Anti-Kickback Act, the Secretary of Labor, United States Department of Labor, has promulgated the regulations hereinafter set forth, which regulations are found in Title 29, Subtitle A, Code of Federal Regulations, Part 3. The term "this part," as used in the regulations hereinafter set forth, refers to Part 3 last above mentioned. Said regulations are as follows:

Title 29- Labor, Subtitle A- Office of the Secretary of Labor, Part 3 Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in part by loans or grants from the United States

#### Section 3.1 - Purpose and scope.

This part prescribes "anti-kickback" regulations under section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c), popularly known as the Copeland Act. This part applies to any contract which is subject to Federal wage standards and which is for the construction, prosecution, completion, or repair of public buildings, public works or buildings or works financed in whole or in part by loans or grants from the United States. The part is intended to aid in the enforcement of the minimum wage provisions of the Davis-Bacon Act and the various statutes dealing with Federally assisted construction that contain similar minimum wage provisions, including those provisions which are not subject to Reorganization Plan No.14 (e.g., the College Housing Act of 1950, the Federal Water Pollution Control Act, and the Housing Act of 1959), and in the enforcement of the overtime provisions of the Contract Work Hours Standards Act whenever they are applicable to construction work. The part details the obligation of contractors and subcontractors relative to the weekly submission of statements regarding the wages paid on work covered thereby; sets forth the circumstances and procedures governing the making of payroll deductions - from the wages of those employed on such work; and delineates the methods of payment permissible on such work.

#### Section 3.2- Definitions.

As used in the regulations in this part:

(a) The terms "building" or "work" generally include construction activity as distinguished from manufacturing, furnishing of materials, or servicing and maintenance work. The terms include, without limitation, buildings, structures, and improvements of all types, such as bridges, dams, plants, highways, parkways, streets, subways, tunnels, sewers, mains, power lines, pumping stations, railways, airports, terminals, docks, piers, wharves, ways, lighthouses, buoys, jetties, breakwaters, levees, and canals; dredging, shoring, scaffolding, drilling, blasting, excavating, clearing, and

landscaping. Unless conducted in connection with and at the site of such a building or work as is described in the foregoing sentence, the manufacture or furnishing of materials, articles, supplies, or equipment (whether or not a Federal or State agency acquires title to such materials, articles, supplies, or equipment during the course of the manufacture or furnishing, or owns the materials from which they are manufactured or furnished) is not a "building" or "work" within the meaning of the regulations in this part.

(b) The terms "construction," "prosecution," "completion," or "repair" mean all types of work done on a particular building or work at the site thereof, including, without limitation, altering, remodeling, painting and decorating, the transporting of materials and supplies to or from the building or work by the employees of the construction contractor or construction subcontractor, and the manufacturing or furnishing of materials, articles, supplies, or equipment on the site of the building or work, by persons employed at the site by the contractor or subcontractor.

(c) The terms "public building" or "public work" include building or work for whose construction, prosecution, completion, or repair, as defined above, a Federal agency is a contracting party, regardless of whether title thereof is in a Federal agency.

(d) The term "building or work financed in whole or in part by loans or grants from the United States" includes building or work for whose construction, prosecution, completion, or repair, as defined above, payment or part payment is made directly or indirectly from funds provided by loans or grants by a Federal agency. The term does not include building or work for which Federal assistance is limited solely to loan guarantees or insurance.

(e) Every person paid by a contractor or subcontractor in any manner for his labor in the construction, prosecution, completion, or repair of a public building or public work or building or work financed in whole or in part by loans or grants from the United States is "employed" and receiving wages," regardless of any contractual relationship alleged to exist between him and the real employer.

(f) The term "any affiliated person" includes a spouse, child, parent, or other close relative of the contractor or subcontractor; a partner or officer of the contractor or subcontractor; a corporation closely connected with the contractor or subcontractor as parent, subsidiary or otherwise, and an officer -or agent of such corporation.

(g) The term "Federal agency" means- the United States, the District of Columbia, and all executive departments, independent establishments, administrative agencies, and instrumentalities of the United States and of the District of Columbia, including corporations, all or substantially all of the stock of which is beneficially owned by the United States, by the District of Columbia, or any of the foregoing departments, establishments, agencies, and instrumentalities.

### Section 3.3 - Weekly statement with respect to payment of wages.

(a) As used in this section, the term "employee" shall not apply to persons in classifications higher than that of laborer or mechanic and those who are the immediate supervisors of such employees.

(b) Each contractor or subcontractor engaged in the construction, prosecution, completion, or repair of any public building or public work, or building or work financed in whole or in part by loans or grants from the United States, shall furnish each week a statement with respect to the wages paid each of its employees engaged on work covered by 29 CFR Parts 3 and 5 during the preceding weekly payroll period. This statement shall be executed by the contractor or subcontractor or by an authorized officer or employee of the contractor or subcontractor who supervises the payment of wages and shall be on form WH 348, "Statement of Compliance," or on an identical form on the back of WH 347, "Payroll (For Contractors Optional Use)" or on any form with identical wording. Sample copies of WH 347 and WH 348 may be obtained from the Government contracting or sponsoring agency, and copies of these forms may be purchased at the Government Printing Office.

(c) The requirements of this section shall not apply to any contract of \$2,000 or less.

(d) Upon a written finding by the head of a Federal agency, the Secretary of Labor may provide reasonable limitations, variations, tolerances and exemptions from the requirements of this section subject to such conditions as the secretary of Labor may specify.

(29 CFR- 9S, Jan. 4, 1964, as amended at 33 CFR 101 86, July 17, 1968)

Section 3.4. - Submission of weekly statements and the preservation and inspection of weekly payroll records.

(a) Each weekly statement required under section 3.3 shall be delivered by the contractor or subcontractor, within seven days after the regular payment date of the payroll period, to the owner, representative of a Federal or State agency at the site of the building or work, the statement shall be mailed by the contractor or subcontractor, within such time, to the owner contracting for or financing the building or work, After such examination and check as may be made, such statement, or a copy thereof, shall be kept available, or shall be transmitted together with a report of any violation, in accordance with applicable procedures prescribed by the United States Department of Labor.

(b) Each contractor or subcontractor shall preserve his weekly payroll records for a period of three years from date of completion of the contract. The payroll records shall set out accurately and completely the name and address of each laborer and mechanic, his correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Such payroll records shall be made available at all times for inspection by the contracting officer or his authorized representative, and by authorized representatives of the Department of Labor.

Section 3.5- Payroll deductions permissible without application to or approval of the Secretary of Labor.

Deductions made under the circumstances or in the situations described in the paragraphs of this section may be made without application to and approval of the Secretary of Labor.

(a) Any deduction made in compliance with the requirements of Federal, State or local law, such as Federal or State withholding income taxes and Federal social security taxes.

(b) Any deduction of sums previously paid to the employee as a bona fide prepayment of wages when such prepayment is made without discount or interest. A "bona fide prepayment of wages" is considered to have been made only when cash or its equivalent has been advanced to the person employed in such manner as to give him complete freedom of disposition of the advanced funds.

(c) Any deduction amounts required by court process to be paid to another, unless the deduction is in favor of the contractor, subcontractor or any affiliated person, or when collusion or collaboration exists.

(d) Any deduction constituting a contribution on behalf of the person employed to funds established by the employer or representatives of employees, or both, for the purpose of providing either from principal or income, Or both, medical or hospital care, pensions or annuities on retirement, death benefits, compensation for injuries, illness, accidents, sickness, or disability, or for insurance to provide any of the foregoing, or unemployment benefits, vacation pay, savings accounts, or similar payments for the benefit of employees, their families and dependents: Provided, however, That the following standards are met: (1) The deduction is not otherwise prohibited by law; (2) it is either: (i) Voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of or for the continuation of employment, or (U) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees; (3) no profit or other benefit is otherwise obtained, directly or indirectly, by the contractor or subcontractor or any affiliated person in the form of commission, dividend, or otherwise; and (4) the deductions shall serve the convenience and interest of the employee.

(e) Any deduction contributing toward the purchase of United States Defense Stamps and Bonds when voluntarily authorized by the employee.

(f) Any deduction requested by the employee to enable him to repay loans to or to purchase shares in credit unions organized and operated in accordance with Federal and State credit union statutes.

(g) Any deduction Voluntarily authorized by the employee for the making of contributions to governmental or quasi-governmental agencies, such as the American Red Cross.

(h) Any deduction voluntarily authorized by the employee for the making of contributions to Community Chests, United Givers Funds, and similar charitable organizations.

(i) Any deductions to pay regular union initiation fees and membership dues, not including finds or special assessments: Provided, however., That a collective bargaining agreement between the contractor or subcontractor and representatives of its employees provides for such deductions and the deductions are not otherwise prohibited by law.

(j) Any deduction not more than for the "reasonable cost" of board, lodging, or other facilities meeting the requirements of section 3(m) of the Fair Labor Standards Act of 1938, as amended, and Part 431 of this title. When such a deduction is made the additional records required under section S16.27(a) of this title shall be kept.

#### Section 3.6- Payroll deductions permissible with the approval of the Secretary of Labor.

Any contractor or subcontractor may apply to the Secretary of Labor for permission to make any deduction not permitted under section 3.5. The Secretary may grant permission whenever he finds that:

(a) The contractor, subcontractor, or any affiliated person does not make a profit or benefit directly or indirectly from the deduction either in the form of a commission, dividend, or otherwise;

(b) The deduction is not otherwise prohibited by law;

(c) The deduction is either (1) voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of employment or its continuance, or (2) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees; and

(d) The deduction serves the convenience and interest of the employee.

#### Section 3.7 - Applications for the approval of the Secretary of Labor.

Any application for the making of payroll deductions under section 3.6 shall comply with the requirements prescribed in the following paragraphs of this section:

(a) The application shall be in writing and shall be addressed to the Secretary of Labor.

(b) The application shall identify the contract or contracts under which the work in question is to be performed. Permission will be given for deductions only on specific, identified contracts, except upon a showing of exceptional circumstances.

(c) The application shall state affirmatively that there is compliance with the standards set forth in the provisions of section 3.6. The affirmation shall be accompanied by a full statement of the facts indicating such compliance.

(d) The application shall include a description of the proposed deduction, the purpose to be served thereby, and the classes of laborers or mechanics from whose wages the proposed deduction would be made.

(e) The application shall state the name and business of any third person to whom any funds obtained from the proposed deductions are to be transmitted and the affiliation of such person, if any, with the applicant.

#### Section 3.8 - Action by the Secretary of Labor upon applications.

The Secretary of Labor shall decide whether or not the requested deduction is permissible under provisions of section 3.6; and shall notify the applicant in writing of his decision.

#### Section 3.9 - Prohibited payroll deductions.

Deductions not elsewhere provided for by this part and which are not found to be permissible under section 3.6 are prohibited.

#### Section 3.10 - Methods of payment of wages.

The payment of wages shall be by cash, negotiable instruments payable on demand, or the additional forms of compensation for which deductions are permissible under this part. No other methods of payment shall be recognized on work subject to the Copeland Act.

Section 3.11 - Regulations part of contract.

All contracts made with respect to the construction, prosecution, completion, or repair of any public building or public work or building or work financed in whole or in part by loans or grants from the United States covered by the regulations in this part shall expressly bind the contractor or subcontractor to comply with such of the regulations in this part as may be applicable.

Special Equal Opportunity Provisions:

- A. 3-Paragraph Equal Opportunity Clause for Activities and Contracts Not Subject to Executive Order 11246, as Amended (applicable to Federally assisted construction contracts and related subcontracts \$10,00 and under)

During the performance of this Contract, the Contractor agrees as follows:

1. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
2. The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by contracting officer setting forth the provisions of this nondiscrimination clause. The Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
3. Contractors shall incorporate foregoing requirements in all subcontracts

- B. Executive Order 11246 (contracts/subcontracts above \$10,000)

1. Section 202 Equal Opportunity Clause

During the performance of this Contract, the Contractor agrees as follows

- a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration without regard to race, color, religion, sex or national origin.
- c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Contract Compliance Officer advising the said labor union or workers' representatives of the Contractor's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

- d) The Contractor will comply with all provisions of Executive Order 11 246 of September 24, 1965, and of the rules, regulations and relevant order of, the Secretary of Labor.
- e) The Contractor Will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and Will permit access to his books, records and accounts by the Department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and others.
- f) In the event of the Contractor's non-compliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations or orders, this Contract may be canceled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
- g) The Contractor will include the provisions of the sentence immediately preceding paragraph a. and the provisions of paragraphs a. through g. in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions Will be binding upon each Subcontractor or vendor. The Contractor will take such action with. respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the Department, the Contractor may request the United States to enter into such litigation to protect the interest of the United States-

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) (applicable to contract/subcontracts exceeding \$10,000)

- a) The Contractor's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- b) The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for Minority Participation	Goals for Female Participation

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goals established for such geographic area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-Federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4-3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of

its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the Contract, the Executive Order and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

- c) As used in this notice, and in the contract resulting from the solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county, and city, if any).

Standard CDBG Assisted Equal Employment Opportunity Construction Contract Specifications  
(Executive Order 11246)

- a. As used in these specifications:

- (1) "Covered area" means the geographical area described in the solicitation from which this Contract resulted.
- (2) "Director" means Director, Office of Federal Contract Compliance Program, United States Department of Labor, or any person to whom the Director delegates authority.
- (3) "Employer identification number" means the Federal Social Security number used on the Employees Quarterly Federal Tax Return, U. S. Treasury Department Form 941.
- (4) "Minority" includes:
  - (a) Black (all persons having origins in any of the black African racial groups not of Hispanic origin),
  - (b) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race).
  - (c) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent or the Pacific Islands).
  - (d) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- (5) Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this Contract resulted.
- (6) If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a "HomeOwner Plan" approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the plan area (including goals and timetables) shall be in accordance with that plan for those trades which have unions participating in the plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such HomeOwner Plan. Each Contractor or Subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractors or Subcontractors failure to take good faith efforts to achieve the plan goals and timetables.
- (7) The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this Contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the

covered area. Covered construction Contractors performing contracts in geographical areas where they do not have a Federal or Federally-assisted construction contract shall apply the minority and female goals established for the geographic area where the contract is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers- The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

- (8) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
- (9) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.
- (10) The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
  - (a) Ensure and maintain a working environment free of harassment, intimidation and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
  - (b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
  - (c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
  - (d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
  - (e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor- The Contractor shall provide notice of these programs to the sources compiled under 7b above.

- (f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- (g) Review, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed and disposition of the subject matter.
- (h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- (i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.
- (j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
- (k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- (l) Conduct, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- (m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- (n) Ensure that all facilities and company activities are non segregated except that separate or single-use toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- (o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- (p) Conduct a review of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

- (11) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, - makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf, of the Contractor- The obligation shall not be a defense for the Contractor's non-compliance.
- (12) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even through the Contractor has achieved its goals for women - generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
- (13) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.
- (14) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
- (15) The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
- (16) The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
- (17) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
- (18) Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

D. Title VI Clause, Civil Rights Act of 1964

Under Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

E. Section 109 Clause, Housing and Community Development Act of 1974

No person in the United States shall on the grounds of race, color, national origin or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

F. "Section 3" Compliance in the Provision of Training, Employment and Business Opportunities (from Federal Register 6/30/94)

The work to be performed under this Contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u. (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD assisted projects covered by section 3 shall, to the greatest extent feasible, be directed to low and very low income persons, particularly persons who are recipients of HUD assistance for housing.

The parties to this contract agree to comply HUD's regulations in 24 CFR 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

The Contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the said labor organization or workers' representative of the contractor's commitments under this section 3 clause and will post copies of the notice in conspicuous places at the worksite where both employees and applicants for employment or training positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each, and the name and location of the person(s) taking applications for each of the positions; and the anticipated date that the work shall begin.

The Contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take the appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where it has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

The contractor will certify that any vacant employment positions, including training positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractors obligations under 24 CFR part 135.

Non-compliance with HUD regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

With respect to work performed in connection with section 3 covered Indian Housing Assistance, section 7(b) of the Indian Self Determination and Education Assistance Act (25 USC 450e) also applies to the work to be performed under this contract. Section 7(b) requires, that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (U) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

The contractor will include the paragraphs of this clause in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of 9/25/65, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Owner, HUD, and MASS. CDBG may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided however, that in the event a Contractor becomes involved in, or is threatened with, litigation, with a subcontractor or vendor as a result of such direction by the Department, the contractor may request the United States to enter into such litigation to protect the interest of the United States.

The paragraphs of this clause shall be included in any subcontracts for construction, demolition or landscaping over \$100,000. If this is a construction, demolition, or landscaping contract for \$50,000 or more, and the contractor has over 50 employees, the contractor shall develop a written Affirmative Action Program. The program shall provide detailed steps to guarantee equal employment opportunity for minority groups and shall include a table of job classifications.

G. Rehabilitation Act of 1973, Section 504 Handicapped (if \$2,500 or over) Affirmative Action for Handicapped Workers

1. The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
2. The Contractor agrees to comply with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.
3. In the event of the Contractor's non-compliance with the requirements of this clause, actions for non-compliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.

5. The Contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.
  6. The Contractor will include the provisions of this clause in every subcontract or purchase order of \$2,500 or more unless exempted by rules, regulations or orders of the Secretary issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for non-compliance.
- H. Section 402 Veterans of the Vietnam Era (if \$1 0,000 or over) Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era

(Updated clause from 1/5195 Federal Register Pages 1985-1987 as follows; first paragraph of number 2 and number 8 a-c)

1. The Contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran or veteran of the Vietnam era in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based on their disability or veteran status in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
2. The Contractor agrees to list all employment openings which exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract and including those occurring at an establishment of the Contractor other than the one wherein the contract is being performed but excluding those of independently operated corporate affiliates, at an appropriate local office of the State employment service system wherein the opening occurs.

State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their suitable openings with the appropriate office of the State employment service, but are not required to provide those reports set forth in paragraphs 4 and 5.

3. Listing of employment openings with the employment service system pursuant to this clause shall be made \*at least concurrently with the use of any other recruitment source or effort and shall involve the normal obligations which attach to the placing of a bona fide job order, including the acceptance of referrals of veterans and non-veterans. The listing of employment openings does not require the hiring of any particular job applicant or from any particular group of job applicants, and nothing herein is intended to relieve the Contractor from any requirements in Executive Orders or regulations regarding nondiscrimination in employment-
4. The reports required by paragraph 2 of this clause shall include, but not be limited to, periodic reports which shall be filed at least quarterly with the appropriate local office or, where the Contractor has more than one hiring location in a State, with the central office of that State employment service- Such reports shall indicate for each hiring location
  - (1) the number of individuals hired during the reporting period,
  - (2) the number of nondisabled veterans of the Vietnam era hired,
  - (3) the number of disabled veterans of the Vietnam era hired, and
  - (4) the total number of disabled veterans hired.

The reports should include covered veterans hired for on-the-job training under 38 U.S.C. 1987. The Contractor shall submit a report within 30 days after the end of each reporting period wherein any performance is made on this Contract identifying data for each hiring location copies of the reports submitted until the expiration of one year after final payment under the Contract, during which time these reports and related documentation shall be made available, upon request, for examination by any authorized representatives of the contracting officer or of the Secretary of Labor. Documentation would include personnel records respecting job openings, recruitment and placement.

5. Whenever the Contractor becomes contractually bound to the listing provisions of this clause, it shall advise the employment service system in each State where it has establishments of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these provisions and has so advised the State system, there is no need to advise the State system of subsequent contracts. The Contractor may advise the State system when it is no longer bound by the contract clause.
7. The provisions of paragraphs 2, 3, 4 and 5 of this clause do not apply to openings which the Contractor proposes to fill from Within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement. This exclusion does not apply to a particular opening once an employer decides to consider applicants outside of his own organization or employer-union arrangement for that opening.
8. As used in this clause:

- a. "All employment openings" includes all positions except executive and top management; those positions will be filled from within the contractor's organization or positions lasting three days or less. This term includes full time employment, temporary employment of more than three days' duration, and part time employment.
  - b. "Appropriate office of the State employment service system" means the local office of the Federal-State national system of public employment offices with assigned responsibility for serving the area where the employment opening is to be filled...
  - c. "Positions that will be filled from within the contractor's own organization" means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and the parent companies) and includes any openings which the Contractor proposes to fill from regularly established "recall" lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside his or her own organization.
  - d. "Openings which the Contractor proposes to fill pursuant to a customary- and traditional employer-union hiring arrangement" means employment openings which the Contractor proposes to fill from union halls, which is part of the customary and traditional hiring relationship which exists between the Contractor and representatives of his employees.
9. The Contractor agrees to comply with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.
10. In the event of the Contractor's non-compliance with the requirements of this clause, actions for non-compliance may be taken in accordance with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.
11. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notice shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era for employment, and the rights of applicants and employees.
12. The Contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of the Vietnam Era Veterans Readjustment Assistance Act, and is committed to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era.
13. The Contractor will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations or orders of the Secretary issued pursuant to the Act, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for non-compliance.

**Exhibit I:**

**LABOR CERTIFICATION  
CERTIFICATION CONCERNING LABOR STANDARDS  
AND PREVAILING WAGE REQUIREMENTS**

TO: \_\_\_\_\_  
(Department, Agency, or Bureau) (Date)

\_\_\_\_\_  
c/o Project Number

\_\_\_\_\_  
Project Name

1. The undersigned, having executed a contract with \_\_\_\_\_

for the construction of the above-identified project, acknowledges that:

- a) The Federal Labor Standards provisions for the Contract for Construction are included in the aforesaid contract;
- b) Correction of any infractions of the aforesaid conditions, including infractions by any of his subcontractors and any lower tier subcontractors, is his/her responsibility.

2. He/She certifies that:

- a) Neither he/she nor any firm, partnership or association in which he/she has substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, part 5 (29 CFR, Part-5) or pursuant to Section 3(a) of the Davis-Bacon Act, as amended (40 USC 276a-2(a)).
- b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible contractor pursuant to any of the aforementioned regulatory or statutory provisions.

3. He/she agrees to obtain and forward to the aforementioned recipient, within ten (10) days after the execution of any subcontract, including those executed by his subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements executed by the subcontractors.

4. He/she certifies that:

- a) The legal name and the business address of the undersigned are:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

b) The undersigned is:

- ☐ A Single Proprietorship
- ☐ A Partnership
- ☐ Corporation Organized in the State of \_\_\_\_\_
- ☐ Organization(describe)

c) The name, title, and address of the owner, partners or officers of the undersigned is/are:

NAME	TITLE	ADDRESS
_____	_____	_____
_____	_____	_____

d)The names and addresses of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (if none, so state)

NAME	ADDRESS	NATURE OF INTEREST
_____	_____	_____
_____	_____	_____

e)The names, addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are (if none, so state):

NAME	ADDRESS	TRADE CLASSIFICATION
_____	_____	_____
_____	_____	_____
_____	_____	_____

\_\_\_\_\_  
CONTRACTOR (print or type)

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

Date

WARNING

The U.S. Criminal Code, Section 1010, Title 18, USC, provides in part: "Whoever...makes, verbally passes, utters or publishes any statement, knowing the name to be false...shall be fined not than \$5,000 or imprisoned not more than two years, or both."

The Contractor hereby certifies that the offeror can furnish labor that can work in concert with other elements of labor employed at the installation site.

**Exhibit J:**

**PREVAILING WAGES TO BE PAID BY CONTRACTOR**

The contractor hereby certifies that he/she will comply with the provisions of sections twenty-six to twenty-seven G, inclusive, of Chapter 149 of the Massachusetts General Laws, relating to veterans' and citizens' preference and payment of prevailing wages shall NOT apply to the manufacture of modular buildings procured pursuant to section 44E of said Chapter 149, but shall apply to all work ordinarily and customarily performed on modular buildings at building sites, including, but not limited to, construction of foundations, attachment to external utilities, and installation and assembly of modular units, including any assembly performed at any site in the Commonwealth other than the place of manufacture, and pay the higher of the State Wage Rates or the Federal Wage Rates included in this contract. The contractor and all of their subcontractors are responsible for the correct prevailing wage rates.

Contractor:\_\_\_\_\_

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

---

Signature of authorized representative

Title

Date

**Exhibit K:**

***Certification of Drug-Free Workplace***

The CONTRACTOR certifies that it will or will continue to provide a drug-free workplace by:

1. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
2. Establishing an ongoing drug-free awareness program to inform employees about-
  - (a) The dangers of drug abuse in the workplace;
  - (b) The contractor's policy of maintaining a drug-free workplace;
  - (c) Any available drug counseling, rehabilitation and employee assistance programs and;
  - (d) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
3. Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph 1;
4. Notifying the employee in the statement required by paragraph 1 that, as a condition of employment under the grant, the employee will-
  - (a) Abide by the terms of the statement and;
  - (b) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
5. Notifying the Town in writing, within ten calendar days after receiving notice under sub-paragraph 4(b) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Town has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;
6. Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph 4(b), with respect to any employee who is convicted-
  - (a) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended or;
  - (b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State or local health, law enforcement or other appropriate agency;
7. Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs 1, 2, 3, 4, 5 and 6.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001

Contractor: \_\_\_\_\_

Signature: \_\_\_\_\_

Date \_\_\_\_\_

**Exhibit L:**

**COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE ORDER 481 - CONTRACTOR CERTIFICATION  
PROHIBITING THE USE OF UNDOCUMENTED WORKERS ON STATE  
CONTRACTS**

CONTRACTOR LEGAL NAME:  
CONTRACTOR VENDOR/CUSTOMER CODE:

Issued  
March 2007



**INSTRUCTIONS:**

Executive Order 481 applies to all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established. As it is the policy of the Executive Branch to prohibit the use of undocumented workers in connection with the performance of state contracts, all contracts entered into after February 23, 2007 require that Contractors, as a condition of receiving Commonwealth funds under any Executive Branch contract, make the following certification:

**CONTRACTOR CERTIFICATION:**

As evidenced by the signature of the Contractor's Authorized Signatory below, the Contractor certifies under the pains and penalties of perjury that the Contractor shall not knowingly use undocumented workers in connection with the performance of all Executive Branch contracts; that pursuant to federal requirements, the Contractor shall verify the immigration status of all workers assigned to such contracts without engaging in unlawful discrimination; and that the Contractor shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Contractor understands and agrees that breach of any of these terms during the period of each contract may be regarded as a material breach, subjecting the Contractor to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

\_\_\_\_\_  
Contractor Authorizing Signature

\_\_\_\_\_  
Print Name

Title: \_\_\_\_\_ Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

The Contractor is required to sign this Certification only once and may provide a copy of the signed Certification for any contract executed with an Executive Branch Department. A copy of this signed Certification must be attached to the "record copy" of all contracts with this Contractor that is filed with the contracting Department.

**Exhibit M:****HUD FINANCIAL DISCLOSURE FORM****FINANCIAL DISCLOSURE REPORT  
FINANCIAL INTEREST IN PROJECT ASSISTED BY MASSACHUSETTS SMALL CITIES  
PROGRAM**

APPLICANT: \_\_\_\_\_ PROJECT: \_\_\_\_\_

Any applicant (city or town government, or subrecipient) to this program which will receive or expects to receive in excess of \$200,000 from funds made available by the federal Department of Housing and Urban Development (HUD), to assist a project or which is expecting to receive less than \$200,000 from HUD but is seeking or receiving other government (federal, state or local) funds to assist a project, must submit this form, and submit updates as financial interests change.

Information on this form is designed to show the level of financial interest in a project (including, but not limited to, equity, shares in profit on resale or any distribution of surplus cash or assets, or compensation for goods or services) of parties in the following categories:

- 1) All developers, contractors, or consultants involved in the application for financial assistance, or in the planning, development, or implementation of the project or activity; and
- 2) All other parties with a financial interest that exceeds \$50,000 or 10% of the assistance (whichever is lower)

A. Alphabetical list of all persons with a reportable financial interest in the project or activity	B. Social Security Number or Employee ID Number FEID Number	C. Type of Participation in Project/Activity	D. Financial Interest in Project/Activity

- A. Give the last name first (if entity, name of each officer, director, and principal stockholder) and include full address.
- B. Provide for each.
- C. This means the persons' specific role in the project (e.g. contractor, consultant, investor, etc.).
- D. Provide for each.

**Certification**

Warning: If you knowingly make a false statement on this form, you may be subject to civil or criminal penalties under Section 1001 of the Title 18 of the United States Code. In addition, any person, who knowingly and materially violates any required disclosure of information, including intentional nondisclosure, is subject to civil money penalty not to exceed \$10,000 for each violation.

I certify that this information is true and complete.

Signature \_\_\_\_\_ Date: \_\_\_\_\_

**Exhibit N:**

**REGISTRATION OF FOREIGN CORPORATION – (If Foreign Corporation)**

The Contractor hereby certifies that it meets the registration requirements for foreign corporations, under M.G.L. c. 30, §39L, specifically Northern Ireland or other prohibited nations as detailed by M.G.L., as amended.

Contractor:\_\_\_\_\_

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

---

Signature of authorized representative

Title

Date

**Exhibit O:**

**CORPORATE VOTES**

I, \_\_\_\_\_ hereby certify that I am the duly qualified and acting Secretary of \_\_\_\_\_ and further certify that a meeting of the Directors of Said company, duly called and held on \_\_\_\_\_ 20\_\_\_\_, at which all members were present and voting, the following vote was unanimously passed:

VOTED: To authorize and empower \_\_\_\_\_

Of this company, be and he hereby is authorized to execute contracts and bonds in the name and behalf of said company, and affix its corporate seal thereto; and such execution of any contract or obligation in this company's name on its behalf by such officer under seal of this company shall be valid and binding upon this company.

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

A true copy

ATTEST: \_\_\_\_\_

Place of Business: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

I hereby certify that I am the clerk of \_\_\_\_\_ and that \_\_\_\_\_ is the newly elected Vice President of said company, and that the above vote has not been amended or rescinded and remains in full force and as of this date Clerk of \_\_\_\_\_ (Corporate Seal)

**Exhibit P:**

**CERTIFICATE BY CORPORATION TO SIGN CONTRACT**

At a duly authorized meeting of the Board of Directors of the \_\_\_\_\_

\_\_\_\_\_ held on \_\_\_\_\_  
(Name of Corporation) (Date)

At which all the Directors were present or waived notice, it was voted that,

\_\_\_\_\_  
(Name) (Officer)  
of this company, be and he hereby is authorized to execute contracts and bonds in the name and  
behalf of said company, and affix its Corporate Seal thereto, and such execution of any contract or  
obligation in this company's name on its behalf by such \_\_\_\_\_  
(Officer)

under seal of the company, shall be valid and binding upon this company,

A TRUE COPY,

ATTEST: \_\_\_\_\_  
(Clerk)

PLACE OF BUSINESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE OF THIS CONTRACT: \_\_\_\_\_

I hereby certify that I am the Clerk of the \_\_\_\_\_

that \_\_\_\_\_ is the duly  
elected \_\_\_\_\_ of said company, and the above vote has  
not been amended or rescinded and remains in full force and effect as of the date of this Contract.

\_\_\_\_\_  
(Clerk) (Corporate Seal)

End of Section

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology .....	1
1.01    Defined Terms .....	1
1.02    Terminology .....	5
Article 2 – Preliminary Matters .....	6
2.01    Delivery of Bonds and Evidence of Insurance .....	6
2.02    Copies of Documents .....	6
2.03    Before Starting Construction .....	6
2.04    Preconstruction Conference; Designation of Authorized Representatives .....	7
2.05    Initial Acceptance of Schedules .....	7
2.06    Electronic Transmittals.....	7
Article 3 – Documents: Intent, Requirements, Reuse .....	8
3.01    Intent.....	8
3.02    Reference Standards .....	8
3.03    Reporting and Resolving Discrepancies .....	8
3.04    Requirements of the Contract Documents .....	9
3.05    Reuse of Documents .....	10
Article 4 – Commencement and Progress of the Work .....	10
4.01    Commencement of Contract Times; Notice to Proceed .....	10
4.02    Starting the Work.....	10
4.03    Reference Points .....	10
4.04    Progress Schedule .....	10
4.05    Delays in Contractor’s Progress .....	11
Article 5 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions .....	12
5.01    Availability of Lands .....	12
5.02    Use of Site and Other Areas .....	12
5.03    Subsurface and Physical Conditions.....	13
5.04    Differing Subsurface or Physical Conditions .....	14
5.05    Underground Facilities .....	15
5.06    Hazardous Environmental Conditions at Site.....	17

Article 6 – Bonds and Insurance .....	19
6.01 Performance, Payment, and Other Bonds .....	19
6.02 Insurance—General Provisions .....	19
6.03 Contractor’s Insurance .....	20
6.04 Owner’s Liability Insurance .....	23
6.05 Property Insurance .....	23
6.06 Waiver of Rights .....	25
6.07 Receipt and Application of Property Insurance Proceeds .....	25
Article 7 – Contractor’s Responsibilities .....	26
7.01 Supervision and Superintendence .....	26
7.02 Labor; Working Hours .....	26
7.03 Services, Materials, and Equipment .....	26
7.04 “Or Equals” .....	27
7.05 Substitutes .....	28
7.06 Concerning Subcontractors, Suppliers, and Others .....	29
7.07 Patent Fees and Royalties .....	31
7.08 Permits .....	31
7.09 Taxes .....	32
7.10 Laws and Regulations .....	32
7.11 Record Documents .....	32
7.12 Safety and Protection .....	32
7.13 Safety Representative .....	33
7.14 Hazard Communication Programs .....	33
7.15 Emergencies .....	34
7.16 Shop Drawings, Samples, and Other Submittals .....	34
7.17 Contractor’s General Warranty and Guarantee .....	36
7.18 Indemnification .....	37
7.19 Delegation of Professional Design Services .....	37
Article 8 – Other Work at the Site .....	38
8.01 Other Work .....	38
8.02 Coordination .....	39
8.03 Legal Relationships .....	39
Article 9 – Owner’s Responsibilities .....	40
9.01 Communications to Contractor .....	40

9.02	Replacement of Engineer .....	40
9.03	Furnish Data .....	40
9.04	Pay When Due.....	40
9.05	Lands and Easements; Reports, Tests, and Drawings .....	40
9.06	Insurance.....	40
9.07	Change Orders.....	40
9.08	Inspections, Tests, and Approvals .....	41
9.09	Limitations on Owner’s Responsibilities .....	41
9.10	Undisclosed Hazardous Environmental Condition.....	41
9.11	Evidence of Financial Arrangements.....	41
9.12	Safety Programs .....	41
Article 10 – Engineer’s Status During Construction.....		41
10.01	Owner’s Representative.....	41
10.02	Visits to Site.....	41
10.03	Project Representative.....	42
10.04	Rejecting Defective Work.....	42
10.05	Shop Drawings, Change Orders and Payments.....	42
10.06	Determinations for Unit Price Work .....	42
10.07	Decisions on Requirements of Contract Documents and Acceptability of Work .....	42
10.08	Limitations on Engineer’s Authority and Responsibilities.....	42
10.09	Compliance with Safety Program.....	43
Article 11 – Amending the Contract Documents; Changes in the Work .....		43
11.01	Amending and Supplementing Contract Documents .....	43
11.02	Owner-Authorized Changes in the Work .....	44
11.03	Unauthorized Changes in the Work.....	44
11.04	Change of Contract Price .....	44
11.05	Change of Contract Times .....	45
11.06	Change Proposals .....	45
11.07	Execution of Change Orders.....	46
11.08	Notification to Surety.....	47
Article 12 – Claims.....		47
12.01	Claims .....	47
Article 13 – Cost of the Work; Allowances; Unit Price Work.....		48
13.01	Cost of the Work .....	48

13.02	Allowances .....	50
13.03	Unit Price Work .....	51
Article 14 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work .....		52
14.01	Access to Work .....	52
14.02	Tests, Inspections, and Approvals .....	52
14.03	Defective Work .....	53
14.04	Acceptance of Defective Work .....	53
14.05	Uncovering Work .....	53
14.06	Owner May Stop the Work .....	54
14.07	Owner May Correct Defective Work .....	54
Article 15 – Payments to Contractor; Set-Offs; Completion; Correction Period .....		55
15.01	Progress Payments .....	55
15.02	Contractor’s Warranty of Title .....	58
15.03	Substantial Completion .....	58
15.04	Partial Use or Occupancy .....	59
15.05	Final Inspection .....	59
15.06	Final Payment .....	59
15.07	Waiver of Claims .....	61
15.08	Correction Period .....	61
Article 16 – Suspension of Work and Termination .....		62
16.01	Owner May Suspend Work .....	62
16.02	Owner May Terminate for Cause .....	62
16.03	Owner May Terminate For Convenience .....	63
16.04	Contractor May Stop Work or Terminate .....	63
Article 17 – Final Resolution of Disputes .....		64
17.01	Methods and Procedures .....	64
Article 18 – Miscellaneous .....		64
18.01	Giving Notice .....	64
18.02	Computation of Times .....	64
18.03	Cumulative Remedies .....	64
18.04	Limitation of Damages .....	65
18.05	No Waiver .....	65
18.06	Survival of Obligations .....	65
18.07	Controlling Law .....	65

18.08	Headings.....	65
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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

## 1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
    - a. does not conform to the Contract Documents; or
    - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
    - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
  4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## **ARTICLE 2 – PRELIMINARY MATTERS**

### **2.01 *Delivery of Bonds and Evidence of Insurance***

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### **2.02 *Copies of Documents***

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

### **2.03 *Before Starting Construction***

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
  1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
  2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

#### 2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

#### 2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
  1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
  2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
  3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

#### 2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

### **ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

#### **3.01 *Intent***

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

#### **3.02 *Reference Standards***

- A. Standards Specifications, Codes, Laws and Regulations
  - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
  - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

#### **3.03 *Reporting and Resolving Discrepancies***

- A. *Reporting Discrepancies:*
  - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
  - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

### 3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
  - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
  - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

## **ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK**

### 4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

### 4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

### 4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
  - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

#### 4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
  1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  2. abnormal weather conditions;
  3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
  4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

## **ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.01 *Availability of Lands***

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

### **5.02 *Use of Site and Other Areas***

#### **A. *Limitation on Use of Site and Other Areas:***

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

### 5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
  - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
  - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
  - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
  - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
  2. is of such a nature as to require a change in the Drawings or Specifications; or
  3. differs materially from that shown or indicated in the Contract Documents; or
  4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
    - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
  - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
  - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
  - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
  1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
  2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
    - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
    - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
    - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
    - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
  - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
    - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
    - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
    - d. Contractor gave the notice required in Paragraph 5.05.B.
  - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
  - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
  2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
  2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## ARTICLE 6 – BONDS AND INSURANCE

### 6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

### 6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

#### 6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
  - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
  - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
  - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
  2. claims for damages insured by reasonably available personal injury liability coverage.
  3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
    - a. Such insurance shall be maintained for three years after final payment.
    - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
  2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
  3. Broad form property damage coverage.
  4. Severability of interest.
  5. Underground, explosion, and collapse coverage.
  6. Personal injury coverage.
  7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
  8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
  - 1. include at least the specific coverages provided in this Article.
  - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
  - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
  - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
  - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

#### 6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

#### 6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
  - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
  - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
  - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
  - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
  6. extend to cover damage or loss to insured property while in transit.
  7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
  8. allow for the waiver of the insurer's subrogation rights, as set forth below.
  9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
  10. not include a co-insurance clause.
  11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
  12. include performance/hot testing and start-up.
  13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

## 6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
  - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
  - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

## 6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

## **ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES**

### **7.01   *Supervision and Superintendence***

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

### **7.02   *Labor; Working Hours***

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

### **7.03   *Services, Materials, and Equipment***

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that:
      - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
      - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
      - 3) it has a proven record of performance and availability of responsive service; and
      - 4) it is not objectionable to Owner.
    - b. Contractor certifies that, if approved and incorporated into the Work:
      - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
      - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

#### 7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
  - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
  - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
  - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
    - a. shall certify that the proposed substitute item will:
      - 1) perform adequately the functions and achieve the results called for by the general design,
      - 2) be similar in substance to that specified, and
      - 3) be suited to the same use as that specified.
    - b. will state:
      - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
      - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
      - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
    - c. will identify:
      - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

#### 7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

#### 7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

#### 7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
  - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
  - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
  - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
  - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
  - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
  - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

#### 7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

#### 7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or

exchanged between or among employers at the Site in accordance with Laws or Regulations.

#### 7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

#### 7.16 *Shop Drawings, Samples, and Other Submittals*

##### A. *Shop Drawing and Sample Submittal Requirements:*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall have:
  - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
  - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
  - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
  - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
- 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

##### 1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
  1. observations by Engineer;
  2. recommendation by Engineer or payment by Owner of any progress or final payment;
  3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
  4. use or occupancy of the Work or any part thereof by Owner;
  5. any review and approval of a Shop Drawing or Sample submittal;
  6. the issuance of a notice of acceptability by Engineer;
  7. any inspection, test, or approval by others; or
  8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

#### 7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
  - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
  - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

#### 7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

## **ARTICLE 8 – OTHER WORK AT THE SITE**

### **8.01 *Other Work***

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

## 8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
  - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
  - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
  - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

## 8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

## **ARTICLE 9 – OWNER'S RESPONSIBILITIES**

### **9.01    *Communications to Contractor***

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

### **9.02    *Replacement of Engineer***

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

### **9.03    *Furnish Data***

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

### **9.04    *Pay When Due***

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

### **9.05    *Lands and Easements; Reports, Tests, and Drawings***

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

### **9.06    *Insurance***

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

### **9.07    *Change Orders***

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

**ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION**

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during

or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

#### 10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

### **ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK**

#### 11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
  - 1. *Change Orders:*
    - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
    - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
  - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

#### 11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
  1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
  2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
  3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
  2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
    - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
    - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
    - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
    - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
    - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

#### 11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

#### 11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
  2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
  3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

#### 11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
  2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
  4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

#### 11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

### ARTICLE 12 – CLAIMS

#### 12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
  - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
  - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
  - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
  - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

## **ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### **13.01 Cost of the Work**

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
  2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
  1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
  - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
  - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
  - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
  - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
  - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
  - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

## 13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

- B. *Cash Allowances*: Contractor agrees that:
  - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
  - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

### 13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
  - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
  - 2. there is no corresponding adjustment with respect to any other item of Work; and
  - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

## ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

### 14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

### 14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
  - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  - 3. by manufacturers of equipment furnished under the Contract Documents;
  - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

#### 14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

## **ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

### **15.01 Progress Payments**

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
  2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
  3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
  2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally 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 called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
  - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. the Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. the Contract Price has been reduced by Change Orders;
  - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
  - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
  - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

#### 15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

#### 15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

#### 15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
  - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
  - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
  - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
  - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

#### 15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 15.06 *Final Payment*

- A. *Application for Payment:*
  - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
  - d. a list of all disputes that Contractor believes are unsettled; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

**B. *Engineer's Review of Application and Acceptance:***

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

#### 15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

#### 15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such other adjacent areas;
  - 2. correct such defective Work;
  - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
  - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## **ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION**

### **16.01 *Owner May Suspend Work***

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

### **16.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
  - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

#### 16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

## **ARTICLE 17 – FINAL RESOLUTION OF DISPUTES**

### **17.01 *Methods and Procedures***

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
  - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
  - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
  - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
  - 2. agree with the other party to submit the dispute to another dispute resolution process; or
  - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

## **ARTICLE 18 – MISCELLANEOUS**

### **18.01 *Giving Notice***

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
  - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
  - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

### **18.02 *Computation of Times***

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

### **18.03 *Cumulative Remedies***

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. 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.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

## SECTION 00810

### SUPPLEMENTAL CONDITIONS

Unless otherwise noted, all paragraphs are additive to similarly numbered paragraphs in SECTION 00700 – GENERAL CONDITIONS. These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700, 2013, Rev1 Edition) 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.

The terms used in these Supplementary Conditions have the meanings indicated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof.

#### PART I AMENDMENTS TO GENERAL CONDITIONS

##### Article No.

- |      |  |
|------|--|
| 1.0  | DEFINITIONS AND TERMINOLOGY  |
| 2.0  | PRELIMINARY MATTERS  |
| 3.0  | DOCUMENTS: INTENT, REQUIREMENTS AND REUSE  |
| 4.0  | COMMENCEMENT AND PROGRESS OF WORK  |
| 5.0  | AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS;<br>HAZARDOUS ENVIRONMENTAL CONDITIONS |
| 6.0  | BONDS AND INSURANCE  |
| 7.0  | CONTRACTOR'S RESPONSIBILITIES  |
| 8.0  | OTHER WORK AT THE SITE   |
| 9.0  | OWNERS RESPONSIBILITIES  |
| 10.0 | ENGINEER'S STATUS DURING CONSTRUCTION  |
| 11.0 | AMENDING CONTRACT DOCUMENTS: CHANGES IN WORK   |
| 12.0 | CLAIMS   |
| 13.0 | COST OF WORK: ALLOWANCES: UNIT PRICE WORK  |
| 14.0 | TEST AND INSPECTIONS   |
| 15.0 | PAYMENTS TO CONTRACTOR   |
| 16.0 | SUSPENSION OF WORK AND TERMINATION   |
| 17.0 | ARBITRATION  |
| 18.0 | MISCELLANEOUS  |

#### PART II ADDITIONS TO GENERAL CONDITIONS

#### PART III STATE AND FEDERAL GOVERNMENT PROVISIONS

#### PART I AMENDMENTS TO GENERAL CONDITIONS

- |     |   |
|-----|---|
| 1.0 | DEFINITIONS AND TERMINOLOGY   |
| A.  | The following language shall be added at the beginning of the definition entitled "Contract Documents" in the General Conditions (1.01.A.13).<br><br>"The Invitation to Bid, Instructions to Bidders" |

- B. 1.01.A.18, Add the words “or plans” after the word “drawings in the first line of the definition entitled “Drawings” in the General Conditions.

- C. 1.01.A.38, Delete the definition of Specifications in the General Conditions in its entirety and add the following in its place:

“Sections included under Division 1 through Division 16 of the Contract Documents”

- D. 1.01.A.40 The definition of Substantial Completion shall be deleted in the General Conditions in its entirety and add the following in its place:

Substantial completion shall mean either that the work required by the Contract has been completed except for work having a contract price of less than one percent of the then adjusted total contract price, or substantially all of the work has been completed and opened to Owner’s use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the work required by the Contract.

- E. The following new definitions shall be added at the end of Article 1 of the General Conditions:

Conditions of the Contract—The combined General Conditions and Supplementary Conditions.

Engineer – GCG Associates, Inc., 84 Main Street, Wilmington, MA, 01887, said corporation to be considered an agent of the Owner.

Site – The specific area adjacent to and including the area upon which the construction work is performed.

## 2.0 PRELIMINARY MATTERS

- A. Delete paragraph 2.01.B of the General Conditions in its entirety and insert the following in its place.

2.01. B. Before any work whatsoever is started, Contractor shall deliver to owner with a copy to Engineer, certificates of insurance (and other evidence requested by Owner) which Contractor is required to purchase and maintain in accordance with the requirements of Article 6.

- B. Delete paragraph 2.03A in its entirety and insert in its place:

2.02. A: Contract time will commence on the date specified in the Notice to Proceed.

## 3.0 DOCUMENTS: INTENT, REQUIREMENTS AND REUSE

Four paragraphs shall be added immediately after paragraph 3.01.E of the General Conditions which is to read as follows:

3.01.F. Each and every provision of law and clause required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly

inserted, then upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion.

3.01.G. Contract Documents shall forthwith be physically amended to make such insertion.

3.01.H. In case of any discrepancy between these Conditions of the Contract and any Federal Government provisions, the Federal Government provision shall prevail.

3.01.I. In case of any discrepancy between these between these Conditions of the Contract and any Commonwealth of Massachusetts provisions, the Commonwealth of Massachusetts provision shall prevail.

3.01.K In the event of conflicts, inconsistencies or discrepancies among the Contract Documents, to the extent applicable, the better quality or greater quantity of work shall be provided without change to the Contract Price. In the event of such conflicts, inconsistencies or discrepancies which do not relate to the quality or quantity of work, the Contractor shall request clarifications or interpretations from the Engineer as provided in Article 10.

## 5.0 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

A new paragraph shall be added immediately after paragraph 5.01.C of the General Conditions which is to read as follows:

D. If all lands and rights-of-way are not obtained as herein contemplated before construction begins, the Contractor shall begin the work upon such land and rights-of-way as the Owner has previously acquired and no claim for damages whatsoever will be allowed by reason of the delay in obtaining the remaining lands and rights-of-way. Should the Owner be prevented or enjoined from proceeding with the work, or from authorizing its prosecution, either before or after the commencement, by reason of any litigation, or by reason of its inability to procure any lands or rights-of-way for work, Contractor shall not be entitled to make or assert claim for the damage by reason of said delay, or to withdraw from the Agreement except by consent of the Owner. Time for completion of the work will be extended as provided in Article 11, to such time as the Owner determines will compensate for the time lost by such delay.

A new paragraph shall be added immediately after paragraph 5.03.B of the General Conditions which is to read as follows (if borings performed):

5.03.C. The Engineer has relied upon the data obtained from subsurface investigations made at the site in the form of test borings and probes. Such data is in the form of logs which are included in the Section 00220 and soil samples which may be examined at the Engineer's office during regular business hours. The locations of the test borings and probes are indicated on the Drawings. Such logs and samples are not part of the Contract Documents.

A new paragraph shall be added immediately after paragraph 5.05.E of the General Conditions which is to read as follows:

5.05.F. Information on Drawings and any statements of the Contract Documents referring to the conditions under which the work is to be performed or the

existence of utilities or other underground structures are not guaranteed to be correct or to be complete representation of all existing data with reference to conditions affecting the work. Efforts have been made however, to make this information complete and accurate on the basis of all data and information which could be procured by Engineer. If, in the opinion of Engineer, permanent relocation of a utility not otherwise provided for, is required, he shall direct the Contractor, in writing, to perform the work. Work, so directed, will be paid as provided in Article 11 of the General Conditions.

5.04.G. Adjustments resulting from subsurface or latent physical conditions will be in accordance with Massachusetts General Law, Chapter 30, Section 39N.

6.0                   BONDS AND INSURANCE  
CONTRACTOR'S (AND SUBCONTRACTOR'S) PUBLIC LIABILITY,  
PROPERTY DAMAGE AND VEHICLE LIABILITY INSURANCE  
The following shall be added to 6.0.

- A.                   The liability limits for the insurance required by paragraph 6.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

The Contractor shall purchase and maintain such insurance as will protect him for claims set forth herein which may arise out of or result from the Contractor's operations be by himself or by any subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them are liable.

1. Claims under workman's compensation, disability benefit and other similar employee benefit and other similar employee benefit acts;
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of his employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;
4. Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person; and
5. Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

- B.                   The required insurance shall be written for not less than the following limits of liability, or as required by law, whichever is greater.

The work shall be entirely at the contractor's risk until the same is fully completed and accepted, and he will be held liable to the amount of the Town's interest in the same as shown by payments account.

The contractor shall, during the progress of the work, maintain insurance on all work included in the contract until the final or conditional acceptance of the work. **The Town shall be named as an additional insured on all insurance.** Failure to provide and continue in force such insurance as specified shall be deemed a

material breach of the contract and shall operate as an immediate termination thereof.

A contractor shall not commence work under any contract until he has obtained all insurance required, nor shall the contractor allow any subcontractor to commence work on a sub-contract until all similar insurance required has been obtained.

1. Workmen's Compensation Insurance

The contractor will maintain, during the life of the contract, the statutory Worker's Compensation and Employer's Liability for all employees to be engaged in work on the project under the contract and in case any such work is sublet. The contract shall require the sub-contractor similarly to provide Worker's Compensation and Employer's Liability Insurance for all employees engaged in the project.

2. Automobile Bodily Injury and Property Damage

There shall be provided insurance for not less than \$1,000,000 for injuries, including wrongful death, to any one person, \$3,000,000 aggregate. Any one accident shall be covered to a limit of \$1,000,000 bodily injury each occurrence, \$3,000,000 aggregate. There shall be property damage insurance provided to the amount of \$1,000,000 on account of any one accident and included owned, hired and non-owned automobiles.

3. Comprehensive General Liability

The contractor shall purchase and maintain such insurance as required to protect the owner's interest for the duration of the contract and until acceptance of the work.

Comprehensive General Liability Coverage covering bodily injury and property damage with limits of \$1,000,000 each occurrence, \$3,000,000 aggregate, shall include coverage for premises, operations XCU included, products completed operations, contractual insurance, brand form property damage, independent contractor's personal injury coverages.

4. Property Coverage

For materials and supplies being transported by the contractor.

5. Umbrella Liability

\$3,000,000/occurrence, \$3,000,000 aggregate.

C. The Contractor shall procure and maintain Owner's Protective Liability Insurance as herein specified.

6. In addition to the Owner the Engineer shall be named as an insuree under the Owner's Protective Liability Insurance.

7. Said policy shall provide that the coverage afforded thereby, shall be primary coverage to the full limit of liability state in the declarations, and if said Owner and its officers, agents and employees or the Engineer have other insurance

against the loss covered by said policy, that other insurance shall be excess insurance only.

8. The original and one certified copy of the policy specified shall be forwarded to the Engineer for the Owner prior to commencement of any work.
9. The limits of Owner's Protective Liability Insurance shall be not less than One Million Dollars (\$1,000,000) on account of any one accident and Three Million Dollars (\$3,000,000) on account of all accidents.

D. Deleted

E. The Contractor's and Subcontractor's insurance shall provide adequate protection against the following special hazards:

1. Blasting or explosion
2. Collapse of trench walls and underground damage
3. Use of all equipment and tools

F. The Contractor shall not commence work under this Contract until he has obtained all insurance required hereunder and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all insurance required of subcontractor has been so obtained and approved. Approval of insurance required under this article shall be kept in force during the life of the Contract.

1. Certificates in triplicate of all General Contractor's policies specified shall be filed with the Engineer for the Owner. Any certificates filed with the Engineer which shall be found to be incomplete or not according to form will be returned as unsatisfactory. Rejected certificates of insurance and copies of policies shall be corrected as necessary and resubmitted until approved.

G. Each and every policy shall contain an endorsement stating that the Insurance Company will to, prior to completion of project or any policy expiration date shown on policy and certificate, whichever occurs first, terminate policy or change any coverage therein without first mailing by registered mail, written notice of such action at least fifteen (15) days prior to termination or change, to Owner at whose request policy and certificates are issued.

H. Delete paragraph 6.05 of the General Conditions in its entirety.

I. Delete paragraph 6.06 of the General Conditions in its entirety.

J. Delete paragraph 6.07 of the General Conditions in its entirety.

K. The following new paragraphs shall be added immediately after paragraph 6.07 of the General Conditions which is to read as follows:

6.08. The Contractor may purchase and maintain excess liability insurance in the umbrella form in order to satisfy the limits of liability required for the insurance to be purchased and maintained in accordance with the general conditions in the form of a certificate indicating the policy numbers and limits of liability of all underlying insurance. The umbrella liability insurance shall have a combined single limit of not less than \$3,000,000. Such insurance shall contain a provision

that the coverage afforded will not be cancelled or materially changed until at least thirty days prior written notice has been given to Owner.

6.09. If the aggregate limits of liability indicated in the Contractor's insurance provided in accordance with above limits is not sufficient to cover all claims for damages arising from his operations under this contract and from any other work performed by him or if policies of insurance do not provide that the aggregate limits of liability for bodily injury and property damage apply to each contract or project separately, Contractor shall have such policies amended so that the aggregate limits of liability required by this Contract will be available to cover all claims for damages due to operations under this Contract.

L. PROOF OF CARRIAGE OF INSURANCE

Policies shall contain a clause automatically extending date of expiration to coincide with any extended date of completion granted under the Contract.

M. OWNER'S PROTECTIVE LIABILITY INSURANCE

The Engineer shall be named as an insuree under the Owner's Protective Liability Insurance.

Said policy shall provide that the coverage afforded thereby shall provide that the coverage afforded thereby shall be primary coverage to the full limit of liability stated in the declarations, and if said Owner and its officers, agents and employees or the Engineer have other insurance against the loss covered by said policy, that other insurance shall be excess insurance only.

7.0 CONTRACTOR'S RESPONSIBILITIES

A. The following new paragraphs shall be inserted immediately after paragraph 7.03.C of the General Conditions.

D. This Agreement is subject to the applicable provisions of the Contract Work Hours and Safety Standards Act, Public Law 87-581, 87<sup>th</sup> Congress. No Contractor or subcontractor contracting for any part of the work shall require or permit any laborer or mechanic to be employed on the work in excess of eight hours in any calendar day or in excess of forty hours in any work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such work week, as the case may be.

E. Except as may be otherwise required by law, all claims and disputes pertaining to the classification of labor employed on the project under this Contract shall be decided by the Owner's governing body or other duly designated official.

F. The Contractor shall employ only competent men to do the work and whenever the Owner shall notify Contractor, in writing, that any man on the work appears to be incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such man shall be removed from the project and shall not again be employed on it except with the consent of the Owner.

G. The Contractor and all subcontractors shall, insofar as practicable, give preference in the hiring of workers for the project to qualified local residents with

first preference being given to citizens of the United States who have served in the armed forces of the United States and have been honorably discharged therefrom or released from active duty therein.

H. The Contractor and all subcontractors shall pay to all laborers and mechanics employed for the construction covered by this contract the minimum rates of pay as determined by the Secretary of Labor in accordance with the Act of March 3, 1931, as amended, known as the Davis-Bacon Act (40 U.S.C. 276a through 276a-7). Furthermore, the Contractor and subcontractors shall adhere to the stipulations and provisions published by the Secretary of Health, Education, and Welfare in "Labor Standards (Federal Water Pollution Control Act)". The Wage Rate Schedule as prepared by the Secretary of Labor and the "Labor Standards" are part of this Contract and are included in Part II of these Supplementary Conditions.

I. The Contractor and all subcontractors shall comply with the Regulations of the Secretary of Labor made pursuant to the Anti-Kickback Act of June 30, 1940 (40 U.S.C. 276c) and all amendments or modifications thereto. The Contractor and all subcontractors shall furnish the Owner with weekly Statements of Compliance. In case of subcontracts, the Contractor shall cause appropriate provision to be inserted in all subcontracts for the work which he may let to insure compliance with said Anti-Kickback Act by all subcontractors subject thereto, and Contractor shall be responsible for the submission of all Statements of Compliance required by subcontractors by said Anti-Kickback Act except as the Secretary of Labor may specifically provide for reasonable limitations, variations, and exemptions from the requirements thereof. These Regulations are part of this Contract and are included in Part II of these Supplemental Conditions.

- B. Paragraph 7.06.A of the General Conditions shall be deleted in its entirety and insert the following in its place:

7.06.A The Contractor shall not employ any subcontractor, supplier or other person or organization, (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom Owner or Engineer may have reasonable objection. Acceptance of any subcontractor, other person or organization by the Owner shall not constitute a waiver of any right of Owner to reject defective work. The Contractor shall not be required to employ any subcontractor, other person or organization against whom the Contractor has reasonable objection.

- C. The following language shall be added at the end of paragraph 7.09 of the General Conditions:

7.09.B. Except as required otherwise by Massachusetts General Law Chapter 149, Section 44F.

The materials and supplies to be used in the work of this contract are exempt from the Sales and Use Tax of the Commonwealth of Massachusetts. The Contractor shall obtain the proper certificates, maintain the necessary records and otherwise comply with the requirements of Chapter 14 of the Acts of 1966 and any amendments thereto.

- F. The following language shall be added at the end of paragraph 7.12.G of the General Conditions:

7.12H. In the event of temporary suspension of the work, or during inclement weather, or whenever the Engineer may direct; the Contractor shall, and shall cause Subcontractors, to protect carefully the work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any portion of work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any subcontractors to so protect the work, such work and materials shall be removed and replaced at the expense of the Contractor.

- J. A new paragraph shall be added immediately after paragraph 7.19.E of the General Conditions which is to read as follow:

7.19.F The Contractor shall comply with all applicable provisions of Chapter 30, Section 39R of the Massachusetts General Laws regarding Contractor's records. This requirement primarily provides for the Contractor to maintain for at least six years after final payment books, records, and accounts in reasonable detail, available for examination. This requirement further provides for the Contractor to document and submit descriptions and reasons for any changes in record keeping methods, and to prepare and submit annual financial statements.

#### 10.0 ENGINEER'S STATUS DURING CONSTRUCTION

A new paragraph shall be added immediately after paragraph 10.09 of the General Conditions which is to read as follows:

10.10 The Engineer's interpretations will be made in accordance with Massachusetts General Law Chapter 30, Section 39P which is included in Part II of the ADDITIONAL ARTICLES.

#### 15.0 PAYMENTS TO CONTRACTORS AND COMPLETION

A new Paragraph 14.10 of the General Conditions shall be added after 15.08.

15.09 Progress Payments will be made in accordance with Massachusetts General Law, Chapter 30, Section 39G. Retainage shall be 5%, in accordance with M.G.L., Chapter 30, Section 39G.

15.10. If, after 60 days following submission of a monthly payment estimate for pipe and fitting items, the pipe and fittings for which payment is requested has not been successfully tested, the Owner may withhold up to 10% of the amount requested for such pipe and fitting items until the pipe has been so tested, however, in the case of a major (pipe diameter 24 inches or greater) pipe and fitting installation, sums retained by the Owner pursuant to this paragraph shall not exceed two percent (2%) of the costs of such pipe items. This retainage shall be in addition to any other retainage required by this Contract.

The Contractor shall make payments to subcontractors in accordance with Massachusetts General Law, Chapter 30, Section 39F which is included in ADDITIONAL ARTICLES.

15.11. If, on the basis of the Engineer's observation of the work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation – all as required by the Contract Documents, Engineer is satisfied that the work has been completed and the Contractor's other obligations under the Contract Documents have been fulfilled, the Engineer will indicate in writing his recommendation of payment and present

the Application to the Owner for payment. Thereupon the Engineer will give written notice to the Owner and the Contractor that the work is acceptable subject to the provisions of paragraph 14.16. Otherwise, the Engineer will return the Application to the Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case the Contractor shall make the necessary corrections and resubmit the Application. If the Applications and accompanying documentation are appropriate as to form and substance, Owner shall in accordance with the applicable Massachusetts General Law, pay Contractor the amount recommended by Engineer.

15.12. Final payment will be reduced by excessive costs of plant inspection of pipe; the Contractor shall have no claim thereto. Excessive inspection costs are defined as the costs of inspection of that amount of pipe which exceeds 125 percent of the aggregate length of each type installed.

#### 16.0 SUSPENSION OF WORK AND TERMINATION

Paragraph 16.01 of the General Conditions shall be deleted in its entirety and insert the following in its place:

16.01. The Owner may order, at any time and without cause, suspension of the work in accordance with Massachusetts General Law, Chapter 30, Section 39O.

#### 17.0 DISPUTE AND RESOLUTION

Article 17 of the General Conditions shall be deleted in its entirety.

#### 18.0 MISCELLANEOUS

A new paragraph shall be added immediately after paragraph 18.08 of the General Conditions which is to read as follows:

18.09. Both the address given in the Bid Form upon which this Agreement is founded, and the Contractor's office at or near the site of the work are hereby designated as places to either of which notices, letters, and other communications to the Contractor shall be certified, mailed, or delivered. The delivering at the above named place, or depositing in a postpaid wrapper directed to the first-named place, in any post office box regularly maintained by the post office department, if any notice, letter or other communication to the Contractor shall be deemed sufficient service thereof upon the Contractor: and the date of said service shall be the date of such delivery or mailing. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor, and delivered to the Owner and shall be deemed to preclude or render inoperative the service of any notice, letter, or other communications upon the Contractor personally.

#### WAGE RATES

The following 4 new paragraphs shall be added immediately after paragraph 18.09 of the General Conditions:

118.10. The requirements and provisions of all applicable laws and any amendments thereof or additions thereto as to the employment of labor, and to the schedule of minimum wage rates established in compliance with laws shall be part of these Contract Documents. Copies of the wage schedule are included in Section 00820. If, after the Notice of Award, it becomes necessary to employ

any person in a trade or occupation not classified in the wage determinations, such approved minimum rate shall be paid at not less than such rates as shall be determined by the officials administering the laws mentioned above. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. The Contractor shall notify the Owner of his intention to employ persons in trades or occupations not classified in sufficient time for Owner to obtain approved rates for such trades or occupations.

A. The schedules of wages referred to above are minimum rates only, and the Owner will not consider any claims for additional compensations made by the Contractor of any wage rate in excess of the applicable rate contained in these Contract Documents. All disputes in regard to the payment of wages in excess of these specified in the schedules shall be adjusted by Contractor.

B. The said schedules of wages shall continue to be the minimum rates to be paid during the life of this Agreement and a legible copy of said schedules shall be kept posted in a conspicuous place at the site of the work. Minimum Wage Rates as determined by the Commissioner of the Department of Labor and Industries, apply to this project. It is the responsibility of the Contractor, before bid opening, to request if necessary, any additional information on Minimum Wage Rates for those trades people who are not covered by this schedule of wage rates, but who may be employed for the proposed work under this Contract.

C. State schedules of minimum wage rates are included in Section 00820 – ADDITIONAL ARTICLES. Where rates differ, the higher rates shall apply as a minimum for that trade.

## PART 2 ADDITIONS TO GENERAL CONDITIONS

None this Contract

## PART 3 STATE AND FEDERAL GOVERNMENT PROVISIONS

State and Federal Government Provisions are included in Section 00820 and selected from those to which specific references have been made elsewhere in the Contract Documents. Each and every other provision of law or clause required by law to be inserted in this Contract shall be deemed to be also inserted in herein in accordance with paragraph 3.4 of the Supplementary Conditions.

### 1.0. COMMONWEALTH OF MASSACHUSETTS AND FEDERAL PROVISIONS

- 1.1. The Owner and Contractor agree that the following Commonwealth of Massachusetts and Federal Provisions apply to the Work to be performed under this Contract and that these provisions of this Contract and that these provisions supersede any conflicting provisions of this Contract.
- 1.2. Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program.
- 1.3. Massachusetts General Laws
  - 1.3.1. Chapter 30, Section 39F
  - 1.3.2. Chapter 30, Section 39G
  - 1.3.3. Chapter 30, Section 39M
  - 1.3.4. Chapter 30, Section 39N

- 1.3.5. Chapter 30, Section 39O
- 1.3.6. Chapter 30, Section 39P
- 1.3.7. Chapter 30, Section 39R
- 1.3.8. Acts of 1983 Chapter 353
- 1.4. State Wage Rates
- 1.5. Federal Wage Rates
- 1.6. All documents in section 00500 – Agreement and additional Contract Documents

END OF SECTION

SECTION 00820

ADDITIONAL ARTICLES

PART I        GENERAL

- 1.01        CONTRACT DOCUMENTS
- 1.02        COMMONWEALTH OF MASSACHUSETTS AND FEDERAL PROVISIONS

PART I        GENERAL

- 1.01        CONTRACT DOCUMENTS
- A.        The general provisions of the Contract, including General and Supplemental Conditions and General Requirements, apply to the work specified in this section.
- 1.02        COMMONWEALTH OF MASSACHUSETTS AND FEDERAL PROVISIONS
- A.        The OWNER and CONTRACTOR agree that the following Commonwealth of Massachusetts and Federal Provisions apply to the work to be performed under this Contract and that these provisions supersede any conflicting provisions of this Contract.
- B.        Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program
- C.        Massachusetts General Laws
- D.        Chapter 30, Section 39F
- E.        Chapter 30, Section 39G
- F.        Chapter 30, Section 39L
- G.        Chapter 30, Section 39M
- H.        Chapter 30, Section 39N
- I.        Chapter 30, Section 39O
- J.        Chapter 30, Section 39P
- K.        Chapter 30, Section 39R
- L.        Acts of 1983 Chapter 353
- M.        State Wage Rates (included in the following pages)
- N.        Federal Wages (included in the following pages)
- O.        All Documents in included in section 00500 – Agreement and Additional Contract Documents



The Official Website of the Executive Office of Labor and Workforce Development (EOLWD)

## Labor and Workforce Development

Home > Labor Standards > Prevailing Wage Program > Notice: Changes to Weekly Payroll Req. for Contractors

### Notice: Changes to Weekly Payroll Requirements for Contractors

On March 26, 2014, amendments made to the state prevailing wage law, M.G.L. c. 149, sec. 27B, affect the certified payroll records that contractors and subcontractors must submit to an awarding authority. Effective June 24, 2014, contractors and subcontractors must submit weekly payroll records: (1) by first class mail, or (2) by electronic mail. Furthermore, **every weekly submittal of payroll records** must contain a signed statement by the employer that indicates (1) that the records are correct, and (2) the rate of wages that each worker receives.

In an effort to aid contractor compliance, DLS has updated its model [Weekly Payroll Records Report & Statement of Compliance](#), as well as its [Weekly Certified Payroll Report Form](#), both of which can be found at [www.mass.gov/dols/pw](http://www.mass.gov/dols/pw).

Below is M.G.L. s. 149, sec. 27B showing the amended language which becomes effective June 24, 2014:

"Section 27B. Every contractor, subcontractor or public body engaged in said public works project by an agency, executive office, department, board, commission, bureau, division or authority of the commonwealth or county, or municipality or any subdivision thereof to which sections twenty-seven and twenty-seven A apply shall keep a true and accurate record of all mechanics and apprentices, teamsters, chauffeurs and laborers employed thereon, showing the name, address and occupational classification of each such employee on said works, and the hours worked by, and the wages paid to, each such employee, and shall submit weekly to the awarding authority by mail, first class postage prepaid, or by electronic mail, certified payroll records that shall consist of a complete copy of those records accompanied by a statement signed by the employer that indicates (1) the records are correct; and (2) the rate of wages paid to each performing the work of mechanic, apprentice, teamsters, chauffeurs, and laborers, and shall promptly furnish to the attorney general or his representative, upon his request, a copy of said record, signed by the employer or his authorized agent under the penalties of perjury. For every week in which an apprentice is employed by a contractor, subcontractor or public body subject to this section, a photocopy of the apprentice's apprentice identification card, issued pursuant to section 11W of chapter 23, shall be attached to the records submitted under this section. Such records shall be open to inspection by any authorized representative of the department at any reasonable time, and as often as may be necessary. Every contractor and subcontractor required to keep such a record shall submit a copy of said record to the awarding authority directly on a weekly basis.

#### Two New Opinion Letters Posted to DLS Website


Please visit [www.mass.gov/dols/pw](http://www.mass.gov/dols/pw) to view two new opinion letters issued in 2014.

- One letter addresses the proper occupational classification for tree trimming, tree removal and other associated tree work.
- The other letter addresses the Construction Management at Risk project anniversary dates.

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Company's Name:	Address:	Phone No.:	Payroll No.:	
Employer's Signature:	Title:	Contract No:	Tax Payer ID Number	Work Week Ending:
Awarding Authority's Name:	Public Works Project Name:	Public Works Project Location:		Min. Wage Rate Sheet Number
General / Prime Contractor's Name:	Subcontractor's Name:	"Employer" Hourly Fringe Benefit Contributions		

[illegible]

Are all apprentice employees identified above currently registered with the MA DLS's Division of Apprentice Standards?

For all apprentices performing work during the reporting period, attach a copy of the apprentice identification card issued by the Massachusetts Department of Labor Standards / Division of Apprentice Standards.

**NOTE:** Pursuant to MGL c. 149, s. 27B, every contractor and subcontractor is required to submit a **true and accurate** copy of their certified weekly payroll records to the awarding authority by first-class mail or e-mail. In addition, each weekly payroll must be accompanied by a statement of compliance signed by the employer. Failure to comply may result in the commencement of a criminal action or the issuance of a civil citation.

Date Received by Awarding Authority  
/ /



CHARLES D. BAKER  
Governor

KARYN E. POLITO  
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

ROSALIN ACOSTA  
Secretary  
MICHAEL FLANAGAN  
Director

**Awarding Authority:** Town of Buckland  
**Contract Number:** **City/Town:** BUCKLAND  
**Description of Work:** Approximately 500 feet of roadway reconstruction and approximately 1,500 feet of sidewalk improvements. Water & Sewer improvements, horizontal pipe jacking, stone masonry walls, HMA paving  
**Job Location:** Ashfield Street

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Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
  - An Awarding Authority must request an updated wage schedule from the Department of Labor Standards ("DLS") if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
  - The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
  - All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
  - The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F "rental of equipment" contracts.
  - Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
  - Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
  - Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
  - Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$35.15	\$12.91	\$14.82	\$0.00	\$62.88
	06/01/2021	\$35.95	\$12.91	\$14.82	\$0.00	\$63.68
	08/01/2021	\$35.95	\$13.41	\$14.82	\$0.00	\$64.18
	12/01/2021	\$35.95	\$13.41	\$16.01	\$0.00	\$65.37
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$35.22	\$12.91	\$14.82	\$0.00	\$62.95
	06/01/2021	\$36.02	\$12.91	\$14.82	\$0.00	\$63.75
	08/01/2021	\$36.02	\$13.41	\$14.82	\$0.00	\$64.25
	12/01/2021	\$36.02	\$13.41	\$16.01	\$0.00	\$65.44
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$35.34	\$12.91	\$14.82	\$0.00	\$63.07
	06/01/2021	\$36.14	\$12.91	\$14.82	\$0.00	\$63.87
	08/01/2021	\$36.14	\$13.41	\$14.82	\$0.00	\$64.37
	12/01/2021	\$36.14	\$13.41	\$16.01	\$0.00	\$65.56
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 3)</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 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.53	\$8.60	\$13.37	\$0.00	\$50.50
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$30.24	\$8.60	\$14.44	\$0.00	\$53.28
	06/01/2021	\$31.06	\$8.60	\$14.44	\$0.00	\$54.10
	12/01/2021	\$31.87	\$8.60	\$14.44	\$0.00	\$54.91
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS WORKER (PIPES & TANKS) <i>HEAT &amp; FROST INSULATORS LOCAL 6 (SPRINGFIELD)</i>	12/01/2020	\$34.29	\$12.80	\$8.95	\$0.00	\$56.04
ASPHALT RAKER <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$29.74	\$8.60	\$14.44	\$0.00	\$52.78
	06/01/2021	\$30.56	\$8.60	\$14.44	\$0.00	\$53.60
	12/01/2021	\$31.37	\$8.60	\$14.44	\$0.00	\$54.41
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
AUTOMATIC GRADER-EXCAVATOR (RECLAIMER) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$36.22	\$12.47	\$14.50	\$0.00	\$63.19
	06/01/2021	\$37.04	\$12.47	\$14.50	\$0.00	\$64.01
	12/01/2021	\$37.87	\$12.47	\$14.50	\$0.00	\$64.84
	06/01/2022	\$38.74	\$12.47	\$14.50	\$0.00	\$65.71
	12/01/2022	\$39.62	\$12.47	\$14.50	\$0.00	\$66.59
	06/01/2023	\$40.57	\$12.47	\$14.50	\$0.00	\$67.54
	12/01/2023	\$41.52	\$12.47	\$14.50	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$36.22	\$12.47	\$14.50	\$0.00	\$63.19
	06/01/2021	\$37.04	\$12.47	\$14.50	\$0.00	\$64.01
	12/01/2021	\$37.87	\$12.47	\$14.50	\$0.00	\$64.84
	06/01/2022	\$38.74	\$12.47	\$14.50	\$0.00	\$65.71
	12/01/2022	\$39.62	\$12.47	\$14.50	\$0.00	\$66.59
	06/01/2023	\$40.57	\$12.47	\$14.50	\$0.00	\$67.54
	12/01/2023	\$41.52	\$12.47	\$14.50	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
For apprentice rates see "Apprentice- LABORER"						
BATCH/CEMENT PLANT - ON SITE <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$35.69	\$12.47	\$14.50	\$0.00	\$62.66
	06/01/2021	\$36.51	\$12.47	\$14.50	\$0.00	\$63.48
	12/01/2021	\$37.34	\$12.47	\$14.50	\$0.00	\$64.31
	06/01/2022	\$38.21	\$12.47	\$14.50	\$0.00	\$65.18
	12/01/2022	\$39.09	\$12.47	\$14.50	\$0.00	\$66.06
	06/01/2023	\$40.04	\$12.47	\$14.50	\$0.00	\$67.01
	12/01/2023	\$40.99	\$12.47	\$14.50	\$0.00	\$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.53	\$8.60	\$13.37	\$0.00	\$50.50
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$30.24	\$8.60	\$14.44	\$0.00	\$53.28
	06/01/2021	\$31.06	\$8.60	\$14.44	\$0.00	\$54.10
	12/01/2021	\$31.87	\$8.60	\$14.44	\$0.00	\$54.91
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2020	\$46.10	\$7.07	\$17.98	\$0.00	\$71.15

**Apprentice - BOILERMAKER - Local 29**

**Effective Date - 01/01/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
2	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
3	70	\$32.27	\$7.07	\$12.59	\$0.00	\$51.93
4	75	\$34.58	\$7.07	\$13.49	\$0.00	\$55.14
5	80	\$36.88	\$7.07	\$14.38	\$0.00	\$58.33
6	85	\$39.19	\$7.07	\$15.29	\$0.00	\$61.55
7	90	\$41.49	\$7.07	\$16.18	\$0.00	\$64.74
8	95	\$43.80	\$7.07	\$17.09	\$0.00	\$67.96

**Notes:**

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

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)</i>	02/01/2021	\$44.16	\$11.39	\$20.02	\$0.00	\$75.57
	08/01/2021	\$45.56	\$11.39	\$20.18	\$0.00	\$77.13
	02/01/2022	\$46.09	\$11.39	\$20.18	\$0.00	\$77.66

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Springfield/Pittsfield**

**Effective Date - 02/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.08	\$11.39	\$20.02	\$0.00	\$53.49
2	60	\$26.50	\$11.39	\$20.02	\$0.00	\$57.91
3	70	\$30.91	\$11.39	\$20.02	\$0.00	\$62.32
4	80	\$35.33	\$11.39	\$20.02	\$0.00	\$66.74
5	90	\$39.74	\$11.39	\$20.02	\$0.00	\$71.15

**Effective Date - 08/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$11.39	\$20.18	\$0.00	\$54.35
2	60	\$27.34	\$11.39	\$20.18	\$0.00	\$58.91
3	70	\$31.89	\$11.39	\$20.18	\$0.00	\$63.46
4	80	\$36.45	\$11.39	\$20.18	\$0.00	\$68.02
5	90	\$41.00	\$11.39	\$20.18	\$0.00	\$72.57

**Notes:**

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

BULLDOZER/POWER SHOVEL/TREE SHREDDER	12/01/2020	\$36.22	\$12.47	\$14.50	\$0.00	\$63.19
/CLAM SHELL OPERATING	06/01/2021	\$37.04	\$12.47	\$14.50	\$0.00	\$64.01
ENGINEERS LOCAL 98	12/01/2021	\$37.87	\$12.47	\$14.50	\$0.00	\$64.84
	06/01/2022	\$38.74	\$12.47	\$14.50	\$0.00	\$65.71
	12/01/2022	\$39.62	\$12.47	\$14.50	\$0.00	\$66.59
	06/01/2023	\$40.57	\$12.47	\$14.50	\$0.00	\$67.54
	12/01/2023	\$41.52	\$12.47	\$14.50	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN	12/01/2020	\$41.05	\$8.60	\$17.47	\$0.00	\$67.12
LABORERS - FOUNDATION AND MARINE	06/01/2021	\$42.07	\$8.60	\$17.47	\$0.00	\$68.14
	12/01/2021	\$43.08	\$8.60	\$17.47	\$0.00	\$69.15
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
LABORERS - FOUNDATION AND MARINE	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
LABORERS - FOUNDATION AND MARINE	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
LABORERS - ZONE 4 (BUILDING & SITE)						
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER	09/01/2020	\$37.98	\$7.84	\$17.27	\$0.00	\$63.09
CARPENTERS LOCAL 336 - HAMPDEN HAMPSHIRE FRANKLIN	03/01/2021	\$38.48	\$7.84	\$17.27	\$0.00	\$63.59
	09/01/2021	\$38.98	\$7.84	\$17.27	\$0.00	\$64.09
	03/01/2022	\$39.48	\$7.84	\$17.27	\$0.00	\$64.59
	09/01/2022	\$39.98	\$7.84	\$17.27	\$0.00	\$65.09
	03/01/2023	\$40.48	\$7.84	\$17.27	\$0.00	\$65.59

**Apprentice - CARPENTER - Local 336 Hampden Hampshire Franklin**

**Effective Date - 09/01/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.99	\$7.84	\$1.40	\$0.00	\$28.23
2	60	\$22.79	\$7.84	\$1.40	\$0.00	\$32.03
3	70	\$26.59	\$7.84	\$13.07	\$0.00	\$47.50
4	75	\$28.49	\$7.84	\$13.07	\$0.00	\$49.40
5	80	\$30.38	\$7.84	\$14.47	\$0.00	\$52.69
6	80	\$30.38	\$7.84	\$14.47	\$0.00	\$52.69
7	90	\$34.18	\$7.84	\$15.87	\$0.00	\$57.89
8	90	\$34.18	\$7.84	\$15.87	\$0.00	\$57.89

**Effective Date - 03/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.24	\$7.84	\$1.40	\$0.00	\$28.48
2	60	\$23.09	\$7.84	\$1.40	\$0.00	\$32.33
3	70	\$26.94	\$7.84	\$13.07	\$0.00	\$47.85
4	75	\$28.86	\$7.84	\$13.07	\$0.00	\$49.77
5	80	\$30.78	\$7.84	\$14.47	\$0.00	\$53.09
6	80	\$30.78	\$7.84	\$14.47	\$0.00	\$53.09
7	90	\$34.63	\$7.84	\$15.87	\$0.00	\$58.34
8	90	\$34.63	\$7.84	\$15.87	\$0.00	\$58.34

**Notes:**

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80  
Step 1&2 \$26.31/ 3&4 \$31.49/ 5&6 \$48.90/ 7&8 \$54.09

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

CARPENTER WOOD FRAME	04/01/2020	\$22.66	\$7.21	\$4.80	\$0.00	\$34.67
CARPENTERS-ZONE 3 (Wood Frame)	04/01/2021	\$23.16	\$7.21	\$4.80	\$0.00	\$35.17
	04/01/2022	\$23.66	\$7.21	\$4.80	\$0.00	\$35.67
	04/01/2023	\$24.16	\$7.21	\$4.80	\$0.00	\$36.17

All Aspects of New Wood Frame Work

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - CARPENTER (Wood Frame) - Zone 3**
**Effective Date - 04/01/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$13.60	\$7.21	\$0.00	\$0.00	\$20.81
2	60	\$13.60	\$7.21	\$0.00	\$0.00	\$20.81
3	65	\$14.73	\$7.21	\$0.00	\$0.00	\$21.94
4	70	\$15.86	\$7.21	\$0.00	\$0.00	\$23.07
5	75	\$17.00	\$7.21	\$3.80	\$0.00	\$28.01
6	80	\$18.13	\$7.21	\$3.80	\$0.00	\$29.14
7	85	\$19.26	\$7.21	\$3.80	\$0.00	\$30.27
8	90	\$20.39	\$7.21	\$3.80	\$0.00	\$31.40

**Effective Date - 04/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$13.90	\$7.21	\$0.00	\$0.00	\$21.11
2	60	\$13.90	\$7.21	\$0.00	\$0.00	\$21.11
3	65	\$15.05	\$7.21	\$0.00	\$0.00	\$22.26
4	70	\$16.21	\$7.21	\$0.00	\$0.00	\$23.42
5	75	\$17.37	\$7.21	\$3.80	\$0.00	\$28.38
6	80	\$18.53	\$7.21	\$3.80	\$0.00	\$29.54
7	85	\$19.69	\$7.21	\$3.80	\$0.00	\$30.70
8	90	\$20.84	\$7.21	\$3.80	\$0.00	\$31.85

**Notes:**

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80  
Step 1&2 \$17.41/ 3&4 \$19.67/ 5&6 \$26.87/ 7&8 \$29.14

**Apprentice to Journeyworker Ratio:1:5**
**CEMENT MASONRY/PLASTERING**
**01/01/2020**
**\$41.94**
**\$12.70**
**\$17.64**
**\$0.62**
**\$72.90**
**BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)**
**Apprentice - CEMENT MASONRY/PLASTERING - Springfield/Pittsfield**
**Effective Date - 01/01/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.97	\$12.70	\$15.41	\$0.00	\$49.08
2	60	\$25.16	\$12.70	\$17.64	\$0.62	\$56.12
3	65	\$27.26	\$12.70	\$17.64	\$0.62	\$58.22
4	70	\$29.36	\$12.70	\$17.64	\$0.62	\$60.32
5	75	\$31.46	\$12.70	\$17.64	\$0.62	\$62.42
6	80	\$33.55	\$12.70	\$17.64	\$0.62	\$64.51
7	90	\$37.75	\$12.70	\$17.64	\$0.62	\$68.71

**Notes:**

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

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
For apprentice rates see "Apprentice- LABORER"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$35.69	\$12.47	\$14.50	\$0.00	\$62.66
	06/01/2021	\$36.51	\$12.47	\$14.50	\$0.00	\$63.48
	12/01/2021	\$37.34	\$12.47	\$14.50	\$0.00	\$64.31
	06/01/2022	\$38.21	\$12.47	\$14.50	\$0.00	\$65.18
	12/01/2022	\$39.09	\$12.47	\$14.50	\$0.00	\$66.06
	06/01/2023	\$40.04	\$12.47	\$14.50	\$0.00	\$67.01
	12/01/2023	\$40.99	\$12.47	\$14.50	\$0.00	\$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CRANE OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$39.72	\$12.47	\$14.50	\$0.00	\$66.69
	06/01/2021	\$40.54	\$12.47	\$14.50	\$0.00	\$67.51
	12/01/2021	\$41.37	\$12.47	\$14.50	\$0.00	\$68.34
	06/01/2022	\$42.24	\$12.47	\$14.50	\$0.00	\$69.21
	12/01/2022	\$43.12	\$12.47	\$14.50	\$0.00	\$70.09
	06/01/2023	\$44.07	\$12.47	\$14.50	\$0.00	\$71.04
	12/01/2023	\$45.02	\$12.47	\$14.50	\$0.00	\$71.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 3</i>	01/01/2021	\$52.06	\$8.25	\$22.75	\$0.00	\$83.06

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.03	\$8.25	\$0.00	\$0.00	\$34.28
2	55	\$28.63	\$8.25	\$6.16	\$0.00	\$43.04
3	60	\$31.24	\$8.25	\$6.72	\$0.00	\$46.21
4	65	\$33.84	\$8.25	\$7.28	\$0.00	\$49.37
5	70	\$36.44	\$8.25	\$19.39	\$0.00	\$64.08
6	75	\$39.05	\$8.25	\$19.95	\$0.00	\$67.25
7	80	\$41.65	\$8.25	\$20.51	\$0.00	\$70.41
8	90	\$46.85	\$8.25	\$21.63	\$0.00	\$76.73

**Notes:**

Steps are 750 hrs.

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

DEMO: ADZEMAN <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$40.05	\$8.60	\$17.32	\$0.00	\$65.97
	06/01/2021	\$41.07	\$8.60	\$17.32	\$0.00	\$66.99
	12/01/2021	\$42.08	\$8.60	\$17.32	\$0.00	\$68.00
	06/01/2022	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	12/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	06/01/2023	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	12/01/2023	\$46.33	\$8.60	\$17.32	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$41.05	\$8.60	\$17.32	\$0.00	\$66.97
	06/01/2021	\$42.07	\$8.60	\$17.32	\$0.00	\$67.99
	12/01/2021	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	06/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	12/01/2022	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	06/01/2023	\$46.08	\$8.60	\$17.32	\$0.00	\$72.00
	12/01/2023	\$47.33	\$8.60	\$17.32	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$40.80	\$8.60	\$17.32	\$0.00	\$66.72
	06/01/2021	\$41.82	\$8.60	\$17.32	\$0.00	\$67.74
	12/01/2021	\$42.83	\$8.60	\$17.32	\$0.00	\$68.75
	06/01/2022	\$43.83	\$8.60	\$17.32	\$0.00	\$69.75
	12/01/2022	\$44.83	\$8.60	\$17.32	\$0.00	\$70.75
	06/01/2023	\$45.83	\$8.60	\$17.32	\$0.00	\$71.75
	12/01/2023	\$47.08	\$8.60	\$17.32	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$41.05	\$8.60	\$17.32	\$0.00	\$66.97
	06/01/2021	\$42.07	\$8.60	\$17.32	\$0.00	\$67.99
	12/01/2021	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	06/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	12/01/2022	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	06/01/2023	\$46.08	\$8.60	\$17.32	\$0.00	\$72.00
	12/01/2023	\$47.33	\$8.60	\$17.32	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$40.80	\$8.60	\$17.32	\$0.00	\$66.72
	06/01/2021	\$41.82	\$8.60	\$17.32	\$0.00	\$67.74
	12/01/2021	\$42.83	\$8.60	\$17.32	\$0.00	\$68.75
	06/01/2022	\$43.83	\$8.60	\$17.32	\$0.00	\$69.75
	12/01/2022	\$44.83	\$8.60	\$17.32	\$0.00	\$70.75
	06/01/2023	\$45.83	\$8.60	\$17.32	\$0.00	\$71.75
	12/01/2023	\$47.08	\$8.60	\$17.32	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$40.05	\$8.60	\$17.32	\$0.00	\$65.97
	06/01/2021	\$41.07	\$8.60	\$17.32	\$0.00	\$66.99
	12/01/2021	\$42.08	\$8.60	\$17.32	\$0.00	\$68.00
	06/01/2022	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	12/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	06/01/2023	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	12/01/2023	\$46.33	\$8.60	\$17.32	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 3)</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 3)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 3)</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 3)</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 (Including Core Drilling) <i>ELECTRICIANS LOCAL 7</i>	01/03/2021	\$44.61	\$11.50	\$12.99	\$0.00	\$69.10
	06/27/2021	\$45.21	\$11.75	\$13.26	\$0.00	\$70.22
	01/02/2022	\$45.81	\$12.00	\$13.42	\$0.00	\$71.23
	07/03/2022	\$46.41	\$12.25	\$13.69	\$0.00	\$72.35
	01/01/2023	\$47.01	\$12.50	\$13.96	\$0.00	\$73.47

**Apprentice - *ELECTRICIAN - Local 7***

**Effective Date - 01/03/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.84	\$6.90	\$0.54	\$0.00	\$25.28
2	45	\$20.07	\$6.90	\$0.60	\$0.00	\$27.57
3	50	\$22.31	\$11.50	\$7.02	\$0.00	\$40.83
4	55	\$24.54	\$11.50	\$7.09	\$0.00	\$43.13
5	65	\$29.00	\$11.50	\$8.81	\$0.00	\$49.31
6	70	\$31.23	\$11.50	\$9.94	\$0.00	\$52.67

**Effective Date - 06/27/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.08	\$7.05	\$0.54	\$0.00	\$25.67
2	45	\$20.34	\$7.05	\$0.61	\$0.00	\$28.00
3	50	\$22.61	\$11.75	\$7.08	\$0.00	\$41.44
4	55	\$24.87	\$11.75	\$7.15	\$0.00	\$43.77
5	65	\$29.39	\$11.75	\$8.93	\$0.00	\$50.07
6	70	\$31.65	\$11.75	\$10.10	\$0.00	\$53.50

**Notes:**

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

**Apprentice to Journeyworker Ratio:2:3\*\*\*\***

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 41</i>	01/01/2021	\$56.69	\$15.88	\$19.31	\$0.00	\$91.88
	01/01/2022	\$58.62	\$16.03	\$20.21	\$0.00	\$94.86

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - ELEVATOR CONSTRUCTOR - Local 41**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.35	\$15.88	\$0.00	\$0.00	\$44.23
2	55	\$31.18	\$15.88	\$19.31	\$0.00	\$66.37
3	65	\$36.85	\$15.88	\$19.31	\$0.00	\$72.04
4	70	\$39.68	\$15.88	\$19.31	\$0.00	\$74.87
5	80	\$45.35	\$15.88	\$19.31	\$0.00	\$80.54

**Effective Date -** 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.31	\$16.03	\$0.00	\$0.00	\$45.34
2	55	\$32.24	\$16.03	\$20.21	\$0.00	\$68.48
3	65	\$38.10	\$16.03	\$20.21	\$0.00	\$74.34
4	70	\$41.03	\$16.03	\$20.21	\$0.00	\$77.27
5	80	\$46.90	\$16.03	\$20.21	\$0.00	\$83.14

**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 41</i>	01/01/2021	\$39.68	\$15.88	\$19.31	\$0.00	\$74.87
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"	01/01/2022	\$41.03	\$16.03	\$20.21	\$0.00	\$77.27
FENCE & BEAM RAIL ERECTOR <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
For apprentice rates see "Apprentice- LABORER"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$29.74	\$8.60	\$14.44	\$0.00	\$52.78
	06/01/2021	\$30.56	\$8.60	\$14.44	\$0.00	\$53.60
	12/01/2021	\$31.37	\$8.60	\$14.44	\$0.00	\$54.41
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST/ROD-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$18.84	\$4.80	\$4.10	\$0.00	\$27.74
FIELD ENG.PARTY CHIEF:BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$21.33	\$4.80	\$4.10	\$0.00	\$30.23
FIELD ENG.SURVEY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 98</i>	06/01/1999	\$22.33	\$4.80	\$4.10	\$0.00	\$31.23
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 7</i>	01/03/2021	\$44.61	\$11.50	\$12.99	\$0.00	\$69.10
	06/27/2021	\$45.21	\$11.75	\$13.26	\$0.00	\$70.22
	01/02/2022	\$45.81	\$12.00	\$13.42	\$0.00	\$71.23
	07/03/2022	\$46.41	\$12.25	\$13.69	\$0.00	\$72.35
	01/01/2023	\$47.01	\$12.50	\$13.96	\$0.00	\$73.47
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i>	01/03/2021	\$44.61	\$11.50	\$12.99	\$0.00	\$69.10
<i>LOCAL 7</i>	06/27/2021	\$45.21	\$11.75	\$13.26	\$0.00	\$70.22
	01/02/2022	\$45.81	\$12.00	\$13.42	\$0.00	\$71.23
	07/03/2022	\$46.41	\$12.25	\$13.69	\$0.00	\$72.35
	01/01/2023	\$47.01	\$12.50	\$13.96	\$0.00	\$73.47
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						

FIREMAN <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$35.69	\$12.47	\$14.50	\$0.00	\$62.66
	06/01/2021	\$36.51	\$12.47	\$14.50	\$0.00	\$63.48
	12/01/2021	\$37.34	\$12.47	\$14.50	\$0.00	\$64.31
	06/01/2022	\$38.21	\$12.47	\$14.50	\$0.00	\$65.18
	12/01/2022	\$39.09	\$12.47	\$14.50	\$0.00	\$66.06
	06/01/2023	\$40.04	\$12.47	\$14.50	\$0.00	\$67.01
	12/01/2023	\$40.99	\$12.47	\$14.50	\$0.00	\$67.96

**Apprentice - OPERATING ENGINEERS - Local 98 Class 3**

**Effective Date -** 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.41	\$12.47	\$14.50	\$0.00	\$48.38
2	70	\$24.98	\$12.47	\$14.50	\$0.00	\$51.95
3	80	\$28.55	\$12.47	\$14.50	\$0.00	\$55.52
4	90	\$32.12	\$12.47	\$14.50	\$0.00	\$59.09

**Effective Date -** 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.91	\$12.47	\$14.50	\$0.00	\$48.88
2	70	\$25.56	\$12.47	\$14.50	\$0.00	\$52.53
3	80	\$29.21	\$12.47	\$14.50	\$0.00	\$56.18
4	90	\$32.86	\$12.47	\$14.50	\$0.00	\$59.83

**Notes:**

Steps 1-2 are 1000 hrs.; Steps 3-4 are 2000 hrs.

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

FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$24.50	\$8.60	\$14.44	\$0.00	\$47.54
	06/01/2021	\$24.50	\$8.60	\$14.44	\$0.00	\$47.54
	12/01/2021	\$24.50	\$8.60	\$14.44	\$0.00	\$47.54

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

FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE III</i>	09/01/2020	\$37.88	\$7.84	\$17.27	\$0.00	\$62.99
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**Apprentice - FLOORCOVERER - Local 2168 Zone III**

**Effective Date - 09/01/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.94	\$7.84	\$1.40	\$0.00	\$28.18
2	55	\$20.83	\$7.84	\$1.40	\$0.00	\$30.07
3	60	\$22.73	\$7.84	\$13.07	\$0.00	\$43.64
4	65	\$24.62	\$7.84	\$13.07	\$0.00	\$45.53
5	70	\$26.52	\$7.84	\$14.47	\$0.00	\$48.83
6	75	\$28.41	\$7.84	\$14.47	\$0.00	\$50.72
7	80	\$30.30	\$7.84	\$15.87	\$0.00	\$54.01
8	85	\$32.20	\$7.84	\$15.87	\$0.00	\$55.91

**Notes:** Steps are 750 hrs.

% After 09/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)

Step 1&2 \$26.29/ 3&4 \$31.43/ 5&6 \$48.83/ 7&8 \$54.01

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

FORK LIFT	12/01/2020	\$35.91	\$12.47	\$14.50	\$0.00	\$62.88
OPERATING ENGINEERS LOCAL 98	06/01/2021	\$36.73	\$12.47	\$14.50	\$0.00	\$63.70
	12/01/2021	\$37.56	\$12.47	\$14.50	\$0.00	\$64.53
	06/01/2022	\$38.43	\$12.47	\$14.50	\$0.00	\$65.40
	12/01/2022	\$39.31	\$12.47	\$14.50	\$0.00	\$66.28
	06/01/2023	\$40.26	\$12.47	\$14.50	\$0.00	\$67.23
	12/01/2023	\$41.21	\$12.47	\$14.50	\$0.00	\$68.18

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATORS/LIGHTING PLANTS	12/01/2020	\$32.46	\$12.47	\$14.50	\$0.00	\$59.43
OPERATING ENGINEERS LOCAL 98	06/01/2021	\$33.28	\$12.47	\$14.50	\$0.00	\$60.25
	12/01/2021	\$34.11	\$12.47	\$14.50	\$0.00	\$61.08
	06/01/2022	\$34.98	\$12.47	\$14.50	\$0.00	\$61.95
	12/01/2022	\$35.86	\$12.47	\$14.50	\$0.00	\$62.83
	06/01/2023	\$36.81	\$12.47	\$14.50	\$0.00	\$63.78
	12/01/2023	\$37.76	\$12.47	\$14.50	\$0.00	\$64.73

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	06/01/2020	\$39.18	\$10.80	\$10.45	\$0.00	\$60.43
GLAZIERS LOCAL 1333						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Apprentice - GLAZIER - Local 1333</b>						
<b>Effective Date - 06/01/2020</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.59	\$10.80	\$1.80	\$0.00	\$32.19
2	56	\$22.04	\$10.80	\$1.80	\$0.00	\$34.64
3	63	\$24.49	\$10.80	\$2.45	\$0.00	\$37.74
4	69	\$26.94	\$10.80	\$2.45	\$0.00	\$40.19
5	75	\$29.39	\$10.80	\$3.15	\$0.00	\$43.34
6	81	\$31.83	\$10.80	\$3.15	\$0.00	\$45.78
7	88	\$34.28	\$10.80	\$10.45	\$0.00	\$55.53
8	94	\$36.73	\$10.80	\$10.45	\$0.00	\$57.98
<b>Notes:</b>						
<b>Apprentice to Journeyworker Ratio:1:3</b>						
GRADER/TRENCHING MACHINE/DERRICK OPERATING ENGINEERS LOCAL 98	12/01/2020	\$36.22	\$12.47	\$14.50	\$0.00	\$63.19
	06/01/2021	\$37.04	\$12.47	\$14.50	\$0.00	\$64.01
	12/01/2021	\$37.87	\$12.47	\$14.50	\$0.00	\$64.84
	06/01/2022	\$38.74	\$12.47	\$14.50	\$0.00	\$65.71
	12/01/2022	\$39.62	\$12.47	\$14.50	\$0.00	\$66.59
	06/01/2023	\$40.57	\$12.47	\$14.50	\$0.00	\$67.54
	12/01/2023	\$41.52	\$12.47	\$14.50	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 63	01/01/2021	\$37.24	\$10.64	\$17.33	\$1.96	\$67.17
	07/01/2021	\$38.29	\$10.64	\$17.33	\$1.99	\$68.25
	01/01/2022	\$39.29	\$10.64	\$17.33	\$2.02	\$69.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 7	01/03/2021	\$44.61	\$11.50	\$12.99	\$0.00	\$69.10
	06/27/2021	\$45.21	\$11.75	\$13.26	\$0.00	\$70.22
	01/02/2022	\$45.81	\$12.00	\$13.42	\$0.00	\$71.23
	07/03/2022	\$46.41	\$12.25	\$13.69	\$0.00	\$72.35
	01/01/2023	\$47.01	\$12.50	\$13.96	\$0.00	\$73.47
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 63	01/01/2021	\$37.24	\$10.64	\$17.33	\$1.96	\$67.17
	07/01/2021	\$38.29	\$10.64	\$17.33	\$1.99	\$68.25
	01/01/2022	\$39.29	\$10.64	\$17.33	\$2.02	\$69.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING -WATER) <i>PLUMBERS &amp; PIPEFITTERS LOCAL 104</i>	09/17/2020	\$42.21	\$9.30	\$16.60	\$0.00	\$68.11
	03/17/2021	\$43.21	\$9.30	\$16.60	\$0.00	\$69.11
	09/17/2021	\$44.21	\$9.30	\$16.60	\$0.00	\$70.11
	03/17/2022	\$45.46	\$9.30	\$16.60	\$0.00	\$71.36
	09/17/2022	\$46.46	\$9.30	\$16.60	\$0.00	\$72.36
	03/17/2023	\$47.71	\$9.30	\$16.60	\$0.00	\$73.61
	09/17/2023	\$48.71	\$9.30	\$16.60	\$0.00	\$74.61
	03/17/2024	\$49.96	\$9.30	\$16.60	\$0.00	\$75.86
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PLUMBERS &amp; PIPEFITTERS LOCAL 104</i>	09/17/2020	\$42.21	\$9.30	\$16.60	\$0.00	\$68.11
	03/17/2021	\$43.21	\$9.30	\$16.60	\$0.00	\$69.11
	09/17/2021	\$44.21	\$9.30	\$16.60	\$0.00	\$70.11
	03/17/2022	\$45.46	\$9.30	\$16.60	\$0.00	\$71.36
	09/17/2022	\$46.46	\$9.30	\$16.60	\$0.00	\$72.36
	03/17/2023	\$47.71	\$9.30	\$16.60	\$0.00	\$73.61
	09/17/2023	\$48.71	\$9.30	\$16.60	\$0.00	\$74.61
	03/17/2024	\$49.96	\$9.30	\$16.60	\$0.00	\$75.86
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$30.24	\$8.60	\$14.44	\$0.00	\$53.28
	06/01/2021	\$31.06	\$8.60	\$14.44	\$0.00	\$54.10
	12/01/2021	\$31.87	\$8.60	\$14.44	\$0.00	\$54.91
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
INSULATOR (PIPES & TANKS) <i>HEAT &amp; FROST INSULATORS LOCAL 6 (SPRINGFIELD)</i>	09/01/2020	\$39.20	\$13.80	\$17.14	\$0.00	\$70.14
	09/01/2021	\$41.60	\$13.80	\$17.14	\$0.00	\$72.54
	09/01/2022	\$44.05	\$13.80	\$17.14	\$0.00	\$74.99

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

**Effective Date -** 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.60	\$13.80	\$12.42	\$0.00	\$45.82
2	60	\$23.52	\$13.80	\$13.36	\$0.00	\$50.68
3	70	\$27.44	\$13.80	\$14.31	\$0.00	\$55.55
4	80	\$31.36	\$13.80	\$15.25	\$0.00	\$60.41

**Effective Date -** 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.80	\$13.80	\$12.42	\$0.00	\$47.02
2	60	\$24.96	\$13.80	\$13.36	\$0.00	\$52.12
3	70	\$29.12	\$13.80	\$14.31	\$0.00	\$57.23
4	80	\$33.28	\$13.80	\$15.25	\$0.00	\$62.33

**Notes:**

Steps are 1 year

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
IRONWORKER/WELDER	09/16/2020	\$35.82	\$8.10	\$21.65	\$0.00	\$65.57
IRONWORKERS LOCAL 7 (SPRINGFIELD AREA)	03/16/2021	\$36.67	\$8.10	\$21.65	\$0.00	\$66.42

**Apprentice - IRONWORKER - Local 7 Springfield**

**Effective Date -** 09/16/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.49	\$8.10	\$21.65	\$0.00	\$51.24
2	70	\$25.07	\$8.10	\$21.65	\$0.00	\$54.82
3	75	\$26.87	\$8.10	\$21.65	\$0.00	\$56.62
4	80	\$28.66	\$8.10	\$21.65	\$0.00	\$58.41
5	85	\$30.45	\$8.10	\$21.65	\$0.00	\$60.20
6	90	\$32.24	\$8.10	\$21.65	\$0.00	\$61.99

**Effective Date -** 03/16/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.00	\$8.10	\$21.65	\$0.00	\$51.75
2	70	\$25.67	\$8.10	\$21.65	\$0.00	\$55.42
3	75	\$27.50	\$8.10	\$21.65	\$0.00	\$57.25
4	80	\$29.34	\$8.10	\$21.65	\$0.00	\$59.09
5	85	\$31.17	\$8.10	\$21.65	\$0.00	\$60.92
6	90	\$33.00	\$8.10	\$21.65	\$0.00	\$62.75

**Notes:**

Structural 1:6; Ornamental 1:4

**Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
LABORERS - ZONE 4 (BUILDING & SITE)						

For apprentice rates see "Apprentice- LABORER"

LABORER	12/01/2020	\$27.78	\$8.60	\$13.37	\$0.00	\$49.75
LABORERS - ZONE 4 (BUILDING & SITE)						

**Apprentice - LABORER - Zone 4 Building and Site**

**Effective Date -** 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.67	\$8.60	\$13.37	\$0.00	\$38.64
2	70	\$19.45	\$8.60	\$13.37	\$0.00	\$41.42
3	80	\$22.22	\$8.60	\$13.37	\$0.00	\$44.19
4	90	\$25.00	\$8.60	\$13.37	\$0.00	\$46.97

**Notes:**

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER (HEAVY & HIGHWAY)	12/01/2020	\$29.49	\$8.60	\$14.44	\$0.00	\$52.53
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	06/01/2021	\$30.31	\$8.60	\$14.44	\$0.00	\$53.35
	12/01/2021	\$31.12	\$8.60	\$14.44	\$0.00	\$54.16

**Apprentice - LABORER (Heavy and Highway) - Zone 4**

**Effective Date -** 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$17.69	\$8.60	\$14.44	\$0.00	\$40.73
2	70	\$20.64	\$8.60	\$14.44	\$0.00	\$43.68
3	80	\$23.59	\$8.60	\$14.44	\$0.00	\$46.63
4	90	\$26.54	\$8.60	\$14.44	\$0.00	\$49.58

**Effective Date -** 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.19	\$8.60	\$14.44	\$0.00	\$41.23
2	70	\$21.22	\$8.60	\$14.44	\$0.00	\$44.26
3	80	\$24.25	\$8.60	\$14.44	\$0.00	\$47.29
4	90	\$27.28	\$8.60	\$14.44	\$0.00	\$50.32

**Notes:**

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

LABORER: CARPENTER TENDER	12/01/2020	\$27.78	\$8.60	\$13.37	\$0.00	\$49.75
LABORERS - ZONE 4 (BUILDING & SITE)						
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER	12/01/2020	\$27.78	\$8.60	\$13.37	\$0.00	\$49.75
LABORERS - ZONE 4 (BUILDING & SITE)						
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	12/01/2020	\$27.87	\$8.60	\$13.66	\$0.00	\$50.13
LABORERS - ZONE 4 (BUILDING & SITE)						
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER	12/01/2020	\$29.78	\$8.60	\$13.37	\$0.00	\$51.75
LABORERS - ZONE 4 (BUILDING & SITE)						
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY)	12/01/2020	\$29.74	\$8.60	\$14.44	\$0.00	\$52.78
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	06/01/2021	\$30.56	\$8.60	\$14.44	\$0.00	\$53.60
	12/01/2021	\$31.37	\$8.60	\$14.44	\$0.00	\$54.41
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER	12/01/2020	\$27.78	\$8.60	\$13.37	\$0.00	\$49.75
LABORERS - ZONE 4 (BUILDING & SITE)						
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER	12/01/2020	\$27.78	\$8.60	\$13.37	\$0.00	\$49.75
LABORERS - ZONE 4 (BUILDING & SITE)						
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	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
LABORERS - ZONE 4 (BUILDING & SITE)						
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$29.74	\$8.60	\$14.44	\$0.00	\$52.78
	06/01/2021	\$30.56	\$8.60	\$14.44	\$0.00	\$53.60
	12/01/2021	\$31.37	\$8.60	\$14.44	\$0.00	\$54.41
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE &amp; TILE</i>	02/01/2021	\$36.17	\$11.39	\$19.35	\$0.00	\$66.91
	08/01/2021	\$37.17	\$11.39	\$19.48	\$0.00	\$68.04
	02/01/2022	\$37.62	\$11.39	\$19.48	\$0.00	\$68.49

**Apprentice - MARBLE-TILE FINISHER-Local 3 Marble/Tile (Spr/Pitt)**

**Effective Date -** 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.09	\$11.39	\$19.35	\$0.00	\$48.83
2	60	\$21.70	\$11.39	\$19.35	\$0.00	\$52.44
3	70	\$25.32	\$11.39	\$19.35	\$0.00	\$56.06
4	80	\$28.94	\$11.39	\$19.35	\$0.00	\$59.68
5	90	\$32.55	\$11.39	\$19.35	\$0.00	\$63.29

**Effective Date -** 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.59	\$11.39	\$19.48	\$0.00	\$49.46
2	60	\$22.30	\$11.39	\$19.48	\$0.00	\$53.17
3	70	\$26.02	\$11.39	\$19.48	\$0.00	\$56.89
4	80	\$29.74	\$11.39	\$19.48	\$0.00	\$60.61
5	90	\$33.45	\$11.39	\$19.48	\$0.00	\$64.32

**Notes:**

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

MARBLE MASON/TILE LAYER(SP/PT)SeeBrick  
*BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE*

See "BRICK/STONE/ARTIFICIAL MASONRY(INCL.MASONRY WATERPROOFING)

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$36.22	\$12.47	\$14.50	\$0.00	\$63.19
	06/01/2021	\$37.04	\$12.47	\$14.50	\$0.00	\$64.01
	12/01/2021	\$37.87	\$12.47	\$14.50	\$0.00	\$64.84
	06/01/2022	\$38.74	\$12.47	\$14.50	\$0.00	\$65.71
	12/01/2022	\$39.62	\$12.47	\$14.50	\$0.00	\$66.59
	06/01/2023	\$40.57	\$12.47	\$14.50	\$0.00	\$67.54
	12/01/2023	\$41.52	\$12.47	\$14.50	\$0.00	\$68.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MECHANIC/WELDER/BOOM TRUCK <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$35.69	\$12.47	\$14.50	\$0.00	\$62.66
	06/01/2021	\$36.51	\$12.47	\$14.50	\$0.00	\$63.48
	12/01/2021	\$37.34	\$12.47	\$14.50	\$0.00	\$64.31
	06/01/2022	\$38.21	\$12.47	\$14.50	\$0.00	\$65.18
	12/01/2022	\$39.09	\$12.47	\$14.50	\$0.00	\$66.06
	06/01/2023	\$40.04	\$12.47	\$14.50	\$0.00	\$67.01
	12/01/2023	\$40.99	\$12.47	\$14.50	\$0.00	\$67.96

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 3) <i>MILLWRIGHTS LOCAL 1121 - Zone 3</i>	01/04/2021	\$37.96	\$9.40	\$20.45	\$0.00	\$67.81
	01/03/2022	\$39.21	\$9.40	\$20.45	\$0.00	\$69.06
	01/02/2023	\$40.46	\$9.40	\$20.45	\$0.00	\$70.31

**Apprentice - MILLWRIGHT - Local 1121 Zone 3**

**Effective Date -** 01/04/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.88	\$9.40	\$5.58	\$0.00	\$35.86
2	65	\$24.67	\$9.40	\$16.90	\$0.00	\$50.97
3	75	\$28.47	\$9.40	\$17.92	\$0.00	\$55.79
4	85	\$32.27	\$9.40	\$18.93	\$0.00	\$60.60

**Effective Date -** 01/03/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$21.57	\$9.40	\$5.58	\$0.00	\$36.55
2	65	\$25.49	\$9.40	\$16.90	\$0.00	\$51.79
3	75	\$29.41	\$9.40	\$17.92	\$0.00	\$56.73
4	85	\$33.33	\$9.40	\$18.93	\$0.00	\$61.66

**Notes:** Step 1&2 Appr. indentured after 1/1/2020 receive no pension,  
but do receive annuity. (Step 1 \$5.58, Step 2 \$6.50)  
Steps are 2,000 hours

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

MORTAR MIXER <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
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For apprentice rates see "Apprentice- LABORER"

OILER <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$31.38	\$12.47	\$14.50	\$0.00	\$58.35
	06/01/2021	\$32.20	\$12.47	\$14.50	\$0.00	\$59.17
	12/01/2021	\$33.03	\$12.47	\$14.50	\$0.00	\$60.00
	06/01/2022	\$33.90	\$12.47	\$14.50	\$0.00	\$60.87
	12/01/2022	\$34.78	\$12.47	\$14.50	\$0.00	\$61.75
	06/01/2023	\$35.73	\$12.47	\$14.50	\$0.00	\$62.70
	12/01/2023	\$36.68	\$12.47	\$14.50	\$0.00	\$63.65

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS VI <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$29.40	\$12.47	\$14.50	\$0.00	\$56.37
	06/01/2021	\$30.22	\$12.47	\$14.50	\$0.00	\$57.19
	12/01/2021	\$31.05	\$12.47	\$14.50	\$0.00	\$58.02
	06/01/2022	\$31.92	\$12.47	\$14.50	\$0.00	\$58.89
	12/01/2022	\$32.80	\$12.47	\$14.50	\$0.00	\$59.77
	06/01/2023	\$33.75	\$12.47	\$14.50	\$0.00	\$60.72
	12/01/2023	\$34.70	\$12.47	\$14.50	\$0.00	\$61.67

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 3</i>	01/01/2021	\$52.06	\$8.25	\$22.75	\$0.00	\$83.06
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**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.03	\$8.25	\$0.00	\$0.00	\$34.28
2	55	\$28.63	\$8.25	\$6.16	\$0.00	\$43.04
3	60	\$31.24	\$8.25	\$6.72	\$0.00	\$46.21
4	65	\$33.84	\$8.25	\$7.28	\$0.00	\$49.37
5	70	\$36.44	\$8.25	\$19.39	\$0.00	\$64.08
6	75	\$39.05	\$8.25	\$19.95	\$0.00	\$67.25
7	80	\$41.65	\$8.25	\$20.51	\$0.00	\$70.41
8	90	\$46.85	\$8.25	\$21.63	\$0.00	\$76.73

**Notes:**

Steps are 750 hrs.

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

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2021	\$35.43	\$8.25	\$18.85	\$0.00	\$62.53
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\* If 30% or more of surfaces to be painted are new construction,

NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 3*

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - PAINTER Local 35 Zone 3 - Spray/Sandblast - New**
**Effective Date - 01/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.72	\$8.25	\$0.00	\$0.00	\$25.97
2	55	\$19.49	\$8.25	\$4.02	\$0.00	\$31.76
3	60	\$21.26	\$8.25	\$4.38	\$0.00	\$33.89
4	65	\$23.03	\$8.25	\$4.75	\$0.00	\$36.03
5	70	\$24.80	\$8.25	\$16.66	\$0.00	\$49.71
6	75	\$26.57	\$8.25	\$17.03	\$0.00	\$51.85
7	80	\$28.34	\$8.25	\$17.39	\$0.00	\$53.98
8	90	\$31.89	\$8.25	\$18.12	\$0.00	\$58.26

**Notes:**

Steps are 750 hrs.

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

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2021	\$32.75	\$8.25	\$18.85	\$0.00	\$59.85
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PAINTERS LOCAL 35 - ZONE 3

**Apprentice - PAINTER Local 35 Zone 3 - Spray/Sandblast - Repaint**
**Effective Date - 01/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$16.38	\$8.25	\$0.00	\$0.00	\$24.63
2	55	\$18.01	\$8.25	\$4.02	\$0.00	\$30.28
3	60	\$19.65	\$8.25	\$4.38	\$0.00	\$32.28
4	65	\$21.29	\$8.25	\$4.75	\$0.00	\$34.29
5	70	\$22.93	\$8.25	\$16.66	\$0.00	\$47.84
6	75	\$24.56	\$8.25	\$17.03	\$0.00	\$49.84
7	80	\$26.20	\$8.25	\$17.39	\$0.00	\$51.84
8	90	\$29.48	\$8.25	\$18.12	\$0.00	\$55.85

**Notes:**

Steps are 750 hrs.

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

PAINTER / TAPER (BRUSH, NEW) *	01/01/2021	\$34.03	\$8.25	\$18.85	\$0.00	\$61.13
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 \* If 30% or more of surfaces to be painted are new construction,  
NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - PAINTER - Local 35 Zone 3 - BRUSH NEW**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.02	\$8.25	\$0.00	\$0.00	\$25.27
2	55	\$18.72	\$8.25	\$4.02	\$0.00	\$30.99
3	60	\$20.42	\$8.25	\$4.38	\$0.00	\$33.05
4	65	\$22.12	\$8.25	\$4.75	\$0.00	\$35.12
5	70	\$23.82	\$8.25	\$16.66	\$0.00	\$48.73
6	75	\$25.52	\$8.25	\$17.03	\$0.00	\$50.80
7	80	\$27.22	\$8.25	\$17.39	\$0.00	\$52.86
8	90	\$30.63	\$8.25	\$18.12	\$0.00	\$57.00

**Notes:**

Steps are 750 hrs.

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

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2021	\$31.35	\$8.25	\$18.85	\$0.00	\$58.45
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PAINTERS LOCAL 35 - ZONE 3

**Apprentice - PAINTER Local 35 Zone 3 - BRUSH REPAINT**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$15.68	\$8.25	\$0.00	\$0.00	\$23.93
2	55	\$17.24	\$8.25	\$4.02	\$0.00	\$29.51
3	60	\$18.81	\$8.25	\$4.38	\$0.00	\$31.44
4	65	\$20.38	\$8.25	\$4.75	\$0.00	\$33.38
5	70	\$21.95	\$8.25	\$16.66	\$0.00	\$46.86
6	75	\$23.51	\$8.25	\$17.03	\$0.00	\$48.79
7	80	\$25.08	\$8.25	\$17.39	\$0.00	\$50.72
8	90	\$28.22	\$8.25	\$18.12	\$0.00	\$54.59

**Notes:**

Steps are 750 hrs.

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

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/01/2020	\$29.49	\$8.60	\$14.44	\$0.00	\$52.53
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	06/01/2021	\$30.31	\$8.60	\$14.44	\$0.00	\$53.35
	12/01/2021	\$31.12	\$8.60	\$14.44	\$0.00	\$54.16

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

PANEL & PICKUP TRUCKS DRIVER	12/01/2020	\$34.98	\$12.91	\$14.82	\$0.00	\$62.71
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	06/01/2021	\$35.78	\$12.91	\$14.82	\$0.00	\$63.51
	08/01/2021	\$35.78	\$13.41	\$14.82	\$0.00	\$64.01
	12/01/2021	\$35.78	\$13.41	\$16.01	\$0.00	\$65.20

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 3)</i> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	\$43.53	\$9.40	\$23.12	\$0.00	\$76.05
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 3)</i>	08/01/2020	\$43.53	\$9.40	\$23.12	\$0.00	\$76.05

**Apprentice - PILE DRIVER - Local 56 Zone 3**

**Effective Date -** 08/01/2020

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

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

(Same as set in Zone 1)

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

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

PIPELAYER <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i> For apprentice rates see "Apprentice- LABORER"	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$29.74	\$8.60	\$14.44	\$0.00	\$52.78
	06/01/2021	\$30.56	\$8.60	\$14.44	\$0.00	\$53.60
	12/01/2021	\$31.37	\$8.60	\$14.44	\$0.00	\$54.41
	For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"					
PLUMBER & PIPEFITTER <i>PLUMBERS &amp; PIPEFITTERS LOCAL 104</i>	09/17/2020	\$42.21	\$9.30	\$16.60	\$0.00	\$68.11
	03/17/2021	\$43.21	\$9.30	\$16.60	\$0.00	\$69.11
	09/17/2021	\$44.21	\$9.30	\$16.60	\$0.00	\$70.11
	03/17/2022	\$45.46	\$9.30	\$16.60	\$0.00	\$71.36
	09/17/2022	\$46.46	\$9.30	\$16.60	\$0.00	\$72.36
	03/17/2023	\$47.71	\$9.30	\$16.60	\$0.00	\$73.61
	09/17/2023	\$48.71	\$9.30	\$16.60	\$0.00	\$74.61
	03/17/2024	\$49.96	\$9.30	\$16.60	\$0.00	\$75.86

**Classification**

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

**Apprentice - PLUMBER/PIPEFITTER - Local 104**

**Effective Date - 09/17/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.99	\$9.30	\$9.85	\$0.00	\$38.14
2	50	\$21.11	\$9.30	\$9.85	\$0.00	\$40.26
3	55	\$23.22	\$9.30	\$9.85	\$0.00	\$42.37
4	60	\$25.33	\$9.30	\$9.85	\$0.00	\$44.48
5	65	\$27.44	\$9.30	\$9.85	\$0.00	\$46.59
6	70	\$29.55	\$9.30	\$9.85	\$0.00	\$48.70
7	75	\$31.66	\$9.30	\$9.85	\$0.00	\$50.81
8	80	\$33.77	\$9.30	\$9.85	\$0.00	\$52.92
9	80	\$33.77	\$9.30	\$16.60	\$0.00	\$59.67
10	80	\$33.77	\$9.30	\$16.60	\$0.00	\$59.67

**Effective Date - 03/17/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$19.44	\$9.30	\$9.85	\$0.00	\$38.59
2	50	\$21.61	\$9.30	\$9.85	\$0.00	\$40.76
3	55	\$23.77	\$9.30	\$9.85	\$0.00	\$42.92
4	60	\$25.93	\$9.30	\$9.85	\$0.00	\$45.08
5	65	\$28.09	\$9.30	\$9.85	\$0.00	\$47.24
6	70	\$30.25	\$9.30	\$9.85	\$0.00	\$49.40
7	75	\$32.41	\$9.30	\$9.85	\$0.00	\$51.56
8	80	\$34.57	\$9.30	\$9.85	\$0.00	\$53.72
9	80	\$34.57	\$9.30	\$16.60	\$0.00	\$60.47
10	80	\$34.57	\$9.30	\$16.60	\$0.00	\$60.47

**Notes: \*\*1:1,2:5,3:9,4:12**

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

PNEUMATIC CONTROLS (TEMP.)	09/17/2020	\$42.21	\$9.30	\$16.60	\$0.00	\$68.11
PLUMBERS & PIPEFITTERS LOCAL 104	03/17/2021	\$43.21	\$9.30	\$16.60	\$0.00	\$69.11
	09/17/2021	\$44.21	\$9.30	\$16.60	\$0.00	\$70.11
	03/17/2022	\$45.46	\$9.30	\$16.60	\$0.00	\$71.36
	09/17/2022	\$46.46	\$9.30	\$16.60	\$0.00	\$72.36
	03/17/2023	\$47.71	\$9.30	\$16.60	\$0.00	\$73.61
	09/17/2023	\$48.71	\$9.30	\$16.60	\$0.00	\$74.61
	03/17/2024	\$49.96	\$9.30	\$16.60	\$0.00	\$75.86

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

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/01/2020	\$29.74	\$8.60	\$14.44	\$0.00	\$52.78
LABORERS - ZONE 4 (HEAVY & HIGHWAY)	06/01/2021	\$30.56	\$8.60	\$14.44	\$0.00	\$53.60
	12/01/2021	\$31.37	\$8.60	\$14.44	\$0.00	\$54.41

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.78	\$8.60	\$13.37	\$0.00	\$50.75
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$30.49	\$8.60	\$14.44	\$0.00	\$53.53
	06/01/2021	\$31.31	\$8.60	\$14.44	\$0.00	\$54.35
	12/01/2021	\$32.12	\$8.60	\$14.44	\$0.00	\$55.16
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$36.22	\$12.47	\$14.50	\$0.00	\$63.19
	06/01/2021	\$37.04	\$12.47	\$14.50	\$0.00	\$64.01
	12/01/2021	\$37.87	\$12.47	\$14.50	\$0.00	\$64.84
	06/01/2022	\$38.74	\$12.47	\$14.50	\$0.00	\$65.71
	12/01/2022	\$39.62	\$12.47	\$14.50	\$0.00	\$66.59
	06/01/2023	\$40.57	\$12.47	\$14.50	\$0.00	\$67.54
	12/01/2023	\$41.52	\$12.47	\$14.50	\$0.00	\$68.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$35.69	\$12.47	\$14.50	\$0.00	\$62.66
	06/01/2021	\$36.51	\$12.47	\$14.50	\$0.00	\$63.48
	12/01/2021	\$37.34	\$12.47	\$14.50	\$0.00	\$64.31
	06/01/2022	\$38.21	\$12.47	\$14.50	\$0.00	\$65.18
	12/01/2022	\$39.09	\$12.47	\$14.50	\$0.00	\$66.06
	06/01/2023	\$40.04	\$12.47	\$14.50	\$0.00	\$67.01
	12/01/2023	\$40.99	\$12.47	\$14.50	\$0.00	\$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 404 - Construction Service (Northampton)</i>	05/01/2020	\$22.44	\$11.07	\$6.50	\$0.00	\$40.01
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 4 (BUILDING &amp; SITE)</i>	12/01/2020	\$28.03	\$8.60	\$13.37	\$0.00	\$50.00
For apprentice rates see "Apprentice- LABORER"						
ROLLER OPERATOR <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$35.08	\$12.47	\$14.50	\$0.00	\$62.05
	06/01/2021	\$35.90	\$12.47	\$14.50	\$0.00	\$62.87
	12/01/2021	\$36.73	\$12.47	\$14.50	\$0.00	\$63.70
	06/01/2022	\$37.60	\$12.47	\$14.50	\$0.00	\$64.57
	12/01/2022	\$38.48	\$12.47	\$14.50	\$0.00	\$65.45
	06/01/2023	\$39.43	\$12.47	\$14.50	\$0.00	\$66.40
	12/01/2023	\$40.38	\$12.47	\$14.50	\$0.00	\$67.35
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Coal tar pitch) <i>ROOFERS LOCAL 248</i>	07/16/2020	\$33.66	\$11.75	\$16.20	\$0.00	\$61.61
For apprentice rates see "Apprentice- ROOFER"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing) <i>ROOFERS LOCAL 248</i>	07/16/2020	\$33.16	\$11.75	\$15.70	\$0.00	\$60.61

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Apprentice - ROOFER - Local 248</b>						
<b>Effective Date - 07/16/2020</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$19.90	\$11.75	\$0.00	\$0.00	\$31.65
2	65	\$21.55	\$11.75	\$15.70	\$0.00	\$49.00
3	70	\$23.21	\$11.75	\$15.70	\$0.00	\$50.66
4	75	\$24.87	\$11.75	\$15.70	\$0.00	\$52.32
5	80	\$26.53	\$11.75	\$15.70	\$0.00	\$53.98
6	85	\$28.19	\$11.75	\$15.70	\$0.00	\$55.64
7	90	\$29.84	\$11.75	\$15.70	\$0.00	\$57.29
8	95	\$31.50	\$11.75	\$15.70	\$0.00	\$58.95
<b>Notes:</b> Steps are 750 hrs.Roofer(Tear Off)1:1; Same as above						
<b>Apprentice to Journeyworker Ratio:1:3</b>						
ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 248	07/16/2020	\$33.66	\$11.75	\$16.20	\$0.00	\$61.61
For apprentice rates see "Apprentice- ROOFER"						
SCRAPER OPERATING ENGINEERS LOCAL 98	12/01/2020	\$35.69	\$12.47	\$14.50	\$0.00	\$62.66
	06/01/2021	\$36.51	\$12.47	\$14.50	\$0.00	\$63.48
	12/01/2021	\$37.34	\$12.47	\$14.50	\$0.00	\$64.31
	06/01/2022	\$38.21	\$12.47	\$14.50	\$0.00	\$65.18
	12/01/2022	\$39.09	\$12.47	\$14.50	\$0.00	\$66.06
	06/01/2023	\$40.04	\$12.47	\$14.50	\$0.00	\$67.01
	12/01/2023	\$40.99	\$12.47	\$14.50	\$0.00	\$67.96
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SELF-POWERED ROLLERS AND COMPACTORS (TAMPERS) OPERATING ENGINEERS LOCAL 98	12/01/2020	\$35.08	\$12.47	\$14.50	\$0.00	\$62.05
	06/01/2021	\$35.90	\$12.47	\$14.50	\$0.00	\$62.87
	12/01/2021	\$36.73	\$12.47	\$14.50	\$0.00	\$63.70
	06/01/2022	\$37.60	\$12.47	\$14.50	\$0.00	\$64.57
	12/01/2022	\$38.48	\$12.47	\$14.50	\$0.00	\$65.45
	06/01/2023	\$39.43	\$12.47	\$14.50	\$0.00	\$66.40
	12/01/2023	\$40.38	\$12.47	\$14.50	\$0.00	\$67.35
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
SELF-PROPELLED POWER BROOM OPERATING ENGINEERS LOCAL 98	12/01/2020	\$32.46	\$12.47	\$14.50	\$0.00	\$59.43
	06/01/2021	\$33.28	\$12.47	\$14.50	\$0.00	\$60.25
	12/01/2021	\$34.11	\$12.47	\$14.50	\$0.00	\$61.08
	06/01/2022	\$34.98	\$12.47	\$14.50	\$0.00	\$61.95
	12/01/2022	\$35.86	\$12.47	\$14.50	\$0.00	\$62.83
	06/01/2023	\$36.81	\$12.47	\$14.50	\$0.00	\$63.78
	12/01/2023	\$37.76	\$12.47	\$14.50	\$0.00	\$64.73
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SHEETMETAL WORKER	01/01/2021	\$37.24	\$10.64	\$17.33	\$1.96	\$67.17
<i>SHEETMETAL WORKERS LOCAL 63</i>	07/01/2021	\$38.29	\$10.64	\$17.33	\$1.99	\$68.25
	01/01/2022	\$39.29	\$10.64	\$17.33	\$2.02	\$69.28

**Apprentice - SHEET METAL WORKER - Local 63**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$16.76	\$4.79	\$4.67	\$0.79	\$27.01
2	50	\$18.62	\$5.32	\$5.19	\$0.87	\$30.00
3	55	\$20.48	\$5.85	\$9.33	\$1.07	\$36.73
4	60	\$22.34	\$6.38	\$9.33	\$1.14	\$39.19
5	65	\$24.21	\$6.92	\$9.33	\$1.21	\$41.67
6	70	\$26.07	\$7.45	\$9.33	\$1.29	\$44.14
7	75	\$27.93	\$7.98	\$9.33	\$1.36	\$46.60
8	80	\$29.79	\$8.51	\$16.29	\$1.64	\$56.23
9	85	\$31.65	\$9.04	\$16.29	\$1.71	\$58.69
10	90	\$33.52	\$9.58	\$16.29	\$1.78	\$61.17

**Notes:**

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

SPECIALIZED EARTH MOVING EQUIP < 35 TONS	12/01/2020	\$35.44	\$12.91	\$14.82	\$0.00	\$63.17
<i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2021	\$36.24	\$12.91	\$14.82	\$0.00	\$63.97
	08/01/2021	\$36.24	\$13.41	\$14.82	\$0.00	\$64.47
	12/01/2021	\$36.24	\$13.41	\$16.01	\$0.00	\$65.66
SPECIALIZED EARTH MOVING EQUIP > 35 TONS	12/01/2020	\$35.73	\$12.91	\$14.82	\$0.00	\$63.46
<i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2021	\$36.53	\$12.91	\$14.82	\$0.00	\$64.26
	08/01/2021	\$36.53	\$13.41	\$14.82	\$0.00	\$64.76
	12/01/2021	\$36.53	\$13.41	\$16.01	\$0.00	\$65.95
SPRINKLER FITTER	01/01/2019	\$41.51	\$10.02	\$13.08	\$0.00	\$64.61
<i>SPRINKLER FITTERS LOCAL 669</i>						

**Apprentice - SPRINKLER FITTER - Local 669****Effective Date -** 01/01/2019

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.68	\$7.75	\$0.00	\$0.00	\$26.43
2	50	\$20.76	\$7.75	\$0.00	\$0.00	\$28.51
3	55	\$22.83	\$10.02	\$7.25	\$0.00	\$40.10
4	60	\$24.91	\$10.02	\$7.25	\$0.00	\$42.18
5	65	\$26.98	\$10.02	\$7.50	\$0.00	\$44.50
6	70	\$29.06	\$10.02	\$7.50	\$0.00	\$46.58
7	75	\$31.13	\$10.02	\$7.50	\$0.00	\$48.65
8	80	\$33.21	\$10.02	\$7.50	\$0.00	\$50.73
9	85	\$35.28	\$10.02	\$7.50	\$0.00	\$52.80
10	90	\$37.36	\$10.02	\$7.50	\$0.00	\$54.88

**Notes:****Apprentice to Journeyworker Ratio:1:1**TELECOMMUNICATION TECHNICIAN  
ELECTRICIANS LOCAL 7

01/03/2021	\$44.61	\$11.50	\$12.99	\$0.00	\$69.10
06/27/2021	\$45.21	\$11.75	\$13.26	\$0.00	\$70.22
01/02/2022	\$45.81	\$12.00	\$13.42	\$0.00	\$71.23
07/03/2022	\$46.41	\$12.25	\$13.69	\$0.00	\$72.35
01/01/2023	\$47.01	\$12.50	\$13.96	\$0.00	\$73.47

**Apprentice - TELECOMMUNICATION TECHNICIAN - Local 7****Effective Date -** 01/03/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.84	\$6.90	\$0.54	\$0.00	\$25.28
2	45	\$20.07	\$6.90	\$0.60	\$0.00	\$27.57
3	50	\$22.31	\$11.50	\$7.02	\$0.00	\$40.83
4	55	\$24.54	\$11.50	\$7.09	\$0.00	\$43.13
5	65	\$29.00	\$11.50	\$8.78	\$0.00	\$49.28
6	70	\$31.23	\$11.50	\$9.89	\$0.00	\$52.62

**Effective Date -** 06/27/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.08	\$7.05	\$0.54	\$0.00	\$25.67
2	45	\$20.34	\$7.05	\$0.61	\$0.00	\$28.00
3	50	\$22.61	\$11.75	\$7.08	\$0.00	\$41.44
4	55	\$24.87	\$11.75	\$7.15	\$0.00	\$43.77
5	65	\$29.39	\$11.75	\$8.93	\$0.00	\$50.07
6	70	\$31.65	\$11.75	\$10.10	\$0.00	\$53.50

**Notes:**

Steps are 800 hours

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

TERRAZZO FINISHERS	02/01/2021	\$54.69	\$11.39	\$22.09	\$0.00	\$88.17
BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	08/01/2021	\$56.09	\$11.39	\$22.25	\$0.00	\$89.73
	02/01/2022	\$56.68	\$11.39	\$22.25	\$0.00	\$90.32

**Classification**

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

**Apprentice - TERRAZZO FINISHER-Local 3 Marble/Tile (Spr/Ptt)**

**Effective Date - 02/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.35	\$11.39	\$22.09	\$0.00	\$60.83
2	60	\$32.81	\$11.39	\$22.09	\$0.00	\$66.29
3	70	\$38.28	\$11.39	\$22.09	\$0.00	\$71.76
4	80	\$43.75	\$11.39	\$22.09	\$0.00	\$77.23
5	90	\$49.22	\$11.39	\$22.09	\$0.00	\$82.70

**Effective Date - 08/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.05	\$11.39	\$22.25	\$0.00	\$61.69
2	60	\$33.65	\$11.39	\$22.25	\$0.00	\$67.29
3	70	\$39.26	\$11.39	\$22.25	\$0.00	\$72.90
4	80	\$44.87	\$11.39	\$22.25	\$0.00	\$78.51
5	90	\$50.48	\$11.39	\$22.25	\$0.00	\$84.12

**Notes:**

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

TERRAZZO MECHANIC	02/01/2021	\$55.77	\$11.39	\$22.08	\$0.00	\$89.24
BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE	08/01/2021	\$57.17	\$11.39	\$22.24	\$0.00	\$90.80
	02/01/2022	\$57.74	\$11.39	\$22.24	\$0.00	\$91.37

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - TERRAZZO MECH - Local 3 Marble/Tile (Spr/Pitt)**

**Effective Date - 02/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.89	\$11.39	\$22.08	\$0.00	\$61.36
2	60	\$33.46	\$11.39	\$22.08	\$0.00	\$66.93
3	70	\$39.04	\$11.39	\$22.08	\$0.00	\$72.51
4	80	\$44.62	\$11.39	\$22.08	\$0.00	\$78.09
5	90	\$50.19	\$11.39	\$22.08	\$0.00	\$83.66

**Effective Date - 08/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.59	\$11.39	\$22.24	\$0.00	\$62.22
2	60	\$34.30	\$11.39	\$22.24	\$0.00	\$67.93
3	70	\$40.02	\$11.39	\$22.24	\$0.00	\$73.65
4	80	\$45.74	\$11.39	\$22.24	\$0.00	\$79.37
5	90	\$51.45	\$11.39	\$22.24	\$0.00	\$85.08

**Notes:**

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

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$41.30	\$8.60	\$17.47	\$0.00	\$67.37
	06/01/2021	\$42.32	\$8.60	\$17.47	\$0.00	\$68.39
	12/01/2021	\$43.33	\$8.60	\$17.47	\$0.00	\$69.40
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$40.02	\$8.60	\$17.47	\$0.00	\$66.09
	06/01/2021	\$41.04	\$8.60	\$17.47	\$0.00	\$67.11
	12/01/2021	\$42.05	\$8.60	\$17.47	\$0.00	\$68.12
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
TRACTORS <i>OPERATING ENGINEERS LOCAL 98</i>	12/01/2020	\$35.08	\$12.47	\$14.50	\$0.00	\$62.05
	06/01/2021	\$35.90	\$12.47	\$14.50	\$0.00	\$62.87
	12/01/2021	\$36.73	\$12.47	\$14.50	\$0.00	\$63.70
	06/01/2022	\$37.60	\$12.47	\$14.50	\$0.00	\$64.57
	12/01/2022	\$38.48	\$12.47	\$14.50	\$0.00	\$65.45
	06/01/2023	\$39.43	\$12.47	\$14.50	\$0.00	\$66.40
	12/01/2023	\$40.38	\$12.47	\$14.50	\$0.00	\$67.35
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$36.02	\$12.91	\$14.82	\$0.00	\$63.75
	06/01/2021	\$36.82	\$12.91	\$14.82	\$0.00	\$64.55
	08/01/2021	\$36.82	\$13.41	\$14.82	\$0.00	\$65.05
	12/01/2021	\$36.82	\$13.41	\$16.01	\$0.00	\$66.24

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2020	\$52.13	\$8.60	\$17.92	\$0.00	\$78.65
	06/01/2021	\$53.15	\$8.60	\$17.92	\$0.00	\$79.67
	12/01/2021	\$54.16	\$8.60	\$17.92	\$0.00	\$80.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2020	\$54.13	\$8.60	\$17.92	\$0.00	\$80.65
	06/01/2021	\$55.15	\$8.60	\$17.92	\$0.00	\$81.67
	12/01/2021	\$56.16	\$8.60	\$17.92	\$0.00	\$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2020	\$44.20	\$8.60	\$17.92	\$0.00	\$70.72
	06/01/2021	\$45.22	\$8.60	\$17.92	\$0.00	\$71.74
	12/01/2021	\$46.23	\$8.60	\$17.92	\$0.00	\$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2020	\$46.20	\$8.60	\$17.92	\$0.00	\$72.72
	06/01/2021	\$47.22	\$8.60	\$17.92	\$0.00	\$73.74
	12/01/2021	\$48.23	\$8.60	\$17.92	\$0.00	\$74.75
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$35.44	\$12.91	\$14.82	\$0.00	\$63.17
	06/01/2021	\$36.24	\$12.91	\$14.82	\$0.00	\$63.97
	08/01/2021	\$36.24	\$13.41	\$14.82	\$0.00	\$64.47
	12/01/2021	\$36.24	\$13.41	\$16.01	\$0.00	\$65.66
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 4 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$29.74	\$8.60	\$14.44	\$0.00	\$52.78
	06/01/2021	\$30.56	\$8.60	\$14.44	\$0.00	\$53.60
	12/01/2021	\$31.37	\$8.60	\$14.44	\$0.00	\$54.41
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WATER METER INSTALLER <i>PLUMBERS &amp; PIPEFITTERS LOCAL 104</i>	09/17/2020	\$42.21	\$9.30	\$16.60	\$0.00	\$68.11
	03/17/2021	\$43.21	\$9.30	\$16.60	\$0.00	\$69.11
	09/17/2021	\$44.21	\$9.30	\$16.60	\$0.00	\$70.11
	03/17/2022	\$45.46	\$9.30	\$16.60	\$0.00	\$71.36
	09/17/2022	\$46.46	\$9.30	\$16.60	\$0.00	\$72.36
	03/17/2023	\$47.71	\$9.30	\$16.60	\$0.00	\$73.61
	09/17/2023	\$48.71	\$9.30	\$16.60	\$0.00	\$74.61
	03/17/2024	\$49.96	\$9.30	\$16.60	\$0.00	\$75.86
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
<b>Outside Electrical - West</b>						
EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$44.67	\$8.00	\$12.55	\$0.00	\$65.22
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$30.58	\$8.00	\$5.48	\$0.00	\$44.06
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN / TRUCK DRIVER <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$39.97	\$8.00	\$10.96	\$0.00	\$58.93
For apprentice rates see "Apprentice- LINEMAN"						
HEAVY EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$47.01	\$8.00	\$13.22	\$0.00	\$68.23
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$51.71	\$8.00	\$15.55	\$0.00	\$75.26

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Apprentice - LINEMAN (Outside Electrical) - West Local 42</b>						
<b>Effective Date - 09/01/2019</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$31.03	\$8.00	\$3.43	\$0.00	\$42.46
2	65	\$33.61	\$8.00	\$3.51	\$0.00	\$45.12
3	70	\$36.20	\$8.00	\$3.59	\$0.00	\$47.79
4	75	\$38.78	\$8.00	\$5.16	\$0.00	\$51.94
5	80	\$41.37	\$8.00	\$5.24	\$0.00	\$54.61
6	85	\$43.95	\$8.00	\$5.32	\$0.00	\$57.27
7	90	\$46.54	\$8.00	\$7.40	\$0.00	\$61.94
<b>Notes:</b>						
<b>Apprentice to Journeyworker Ratio:1:2</b>						
<hr/>						
TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	02/04/2019	\$30.73	\$4.70	\$3.17	\$0.00	\$38.60
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77
TRACTOR-TRAILER DRIVER <i>OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42</i>	09/01/2019	\$44.67	\$8.00	\$12.55	\$0.00	\$65.22

**Additional Apprentice 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. Apprentice 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.

"General Decision Number: MA20210010 02/12/2021

Superseded General Decision Number: MA20200010

State: Massachusetts

Construction Types: Heavy (Heavy and Marine)

Counties: Berkshire, Franklin, Hampden and Hampshire Counties  
in Massachusetts.

HEAVY CONSTRUCTION PROJECTS; AND MARINE CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/01/2021
1	02/12/2021

BOIL0029-001 01/01/2017

	Rates	Fringes
BOILERMAKER.....	\$ 42.42	24.92

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\* BRMA0001-005 08/01/2020

SPRINGFIELD CHAPTER

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS; CEMENT		
MASONS; PLASTERERS; STONE		
MASONS; MARBLE, TILE &		
TERRAZZO WORKERS.....	\$ 44.16	33.63
BRICKLAYERS; CEMENT		
MASONS; STONE MASONS;		
MARBLE, TILE & TERRAZO.....	\$ 41.96	29.80

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\* BRMA0001-007 08/01/2020

SPRINGFIELD/PITTSFIELD CHAPTER  
BERKSHIRE COUNTY

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS; CEMENT		
MASONS; PLASTERERS; STONE		
MASONS; MARBLE, TILE &		
TERRAZZO WORKERS.....	\$ 44.16	33.63
BRICKLAYERS; CEMENT		
MASONS; STONE MASONS;		
MARBLE, TILE & TERRAZZO.....	\$ 41.96	29.80

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CARP0056-004 08/01/2020

	Rates	Fringes
DIVER TENDER.....	\$ 49.07	35.57
DIVER.....	\$ 68.70	35.57

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CARP0056-009 08/01/2020

	Rates	Fringes
PILEDRIVERMAN.....	\$ 49.07	35.57

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CARP0336-005 03/01/2020

FRANKLIN COUNTY (Erving, Orange, North Orange, and Warwick)

	Rates	Fringes
CARPENTER.....	\$ 42.40	29.10

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CARP0336-010 03/01/2020

BERKSHIRE

	Rates	Fringes
CARPENTER.....	\$ 42.40	29.10

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CARP0336-012 03/01/2020

HAMPDEN; HAMPSHIRE; AND FRANKLIN (Remainder of County)

	Rates	Fringes
CARPENTER.....	\$ 42.40	29.10

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CARP1121-004 01/06/2020

	Rates	Fringes
MILLWRIGHT.....	\$ 36.71	31.15

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ELEC0007-002 06/28/2020

HAMPDEN (Except Chester & Holyoke); HAMPSHIRE (Belchertown,  
Ware)

	Rates	Fringes
ELECTRICIAN.....	\$ 44.01	24.67
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ELEC0007-003 06/28/2020		

BERKSHIRE; FRANKLIN; HAMPDEN (Chester, Holyoke); HAMPSHIRE  
(Except Belchertown, Ware)

	Rates	Fringes
ELECTRICIAN.....	\$ 44.01	24.67
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ENGI0098-007 12/01/2016		

	Rates	Fringes
Power equipment operators:		
Group 1.....	\$ 33.68	23.96+A
Group 2.....	\$ 33.37	23.96+A
Group 3.....	\$ 33.15	23.96+A
Group 4.....	\$ 32.54	23.96+A
Group 5.....	\$ 29.92	23.96+A
Group 6.....	\$ 28.80	23.96+A
Group 7.....	\$ 26.86	23.96+A
Group 8.....	\$ 305.95	23.96+A
Group 9.....	\$ 230.69	23.96+A
Group 10.....	\$ 35.17	23.96+A
Group 11.....	\$ 38.18	23.96+A
Group 12.....	\$ 39.68	23.96+A
Group 13.....	\$ 40.68	23.96+A
Group 14.....	\$ 41.68	23.96+A
Group 15.....	\$ 43.18	23.96+A

HAZARDOUS WASTE PREMIUM \$2.00

#### FOOTNOTE FOR POWER EQUIPMENT OPERATORS:

Group 8 and Group 9 are per day wages.

A. Paid Holidays: New year's Day, Washington's Birthday,  
Memorial Day, Independence Day, Labor Day, Columbus Day,  
Veterans Day, Thanksgiving Day and Christmas Day

#### POWER EQUIPMENT OPERATORS CLASSIFICATIONS

Group 1: Shovels; crawlers and truck cranes including all tower; self-propelled hydraulic cranes 10 tons and over; draglines; clam shells; cableways; shaft hoists; mucking machines derricks; backhoes; bulldozers; gradalls; elevating graders; pile drivers; concrete pavers; trenching machines; front end loaders- 5 1/2 cu yds and over; dual drum paver; automatic grader-excavator(C.M.I. or equal); scrapers towing pan or wagon; tandem dozers or push cats(2 units in tandem); shotcrete machine; tunnel boring machine; combination backhoe/loader 3/4 cu yd hoe or over; jet engine dryer; tree shredder; post hole digger; post hole hammer; post extractor; truck mounted concrete pump with boom; roto-mill; Grader; Horizontal Drilling Machine; John Henry Rock Drill and similar equipment.

Group 2: Rotary drill with mounted compressor; compressor house (3 to 6 compressors); rock and earth boring machines (excluding McCarthy and similar drills); front end loaders 4 cu yds to 5 1/2 cu yds); forklifts-7 ft lift and over 3 ton capacity; scraper 21 yds and over (struck load); sonic hammer console; reclaimers road planer/milling machine; cal

tracks; ballast regulators; rail anchor machines; switch tampers, asphalt pavers; mechanic; welder and transfer machine.

Group 3: Combination backhoe/loader up to 3/4 cu yd; scrapers up to 21 cu yd (struck load, self propelled or tractor drawn); tireman; front end loaders up to 4 yds; well drillers; engineer or fireman on high pressure boiler; self-loading batch plant; well point operators electric pumps used in well point system; pumps, 16 inches and over (total discharge); compressor, one or two 900 cu ft and over; powered grease truck; tunnel locomotives and dingys; grout pumps; hydraulic jacks; boom truck; hydraulic cranes-up to 10 ton.

Group 4: Asphalt rollers; self-powered rollers and compactors; tractor without blade drawing sheepsfoot roller; rubber tire roller; vibratory roller or other type of compactors including machines for pulverizing and aerating soil; york rake.

Group 5: Hoists; conveyors; power pavement breakers; self-powered concrete pavement finishing machines; two bag mixers with skip; McCarthy and similar drills; batch plants (not self loading); bulk cement plants; self-propelled material spreaders; three or more 10 KW light plants; 30 KW or more generators; power broom.

Group 6: Compressor (one or two) 315 cu ft to 900 cu ft; pumps 4 inches to 16 inches (total discharge).

Group 7: Compressors up to 315 cu ft; small mixers with skip; pumps up to 4 inches; power heaters; oiler; A-frame trucks; forklifts-up to 7 ft. lift and up to 3 ton capacity; hydro broom; stud welder.

Group 8: Truck crane crews

Group 9: Oiler

Group 10: Master Mechanic

Group 11: Boom lengths over 150 feet including jib

Group 12: Boom lengths over 200 feet including jib

Group 13: Boom lengths over 250 feet including jib

Group 14: Boom lengths over 300 feet including jib

Group 15: Boom lengths over 350 feet including jib

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IRON0007-014 03/16/2020

BERKSHIRE (Becket, East Otis, Hinsdale, Monterey, New Marlboro, North Otis, Otis, Peru, Sandisfield, Savoy, Sheffield, Washington, Windsor); FRANKLIN; HAMPDEN; HAMPSHIRE

	Rates	Fringes
IRONWORKER.....	\$ 35.33	30.01

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IRON0012-003 07/01/2020

BERKSHIRE (Lee)

	Rates	Fringes
IRONWORKER.....	\$ 32.10	25.48

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IRON0012-004 07/01/2020

BERKSHIRE (Remainder of County)

	Rates	Fringes
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Ironworkers:

Sheeter.....	\$ 32.35	25.48
Structural, Ornamental, Reinforcing, Fence Erector, Machinery Mover, Rigger, Rodman, Stone Derrickman.....	\$ 32.10	25.48

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LAB00022-002 06/01/2020

FRANKLIN (Orange, Warwick)

	Rates	Fringes
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Laborers:

GROUP 1.....	\$ 34.06	25.72
GROUP 2.....	\$ 34.31	25.72
GROUP 3.....	\$ 34.81	25.72
GROUP 4.....	\$ 35.06	25.72
GROUP 5.....	\$ 34.31	25.72
GROUP 6.....	\$ 34.25	22.92

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; carpenter tenders; cement finisher  
tenders, plasterer tenders

GROUP 2: Asphalt raker; fence and guard rail erector; laser  
beam operator; mason tender; pipelayer; pneumatic drill  
operator; pneumatic tool operator; wagon drill operator  
jackhammer operator, pavement breaker, carbide core  
drilling machine, chain saw operator, barco type jumping  
tamper, concrete pump, motorized mortar miner, ride-on  
motorized buggy

GROUP 3: Air track operator; block paver; rammer; curb  
setter, hydraulic and similar self-powered drills

GROUP 4: Blaster; powderman

GROUP 5: Precast floor and roof, plank erector

GROUP 6: Asbestos Abatement, Toxic and Hazardous waste  
laborers

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LAB00473-005 06/01/2018

FRANKLIN (Except Orange and Warrick); HAMPDEN and HAMPSHIRE  
COUNTIES (with the exception of Chesterfield, Cummington,  
Goshen, Middlefield, Plainfield, and Worthington)

	Rates	Fringes
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Laborers:

Group 1.....	\$ 31.00	20.18
Group 2.....	\$ 31.25	20.18
Group 3.....	\$ 31.75	20.18
Group 4.....	\$ 32.00	20.18
Group 5.....	\$ 21.50	20.18
Group 6.....	\$ 31.00	20.18

LABORERS CLASSIFICATIONS

Group 1: Carpenter tenders, cement finisher tenders, laborers, wrecking laborers

Group 2: Asphalt rakers, fence and guard rail erectors, laser beam operator, mason tender, pipelayer, pneumatic drill operator, pneumatic tool operator, wagon drill operator

Group 3: Air track operator, block pavers, rammers, curb setters

Group 4: Blasters, powdermen

Group 5: Flaggers

Group 6: Asbestos abatement, toxic and Hazardous waste laborers

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LAB00473-006 06/01/2018

BERKSHIRE; HAMPSHIRE COUNTIES (the towns of Chesterfield, Cummington, Goshen, Middlefield, Plainfield, and Worthington only)

	Rates	Fringes
Laborers:		
Group 1.....	\$ 27.58	22.29
Group 2.....	\$ 27.83	22.29
Group 3.....	\$ 28.33	22.29
Group 4.....	\$ 28.58	22.29
Group 5.....	\$ 21.50	22.29
Group 6.....	\$ 28.58	22.29

LABORERS CLASSIFICATIONS

Group 1: Carpenter tenders, cement finisher tenders, laborers, wrecking laborers

Group 2: Asphalt rakers, fence and guard rail erectors, laser beam operator, mason tender, pipelayer, pneumatic drill operator, pneumatic tool operator, wagon drill operator

Group 3: Air track operator, block pavers, rammers, curb setters

Group 4: Blasters, powdermen

Group 5: Flaggers

Group 6: Asbestos abatement, toxic and Hazardous waste laborers

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LAB01421-002 06/01/2018

	Rates	Fringes
Laborers:		
Group 1.....	\$ 38.15	24.10
Group 2.....	\$ 38.90	24.10
Group 3.....	\$ 39.15	24.10

Group 4.....	\$ 34.15	24.10
Group 5.....	\$ 37.25	24.10
Group 6.....	\$ 38.15	24.10

Group 1: Adzeman, Wrecking Laborer.

Group 2: Burners, Jackhammers.

Group 3: Small Backhoes, Loaders on tracks, Bobcat Type Loaders, Hydraulic ""Brock"" Type Hammer Operators, Concrete Cutting Saws.

Group 4: Yardman (Salvage Yard Only).

Group 5: Yardman, Burners, Sawyers.

Group 6: Asbestos, Lead Paint, Toxic and Hazardous Waste.

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PAIN0035-010 07/01/2019

	Rates	Fringes
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#### PAINTER

##### NEW CONSTRUCTION:

Brush, Taper.....	\$ 32.33	26.35
Spray, Sandblast.....	\$ 34.03	27.00

##### REPAINT:

Bridge.....	\$ 50.66	27.00
Brush, Taper.....	\$ 29.65	26.35
Spray, Sandblast.....	\$ 31.35	27.00

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PLUM0004-003 09/01/2020

#### FRANKLIN (Orange)

	Rates	Fringes
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Plumber and Steamfitter.....	\$ 46.91	26.86
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PLUM0104-004 09/17/2020

BERKSHIRE (Becket, Otis, Sandisfield); FRANKLIN (Except Monroe, Rowe, and the Western part of Charlemont); HAMPDEN; HAMPSHIRE

	Rates	Fringes
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Plumbers and Pipefitters.....	\$ 42.21	26.90
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#### FOOTNOTE:

A. Two paid holidays, Independence Day and Labor Day, provided the employee has been employed seven days prior to the holiday by the same employer

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PLUM0104-009 09/17/2020

BERKSHIRE (Except Otis, Becket, Sandisfield); FRANKLIN (Monroe, Rowe and the Western part of Charlemont)

	Rates	Fringes
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Plumber and Steamfitter.....	\$ 42.21	26.90
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#### FOOTNOTE FOR PLUMBERS & STEAMFITTERS:

A. Paid holidays: Independence Day and Labor Day, provided the employee has been employed seven days prior to the holiday by the same employer.

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TEAM0379-001 08/01/2020

	Rates	Fringes
Truck drivers:		
Group 1.....	\$ 34.98	26.6325+A+B
Group 2.....	\$ 35.15	26.6325+A+B
Group 3.....	\$ 35.22	26.6325+A+B
Group 4.....	\$ 34.44	26.6325+A+B
Group 5.....	\$ 35.44	26.6325+A+B
Group 6.....	\$ 35.73	26.6325+A+B
Group 7.....	\$ 36.02	26.6325+A+B

POWER TRUCKS \$.25 DIFFERENTIAL BY AXLE  
TUNNEL WORK (UNDERGROUND ONLY) \$.40 DIFFERENTIAL BY AXLE  
HAZARDOUS MATERIALS (IN HOT ZONE ONLY) \$2.00 PREMIUM

#### TRUCK DRIVERS CLASSIFICATIONS

Group 1: Station wagons; panel trucks; and pickup trucks

Group 2: Two axle equipment; & forklift operator

Group 3: Three axle equipment and tireman

Group 4: Four and Five Axle equipment

Group 5: Specialized earth moving equipment under 35 tons  
other than conventional type trucks; low bed; vachual;  
mechanics, paving restoration equipment

Group 6: Specialized earth moving equipment over 35 tons

Group 7: Trailers for earth moving equipment (double hookup)

#### FOOTNOTES:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday,  
Memorial Day, Independence Day, Labor Day, Patriot's Day,  
Columbus Day, Veteran's Day, Thanksgiving Day and Christmas  
Day

B. PAID VACATION: Employees with 4 months to 1 year of  
service receive 1/2 day's pay per month; 1 week vacation  
for 1 - 5 years of service; 2 weeks vacation for 5 - 10  
years of service; and 3 weeks vacation for more than 10  
years of service

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WELDERS - Receive rate prescribed for craft performing  
operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave  
for Federal Contractors applies to all contracts subject to the  
Davis-Bacon Act for which the contract is awarded (and any  
solicitation was issued) on or after January 1, 2017. If this  
contract is covered by the EO, the contractor must provide  
employees with 1 hour of paid sick leave for every 30 hours

they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion

date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION"

## WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form is available from the Department of Labor Standards (DLS) at [www.mass.gov/dols/pw](http://www.mass.gov/dols/pw) and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

On a weekly basis, every contractor and subcontractor is required to submit a certified copy of their weekly payroll records to the awarding authority; this includes the payroll forms and the Statement of Compliance form. The certified payroll records must be submitted either by regular mail or by e-mail to the awarding authority. Once collected, the awarding authority is required to preserve those records for three years from the date of completion of the project.

Each such contractor and subcontractor shall furnish weekly **and** within 15 days after completion of its portion of the work, to the awarding authority directly by first-class mail or e-mail, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this form, accompanied by their payroll:

### STATEMENT OF COMPLIANCE

\_\_\_\_\_, 20\_\_\_\_

I, \_\_\_\_\_,  
(Name of signatory party) (Title)

do hereby state:

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

\_\_\_\_\_ on the \_\_\_\_\_  
(Contractor, subcontractor or public body) (Building or project)

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

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

[illegible]

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

## Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W., Washington, D.C. 20210

(over)

Date \_\_\_\_\_

I, \_\_\_\_\_ (Name of Signatory Party) \_\_\_\_\_ (Title)  
do hereby state:

(1) That I pay or supervise the payment of the persons employed by \_\_\_\_\_ on the \_\_\_\_\_  
(Contractor or Subcontractor)  
\_\_\_\_\_ (Building or Work); that during the payroll period commencing on the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and ending the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said \_\_\_\_\_

\_\_\_\_\_ (Contractor or Subcontractor) \_\_\_\_\_ from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967, 76 Stat. 357; 40 U.S.C. § 3145), and described below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:  
(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

— in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.	

## SECTION 00821

### PERMITS

#### PART 1      GENERAL

##### 1.01      CONTRACT DOCUMENTS

- A.      The general provisions of the Contract, including General and Supplemental Conditions and Requirements apply to the work specified in this section.

##### 1.02      PERMITS

- A.      The Contractor shall be responsible for obtaining and complying with all permits required of his equipment, work force, or particular operations (such as blasting and fuel storage permits, etc.) in the performance of the Contract. All costs associated with obtaining permits will be included in the price of the work.
- B.      If included as part of this project, The Contractor shall be responsible for complying with the Order of Conditions as issued by the Local Conservation Commission. All costs associated with complying with the conditions of the permit will be included in the price of the work.
- C.      The Contractor shall be responsible for obtaining and complying with the requirements of the Street Opening and Trench Permits required by the Town Department of Public Works in the performance of the Contract. All costs associated with complying with the conditions of the permits will be included in the price of the work. All costs associated with obtaining permits will be waived by the Town.
- D.      The Contractor shall be responsible for obtaining and complying with the requirements of the Railroad Permit, Insurance Requirements and Service Contract required by Pan Am Railways in the performance of the Contract. All costs associated with complying with the conditions of the Railroad Permit, Insurance Requirements and Service Contract will be included in the price for the work under the lump sum bid item. The daily cost for a flagger shall be paid separately under the flagger item. See Appendix 1 for Pan Am Railway's permit (email approval) and insurance requirements.

END OF SECTION

SECTION 01000  
GENERAL REQUIREMENTS

PART 1 GENERAL

- 1.01 GENERAL
- 1.02 TRAFFIC CONTROL
- 1.03 INTERFERENCE WITH/AND PROTECTION OF STREETS
- 1.04 MAINTAINING SEWAGE FLOWS
- 1.05 HANDLING AND DISTRIBUTION
- 1.06 INSPECTION OF WORK AWAY FROM THE SITE
- 1.07 LINES, GRADES, AND MEASUREMENTS
- 1.08 DIMENSIONS OF EXISTING STRUCTURES
- 1.09 PIPE LOCATIONS
- 1.10 PRECAUTIONS DURING ADVERSE WEATHER
- 1.11 CUTTING AND PATCHING
- 1.12 PROTECTION AGAINST ELECTROLYSIS

PART 1 GENERAL

- 1.01 GENERAL
  - A. The Contractor shall conform to all general requirements as herein specified.
- 1.02 TRAFFIC CONTROL
  - A. For control of moderate traffic, the Contractor shall provide an adequate number of flagmen employed at his own expense.
  - B. Whenever and wherever, in the opinion of the Engineer, traffic is sufficiently congested or public safety is endangered, the Contractor, as required, shall furnish uniformed special officers to direct traffic and keep traffic off the highway area affected by his construction operations. Such officers shall be in addition to the watchmen required under other provisions of the Contract.
- 1.03 INTERFERENCE WITH/AND PROTECTION OF STREETS
  - A. The Contractor shall not close or obstruct any portion of a street, road, or private way without obtaining permits from the proper authorities. If any street or private way shall be rendered unsafe by the Contractor's operations, he shall make such repairs or provide such temporary ways or guards as shall be acceptable to the Engineer.
  - B. Streets, roads, private ways, and walks not closed shall be maintained passable by the Contractor at his expense, and the Contractor shall assume full responsibility for the adequacy and safety of provisions made.
  - C. The Contractor shall, 24 hours in advance of closing any street, notify the police and fire departments in writing, with a copy to the Engineer. He shall cooperate with the police department in the establishment of alternate routes and, at his own expense, shall provide adequate, plainly marked detour signs.
- 1.04 MAINTAINING STORMWATER AND SANITARY SEWER FLOWS
  - A. It is essential to the operation of the existing drainage system that there is no interruption in the flow of drainage. To this end, the Contractor shall provide, maintain, and operate all temporary facilities such as dams, pumping equipment, sewers, conduits and all other

labor and equipment necessary to intercept the flow before it reaches the points where it would interfere with his work, carry it past his work, and return it to the system below his work.

1.05 HANDLING AND DISTRIBUTION

- A. The Contractor shall handle, haul, and distribute all materials and all surplus materials on the different portions of the work, as necessary or required; shall provide suitable and adequate storage room for materials and equipment during the progress of the work, and be responsible for the protection, loss of, or damage to materials and equipment furnished by him, until the final completion and acceptance of the work.
- B. Storage and demurrage charges by transportation companies and vendors shall be borne by the Contractor.

1.06 INSPECTION OF WORK AWAY FROM THE SITE

- A. If work to be away from the construction site is to be inspected on behalf of the Owner during its fabrication, manufacture, testing, or before shipment, the contractor shall give notice to the Engineer of the place and time where such fabrication, manufacture, testing, or shipping is to be done. Such notice shall be in writing and delivered to the Engineer in ample time so that the necessary arrangements for the inspection can be made.

1.07 LINES, GRADES, AND MEASUREMENTS

- A. Reference marks establishing the controlling grades are available from the Engineer. These reference marks shall be replaced at the Contractor's expense if damaged or destroyed by construction operations.
- B. The Contractor shall be responsible for detailed layout, stakeout and grade control required, and shall employ a registered land surveyor or registered professional engineer for this purpose. The Owner will provide engineering inspection.
- C. Construction staking shall consist of construction layout and reference staking necessary for the proper control and satisfactory completion of all structures, grading, paving, drainage and all other appurtenances required for the completion of the Contract and acceptance of the work.
- D. The Owner will furnish the Contractor such control points, bench marks and other data as may be necessary for the construction staking and layout by qualified engineering or land surveying personnel. It shall be the responsibility of the Contractor to verify all such data prior to construction.
- E. Upon request of the Engineer, the Contractor shall furnish copies of all data used in setting and referencing all stakes and other layout markings used by the Contractor. The Contractor shall be responsible for the placement and for the accurate re-establishment of all baselines shown on the Plans, and for the replacement of existing survey points found on the Project and/or noted on the Plans. All brass survey pins in lead plugs and "PK" nails which are to be set or reset and are not to be set in stone bounds installed under this Contract, as noted on the Contract Drawings, are to be set or reset at no additional cost to the Authority. "PK" nails are to be galvanized, 1 ¼ inch minimum, with the letters "PK" on the head, separated by an indentation which marks the actual survey point, and shall be subject to the approval of the Engineer. All stakes, references and batterboards, including original, additional or replacements which may be required for the construction operations, shall be furnished, set and properly referenced by the Contractor. He shall be solely and completely responsible for the accuracy of the line and grade of all features of the work. Any errors or apparent discrepancies found in

previous surveys, plans or in these Contract Documents shall be called to the Engineer's attention by the Contractor for correction or interpretation prior to proceeding with the work.

- F. All staking shall be performed by qualified engineering or land surveying personnel, acceptable to the Engineer. These personnel shall perform the staking under the direct supervision of a registered land surveyor or registered professional engineer. All stakes used for control staking shall be of a quality meeting the approval of the Engineer.
- G. When requested by the Engineer, the Contractor shall provide safe and convenient access to control points, batterboards and references. The Owner may make a check of the control of the work, as established by the Contractor, at any time as the work progresses. The Contractor will be informed of the results of these checks, but the Owner by so doing in no way relieves the Contractor of his responsibility for the accuracy of the layout work. The Contractor shall, at his expense, correct or replace, as required, any deficient layout and Construction work which is a result of inaccuracies in his taking operation or of his failure to report inaccuracies. If the Owner is required to make further studies, redesign, or both, all expenses incurred by the Owner due to such inaccuracies will be deducted from any monies due the Contractor.
- H. The Contractor shall furnish all necessary personnel, engineering equipment and supplies, materials, and transportation incidental to the accurate and satisfactory completion of this work. There will be no direct payment for construction staking, or layout, but the cost thereof shall be considered as included in the bid unit prices or the Bid.
- I. The Contractor shall verify dimensions and utility locations shown on the Contract Drawing and if any inconsistencies or discrepancies should be noted on the Contract Drawings, or between the Contract Drawings and actual field conditions, or between the Contract Drawings and the Specifications, he shall immediately notify the Owner. The Contractor will be held responsible for any errors resulting from his failure to exercise the aforementioned precaution.

#### 1.08 DIMENSIONS OF EXISTING STRUCTURES

- A. Where the dimensions and locations of existing structures are of importance in the installation or connection of any part of the work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any material or equipment which is dependent on the correctness of such information.

#### 1.09 PIPE LOCATIONS

- A. Exterior pipelines will be located substantially as indicated on the Contract Drawings, but the right is reserved to the Owner, acting through the Engineer, to make such modifications in location as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings, etc., are noted on the Contract Drawings, such notation is for the Contractor's convenience and does not relieve him from laying and jointing different or additional items where required.
- B. Small interior piping is indicated diagrammatically on the Contract Drawings, and the exact location is to be determined in the field. Piping shall be arranged in a neat, compact, and workmanlike manner, with a minimum of crossing and interlacing, so as not to interfere with equipment or access way, and, in general, without diagonal runs

#### 1.10 PRECAUTIONS DURING ADVERSE WEATHER

- A. During adverse weather and against the possibility thereof, the Contractor shall take all necessary precautions so that the work may be properly done and be satisfactory in all respects. When required, protection shall be provided by use of tarpaulins, wood and building-paper shelters, or other suitable means.
- B. During cold weather, materials shall be preheated, if required, and the materials and adjacent structure into which they are to be incorporated shall be made and kept sufficiently warm so that a proper bond will take place and a proper curing, aging or drying will result. Protected spaces shall be artificially heated by suitable means that will result in a moist or dry atmosphere according to the particular requirements of the work being protected. Ingredients for concrete and mortar shall be sufficiently heated so that the mixture will be warm throughout when used.

#### 1.11 CUTTING AND PATCHING

- A. The Contractor shall leave all chases or openings for the installation of his own or any other contractor's or subcontractor's work, or shall cut the same in existing work, and shall see that all sleeves or forms are properly set in ample time to prevent delays. He shall see that all such chases, openings, and sleeves are located accurately and are of proper size and shape and shall consult with the Engineer and the contractors and subcontractors concerned in reference to this work.
- B. In case of his failure to leave or cut all such openings or have all such sleeves provided and set in proper time, he shall cut them or set them afterwards at his own expense, but in so doing he shall confine the cutting to the smallest extent possible consistent with the work to be done. In no case, shall piers or structural members be cut without the written consent of the Engineer.
- C. The contractor shall carefully fit around, close up, repair, patch, and point around the work specified herein to the satisfaction of the Engineer.
- D. All of this work shall be done by careful workmen competent to do such work and with the proper small hand tools. Power tools shall not be used except where, in the opinion of the Engineer, the type of tool proposed can be used without damage to any work or structures and without inconvenience or interference with the operation of any facilities. The Engineer's concurrence with the type of tools shall not in any way relieve or diminish the responsibility of the Contractor for such damage, inconvenience, or interference resulting from the use of such tools.
- E. The Contractor shall not cut or alter the work of any subcontractor or any other contractor, nor permit any of his subcontractors to cut or alter the work of any other contractor or subcontractor, except with the written consent of the contractor or subcontractor whose work is to be cut or altered or with the written consent of the Engineer. All cutting and patching or repairing made necessary by the negligence, carelessness, or incompetence of the Contractor or any of his subcontractors shall be done by or at the expense of the Contractor and shall be the responsibility of the Contractor.

#### 1.12 PROTECTION AGAINST ELECTROLYSIS

- A. Where dissimilar metals are used in conjunction with each other, suitable insulation shall be provided between adjoining surfaces so as to eliminate direct contact and any resultant electrolysis. The insulation shall be bituminous impregnated felt, heavy bituminous coatings, non-metallic separators or washers, or other acceptable materials.

END OF SECTION

SECTION 01010  
SUMMARY OF WORK

1. GENERAL SCOPE OF WORK

A. The Work under the Contract consists of:

1. The project consists of the full depth reconstruction of lower Ashfield Street from north of the railroad tracks to the intersection of Clement Street. Approximately 500 feet in total length, including water, drain, and utilities improvements, concrete sidewalk, removal and rebuilding and construction of stone masonry walls, vertical granite curb construction, loam and seeding, pavement and subbase excavation, gravel backfill and paving of the existing street.
2. Furnishing and installing by boring and jacking methods a steel sleeve casing pipe consisting of approximately 80 linear feet of 36" steel sleeve and 12" HDPE DR9 water pipe and casing spacers underneath the railroad tracks.
3. Replacement by open cut methods of the water system consisting of approximately 555 linear feet of 12" Ductile Iron water main pipe, cutting in two 12"x12" Tees to existing water mains, a fire hydrant assembly, appurtenances and 1" Copper services to the property line.
4. Replacement by open cut methods of approximately 30 linear feet of 12" PVC sewer main pipe, a Precast sewer manhole, and 4" PVC services to the property line.
5. Removal and replacement of approximately 970 linear feet of concrete sidewalk and bituminous curb of Upper Ashfield Street, from School Street to Spring Street and a portion of the Ashfield Street/Green Street Intersection, with monolithic concrete sidewalk and curb, removal and resetting of Granite Curbing, wheelchair ramps, driveway aprons, sawcutting existing roadway, HMA patching.
6. Removal and replacement of approximately 260 linear feet of Bituminous Concrete walk on State Street with 5 foot wide, flush with pavement Concrete Sidewalk.
7. Removal and reset of granite curb, reconstruction of concrete sidewalk, sawcutting pavement and HMA patching to construct a wheelchair ramp at #17 State Street.
8. Removal of existing wheelchair ramp at the intersection of Clement Street and State Street, construction of a new ADA compliant concrete wheelchair ramp, reconstruction of stone masonry wall, removal and resetting of curb, sawcutting pavement and HMA patch.
9. If the Town accepts the ordered Alternates 1 through 3 listed in the Bid, the project scope will be increased or decreased accordingly.
  - (a) Alternate No. 1: Road Reclamation of Lower Ashfield Street in place of Full Depth Reconstruction and Remove 2" Depth Trench Paving.
  - (b) Alternate No. 2: Installation of "Versa Lock" Block Retaining Walls in place of Stone Masonry Walls.
  - (c) Alternate No. 3: Removal and Replacement of approximately 180 linear feet of Concrete Sidewalk and Bituminous Curb, from Green Street to School Street with Monolithic Concrete Sidewalk and Curb.

B. In addition, the Work under the Contract includes:

1. Work outside the Project Site as called for in the Contract Documents and as required for the performance of the Work.
2. The restoration of any items damaged or destroyed by encroaching upon areas outside the Project Site.
3. Providing and restoring, where appropriate, all temporary facilities.
4. All Work either shown on the Drawings or included in the specifications unless specifically indicated as not to be done.

2. TIME OF COMPLETION

- A. In accordance with Article 9 of the General Conditions, the Work shall start as stated in the Notice to Proceed and all items related to pipe installation, road reconstruction to intermediate course of pavement, sidewalk construction shall be completed within 90 calendar days of the Notice to Proceed. Surface coat of pavement shall be placed in the Fall of 2021 within a two-week period from the point of authorization to pave.

END OF SECTION

## SECTION 01023

### ALTERNATES

#### 1.1 SCOPE

- A. This Section lists the Alternates which appear in the Contract Documents. Consult the individual sections of the detailed requirements of each Alternate.
- B. Bid prices for each Alternate shall include overhead, profit, and all other expenses incidental to the Work under each Alternate.
- C. The Contractor and Subcontractors shall be responsible for examining the scope of each Alternate generally defined herein and for recognizing modifications to the Work caused by the Alternates and including the cost thereof in the bid price.
- D. The Contractor's alternate amount shall include the net change in cost to perform all of the work described in the Alternate.

#### 1.2 LIST OF ALTERNATES

##### ADDITIVE ALTERNATE NO.1

Full Depth Road Reclamation in place of Full Depth Roadway Excavation and Remove 2" Trench Paving.  
Performance Period: Unchanged

##### ADDITIVE ALTERNATE NO. 2

Installation of "Versa Lock" Block Retaining Walls in place of Stone Masonry Walls.  
Performance Period: Unchanged

##### ADDITIVE ALTERNATE NO. 3

Removal and Replacement of approximately 180 linear feet of Concrete Sidewalk and Bituminous Curb, from Green Street to School Street, with Monolithic Concrete Sidewalk and Curb.  
Performance Period: Unchanged

END OF SECTION

## SECTION 01025

### MEASUREMENTS AND PAYMENT

#### PART 1                    GENERAL

- 1.01            GENERAL
- 1.02            PAYMENT OF WORK

#### PART 2                    CONTROL OF WORK

- 2.01            PIPE COVER
- 2.02            DESIGN CHANGES
- 2.03            NORMAL LIMITS
- 2.04            NORMAL TRENCH LIMITS
- 2.05            NORMAL TRENCH DEPTH
- 2.06            NORMAL TRENCH WIDTHS
- 2.07            NORMAL STRUCTURE LIMITS
- 2.08            NORMAL ROADWAY EXCAVATION LIMITS
- 2.09            NORMAL SIDEWALK/DRIVEWAY LIMITS

#### PART 3                    MEASUREMENT AND PAYMENT ITEMS

- 1                DRAINAGE AND SEWER SYSTEM
- 2                SIDEWALK AND CURB
- 3                EARTHWORK
- 4                PAVEMENT
- 5                MISCELLANEOUS WORK
- 6                LUMP SUM ITEMS
- 7                WATER PIPE, FITTINGS & APPURTENANCES

#### PART 1                    GENERAL

- 1.01            GENERAL
  - A.            The following section describes the measurement of and payment for the work to be completed under the respective items listed in the BID.
- 1.02            PAYMENT OF WORK
  - A.            Payment shall be for the price set forth in the BID and is deemed full compensation for all materials, labor, tools, equipment and incidentals necessary to perform the work.

#### PART 2                    CONTROL OF WORK

- 2.01            PIPE COVER
  - A.            Pipe "cover" shall be defined as the vertical distance between the ground surface and the top of pipe.

## 2.02 DESIGN CHANGES

- A. If changes are made in the design based on the Contract Drawings and Specifications as issued, and should such changes increase or decrease the amount of work to be done under the various Lump Sum Items on which the bid is based, adjustment will be made therefore as stipulated under the General Conditions of the Contract.

## 2.03 NORMAL LIMITS FOR EARTHWORK

- A. The following limits establish the normal limits for all pay items except where additional work beyond these limits is indicated on the Contract Drawings. Except as specifically directed by the Engineer or indicated on the drawings, all work beyond these limits is the responsibility of the Contractor, and will not be considered a payment item.
- B. Payment for excavation above or below normal grade shall only be made if such excavation is ordered in writing by the Engineer. Excavation done at the discretion of the Contractor will not be considered for payment.

## 2.04 NORMAL TRENCH LIMITS

- A. Normal limits of excavation for pipe installation shall be as indicated in the tables for trench width and trench depth. Excavation above normal limits for pipe shall be defined as that excavation above the elevation corresponding to the bottom of the specified depth, and outside of the specified payment width. Excavation below normal limits shall be defined as all excavation below the elevation corresponding to the bottom of the specified depth. For excavations below the specified depth, the cost for the increased limits of excavation and backfilling shall be in addition to the cost of normal excavation and backfill limits and no deductions shall be made for the normal situation.

## 2.05 NORMAL TRENCH DEPTH

- A. Pipe trench depth shall be defined from the ground elevation as determined by the Engineer prior to excavation. Depth of rock excavation shall be from the top of the rock formation encountered to the depth below the invert as noted below. A minimum clear space of 6-inch shall be provided between the rock and any part of the pipe. Trench depth in open cut and sheeted areas shall be from the original ground elevation to the depth below the pipe invert as noted in the table below, which defines the normal limits of trench excavation.

<u>Pipe Size</u>	<u>Depth Below Invert</u>
W.S. up to 4-in	1.2 ft.
6-in to 16-in	1.2 ft
18-in to 21-in	1.3 ft
24-in to 30-in	1.4 ft
36-in to 42-in	1.5 ft
48-in to 54-in	1.6 ft
66-in to 72-in	1.8 ft
3'w x 5'h Box Culvert	1.5 ft

## 2.06 NORMAL TRENCH WIDTHS

A. Pipe trench widths referred to herein are the distances separating the vertical planes between which the pipe is to be laid. In computing the amount of rock excavation in trenches, granular fill, concrete backfill, replacement of utility crossings or replacement of unsuitable excavated material ordered by the Engineer for payment under the respective Items of the Bid Form, the maximum limits of trench width shall be as follows:

- a. For pipe up to 15 inches in diameter, allowable trench width at a plane 12 inches above pipe shall be no more than 36 inches. For pipe greater than 15 inches, the allowable width shall be equal to the pipe outside diameter plus 24 inches.
- b. The trench payment widths up to 10 feet deep, extending from a plane 12 inches above the pipe to the grade surface shall be:

<u>Size</u>	<u>Width</u>
a. Service Pipe up to 4 inches	48 inches
b. 6 inches through 16 inches	48 inches
c. 18 inches through 21 inches	54 inches
d. 24 inches through 30 inches	60 inches
e. 36 inches through 42 inches	72 inches
f. 48 inches through 54 inches	90 inches
g. 66 inches through 72 inches	108 inches
h. 3'h x 5'w Box Culvert	96 inches

- c. Additional width for deeper trench shall be limited to an increase of 1 foot for depths 10 feet to 15 feet and 2 feet for depths 15 feet to 20 feet.

### IN ROCK

<u>Pipe Size</u>	<u>0-12 ft. Invert Depth</u>	<u>Over 12 ft. Invert Depth</u>
0-24-in	5.0 ft.	7.0 ft.
Over 24-in	Nominal Dia. +3.0 ft.	Nominal Dia. +5.0 ft.

## 2.07 NORMAL STRUCTURE LIMITS

- A. Normal limits of excavation for structures shall be defined as that area 12 inches below the base of the structure and within a vertical line offset 2 feet from footings or 4 feet from base slabs. Excavation above normal limits for structures shall be defined as that excavation above the elevation corresponding to 12 inches below the base, and outside of the aforementioned vertical offsets of the structure for which the excavation is being done. Excavation below normal limits shall be defined as that excavation below the elevation corresponding to 12 inches below the base of the structure for which the excavation is being done.

## 2.08 NORMAL ROADWAY EXCAVATION LIMITS

- A. Normal limit for roadway excavation shall be defined as 16" below the proposed roadway pavement grade from face of proposed curbs and edge of pavement as shown on the proposed profile drawings and typical cross-sections on the Contract Drawings.

## 2.09 NORMAL SIDEWALK/DRIVEWAY LIMITS

- A. Normal limits for construction of the sidewalk/driveway shall be as defined as the bottom of the 8" gravel base and sides on the typical cross sections on the Contract Drawings.

# PART 3 MEASUREMENT AND PAYMENT ITEMS

## 1. DRAINAGE AND SEWER SYSTEM

### ITEM 1A, 1B, & 1C: FURNISH AND INSTALL MANHOLE FRAME AND COVER OR GRATE

- A. The quantity to be measured for payment under this Item shall be the actual number of manhole frame and covers or grates furnished and installed as specified or shown on the contract drawings and not included for payment under another item. See Section 05540.
- B. The unit price shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary to install the manhole frame and cover or grate, including excavation and disposal of the old manhole frame and cover or grate, backfilling and compacting, adjustment to final grade, as required. Bituminous or cement concrete backfill as required will be paid for under associated item.
- C. Manhole frames and covers or grates to be for replacements only.

### ITEM 1D: 4' DIAMETER PRECAST CONCRETE SANITARY MANHOLE

- A. Measurement for payment under this item shall be the actual number of manholes of each classification, constructed as specified.

- B. Payment for manholes shall include furnishing and installing manholes base, riser sections, cones, flat tops, brickwork for inverts, frames and covers, complete and brickwork for and adjusting frame and cover to grade. precast concrete intermediate platforms
- C. Payment shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary for construction of the manholes including the walls, steps, watertight connections, sealant, damp proofing, bases, riser sections, cones, flat tops, brick inverts, concrete collars, frame and cover, excavation, temporary sheeting, backfill, dewatering, compaction as specified, disposal of surplus material, screened gravel subbase, testing, connection of sewers into manhole base, removal and disposal of existing sewer manhole and pipe replaced, and all other work necessary for constructing a complete manhole. Payment shall also include the cost of resetting the frames and covers to accommodate final paving, and installation of stubs, knockouts and stoppers as specified and shown on the construction drawings.

ITEM 1E-1F: GRAVITY SEWER PIPE, FITTINGS AND APPRUTENANCES

- A. The quantity of pipe to be paid for under these Items shall be based on the length of pipe installed, measured on a linear foot basis. Measurement for payment does not signify that the sewer line is accepted.
- B. Measurement for length will be along the horizontal center line of pipe as installed including wyes, saddles, tee branches and bends from center to center of manholes excluding the length of manhole inverts. Connections to structures shall be measured to the inside face of the wall. Plugged pipe stubs in manholes shall be measured from end to end of the stub.
- C. Payment for pipe shall be on the basis of the linear foot of pipe, and the type of pipe installed. The Contractor's attention is directed to the Technical Specifications that stipulate that all pipes between adjacent manholes shall be of the class required by the critical depth of cover between said manholes. The unit pipe prices shall include full compensation for furnishing the class of pipe required by the manhole-to-manhole profile regardless of depth of cover variations.
- D. Payment shall constitute full compensation for furnishing and installing pipe of the type and size specified on the Bid Form (Item 1E-1F) for the respective quantities as above determined at the applicable bid price. Each unit price shall constitute full compensation for furnishing all labor, materials, fittings, tools, and equipment necessary for laying, jointing and testing the pipe, unless specified elsewhere, including earth excavation (except rock excavation), saw cutting pavement, removal and disposal of existing pavement and pipe, dewatering, removal and replacement or supporting of existing utility pipes and conduits, jetting if specified for compaction, mechanical compaction as specified, portable trench box or temporary sheeting, disposal of surplus materials, 12" of road gravel base to exist pavement grade, backfilling, placement and adjustment of gravel base course, screened gravel bedding and sand blanket, restoration of the site to its original condition, dust control, and all work incidental thereto not

specifically paid for under other items, cleaning of mains by high pressure water (1200 psi min.), mandrel and air testing lines, television inspections, portable trench box or temporary timber sheeting, disposal of surplus materials, backfilling, screened gravel cradle, dust control, removal and disposal of existing pipe, and all work incidental thereto not specifically paid for under other items.

- E. Cost for wyes, tees, saddles, adapter couplings (including connections to existing pipes at private property/side streets and connections to sewer mains after manhole installation) shall be included in the unit price of the pipe (Item 1E-1F). Payment for pipe will be seventy five percent of amount installed until pipe has been tested and television inspection is completed.
- F. During construction of the new sewer main, the contractor shall provide temporary water tight connections ("Fernco" adapters) between the new sewer main and existing sewer services until services are replaced to the property line. Include the cost under the associated pipe item.
- G. Where excavated material is not suitable for backfill and excess stockpiled excavated material is not available in sufficient quantities, payment for imported backfill shall be made under the applicable earthwork item.

## 2. SIDEWALK AND CURB

### ITEMS 2A, 2B & 2C: CEMENT CONCRETE SIDEWALK, DRIVEWAY, AND WHEELCHAIR RAMP WITH MONOLITHIC CURB

- A. Measurement for payment under these items shall be the number of square yards of concrete sidewalk, driveway and wheelchair ramp with monolithic concrete curb furnished and installed or replaced and maintained as shown on the contract drawings within the limits, and as directed by the Engineer.
- B. Prices bid under these items for cement concrete sidewalk, driveway, and wheelchair ramp with monolithic concrete curb shall be full compensation for all labor, equipment, tools, and materials necessary to complete the work as specified, which shall include clearing and grubbing, saw cutting pavement a maximum of 2' off edge, excavation to gravel subgrade and disposal of existing bituminous concrete or cement concrete or brick pavement or topsoil or subsoil, adjustment of gravel subbase, including additional excavation and gravel adjustment, fine grading and compaction, expansion and construction joints, edging, curb edging, broom finishing, installing detectable warning panels, furnish and placement of reinforcing steel as specified, 4000 psi – ¾" aggregate cement concrete for walks, driveways and wheelchair ramps with monolithic concrete curb to the specified depths, backfill to grade, compacting, dewatering, restoration, removal and replacement, adjusting or supporting of existing utility pipes and conduits, adjusting of castings, gate boxes, etc. to the proposed finished grade, daily and final cleanup, and all other incidental work relative thereto and not specifically paid for under other items of work and as shown on the construction drawings.

- C. Excavation and backfill within normal limits shall be to the depth required to install the new compacted gravel base and cement concrete to the proposed grade.
- D. The existing gravel base may be reused if determined by the engineer to be acceptable without deduction. Additional gravel if required shall be furnished and installed prior to placement of the cement concrete. Include the cost under the associated concrete item.
- E. Driveways shall be measured in square yards as the actual area of vehicular travel at a minimum 6" cement concrete thickness and as shown on the construction drawings at each driveway opening required and shall be included for payment under Item 2B – Cement Concrete Driveway. The transition area to the driveway opening shall be minimum 4" cement concrete thickness shall be included for payment under Item 2A – Cement Concrete Sidewalk with Monolithic Curb.
- F. Wheelchair ramps at a minimum 6" cement concrete thickness with monolithic concrete curb shall be measured in square yards as the actual area perpendicular to and including the monolithic concrete curb, including the "level turning area" and transition area. Transition areas to the handicapped ramp opening shall be included for payment under Item 2C – Cement Concrete Wheelchair Ramp with Monolithic Curb.
- G. Sidewalks at a minimum 4" cement concrete thickness with monolithic concrete curb shall be measured in square yards as the actual area between the face of monolithic concrete curb and back of sidewalk multiplied by the length of sidewalk. Transition areas to driveway openings shall be included under Item 2A – Cement Concrete Sidewalks with Monolithic Curb.
- H. In all areas where the road is not proposed to be replaced and cement concrete sidewalk, driveway and wheelchair ramps with monolithic curb are proposed, the gravel backfill shall be installed to 4" below the existing road pavement Include the cost for this work under the associated sidewalk item. Then install a compacted depth of 2 ½" HMA intermediate(binder) course and 1 ½" HMA surface course and tack, sand and seal. If the previously sawcut pavement edge is not maintained and is damaged, cracked, broken, etc. during construction, then the pavement edge will be sawcut again and removed and disposed of before placing the HMA paving. Include the cost for this work under the associated HMA Handwork item.

ITEMS 2D, 2E and 2F: CEMENT CONCRETE SIDEWALK, DRIVEWAY, AND  
WHEELCHAIR RAMP WITHOUT MONOLITHIC CURB

- A. Measurement for payment under these items shall be the number of square yards of concrete sidewalk, driveway and wheelchair ramp without monolithic curb furnished and installed or replaced and maintained as shown on the contract drawings within the limits, and as directed by the Engineer.

- B. Prices bid under these items for cement concrete sidewalk, driveway, and wheelchair ramp without monolithic curb shall be full compensation for all labor, equipment, tools, and materials necessary to complete the work as specified, which shall include clearing and grubbing, excavation to gravel subgrade and disposal of existing bituminous concrete or cement concrete or brick pavement or topsoil or subsoil, 8" depth of gravel subbase, including additional excavation and gravel adjustment, fine grading and compaction, expansion and construction joints, installing detectable warning panels, furnish and placement of reinforcing steel as specified, 4000 psi –  $\frac{3}{4}$ " aggregate cement concrete for walks, driveways and wheelchair ramps to the specified depths, backfill to grade, compacting, dewatering, restoration, removal and replacement, adjusting or supporting of existing utility pipes and conduits, adjusting of castings, gate boxes, etc. to the proposed finished grade, daily and final cleanup, and all other incidental work relative thereto and not specifically paid for under other items of work.
- C. Excavation and backfill within normal limits shall be to the depth required to install the new compacted gravel base and cement concrete to the proposed grade.
- D. The existing gravel base may be reused if determined by the engineer to be acceptable without deduction. Additional gravel if required shall be added prior to placement of the cement concrete at no additional cost.
- E. Driveways shall be measured in square yards as the actual area of vehicular travel at a minimum 6" cement concrete thickness and shown on the construction drawings at each driveway opening required. Transition area to the driveway opening shall not be considered for payment under Item 2E – Cement Concrete Driveway and should be included for payment under Item 2D – Cement Concrete Sidewalk.
- F. Wheelchair ramps at a minimum 6" cement concrete thickness shall be measured in square yards as the actual area, perpendicular to the curb, including the "level turning area" and transition areas. Transition areas to the handicapped ramp opening shall be considered for payment under Item 2F -Cement Concrete Wheelchair Ramp.
- G. Sidewalks at a minimum 4" cement concrete thickness shall be measured in square yards as the actual area between the back of curb or back of grass strip and back of sidewalk multiplied by the length of sidewalk. Transition areas to driveway openings shall be included under Item 2D – Cement Concrete Sidewalks.

ITEM 2G: FURNISH AND INSTALL DETECTABLE WARNING PANEL

- A. Measurement for payment under this Item shall be the actual number of Polymer Composite, wet mounted, 48" long x 24" wide for 4' minimum sidewalks and 60" long x 24" wide for 5' minimum sidewalks, ADA compliant, detectable warning panels for wheelchair ramps furnished and installed within the limits indicated on the Contract Drawings or as directed by the Engineer.

- B. The unit price shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary to install wet mounted detectable warning panels, including trowelling and recessing the new concrete wheelchair ramp to receive the panel, embedding, mounting, sealing, cutting panels to conform to the radius of the back of curb at each ramp location and as required by the engineer and as recommended by the manufacturer. Each modified panel shall be paid for as if complete.
- C. The color of detectable warning panels shall be determined and approved at the time of submittals, Polymer Composite, wet mounted, as manufactured by *Armor Tile Tactile Systems* or equal.

#### ITEMS 2H & 2I: GRANITE CURB

- A. Measurement for payment under these items shall be the number of linear feet of granite curb and granite curb wall removed and reset or furnished and installed or replaced, including straight, curved, and transition curb, including inlet stones for all proposed catch basins, removing and resetting existing inlets, all sizes, and maintained as shown on the contract drawings within the limits and as directed by the Engineer.
- B. Prices bid under the items for granite curb and granite curb wall shall be full compensation for all labor, equipment, tools, and materials necessary to complete the work as specified, which shall include clearing and grubbing, existing curb excavation, resetting and altering to fit, cutting of curbs to length or to transition at ramps and driveways, including inlets for catch basins, furnishing and installing new curb and disposing of old curb, saw cutting pavement a maximum of 2' off edge, excavation and disposal of bituminous concrete and cement concrete, excavation and disposal of surplus subgrade material, gravel backfill for supporting curb, 3000psi cement concrete required for anchoring granite curbing, to proposed pavement subgrade, backfill to grade including, compacting, dewatering, restoration, removal and replacement, adjusting or supporting of existing utility pipes and conduits, daily and final cleanup, and all other incidental work relative thereto and not specifically paid for under other items of work.
- C. The Contractor shall be paid under Item 2F to furnish and install new granite curb of the size and type required to best fit and match existing granite curb at the location when replacing or adding curb. Granite curbs to meet Mass Highway specifications for VA4 granite curb. Include all sizes, straight, radius, and transition curbs.
- D. In all areas, where the road is proposed to be replaced and the granite curb is proposed to be reset or new, the 3000 psi concrete backfill shall be installed flush to the surface of new HMA intermediate(binder) course . Include the cost under the associated curb items.

- E. In all areas where the road is not proposed to be replaced and curb is proposed to be removed and reset or new or monolithic, gravel backfill shall be installed to 4" below the existing road pavement Include the cost for this work under the associated curb items. Then install a compacted depth of 2 ½" HMA intermediate(binder) course and 1 ½" HMA surface course and tack, sand and seal. If the previously sawcut pavement edge is not maintained and is damaged, cracked, broken, etc. during construction, then the pavement edge will be sawcut again and removed and disposed of before placing the HMA paving. Include the cost for this work under the associated HMA Handwork item.

### 3. EARTHWORK

#### ITEM 3A: UNCLASSIFIED EXCAVATION, GENERAL EXCAVATION AND TEST PIT EXCAVATION AND BACKFILL

- A. Should the Engineer order test pit excavation, general excavation or unclassified excavation, the Contractor shall be paid therefore under this Item. Measurement for the quantity of excavation and backfill to be paid for shall be the number of cubic yards excavated and backfilled, in place, as ordered by the Engineer.
- B. Payment shall constitute full compensation for the work of excavating, placing on-site or disposal of surplus or unsuitable materials, backfill and all work incidental thereto.
- C. Measurement of quantities for payment under this Item shall also include the actual number of cubic yards of existing pavement/subbase removed from existing driveway and miscellaneous areas beyond the limits of the proposed road, concrete sidewalks, driveways, wheelchair ramps and granite curb as shown on the Contract Drawings, as specified and other unclassified excavation as may be directed by the Engineer.

#### ITEM 3B: ROADWAY EXCAVATION AND DISPOSAL

- A. Measurement for the quantity of excavation to be paid for shall be the number of cubic yards excavated, measured in place as specified in the contract drawings and Section 02200 and within the Normal Roadway Excavation Limits.
- B. Payment shall constitute full compensation for the work of excavating the road to the roadway excavation limits-(16" below proposed pavement), for materials separating and disposing of offsite and transporting, and all work incidental thereto. Roadway backfilling shall be paid for under Item 3C.
- C. The unit price shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary for the excavation and disposal of materials within the Normal Roadway Excavation Limit.
- D. The unit price for this item shall include the excavation, removal and disposal of subgrade material, asphalt, subsurface material, wood, concrete, rock, and unsuitable material within the Normal Roadway Excavation Limit.

- E. Due to the 16" excavation depth and minimal cover remaining over existing utilities, excavation shall not be allowed with heavy equipment which requires travel on the excavated area. All excavation of the roadway, placing and loading of trucks shall be performed on the existing pavement grade. Construction equipment or trucks shall not be allowed to drive on the excavated roadway until the roadway is backfilled to the proposed gravel grade.
- G. The contractor shall carefully excavate to the roadway excavation limits and shall not damage the existing utilities. Existing utilities damaged during the excavation of the roadway shall be repaired at the contractor's expense.
- H. The excavated roadway depth and grade shall be approved by the Engineer prior to the Contractor commencing gravel backfill operations to be eligible for payment.

ITEM 3C: ROADWAY GRAVEL BACKFILL WITHIN NORMAL LIMITS

- A. Measurement for the quantity of roadway gravel backfill to be paid for shall be the number of cubic yards backfilled and measured compacted and in place as specified on the contract drawings, Section 02200 and to the proposed gravel backfill roadway grade.
- B. The Contractor shall allow for a minimum 95% relative compaction factor when estimating the quantity of loose, uncompacted gravel backfill being furnished and installed for this item. No additional payment shall be provided for the difference between the uncompacted gravel backfill quantities trucked to the site and the measured compacted in place quantity of gravel.
- C. All gravel borrow refill shall be M1.03.0 Type "B" gravel as specified by the 1988 Commonwealth of Massachusetts DPW Standard Specifications for Highways and Bridges.
- D. The unit price shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary for furnishing, placing, rough grading and compacting the gravel backfill to the proposed grades. Roadway excavation within normal limits shall be paid for under Item 3B and fine grading and compaction shall be paid for under Item 3D.
- F. Payment for this Item shall also constitute full compensation for furnishing all labor, materials, tools, and equipment necessary to saw cut pavement, lower and plate existing utility castings, utility valve boxes, frames and covers. This Item includes all costs associated with the preparation of the existing road for the backfilling with road gravel and shall also include the restoration of all utility castings, utility valve boxes, frames and covers to the top of the proposed gravel base course (the surface upon which the bituminous concrete binder and top is to be placed).

ITEM 3D: FINE GRADING AND COMPACTING OF SUBGRADE AREAS

- A. The square yard price for this Item shall constitute full compensation for fine grading and compacting of the pavement sub-grade areas (gravel) prior to the placement of pavement which is not included for payment under another item. The price shall also include straight saw-cutting of existing pavement.
- B. The square yard price for this Item shall include furnishing all labor, materials, tools and equipment for the shaping, fine grading and compacting of the pavement sub-grade (gravel) as shown on the Contract Drawings, as directed by the Engineer and as required to place the proposed base course pavement.
- C. The square yard price shall also include the cost associated with dust control of the fine graded areas, through use of water and flake calcium chloride, as required and as specified in Section 01567 of the Contract Documents.

ITEM 3E: ROCK EXCAVATION, DISPOSAL AND BACKFILL

- A. Measurement for the quantity of rock to be paid for under this Item shall be the number of cubic yards of rock, measured in place before excavation, within the limits of normal excavation as specified, unless rock excavation beyond such limits has been authorized by the Engineer, in which case measurements shall be made to the authorized limits.
- B. Where rock is encountered, it shall be uncovered but not excavated until measurements have been made by the Engineer, unless in the opinion of the Engineer, satisfactory measurements can be made in some other manner.
- C. Payment for rock excavation shall be full compensation for all labor, materials, and equipment necessary for rock excavation, disposal, and furnishing, placing and compacting acceptable backfill. The bidder should include in his bid under all items involving excavation, the cost of doing the entire excavation as earth. The unit price for rock excavation covers the difference between the cost of rock excavation and the cost of earth excavation.

ITEM 3F: GRAVEL BORROW FILL AND/OR GRAVEL BORROW REFILL OF UNSUITABLE MATERIAL WITHIN NORMAL LIMITS

- A. When additional gravel borrow fill (not already paid for under another item in this contract) is required or, in the opinion of the Engineer, the material within the normal limits including tests pits is unsuitable for backfill, it shall be disposed of and replaced in such volumes within the lines of payment as the Engineer may order. This Item applies only to the use of borrow refill when stockpiles of excavated suitable backfill materials are insufficient in quantity.

- B. All borrow refill shall be sand and gravel Type 3 material.
- C. The quantity to be paid for shall be equal to the number of cubic yards of unsuitable material replaced with Type 3 sand and gravel borrow.
- D. The unit price shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary for replacing of excavated material and furnishing, placing new fill material or placing and compacting sand and gravel in such excavations and furnishing.

4. PAVEMENT

ITEM 4A: 2 1/2 " HOT MIX ASPHALT – INTERMEDIATE COURSE PAVEMENT  
(MACHINE METHOD)

- A. Measurement for payment under this Item shall be the actual number of tons of asphalt placed for permanent Intermediate (binder) course pavement, and maintained as shown on the drawings, as specified, and as directed by the Engineer.
- B. Payments for this Item shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary to place the intermediate course pavement, including construction of pavement end joints, saw cutting joints, tack coat along the edges, minor adjustments to subbase material, raising all castings and gate boxes to binder grade and to maintain the permanent base course pavement as required by the Specifications.
- C. The Contractor shall continuously maintain pavement, as specified, and repair the pavement at his own expense. No additional compensation shall be made for labor, materials, tools and equipment required for maintenance and/or repair of pavement.

ITEM 4B: 1 1/2" HOT MIX ASPHALT - SURFACE COURSE PAVEMENT (MACHINE METHOD)

- A. Measurement for payment under this Item shall be the actual number of tons of asphalt placed for permanent surface (top) course pavement, and maintained as shown on the drawings, as specified, and as directed by the Engineer.
- B. Payment for this Item shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary furnish and place the surface course pavement, including all raising of castings and gate boxes to finished grade, sweeping and cleaning existing street, as required, including construction of pavement end joints, saw cutting joints, applying prime or tack coat by tank truck with heated spreader bar only, (no "tack wand or wagon accepted"), sanding and sealing all joints and to maintain the permanent surface course pavement as required by the Specifications.

- C. The Contractor shall continuously maintain pavement, as specified, and repair the final paving at his own expense. No additional compensation shall be made for labor, materials, tools and equipment required for maintenance and/or repair of pavement.

ITEM 4C: HMA PAVEMENT (HAND METHOD) MISCELLANEOUS AREAS

- A. Measurement for payment under this Item shall be the actual number of tons of asphalt placed as shown on the Contract Drawings, as specified, and as directed by the Engineer.
- B. Payment for this Item shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary to place the HMA pavement for driveways, test pits, jacking pits, in front of curbs, berms, wheelchair ramps and miscellaneous areas, including saw cutting of pavement, including construction of pavement end joints, fine grading gravel base, sweeping and cleaning existing street, as required, and application of prime or tack coat, raising castings, and to maintain the pavement as required by the Specifications.
- C. The Contractor shall continuously maintain HMA paving, as specified, and repair permanent paving at his own expense, no additional compensation shall be made for labor, materials, tools and equipment required for maintenance and/or repair of pavement.
- D. Excavation required to remove existing pavement or to adjust existing subgrade shall be paid for under unclassified excavation item. All placement of additional reclaimed material or gravel shall be paid under the associated item.
- E. In all areas where the road is not proposed to be replaced and curb is proposed to be removed and reset or new or monolithic and permanent pavement is proposed at jacking pits and driveways, gravel backfill shall be installed to 4" below the existing road pavement and the contractor shall install a compacted depth of 2 ½" HMA intermediate(binder) course and 1 ½" HMA surface course and tack, sand and seal. If the previously sawcut pavement edge is not maintained and is damaged, cracked, broken, etc. during construction, then the pavement edge will be sawcut again and removed and disposed of before placing the HMA paving. Include the cost for this work under the associated HMA Handwork item.

ITEM 4D: HMA TRENCH PAVEMENT, 2" MIN DEPTH

- A. The quantity to be measured for payment under this Item shall be the actual number of linear feet of 2" minimum depth HMA trench pavement, placed in one compacted lift for each utility and structure installed and maintained as shown on the Drawings, as specified, and as directed by the Engineer in road & sidewalk.
- B. The unit price for this Item shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary to place a compacted 2" bituminous concrete (dense binder) course trench pavement, saw cutting existing pavement back one foot from the trench edges after utility installation,

placement and adjustment of 12" gravel base course, fine grading, prime or tack coat, raising of frames and covers to trench pavement grade and to maintain the permanent trench pavement as required by the specifications.

- C. The Contractor shall continuously maintain trench paving, as specified, and repair trench paving at his own expense. No additional compensation shall be made for labor, materials, tools and equipment required for maintenance and/or repair of trench pavement.
- D. The contractor shall place a temporary compacted 2" HMA (dense binder) course trench pavement during utility installation on a weekly basis.

5. MISCELLANEOUS WORK

ITEM 5A. TRAFFIC CONTROL POLICE DETAILS ALLOWANCE

- A. The contractor shall provide such police officers as deemed necessary for the direction and control of traffic within the site of the improvements. The request for traffic officers will be made to the Buckland Police Department (B.P.D.). The B.P.D. shall be notified at the time of the call that the contractor is working on a Town Project and that the administration fee and taxes shall be waived by the B.P.D.
- B. The allowance established in the Bid Form is for bidding purposes only. The actual invoiced rates may differ from these established rates.
- C. Bidders shall include the allowance value for traffic control police detail in their bid total.
- D. The rate of wages direct billed to and paid by the Contractor and reimbursed through the contract for police officers shall be the same as paid to police officers working on the details. No compensation shall be made to the contractor for administration fees or taxes if included.

ITEM 5B: REMOVE AND RESET STREET AND TRAFFIC SIGN AND POST ASSEMBLY

- A. The quantity to be measured for payment under this Item shall be the actual number of existing traffic sign and post assemblies removed and reset as directed by the Engineer.
- B. The unit price shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary to remove and reset the existing traffic sign and post assembly to the proposed road and sidewalk grades, including temporary storing, excavation, backfilling, compacting, new concrete foundation, as required.

- C. Existing traffic signs shall be reset at the original locations or as required by the Engineer.

ITEM 5C: PAINTED TRAFFIC LINES, 4" LINE

- A. Measurement for payment under this Item shall be the actual number of linear feet of painted traffic lines painted within the limits indicated on the Contract Drawings or as directed by the Engineer.
- B. The unit price shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary to install 4" wide, yellow or white, reflectorized, epoxy painted traffic lines as required.
- C. All traffic markings shall conform to the requirements of the State of MassDOT and The Manual on Uniform Traffic Control Devices (MUTCD).

ITEM 5D: PAINTED CROSSWALKS AND STOP LINES, 12" LINE

- A. Measurement for payment under this Item shall be the actual number of linear feet of painted crosswalks and stop lines painted within the limits indicated on the Contract Drawings or as directed by the Engineer.
- B. The unit price shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary to install 12" wide, white, reflectorized, epoxy painted crosswalks and stop lines as required.
- C. All traffic markings shall conform to the requirements of the State of MassDOT and The Manual on Uniform Traffic Control Devices (MUTCD).

ITEM 5E: CONCRETE FOR ENCASEMENT, CRADLES AND MISCELLANEOUS WORK

- A. Measurement for the quantity of encasement, pipe cradle or miscellaneous work to be paid for shall be the quantity of cubic yards for thrust blocks, encasement, pipe cradle, concrete dams, around street castings or miscellaneous work (not in front of curbs) furnished in place within the limits of normal excavation and to a depth as shown on the Contract Drawings, or as specified by the Engineer.
- B. Payment of this Item shall constitute full compensation for furnishing and placing thrust blocks, pipe encasement, pipe cradle, concrete dams, around street castings and miscellaneous work not included under other items (not in front of curbs) as shown on the drawings, or as directed or specified. Concrete furnished and placed under other items shall not be included for payment under this Item.

ITEM 5F: STONE MASONRY WALL

- A. Measurement for payment under this item shall be the number of square feet of exposed stone masonry wall removed and reset at the proposed adjacent location or furnished and installed and maintained as shown on the contract drawings within the limits and as directed by the Engineer. The limits of the square foot wall measurement are the exposed height (vertically from the

finished grade of proposed sidewalk to the top of the wall) multiplied by the length parallel to the proposed sidewalk. The horizontal stone masonry cap shall not be included for measurement and payment.

- B. Price bid under the item for stone masonry shall be full compensation for all labor, equipment, tools, and materials necessary to complete the work as specified, which shall include clearing and grubbing, existing and proposed wall excavation, removal, dismantling and temporarily stacking of existing wall stones for reuse, cleaning stones for reuse and disposing of old mortar, supplying new wall stones similar in size and shape to match existing wall stones, resetting and altering to fit, excavation, temporary sheeting, backfill, dewatering, compaction as specified, disposal of surplus material, additional matching wall stones and cap stones stone masonry cap, 4000 psi concrete footing, crushed stone and gravel backfill, backfill to grade including, sloping, compacting, dewatering, reinforcing and anchoring to existing walls, steps, etc. that are connected and not replaced and especially at corners of walls at # 14 and #18 which are timber and stone masonry walls, restoration, daily and final cleanup, and all other incidental work relative thereto and not specifically paid for under other items of work.
- C. Stone wall shall be paid for at the contract exposed face square foot price which shall be full compensation for the removal, dismantling, temporarily stacking of existing wall stones, cleaning stones for reuse and disposing of old mortar, excavation, complete support of excavation, stone foundation when the existing stone foundation remains in its existing location, all stone masonry wall construction items, dewatering, gravel backfill, crushed stone, weep drains, required regrading at back of new or reconstructed stone wall, safety controls, and all labor, equipment, and materials required to complete the work as specified to the satisfaction of the ENGINEER.
- D. Materials and construction methods shall comply with MassDOT Standard Specification for Highways and Bridges latest edition 1988 Section 685.

ITEM 5G: LANDSCAPE CONCRETE BLOCK WALL

- A. Measurement for payment under this Item shall be the actual square feet of concrete block wall installed measured by the face of wall installed. Payment for this item shall constitute full compensation for all labor, materials, and equipment required to install the segmental retaining wall as shown on the contract drawings or as directed by the Engineer. The wall shall be square faced on single side and capped at existing grade, and appurtenances, including removal and disposal of existing wall, excavation, sheeting, gravel backfill, compaction, dewatering, disposal of excess backfill, crushed stone, stonework, masonry, Type II cement, and footing per wall manufacturer specifications, Wall should be Versa-Lok standard concrete block wall (or approved equal) in gray color, crushed stone and gravel backfill, crushed stone footing, geo grid reinforcing, weeping drains, reinforcing and anchoring to connect to existing walls, steps, etc. that are connected and not replaced and especially at corners of walls at # 14 and #18 which are timber and stone masonry walls, backfill and grading at back of new or reconstructed stone wall, restoration of work area, loam and seed, establishment of growth, as shown on the contract drawings and all incidental work, not

specifically mentioned, to satisfactorily complete this Item, as specified to the satisfaction of the ENGINEER..

- B. Contractor is responsible to submit shop drawing and wall design for approval prior to installation.
- C. All materials specified above shall be furnished and installed under this item and shall be included for payment only under this Item.

ITEM 5G: LOAMING AND SEEDING

- A. Measurement for payment under this Item shall be the actual number of square yards actually loamed and seeded within the limits indicated on the Contract Drawings or as directed by the Engineer.
- B. Payment shall constitute full compensation for excavation to subgrade for loam and disposing of excess subgrade material, furnishing and placing loam (min. 6" of loam) and seed, soil amendments, grading, compacting and providing establishment of growth of grass as specified.

ITEM 5H: CATCH BASIN SILT SACK

- A. The quantity to be paid under this item shall be the number of silt sacks installed by the contractor, as specified.
- B. The work under this Item shall consist of the furnishing, installing, maintaining, and removing silt sacks from all catch basins, drop inlets, and gutter inlets within the limit of work, or otherwise required
- C. Silt sacks shall be made out of woven polypropylene geotextile fabric and sewn by a double needle machine, using a high strength nylon thread. Devices shall be ACF Environmental (800)-448-3636; Reed & Graham, Inc. Geosynthetics (888)-381-0800; The BMP Store (800)-644-9223; or approved equal. Silt sacks shall be manufactured to fit the opening of the catch basins.
- D. Silt sacks shall be manufactured with two dump straps attached at the bottom of the silt sack. Silt sacks shall have a ¼-inch nylon expansion restraint rope with 2 inch flat washers to keep the sides of the silt sacks away from the catch basin walls. Silt sacks shall be manufactured so that they have a certified average wide width strength per ASTM D-4884 standards of 165.0 lb/in for regular flow.
- E. When the expansion restraint rope is covered with sediment, the silt sack shall be emptied, cleaned, and placed back into the catch basin. All material removed from the silt sacks shall be properly handled and disposed of by the Contractor, and this must be done in accordance with all DEP and Town regulations and policies. The responsibility for the proper handling and disposal of this material shall be solely the Contractor's.
- F. Silt sacks shall remain in place until the placement of the pavement overlay or top course and the graded areas have become permanently stabilized by vegetative

growth. All materials used for the filter fabric will become the property of the Contractor and shall be removed from the site.

- G. The Contractor shall inspect the condition of silt sacks after each rainstorm and during major rain events. Silt sacks shall be cleaned periodically to remove and disposed of accumulated debris as required. Silt sacks, which become damaged during construction operations, shall be repaired or replaced immediately at no additional cost to the Town.
- H. When emptying the silt sack, the contractor shall take all due care to prevent sediment from entering the structure. Any silt or other debris found in the drainage system at the end of construction shall be removed at the Contractor's expense.

## 6. LUMP SUM ITEMS

### GENERAL

- A. The extent of utility relocations required for the completion of lump sum items are shown on the contract drawings. All work associated with support of utilities in conjunction with any of these lump sum items shall be included within the scope of the lump sum item.

### ITEM 6A: MOBILIZATION

- A. The lump sum prices for this Item shall constitute full compensation for furnishing at the project site, all men and equipment necessary to properly commence and complete the various sections of work described in the bid. Mobilization costs are those costs incurred in initiating the contract and providing for the above-mentioned equipment and labor to be operational at the site, exclusive of the cost of materials. For purposes of this contract, operational shall mean the substantial commencement of work. The lump sum price of this work shall not exceed five percent (5%) of the total bid amount. Bids not in compliance with the above may be considered unresponsive and may be rejected for that reason.
- B. Mobilization may be considered as complete by the Engineer when the Contractor substantially commences work on the project with a full complement of men and equipment necessary to expeditiously perform and complete the required work in the opinion of the Engineer. The Engineer may authorize a percent (%) complete of this Item for payment if all of the mobilization has not been accomplished. A breakdown of the lump sum price must be submitted to the Engineer.
- C. Payment for the lump sum price bid in the proposal for mobilization shall be full compensation for all costs and work involved under this Item.

### ITEM 6B: MISCELLANEOUS WORK AND CLEAN-UP ITEMS

- A. Measurement for payment for miscellaneous work and cleanup shall be on lump sum basis.

B. Payment of the lump sum price under the Item 6B of the Bid Form shall fully compensate the Contractor for labor, materials, equipment, and incidentals required to do all work specified below, and shown on the Drawings, and any other miscellaneous work obviously necessary to complete the Contract. Payment shall include but not be limited to supporting all existing utilities, modification to existing utilities, maintaining existing drainage/sewer flows, removal and resetting of fences, walls, landscape boulders, driveway edging etc. and the Contractor shall be responsible for site restoration and cleanup upon completion of the project and to comply with the provisions of Section 02995 of these specifications.

C. In addition, to allow the proposed reconstruction of Ashfield Street to the proposed roadway profile and cross section, the Contractor shall do the following, which is paid for under Item 6B:

- CB and manhole castings, gate valves and boxes, etc. (removed from the work) removed and disposed of by the Contractor or drop off at the Buckland Highway Department as directed.
- The temporary and permanent relocation and protection of any signs, benches, planters, etc. located on the existing sidewalks prior to the installation of the proposed sidewalks.
- All slope protection and erosion control measures necessary to comply with the requirements of Section 02270.
- Remove and dispose of existing street sign and post.
- Abandoning, removing and disposing of water pipe, hydrants, and valve boxes, and plugging pipe ends with cement masonry as required to install the proposed water main and services, as shown on the construction plans.
- Maintaining existing sanitary flow and bypass pumping the sanitary sewer from upstream to downstream manholes during the installation of the proposed sewer manhole and pipe.
- All calcium chloride and water as required to control and maintain dust control on site
- Audio-Video Taping as specified in Section 01381.
- All permits as specified in Section 00821.
- Protection of the street tree and roots located within the public right of way during construction.
- Coordinate with the homeowner of #18 Ashfield Street to carefully remove and stack the timber planks and hardware from the existing timber retaining wall at the location on the property requested by the homeowner before installation of the proposed wall.

- Trim back the hedges and bushes in front of House #56 Ashfield Street to the back of the proposed sidewalk and Town Right of Way.
- Remove existing tree in front of House #14 Ashfield Street.

- C. The Engineer may authorize a percent (%) complete of this Item for payment if not all of the work has been accomplished. A breakdown of the lump sum price must be submitted to the Engineer at the start of work.

ITEM 6C: TRAFFIC CONTROL SYSTEM FOR VEHICULAR AND PEDESTRIAN SAFETY

- A. The lump sum for this Item shall constitute full compensation for the implementation of the traffic control system designed by a Massachusetts certified traffic engineer, complete as detailed in the Specifications. See Section 01570.
- B. The lump sum price for this Item shall include furnishing all labor, materials, tools, and equipment to start up and implement the traffic control system including all signs, barriers, warning light, and any detour controls as specified and as deemed necessary by the Town.
- C. The Engineer may authorize a percent (%) complete of this Item for payment if not all of the work has been accomplished. A breakdown of the lump sum price must be submitted to the Engineer at the start of work.

ITEM 6D: RAILROAD PERMIT AND SERVICE CONTRACT

- A. The lump sum price for this item shall include all costs associated with obtaining and complying with the permit and service contract requirements for work done in the vicinity, under and adjacent to the existing railroad tracks, including the service contract cost of \$750, additional insurance costs, coordination of the railroad flagger, stopping work and moving away from the railroad at the direction of the flagger and additional work. See correspondence and documents in section 00821 – Permits for additional information.
- B. The lump sum price for this Item shall also include furnishing all labor, materials, tools, and equipment to comply with the requirements of the permit and service contract issued by the Railroad.
- C. The Owner has already paid the associated engineering review fees associated with the permit.
- D. The Engineer may authorize a percent (%) complete of this Item for payment if not all of the work has been accomplished. A breakdown of the lump sum price must be submitted to the Engineer at the start of work.

ITEM 6E: RAILROAD FLAGGER ALLOWANCE

- A. Payment for assignments of flaggers of Pan Am Railways will be made for the actual amount invoiced to the Contractor by the Pan Am Railways including the Railways administrative costs. The allowance established in the Bid Form is for bidding purposes only. The actual invoiced rates may differ from those established rates

7. WATER PIPE, FITTINGS & APPURTENANCES

ITEM 7A & 7B: 12" and 6" WATER MAINS

- A. Measurement for payment under this Item shall be the length of the pipeline, sized 12" diameter and 6" diameter measured in place and recorded by the Resident Engineer. Payment shall be by the linear foot basis, with no measured deductions made for fittings and valves.
- B. Prices bid under this Item for water pipe shall be full compensation for all labor, equipment, tools and materials necessary to complete the work as specified, which shall include all fittings, reducers, tees, bends, couplings, caps, etc. and appurtenances (called out on the contract drawings), "mega lug" or equal restraints, temporary facilities, handling, storing and distribution of materials, excavation, segregating and stockpiling material suitable for backfill, backfill above trench grade including all bedding materials, placing sand blanket around new water pipe, 12" of roadway gravel, saw-cutting pavement, existing pavement removal and disposal, compacting trenches, dewatering, sheeting and shoring not ordered left in place, restoration, adjusting or supporting of existing utility pipes and conduits, abandoning existing water mains, capping existing water mains and hydrant connections and services, removal of hydrants and valve boxes and daily and final cleanup, flushing, hydrostatic testing, and chlorinating, MADEP water quality analyses, connections to existing water mains, and all other incidental work relative thereto, not specifically paid for under other Items and as specified and as shown on the plans.
- C. Prices bid under this Item for water pipe shall include furnishing all labor, materials, tools and equipment to connect to the existing water mains, which shall include shutting down existing water mains as necessary, including excavation, backfill, compaction, dewatering, disposal of surplus or unsuitable materials, temporary sheeting or bracing as required, cutting and conditioning, to tap or connect to existing water mains, sand blanket, 12" gravel road base, all fittings, appurtenances (as previously stated) and assembly, cleanup and all other incidental work not specifically mentioned to satisfactorily complete this Item, including preparing and distributing written notification and coordination with water users to shut down affected water service with 48-hour minimum notification and as specified and as shown on the plans.
- D. The Contractor shall furnish and install all temporary blow offs, watertight plugs, caps or blank flanges that may be required to properly protect the work and to test and chlorinate the mains. The Contractor shall also provide all necessary labor, tools, and materials required to permanently plug all temporary

connections. Payment for furnishing and installing these items shall be made under the applicable pipe laying items listed under this Item, which shall also include all costs relative to flushing to remove silt and debris from the mains.

- E. The Contractor shall be provided with water for flushing, testing and chlorinating water mains, at no cost, but only once for each section of pipe. Water required for additional flushing, testing and re-chlorination shall be billed to the Contractor at the prevailing rates of the Owner, (or water Utility having jurisdiction) and this sum of money shall be paid by the Contractor upon receipt of a bill from the Owner. The Owner may deduct such amounts of money from the Contractor's periodic estimates for payment. If water use restrictions are in place the flushing and testing process may be delayed until restrictions are lifted at the authority's discretion.
- F. Only seventy-five (75) percent of the price bid per linear foot of pipe shall be eligible for payment upon installation. The balance shall not be eligible for payment until the pipe has been successfully tested and chlorinated and is accepted by the Owner for incorporation into the existing system. The above percentages will apply before the specified retainage is withheld.
- G. Pipe and other appurtenant water works materials delivered to the job site and properly stockpiled and protected, shall be eligible for payment upon written request by the Contractor. With each request for payment of stored materials, the Contractor shall submit an itemized and properly executed transfer of title form, made out to the owner. Payment shall be based upon seventy-five (75) percent of the total amount of each material invoice, as submitted to Contractor by materials supplier. All such pre-payments for materials, by the Owner, will later be deducted from the Contractor's Periodic Estimates for Payment. Prepayment for materials by the Owner shall not relieve the Contractor of responsibility for prompt payments to suppliers, and for successful protection of stored materials. The Owner may require copies of paid invoices as a prerequisite for payment.
- H. Payment for furnishing and installing water mains of the various types and diameters listed shall be made at the unit prices bid under the applicable Item.

ITEM 7C: ADDITIONAL DUCTILE IRON FITTINGS

- A. Ductile Iron fittings installed shall be measured by the pound, including the cement lining, based on the nominal weights of specific fittings tabulated in the AWWA Specifications or certified shipping weight slips furnished by the supplier to the Contractor. Mechanical joint glands, restraints, bolts, gaskets and accessories will not be included in the weight measurement but are considered incidental to this item and the cost is to be included in the fitting weight.
- B. This item is to be used only when additional ductile iron fittings are required that are not called out on the drawings, the Contractor shall be compensated for the additional fittings by the unit price bid for this item.

- C. Payment for furnishing and installing the various sizes and types of ductile iron fittings: hydrant extensions, bends, tees, solid sleeves, flexible couplings, and/or transition couplings, etc. shall be made at the price per pound in the bid. This price shall be full compensation for furnishing and installing the glands, gaskets, restraints, jointing, concrete thrust blocks, extensions and all work required for, incidental to the satisfactory completion of the Item for which payment is not provided under other items.
- D. The unit prices bid under this Item shall be full compensation for all labor, equipment, tools, and materials necessary to complete the work as specified, which shall include cutting and conditioning of pipe, fitting accessories, jointing, excavation, backfill and compaction, and all other incidental work relative thereto.

ITEMS 7D&E: VALVE WITH VALVE BOX

- A. Measurement for payment for furnishing and installing the mechanical joint ductile iron valve and valve box shall be the number of items counted in-place and recorded by the Engineer.
- B. Payment for furnishing and installing the various types and sizes of valve listed or as shown on the contract drawings, shall be made at the unit prices bid under the particular item.
- C. The unit prices bid under this Item shall be full compensation for all labor equipment, tools and materials necessary to complete the work as specified, which shall include shutting down existing water mains as necessary, cutting and conditioning, or tapping of pipe, saw cutting existing pavement removal and disposal, joint accessories and restraints, jointing, assembly, support system, valve boxes, raising castings and covers to finished grade, excavation, backfill and compaction, and all other incidental work relative thereto.

ITEM 8F: HYDRANT

- A. Measurement for payment for furnishing and installing a hydrant and removing existing hydrant shall be the numbers of items counted in place and recorded by the Engineer.
- B. Payment for furnishing and installing a new hydrant, as listed in the bid or as shown on the contract drawings shall be installed at the unit prices bid under Item 8F.
- C. The unit price bid under each division of this Item shall be full compensation for all labor, equipment, tools and materials necessary to complete the work as specified, which shall include shutting down existing water mains as necessary, furnishing and installing, hydrant, restraints, accessory kits, two stainless steel rods and nuts from hydrant to valve, hydrant extension as necessary, excavation, cutting pipe, installation and/or removal, transporting, stacking, repair, capping and restraining existing pipe, flat stone or block support, thrust blocks, saw cutting existing pavement removal and disposal, backfill and compaction, crushed stone drainage well, removing existing hydrant, repainting Municipal Standard colors, and all other incidental work relative thereto.

## ITEMS 7G THROUGH 7I & 7K THROUGH 7M: WATER SERVICES AND APPURTENANCES

- A. Payment for furnishing and installing 1" and 2" diameter water service connections, as directed by the Engineer shall be made at the unit prices bid under the applicable Items. This Item may be utilized for new water services or to replace existing services only as directed by the Engineer. No payment is to be made under this Item for replacement of existing water services damaged or removed by the contractor in the installation of water mains under this Contract.
- B. The unit prices bid under these Items shall be considered as fair compensation for all labor, equipment, tools and materials necessary to complete the work as specified, which shall include excavation, temporary facilities, handling, storing and distribution of materials, excavation, segregating and stockpiling material suitable for backfill, backfill above trench grade including all bedding materials, sand blanket around new water pipe, 12" of roadway gravel, saw-cutting pavement, existing pavement removal and disposal, compacting trenches, dewatering, sheeting and shoring not ordered left in place, restoration, adjusting or supporting of existing utility pipes and conduits, tapping mains, assembling fittings, laying service pipe, connecting to existing services, installing couplings, adaptors and other appurtenant materials, backfill and compaction, shutting down existing corporations, hydrostatic testing, and chlorinating, water quality analyses, connections to existing water mains, including preparing and distributing written notification and coordination with water users to shut down affected water service with 48-hour minimum notification and all other incidental work relative thereto, not specifically paid for under other Items and as specified and as shown on the plans.
- C. Method of Measurement: payment for furnishing and installing water service connections shall be made as follows:
  - 1. Payment for service pipe, together with necessary couplings and adapters or reducers shall be made at the unit price bid per linear foot for 1" & 2" diameter, Type K copper tubing, Items 7G and 7K respectively.
  - 2. Payment for abandoning existing water services up to 1" shall be included in the unit price for 1" diameter, Type K copper tubing, Item 7G.
  - 3. Payment for 1" & 2" diameter, corporation cocks shall be made at the unit prices bid for size 1" & 2" in the proposal, Items 7H and 7L respectively.
  - 4. Payment for 1" & 2" diameter curb stops shall be made at the unit prices bid for size 1" & 2" in the proposal, Items 7I and 7M respectively. Payment shall include all required adaptors, couplings and other accessory items for connecting to existing water services.
  - 5. Payment for curb boxes with 36" rods shall be included in the unit prices bid for curb stops, as listed in the proposal, Items 7I and 7M respectively.

ITEM 7J: RAILING CROSSING, 36" DIAMETER PIPE STEEL SLEEVE, BY PIPE BORING AND JACKING

- A. The quantity of 36" diameter steel pipe sleeve to be paid for under these Items shall be lump sum for steel sleeve (casing pipe) installed and 12" HDPE DR9 Pipe, installed. Measurement for payment does not signify that the line is accepted. The 36" diameter steel sleeve and installation shall meet the GTI – Rail Division Engineering Department Section I – General Information, Section II – Railroad Policies standards, both sections dated January 1995, and Section III, Standard Railroad Specifications, prepared by Pam Am Railways/Springfield Terminal Railway Company Engineering Department dated January 2011.
- B. The payment of the steel sleeve shall be full compensation for all labor, equipment, tools and materials necessary to furnish and install the 36" diameter steel pipe sleeve and including the required pipe, pipe casing spacers and end seals as specified on the plan and profile. Casing spacer should be Model C12GN2 by GPT industries or approved equal. Casing end seals should be Model S – standard pull-on end seals by GPT Industries or approved equal. The 12" diameter HDPE DR9 water main shall be included under this item. The pipe cost to fill the pipe with sand should be included in the lump sum price.
- C. Payment shall constitute full compensation for furnishing all labor, materials, tools, and equipment necessary for construction of the 36" diameter steel pipe sleeve including the pipe, jacking, watertight connections, pipe seals, casing spacers damp proofing, jacking pits, excavation, temporary sheeting, backfill, dewatering, crushed stone, compaction as specified, disposal of surplus material, 12" road gravel subbase, air testing, installation of the 12" HDPE DR9 pipe within the steel pipe casing, 12" ductile iron couplings in jacking pits, steel plates for covering jacking pits and cold patching for plate ramping, traffic control and all other work necessary for constructing a complete 36" steel pipe casing with 12" HDPE DR9 pipe and spacers inside with seals, as specified and shown on the construction drawings. Final HMA paving shall be paid for under the HMA handwork item. Any infrared required shall be included under this item.
- D. This Item shall constitute full compensation for the implementation of a 24 hour a day traffic control system that is designed by a Massachusetts certified traffic engineer, complete. The traffic control system is to be put in place during the construction of the 36" diameter steel pipe sleeve. The Town is anticipating that the roadway will need to be, at a minimum, shut down in one direction of travel and detoured 24 hours a day during the construction of the 36" diameter steel pipe sleeve.
- E. Payment shall also constitute full compensation for furnishing all labor, materials, tools, and equipment necessary to start up and implement the approved traffic control system including all signs, barriers, warning light, and any detour controls as specified and as additionally deemed necessary by the Town for construction traffic control system.

END OF SECTION

SECTION 01050

ABBREVIATIONS

PART 1 GENERAL

1.01 ABBREVIATIONS

PART 1 GENERAL

1.01 ABBREVIATIONS

- A. Where any of the following abbreviations are used in the specification, they shall have the following meaning:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
ANSI	American National Standard Institute
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
OSHA	Occupational Safety and Health Administration
(USASI)	(formerly the United States of America Standard Institute)
USEPA	United States Environmental Protection Agency

END OF SECTION

## SECTION 01110

### EEO PROCESSING REQUIREMENTS

#### PART 1        GENERAL

##### 1.01    EEO WORK FORCE REPORTING PROCEDURES

#### PART 1        GENERAL

##### 1.01    EEO WORK FORCE REPORTING PROCEDURES

- A.    The Contractor shall provide the following information to the Owner on copies of the forms found at the end of this Section.
  - (1.) Quarterly Projected Work Force Reports: The Contractor shall prepare projected work force tables on a quarterly basis. These reports shall be broken down into projections by week of workers required in each trade.
    - (a.) Updated copies shall be furnished to the Owner's EEO Officer one week in advance of the commencement of work and for each quarter thereafter.
    - (b.) Quarters shall begin on January 1, April 1, July 1, and October 1.
    - (c.) No work shall begin until projected work force tables are received by the Owner's EEO Officer.
  - (2.) Weekly Manpower Reports: The Contractor shall prepare a report after each week of activity, reflecting the actual working hours of all personnel identified as minority or non-minority.
    - (a.) This report shall be received by the Owner no later than the Friday following the week reported.
    - (b.) Failure to provide information shall result in sanctions as provided in the General Conditions

## Town of Buckland

### QUARTERLY PROJECTED WORK FORCE

Name of Contractor \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax \_\_\_\_\_

Trades to be Utilized \_\_\_\_\_

Estimated Total Hours to Complete Work \_\_\_\_\_

Total Contract Dollar Value: \_\_\_\_\_ Name of Project \_\_\_\_\_

Quarter:      ☐ Jan 1 - Mar 31      ☐ Apr 1 - Jun 30      ☐ Jul 1 - Sep 30      ☐ Oct 1 -Dec 31, 200 \_\_\_\_\_

Week Ending	Projected Total Hours of all Personnel	Projected Total of All Minority Hours	Trades Used this Week

Note : A revised table must be submitted if any changes on projections occur.

Prepared by: \_\_\_\_\_

Title: \_\_\_\_\_

Date; \_\_\_\_\_

***Town of Buckland, Massachusetts***

**CONTRACTOR'S WEEKLY MANPOWER REPORT**

Town of Buckland \_\_\_\_\_ Project: \_\_\_\_\_ Contract Amount \$ \_\_\_\_\_

General Contractor: \_\_\_\_\_ Minority Goal \_\_\_\_\_

Name of Contractor Filing Report: \_\_\_\_\_ Trade(s): \_\_\_\_\_

Week Ending: \_\_\_\_\_ Report No.: \_\_\_\_\_ Check Here if you are a non-filed  
Subcontractor ☐ \_\_\_\_\_

☐ Check Here if this is a Final Report Date Work \_\_\_\_\_ Date Work \_\_\_\_\_  
Began: \_\_\_\_\_ Completed \_\_\_\_\_

Job Category	# Employees	Weekly Total Man hours	# Min	Weekly Total Minority Man hours	Weekly % Minority Man hours	Total Man hours to Date	Total Minority Man hours to Date	% of Minority Man hours to Date

Mail Reports to: Town Administrator  
17 State Street  
Buckland, MA 01370

Prepared by: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_ 20\_\_



## SECTION 01300

### SUBMITTALS

#### PART 1        GENERAL

- 1.01        INTENT
- 1.02        MATERIALS-SAMPLES-INSPECTION-REVIEW
- 1.03        SHOP AND WORKING DRAWINGS
- 1.04        RECORD OF AS-BUILT DRAWINGS
- 1.05        OPERATION AND MAINTENANCE INSTRUCTIONS

#### PART 1        GENERAL

##### 1.01        INTENT

- A.        The submittals consist of several classes applying to the execution of several or all of the individual Division 2 thru 16 Specifications.
- B.        Provisions of this section shall be binding on all applicable work performed under the other detailed specifications and payment for work performed under this section shall be apportioned against each of the payment items listed in the Bid, unless otherwise directed.

##### 1.02        MATERIALS - SAMPLES - INSPECTION - REVIEW

- A.        Unless otherwise indicated on the drawings or specified, only new materials and equipment shall be incorporated in the work. All materials and equipment furnished by the Contractor to be incorporated in the work shall be subject to the inspection and review by the Engineer. No material shall be processed for, fabricated for, or delivered to the work without prior review by the Engineer.
- B.        As soon as possible after the formal execution of the Contract Agreement, the Contractor shall submit to the Engineer, the names and addresses of the manufacturers and suppliers of all materials and equipment he proposes to incorporate into the work. Where such names have been directly specified in the Bid, or where substitutions have been made in compliance with the INSTRUCTION AND INFORMATION FOR BIDDERS, repetitive submission will not be necessary. When shop and working drawings are required as specified below, the names and addresses of the manufacturers and suppliers shall be submitted prior to the submittal of the drawings so that the Engineer may review the manufacturer and/or supplier as to his or their ability to furnish a product meeting the specifications, subject to final review of the particular material or equipment. As requested, the Contractor shall also submit data relating to the materials and equipment he proposes to incorporate into the work, in sufficient detail to enable the Engineer to identify the particular product in question and to form an opinion as to its conformity to the Contract requirements. Such data shall be submitted in a manner similar to that specified for shop and working drawings.
- C.        If the Engineer so requires, either prior to beginning or during the progress of the work, the Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the specifications. Such samples, including concrete test cylinders, shall be furnished, taken, stored, packed, and shipped as directed, at the expense of the Contractor. Except as otherwise specified, tests shall be arranged and paid for in accordance with the General Conditions.

- D. All samples shall be packed so as to reach their destination in good condition, and shall be labeled to indicate the material represented, the name of the building or work and location for which the materials is intended, and the name of the Contractor submitting the sample.
- E. To ensure consideration of samples, the Contractor shall notify the Engineer in writing that the samples have been shipped and shall properly describe the sample using standard submittal forms supplied by the Engineer. In no case, shall the letter of notification be enclosed with the samples.
- F. The Contractor shall submit data and samples, or place his orders, sufficiently early to permit consideration, inspection, testing, and approval before the materials and equipment are needed for incorporation in the work. Delay resulting from his failure to do so shall not be used as the basis of a claim against the Owner or the Engineer.
- G. In order to demonstrate the proficiency of workers, or to facilitate the choice among several textures, types, finishes, surfaces, etc., the Contractor shall, at his own expense, provide such samples of workmanship on wall, floor, finish, etc., as may be required.
- H. When required, the contractor shall furnish to the Engineer triplicate sworn copies of manufacture's shop or mill tests (or reports from independent testing laboratories) relative to materials, equipment performance ratings, and concrete data.
- I. After acceptance of the samples, data, etc., the materials and equipment used on the work shall correspond therewith.

#### 1.03 SHOP AND WORKING DRAWINGS

- A. The Contractor shall submit for review shop and working drawings six (6) copies unless otherwise specified) of all materials fabricated especially for this Contract, and of all other equipment and materials except for which such drawings are specifically exempted. Three copies will be returned to the Contractor. Additional copies of shop drawings required by the contractor shall be included in the original submission.  
  
All shop drawings submittals shall be accompanied by a properly completed "Standard Shop Drawing Submittal Form" which will be furnished to the Contractor by the Engineer.
- B. Such drawings shall show the principal dimensions, weight, structural and operating features, performance characteristics and wiring diagrams, space required, clearances, type and/or brand of finish or shop coat, grease fittings, etc., depending on the subject of the drawing. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for this Contract.
- C. When so specified or if considered by the Engineer to be acceptable, manufacture's specifications, catalog data, descriptive matter, illustrations, etc., may be submitted for review in place of shop and working drawings. In such case the requirements shall be specified for shop and working drawings, insofar as applicable.
- D. The Contractor shall be responsible for the prompt submission of all shop and working drawings so that there shall be no delay to the work due to the absence of such drawings.
- E. No material shall be purchased for fabricated especially for this Contract until the required shop and working drawings have been submitted and reviewed as conforming to

the Contract requirements. All materials and work involved in the construction shall then be as represented by said drawings.

- F. Only drawings which have been checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the drawings and specifications in all respects; that the electrical characteristics are correct; and that the dimensions of work submitted fit the available space. Any deviations from the Contract requirements shall be clearly noted on the shop drawings. The Contractor shall stamp each submittal with his firm's name, date, and approval, thereby representing that the above has been complied with. Shop drawings not so checked and stamped will be returned without being examined by the Engineer.
- G. All shop drawings shall be properly identified and indicate the article number of the specifications or the drawing number which applies to the submitted item.
- H. The Engineer's review of shop and working drawings will follow a general check made to ascertain conformance with the design concept and functional result of the project and compliance with the information given in the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction; and for coordination of the work of all trades.
- I. The classification of Engineer's review shall be as follows:

<u>Review Code</u>	<u>Action Code</u>
No Exception Taken	-
Note Markings	Confirm
Rejected	Resubmit

#### 1.04 RECORD OR AS-BUILT DRAWINGS

- A. During the progress of the work, each major subcontractor shall keep on file one complete set of red line prints furnished by the Engineer on which shall be accurately and promptly noted, as the work progresses, changes, revisions and additions to the work. Wherever the work is installed otherwise than as shown on the contract Drawings said changes shall be noted. Corrections shall be made in red ink. The above prints upon completion of the work shall be submitted to the Engineer.
- B. Before the Contractor is entitled to receive his final payment under this Contract, he shall submit to the Engineer for transmittal to the Owner the above complete set of annotated plans of his work performed by him indicating in particular the location of covered work, pipes, wires, ducts, etc. All trades must cooperate with the Contractor in preparation of this set of plans to facilitate its accuracy and completeness.

#### 1.05 OPERATION AND MAINTENANCE INSTRUCTIONS

- A. The Contractor shall thoroughly instruct the Owner's representative in the proper operation of all mechanical and electrical systems. Skilled personnel shall be retained as long as necessary for this purpose.
- B. The Contractor shall submit to the Engineer three (3) typed sets, bound neatly in loose leaf binders, of all instructions for the installation, operation, care and maintenance of all equipment, fixtures and systems. Information shall indicate possible problems with

equipment and suggested corrective action. The instructions shall include other information deemed necessary by the Engineers.

- C. The Contractor shall furnish three (3) typed sets of instructions for lubricating each piece of equipment. Instructions shall state type of lubricant, where and how frequently lubrication is required.
- D. The Contractor shall submit to the Engineer three (3) typed sets of instructions for the ordering and stocking of spare parts for all equipment. The lists shall include catalog numbers of parts and suggested supplier. Each set shall also include an itemized list of component parts that should be kept on hand with information where such parts can be purchased.
- E. Such instructions and parts lists shall be annotated to indicate only the specific equipment furnished. References to other sizes and types or models or similar equipment shall be deleted or neatly lined out.
- F. Such operating instructions and parts lists shall be delivered to the Engineer at the same time that the equipment to which they pertain is delivered to the site.

END OF SECTION

## SECTION 01381

### AUDIO-VIDEO TAPING

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

#### PART 2 MATERIALS

##### 2.01 AUDIO-VIDEO TAPES

#### PART 3 EXECUTION OF WORK

##### 3.01 COLOR AUDIO-VIDEO TAPING

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

- A. Work under this section consists of furnishing all labor, materials, and equipment necessary to furnish color audio video taping of the existing pre-construction conditions of the project area as specified herein.
- B. Furnish to the Engineer an original and one copy of a continuous color audio video tape recording. The recording shall be taken prior to any construction activity.
- C. The Engineer reserves the right to reject the audio-video taping because of poor quality, unintelligible audio or uncontrolled pan or zoom. Any taping rejected by the Engineer shall be re-taped at no additional cost. Under no circumstances shall construction begin until the Engineer has received and accepted the audio-video tape(s).
- D. The taping shall be performed by a qualified, established audio-video taping firm knowledgeable in construction practices and experienced in the implementation of established inspection procedures.

#### PART 2 MATERIALS

##### 2.01 AUDIO-VIDEO TAPES

- A. All videocassettes shall be professional grade tapes, one-half inch, standard VHS format.
- B. Each tape shall begin with the Owner's name, Contract name and number, Contractor's name, date and location information such as street name, direction of travel, viewing side, etc.
- C. Information appearing on the tape must be continuous and run simultaneously by computer generated transparent digital information. No editing or overlaying of information at a later date will be acceptable.
- D. Digital information will be as follows:
  - 1. Upper left corner: Name of Contractor, Day, Date, Time and name of Project
  - 2. Lower left corner: Route of travel, viewing side, direction of travel and stationing
- E. Time must be accurate to within 1/10 of a second and continuously generated.
- F. Written documentation must coincide with the information on the tape so as to make easy retrieval of locations sought for a later date.

- G. The video system shall have the capability to transfer individual frames of video electronically into hard copy prints or photographic negatives.
- H. Audio shall be recorded at the same time as the video recording and shall have the same information as on the viewing screen. Special commentary will be given for unusual conditions of buildings, sidewalks and curbing, foundations, trees and shrubbery, etc.
- I. All tapes and boxes shall bare labels with the following information: Tape number, Owner's name, Date of taping, Project name and number and Location and standing limit of tape.

PART 3 EXECUTION OF WORK

3.01 COLOR AUDIO-VIDEO TAPING

- A. The recordings shall be of sufficient detail to accurately and clearly show the existing, pre-construction conditions of the entire project are. Each tape shall be accompanied by an audio description of the are being video taped with special attention given to areas, which could be involved in disputes after completion of construction.
- B. Coverage shall include, but not be limited to, all existing roadways, sidewalks, curbs, driveways, buildings and structures, stonewalls, above ground utilities, landscaping, trees, signage and other physical features located within the zone of influence of the construction. The coverage may be expanded if directed by the Engineer. All taping will be done during daylight hours. No taping shall be performed if weather is not acceptable, such as rain or fog, etc.
- C. Particular attention during taping shall be paid to the private property adjoining the project such as beyond the back of sidewalk. **The tape may later be reviewed to settle property damage disputes between property owners and the Town or Contractor.**

END OF SECTION

SECTION 01500  
TEMPORARY PROVISIONS AND PROTECTION  
OF UTILITIES AND PROPERTIES

<u>PART 1</u>	<u>GENERAL</u>
1.01	SCOPE OF WORK
1.02	RELATED WORK SPECIFIED ELSEWHERE

<u>PART 2</u>	<u>EXECUTION OF WORK</u>
2.01	COORDINATION WITH OTHERS
2.02	PUBLIC SAFETY AND CONVENIENCE

<u>PART 1</u>	<u>GENERAL</u>
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1.01	SCOPE OF WORK
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- A. The Contractor's attention is directed to the location of underground utilities in the proposed area of work.
- B. The Contract Drawings indicate the approximate location in plan and profile of existing overhead and subsurface utilities in the vicinity of the work.
- C. Whatever measures are necessary to protect these lines during the work shall be included in the Contract Unit Price for the various items involved.
- D. In case of damage to utilities, the Contractor shall promptly notify the Owner and shall, if requested, furnish manpower under the Owner's direction in getting access to the utility. Pipes or other structures damaged by the operation of the Contractor may be repaired by the Owner, either the municipality or the utility company. The cost of such repairs shall be borne by the Contractor without compensation.
- E. The locations of existing underground utilities are shown in an approximate way only. The Contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities.
- F. The work to be done under this Contract may necessitate changes in the properties of utility companies or the municipality hereinbefore listed. Immediately after executing the Contract, the Contractor shall confer with the owners of all utilities in order that relocations of mains or services may be made at times consistent with operations of this Contract.
- G. The rims of all utility manholes and boxes shall be set to conform to the required grades and the Contractor shall see that all such setting or resetting is substantially and accurately done in conformity with new grades, whether such setting or resetting is done by him or by companies owner or controlling same, and shall notify the Engineer of any negligence on the part of the owners of the utilities to perform their work promptly.

1.02	RELATED WORK SPECIFIED ELSEWHERE
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SECTION 01300 - SUBMITTALS  
SECTION 01570 - TRAFFIC CONTROL AND POLICING  
DIVISION 2 - SITE WORK - As Appropriate

## PART 2      EXECUTION OF WORK

### 2.01      COORDINATION WITH OTHERS

- A.      Before starting any work under this Contract, the Contractor shall submit a Schedule of Operations. The work schedule shall include a plan of his construction procedures and the safety measures he will use during the prosecution of the work.
- B.      The Contractor shall coordinate his work with the work to be done by the Public Utilities or other agencies, and he shall so schedule his operations as to cause the least interruption to the normal flow of traffic in existing roads.
- C.      The Contractor shall provide, place and erect all necessary barricades and warning signs and maintain adequate lights and illumination. He shall be held responsible for all damage to the work due to any failure of signs and barricades needed to protect the work from traffic, pedestrians or other causes.
- D.      The Contractor shall assume full charge of space for the storage of materials of all subcontractors and trucks, confining all apparatus, storage of materials and construction operations to the limits indicated by ordinance or permits. He shall allot space for the storage of materials of subcontractors, facilitate the progress of the work, prevent friction, and maintain order and tidiness throughout the project site. Storage areas within the project are limited. The Contractor may be required to obtain storage areas outside the project limits at his own expense. The Contractor shall enforce any instruction of the Owner or the Engineer regarding signs, advertising, fires, danger signals, barricades, smoking, etc.
- E.      Existing property markers shall be tied by the Contractor with respect to the construction and/or base line with such ties being given to the Resident Engineer. Such work shall be considered as part of the Contractor's incidental work for which no payment will be received.
- F.      No extra payment shall be made for scheduling the work or for maintenance of traffic; the cost of which shall be included in the various bid items of the Bid.
- G.      The casting of all structures, which are required to be set or reset under the pertinent items of this contract or by others shall not be set complete in place to the established grade until after the bituminous concrete base course has been completed in place as directed.
- H.      The Contractor shall not proceed with surfacing operations without the specific written approval of the Engineer.
- I.      Wherever it is necessary to meet existing surface, the Contractor shall construct a foundation, base and surface to form a continuous smooth roadway.
- J.      The Contractor shall provide for the removal of all dirt spilled from his trucks on existing pavement over which it is hauled, or otherwise deposited thereon whenever, in the judgment of the Engineer, the accumulation is sufficient to cause the formation of mud or dust, or interfere with drainage or create a traffic hazard.
- K.      Private property that is disturbed, outside of the construction limits, shall be repaired by the Contractor at his own expense. No area shall be used for storage without the

permission of the Engineer, and the Contractor may be required to obtain storage areas outside the project limits at his own expense.

- L. Particular care shall be taken to establish and maintain methods and procedures which will not create unnecessary or unusual hazards to public safety. The convenience of the general public along and adjacent to the highway shall be provided for in an adequate and satisfactory manner. Adequate access shall be maintained to all buildings in use. Signs are to be kept clean at all times, and legends shall be distinct and unmarred.
- M. The Contractor shall place and erect the necessary detour signs as indicated on the Contract Drawings and under the related sections as specified, and shall maintain said signs for the duration of the project.
- N. The Telephone Company and the Electric Company shall install and/or relocate poles and services as required. The Gas Company shall relocate its service as required. The Contractor shall schedule his operation so as to permit regulated public service corporations to remove and temporarily or permanently relocate their property which conflicts with respect to line and grade of any structure to be constructed under this Contract. All other structures which are owned by public service corporations and are within the limits of work shall be protected by the Contractor. Any public service corporation's property which require temporary supports shall be supported by the respective utilities during the period of construction.
- O. Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of publicly or privately owned utilities or his intention to commence operations affecting such utilities at least one (1) week in advance of the commencement of such operations that may affect their utilities and the Contractor shall at the same time file a copy of such notice with the Engineer.
- P. The Contractor's attention is called to the completion date opening the road for traffic, which have been established with the intent to complete the project and make it available to the traveling public at the earliest possible date.
- Q. For the purpose of observing work that affects their respective properties, inspectors for the municipality, public agencies and the utility companies shall be permitted access to the work, but all official orders and directives to the Contractor shall be issued by the Engineer.

## 2.02 PUBLIC SAFETY AND CONVENIENCE

- A. Trenches shall not be excavated in traveled ways until all materials and equipment required for such work are at the site and available for immediate use. When work is not in progress, trenches in areas subject to public travel shall be covered with steel plates capable of safely sustaining a 20 ton truck load with impact. The work in each trench shall be practically continuous, with the placing of pipe, backfilling and patching of the surface closely following each preceding operation. Payment for steel plates will be included under the unit bid price per linear foot for each respective pipe item regardless of width of trench.

- B. The Contractor's attention is directed to the AASHTO Guide on Occupational Safety of Highway Construction Projects, subpart N, 1926.550, relating to construction equipment clearances at overhead electric lines, which states in part "...the minimum clearance between the lines and any part of the crane or load must be at least 10 feet from lines rated 50 KV or below, and greater distances for higher voltage...". For the protection of personnel and equipment, the Contractor should be aware of this regulation especially during paving operations using large semi-trailer vehicles.

END OF SECTION

SECTION 01562

DUST CONTROL

PART 1        GENERAL

- 1.01        DUST CONTROL OPERATIONS
- 1.02        REQUIREMENTS

PART 1        GENERAL

1.01        DUST CONTROL OPERATIONS

- A.        The Contractor shall perform dust control operations, in an approved manner, whenever necessary or when directed by the Engineer, even though all other work on the project shall be suspended. Dust controlling shall be generally accomplished by the use of water; however, the use of flake calcium chloride may be ordered when necessary to control dust nuisance.

1.02        REQUIREMENTS

- A.        The Contractor shall practice dust control to meet all air pollution standards as set forth by federal and state regulatory agencies.

END OF SECTION

SECTION 01567

POLLUTION CONTROL & ENVIRONMENTAL PROTECTION

PART 1        GENERAL

- 1.01        SCOPE OF WORK
- 1.02        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS

- 2.01        POLLUTION AND EROSION CONTROL MATERIALS

PART 3        EXECUTION

- 3.01        PRECONSTRUCTION CONFERENCE
- 3.02        PROCEDURAL DETAILS
- 3.03        DUST CONTROL
- 3.04        ACCEPTANCE

PART 1        GENERAL

- 1.01        SCOPE OF WORK

- A.        This work shall consist of temporary and permanent control and restoration measures as hereinafter stated or ordered by the Engineer during the life of the Contract to control water pollution and erosion (through use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains and other erosion and pollution control devices or methods) and to limit disturbance and/or alteration of the natural environmental setting.
- B.        The temporary pollution control and environmental protection and restoration provisions contained herein shall be coordinated with detailed construction specifications elsewhere in the Contract to the extent practical to assure economical, effective and continuous pollution and erosion control, and environmental protection and restoration throughout the construction and post construction period.
- C.        Payment for this work shall be apportioned against each of the payment items listed in the Bid, unless otherwise specified.

- 1.02        RELATED WORK SPECIFIED ELSEWHERE

- A.        This is a general section and relates to any and all other sections wherein the work might result in pollution or environmental damage.
- B.        SECTION 01710 - CLEANING UP

PART 2        MATERIALS

- 2.01        POLLUTION AND EROSION CONTROL MATERIALS

- A.        Mulches may be hay, straw, fiber mats, netting, wood cellulose, corn or tobacco stalks, bark, corncobs, wood chips, or other suitable material acceptable to the Engineer and shall be reasonably clean and free of noxious weeds and deleterious materials.
- B.        Slope drains may be constructed of pipe, fiber mats, riprap, plastic sheets, or other material acceptable to the Engineer that will adequately control pollution.
- C.        Grass shall be quick growing species (such as rye grass, Italian rye grass, or cereal grasses) suitable to the area providing a temporary cover which will not later compete with grasses sown later for permanent cover.

- D. Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Engineer.
- E. Flake calcium chloride shall be used for dust control.

### PART 3 EXECUTION

#### 3.01 PRECONSTRUCTION CONFERENCE

- A. At the preconstruction conference or prior to the start of the applicable construction, the Contractor shall submit to the Engineer for acceptance his schedules for accomplishment of temporary and permanent pollution and erosion control and environmental protection and restoration work, as are applicable for clearing and grubbing and general construction. The Contractor shall also submit for approval his proposed method of disposal of unsuitable material and restoration of disturbed land to its original (prior to construction) condition, either at the time of the pre-construction conference or prior to the starting of any work. No work shall be started until schedules and methods of operations have been approved by the Engineer.

#### 3.02 PROCEDURAL DETAILS

- A. The Engineer shall have the authority to limit the area of erodible earth exposed by construction and to direct the Contractor to provide immediate permanent or temporary pollution control and environmental protection measures to prevent contamination of adjacent streams or other watercourses, ponds, or other areas of water impoundment. Such work may involve the construction of temporary mulches, mats, seeding or other control devices or methods as required by the conduct of the work.
- B. The Contractor shall be required to incorporate all permanent pollution control and environmental protection features into the project at the earliest practical time as outlined in his approved schedule. Temporary pollution control and environmental protection measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent pollution control or environmental protection features; or that are needed temporarily.
- C. The Contractor shall undertake and comply with the following measures with respect to adverse environmental impacts, resulting from the operations listed below.
  - 1. Clearing Grubbing - Disturbed areas shall be re-grassed at the direction of the Engineer.
  - 2. Tree cutting in undeveloped cross-country or building site areas as designated by the Engineer - Trees within the temporary right-of-way, shall be cut only with the written approval of the property owner. Trees approved for cutting shall be marked with a 2-inch wide paint ring. The Contractor shall furnish the Engineer with sufficient spray paint and shall be present during all tree marking, and shall notify the appropriate property owner, the Owner, and the Engineer, concerning his availability for tree-marking at least ten (10) calendar days prior to the start of the applicable construction. Trees not approved for cutting shall be adequately protected against damage by methods approved by the Engineer. Cut or damaged trees not approved for cutting or outside of the total working right-of-way shall be replaced with trees of similar nature and maturity at the Contractor's expense. When directed, stumps of approved cut trees shall be removed and replaced with seedlings of a similar nature, 6-12 feet in height.
  - 3. Access road construction - Riprap or sodding shall be used to prevent erosion.

4. Material Storage - Materials shall be stored only at approved locations. Petroleum products shall be stored away from wetland areas.
5. Excavation - The Contractor shall use care to contain wet fill where it is dumped. When material is stockpiled next to a trench, the side away from neighboring brooks, swamps, canals, etc., shall be utilized where space conform to the natural angle of repose of the soil. The Contractor shall promptly remove all sediment from brooks and swamp areas, if deposition cannot be avoided during construction. The Contractor shall promptly remove excess fill and regress the work area. Excess fill shall not be disposed of in wetlands, other than in areas defined on the drawings, or areas approved by commissions or authorities having jurisdiction.
6. Water handling - The Contractor shall be required to use crushed stone or plastic sluiceways leading to brooks to filter and pool pumped discharges.
7. Backfilling - The Contractor shall replace unsuitable material with suitable material. He shall also be responsible for surface repairs as required.
8. General - Trash receptacles shall be required on the job site. The Contractor shall perform preliminary clean-up operations as he completes segments of his work.
9. Spillings - Ground Spillings of oil or other petroleum products drained from equipment shall be strictly prohibited. The Contractor shall provide leak proof containers for receiving drained oil and shall properly dispose of such oil away from the site of the job.

### 3.03 DUST CONTROL OPERATIONS

- A. The Contractor shall perform dust control operations, in an approved manner, whenever necessary or when directed by the Engineer, even though all other work on the project shall be suspended. Dust lying shall be generally accomplished by the use of water and the use of flake calcium chloride when necessary to control dust nuisance. If water use restrictions are in place at the time of construction, only flake calcium chloride will be allowed.
- B. The Contractor shall practice dust control to meet all air pollution standards as set forth by federal and state regulatory agencies.

### 3.04 ACCEPTANCE

- A. Final inspection and acceptance in regard to cleanup, site restoration and pollution control measure areas shall be made in the presence of the Owner and/or commissions or authorities having jurisdiction. The Contractor shall notify the Owner in writing of readiness of the work for final inspection.

END OF SECTION

## SECTION 01570

### TRAFFIC CONTROL AND POLICING

#### PART 1        GENERAL 1.01        SCOPE OF WORK

#### PART 2        MATERIALS 2.01        GENERAL

#### PART 3        EXECUTION OF WORK 3.01        SCHEDULE OF OPERATIONS 3.02        LOCATION OF SIGNS

#### PART 1        GENERAL

##### 1.01        SCOPE OF WORK

- A.        The Contractor shall install construction traffic and pedestrian controls as specified herein and any additional construction and/or detour controls deemed necessary by the Engineer or the Contractor himself, or required by the Manual on Uniform Traffic Control Devices.
- B.        Detour routes for each phase of the project shall be posted as herein specified to assist the motorist and pedestrians to return to his route of travel. Where the roadway under construction is the only means of vehicular or pedestrian access to a particular area, the Contractor must provide continual access to that area for residents and emergency vehicles.
- C.        Work under these items shall conform to the relevant provisions of the Massachusetts "Standard Specifications for Highways and Bridges", latest edition, as amended and specified herein.

#### PART 2        MATERIALS

##### 2.01        GENERAL

- A.        All signs, barricades, and drums shall have encapsulated lens and reflective sheeting in accordance with the Massachusetts "Standard Specifications for Highways and Bridges".

#### PART 3        EXECUTION OF WORK

##### 3.01        SCHEDULE OF OPERATIONS

- A.        At a reasonable time in advance of the construction work, the Contractor shall submit to the Engineer for approval a traffic management plan showing all construction and/or detour control devices to be erected. All of the devices shall be moved after each phase of the project and after the project is completed.

3.02 LOCATION OF SIGNS

- A. The detour signs and other control devices shall be located as specified herein.
- B. The construction and/or detour signs as herein specified shall be removed and relocated after each phase of the project.
- C. The Contractor shall notify the responsible heads of the Fire, Police, and Public Works Departments, before beginning each phase of the project.
- D. All signs, barricades, makings and lighting devices shall conform to the Manual on Uniform Traffic Control Devices - latest edition.
- E. The contractor shall submit a Traffic Control Management plan detailing types of signs, detours, and locations of signs for review by the Town.

END OF SECTION

## SECTION 01710

### CLEANING UP

PART 1            GENERAL  
1.01               SCOPE OF WORK

PART 1            GENERAL

1.01               SCOPE OF WORK

- A.                During its progress the work and the adjacent areas affected thereby shall be kept clean and all rubbish, surplus materials, and unneeded construction equipment shall be removed and all damage repaired so that public property owners will be inconvenienced as little as possible.
- B.                Where material or debris has washed or flowed into or been placed in watercourses, drains, catch basins, or elsewhere as a result of the Contractor's operations, such materials or debris shall be entirely removed and satisfactorily disposed of during progress of the work, and the ditches, channels, drains, etc., kept in a neat, clean and functioning condition.
- C.                On or before the completion of the work, the Contractor shall, unless otherwise especially directed or permitted in writing, tear down and remove all temporary buildings and structures built by him; shall remove all temporary works, tools, and machinery or other construction equipment furnished by him; shall remove, acceptably disinfect, and cover all organic matter and material containing organic matter in, under, and around privies, houses, and other buildings used by him, shall remove all rubbish from any grounds which he has occupied; and shall leave the roads and all parts of the premises and adjacent property affected by his operations in a neat and satisfactory condition.
- D.                The Contractor shall restore or replace, when and as directed, any public or private property damaged by his work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of operations. To this end the Contractor shall do as required all necessary highway or driveway, walk, and landscaping work. Suitable materials, equipment, and methods shall be used for such restoration, or as required in other divisions of this specification.
- E.                The Contractor shall thoroughly clean all materials and equipment installed by him and his subcontractors and on completion of the work shall deliver it undamaged and in a fresh and new appearing conditions. All mechanical equipment shall be left fully charged with lubricant and ready for operation.
- F.                Payment for cleanup and restoration shall be apportioned against each of the payment items listed in the BID, unless otherwise specified.

END OF SECTION

SECTION 02016

PRE/POST CONSTRUCTION SURVEY

PART 1        GENERAL

- 1.01        SCOPE OF WORK
- 1.02        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS - NOT APPLICABLE

PART 3        EXECUTION OF WORK

- 3.01        INVESTIGATIONS CONDUCTED FOR INSURING AGENCIES
- 3.02        EXAMINATION OF EXISTING STRUCTURES
- 3.03        SURVEY OF EXISTING UTILITIES
- 3.04        POST CONSTRUCTION SURVEY

PART 1        GENERAL

- 1.01        SCOPE OF WORK

- A.        Work under this section consists of furnishing all labor, materials, equipment and supervision necessary to perform a pre/post construction survey of a designated "blasting area" or area where proposed excavations would influence the condition or alignment of existing structures or appurtenances. Such a study would involve a detailed, descriptive investigation with photographic support of, as minimum, all buildings within 300 feet of anticipated rock blasting or as specified herein.

- 1.02        RELATED WORK SPECIFIED ELSEWHERE

- A.        DIVISION 2 - As Appropriate

PART 2        MATERIALS - NOT APPLICABLE

PART 3        EXECUTION OF WORK

- 3.01        INVESTIGATION CONDUCTED FOR INSURING AGENCIES

- A.        Adequate liability coverage shall be secured by the Contractor for himself, the Owner and the Engineer. Such coverage as applied to this section shall cover all damages resulting from seismic disturbances created by execution of the proposed project. In the event of damage to private property resulting from excavation or blasting operations, the Owner and the Engineer shall be held harmless.
- B.        Pre/post construction surveys shall be performed under the supervision of a professional engineer registered in Massachusetts and shall be documented with photographs. The pre-construction study shall be conducted no more than four weeks prior to commencement of work in the designated area in order to be considered a valid representation of existing conditions.

3.02 EXAMINATION OF EXISTING STRUCTURES

- A. Investigations of area structures shall be conducted with photographic support so as to exactly define the condition of their foundation and supporting columns. This established base shall be later used for comparison with post construction conditions. Deficient and failing structures shall be defined in detail.
- B. Examination of bridges and other roadway structures shall also be conducted with regards to structural integrity, alignment, elevation and with regards to related structures.

3.03 SURVEY OF EXISTING UTILITIES

- A. Examinations shall also be conducted with respect to area utilities. Alignments of utility poles and pipe lines shall be established wherever possible by photographic means. Elevations and conditions of drainage structures to be left-in-place shall also be examined if such information has not already been obtained by the Engineer.

3.04 POST CONSTRUCTION SURVEY

- A. Upon completion of construction operations in a given area, the Contractor shall conduct a final inspection and survey so as to ascertain any damage or non-damage resulting from his operations. The survey shall be fully supported by photographic evidence, and any resulting damage shall be immediately reported to the Owner, the Engineer and the insurance agent for the Contractor.

END OF SECTION

## SECTION 02200

### EARTHWORK

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE
- 1.03 SITE INFORMATION
- 1.04 PROTECTION OF EXISTING CONDITIONS

#### PART 2 MATERIALS - NOT APPLICABLE

#### PART 3 EXECUTION OF WORK

- 3.01 DESCRIPTION
- 3.02 OPEN EXCAVATION
- 3.03 SEPARATION OF SURFACE MATERIALS
- 3.04 EXCAVATED MATERIAL
- 3.05 DRAINAGE
- 3.06 STRUCTURE EXCAVATION
- 3.07 SLABS ON GRADE
- 3.08 TRENCH EXCAVATION
- 3.09 TRENCH EXCAVATION IN FILL
- 3.10 TRENCH LIMITS
- 3.11 EARTH EXCAVATION BELOW NORMAL GRADE
- 3.12 EXCAVATION NEAR EXISTING STRUCTURES
- 3.13 RELOCATION AND REPLACEMENT OF EXISTING STRUCTURES
- 3.14 CARE AND RESTORATION OF PROPERTY
- 3.15 DUST CONTROL
- 3.16 BACKFILLING - GENERAL
- 3.17 BACKFILLING AROUND STRUCTURES
- 3.18 BACKFILLING IN OPEN TRENCH
- 3.19 MATERIAL FOR FILLING AND EMBANKMENTS
- 3.20 GRADING

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

- A. The Contractor shall make all excavation of normal depth in earth for sites, structures, roads, and trenches in whatever substance encountered, and shall place and compact backfill to the dimensions and levels shown on the plans or as required by the Engineer. The Contractor shall provide all labor, material, equipment, supervision and incidentals to execute the work in strict accordance with these specifications and applicable drawings. Work under this section includes, but is not necessarily limited to, stripping and stockpiling of suitable topsoil, excavation of all materials encountered, trenching, sheeting, shoring, dewatering, blasting, maintenance of excavation, backfill, fill, providing borrow, compaction, and grading. The Contractor shall do layout.
- B. The Contractor is advised that lines and grades, as shown on plans and profiles, are subject to change. Although it is the intention to adhere to that which is shown on the plans, the Engineer reserves the right to make changes in lines and grades of utilities and locations of manholes when such changes may be necessary or advantageous.
- C. The Contractor's particular attention is directed to the related sections of the specifications. Specific information is provided for stockpiling material on-site or off-site

and disposal of unsuitable material. Special requirements applicable to excavation to remove soft material, site preparation settlement, and timing of construction are identified.

- D. In open trenching on State, County, or local highways and railroad properties, the Contractor shall be governed by the conditions, restrictions and regulations made by the appropriate body. All such regulations shall be in addition to those set forth in these specifications.
- E. Any excavation, dewatering, sheeting, and bracing shall be carried out in such a manner as to eliminate any possibility of undermining or disturbing the foundations of any existing structures or any work previously completed under this Contract, or as specified herein.
- F. The Contractor shall fill or backfill all excavations as indicated on the Contract Drawings and as specified herein, but is advised that some of the excavated material may not be suitable as backfill material.

#### 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. SECTION 02224 - FILL AND BACKFILL MATERIALS
- B. SECTION 02250 - COMPACTION CONTROL AND TESTING
- C. SECTION 02575 - PAVING REPAIR AND REPLACEMENT

#### 1.03 SITE INFORMATION

- A. Existing grades and other site information shown on the applicable Contract Drawings are approximate and have been compiled by field surveys. The Owner does not guarantee that grades shown will not vary from the actual site conditions. The Contractor must make his own field investigations to determine all conditions affecting the work to be done and materials needed and make his bid in sole reliance thereon.

#### 1.04 PROTECTION OF EXISTING CONDITIONS

- A. General: Extreme care shall be exercised to avoid existing trees, shrubs, facilities, utilities, fences, and private property that are to remain and all necessary precautions taken to preclude damage to these items. Any damage to these items as a result of work performed by the Contractor shall be repaired by the Contractor at his own expense.
- B. Utility agencies shall be contacted and advised of proposed work prior to the start of actual excavation. The Contractor shall obtain information from the proper sources and authorities concerning locations of all utilities within the scope of this work, in order that there will be no damage done to such utilities.
- C. If and when encountered, utilities shall be supported and protected, and the Engineer shall be notified. Entrance, opportunity, and ample time shall be allowed for such measures as may be required for the continuance of utility services. Utilities to be abandoned within excavation areas shall be removed, plugged, or capped by the Contractor as directed by the Engineer. Permanent existing utilities near the excavation and/or construction work shall be properly protected during construction work, and any damage to such permanent utilities shall be repaired by the Contractor without expense to the Owner or Engineer.
- D. All utility services shall be supported by suitable means so that the services shall not fail when tamping and settling occurs. No separate item is provided for service supports and the Contractor must cover supports in the unit prices bid for the roadway construction.

- E. The Contractor shall not be compensated for any additional work involved whenever a utility or underground structure is so encountered within the work limits.
- F. The Contractor shall not be compensated for any additional work involved if the utilities or underground structures cross the trench line transversely above or below the proposed work.
- G. Rules and regulations governing the respective utilities shall be observed. Active utilities shall be adequately protected from damage, and shall not be removed or relocated except as indicated or directed.
- H. All existing pipes, poles, wires, fences, curbing, and other structures which, in the opinion of the Engineer, must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from injury by the Contractor, and in case of injury, the Contractor shall notify the appropriate party so that proper steps may be taken to repair any and all damage done. The Contractor shall at his own expense replace, repair, or restore the affected facilities to their original condition or shall reimburse the owner of said facilities for such expenses as the owner may accrue. When the owners do not wish to make the repairs themselves, all damage shall be repaired by the Contractor, or, if not promptly done by him, the Engineer may have the repairs made at the expense of the Contractor.
- I. Survey markers: Any existing property boundary markers, Town bounds, control points, and datum elevations markers or bench marks to be removed and replaced as shown on the Contract Drawings or directed by the Engineer shall be removed and replaced by the Contractor with all expenses for such replacement paid for by the Contractor.
- J. The Contractor shall provide and maintain barricades, signs, lights, etc., required for the protection of personnel, materials and property. Barricades, etc., shall conform with all codes and regulations, and shall be lighted at night with lanterns, and reflectorized paint as directed or required for safety, and shall be removed upon completion of the Contract.

## PART 2 MATERIALS - NOT APPLICABLE

## PART 3 EXECUTION OF WORK

### 3.01 DESCRIPTION

- A. The Contractor shall make excavations in such manner and to such width as will give suitable room for building the structures or for constructing the roadways but complying with the limits shown on the Contract Drawings. The Contractor shall furnish and place all sheeting, bracing, and supports; shall do all pumping and draining and any other work necessary for dewatering and shall render the bottom of the excavation firm and dry and in all respects acceptable.
- B. In no case, except as provided for in Part 3.10 titled "Trench Limits", shall the earth be plowed, scraped, or dug by machinery so near to the finished grade as to result in disturbance of material below said grade. The last of the material to be excavated shall be removed with pick and shovel just before placing pipe, masonry, or other structures.
- C. All excavations shall be braced with steel sheeting or steel excavation boxes as specified in the related specifications or as shown on the Contract Drawings.

3.02 OPEN EXCAVATION

- A. All excavation, except as otherwise specified or permitted, shall be open cut. The length of trench open at any one time will be controlled by the Engineer. The Contractor shall not have more than three hundred (300) feet of trench open at any one time during daylight hours.

3.03 SEPARATION OF SURFACE MATERIALS

- A. From areas within which excavations are to be made, loam, topsoil, sand, and gravel shall be carefully removed and separately stored to be used again as directed; or, if the Contractor prefers not to separate materials, he shall furnish as directed and without additional compensation, clean backfill and loam and topsoil at least equal in quantity and quality to that excavated.
- B. When excavations are to be made in paved surfaces, the Contractor shall machine cut the pavement along the proposed trench lines, with either a pneumatic hammer or mechanical saw in such a manner that the edges of the remaining pavement follow clean, trim, straight lines. If pavement is removed, it shall not be mixed with other excavated material, but shall be disposed of away from the site before the remainder of the excavation is made.

3.04 EXCAVATED MATERIAL

- A. Excavated material shall be so placed as not to interfere with travel on the streets and driveways by the occupants of adjoining property, cause undesirable settlement, or obstruct free access to hydrants and gate valves. Access for emergency vehicles shall be maintained at all times. Excavated material shall not be deposited on private property until written consent of owner or owners thereof has been filed with Engineer. Onsite excavated material stockpiles shall be stored as directed by the Engineer. However, if it is impractical or unsafe to stack suitable, excavated, backfill material adjacent to the work, the material shall be hauled and stored at a location provided by the Contractor at no additional expense to the Owner. Excavated material shall not be deposited in brooks or streams. Excavation shall include the removal of unearthened wooden structures.
- B. It is expressly understood that no excavated materials shall be removed from the site of work or disposed of by the Contractor except as directed or approved by the Engineer. All material designated by the Engineer to be removed from the site shall be immediately removed and legally disposed of according to Federal, State and Local codes and regulations. The Contractor will be required to clean any roads and streets of material that is spilled from his operation of hauling and disposing of unsuitable excavated material.
- C. Suitable excavated material may be used for fill or backfill on other parts of the work.
- D. Upon completion of the backfilling, the streets or property shall be cleaned, surplus material removed, and the surfaces restored to the condition in which they were before construction. All materials left over in public highways shall become the property of the Contractor. If the Contractor fails to promptly remove such surplus material, the Engineer may have the work done and charge the cost thereof as money paid to the Contractor.
- E. Material excavated from private property shall belong to the property owner or his representative, and shall be disposed of by the Contractor, as required by said property owner or representative, but the longest haul requested by the Owner shall in no case exceed 5 miles. If the Contractor fails to promptly remove such surplus material, the

Engineer may have the same done and charge the cost thereof as money paid to the Contractor.

### 3.05 DRAINAGE

- A. At all times during construction, the Contractor shall provide, place and maintain ample means and devices with which to intercept and/or remove promptly, and dispose properly all water entering trenches and other excavation, or the water may flow along or across the site of work; and keep said excavations dry until the structures, pipes, and appurtenances to be built have been completed to such extent that they will not be damaged. At this time the Contractor shall remove such temporary means and devices.
- B. Every precaution necessary to obtain watertight construction of all joints in pipe, manholes, wyes, and drop connections must be taken.
- C. All ground water which may be found in trenches or excavations and any water which get may into them from any cause whatsoever shall be removed.
- D. All water pumped or drained from the work shall be disposed of in a suitable manner, satisfactory to the Engineer, without undue interference with other work or damage to pavements, other surfaces, or property.

### 3.06 STRUCTURE EXCAVATION

- A. The Contractor shall excavate to the elevations shown on the plans, or as directed by the Engineer. If the Contractor excavates below the elevations specified, he shall bring the excavation back to the proper elevation by backfilling with screened gravel (Type 6 material) and tamping in 6" layers to provide a compact base. The backfill material must be approved by the Engineer before being placed. If the Engineer directs any changes in elevation or dimension of the structure excavations from that shown on the plans, the Contractor shall be paid for work performed under the appropriate bid item. Any increase in cost resulting from backfilling, or increasing the size of the excavation or foundations because of over excavation in depth, shall be borne by the Contractor. Cut slopes shall have a maximum slope of 2:1 if not braced. When excavation has reached specified dimensions, the Engineer shall be notified and he will determine if conditions are satisfactorily met before work is allowed to continue.

### 3.07 SLABS ON GRADE

- A. Where slabs on undisturbed earth occur, all loams, organic or other undesirable materials shall be removed as required by the Engineer, and the area grubbed to a depth of at least six (6) inches below the finished sub-grade elevation or as indicated on the Contract Drawings. Where slabs on fill occur, the fill will also be compacted in accordance with the related section of the specifications.

### 3.08 TRENCH EXCAVATION

- A. Excavation shall not commence in any section until the pavement covering the proposed excavation has been properly cut.
- B. In general, trenches shall be excavated to such depth as will permit pipe to be laid at elevations, slopes or depths of cover as indicated on the Contract Drawings. Deeper trenches shall be provided where necessary on account of the conformation of the ground and to permit the alignment of the pipe without undue deflection of joints.

- C. Trenches shall be excavated by hand or machinery to the width and depth indicated on the Contract Drawings and specified herein under Paragraph 3.10 "Trench Limits". All loose material shall be removed from the bottom of the trench so that the bottom of the trench will be in an undisturbed condition, and so as to provide a proper foundation for pipe bedding material.
- D. Particular care shall be taken that no stone 6 inches or larger in any diameter protrudes more than 3 inches from the bottom or side of the trench. Suitable bell holes shall be made in the trench at joints as required.
- E. At completion of a workday, all excavations shall be covered by backfilling to existing grade or plating to entirely cover the opening or completely enclosing with a 6 foot high temporary chain link fence.
- F. In earth excavation in sections where bedding is excluded, the bottom of the trench shall be shaped so as to conform to the outside of the pipe, particular care being taken to recess the bottom of the trench in such a manner as to relieve the bell of all load.

### 3.09 TRENCH EXCAVATION IN FILL

- A. If pipe is to be laid in embankments or other recently filled material which are more than 1 foot below the invert of the pipe, the fill material shall be placed and properly compacted to final grade or to a height of at least 3 feet above the top elevation of the pipe, whichever is the lesser, before laying pipe. Particular care shall be taken to ensure maximum consolidation of material under the pipe. The pipe trench shall then be excavated as though in undisturbed material.

### 3.10 TRENCH LIMITS

- A. The limits of normal trench excavation shall be as shown on the Contract Drawings or specified herein. Trenches shall be excavated to the required depths, adding, however, to such depths the thickness of the pipe and, where applicable, the thickness of the bedding. The width of the trench at the bottom shall always be wide enough to make the joints properly. When, in the opinion of the Engineer, it is necessary to lay a concrete foundation, the excavation shall be made as shown on the details or as ordered by the Engineer.
- B. Where the bottom of the trench, by mistake of the Contractor, has been taken out to a greater depth than above specified, it shall be refilled to the proper grade, using screened gravel material by the Contractor who shall receive no additional compensation whatever therefore. Refilling with earth to bring the bottom of the trench to the proper grade will not be permitted.
- C. The Contractor shall at all time exercise care not to excavate outside the trench limiting lines as shown on the Contract Drawings unless otherwise authorized by the Engineer.
- D. Bedding for pipe will be as detailed on the Contract Drawing and as specified in the related section of the specifications.

### 3.11 EARTH EXCAVATION BELOW NORMAL GRADE

- A. If in the opinion of the Engineer, the material at or below the depth to which excavation for structures and pipes would normally be carried is unsuitable for foundation, it shall be removed to such widths and depths as directed and replaced with suitable material. Such work shall be paid for under appropriate items.

1. Roadway over-excavations shall be backfilled with compacted Type 3 material.
2. Trench over-excavation shall be minimum of 3 feet or as directed by the Engineer and shall be lined with a geotextile fabric.

### 3.12 EXCAVATION NEAR EXISTING STRUCTURES

- A. Attention is directed to the fact that there are pipes, drains, and other utilities in certain locations. Some of these have been indicated on the Contract Drawings, and an attempt has been made to show all of the lines and services, but the completeness of accuracy of the information given is not guaranteed.
- B. All pipes and other utility conduits shall be located on the ground with pipe finding equipment well ahead of the work at all times. All such locations shall be plainly marked by coded paint symbols on pavement or by marked stakes in the ground. All such location work shall be provided by the Contractor in cooperation with the appropriate utility to the satisfaction of the Engineer at no extra cost.
- C. As the excavation approaches pipes, conduits, or other underground structures, digging by machinery shall be discontinued and the excavation shall be done by means of hand tools, as directed. Such manual excavation when incidental to normal excavation shall be done to the satisfaction of the Engineer at no extra cost.

### 3.13 RELOCATION AND REPLACEMENT OF EXISTING STRUCTURES

- A. Whenever the Contractor encounters certain existing structures as described below and is so ordered in writing, he shall do the whole or such portions of the work as he may be directed, to change the location or, remove and later restore, or replace such structures, or to assist the Owner thereof in so doing. For all such work, the Contractor shall be paid under such items of work as may be applicable, otherwise as Extra Work.
- B. In removing existing pipes or other structures, the Contractor shall use care to avoid damage to material, and the Engineer shall include for payment only those new materials which, in his judgment are necessary to replace those unavoidably damaged.
- C. The structures to which the provisions of the preceding two paragraphs shall apply include pipes, wires, and other structures which (a) are not indicated on the Contract Drawings or otherwise provided for, (b) encroach upon or are encountered near and substantially parallel to the edge of the excavation, and (c) in the opinion of the Engineer will impede progress to such an extent that satisfactory construction cannot proceed until they have been changed in location, removed (to be later restored), or replaced.
- D. When fences interfere with the Contractor's operations, he shall remove and (unless otherwise specified) later restore them to at least as good condition as that in which they were found immediately before the work was begun. The restoration of fences shall be done as promptly as possible and not left until the end of the construction period.

### 3.14 CARE AND RESTORATION OF PROPERTY

- A. Excavation machinery and cranes shall be of suitable type and be operated with care to prevent damage to trees not to be cut and overhanging branches and limbs.
- B. Branches, limbs, and roots shall not be cut except by permission of the Engineer. All cutting shall be smoothly and neatly done without splitting or crushing. In case of cutting

or unavoidable damage to branches, limbs, and trunks of trees, the cut or damaged portions shall be neatly trimmed and covered with an application of grafting wax or tree healing paint as directed.

- C. Cultivated hedges, shrubs, and plants which might be injured by the Contractor's operations shall be protected by suitable means or shall be dug up and temporarily replanted and maintained. After the construction operations have been substantially completed, they shall be replanted in their original positions and cared for until growth is reestablished. If cultivated hedges, shrubs, and plants are injured so such a degree as to affect their growth or diminish their beauty or usefulness, they shall be replaced by items of kind and quality at least equal to the kind and quality existing at the start of the work.
- D. On paved surfaces, the Contractor shall not use or operate tractors, bulldozers, or other power operated equipment, with treads or wheels of which are so shaped to cut or otherwise damage such surfaces. All surfaces which have been damaged by the Contractor's operations shall be restored to a condition at least equal to that in which they were found immediately prior to the beginning of operation. Suitable materials and methods shall be used for such restoration.
- E. The restoration of existing property or structures shall be done as promptly as practicable and shall not be left until the end of the construction period.

#### 3.15 DUST CONTROL

- A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities so as to minimize the creation of dust. If the Engineer decides that it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish the material, load, deliver, and spread it as directed.

#### 3.16 BACKFILLING - GENERAL

- A. In general, and unless other material is indicated on the Contract Drawings or specified elsewhere, material used for backfilling trenches and excavations around structures shall be suitable material which was removed in the course of construction excavation. Backfilling shall not commence until the Engineer gives permission. Where the trench is in an area to be paved, or in an unpaved vehicular or pedestrian traveled way, or the shoulder of a paved roadway, a suitable pavement base shall be provided to a depth of at least that required in the related sections of the specifications.
- B. Suitable backfill material shall be free from cinders, ashes, refuse, boulders, rocks, or stones greater than 6 inches in any dimension, unsuitable organic material, or other material which, in the opinion if the Engineer, is unsuitable.
- C. Frozen material shall not be placed in the backfill, nor shall backfill be placed upon frozen material. Previously frozen material shall be removed, or shall be otherwise treated as required, before new backfill is placed.

#### 3.17 BACKFILLING AROUND STRUCTURES

- A. The Contractor shall not deposit backfill against structures until the structure has obtained sufficient strength to withstand the earth pressure placed upon it and in no case less than seven days, nor before carrying out and satisfactorily completing the tests specified in the related sections of the specifications. Compaction of backfill against concrete structures shall not be carried out by motorized equipment closer to the structure than the depth of the structure below grade. Such backfilling shall be carried up evenly on all walls of a structure simultaneously with maximum allowable variation of 2

feet in elevation at any point. Unequal soil pressures shall be avoided by depositing the material evenly around the structure.

- B. In addition, where pipe is connected to the structure, the backfilling procedure shall be carried out as specified in "Backfilling in Open Trench".
- C. Measurement of fill material under this work will not include any filling made beyond a vertical plan of one foot outside the footings except as directed.
- D. In freezing weather, a layer of fill shall not be left in an uncompacted state at the close of the day's operations. Prior to terminating work for the day, the final layer of compacted fill shall be rolled or graded to eliminate ridges of soil left by compaction equipment. No fill shall be placed and compacted on snow, ice, or soil that was permitted to freeze prior to compaction.

### 3.18 BACKFILLING IN OPEN TRENCH

- A. As soon as practical after pipe has been laid in accordance with the appropriate sections and the pipe joints have been properly made, the backfilling shall begin, and shall continue without delay. However, the trench shall be kept open long enough for the Engineer to locate existing utilities uncovered during excavation and to inspect pipe or structure conditions.
- B. If a screened gravel or concrete envelope is not used, the selected material shall be (see Contract Drawings for additional or superseding information) free from large lumps and stones having any dimension greater than 2 inches, and shall be placed simultaneously on both sides of the pipe, so that there will be no tendency to displace the pipe alignment. In placing the material, care shall be taken that stones do not strike the pipe and geotextile fabric shall be installed to the limits shown on the Contract Drawings at the locations specified on the drawings or as directed by the Engineer.
- C. A sand blanket (Type 2 material) shall be placed at the sides of the pipe up to the top of the pipe and shall be hand-placed and thoroughly compacted using approved hand-operated tampers. Backfilling shall be carried up evenly on both sides of the pipe.
- D. Type 2 material shall be extended up to a level of 1 foot above the top of the pipe shall be placed in 6 inch layers, leveled along the length and width of the trench and thoroughly compacted with approved tampers.
- E. The sand blanket (Type 2 material) may be omitted for cast iron, ductile iron and reinforced concrete pipe provided, however, that no stone large than 2 inches is in contact with the pipe.
- F. The backfill in the remainder of the excavation above the top of the screened gravel or concrete envelope, if used, shall be Type 1, backfilled in approximately 12 inch layers and promptly compacted by mechanical tamping. Material used for backfilling to a point two feet over the pipe shall contain no stones larger than three inches in greatest dimension. Backfilling or tamping with trenching machines is prohibited.
- G. Care shall be taken in the use of mechanical or other tampers not to injure or move the pipe or cause the pipe to be supported unevenly.
- H. Large masses of backfilling material shall not be dropped into the trench in such a manner, in the opinion of the Engineer, as to endanger the pipe.

- I. All backfilled trenches shall be thoroughly surface tamped with a tamping machine approved by the Engineer.
- J. Whatever method of compacting backfill is used, care shall be taken that stones and lumps shall not become nested and that all voids between stones shall be completely filled with fine material.
- K. No compacting shall be done when the material is too wet to be compacted properly; at such times the work shall be suspended until the previously placed and new materials have dried out sufficiently to permit proper compacting, or such other precautions shall be taken as may be necessary to obtain proper compacting.

### 3.19 MATERIAL FOR FILLING AND EMBANKMENTS

- A. Approved selected materials available from the excavations and not required for backfill around pipes or under structures may be used for site preparation except as otherwise specified. Material needed in addition to that available from construction operations shall be obtained from approved Type 1, 2, 3, or 4 sources.
- B. All material, whether from the excavations or offsite, shall be such nature that after it has been placed and properly compacted in 12-inch layers, it will make a dense, stable fill. It shall not contain vegetation, roots, stones over 6 inches in diameter, or porous material.

### 3.20 GRADING

- A. Grading, in preparation for placing of paved walks and drives and appurtenances, shall be preformed at all places to the lines, grades, and elevations as directed by the Engineer. All unsuitable material encountered, of whatever nature, shall be removed and disposed of as directed. During the process of grading, the sub-grade shall be maintained in such condition that it will be well drained at all times. When directed, temporary drains and drainage ditches shall be installed to intercept or divert surface water which may affect the prosecution or conditions or the work.
- B. The right is reserved to make minor adjustments or revisions in lines or grades if found necessary as the work progresses or in order to obtain satisfactory construction.
- C. All slopes cut during construction shall be uniformly redressed to the slope, cross-section and alignment existing prior to construction as indicated on the Contract Drawings or as directed by the Engineer.

END OF SECTION

## SECTION 02221

### ROCK EXCAVATING AND DISPOSAL

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE

#### PART 2 MATERIALS - NOT APPLICABLE

#### PART 3 EXECUTION OF WORK

- 3.01 ROCK EXCAVATION - GENERAL
- 3.02 ROCK BLASTING
- 3.03 EXPLOSIVES
- 3.04 BLASTING RECORDS
- 3.05 EXCESS ROCK EXCAVATION
- 3.06 SHATTERED ROCK
- 3.07 BACKFILLING ROCK EXCAVATIONS

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

- A. Work under this section consists of furnishing all labor, tools, equipment and supervision necessary to excavate rock, if encountered, to the lines and grades required to install the pipe as indicated on the Contract Drawings. The Contractor shall dispose of the excavated material for backfill in place of the excavated rock.
- B. In general, rock in trench shall be excavated so as to be not less than 6 in. from the pipe after it has been laid. Before the pipe is laid, the trench shall be backfilled to the correct subgrade with thoroughly compacted, suitable material or when so specified or indicated on the drawings, it shall be backfilled with the same material as that required for bedding the pipe and will be furnished and placed at the expense of the Contractor.

##### 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. DIVISION 2 -SITE WORK

#### PART 2 MATERIALS - NOT APPLICABLE

#### PART 3 EXECUTION OF WORK

##### 3.01 ROCK EXCAVATION - GENERAL

- A. "Rock" shall be classified as a material that requires for excavation drilling, blasting, or breaking by means of power tools. Boulders and concrete structures one cubic yard or greater, however removed, are included within this definition of rock. When material is encountered with respect to which the Contractor may claim removal as rock excavation, such material shall be uncovered and exposed and the Engineer notified by the Contractor before proceeding with the excavation. The Contractor shall not proceed with the excavation of the material to be re- moved as rock excavation until this material has been cross-sectioned and classified by the Engineer. Failure on the part of the Contractor to uncover such material, notify the Engineer, and allow time for cross sectioning the undisturbed surface of such material, will forfeit the Contractor's right of claim to any classification other than that allowed by the Engineer for the areas of work in which the deposits occur. Rock excavation shall be considered unsuitable backfill material and shall be used for ditch and slope protection or wasted off-site as directed by the Engineer.

### 3.02 ROCK BLASTING

- A. If blasting is required and allowed, it shall be done in a safe manner by a licensed blaster, and the Contractor shall take all precautions necessary for the protection of persons and property. Extreme care shall be exercised in the handling and use of explosives. No blasting work shall be performed without permission from all governing authorities and the Engineer. Any blasting work approved as necessary shall be done in accordance with all applicable safety regulations including all State and local regulations. Ample warning shall be given for all blasts, and adequate means taken to prevent all persons from entering the blasting area. Experienced personnel shall do all blasting operations. The Contractor shall be entirely responsible for any blasting operations and the results therefrom. The Contractor at no additional expense to the Owner shall correct any damage caused by blasting.
- B. Prior to conducting any blasting, the Contractor shall prepare, and submit to the Engineer for review, a description of the blasting procedures that the Contractor proposes to use on the various segments of the work. The Contractor shall measure vibration from blasting operations at all structures within 100 feet of a blast with a seismograph. The Contractor shall perform a series of test shots to ascertain the allowable load per delay. The Contractor shall adjust the maximum allowable particle velocity to site-specific requirements.
- C. The Contractor shall perform a pre/post construction survey of existing structures, utilities, bridges, and roadways on both sides of the water main alignment where any structures are within 100 feet of the water main centerline.
- D. The surveys shall be performed under the supervision of a Professional Engineer, registered in Massachusetts, and shall be documented with photographs.
- E. Blasting and explosion coverage shall be obtained if there is a need for blasting under this Contract, and no blasting shall be performed until such insurance has been secured. Insurance shall be in the following amounts:

One million dollars (\$1,000,000.00) for injuries, including accidental death, to any one person and subject to the same limit for each person, in an amount not less than two million dollars (\$2,000,000.00) on account of one accident; and an amount not less than one million dollars (\$1,000,000.00) for property damage on account of one accident, and two million dollars (\$2,000,000.00) on account of all accidents.

### 3.03 EXPLOSIVES

- A. The Contractor shall keep explosives on the site only in such quantity as may be needed for the work underway and only during such time as they are being used. He shall notify the Engineer, in advance, of his intention to store and use explosives. Explosives shall be stored in a secure manner and separate from all tools. Caps or detonators shall be safely stored at a point over 100 feet from the explosives. When the need for explosives has ended, all such materials remaining on the site shall be promptly removed from the premises.
- B. In addition to observing all municipal ordinances and State and Federal laws relating to the transportation, storage, handling and use of explosives, the Contractor shall conform to any further regulations that the Engineer may think necessary to this project, including those of property owners through whose properties the proposed facilities pass. The licensed blaster shall at all times, have his license on the site and shall permit examination thereof by the Engineer or other officials having jurisdiction. Blasts shall be fired according to a schedule to be given to the Engineer.

- C. All operations involving explosives shall be conducted by experienced personnel and only with all possible care to avoid injury to persons and property. Blasting shall be done only with such quantities and strengths of explosives, in such manner as will break the rock approximately to the intended lines and grades, and yet will leave the rock not to be excavated in an unshattered condition. Care shall be taken to avoid excessive cracking of the rock upon or against which any structure will be built, and to prevent injury to existing pipes or other structures and property above or below ground. Rock shall be well covered with rugs or mats, or both, where required. Sufficient warning shall be given to all persons in the vicinity of the work before a charge is exploded.

- D. All blasting shall be completed within a distance of 50 ft. before any portion of a masonry structure is placed or any pipe is laid.

#### 3.04 BLASTING RECORDS

- A. The Contractor shall keep and submit daily to the Engineer an accurate record of each blast. The record shall show the general location of the blast, the depth and number of drill holes, the kind and quantity of explosive used, and other data required for a complete record.

#### 3.05 EXCESS ROCK EXCAVATION

- A. If rock is excavated beyond the limits of payment indicated on the plans, and not specified or authorized in writing by the Engineer, the excess excavation, whether resulting from over breakage or other causes, shall be backfilled, by and at the expense of the Contractor, as specified below in this section.
- B. In pipe trenches, excess excavation below the elevation of the top of the bedding, cradle or envelope shall be filled with material of the same type, placed and compacted in the same manner, as specified for bedding, cradle, or envelope. Excess excavation, above said elevation shall be filled with suitable backfill material.
- C. In excavations for structures, excess excavation in rock beneath foundations shall be filled with concrete that shall possess strength of 4,000 psi, or 3,000 psi, at the option of the Engineer. Under any foundation that over excavation has occurred, the entire area under the foundation shall be either all concrete or all backfill, but not both. Other excess excavation shall be filled with suitable backfill material.

#### 3.06 SHATTERED ROCK

- A. If the rock below normal depth is shattered due to drilling or blasting operations of the Contractor, and the Engineer considers such shattered rock to be unfit for foundations, the shattered rock shall be removed and the excavation shall be backfilled with concrete as required, except that in pipe trenches gravel fill may be used for backfill, if approved. All such removal and backfilling shall be done by and at the expense of the Contractor.

#### 3.07 BACKFILLING ROCK EXCAVATIONS

- A. Where rock has been excavated and the excavation is to be backfilled, the backfilling above normal depth shall be done as specified under the related specifications. If material suitable for backfilling is not available in sufficient quantity from other excavation, The Contractor at his own expense, shall furnish suitable material from outside sources.

END OF SECTION

## SECTION 02224

### FILL AND BACKFILL MATERIALS

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 APPROVAL OF MATERIALS
- 1.03 RELATED WORK SPECIFIED ELSEWHERE

#### PART 2 MATERIALS

- 2.01 TYPE 1 - COMMON BORROW
- 2.02 TYPE 2 - SAND BORROW
- 2.03 TYPE 3 - SAND AND GRAVEL
- 2.04 TYPE 4 - COARSE GRAVEL
- 2.05 TYPE 5 - LOAM BORROW AND TOPSOIL
- 2.06 TYPE 6 - SCREENED GRAVEL MATERIALS
- 2.07 TYPE 7 - CRUSHED STONE

#### PART 3 EXECUTION OF WORK

- 3.01 PLACING AND COMPACTING

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, equipment, fill and backfill material and incidentals for site preparation and to meet finished contours as shown on the Contract Drawing. The use of the fill and backfill material is specified elsewhere. The Engineer may order the use of granular fill materials for purposes other than those specified in other sections, if in his opinion such use is advisable.

- 1.02 APPROVAL OF MATERIALS

- A. The Contractor shall furnish the Engineer with representative samples and a gradation analysis of each type of soil. If the source of materials changes significantly or a different source is used, re-submittals and re-approvals must be made.

- 1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. SECTION 02200 - EARTHWORK
- C. SECTION 02250 - COMPACTION CONTROL AND TESTING

#### PART 2 MATERIALS

- 2.01 TYPE 1 - COMMON BORROW

- A. Common Borrow shall be a granular material obtained from approved on-site or off-site natural deposits and unprocessed except for the removal of unacceptable material and stones larger than six (6) inches. It shall not contain vegetation or roots. It shall be free from loam, clay, fine wood, trash, and other objectionable materials or harmful substances.

- B. Common Borrow shall consist of a material satisfactory to the Engineer and not specified as gravel borrow, sand borrow, special borrow material or another particular kind of borrow. This material shall have the physical characteristics of soils designated as group

A-1, A-2 - 4 or A-3, under AASHTO-M145. It shall have properties such that it may be readily spread and compacted for the formation of embankments.

2.02 TYPE 2 - SAND BORROW

- A. Sand Borrow shall consist of clean, inert, hard, durable grains of quartz or other hard durable rock. It shall be free from clay, loam, vegetable or other objectionable matter.
- B. Material for pipe cover, landscaping, or other uses as determined by the Engineer, shall be well graded as follows or as indicated on the Contract Drawings. The allowable amount of material passing a No. 200 sieve as determined by AASHTO-T11 shall not exceed 10 percent by weight.

<u>Sieve Size</u>	<u>Percent by Weight Passing Through</u>
$\frac{3}{8}$ inch	85 - 100
#16	50 - 85
#200	0 - 10

2.03 TYPE 3 - SAND AND GRAVEL

- A. The sand and gravel material for foundation sub-grades or structural fills shall meet AASTHO-M145, for A-1-a, A-1-b, or A-3 soils. The mixture shall consist of clean hard durable particles or fragments. It shall be free from loam, organic or other objectionable matter.
- B. Subgroup A-1-a includes those materials consisting predominantly of stone fragments or gravel, either with or without a well-graded binder of fine material and with 50% maximum passing the No. 10 sieve, 30% maximum passing the No. 40 sieve and 15% maximum passing the No. 200 sieve. The fraction passing the No. 40 shall have a maximum plasticity index of 6.
- C. Subgroup A-1-b includes those materials consisting predominantly of course sand either with or without well-graded soil binder and with 50% maximum passing the No. 40 sieve and 25% maximum passing the No. 200 sieve. The fraction passing the No. 40 shall have a maximum plasticity of 6.
- D. Group A-3 material shall be fine beach sand without silty or clay fines or with a very small amount of non-plastic silt. The group includes also stream deposited mixtures of poorly-graded fine sand and limited amounts of coarse sand and gravel; 51% minimum shall pass the No. 40 sieve, and 10% maximum shall pass the No. 200 sieve.

2.04 TYPE 4 - COARSE GRAVEL

- A. The material shall consist of clean hard, inert, durable particles or fragments. It shall be free from clay, loam, vegetable or other objectionable matter. Materials that break up when alternately frozen and thawed or wetted and dried shall not be used.
- B. Material for foundation under drainage, pavement subbase, or other uses as determined by the Engineer shall be well graded as follows:

SIEVE SIZEPERCENTAGE BY WEIGHT PASSING

3 inch	100
1 ½ inch	70- 100
¾ inch	50- 85
#4	30- 60
#200	0-12 (based on fraction passing No. 4)

- C. The processed material shall be stockpiled in such a manner to minimize segregation of particle sizes. All processed gravel shall come from approved stockpiles.

2.05 TYPE 5 - LOAM BORROW AND TOPSOIL

- A. Material shall conform to related sections of the specifications.

2.06 TYPE 6 - SCREENED GRAVEL MATERIALS

- A. The gravel shall generally conform to ASTM-C33 and shall consist of clean, hard, inert, durable particles or fragments. It shall be free from clay, loam, organic or other objectionable matter. Crushed rock of suitable size and grading may be used instead of screened gravel. The specifications which follow shall apply to whichever material is used.
- B. Material for trench stone fill shall consist of sound angular stones; 50 to 70 percent of which shall weigh at least 500 pounds and the remainder shall weigh not less than 50 pounds each.
- C. Material for trench bedding shall be well graded from ¾ inch to 2 inch.
- D. Material for stabilizing trench base shall be well graded from ½ inch to 1 ½ inch.
- E. Material for pipe bedding, landscaping, or other uses as determined by the Engineer, shall be well graded as follows:

SIEVE SIZEPERCENT BY WEIGHT PASSING

1 inch	100
¾ inch	90 - 100
⅜ inch	20 - 55
#4	0 - 10
#8	0 - 5

2.07 TYPE 7 - CRUSHED STONE

- A. The crushed stone shall consist of clean, hard, inert, durable particles or fragments. It shall be free from clay, loam, vegetable or other objectionable matter.
- B. At least 50% of the material passing a one (1) inch sieve shall have a fractured face. The percent of wear of the crushed stone for pavement base coarse shall not exceed 50.

The stone sizes for the crushed stone shall be as follows:

<u>SIEVE SIZE</u>	<u>PERCENT BY WEIGHT PASSING</u>
1 ½ inch	100
1 ¼ inch	85 - 100
¾ inch	10 - 40
½ inch	0 - 8

- C. The equipment for producing crushed stone shall be of adequate size and with sufficient adjustments to produce the required materials without unnecessary waste. The plant shall be capable of removing excess sand. The Engineer may order final screening of crushed stone if flat or elongated pieces are present in objectionable amounts.

PART 3 EXECUTION OF WORK

3.01 PLACING AND COMPACTING

- A. The material shall be placed and compacted as specified in related specification sections.

END OF SECTION

SECTION 02226

SAND BLANKET

<u>PART 1</u>	<u>GENERAL</u>
1.01	CONTRACT DOCUMENTS
1.02	DESCRIPTION OF WORK
1.03	RELATED WORK SPECIFIED ELSEWHERE

<u>PART 2</u>	<u>MATERIALS</u>
2.01	SAND
2.02	GRADATION

<u>PART 3</u>	<u>EXECUTION OF WORK</u>
3.01	PLACING AND COMPACTING

<u>PART 1</u>	<u>GENERAL</u>
1.01	CONTRACT DOCUMENTS
A.	The general provisions of the Contract including General and Supplemental Conditions and General Requirements apply to the work specified in this section
1.02	DESCRIPTION OF WORK
A.	The Contractor shall furnish, place and compact sand in trenches and elsewhere, as directed by the Engineer.
1.03	RELATED WORK SPECIFIED ELSEWHERE
A.	DIVISION 2—As Appropriate

<u>PART 2</u>	<u>MATERIALS</u>
2.01	GRAVEL
A.	The sand shall consist of clean, hard and durable particles or fragments of quartz on the durable rock. It shall be free from dirt, vegetable or other objectionable matter, an excess of soft, thick elongated, laminated or disintegrated pieces.
2.02	GRADATION
A.	The sand shall be well graded in size so that 90 to 100 percent passes a ½ inch sieve and not more than 15 percent will pass a No. 200 sieve.

<u>PART 3</u>	<u>EXECUTION OF WORK</u>
3.01	PLACING AND COMPACTING
A.	The material shall be placed and compacted as specified in SECTION 02250—COMPACTION CONTROL AND TESTING

END OF SECTION

## SECTION 02250

### COMPACTION CONTROL AND TESTING

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE
- 1.03 SUBMITTALS

#### PART 2 MATERIALS

- 2.01 TEST METHODS

#### PART 3 EXECUTION OF WORK

- 3.01 COMPACTION EQUIPMENT
- 3.02 COMPACTION REQUIREMENTS
- 3.03 APPROVAL OF FILL OR BACKFILL MATERIAL
- 3.04 FREQUENCY OF COMPACTION TESTING
- 3.05 FAILED TESTS

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials and equipment necessary to place and compact fill or backfill. The Contractor shall furnish all equipment necessary to collect soil samples.
- B. Actual testing of soil samples with the exception of insitu-density determinations shall be done by an independent testing laboratory approved by the Owner. Insitu-density determinations shall be made by the Engineer or his representative. Copies of test results shall be furnished by the test laboratory directly to the Engineer.

- 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. SECTION 02200 - EARTHWORK
- B. SECTION 02224 - FILL AND BACKFILL MATERIALS
- C. SECTION 02226 – SAND BLANKET

- 1.03 SUBMITTALS

- A. Prior to commencement of filling and backfilling operation, the Contractor shall submit for approval a detailed list six (6) copies unless otherwise specified) of the types of compacting equipment to be utilized in the work, and the number of each.

#### PART 2 MATERIALS

- 2.01 TEST METHODS

- A. Contractor shall provide heavy-duty sample bags for fill or backfill material to be tested. Soils shall be classified as in the in the related sections of the Specifications which include AASHTO specifications M145 Recommended Practice for Classification of Soils as Soil-Aggregate Mixtures for Highway Construction Purposes.

- B. Soil samples shall be prepared for testing according to ASTM D42 Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants.
- C. Gradation testing shall be done according to ASTM D2216 Particle Size Analysis of Soils and ASTM D1140 test for Amount of Materials in Soils Finer than the No. 200 sieve.
- D. Moisture content of soil shall be determined by ASTM D2216 Laboratory Determination of Moisture Content of Soil.
- E. Liquid Limits and Plasticity Index shall be determined ASTM D423 Liquid Limit of Soils and ASTM D424 by Plastic Limit and Plasticity Index of Soils.
- F. Maximum dry density for each type of fill shall be determined by ASTM D1557 Method D Moisture - Density Relations of Soils using 10-lb. Hammer and 18-in. Drop.
- G. In-place field unit weight shall be determined by ASTM D- 1556 Density of Soil in Place by the Sand-Cone Method.
- H. Maximum dry density at the discretion of the Engineer may be determined in accordance with ASTM D-2049 test for Relative Density of Cohesionless Soils.

### PART 3 EXECUTION OF WORK

#### 3.01 COMPACTION EQUIPMENT

- A. No backfilling shall be done until the compacting equipment list has been submitted and approved as conforming to the Contract requirements. Sufficient compacting equipment shall be available at all times, thereafter while backfilling is being conducted.
- B. Each layer of fill shall be inspected prior to compaction. All visible roots, vegetation, or debris shall be removed. Stones larger than 6 inches in diameter shall be removed. The water content of each layer shall be determined to be suitable for compaction or shall be brought to a suitable condition. Material incorporated in the fill which is not in satisfactory condition shall be subject to rejection and removal at the Contractor's expense. Placement of fill on frozen ground or placement of fill material which is frozen will not be permitted.
- C. Previously placed or new materials shall be moistened by sprinkling, if required, to ensure proper bond and compaction. No compacting shall be done when the material is too wet, from either rain or too great an application of water, to compact it properly; at such times the work shall be suspended until the previously placed and new materials have dried out sufficiently to permit proper compaction, or such other precautions shall be taken as may be necessary to obtain proper compaction.
- D. Filling shall begin in the lowest section of the area. Fill shall be spread in layers as specified. The surface of each layer shall be approximately horizontal but will be provide with sufficient longitudinal and transverse slope to provide for runoff of surface water from every point. Filling shall be conducted so that no obstruction to drainage from other sections of the fill area is created at any time. Sumps, if any, shall be continuously maintained in effective operating condition.
- E. Each layer of material shall be compacted by the use of only approved rollers or other approved means so as to secure a dense, stable, and thoroughly compacted mass. At such points as cannot be reached by mobile mechanical equipment, or where such equipment is not permitted, the materials shall be thoroughly compacted by the use of suitable power-driven tampers.

- F. The compaction equipment shall be operated so as to make a minimum of three passes over each section of each layer of fill. Each successive pass shall overlap the adjacent pass by not less than 10%. Additional passes shall be made to obtain the required compaction, if necessary.
- G. Compaction by water jetting or puddling will be allowed only if water use restrictions are not in place by the owner and the Engineer deems the conditions suitable for this method. Wherever the material contains excessive amounts of clay or loam to prevent satisfactory drying, water-jetting shall not be used.
- H. If the material is allowed to be compacted by water jetting or puddling, it shall be placed in uniform layers not exceeding 4 ft. deep. Each layer shall be thoroughly saturated throughout its full depth and at frequent intervals until all slumping ceases. For water jetting or puddling, the Contractor shall provide one or more jet pipes, each of sufficient length to reach the specified depth and not less than 1 ½ in. in diameter. The jet pipe shall be equipped with a quick-acting valve and sufficient fire hose to connect to a hydrant or pump having adequate pressure and capacity. A hydrant shall be utilized only upon approval of the local Water and/or Fire Departments. The Town requires that all water usage shall be metered. The Contractor shall obtain a meter for hydrant usage at the water department. There will be no additional charge for water used for the project.

### 3.02 COMPACTION REQUIREMENTS

- A. Pipe Bedding: Bedding shall be Type 6 fill placed uniformly in 6 inch layers and compacted unless otherwise specified. Compaction shall be accomplished by 20 lb. hand tampers.
- B. Pipe Sand Blanket: Material shall be Type 2 fill placed uniformly in 6 inch layers and compacted to 90% of maximum dry density of the sand. Compaction shall be accomplished by 20 lb. hand tampers.
- C. Trench Cover: Material shall be Type 1, 2, 3 or 4 fill placed uniformly in 12 inch layers and compacted to 95% of maximum dry density for the type of material used. Compaction shall be accomplished by mechanical tampers. Compaction by water-jetting shall be in accordance with the related sections of the specifications.
- D. Catch Basin and Manhole Base Bedding: Material shall be Type 6 fill placed uniformly in 6 inch layers and compacted. Compaction shall be accomplished by 20 lb. hand tampers or pneumatic tampers.
- E. Structural Fill (foundation sub-grade, foundation under drainage, pavement sub-grade, pavement sub-base): Material for foundation sub-grade or pavement sub-grade shall be Type 3 fill. Structural fills shall be placed in 6 inch layers compacted to 95% maximum dry density for a given type of material. Compaction shall be by mechanical power driven vibratory compactors. Pavement sub-grade in cut areas shall be rolled and compacted to 95% density of the in situ material.
- F. Fill around structures shall be Type 1, 2, 3, or 4 material placed in 6 inch layers and compacted to 95% maximum dry density. Compaction shall be accomplished by mechanical power driven vibratory compactors. Compaction of backfill against concrete structures shall not be carried out by motorized equipment closer to the structure than the depth of the structure below grade.

- G. Non Structural Fill (Landscaping and other uses as designated by the Engineer): Material shall be Type 1, 2, 3 or 4 placed in 12" layers and compacted to 45% maximum dry density for the given type of material used. Compaction shall be accomplished by mechanical power-driven vibratory compactors.

### 3.03 APPROVAL OF FILL OR BACKFILL MATERIAL

- A. Before placing or compacting any on-site or borrow material, the Contractor shall submit a sample of the material for testing. No on-site material shall be placed until approved by the Engineer.
- B. The Engineer may at any time require additional laboratory testing should he observe any changes in gradation of the material being placed. No additional fill shall be placed or compacted until the material has been approved. If the material does not meet the required gradation and Otterburg limits for a given type of fill, the Contractor shall remove it as his expense. The Contractor may use the material for other types of fill providing it meets the required gradation and properties of that type.

### 3.04 FREQUENCY OF COMPACTION TESTING

- A. The Engineer may perform tests of the degree of compaction obtained, in any area he may select. Payment for performing tests will be made by the Owner. If test results are unsatisfactory, all costs involved in correcting deficiencies in compacted material including retesting, shall be borne by the Contractor. If improper compaction methods are used, the Owner shall have the right to discontinue payments from the Contractor for said payment item until the situation is corrected.

### 3.05 FAILED TESTS

- A. If the percentage compaction at any point is found to be unacceptable, additional compaction with or without modification of the field moisture content as directed by the Engineer, shall be performed and a second moisture-density determination made. This procedure shall be repeated until satisfactory compaction is obtained. If after five (5) tests any fill or backfill material cannot be compacted to the required density it shall be removed and disposed of at the Contractor's expense.

END OF SECTION

## SECTION 02270

### SLOPE PROTECTION AND EROSION CONTROL

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE

#### PART 2 MATERIALS

- 2.01 SLOPE PROTECTION AND EROSION CONTROL
- 2.02 SEDIMENTATION POOLS
- 2.03 SILT FENCES
- 2.04 STONE LINED WATERWAYS

#### PART 3 EXECUTION OF WORK

- 3.01 PRECONSTRUCTION CONFERENCE
- 3.02 PROCEDURAL DETAILS
- 3.03 ACCEPTANCE

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK

- A. This work shall consist of temporary and permanent control measures as shown on the Contract Drawings, as required, or as ordered by the Engineer throughout the construction and post-construction period to control erosion and sedimentation by the use of silt fences, sedimentation pools, check dams, filter fabric and other control devices. The erosion and sediment control features installed by the Contractor shall be satisfactorily maintained by the Contractor.
- B. In the event that temporary erosion and sediment control measures are required due to the Contractor's negligence, carelessness or failure to install permanent controls as a part of the work scheduled, and such additional measures are ordered by the Engineer, the work shall be performed by the Contractor at his expense.
- C. Repeated failures by the Contractor to control erosion (pollution/siltation) shall be cause for the Engineer to employ outside assistance or to use his own forces to provide the necessary corrective measures. The cost of such assistance plus Engineering costs will be charged to the Contractor and appropriate deductions made from the Contractor's monthly progress estimate.
- D. The Contractor shall remove sediment from behind silt fences, check dams and from sedimentation pools as necessary or as directed by the Engineer.

- 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. SECTION 1300 - SUBMITTALS
- B. DIVISION 2 - SITE WORK

## PART 2      MATERIALS

### 2.01      SLOPE PROTECTION AND EROSION CONTROL

- A.      This work shall consist of the design, installation, maintenance and removal of temporary erosion control measures such as mulching slope drains and grasses to control and/or prevent erosion around the construction site during construction. Mulches may be hay, straw, fiber mats, netting or other suitable material acceptable to the Engineer.
- B.      Slope drains may be constructed of pipe, fiber mats, or other material acceptable to the Engineer that adequately controls erosion.
- C.      Grass shall be a quick growing species (such as rye grass, Italian rye grass, or cereal grasses) suitable to the area providing a temporary cover which will not later compete with the grasses used later for permanent cover.
- D.      Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Engineer.
- E.      Hay bales shall be 36" x 18" x 24", or larger, with two 1" x 1" x 48" stakes, per bale, to secure the bale in place.

### 2.02      SEDIMENTATION POOLS

- A.      Sedimentation pools where used shall be constructed to a size and configuration and at locations as approved by the Engineer. The sedimentation pools shall be constructed and operational before excavation, embankment or drainage system construction in the area served by the pool is started. A series of haybales, in a rectangle secured with oak stakes (see attached detail), line with siltation fence, and shall be used to construct a siltation pool. The discharge hose from the trench shall discharge into the pool. Sedimentation pools shall be maintained during and after construction in good hydraulic condition such that function as intended. Pools shall be maintained and kept in operation by the Contractor for the duration of the project. Sediment and other deposits shall be removed when the depth of material reaches 12 inches, or as directed by the Engineer, to ensure satisfactory pool performance. The Contractor shall provide and maintain access to the pools for their maintenance. The pools shall be removed at the completion of the Contract or when directed by the Engineer. All disturbed areas shall be covered with 4 inches of plantable soil borrow and seeded in accordance with the provisions of these Specifications.

### 2.03      SILT FENCES

- A.      This work shall consist of the construction, maintenance and removal of temporary silt fences. The silt fences shall be placed at the location shown on the Contract Drawings or as directed by the Engineer. The silt fences shall be in place before construction in the area begins.
- B.      The snow fence should be set in place with a 6" trench on the front side. The filter fabric will be laid loosely on the fence so as not to stretch the material. The panels shall be overlapped a minimum of 12 inches. Suitable tie wire shall be used to secure the cloth to the top of the fence. The bottom of the cloth should be buried in the trench to prevent water from flowing beneath the fence. Fence posts shall be wooden or metal posts set 1 ½ feet into the ground at 6' centers.

- C. The filter fabric shall conform to the following requirements. The yarn shall consist by weight of at least 85 percent vinylidene chloride and shall contain stabilizers added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and/or heat exposure. After weaving, the cloth shall be calendered so that the filaments retain their relative positions with respect to each other. The cloth shall be free of defects or flaws which significantly affect its physical and/or filtering properties. It shall be woven in widths of at least 6 feet and in rolls of not less than 50 linear feet. The sheets of filter cloth shall be sewn together with polypropylene or polyvinylidene chloride at the point of manufacture to form sections not less than 24 feet wide. All edges of the cloth shall be salvaged. During shipment and storage, cloth shall be wrapped with a suitable material for protection against damage.
- D. Should the Contractor desire to use an equal filter fabric sample of the proposed filter fabric shall be furnished 30 days prior to installation of the fabric. Samples, shipping, and cost of testing shall be at the Contractor's expense. A minimum of 5 square yards of cloth a minimum of 36 linear inches of seam, with at least one foot of cloth each side of the seam, shall be furnished for testing. Mill certificates, or affidavits from the manufacturer, shall accompany these samples, citing the trade name and producer of the cloth and certifying that the samples are representative of the material which will be installed on the project and that the cloth meets the requirements stated in this Specification. In addition, a certified copy of permeability and filtration tests from a qualified laboratory showing the performance of filter with various grain size soils and water, giving both particle retentions and permeability, shall be submitted at the request of the Engineer.
- E. Filter fabric shall be handled and placed in accordance with the manufacturer's recommendations. When the fabric is joined by stitching it shall be stitched with a yarn of contrasting color. The size and composition of the yarn shall be as recommended by the fabric manufacturer. The stitches shall number 5 to 7 per inch of seam.
- F. Should the fabric be damaged during placing, the torn or punctured section shall be repaired by placing a piece of fabric that is large enough to cover the damaged area and to meet the overlap requirement.
- G. Damaged sections of the silt fences shall be repaired or replaced by the Contractor for the duration of their use. Sediment shall be removed as directed by the Engineer.
- H. The silt fences shall be removed when adequate vegetative growth insures no further erosion of the slopes or when directed by the Engineer. The filter fabric may be cut at ground level.
- I. All material, including the filter fabric and fence, become the property of the Contractor and shall be disposed of away from the site.

#### 2.04 STONE LINED WATERWAYS

- A. The Contractor shall provide all material, labor, and crushed stone for waterways, consisting of a protective covering of angular shaped stones laid on the waterway to insure protection of the waterway.
- B. The waterway shall be placed to line and grade as shown on the plans or as directed by the Engineer on a prepared bed of crushed stone. Each stone for the waterway shall be carefully placed by hand, normal to the slope and firmly bedded thereon. Each stone shall weigh not less than 50 pounds nor more than 125 pounds and at least 75% of the volume shall consist of stones weighing not less than 75 pounds each. The remainder of the stones shall be so graded that when placed with the larger stones, the entire mass will be compacted with a minimum percentage of voids and a minimum thickness of 6 inches.

## PART 3      EXECUTION OF WORK

### 3.01      PRECONSTRUCTION CONFERENCE

- A.      At the preconstruction conference or prior to the start of the applicable construction, the Contractor shall submit to the Engineer for acceptance, his plans and schedules for accomplishment of temporary and permanent slope protection and erosion control and restoration work, as are applicable for clearing and grubbing and general construction and disposal of unsuitable material and restoration of disturbed land to its original (prior to construction) condition. No work shall be started until schedules and methods of operations have been approved by the Engineer.

### 3.02      PROCEDURAL DETAILS

- A.      The Engineer shall have the authority to limit the area of erodible earth exposed by construction and to direct the Contractor to provide immediate permanent or temporary erosion control and slope protection measures to prevent sediment runoff to adjacent streams, ponds, or other areas of water impoundment. Such work may involve the construction of temporary mulches, mats, seeding or other control devices or methods as required by the conduct of the work or as directed by the Engineer.
- B.      The Contractor shall be required to incorporate all permanent erosion control measures into the project at the earliest practical time as outlined in the approved schedule. Temporary erosion control and slope protection measures will be used to correct conditions that develop during construction that were not foreseen during the design stage.
- C.      The Contractor shall undertake and comply with the following measures with respect to adverse environmental impacts, resulting from the operations listed below.
  - 1.    Clearing and Grubbing - Disturbed areas shall be re-grassed at the direction of the Engineer.
  - 2.    Access Road Construction - Riprap or sodding shall be used to prevent erosion.
  - 3.    Material Storage - Materials shall be stored only at approved locations. Petroleum products shall be stored away from wetland areas.
  - 4.    Excavation - The Contractor shall use care to contain wet fill where it is dumped. When material is stockpiled next to a trench, the side away from neighboring brooks, swamps, canals, etc., shall be utilized where space is available. Side slopes of stockpiled material shall conform to the natural angle of repose of the soil. The Contractor shall promptly remove all sediment from brooks and swamp areas, if deposition cannot be avoided during construction. The Contractor shall promptly remove excess fill and re-grass the work area. Excess fill shall not be disposed of in wetlands, other than in areas defined on the drawings, or areas approved by commissions or authorities having jurisdiction.
  - 5.    Water handling - The Contractor shall be required to use crushed stone or plastic sluiceways leading to brooks to filter pumped discharges.
  - 6.    Backfilling - The Contractor shall replace unsuitable material with properly suitable material. He shall also be responsible for surface repairs as required.
  - 7.    General - Trash receptacles shall be required on the job site. The Contractor shall perform preliminary clean-up operations as he completes segments of his work.

8. Spillings - Ground spilling of oil or other petroleum products drained from equipment shall be prohibited. The Contractor shall provide leakproof containers for receiving drained oil and shall properly dispose of such oil away from the site of the job.

### 3.03

#### ACCEPTANCE

- A. Final inspection and acceptance in regard to cleanup, site restoration, erosion control and sloped protection measures shall be made in the presence of the Owner and/or commissions or authorities having jurisdiction. The Contractor shall notify the Owner in writing of the readiness of the work for final inspection.

END OF SECTION

SECTION 02380

SHEETING AND BRACING

<u>PART 1</u>	<u>GENERAL</u>
1.01	SCOPE OF WORK
1.02	RELATED WORK SPECIFIED ELSEWHERE
1.03	SUBMITTALS
<u>PART 2</u>	<u>MATERIALS</u>
2.01	STEEL SHEET PILING
2.02	TIMBER SHEET PILING
2.03	STEEL SHORING BOXES
<u>PART 3</u>	<u>EXECUTION OF WORK</u>
3.01	GENERAL
3.02	INSTALLATION OF SHEETING
3.03	EXCAVATION UTILIZING SHORING BOXES
3.04	SHEETING LEFT-IN-PLACE
3.05	EXTRACTION OF SHEETING

<u>PART 1</u>	<u>GENERAL</u>
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- |      |  |
|------|--|
| 1.01 | SCOPE OF WORK  |
| A.   | The Contractor shall do all permanent and temporary work involved in the bracing of excavation using steel sheet pilings, timber sheeting or shoring boxes as shown on the Contract Drawings or as directed by the Engineer.   |
| B.   | The Contractor shall take responsibility and shall furnish all parts, labor and materials for the placement and maintaining of sheeting, bracing or shoring of the sides of the excavation so as to prevent earth movements which would in any way diminish the width of excavation so as to interfere with proper construction, which would cause injury to persons in or about the work site, which would endanger adjacent structures, or which would delay the progress of work. |
| C.   | The Contractor shall engage a Professional Engineer, registered in the State of Massachusetts, possessing prior experience in this field to design all necessary sheeting, and bracing. The sheeting and bracing installed shall be in conformity with the design, and written certification of this shall be provided promptly by the Professional Engineer.  |
| D.   | No sheeting, bracing or shoring operations shall commence until the Engineer has reviewed all descriptions, plans, sketches and time sequences and until the Engineer has given his approval of such items. The furnishing of such materials is only for review purposes and does not serve to relieve the Contractor of any part of his responsibility for the safety of the work or the successful completion of the work.   |
| 1.02 | RELATED WORK SPECIFIED ELSEWHERE   |
| A.   | DIVISION 2 - SITE WORK   |

### 1.03 SUBMITTALS

- A. The Contractor shall submit to the Engineer in triplicate a detailed written description of the equipment and methods he proposes to use in the sheeting, bracing and shoring operations along with the computations and sketches of his Professional Engineer. This material shall be submitted to the Engineer at least fifteen (15) working days prior to the proposed start of work. In addition, the Contractor shall also supply the Engineer with an overall time schedule of the sheeting, bracing and shoring work.

## PART 2 MATERIALS

### 2.01 STEEL SHEET PILING

- A. Steel sheeting and associated bracing shall be of adequate weight for the use intended. The materials used for steel sheet piling shall conform to the requirements of ASTM-A328. Gauged sheeting shall not be acceptable for use where sheeting must be left in place.

### 2.02 TIMBER SHEET PILING

- A. Timber Sheeting shall be composed of a 3 layer laminated timber with tongue and groove connecting edges. The toe of the sheeting shall be cut on a diagonal so that, in driving, the pile will be continuously wedged back against the previously driven pile. Timber sheet piling shall conform to the requirements of AASHTO M. 09. 01-1.
- B. Timber Sheeting shall be sound, straight grained, free from shakes, loose knots, and other defects liable to impair its strength or durability.

### 2.03 STEEL SHORING BOXES

- A. In areas where temporary sheeting is specified, steel shoring boxes may be utilized to protect the excavation from collapsing when approved by the Engineer.
- B. The boxes shall be composed of sections, the number of which shall be dictated by the depth of excavation. The forward end of the box shall be equipped with cutting edges to facilitate the movement of the box along the trench bottom and shall be equipped with eyelets or hooks by which the excavator may pull the boxes along.

## PART 3 EXECUTION OF WORK

### 3.01 GENERAL

- A. Whenever possible, sheeting shall be driven ahead of the excavation to avoid loss of materials from behind the sheeting. If it is necessary to excavate below the sheeting, care shall be taken to avoid trimming behind the face along which the sheeting will be driven. Care shall be taken to prevent voids outside the sheeting, but if voids are formed, they shall be filled immediately and compacted.
- B. The Engineer may direct that sheeting and bracing be cut off at any specified elevation; at least 3 feet below final grade, but not lower than 1 ft. above the top of pipe.
- C. In streets, the Contractor will generally be required to install the braced excavation from the existing ground surface.

### 3.02 INSTALLATION OF SHEETING

- A. Sheet piles shall be driven in such a manner as to preserve interlocking between piles and to be vertical without any tendency to leaning.
- B. If handling holes on sheets should extend below normal static groundwater elevation, they shall be welded or plugged to facilitate trench-dewatering operations.
- C. Splicing of steel piles shall not occur without the prior approval of the Engineer and spliced sections shall not be driven until inspection of the welded splice has been conducted by the Engineer.
- D. Bracing of the sheeting shall follow the designs of the Contractor's Professional Engineer and be subject to additional bracing if directed by the Engineer.

### 3.03 EXCAVATION UTILIZING SHORING BOXES

- A. The use of shoring boxes is an acceptable measure of excavation protection; however, special attention should be made to ensure that the boxes are set stable in the excavation, that when it is pulled along the trench the box remains on line and that the proper grade and depth is maintained.
- B. When other utilities or cross-connections are encountered within the excavation, the use of the shoring box may be somewhat limited and may necessitate the use of other sheeting or bracing measures as needed or as directed by the Engineer.

### 3.04 SHEETING LEFT-IN-PLACE

- A. When indicated in the Contract Documents, or as directed by the Engineer, sheeting and/or bracing shall be left in place and properly backfilled.
- B. The Engineer may direct the Contractor at any time in writing, to have sheeting, bracing, left in place to be embedded in backfill or concrete for preventing subsequent injury to structures or property.

### 3.05 EXTRACTION OF SHEETING

- A. All sheeting and bracing not to be left in place shall be carefully removed in such a manner as to not endanger the construction, other structures, utilities or property. All Voids left or caused by withdrawal of sheeting shall be refilled immediately with sand by ramming with tools especially adapted to that purpose, by watering, or by other means as may be approved.

END OF SECTION

## SECTION 02401

### DEWATERING

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE
- 1.03 DESIGN AND PERFORMANCE REQUIREMENTS
- 1.04 SUBSURFACE CONDITIONS

#### PART 2 MATERIALS

- 2.01 SUBMITTAL

#### PART 3 EXECUTION OF WORK

- 3.01 GENERAL
- 3.02 CONCRETE STRUCTURES
- 3.03 SURFACE WATER CONTROL
- 3.04 INSTALLATION OF DEWATERING SYSTEM
- 3.05 OBSERVATION WELLS
- 3.06 SITE RESTORATION

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, equipment, appurtenant material and equipment, and incidentals required to design, install, operate and remove a temporary dewatering system to prevent surface and groundwater from entering any excavations required as per this Contract. The dewatering system installed shall lower the groundwater and prevent surface water intrusion to provide a firm, dry excavation with a stable bottom and sidewalls capable of supporting structures, pipes and backfill.
- B. The Contractor shall retain the services of a Professional Geotechnical Engineer, registered in the State of Massachusetts and experienced in dewatering systems, to design the dewatering system to be used during construction. A copy of the proposed dewatering system including plans and calculations shall be submitted to the Engineer for review at least two weeks prior to commencing any work. All drawings and calculations shall bear the stamp and signature of the Registered Professional Geotechnical Engineer. The Registered Professional Geotechnical Engineer shall monitor the installation of the dewatering system and visit the site periodically during the construction period.
- C. The dewatering system shall include the installation of one or a combination of the following dewatering methods as necessary: sumps and ditches, horizontal drainage systems, cofferdam dewatering, well method, well point method, cutoff methods and other methods as designated by the Contractor's Geotechnical Engineer and approved by the Engineer.

##### 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. DIVISION 2 - SITE WORK

### 1.03 DESIGN AND PERFORMANCE REQUIREMENTS

- A. The bottom of all excavations shall be dry and firm. All excavation, construction, backfilling and compaction shall be conducted "in-the-dry" unless hydraulic compaction measures are dictated by the Engineer.
- B. The following measures shall be met in all areas where predrainage of the existing water table is required prior to construction operations.
  - 1. No excavation below the elevation of the groundwater level existing at the time of construction will be allowed until this groundwater level has been lowered to, and maintained at, an elevation at least 2 feet below the bottom of excavation.
  - 2. The dewatering system shall maintain the groundwater level at least 2 feet below the bottom of excavation until sufficient backfill has been placed to prevent flotation of any structures or pipelines.
  - 3. The Contractor and his Professional Geotechnical Engineer shall be responsible for insuring that dewatering measures and well points are so installed and situated as to provide sufficient dewatering of the work area and abutting soil stratum.
  - 4. The design of well points of other dewatering units shall be such that removal of fines during pumping is minimized.
  - 5. A single stage well point system with the header at ground surface will not be adequate to lower the water level to the required depths.
- C. Safe working conditions shall be ensured by whatever dewatering measures deemed necessary, including the use of chemical and soil stabilization.
- D. During the course of construction if alterations or re-design of the dewatering system is necessitated, the Contractor's Professional Geotechnical Engineer shall submit plans and calculations, stamped and signed, indicating such alterations and changes. The Contractor shall bear all costs of the Geotechnical Engineer any modifications.
- E. Dewatering measures shall be so designed as to prevent the removal of any lines during pumping or excessive subsidence about the construction site. Discharged groundwater shall be properly detained, settled, filtered, or otherwise treated to prevent contamination, and to prevent contamination of nearby waterways.

### 1.04 SUBSURFACE CONDITIONS

- A. Test borings and groundwater observation wells installed along the excavation route by the Owner or Engineer shall be made available to the Contractor for his use.
- B. The Contractor shall also consider groundwater level fluctuations due to the season, precipitation, or other factors.
- C. The Contractor shall be responsible for obtaining all additional and supplementary information he deems necessary for the design of the dewatering system.

## PART 2 MATERIALS

### 2.01 SUBMITTALS

- A. The Contractor shall submit to the Engineer for approval a plan showing a typical dewatering method to be used during the construction. The plans shall be submitted to the Engineer four weeks prior to beginning the work. Plans shall show location of a given method and the materials to be used for a given installation. Submittal shall include a description of each piece of equipment to be used for the dewatering operation.

## PART 3 EXECUTION OF WORK

### 3.01 GENERAL

- A. The Contractor shall conduct all dewatering operations in a manner, which will protect existing structures, pipelines and utilities from undermining of their bearing soils or disturbance to soil supporting, overlying or adjacent to structures. The Contractor shall be solely responsible for damage to properties, buildings, structures, utilities, pavements, sidewalks or pipelines resulting from his dewatering and surface water control operation.
- B. The Contractor shall control all surface and groundwater so that dry, firm, undisturbed bearing soils exist in the trench or pit during all stages of excavation, construction and backfilling. Softening and instability due to the presence of seepage of water shall not be allowed to occur.
- C. The Contractor shall maintain surface and groundwater control until backfilling is completed so as not to cause shifting of pipe due to flotation and buoyant forces.

### 3.02 CONCRETE STRUCTURES

- A. The Contractor shall construct concrete cutoff dams to prevent the unnatural flow of groundwater through the backfilled trenches as detailed on the Contract Drawings. Intervals between the dams shall not exceed 300 feet. At least one dam shall be constructed between manholes.
- B. The Contractor shall not permit water to rise above concrete or brick masonry within 24 hours after being placed, nor shall moving water be allowed to rise over any masonry for 96 hours. In no event shall water be permitted to rise to set up unequal pressures in structures until the concrete or mortar has set at least 24 hours.

### 3.03 SURFACE WATER CONTROL

- A. The Contractor shall control surface water inflow through the construction of dikes, ditches, pumps or any other control method required to prevent the flow of any surface water into any excavation.

### 3.04 INSTALLATION OF DEWATERING SYSTEM

- A. The Contractor shall install the dewatering system, and shall show to operate to the Engineer's satisfaction, prior to the excavation of any trench or pit. The system shall be shown to maintain the groundwater level as specified or modified to provide the required level as directed by the Engineer. Provisions shall be made to have standby pumps and generators available at all times.

3.05 OBSERVATION WELLS

- A. The Contractor shall install observation wells along the trench centerline in all areas requiring predrainage. There shall be an operating observation well located within 50 ft. of the working edge of the excavation. The Contractor shall install all observation wells to a minimum bottom of the excavation. Observation wells shall consist of a screened or slotted well point and a riser pipe shall be fitted with a threaded watertight cap. Additional observation wells may be required as instructed by the Engineer in areas where a sand stratum underlies a clay layer located at or below the bottom of the excavation.
- B. The Contractor shall make water level readings in the observation wells twice daily, and submit a copy to the Engineer on a daily basis. The Engineer shall be permitted to make independent readings as he requires.

3.06 SITE RESTORATION

- A. Upon completion of the excavation work and approval of the Engineer, the Contractor shall restore the area to its pre-construction condition. All equipment, materials and accessories shall be removed and shall become the property of the Contractor. Observation wells shall be filled with sand upon completion of the Contract or as directed by the Engineer.
- B. Any areas requiring repaving shall be repaved in accordance with related sections of the specifications.

END OF SECTION

## SECTION 02525

### CURB

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE

#### PART 2 MATERIALS

- 2.01 PRECAST CONCRETE CURBING
- 2.02 GRANITE CURBING
- 2.03 BITUMINOUS CURBING

#### PART 3 EXECUTION OF WORK

- 3.01 EXCAVATING TRENCH
- 3.02 PREPARATION OF FOUNDATION
- 3.03 SETTING CURBING
- 3.04 SALVAGING OF CURBING

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK

- A. Work under this section consists of furnishing all material, labor, tools, equipment, and supervision necessary to remove and reset (granite only) or install new curb, curb corners, transition curb, and curb inlets.
- B. The contractor shall be responsible for removing and resetting (granite only) or furnishing and installing new curbing, in accordance with these specifications and in close conformity with the lines and grades shown on the Contract Drawings and as approved by the Engineer.

- 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. DIVISION 2 - SITE WORK
- B. DIVISION 3 - CONCRETE

#### PART 2 MATERIALS

- 2.01 PRECAST CONCRETE CURB

- A. New curbing shall meet the requirements of the Massachusetts Highway Department Standard Specifications for Highways and Bridges, Subsection M4.01.14. Curbing shall be as shown on the Contract Drawings. Transition curbing shall be placed at the ends and beginnings of curbing and at handicap ramps.
- B. Joints shall be tight and less than 1/4" and joint sealant shall not be required.

- 2.02 GRANITE CURB

- C. New granite curbing shall meet the requirements of the Massachusetts Highway Department Standard Specifications for Highways and Bridges, Subsection 501.40.

Granite curbing shall be Type VA4 or VA5, as shown on the Contract Drawings. Transition curbing shall be placed at the ends and beginnings of curbing, at drain inlets, and at handicap ramps.

- D. If curb, curb corners, or curb inlets of different quarries is used, curbing of each quarry shall be segregated and set together to give a uniform appearance.

## 2.03 BITUMINOUS CURB

- A. New bituminous curbing shall meet the requirements of the Massachusetts Highway Department Standard Specifications for Highways and Bridges, Subsection 501.64 and M3.12.0. Curbing shall be as shown on the contract drawings.

## PART 3 EXECUTION OF WORK

### 3.01 EXCAVATING TRENCH

- A. The trench for the curb shall be excavated to a width of eighteen (18) inches. The subgrade of the trench shall be at a depth below the proposed finished grade of the curb equal to six (6) inches plus the depth of the curbstone.

### 3.02 PREPARATION OF FOUNDATION

- A. The foundation for the curbing shall consist of a cement concrete bed placed on the gravel subbase as shown on the details.
- B. The foundation for curb inlets shall consist of a full bed of Portland cement mortar on the supporting back wall of the catch basin or gutter inlet and with sufficient gravel on each side to support the overhang. The trench for the gravel foundation shall be at least six (6) inches in depth and eighteen (18) inches in width. This trench shall be filled with gravel and thoroughly tamped to the required grade.
- C. The trench for curb corners shall be excavated so that there is a foundation of gravel which, when thoroughly compacted, will be six (6) inches in depth and extending six (6) inches beyond the front and back of the curb corner to the full depth of the foundation.

### 3.03 SETTING CURB

- A. Curb and curb corners shall be set on a concrete foundation as shown on the Contract Drawings, and shall be fitted together as closely as possible.
- B. All spaces under the curb and curb corners shall be filled with concrete so that the curb and curb corners will be completely supported throughout their lengths. The curb shall be set to the line and grade required as shown on the plans, unless otherwise directed. Concrete shall be flowed to the finished road gravel grade and bottom of the paved binder course.

### 3.04 SALVAGING OF CURB

- A. The Contractor shall carefully remove, store, and clean all curbing specified for resetting. The Contractor shall replace all existing curbing that is to be reset which is lost, damaged, or destroyed because of his operations, at no expense to the Owner.

END OF SECTION

SECTION 02575  
PAVING AND ROAD CONSTRUCTION

PART 1        GENERAL

- 1.01        CONTRACT DOCUMENTS
- 1.02        DESCRIPTION OF WORK
- 1.03        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS

- 2.01        GENERAL CRITERIA
- 2.02        SUBGRADE
- 2.03        SUBBASE
- 2.04        TRENCH PAVEMENT
- 2.05        BASE COURSE - PERMANENT PAVEMENT
- 2.06        INTERMEDIATE COURSE – PERMANENT PAVEMENT – (BINDER COURSE)
- 2.07        SURFACE COURSE - PERMANENT PAVEMENT
- 2.08        SIDEWALKS, DRIVEWAYS AND CURBS

PART 3        EXECUTION OF WORK

- 3.01        BITUMINOUS PAVING - GENERAL
- 3.02        CARE AND RESTORATION OF PROPERTY
- 3.03        PREPARATION OF SUBGRADE IN CUT AREAS
- 3.04        PREPARATION OF SUBGRADE IN FILL AREAS
- 3.05        PREPARATION OF SUBBASE
- 3.06        TRENCH PAVEMENT – TEMPORARY PAVEMENT
- 3.07        PERMANENT PAVEMENT
- 3.08        MAINTENANCE OF PAVING
- 3.09        SIDEWALKS, DRIVEWAYS AND CURB

CONSTRUCTION PART 1        GENERAL

1.01        CONTRACT DOCUMENTS

- A.        The general provisions of the Contract, including General and Supplemental Conditions and General Requirements, apply to the work specified in this section.
- B.        The Contractor shall be responsible for maintaining all pavements and sidewalks placed as part of the Contract, in a safe and satisfactory condition until the project is accepted as complete. For any pavement or sidewalk area damaged, the Contractor shall remove the entire pavement structure in the damaged area and replace it as directed by the Engineer.
- C.        Should the application of the wearing surface be delayed for any reason including bad weather, the Contractor shall provide and maintain the base in acceptable condition until such time as the new pavement is place.
- D.        During construction, all existing pavement, not to be removed, shall be protected by the Contractor. Any pavement damaged shall be removed and replaced by the Contractor at the Contractor's expense.

1.02        DESCRIPTION OF WORK

- A.        Work under this section consists of furnishing all materials, labor, tools, equipment and supervision necessary to restore existing or construct new pavement sub-grades, subbase, bituminous base courses, tack coats and bituminous surface courses for roadways and all curbs, sidewalks, driveways, and parking areas.

- B. The materials and construction methods used for this work shall conform to the M a s s D O T Massachusetts Highway Department, "Standard Specifications for Highways and Bridges", 2020 Edition, and subsequent revisions and addenda.
  - C. All temporary construction roads, ditches, and drainage facilities shall be removed, and the site restored before completion of the project.
- 1.03 RELATED WORK SPECIFIED ELSEWHERE
- A. SECTION 02200 - EARTHWORK
  - B. SECTION 02224 - FILL AND BACKFILL MATERIALS
  - C. DIVISION 2 - SITE WORK -As Appropriate
  - D. DIVISION 3 - CONCRETE - As Appropriate
- PART 2 MATERIALS
- 2.01 GENERAL CRITERIA
- A. The Contractor shall be responsible for obtaining any permits and meeting State requirements for all work taking place in State highways.
- 2.02 SUBGRADE
- A. Sub-grade shall be either Type1, 2, 3 & 4 materials in accordance with related specifications.
- 2.03 SUBBASE
- A. Sub-base shall be Type 6 screened gravel material in accordance with related specifications or reclaimed material.
- 2.04 TRENCH PAVEMENT – TEMPORARY PAVEMENT
- A. HMA Surface course shall be a minimum 2 inch compacted thickness (SSC 12.5 or SSC 9.5) as specified in the M a s s D O T Massachusetts Highway Department, "Standard Specifications for Highways and Bridges".
- 2.05 BASE COURSE - PERMANENT PAVEMENT  
(When required or MassDOT Highway Layout Application only)
- A. Base course shall be the first layer of bitumen and aggregate mixture overlying the screened gravel or reclaim sub-base.
  - B. Hot Mix Asphalt (HMA) base course shall be minimum 3.5 inch compacted thickness (SBC 37.5) as specified in the M a s s D O T Massachusetts Highway Department, "Standard Specifications for Highways and Bridges".
- 2.06 INTERMEDIATE COURSE – PERMANENT PAVEMENT – (BINDER COURSE)
- A. HMA intermediate (binder) course shall be minimum 2.5 inch compacted thickness (SIC 12.5 or SIC 19.0) as specified in the M a s s D O T Massachusetts Highway Department, "Standard Specifications for Highways and Bridges".
  - B. Intermediate course may be the first layer of bitumen and aggregate mixture overlying the screened gravel or reclaim sub-base in local roads.

2.07 SURFACE COURSE - PERMANENT PAVEMENT

- A. HMA Surface course shall be minimum 1.5 inch compacted thickness (SSC 9.5 or SSC 12.5) as specified in the M a s s D O T Massachusetts Highway Department, "Standard Specifications for Highways and Bridges".

2.08 SIDEWALKS, DRIVEWAYS AND CURBS

- A. Bituminous concrete for driveways, sidewalks and curbs shall be in accordance with the as specified in the M a s s D O T Massachusetts Highway Department, "Standard Specifications for Highways and Bridges".

PART 3 EXECUTION OF WORK

3.01 BITUMINOUS PAVING - GENERAL

- A. All mixtures delivered to the job site shall be accompanied by a Certificate of Compliance. Deliveries not accompanied by a certificate will not be used in the work.
- B. Construction methods shall conform to the requirements as specified in the M a s s D O T Massachusetts Highway Department, "Standard Specifications for Highways and Bridges"., including the following:
1. Mixtures delivered to the job site shall not possess signs of segregation of ingredients or surface crust.
  2. The temperatures of the mixture when delivered to the spreader will be a minimum of 250 F.
  3. Mixtures shall be placed only upon approved surfaces that are clean from foreign material and are dry; and when weather conditions are suitable. No mixture shall be placed when the weather is foggy or rainy, provided, however, that the Engineer may permit, in the case of sudden rain, the placing of mixture then in transit from the plant, if laid at the proper temperature and if the roadbed is free from pools of water. Such permission shall in no way relax the requirements for the quality of the pavement and smoothness of the surface. No materials shall be placed upon a frozen base, or when wind conditions are such that rapid cooling will prevent satisfactory compaction.
  4. Wherever possible material shall be compacted using steel wheeled rollers.
  5. In areas not accessible to a roller, compaction shall be accomplished by using mechanical compactors or hand tampers, approved by the Engineer.
  6. All material place shall receive final compaction before nightfall of the day placed, unless artificial light, satisfactory to the Engineer, is provided.
  7. The density of completed paving shall not be less than 95% of the density obtained from laboratory compaction of a mixture composed of the same materials in like proportions.
  8. The Engineer may require the Contractor to remove and replace at his own expense, any work deemed defective on the basis of sampling and testing for composition and density, or faulty procedures.

3.02 CARE AND RESTORATION OF PROPERTY

- A. All streets, sidewalks, gutters, driveways and curbs which have been damaged by the Contractor's operations shall be restored to a condition at least equal to that in which they were found immediately prior to the beginning of operations.
- B. Suitable materials and methods shall be used for restoration of curbs and other types of gutters, driveways and sidewalks.
- C. Materials and method of all restoration work shall be subject to approval by the Engineer.
- D. All frames, grates, covers, street boxes, manhole rings and other castings removed or damaged by the Contractor's operations shall be restored to a condition at least equal to that in which they were found immediately prior to the beginning of operations.
- E. All frames, grates, covers, street boxes, manhole rings and other castings within the limits of new paving shall be reset by the Contractor such that they are flush with the new surface.

3.03 PREPARATION OF SUBGRADE IN CUT AREAS

- A. If after excavation to the proposed sub-grade elevation the insitu material is determined by the Engineer to be unsuitable, the Contractor shall excavate an additional 1 foot and backfill with Type 3 sand and gravel compacted to 95% of maximum dry density. Changes in the depths and limits of excavations or fills shall be an appropriate bid adjustment item.
- B. The Contractor shall remove loam and topsoil, loose vegetable matter, stumps, large roots, etc., from areas upon which subbase and pavement material will be placed. The subgrade shall be shaped as indicated on the Contract Drawings and shall be compacted to 95% of maximum dry density.

3.04 PREPARATION OF SUBGRADE IN FILL AREAS

- A. The Contractor shall remove loam and topsoil, loose vegetable matter, stumps, large roots, etc., from areas upon which embankments will be built or material will be placed for grading.
- B. After the area has been stripped and grubbed as herein specified, Type 1, 2, 3 and 4 material or reclaimed material shall be placed thereon and built up in successive layers until it has reached the required elevation.
- C. Layers shall not exceed 6 inches in thickness before compaction. The layers shall be slightly convex toward the center. Layers shall be compacted to 95% of the maximum dry density of the particular material used.

3.05 PREPARATION OF SUBBASE

- A. Subbase material shall conform to Type 6 Screened Gravel or reclaimed material as described in the related sections of the specifications.
- B. Screened gravel subbase for either permanent paving shall be a minimum of 12 inches in thickness.

3.06 TRENCH PAVEMENT – PERMANENT PAVEMENT

- A. Trench paving shall be the depth as specified herein, or as directed by the Engineer.
- B. Prior to placing trench pavement, trenches shall have been backfilled in accordance with related sections of the specifications. The top of the trench shall be backfilled with the specified gravel subbase materials, spread and compacted as specified herein.
- C. Prior to placing trench pavement, the backfilled trenches shall be excavated to proper depth and shall receive trench paving. The edges of the existing pavement, previously cut for the trenching operations, shall be retrimmed along clean, straight, undamaged lines, as directed by the Engineer, and the gravel base course shall be recompacted to form a satisfactory, stable foundation.
- D. Prior to the placing of trench pavement, the cut edges of existing pavement shall be swept clean and painted with a prime or tack coat of compatible asphalt materials.
- E. Trench pavement shall be furnished, placed and compacted, as herein specified, to such widths necessary to meet undisturbed existing pavement. The completed pavement shall match the grade and shape of the adjoining existing surfaces.
- F. The Contractor shall continuously maintain trench pavement in good repair, flush with existing pavement, at his own expense. Should soft, damaged or broken areas develop, such areas shall be removed immediately and be replaced with new, properly compacted materials.
- G. Temporary trench pavement shall remain in place until the spring of the following year but no less than 90 calendar days prior to installation of permanent trench pavement.

3.07 PERMANENT PAVEMENT

- A. Permanent top course paving is to be placed after at least 90 days has elapsed from the installation of the binder course paving for required compaction to have occurred as determined by the Engineer.
- B. Prior to Permanent top course paving, the Contractor shall make all final repairs to the previously installed binder course, and raise or cause to be raised, all existing, manhole, catch basin, valve box, curb box, and utility covers, etc., to conform to the final pavement grade. All loose or damaged material on the binder course pavement shall be removed and a leveling course, as hereinbefore specified, shall be installed. Leveling course shall also be installed at depths and locations, as directed by the Engineer, to fill existing holes and depressions, or to improve roadway crowns. Leveling course quantities used for permanent paving shall be included for compensation under the paving item.
- C. All surfaces to receive Permanent paving shall be dry and thoroughly cleaned of foreign or loose material; a compatible prime or tack coat shall be applied to the rate of 0.05 to 0.15 gallons per square yard of pavement, depending upon the condition of the existing surface. All castings and edge stones will be protected from the tack coat.

3.08 MAINTENANCE OF PAVING

- A. The Contractor shall maintain pavement placed under this Contract until the expiration of the one-year guarantee period and shall promptly fill with similar material all depressions and holes that may occur so as to keep the pavement in a safe and satisfactory condition for traffic.

3.09                      SIDEWALKS, DRIVEWAY AND CURB CONSTRUCTION AND RECONSTRUCTION

- A. All granite curbs, cement concrete sidewalks, and driveways damaged during construction will be reconstructed to their original condition after construction is completed. Granite curbing to be reset shall be removed and reset to proper grade and alignment in accordance with the construction methods and conform to the MassDOT Massachusetts Highway Department, "Standard Specifications for Highways and Bridges".
- B. Curbing to be reset shall be carefully removed and stored. The Contractor shall replace any edging damaged or lost due to his negligence. The base upon which the edging is to be set shall be compacted to a firm even surface. Joints shall be pointed with mortar and the exposed portion finished with a jointer. Granite curb inlets shall be set in full mortar beds. The Contractor shall replace any edging damaged or lost due to his negligence.

END OF SECTION

SECTION 02602

SEWER MANHOLES, FRAMES AND COVERS

PART 1        GENERAL

- 1.01        CONTRACT DOCUMENTS
- 1.02        DESCRIPTION OF WORK
- 1.03        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS

- 2.01        GENERAL
- 2.02        CONCRETE AND REINFORCEMENT
- 2.03        PRE-CAST SECTIONS
- 2.04        FRAME AND COVER
- 2.05        BRICK MASONRY
- 2.06        MANHOLE STEPS

PART 3        EXECUTION

- 3.01        INSTALLATION OF MANHOLE BASES AND SECTIONS
- 3.02        LAYING AND CURING BRICK AND COVERS
- 3.03        SETTING MANHOLE FRAMES & COVERS
- 3.04        LEAKAGE TESTS FOR SEWER MANHOLES

PART 1        GENERAL

1.01        CONTRACT DOCUMENTS

- A.        The general provisions of the Contract, including General and Supplemental Conditions and General Requirements, apply to the work specified under this section.

1.02        DESCRIPTION OF WORK

- A.        The Contractor shall furnish all labor, equipment, appurtenances, and materials. He shall perform all operation connection with the satisfactory installation of manholes.
- B.        Manholes shall be constructed at the locations, to the elevations, and in accordance with notes and details shown on the drawings as well as the standard details.
- C.        Manholes shall be as shown on the standard details and of the following types:
  - 1.        Barrels and cone sections shall be pre-cast reinforced or non-reinforced concrete, or poured-in-place reinforced or non-reinforced concrete.
  - 2.        Base sections shall be monolithic to a point 6" about the crown of the incoming pipe, and shall be pre-cast reinforced concrete or pre-cast non-reinforced concrete.
  - 3.        Waterproofing shall be applied to the exterior surfaces of the manholes and structures. The waterproofing material for precast manholes shall be Koppers Bitumastic 300M, Pittsburgh Coal-Cat, Tnemec 413 Tnemec Tar or approved equal.
  - 4.        Horizontal manhole joints and pipe connections shall be only as approved by the Engineer in accordance with the Standard Details and , in general, will depend for water tightness upon either an approved non-shrinking mortar or elastomeric sealant.

5. Cone sections shall be eccentric—see standard detail.
6. There shall be manhole steps.
7. All pre-cast sections and bases shall have the date of manufacture and the name or trademark of the manufacturer impressed or indelibly marked on the inside wall.
8. All invert channels shall be formed of brick and mortar upon the base. The inverts shall conform accurately to the size of the adjoining pipes. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius which is tangent to the centerlines of adjoining pipes.
9. In any approved manhole, the structure shall be of such material and quality as to withstand loads of 8 tons (H-20 loading) without failure.
10. The top 12" (max) of the dome shall be built of brick or precast concrete rings for grade adjustments.
11. The barrel shall be not less than 5 in. thick.
12. Type II cement shall be used except as otherwise approved.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. SECTION 01300—SUBMITTALS
- B. DIVISION 2—SITE WORK—As Appropriate
- C. DIVISION 3—CONCRETE—As Appropriate

PART 2 MATERIALS

2.01 GENERAL

- A. The following diameter manholes shall be used with the appropriate size diameter pipe:
  1. 4'-0" diameter manhole for 24" diameter pipe or less.
  2. 5'-0" diameter manhole for greater than 24" diameter pipe up to and including 36" diameter pipe.
  3. 6'-0" diameter manhole shall be used when indicated on the Contract Drawings.

2.02 CONCRETE AND REINFORCEMENT

- A. Concrete for poured-in-place bases or complete manholes shall conform to the requirements for 4000 psi concrete.
- B. Reinforcing steel for poured-in-place concrete shall conform to the requirements of AASHTO, M31 (Billet steel) or AASHTO, M55 (Welded Steel Wire Fabric).

2.03 PRE-CAST SECTIONS

- A. Pre-cast concrete barrel sections, cones, and bases shall conform to ASTM C478 except as may be otherwise shown on the Standard Details.
- B. Sections shall be steam cured and shall not be shipped until at least five days after having been cast.
- C. No more than two lift holes may be cast in each section.
- D. Acceptance of the sections will be based on material tests and inspection of the inspection of the completed product.
- E. Pre-cast-concrete section tops and bases shall be suitably shaped, by means of accurate bell-ring forms to receive the barrel sections and receive a watertight bituminous coating.
- F. The Contractor shall submit to the Engineer for approval, the method of connecting pipes for each manhole or structures. Acceptable connections may be one or more of the following:
  - (1) The "Lock Joint Flexible Manhole Sleeve" shall be cast in precast manhole base. The stainless steel strap, conforming to ASTM C923 and ASTM A167 shall be protected from corrosion with a bituminous coat.
  - (2) The "Kor-N-Seal" flexible sleeve connection shall be a rubber like gasket cast in the precast manhole base. The rubber gasket shall be cast into a formed opening in the manhole.
  - (3) Any other connections as specified on Contract Drawings.

#### 2.04 FRAME AND COVER

- A. Standard manhole frame and cover shall provide a 24" diameter clear opening indicated on the design plans.. The cover shall have the word "SEWER" in 3" letters cast into the top surface for sewer manholes.
- B. Watertight frames and covers shall be installed as indicated on the design plans.
- C. The castings shall be of good quality, strong, tough, even-grained cast iron, smooth, free from scale, lumps, blisters, sandholes, and defects of every 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.
- D. All castings shall be thoroughly cleaned and subject to a careful hammer inspection.
- E. Castings shall be at least Class 30 conforming to the ASTM Standard Specification for Gray Iron Castings, Designation A48.
- F. Before being shipped from the foundry, castings shall be sandblasted and given two coats of coil-tar-pitch varnish, applied in a satisfactory manner to make a smooth coating, tough, tenacious, and not brittle or with any tendency to scale off.

#### 2.05 BRICK MASONRY

- A. Brick masonry for shelf, invert, and grade adjustment shall consist of the following:

1. Brick shall conform to ASTM Standard Specification for Sewer Brick (made from clay or shale), Designation C32, Grade 55, hard brick.
2. Rejected brick shall be immediately removed from the work and brick satisfactory to the Engineer substituted.
3. Mortar shall be composed of Portland cement, hydrated lime, and sand, in the proportions of 1 part cement to ½ part lime to 4 ½ parts sand (by volume). The proportion of cement to lime may vary from 1:1/4 for hard brick to 1:3/4 for softer brick, but in no case shall the volume of sand exceed three times the sum of the volume of cement and lime.
4. Cement shall be Type II Portland cement conforming to ASTM C150, Standard Specifications for Portland cement.
5. Hydrated lime shall be Type S conforming to the ASTM Standard Specification for Hydrated Lime for Masonry Purposes, Designation C207.
6. Sand shall consist of inert natural sand conforming to the ASTM Standard Specifications for Concrete (Fine) Aggregates, Designation C33 as follows:

#### 2.06 MANHOLE STEPS

- A. Manhole steps shall be extruded PVC and shall be in accordance with ASTM-B211 and OSHA 1910.27.

### PART 3 EXECUTION

#### 3.01 INSTALLATION OF MANHOLE BASES AND SECTIONS

- A. Pre-cast bases shall be placed on a 6" layer of compacted material as described in the Standard Details. The excavation shall be properly dewatered while placing bedding material and setting the base or pouring concrete. Waterstops shall be used at the horizontal joint of poured-in-place manholes.
- B. Inlet and outlet stubs shall be connected and sealed in accordance with the manufacturers recommended procedure, and as shown on the Standard Details, or cast integrally with the poured base.
- C. Barrel sections and cones of the appropriate combination of heights shall then be placed, using manufacturers recommended procedure for sealing the horizontal joints, and as shown on the Standard Details or the remaining barrel of the manhole shall be cast above the base.
- D. Pre-cast reinforced-concrete manhole sections shall be set so as to be vertical and with sections in true alignment.
- E. Joints shall be painted with mortar and exterior joints thoroughly tooled to be lightly concave with a hard polished surface free from drying cracks. Interior joints shall be tooled flush in a similar manner. Mortar shall be as herein specified for brick masonry.
- F. All holes in sections, used for their handling, shall be thoroughly plugged with mortar. The mortar shall be one part cement to 1-1/2 parts sand; mixed slightly damp to the touch (just short of "balling"); hammered into the holes until it is dense and an excess of paste appears on the surface; and then finished smooth and flush with the adjoining surfaces.

- G. A leakage test shall then be made as described hereinafter.
- H. Following satisfactory completion of the leakage test, the frame and cover shall be placed on the top or some other means of preventing accidental entry by unauthorized persons, children, animals, etc., until the Contractor is ready to make final adjustment to grade.

### 3.02 LAYING AND CURING BRICK

- A. Only clean bricks shall be used in brickwork for manholes. The brick shall be moistened by suitable means, as direct, until they are neither so dry as to absorb water from the mortar nor so wet as to be slippery when laid.
- B. Each brick shall be laid in full bed and joint of mortar without requiring subsequent grouting, flushing, or filling, and shall be thoroughly bonded as directed.
- C. Brick masonry shall be protected from too rapid drying by the use of burlaps kept moist, or by other approved means, and shall be protected from the weather and frost, all as required.

### 3.03 SETTING MANHOLE FRAMES AND COVERS

- A. Manhole 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 set concentric with the top of masonry and in a full bed of mortar so that the space between the top of the manhole masonry and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the masonry shall be placed all around and on the top of the bottom flange. The mortar shall be smoothly finished and have a slight slope to shed water away from the frame.
- B. Manhole covers shall be left in place in the frames on completion of other work at the manholes.

### 3.04 LEAKAGE TESTS FOR MANHOLES

- A. General: Leakage tests shall be made and observed by the Engineer on each manhole. The test shall be vacuum test made as described below.
- B. Each manhole shall be tested immediately after assembly and prior to backfilling. All lift holes shall be plugged with an approved non-shrink grout. All pipes entering the manhole shall be plugged, taking care to securely brace the plug from being drawn into the manhole. The test head shall be placed at the inside of the top of the core section and the seal inflated in accordance with the manufacturers recommendations. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches. The manhole shall pass the test if the time is greater than those listed below:

Depth of Manhole 4 and 5 foot diameter	Maximum Allowable Time (sec)
0-10'	60
10-15'	75
15-25'	90

If the manhole fails the initial test, necessary repairs shall be made with a non shrink grout while the vacuum is still being drawn. Retesting shall proceed until a satisfactory test is obtained. Following satisfactory test results, the manhole may be backfilled.

END OF SECTION

SECTION 02615

DUCTILE IRON PIPE AND FITTINGS

PART 1        GENERAL

- 1.01        SCOPE OF WORK
- 1.02        RELATED WORK SPECIFIED ELSEWHERE
- 1.03        SUBMITTALS

PART 2        MATERIALS

- 2.01        DUCTILE IRON PIPE AND FITTINGS
- 2.02        PUSH-ON JOINTS
- 2.03        MECHANICAL JOINTS
- 2.04        FLANGED JOINTS
- 2.05        PIPE MARKING

PART 3        EXECUTION OF WORK

- 3.01        HANDLING AND CUTTING PIPE
- 3.02        INSTALLING PUSH-ON JOINT PIPE AND FITTINGS
- 3.03        DEFLECTION OF PIPE
- 3.04        INSTALLING MECHANICAL JOINT PIPE AND FITTINGS
- 3.05        REMOVAL / ABANDONMENT OF EXISTING DRAIN PIPE

PART 1        GENERAL

- 1.01        SCOPE OF WORK

- A.        The Contractor shall furnish and install ductile iron pipe, fittings, and appurtenant materials as shown on the Contract Drawings and specified herein.
- B.        **Cement lined ductile iron pipe used for drainage pipe shall be Thickness Class 50, all else as specified here in.**

- 1.02        RELATED WORK SPECIFIED ELSEWHERE

- A.        SECTION 02641 – PIPING SPECIALTIES
- B.        SECTION 02200 – EARTHWORK

- 1.03        SUBMITTALS

- A.        Submit to the Engineer six (6) sets of shop drawings detailing the type and class of materials to be furnished. The Contractor shall not purchase the pipe prior to the Engineer's approval of the shop drawings.

PART 2        MATERIALS

- 2.01        DUCTILE IRON PIPE & FITTINGS

- A.        The Ductile Iron pipe shall be designed in accordance with AWWA C150 and shall be manufactured in accordance with AWWA C151. The Ductile Iron pipe shall conform to the ANSI A21.50, A21.51 Specifications for Ductile Iron Pipe. The grade of iron, from which pipe is made, shall be 60-42-10, having 60,000 psi minimum tensile strength,

42,000 psi minimum tensile strength, 42,000 psi minimum yield strength, and 10% minimum elongation.

PIPE SIZE	Thickness (inches)	Thickness Class	Rated Working Pressure
6"	0.31	52	350
8"	0.33	52	350
10"	0.35	52	350
12"	0.37	52	350
16"	0.40	52	350

- B. Pipe fittings (if required) shall conform in all respects to ANSI 21.10 and 21.11 (AWWA C110 and C111) and shall be mechanical joint. Compact fittings 3 inches through 16 inches shall conform to ANSI/AWWA C153/A21.53 and shall be mechanical joint. Compact fittings larger than 16 inches shall not be used.
- C. Pipe shall be of the push-on type, unless specified, mechanical joint or flanged as shown on the Contract Drawings.
- D. All pipe shall be furnished and installed with silicon bronze serrated wedges, two per joint at 2 and 10 o'clock positions.
- D. All pipe and fittings shall be furnished with a cement lining on the inside of the pipe. The lining shall be twice the thickness as specified in ANSI A21.4 (AWWA C104). Cement lining shall be double thickness. The cement lining shall be given a seal coat of asphalt material. Asphalt seal coat shall not impart taste or odor, or toxic or carcinogenic compounds to the water contained therein. Asphalt seal coat shall be a product acceptable to the U.S. E.P.A. for use in potable water and shall be so listed in the most current E.P.A. summary of approved products. The asphalt seal coat shall be applied and cured in strict conformance with the coating manufacturer's cautions and instructions. The seal coat shall be applied by the pipe manufacturer or supplier, under controlled factory conditions and field application is strictly prohibited.
- E. All ductile iron pipes for buried service shall be furnished with a minimum of 10 mil thick bituminous coating on the outside of the pipe.
- F. Fittings shall be ductile iron, with mechanical joint ends. All fittings shall be cement lined and coated inside and out, as specified hereinbefore for ductile iron pipe.
- G. All fittings shall be Class 350 and all fittings shall conform to the weights and dimensions shown in the latest edition of the CIPRA Handbook of Ductile Iron Pipe and Cast Iron Pipe.
- H. Where required, flanged fittings shall be furnished and installed. Fittings shall be ductile iron as specified or as shown, and shall have Class 125 drilled flanges and shall conform in every respect to the applicable requirements of AWWA C115 and ANSI B16.1.
- I. Joint accessories shall consist of high strength ductile iron glands, rubber gaskets, tee head or hex head bolts and nuts. Nuts and bolts shall be made of low alloy steel or stainless steel as required, where corrosive soils and/or saltwater conditions exist. Bolts and setscrews shall be torqued in accordance with the manufacturer's recommendations.

## 2.02 PUSH-ON JOINTS

- A. Push-on joints shall meet all the requirements of ANSI A21.11 and shall consist of a single continuous, molded, rubber ring gasket; a bell socket cast integrally with the pipe or fitting; and a plain end. The configuration shall be such that when the plain end is inserted into the pipefitting socket, the gasket shall be compressed radially to form a positive seal. The gasket and annular space shall be so designed and shaped that the gasket is locked in place after the plain end is inserted into the fitting socket.
- B. Push-on joints shall have the same pressure rating as the pipe or fitting of which they are a part.
- C. Gaskets for push-on joints shall be vulcanized natural or synthetic rubber. All gaskets shall be free of porous areas, foreign material and visible defects.

## 2.03 MECHANICAL JOINTS

- A. Mechanical joints shall meet all the requirements of ANSI A21.11 and consist of a bell socket cast integrally with the pipe or fitting and provided with an exterior flange having bolt holes and a socket with annular recess; a plain end; a continuous molded, rubber ring gasket and; a follower with boltholes, tee head bolts and hexagonal nuts.
- B. Mechanical joints shall have the same pressure rating as the pipe or fitting of which they are a part.
- C. Glands for mechanical joints shall be cast or ductile iron and be stamped with the manufacturer's identification, nominal size and material type. Glands shall receive a bituminous coating at the shop.
- D. Rubber gaskets for mechanical joints shall be natural or synthetic vulcanized rubber, free of porous areas, foreign materials and visible defects.

## 2.04 FLANGED JOINTS

- A. Flanged joints shall meet all the requirements of ANSI A21.15 and ANSI A21.10 and shall consist of two threaded flanges; flange gasket and; bolts with square or hexagonal shaped heads and hexagonal nuts.
- B. Threaded flanges shall be individually fitted and machine tightened on the threaded pipe by manufacturer. Threaded flanges shall not be installed in the field. Flange faces shall be machined.
- C. Pipe furnished with flanges at each end shall have the bolt holes aligned.
- D. Flange gaskets shall be ring or full face rubber and be 1/8 inch thick.

## 2.05 PIPE MARKING

- A. The weight, class or nominal thickness and casting period shall be shown on each piece of pipe. The manufacturer's mark, year of fabrication and the letters "DI" or the word "Ductile" shall be cast or stamped on in letters and numerals not less than ½ inch in height.

## PART 3        EXECUTION OF WORK

### 3.01            HANDLING AND CUTTING PIPE

- A.        Every care shall be taken in handling and laying pipe and fittings to avoid damaging the pipe or lining, scratching or marring machined surfaces and abrasion of the pipe coating or lining.
- B.        Any fitting showing a crack and any fitting or pipe which has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work.
- C.        In any pipe showing a distinct crack and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portion, if so approved, may be cut off by and at the expense of the Contractor before the pipe is laid so that the pipe used may be perfectly sound. The cut shall be made in the sound barrel at a point at least 12 inches from the visible limits of the crack.

### 3.02            INSTALLING PUSH-ON JOINT PIPE AND FITTINGS

- A.        Prior to assembling, the bell and plain end shall be cleaned of all foreign matter. Push-on joints shall be made up by first inserting the gasket into the groove of the bell and applying a thin film of special non-toxic gasket lubricant, supplied by the pipe manufacturer, uniformly over the inner surface of the gasket that will be in contact with the spigot end of the pipe. The end of the plain pipe shall be chamfered to facilitate assembly. The end shall be inserted into the gasket and then forced passed it until it seats against the bottom of the socket. Bedding and backfill requirements shall be as shown on the Contract drawings.

### 3.03            DEFLECTION OF PIPE

- A.        When laying ductile iron pipe, the deflection at the joints shall not exceed 5 degrees or 12 inches for a 16-foot length of pipe.

### 3.04            INSTALLING MECHANICAL JOINT PIPE AND FITTINGS

- A.        Prior to assembling mechanical joints the bell and plain end shall be cleaned of all foreign matter and then brushed with non-toxic gasket lubricant supplied by the pipe manufacturer. With the follower gland and gasket on the plain end, seat the plain end into the bell and press the gasket evenly and firmly into the bell. Move the follower gland into position for bolting, insert all nuts and bolts, and make finger tight. The follower gland shall be tightened evenly using a torque wrench on opposite bolts until all are made up. Bedding and backfill requirements shall be as shown on the Contract drawings. All nuts and bolts shall be given a bituminous coating after bolts are tightened. All fittings shall be rodded to the other fittings or a restraining gland placed on the pipe.

### 3.05            REMOVAL / ABANDONMENT OF EXISTING WATER , SEWER AND DRAIN PIPE

- A.        All existing sewer and drain pipe and appurtenances to be replaced shall be physically removed and disposed of by the Contractor unless otherwise directed by the Engineer.
- B.        Sections of existing sewer and drain pipe that are permitted to be abandoned in-place by the Engineer shall have open ends plugged with concrete or brick and mortar to prevent the entrance of soil into the pipe after backfilling.

END OF SECTION

SECTION 02622

POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

PART 1        GENERAL

- 1.01        SCOPE OF WORK
- 1.02        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS

- 2.01        PVC - PRESSURE PIPE
- 2.02        PVC - GRAVITY SEWER
- 2.03        PUSH - ON JOINTS
- 2.04        PVC BELL (INTEGRALLY CAST)
- 2.05        SOLVENT WELD JOINT
- 2.06        PIPE MARKINGS

PART 3        EXECUTION OF WORK

- 3.01        HANDLING AND CUTTING PIPE
- 3.02        PIPE BEDDING
- 3.03        INSTALLATION OF PIPE
- 3.04        PIPE ENCASEMENT
- 3.05        SEWER REPLACEMENT

PART 1        GENERAL

- 1.01        SCOPE OF WORK
  - A.        The Contractor shall furnish all labor, tools, equipment, materials, and services necessary to lay, join and test all PVC pipe and fittings, and appurtenant materials as shown on the Contract Drawings and as specified herein.
  - B.        The 6" PVC pipe for drains shall be schedule 40 PVC with solvent weld joints.
- 1.02        RELATED WORK SPECIFIED ELSEWHERE
  - A.        SECTION 02200 - EARTHWORK
  - B.        SECTION 02224 - FILL & BACKFILL

PART 2        MATERIALS

- 2.01        PVC - PRESSURE PIPE
  - A.        The PVC pressure pipe shall be Class 150 or DR18 unless otherwise specified and conform to ANSI/AWWA C-900 standard for PVC Pressure Pipe. PVC pipe shall meet the criteria of ASTM D-2241 "Poly Vinyl Chloride (PVC) Plastic Pipe (SDR-PR)". PVC Class 150 Pipe shall be manufactured to dimensions of standard Cast Iron Pipe outside diameters instead of dimensioning according to Iron Pipe Standards (I.P.S.). PVC pipe (SDR-18) shall meet all requirement of Uni-Bell Standard Uni-B-2-72. Class 150 pipe & couplings shall meet the following requirements:

<u>PHYSICAL PROPERTY</u>	<u>REQUIREMENT</u>	<u>TEST METHOD</u>
90 second Minimum Burst Pressure	755 PSI	ASTM D-1599
Sustained Pressure	500 PSI	ASTM D-1598 ASTM D-2241
Impact	100 Ft. - lbs.	ASTM D-2244
Hydrostatic Integrity	Non-Failure	ANSI/AWWA C 900-81 Section 3.1.1
Flattening	Non-Failure	ASTM D-2412
Extrusion Quality	Non-Failure	ASTM D-2152
Coupling Pressure Seal	Non-Failure of Seal	ASTM D-3139

## 2.02 PVC PIPE - GRAVITY SEWER

- A. PVC gravity sewer 4" through 15" shall be SDR 35 unless otherwise specified and shall conform to ASTM D3034 Standard for PVC pipe. PVC gravity Sewer pipe 18" through 27" shall be Type 1 heavy wall unless otherwise specified and shall conform to ASTM F679-80 standard for PVC pipe. The PVC pipe shall be supplied in lengths of 13 or 20 feet.
- B. Except as indicated differently on the Contract Drawings or in the specifications or where specifically directed by the Engineer, gravity sewer pipe shall be furnished with standard integral bell and spigot ends and elastomeric gasket joint.
- C. PVC gravity sewer tees, wyes and tee wyes to be used for service connections shall be PVC SDR 35 fittings with ring tite joints. All fittings shall be capped.

## 2.03 PUSH-ON JOINTS

- A. Push-on joints shall consist of 1) a single continuous, molded, rubber, ring gasket, 2) a bell socket cast integrally with the pipe or fitting and 3) a pipe or fitting plain end. The configuration shall be such that when the plain end is inserted into the pipe fitting socket the gasket shall compressed radially to form a positive seal. The gasket and annular space shall be so designed and shaped that the gasket is locked in place after the plain end is inserted into the fitting socket.
- B. Push-on joints shall have the same pressure rating as the pipe or fitting of which they are a part.
- C. Gaskets for push-on joints shall be vulcanized natural or synthetic rubber. All gaskets shall be free of porous areas, foreign material and visible defects.

## 2.04 PVC BELL (INTEGRALLY CAST)

- A. The bell shall consist of an integral wall section with locked-in, solid cross section elastomeric ring that meets the requirements of ASTM F-477. The bell section shall be

designed to be at least as hydrostatically strong as the pipe wall and meet the requirements of AWWA C-900.

#### 2.05 SOLVENT WELD JOINTS

- A. Where solvent weld joints are required they shall be made with solvent supplied by the pipe manufacturer's specifications or with ASTM Recommended Practice D2855. The dry fit of joints shall be snug; pipe and fittings that afford loose fits will be rejected by the Engineer. The use of multiple layers of filler solvent to overcome a loose fit will not be permitted. Solvent cements shall conform to ASTM D-2564.
- B. The 6" PVC Drain shall be schedule 40 PVC with solvent weld joints.

#### 2.06 PIPE MARKINGS

- A. Pipe and couplings shall bear identification markings that will remain legible during normal handling, storage, installation and during the life of the pipe. Markings shall have been applied to the pipe and couplings in a manner that will not reduce strength or durability or otherwise damage the pipe.
- B. Markings for pressure pipe shall be applied at intervals of not more than 5 Feet and shall include the following: nominal size and OD base, "PVC", dimension-ratio number, AWWA pressure class, AWWA designation number for AWWA C-900, manufacturer's name or trademark and production record code, and mark or seal of pipe testing agency.

### PART 3 EXECUTION OF WORK

#### 3.01 HANDLING AND CUTTING PIPE

- A. Every care shall be taken in handling and laying pipe and fittings to avoid damaging the pipe, scratching or marring its surfaces and ends.
- B. Any fitting showing a crack and any fitting or pipe which has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work.
- C. In any pipe showing a distinct crack and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portion, if so approved, may be cut off by and at the expense of the Contractor before the pipe is laid so that the pipe used may be perfectly sound. The cut shall be at least 12 inches from the visible limits of the crack.
- D. All cutting of PVC pipe is to be square. The pipe to be cut shall be marked around its entire circumference prior to cutting.
- E. Using a factory finished beveled end as a guide to determine the angle and length of the taper, the end of a freshly cut pipe shall be beveled similarly.

#### 3.02 PIPE BEDDING

- A. Pipe bedding and foundation design shall be as specified in related sections.

### 3.03 INSTALLATION OF PIPE

- A. Standard laying lengths shall be 20 feet for pressure pipe with 85% of the total footage of pipe being full lengths and the remaining 15% being furnished as random lengths. Random lengths shall not be less than 10 feet long. Standard laying lengths for gravity sewer shall be 13 feet.
- B. Prior to assembling, the bell and plain end shall be cleaned of all foreign matter. Push-on joints shall be made up by first inserting the gasket into the groove of the bell and applying a thin film of special non-toxic gasket lubricant, supplied by the pipe manufacturer, uniformly over the inner surface of the gasket that will be in contact with the spigot end of the pipe. The end of the plain pipe shall be chamfered to facilitate assembly. The end shall be inserted into the gasket and then forced passed it until it seats against the bottom of the socket.
- C. Pipe shall be installed in such a manner that will ensure that external loads will not subsequently cause a deflection of greater than 5% in the vertical cross-section dimension.
- D. For PVC pressure pipe horizontal deflection from joint to joint shall be limited to 12 inches for PVC pipe sizes 6 inches to 12 inches based on 16 foot length.
- E. The bedding of the pipe shall conform to the trench detail as shown on the Contract Drawings. Installation precautions are also given in ASTM D 2774.
- F. Cleanouts shall be installed where shown on the Contract Drawings and at convenient points in long runs of pipe.
- G. Installed pipe shall rest flat and straight on the bedding at all locations without bridging or binding. Backfill shall be carefully placed to avoid damage to the pipe. The pipe shall be placed to the grades shown on Contract Drawings.
- H. Only laborers competent in laying plastic pipe and suitable equipment shall be employed. Pipe and fittings shall be handled with care to prevent scratching or other damage to the materials. All joints shall be properly cleaned and free of foreign matter. The installation instructions of the manufacturer shall be strictly followed with the exception that the pipe bedding shall be as shown on the Contract Drawings.
- I. The pipe shall not be driven down to grade by striking it with a shovel handle, timber, hammer, or other unyielding object. When each pipe has been properly bedded, enough of the backfill material shall be placed and compacted between the pipe and the sides of the trench to hold the pipe in correct alignment.
- J. Before a joint is made, the pipe shall be checked to insure that a close joint with the next adjoining pipe has been maintained and that inverts are matched and form to the required grade.
- K. The Contractor shall take all necessary precautions to prevent flotation of the pipe from trench flooding. At all times when pipe laying is not actually in progress, the open ends of pipe shall be closed by temporary watertight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed.
- L. Any defective pipe or fitting found in the line shall be removed and replaced without cost to the Owner. All pipes and fittings shall be kept clean of all dirt and debris before being laid, and shall be kept clean until acceptance.

3.04 PIPE ENCASEMENT

- A. Concrete encasement of the PVC Pipe shall be conducted as specified herein or as shown on the Contract Drawings. Concrete requirements for such encasement shall be specified in related sections.

3.05 SEWER CLEANOUT INSTALLATION

- A. The Contractor shall take the necessary precautions to support and protect existing sewer pipes from being damaged during installation of cleanout assembly.
- B. Sewer cleanouts shall be Sch 35 -PVC pipe and fittings.
- C. Pipe adapter couplings shall be used to transition from the 6" PVC pipe to the existing sewer service pipe.
- E. Joints between the existing pipe and replacement pipe shall be made with suitable watertight sleeve or couplings and encased in concrete.
- F. Joints shall not be backfilled until approved for water-tightness by the Engineer.
- G. Sewer cleanout assembly shall consist of adapter couplings, pipe, wye, bend, push on cap to 4" below finished grade and 12" diameter sewer casting as shown on the design plan.
- H. Sewer cleanout assembly is to be located and installed within the proposed concrete sidewalk at the existing sewer connection. A sewer casting shall be set to grade over the PVC cleanout when the concrete sidewalk is installed.
- I. The sewer cleanout casting is to be 12"diameter x 3" depth, as specified and shown on the design plans.

END OF SECTION

## SECTION 02635

### HIGH DENSITY POLYETHYLENE PIPE AND FITTINGS (BURIED POTABLE WATER)

#### PART 1 GENERAL

- 1.01 DESCRIPTION
- 1.02 RELATED WORK
- 1.03 DESIGN SYSTEM PARAMETERS
- 1.04 DELIVERY – STORAGE – HANDLING

#### PART 2A MATERIALS

- 2A.01 PIPE
- 2A.02 FITTINGS
- 2A.03 PIPE AND FITTING IDENTIFICATION

#### PART 2B MATERIALS

- 2B.01 PIPE
- 2B.02 FITTINGS
- 2B.03 PIPE AND FITTING IDENTIFICATION

#### PART 3 EXECUTION

- 3.01 JOINING METHODS
- 3.02 INSTALLATION
- 3.03 TESTING

#### PART 1 GENERAL

##### 1.01 DESCRIPTION

- A. Scope – This section specifies high density polyethylene pipe (HDPE) and fittings for water utility use as indicated on the Drawings, and as specified herein.
  - Furnish, Install, and Test HDPE pipe as indicated and specified in this section, and as referred to in related sections, and the Drawings.
  - The primary installation method is burial. The means and methods, including the testing for acceptance shall conform to all applicable standards as noted herein with the intention of providing a leak-free system to the owner.

##### 1.02 RELATED WORK

- A. The following sections are incorporated by reference,
  - a. Section 01300 - Submittals
  - b. Section 02641 - Piping Specialties
  - c. Section 02200 - Earthwork
  - d. Section 02675 – Water Distribution System Disinfection and Testing

### 1.03 SYSTEM DESIGN PARAMETERS

- A. The *polyethylene* system working pressure rating *accommodates* the normal operating pressure and the repetitive surges. The pressure rating applies at 80°F or less.
- B. Per AWWA 901 and C906, the repetitive surge pressure allowance is one half the pressure class of the pipe, and the occasional surge over pressure allowance is equal to the pressure class of the pipe. Allowable Total Pressure during Recurring Surge conditions equals 1.5 times the pipe's pressure class. Allowable Total Pressure during Occasional Surge conditions equals 2.0 times the pipe's pressure class.

Table 1 gives the Pressure Class per AWWA C901, Pressure Rating and Allowable Total Pressure During Recurring and Occasional Surge for **PE4710** pipe at 80°F or less. For PE 3608, refer to Table 2.

*Table 1. Pressure Class per AWWA C901 for **PE 4710** at 80°F or less*

<b>Pipe Dimension Ratio (DR)</b>	<b>Pressure Class</b>	<b>Pressure Rating</b>	<b>Allowable Total Pressure During Recurring Surge</b>	<b>Allowable Total Pressure During Occasional Surge</b>
<i>DR 9</i>	<i>250 psi</i>	<i>250 psi</i>	<i>375 psi</i>	<i>500 psi</i>
<i>DR 11</i>	<i>200 psi</i>	<i>200 psi</i>	<i>300 psi</i>	<i>400 psi</i>
<i>DR 14.3</i>	<i>150 psi</i>	<i>150 psi</i>	<i>225 psi</i>	<i>300 psi</i>
<i>DR 17</i>	<i>125 psi</i>	<i>125 psi</i>	<i>185 psi</i>	<i>250 psi</i>
<i>DR 21</i>	<i>100 psi</i>	<i>100 psi</i>	<i>150 psi</i>	<i>200 psi</i>

Table 2 gives the Pressure Class per AWWA C901 and C906, Pressure Rating and Allowable Total Pressure During Recurring and Occasional Surge for **PE3608** pipe at 80°F or less.

*Table 2 Pressure Class per AWWA C901 and C906 for **PE 3608** at 80°F or less*

<b>Pipe Dimension Ratio (DR)</b>	<b>Pressure Class</b>	<b>Pressure Rating</b>	<b>Allowable Total Pressure During Recurring Surge</b>	<b>Allowable Total Pressure During Occasional Surge</b>
<i>DR 9</i>	<i>200 psi</i>	<i>200 psi</i>	<i>300 psi</i>	<i>400 psi</i>
<i>DR 11</i>	<i>160 psi</i>	<i>160 psi</i>	<i>240 psi</i>	<i>320 psi</i>
<i>DR 14.3</i>	<i>120 psi</i>	<i>120 psi</i>	<i>180 psi</i>	<i>240 psi</i>
<i>DR 17</i>	<i>100 psi</i>	<i>100 psi</i>	<i>150 psi</i>	<i>200 psi</i>
<i>DR 21</i>	<i>80 psi</i>	<i>80 psi</i>	<i>120 psi</i>	<i>160 psi</i>

## 1.04 DELIVERY – STORAGE – HANDLING

- A. Handle the pipe in accordance with the PPI *Handbook of Polyethylene Pipe* (2<sup>nd</sup> Edition), Chapter 2 using approved strapping and equipment rated for the loads encountered. Do not use chains, wire rope, forklifts or other methods or equipment that may gouge or damage the pipe or endanger persons or property. Field storage is to be in compliance with AWWA Manual of Practice M55 Chapter 7.
- B. If any gouges, scrapes, or other damage to the pipe results in loss of 10% of the pipe wall thickness, cut out that section or do not use.

## PART 2A PRODUCTS FOR 3 INCH AND SMALLER PIPE PER AWWA C901

### 2A.01 PIPE

- A. Polyethylene pipe shall be made from a HDPE material having a minimum material designation code of PE 4710 or PE 3608. The material shall meet the requirements of ASTM D 3350 and shall have a minimum cell classification of PE445474C for PE 4710 and PE345464C for PE 3608. In addition, the pipe shall be listed as meeting NSF-61.
- B. The pipe shall meet the requirements of AWWA C901
- C. HDPE pipe shall be rated for use at a pressure class of 200 psi. The outside diameter of the pipe shall be based upon the CTS sizing system.

### 2A.02 FITTINGS

- A. See Section 02641 – “Piping Specialties” – water services

### 2A.03 PIPE AND FITTING IDENTIFICATION

- A. The pipe shall be marked in accordance with the standards to which it is manufactured.
- B. Color identification by the use of stripes on pipe to identify pipe service shall be optional. If used, stripes or colored exterior pipe product shall be blue for potable water.
- C. Tracing wire shall be placed parallel and connected to the pipe at no greater than 24” intervals with plastic wire ties and shall be 10 or 12 AWG or engineer approved equal.
- D. Marking tape shall be approved by the engineer and placed 3 feet above the crown of pipe.

## PART 2B PRODUCTS FOR 4 INCH AND LARGER PIPE PER AWWA C906

### 2B.01 – PIPE

- A. Polyethylene pipe shall be made from HDPE material having a material designation code of PE3608 or higher. The material shall meet the requirements of ASTM D 3350 and shall have a minimum cell classification of PE345464C. In addition, the material shall be listed as meeting NSF-61.
- B. The pipe and fittings shall meet the requirements of AWWA C906.

- C. HDPE pipe shall be rated for use at a pressure class of 200 psi. The outside diameter of the pipe shall be based upon the DIPS sizing system.

## 2B.02 FITTINGS

- A. Flanges and Mechanical Joint Adapters (MJ Adapters) – Flanges and Mechanical Joint Adapters shall have a material designation code of PE3608 or higher and a minimum Cell Classification as noted in 2B.01A. Flanged and Mechanical Joint Adapters can be made to ASTM D 3261 or if machined, must meet the requirements of ASTM F 2206. Flanges and MJ Adapters shall have a pressure rating equal to the pipe unless otherwise specified on the plans. Markings for molded or machined flange adapters or MJ Adapters shall be per ASTM D 3261. Fabricated (including machined) flange adapters shall be per ASTM F 2206.
- B. Mechanical strap-on saddles can only be used where their use on PE pipe is approved by the mechanical saddle manufacturer. The body of the saddle shall be stainless steel, epoxy coated cast iron or brass. The gasket material and design must be acceptable for PE pipe. The outlet shall be threaded for one inch IPS unless a larger size is shown on the plans. Mechanical strap-on saddles will be installed per the manufacturer's instructions.

## 2B.03 PIPE AND FITTING IDENTIFICATION

- A. The pipe shall be marked in accordance with the standards to which it is manufactured.
- B. Color identification by the use of stripes on pipe to identify pipe service shall be optional. If used, stripes or colored exterior pipe product shall be blue for potable water.
- C. Tracing wire shall be placed parallel and above, but separate from the pipe and shall be 10 AWG or engineer approved equal.
- C. Marking tape shall be approved by the engineer and placed between 3 feet above the crown of pipe.

## PART 3 EXECUTION

### 3.01 JOINING METHODS

- A. Mechanical:
  - 1. Mechanical connection of HDPE to auxiliary equipment such as valves, pumps, and fittings shall use mechanical joint adapters and other devices in conformance with the PPI Handbook of Polyethylene Pipe, Chapter 9 and AWWA Manual of Practice M55, Chapter 6.
  - 2. Mechanical connections on small pipe under 3" are available to connect HDPE pipe to other HDPE pipe, or a fittings, or to a transition to another material. The use of stab-fit style couplings is allowed, along with the use of metallic couplings of brass and other materials. All mechanical and compression fittings shall be recommended by the manufacturer for potable water use. When a compression type or mechanical type of coupling is used, the use of a rigid tubular insert stiffener inside the end of the pipe is recommended.
  - 3. Mechanical couplings that wrap around the pipe and act as saddles are made by several manufacturers specifically for HDPE pipe. All such saddles, tapping saddles, couplings, clamps etc. shall be recommended by the manufacturer as being designed for use with HDPE pipe at the pressure class listed in this section.
  - 4. Unless specified by the fitting manufacturer, a restraint harness or concrete anchor is recommended with mechanical couplings to prevent pullout.

5. Mechanical coupling shall be made by qualified technicians. Qualification of the field technician shall be demonstrated by evidence of mechanical coupling training within the past year. This training shall be on the equipment and pipe components to be utilized for this project.

#### B. FUSED JOINTS;

1. The pipe shall be joined with butt, heat fusion joints as outlined in ASTM D2657 and conform to the Generic Butt Fusion Joining Procedure for Field Joining of Polyethylene Pipe, Technical Report TR-33/2005, published by the Plastic Pipe Institute (PPI). All joints shall be made in strict compliance with the manufacturer's recommendations. A factory qualified joining technician as designated by pipe manufacturer or experienced, trained technician shall perform all heat fusion joints in the presence of the ASPA inspector.
2. Lengths of pipe shall be assembled into suitable installation lengths by the buttfusion process. All pipes so joined shall be made from the same class and type of raw material made by the same raw material supplier. Pipe shall be furnished in standard laying lengths not to exceed 50 feet and no shorter than 20 feet.
3. On days butt fusions are to be made, the first fusion shall be a trial fusion in the presence of an ASPA Inspector. The following shall apply:
  - Heating plate surfaces shall be inspected for cuts and scrapes and shall be free of dirt and residue. Heater surfaces should be between 400O F (minimum) to 450O F (maximum). Measure the temperature @ 12:00, 3:00, 6:00 and 9:00 o'clock positions using a pyrometer or infrared thermometer at locations where the heating plate will contact the pipe/fitting ends. The maximum temperature difference between any two points on a single heating surface must not exceed 24O F. If this ASG Housing Distribution Lines Replacement Project 6 temperature is exceeded, the heating plate shall be cleaned per the manufacturer's recommendations.
  - The fusion or test section shall be cut out after cooling completely for inspection.
  - The test section shall be 12" or 30 times (minimum) the wall thickness in length and 1" or 1.5 times the wall thickness in width (minimum).
  - The joint shall be visually inspected as to continuity of "beads" from the melted material, and for assurance of "cold joint" prevention (i.e. – joint shall have visible molded material between walls of pipe). Joint spacing between the walls of the two ends shall be a minimum of 1/16" to a maximum 3/16".
4. The polyethylene flange adapters at pipe material transitions shall be backed up by stainless steel flanges conforming to ANSI B16.1 and shaped as necessary to suit the outside dimensions of the pipe. The flange adapter assemblies shall be connected with corrosion resisting bolts and nuts of Type 316 Stainless Steel as specified in ASTM A726 and ASTM A307. All bolts shall be tightened to the manufacturer's specified torques. Bolts shall be tightened alternatively and evenly. After installation, apply a bitumastic coating to bolts and nuts.

### 3.02 INSTALLATION

- A. Buried HDPE pipe and fittings shall be installed in accordance with ASTM D2321 or ASTM D2774 for pressure systems and AWWA Manual of Practice M55 Chapter 7.

- B. Bedding: Pipe bedding shall be sand blanket. See Section 02224. Deviations shall be approved by the engineer.
- C. Backfill shall be Type "B" as specified in Section 02224.

### 3.03 TESTING

- A. See Section 02675
- B. Pneumatic (compressed air) leakage testing of HDPE pressure piping is prohibited for safety reasons.

### 3.04 CLEANING AND DISINFECTING

- A. Cleaning and disinfecting of potable water systems shall be in accordance with AWWA C651 and AWWA Manual of Practice M55 Chapter 10, and PPI Handbook of Polyethylene Pipe Chapter 2 (2nd Edition).
- B. After installation and pressure testing, new water mains should be disinfected according to AWWA C651.
- C. The disinfection chemicals should be limited to less than 12% active chlorine. The duration of the disinfection should not exceed 24 hours.
- D. Upon completion, the system should be thoroughly flushed with fresh water, and retested to verify the disinfectant chlorine level has been reduced to potable drinking water concentrations in all service water tubing and branch lateral pipes.

END OF SECTION

SECTION 02641  
WATER PIPING SPECIALTIES

PART 1        GENERAL

- 1.01        DESCRIPTION
- 1.02        RELATED WORK SPECIFIED ELSEWHERE
- 1.03        APPROVAL OF MATERIAL

PART 2        MATERIALS (IF REQUIRED)

- 2.01        MATERIALS
  - A.        Concrete for Thrust Blocks
  - B.        Gate Valves
  - C.        Valve Boxes
  - D.        Butterfly Valves
  - E.        "Dresser" Couplings
  - F.        Insertion Valves
  - G.        Tapping Sleeves and Valves
  - H.        Water Services
  - I.        Water Service Boxes
  - J.        Hydrants
  - K.        Pipe Insulation

PART 3        EXECUTION

- 3.01        INSTALLATION

PART 1        GENERAL

- 1.01        DESCRIPTION

- A.        Work Included:

Furnish all labor, materials, equipment and incidentals required to install all gate valves, tapping sleeves, valves, couplings, hydrants, and appurtenances, complete as shown on the Drawings and/or as specified herein.

- 1.02        RELATED WORK SPECIFIED ELSEWHERE

- A.        SECTION 02615 - DUCTILE IRON PIPE AND FITTINGS

- 1.03        APPROVAL OF MATERIAL

- A.        Submit to the Engineer within ten days after execution of the Contract a list of materials to be furnished, the name of the suppliers and the date of delivery of materials to the job site.
  - B.        Contractor shall provide to Engineer a sworn affidavit upon receipt upon receipt of valves that they comply with all applicable provisions of the reference standards and the other provisions of these specifications including the coating requirements.

PART 2        PRODUCTS – (AS REQUIRED)

- 2.01        MATERIALS

- A.        Concrete for Thrusts Blocks

- 1.        Thrust blocks shall be cement blocks as specified on the construction drawings.

B. Gate Valves

1. All gate valves shall be manufactured in full compliance with the content and intent of this specification. Gate valves shall be iron body, resilient wedge type with 8 mil epoxy coating inside and out, with two inch operating nut. Valves shall have mechanical joint hubs. Gate valves shall conform in every respect to AWWA C509. Valves shall be designed for 200 psi working and 300 psi test pressure. Valves shall open left.
2. Valves shall also conform to the specifications of the AWWA as to size of stem, pitch of thread, etc. The gasket seating area shall be fully machined to fixed dimensions and tolerances as per AWWA specifications. All valves shall be provided with "O" rings. The design of the valve is under pressure in a fully open position. Cartridge O-ring type gate valves, if accepted, shall be furnished with a spare cartridge for each valve furnished.
3. Exterior surfaces of all valves shall be coated with a minimum of three applications of an approved bituminous solution, on a rust-free casting, prior to shipment. Body ring shall be free of any bitumastic solution.
4. Gate valves shall be manufactured by Mueller Co., Decatur, IL; Kennedy Valve, Elmira, NY; or approved equal.

C. Valve Boxes

1. Valve boxes shall be provided for each buried valve. They shall be cast iron, of heavy pattern, sliding adjustable type and provided with cast cover. The bottom of the lower section shall enclose the stuffing box and operating nut of the valve. Boxes shall have barrel of not less than 5 1/4-inch diameter and be of the sliding adjustable type with a lap of least 6 inches when in the most extended position. Covers shall have the word "WATER" cast into them.
2. Valve boxes shall be provided for each gate valve installed for buried service. Valves shall open in the direction as those in use by the Owner. Direction arrows shall be on the valve covers.
3. "Hard Hat Mud Plug" debris traps as manufactured by Infact Corporation, [www.infactcorp.com](http://www.infactcorp.com) water products, 888-773-9130, or equal shall be furnished and installed within all valve boxes. The valve box debris plug shall be a minimum 4" and 6" thickness with heavy duty top and closed cell polyethylene construction with top layer of 6 lb. density layer and 350 lb. test polypropylene handle sized to fit the valve box inside diameter.

D. Butterfly Valves

Butterfly Valves and operators shall conform to the requirements of AWWA C504 and with the specific requirements and exceptions to AWWA C504 which follow:

1. Manual operator shall be submersible, worn gear type (Philadelphia Gear or equal) rack and pinion traveling nut type on lead screw type suitable for buried service.
2. All operators shall have positive adjustable stops to prevent over-traveling of the disc in the open or closed positions.

3. Operators shall be equipped with two inch square operating nuts, fully gasketed and lubricated for buried service.
4. Gearing shall be totally enclosed, air tight and permanently sealed.
5. Valves up to and including 12 inch diameter shall have a rated working pressure of 200 psi. Valves larger than 12 inch shall have a rated working pressure of 150 psi.
6. The exterior of all valves shall be coated with a minimum of three applications of an approved bituminous solution over a rust free casting prior to shipment. Body rings shall be free of bitumen or defect.
7. Valve interiors shall have a 100 percent solid heat cured or fusion bonded epoxy coating system in accordance with AWWA C550.
8. The location and arrangement of the operator shall be as shown on the plans. The operator shall be designed to hold the valve disc on any intermediate position between fully opened and fully closed without creeping or fluttering. It shall be furnished with a device such as an input shaft lock device to hold the valve in a fixed position for an extended period. Valve operating mechanism shall be capable of transmitting sufficient torque to open and close each valve under the most adverse operating conditions. In addition, valves and their operators shall be satisfactory for application involving valve operation after long periods of inactivity. Valve operation shall be through a precision made, high quality, totally enclosed; factory greased and sealed worm gear reducer. Primary gearing shall consist of self-locking worm gear constructed of high tensile bronze and a worm polished or travelling nut designed according to AWWA specification C-504-74, Section 11.3. The valve operator shall be so sized that a maximum input force will be necessary to develop the required operating torque. When additional gearing is required to reduce the input force to the operator, it shall consist of a combination of helical or spur gearing in the first or input stage with a self-locking worm gear unit as described above in the final or output stage. The gearing of the valve operating mechanism shall be such that the operating nut shall turn clockwise to open the valve left. All gear operators shall be designed to transmit twice the required torque without permanent damage to the gear teeth. The valve shaft at the connection to the operator shall have built-in adjustable mechanical stops to prevent over-travel of the disc. These stops shall be fully enclosed and integral with the worm gear housing. Each operator shall be equipped with a large mechanical position indicator that is positively coupled to the valve shaft. The manual operators shall contain a 2 inch square operating nut.
9. Operators shall be watertight for buried service with extension shafts in enclosed, sealed housing and valve boxes at grade.
10. Butterfly valves shall be manufactured by DeZurik BAW, Sartell, MN or approved equal.

E. Solid Sleeve and "Dresser" Couplings

1. Solid Sleeve and "Dresser" couplings shall be mechanical joint with ductile iron glands or approved adapter gland.

2. Ductile iron Solid Sleeve and "Dresser" couplings shall conform to AWWA Specification C-110. Solid sleeves, plugs and caps shall also be ductile iron and conform to AWWA Specification C-110.
3. Coupling and stainless steel bolts shall receive two coats of bituminous paint - Inertol No. 66 Special Heavy - after installation.

F. Insertion Valve

1. Insertion valves shall be first quality, free from all imperfections and defects. The sleeve shall be made of ASTM A-36 steel, epoxy coated to 10-12 mils. Valves shall open left.
2. Insertion valves shall be QuikValve as manufactured by Romac Industries of Seattle, Washington or approved equal.

G. Tapping Sleeves and Valves

1. Tapping sleeves and valves shall conform to AWWA specifications for tapping sleeves and valves. Tapping sleeves shall be mechanical joint, two part castings, flanged on the vertical centerline, and come complete with all joint accessories. The surface area of each flange shall be thoroughly machined, and the sleeve flanges shall be fitted with lead gaskets. Each gasket shall cover the entire surface area of each joint for the full length of the sleeve. Bolts used to assemble the sleeves shall pass directly through each flange and through each gasket. Bolts shall be properly spaced to insure uniform gasket pressure and compression.
2. Sleeve outlets shall have counter bored flanges to insure proper centering of the tapping valve. All tapping valves shall be flanged by mechanical joint as specified by the Owner. Tapping valves shall conform to the aforementioned specifications for gate valves.
3. Tapping sleeves and valves shall be manufactured by Mueller Co., Decatur, IL; Kennedy Valve, Elmira, NY; or approved equal.

H. Water Services

1. Piping for buried water services shall be continuous Type K annealed seamless copper water tubing conforming to ASTM B88 Standard Specification for Seamless Copper Water Tube. Tubing size shall match existing service size unless otherwise indicated.
2. Service Boxes: The cast iron service box shall be the Erie-type extension curb box with arch-base and lid with brass pentagonal plug. Minimum diameter of the upper section shall be 1-½ inch for ¾-inch and 1-inch curb stops and 2-inch for 1-½ inch and 2-inch curb stops
3. Service boxes shall be tar coated and adjustable to accommodate bury depths from five feet to six feet and include 36" rods with stainless steel cotter pins.
4. Required Brass Goods shall include Corporation Cocks, Curb Stops, Misc. Couplings and Fittings shall be lead free. Casting shall be sufficiently heavy to

meet all service conditions without springing or leaking and be clean and free from roughness both inside and out. Waterways shall be smooth, full size and free from obstruction. All threads shall be cut sharp, clean and true.

5. Nuts shall be of commercial bronze containing copper and finished on both sides to true faces. Adjusting nuts shall also come to a true facing against the bottom of the bronze washer and proper adjustment shall be made to assure easy turning and freedom from leakage. Adjusting nuts shall be properly locked to avoid change in position in operation.
6. Curbstops and corporations shall be ball type no bleeding and have lockdown style nuts, "Pack Joint" or equal.
7. All corporation and curb cocks shall be subjected to a sustained hydraulic pressure of 200 pounds and tested in both the open and closed position.
8. All brass goods shall be individually wrapped to protect threads during shipment.
9. The inlet of corporation cocks shall have AWWA taper thread (CC) connections and the outlet shall have compression connections.
10. The inlet and outlet of curb cocks shall have compression connections.
11. Corporations as specified by the Owner, and as manufactured by Red-Hed Manufacturing, Lincoln, RI; Ford Meter Box Co., Inc., Wabash, IN, or by Mueller Co., Decatur, IL, or approved equal.
12. Curbstops shall open left as specified by the Owner, and as manufactured by Red-Hed Manufacturing, Lincoln, RI; Ford Meter Box Co., Inc., Wabash, IN, or by Mueller Co., Decatur, IL, or approved equal.

I. Water Service Boxes

1. Service Boxes: The cast iron service box shall be the Erie-type extension curb box with arch-base and lid with brass pentagonal plug. Minimum diameter of the upper section shall be 1-½ inch for ¾-inch and 1-inch curb stops and 2-inch for 1-½ inch and 2-inch curb stops
2. Service boxes shall be tar coated and adjustable to accommodate bury depths from five feet to six feet and include 36" rods with stainless steel cotter pins.

J. Hydrants

1. Hydrants shall be as manufactured by Mueller Co., Decatur, IL, Model Super Centurain-250-A423 or equal.
2. Hydrants shall have a 6-inch mechanical joint inlet, 5 ¼-inch valve opening and shall open left or counter-clockwise. The hydrant barrel shall be 6" diameter and have two 2 ½ inch hose outlets and one 4 ½ inch pumper outlet with National Standard Threads. Operating nuts shall be standard pentagon. Hydrants shall be supplied with drain ports and have traffic flanges for breakaway. Hydrant barrel extensions shall be repainted in the field to the Town's standards prior to acceptance.

3. Hydrants shall be thoroughly cleaned and given two shop or field coats of paint in accordance with AWWA C502 and the instructions of the paint manufacturer. Paint color shall be the standard hydrant color as specified by the Owner.
4. If the hydrants are delivered with the Owner's standard color, they shall be given one matching field coat of alkyd gloss enamel. If the hydrants are not delivered with the Owner's standard color, they shall be given two coats of alkyd gloss enamel.
5. Hydrant paint shall be as manufactured by Sherwin-Williams, Cleveland, OH; Tnemec Company, Inc., Kansas City, MO; or Minnesota Mining and Manufacturing Co. (3M), St. Paul, MN; or approved equal.

K. Pipe Insulation

1. The insulation shall be flame retardant, extruded polystyrene, wired on with No. 18 copper wire on 150 mm centers. The covering shall be an aluminum jacket 0.4 mm thick min., with lock-on type joints and a polycraft moisture barrier secured in place by 12.5 mm stainless steel strapping on 450 mm centers. The joint shall be sealed with Miracle Adhesive FO 400 Sealer; Foster Foamseal 30-45; Cad-a-Seal 745 or equal.
2. The Contractor shall furnish the insulation manufacturer with the exact dimensions of the pipe to be insulated, together with the type of couplings and specials to be used.
3. The insulation material shall be cut to fit the pipe so as to give a continuous thickness. The insulation shall then be wired on with No. 18 copper wire on 150 mm centers. All joints shall be sealed, and with 75 mm overlaps will be secured in place by 12.5 mm stainless steel strapping of 450 mm centers. All fittings, valves and flanges shall be insulated with the same materials securely held in place. All jacket overlaps shall be sealed and waterproofed with a sealant as noted above, or equal. The work shall be accomplished to the satisfaction of the Owner and the Engineer

INSULATION THICKNESS		WATER OR SEWER MAIN DIAMETER	
XX = MM		YY = DIAMETER	
02	50 mm	04	4 NPS
03	75 mm	06	6 NPS
04	100 mm	08	8 NPS
05	125 mm	10	10 NPS
		12	12 NPS
		14	14 NPS
		16	16 NPS
		18	18 NPS
		20	20 NPS
		24	24 NPS
		30	30 NPS
		36	36 NPS
		42	42 NPS
		48	48 NPS
		54	54 NPS
		60	60 NPS

## PART 3      EXECUTION

### 3.01      INSTALLATION

- A. Buried valves and boxes shall be set with the stem vertical and box vertically centered over operating nut. Valves shall be set on a firm foundation, supported and anchored as shown on the Drawings. Selected excavated material shall be placed and tamped under and at the sides of the valve. Valve box shall be supported during backfilling and maintained in vertical alignment with the top flush with finish grade.
- B. All bolts and nuts shall be stainless steel and heavily coated with two coats of bituminous paint comparable to Interol No. 66 Special Heavy.
- C. Pipe upon which a tapping sleeve is to be installed shall be thoroughly cleaned of all foreign matter with scraping tools and wire brushed, a minimum of six (6) inches each side of the sleeve. Sleeve bolts shall be alternately tightened from the extreme end on one side to the extreme of the opposite side with approved torque wrenches until all are securely tightened. Take care to ensure that the tapping machine is kept in leveled horizontal position and securely supported so as not to transmit any additional weight to the tapping valve.
- D. Service Connections: Connect all services to the new main as directed by the Owner, the Engineer and as specified herein. Services shall be connected after the new main has been tested, chlorinated and approved for service and the work shall result in a minimum disruption of service to the consumer. Make only "wet taps" into the new mains and install corporation cocks, copper tubing, new curb stops, new service boxes, fittings, etc., and make all joints water tight. Services shall be installed to the limits as shown on the contract drawings or as directed by the Engineer. The Contractor shall connect the new copper tubing to the existing service pipe using an approved coupling approximately 12 inches from the new curb stop on the building side of the stop. Where transfers are being made and the existing service is lead or iron, the service shall be replaced to the limit of the City's right of way. All services shall be installed with 5 feet cover unless otherwise directed by the Engineer. Where existing curb boxes are to remain and found to be below grade, the Contractor shall raise the upper section to grade. If the upper section cannot be raised, the Contractor shall remove the existing cover, install the new extension on the existing upper section and install a new cover.
- E. Water mains shall be tapped in accordance with the manufacturer's latest published recommendations, i.e., depth of tap, number of threads exposed, allowable sizes, etc., and the Contractor shall adhere strictly to these recommendations. The Contractor shall be held responsible for all subsequent leaks or failure of the taps for one year from the date of final acceptance of the project and he shall make all necessary repairs that may be required during this period.

END OF SECTION

SECTION 02647

CONNECTIONS TO EXISTING WATER MAINS

PART 1                      GENERAL

- 1.01              DESCRIPTION
- 1.02              RELATED WORK SPECIFIED ELSEWHERE

PART 2                      MATERIALS: NOT APPLICABLE

PART 3                      EXECUTION

- 3.01              CONTRACTOR OPERATIONS
- 3.02              TAPPING CONNECTION TO EXISTING MAINS

PART 1                      GENERAL

- 1.01              DESCRIPTION

A.              Work Included:

This section covers connections to the existing water mains, complete. The Contractor shall furnish all pipe, fittings, valves, tapping machines, if required , and appurtenances. The Contractor shall do all excavation and backfill as required.

- 1.02              RELATED WORK SPECIFIED ELSEWHERE

A.              SECTION 02615 - DUCTILE IRON PIPE AND FITTINGS

B.              SECTION 02641 – PIPING SPECIALTIES

PART 2                      MATERIALS: NOT APPLICABLE

PART 3                      EXECUTION

- 3.01              CONTRACTOR OPERATIONS

A.              The Contractor shall make all connections to the existing mains as indicated on the drawings and as herein specified.

B.              The Contractor shall develop a program for the construction and putting into service of the new work subject to the approval of the Engineer. All work involving cutting into and connecting to the existing work shall be planned so as to interfere with operation of the existing facilities for the shortest period possible time and when demands on the system best permit such interference eve to the extent of working outside of normal working hours to meet these requirements.

C.              The Contractor shall have all possible preparatory work done prior to making the connection and shall provide all labor, tools, material and equipment required to do the work in one continuous operation.

D.              The Contractor shall have no claim for additional compensation, by reason of delay or inconvenience, for adapting his operations to the needs of the Owner's water supply. No damages shall be claimed by the Contractor for delays in dewatering pipelines nor shall

any damages be claimed because of water leaking through closed valves after dewatering is completed.

E. Under no circumstances shall any customers be without water for a period of more than four (4) hours without prior approval of the Owner. Should it appear that any customer will be without water for more than four (4) hours, the Contractor shall install temporary water service where directed by the Engineer.

F. Existing pipeline that is not to be abandoned but is damaged by the Contractor during the work shall be replaced by him at his own expense in a manner approved by the Engineer.

### 3.02 TAPPING CONNECTION TO EXISTING MAINS:

A. Tapping connections to the existing mains, where indicated on the drawings, shall be made with service pressure in the main, using tapping sleeves and valves and a suitable tapping machine.

B. Other connections to existing mains shall be made with the main out of service, unless otherwise directed by the Engineer. Such connections will not require tapping sleeves and valves but connections as indicated on the drawings.

END OF SECTION

## SECTION 02651

### CASING PIPE BORING AND JACKING

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

###### A. General Requirements:

1. Furnish and install all necessary materials and perform all work required to install pipe where shown on the Drawings, by the boring and jacking method.
2. The installation of casing pipe shall conform to this Specification and any Federal, State, local highway and railroad crossing requirements.
3. Casing pipe is required wherever water, sewer, or force mains are installed via the jacking and boring method.

###### B. Submittals:

4. Submit details of proposed jacking or boring pits to the Project Engineer showing locations, dimensions, and details of sheeting and shoring required, if requested.

###### C. Related Work Specified Elsewhere (When Applicable):

1. Structural excavation and sheeting are specified in the appropriate sections of this division.
2. Pipe and pipe fittings are specified in Division 2.

##### 1.2 JOB CONDITIONS

- ###### A.
- Procedures and materials shall meet the requirements and specifications of all parties involved.

#### PART 2 - PRODUCTS

##### 2.1 MATERIALS

###### A. Steel Casing Pipe:

1. ASTM A-53 carbon steel, seamless.
2. Black steel.
3. Diameter and thickness as shown on Drawings and as specified.

Casing Outside Diameter <u>Inches</u>	Railroad Crossings Casing Wall Thickness <u>Inches</u> (Minimum)
36	0.532
38 - 44	0.569
46 - 50	0.688
52 - 54	0.813
60 - 66	0.876

4. Minimum yield strength shall be 35,000 psi and designed to withstand Coopers E-80 Railroad loading.

## PART 3 - EXECUTION

### 3.1 SLEEVE INSTALLATION

- A. Perform all jacking and boring by standard methods.
- B. Once work is started, perform continuous operation to prevent sleeve from "freezing".
- C. Perform proper precautions to prevent the formation of voids outside of the sleeve. If voids are formed, they shall be filled with grout.
- D. Installation shall comply with Section III, Standard Railroad Specifications, Pan Am Railways/Springfield Terminal Railway Company Engineering Department, Prepared by Office of Vice President Engineering, N. Billerica, Massachusetts, dated 01/2011

### 3.2 PIPE INSTALLATION

- A. Casing spacers attached to the pipe shall be used to install the pipe within the casing. The spaces shall be coated steel casing isolator with a 12" wide steel band and 2" wide glass reinforced polymer runners. Spacers shall be located at points about 1/5 the pipe length from each end. Casing Spacers should be Model C12GN2 by GPT Industries or approved equal. Spacing between spacers shall not exceed 8' maximum, spacers should be installed per manufacturer's specifications.
- B. When carrier pipe is "in place", enclose the two ends of the sleeve between the pipe and the sleeve with rubber seal and stainless steel hose clamps. End seals should be Model S - Standard Pull-On end seals by GPT Industries or approved equals.

END OF SECTION

## SECTION 02675

### WATER DISTRIBUTION SYSTEM, DISINFECTION AND TESTING

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE

#### PART 2 MATERIALS

- 2.01 MANIFOLD

#### PART 3 EXECUTION OF WORK

- 3.01 FLUSHING POTABLE WATER LINES
- 3.02 TESTING
- 3.03 DISINFECTION
- 3.04 ACCEPTANCE

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
  - A. The Contractor shall furnish all the necessary equipment and labor for pressure testing and disinfecting the potable water distribution mains shown on the Contract Drawings in accordance with AWWA C600 Specifications.
  - B. If water use restrictions are in place by the owner at the time of construction then flushing and testing may be delayed until restrictions are lifted.
- 1.02 RELATED WORK SPECIFIED ELSEWHERE
  - 02615 - DUCTILE IRON PIPE AND FITTINGS
  - 02641 - PIPING SPECIALTIES

#### PART 2 MATERIAL

- 2.01 MANIFOLDS
  - A. Each permanent blow-off testing and chlorinating water mains shall consist of a 1 inch corporation service or road box as required. Temporary blow-offs shall consist of a 1 inch corporation and tubing and shall be included for payment under the price of the pipe.
  - B. A manifold shall be provided to connect the existing system and the new water main. Each manifold shall consist of two (2)  $\frac{3}{4}$  inch gate valves, one (1)  $\frac{5}{8}$  inch by  $\frac{3}{4}$  inch water meter. Type K copper tubing  $\frac{3}{4}$  inch shall be used and the new main connected to the existing system by either tapping into the pipes or utilizing hydrants.
  - C. A pumping unit or proportionate feeder that delivers a hypochlorite solution to the isolated water main shall be provided. The unit used shall not enable the solution to flow back into the existing system.

## PART 3      EXECUTION OF WORK

### 3.01      FLUSHING POTABLE WATER LINES

- A. Prior to testing and disinfecting water lines, the Contractor shall thoroughly flush all water lines with potable water. Potable water shall be supplied by the Owner. The Contractor shall furnish all equipment necessary including ancillary pumping equipment, taps, temporary piping, etc., to provide a minimum of 2.5 FPS scouring velocity in the mains being flushed for a duration of at least 15 minutes.
- B. The Contractor with the assistance of the D.P.W. shall fill water mains as slowly as practicable so as not to caude dirty water and serious pressure drops within the existing system.
- C. Air shall be vented from the mains during the filling process and temporary or permanent blow-offs shall be made on the mains where directed.
- D. After the water mains have been filled, controlling gate valves shall be closed and the new mains kept isolated from the existing system. The Engineer may direct that a manifold be installed connecting the existing system and the new water mains, in order to maintain static system pressure within the new system for at least 72 hors. Each manifold shall contain double check valves to prevent water from the newly installed water main from backing up into the existing system through the manifold, as previously described in Section 2.01.
- E. Water mains shall be filled at least 3 days before testing to allow for absorption.

### 3.02      TESTING

- A. Testing and chlorinating of the pipelines shall closely follow pipe laying work. Pipelines shall be tested approximately every 2000 feet, or distances slightly greater or less, as approved by the Engineer, unless otherwise noted, as the pipeline is installed. Should the pipelines fail to be tested and chlorinated as specified, the pipe laying work shall be suspended until the testing and chlorinating is done.
- B. The completed pipelines shall be pressure tested in the presence of the Engineer. The method of testing shall be approved by the Engineer and in general shall consist of applying a constant hydrostatic pressure of 150 pounds per square inch to the new mains or 1½ times the normal static pressure whichever is greater. This test shall be conducted for two continuous periods. After the first 15 minute period, the pressure in the mains shall be dropped to the normal working pressure of the system, and then build back up to the required test pressure, isolated and held for a one hour pressure test.
- C. A leakage test may be conducted concurrently with the pressure test if leakage occurs. The allowable liquid lost shall not exceed the amount shown on the following table. The leakage test shall be conducted for one hour per mile of pipe. The leakage shall be recorded to one-tenth of one gallon accuracy by means of a test meter or when allowed by the Engineer permission will be given to measure the drawdown in the test barrel. If the leakage is more than that specified above or in the table that follows, leak or leaks shall be located and the necessary repairs made so that the leakage will not exceed the amount specified. The Contractor shall employ qualified personnel throughout the test procedure. All records and charts shall become the property of the Owner.

# NOMINAL PIPE DIAMETER (INCHES)

AVG TEST PRESSURE (PSI)	6	8	10	12	16	20	24
Ductile, Gray Cast Iron and PVC Mains <u>Allowable Leakage per 1000 ft.</u>							
250	0.71	0.95	1.19	1.42	1.90	2.37	2.85
200	0.64	0.85	1.06	1.28	1.70	2.12	2.55
150	0.55	0.74	0.92	1.10	1.47	1.84	2.21
100	0.45	0.60	0.75	0.90	1.20	1.50	1.80

\*Leakage allowable based on gallons per hour per 1000 feet of Main.

- D. The contractor shall at his own expense make any taps and furnish all necessary caps, plugs, etc., as required in conjunction with testing a portion of the main between gate valves. He shall also furnish a test pump, gauges, and any other equipment required in conjunction with carrying on the hydrostatic tests. He shall at all times protect the new water mains and the existing water mains against the entrance of polluting material.

## 3.03 DISINFECTION

- A. Before being placed in service, all new water pipe-lines shall be chlorinated in accordance with AWWA C900, "Standard Procedure for Disinfecting Water Mains". The procedure shall be discussed with the Engineer before doing the work and shall be approved.
- B. The location of the chlorination and sampling points will be determined by the Engineer in the field. Taps for chlorination and sampling shall be uncovered and backfilled by the Contractor as required.
- C. The general procedure for chlorination shall be the first to flush all dirty or discolored water from the lines, and then introduce chlorine in approved dosages through a tap at one end, while water is being withdrawn at the other end of the line. The chlorine solution shall remain in the pipeline for about 24 hours.
- D. Following the chlorination period, all treated water shall be flushed from the lines at their extremities, and replaced with water from the distribution system. Bacteriological sampling and analysis of the replacement water shall then be made by the Engineer in full accordance with the AWWA Manual C601. The Contractor will be required to rechlorinate, if necessary, and the line shall not be placed in service until the requirements of the State Public Health Department are met.
- E. Upon completion of disinfection, the water main shall be thoroughly flushed with potable water supplied by the Owner until the chlorine concentration within the main is less than 0 ppm. The Owner's system is not chlorinated.
- F. The Contractor shall engage the services of an independent MASSDEP Certified Drinking Water testing laboratory, certified to perform the necessary testing, to obtain samples from the disinfected main and perform bacteriological tests. The results of the bacteriological tests shall be compared with the maximum contaminate levels set forth in the State Primary Drinking Water Standards.

Where these levels are exceeded the disinfection process shall be repeated as directed by the Engineer.

3.04

ACCEPTANCE

- A. The Owner reserves the right to accept the water mains in sections after the satisfactory tests have been made and approved and to make full use of any part or parts of the system.
- B. The Contractor shall be held responsible, for one (1) year from the date the entire contract has been accepted by the Engineer and the Owner, to rectify any leaks, errors, or other poor workmanship which may be discovered and shall make any necessary repairs, alternations or adjustments as may be required to properly complete the work, as directed by the Engineer.

END OF SECTION

SECTION 02722

GRAVITY SEWER AND FORCE MAIN PIPE - GENERAL

PART 1        GENERAL

- 1.01        SCOPE OF WORK
- 1.02        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS

- 2.01        PIPE AND FITTINGS

PART 3        EXECUTION OF WORK

- 3.01        GENERAL
- 3.02        LINES AND GRADES
- 3.03        PIPE FOUNDATION
- 3.04        NORMAL SOIL CONDITIONS
- 3.05        UNSTABLE SOIL CONDITIONS
- 3.06        CONCRETE ENCASEMENT
- 3.07        INSPECTION OF PIPE BEFORE INSTALLATION
- 3.08        INSTALLATION OF PIPE AND FITTINGS
- 3.09        FINAL INSPECTION
- 3.10        FINAL TESTING
- 3.11        EXFILTRATION TEST - GRAVITY SEWER
- 3.12        LOW PRESSURE AIR TEST - GRAVITY SEWER
- 3.13        TEMPORARY PLUGS
- 3.14        CONNECTION TO EXISTING STRUCTURES
- 3.15        PRESSURE TEST - FORCE MAIN
- 3.16        MANHOLE – VACUUM TESTING
- 3.17        GRAVITY SEWER LINE – MANDREL TEST
- 3.18        GRAVITY SEWER LINE – TELEVISION INSPECTION

PART 1        GENERAL

- 1.01        SCOPE OF WORK
  - A.        The Contractor shall furnish, lay, join and test all gravity sewer and force main pipe, and appurtenant materials and equipment as indicated on the drawings and as specified herein.
- 1.02        RELATED WORK SPECIFIED ELSEWHERE
  - A.        DIVISION 2 - SITE WORK

PART 2        MATERIALS

- 2.01        PIPE AND FITTINGS
  - A.        Specifications for types and classes of pipe and fittings required are contained in related sections.

## PART 3 EXECUTION OF WORK

### 3.01 GENERAL

- A. The specifications in this section are applicable to the installation of gravity sewer and force main pipe.

### 3.02 LINES AND GRADES

- A. Pipes shall be laid to the lines and grades shown on the drawings or as directed by the Engineer. The grade shown on the profile is that of the invert of the pipe. The work shall conform to this grade. A variation of one-eighth (1/8) inch or more from the true invert grade on gravity sewers laid on grades above one percent will be deemed sufficient reason to cause the work to be rejected. Work so rejected shall be corrected by the Contractor at his own expense.
- B. The Engineer will establish the location of the pipe, manholes and other appurtenances, and will establish bench marks along the route of the pipeline at convenient intervals for the use of the Contractor and for his own reference in checking the pipe and manhole inverts and other elevations throughout the project.
- C. The grade and alignment of the pipe may be maintained, with the approval of the Engineer, by the use of laser beams if the Contractor can demonstrate that he possesses sufficient equipment and employs with sufficient experience, to utilize such method.
- D. The Contractor shall furnish all labor, material, surveying equipment and tools to establish and maintain all lines and grades from basic control points furnished by the Engineer.

### 3.03 PIPE FOUNDATION

- A. All pipes to be laid in open trench excavation shall be bedded and uniformly supported over their full length on foundations of the types specified and shown on the drawings. Flat-bottomed trenches shall be excavated and dewatered prior to preparing the specified foundation. All work shall be performed in a dry trench. Where higher type foundations than those shown on the drawings are ordered as a result of the Contractor's method of operation, the Contractor shall be due no additional compensation. Where directed by the Engineer as a result of unsuitable soil conditions, the Contractor shall be paid for special bedding under appropriate bid items.

### 3.04 NORMAL SOIL CONDITIONS

- A. All pipe shall be supported on a normal soil condition foundation, except as otherwise indicated on the drawings, or ordered by the Engineer. The trench shall be excavated to a depth equal to  $\frac{1}{4}$  of the outside diameter of the pipe to be installed (6" minimum) below the bottom of the pipe. Screened gravel bedding shall be furnished and placed in the trench for its full width to uniformly support the pipe at the required line and grade. Suitable recesses shall be provided in the bedding to permit adequate clearance for bells, couplings, or similar projections. The bedding shall extend upward around the pipe barrel. Bedding material shall be spread in 6 inch layers, and each layer shall be compacted with twenty pound hand tampers or pneumatic tampers until the required total depth of bedding has been built up.
- B. Where unstable soil conditions are encountered, the pipe shall be supported on a special foundation. The foundation shall be installed where a suitable supporting soil or rock stratum occurs at a depth greater than  $\frac{1}{4}$  of the outside diameter or 6" minimum. The

trench shall be excavated to the depth necessary to reach the suitable supporting stratum (3'-0" minimum). The trench bottom and walls shall be covered with a geotextile fabric. Screened gravel shall then be furnished as bedding and placed in the trench for its full width. The bedding shall be spread in 12 inch layers, and each layer shall be compacted with twenty pound hand or pneumatic tampers. The bedding shall carry vertically from the supporting stratum up to an elevation  $\frac{1}{4}$  of the outside diameter (12" minimum) above the top of the pipe. The special foundation shall extend for a minimum of 5'-0" beyond poor subgrade conditions.

### 3.06 CONCRETE ENCASEMENT

- A. Where required, the pipe shall be supported on foundation. The foundation shall be installed where (a) excavations have been carried outside the normal limits as defined under related sections or (b) as directed by the Engineer. The trench shall be excavated to  $\frac{1}{4}$  of the outside diameter (6 inch minimum and a 12 inch maximum depth) below the bottom of the pipe. The excavated space shall then be completely filled with concrete, and the entire pipe encased in concrete such that the minimum concrete encasement at any point around the outside barrel of the pipe measures 4 inches thick. The depth of encasement over the pipe shall be  $\frac{1}{4}$  of the outside diameter (12" minimum). The total minimum width of the concrete encasement shall equal the width of trench excavation. Unless otherwise shown on the drawings or specified herein, concrete shall be 3,000 psi. Concrete mix, formwork, curing, etc., shall be in accordance with the requirements of appropriate sections. Freshly poured concrete shall be maintained free from ground water for at least the first four hours. No backfilling of the trench shall begin until a minimum time period of 24 hours has elapsed after the encasement has been poured. Steel reinforcing, if required, shall be as shown on the drawings or as directed by the Engineer.

### 3.07 INSPECTION OF PIPE BEFORE INSTALLATION

- A. All pipes and fittings shall be carefully inspected in the field before placing the trench. Cracked, broken, warped, out-of-round or otherwise defective pipe, fittings as determined by the Contractor or Engineer, shall be pulled and not installed. Such rejected pipe shall be pulled and not installed. Such rejected pipe shall then be removed from the job site by the Contractor at his own expense.

### 3.08 INSTALLATION OF PIPE AND FITTINGS

- A. After the trench has been brought to the proper grade, as hereinbefore specified, the pipe shall be laid. Unless otherwise approved by the Engineer in writing, pipe laying shall be done only in the presence of the Engineer. The Contractor shall give ample notice of his schedule for pipe laying operations to the Engineer.
- B. All pipe and fittings shall be carefully lowered into the trench with ropes, slings and proper equipment. Pipe cracked or otherwise damaged during or following installation shall be marked by the Contractor or Engineer and removed from the site as required.
- C. Pipes shall be laid true to the grades shown on the drawings. Blocking will not be permitted except where the pipe is to be encased in concrete. Any pipe that has its grades or joints disturbed after laying shall be taken up and relaid. The interior and ends of all pipe shall be thoroughly cleaned during laying operations by means of plugs or other approved methods. Under no circumstances shall pipe be laid in water and no pipe shall be laid when trench conditions or the weather is unsuitable for such work except by permission of the Engineer.

### 3.09 FINAL INSPECTION

- A. Each section of installed sewer lines shall be visually inspected by the Engineer prior to final testing. The pipe shall be true to both line and grade, shall contain no broken pipe, shall show no leaks, shall show neither obstructions nor the projection of connecting pipes into the main pipe, and shall contain no debris or other deposits which will in any way reduce the full cross-section area of the pipe.
- B. Any section of sewer pipe which does not comply with these inspection criteria, as determined by the Engineer, shall be promptly corrected, replaced or repaired by the Contractor at his own expense. Methods used for the correction shall be approved by the Engineer.

### 3.10 FINAL TESTING

- A. When directed by the Engineer, the Contractor shall remove all debris from manholes and shall thoroughly flush sewers and force mains prior to testing for water tightness. All sewers and force mains, (not including manholes), service connections and sewer laterals constructed under this Contract shall be tested under this section and shall satisfactorily meet the test requirements prior to final acceptance of the work. The Contractor shall furnish all labor, testing materials and equipment (including plugs and standpipes), and shall perform either exfiltration, infiltration, or low pressure air test for the force main under the supervision and to the entire satisfaction of the Engineer.

### 3.11 EXFILTRATION TEST - GRAVITY SEWERS

- A. The exfiltration test on each section of completed sewer shall be conducted by the Contractor in the presence of the Engineer. The Contractor shall isolate each test section, and fill the line and upstream manhole with water to a height two feet above the top of the pipe or two feet above groundwater, whichever is higher, at the highest point of the pipe section under test. The exfiltration shall be defined as the amount of water which must be added to maintain the original level. The maximum exfiltration shall not exceed 200 gallons per inch diameter per mile of main sewer per day. Exfiltration measurements shall be taken not less than one hour after all test water has been placed in any sewer section and this test period shall be no less than two hours in duration.
- B. No more than 1000 feet of sewer pipe may be constructed at a time without testing.
- C. If leakage exceeds the specified amount, the Contractor shall make the necessary repairs or replacements required to permanently reduce the leakage to within the specified limit, and the test shall be repeated until the leakage requirement is met.
- D. When a standpipe and plug arrangement is used in the upper manhole of a line under test, there must be some positive method of releasing entrapped air in the sewer prior to taking measurements. In the case of sewers laid on steep grades, the length of the line to be tested by exfiltration at any one time may be limited by the maximum allowable internal pressure on the pipe and joints at the lower end of the line.
- E. Where it is not feasible to conduct an exfiltration test, and the Contractor is able to demonstrate that the groundwater level is at least 1 ft. above the crown of pipe at the upper end of the section to be tested and the Contractor receives the approval of the Engineer, an infiltration test shall be conducted by the Contractor in the presence of the Engineer by isolating individual sewer sections as above and measuring the infiltrated flow in each section over a period of time. Each sewer section shall include the run of the

main sewer between two manholes, the connection laterals leading to this main sewer, and the upstream manhole. The maximum infiltration shall not exceed 200 gallons per inch diameter per mile per day.

### 3.12 LOW PRESSURE AIR TEST - GRAVITY SEWERS

- A. The low pressure air test shall be performed with AIR-LOC equipment manufactured by Cherne Industrial Inc., Hopkins, Minnesota; New Britain Prod., New Britain, Pa., or equal and shall be conducted under the supervision of the Engineer.
- B. The Contractor may desire to make an air test prior to backfilling for his own purposes, but the "Line Acceptance" test shall be conducted after back-filling has been completed.
- C. All wyes, tees, or ends of lateral stubs, shall be capped to withstand the internal test pressures. Caps shall be easily removable for future lateral connections or extensions.
- D. After a manhole to manhole section of sewer has been backfilled and cleaned, it shall be plugged at each manhole with pneumatic plugs. The pneumatic plugs such that they will hold against the line test pressure without requiring external blocking or bracing. One of the plugs shall have three hose connections. Air for inflation of the triple connection pneumatic plug shall be supplied through a factory-equipped control panel. One hose shall be used for continuously reading the air pressure in the sealed line. The third hose shall be used for introducing low pressure air into the sealed line.
- E. There shall be a 3 ½ " or larger diameter, 0-30 psi gauge mounted on the control panel for reading of the internal pressure in the line being tested. Calibrations from 0-10 psig portion shall cover 90% of the complete dial range.
- F. Low pressure air shall be introduced into the sealed line until the internal air pressure reaching 4 psig greater than the average back pressure of any ground water that may be over the pipe. At least two (2) minutes shall be allowed for the air pressure to stabilize. After the stabilization period, the third hose shall be quickly disconnected from the control panel.
- G. The portion of line being tested shall be accepted if the portion under test does not lose air at a rate greater than 0.003 cfm per square foot of internal pipe surface when tested at an average pressure of 3.0 psig greater than any back pressure exerted by the ground water that may be over the pipe at the time of the test.
- H. The requirements shall be accomplished by performing the test as follows:

The time required in minutes for the pressure to decrease from 3.5 to 2.5 psig (greater than the average back pressure of any ground water over the pipe) shall not be less than the time shown for the given diameters in the following tables:

<u>Pipe Diameter in Inches</u>	<u>Minutes</u>
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8.5
21	10.0
24	11.5

- I. In areas where ground water is known to exist, the Contractor shall install a one-half inch diameter capped pipe nipple, approximately 10" long, through the manhole. This shall be done at the time the sewer line is installed. Immediately prior to the performance of the line acceptance test the ground water level shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground as to clear it, and then connecting a clear plastic tube to the pipe nipple. The hose shall be held vertically and a measurement of the height in feet of water shall be taken after the water stops rising in this plastic tube. The height in feet shall be divided by 2 to establish the pounds of pressure that will be added to all readings.(1/2 psi added for every vertical foot of groundwater above the pipe invert)
- J. If leakage exceeds the specific amount, the Contractor shall make the necessary repairs or replacements required to permanently reduce the leakage to within the specified limit, and the test shall be repeated until the leakage requirement is met.

### 3.13 TEMPORARY PLUGS

- A. At all times when sewer and force main pipe laying is not actually in progress, the open ends of pipe shall be closed by temporary plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of earth or other materials entering the pipe has passed.

### 3.14 CONNECTION TO EXISTING STRUCTURES

- A. Piping to be connected to existing manholes where no stub or other opening has been provided shall be made through an opening of minimum diameter cut in the wall of the structure at the required elevation and location. All penetrations shall be made by core boring unless otherwise approved by the Engineer. The Contractor shall furnish and install a pipe stub.
- B. The annular space outside of the pipe stub shall be filled and sealed with non-shrinking grout. The outer surface of heavy bitumastic. Water-proofing compound of a type approved by the Engineer.
- C. The benchwalls within the existing structure shall be altered as required to form a new flow channel from the new connection to the existing flow channel as shown on the Contract Drawings or directed by the Engineer. The new channel shall be constructed with a smooth and continuous radius as indicated and approved by the Engineer.

### 3.15 PRESSURE TEST - FORCE MAIN

- A. The Contractor shall perform a pressure and leakage tests on sections of approved length. The Contractor shall also furnish and install suitable temporary testing plugs or caps for the pipeline; all necessary pressure pumps, pipe connections, and other similar equipment; and all labor required; all without additional compensation Prices for the appropriate pipe items shall include compensation for testing. The meter and gage shall include compensation for testing. The meter and gage shall be installed by the Contractor in such a manner that all water entering the section under test will be measured and the pressure in the section indicated, and they shall be kept in use during both tests.
- B. The scheduling of pressure and leakage tests shall be as approved by the Engineer.
- C. The section of pipe to be tested shall be filled with water of approved quality, and all air shall be expelled from the pipe. If air release assemblies are not available at high points

for releasing air, the Contractor shall make the necessary taps at such points and shall plug said holes after completion of the test with brass or bronze plugs.

- D. For the pressure test, the Contractor shall, by pumping, raise the water pressure (based on the elevation at the lowest point of the section under test and corrected to the gage location) to a pressure in pounds per square inch numerically equal to the class rating of the pipe. If the Contractor cannot achieve the specified pressure and maintain it for a period of one hour, the section under test shall be considered as having failed the pressure test.
- E. Following a successful pressure test, the Contractor shall make a leakage test by metering the flow of water into the pipe while maintaining in the section being tested a pressure equal to the average pressure to which the pipe will be subjected under normal conditions of service. This shall be done by placing the section under system pressure or by pumping. If the average leakage during a 12 hour period exceeds 75 gallons per inch diameter per mile of pipe per day, the section shall be considered as having failed the leakage test.
- F. The lengths of joint to be used in determining the allowable leakage shall be based on the nominal diameter of the pipe.
- G. If the section fails to pass the pressure test, the leakage test, or both, the Contractor shall do everything necessary to locate, uncover, even to the extent of uncovering the entire section, and repair or replace the defective pipe, fitting, or joint, all at his own expense and without extension of time for completion of the work.
- H. If, in the judgement of the Engineer, it is impracticable to follow the foregoing procedure exactly for any reason, modifications in the procedure shall be made as required or approved, but in any event the Contractor shall be responsible for the ultimate tightness of the line within the above leakage requirements.

### 3.16 SEWER MAHOLE – VACUUM TESTING

- A. Each manhole shall be tested immediately after assembly and prior to backfilling. All lift holes shall be plugged with an approved non-shrink grout. All pipes entering the manhole shall be plugged, taking care to securely brace the plug from being drawn into the manhole. The test head shall be placed at the inside of the top of the core section and the seal inflated in accordance with the manufacturers recommendations. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches. The manhole shall pass the test if the time is greater than those listed below:

Depth of Manhole 4 and 5 foot diameter	Maximum Allowable Time (sec)
0-10'	60
10-15'	75
15-25'	90

If the manhole fails the initial test, necessary repairs shall be made with a non shrink grout while the vacuum is still being drawn. Retesting shall proceed until a satisfactory test is obtained. Following satisfactory test results, the manhole may be backfilled.

3.17 SEWER LINE – MANDREL TESTING

- A. Prior to testing all lines shall be flushed and jetted. A 5% maximum deflection test is required for the PVC Pipeline after final trench compaction has taken place but not sooner than 30 days after installation. The test shall be conducted with a rigid mandrel (go no go) device cylindrical in shape and constructed with a minimum of nine or ten evenly spaced arms or prongs. The mandrel shall be hand pulled by the contractor through all sewer lines. Any section of sewer not passing the mandrel shall be uncovered and the contractor shall re-round or replace the sewer to the satisfaction of the engineer and the at the contractors expense. The excavation shall be mechanically compacted to a minimum of 95 percent and the pipe retested.

3.18 SEWER LINE – TELEVISION INSPECTION OF LINES

- A. All mainline pipe shall be television tested upon completion of all other tests. The testing shall be done by a company specializing in this type of work. The camera shall be drawn through the pipe, with a color image projected upon a color video screen which includes a distance. All services shall be located a distance from the manhole on the tape. All imperfections should be noted on the tape. Two copies of the tape shall be furnished to the Town of Buckland. Any misalignments, imperfections, sags, or other unacceptable observations shall be corrected by the contractor at his expense. If the line is not flushed properly and requires re-flushing the contractor shall re-video the line.

END OF SECTION

SECTION 02728

MODIFICATION AND CONNECTIONS  
TO EXISTING STRUCTURES

PART 1        GENERAL

- 1.01        SCOPE OF WORK
- 1.02        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS

- 2.01        GENERAL
- 2.02        CONCRETE
- 2.03        CEMENT CONCRETE BLOCKS
- 2.04        BRICK MASONRY
- 2.05        MORTAR
- 2.06        FRAMES, COVERS, GRATES AND MANHOLE STEPS
- 2.07        PRECAST SECTIONS

PART 3        EXECUTION OF WORK

- 3.01        GENERAL
- 3.02        INTERFERENCE
- 3.03        MODIFICATION OF STRUCTURES
- 3.04        CLEANING, CARE, & RESTORATION
- 3.05        NORMAL JOINT CONNECTIONS
- 3.06        CONNECTION TO EXISTING STRUCTURES
- 3.07        CONNECTION TO EXISTING SEWERS
- 3.08        MANHOLES INTERCEPTING EXISTING SEWERS
- 3.09        LAYING BRICK AND BLOCKS
- 3.10        PLACING CASTINGS
- 3.11        DRAINAGE OR SEWERAGE STRUCTURES ABANDONED OR REMOVED

PART 1        GENERAL

1.01        SCOPE OF WORK

- A.        The Contractor shall make all connections to the existing facilities as indicated on the drawings and as herein specified, or as directed.
- B.        The Contractor shall furnish all labor, equipment, materials, appurtenances and incidentals and perform all operations in connection with the satisfactory rehabilitation and modification of existing drainage and sewer structures.
- C.        Work shall be performed at the locations shown on the Contract Drawings and where directed by the Engineer.
- D.        Existing pipeline or structures damaged by the Contractor shall be replaced by him at his own expense in a manner approved by the Engineer.
- E.        Work shall consist of removing, replacing and adjusting the masonry and castings of present structures, as required, to conform to newly proposed line and grade changes; to change in type of structure, or change in type of castings; all in accordance with these specifications and in close conformity with the lines and grades shown on the Drawings or established by the Engineer.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. SECTION 01300 - SUBMITTALS
- B. SECTION 02601 – DRAIN MANHOLES, FRAMES AND COVERS
- C. SECTION 02602- SEWER MANHOLES, FRAMES AND COVERS
- D. SECTION 04200 - MASONRY WORK

PART 2 MATERIALS

2.01 GENERAL

- A. Brick masonry and cement concrete block or bricks for drop inlets, special modified drop inlets, catch basins, manholes or other related structures, where permitted or required for repair or construction shall be good sound, hard and uniformly burned, regular and uniform in shape and size, of compacted texture and satisfactory to the Engineer.
- B. Bricks and blocks that are broken, cracked or of improper size or quality, or unduly chipped or otherwise defective shall not be used in the work and shall be immediately removed from the site and satisfactory bricks substituted therefore.
- C. Samples of brick and blocks to be used in the work shall be submitted to the Engineer for approval before shipment. Bricks used in the work shall conform to the approved samples.

2.02 CONCRETE

- A. All cast in place concrete shall conform to the requirements of SECTION 03300 - CAST-IN-PLACE CONCRETE.

2.03 CEMENT CONCRETE BLOCKS

- A. Cement concrete blocks shall be machine made solid segments, conforming to the requirements for Concrete Masonry Units for Construction of Catch Basins and Manholes, ASTM-C139, supplemented by the following requirements:
  - 1. The blocks shall be 6 inches in width for basins and manholes of 9 feet or less in depth, 8 inches in width below a depth of 9 feet when used in structures having a depth greater than 9 feet.
  - 2. The permissible dimensional variation for nominal size shall be in accordance with ASTM-C139.
  - 3. For cylindrical structures, the inside and outside surfaces of the blocks shall be curved to the necessary radius and so designed that the interior surfaces of the structures shall be cylindrical, except the top batter courses which shall be designed to reduce uniformly the inside section of the structure to the required top size and shape.
  - 4. The blocks used in the top courses shall be designed to produce a surface 8 inches on width upon which to seat the frame and the curb inlet when one is used.
  - 5. Blocks shall be so designed that only full length units are required to lay any one Course.
  - 6. Blocks shall be sampled and tested in accordance with ASTM-C140. The minimum average compressive strength for 5 representative blocks shall be 3000 PSI. The minimum compressive strength for one individual block shall be 2500 PSI.

2.04 BRICK MASONRY

- A. Brick masonry shall conform to the requirements of SECTION 04200 - MASONRY WORK.

2.05 MORTAR

- A. Mortar shall be composed of Portland cement, hydrated lime, and sand, materials shall conform to the requirements of SECTION 04200 - MASONRY WORK.
- B. Hydrated lime shall be Type S conforming to the ASTM Standard Specification for Hydrated Lime for Masonry Purposes, Designation C207.

2.06 FRAMES, COVERS, GRATES, AND MANHOLE STEPS

- A. Frame covers and grates shall be all cast iron conforming to the Standard Details and Drawings. All shall be designed for highway loads.
- B. The castings shall be of good quality, strong, tough, even-grained cast iron, smooth, free from scale, lumps, blisters, sand holes, and defects of every 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. Allowances shall be made in the patterns so that the thicknesses specified or shown shall not be reduced in obtaining finished surfaces.
- C. All castings shall be thoroughly cleaned and subject to a careful hammer inspection.
- D. Castings shall be at least Class 30 conforming to the ASTM Standard Specification for Gray Iron Castings, Designation A48. Casting shall not be acceptable if the actual weight is less than 95 percent of the theoretical weight computed from the dimensions as shown. The Contractor shall provide facilities for weighing castings in the presence of the Engineer or shall furnish invoices to the Engineer showing true weights certified by the supplier.
- E. Before being shipped from the foundry, castings shall be sand- blasted and given two coats of coal-tar-pitch varnish, applied in a satisfactory manner so as to make a smooth coating, tough, tenacious, and not brittle or with any tendency to scale off.
- F. Manhole rungs, where designated by Contract Drawings or as specified shall be 14" wide stainless steel or high density polyethylene. The portion of the legs to be embedded in the precast section shall have fins and be tapered to insure a secure bond.
- G. Manhole rungs shall be cast in place in the precast riser and cone sections during the manufacture of the sections. Precast sections having rungs which are grouted, mortared or driven in place shall not be accepted.

2.07 PRECAST SECTIONS

- A. Precast concrete barrel sections, cones, and bases shall conform to ASTM C478 except as may be otherwise shown on the Standard Details.
- B. Sections shall be steam cured and shall not be shipped until at least five days after having been cast.
- C. No more than two lift holes may be cast in each section.

- D. Acceptance of the sections will be on the basis of material tests and inspection of the completed product.
- E. The tops of the bases shall be suitably shaped, and connections shall be made with approved round rubber "O" - ring gaskets or flexible plastic gaskets.
- F. The round rubber "O" - ring gaskets shall conform to ASTM C443. The flexible plastic gasket shall conform to AASHTO M198. They shall be designed and manufactured so that the completed joint will withstand an internal hydrostatic pressure of excess of 13 psi for 10 minutes without showing any leakage by the gasket or displacement of it. The Contractor's supplier shall test the effectiveness of the joints against leakage. Such tests shall be made by an internal hydrostatic pressure against the joint of 13 PSI for 10 minutes. A complete set of records of the test shall be submitted to the Engineer.

### PART 3 EXECUTION OF WORK

#### 3.01 GENERAL

- A. Before initiation of any reconstruction work which requires interrupting the flow in an existing sewer, combined sewer, or storm drain, the Contractor shall provide for temporary flow of the sewage and/or drainage during the reconstruction operations. The procedure used to reroute the flow shall be subject to the approval of the Engineer, and the Contractor shall have suitable equipment on hand to perform all work as planned in a quick and efficient manner.
- B. When removing the existing structure, care shall be taken to remove only as much of the existing structure as is necessary to make the proper repairs.
- C. The Contractor shall have all possible preparatory work done and shall provide all labor, tools, material and equipment required to do the work in one continuous operation.
- D. The Contractor shall have no claim for additional compensation, by reason of delay or inconvenience, for adapting his operations to the needs of the public.

#### 3.02 INTERFERENCE

- A. The Contractor shall develop a program for the construction and placing in service of the new works or the re-direction of existing works subject to any notes on the Contract Drawings and to the approval of the Engineer. All work involving cutting into and connecting to the existing facilities shall be planned so as to interfere with operation of the existing facilities for the shortest possible time and when the demands on the system best permit such interference even to the extent of working outside of normal working hours to meet these requirements.

#### 3.03 MODIFICATION OF STRUCTURES

- A. When the line and/or grade of the structure require a change of 6 inches or less, the structure shall be adjusted to line and grade. The masonry shall be removed to such depth as directed by the Engineer and new masonry shall be constructed to conform to the proposed design.
- B. When the line and/or grade of the structure requires a change greater than 6 inches the structure shall be remodeled. The sloped masonry and the vertical masonry shall be removed to such depths as directed by the Engineer.

- C. When the failing condition of a structure requires its modification, the masonry shall be removed to such depth as directed by the Engineer and new masonry shall be constructed to conform to the proposed design.
- D. When the change in type of structure is required, as converting a basin to a manhole, the masonry shall be removed to such a depth as directed by the Engineer and new masonry shall be constructed to conform to the proposed design.
- E. A 6-inch compacted subbase, consisting of Type 3 sand and gravel shall be placed under the concrete foundations of structures which require complete removal and reconstruction.

#### 3.04 CLEANING, CARE, AND RESTORATION

- A. All materials shall be removed from the catch basin sump and immediately disposed. Silt, sand, debris and all other materials shall be removed to the bottom of the sump to the satisfaction of the Engineer. It will not be necessary to provide a wash-clean sump but hosing or cleaning of the brick faces where necessary to determine the condition of the structure may be required by the Engineer. Rodding and flushing of existing lines will be required to ensure fully functional drain systems. Cleaning by hand may be required. Repairs shall be made as required by the Engineer.
- B. The structure shall be considered to be clean when the material remaining in the structure shall not be more than 2-inches in depth, if leveled, and when the outlet pipe has been rodded and flushed with water to ensure that all materials have been removed from within. In order to clean the outlet pipes of the modified catch basins, existing hoods will be removed and then replaced after the outlet pipes have been cleaned.
- C. The materials removed from the catch basins shall be transported immediately to the place of disposal. Materials removed on the site. No separate payment will be made for such disposal.
- D. During the cleaning operation, care shall be taken by the Contractor not to damage grates, frames, covers, hoods, the structure, or pipes. In case of damage caused by negligence of the Contractor, the damaged parts shall be satisfactorily repaired or replaced at the contractor's expense. The Contractor shall be responsible for the safe storage of all items removed and to be reset. Lost castings shall be replaced by the Contractor at no additional cost to the Owner.

#### 3.05 NORMAL JOINT CONNECTIONS

- A. The Contractor shall make joint connections similar to those on the existing pipe or adaptable to such pipe unless specifically shown otherwise on the drawings or directed by the Engineer.

#### 3.06 CONNECTION TO EXISTING STRUCTURES

- A. Piping to be connected to existing manholes or other similar structures where no stub or other opening has been provided shall be made through an opening of minimum diameter cut in the wall of the structure at the required elevation and location. All penetrations shall be made by core boring unless otherwise approved by the Engineer.
- B. The Contractor shall furnish and install a pipe stub, similar in material, joint detail and diameter to the pipe to be connected to the existing structure.
- C. The annular space outside of the pipe stub shall be filled and sealed with non-shrinking grout. The outer surface of the sealing mortar shall be given a coating of heavy bitumastic water-proofing compound of a type approved by the Engineer.

- D. The bench walls within the existing structure shall be altered as required to form a new flow channel from the new connection, as shown on the Drawings or directed by the Engineer. The new channels shall be built with a smooth and continuous radius as indicated on the Detail Drawing and approved by the Engineer.

### 3.07 CONNECTION TO EXISTING SEWERS

- A. Sewer connections to existing sewers and service connections constructed where there is no connection fitting or where the fitting has been damaged by or cannot be located by the Contractor shall be constructed of PVC.
- B. Existing sewers shall be tapped by saw cutting or machine specifically designed for such work. Tapping by use of hammer and chisel shall not be allowed except if specifically authorized in writing by the Engineer.
- C. Existing sewers shall be cleaned by rodding, flushing and/or derooting as required by the Engineer and shall include proper disposal of all material removed. Cleaning shall be performed by the contractor only after receiving written authorization from the Engineer.

### 3.08 MANHOLES INTERCEPTING EXISTING SEWERS

- A. Where indicated on the Contract Drawings or directed by the Engineer, a manhole shall be installed to connect the existing and new sewers. The existing pipe shall not be disturbed, damaged, or altered in any manner which may disrupt its normal operation.
- B. The manhole shall be constructed by one of the following methods:
  - 1. Installation of precast manhole with Kor-N-Seal boot connections and temporary bypass piping and couplings to be removed after all testing is completed. Include all temporary above ground bypassing of existing sewer flows to next available downstream manhole.
  - 2. The placement of a precast concrete base slab, of sufficient depth to accommodate a typical invert, beneath the existing pipe. The first barrel section shall be fitted with openings to allow the passage of the existing pipe or pipes and the connection of the new pipe or pipes.
  - 3. A cast in place concrete base section shall be formed around the existing pipe. The formed base section shall accommodate the installation of a typical invert and also accept the remainder of the manhole precast sections or formed sections.
  - 4. Methods other than the above must be approved in writing by the Engineer. All precast manhole sections, cast in place manholes, concrete formwork and appurtenances shall conform to the appropriate specification sections.
- C. The existing pipe shall not rest upon or support any manhole sections. The incoming existing pipe shall be saw cut and a flexible coupling (Dresser type 38, Clow type 248 or equal) installed at a distance as indicated by the Engineer.
- D. The annular space outside of the existing pipes shall be filled and sealed with non-shrinking grout. The outer surface of the sealing mortar shall be given a coating of heavy bitumastic waterproofing compound of a type approved by the Engineer.

- E. The flow shall be altered and a new channel built only after the activation of the new sewer as noted on the Drawings and upon approval by the Engineer. The new channel shall be built with a smooth and continuous radius.

### 3.09 LAYING BRICK AND BLOCKS

- A. Brick and concrete blocks shall be soaked in water before laying.
- B. All joints in brick structures shall be thoroughly flushed full of mortar and no joint on the inside face shall be greater than  $\frac{1}{4}$  inch. After the bricks are laid, the joints shall be pointed on the inside.
- C. As brick walls are laid up, the outside of the structure shall be plastered with  $\frac{1}{2}$  inch thick mortar coat. As circular concrete block walls are laid up the horizontal joints and keyways shall be flushed full with mortar. As rectangular blocks are laid up all horizontal and vertical joints shall be flushed full with mortar. Plastering of the outside of block structures will not be required.
- D. The joints in precast units shall be wetted and completely mortared immediately prior to setting a section.
- E. No structure shall be backfilled until all mortar has completely set. When the floors of structures are made of concrete sectional plates the opening in the floor shall be filled with brick chips and mortar, cement concrete, or left open, as directed.

### 3.10 PLACING CASTINGS

- A. Frame castings for basins, manholes and inlets shall be set in full mortar beds true to the lines and grades as directed.
- B. Where directed the castings shall be temporarily set as such grades also provide drainage during the construction.
- C. The castings of structures located within the pavement areas shall not be completely set to the established grade until the bottom course of pavement has been laid.
- D. The final setting of all other castings shall be performed at the proper stage of construction as directed.
- E. Cement concrete collars shall be placed around the castings after the final setting as shown on the plans and as directed.

### 3.11 DRAINAGE OR SEWERAGE STRUCTURES ABANDONED OR REMOVED

- A. The present castings shall be carefully removed. They shall be satisfactorily stored and protected until they are required for use or until they are removed from the project.
- B. Inlets and outlets of structures to be abandoned shall be plugged with brick masonry not less than 8 inches in thickness. Upper portions of the masonry shall be removed to a depth 3-feet below the finished grade at the location designated by the Engineer, and the structures shall be completely filled with selected excavated material placed in 6 inch layers and thoroughly compacted.
- C. The existing masonry of structures to be removed shall be completely removed.
- D. The cavity shall be completely filled with selected excavated materials placed in 6 inch layers and thoroughly compacted.

END OF SECTION

## SECTION 02731

### HANDLING EXISTING FLOWS

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE
- 1.03 SUBMITTALS

#### PART 2 EXECUTION OF WORK

- 2.01 PLUGGING OR BLOCKING
- 2.02 PUMPING AND BYPASSING
- 2.03 FLOW CONTROL PRECAUTIONS

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK:

- A. When sewer pipe depth of flow at the upstream manhole of the manhole section being worked on is above the maximum allowable for television inspection, the flow shall be reduced to the level shown below by operation of pump stations, plugging or blocking of the flow, or by pumping and bypassing of the flow as specified. Handling existing flows for this project will be considered incidental to all work items and no additional payment shall be made.
- B. Depth of flow shall not exceed that shown below for the respective pipe sizes as measured in the manhole when performing television inspection.

##### Maximum Depth of Flow

##### Television Inspection

6" - 10" Pipe

20% of pipe diameter

12" - 24" Pipe

25% of pipe diameter

- C. During any pipe lining process, the Contractor shall provide for the bypassing of sewage entering or passing through the pipe to be rehabilitated.
- D. During any manhole rehabilitation process, the Contractor shall provide for the bypassing of sewage entering or passing through the manhole to be rehabilitated when inverts are sealed or coated.

##### 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. SECTION 01010 SUMMARY OF WORK
- B. SECTION 01300 SUBMITTALS
- C. SECTION 02995 MISCELLANEOUS WORK

##### 1.03 SUBMITTALS

The contractor shall provide a written description of the means and methods to be utilized to handle existing flows within the sewers for approval by the engineer prior to commencing any operations.

## PART 2      EXECUTION OF WORK

### 2.01            PLUGGING OR BLOCKING

A sewer line plug shall be inserted into the line upstream of the section being worked. The plug shall be so designed that all or any portion of the sewage can be released. During TV inspection, testing and sealing operations, flow shall be reduced to within the limits specified above. After the work has been completed, flow shall be restored to normal.

### 2.02            PUMPING AND BYPASSING

When pumping and bypassing is required, the Contractor shall supply the pumps, conduits, and other equipment to divert the flow of sewage around the manhole section in which work is to be performed" The bypass system shall be of sufficient capacity to handle existing flow plus additional flow that may occur during a rainstorm. The Contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum.

### 2.03            FLOW CONTROL PRECAUTIONS

When flow in a sewer line is plugged, blocked, or bypassed; sufficient precautions must be taken to protect the sewer lines from damage that might result from sewer surcharging. Further, precautions must be taken to insure that flow control operations do not cause flooding or damage to public or private property being served by the sewers involved.

END OF SECTION

SECTION 02910

ESTABLISHMENT OF GROWTH

PART 1        GENERAL

- 1.01        SCOPE OF WORK
- 1.02        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS

- 2.01        LOAM BORROW
- 2.02        TOPSOIL
- 2.03        LIMESTONE
- 2.04        FERTILIZER
- 2.05        GRASS SEED
- 2.06        TREE PAINT
- 2.07        GENERAL PLANTING AND NURSERY STOCK

PART3        EXECUTION OF WORK

- 3.01        PLACING LOAM OF TOPSOIL
- 3.02        TOPSOIL REHANDLED AND SPREAD
- 3.03        PREPARATION OF AREAS ON WHICH LOAM OR TOPSOIL ARE TO BE PLACED
- 3.04        SURFACE DRAINAGE AND SEASONAL LIMITS
- 3.05        ROUGH FINISHED GRADE
- 3.06        APPLICATION OF LIMESTONE
- 3.07        APPLICATION OF FERTILIZER FOR GRASS
- 3.08        SEEDING GRASS
- 3.09        SEEDING GRASS BY SPRAY MACHINE
- 3.10        CARE DURING CONSTRUCTION
- 3.11        REFERTILIZATION AND APPLICATION OF FERTILIZER
- 3.12        PREPARATION FOR MULCHING
- 3.13        PLACING MULCH

PART 1        GENERAL

- 1.01        SCOPE OF WORK
  - A.        The Contractor shall furnish all labor, materials, and equipment necessary to do all loaming and seeding and planting, as indicated on the Contract Drawings and as herein specified.
- 1.02        RELATED WORK SPECIFIED ELSEWHERE
  - A.        SECTION 01300 – SUBMITTALS
  - B.        DIVISION 2 – SITE WORK

PART 2        MATERIALS

- 2.01        LOAM BORROW
  - A.        Loam borrow shall consist of a fertile, friable, natural topsoil typical of the locality, without admixture of subsoil, refuse or other foreign materials, and shall be obtained from a well-drained site. It shall be such a mixture of sand, silt and clay particles as to exhibit sandy and clayey properties in and about equal proportions. It shall be reasonably free of stumps, roots, heavy or stiff clay, stones larger than 1 inch in diameter, lumps, coarse sand, noxious weeds, sticks, brush or other litter.

- B. Prior to stripping, the loam shall have demonstrated by the occurrence upon it of healthy crops, grass or other vegetative growth that it is reasonably well drained and that it does not contain toxic amounts of either acid or alkaline elements.

## 2.02 TOPSOIL

- A. Topsoil shall consist of fertile, friable, natural topsoil, reasonably free of stumps, roots, stiff clay, stones larger than 1" diameter, noxious weeds, sticks, brush or other litter.
- B. Prior to stripping the topsoil from the construction project, it shall have demonstrated by the occurrence upon it of healthy crops, grass or other vegetative growth, that it is reasonably well drained and capable of supporting plant growth. Material classified as topsoil can only be obtained within the project limits.

## 2.03 LIMESTONE

- A. Limestone shall consist of pulverized limestone obtained by grinding either calcareous or dolomitic limestone so that 95% of the material will pass a no. 20 sieve and at least 50 % of the material will pass a No. 100 sieve. The limestone shall have a neutralizing value satisfactory to the Engineer.

## 2.04 FERTILIZER

- A. Fertilizer shall be complete starter fertilizer, at least 70 percent of the nitrogen of which is derived from natural organic sources of ureaform. It shall contain the following percentages by weight:

Nitrogen 15%                      Phosphorous 15%                      Potash 15%

Fertilizer shall be delivered mixed as specified above, in standard size, unopened containers showing weight, analysis, and names of manufacturers. They shall be stored in a weatherproof storage place in such a manner that the fertilizer will be kept dry and its effectiveness shall not be impaired. Fertilizer shall be applied at a rate of 800 pounds per acre.

## 2.05 GRASS SEED

- A. Grass seed shall be of the previous year's crop and in no case shall the weed seed content exceed 1 percent by weight. The grass seed shall conform to the requirements of the following tables:

	<u>Proportion</u>	<u>Germination Minimum</u>	<u>Purity Minimum</u>
-Baron Kentucky Bluegrass	50%	85	98
-Creeping Red Fescue	20%	85	98
-Yorktown Rye	15%	90	98
-Jamestown Fescue	15%	90	98

- B. The mix shall be Loft Seed Company – Turf Supreme or approved equal.

2.06 TREE PAINT

- A. The paint furnished under this specification shall be suitable for application by brushing on sawed, cut or bruised surfaces of living trees, for the purpose of disinfection and protection of these surfaces.
- B. The new materials from which this paint is manufactured shall be as follows:
  - 1) Asphalt: Shall conform to the requirements of AASHTO-M 18, Grade A.
  - 2) Creosote: Shall be a distillate of coal-gas tar or coke-oven tar.
  - 3) Fibrous magnesium silicate pigment: not less than 97% passing through #325 screen.

Composition:

Asphalt	40-70%
Creosote	20-30%
Fibrous Magnesium Silicate	10-15%
Volatile Thinner	0-15%

- C. The proportions of the various ingredients shall be chosen within the above limits to yield a paint of medium brushing consistency.

2.07 GENERAL PLANTING AND NURSERY STOCK

- A. Materials to be used in this work shall conform to "The American Standards of Nursery Stock" as sponsored by the American Association of Nurserymen, Inc. These standards shall determine all requirements of acceptable shrub and seeding nursery stock.
- B. All plants shall be packed so as to arrive at the delivery point in good growing conditions.
- C. Delivery of plants and seedlings shall be made to site, only according to the Contractor's ability to handle and properly care for them.
- D. All nursery stock shall be grown at nurseries in the northern area of the United States.
- E. All nursery stock shall conform to the "American Standards for Nursery Stock" as sponsored by the American Association of Nurserymen, Inc., U.S. Patent Office A60.1-1969.
- F. All plants shall be fully representative of their normal species or varieties unless otherwise specified. All plants must have a good, healthy, well-formed upper growth; a fibrous compact root system; and must be free from disease, injurious insects, mechanical wounds either fresh or healed, broken branches, decay or any other defect; and shall be legible tagged with their proper names.
- G. All plant materials shall be dug with reasonable care and skill immediately previous to shipment. Special precautions shall be taken to avoid any unnecessary injury to or removal of fibrous roots. Each species or variety shall be handled and packed in the approved manner for that particular plant, having regard to the soil and climactic condition at the time and place of digging, transit and delivery, and to the time that will be consumed in transit. All precautions that are customary in good trade practice shall be taken to insure the arrival of the plants at the site of the project in good condition for successful growth.

- H. The roots of bare rooted material shall be carefully protected with wet straw, moss or other suitable material which will insure the arrival of the plants at the site of the work in good condition.
- I. The sizes of these trees shall be as called for on the plans and measurements shall be made by caliper at a point 12 inches above the collar.
- J. Non-flowering trees shall have been transplanted 3 times, the last transplanting within 2 years. With the exception of *Ulmus Americana*, they shall have a single straight leader not cut back. They shall have symmetrical development of strong, healthy branches beginning 5 feet to 6 feet from the ground; and below this point, the trunk shall be clean for street trees, although park trees will be permitted to branch lower.
- K. Flowering trees shall have been transplanted twice, the last transplanting within 2 years. The trunk shall be clean and straight up to the first branch, which shall be about 4 feet from the ground where directed. Flowering trees shall be balled and burlapped and kept moist for delivery.
- L. Deciduous shrubs shall be fully representative of their species and variety. They shall have been transplanted twice; the last transplanting within 2 years. They shall have 4 to 6 branches coming from the roots, and shall have a well-branched root system and shall be a good weight for the height specified.
- M. Evergreen shrubs shall have been transplanted 3 times, the last transplanting within 2 years. They shall have a good colored top growth and shall be balled and burlapped and kept moist for delivery. Pyramidal type evergreen trees shall have a spread equal to  $\frac{3}{4}$  of their height.
- N. Evergreen shrubs shall have been transplanted twice and shall be of the size indicated on the plans and, except where noted, each clump shall have not less than 4 stems. Plants shall be balled and burlapped and kept moist for delivery.

### PART 3 EXECUTION OF WORK

#### 3.01 PLACING LOAM OR TOPSOIL

- A. The loam or the topsoil obtained from stacked piles shall be hauled, deposited and spread to the directed depths on the areas shown on the plans or designated by the Engineer. The loam or topsoil shall be spread to a depth of not less than 4 in. All grass and weed growth on the areas designated to be loamed, shall be cut to a maximum height of 2 inches before the loam is placed thereon. After the loam or topsoil has been spread, it shall be carefully prepared by spading or harrowing, and lumps, large stones, brush, roots, stumps, litter and other foreign material shall be removed from the loamed, topsoil or processed planting materials areas and disposed satisfactorily.
- B. The compaction shall be equivalent to that produced by a hand roller weighing from 75 to 100 pounds per foot of width. The compaction may be obtained by rolling, dragging or any method that produces satisfactory results. All depressions caused by settlement or rolling shall be filled with additional materials and the surfaces shall be regraded and rolled until it presents a reasonably smooth and even finish and is up to the required grade.
- C. During hauling operations, the roadway surface shall be kept clean and any loam or other dirt which may be brought upon the surface shall be removed promptly and thoroughly before it becomes compacted by traffic. If necessary, the wheels of all vehicles used for

hauling shall be cleaned frequently and kept clean to avoid bringing any dirt upon the surface. The Contractor shall take all reasonable precautions to avoid injury to existing or planted growth.

### 3.02 TOPSOIL REHANDLED AND SPREAD

- A. Topsoil which is obtained on the site, from piles of topsoil previously excavated and stacked and designated as topsoil to be re-handled and spread, shall be used as required, and as directed by the Engineer, on areas to be seeded. The topsoil must be approved before it is spread and the Contractor will be required, without compensation, to take corrective action as directed, in order to make the topsoil suitable for its intended use.
- B. The Contractor is required to adjust the acidity by the addition of limestone as determined by testing as required and to apply the fertilizer as required.

### 3.03 PREPARATION OF AREAS ON WHICH LOAM OR TOPSOIL ARE TO BE PLACED

- A. The area upon which the above materials are to be placed shall be raked, harrowed or dragged to form a reasonably smooth surface, all stones larger than 2 inches, undesirable growth over 2 inches and debris shall be removed from the area and disposed of by the Contractor outside the location.
- B. When directed by the Engineer, additional suitable material shall be spread as required to repair gullies or depressions. The labor, equipment and materials necessary to place, compact and grade the additional material shall be paid for under the respective item from which the material is obtained.
- C. The Contractor shall not proceed with the work of seeding until permission of the Engineer has been obtained.
- D. Before the application of limestone, fertilizer and seed, the Contractor shall harrow or roto-till to a depth of 3 inches, when directed, all areas where loam or topsoil has been placed under a previous contract. When loam borrow is placed, or topsoil is re-handled and spread; and they are paid for under the respective items of a contract, they will not require harrowing or rototilling.
- E. The Contractor shall remove all debris and stones having any dimensions greater than 2 inches before the application of limestone, fertilizer and seed.

### 3.04 SURFACE DRAINAGE AND SEASONAL LIMITS

- A. The Contractor shall provide and maintain uniform grades, slopes, crowns and ditches on all excavations and fills to insure satisfactory drainage at all times during the construction period.
- B. The Contractor shall be responsible for protecting adjacent properties, completed work and work in progress from siltation and mud. Finished grades and surfaces for all work under this heading shall shed water to catch basins as per drawings.
- C. No fill material or topsoil shall be placed, spread or rolled during unfavorable weather conditions such as interruption by heavy rains. Fill operations shall not be resumed until approved by the Engineer.

3.05 ROUGH FINISHED GRADE

- A. Grading shall be accomplished as necessary to bring topsoil and sand surfaces to grades shown on the drawings or to prepare the subgrade to receive paving or construction as specified or shown on drawings.
- B. After completion of pavements and structures, surfaces of earth mounds and planting areas shall be rough finished graded and shaped by blading, dragging or other means. Surfaces shall be uniform and smooth, true to slopes and grades. Soils in plating areas shall be graded level with the edge of headerboards, pavement or walks. Particular attention shall be given to surface drainage around sump catch basins.
- C. The rough finished surface of the grading plane at any point shall not vary more than 0.10 feet above or below the grade indicated on the drawings.
- D. Upon completion of earthwork, the Contractor shall remove all surplus construction materials, earth and debris resulting from his work so that the entire job site is left in a neat and orderly condition.

3.06 APPLICATION OF LIMESTONE

- A. Limestone may be applied in dry form or hydraulically. Limestone where necessary shall be spread and thoroughly incorporated in the layer of loam or topsoil to adjust the acidity of the loam or topsoil. The rate of application of the limestone will vary up to a maximum of 1 pound per square yard depending on the results of laboratory tests performed by an independent professional testing laboratory acceptable to the Engineer, at the Contractor's own expense. The limestone shall be thoroughly incorporated into the layer of loam or topsoil and the upper 1-inch of the underlying subsoil by harrowing or other methods satisfactory to the Engineer so as to provide a layer of thoroughly mixed material for the seedbed.

3.07 APPLICATION OF FERTILIZER FOR GRASS

- A. Fertilizer may be applied in dry form or hydraulically. After the application in dry form or hydraulically and after the application of limestone, if found necessary, on the seed bed, starter fertilizer shall be spread on the top layer of loam or topsoil at the rate of 800 pounds per acre and worked into the seed bed. The full depth of loam or topsoil shall then be spaded or harrowed and graded to the required cross-section.

3.08 SEEDING GRASS

- A. After the loamed or topsoil areas have been prepared and treated as before described, grass seed conforming to the respective formulas before specified shall be carefully sown thereon at the rate of approximately 175 pounds per acre. Seeding shall be done in two directions at right angles to each other. Seeding on level areas and on slopes up to and including 4:1 slopes shall be done by means of an approved seeder that will seed and roll in one operation. On shoulders and other narrow areas, the seeding may be done longitudinally in one application.

3.09 SEEDING GRASS BY SPRAY MACHINE

- A. The spray machine will be restricted for use only on slopes steeper than 4:1. The application of limestone as necessary, fertilizer and grass seed may be accomplished in one operation by the use of limestone as necessary, fertilizer and grass seed may be accomplished in one operation by the use of an approved spraying machine. The materials shall be mixed with water in the machine and kept in an agitated state in order

that the materials may be uniformly suspended in the water. The spraying equipment shall be so designed that when the solution is sprayed over an area the resulting deposits of limestone, fertilizer and grass seed shall be equal in quantity to those quantities specified before.

- B. A certified statement shall be furnished, prior to start of work, to the Engineer by the Contractor as to the number of pounds of limestone, fertilizer, and grass seed, per 100 gal. of water.
- C. This statement should also specify the number of square yards of seeding that can be covered with the solution specified above. If the results of the spray operation are unsatisfactory, the Contractor will be required to abandon this method and to apply the limestone, fertilizer and seed as before specified.

### 3.10 CARE DURING CONSTRUCTION

- A. The Contractor shall be responsible for the watering of all seeded and grassed areas which shall be kept moist. The Engineer's decision will prevail in the event a dispute develops with the Contractor as to whether or not the seeded and grassed areas are moist. Seeded areas on which growth has started shall be watered to a minimum depth of 2 inches to assure continuing growth. Watering shall be done in a manner which will provide uniform coverage, prevent erosion due to application of excessive quantities over small areas, and prevent damage to the finished surface by the watering equipment to apply one complete coverage to the seeded areas in an 8 hour period.
- B. If necessary, suitable signs and barricades of brush or other materials shall be placed to protect the seeded areas. After the grass has appeared, all areas and parts of areas which fail to show a uniform stand of grass, for any reason whatsoever, shall be reseeded and such areas and parts of areas shall be seeded repeatedly until all areas are covered with a satisfactory growth of grass.
- C. The Contractor shall care for all of the seeded areas until the work has been physically accepted, without compensation in addition to the amount regularly to be paid under this item as hereinafter provided. Care shall include all regrading, refertilizing, reseeding and mowing which may be necessary.
- D. Prior to the acceptance of the project the Contractor will be responsible for mowing the grass when necessary on all flat or rolling slopes from level to and including 4 to 1 slopes to a height of 3 inches when the grass has attained a height of eight inches. The grass on all slopes steeper than 4 to 1 shall be cut when necessary to a height of 3 inches at such a time as a stable turf has been established in the Engineer's judgement.

### 3.11 REFERTILIZATION AND APPLICATION OF FERTILIZER

- A. This work shall be done in April, May, August or September. No permission will be granted to re-fertilize in months other than herein prescribed. Areas recently seeded shall be re-fertilized only after one season of growth of two months duration.
- B. The fertilizer shall have a composition of 10-10-10 and be applied at a rate of 500 pounds per acre. In addition, organic fertilizer derived from any commercial source shall be applied at the rate of 135 pounds of N per acre. Seed as before specified shall be included with the fertilizer at a rate of 10 pounds per acre.

3.12 PREPARATION FOR MULCHING

- A. The areas upon which mulch is to be spread shall be prepared by raking, harrowing or dragging to form a reasonably smooth surface. All stones larger than 2", undesirable growth over 2' in height and all debris shall be removed from the area and disposed by the Contractor in a satisfactory manner. The disposal area shall be outside the location limits of the project, when required by the Engineer and shall be responsibility of the Contractor.
- B. When required by the Engineer, the Contractor shall spread, compact and grade additional acceptable material to repair gullies or depressions. Such additional material shall be obtained from suitable excavation or furnished by the Contractor.

3.13 PLACING MULCH

- A. Hay mulch shall be loosely spread to a uniform depth over all areas designated on the plans, at the rate of 4 ½ tons per acre. Hay mulch may be applied by mechanical apparatus, if in the judgement of the Engineer the apparatus spreads the mulch uniformly and forms a suitable mat to control slope erosion. The apparatus shall be capable of spreading at least 80% of the hay or straw in lengths of 6" or more, otherwise it shall be spread by hand.
- B. Wood chip mulch and aged pine bark mulch shall be loosely spread to uniform depth over all acres designated on the plans, at the rate of 390 cubic yards per acre (approximately 3" in depth), or as otherwise directed.
- C. Wood chip mulch and aged pine bark mulch may be applied by mechanical means, except that if the equipment breaks the mulch into small pieces or changes its desired texture, as determined by the Engineer, it shall be spread by hand.

END OF SECTION

02910-8

Establishment  
of Growth

SECTION 02995

MISCELLANEOUS WORK

PART 1        GENERAL

- 1.01       SCOPE OF WORK
- 1.02       RELATED WORK SPECIFIED ELSEWHERE

PART 2       MATERIALS

- 2.01       GENERAL

PART 3       EXECUTION OF WORK

- 3.01       INCIDENTAL WORK
- 3.02       RESTORATION OF CROSS COUNTRY AREAS
- 3.03       PRECAUTIONS UNDER ELECTRIC LINES
- 3.04       PUBLIC SAFETY

PART 1       GENERAL

- 1.01       SCOPE OF WORK

- A.       The Contractor shall furnish all labor, materials, equipment, and incidentals necessary to complete the miscellaneous work under this Section and as noted on the contract drawings.
- B.       When applicable, the Contractor shall perform the work in accordance with other sections of this Specification. When no applicable Specification exists, the Contractor shall perform the work in accordance with the best modern practice and/or as directed by the Engineer.
- C.       The work of this Section includes, but is not limited to, any incidental work not specifically identified elsewhere.

- 1.02       RELATED WORK SPECIFIED ELSEWHERE

- A.       DIVISION 1 THROUGH 16 - As Appropriate

PART 2       MATERIALS

- 2.01       GENERAL

- A.       The Contractor shall furnish all materials necessary to remove, replace, and restore the site or structures sufficiently and to the satisfaction of the Engineer.
- B.       The materials provided by the Contractor shall meet all requirements as specified herein, of the applicable specification, or to the satisfaction of the Engineer.
- C.       All material not furnished, in the opinion of the Engineer, in accordance with the Contract Drawings and Specifications shall be removed immediately. Suitable material, which is satisfactory, shall be furnished at no additional compensation to the Contractor.

## PART 3        EXECUTION OF WORK

### 3.01        INCIDENTAL WORK

- A.    The Contractor shall do all incidental work including all work listed under the miscellaneous work item 7B in section 01025 of the contract documents and not otherwise specified, but obviously necessary to the proper completion of the Contract as specified on the Contract Drawings.

### 3.02        RESTORATION OF CROSS COUNTRY AREAS

- A.    The Contractor shall furnish all labor, materials, and equipment to restore all areas disturbed by his operations. The ground surface shall be loamed and seeded as specified in related sections. It shall be maintained as required until the site has been restored to the original condition.

### 3.03        PRECAUTIONS UNDER ELECTRIC LINES

- A.    The bidders' attention is directed to the AASHTO Guide on Occupational Safety and the section on Highway Construction Projects, Subpart N, 1926.550 relating to construction equipment clearances at overhead electric lines. This guide states, "...the minimum clearance between the lines and any part of the crane or load must be at least 10 feet from lines rated 50 kV or below, and greater distances for higher voltage..."
- B.    For the protection of personnel and equipment, the Contractor should be aware of this regulation especially during paving operations using large semi-trailer vehicles.

### 3.04        PUBLIC SAFETY

- A.    The Contractor shall furnish all labor, materials, tools, and equipment to provide public safety to vehicular and pedestrian traffic in the vicinity of the construction work. This includes all signs, barriers, warning lights, and any other controls deemed necessary by the Engineer.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE - SIDEWALKS

PART 1        GENERAL

- 1.01        SCOPE OF WORK
- 1.02        RELATED WORK SPECIFIED ELSEWHERE

PART 2        MATERIALS

- 2.01        CEMENT
- 2.02        COARSE AGGREGATE
- 2.03        FINE AGGREGATE
- 2.04        WATER
- 2.05        ADMIXTURES
- 2.06        DESIGN
- 2.07        READY-MIX CONCRETE
- 2.08        INSERTS AND APPURTENANCES
- 2.09        REINFORCEMENT
- 2.10        FORMS
- 2.11        TIE RODS
- 2.12        FORM OIL
- 2.13        JOINT FILLER

PART 3        EXECUTION OF WORK

- 3.01        REINFORCEMENT
- 3.02        FORMS
- 3.03        PLACING CONCRETE
- 3.04        INSERTS AND APPURTENANCES
- 3.05        JOINTS
- 3.06        FINISHING CONCRETE
- 3.07        CURING
- 3.08        TESTS
- 3.09        EXPANSION AND CONSTRUCTION JOINTS

PART 1        GENERAL

- 1.01        SCOPE OF WORK
  - A.        The Contractor shall perform all concrete work, including installation of all embedded items as shown on the construction drawings. This requires the furnishing of all labor, equipment, materials, and services necessary for completion.
- 1.02        RELATED WORK SPECIFIED ELSEWHERE
  - A.        SECTION 01300 – SUBMITTALS
  - B.        SECTION 02224 – FILL AND BACKFILL MATERIALS

PART 2        MATERIALS

- 2.01        CEMENT
  - A.        Cement shall be an approved brand of domestic Portland cement Type II conforming to "Specification for Portland Cement" (ASTM C150), except where otherwise specified on the plans. Type III shall be used only where specifically designated on the plans or by the Engineer.

2.02 COARSE AGGREGATE

- A. Coarse aggregate shall be hard, washed gravel or crushed stone conforming to "Specification for Concrete Aggregates" (ASTM C33). Use the largest size of aggregate which satisfies the requirements that it shall be no larger than one-fifth of the narrowest dimension between sides of forms of the member, nor larger than  $\frac{3}{4}$  of the minimum clear space between reinforcing bars and forms. Upon request from the Engineer, the Contractor shall furnish for approval a standard sample of one cubic foot of coarse aggregate.

2.03 FINE AGGREGATE

- A. Fine aggregate shall be well graded, natural, washed sand conforming to "Specification for Concrete Aggregates" (ASTM C33). Upon request from the Engineer, the Contractor shall furnish for approval a standard sample of one cubic foot of fine aggregate.

2.04 WATER

- A. Water shall be clean, fresh water, suitable for drinking and free from deleterious amounts of acids, alkalis, or organic materials.

2.05 ADMIXTURES

- A. Admixtures shall conform to "Specifications for Air-Entraining Admixtures for Concrete (ASTM C260)". No other types of admixtures are allowed unless permission is granted by the Engineer.

2.06 DESIGN

- A. All concrete work shall conform to the "Building Code Requirements for Reinforced Concrete" (ACI 318).
- B. Quality and Proportion Requirements: The Contractor shall design the concrete mix in accordance with these specifications and the "Recommended Practice for Selecting Proportions for Concrete" (ACI 618), and shall submit the design and trial batch test results of the proposed mix design from a laboratory approved by ASTM or ACI to the Engineer for approval prior to construction. Test shall include strength, slump, percent air, weight per cubic foot, and yield.

	<u>Class A</u>	<u>Class B</u>
Minimum Cement Content 94 lb. sacks/cubic yd.	6 $\frac{1}{2}$	5 $\frac{1}{2}$
Maximum Water Cement Ratio (gal/sack)	5 $\frac{1}{2}$	6 $\frac{1}{2}$
Minimum Strength-28 day Cylinder, psi	4,000	3,000

Air Entrainment:

Air Content  $\pm$  1% (by vol.)

6%  
5%  
4%

Maximum Agg. Size

$\frac{3}{4}$  - 1"  
1  $\frac{1}{2}$  - 2"  
3"

- C. Slumps as defined and determined by "Test for Slump of Portland Cement Concrete" (ASTM C143) shall not exceed 4 inches.

#### 2.07 READY-MIX CONCRETE

- A. The ready-mixed concrete manufacturer is to be approved by the Engineer. The concrete delivered to the job site must conform to "Specifications for Ready-Mixed Concrete" (ASTM C94). The Engineer shall have free access at all times to the batching and mixing plant for sampling of all materials and inspection of work performed for this project.
- B. Delivery of concrete to the site of the work shall be completed within ½ hour after the introduction of the mixing water to the cement and aggregates, or the cement to the aggregate, unless otherwise authorized by the Engineer.

#### 2.08 INSERTS AND APPURTENANCES

- A. No items made of aluminum are allowed in the concrete, unless coated with a heavy coat of bitumastic paint approved by the Engineer.
- B. Flexible water stops shall be of the center bulb type complying with Corps of Engineers CRD-C582 for PVC units. Web thickness shall be not less than 3/8 inch. Width shall be at least 6 inches.

#### 2.09 REINFORCEMENT

- A. Concrete reinforcement in sizes No. 3 (3/8 in.) and larger shall be deformed steel bars of the shapes and sizes indicated on the drawings. The steel shall be newly rolled stock, substantially free from mill scale, rust, dirt, grease, or other foreign matter. Bars shall be billet steel of intermediate grade conforming to ASTM Specifications for Billet-Steel Bars for Concrete Reinforcement, Designation A615.
- B. Wire mesh shall be electrically welded wire fabric conforming to ASTM Specification A185 and shall be at the size and spacing indicated on the drawings.
- C. Deformations on bars for concrete reinforcement shall conform to the ASTM Specifications for Minimum Requirements for the Deformations of Deformed Billet Steel Bars for Concrete Reinforcement, Designation A615.

#### 2.10 FORMS

- A. Plywood for formwork shall comply with U.S. Products Standard, PS-1, and "B-B (Concrete Form) Plywood, Class 1, Exterior Grade or better and shall be mill-oiled and edge sealed. Each piece shall bear the legible trademark of an approved inspection agency.
- B. Plywood forms to be re-used shall be maintained clean and in good condition as to accuracy, shape, strength, rigidity, tightness, and smoothness of surface. Forms shall be cleaned and checked between each use. Any lumber which is split, warped, bulged, marred, or has defects that will produce work inferior to that resulting from using new material shall not be used.
- C. Prefabricated plastic, metal, or plywood form panels shall be used where required to form a smooth surface, and shall be as approved by the Engineer.

2.11 TIE RODS

- A. Tie rods or other means for holding forms shall be of a type acceptable to the Engineer. They shall be of such type as to leave no metal closer than two inches from the surface.

2.12 FORM OIL

- A. Forms shall be oiled with an approved non-bonding, non-staining oil or liquid form coating before reinforcement is placed.

2.13 JOINT FILLER

- A. Poured joint compound shall be bituminous rubber joint compound equal to Para-Plastic waterproof seal made by Servitized Products Corp., Chicago, Illinois; Carey Co., Inc., Cincinnati, Ohio, or equal. The compound shall be applied in accordance with the instructions of the manufacturer, using a suitable primer if necessary.

- B. Pre-molded mastic joint filler shall be of the thickness indicated on the drawings, shall be of suitable length and width, and shall conform to ASTM Specification D-544. As far as practicable, sheets shall be of correct width so that no longitudinal cutting will be required in the field. When strips are cut in the field, the cut surface shall be heavily coated with hot asphalt or shall be treated as recommended by the manufacturer.

- C. Bituminous coating shall be equal to Inertol Plastic (Black) made by the Inertol Div., Koppers Company, Carbomastic made by Carbolite Corp., or approved equal.

- D. Water-stops for construction and expansion joints shall be 6 inch rubber or plastic water stops of the flat dumbbell or corrugated type with a minimum web thickness of 3/8 inch.

- E. Rubber water-stops shall have the following physical characteristics:

Tensile strength, min. psi	3,000
Elongation at break, min. %	450
Specific gravity	1.15 ± 0.30

- F. Polyvinylchloride water-stops shall be of the types and sizes indicated on the drawings and shall conform to the Corps of Engineers Specification for Polyvinyl-chloride Water stops, Designation CRD-C572-66.

PART 3 EXECUTION OF WORK

3.01 REINFORCEMENT

- A. Reinforcement shall be accurately formed to the dimensions indicated on the drawings. Stirrups and tie bars shall be bent around a pin having a diameter not less than six times the minimum thickness, except for bars larger than 1 inch in which case the bends shall be made around a pin of 8 bar diameters. All bars shall be bent cold.

- B. Bars shall be shipped to the work site with bars of the same size and shape fastened in bundles with securely wired-on metal identification tags giving size and mark.

- C. Before being placed in position, reinforcement shall be thoroughly cleaned of loose mill and rust scale, dirt and other coatings, including ice, that reduce or destroy bond. Where there is delay in depositing concrete after reinforcement is in place, bars shall be re-inspected and cleaned when necessary.

- D. Reinforcement shall be accurately positioned as indicated on the drawings, and secured against displacement by using annealed iron wire ties or suitable clips at intersections. Reinforcement shall be supported by concrete or metal supports, spacers, or hangers; wood blocks, stones, brick chips, etc., shall not be used.
- E. Reinforcement which is to be exposed for a considerable length of time after having been placed shall be painted with a heavy coat of cement if required by the Engineer.

### 3.02 FORMS

- A. Forms shall be accurately constructed in accordance with "Recommended Practice for Concrete Formwork" (ACI 347). They shall be substantial, tight, unyielding, and so maintained that the finished work which they confine will be as required by the plans and as specified. Wood forms shall be thoroughly wetted prior to placement so as to avoid absorption of water from the concrete mix.
- B. Forms shall not be disturbed until the concrete has adequately hardened. Shoring shall not be removed until the supported member has acquired sufficient strength to support its weight and the load upon it. Members subject to construction loads shall be adequately shored to support both the members and the construction loads in such a manner as will protect the members from damage. Removal of forms shall be accomplished in such a manner that will prevent injury to the concrete.
- C. Formwork may be removed after 72 hours, provided the concrete will not be injured. In no case shall supporting forms or shoring be removed until members have acquired sufficient strength to support their weight and imposed loads safely. When, in the opinion of the Engineer, conditions of the work or weather justify, forms may be required to remain in place for longer periods.

### 3.03 PLACING CONCRETE

- A. The Contractor shall notify the Engineer at least 24 hours prior to placement of any concrete.
- B. Concrete shall be handled from the mixer to the place of final deposit in a continuous manner that will prevent separation or loss of material, and as rapidly as practicable until the unit of operation is complete. Concrete which has reached an initial set or has contained water for more than one hour shall not be deposited in the work.
- C. Depositing of concrete shall be made as close as practicable to the final position so as to prevent segregation due to re-handling. Concrete shall be compacted immediately after placing by thoroughly agitating the mass in a manner which will force out all air pockets and work the mixture into the corners, around reinforcement and inserts, and prevent the formation of voids. Vibrators shall not be used for the purpose of moving concrete horizontally. Concrete trucks will not be permitted on existing foundations. No concrete shall be deposited in or under water without permission of the Engineer.
- D. Fresh concrete shall not be placed on concrete which has hardened sufficiently to cause formation of cold joints or planes of weakness within the section. If a section cannot be placed continuously, construction joints shall be located at points as provided for on the drawings or as approved by the Engineer. When work is resumed, concrete previously placed shall be thoroughly cleaned of foreign materials and laitance, using a stiff wire brush or other tools, and a stream of water if necessary, and then slushed with grout consisting of 1 part Portland cement and 2 parts sand.

- E. Free drop of concrete for more than 5 feet will not be allowed. Where greater drops are required, a tremie shall be employed. Discharge of the tremie shall be controlled such that the concrete may not be effectively less than 12" in thickness with a minimum of lateral movement.
- F. Hot weather placement of concrete shall be in strict accordance with "Recommended Practice for Hot Weather Concreting" (ACI 605). Sub grades shall be kept moist in hot weather to prevent extraction of water from the concrete.
- G. Cold weather placement of concrete shall be in strict accordance with "Recommended Practice for Cold Weather Concreting" (ACI 306).

#### 3.04 INSERTS AND APPURTENANCES

- A. All necessary curb boxes, hydrants, sign supports, inserts, and other appurtenances shall be set and adjusted in the forms accurately, true, plumb, and in a manner to prevent dislocation during concrete placement.

#### 3.05 JOINTS

- A. Expansion and contraction control joints shall be as indicated on the drawings. Construction joints shall be keyed as shown in the drawings and placed as indicated therein or by the Engineer.
- B. All construction joints shall be treated with a retardant made by Sida Chemical Corporation, Euclid, Co., or equal, to expose aggregate and joints. Apply the retardant in strict accordance with the manufacturer's directions. Remove all unset mortar by wire brushing or with a water jet within the time limit specified by the manufacturer.
- C. Flexible rubber water-stops shall be installed in all construction joints and expansion joints where indicated. They shall be supported during concrete placement so as to maintain their proper position.

#### 3.06 FINISHING CONCRETE

- A. The finish of all concrete surfaces shall be made in accordance with Mass Highway Specifications for sidewalk construction or as directed by the Engineer. The Engineer shall be the sole judge of acceptability of all such concrete finish work.

#### 3.07 CURING

- A. Concrete shall be maintained in a continuously moist condition for at least seven (7) days following placement. Fresh concrete shall be protected from heavy rains, flowing water, freezing temperatures, and mechanical injury. All exposed surfaces of finished or unfinished work shall be kept constantly moist by sprinkling with clean water at short intervals (unless otherwise directed during cold weather) or by covering with moistened burlap, or by such other means as may be approved.
- B. Where wood forms are kept in place, these too shall be kept wet during the period of curing. The Contractor shall not permit walking upon or over the concrete until it has set for a sufficient length of time. The Contractor shall protect steel reinforcement, and protect the concrete from disturbances until the concrete has been satisfactorily cured.

### 3.08 TESTS

- A. When required by the Engineer, compression tests shall be made of cylinders cast from sample batches of each concrete mix design that the Engineer considers acceptable for approval. Results of these tests will determine criteria for judging the quality of concrete placed during construction. Three test cylinders will be required from each sample batch.
- B. As work progresses, concrete shall be sampled in accordance with "Sampling Fresh Concrete" (ASTM C172). Slump tests shall be made according to "Test for Slump of Portland Cement Concrete" (ASTM C143). Air content of concrete shall be tested according to "Test for Air Content of Freshly Mixed Concrete by the Pressure Method" (ASTM C231).
- C. Compression test specimens shall be made in the presence of the Engineer's representative and cured according to "Making and Curing Concrete Compression and Flexure Test Specimens in the Field" (ASTM C31).
- D. There shall be at least one set of three cylinders made for each type of concrete placed in one day. Additional cylinders shall be made and tested when deemed necessary by the Engineer. Tests shall be in accordance with "Test for Compressive Strength of Molded Concrete Cylinders" (ASTM C39).

### 3.09 EXPANSION AND CONSTRUCTION JOINTS

- A. Construction and expansion joints shall be of the types indicated on the drawings and shall be constructed wherever and only in such places as are indicated on the drawings or otherwise directed or approved. The Contractor shall plan the work to minimize the use of joints in addition to those indicated.
- B. Slabs shall have no horizontal joints, unless otherwise indicated. All construction joints shall have keyways the widths of which are equal to one-third the thickness of the member in which the keyways are placed.
- C. Concrete to be sealed with poured joint compound shall be clean and dry and, if required, shall be primed. The compound shall be carefully poured to prevent spilling the material over the adjoining surfaces. As the material cools and subsides, additional compound shall be poured until the joint is filled to the required level. Surfaces to which bituminous coating is to be applied shall be prepared and primed, and the coating material shall be applied in accordance with the instructions of the manufacturer.
- D. Mastic sheets shall be placed against the bulkhead form and lightly fastened with brads to the inside to hold the sheets in place when the concrete is poured. Ten penny galvanized nails shall be driven through the sheets with points projecting into the concrete placed against them. Care shall be taken at all times to prevent any disturbance of or damage to mastic sheets or rubber or plastic water-stops.

END OF SECTION

SECTION 04200

MASONRY WORK

<u>PART 1</u>	<u>GENERAL</u>
1.01	SCOPE OF WORK
1.02	RELATED WORK SPECIFIED ELSEWHERE

<u>PART 2</u>	<u>MATERIALS</u>
2.01	GENERAL
2.02	PORTLAND CEMENT
2.03	ADMIXTURES
2.04	WATER
2.05	AGGREGATE
2.06	MORTAR MATERIALS
2.07	BRICK

<u>PART 3</u>	<u>EXECUTION OF WORK</u>
3.01	MIXING
3.02	TRIMMING AND CLEANING

PART 1      GENERAL

- 1.01      SCOPE OF WORK
- A.      The Contractor shall furnish all labor, materials, equipment and incidentals for performing all operations required for the masonry work as indicated on the Contract Drawings, as specified hereinafter, and as evidently necessary to complete the work.
- 1.02      RELATED WORK SPECIFIED ELSEWHERE
- A.      SECTION 01300 – SUBMITTALS
- B.      SECTION 02728 – MODIFICATION AND CONNECTIONS TO EXISTING STRUCTURES
- C.      SECTION 03300 – CAST-IN-PLACE CONCRETE
- D.      SECTION 03400 – PRECAST CONCRETE STRUCTURES AND MANHOLES

PART 2      MATERIALS

- 2.01      GENERAL
- A.      All concrete shall be site-mixed or ready-mixed as produced by a plant acceptable to the Engineer. Class A and Class B concrete shall be used as indicated by contract drawings or specified herein.
- 2.02      PORTLAND CEMENT
- A.      Portland cement shall be Type II and shall conform to ASTM Standard Specifications for Portland Cement, Designation C150-77.

- B. All cement shall be American made Portland Cement from a reputable manufacturer. Cement shall be supplied from one mill through the construction phase and shall be of uniform color.
- C. Cement shall be free from water-soluble salts or alkalies which may cause efflorescence on exposed surfaces. Cement shall be free from all lumps and from all partially or wholly set cement.
- D. High-early-strength cement may be used only with the permission of the Engineer, but no additional payment will be made to the Contractor for the use thereof. Such cement shall meet all specification of Type III cement.
- E. All cement used by the Contractor shall be subject to testing to determine compliance to specifications. The test methods shall conform to appropriate ASTM methods and specifications; however, the place, time, frequency and method of sampling shall be determined by the Engineer as applicable to site conditions and construction progress.

## 2.03 ADMIXTURES

- A. Admixtures acceptable to the Engineer shall be added to the concrete as shown by the Contract Drawings or specified herein so as to create air-entrained concrete.
- B. If admixtures are added to the concrete in solution form, the quantity of solution shall be considered in the computation of the water – cement ratio.
- C. Admixtures causing the accelerated setting of cement in concrete shall not be used in any class of concrete.
- D. The use of admixtures to concrete other than concrete exposed to the elements will not be permitted without the written consent of the Engineer.
- E. Combinations of types of cements, admixtures and concrete shall be clean, fresh and free from injurious materials such as oil, acid, alkali, organic matter or deleterious materials. Testing of water shall be in accordance with AASHTO T26.

## 2.04 WATER

- A. Water use in the mixture of cements, admixtures and concrete shall be clean, fresh and free from injurious materials such as oil, acid, alkali, organic matter or deleterious materials. Testing of water shall be in accordance with AASHTO T26.

Water quality shall be within the following guidelines:

pH	3.0 – 11.7
Total Solids	
Organic	.01 % (Max)
Inorganic	.10 % (Max)
Sulphate	.05 % (Max)

## 2.05 AGGREGATE

- A. Fine Aggregate –

Fine aggregate for cement mortar shall be well graded and conform to the following sieve analysis:

Sieve Size	% Passing
3/8 "	100
# 4	95 – 100
# 16	55 – 80
# 50	10 – 25
# 100	2 – 8
# 200	0 – 2

B. Coarse Aggregates

Course Aggregate for cement concrete shall consist of crushed rock or screened gravel and shall be composed essentially of clean, hard, strong and impermeable particles, resistant to wear and frost and free from deleterious amounts of organic matter, loam, clay, salts, mica and soft, thin, elongated, laminated or disintegrated stone, and it shall be inert to water and cement. Coarse aggregate shall consist of well graded gravel and crushed stone conforming to the ASTM Standard Specifications for Concrete Aggregates, Designation C33-77, and then conforming to the following detailed requirements.

NOMINAL SIZE			
SIEVE SIZE	1 ½ inches	¾ inches	3/8 inches
1 ½ inch	90 – 100		
¾ inch	35 – 60	90 – 100	
½ inch	--	--	90 – 100
3/8 inch	10 – 25	20 – 50	30 – 70
# 4	0 - 5	0 - 10	0 – 15
# 8		0 - 5	0 - 5

2.06 MORTAR MATERIALS

- A. Portland cement shall conform to all the requirements of ASTM Designation C-150, Type II.
- B. Hydrated lime shall conform to all the requirements of ASTM Designation C-207, Type "S".
- C. Masonry cement shall conform to all the requirements of ASTM Specification C-91, Type II, and with the approval of the Engineer may be used in place of cement and lime mortar. Masonry cement shall be Louisville Cement Company brixment, Lehigh Masonry Cement, or equal. Any lime contained in masonry cement shall be Type "S" only.
- D. Sand shall be clean, hard siliceous, in accordance with ASTM Specification C-144, free from loam, silt or other impurities, composed of grains of varying sizes within the following limits:

## PERCENT PASSING

<u>Sieve Size</u>	<u>Natural Sand</u>	<u>Manufactured Sand</u>
No. 4	100	100
No. 8	95 – 100	95 – 100
No. 16	70 – 100	70 – 100
No. 30	40 – 75	40 – 75
No. 50	10 – 35	20 – 40
No. 100	2 – 15	10 – 25
No. 200	--	0 – 10

- E. Mortar specimens made with sand shall have compressive strength at 28 days of not less than 90 percent of the compressive strength of specimens made with Ottawa sand.
- F. Water repellents and other admixtures shall be used only where specified or with written approval of the Engineer. When used, they shall be the product of a manufacturer who can demonstrate successful usage of his product for a period of not less than 3 years prior to being offered for the work and shall be used in strict accordance with the printed directions of the manufacturer.

### 2.07 BRICK

- A. Clay brick shall conform to the requirements of AASHTO-M91 with the following exceptions:
  - 1. The size of brick furnished shall be 8 inches long by 3  $\frac{3}{4}$  inches wide by 2  $\frac{1}{4}$  inches deep.
  - 2. The average absorption of 5 representative samples shall not exceed 15 % and the absorption of any individual sample shall not exceed 17  $\frac{1}{2}$  %.
  - 3. The average compressive strength of 5 representative samples shall not be less than 3000 pounds per square inch and the compressive strength of any individual sample shall not be less than 2500 pounds per square inch.
- B. All bricks shall be good, sound, hard and uniformly burned. Under burned or salmon bricks shall not be acceptable. Broken or cracked bricks or bricks which are not regular and uniform in shape and size or otherwise unsatisfactory to the Engineer shall not be accepted. Bricks which are unsatisfactory to the Engineer shall be rejected and immediately removed from the site of the work by the Contractor and replaced with bricks satisfactory to the Engineer all at no additional compensation to the Contractor.
  - 1. Bricks for the channels and shelves shall conform to ASTM C32 Grade specifications for Grade SS, Sewer Brick, except that the mean of five tests for absorption shall not exceed 8 percent and no individual brick exceed 11 percent.
  - 2. Bricks for building up and leveling manhole and catch basin frames shall conform to ASTM C62.
- C. The Contractor shall furnish the Engineer with the Manufacturer's Certification that units supplied meet all AASHTO and ASTM specifications. Verification by additional testing shall be conducted by the Contractor at no additional cost as deemed necessary by the Engineer.

**PART 3      EXECUTION OF WORK**

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**3.01           MIXING**

- A.        Mortar materials shall be measured by weight or by volume and the methods of measurement shall be such that the proportions can be controlled with an error not over 2 percent. One bag of Portland cement weighing not less than 94 pounds shall be considered as one cubic foot. Mortar shall be mixed in a mechanical batch mixer, not less than 3 minutes after all the materials are in the mixer. Hand mixing will be permitted for small batches provided the quantities of materials and water are accurately controlled and that the method of mixing is approved by the Engineer. Hand mixing for small batches shall be continued until the mortar is completely and uniformly mixed. Mortar shall be used within 30 minutes after it leaves the mixer and no retampering of mortar in which the cement has begun to set will be allowed.

**3.02           TRIMMING AND CLEANING**

- A.        Masonry shall be cleaned with trisodium phosphate and detergent, ½ cup of each to each gallon of water. Before cleaning, all dirt, excess loose mortar shall be scraped or brushed off and masonry saturated on with stiff brushes as required and rinsed off thoroughly with clean water until all mortar, dirt and cleaning solution are removed.
- B.        As the cleaning progresses, all joints shall be examined for cracks, holes and imperfect pointing. Defective joints shall be cut out and repaired by tuck pointing.

**END OF SECTION**

## SECTION 05540

### MISCELLANEOUS METALS – Frames and Covers, grates, etc.

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
- 1.02 RELATED WORK SPECIFIED ELSEWHERE
- 1.03 SUBMITTALS

#### PART 2 MATERIALS

- 2.01 MATERIALS
- 2.02 FABRICATED MANHOLE FRAMES AND COVERS

#### PART 3 EXECUTION OF WORK

- 3.01 FABRICATION OF METAL WORK
- 3.02 FABRICATION OF CASTINGS
- 3.03 INSTALLATION OF FRAMES AND COVERS

#### PART 1 GENERAL

- 1.01 SCOPE OF WORK
    - A. The Contractor shall furnish all labor, tools, equipment, materials, and services necessary to erect, set, and fasten all the miscellaneous metalwork necessary for the completion of this contract as indicated on the Contract Drawings and as herein specified. All miscellaneous metal items required shall be fabricated as detailed or permitted, and shall be installed complete with all necessary anchors, bolts, and other accessories.
  - 1.02 RELATED WORK SPECIFIED ELSEWHERE
    - A. SECTION 02601 - DRAIN MANHOLES, FRAMES AND COVERS
  - 1.03 SUBMITTALS
    - A. Submit six (6) complete shop drawings for all items under this section. Shop drawings shall show size, thickness or gauge, and all installation details. No materials shall be fabricated or shipped prior to approval of the shop drawings.
- #### PART 2 MATERIALS
- 2.01 MATERIALS
    - A. Materials shall meet the following requirements. Gauges for plate and sheet iron or steel are U.S. Standard and are the minimum acceptable.

Structural mild steel bars and shapes	ASTM A36
Mild steel for flanges and sleeves	ASTM A 53
Stainless steel if required	AISI Type 304

Cast Iron	ASTM A48 Class 30
Bolts and nuts	ASTM A307
Stainless steel bolts	AISI Type 302

- B. All other required materials not specifically described but required for a complete and proper installation of miscellaneous metals shall be new, free from rust, best quality of their respective kinds, and subject to approval by the Engineer.

## 2.02 FABRICATED MANHOLE FRAMES AND COVERS

- A. Standard manhole frame and cover shall be as specified on the construction detail sheets. The cover shall have the letter "S" or the word "SEWER" in 3" letters cast into the top surface for sewer manholes and the word "DRAIN" in 3" letters for drain manholes.
- B. The castings shall be of good quality, strong, tough, even-grained cast iron, smooth, free from scale, lumps, blisters, sand holes, and defects of every nature that 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. Allowances shall be made in the patterns so that the thickness specified or shown shall not be reduced in obtaining finished surfaces.
- C. All castings shall be thoroughly cleaned and subject to a careful hammer inspection.
- D. Castings shall be at least Class 30 conforming to the ASTM Standard Specification for Gray Iron Castings, Designation A48. Castings shall not be acceptable if the actual weight is less than 95 percent of the theoretical weight computed from the dimensions as shown. The Contractor shall provide facilities for weighing castings in the presence of the Engineer or shall furnish invoices to the Engineer showing true weights, certified by the supplier.
- E. Product #'s for standard frames and covers specified by diameter on the construction detail sheets shall be as follows:  
 Manufacturer Abbreviations:
- ej (parent company) and East Jordan Iron Works, East Jordan, MI 49727 is abbreviated as EJIW.
- 24" dia. Sewer Frame and Cover - EJIW #0MA124000015 or Lebaron #LA248-6 or equal  
 26" dia. Sewer Frame and Cover - EJIW #0MA211000058 or Lebaron #LK110A –NON-MADOT or equal  
 32" dia. Sewer Frame and Cover - EJIW #0MA200000012 or Lebaron #LA328-5or equal  
 24" dia. Drain Frame and Cover - EJIW #0MA124000016 or Lebaron #LA248-6 or equal  
 24"x24" Catch Basin Frame and Grate – EJIW #0MA552000028 (3 flanges) or Lebaron #LF248-5HD 3FLG or equal  
 24"x24" Catch Basin Frame and Grate – EJIW #0MA552000029 (4 flanges) or Lebaron #LF248-5HD 4FLG or equal  
 24"x48" Double Catch Basin Frame and Grate – EJIW #0MA552000066 (3 flanges) or Lebaron #LV2448-2 3FLG LSD or equal - \* Short Side Flange Deleted may be require  
 24"x48" Double Catch Basin Frame and Grate – EJIW #0MA552000067 (4 flanges) or Lebaron #LV2448-2 4FLG or equal  
 12" Sewer Cleanout Frame and Cover – EJIW #'s R912/R812C Frame/Cover Co or equal
- F. Product #'s for standard "Sealtight" Frames and covers specified by diameter on the construction detail sheets shall be as follows:

24" dia. Sewer Frame and Cover Set- EJIW #0MA124000018 or Lebaron #LA248-6ST SEWER or equal  
32" dia. Sewer Frame and Cover Set- EJIW #0MA200000005 or #LA324-5ST SEWER or equal

- G. Product #'s for standard "Watertight" Frames and covers specified by diameter on the construction detail sheets shall be as follows:

24" dia. Sewer Frame and Cover Set- EJIW #0MA214000006 or Lebaron #LAB248-000 or equal  
32" dia. Sewer Frame and Cover Set- EJIW #0MA200000021 or Lebaron #LAB328-5 or equal

- H. The above referenced model #'s are for 8" frames. Upon approval by the Engineer or as required for construction, 4" and 6" equivalent frames may be used.

### PART 3 EXECUTION OF WORK

#### 3.01 FABRICATION OF METALWORK

- A. All miscellaneous metalwork shall be formed true to detail with clean, straight, sharply defined profiles, and smooth surfaces of uniform color and textures, and free from defects impairing strength or durability.
- B. Connections and accessories shall be of sufficient strength to withstand safely stresses and strains to which they will be subjected. Steel accessories and connections to steel or cast iron shall be steel, unless otherwise specified. Threaded connections shall be made so that the threads are concealed by fittings.
- C. Welded joints shall be rigid and continuously welded or spot-welded as specified or shown. The face of welds shall be dressed flush and smooth. Exposed joints shall be close fitting and joined where least conspicuous. Welded parts shall be in accordance with the Standard Code for Arc and Gas Welding in Building Construction of the AWS and shall be done only where shown, specified, or permitted by the Engineer. All welding be done only by welders certified as to their ability to perform welding in accordance with the requirements of the AWS Code. Component parts of built-up members to be welded shall be adequately supported and clamped or held by other adequate means to hold the parts in proper relation for welding.

#### 3.02 FABRICATION OF CASTINGS

- A. Castings shall be of good quality, strong, tough, even grained, smooth, free from scale, lumps, blisters, sand holes, and defects of any kind that render them unfit for the service for which they are intended. Castings shall be thoroughly cleaned before leaving the foundry and subjected to the hammer test, after which they shall be covered with asphalt or other approved substance applied at a temperature of about 300 F., in such a manner as to provide a firm, durable and tenacious coating. All finished surfaces shown and/or specified shall be machined to a true plane surface, and shall be true and seat at all points without rocking. Allowances shall be made in the patterns so that the thickness specified or shown shall not be reduced in obtaining finished surfaces.

#### 3.03 INSTALLATION OF FRAMES AND GRATES

- A. Manhole frames and covers shall be set firm with the tops conforming accurately to the grade of the pavement or finished ground surface or as indicated on the Contract Drawings. The upper section of the manhole shall be extended with brick masonry or concrete grade rings. Frames shall be set concentric with the top of the masonry and in a full bed of mortar so that the space between the top of the masonry and the bottom flange of the frame shall be completely filled and made watertight. A thick ring of mortar extending to the outer edge of the masonry shall be placed all around and on the top of the bottom flange in cross-country areas. The mortar shall be smoothly finished and have a slight slope to shed water away from the frame.
- B. Manhole covers shall be left in place in the frames on completion of other work at the manholes.
- C. All manhole frames shall be set to the grade of the trench width pavement until the final full width overlay pavement is placed. The Contractor shall then reset the frames to the grade of the full width overlay pavement. The manhole frames shall not be allowed to protrude above the surface of the pavement.
- D. Bolted and gasketed covers and frames shall be installed as indicated on the Contract Drawings.

END OF SECTION

**APPENDIX – I**

Railroad Permit Requirements  
Railroad Service Agreement  
Railroad Insurance Requirements



# PAN AM RAILWAYS

1700 IRON HORSE PARK  
NO. BILLERICA, MA 01862

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September 17, 2019

## RAILROAD PERMIT

Anthony C. Ma, PE  
GCG Associates  
84 Main Street  
Wilmington, MA 01887

RE: Proposed Water Line Crossing  
Ashfield Street  
BUCKLAND, MA  
VS 37 – Map 14 (Pan Am Southern)

Pan Am Railways (PAR) has reviewed the information package received, transmittal dated, September 10, 2019 for the above-referenced water line installation. GCG Associates, Inc., proposes to install a 12 inch Ductile Iron Water Pipe across Ashfield Street at our Freight Main Line (FML) at Mile Post 398.7 (+/-) in the Town of Buckland, MA. The method of installation will be a jack and bore with the carrier pipe inside a 36 inch steel casing pipe. Based on a review of the information submitted to date, PAR respectfully submits the following comments regarding this project:

- As you are aware, any work activities that require access to Railroad Right-of-Way (ROW) and/or affect Railroad Operations require prior approval and must be performed under the supervision of a Railroad Flagman/Inspector. All work shall be coordinated accordingly with train movements.
- The Contractor will be required to execute a Standard Railroad Service Contract with PAR and provide an acceptable Railroad-protective insurance policy to our Real Estate Department prior to scheduling work. Please contact Mike Twidle at (978) 663-6937 for coordination of all Real Estate requirements.
- The general specification for the installation of pipe under the Railroad shall follow the standards used by the American Railway Engineering and Maintenance-of-Way Association (AREMA) and is summarized in the following section:
  - o The proposed steel casing pipe shall meet the requirements of the wall thickness and minimum yield strength for the specific size pipe. It should be noted that the casing steel pipe ends should be located a minimum of 25 ft. perpendicular to the centerline of the track or extended to the railroad right of way, whichever is further.
  - o ¼ inch thick end caps shall be installed at each end of the steel casing pipe, leaving holes at each end to allow for leakage. Stainless steel pipe spacers will be used at

maximum intervals of 8 ft. and the remaining annular space between the carrier and casing pipes shall be filled with sand.

- o 2 inch diameter tapped holes with threaded plugs for grouting shall be provided with a minimum of 3 grout holes per 10 foot section of steel sleeve, as per Pan Am specifications.

- o The Contractor must take adequate precautions to insure that no operating equipment at the site will adversely impact any Railroad subsurface utilities. Please be advised that Pan Am Railways is not a Dig Safe member utility, therefore the Contractor will be required to coordinate the location of our underground Communication and Signal (C&S) facilities with the Engineering Department prior to scheduling work. The Contractor shall be responsible for any repair or replacement charges should Railroad track, signals or other structures be damaged during the performance of the project

- Please contact Shawn Higgins, P.E., at (978) 663-1127 to coordinate Railroad Flagging/Inspection requirements upon finalization of the appropriate documentation with our Real Estate Department.

PAR review of this submittal was performed to insure conformance to Railroad requirements and therefore relies on the plans and specifications certified and approved by the Professional Engineer. Based on the above-referenced comments, the project appears to be designed in accordance with our requirements subject to the above stipulations.

This letter of approval is valid for one (1) year from date of writing. If actual construction does not commence within that timeframe, the Railroad may require, at its discretion, additional terms and conditions under which the work shall be performed and/or resubmittal of plans and specifications for further consideration, without guarantee of approval.

If you have questions or require additional information regarding this letter, please do not hesitate to contact the undersigned at (978) 663-6973 or Mr. Ted Krug, P.E., Chief Engineer of Design and Construction at (978) 663-1108.

Very truly yours,

BOSTON AND MAINE CORPORATION/  
SPRINGFIELD TERMINAL RAILWAY CO.



Christine Aras  
Project Engineer

CC: TK/MT/SH/File

**BOSTON AND MAINE CORPORATION  
SPRINGFIELD TERMINAL RAILWAY COMPANY**

**RAILROAD SERVICE AGREEMENT**

**AGREEMENT** made as of this       day of       , 2021 by and between the "Railroad" as described in paragraph 1.A. below and "Contractor" as described in paragraph 1.B. below.

In consideration of the mutual promises, covenants and undertakings contained herein, and other good and valuable consideration, the receipt and sufficiency of which the parties hereby expressly acknowledge, the parties agree as follows:

1. The following terms shall have the meanings specified whenever used in this Agreement:

**A. RAILROAD:**

Boston and Maine Corporation and  
Springfield Terminal Railway Company  
c/o Pan Am Systems Incorporated  
Iron Horse Park  
North Billerica, Massachusetts 01862

**B. CONTRACTOR:** The following described party, together with its agents, servants, employees, subcontractors, suppliers, consultants and engineers:

**C. PROPERTY:** The Railroad's so-called \_\_\_\_\_ in the vicinity of \_\_\_\_\_ Street and Railroad milepost \_\_\_\_\_ in \_\_\_\_\_, Massachusetts.

**D. RAILROAD SERVICES:** The Railroad shall perform such services and provide such equipment and materials which it deems, in its sole discretion, necessary for the safe performance by the Contractor of the Construction Project, including, without limitation, the performance of all preliminary, office and field engineering; internal record keeping and accounting; railroad flagging and signaling; restoration or replacement of the Railroad's track or ballast; and all railroad inspection; and the Railroad shall provide all railroad communication equipment and materials.

**E. INITIAL RAILROAD SERVICE FEE:** To be invoiced by the Engineering Department of the Railroad.

**F. CONSTRUCTION PROJECT:**

**G. TERM:** One (1) year from the date first written above or completion of the construction project whichever occurs first.

**H. EXHIBITS:** The following Exhibits annexed hereto are hereby incorporated in this Agreement by this reference: Intentionally omitted.

**2. ENTRY UPON RAILROAD PROPERTY.** The Railroad hereby agrees to permit the Contractor to enter upon the Railroad Property for the Term for the limited purpose of performing the Construction Project, provided that the Contractor complies with all of the several terms, conditions and covenants contained in this Agreement, the Construction Project hereinabove described, and all work requirements and directions of the Vice President-Engineering of the Railroad, or his authorized representative (the "Vice President-Engineering").

**3. RAILROAD SERVICES.** In connection with the Contractor's performance of the Construction Project, the Railroad shall provide the Railroad Services.

**4. RAILROAD SERVICE FEES.** In consideration of the performance by the Railroad of the Railroad Services, the Contractor shall pay to the Railroad the Initial Railroad Service Fee. The Railroad hereby reserves the right to require additional Railroad Service Fees for Railroad Services necessary to complete the Construction Project. The Contractor further agrees to pay the Railroad a non-refundable fee of seven hundred fifty dollars (\$750.00) as reimbursement for the costs and expenses incident to the preparation of this Agreement.

**5. NOTICE OF INTENTION TO COMMENCE THE CONSTRUCTION PROJECT.** The Contractor shall provide the Vice President - Engineering of the Railroad with seven (7) days' notice in advance of its intention to commence the Construction Project.

**6. COVENANTS OF THE CONTRACTOR.** The Contractor hereby covenants and agrees that it will observe the following affirmative and negative covenants during the term of this Agreement:

(a) The Contractor shall perform the Construction Project in a safe, good and workmanlike manner and in accordance with the description of the Construction Project herein contained and all work requirements and directions of the Vice President-Engineering.

(b) The Contractor shall permit to enter upon the Railroad Property and perform the Construction Project only those contractors and/or subcontractors having, in the exclusive opinion of the Vice President-Engineering, sufficient engineering, construction expertise and financial ability to accomplish the Construction Project. The Railroad shall have the right to disqualify any contractor or subcontractor employed by the Contractor from performing the Construction Project for the following reasons:

(i) Failure to pay in full Monies owed to the Railroad; or

- (ii) Use of, or reputation for use of, construction methods or procedures which, in the exclusive opinion of the Vice President-Engineering, are unsafe, technically deficient, or not in compliance with the Railroad's standards.

Any contractor or subcontractor so disqualified by the Railroad shall immediately vacate the Railroad Property and shall not re-enter the Railroad Property without the prior written approval of the Vice President-Engineering.

(c) The Contractor shall not, at any time, except with the prior approval of the Vice President-Engineering, enter upon the Railroad Property or perform the Construction Project without the presence at the Railroad Property of a foreman, inspector, or flagman as may be assigned or required by the Vice President-Engineering, in his exclusive opinion.

(d) The Contractor shall procure and maintain, at its sole cost and expense, the following insurance coverage's naming the Railroad, exactly as designated in Paragraph 1, as insured, in forms and with companies and coverage limits satisfactory to the Railroad:

- (i) Comprehensive General Liability Insurance protecting against liability from bodily injury or property damage arising out of the Construction Project.
- (ii) Workers Compensation and Occupational Disease Insurance, as required by law.
- (iii) Automobile Liability Insurance covering all motor vehicles used about or in connection with the Construction Project.
- (iv) Railroad Protective Liability Insurance.

(e) The Contractor shall procure and maintain, at its sole cost and expense, all permits, licenses and approvals of all governmental authorities and all consents of all third parties necessary for the Contractor to perform the Construction Project. The Contractor shall comply with, and shall cause the Railroad Property to comply with, all applicable local, county, state or federal laws, codes or ordinances of any description, including, but not limited to: zoning, building, engineering, sanitation, health or environmental laws, particularly, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. 9601, et seq., as amended) ("Law"). The Contractor shall promptly remedy any breach of any Law.

## **7. INTERRUPTION OF CONSTRUCTION PROJECT.**

- (a) Upon demand by the Railroad, the Contractor hereby agrees to immediately:
  - (i) Cease performance of the Construction Project;

- (ii) Clear the Railroad Property of all personnel, materials, equipment or obstructions and render the Railroad Property safe for the passage of trains; and
- (iii) Vacate the Railroad Property until such time as the Railroad gives notice of permission to re-enter the Railroad Property.

(b) In the event that the Contractor ceases work on the Construction Project, for any reason whatsoever, the Contractor shall provide notice of the same to the Vice President-Engineering and shall leave the Railroad Property in a safe condition, satisfactory to the Vice President - Engineering.

**8. PRIORITY OF RAILROAD OPERATIONS.** The operations of the Railroad, Pan Am Railway Incorporated ("Pan Am"), the affiliated railroads of Pan Am, (in general, and those running through the Railroad Property in particular) and the operations of the lessees, licensees and other lawful occupants of the Railroad Property shall have absolute priority over the performance of the Construction Project. The Contractor hereby agrees that the Construction Project shall be performed only at such hours and times and under such conditions as specified by the Railroad. Such hours and times shall be subject to change without prior notice to the Contractor. The Contractor hereby acknowledges and agrees that the Contractor may suffer delays and increased costs due to said agreed upon priority of the Railroad's and others' operations. Causes for such delay and increased cost may include: (i) the inability or default of the Railroad in providing adequate personnel to allow work; and/or (ii) passage of trains. The Parties agree that had the Contractor desired to proceed with the work without being subject to the aforementioned delay and increased cost, the terms of this Agreement would have been substantially different, and per diem costs to the Contractor, depending on job location, rail traffic, etc. could have far exceeded the Railroad Service Fee.

## **9. INDEMNIFICATION OF RAILROAD.**

- (a) The Contractor hereby agrees to defend with counsel acceptable to the Railroad, release, indemnify, protect and hold harmless the Railroad, Pan Am, their affiliates, successors and assigns, their lessees and licensees and all other lawful occupants of the Railroad Property from and against any and all loss, cost, damage, or expense arising in any way out of the Construction Project or Contractor's use or possession of the Railroad Property including, without limitation, (i) all claims or suits for loss or damage to property of any description or natural resources, (ii) personal injury, sickness or death of any person, (iii) delay damages, (iv) consequential damages, (v) all matters relating to the alteration of wetlands, (vi) breach of any Law, particularly any alleged release of oil or hazardous or otherwise harmful materials or substances (including, but not limited to costs for assessment, remedial or response actions), or (vii) other damages arising in any way out of the Construction Project or Contractor's use or possession of Railroad Property, whether such loss, cost, damage, or expense is suffered by the Contractor, the Railroad, Pan Am, their affiliates, successors, assigns, lessees, licensees and all other lawful occupants of the Railroad Property,

or the officers, agents employees, or representatives of any of them, or by others.

- (b) In addition to the provisions above, the Contractor expressly agrees to assume responsibility for; and to release Railroad, Pan Am and their affiliates from, any and all claims, costs, suits, judgments arising from or related to any actual, alleged or potential violations of any federal, state or local environmental law, regulation, rule, ordinance, or code discovered by Contractor in a manner that relates in any way to the performance of the Construction Project, including, but not limited to, any actual, alleged potential violations that existed prior to the execution of this Agreement.
- (c) In the event that at any time during the performance of the Construction Project, the Contractor discovers any contamination or suspected contamination that triggers notification requirements under any applicable federal, state or local law, rule, regulation or ordinance, the Contractor agrees to promptly notify the Railroad, who will assume responsibility for performing any notification, if necessary, in accordance with good environmental practice, and if any further investigation or remediation is determined necessary the Railroad will perform the investigation and remediation. The Contractor agrees to indemnify the Railroad of any and all costs associated with the environmental contamination. The Contractor shall be held solely responsible for the cost of any necessary investigation and/or remediation

#### **10. GENERAL PROVISIONS.**

- (a) Any notice or other communication in connection with this Agreement shall be deemed duly served when received (or upon attempted delivery if delivery is not accepted). Such notice shall be in writing and either delivered by hand or mailed (i) by registered or certified mail (return receipt requested) with the United States Postal Service, or (ii) by Federal Express or other overnight mail carrier furnishing evidence of receipt to the sender, at the address for such party set forth in Section 1. Either party may change the address at which it is to receive notices by notice given as hereinabove set forth.
- (b) Failure of the Railroad to complain of any act or omission hereunder on the part of the Contractor, no matter how long the same may continue, shall not be deemed a waiver by the Railroad of any of its rights hereunder. No waiver by the Railroad at any time, express or implied, of any breach of any provision of this Agreement shall ever be deemed a waiver of a breach of any other provision of this Agreement, or a consent to any subsequent breach of the same or any other provision. If any action by the Contractor shall require the Railroad's consent or approval, such consent or approval on any particular occasion shall not be deemed a consent or approval of any other action on any subsequent occasion.

- (c) If any provision of this Agreement, or the application thereof to any person or circumstance, shall to any extent be invalid or unenforceable, the remainder of the Agreement, or the application of such provision to persons or circumstances other than those as to which it is invalid or unenforceable, shall not be affected. Each provision of this Agreement shall be deemed valid and enforceable to the fullest extent permitted by law.
- (d) The Section headings contained in this Agreement are for reference and convenience only and in no way define or limit the scope and contents of this Agreement or in any way affect its provisions.
- (e) This Agreement constitutes the entire understanding between the parties relating to the subject matter hereof, supersedes all prior oral and written offers, negotiations, proposals, representations, agreements, courses of dealing and understandings between the parties relating to the subject matter hereof and is subject to no understandings, conditions, or representations other than those expressly stated herein.
- (f) This Agreement may only be amended or modified by a writing signed by all of the parties hereto which refers to this Agreement.
- (g) This Agreement shall be governed by and construed in accordance with the laws of the state wherein the Railroad Property is located.
- (h) Neither party to this Agreement shall be responsible to the other for delays or errors in its performance or other breach of this Agreement occurring solely by reason of circumstances beyond its control, including acts of civil or military authority, national emergencies, fire, labor disputes, flood or catastrophe, acts of God, insurrection, war, riots, delays of suppliers, or failure of transportation, communication or power supply.
- (i) The parties agree that neither this Agreement nor any memorandum thereof shall be recorded at any registry of deeds and that any such recording by the Contractor shall constitute a breach of this Agreement.
- (j) If the Contractor executes this Agreement through an agent or representative, each such agent or representative hereby warrants and represents to the Railroad that he is authorized to execute, acknowledge, and deliver this Agreement on behalf of the Contractor and to thereby bind the Contractor to the same.
- (k) This Agreement: (i) may be executed in any number of counterparts, each of which when executed by all parties to this Agreement shall be deemed to be an original, and all of which counterparts together shall constitute one and the same instrument, (ii) shall take effect as a sealed instrument, (iii) shall bind and inure to the benefit of the parties and their respective legal representatives, successors and

assigns, except that the Contractor may not delegate any of its obligations under this Agreement or assign this Agreement without obtaining the Railroad's express written consent, and (iv) is not intended to inure to the benefit of any third party beneficiary.

- (l) This Agreement shall not be construed as creating or vesting in the Contractor any estate in the Railroad Property, but only the limited right of using the Railroad Property in the manner hereinabove described.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as a sealed instrument as of the date first set forth above by their duly authorized representatives.

**BOSTON AND MAINE CORPORATION  
AND  
SPRINGFIELD TERMINAL RAILWAY  
COMPANY**

By: \_\_\_\_\_  
Ted Krug, Chief Design Engineer

**CONTRACTOR**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**Limits for Insurance Requirements as specified in the Railroad Service Agreement**

The Contractor shall procure and maintain, at its sole cost and expense, the following insurance coverage's naming the Railroad, exactly as designated in Paragraph 1, as insured, in forms and with companies and coverage limits satisfactory to the Railroad:

- (i) \$5,000,000 / \$10,000,000 Comprehensive General Liability Insurance protecting against liability from bodily injury or property damage arising out of the Construction Project.
- (ii) Workers Compensation and Occupational Disease Insurance, as required by law.
- (iii) Automobile Liability Insurance covering all motor vehicles used about or in connection with the Construction Project.
- (iv) \$5,000,000 / \$10,000,000 Railroad Protective Liability Insurance.

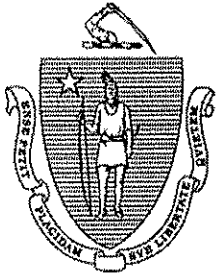
## **APPENDIX – II**

### **COVID-19 Requirements:**

COVID-19 Guidelines & Procedures 3-25-20

COVID-19 Guidelines Order 13 4-3-20

COVID-19 Supplemental Guidelines Addendum I



THE COMMONWEALTH OF MASSACHUSETTS  
OFFICE OF THE GOVERNOR

STATE HOUSE • ROOM 271  
BOSTON, MASSACHUSETTS 02133  
TEL: (617) 725-4030 • FAX: (617) 727-8290

GOVERNOR'S LEGAL OFFICE

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DEPUTY LEGAL COUNSEL

NICHOLAS D. BRANDT  
DEPUTY LEGAL COUNSEL

LAUREN GREENE PETRIGNO  
DEPUTY LEGAL COUNSEL

March 25, 2020

Dear Municipal Chief Executive Officer:

I write to provide guidance regarding the effect of the Governor's March 23, 2020 Order "Assuring Continued Operation of Essential Services in the Commonwealth, Closing Certain Workplaces, and Prohibiting Gatherings of More than 10 People" insofar as the Order intersects with municipal efforts to address the COVID-19 crisis.

The Governor's Essential Services Order has two functions. First, the Order closes a broad range of public spaces, workplaces, and other establishments in order to reduce unnecessary movement of Commonwealth residents outside of the home and, in so doing, limit the spread of this highly contagious and potentially deadly virus. Second, the Order designates a range of critical services and functions as "COVID-19 Essential Services" to ensure their continued operation during the state of emergency in order to protect the public health and welfare of the Commonwealth and support community resilience and continuity of response efforts. Correspondingly, the Order designates workers engaged in delivering these critical services and functions as members of the "COVID-19 Essential Workforce." Taken together, these designations seek to ensure that COVID-19 Essential Services continue without interruption during the period of the declared emergency.

The Baker-Polito Administration recognizes the value of local decision making in most circumstances. Nevertheless, ensuring an effective response to the COVID-19 emergency requires the Administration to prioritize consistency and clarity of action. A key requirement of any effective, statewide response will be that public officials avoid conflicting directives and duplication of efforts. The Massachusetts Civil Defense Act, the authority under which the Governor issued the Order, reflects the necessity for unified statewide directives in a time of crisis. Section 8A of the Act provides that that any rule, regulation, ordinance or by-law issued by a municipality or other political subdivision of the Commonwealth "shall be inoperative" to the extent that such provision is inconsistent with any order issued by the Governor during the period of the emergency.

Accordingly, the Order the Governor signed on Monday includes the following provision to ensure unitary management of this crisis:

This Order supersedes and makes inoperative any order or rule issued by a municipality that will or might in any way impede or interfere with the achievement of the objectives of this Order. With respect to work and travel in particular, any order or rule issued by a municipality is hereby made inoperative to the extent: (1) such municipal order or rule will or might interfere with provisions of this Order ensuring the continued operation of COVID-19 Essential Services; or (2) such municipal order or rule will or might interfere with the free travel anywhere within the Commonwealth of any person who is a member of any COVID-19 Essential Workforce where such travel is made in connection with the ongoing operation of COVID-19 Essential Services.

One important area in which the potential for conflict has presented itself is in questions surrounding the continuing operation of construction projects. A number of municipalities have announced policies to address construction work during the state of emergency that conflict with the terms of the Order. Exhibit A of the Order contains two entries that designate construction projects as COVID-19 Essential Services and identify workers engaged in construction projects as included within the Order's COVID-19 Essential Workforce:

- Guidance: Workers – including contracted vendors – involved in the construction of critical or strategic infrastructure including public works construction, airport operations, water, sewer, gas, electrical, nuclear, oil refining and other critical energy services, roads and highways, public transportation, solid waste collection and removal, and internet, and telecommunications systems (including the provision of essential global, national, and local infrastructure for computing services)
- Guidance: Construction Workers who support the construction, operation, inspection, and maintenance of construction sites and construction projects (including housing construction)

Accordingly, the Order provides that all construction projects are to “continue operations during the state of emergency, but to do so with allowance for social distancing protocols consistent with guidance provided by the Department of Public Health.” Local policies, regulations, or directives that provide otherwise are in direct conflict with the Order and should be withdrawn.

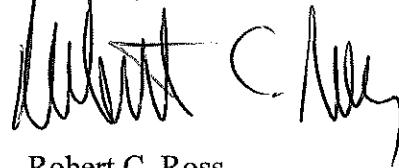
The Baker-Polito Administration is aware that cities and towns and local Boards of Health quite sensibly have raised questions about how to manage the health risks of COVID-19 in the context of an active construction site. In order to address these same concerns, Commonwealth agencies that undertake horizontal and vertical construction have adopted a detailed set of safety practices for all construction projects sponsored or managed by their agencies. The Commonwealth also plans to ensure that each project sponsored or managed by a state agency observes a “safety stand-down day” within the next week. This stand-down is

designed to ensure that all workers involved in the project are familiar with the health safety practices required for the continued operation of Commonwealth construction projects. I am attaching the Commonwealth's construction site safety policy to this guidance for your review. The Administration encourages all cities and towns to issue similar requirements for construction projects undertaken by private owners.

Unitary management in this crisis will be essential to ensuring an appropriate balance statewide between taking actions necessary to combat the spread of COVID-19 and avoiding unnecessary hardships to the public and supporting community resilience over the weeks and months it may take for this crisis to run its course. The economic disruption and interruption in critical services and functions that could result from halting construction projects abruptly would be felt statewide and not simply in the locality where a particular project sits. For these reasons, construction projects should continue as long as they observe social distancing protocols and otherwise can continue to operate safely.

The Baker-Polito Administration recognizes and values the unceasing efforts of local officials to support an effective statewide response to COVID-19. We will continue to work with cities and towns to ensure a consistent application of the Governor's Essential Services Order and to provide for effective enforcement of proper COVID-19 safety protocols at active construction sites.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robert C. Ross', followed by a large, stylized 'C' and another signature.

Robert C. Ross  
Chief Legal Counsel

Cc: Geoffrey Beckwith, Massachusetts Municipal Association

Enclosure



## Commonwealth of Massachusetts COVID-19 GUIDELINES AND PROCEDURES FOR ALL CONSTRUCTION SITES AND WORKERS AT ALL PUBLIC WORK

These Guidelines and Procedures MUST be implemented at all times on all construction sites. All construction sites MUST conduct a Safety Stand Down day to disseminate these Guidelines to all employees and workers.

### **Employee Health Protection – ZERO Tolerance**

*The following applies to both State employees and contracted staff working on behalf of the State.*

- ZERO TOLERANCE FOR SICK WORKERS REPORTING TO WORK. IF YOU ARE SICK, STAY HOME! IF YOU FEEL SICK, GO HOME! IF YOU SEE SOMEONE SICK, SEND THEM HOME!
- If you are exhibiting any of the symptoms below, you are to report this to your supervisor (via phone, text or email) right away, and head home from the job site or stay home if already there.

If you notice a co-worker showing signs or complaining about such symptoms, he or she should be directed to their supervisor (via phone, text or email) and asked to leave the project site immediately.

#### COVID-19 Typical Symptoms:

- Fever
- Cough
- Shortness of Breath
- Sore Throat
- Prior to starting a shift, each employee will self-certify to their supervisor that they:
  - Have no signs of a fever or a measured temperature above 100.3 degrees or greater, a cough or trouble breathing within the past 24 hours.
  - Have not had “close contact” with an individual diagnosed with COVID-19. “Close contact” means living in the same household as a person who has tested positive for COVID-19, caring for a person who has tested positive for COVID-19, being within 6 feet of a person who has tested positive for COVID-19 for about 15 minutes, or coming in direct contact with secretions (e.g., sharing utensils, being coughed on) from a person who has tested positive for COVID-19, while that person was symptomatic.
  - Have not been asked to self-isolate or quarantine by their doctor or a local public health official.
- Workers that are working in a confined space or inside a closed building envelope will have to be temperature screened by a Medical Professional or Trained Individual provided that such screening is out of public view to respect privacy and results are kept private.
- Employees exhibiting symptoms or unable to self-certify should be directed to leave the work site and seek medical attention and applicable testing by their health care provider. They are not to return to the work site until cleared by a medical professional.

## **General On-the-Job Guidance to Prevent Exposure & Limit the Transmission of the Virus**

- No handshaking
- Wash hands often with soap for at least 20 seconds or use an alcohol-based hand sanitizer with at least 60% ethanol or 70% isopropanol
- Contractor and State Agency Field Offices are locked down to all but authorized personnel
- Each jobsite should develop cleaning and decontamination procedures that are posted and shared. These Procedures must cover all areas including trailers, gates, equipment, vehicles, etc. and shall be posted at all entry points to the sites, and throughout the project site.
- A “No Congregation” policy is in effect, individuals must implement social distancing by maintaining a minimum distance of 6-feet from other individuals
- Avoid face to face meetings – critical situations requiring in-person discussion must follow social distancing
- Conduct all meetings via conference calls, if possible. Do not convene meetings of more than 10 people. Recommend use of cell phones, texting, web meeting sites and conference calls for project discussion
- All individual work crew meetings/tailgate talks should be held outside and follow social distancing
- Please keep all crews a minimum of 6’ apart at all times to eliminate the potential of cross contamination
- At each job briefing/tool box talk, employees are asked if they are experiencing any symptoms, and are sent home if they are
- Each jobsite should have laminated COVID-19 safety guidelines and handwashing instructions
- All restroom facilities/porta-potties should be cleaned and handwashing stations must be provided with soap, hand sanitizer and paper towels
- All surfaces should be regularly cleaned, including surfaces, door handles, laptops, etc.
- All common areas and meeting areas are to be regularly cleaned and disinfected at least once a day but preferably twice a day
- Be sure to use your own water bottle, and do not share
- To avoid external contamination, we recommend everyone bring food from home
- Please maintain Social Distancing separation during breaks and lunch.
- Cover coughing or sneezing with a tissue, then throw the tissue in the trash and wash hands, if no tissue is available then cough into your elbow
- Avoid touching eyes, nose, and mouth with your hands
- To avoid sharing germs, please clean up after Yourself. DO NOT make others responsible for moving, unpacking and packing up your personal belongings
- If you or a family member is feeling ill, stay home!

## **Work Site Risk Prevention Practices**

- At the start of each shift, confirm with all employees that they are healthy.
- We will have a 100% glove policy from today going forward. All construction workers will be required to wear cut-resistant gloves or the equivalent.
- Use of eye protection (safety goggles/face shields) is recommended
- In work conditions where required social distancing is impossible to achieve affected employees shall be supplied PPE including as appropriate a standard face mask, gloves, and eye protection.
- All employees shall drive to work site/parking area in a single occupant vehicle. Contractors / State staff shall not ride together in the same vehicle
- When entering a machine or vehicle which you are not sure you were the last person to enter, make sure that you wipe down the interior and door handles with disinfectant prior to entry
- In instances where it is possible, workers should maintain separation of 6' from each other per CDC guidelines.
- Multi person activities will be limited where feasible (two person lifting activities)
- Large gathering places on the site such as shacks and break areas will be eliminated and instead small break areas will be used with seating limited to ensure social distancing.
- Contact the cleaning person for your office trailer or office space and ensure they have proper COVID-19 sanitation processes. Increase their cleaning visits to daily
- Clean all high contact surfaces a minimum of twice a day in order to minimize the spread of germs in areas that people touch frequently. This includes but is not limited to desks, laptops and vehicles

**Wash Stations:** All site-specific projects with outside construction sites without ready access to an indoor bathroom MUST install Wash Stations.

- Install hand wash stations with hot water, if possible, and soap at fire hydrants or other water sources to be used for frequent handwashing for all onsite employees
- All onsite workers must help to maintain and keep stations clean
- If a worker notices soap or towels are running low or out, immediately notify supervisors
- Garbage barrels will be placed next to the hand wash station for disposal of tissues/towels

**Do all you can to maintain your good health by: getting adequate sleep; eating a balanced, healthy diet, avoid alcohol; and consume plenty of fluids.**

**Please Note: This document is not intended to replace any formalized procedures currently in place with the General Contractor.**

**Where these guidance does not meet or exceed the standards put forth by the General Contractor, everyone shall abide by the most stringent procedure available.**

**A site-specific COVID-19 Officer (who may also be the Health and Safety Officer) shall be designated for every site.**

**The approved project Health and Safety Plan (HASP) shall be modified to require that the Contractor's site-specific project COVID-19 Officer submit a written daily report to the Owner's Representative. The COVID-19 Officer shall certify that the contractor and all subcontractors are in full compliance with these guidelines.**

**Any issue of non-compliance with these guidelines shall be a basis for the suspension of work. The contractor will be required to submit a corrective action plan detailing each issue of non-conformance and a plan to rectify the issue(s). The contractor will not be allowed to resume work until the plan is approved by the Owner. Any additional issues of non-conformance may be subject to action against the contractor's prequalification and certification status.**



**Enforcement of the COVID-19 Safety Guidelines  
and Procedures for Construction Sites**

COVID-19 Order No. 13, as revised and extended on March 31, 2020, requires the Massachusetts Department of Transportation and the Division of Capital Asset Management and Maintenance to “issue guidance and enforcement procedures for the safe operation of public works construction sites.” The safety guidance is attached as “COVID-19 Guidelines and Procedures for All Construction Sites and Workers at All Public Works Sites” (hereinafter, the COVID-19 Construction Safety Guidance) and is posted online and may be revised from time to time. This document contains the required enforcement procedures, which shall be followed by all state agencies and authorities who undertake, manage or fund construction projects and may be used by each city or town for ensuring the safety of both publicly- and privately-owned construction projects.

- **All Projects:** Construction sites that cannot consistently comply with the COVID-19 Construction Safety Guidance, including ensuring that social distancing and safety requirements are being followed, must:
  - Safely secure the site and pause construction activities until a corrective action plan is prepared, submitted and approved by both the Owner and the city or town; or
  - Close down the site for the duration of the State of Emergency if repeatedly found by either the Owner’s COVID-19 Officer or a state or local inspector (including a third-party private inspector accountable to a city or town) to be in violation of the social distancing and safety requirements.
- A city or town may additionally require the Owner to develop and submit a site-specific risk analysis and enhanced COVID-19 safety plan. The city or town shall review and approve such plan and may require such projects to pause construction until such a risk analysis and plan is submitted and approved. Once such an enhanced COVID-19 safety plan is approved, a violation of the plan shall be treated the same as a violation of the COVID-19 Construction Safety Guidance.
- A site-specific COVID-19 Officer (who may also be the Health and Safety Officer) shall be designated for every site.
- The approved project Health and Safety Plan (HASP) shall be modified to require that the Contractor’s site-specific project COVID-19 Officer submit a written daily report to the Owner’s Representative. The COVID-19 Officer shall certify that the contractor and all subcontractors are in full compliance with the COVID-19 Construction Safety Guidance.
- **Public Projects:** For all projects undertaken, managed or funded by a state agency or authority there shall be joint enforcement responsibility between the project’s public Owner and the city or town where the project is located.
  - The Owner of the project has the lead responsibility for compliance and enforcement including frequent on-site inspections by an employee or contractor of the state agency or authority who is familiar with the COVID-19 Construction Safety Guidance and is authorized to enforce that guidance and shut down work at the site if violations are found.
  - The Owner of the project is required to notify the municipality where the work is taking place whenever a site is shut down or of any violations of the COVID-19 Construction

Safety Guidance and the resulting corrective action plan, as well as to provide copies of the COVID-19 Officer's written daily reports upon request.

- While the public Owner has the lead responsibility for enforcement, cities and towns retain the authority to take enforcement action against public projects found not in compliance with the COVID-19 Construction Safety Guidance, including the authority to order the project to shut down until a corrective action plan is developed, approved and implemented.
- Private Projects: For all private projects the primary enforcement responsibility rests with the city or town, with the Massachusetts Department of Transportation and other state agencies providing technical assistance and resource support.
  - Cities and towns are authorized to enforce the COVID-19 Construction Safety Guidance using their public health staff, building inspectors or any other appropriate official or contractor.
  - Cities and towns may enforce the safety and distance protocols including requiring the Owner and/or Contractor to safely secure the site and pause construction activities until a corrective action plan is prepared, submitted and approved by the city or town.
  - The city or town may require the Owner of a private project to pay for an independent, third party inspector or inspection firm (or to pay into a pool to pay for such inspections). The third party inspector shall be accountable solely to the city or town and shall be responsible for enforcement on behalf of the city or town. A city or town may require private projects to pause construction until such a third-party inspector has been secured.

Any questions about these enforcement procedures or the accompanying Guidance can be directed to:

For MassDOT, Michael McGrath, Assistant Administrator for Construction Engineering, [michael.a.mcgrath@state.ma.us](mailto:michael.a.mcgrath@state.ma.us)

For DCAMM, Jay Mitchell, Deputy Commissioner, [Jayson.mitchell@mass.gov](mailto:Jayson.mitchell@mass.gov)

# **Supplemental Guidelines for Construction Sites**

## **ADDENDUM 1 Limiting Exposures and Worker Infection Protocol**

### **COVID-19 Employee Health, protection, guidance and prevention**

## **Limiting Exposures**

Workers should follow the General On-the-Job Guidance to Prevent Exposure & Limit the Transmission of the Virus of the COVID-19 Employee Health, protection, guidance and prevention guide.

In addition, Contractors should advise workers of best practice to limit exposures off the construction site.

When leaving a construction site for breaks, lunch, or other reasons are required to wash hands with soap for at least 20 seconds or use an alcohol-based hand sanitizer with at least 60% ethanol or 70% isopropanol before leaving the site and must maintain social distancing if traveling to other locations off the construction site. Frequent use of handwashing or alcohol-based hand sanitizers should be encouraged and handwashing facilities and/or alcohol-based hand sanitizers should be made readily available at work sites.

## **Worker Infection Protocol**

As provided in the guidance document, there is a zero tolerance for sick workers reporting to work. Employees should be instructed that even those with mild symptoms of respiratory infection (cough, shortness of breath, sore throat) or fever should stay off work. Contractors shall take immediate steps to limit infections at the job site in the event that a worker discovered to have tested positive for COVID-19 or has COVID-19 related symptoms.

Although it is understood that contractors are enforcing Work Site Risk Prevention Practices including social distancing rules and use of PPE, consistent with guidelines it is also recognized that there may be occasions where someone who has tested positive for COVID-19 or who has COVID-19 symptoms has been present in a work area..

Prompt identification and isolation of potentially infectious individuals is a critical step in protecting workers, vendors, visitors, and others at a worksite.

## **IDENTIFICATION OF EXPOSURE**

The Contractor shall direct workers with COVID-19 related symptoms to leave the jobsite immediately and contact their healthcare provider. The Massachusetts Department of Health (DPH) or a local board of health will make appropriate notifications to those who had direct prolonged contact with the COVID-19 positive workers.

The Contractor shall work with the local board of health to identify any potential jobsite exposures, including :

- Other workers , vendors, inspectors, or visitors to the work site with close contact to the individual
- Work areas such as supply cabinets and designated work stations or rooms
- Work tools and equipment
- Common areas such as break rooms and tables, vending machines, and sanitary facilities

## **NOTIFICATION AND QUARANTINE REQUIREMENTS**

As provided by law, the identity of the worker must be kept confidential.

Upon learning of an infection, the contractor must immediately notify the designated COVID-19 safety officer, the site safety officer, and the owner.

## **SANITIZATION REQUIREMENTS**

Contractor shall take immediate steps to sanitize common areas and direct work places. This includes all on-site bathrooms facilities, any break facilities, and any other common areas on the job site that may have been in close contact with the infected worker.

Sanitation will be conducted with personnel, equipment, and material approved for COVID-19 sanitization.

Identified areas should remain isolated from workers until sanitation process has been completed and area is deemed safe for use.

## **RETURNING TO WORK**

All impacted workers should follow CDC and DPH recommended steps concerning return to work. Workers who are considered close contacts to a COVID19 case by public health authorities should not return for 14 days and are subject quarantine by public health.

Workers who leave during the work day due to COVID-19 symptoms and develop COVID-19 as confirmed by laboratory testing or diagnosis by a healthcare provider shall not return to the site until either released from isolation by healthcare provider or public health.

## **IN ALL CASES**

Keep all employee names confidential as required by law.

Other employees may be sent home while a workspace is being cleaned but will return to work after cleaning unless advised otherwise by a health care provider.

Other employees should be asked to contact their health provider if they have any questions. Remind other employees to continue to practice proper sanitation and monitor for flu like symptoms.