

**TOWN OF WELFLEET, MASSACHUSETTS**

**CONTRACT AND SPECIFICATIONS**

**FOR**

**WELFLEET TANK PAINT SPOT REPAIRS**

**WELFLEET, MA**

**JULY 2016**





## TABLE OF CONTENTS

---

### **DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS**

<u>Section</u>	<u>Title</u>	<u>Page</u>
00020	Invitation to Bid	00020-1
00100	Instruction to Bidders	00100-1
00301	Bid Form	00301-1
00430	Bid Bond (EDJC C-430)	00430-1
00480	Form of Non-Collusion Affidavit	00480-1
00481	Certificate of Corporate Vote	00481-1
00482	Certificate as to Payment of State Taxes	00482-1
00483	OSHA 10 Hour Training	00483-1
00484	State Debarment Disclosure Form	00484-1
00500	Agreement	00500-1
00550	Notices (Award, Proceed)	00550-1
00610	Performance Bond	00610-1
00615	Payment Bond	00620-1
00620	Contractor's Application for Payment (EJCDC C-620)	00620-1
00625	Certificate of Substantial Completion (EJCDC C-625)	00625-1
00700	General Conditions of the Contract	00700-1
00800	Supplementary Conditions	00800-1

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

<u>Section</u>	<u>Title</u>	<u>Page</u>
01010	Summary of Work	01010-1
01024	Measurement and Payment	01024-1
01040	Project Coordination	01040-1
01046	Control of Work	01046-1
01095	Reference Standards and Definitions	01095-1
01110	Environmental Protection Measures	01110-1
01170	Special Provisions	01170-1
01200	Project Meetings	01200-1
01300	Submittals	01300-1
01370	Schedule of Values	01370-1
01400	Quality Assurance	01400-1
01500	Temporary Facilities and Controls	01500-1
01610	Delivery Storage and Handling	01610-1
01700	Contract Closeout	01700-1
01710	Cleaning Up	01710-1

### **DIVISION 9 - FINISHES**

<u>Section</u>	<u>Title</u>	<u>Page</u>
09960	Coating Systems for Water Storage Tanks	09960-1

## **LIST OF APPENDICES**

---

### **APPENDIX A**

*Massachusetts Prevailing Wage Rates*

### **APPENDIX B**

*Tank Inspection Report 2015*

### **APPENDIX C**

*Tank Condition Photos*

### **APPENDIX D**

*Tank Record Drawings*

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS

00020	Invitation to Bid
00100	Instructions to Bidders
00301	Bid Form
00430	Bid Bond (EJCDC C-430)
00480	Form of Non-Collusive Affidavit
00481	Certificate of Corporate Vote
00482	Certificate as to Payment of State Taxes
00483	OSHA 10 Hour Training
00484	State Debarment Disclosure Form
00500	Agreement
00550	Notices (Award, Acceptance, Proceed)
00610	Performance Bond
00615	Payment Bond
00620	Contractor's Application for Payment (EJCDC C-620)
00625	Certificate of Substantial Completion (EJCDC C-625)
00700	General Conditions of the Contract
00800	Supplemental Conditions



SECTION 00020  
INVITATION TO BID

1. Sealed Bids for the **Wellfleet Tank Paint Spot Repairs** project will be received until **July 27, 2016 at 11:00 A.M.**, local time, at the Town Administrator's office at the **Wellfleet Town Hall, 300 Main Street, Wellfleet, MA 02667** at which time said Bids will be publicly opened and read aloud. All bids shall be submitted within a sealed envelope addressed to **"Wellfleet Town Administrator's Office, 300 Main Street, Wellfleet, MA 02667."** and entitled **"Wellfleet Tank Paint Spot Repairs"**.
2. In general and without limitation the work to be done under this contract consists of furnishing all labor, materials, equipment and tools for, exterior power washing, surface preparation, exterior spot painting, and all other appurtenant work described in the contract documents. Construction activities will begin after September 5, 2016 and be completed within 45 days.
3. Contract Documents may be examined and obtained at Environmental Partners Group, Inc. 1900 Crown Colony Dr., Suite 402, Quincy, MA 02169, beginning on July 5, 2016 between the hours of 8:30 a.m. and 4:30 p.m.. To obtain Contract Documents, a \$50 refundable deposit is required. Cash will not be accepted. Contract Documents may also be examined, but not obtained at the Wellfleet Town Hall, Administration Office, 300 Main St, Wellfleet, MA 02667, between the hours of 8:30 a.m. and 3:30 p.m.
4. Drawings and other Contract Documents will be mailed, if requested, upon receipt of a street address (not a P.O. Box) suitable for commercial carrier delivery, and an additional check in the amount of \$50.00, payable to Environmental Partners Group as a non-refundable postage and handling fee. Do not combine amounts into one check. Document deposits will be refunded upon return of the documents in good condition within fifteen (15) days after the opening of general bids. Drawings and Specifications must be returned to Environmental Partners Group, 1900 Crown Colony Drive, Suite 402, Quincy, MA 02169 for refunds of deposits; no Drawings and Specifications will be accepted at the bid opening.
5. No contractor shall be considered qualified unless it has at least five years experience in tank cleaning and tank painting of similar size and complexity in New England, as determined by the Engineer.
6. All work must be fully complete 45 days from and including the issuance of a Notice to Proceed.
7. Contract payment will be by the unit price method and the lump sum price method as indicated on the Bid Proposal. No Bidder may withdraw his/her Bid for a period of thirty (30) calendar days after the actual date of the opening of the Bids.
8. Wage rates for this project are subject to the minimum wage rates per M.G.L., Chapter 149, and Sections 26 to 27 G, inclusive as contained in Appendix A of the Contract Documents.
9. The bidding and award of the Contract shall be in full compliance with Sections 39M inclusive of Chapter 30 of the General Laws of the Commonwealth of Massachusetts as last revised.

10. This project shall also comply with Sections 39F, 39K, 39N, and 39O of Chapter 30 of the General Laws of the Commonwealth of Massachusetts as last revised.
11. Each bid shall be accompanied by a bid security in the amount of 5 percent of the Bid. The Bid Security shall be in the form of a bid bond or certified treasurer's or cashier's check.
12. Successful bidder must furnish **100 percent Construction Performance Bond and 100 percent Construction Payment Bond** with a surety company acceptable to the Owner.
13. Complete instructions for filing Bids are included in the Instructions to Bidders, Section 00100.
14. The Owner reserves the right to waive any informality in or to reject any or all Bids if deemed to be the best interest of the Town of Wellfleet and Wellfleet Municipal Water System.
15. The Owner reserves the right to omit part or whole of any proposed work to be performed, as described in the Contract Documents, as may be required to maintain the total cost of work within available funds.
16. The contract will be awarded to the bidder deemed by the awarding authority to be the lowest responsible and eligible bidder. The Town of Wellfleet reserves the right to waive any informality, to accept or reject, in whole or in part, any or all bids, or take whatever action may be deemed to be in the best interest of the Wellfleet Municipal Water System by its Board of Water Commissioners and Board of Selectmen.

**BOARD OF SELECTMEN  
WELLFLEET, MASSACHUSETTS**

END OF SECTION 00020

DOCUMENT 00100

INSTRUCTIONS TO BIDDERS

INDEX

1. Receipt and Opening of Bids
2. Preparation of Bid
3. Subcontracts
4. Telegraphic Modification
5. Qualifications of Bidders
6. Bid Security
7. Liquidated Damages for Failure to Enter into Contract
8. Time of Completion and Liquidated Damages
9. Conditions of Work
10. Addenda and Interpretations
11. Security for Faithful Performance
12. Power of Attorney
13. Notice of Special Conditions
14. Laws and Regulations
15. Site Examination
16. Not Used
17. Obligation of Bidder
18. Wage Rates
19. Manufacturer's Experience
20. Equal Products Acceptable
21. Sales Tax Exemption
22. Guarantee
23. Bonding and Insurance
24. Health and Safety Regulations
25. Buy American
26. Access to the Project
27. Not Used
28. Third Party Work

1. Receipt and Opening of Bids:

The Town of Wellfleet, Massachusetts (herein called the "Owner") invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the Wellfleet Town Administrator's Office at the Wellfleet Town Hall, 300 Main Street, Wellfleet, MA 02667 on the date and the time given in the Invitation to Bid, and then at said office publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to the Wellfleet Town Manager's Office, 300 Main Street, Wellfleet, MA 02667, and designated as "*Wellfleet Tank Paint Spot Repairs*". The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received

after the time and date specified shall not be considered. No Bidder may withdraw a bid within thirty (30) calendar days after the actual date of the opening thereof.

## 2. Preparation of Bid:

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures. Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, his address, the name of the project for which the bid is submitted, and an envelope containing the bid security as specified in paragraph 6 below. **Enclosed with the bid shall be the following:**

- Bid Security (5%)
- Completed Bid Proposal (Section 00301)
- Completed Certificate of Non-Collusion (Section 00480)
- Completed Certificate of Corporate Vote (Corporation Only) (Section 00481)
- Completed Certificate as to Payment of State Taxes (Section 00482)
- Completed OSHA 10 Hour Training Certificate (Section 00483)
- The Bidder is requested to list six or more of your firm's recent projects of a similar character as required for acceptable bid. References will enable the Owner to judge his experience, skill, and business standing.

If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in Paragraph 1 above.

## 3. Subcontracts:

The Bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this contract must be acceptable to the Owner.

## 4. Telegraphic Modification:

Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided that such telegraphic communication is received by the Owner prior to the closing time, and provided further that the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the Bidder was mailed prior to the closing time. The telegraphic communication should not reveal the bid price, but should provide the addition or subtraction, or other modification, so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two (2) days from the closing time, no consideration will be given to the telegraphic modification.

## 5. Qualifications of Bidders:

The Owner may make such investigations as he deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid

if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

The low bidder may be required to provide proof that his bid is based on paying workers the Massachusetts prevailing wages. Failure to provide such proof to the Owner's satisfaction may be cause for rejection of the bid.

#### 6. Bid Security:

Each bid must be accompanied by a bid bond or cash, or a certified check on, or a treasurer's or cashier's check issued by a responsible bank or trust company, in the amount of not less than five (5) percent of the bid price, payable to the Town of Wellfleet, Massachusetts. The properly executed bid security shall be placed in a sealed envelope and attached to the outside of the envelope containing the bid at the time of the submission of the bid.

Bid securities will be returned to all except the three lowest Bidders within five days, Saturdays, Sundays, and legal holidays excluded after the opening of bids, and the remaining checks of the Bidders will be returned promptly after the Owner and the accepted Bidder have executed the contract, or if all bids are rejected.

#### 7. Liquidated Damages for Failure to Enter into Contract:

The successful Bidder, upon his failure or refusal to execute and deliver the contract and bonds required within ten days after he has received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his bid, provided that the amount of the security which becomes the property of the Owner shall not, in any event, exceed the difference between his bid price and the bid price of the next lowest responsible Bidder.

#### 8. Time of Completion and Liquidated Damages:

Time of completion is set at **45 calendar days**, from and including the date of notice to proceed, to complete all work. Bidders must agree also to pay liquidated damages as stated in the Agreement.

#### 9. Conditions of Work:

Each Bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful Bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible the Contractor in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

10. Addenda and Interpretations:

No interpretation of the meaning of the Drawings, Specifications or other pre-bid documents will be made to any Bidder orally.

Every request for such interpretation should be in writing addressed to Environmental Partners Group, Inc. at 1900 Crown Colony Drive, Suite 402, Quincy, Massachusetts 02169, and to be given consideration must be received at least six (6) calendar days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Specifications which, if issued, will be mailed by certified mail with return receipt requested to all prospective Bidders (at the respective addresses furnished for such purposes), not later than two (2) days prior to the date fixed for the opening of bids. Failure of any Bidder to receive any such addendum or interpretation shall not relieve any Bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

11. Security for Faithful Performance:

Simultaneously with his delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified in the General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner and shall be in the full amount of the accepted proposal.

12. Power of Attorney:

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

13. Notice of Special Conditions:

Attention is particularly called to those parts of the Contract Documents which deal with the following:

- a. Inspection and Testing of Materials;
- b. Insurance Requirements;
- c. Wage Rates;
- d. Coordination of the Work;
- e. Existing Facility Operations;
- f. Health and Safety;
- g. Underground Utilities;
- h. Guarantee; and
- i. Subsurface Conditions.

14. Laws and Regulations:

The Bidder's attention is directed to the fact that all applicable State laws, municipal

ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

15. Site Examination:

The Bidder is expected to carefully examine the site and surrounding conditions.

16. NOT USED

17. Obligation of Bidder:

At the time of the opening of bids, each Bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any Bidder to examine any form, instrument, or documents shall in no way relieve any Bidder from any obligation in respect to his bid.

18. Wage Rates:

State wage rates apply to this project. The Wage Determination is attached to these Specifications. It is the responsibility of the Contractor, after award, to request, if necessary, any additional information on wage rates for those tradespeople who are not covered by the applicable Wage Decision, but who may be employed for the proposed work under this contract.

The Contractor shall submit certified payroll records to the Department of Labor and Industries and the Owner on a weekly basis. Failure to submit records will be cause for the withholding of payment due the Contractor.

19. Manufacturer's Experience:

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.

20. Equal Products Acceptable:

Wherever in the Drawings and Specifications any item of equipment or material is designated by reference to a particular brand, manufacturer, or trade name, it is understood that an approved equal product, acceptable to the Engineer may be substituted by the Bidder or Contractor. It shall be the Contractor's responsibility to coordinate all submittals to eliminate any conflicts which might arise due to the use of the "or equal" item. Any additional costs incident to the use of "or equal" items, including re-design, will be paid by the Contractor. The Contractor shall be aware that when it comes to such items as curb stops, corporations, hydrants, etc. the Town will require the use of materials furnished by Mueller Corporation.

21. Sales Tax Exemption:

Materials and equipment purchased for permanent installation in this project will be exempt from the Massachusetts Sales and Use Tax. The exemption certificate number will be furnished to the Contractor. Each bidder shall take exemption into account in calculating his/her bid for the work.

22. Guarantee:

The Contractor guarantees the work performed under this contract and all materials furnished by him for use in connection therewith to be free from defects or flaws for two (2) year after the completion of the Contract, and guarantees for a term of two (2) year from the date of final completion of the work to maintain the stability of all materials, equipment, and workmanship, except that due to normal wear and tear, at his own expense when notified in writing to do so by the Engineer and such work shall be performed to the satisfaction of the Engineer.

If, at any time within said guaranty period, any part of the work constructed under the terms of this contract shall, in the opinion of the Engineer, require repair or replacement due to defective work or materials furnished by the Contractor, he may notify the Contractor in writing to make the required work and repairs, and the Contractor shall perform the same promptly. If he shall not do so, the Owner may do it and charge the Contractor.

It is expressly understood, however, that these guarantee provisions shall not absolve the Contractor from any liability to the Owner arising out of a failure to substantially complete the work in accordance with the Drawings and Specifications.

23. Bonding and Insurance:

The Contractor must furnish Performance and Payment Bonds, each of which shall be in an amount not less than one hundred (100) percent of the contract price. Contractors should obtain such construction insurance (e.g., Fire and Extended Coverage, Workmen's Compensation, Public Liability and Property Damage, and "All Risk" Builder's Risk) as indicated in the Supplemental Conditions.

24. Health and Safety Regulations:

This project is subject to all the Health and Safety Regulations (CFR 29 Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974. Contractors are urged to become familiar with the requirements of these regulations, as well as the Occupational Safety and Health Administration's (OSHA) 29 CFR 1910.120.

25. Buy American:

The Buy American Provision of Public Law 95-217, as implemented, generally requires that preferences be given to the use of domestic construction materials in the performance of this

contract.

26. Access to the Project:

The successful BIDDER shall provide full and complete access to the project site or any portion thereof by any authorized agent of the Wellfleet Department of Public Works at any time during normal working hours throughout the duration of the Contract.

27 Not used

28. Third Party Work:

The Contractor is responsible for maintaining a safe and secure worksite at all times, and for expeditiously repairing any damage done to private property. If, in the opinion of the Owner, the Contractor is negligent in these duties the Owner shall have the right to employ a third party to remedy the problem.

Situations which develop and require the services of and payment to a third party will be handled in the following manner:

The Contractor will be given a reasonable period of time determined at the discretion of the Owner to remedy the situation without third party involvement. If the Contractor is unavailable the Owner will authorize work by a third party on the Contractor's behalf.

Third party work authorized on the Contractor's behalf by the Owner shall be paid for by the Contractor within a reasonable time period (generally two weeks). If payment is not made within a reasonable time period the Owner will make payment and deduct the cost from the next pay requisition.

In the case of inadequately secured worksites necessitating extra or increase police details or other public safety personnel, the following procedure will be followed. The Contractor (if available) will be notified that the worksite needs to be secured in order to prevent the need for weekend/night police coverage. If the area is not immediately secured as determined by the Owner or Engineer, a police, fire, or highway department detail will be used and the Contractor will be charged for the cost. It is understood that in many instances worksites cannot realistically be secured to a point where police or other safety personnel are not needed. In these instances, the Owner will continue to pay for the coverage.

END OF SECTION 00100

SECTION 00301

BID FORM

To the Town of Wellfleet, Wellfleet, Massachusetts:

**Regarding: Wellfleet Tank Paint Spot Repairs:**

The Undersigned, as determined to be an eligible Bidder, declares as follows:

- The only parties interested in this BID as Principals are named herein;
- this BID is made without collusion with any other person, firm, or corporation;
- no officer, agent, or employee of the Owner is directly or indirectly interested in this BID;
- the Bidder has carefully examined the site of the proposed Work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed Work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this BID, and has carefully read and examined the Drawings, the annexed proposed AGREEMENT and the Specifications and other Contract Documents therein referred to and knows and understands the terms and provisions thereof;
- understands that information relative to subsurface and other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) has been furnished only for his information and convenience without any warranty or guarantee, expressed or implied, that the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered will be the same as those shown on the Drawings or in any of the other Contract Documents and agrees that the Bidder shall not use or be entitled to use any such information made available to him through the Contract Documents or otherwise or obtained by him in his own examination of the site, as a basis of or ground for any claim against the Owner or the Engineer arising from or by reason of any variance which may exist between the aforesaid information made available to or acquired by him and the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered during the construction work, and has made due allowance therefore in this BID;
- and the Bidder understands that the quantities of work tabulated in this BID or indicated on the Drawings or in the Specifications or other Contract Documents are only approximate and are subject to increase or decrease as deemed necessary by the Engineer;
- and agrees that, if this BID is accepted will contract with the Owner, as provided in the copy of the Contract Documents deposited in the office of the Engineer, this BID form being part of said Contract Documents, and that the Bidder will perform all the work and furnish all the materials and equipment, and provide all labor, services, plant, machinery, apparatus, appliances, tools, supplies and all other things required by the Contract Documents in the manner and within the time therein prescribed and according to the requirements of the Engineer as therein set forth,

and that the Bidder will take in full payment therefore the lump sum or unit price applicable to each item of the Work as stated in the following schedule:

Bidders must bid on each Bid Item. All entries in the entire BID must be made clearly and in ink; prices bid must be written in both words and figures. In case of discrepancy, the amount shown in words will govern.

Bidders shall insert extended item prices obtained from quantities and unit prices. In case of discrepancy between the product obtained by multiplying the estimated quantity by the unit price, the actual product shall apply. In case of discrepancy between the sum of the total figure of the items and the total amount listed, the actual sum shall apply.

Refer to Section 01024 - Measurement and Payment for Item Descriptions.

Addenda: This BID includes Addenda numbered \_\_\_\_\_ to \_\_\_\_\_ (To be filled in by Bidder if Addenda are issued.)

(Bidder) \_\_\_\_\_

(by) \_\_\_\_\_

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

**BASE BID**

The work of the General Bidder, being all work covered by items 1 through 4, inclusive.

Item No.	Item Description and Unit Price	Units	Estimated Quantity	Unit Price (In Figures)	Extended Total (In Figures)
1	Mobilization & Demobilization _____ Dollars and _____ Cents	l.s.	1	\$	\$
2	Power Washing and Surface Preparation _____ Dollars and _____ Cents	l.s.	1	\$	\$
3	Exterior Tank Spot Painting _____ Dollars and _____ Cents	s.f..	2000	\$	\$
4	Miscellaneous _____ Dollars and _____ Cents	l.s.	1	\$	\$

Item No.	Item Description and Unit Price	Units	Estimated Quantity	Unit Price (In Figures)	Extended Total (In Figures)
<b>Total</b>				\$	

**TOTAL BASE BID**

Total Amount of Base Bid (Items 1 through 4 inclusive). Basis of Award:

\$ \_\_\_\_\_  
 (Amount in figures)

\_\_\_\_\_  
 (Amount in words)

**Basis of Award:** The basis of award shall be at the Owner’s sole discretion, contingent on the Bid Price. The grand total of the Bid, items 1 through 4 inclusive, shall be used to determine the lowest responsive bidder. Contract to be awarded to the lowest responsible and eligible bidder in compliance with Sections 39M inclusive of Chapter 30 of the General Laws of the Commonwealth of Massachusetts.

Requirements: Specific items of this Contract may be eliminated or reduced in quantity to keep within limits of available funding, at the OWNER’S option. All of the above items shall include all labor, materials, equipment, hauling, disposal, transportation, overhead, profit and insurance to cover the work as required in the Contract Documents.

The undersigned agrees that for extra work, if any, will be performed in accordance with Article 11 of the General Conditions of the Contract and will be paid for in accordance with Article 13 of the General Conditions of the Contract.

An unbalanced or unreasonable lump sum and/or unit price submitted herein may be considered as non-responsive to the Instructions to Bidders.

The bid security accompanying this BID shall be in the amount of 5 percent of the BID.

The Bidder, by submittal of this BID, agrees with the Owner 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 the failure of the Bidder to fulfill his agreements as above provided.

As provided in the INSTRUCTIONS TO BIDDERS, the Bidder hereby agrees that he will not withdraw this BID within thirty (30) consecutive calendar days after the actual date of the opening of Bids and that, if the Owner shall accept this BID, the Bidder will duly execute and acknowledge the AGREEMENT and furnish, duly executed and acknowledged, the required CONTRACT BONDS

within ten (10) business days after notification that the AGREEMENT and other Contract Documents are ready for signature.

Construction activities will begin after September 5, 2016 and be completed within 45 days.

Liquidated Damages of \$1,000 for each calendar day that the work is not completed beyond the contract time shall be assessed as stated in the Agreement.

Should the Bidder fail to fulfill any of his agreements as hereinabove set forth, the Owner shall have the right to retain as liquidated damages the amount of the bid security which shall become the Owner's property. If a bid bond was given, it is agreed that the amount thereof shall be paid as liquidated damages to the Owner by the Surety.

The undersigned as Bidder, hereby certifies that he is aware of the applicable requirements of the Williams-Steiger Occupational Safety and Health Act of 1970. (O.S.H.A.), and all latest revisions thereto, and that this Proposal is prepared on the basis of compliance with those requirements.

The undersigned as Bidder, hereby certifies that he will maintain records in reasonable detail, which accurately and fairly reflect the financial transactions and disposition of the Bidder, in accordance with M.G.L. Chapter 30, Section 30R.

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 and that he will comply fully with all laws and regulations applicable to awards made subject to MGL Ch. 30, Section 39M. The bidding and award of the contract will be in full compliance with Section 39M inclusive of Chapter 30 of the General Laws of the Commonwealth of Massachusetts as last revised.

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 thereunder.

Pursuant to G.L. c.62C, §49A, the undersigned bidder certifies under penalties of perjury that the he/she/it has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The attached CERTIFICATE OF NON-COLLUSION must be signed and submitted as part of the Bid Proposal.

This Proposal must bear the written signature of the Bidder or that of his duly authorized agent. If the Bidder is a corporation or a partnership, the bid must be signed by a duly authorized officer of such corporation or by a Partner and the title of such officer must be stated. Satisfactory completion of the following data is an essential part of submission of this Proposal and is required. Bid must be embossed with corporate seal.

(SEAL) \_\_\_\_\_  
(Name of Bidder)

By \_\_\_\_\_  
(Signature and title of authorized representative)

Date \_\_\_\_\_

\_\_\_\_\_  
Telephone)

\_\_\_\_\_  
(Business address)

\_\_\_\_\_  
(Fax Number)

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

The following documents are attached to and made a condition of the bid, and shall be filed with the bid:

- Bid Security (5%)
- Completed Bid Proposal (Section 00301)
- Completed Project Reference List (Section 00301)
- Completed Certificate of Non-Collusion (Section 00480)
- Completed Certificate of Corporate Vote (Corporation Only) (Section 00481)
- Completed Certificate as to Payment of State Taxes (Section 00482)
- Completed Certificate of OSHA 10 Hour Training (Section 00483)

The Bidder is required to list four or more of their firm's recent projects of a similar character as required for acceptable bid. References will enable the Owner to judge Bidders experience, skill, and business standing.

Project Name: _____
Project Location: _____
Contract Amount: \$_____ Completion Date _____
Owner: _____
Contact Name: _____ Telephone: _____
Architect/Engineer: _____
Contact Name: _____ Telephone: _____

Project Name: _____
Project Location: _____
Contract Amount: \$_____ Completion Date _____
Owner: _____
Contact Name: _____ Telephone: _____
Architect/Engineer: _____
Contact Name: _____ Telephone: _____

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

Project Location: \_\_\_\_\_

Contract Amount: \$ \_\_\_\_\_ Completion Date \_\_\_\_\_

Owner: \_\_\_\_\_

Contact Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Architect/Engineer: \_\_\_\_\_

Contact Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

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

Project Location: \_\_\_\_\_

Contract Amount: \$ \_\_\_\_\_ Completion Date \_\_\_\_\_

Owner: \_\_\_\_\_

Contact Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Architect/Engineer: \_\_\_\_\_

Contact Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Add supplementary page(s) as necessary.

END OF SECTION 00301

**BID BOND**

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name and Address of Principal Place of Business*):

OWNER:

Town of Wellfleet  
300 Main Street  
Wellfleet, MA 02667

BID

Bid Due Date: \_\_\_\_\_, 2015 at \_\_\_\_\_ p.m., local time

Description:

**Wellfleet Tank Paint Spot Repairs**

BOND

Bond Number:

Date (*Not earlier than Bid due date*):

Penal sum \_\_\_\_\_ \$ \_\_\_\_\_  
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

**BIDDER**

**SURETY**

\_\_\_\_\_  
Bidder's Name and Corporate Seal (Seal)

\_\_\_\_\_  
Surety's Name and Corporate Seal (Seal)

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

By: \_\_\_\_\_  
Signature (Attach Power of Attorney)

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

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

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

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

*Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.*

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
  - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
  - 3.2 All Bids are rejected by Owner, or
  - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

DOCUMENT 00480

FORM OF NON-COLLUSIVE AFFIDAVIT  
(AFFIDAVIT FOR BIDDER)

State of \_\_\_\_\_

County of \_\_\_\_\_

\_\_\_\_\_ being first duly sworn, deposes and says,

That it is \_\_\_\_\_, the party making the foregoing proposal or bid, that such proposal or bid is genuine and not collusive or a sham; that said bidder has not colluded, conspired, connived or agreed directly or indirectly, with any bidder or person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of its bid or any other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against the Town of Wellfleet, Massachusetts, or any person interested in the proposed contract, and that all statements in said proposal or bid are true.

Signature of:

if bidder is an individual

\_\_\_\_\_ Bidder,

if bidder is a partnership

\_\_\_\_\_ Partner,

if bidder is a Corporation

\_\_\_\_\_ Officer,

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_, 2016.

END OF SECTION 00480

DOCUMENT 00481

CERTIFICATE OF CORPORATE VOTE  
(CORPORATION ONLY)

At a duly authorized meeting of the Board of Directors of \_\_\_\_\_  
held on \_\_\_\_\_, it was VOTED that, \_\_\_\_\_,  
(Name)

\_\_\_\_\_ of this company, be and hereby is authorized to execute  
(Officer)

bidding, documents, contracts, and bonds in the name and on behalf of said company, and  
affix its corporate seal hereto; 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.

I hereby certify that I am the clerk of the above named corporation and that  
\_\_\_\_\_ is the duly elected officer as above of said company, and  
that the above vote has not been amended or rescinded and remains in full force and effect as  
the date of this contract.

\_\_\_\_\_  
Clerk

\_\_\_\_\_  
Date

Affix Corporate Seal

END OF SECTION 00481



SECTION 00483

OSHA 10 HOUR TRAINING

A contractor will not be eligible for award of a contract unless such contractor has submitted the following certification, which is deemed a part of the resulting contract:

\_\_\_\_\_ certifies 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 shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

\_\_\_\_\_  
(Signature of authorized representative of Contractor)

END OF SECTION 00483

DOCUMENT 00484

STATE DEBARMENT DISCLOSURE FORM

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 thereunder.

Date \_\_\_\_\_

Name of Bidder \_\_\_\_\_

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

\_\_\_\_\_  
Print Name & Title of Person Signing

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State, Zip

END OF SECTION 00484

AGREEMENT

SECTION 00500

INDEX

ARTICLE 1 WORK

ARTICLE 2 ENGINEER

ARTICLE 3 CONTRACT TIMES

ARTICLE 4 CONTRACT PRICE

ARTICLE 5 PAYMENT PROCEDURES

ARTICLE 6 CONTRACTOR'S REPRESENTATIONS

ARTICLE 7 CONTRACT DOCUMENTS

ARTICLE 8 MISCELLANEOUS

AGREEMENT

SECTION 00500

TOWN OF WELLFLEET, MASSACHUSETTS

WELLFLEET TANK PAINT SPOT REPAIRS

THIS AGREEMENT is dated as of the \_\_\_\_\_ day of \_\_\_\_\_ in the year 2016 by and between the Town of Wellfleet, Massachusetts, acting by and through the Board of Selectmen, duly authorized therefore, who acts herein solely for said Town and without personal liability to itself, (hereinafter called OWNER) and \_\_\_\_\_ (hereinafter called CONTRACTOR).

OWNER AND CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

**ARTICLE 1. WORK**

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is as described in SECTION 01010, SUMMARY OF WORK.

The work done and materials and equipment furnished shall be strictly pursuant to and in conformity with the specifications and plans; said plans are signed and accompany this contract and these specifications, and are intended to complement each other. Any work appearing in or upon the one and not mentioned in the other shall be executed according to the true intent and meaning of said specifications and plans, the same as though the work was contained and described in all and as reasonably implied by the plans and specifications.

**ARTICLE 2. ENGINEER**

The Project has been designed by Environmental Partners Group, Inc., 1900 Crown Colony Drive, Suite 402, Quincy, MA 02169, who is hereinafter called ENGINEER and who is to act as OWNER'S representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

**ARTICLE 3. CONTRACT TIMES**

- 3.1 Time of completion is set at 45 calendar days, from and including the date of notice to proceed, to finish all work.
- 3.2 Liquidated Damages. 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 times specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 11 of the General Conditions. They also

recognize the delays, expense, and difficulties involved in proving 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) CONTRACTOR shall pay OWNER one thousand dollars (\$1,000) for each day that expires after the time specified in paragraph 3.1 for Substantial Completion until the Work is substantially complete.

#### **ARTICLE 4. CONTRACT PRICE**

The OWNER shall pay CONTRACTOR for completion of the work in accordance with the Contract Documents in current funds as follows:

For unit price items, the extended total resulting from the product of the actual measured quantities suitably installed and accepted and the unit prices from the accepted bid proposal herein referred to as Section 00301 BID FORM dated \_\_\_\_\_.  
The total of the Bid Proposal accepted by the Town is:

---

#### **ARTICLE 5. PAYMENT PROCEDURES**

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

- 5.1 For unit price bid items the product of the actual measured quantities suitably installed and accepted and the unit prices from the accepted bid proposal constitutes the extended total for payment. The extended total is the unit price times the quantity indicated. Adjustment of the unit price bid in the proposal will only be considered if the actual quantity is greater than 25% above or below the estimated quantity. For Lump Sum items suitability installed and completed the lump sum amount listed in the accepted bid proposal constitutes the total for payment.
- 5.2 Progress Payments; Retainage. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, and in accordance with the applicable Massachusetts General Law during construction. All such payments will be measured by the schedule of values established in paragraph 2.05 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.
- 5.3 Progress payments will be made in an amount equal to 95 percent of Work completed (with the balance being retainage) but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 15.01.C.5 of the General Conditions.
- 5.4 Final Payment. Upon final completion and acceptance of the Work in accordance with paragraph 15.06 of the General Conditions, OWNER shall pay the remainder of

the Contract Price as recommended by ENGINEER as provided in said paragraph 15.06.

## **ARTICLE 6. CONTRACTOR'S REPRESENTATIONS**

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

- 6.1 CONTRACTOR has examined and carefully studied the Contract Documents (including the Addenda listed in paragraph 7) and the other related data identified in the Bidding Documents including "technical data."
- 6.2 CONTRACTOR has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, performance, or furnishing of the Work.
- 6.3 CONTRACTOR is familiar with, will comply with, and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance, and furnishing of the Work.
- 6.4 CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 5.03.A.1 of the General conditions. CONTRACTOR accepts the determination set forth in paragraph SC-5.03 of the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which CONTRACTOR is entitled to rely as provided in paragraph 4.02 of the General Conditions. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground utilities and facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

- 6.5 CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the site that relates to the Work as indicated in the Contract Documents.
- 6.6 CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the site, reports, and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- 6.7 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

## **ARTICLE 7. CONTRACT DOCUMENTS**

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consist of the following:

- 7.1 Invitation to Bid.
- 7.2 Instructions to Bidders.
- 7.3 CONTRACTOR's Bid Proposal.
- 7.4 This Agreement.
- 7.5 Exhibits to this Agreement.
- 7.6 Performance, Payment, and other Bonds.
- 7.7 Insurance Certificates.
- 7.8 General Conditions EJCDC Document C-700, 2013 edition.
- 7.9 Supplementary Conditions.
- 7.10 All Specification sections and appendices as listed in table of contents of the Bid Documents.
- 7.12 Addenda numbers \_\_\_ to \_\_\_, inclusive.
- 7.13 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying, or supplementing the Contract Documents pursuant to paragraph 11.01 of the General Conditions.

**ARTICLE 8. MISCELLANEOUS**

- 8.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.
- 8.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically, but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment with release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 8.3 OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.
- 8.4 Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, the parties hereto have caused these documents to be signed and sealed on the day and year first above written.

\_\_\_\_\_

CORPORATE SEAL

By:  
Incorporated in the State of  
President:  
If a Corporation:

Treasurer

Secretary

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

\_\_\_\_\_  
Wellfleet Board of Selectmen

In accordance with M.G.L. Chapter 44, Section 31C, this is to certify that an appropriation in the amount of this contract is available therefore and that the Board of Selectmen has been authorized to execute the Contract and approve all requisitions and change orders.

\_\_\_\_\_  
Town Accountant

\_\_\_\_\_ Date

**NOTICE OF AWARD**

TO: \_\_\_\_\_

**PROJECT DESCRIPTION: *Wellfleet Tank Paint Spot Repairs***

The Owner has considered the Proposal submitted by you for the above described Work on \_\_\_\_\_ in response to its Advertisement for Bids and Instructions to Bidders.

You are hereby notified that your Proposal has been accepted for Items totaling the amount of \$\_\_\_\_\_.

You are required by the Instructions to Bidders to execute the Contract Agreement and furnish the required Contractor's Performance Bond, Payment Bond and certificates of insurance within ten (10) days from the date of this Notice of Award.

If you fail to execute said Agreement and to furnish said Bonds and Insurance within ten (10) 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 Proposal 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 this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

By the Town of Wellfleet:

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

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

**ACCEPTANCE OF NOTICE**

Receipt of the above Notice of Award is hereby acknowledged, this, the day of \_\_\_\_\_, 2016.

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

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

**NOTICE TO PROCEED**

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

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

**PROJECT: *Wellfleet Tank Paint Spot Repairs***

You are hereby notified to commence the Work in accordance with the Agreement dated \_\_\_\_\_, on or before \_\_\_\_\_, and you are to complete all work within 21 consecutive calendar days thereafter. The date of completion of all work is, therefore, \_\_\_\_\_.

**Town of Wellfleet, Massachusetts**

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

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

PERFORMANCE BOND

**KNOW ALL MEN BY THESE PRESENTS,**

That we, \_\_\_\_\_, organized under the laws of the State of \_\_\_\_\_, and having a usual place of business in \_\_\_\_\_, as principal, and \_\_\_\_\_ organized under the laws of the State of \_\_\_\_\_ and having a usual place of business in \_\_\_\_\_, as surety, are holden and stand firmly bound and obligated unto the Town of Wellfleet, Massachusetts as obligee, in the sum of \_\_\_\_\_ (\$ \_\_\_\_\_) Dollars, lawful money of the United States of America, to and for the true payment whereof, we hereby bind ourselves, and each of us, our heirs, administrators, successors, and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the said principal has, by means of a written agreement, dated \_\_\_\_\_, entered into a contract with the said obligee for the construction of the **Wellfleet Tank Paint Spot Repairs** project a copy of which agreement is attached hereto and by reference made a part hereof.

**NOW, THEREFORE**, the conditions of this obligation is such that if the said principal shall well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of said contract on his part to be kept and performed, during the original term of said contract and any extensions thereof that may be granted by the Town of Wellfleet, Massachusetts with or without notice to the surety, and during the life of any guaranty 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 be null and void; otherwise it shall be and remain in full force, virtue and effect.

In the event that the work under said contract is abandoned by the principal or is terminated by the Town of Wellfleet, Massachusetts under the provisions of Sections of said Contract, said surety hereby further agrees that said surety shall, if requested in writing by the Town of Wellfleet, Massachusetts take such action as is necessary to complete the work under said contract.

And the said surety, for value received, hereby stipulates and agrees that no change in, or extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder, or to the Specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the Specifications.

**IN WITNESS WHEREOF**, we have hereunto set our hands and seals this \_\_\_\_ day of

\_\_\_\_\_ in the year Two Thousand and Sixteen.

Important: Attach herewith proof of authority of officers or agents to sign Bond.

**PRINCIPAL:**

**SURETY:**

\_\_\_\_\_

\_\_\_\_\_

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

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

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

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

END OF SECTION 00610

DOCUMENT 00615

PAYMENT BOND

**KNOW ALL MEN BY THESE PRESENTS,**

That we, \_\_\_\_\_ organized under the laws of the State of \_\_\_\_\_ and having a usual place of business in \_\_\_\_\_, as principal, and \_\_\_\_\_ organized under the laws of the State of \_\_\_\_\_ and having a usual place of business in \_\_\_\_\_, as surety, are holden and stand firmly bound unto the Town of Wellfleet, Massachusetts as obligee, in the sum of \_\_\_\_\_ (\$ \_\_\_\_\_) Dollars lawful money of the United States of America, to and for the true payment whereof, we hereby bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

**WHEREAS,** the said principal has, by means of a written agreement, dated \_\_\_\_\_ entered into a contract with the said obligee for the construction of the **Wellfleet Tank Paint Spot Repairs**, a copy of which agreement is attached hereto and by reference made a part hereof.

**NOW THEREFORE,** The conditions of this obligation is such that if the principal 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, then this obligation shall be null and void; otherwise it shall be and remain in full force, virtue and effect.

**IN WITNESS WHEREOF,** the above-bounded parties have hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_ in the year Two Thousand and Sixteen.

Important: Attach herewith proof of authority of officers or agents to sign Bond.

**PRINCIPAL:**

**SURETY:**

\_\_\_\_\_

\_\_\_\_\_

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

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

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

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

END OF SECTION 00620



**Contractor's Application for Payment No.**  

	Application Period:	Application Date:
To (Owner):	From (Contractor):	Via (Engineer):
Project:	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

**Application For Payment  
Change Order Summary**

Approved Change Orders	1. ORIGINAL CONTRACT PRICE..... \$ _____		
Number	Additions	Deductions	2. Net change by Change Orders..... \$ _____
			3. Current Contract Price (Line 1 ± 2)..... \$ _____
			4. TOTAL COMPLETED AND STORED TO DATE (Column F total on Progress Estimates)..... \$ _____
			5. RETAINAGE:
			a. X _____ Work Completed..... \$ _____
			b. X _____ Stored Material..... \$ _____
			c. Total Retainage (Line 5.a + Line 5.b)..... \$ _____
			6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5.c)..... \$ _____
			7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)..... \$ _____
			8. AMOUNT DUE THIS APPLICATION..... \$ _____
			9. BALANCE TO FINISH, PLUS RETAINAGE (Column G total on Progress Estimates + Line 5.c above)..... \$ _____
TOTALS			
NET CHANGE BY CHANGE ORDERS			

<b>Contractor's Certification</b>	
The undersigned Contractor certifies, to the best of its knowledge, the following:	
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;	
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and	
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.	
<b>Contractor Signature</b>	
By: _____	Date: _____

Payment of:	\$ _____	(Line 8 or other - attach explanation of the other amount)
is recommended by:	_____	_____ (Date)
	(Engineer)	
Payment of:	\$ _____	(Line 8 or other - attach explanation of the other amount)
is approved by:	_____	_____ (Date)
	(Owner)	
Approved by:	_____	_____ (Date)
	Funding or Financing Entity (if applicable)	







# Certificate of Substantial Completion

Project: WELLFLEET TANK PAINT SPOT REPAIRS

Owner: Town of Wellfleet, MA

Owner's Contract No.:

Contract:

Engineer's Project No.:

**This [tentative] [definitive] Certificate of Substantial Completion applies to:**

All Work under the Contract Documents:       The following specified portions of the Work:

---

---

---

---

\_\_\_\_\_  
Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [definitive] list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:**

Amended Responsibilities                       Not Amended

Owner's Amended Responsibilities:

---

---

---

Contractor's Amended Responsibilities:

---

---

---

---



This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

## STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

Copyright © 2013:

National Society of Professional Engineers  
1420 King Street, Alexandria, VA 22314-2794  
(703) 684-2882  
[www.nspe.org](http://www.nspe.org)

American Council of Engineering Companies  
1015 15th Street N.W., Washington, DC 20005  
(202) 347-7474  
[www.acec.org](http://www.acec.org)

American Society of Civil Engineers  
1801 Alexander Bell Drive, Reston, VA 20191-4400  
(800) 548-2723  
[www.asce.org](http://www.asce.org)

The copyright for this document is owned jointly by the three sponsoring organizations listed above. The National Society of Professional Engineers is the Copyright Administrator for the EJCDC documents; please direct all inquiries regarding EJCDC copyrights to NSPE.

NOTE: EJCDC publications may be purchased at [www.ejcdc.org](http://www.ejcdc.org), or from any of the sponsoring organizations above.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## TABLE OF CONTENTS

	<b>Page</b>
Article 1 – Definitions and Terminology.....	1
1.01 Defined Terms.....	1
1.02 Terminology.....	4
Article 2 – Preliminary Matters .....	5
2.01 Delivery of Bonds and Evidence of Insurance.....	5
2.02 Copies of Documents .....	6
2.03 Before Starting Construction.....	6
2.04 Preconstruction Conference; Designation of Authorized Representatives .....	6
2.05 Initial Acceptance of Schedules .....	7
2.06 Electronic Transmittals .....	7
Article 3 – Documents: Intent, Requirements, Reuse.....	7
3.01 Intent.....	7
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 .....	9
Article 4 – Commencement and Progress of the Work .....	9
4.01 Commencement of Contract Times; Notice to Proceed.....	9
4.02 Starting the Work .....	10
4.03 Reference Points .....	10
4.04 Progress Schedule .....	10
4.05 Delays in Contractor’s Progress.....	10
Article 5 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions .....	11
5.01 Availability of Lands.....	11
5.02 Use of Site and Other Areas.....	11
5.03 Subsurface and Physical Conditions .....	12
5.04 Differing Subsurface or Physical Conditions.....	13
5.05 Underground Facilities.....	14
5.06 Hazardous Environmental Conditions at Site .....	16
Article 6 – Bonds and Insurance .....	17

6.01	Performance, Payment, and Other Bonds .....	17
6.02	Insurance—General Provisions.....	18
6.03	Contractor’s Insurance .....	19
6.04	Owner’s Liability Insurance.....	21
6.05	Property Insurance .....	21
6.06	Waiver of Rights .....	23
6.07	Receipt and Application of Property Insurance Proceeds .....	24
Article 7 – Contractor’s Responsibilities.....		24
7.01	Supervision and Superintendence .....	24
7.02	Labor; Working Hours .....	24
7.03	Services, Materials, and Equipment.....	25
7.04	“Or Equals” .....	25
7.05	Substitutes .....	26
7.06	Concerning Subcontractors, Suppliers, and Others.....	27
7.07	Patent Fees and Royalties.....	29
7.08	Permits .....	29
7.09	Taxes .....	29
7.10	Laws and Regulations .....	30
7.11	Record Documents .....	30
7.12	Safety and Protection .....	30
7.13	Safety Representative.....	31
7.14	Hazard Communication Programs .....	31
7.15	Emergencies .....	31
7.16	Shop Drawings, Samples, and Other Submittals.....	32
7.17	Contractor’s General Warranty and Guarantee.....	34
7.18	Indemnification .....	34
7.19	Delegation of Professional Design Services .....	35
Article 8 – Other Work at the Site .....		35
8.01	Other Work .....	35
8.02	Coordination.....	36
8.03	Legal Relationships.....	36
Article 9 – Owner’s Responsibilities .....		37
9.01	Communications to Contractor .....	37
9.02	Replacement of Engineer .....	37
9.03	Furnish Data.....	37

9.04	Pay When Due .....	37
9.05	Lands and Easements; Reports, Tests, and Drawings .....	38
9.06	Insurance .....	38
9.07	Change Orders.....	38
9.08	Inspections, Tests, and Approvals.....	38
9.09	Limitations on Owner’s Responsibilities .....	38
9.10	Undisclosed Hazardous Environmental Condition .....	38
9.11	Evidence of Financial Arrangements .....	38
9.12	Safety Programs .....	38
Article 10 – Engineer’s Status During Construction .....		38
10.01	Owner’s Representative .....	38
10.02	Visits to Site .....	39
10.03	Project Representative.....	39
10.04	Rejecting Defective Work.....	39
10.05	Shop Drawings, Change Orders and Payments.....	39
10.06	Determinations for Unit Price Work.....	39
10.07	Decisions on Requirements of Contract Documents and Acceptability of Work.....	39
10.08	Limitations on Engineer’s Authority and Responsibilities .....	40
10.09	Compliance with Safety Program .....	40
Article 11 – Amending the Contract Documents; Changes in the Work.....		40
11.01	Amending and Supplementing Contract Documents .....	40
11.02	Owner-Authorized Changes in the Work.....	41
11.03	Unauthorized Changes in the Work .....	41
11.04	Change of Contract Price .....	41
11.05	Change of Contract Times .....	42
11.06	Change Proposals.....	42
11.07	Execution of Change Orders .....	43
11.08	Notification to Surety.....	44
Article 12 – Claims .....		44
12.01	Claims .....	44
Article 13 – Cost of the Work; Allowances; Unit Price Work .....		45
13.01	Cost of the Work .....	45
13.02	Allowances.....	47
13.03	Unit Price Work .....	48
Article 14 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work .....		48

14.01	Access to Work .....	48
14.02	Tests, Inspections, and Approvals.....	48
14.03	Defective Work .....	49
14.04	Acceptance of Defective Work .....	50
14.05	Uncovering Work.....	50
14.06	Owner May Stop the Work .....	51
14.07	Owner May Correct Defective Work.....	51
Article 15 – Payments to Contractor; Set-Offs; Completion; Correction Period .....		51
15.01	Progress Payments .....	51
15.02	Contractor’s Warranty of Title.....	54
15.03	Substantial Completion .....	54
15.04	Partial Use or Occupancy.....	55
15.05	Final Inspection.....	56
15.06	Final Payment .....	56
15.07	Waiver of Claims .....	57
15.08	Correction Period .....	57
Article 16 – Suspension of Work and Termination .....		58
16.01	Owner May Suspend Work.....	58
16.02	Owner May Terminate for Cause.....	58
16.03	Owner May Terminate For Convenience.....	59
16.04	Contractor May Stop Work or Terminate .....	59
Article 17 – Final Resolution of Disputes.....		60
17.01	Methods and Procedures .....	60
Article 18 – Miscellaneous .....		60
18.01	Giving Notice.....	60
18.02	Computation of Times.....	60
18.03	Cumulative Remedies .....	60
18.04	Limitation of Damages.....	61
18.05	No Waiver .....	61
18.06	Survival of Obligations .....	61
18.07	Controlling Law .....	61
18.08	Headings.....	61

## 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. §§5501 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.H 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 considered 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 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 11.01.C.2.a and 11.01.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 special 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 00800

SUPPLEMENTAL CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC No. C-700, 2013 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not specifically amended or supplemented hereby remain in full force and effect.

**ARTICLE 1. DEFINITIONS AND TERMINOLOGY**

**SC-1.01.A.13**

Add the following language at the beginning of the definition entitled "Contract Documents" in the General Conditions:

The Invitation to Bid, Instructions to Bidders

**SC-1.01.A.28**

Add the following language to the definition entitled "Owner" in the General Conditions:

The "Owner" shall mean the Town of Wellfleet, Massachusetts.

**SC-1.01.A.40**

Delete the definition of Substantial Completion in the General Conditions in its entirety and add the following in its place:

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.

**SC-1.01.A.49**

Add the following definition to the General Conditions:

"State" shall mean the Commonwealth of Massachusetts.

**ARTICLE 2. PRELIMINARY MATTERS**

**SC-2.05**

Add the following paragraphs immediately after paragraph 2.05.A.3 of the General Conditions which is to read as follows:

2.05.A.4 Before any work at the site is started, CONTRACTOR shall deliver to OWNER, with a copy to ENGINEER, certificates of insurance (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with the requirements of Article 6.

2.0.A.5 Contractor shall include and identify on the certificate of insurance, indemnification as required by Article 7.18.

**ARTICLE 3. DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

**SC-3.01**

Add the following paragraphs immediately after paragraph 3.01.A of the General Conditions which is to read as follows:

3.0.A.1 Each and every provision of law and clause required by law to be inserted in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

3.0.A.2 Sections of Division 1 - General Requirements govern the execution of the work of all sections of the specifications.

**ARTICLE 4. COMMENCEMENT AND PROGRESS OF THE WORK**

**SC 4.01**

Delete paragraph 4.01 in its entirety and insert the following in its place:

4.01 The Contract Time will commence to run on the day indicated in the Notice to Proceed.

**SC-4.03.A**

Add a new paragraph at the end of paragraph 4.03.A of the General Conditions which is to read as follows:

“4.03.B ENGINEER may check the lines, elevations, reference marks, batter boards, etc., set by CONTRACTOR, and CONTRACTOR shall correct any errors disclosed

by such check. Such a check shall not be considered as approval of CONTRACTOR's work and shall not relieve CONTRACTOR of the responsibility for accurate and satisfactory construction and completion of the entire Work. CONTRACTOR shall furnish personnel to assist ENGINEER in checking lines and grades.”

#### **SC-4.04**

Add the following paragraph after paragraph 4.04.A.2 of the General Conditions:

"3. The CONTRACTOR's resident superintendent shall attend monthly progress meetings at the site of the work with the ENGINEER and others as appropriate to review schedule status and such other pertinent subjects as may be listed on the agenda by the ENGINEER."

### **ARTICLE 5. AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

#### **SC-5.01**

Add a new paragraph immediately after paragraph 5.01.A of the General Conditions which is to read as follows:

“5.01.A.1 If all lands and rights-of-way are not obtained as herein contemplated before construction begins, CONTRACTOR shall begin the Work upon such land and rights-of-way as 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 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 the Work, CONTRACTOR shall not be entitled to make or assert claim for damage by reason of said delay, or to withdraw from the Agreement except by consent of OWNER. Time for completion of the Work will be extended as provided in Article 11, to such time as OWNER determines will compensate for the time lost by such delay.”

#### **SC-5.04**

Add a new paragraph immediately after paragraph 5.04.D of the General Conditions which is to read as follows:

“5.04.E Adjustments resulting from actual subsurface or latent physical conditions from those indicated will be in accordance with Massachusetts General Law, Chapter 30, Section 39N and the applicable provisions of the Contract Documents.”

### **ARTICLE 6. BONDS AND INSURANCE**

#### **SC-6.02**

Wellfleet Tank Paint Spot Repairs  
Wellfleet, Massachusetts

SUPPLEMENTAL CONDITIONS  
00800-3

Add a new paragraph immediately after paragraph 6.02.J of the General Conditions which is to read as follows:

"A. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with this Article 6 on the basis of its not complying with the Contract Documents, OWNER will notify CONTRACTOR in writing thereof within thirty days of the date of delivery of such certificates to OWNER in accordance with paragraph 2.01.B CONTRACTOR will provide such additional information in respect of insurance provided by him as OWNER may reasonably request."

### SC-6.03

The limits of liability for the insurance required by paragraph 6.03 of the General Conditions shall provide the following coverages for not less than the following amounts or greater where required by Laws and Regulations:

#### 6.03.A Workers' Compensation.

(1)	Worker's Compensation	\$1,000,000
(2)	Employer's Liability	\$1,000,000

#### 6.03.B and 6.03.C Comprehensive General Liability including Operations/Premises, Contractor's Protective, Products/Completed Operations, and Personal Injury liabilities:

(1)	Bodily injury:	\$1,000,000	Each occurrence
		\$3,000,000	Annual aggregate
(2)	Property damage, including explosion, collapse and underground coverage:	\$1,000,000	Each occurrence
		\$3,000,000	Annual aggregate

Property damage liability insurance shall provide coverage for property in the care, custody and control of the insured.

(3)	Personal injury, with employment exclusion deleted:	\$3,000,000	Annual aggregate
-----	---	-------------	------------------

The Contractual Liability required by paragraph 6.03.C of the General Conditions shall provide coverage for not less than the following amounts:

(1)	Bodily injury:	\$2,000,000	Each occurrence
		\$3,000,000	Annual aggregate

(2)	Property damage, including explosion, collapse and underground coverage:	\$1,000,000 \$3,000,000	Each occurrence Annual aggregate
(3)	General Aggregate	\$2,000,000	

6.03.D Comprehensive Automobile Liability including owned, hired and non-owned vehicles:

(1)	Bodily injury:	\$1,000,000 \$1,000,000	Each person Each accident
(2)	Property damage	\$1,000,000	Each occurrence

**SC-6.04**

Delete paragraph 6.04 of the General Conditions in its entirety and insert the following in its place:

6.04.A CONTRACTOR shall purchase and maintain a separate Owner's Protective Liability policy, issued to OWNER at the expense of CONTRACTOR, including OWNER and ENGINEER as named insured. This insurance shall provide coverage for not less than the following amounts:

6.04.A.1	Bodily Injury:		
	Each Occurrence		\$1,000,000
6.04.A.2	Property Damage:		
	Each Occurrence		\$1,000,000
	Annual Aggregate		\$1,000,000

**SC-6.05**

Delete Paragraph 6.05.A of the General Conditions in its entirety and insert the following in its place:

"A. CONTRACTOR shall purchase and maintain, until final payment, property insurance upon the Work at the site in an amount equal to the total bid price for the completed construction. This insurance shall include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER and ENGINEER's consultants in the Work, shall insure against the perils of fire and extended coverage, shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and shall include damages, losses and expenses rising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). This insurance shall be provided on the completed value form. If not covered under the "all risk" insurance or otherwise provided in these Supplementary Conditions, CONTRACTOR shall purchase

and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment."

Delete Paragraph 6.05.B of the General Conditions in its entirety and insert the following in its place:

"B. All the policies of insurance (or the certificates or other evidence thereof) required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 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 thirty days' prior written notice has been given to OWNER by certified mail and will contain waiver provisions in accordance with paragraph 6.06.B."

#### **SC-6.07**

Delete paragraph 6.07.A of the General Conditions in its entirety.

Delete paragraph 6.07.B of the General Conditions in its entirety.

Delete paragraph 6.07.C of the General Conditions in its entirety.

### **ARTICLE 7. CONTRACTOR'S RESPONSIBILITIES**

#### **SC-7.06**

Add the following new paragraph as follows:

"7.06.J.1 OWNER or ENGINEER may furnish to any such Subcontractor, Supplier, or other person or organization, to the extent practicable, information about amounts paid to CONTRACTOR in accordance with CONTRACTOR's Applications for Payment on account of the particular Subcontractor's, Suppliers, other person's, or other organization's Work."

#### **SC-7.06**

Add the following language at the beginning of paragraph 7.06.L of the General Conditions:

"Except as otherwise required by Massachusetts General Law, Chapter 149, Section 44F,"

#### **SC-7.09**

Add the following language at the end of paragraph 7.09.A of the General Conditions:

"7.09.A.1 The materials and supplies to be used in the Work under this Contract are exempt from the Sales and Use Tax of the Commonwealth of Massachusetts. Contractor shall obtain the proper certificates, maintain the necessary records, and otherwise comply with all applicable requirements governing the exemption from sales tax."

#### **SC-7.16**

Add the following new paragraph immediately after paragraph 7.16.E of the General Conditions, which is to read as follows:

“7.16.F The accuracy of all such information submitted by the Contractor is the responsibility of the Contractor. In reviewing Shop Drawings, Samples, and similar submittals, the Engineer shall be entitled to rely upon the Contractor’s representation that such information is correct and accurate.”

**ARTICLE 8. OTHER WORK AT THE SITE**

SC-8.03

Delete paragraph 8.03.D of the General Conditions in its entirety, and insert the following in its place:

“8.03.D Should CONTRACTOR cause damage to the work or property of any separate contractor at the site, or should any claim arising out of CONTRACTOR'S performance of the Work at the site be made by any separate contractor against CONTRACTOR, OWNER, ENGINEER, ENGINEER'S Consultants, or any other person, CONTRACTOR shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER, ENGINEER, and ENGINEER'S Consultants, harmless from and against all claims, damages, losses, and expenses (including, but not limited to, fees of engineers, architects, attorneys, and other professionals, and court and arbitration costs) arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any separate contractor against OWNER, ENGINEER, or ENGINEER'S Consultants, to the extent based on a claim arising out of the CONTRACTOR'S performance of the Work. Should a separate contractor cause damage to the Work or property of CONTRACTOR or should the performance of Work by any separate contractor at the site give rise to any other claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER, ENGINEER, or ENGINEER'S Consultants or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from OWNER, ENGINEER, or ENGINEER'S Consultants, on such damage or claim. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and OWNER and CONTRACTOR are unable to agree to the extent of any adjustment in Contract Times attributable thereto, CONTRACTOR may make a claim for an extension of times in accordance with Article 12.02. An extension of the Contract Times shall be CONTRACTOR'S exclusive remedy with respect to OWNER, ENGINEER, and ENGINEER'S Consultants, for any delay, disruption, interference or hindrance caused by any separate contractor. This paragraph does not prevent recovery from OWNER, ENGINEER, or ENGINEER'S Consultant, for activities that are their respective responsibilities.”

**ARTICLE 9. OWNER'S RESPONSIBILITIES**

SC-9.06

Delete paragraph 9.06 of the General Conditions in its entirety.

**ARTICLE 10. ENGINEER'S STATUS DURING CONSTRUCTION**

**SC-10.01**

Add a new paragraph 10.01.B after paragraph 10.01.A of the General Conditions, which is to read as follows:

"B. Nothing contained in the Contract Documents shall be construed to create a contractual relationship of any kind (1) between the ENGINEER and CONTRACTOR, (2) between the OWNER and a Subcontractor or Subcontractors, or (3) between any person or entities other than the OWNER and CONTRACTOR. The ENGINEER shall, however, be entitled to performance and enforcement of obligations under the CONTRACT DOCUMENTS intended to facilitate performance of the ENGINEER'S duties."

**SC-10.03**

Add a new paragraph immediately after paragraph 10.03.A of the General Conditions as follows:

"10.03.B ENGINEER will furnish a Resident Project Representative and assistants to assist ENGINEER in observing the performance of the Work. The duties and responsibilities of the Resident Project Representative will be as enumerated in a document entitled "Duties, Responsibilities, and Limitations of the Authority of Resident Project Representative" and will be made available to CONTRACTOR at the start of his work."

**ARTICLE 11. AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK**

**SC-11.02**

Add a new paragraph immediately after paragraph 11.02.A of the General Conditions which is to read as follows:

"11.02.A.1 ENGINEER'S interpretations will be made in accordance with Massachusetts General Law, Chapter 30, Section 39P."

**SC-11.02**

Add the following new paragraph immediately after paragraph 11.02.A of the General Conditions, which is to read as follows:

"11.02.B Upon request of the Owner or Engineer, the Contractor shall without cost to the Owner submit to the Engineer, in such form as the Engineer may require, an accurate written estimate of the cost of any such proposed extra Work or change. The estimate shall indicate the quantity and unit cost of each item of materials, and the number of hours of work and hourly rate for each class of labor, as well as the description and amounts of all other costs chargeable under the terms of this Article. Unit labor costs for the installation of each item of materials shall be shown if required by the Engineer. The Contractor shall promptly revise and resubmit such estimate if the Engineer

determines that it is not in compliance with the requirements of this Article, or that it contains errors of facts or mathematical errors. If required by the Engineer, in order to establish the exact cost of new Work added or previously required Work omitted, the Contractor shall obtain and furnish to the Engineer bona fide proposals from recognized suppliers for furnishing any material included in such Work, and shall be furnished at Contractor's expense. The Contractor shall state in the estimate any extension of time required for the completion of the Work if the change or extra work is ordered."

**ARTICLE 12. CLAIMS**

**SC-12.01**

Add a new paragraph immediately after paragraph 12.01.D.1 of the General Conditions to read as follows:

"12.01.D.1.a CONTRACTOR shall carry on the Work and maintain the progress schedule during the dispute resolution proceedings unless otherwise agreed in writing by OWNER and CONTRACTOR."

**ARTICLE 13. COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

**SC-13.01**

Add the following to the end of paragraph 13.01.B of the General Conditions to read as follows:

"Following the Notice of Award and prior to the execution of the AGREEMENT the OWNER, prospective contractor and, if any, each prospective filed subbid contractor shall agree on what percentage markup shall be used as direct labor costs in determination of extra work costs."

In the second sentence of paragraph 13.01.B.1 delete the word "superintendents".

**SC-13.02**

Delete paragraph 13.02 of the General Conditions in its entirety.

**ARTICLE 15. PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

**SC-15.01**

Add new paragraphs immediately after paragraph 15.01.B.1 of the General Conditions to read as follows:

“15.01.B.1.a Only the following items of material and equipment will be accepted for delivery at the site or at a local bonded warehouse and included in progress estimates in advance of actual requirement, subject to all conditions stated below.

15.01.B.1.b Materials and equipment listed above will not be included in progress estimates until the requirements stated herein have been fulfilled.

15.01.B.1.c The Contractor must present an invoice to the Engineer for each item of material or equipment he is requesting payment for. The invoice must be broken down to show the costs for the actual equipment, and reasonable costs for O&M Manuals, spare parts, start-up certification, training, testing, final acceptance testing, and any other services required by Contract.

15.01.B.1.d Sufficient monies have been allocated in the payment requisition line items to cover all of the costs listed in "a" above, plus the costs of physically installing the equipment.

15.01.B.1.e The equipment has been submitted and approved for use in this Project.

15.01.B.1.f The Contractor has, at the time of delivery, given the Engineer written notice of the delivery using the form provided by the Engineer.

15.01.B.1.g The equipment is acceptably stored and protected. Storage in a bonded warehouse will require proof of bonding, and insurance coverage specifically for the item being stored.

15.01.B.1.h The manufacturer's short and/or long term storage requirements have been received by the Engineer, prior to payment.

15.01.B.1.i The Contractor has established a program to implement the manufacturer's required storage procedures. Said program to consist of at the very least a written schedule of daily, weekly, monthly, routine maintenance requirements for each piece of equipment. A copy of this schedule to be presented to the Engineer prior to each requisition submittal, signed by the Contractor, stating that the required maintenance has been performed.

15.01.B.1.j Signed, notarized Title Transfers, format to be furnished by the Engineer, must be furnished for each item of equipment.

15.01.B.1.k When the above have been complied with to the satisfaction of the Engineer, payment will be authorized for the full invoice values of the item of equipment, less normal retainage and less all costs for O&M Manuals, spare parts, start-up certification, training, testing, final acceptance testing, and installation.”

Delete paragraph 15.01.B.3 and insert the following in its place:

"15.01.B.3. Retainage with respect to progress payments will be five percent or, if stipulated, the maximum allowed by law."

## **SC-15.01**

15.08.A. Replace “one year” with “two year”.

**ARTICLE 18. MISCELLANEOUS**

**SC-18.08**

18.08 Headings:

Delete paragraph 18.08.A and replace with the following paragraph:

“18.08.A The headings or titles of any article, paragraph, subparagraph, section, subsection, or part of the Contract Documents shall not be deemed to limit or restrict the article, paragraph, section, or part.”

18.09 Legal Address of Contractor

Add the following paragraph immediately after section 18.08:

“18.09.A CONTRACTOR'S business address and his office at or near the site of the Work are both hereby designated as places to which communications shall be delivered. The depositing of any letter, notice, or other communication in a postpaid wrapper directed to the CONTRACTOR'S business address in a post office box regularly maintained by the Post Office Department or the delivery at either designated address of any letter, notice, or other communication by mail or otherwise shall be deemed sufficient service thereof upon CONTRACTOR, and the date of such service shall be the date of receipt. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by CONTRACTOR and delivered to ENGINEER. Service of any notice, letter, or other communication upon the CONTRACTOR personally shall likewise be deemed sufficient service.”

END OF SECTION



## DIVISION 1 - GENERAL REQUIREMENTS

01010	Summary of Work
01024	Measurement and Payment
01040	Project Coordination
01046	Control of Work
01095	Reference Standards and Definitions
01110	Environmental Protection Measures
01170	Special Provisions
01200	Project Meetings
01300	Submittals
01370	Schedule of Values
01400	Quality Assurance
01500	Temporary Facilities and Controls
01610	Delivery Storage and Handling
01700	Contract Closeout
01710	Cleaning Up



## SECTION 01010

### SUMMARY OF WORK

#### PART 1 – GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

##### 1.2 LOCATION OF WORK

- A. The work to be performed under this Contract shall be conducted at the site of the Lawrence Road 500,000-Gallon Hydrosphere Welded Steel Spheroid Water Storage Tank, Lawrence Road, Wellfleet, Massachusetts.
- B. The Work includes, but is not necessarily limited to the following major items:
  - 1. Mobilize and demobilize.
  - 2. Prepare the surface of the tank for painting approximately from the equator to and including the top of the roof. Pressure wash all exterior surfaces scheduled for coating with a minimum 5,000 psi washing equipment containing a suitable environmentally “green” cleaning agent and potable water solution to remove all soluble surface contamination. Power tool cleaning all surfaces scheduled for painting to bare metal removing all loose paint, rust, and rust scale. Grind metal surface on all seams to a suitable rough profile for the primer and paint to adhere.
  - 3. Spot paint the exterior of the tank showing signs of rust approximately from the equator to and including the top of the roof with primer, an intermediate coat, and a finish coat as approved by the Engineer.
  - 4. Miscellaneous Items. (All items not included in items 1 through 3).
- C. The work shall also conform to such additional Drawings and addenda to these Specifications and Drawings as may be published or exhibited prior to the opening of bid proposals and to such Drawings in explanation of details, or as may be furnished by the Engineer from time to time during the construction.
- D. Work and materials which are necessary in the construction, but which are not specifically referred to in the Specifications or shown on the Drawings, but implied by the contract, shall be furnished by the Contractor at his own cost and expense, and shall be such as will correspond with the general character of the work, as may be determined by the Engineer, whose decisions as to the necessity for and character of such work and materials shall be final and conclusive. It is the intent of these Specifications to produce a complete, finished job, whether shown in every detail or not.

- E. Construction activities will begin after September 5, 2016 and be completed within 45 days.**

### 1.3 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit the use of the premises for his/her Work and for storage to allow for:
  - 1. Owner occupancy.
  - 2. Public use.
- B. Coordinate use of premises with the Owner.
- C. Contractor shall assume full responsibility for security of all his/her and his/her subcontractor's materials and equipment stored on the site.
- D. If directed by the Owner or Engineer, move any stored items which interfere with operations of Owner or other contractors.
- E. Obtain and pay for use of additional storage or work areas if needed to perform the Work.

### 1.4 OWNER OCCUPANCY

- A. Owner will occupy premises during performance of the work for the conduct of his/her normal operations. Coordinate all construction operations with Owner to minimize conflict and to facilitate Owner usage.
- B. A general description of the work to be performed under this contract shall include, but will not be limited to, the following construction operations:
  - 1. Coordination of all construction activities with the appropriate local and State authorities and utilities.
  - 2. Attending the pre-construction conference and required job progress meetings.
  - 3. Submission of a construction schedule, list of subcontractors and submission of all required shop drawings, in a timely manner, to the Engineer for review.
  - 4. Mobilization to the site.
  - 5. Protection of existing structures, facilities and equipment and installation of protection systems to mitigate potential interferences.
  - 6. Coordination with other entities owning infrastructure on the site, in particular radio transmission equipment and appurtenances.

## 1.5 UTILITIES

- A. The utilities shown on the plans have been located primarily from information furnished by others and are considered approximate both as to size and location. It shall be the Contractor's responsibility to locate all existing utilities and to protect same from damage or harm. All utilities interfered with or damaged shall be properly restored, at the expense of the Contractor, to the satisfaction of the Owner and Engineer.

### PART 2 - PRODUCTS (NOT USED)

### PART 3 - EXECUTION (NOT USED)

END OF SECTION 01010

## SECTION 01024

### MEASUREMENT AND PAYMENT

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Under the price specified to be paid for each item, the Contractor shall furnish all materials and equipment, furnish all labor and plant and perform all operations to complete all work as indicated and specified. Provide all supervision, overhead items, bond and permit costs, protection and precautions and all other costs, incidental to the construction work, complete, and as specified, are also included.
- B. A complete, finished, working job, as intended by the general nature of these Specifications, shall be produced whether or not any particular wording or direction is omitted or inadvertently not clearly stated.
- C. Measurement for payment shall be by the Engineer, except where noted elsewhere in this Specification. Measurement for payment for lump sum items shall be on the basis of percentage of work complete and in place.
- D. Each unit or lump sum price stated in the Bid shall constitute full compensation as herein specified for each item of work completed in accordance with the Drawings and Specifications.
- E. Unit prices submitted for various items of work will be utilized for determining prices of any additional work necessary during construction.
- F. In accordance with Chapter 150 of the Acts of 2013 (An Act Relative to Price Adjustments for Certain Materials in Construction Projects), specifically Section 38A, of Massachusetts General Laws Chapter 30, the following materials will be eligible for price adjustments in accordance with Appendix F and applicable Specification Sections: fuel (both diesel and gasoline); liquid asphalt; and, Portland cement (contained in cast-in-place concrete). The noted material price adjustments are applicable on a monthly basis only when the monthly cost change in base prices exceeds +/-5%.

##### 1.2 ITEM DESCRIPTIONS

- A. Item 1: Mobilization & Demobilization
  - 1. For the lump sum bid price for this Item, the Contractor shall mobilize and demobilize to and from the site all labor, materials and equipment to complete all work associated with this contract. Demobilization from the site includes, but not limited to, removal of all equipment and final cleanup to the satisfaction of the Owner and Engineer.

2. Payment for the mobilization and demobilization shall be by lump sum. Fifty percent of the lump sum price shall be paid to the Contractor upon completing mobilization activities, and the remaining fifty percent shall be paid upon demobilization from the site.

**B. Item 2: Power Washing and Surface Preparation**

1. Under the lump sum bid price for this item, the contractor shall include all costs for equipment, materials, labor and testing services associated with the surface preparation and power washing of the exterior tank coating system as specified herein including but not limited to surface preparation, cleaning, spot power grinding, chipping, power sanding, disposal of material, sediment removal, power washing, providing equipment necessary to comply with all health, safety and environmental regulations, providing access and assistance to the Engineer for observations and measurements, protection to surrounding property and tank accessories, first year anniversary inspection and repair of damages and defects found, waste management and other associated incidental work or materials necessary in accordance with the specifications herein.
2. Payment for this lump sum Item shall be made on the percentage of work completed, as determined by the Engineer.

**C. Item 3: Exterior Tank Spot Painting**

1. The contractor shall include all costs for equipment, materials, labor and testing services associated with the painting of the exterior tank coating system as specified herein including but not limited to mixing and application of three coating systems, providing equipment necessary to comply with all health, safety and environmental regulations, providing access and assistance to the Engineer for observations and measurements of three coatings applied, protection to surrounding elements, first and second year anniversary inspection and repair of damages and defects found, waste management and other associated incidental work or materials necessary in accordance with the specifications herein. Exterior coating system shall apply to all tank exterior surfaces showing rust from the equator to and including the top of the roof and appurtenances including walls, roof, finial cap, hatches, cable support system, perimeter railing, access ladder, safety cage, roof ladder and railing.
2. Payment for this item shall be made based on the number of square feet completed, as measured in place by the Engineer.

**D. Item 4: Miscellaneous Items**

1. Under the lump sum price for this Item, the Contractor shall provide general construction services necessary to complete all work required to construct the work

identified within this contract, which is not included in Bid Items 1 through 3, inclusive. This shall include, but is not limited to the following:

- a. Project coordination with Engineer and Owner.
  - b. Attending the pre-construction conference, project progress meetings, and any other coordination meetings.
  - c. Performing and/or coordinating testing specified in the Contract Documents.
  - d. Submission of all schedules, test results, samples, shop drawings and any other documentation specified in the Contract Documents.
  - e. Protection of surrounding area.
  - f. Miscellaneous site cleanup including disposal of materials.
  - g. Sanitary facilities.
  - h. Repair or replacement of anything damaged during construction activities.
  - i. Any other items, materials or activities identified in the Contract Documents, but not included elsewhere herein.
  - j. All other project related direct and indirect costs not described above.
2. Payment for this lump sum Item shall be made on the percentage of work completed, as determined by the Engineer.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01024

## SECTION 01040

### PROJECT COORDINATION

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

##### 1.2 SUMMARY

- A. This section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
  - 1. Coordination.
  - 2. Administrative and supervisory personnel.
  - 3. General installation provisions.
  - 4. Cleaning and protection.
- B. Progress meetings and preconstruction conferences are included in Section 01200 – “Project Meetings”.
- C. Requirements for the Contractor's Construction Schedule are included in Section 01300 – “Submittals”.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 - EXECUTION

##### 3.1 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Inspect the conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner, and at no additional cost to the Owner.
- B. Manufacturer's Written Instructions: Comply with manufacturer's written installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in the Contract Documents.

- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items, and at no additional cost to the Owner.
- D. Provide attachment and connection devices and methods for securing work. Secure work true to line and level. Allow for expansion and utility movement.
- E. Recheck measurements and dimensions before starting installation or erection.
- F. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material to prevent deterioration.
- G. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.

### 3.2 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Install protective covering to ensure protection from damage or deterioration.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period.
- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
  - 1. Excessive static or dynamic loading.
  - 2. Excessive internal or external pressures.
  - 3. Excessively high or low temperatures.
  - 4. Air contamination or pollution.
  - 5. Water or ice.
  - 6. Solvents.
  - 7. Chemicals.
  - 8. Heavy traffic.
  - 9. Misalignment.

10. Unprotected storage.
11. Improper shipping or handling.
12. Theft.
13. Vandalism.

END OF SECTION 01040

## SECTION 01046

### CONTROL OF WORK

#### PART 1 - GENERAL

##### 1.1 EQUIPMENT

- A. Furnish equipment which will be efficient, appropriate and large enough to secure a satisfactory quality of work and a rate of progress which will insure the completion of the work within the Contract Time. If at any time such equipment appears to the Engineer to be inefficient, inappropriate or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he/she may order the Contractor to increase the efficiency, change the character or increase the plant equipment and the Contractor shall conform to such order. Failure of the Engineer to give such order shall in no way relieve the Contractor of his/her obligations to secure the quality of the work and rate of progress required.

##### 1.2 PRIVATE LAND

- A. The Contractor shall not enter or occupy private land outside of easements, except by permission of the land owner.

##### 1.3 HAULING, HANDLING, AND STORAGE OF MATERIALS

- A. The Contractor shall, at his own expense, handle and haul all materials furnished by him and shall remove any and all of his surplus materials at the completion of the work. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by him that are liable to injury, and shall be responsible for any loss or damage to any equipment or materials by theft, breakage, or otherwise. The Contractor shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance, even though partial payments have been made under the Contract.

##### 1.4 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

- A. The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables, whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. The Contractor is required to comply with all provisions of DigSafe ([www.digsafe.com](http://www.digsafe.com)). Any damage resulting from the Contractor's operations shall be repaired by him at his expense.

- B. Assistance will be given to the Contractor in determining the location of existing services. The Contractor, however, shall bear full responsibility for obtaining all locations of underground structures and utilities (including, but not limited to existing water services, drain lines, sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor.
- C. If, in the opinion of the Engineer, permanent relocation of a utility owned by the Town is required, which is not shown on the Plans or the Specifications, he may direct the Contractor, in writing, to perform the work. Work so ordered will be paid for as extra work under Articles of the General Conditions. If relocation of a privately-owned utility is required, the Town will notify the utility to perform the work as expeditiously as possible. The Contractor shall fully cooperate with the Town and utility, and shall have no claim for delay due to such relocation. The Contractor shall notify public utility companies, in writing, at least 72 hours (excluding Saturdays, Sundays, and legal holidays) before excavating in any public way.

#### 1.5 PROTECTION OF CONSTRUCTION AND EQUIPMENT

- A. All newly-constructed work shall be carefully protected from injury in any way. No placing of heavy loads on it shall be allowed, and all portions injured shall be reconstructed by the Contractor at its own expense.
- B. All structures shall be protected in a manner approved by the Engineer. All such damaged portions of the work shall be completely repaired and made good by the Contractor, at his own expense, and to the satisfaction of the Engineer.
- C. If, in the final inspection of the work, any defects, faults, or omissions are found, the Contractor shall cause the same to be repaired or removed and replaced by proper materials and workmanship, without extra compensation for the materials and labor required. Further, the Contractor shall be fully responsible for the satisfactory maintenance and repair of the construction, and other work undertaken herein, for at least the guarantee period described in the Contract Documents.
- D. The Contractor shall take all necessary precautions to prevent damage to any work during and after construction, and until such work is accepted and taken over by the Owner.

#### 1.6 CARE AND PROTECTION OF PROPERTY AND SURVEY MONUMENTS

- A. The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property, by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a

condition similar or equal to that existing before the damage was done, or he shall make good the damage in another manner acceptable to the Engineer.

- B. Along the location of this work, all fences, walks, bushes, trees, shrubbery, and other physical features shall be protected and restored in a thoroughly workmanlike manner. Fences and other features removed by the Contractor shall be replaced as soon as conditions permit. All grass areas beyond the limits of construction, which have been damaged by the Contractor, shall be graded and seeded.
- C. Trees close to the work shall be boxed or otherwise protected against injury. The Contractor shall trim all branches that are liable to damage because of his operations, but in no case shall any trees be cut or removed without prior notification of the Town or other person in charge. All injuries to bark, trunk, limbs, and roots of trees shall be repaired by dressing, cutting, and painting according to approved methods using only approved tools and materials.
- D. The protection, removal, and replacement of existing physical features along the line of work shall be a part of the work under the Contract, and all costs in connection therewith shall be included in the Bid Proposal. The Contractor is responsible for protecting and, if required, re-setting survey monuments (bounds). If a bound is in the way of required excavation, the Contractor will notify the Engineer with as much notice as possible prior to performing excavation near the bound.

#### 1.7 REJECTED MATERIALS AND DEFECTIVE WORK

- A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the Specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work. Any errors, defects, or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor, and in a manner satisfactory to the Engineer. The Contractor shall reimburse the Owner for any expenses, losses, or damages incurred in consequence of any defect, error, omission, or act of the Contractor or his employees, as determined by the Engineer, occurring previous to the final payment.

#### 1.8 COORDINATION WITH LOCAL AGENCIES

- A. The Contractor shall attend a Pre-Construction Meeting approximately one week prior to start of work. The contractor will provide the proposed schedule at that time (see Submittals, Section 01300).
- B. The Engineer will have the authority to reject any work or materials that do not constitute approval by the Town and shall not relieve the Contractor of his obligations to perform the work in accordance with the Plans and Specifications.

- C. Protection and temporary removal and replacement of existing utilities and structures as described in this Section shall be a part of the work under the Contract and all costs in connection therewith shall be included in the Total Price Bid in the Bid Form.

#### 1.9 COOPERATION WITHIN THIS CONTRACT

- A. All firms or persons authorized to perform any work under this Contract shall cooperate with General Contractor and his/her Subcontractors or trades and shall assist in incorporating the work of other trades where necessary or required.
- B. Cutting and patching, drilling and fitting shall be carried out where required by the trade or subcontractor having jurisdiction, unless otherwise indicated herein or directed by the Engineer.

#### 1.10 CLEANUP AND DISPOSAL OF EXCESS MATERIAL

- A. During the course of the work, the Contractor shall keep the site of his/her operations in as clean and neat a condition as is possible. He/she shall dispose of all residue resulting from the construction work and, at the conclusion of the work, he/she shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures and any other refuse remaining from the construction operations and shall leave the entire site of the work in a neat and orderly condition.
- B. In order to prevent environmental pollution arising from the construction activities related to the performance of this Contract, the Contractor and his/her subcontractors shall comply with all applicable Federal, State and local laws and regulations concerning waste material disposal, as well as the specific requirements stated in this Section and elsewhere in the Specifications.
- C. The Contractor is advised that the disposal of excess excavated material in wetlands, stream corridors and plains is strictly prohibited even if the permission of the property owner is obtained. Any violation of this restriction by the Contractor or any person employed by him, will be brought to the immediate attention of the responsible regulatory agencies, with a request that appropriate action be taken against the offending parties. Therefore, the Contractor will be required to remove the fill at his/her own expense and restore the area impacted.
- D. Outdoor burning of rubbish and waste material on the site will not be permitted.
- E. Disposal of volatile fluid wastes (such as mineral spirits, oil, gasoline, or paint thinner) in storm or sanitary sewer systems or into streams or waterways is not permitted.
- F. 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. The restoration of existing property or structures shall be done as promptly as practicable as work progresses and shall not be left until the end of the contract period.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01046

## SECTION 01095

### REFERENCE STANDARDS AND DEFINITIONS

#### PART I - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1, Specification Sections, apply to this Section.

##### 1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. Indicated: The term indicated refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as shown, noted, scheduled, and specified are used to help the reader locate the reference. There is no limitation on location.
- C. Directed: Terms such as directed, requested, authorized, selected, approved, required, and permitted mean directed by the Engineer, requested by the Engineer, and similar phrases.
- D. Approve: The term approved, when used in conjunction with the Engineer's action on the Contractor's submittals, applications, and requests, is limited to the Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- E. Regulation: The term regulations includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the work.
- F. Furnish: The term furnish means supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. Install: The term install describes operations at the project site, including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. Replace: The term replace means dismantle, remove, and dispose of existing equipment and materials and furnish and install new specified item.
- I. Provide: The term provide means to furnish and install, complete and ready for the intended use.

1. The term experienced, when used with the term Installer, means having a minimum of five previous projects similar in size and scope to this project, being familiar with the special requirements indicated, and having complied with requirements of the authority having jurisdiction.
  2. Trades: Using terms such as carpentry is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such a carpenter. It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
- J. Project Site is the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing other work as part of the project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the project is to be built.
- K. Testing Agencies: A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

### 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.
- C. Conflicting Requirements: Where compliance with two or more standards is specified, and where the standards may establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different, but apparently equal, and uncertainties to the Engineer for a decision before proceeding.
1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Engineer for a decision before proceeding.

- D. Copies of Standards: Each entity engaged in construction on the project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in Contract Documents, are defined to mean the associated names. Names and addresses are subject to change and are believed, but not assured, to be accurate and up-to-date as of date of Contract Documents.

ACI	American Concrete Institute P.O. Box 19150 Detroit, Michigan 48219-0150 Telephone: (313) 532-2600
AI	Asphalt Institute Research Park Drive P.O. Box 14052 Lexington, Kentucky 40512-4052 Telephone: (606) 288-4960
ANSI	American National Standards Institute 11 West 42nd Street 13th Floor New York, New York 10036 Telephone: (212) 642-3300
ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, Pennsylvania 19103 Telephone: (215) 299-5400
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, Colorado 80235 Telephone: (303) 794-7711
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park Street, N.E. Vienna, Virginia 22180 Telephone: (703) 281-6613

NAPA National Asphalt Pavement Association  
6811 Kenilworth Avenue  
Calvert Building  
Suite 620  
Riverdale, Maryland 20737  
Telephone: (301) 779-4880

NFPA National Fire Protection Association  
One Batterymarch Park  
Quincy, MA 02169  
Telephone: (617)- 770-3000

WSC Water Systems Council  
600 South Federal Street  
Suite 400  
Chicago, Illinois 60605  
Telephone: (312) 922-6222

F. Federal Government Agencies: Names and titles of Federal Government standard- or specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of standard- or specification-producing agencies of the Federal Government. Names and addresses are subject to change and are believed, but not assured, to be accurate and up-to-date as of the date of the Contract Documents.

CFR Code of Federal Regulations  
(available from the Government Printing Office)  
North Capitol Street between G and H Streets, N.W.  
Washington, D.C. 20402  
Telephone: (202) 783-3238

(Material is usually first published in the "Federal Register")  
EPA Environmental Protection Agency  
401 M Street, S.W.  
Washington, D.C. 20460  
Telephone: (202) 382-2090

NIST National Institute of Standards and Technology  
(U.S. Department of Commerce)  
Gaithersburg, Maryland 20899  
Telephone: (301) 975-2000

OSHA Occupational Safety and Health Administration  
(U.S. Department of Labor)  
Government Printing Office  
Washington, D.C. 20402  
Telephone: (202) 523-6091

#### 1.4 GOVERNING REGULATIONS AND AUTHORITIES

- A. The Engineer has contacted authorities having jurisdiction where necessary to obtain information to prepare Contract Documents. Contact authorities having jurisdiction directly for information and decisions regarding the work.

Town of Wellfleet, Department of Public Works  
Telephone: 508-349-0315

#### 1.5 SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, warranties, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

#### PART 2 – PRODUCTS (NOT USED)

#### PART 3 – EXECUTION (NOT USED)

END OF SECTION 01095

## SECTION 01110

### ENVIRONMENTAL PROTECTION MEASURES

#### PART 1 - GENERAL

##### 1.1 SCOPE OF WORK

- A. The work covered by this Section consists of furnishing all labor, materials and equipment and performing all work required for the prevention of environmental pollution in conformance with applicable laws and regulations, during and as the result of construction operations under this Contract. For the purpose of this Specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and/or recreational purposes.
- B. The control of environmental pollution requires consideration of air, water and land, and involves management of noise and solid waste, as well as other pollutants.
- C. The Contractor shall take sufficient precautions during construction to minimize the run-off of polluting substances such as silt, clay, fuels, oils, bitumens and calcium chloride into the supplies and surface waters of the State.
- D. Schedule and conduct all work in a manner that will minimize the erosion of soils in the area of the work. Provide erosion control measures such as diversion channels, sedimentation or filtration systems, berms, staked hay bales, seeding, mulching or other special surface treatments as are required to prevent silting and muddying of streams, rivers, impoundments, lakes, etc. All erosion control measures shall be in place in an area prior to any construction activity in that area.
- E. These Specifications are intended to ensure that construction is achieved with a minimum of disturbance to the existing ecological balance between a water resource and its surroundings. These are general guidelines. It is the Contractor's responsibility to determine the specific construction techniques to meet these guidelines.
- F. All phases of sedimentation and erosion control shall comply with and be subject to the approval of the Massachusetts Department of Environmental Protection.

## 1.2 APPLICABLE REGULATIONS

- A. Comply with all applicable Federal, State and local laws, regulations, and orders of conditions concerning environmental pollution control and abatement.

## 1.3 NOTIFICATIONS

- A. The Engineer will notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the environmental protection requirements shall notify the Contractor in writing, through the Engineer, of any non-compliance with State or local requirements. The Contractor shall, after receipt of such notice from the Engineer or from the regulatory agency through the Engineer, immediately take corrective action. Such notice, when delivered to the Contractor or his/her authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

## 1.4 IMPLEMENTATION

- A. Prior to commencement of the work, meet with the Engineer to develop mutual understandings relative to compliance with this provision and administration of the environmental pollution control program.
- B. Remove temporary environmental control features, when approved by the Engineer, and incorporate permanent control features into the project at the earliest practicable time.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Provide the following woven geotextile fabric for silt fence:
  - 1. Amoco 2122 as manufactured by Amoco Fabrics and Fibers Co., Atlanta, GA.
  - 2. Mirafi 100X as manufactured by Mirafi, Pendergrass, GA.

- 3. Geotex 910SC as manufactured by Synthetic Industry, Chattanooga, TN.
- 4. Or acceptable equivalent product.

2.2 MATERIALS

- A. Hay or straw or other suitable material acceptable to Engineer. Twine for hale bales shall be biodegradable.
- B. Wood stakes shall be 2 in. by 2 in. by 3 ft.
- C. Physical Properties of Minimum Average Roll of the woven geotextile fabric for silt fence shall be:

	Property	ASTM Test Method	Units	Value
1.	Grab Strength	D4632	lbs	100 (min.)
2.	Permissivity	D4491	sec - 1	0.10 (min.)
3.	Apparent Opening Size	D4751	Sieve #	20-30
4.	Ultraviolet Stability	D4355	%	70 (min.)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install silt fence in accordance with manufacturer’s printed instructions.
- B. Overlap silt fence 18 inches minimum for unsewn lap joint. Overlap fabric 6 inches at seam for sewn joint.
- C. Install sedimentation barriers in all locations as directed, surrounding base of all deposits of stored excavated material outside of disturbed area, and where directed by the Engineer.
- D. Hold bales in place with two 2 in. by 2 in. by 3 ft. stakes so that each bale is butted tightly against ad-joining bale thereby precluding short-circuiting of erosion check.
- E. Construct earth berms or diversions to intercept and divert runoff water from critical areas.
- F. Protect catch basins and drainage swales from sedimentation by installing hay bales around the basin or swale or siltation fabric under catch basin grating casting.

- G. Discharge silt-laden water from excavations onto filter fabric mat and/or baled hay or straw sediment traps to ensure that only sediment-free water is returned to watercourses.
- H. Do not place excavated soil material adjacent to water-course in manner that will cause it to wash away by high water or runoff.
- I. Prevent damage to vegetation by excessive watering or silt accumulation in the discharge area.
- J. Do not dump spoiled material into any streams, wetlands, surface waters, or unspecified locations.
- K. Prevent indiscriminate, arbitrary, or capricious operation of equipment in streams, wetlands or surface waters.
- L. Do not pump silt-laden water from trenches or excavations into surface waters, streams, wetlands, or natural or man-made channels leading thereto.
- M. Prevent damage to vegetation adjacent to or outside of construction area limits.
- N. Do not dispose of trees, brush, debris, paints, chemicals, asphalt products, concrete curing compounds, fuels, lubricants, insecticides, washwater from concrete trucks or hydroseeders, or any other pollutant in streams, wet-lands, surface waters, or natural or man-made channels leading thereto, or unspecified locations.
- O. Do not alter flow line of any stream unless indicated or specified.
- P. Clean and dispose of debris from sedimentation barriers on a weekly basis.
- Q. Upon completion of work and upon approval of Conservation Commission and Engineer, remove and dispose of sedimentation barriers.

### 3.2 PROVISIONS FOR CONTROL OF EROSION

- A. Special precautions shall be taken in the use of construction equipment to prevent operations which promote erosion. Erosion control measures, such as siltation basins, hay check dams, mulching, jute netting and other equivalent techniques, shall be used as appropriate. Flow of surface water into excavated areas shall be prevented.
- B. Disposal of drainage shall be in an area approved by the Owner. The Contractor shall prevent the flow or seepage of drainage back into the drainage area. Drainage shall not be disposed of until silt and other sedimentary materials have been removed. Particular care shall be taken to

prevent the discharge of unsuitable drainage to a water supply or surface water body.

- C. As a minimum, the following shall apply:
  - 1. Silt fence and hay bales shall be provided at points where drainage from the work site may contain polluting substances. The point of control shall be within the limits of the new construction and shall be contained in such a way as to not allow sediment to pass. Sufficient bales of hay shall be provided such that all flow will filter through the hay. Other methods which reduce the sediment content to an equal or greater degree may be used as approved by the Engineer.
  - 2. Drainage leaving the site shall flow to water courses in such a manner to prevent erosion.
- D. Measures for control of erosion must be adequate to assure that turbidity in the receiving water will not be increased more than 10 standard turbidity units (s.t.u.), or as otherwise required by the State or other controlling body, in waters used for public water supply or fish unless limits have been established for the particular water. In surface water used for other purposes, the turbidity must not exceed 25 s.t.u. unless otherwise permitted.

### 3.3 PROTECTION OF STREAMS

- A. Care shall be taken to prevent, or reduce to a minimum, any damage to any stream from pollution by debris, sediment or other material, or from the manipulation of equipment and/or materials in or near such streams. Water that has been used for washing or processing, or that contains oils or sediments that will reduce the quality of the water in the stream, shall not be directly returned to the stream. Such waters will be diverted through a settling basin or filter before being directed into the streams.
- B. The Contractor shall not discharge water from dewatering operations directly into any live or intermittent stream, channel, wetlands, surface water or any storm sewer. Water from dewatering operations shall be treated by filtration, settling basins, or other approved method to reduce the amount of sediment contained in the water to allowable levels.
- C. All preventative measures shall be taken to avoid spillage of petroleum products and other pollutants. In the event of any spillage, prompt remedial action shall be taken in accordance with a contingency action plan approved by the Massachusetts Department of Environmental Protection.
- D. Water being flushed from structures or pipelines after disinfection, with a  $Cl_2$  residue of 2 mg/l or greater, shall be treated with a dechlorination solution, in a method approved by the Engineer, prior to discharge.

### 3.4 PROTECTION OF LAND RESOURCES

- A. Land resources within the project boundaries and outside the limits of permanent work shall be restored to a condition, after completion of construction, that will appear to be natural and not detract from the appearance of the project. Confine all construction activities to areas shown on the Drawings.
- B. Outside of areas requiring earthwork for the construction of the new facilities, the Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized by the Engineer. Where such special emergency use is permitted, first wrap the trunk with a sufficient thickness of burlap or rags over which softwood cleats shall be tied before any rope, cable, or wire is placed. The Contractor shall in any event be responsible for any damage resulting from such use.
- C. Where trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment, dumping or other operations, protect such trees by placing boards, planks, or poles around them. Monuments and markers shall be protected similarly before beginning operations near them.
- D. Any trees or other landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition. The Engineer will decide what method of restoration shall be used and whether damaged trees shall be treated and healed or removed and disposed of.
- E. All scars made on trees by equipment, construction operations, or by the removal of limbs larger than 1-in in diameter shall be coated as soon as possible with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted.
- F. Climbing ropes shall be used where necessary for safety. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged by the Contractor and are beyond saving in the opinion of the Engineer, shall be immediately removed and replaced.
- G. The locations of the Contractor's storage, and other construction buildings, required temporarily in the performance of the work, shall be cleared portions of the job site or areas to be cleared as shown on the Drawings and shall require written approval of the Engineer and shall not be within wetlands or floodplains. The preservation of the landscape shall be an imperative consideration in the selection of all sites and in the construction of buildings.

Drawings showing storage facilities shall be submitted for approval of the Engineer.

- H. If the Contractor proposes to construct temporary roads or embankments and excavations for plant and/or work areas, he/she shall submit the following for approval at least ten days prior to scheduled start of such temporary work.
  - 1. A layout of all temporary roads, excavations and embankments to be constructed within the work area.
  - 2. Details of temporary road construction.
  - 3. Drawings and cross sections of proposed embankments and their foundations, including a description of proposed materials.
  - 4. A landscaping drawing showing the proposed restoration of the area. Removal of any trees and shrubs outside the limits of existing clearing area shall be indicated. The drawing shall also indicate location of required guard posts or barriers required to control vehicular traffic passing close to trees and shrubs to be maintained undamaged. The drawing shall provide for the obliteration of construction scars as such and shall provide for a natural appearing final condition of the area. Modification of the Contractor's approved drawings shall be made only with the written approval of the Engineer. No unauthorized road construction, excavation or embankment construction including disposal areas will be permitted.
- I. Remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess of waste materials, or any other vestiges of construction as directed by the Engineer. It is anticipated that excavation, filling and plowing of roadways will be required to restore the area to near natural conditions which will permit the growth of vegetation thereon. The disturbed areas shall be prepared and seeded as approved by the Engineer.
- J. All debris and excess material will be disposed of outside wetland or floodplain areas in an environmentally sound manner.

### 3.5 PROTECTION OF AIR QUALITY

- A. Burning. The use of burning at the project site for the disposal of refuse and debris will not be permitted.
- B. Dust Control. The Contractor will be required to maintain all excavations, embankment, stockpiles, access roads, plant sites, waste areas, borrow areas, and all other work areas within or without the project boundaries free from

dust which could cause the standards for air pollution to be exceeded, and which would cause a hazard or nuisance to others.

- C. An approved method of stabilization consisting of sprinkling or other similar methods will be permitted to control dust. The use of petroleum products is prohibited. The use of chlorides may be permitted with approval from the Engineer.
- D. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor must have sufficient competent equipment on the job to accomplish this if sprinkling is used. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs, as determined by the Engineer.

### 3.6 MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION

- A. During the life of this Contract, maintain all facilities constructed for pollution control as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created.

### 3.7 NOISE CONTROL

- A. The Contractor shall make every effort to minimize noises caused by his/her operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with State and Federal regulations.
- B. Contractor should note local residences within proximately of the work and shall make all efforts to minimize noise disruptions.

END OF SECTION 01110

## SECTION 01170

### SPECIAL PROVISIONS

#### PART 1 - GENERAL

##### 1.1 GENERAL OBLIGATIONS OF THE CONTRACTOR

- A. General obligations of the Contractor shall be as set forth in the Contract Documents. Unless special payment is specifically provided in the payment paragraphs of the specifications, all incidental work and expense in connection with the completion of work under the Contract will be considered a subsidiary obligation of the Contractor and all such costs shall be included in the appropriate items in the Bid Form in connection with which the costs are incurred.

##### 1.2 SITE INVESTIGATION

- A. The Contractor shall satisfy himself/herself as to the conditions existing within the project area, the type of equipment required to perform the work, the character, quality and quantity of the subsurface materials to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the Drawings and Specifications. Any failure of the Contractor to acquaint himself/herself with the available information will not relieve him/her from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusions or interpretation made by the Contractor on the basis of the information made available by the Owner.

##### 1.3 TOWN COMMITMENT

- A. The Town of Wellfleet will provide water to the Contractor provided that the water shall be metered and used for construction related purposes as it pertains to this project.

##### 1.4 CONTRACTOR'S EMERGENCY CONTACT AND RESPONSE REQUIREMENT

- A. The Contractor will be required to designate a contact person as well as an emergency response crew who can be notified by the Town of Wellfleet and the Engineer during Contract related emergencies, 7 days a week, 24 hours a day throughout the length of this Contract.
- B. The name of the designated person, a daytime contact telephone number, an evening contact telephone number, and a portable cellular telephone number must be furnished to the Town of Wellfleet at the pre-construction meeting.

The Contractor must also provide a mobile cellular telephone that will remain at the construction site during the hours of construction.

- C. The contact person shall be required to respond to any Town of Wellfleet notification in this regard within one hour of such notice by calling (508)-349-0315. Upon being advised by the Town of Wellfleet of the location and nature of the emergency, the Contractor will be required to provide an emergency coordinator or contact at the site within one hour of the initial notification and to mobilize the necessary response crew(s) and have them at the site of the emergency within two hours of the initial notification.
- D. The Contractor's failure to comply with the above notification and response requirements shall result in a one thousand dollar (\$1,000.00) fine for each failure to respond as indicted in 1.4.C. In addition the Contractor shall be liable for any and all damages, liabilities and costs which result from his/her failure to respond to any emergency within the designated time periods. The Town of Wellfleet assumes no responsibility or costs for the Contractor's negligence in complying with these requirements. If the subject fine or other liabilities are not paid by the Contractor upon request, it shall be deducted from any payment(s) which may be due the Contractor by the Town of Wellfleet, solely at the discretion of the Town of Wellfleet.
- E. The Contractor shall not use any Town of Wellfleet personnel to fulfill these requirements.
- F. This requirement shall be considered an incidental part of the Contract, no matter how many times the Contractor is alerted during this Contract, and no payment will be made for any costs incurred or associated with the emergency contact and response requirements.

## 1.5 PUBLIC UTILITIES

- A. The Contractor shall comply with the requirements of the Commonwealth of Massachusetts Statute - Chapter 82, Section 40, for excavations in public and private property. Compliance shall include the following:
  - 1. The Contractor shall notify public utility companies in writing at least 72 hours (excluding Saturdays, Sundays and legal holidays) but not more than 30 days before excavating in areas where underground utility plant (pipes, cables, manholes, etc) exist.
  - 2. The Contractor shall be responsible for providing the Utility Companies with a schedule of his/her activities in areas where the utilities exist.
  - 3. The Contractor shall immediately notify utility companies of any damage to their utilities resulting from construction operations.

4. The express approval of the Owner shall be obtained before public water is used. Hydrants shall only be operated under the supervision of the Owner's personnel. The water is to be metered. A meter must be attained from the Water Department. The Contractor will be responsible for all associated fees and charges for water use.

B. The Contractor shall notify DIGSAFE at 811 at least 72 hours before digging, trenching, blasting, demolishing, boring, backfilling, grading, landscaping or other earth moving operations in any public ways, rights of way and easements.

#### 1.6 PERMITS

A. The Contractor shall be required to obtain all necessary permits for proper execution of certain phases of the project. The Contractor shall fill out all forms and furnish all drawings required to obtain the permits. A copy of the approved permit shall be submitted to the Engineer. All fees associated with these permits shall be paid by the Contractor as part of the project. Work shall not commence on any phase of the work requiring a permit until the permit is obtained.

#### 1.7 TRAFFIC AT STREET INTERSECTIONS

A. The Contractor shall minimize interferences with the normal flow of traffic. The Contractor shall take all actions ordered by the Engineer to minimize the disruption of normal traffic flow.

B. The Contractor shall note proximity to local residential area and all efforts to minimize traffic disruptions shall be provided.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 - EXECUTION (NOT USED)

END OF SECTION 01170

## SECTION 01200

### PROJECT MEETINGS

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

##### 1.2 COORDINATION WITH THE TOWN

- A. As part of this Contract, the Contractor shall coordinate his activities with the Town. In addition, the Contractor will give the Town significant notice on any work that may be required to meet the contract schedule.

##### 1.3 PRECONSTRUCTION CONFERENCE

- A. A pre-construction conference will be held between the Contractor, the Engineer, the Owner, and applicable agency representatives to review the Contractor's proposed methods of complying with the requirements of the Contract Documents.
- B. Contractor will be notified of the time, date and place where the pre-construction conference will be held.

##### 1.4 PROGRESS MEETINGS WITH ENGINEER

- A. In addition to other regular project meetings for other purposes (as indicated elsewhere in the Contract Documents), hold general progress meetings twice each month with times coordinated with preparation of payment requests. Meeting dates shall be established by the Engineer. Require every entity then involved in the planning, coordination or performance of work to be properly represented at each meeting. Include (when applicable) consultants, separate contractors (if any), principal subcontractors, suppliers/manufacturers/fabricators, governing authorities, insurers, special supervisory personnel and others with an interest or expertise in the progress of the work. Review each entity's present and future needs including interface requirements, time, sequence, deliveries, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, submittals, change orders, and documentation of information for payment requests. Discuss whether each element of current work is ahead of schedule. Determine how behind-time work will be expedited, and secure commitments from the entities involved in doing so. Discuss whether schedule revisions are required to ensure that current work and subsequent

work will be completed within the Contract Time. Review everything of significance which could affect the progress of the work.

- B. Within seven days after each progress meeting date, the Engineer will forward copies of the minutes-of-the-meeting, to the Contractor.
- C. Immediately following each progress meeting where revisions to the Progress Schedule/Critical Path Schedule have been made or recognized (regardless of whether agreed to by each entity represented), revise the Schedule. Reissue revised Schedule within 10 days after meeting. At intervals matching the preparation of payment requests, revise and reissue the Schedule to show actual progress of the work in relation to the latest revision of the Schedule.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01200

## SECTION 01300

### SUBMITTALS

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION OF REQUIREMENTS

- A. This Section specifies the general methods and requirements of submissions applicable to the following work-related submittals: Shop Drawings, Product Data, Samples, Construction Photographs, and Construction Schedules. Additional general submission requirements are contained in Paragraphs 7.16 of the General Conditions. Detailed submittal requirements will be specified in the technical specifications sections.
- B. All submittals shall be clearly identified by reference to Specification Section, Paragraph, Drawing No. or Detail as applicable. Submittals shall be clear and legible and of sufficient size for sufficient presentation of data.

##### 1.2 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

###### A. Shop Drawings

1. Shop drawings, as defined in the General Conditions, and as specified in individual work Sections include, but are not necessarily limited to, custom-prepared data such as fabrication and erection/installation (working) drawings, scheduled information, setting diagrams, actual shopwork manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports including performance curves and certifications, as applicable to the Work.
2. All shop drawings submitted by subcontractors for approval shall be sent directly to the Contractor for checking. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
3. The Contractor shall check all subcontractor's shop drawings regarding measurements, size of members, materials, and details to satisfy himself that they conform to the intent of the Drawings and Specifications. Shop drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors for correction before submission thereof.
4. All details on shop drawings submitted for approval shall show clearly the relation of the various parts to the main members and lines of the structure, and where correct fabrication of the work depends upon field measurements,

such measurements shall be made and noted on the drawings before being submitted for approval.

5. Submittals for equipment specified under Division 2 shall include a listing of all installations where identical or similar equipment has been installed and been in operation for a period of at least one year.

#### B. Product Data

1. Product data as specified in individual Sections, include, but are not necessarily limited to, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliance's and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing and printed product warranties, as applicable to the Work.

#### C. Samples

1. Samples specified in individual Sections, include, but are not necessarily limited to, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols and units of work to be used by the Engineer or Owner for independent inspection and testing, as applicable to the Work.

### 1.3 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:
  1. Field measurements
  2. Field construction criteria
  3. Catalog numbers and similar data
  4. Conformance with the Specifications
- B. Each shop drawing, sample and product data submitted by the Contractor shall have affixed to it the following Certification Statement including the Contractor's

Company name and signed by the Contractor: "Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements." Shop drawings and product data sheets 11-in x 17-in and smaller shall be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet. The cover sheet shall fully describe the packaged data and include a listing of all items within the package. Provide to the Resident Project Representative a copy of each submittal transmittal sheet for shop drawings, product data and samples at the time of submittal of said drawings, product data and samples to the Engineer.

- C. The review and approval of shop drawings, samples or product data by the Engineer shall not relieve the Contractor from his/her responsibility with regard to the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the Contractor and the Engineer will have no responsibility therefor.
- D. No portion of the work requiring a shop drawing, sample, or product data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall be at the Contractor's risk. The Owner will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
- E. Project work, materials, fabrication, and installation shall conform with approved shop drawings, applicable samples, and product data.

#### 1.4 SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the Work or in the work of any other contractor.
- B. Each submittal, appropriately coded, will be returned within 30 working days following receipt of submittal by the Engineer.
- C. Number of submittals required:
  - 1. Shop Drawings as defined in Paragraph 1.2 A: Four copies.
  - 2. Product Data as defined in Paragraph 1.2 B: Four copies.
  - 3. Samples: Submit the number stated in the respective Specification Sections.
- D. Submittals shall contain:

1. The date of submission and the dates of any previous submissions.
2. The Project title and number.
3. Contractor identification.
4. The names of:
  - a. Contractor
  - b. Supplier
  - c. Manufacturer
5. Identification of the product, with the specification section number, page and paragraph(s).
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features of the Work or materials.
8. Applicable standards, such as ASTM or Federal Specification numbers.
9. Identification of deviations from Contract Documents.
10. Identification of revisions on resubmittals.
11. An 8-in x 3-in blank space for Contractor and Engineer stamps.

1.5 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, WORKING DRAWINGS AND SAMPLES

- A. The review of shop drawings, data, and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
  1. as permitting any departure from the Contract requirements;
  2. as relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;
  3. as approving departures from details furnished by the Engineer, except as otherwise provided herein.
- B. The Contractor remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.

C. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements which Engineer finds to be in the interest of the Owner and to be so minor as not to involve a change in Contract Price or time for performance, the Engineer may return the reviewed drawings without noting an exception.

D. Submittals will be returned to the Contractor under one of the following codes.

Code 1 - "NO EXCEPTION TAKEN" is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.

Code 2 - "MAKE CORRECTIONS AS NOTED". This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.

Code 3 - "SUBMIT SPECIFIED ITEM". This combination of codes is assigned when a confirmation of the notations and comments IS required by the Contractor. This confirmation shall specifically address each omission and nonconforming item that was noted. Confirmation is to be received by the Engineer within 10 calendar days of the date of the Engineer's transmittal requiring the confirmation.

Code 4 - "REVISE AND RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the Engineer within 10 calendar days of the date of the Engineer's transmittal requiring the resubmittal.

Code 5 - "REJECTED" is assigned when the submittal does not meet the intent of the Contract Documents. The Contractor must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.

E. Resubmittals will be handled in the same manner as first submittals. On resubmittals the Contractor shall direct specific attention, in writing on the letter of transmittal and on resubmitted shop drawings by use of revision triangles or other similar methods, to revisions other than the corrections requested by the Engineer, on previous submissions. Any such revisions which are not clearly identified shall be made at the risk of the Contractor. The Contractor shall make

corrections to any work done because of this type revision that is not in accordance to the Contract Documents as may be required by the Engineer.

- F. Partial submittals may not be reviewed. The Engineer will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the Contractor, and will be considered "Not Approved" until resubmitted. The Engineer may at his/her option provide a list or mark the submittal directing the Contractor to the areas that are incomplete.
- G. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the Contractor shall give written notice thereof to the Engineer at least seven working days prior to release for manufacture.
- H. When the shop drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Engineer.

#### 1.6 DISTRIBUTION

- A. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the Engineer. Number of copies shall be as directed by the Engineer but shall not exceed 4.

#### 1.7 SCHEDULES

- A. Provide all schedules required by Articles 2 and 15, and elsewhere in the General Conditions.
- B. The Contractor shall submit a progress schedule before starting any work, in accordance with Article 2.03 of the General Conditions. The Contractor shall review the progress schedule with the Engineer periodically. Such review shall be made on a monthly basis or more frequently as required by the Engineer. The progress schedule shall be updated as required by the Engineer.

#### 1.8 "OR EQUAL"

- A. Should the Contractor seek approval of a product other than the brand or brands named in these specifications, it shall furnish written evidence that such product conforms in all respects to the specified requirements, and that it has been used successfully elsewhere under similar conditions. Where the specified requirements involve conformance to recognized codes or standards the Contractor shall furnish evidence of such conformance in the form of test or inspection reports, prepared by a recognized agency, and bearing an authorized signature.

- B. Manufacturers' standard data and catalog cut sheets will not be considered sufficient in themselves, and the Engineer will not be responsible for seeking further data from the manufacturer, or for otherwise researching the product. Failure to provide complete data will be cause for rejection of the product.
- C. The Contractor shall be responsible for all additional costs including license fees, foundation, piping and electrical work necessary to accommodate the proposed "or equal" equipment. Items which result in a cost reduction shall be presented and a change order reflecting 65% of the cost savings will be prepared and the contract price modified.

#### 1.9 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM

- A. If specifically required in other Sections of these Specifications, the Contractor shall submit a P.E. Certification for each item required, in the form attached to this Section, completely filled in and stamped.

#### 1.10 GENERAL PROCEDURES FOR SUBMITTALS

- A. Coordination of Submittal Times: Prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work sections, of the Specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 - EXECUTION (NOT USED)

END OF SECTION 01300

P.E. CERTIFICATION FORM

The undersigned hereby certifies that he/she is a Professional Engineer registered in the Commonwealth of Massachusetts and that he/she has been employed by (Name of Contractor)

\_\_\_\_\_ to design \_\_\_\_\_ in accordance with Specification Section \_\_\_\_\_ for the replacement of the water main. The undersigned further certifies that he/she has performed the design of the \_\_\_\_\_, that said design is in conformance with all applicable local, state and federal codes, rules, and regulations, and that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to the Owner or the Owner's representative with seven days following written request therefor by the Owner.

\_\_\_\_\_  
P.E. Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
Contractor's Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Address

## SECTION 01370

### SCHEDULE OF VALUES

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section

##### 1.2 SUMMARY

- A. This section includes the following:
  - 1. Provide schedule of values covering each lump sum bid item.

##### 1.3 SUBMITTALS

- A. Shop Drawings: Submit the following in accordance with Section 01300 - SUBMITTAL PROCEDURES:
  - 1. Schedule of values.
    - a. Revise and resubmit schedule until acceptable to the Engineer.
  - 2. Itemize separate line item cost for work involving each lump sum item.
    - a. Ensure that the sum of the items listed in the schedule of values for each lump sum item equals the price bid for the respective lump sum item.
    - b. For "Mobilization and Demobilization", items such as Bond premium and temporary construction facilities may be listed separately in the schedule, provided amounts can be substantiated.
  - 3. Breakdown installed costs into:
    - a. Delivered cost of product.
    - b. Total installed cost with overhead and profit.
      - (1) Do not list overhead and profit as separate items.

- c. For water pipelines, include a breakdown for testing, chlorinating and putting into service.
- 4. An unbalanced schedule of values providing for overpayment on items of work performed first will not be accepted.

#### 1.4 SEQUENCING AND SCHEDULING

- A. Prepare schedule of values covering each lump sum item after review of tentative schedule at preconstruction conference, but before submission of first application for payment.
- B. Before submitting any application for payment, obtain the Engineer's approval of the Schedule of Values.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01370

SECTION 01400

QUALITY ASSURANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section

1.2 SUMMARY

- A. This section covers Quality Assurance and Control requirements for this contract.
- B. The Contractor is responsible for controlling the quality of work, including work of its subcontractors and suppliers and for assuring the quality specified in the Technical Specifications is achieved.
- D. Refer to the Article 6 - Contractor's Responsibilities, paragraphs 7.01 7.02, 7.03, of the GENERAL CONDITIONS.

1.3 QUALITY ASSURANCE

- A. Codes and Standards: Refer to Article 3 - Contract Documents: Intent, Amending, Reuse, of the General Conditions.
- B. Copies of applicable referenced standards are not included in the Contract Documents. Where copies of standards are needed by the Contractor for superintendence and quality control of the work, the Contractor shall obtain a copy or copies directly from the publication source and maintain at the jobsite, available to the Contractor's personnel, subcontractors, and Engineer.
- C. Quality of Materials: Unless otherwise specified, all materials and equipment furnished for permanent installation in the Work shall conform to applicable standards and specifications and shall be new, unused, and free from defects and imperfections, when installed or otherwise incorporated in the Work. Material and equipment shall not be used by the Contractor for any purpose other than that intended or specified unless such use is authorized by the Engineer.
- D. Where so specified, products or workmanship shall also conform to the additional performance requirements included within the Contract Documents to establish a higher or more stringent standard or quality than that required by the referenced standard.

#### 1.4 OFFSITE INSPECTION

- A. When the specifications require inspection of materials or equipment during the production, manufacturing, or fabricating process, or before shipment, such services shall be performed by an independent testing laboratory, or inspection organization acceptable to Engineer in conjunction with or by the Engineer.
- B. The Contractor shall give appropriate written notice to the Engineer not less than 30 days before offsite inspection services are required, and shall provide for the producer, manufacturer, or fabricator to furnish safe access and proper facilities and to cooperate with inspecting personnel in the performance of their duties.
- C. The inspection organization shall submit a written report to the Contractor who shall provide copies to the Engineer.

#### 1.5 MATERIALS AND EQUIPMENT

- A. The Contractor shall maintain control over procurement sources to ensure that materials and equipment conform to specified requirements in the Contract Documents.
- B. The Contractor shall comply with manufacturer's printed instructions regarding all facets of materials and/or equipment movement, storage, installation, testing, startup, and operation. Should circumstances occur where the contract documents are more stringent than the manufacturer's printed instructions, the Contractor shall comply with the specifications. In cases where the manufacturer's printed instructions are more stringent than the contract documents, the Contractor shall advise the Engineer of the disparity and conform to the manufacturer's printed instructions. In either case, the Contractor is to apply the more stringent specification or recommendation, unless approved otherwise by the Engineer.

#### 1.6 SHOP AND FIELD TESTING

- A. The Contractor is also responsible for providing the shop and field testing specified in the technical specification sections.
- B. The Contractor and its Subcontractor shall perform inspections, tests, and other services as required by the Contract Documents.
- C. Contractor shall provide twenty one days notice to the Engineer so that the Engineer may witness Contractor and/or Subcontractors off site and on site tests. The Engineer's witnessing of tests does not relieve the Contractor

and/or Subcontractors of their obligation to comply with the requirements of the Contract Documents.

#### 1.7 MANUFACTURER'S FIELD SERVICES

- A. When specified in the technical specifications sections, the Contractor shall arrange for and provide technical representation from manufacturer's of respective equipment, items or components. The manufacturer's representative shall be a factory trained service engineer/technician with the type and length of experience specified in the technical specifications.
- B. Services Furnished Under This Contract: An experienced, competent, and authorized factory trained service engineer/technician representative of the manufacturer of each item of equipment for which field services are indicated in the specifications shall visit the site of the Work and inspect, operate, test, check, adjust if necessary, and approve the equipment installation. In each case, the manufacturer's service representative shall be present when the equipment is placed in operation. The manufacturer's service representative shall revisit the jobsite as often as necessary until all problems are corrected and the equipment installation and operation are satisfactory to the Engineer.

#### 1.8 CERTIFICATION FORMS AND CERTIFICATES

- A. The Contractor shall be responsible for submitting the certification forms and certificates in conformance with the requirements specified in Section 01300 - Submittals.

### PART 2 - PRODUCTS (NOT USED)

### PART 3 – EXECUTION

#### 3.1 QUALITY CONTROL

- A. Quality control is the responsibility of the Contractor, and the Contractor shall maintain control over construction and installation processes to assure compliance with specified requirements.
- B. Certifications for personnel, procedures, and equipment associated with special processes (e.g., welding, cable splicing, instrument calibration, surveying) shall be maintained in the Contractor's field office, available for inspection by the Engineer. Copies will be made available to the Engineer upon request.
- C. Means and methods of construction and installation processes are the responsibility of the Contractor, and at no time is it the intent of the Engineer or Owner to supersede or void that responsibility.

END OF SECTION 01400

## SECTION 01500

### TEMPORARY FACILITIES AND CONTROLS

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

##### 1.2 HOURS OF CONSTRUCTION

- A. Normal construction activity shall take place only between the hours of 7 a.m. to 4 p.m., excluding Saturdays, Sundays, and legal holidays. Work outside the above time periods will be permitted only on an emergency basis and only with the approval of the Owner.
- B. Work in streets, roadways and areas adjacent to them shall cease at noon on days before legal holidays and at noon on Fridays prior to Monday holidays.

##### 1.3 OCCUPYING PRIVATE LAND

- A. The Contractor shall not (except after written consent from the proper parties) enter or occupy with men, tools, materials, or equipment any land outside the rights of way or property of the Owner.

##### 1.4 DIMENSION 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.

##### 1.5 INTERFERENCE WITH AND PROTECTION OF STREETS

- A. Contractor shall not close or obstruct any portion of a street, road, or private way without obtaining permits therefore from the proper authorities. If any street, road 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 proper authorities.

- B. Streets, roads, private ways, and walks not closed shall be maintained passable and safe by the Contractor, who shall assume and have full responsibility for the adequacy and safety of provisions made therefore.
- C. The Contractor shall, at least 24 hours in advance, notify the Police, Fire and School Departments in writing, with a copy to the Engineer, if the closure of a street or road is necessary. He shall cooperate with the Police Department in the establishment of alternate routes and shall provide adequate detour signs, plainly marked and well lighted, in order to minimize confusion.

#### 1.6 WATER FOR CONSTRUCTION PURPOSES

- A. The Contractor will be allowed to purchase water from the Town of Wellfleet for construction testing and start-up purposes.
- B. The express approval of the Water Department of the Town shall be obtained before water is used. Water shall be metered as specified by the Town. Hydrants shall only be operated under the supervision of the Town of Wellfleet personnel. Hydrant meters shall be obtained from the Water Department for the standard fee.
- C. No direct cross connections will be permitted between the public water supply and the new water mains, or any other point where the possibility of backflow of contaminated water exists. All connections to points where there is the possibility of backflow shall be arranged to prevent backflow and shall be approved by the Town's Plumbing Inspector before they are put into operation.

#### 1.7 TEMPORARY UTILITIES

- A. Temporary Light and Power: The Contractor shall at his own expense, provide his own temporary light and power as required for the prosecution and completion of work.
- B. Temporary Heat: The Contractor shall, at his own expense, provide sufficient temporary heat to maintain a minimum temperature of 50 degrees F at all times in all areas designated elsewhere in these documents.
- C. Temporary Telephone: The Contractor shall have installed at his own expense a job telephone for his use and for the use of the Engineer. The Contractor shall pay all phone charges.
- D. Sanitary Provisions: The Contractor shall provide and maintain sanitary accommodations for the use of his employees and the Engineer, as may be necessary to comply with the requirements and regulations of the local and state departments of health.

- E. Maintaining Operation of the Existing Facilities:
1. The Contractor shall be responsible for careful consideration of the construction, scheduling and anticipation of potential interference with existing utilities, operations and structures. The Contractor shall maintain close communications with the Engineer and provide the Engineer with a detailed description of each proposed activity sufficiently in advance of its commencement for review and comments to be made.
  2. Temporary facilities which maybe required include, but are not limited to, electrical power; lighting; heating; cooling; ventilating; telephone; potable water; fire protection; drainage; sanitary facilities; trench covers; protection of existing utilities, structures, streams, trees and shrubs; access roads; sewage conveyance; piping; pumping and sludge disposal.

#### 1.8 ACCESS TO THE WORK

- A. The Contractor shall provide sufficient and proper facilities at all times for inspection of all work under this project in preparation or in progress, by the Owner, the agents and employees of the Owner, by authorized representatives of the State of Massachusetts and the Federal Government and by the Engineers.
- B. The Contractor shall furnish the Engineer or his authorized representative and other personnel mentioned above with such facilities and assistance as are necessary to ascertain performance of the work in accordance with the plans and specifications.

#### 1.9 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 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 which will result in a moist or a 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.

END OF SECTION 01500

## SECTION 01610

### DELIVERY, STORAGE AND HANDLING

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

##### 1.2 SUMMARY

- A. This section specifies the general requirements for the delivery, handling, storage and protection for all items required in the construction of the work. Specific requirements, if any, are specified with the related item.

##### 1.3 TRANSPORTATION AND DELIVERY

- A. Transport and handle items in accordance with manufacturer's printed instructions.
- B. Schedule delivery to reduce long term on-site storage prior to installation and/or operation. Under no circumstances shall equipment be delivered to the site more than one month prior to installation without written authorization from the Engineer.
- C. Coordinate delivery with installation to ensure minimum holding time for items that are hazardous, flammable, easily damaged or sensitive to deterioration.
- D. Deliver products to the site in manufacturer's original sealed containers or other packing systems, complete with instructions for handling, storing, unpacking, protecting and installing.
- E. All items delivered to the site shall be unloaded and placed in a manner which will not hamper the Contractor's normal construction operation or those of subcontractors and other contractors and will not interfere with the flow of necessary traffic.
- F. Provide equipment and personnel to unload all items delivered to the site.
- G. Promptly inspect shipment to assure that products comply with requirements, quantities are correct, and items are undamaged. For items furnished by

others (i.e. Owner, other Contractors), perform inspection in the presence of the Engineer. Notify Engineer verbally, and in writing, of any problems.

#### 1.4 STORAGE AND PROTECTION

- A. Store and protect products in accordance with the manufacturer's printed instructions, with seals and labels intact and legible. Storage instruction shall be studied by the Contractor and reviewed with the Engineer by him. Instructions shall be carefully followed and a written record of this kept by the Contractor. Arrange storage to permit access for inspection.
- B. Store loose granular materials on solid flat surface in a well-drained area. Prevent mixing with foreign matter.
- C. Cement and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All structural, miscellaneous and reinforcing steel shall be stored off the ground or otherwise to prevent accumulation of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting. Beams shall be stored with the webs vertical. Precast concrete shall be handled and stored in a manner to prevent accumulations of dirt, standing water, staining, chipping or cracking. Brick, block and similar masonry products shall be handled and stored in manner to reduce breakage, cracking and spalling to a minimum.
- D. All mechanical and electrical equipment and instruments subject to corrosive damage by the atmosphere (even though covered by canvas) shall be stored in a weathertight building to prevent injury. The building may be a temporary structure on the site or elsewhere, but it must be satisfactory to the Engineer. Building shall be provided with ventilation to prevent condensation. Maintain temperature and humidity within range required by manufacturer.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 – EXECUTION (NOT USED)

END OF SECTION 01610

## SECTION 01700

### CONTRACT CLOSEOUT

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

##### 1.2 SUMMARY

- A. This section specifies administrative and procedural requirements for project closeout, including but not limited to:
  - 1. Closeout procedures.
  - 2. Final cleaning.
  - 3. Adjusting.
  - 4. Record Documents.

##### 1.3 RELATED WORK

- A. Cleaning up requirements are included in Section 01710.

##### 1.4 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's inspection.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payment, and sum remaining due.
- D. Submit all warranties.
- E. Submit written notice that all subcontractors and suppliers have been paid in full.
- F. Submit written notice showing the disparities of all insurance filings and claims.

- G. Copy of “Statement of Compliance” filed with the Division of Labor and Workforce Development, as required under the State Wage Rate Provisions.

#### 1.5 RECORD DOCUMENTS

- A. Maintain on site, one set of the following documents; actual revisions to the Work shall be recorded in these documents:
  - 1. Contract Drawings
  - 2. Specifications
  - 3. Addenda
  - 4. Change orders and other Modifications to the Contract
  - 5. Reviewed shop drawings, product data, and samples.
  - 6. Written interpretations and clarifications.
  - 7. Field orders.
  - 8. Field test reports properly verified.
  - 9. Upon completion of the project Record Drawings shall be submitted to the Engineer.
- B. Store As-built Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
  - 1. Manufacturer’s name, address and telephone number and product model and serial number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda and Modifications.
- E. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction including:

1. Measured horizontal and vertical location of excavation limits referenced to permanent surface bounds.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension of detail.
5. Details not on original Contract Drawings.

#### 1.6 FINAL CLEANING

- A. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
  1. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

#### 1.7 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

#### 1.8 FIRST YEAR ANNIVERSARY INSPECTION

- A. Contractor shall provide Owner with a separate bond for the completion of a first year anniversary inspection as a condition of final payment.

### PART 2 - PRODUCTS (NOT USED)

### PART 3 – EXECUTION (NOT USED)

END OF SECTION 01700

## SECTION 01710

### CLEANING UP

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

##### 1.2 SUMMARY

- A. During its progress, the work and the adjacent areas affected thereby shall be cleaned up and all rubbish, surplus materials, and unneeded construction equipment shall be removed and all damage repaired so that the public and property owners will be inconvenienced as little as possible.
- B. Where material or debris has washed or flowed into or been placed in existing watercourses, ditches, gutters, drains, pipes structures, work done under this contract, or elsewhere during the course of the Contractor's operations, such material or debris shall be entirely removed and satisfactorily disposed of during the progress of the work, and the ditches, channels, drains, pipes, structures, and work, etc., shall, upon completion of the work, be left in a clean and neat 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 thoroughly clean all materials and equipment installed by him and his sub-contractors, and on completion of the work shall deliver it undamaged and in fresh and new-appearing condition.
- E. 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. The restoration of existing property or structures shall be done as promptly as practical as work progresses and shall not be left until the end of the contract period.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01710

DIVISION 9 – FINISHES

09960

Coating Systems for Water Storage Tank



## SECTION 09960

### COATING SYSTEMS FOR WATER STORAGE TANKS

#### PART I - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

##### 1.2 SUMMARY

- A. This section specifies the preparation of surfaces, and furnishing and application of paint to the exterior surfaces and appurtenances of the steel water storage tank. The exterior surfaces showing signs of rust from the equator to and including the top of the roof are to be power cleaned, prepared for painting, and spot painted with three coats of paint, as directed by the Engineer.

##### 1.3 REFERENCE STANDARDS

- A. The latest edition of the following standards and specifications shall be used with regard to materials, design, construction, inspection and testing to the extent specified herein:
  1. ANSI/NSF 61 - Drinking Water System Components - Health Effects.
  2. ASTM D 16 - Terminology Relating to Paint, Varnish, Lacquer, and Related Products.
  3. ASTM D 4263 - Indicating Moisture in Concrete by the Plastic Sheet Method.
  4. AWWA D 102 - Coating Steel Water Storage Tanks.
  5. International Concrete Repair Institute (ICRI) Guideline No. 03732 - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.
  6. SSPC-SP 1 - Solvent Cleaning.
  7. SSPC-SP 2 - Hand Tool Cleaning.
  8. SSPC-SP 3 - Power Tool Cleaning.
  9. SSPC-SP 6/NACE 3 - Commercial Blast Cleaning.

10. SSPC-SP 7 – Brush-Off Blast Cleaning.
11. SSPC-SP 10/NACE 2 - Near-White Metal Blast Cleaning.
12. SSPC-SP 11 - Power Tool Cleaning to Bare Metal.
13. SSPC-SP 12 – Water Jetting Prior to Recoating
14. SSPC-SP 13/NACE 6 - Surface Preparation of Concrete.
15. SSPC-SP 15, Commercial Grade Power Tool Cleaning
16. SSPC-PA 1 – Painting Application Specification.
17. SSPC-PA 3 – Painting Application Guide for Safety in Paint Application.
18. SSPC Vis-1 - Pictorial Surface Preparation Standards for Painting Steel Structures.

#### 1.4 DEFINITIONS

- A. Definitions of Painting Terms: ASTM D 16, unless otherwise specified.
- B. Dry Film Thickness (DFT): Thickness of a coat of paint in fully cured state measured in mils (1/1000 inch).

#### 1.5 QUALITY ASSURANCE

- A. No contractor shall be considered qualified unless it has at least five years experience in the field of water tank cleaning and tank painting of similar size and complexity in New England, as determined by the Engineer. Contractor shall provide references and experience description upon request of the Engineer.
- B. The Contractor shall be a qualified rigger or shall engage the services of a qualified rigger on the job at all times when rigging is being used. The foreman in charge shall have all rigging inspected by the rigger prior to use.
- C. The Contractor shall abide by all local, state and federal laws for confined space entry.
- D. All colors, unless specified herein, shall be selected by the Owner. The color selected will not necessarily conform to the manufacturer's color chart and any tinting required shall be done by the paint manufacturer to conform to the approved sample.

- E. Only non-lead based pigmentation shall be allowed exterior primers and top coats.

## 1.6 SUBMITTALS

- A. Shop Drawings: Submit the following in accordance with Section 01300 – “Submittals”:

1. Product Data: Submit manufacturer's product data for each coating, including generic description, product line number, complete technical data, surface preparation, and application instructions.
2. Product Data: Submit technical data sheets for each coating, giving descriptive data. Curing times, mixing, thinning, and application requirements.
  - a. Provide material analysis, including vehicle type and percentage by weight and by volume of vehicle, resin and pigment.
  - b. Provide upon request of the Engineer, specific ASTM Performance Criteria for the submitted materials.
3. Product Data: Submit manufacturer’s Material Safety Data Sheets (MSDS) and other safety requirements
4. Color Samples: Submit manufacturer’s color samples for three colors similar to the Tank White (Endura Shield) finish present on the tank.
  - a. Samples shall be submitted on hardboard or metal as appropriate to coating system (size not less than 5” x 11”). Label samples on back identifying manufacturer, product name, and color number.
5. Manufacturer’s Quality Assurance: Submit manufacturer’s certification that coatings comply with specified requirements and are suitable for intended application.
6. Applicator’s Quality Assurance: Submit list of a minimum of 5 completed projects of similar size and complexity to this Work. Include for each project:

- a. Project name and location.
  - b. Name of owner.
  - c. Name of contractor.
  - d. Name of engineer.
  - e. Name of coating manufacturer.
  - f. Approximate area of coatings applied.
  - g. Date of completion.
7. Applicator's Quality Assurance: Provide certification that specialized equipment as may be required by paint manufacturer for proper application of coating materials shall be utilized.
  8. Warranty: Submit manufacturer's standard warranty.
  9. A certified test report shall be submitted indicating results from the dry film thickness and holiday tests.
- B. Pre-Installation meetings:
1. Schedule a conference and inspection to be held on-site before field application of coating systems begins.
  2. Conference shall be attended by Contractor, Engineer, Owner's representative, coating applicators and a representative from the coating material manufacturer.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying:
1. Coating or material name.
  2. Manufacturer.
  3. Color name and number.
  4. Batch or lot number.

5. Date of manufacture.
6. Mixing and thinning instructions.

B. Storage:

1. Store materials in a clean dry area and within temperature range in accordance with manufacturer's instructions.
2. Keep containers sealed until ready for use.
3. Do not use materials beyond manufacturer's shelf life limits.
4. Comply with all health and fire safety regulations.

C. Handling: Protect materials during handling and application to prevent damage or contamination.

## 1.8 ENVIRONMENTAL REQUIREMENTS

A. Weather:

1. Air and Surface Temperatures: Prepare surfaces and apply and cure coatings within air and surface temperature range in accordance with manufacturer's instructions.
2. Surface Temperature: Minimum of 5 degrees F (3 degrees C) above dew point.
3. Relative Humidity: Prepare surfaces and apply and cure coatings within relative humidity range in accordance with manufacturer's instructions.
4. Precipitation: Do not prepare surfaces or apply coatings in rain, snow, fog, or mist.
5. Wind: Do not spray coatings if wind velocity is above manufacturer's limit.

B. Dust and Contaminants:

1. Schedule coating work to avoid excessive dust and airborne contaminants.
2. Protect work areas from excessive dust and airborne contaminants during coating application and curing.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. All tank painting shall be in accordance with the latest edition of AWWA D102, the Steel Structures Painting Council Specification SSPC-PA1, approved paint manufacturer specifications, and as specified herein.
- B. Each paint system shall be from a single manufacturer. Materials specified are those that have been evaluated for the specific service. Products of the Tnemec Company, Inc. are listed to establish a standard of performance and quality. Equivalent materials of other manufacturer's may be submitted on written approval of the Engineer. Requests for substitution shall include manufacturer's literature for each product giving name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified lab test reports showing results to equal the performance criteria of the products specified herein. In addition, a list of five projects shall be submitted in which each product has been used and rendered satisfactory service.
- C. All paint systems shall be environmentally (VOC) compliant in accordance with all Federal and Massachusetts regulations and the latest OTC (Ozone Transport Commission) VOC regulations.
- D. The exterior paint system shall conform to Outside Coating System No. 4 or No. 6 as defined in AWWA D102.

### 2.2 EXTERIOR COATING SYSTEM

- A. The exterior coating system shall be a three coat coating system applied to all **exterior spot power tool cleaned approved surfaces of the tank from approximately the equator to and including the top of the roof**, including all appurtenances such as platforms, columns, overflow pipe, vent pipes, vents, frames, hatch covers, ladders, roof etc.
- B. Coating System:
  - 1. Field prime coat - One Spot Coat of Tnemec Series 1 Omnithane (2.5-3.5 mils dry)
  - 2. Intermediate coat - One Full Coat of Tnemec Series 27 Typoxy (2.5-3.5 mils dry)
  - 3. Top coat - One Full Coat of Tnemec Series 73 Endurashield (Tank White) ( $\pm$  2.0-3.0 mils dry)

- C. The finish color of the top coat for the tank shall be selected by the Owner. Three colors similar to the Tank White (Endura Shield) finish present on the tank shall be provided for Owner selection. The intermediate coat shall have a contrasting color to that of the finish coat.
- D. Furnish to the Owner two (2) gallons of exterior top coat of the same type and color used on the work.

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. No paint shall be applied when the temperature of the surface to be painted is below the minimum temperature specified by the paint manufacturer, or less than 5 degrees above the dew point temperature. Paint shall not be applied to wet or damp surfaces or when the relative humidity exceeds 85%. Follow paint manufacturers recommendations for the specific paint system used.
- B. The Contractor shall remove and legally dispose of all debris.
- C. Before painting, remove slag, weld metal splatter and sharp edges by chipping or grinding. All surfaces that have been welded, abraded or otherwise damaged shall be cleaned per the specifications and primed in the field in accordance with the paint system requirements.
- D. All areas grinded or sanded in the field shall be coated the same day before any rusting occurs.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustions. Remove empty paint containers from site.
- F. Place cotton waste, cloths and hazardous material in containers, and remove from site daily.
- G. Protect elements surrounding work of this section from damage or disfiguration.
- H. During application of coating materials, post Wet Paint signs.
- I. During application of solvent based materials, post No Smoking signs.

#### 3.2 EXAMINATION

- A. Site Verification of Conditions:
  - 1. Examine areas and conditions under which application of coating systems shall be performed for conditions that will adversely affect

execution, permanence, or quality of coating system application.

2. Correct conditions detrimental to timely and proper execution of Work.
3. Do not proceed until unsatisfactory conditions have been corrected.
4. Commencement of installation constitutes acceptance of conditions and responsibility for satisfactory performance.

### 3.3 SURFACE PREPARATION: TANK EXTERIOR

- A. Pressure wash all exterior surfaces scheduled for coating with a minimum 5,000 psi washing equipment containing a suitable environmentally “green” cleaning agent and potable water solution to remove all soluble surface contamination.
- B. All loose paint, rusted, or scaled exterior surfaces from the equator to and including the top of the roof shall be spot power tool, grinded, or chipped as necessary to clean SSPC-SP 3, as directed by the Engineer. All metal on seams shall be grinded to a rough profile suitable for paint adhesion. The paint supplier technical representative shall certify that surface preparation work is satisfactory. Remove all loose and peeling existing coating, rust, rust scale and/or underfilm corrosion per SSPC SP 15 and/or SSPC SP 6 Standard. Contain all cleaning debris and dispose accordingly.

Surface preparation shall not be done simultaneously with priming. An entire area or section shall be prepared then inspected by the Engineer before primer is applied to that area. No primer is to be applied until the entire area has been approved by the Engineer. Any defect not properly cleaned as specified will be cause for rejection of the entire area in question and no priming shall be done on this area until satisfactory corrections are made and approved by the Engineer.

### 3.4 APPLICATION

- A. All coatings materials shall be stored, mixed, applied and cured within ambient temperature ranges identified by the painting manufacturer. Application and curing shall also be accomplished within the relative humidity range. Natural ambient conditions for curing periods shall be anticipated by the Contractor and have Engineer's approval.
- B. No coating work shall be done if the ambient temperatures (air, coating materials and substrate) are not within the allowable ranges unless the Contractor is able to control these conditions through the use of effective equipment.

- C. The coating materials shall be applied in strict accordance with the respective coating manufacturer's written recommendations.
- D. Prime and subsequent coating material shall be applied around welds, edges and inside angles by use of a brush.
- E. All coating material for exterior surfaces shall be applied by brush, roller of a type and size suitable for the respective material. Application of prime coat to the base and six inches up the side walls shall be by brush, as well as to all rivets, welds, edges and inside angles to ensure proper coverage and application.
- F. After surface preparation, leading edges and nut and bolt assemblies shall be "stripe-coated" by brush method with one coat of primer. Application may be performed prior to or following the application of the full prime coat on prepared surfaces. "Stripe-coat" shall be the same as the full prime coat but be a contrasting color for inspection purposes.
- G. Make edges of paint adjoining other materials or colors sharp and clean, without overlapping.
- H. Apply coatings in accordance with manufacturer's instructions.
- I. Mix and thin coatings, including multi-component materials, in accordance with manufacturer's instructions.
- J. Keep containers closed when not in use to avoid contamination.
- K. Do not use mixed coatings beyond pot life limits.
- L. Use application equipment, tools, pressure settings, and techniques in accordance with manufacturer's instructions.
- M. Uniformly apply coatings at spreading rate required to achieve specified DFT.
- N. Apply coatings to be free of film characteristics or defects that would adversely affect performance or appearance of coating systems.
- O. Stripe paint with brush critical locations on steel such as welds, corners, and edges using specified primer.
- P. All coats on the tank exterior must be applied by brush or roller. Paint application methods shall be approved by the Engineer.

### 3.6 ACCEPTANCE

- A. The basis for acceptance of the coating work is listed below. Deviations beyond these parameters shall, at the Engineer's discretion, be corrected by the Contractor at his own expense and in accordance with the manufacturer's recommendations.
  - 1. No runs or sags
  - 2. No overspray or roughness
  - 3. No holidays or pinholes
  - 4. No color or gloss variations
  - 5. Allowable film thickness +2.0 mils over specified thickness.
- B. Wet and dry film thickness measurements shall be made for each 100 square feet of surface painted. Additional coats shall be applied as required to attain the minimum dry film thickness specified for the painting system.

### 3.8 REPAIR

- A. Damaged Materials: Repair or replace damaged materials and surfaces not scheduled to be coated.
- B. Damaged Coatings: Touch-up or repair damaged coatings. Touch-up of minor damage shall be acceptable where result is not visibly different from adjacent surfaces. Recoat entire surface where touch-up result is visibly different, either in sheen, texture, or color.
- C. Coating Defects: Repair in accordance with manufacturer's instructions coatings that exhibit film characteristics or defects that would adversely affect performance or appearance of coating systems.

### 3.9 CLEANING

- A. At completion of day's work, remove from site rubbish and accumulated materials.
- B. Leave storage area clean and in same condition indicated for equivalent spaces in Project.
- C. The Contractor shall at all times keep the premises free from accumulation of waste materials and rubbish caused by his employees or work. At the completion of the painting, the Contractor shall remove all tools, scaffolding, surplus materials, and rubbish from and about the tanks.

### 3.10 WASTE MANAGEMENT

- A. Place materials defined as hazardous or toxic waste in designated containers.

- B. Do not dispose of paints or solvents by pouring on the ground. Place in designated containers for proper disposal.
- C. Contractor shall be responsible for all costs associated with containment, sediment and waste disposal that may result from execution of this project.

3.11 FIRST AND SECOND ANNIVERSARY INSPECTION:

- A. The Contractor shall perform a first and second anniversary inspection of the tank exterior and make repairs to the paint system in accordance with AWWA D102.
- B. The Contractor will schedule the inspection with the Owner and Engineer no less than 30 days in advance.

END OF SECTION 09960



---

*APPENDIX A*

*MASSACHUSETTS PREVAILING WAGE RATES*





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

**Prevailing Wage Rates**

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

RONALD L. WALKER, II  
Secretary

WILLIAM D MCKINNEY  
Director

CHARLES D. BAKER  
Governor

KARYN E. POLITO  
Lt. Governor

**Awarding Authority:** Wellfleet Department of Public Works  
**Contract Number:** \_\_\_\_\_ **City/Town:** WELLFLEET  
**Description of Work:** Spot painting of the Wellfleet Water Tank including: exterior power washing, surface preparation, and three coats of exterior spot painting.  
**Job Location:** Lawrence Road, Wellfleet, Massachusetts

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the “Wage Request Number” on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards (“DLS”) if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F “rental of equipment” contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee’s name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.15	\$10.41	\$10.08	\$0.00	\$52.64
	08/01/2016	\$32.15	\$10.91	\$10.08	\$0.00	\$53.14
	12/01/2016	\$32.15	\$10.91	\$10.89	\$0.00	\$53.95
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.22	\$10.41	\$10.08	\$0.00	\$52.71
	08/01/2016	\$32.22	\$10.91	\$10.08	\$0.00	\$53.21
	12/01/2016	\$32.22	\$10.91	\$10.89	\$0.00	\$54.02
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.34	\$10.41	\$10.08	\$0.00	\$52.83
	08/01/2016	\$32.34	\$10.91	\$10.08	\$0.00	\$53.33
	12/01/2016	\$32.34	\$10.91	\$10.89	\$0.00	\$54.14
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2015	\$90.51	\$9.80	\$18.17	\$0.00	\$118.48
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	06/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
	12/01/2016	\$33.15	\$7.45	\$12.65	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2016	\$41.62	\$6.97	\$16.21	\$0.00	\$64.80
	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

**Classification**

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

**Apprentice - BOILERMAKER - Local 29**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
2	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
3	70	\$29.13	\$6.97	\$11.35	\$0.00	\$47.45
4	75	\$31.22	\$6.97	\$12.16	\$0.00	\$50.35
5	80	\$33.30	\$6.97	\$12.97	\$0.00	\$53.24
6	85	\$35.38	\$6.97	\$13.78	\$0.00	\$56.13
7	90	\$37.46	\$6.97	\$14.59	\$0.00	\$59.02
8	95	\$39.54	\$6.97	\$15.40	\$0.00	\$61.91

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
2	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
3	70	\$30.04	\$6.97	\$11.35	\$0.00	\$48.36
4	75	\$32.19	\$6.97	\$12.16	\$0.00	\$51.32
5	80	\$34.34	\$6.97	\$12.97	\$0.00	\$54.28
6	85	\$36.48	\$6.97	\$13.78	\$0.00	\$57.23
7	90	\$38.63	\$6.97	\$14.59	\$0.00	\$60.19
8	95	\$40.77	\$6.97	\$15.40	\$0.00	\$63.14

**Notes:**

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

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2016	\$49.86	\$10.18	\$19.14	\$0.00	\$79.18
BRICKLAYERS LOCAL 3 (NEW BEDFORD)	08/01/2016	\$50.76	\$10.18	\$19.22	\$0.00	\$80.16
	02/01/2017	\$51.33	\$10.18	\$19.22	\$0.00	\$80.73

**Classification**

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

**Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 New Bedford**

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

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

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.38	\$10.18	\$19.22	\$0.00	\$54.78
2	60	\$30.46	\$10.18	\$19.22	\$0.00	\$59.86
3	70	\$35.53	\$10.18	\$19.22	\$0.00	\$64.93
4	80	\$40.61	\$10.18	\$19.22	\$0.00	\$70.01
5	90	\$45.68	\$10.18	\$19.22	\$0.00	\$75.08

**Notes:**

---

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

<b>BULLDOZER/GRADER/SCRAPER</b>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

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

For apprentice rates see "Apprentice- LABORER"

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

For apprentice rates see "Apprentice- LABORER"

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

For apprentice rates see "Apprentice- LABORER"

<b>CARBIDE CORE DRILL OPERATOR</b>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
<i>LABORERS - ZONE 2</i>	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

<b>CARPENTER</b>	03/01/2016	\$37.10	\$9.80	\$16.82	\$0.00	\$63.72
<i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	09/01/2016	\$38.08	\$9.80	\$16.82	\$0.00	\$64.70
	03/01/2017	\$39.05	\$9.80	\$16.82	\$0.00	\$65.67
	09/01/2017	\$40.06	\$9.80	\$16.82	\$0.00	\$66.68
	03/01/2018	\$41.06	\$9.80	\$16.82	\$0.00	\$67.68
	09/01/2018	\$42.10	\$9.80	\$16.82	\$0.00	\$68.72
	03/01/2019	\$43.13	\$9.80	\$16.82	\$0.00	\$69.75



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$45.23	\$10.00	\$15.15	\$0.00	\$70.38
	12/01/2016	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	06/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
	12/01/2017	\$48.48	\$10.00	\$15.15	\$0.00	\$73.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

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

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

**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

**Notes:**

Steps are 750 hrs.

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

DEMO: ADZEMAN <i>LABORERS - ZONE 2</i>	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
---	------------	---------	--------	---------	--------	---------

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS LABORERS - ZONE 2	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 2	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 2	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER LABORERS - ZONE 2	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR OPERATING ENGINEERS LOCAL 4	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER PILE DRIVER LOCAL 56 (ZONE 2)	08/01/2015	\$60.34	\$9.80	\$18.17	\$0.00	\$88.31
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER PILE DRIVER LOCAL 56 (ZONE 2)	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) PILE DRIVER LOCAL 56 (ZONE 2)	08/01/2015	\$64.65	\$9.80	\$18.17	\$0.00	\$92.62
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) PILE DRIVER LOCAL 56 (ZONE 2)	08/01/2015	\$90.51	\$9.80	\$18.17	\$0.00	\$118.48
For apprentice rates see "Apprentice- PILE DRIVER"						
ELECTRICIAN ELECTRICIANS LOCAL 223	09/01/2015	\$38.31	\$8.40	\$11.28	\$0.00	\$57.99
	09/01/2016	\$39.21	\$8.90	\$11.51	\$0.00	\$59.62

**Classification**

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

**Apprentice - ELECTRICIAN - Local 223**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$15.32	\$0.00	\$0.46	\$0.00	\$15.78
2	42	\$16.09	\$0.00	\$0.48	\$0.00	\$16.57
3	45	\$17.24	\$8.40	\$0.52	\$0.00	\$26.16
4	48	\$18.39	\$8.40	\$3.36	\$0.00	\$30.15
5	50	\$19.16	\$8.40	\$3.47	\$0.00	\$31.03
6	55	\$21.07	\$8.40	\$3.75	\$0.00	\$33.22
7	60	\$22.99	\$8.40	\$4.03	\$0.00	\$35.42
8	65	\$24.90	\$8.40	\$4.31	\$0.00	\$37.61
9	70	\$26.82	\$8.40	\$5.28	\$0.00	\$40.50
10	75	\$28.73	\$8.40	\$4.86	\$0.00	\$41.99

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$15.68	\$0.00	\$0.47	\$0.00	\$16.15
2	42	\$16.47	\$0.00	\$0.49	\$0.00	\$16.96
3	45	\$17.64	\$8.90	\$0.53	\$0.00	\$27.07
4	48	\$18.82	\$8.90	\$3.42	\$0.00	\$31.14
5	50	\$19.61	\$8.90	\$3.55	\$0.00	\$32.06
6	55	\$21.57	\$8.90	\$3.83	\$0.00	\$34.30
7	60	\$23.53	\$8.90	\$4.12	\$0.00	\$36.55
8	65	\$25.49	\$8.90	\$4.39	\$0.00	\$38.78
9	70	\$27.45	\$8.90	\$4.68	\$0.00	\$41.03
10	75	\$29.41	\$8.90	\$4.96	\$0.00	\$43.27

**Notes:**  
Steps are 750 hours

**Apprentice to Journeyworker Ratio:2:3\*\*\***

ELEVATOR CONSTRUCTOR	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

**Classification**

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

**Apprentice - ELEVATOR CONSTRUCTOR - Local 4**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.27	\$14.43	\$0.00	\$0.00	\$41.70
2	55	\$29.99	\$14.43	\$14.96	\$0.00	\$59.38
3	65	\$35.44	\$14.43	\$14.96	\$0.00	\$64.83
4	70	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
5	80	\$43.62	\$14.43	\$14.96	\$0.00	\$73.01

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.93	\$15.28	\$0.00	\$0.00	\$43.21
2	55	\$30.72	\$15.28	\$15.71	\$0.00	\$61.71
3	65	\$36.31	\$15.28	\$15.71	\$0.00	\$67.30
4	70	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
5	80	\$44.69	\$15.28	\$15.71	\$0.00	\$75.68

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

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

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2016	\$41.03	\$10.00	\$14.90	\$0.00	\$65.93
	11/01/2016	\$41.62	\$10.00	\$14.90	\$0.00	\$66.52
	05/01/2017	\$42.50	\$10.00	\$14.90	\$0.00	\$67.40
	11/01/2017	\$43.23	\$10.00	\$14.90	\$0.00	\$68.13
	05/01/2018	\$43.94	\$10.00	\$14.90	\$0.00	\$68.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2016	\$42.47	\$10.00	\$14.90	\$0.00	\$67.37
	11/01/2016	\$43.07	\$10.00	\$14.90	\$0.00	\$67.97
	05/01/2017	\$43.96	\$10.00	\$14.90	\$0.00	\$68.86
	11/01/2017	\$44.69	\$10.00	\$14.90	\$0.00	\$69.59
	05/01/2018	\$45.41	\$10.00	\$14.90	\$0.00	\$70.31
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2016	\$21.88	\$10.00	\$14.90	\$0.00	\$46.78
	11/01/2016	\$22.23	\$10.00	\$14.90	\$0.00	\$47.13
	05/01/2017	\$22.76	\$10.00	\$14.90	\$0.00	\$47.66
	11/01/2017	\$23.18	\$10.00	\$14.90	\$0.00	\$48.08
	05/01/2018	\$23.61	\$10.00	\$14.90	\$0.00	\$48.51
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 223</i>	09/01/2015	\$38.31	\$8.40	\$11.28	\$0.00	\$57.99
	09/01/2016	\$39.21	\$8.90	\$11.51	\$0.00	\$59.62
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE <i>LOCAL 223</i> / COMMISSIONING <i>ELECTRICIANS</i>	09/01/2015	\$32.56	\$8.40	\$9.59	\$0.00	\$50.55
	09/01/2016	\$33.33	\$8.90	\$9.78	\$0.00	\$52.01
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$36.71	\$10.00	\$15.15	\$0.00	\$61.86
	12/01/2016	\$37.75	\$10.00	\$15.15	\$0.00	\$62.90
	06/01/2017	\$38.59	\$10.00	\$15.15	\$0.00	\$63.74
	12/01/2017	\$39.42	\$10.00	\$15.15	\$0.00	\$64.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	06/01/2016	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
	12/01/2016	\$20.50	\$7.45	\$12.65	\$0.00	\$40.60
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE II</i>	03/01/2016	\$39.82	\$9.80	\$17.62	\$0.00	\$67.24

**Apprentice - FLOORCOVERER - Local 2168 Zone II**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.91	\$9.80	\$1.79	\$0.00	\$31.50
2	55	\$21.90	\$9.80	\$1.79	\$0.00	\$33.49
3	60	\$23.89	\$9.80	\$12.25	\$0.00	\$45.94
4	65	\$25.88	\$9.80	\$12.25	\$0.00	\$47.93
5	70	\$27.87	\$9.80	\$14.04	\$0.00	\$51.71
6	75	\$29.87	\$9.80	\$14.04	\$0.00	\$53.71
7	80	\$31.86	\$9.80	\$15.83	\$0.00	\$57.49
8	85	\$33.85	\$9.80	\$15.83	\$0.00	\$59.48

**Notes:**

Steps are 750 hrs.

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

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 1333</i>	06/01/2016	\$35.58	\$10.70	\$8.25	\$0.00	\$54.53

**Classification**

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

**Apprentice - GLAZIER - Local 1333**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.79	\$10.70	\$1.00	\$0.00	\$29.49
2	56	\$20.01	\$10.70	\$1.00	\$0.00	\$31.71
3	63	\$22.24	\$10.70	\$1.50	\$0.00	\$34.44
4	69	\$24.46	\$10.70	\$1.50	\$0.00	\$36.66
5	75	\$26.69	\$10.70	\$2.00	\$0.00	\$39.39
6	81	\$28.91	\$10.70	\$2.00	\$0.00	\$41.61
7	88	\$31.13	\$10.70	\$8.00	\$0.00	\$49.83
8	94	\$33.36	\$10.70	\$8.00	\$0.00	\$52.06

**Notes:**

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

HOISTING ENGINEER/CRANES/GRADALLS	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63

**Classification**

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

**Apprentice - OPERATING ENGINEERS - Local 4**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.33	\$10.00	\$0.00	\$0.00	\$34.33
2	60	\$26.54	\$10.00	\$15.15	\$0.00	\$51.69
3	65	\$28.75	\$10.00	\$15.15	\$0.00	\$53.90
4	70	\$30.96	\$10.00	\$15.15	\$0.00	\$56.11
5	75	\$33.17	\$10.00	\$15.15	\$0.00	\$58.32
6	80	\$35.38	\$10.00	\$15.15	\$0.00	\$60.53
7	85	\$37.60	\$10.00	\$15.15	\$0.00	\$62.75
8	90	\$39.81	\$10.00	\$15.15	\$0.00	\$64.96

**Effective Date - 12/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$25.01	\$10.00	\$0.00	\$0.00	\$35.01
2	60	\$27.29	\$10.00	\$15.15	\$0.00	\$52.44
3	65	\$29.56	\$10.00	\$15.15	\$0.00	\$54.71
4	70	\$31.84	\$10.00	\$15.15	\$0.00	\$56.99
5	75	\$34.11	\$10.00	\$15.15	\$0.00	\$59.26
6	80	\$36.38	\$10.00	\$15.15	\$0.00	\$61.53
7	85	\$38.66	\$10.00	\$15.15	\$0.00	\$63.81
8	90	\$40.93	\$10.00	\$15.15	\$0.00	\$66.08

**Notes:**

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

HVAC (DUCTWORK) 04/01/2016 \$35.60 \$10.70 \$14.79 \$1.83 \$62.92  
 SHEETMETAL WORKERS LOCAL 17 - B

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) 09/01/2015 \$38.31 \$8.40 \$11.28 \$0.00 \$57.99  
 ELECTRICIANS LOCAL 223  
 09/01/2016 \$39.21 \$8.90 \$11.51 \$0.00 \$59.62

For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) 04/01/2016 \$35.60 \$10.70 \$14.79 \$1.83 \$62.92  
 SHEETMETAL WORKERS LOCAL 17 - B

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (TESTING AND BALANCING -WATER) 03/01/2016 \$37.38 \$11.00 \$16.10 \$0.00 \$64.48  
 PLUMBERS & PIPEFITTERS LOCAL 51

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

HVAC MECHANIC 03/01/2016 \$37.38 \$11.00 \$16.10 \$0.00 \$64.48  
 PLUMBERS & PIPEFITTERS LOCAL 51

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

HYDRAULIC DRILLS 06/01/2016 \$32.40 \$7.45 \$12.65 \$0.00 \$52.50  
 LABORERS - ZONE 2  
 12/01/2016 \$33.15 \$7.45 \$12.65 \$0.00 \$53.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
INSULATOR (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	09/01/2015	\$43.81	\$11.50	\$13.80	\$0.00	\$69.11
	09/01/2016	\$45.81	\$11.50	\$13.80	\$0.00	\$71.11
	09/01/2017	\$47.81	\$11.50	\$13.80	\$0.00	\$73.11
	09/01/2018	\$50.06	\$11.50	\$13.80	\$0.00	\$75.36
	09/01/2019	\$52.56	\$11.50	\$13.80	\$0.00	\$77.86

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

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

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

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

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

**Notes:**

Steps are 1 year

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

IRONWORKER/WELDER IRONWORKERS LOCAL 37	03/16/2016	\$34.71	\$7.70	\$16.00	\$0.00	\$58.41
---	------------	---------	--------	---------	--------	---------

**Apprentice - IRONWORKER - Local 37**

**Effective Date - 03/16/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	70	\$24.30	\$7.70	\$16.00	\$0.00	\$48.00
2	75	\$26.03	\$7.70	\$16.00	\$0.00	\$49.73
3	80	\$27.77	\$7.70	\$16.00	\$0.00	\$51.47
4	85	\$29.50	\$7.70	\$16.00	\$0.00	\$53.20
5	90	\$31.24	\$7.70	\$16.00	\$0.00	\$54.94
6	95	\$32.97	\$7.70	\$16.00	\$0.00	\$56.67

**Notes:**

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

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

**Apprentice - LABORER - Zone 2**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.99	\$7.45	\$12.65	\$0.00	\$39.09
2	70	\$22.16	\$7.45	\$12.65	\$0.00	\$42.26
3	80	\$25.32	\$7.45	\$12.65	\$0.00	\$45.42
4	90	\$28.49	\$7.45	\$12.65	\$0.00	\$48.59

**Effective Date - 12/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$19.44	\$7.45	\$12.65	\$0.00	\$39.54
2	70	\$22.68	\$7.45	\$12.65	\$0.00	\$42.78
3	80	\$25.92	\$7.45	\$12.65	\$0.00	\$46.02
4	90	\$29.16	\$7.45	\$12.65	\$0.00	\$49.26

**Notes:**

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

LABORER: CARPENTER TENDER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 2	12/01/2015	\$31.35	\$7.45	\$12.60	\$0.00	\$51.40
--	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER: MULTI-TRADE TENDER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS - ZONE 2	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50

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

LASER BEAM OPERATOR LABORERS - ZONE 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2016	\$38.08	\$10.18	\$17.70	\$0.00	\$65.96
	08/01/2016	\$38.78	\$10.18	\$17.78	\$0.00	\$66.74
	02/01/2017	\$39.24	\$10.18	\$17.78	\$0.00	\$67.20

**Classification**

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

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

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

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

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.39	\$10.18	\$17.78	\$0.00	\$47.35
2	60	\$23.27	\$10.18	\$17.78	\$0.00	\$51.23
3	70	\$27.15	\$10.18	\$17.78	\$0.00	\$55.11
4	80	\$31.02	\$10.18	\$17.78	\$0.00	\$58.98
5	90	\$34.90	\$10.18	\$17.78	\$0.00	\$62.86

**Notes:**

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

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

**Classification**

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

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

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

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

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.40	\$10.18	\$19.22	\$0.00	\$54.80
2	60	\$30.48	\$10.18	\$19.22	\$0.00	\$59.88
3	70	\$35.56	\$10.18	\$19.22	\$0.00	\$64.96
4	80	\$40.64	\$10.18	\$19.22	\$0.00	\$70.04
5	90	\$45.72	\$10.18	\$19.22	\$0.00	\$75.12

**Notes:**

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

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 2) <i>MILLWRIGHTS LOCAL 1121 - Zone 2</i>	04/01/2015	\$34.69	\$9.80	\$16.21	\$0.00	\$60.70
---	------------	---------	--------	---------	--------	---------

**Apprentice - MILLWRIGHT - Local 1121 Zone 2**

**Effective Date - 04/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$19.08	\$9.80	\$4.48	\$0.00	\$33.36
2	65	\$22.55	\$9.80	\$13.36	\$0.00	\$45.71
3	75	\$26.02	\$9.80	\$14.18	\$0.00	\$50.00
4	85	\$29.49	\$9.80	\$14.99	\$0.00	\$54.28

**Notes:**

Steps are 2,000 hours

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

<b>MORTAR MIXER</b> <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						

<b>OILER (OTHER THAN TRUCK CRANES,GRADALLS)</b> <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$22.41	\$10.00	\$15.15	\$0.00	\$47.56
	12/01/2016	\$23.06	\$10.00	\$15.15	\$0.00	\$48.21
	06/01/2017	\$23.57	\$10.00	\$15.15	\$0.00	\$48.72
	12/01/2017	\$24.09	\$10.00	\$15.15	\$0.00	\$49.24
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

<b>OILER (TRUCK CRANES, GRADALLS)</b> <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$26.29	\$10.00	\$15.15	\$0.00	\$51.44
	12/01/2016	\$27.04	\$10.00	\$15.15	\$0.00	\$52.19
	06/01/2017	\$27.64	\$10.00	\$15.15	\$0.00	\$52.79
	12/01/2017	\$28.25	\$10.00	\$15.15	\$0.00	\$53.40
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

<b>OTHER POWER DRIVEN EQUIPMENT - CLASS II</b> <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

<b>PAINTER (BRIDGES/TANKS)</b> <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

**Classification**

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

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

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

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

**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

**Notes:**

Steps are 750 hrs.

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

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

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

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

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

**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.68	\$7.85	\$0.00	\$0.00	\$28.53
2	55	\$22.75	\$7.85	\$3.66	\$0.00	\$34.26
3	60	\$24.82	\$7.85	\$3.99	\$0.00	\$36.66
4	65	\$26.88	\$7.85	\$4.32	\$0.00	\$39.05
5	70	\$28.95	\$7.85	\$14.11	\$0.00	\$50.91
6	75	\$31.02	\$7.85	\$14.44	\$0.00	\$53.31
7	80	\$33.09	\$7.85	\$14.77	\$0.00	\$55.71
8	90	\$37.22	\$7.85	\$15.44	\$0.00	\$60.51

**Notes:**  
Steps are 750 hrs.

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

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

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

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

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

**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.71	\$7.85	\$0.00	\$0.00	\$27.56
2	55	\$21.68	\$7.85	\$3.66	\$0.00	\$33.19
3	60	\$23.65	\$7.85	\$3.99	\$0.00	\$35.49
4	65	\$25.62	\$7.85	\$4.32	\$0.00	\$37.79
5	70	\$27.59	\$7.85	\$14.11	\$0.00	\$49.55
6	75	\$29.57	\$7.85	\$14.44	\$0.00	\$51.86
7	80	\$31.54	\$7.85	\$14.77	\$0.00	\$54.16
8	90	\$35.48	\$7.85	\$15.44	\$0.00	\$58.77

**Notes:**

Steps are 750 hrs.

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

PAINTER (TRAFFIC MARKINGS)	06/01/2016	\$31.65	\$7.45	\$12.65	\$0.00	\$51.75
LABORERS - ZONE 2	12/01/2016	\$32.40	\$7.45	\$12.65	\$0.00	\$52.50
For Apprentice rates see "Apprentice- LABORER"						
PAINTER / TAPER (BRUSH, NEW) *	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
* If 30% or more of surfaces to be painted are new construction,	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

**Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW**

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

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

**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.98	\$7.85	\$0.00	\$0.00	\$27.83
2	55	\$21.98	\$7.85	\$3.66	\$0.00	\$33.49
3	60	\$23.98	\$7.85	\$3.99	\$0.00	\$35.82
4	65	\$25.97	\$7.85	\$4.32	\$0.00	\$38.14
5	70	\$27.97	\$7.85	\$14.11	\$0.00	\$49.93
6	75	\$29.97	\$7.85	\$14.44	\$0.00	\$52.26
7	80	\$31.97	\$7.85	\$14.77	\$0.00	\$54.59
8	90	\$35.96	\$7.85	\$15.44	\$0.00	\$59.25

**Notes:**

Steps are 750 hrs.

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

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2016	\$37.07	\$7.85	\$16.10	\$0.00	\$61.02
PAINTERS LOCAL 35 - ZONE 2	07/01/2016	\$38.02	\$7.85	\$16.10	\$0.00	\$61.97
	01/01/2017	\$38.97	\$7.85	\$16.10	\$0.00	\$62.92

**Classification**

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

**Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT**

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

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

**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.01	\$7.85	\$0.00	\$0.00	\$26.86
2	55	\$20.91	\$7.85	\$3.66	\$0.00	\$32.42
3	60	\$22.81	\$7.85	\$3.99	\$0.00	\$34.65
4	65	\$24.71	\$7.85	\$4.32	\$0.00	\$36.88
5	70	\$26.61	\$7.85	\$14.11	\$0.00	\$48.57
6	75	\$28.52	\$7.85	\$14.44	\$0.00	\$50.81
7	80	\$30.42	\$7.85	\$14.77	\$0.00	\$53.04
8	90	\$34.22	\$7.85	\$15.44	\$0.00	\$57.51

**Notes:**  
Steps are 750 hrs.

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

PANEL & PICKUP TRUCKS DRIVER  
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B  
12/01/2012   \$30.28   \$9.07   \$8.00   \$0.00   \$47.35

PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)  
PILE DRIVER LOCAL 56 (ZONE 2)  
For apprentice rates see "Apprentice- PILE DRIVER"  
09/01/2013   \$37.01   \$9.80   \$18.17   \$0.00   \$64.98

PILE DRIVER  
PILE DRIVER LOCAL 56 (ZONE 2)  
09/01/2013   \$37.01   \$9.80   \$18.17   \$0.00   \$64.98

**Apprentice - PILE DRIVER - Local 56 Zone 2**

**Effective Date - 09/01/2013**

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\$50.05/2\$54.25/3\$58.46/4\$60.56/5\$62.66/6\$62.66/7\$66.87/8\$66.87

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER LABORERS - ZONE 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
PLUMBER & PIPEFITTER PLUMBERS & PIPEFITTERS LOCAL 51	03/01/2016	\$37.38	\$11.00	\$16.10	\$0.00	\$64.48

**Apprentice - PLUMBER/PIPEFITTER - Local 51**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$14.95	\$11.00	\$1.50	\$0.00	\$27.45
2	50	\$18.69	\$11.00	\$1.50	\$0.00	\$31.19
3	60	\$22.43	\$11.00	\$7.85	\$0.00	\$41.28
4	70	\$26.17	\$11.00	\$11.66	\$0.00	\$48.83
5	80	\$29.90	\$11.00	\$14.20	\$0.00	\$55.10

**Notes:**  
Steps 2000hrs. Prior 9/1/05; 40/40/45/50/55/60/65/75/80/85

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

PNEUMATIC CONTROLS (TEMP.) PLUMBERS & PIPEFITTERS LOCAL 51	03/01/2016	\$37.38	\$11.00	\$16.10	\$0.00	\$64.48
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR LABORERS - ZONE 2	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER LABORERS - ZONE 2	06/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
	12/01/2016	\$33.40	\$7.45	\$12.65	\$0.00	\$53.50
For apprentice rates see "Apprentice- LABORER"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE OPERATING ENGINEERS LOCAL 4	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) OPERATING ENGINEERS LOCAL 4	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 4	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER TEAMSTERS LOCAL 59	06/01/2008	\$19.00	\$5.10	\$4.21	\$0.00	\$28.31

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	04/01/2011	\$24.24	\$8.67	\$15.51	\$0.00	\$48.42
---	------------	---------	--------	---------	--------	---------

RESIDENTIAL WOOD FRAME CARPENTER **	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81
-------------------------------------	------------	---------	--------	--------	--------	---------

\*\* The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. *CARPENTERS -ZONE 2 (Residential Wood)*

As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.

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

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

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

**Notes:**

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

RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

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

**Classification**

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

**Apprentice - ROOFER - Local 33**

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

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

**Notes:** \*\* 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1  
Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

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

ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33	02/01/2016	\$40.36	\$11.00	\$12.90	\$0.00	\$64.26
--	------------	---------	---------	---------	--------	---------

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - B	04/01/2016	\$35.60	\$10.70	\$14.79	\$1.83	\$62.92
--	------------	---------	---------	---------	--------	---------

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

**Effective Date - 04/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$14.24	\$10.70	\$3.51	\$0.87	\$29.32
2	45	\$16.02	\$10.70	\$3.95	\$0.94	\$31.61
3	50	\$17.80	\$10.70	\$9.33	\$1.15	\$38.98
4	55	\$19.58	\$10.70	\$9.33	\$1.21	\$40.82
5	60	\$21.36	\$10.70	\$12.08	\$1.32	\$45.46
6	65	\$23.14	\$10.70	\$12.31	\$1.38	\$47.53
7	70	\$24.92	\$10.70	\$12.54	\$1.44	\$49.60
8	75	\$26.70	\$10.70	\$12.77	\$1.51	\$51.68
9	80	\$28.48	\$10.70	\$12.99	\$1.57	\$53.74
10	85	\$30.26	\$10.70	\$13.22	\$1.63	\$55.81

**Notes:**

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

SIGN ERECTOR PAINTERS LOCAL 35 - ZONE 2	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
--	------------	---------	--------	--------	--------	---------

**Classification**

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

**Apprentice - SIGN ERECTOR - Local 35 Zone 2**

**Effective Date - 06/01/2013**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

**Notes:**  
Steps are 4 mos.

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

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.73	\$10.41	\$10.08	\$0.00	\$53.22
	08/01/2016	\$32.73	\$10.91	\$10.08	\$0.00	\$53.72
	12/01/2016	\$32.73	\$10.91	\$10.89	\$0.00	\$54.53
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2</i>	03/01/2016	\$48.99	\$8.67	\$16.80	\$0.00	\$74.46
	10/01/2016	\$49.98	\$8.67	\$16.80	\$0.00	\$75.45
	03/01/2017	\$50.88	\$8.67	\$16.80	\$0.00	\$76.35

**Apprentice - SPRINKLER FITTER - Local 550 (Section B) Zone 2**

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.15	\$8.67	\$8.55	\$0.00	\$34.37
2	40	\$19.60	\$8.67	\$8.55	\$0.00	\$36.82
3	45	\$22.05	\$8.67	\$8.55	\$0.00	\$39.27
4	50	\$24.50	\$8.67	\$8.55	\$0.00	\$41.72
5	55	\$26.94	\$8.67	\$8.55	\$0.00	\$44.16
6	60	\$29.39	\$8.67	\$8.55	\$0.00	\$46.61
7	65	\$31.84	\$8.67	\$8.55	\$0.00	\$49.06
8	70	\$34.29	\$8.67	\$8.55	\$0.00	\$51.51
9	75	\$36.74	\$8.67	\$8.55	\$0.00	\$53.96
10	80	\$39.19	\$8.67	\$8.55	\$0.00	\$56.41

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.49	\$8.67	\$8.55	\$0.00	\$34.71
2	40	\$19.99	\$8.67	\$8.55	\$0.00	\$37.21
3	45	\$22.49	\$8.67	\$8.55	\$0.00	\$39.71
4	50	\$24.99	\$8.67	\$8.55	\$0.00	\$42.21
5	55	\$27.49	\$8.67	\$8.55	\$0.00	\$44.71
6	60	\$29.99	\$8.67	\$8.55	\$0.00	\$47.21
7	65	\$32.49	\$8.67	\$8.55	\$0.00	\$49.71
8	70	\$34.99	\$8.67	\$8.55	\$0.00	\$52.21
9	75	\$37.49	\$8.67	\$8.55	\$0.00	\$54.71
10	80	\$39.98	\$8.67	\$8.55	\$0.00	\$57.20

**Notes:** Apprentice entered prior 9/30/10:  
40/45/50/55/60/65/70/75/80/85  
Steps are 850 hours

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

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 223</i>	09/01/2015	\$32.56	\$8.40	\$9.59	\$0.00	\$50.55
	09/01/2016	\$33.33	\$8.90	\$9.78	\$0.00	\$52.01

**Classification**

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

**Apprentice - TELECOMMUNICATION TECHNICIAN - Local 223**

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

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

**Notes:** See Electrician Apprentice Wages  
Steps are 750hrs  
Telecom Apprentice Wages shall be the same as the Electrician Apprentice Wages

**Apprentice to Journeyworker Ratio:2:3**

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

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

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

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

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

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.85	\$10.18	\$19.22	\$0.00	\$54.25
2	60	\$29.82	\$10.18	\$19.22	\$0.00	\$59.22
3	70	\$34.79	\$10.18	\$19.22	\$0.00	\$64.19
4	80	\$39.76	\$10.18	\$19.22	\$0.00	\$69.16
5	90	\$44.73	\$10.18	\$19.22	\$0.00	\$74.13

**Notes:**

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

TEST BORING DRILLER LABORERS - FOUNDATION AND MARINE	06/01/2016	\$37.45	\$7.45	\$13.75	\$0.00	\$58.65
	12/01/2016	\$38.45	\$7.45	\$13.75	\$0.00	\$59.65

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER LABORERS - FOUNDATION AND MARINE	06/01/2016	\$36.17	\$7.45	\$13.75	\$0.00	\$57.37
	12/01/2016	\$37.17	\$7.45	\$13.75	\$0.00	\$58.37

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER LABORERS - FOUNDATION AND MARINE	06/01/2016	\$36.05	\$7.45	\$13.75	\$0.00	\$57.25
	12/01/2016	\$37.05	\$7.45	\$13.75	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$33.02	\$10.41	\$10.08	\$0.00	\$53.51
	08/01/2016	\$33.02	\$10.91	\$10.08	\$0.00	\$54.01
	12/01/2016	\$33.02	\$10.91	\$10.89	\$0.00	\$54.82
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2016	\$48.33	\$7.45	\$14.15	\$0.00	\$69.93
	12/01/2016	\$49.33	\$7.45	\$14.15	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2016	\$50.33	\$7.45	\$14.15	\$0.00	\$71.93
	12/01/2016	\$51.33	\$7.45	\$14.15	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2016	\$40.40	\$7.45	\$14.15	\$0.00	\$62.00
	12/01/2016	\$41.40	\$7.45	\$14.15	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2016	\$42.40	\$7.45	\$14.15	\$0.00	\$64.00
	12/01/2016	\$43.40	\$7.45	\$14.15	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2016	\$31.90	\$7.45	\$12.65	\$0.00	\$52.00
	12/01/2016	\$32.65	\$7.45	\$12.65	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS &amp; PIPEFITTERS LOCAL 51</i>	03/01/2016	\$37.38	\$11.00	\$16.10	\$0.00	\$64.48
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
<b>Outside Electrical - East</b>						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$26.11	\$7.25	\$1.78	\$0.00	\$35.14
	08/28/2016	\$26.61	\$7.50	\$1.80	\$0.00	\$35.91
	09/03/2017	\$27.14	\$7.75	\$1.81	\$0.00	\$36.70
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$36.98	\$7.25	\$8.12	\$0.00	\$52.35
	08/28/2016	\$37.70	\$7.50	\$8.87	\$0.00	\$54.07
	09/03/2017	\$38.45	\$7.75	\$9.53	\$0.00	\$55.73
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$30.46	\$7.25	\$8.34	\$0.00	\$46.05
	08/28/2016	\$31.05	\$7.50	\$8.89	\$0.00	\$47.44
	09/03/2017	\$31.66	\$7.75	\$9.44	\$0.00	\$48.85
For apprentice rates see "Apprentice- LINEMAN"						

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$23.93	\$7.25	\$1.72	\$0.00	\$32.90
	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$36.98	\$7.25	\$12.29	\$0.00	\$56.52
	08/28/2016	\$37.70	\$7.50	\$12.95	\$0.00	\$58.15
	09/03/2017	\$38.45	\$7.75	\$13.61	\$0.00	\$59.81
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$32.63	\$7.25	\$9.05	\$0.00	\$48.93
	08/28/2016	\$33.26	\$7.50	\$9.63	\$0.00	\$50.39
	09/03/2017	\$33.92	\$7.75	\$10.21	\$0.00	\$51.88
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$23.93	\$7.25	\$1.72	\$0.00	\$32.90
	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$19.58	\$7.25	\$1.59	\$0.00	\$28.42
	08/28/2016	\$19.96	\$7.50	\$1.60	\$0.00	\$29.06
	09/03/2017	\$20.35	\$7.75	\$1.61	\$0.00	\$29.71
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$43.51	\$7.25	\$15.06	\$0.00	\$65.82
	08/28/2016	\$44.35	\$7.50	\$15.83	\$0.00	\$67.68
	09/03/2017	\$45.23	\$7.75	\$16.61	\$0.00	\$69.59

**Classification**

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

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

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

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

**Effective Date - 08/28/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.61	\$7.50	\$3.30	\$0.00	\$37.41
2	65	\$28.83	\$7.50	\$3.36	\$0.00	\$39.69
3	70	\$31.05	\$7.50	\$3.43	\$0.00	\$41.98
4	75	\$33.26	\$7.50	\$5.00	\$0.00	\$45.76
5	80	\$35.48	\$7.50	\$5.06	\$0.00	\$48.04
6	85	\$37.70	\$7.50	\$5.13	\$0.00	\$50.33
7	90	\$39.92	\$7.50	\$7.20	\$0.00	\$54.62

**Notes:**

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

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

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

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

TREE TRIMMER  
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104      01/31/2016      \$18.51      \$3.55      \$0.00      \$0.00      \$22.06

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.

TREE TRIMMER GROUNDMAN  
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104      01/31/2016      \$16.32      \$3.55      \$0.00      \$0.00      \$19.87

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.

Additional Apprentices Information:

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

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

All steps are six months (1000 hours.)

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

\*\* Multiple ratios are listed in the comment field.

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

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

---

*APPENDIX B*

*TANK INSPECTION REPORT 2015*





***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS***

***WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS***

***JULY 23, 2015***



***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED STEEL  
SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS***

***WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS***

***JULY 23, 2015***

***SCOPE:***

On July 23, 2015, Underwater Solutions Inc. inspected the Lawrence Road 500,000-gallon spheroid welded steel potable water storage tank to provide information regarding the overall condition and integrity of this welded steel structure and removed the sediment accumulation found on the floor.

***EXTERIOR INSPECTION:***

The entire exterior of this water storage tank and all components was inspected to include walls and coating, roof components, anchor bolts, foundation, manway, and ladders.

***Walls And Coating***

All exterior surfaces of the welded steel pedestal were found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to the exterior welded steel surfaces of the pedestal was found having good adhesion value, and with an average dry film thickness of 12.33 mils.

All interior surfaces of the welded steel pedestal appeared sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to the interior welded steel surfaces of the pedestal was found having good adhesion value, and with an average dry film thickness of 14.02 mils.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 2***

The 11” wide by 1-1/2” thick steel plate welded to the base of the pedestal was found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to this steel base plate was found having mostly good adhesion value, and the average dry film thickness of the coating applied to the exterior surfaces of this steel plate is 8.25 mils. The average dry film thickness of the coating applied to the interior surfaces of this steel plate is 12.5 mils.

Mild coating fatigue and minimal steel exposure was observed throughout less than 5% of the corner edges on both the interior and exterior surfaces of this steel base plate. Although very mild surface corrosion was evident within these areas showing minimal steel exposure, no obvious fatigue or deterioration of these steel surfaces was evident.

All exterior surfaces of the welded steel tank bowl were found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to the bowl base, wall panels and vertical welds between panels extending from the junction of where the pedestal and tank bowl meet, up to a horizontal weld that spans the circumference of the tank at the approximate mid-point of the bowl, appeared to have good adhesion value, and with an average dry film thickness of 16.56 mils.

The protective coating applied to the wall panels and welds extending from the mid-point horizontal weld up to the horizontal weld at the junction of the side wall panels to the 24’ diameter steel plate that forms the tank roof was found having fair adhesion value.

Cracking and lifting of the protective coating was observed throughout approximately 50% to 75% of the length of the vertical welds between the side wall panels, while cracking and lifting of the protective coating was observed throughout the side wall panels for a distance of 3” to 6” to each side of these vertical welds, resulting in exposure of the underlying steel.

Although surface corrosion exists within these areas showing coating fatigue and steel exposure, no obvious fatigue of the steel panels or the vertical welds between these panels was evident at this time.

The average dry film thickness of the protective coating applied to the sidewall panels showing good adhesion value is 11.2 mils.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 3***

The average dry film thickness of the protective coating applied to the adjacent areas showing coating fatigue is 10.46 mils.

The protective coating applied to the 24' diameter steel plates that form the center of the roof was found having good adhesion value, and with an average dry film thickness of 13.46 mils.

The American Water Works Association (AWWA) recommends a dry film thickness of 7.0 mils to 10.0 mils be applied to the exterior of welded steel potable water storage tanks to provide adequate protection for welded steel surfaces.

An accumulation of mildew throughout all elevations and bowl base reduces the aesthetics of this potable water storage tank.

*Roof Components*

The 42" tall welded steel angle iron safety rails installed within the center of the roof appeared sound and properly installed at this time.

The protective coating applied to these steel safety railings was found having fair adhesion value at this time.

Although the average dry film thickness of the protective coating applied to these steel safety railings is 10.02 mils and meets the specifications set by the AWWA, adhesion loss of the coating was observed throughout less than 5% of these surfaces, resulting in exposure of the underlying steel.

No obvious fatigue or deterioration of these safety railing was found within the areas of steel exposure, rather mild surface corrosion exists at this time.

Six, 2" diameter rigging hole penetrations within the roof dome are secured with rubber caps and stainless steel band clamps, preventing access to the interior of the tank.

The 30" inside diameter steel hatch that provides access to the tank interior through the roof was found in good working condition and secured with a lock, preventing unwanted access to the tank interior.

The protective coating applied to the inner surfaces of this hatch was found having fair adhesion value at this time, as blotch rusting was observed throughout the outer circumference of the hatch and at the top edge of the hatch trunk where the hatch and trunk contact. The average dry film thickness of the protective coating applied these surfaces is 10.27 mils.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 4***

The protective coating applied to the outer surfaces of this hatch was found having good adhesion value, and with an average dry film thickness of 12.72 mils.

The 30" inside diameter steel hatch that provides access from the center access tube to the roof was found in good working condition, yet is not secured with a lock at this time.

The protective coating applied to the inner surfaces of this hatch was found having fair adhesion value at this time, as blotch rusting was observed throughout the outer circumference of the hatch and at the top edge of the hatch trunk where the hatch and trunk contact. The average dry film thickness of the protective coating applied these surfaces is 12.0 mils.

The protective coating applied the outer surfaces of this hatch was found having good adhesion value, and with an average dry film thickness of 17.96 mils.

The vent penetrates the center of an aluminum cap bolted to a 24" inside diameter interior access hatch, located approximately 60" from the center of the roof having a 10" inside diameter and stands 34" tall.

A 41" outside diameter aluminum cap and the stainless steel screen installed around the circumference of the vent remains secure, and the stainless steel frost proof break screen located at the underside of the vent moves freely and is free of obstructions at this time.

The rubber boot and associated stainless steel band clamps installed on the expansion joint, located at the penetration where the 42" diameter steel access tube extends through the roof, appeared to be properly installed and free of obvious fatigue or failures at the time this inspection was completed.

***Anchor Bolts***

Eighteen, 2" diameter anchor bolts extend up from the concrete foundation through an 11" wide by 1-1/2" thick steel plate welded to the pedestal base into 12-1/2" tall steel chairs welded to the pedestal base.

Each anchor bolt was found having one nut securely installed, and the protective coating applied to this steel hardware was found having good adhesion value and with an average dry film thickness of 7.58 mils. Although mild rust staining was observed on several of the anchor bolts where the bolts pass through their associated chairs, no obvious exposure of the underlying steel bolt surfaces was evident.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 5***

*Foundation*

The exposed surfaces of the 4” tall by 4” wide concrete foundation were found to be un-coated, yet appeared sound and free of cracks, spalls or other obvious fatigue of the concrete at this time.

*Manway*

One 24” inside diameter steel manway penetrates the center access tube, located approximately 12” above the base of the bowl and is securely installed and free of obvious leakage.

The protective coating applied to the surfaces of the steel lid was found having good adhesion value, and with an average dry film thickness of 11.2 mils, while blotch rusting exists on the securing hardware due to a decline in coating film thickness.

*Ladders*

Three welded steel ladders, each having a galvanized steel fall prevention device installed throughout their lengths, provide safe access from the interior of the pedestal to the roof of the tank.

The bottom ladder extends up from the pedestal floor to a steel platform and is supported to the pedestal wall with four sets of welded standoffs. The protective coating applied to this ladder was found having good adhesion value, and with an average dry film thickness of 8.27 mils.

The middle ladder extends up a platform to second platform located below the bowl base and is supported to the pedestal wall with eight sets of welded standoffs. The protective coating applied to this ladder was found having good adhesion value, and with an average dry film thickness of 23.05 mils.

The top ladder extends up from the platform located below the bowl base, through the center access tube to the roof and is supported to the center access tube with eight sets of welded standoffs. The protective coating applied to this ladder was found having good adhesion value, and with an average dry film thickness of 12.0 mils.

The galvanized steel cable type fall prevention device installed on each ladder was found to be un-coated. All three fall prevention devices were found to be properly installed and in good working condition at this time.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 6***

*Overflow*

An 8" inside diameter overflow steel pipe penetrates the center access tube, located approximately 66" below the top of the tank and turns 90° and extends down to within 24" of the pedestal floor and turns 90° and penetrates the pedestal wall to the exterior of the structure. This pipe extends 24" and turns 90° directing this pipe down and terminates 16" above the 13" inside diameter of the bell end of an 8" inside diameter ductile iron pipe that continues down and penetrates the ground.

This overflow pipe was free of obvious obstructions and with a galvanized steel screen installed at its end, preventing access to the interior of the pipe/tank.

The protective coating applied to this steel piping was found having good adhesion value, and with an average dry film thickness of 12.3 mils.

***INTERIOR INSPECTION:***

The entire interior of this water storage tank was inspected to include sediment accumulations, floor, manway, piping, walls and coating, center access tube, interior ladder, cathodic protection system, overhead, overflow and aesthetic water quality.

*Sediment Accumulations*

A uniform layer of accumulated precipitate was found on all floor surfaces, averaging 12" in depth.

After completing this inspection, all precipitate was vacuumed from the floor.

*Floor*

After removing the accumulated precipitate, the welded steel floor surfaces were inspected and found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these surfaces was found having good adhesion value, and with an average dry film thickness of 14.77 mils, providing adequate protection for these welded steel surfaces.

Mild staining exists throughout the entire floor due to the accumulation of precipitate.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 7***

*Manway*

One, 24 inside diameter manway penetrates the center access tube, located approximately 12” above the floor (bowl base) with a 28” outside diameter steel lid that was found securely installed and free of obvious leakage.

The protective coating applied to these steel surfaces was found having good adhesion value, and with an average dry film thickness of 11.56 mils.

*Piping*

One steel pipe penetrates the center access tube approximately 24” above the floor (bowl base), having a 12” inside diameter. This pipe extends into the tank through a 45° elbow, directing this pipe up through a series of bolted flanges to a four way cross fitting, located 36” above the floor. Each side of this four way fitting was found having a stainless steel grate that were free of obvious obstructions and without flow at this time.

The 12” inside diameter pipe continues upward and is supported to the center access tube with three welded and bolted standoffs and terminates approximately 30’ above the floor with a blind flange installed at its top.

The 3/4" diameter air bleeder hole within the center of the blind flange was free of obvious obstructions at this time.

Two, 8” inside diameter pipes extend out from the 12” inside diameter pipe, located approximately 23’ above the tank floor. Each 8” inside diameter pipe extends outward approximately 6” to bolted flanges with rubber check valves installed at their ends. Two 8” inside diameter pipes extend out from the 12” inside diameter pipe, located approximately 29’ above the tank floor and extend outward 6” through 45° elbows directed up to bolted flanges with rubber check valves installed at their ends.

The protective coating applied to this piping was found having good adhesion value, and with an average dry film thickness of 11.4 mils.

Each rubber influent check valve was free of obvious obstructions and had flow entering the tank at the time of this inspection.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 8***

A 1" inside diameter bronze valve penetrates the 12" inside diameter pipe approximately 24" above the floor and was found in the open position. A 1" inside diameter pipe that extends inward approximately 60" and turns down and rest of the floor and is open at its end and was free of obvious obstructions and with flow entering the tank at the time of this inspection.

A second pipe penetrates the floor approximately 4" from the center access tube, having a 2-1/4" inside diameter and is flush with the floor. This pipe was free of obvious obstructions and was without flow at this time, and is the final drainpipe for this tank.

A third pipe penetrates the floor approximately 2" from the center access tube, having a 4" inside diameter and is flush with the floor and was found secured with a plug.

*Walls And Coating*

The interior walls of the tank were inspected beginning at the floor and by spiraling the circumference of the bowl up to the water surface.

These steel wall panels and the welds between panels were found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these welded steel surfaces was found having good adhesion value, and with an average dry film thickness of 18.36 mils, providing adequate protection for these welded steel wall surfaces.

The American Water Works Association (AWWA) recommends a dry film thickness of 10.5 mils to 15.5 mils be applied to the interior of welded steel potable water storage tanks to provide adequate protection for welded steel surfaces.

Mild staining exists throughout the interior walls, extending from approximately 12" below overflow level down to the floor.

*Center Access Tube*

The 50" outside diameter welded steel center access tube was found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these welded steel surfaces was found having good adhesion value, and with an average dry film thickness of 16.86 mils, providing adequate protection for these steel surfaces.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 9***

*Interior Ladder*

A welded steel ladder extends from the floor up to the access hatch and is supported to the center access tube with ten sets of welded standoffs. A galvanized steel cable type fall prevention device is installed throughout the length of this ladder providing safe access.

The protective coating applied to this ladder was found having good adhesion value, and with an average dry film thickness of 12.2 mils, while the galvanized steel fall prevention device is not coated at this time.

*Cathodic Protection System*

The cathodic protection system installed within this tank consists of a series of cables that penetrate the center access tube approximately 40" above the tank floor and continue to a series of eight, 2" inside diameter by 8' long P.V.C. pipes bolted to brackets welded to the center access tube located approximately 10' above the tank floor, forming a concentric ring. This cathodic protection system appeared to be properly installed and free of obvious fatigue, yet this system was not tested at the time of this inspection.

A series of nine 2" wide by 6" long by approximately 1" thick sacrificial anodes are welded to the center access tube, located approximately 10' above the floor. Each sacrificial anode appeared to be properly installed and with approximately 99% service life at this time.

*Overhead*

The entire overhead was inspected from the water surface and all steel panels, to include the welds between panels were, found appearing sound and free of obvious fatigue (pitting) of the steel at this time.

The protective coating applied to these welded steel surfaces was found having good adhesion value, and with an average dry film thickness of 9.98 mils, providing adequate protection for these steel surfaces.

*Overflow*

The overflow consists of an 8" inside diameter steel pipe that penetrates the center riser column approximately 66" below the overhead. This pipe extends inward approximately 16" through a 90° elbow turning its direction down, and terminates approximately 60" below the overhead.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 10***

This overflow pipe was free of obvious obstructions, and the protective coating applied to this pipe was found having good adhesion value at this time.

*Aesthetic Water Quality*

The aesthetic water quality was found to be good throughout this entire tank, allowing unlimited visibility for this inspection.

***CONCLUSION:***

It is the opinion of Underwater Solutions Inc. that this elevated welded steel spheroid potable water storage tank appeared mostly sound and free of obvious leakage at this time, while the coating system applied to all exterior and interior welded steel surfaces and associated components was found to meet the minimum specifications set by the American Water Works Association.

All interior and exterior surfaces of the welded steel pedestal appeared sound, while no obvious fatigue (pitting) of the steel was evident at the time this inspection was completed.

The protective coating applied to the exterior surfaces of the pedestal was found having good adhesion value, and with an average dry film thickness of 12.33 mils. The average dry film thickness of the protective coating applied to the interior surfaces was found having good adhesion value, and with an average dry film thickness of 14.02 mils, providing good protection for these welded steel surfaces.

The 11" wide by 1-1/2" thick steel plate welded to the pedestal base appeared sound and free of obvious fatigue at this time.

The protective coating applied to both the interior and exterior surfaces of this plate was found having mostly good adhesion value and applied to an adequate dry film thickness, yet mild coating fatigue and minimal steel exposure was observed throughout less than 5% of the corner edges on both the interior and exterior surfaces of this steel base plate. No obvious fatigue or deterioration of this steel plate was evident within these areas showing steel exposure; rather mild surface corrosion exists at this time.

It is our recommendation to spot grind and re-coat these areas showing coating fatigue and steel exposure in an effort to halt corrosion and prevent fatigue of this steel base plate.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 11***

All exterior welded steel surfaces of the tank bowl appeared sound, while no obvious fatigue (pitting) of the steel panels or the welds between panels was evident at the time this inspection was completed.

The protective coating applied to these welded steel surfaces, extending from the junction of where the pedestal and bowl meet up to the horizontal weld that spans the circumference of the bowl at the approximately middle of the tank, was found having good adhesion value and with an average dry film thickness of 16.65 mils.

The protective coating applied to the steel wall panels and vertical welds extending from the mid-point horizontal weld up to the 24' diameter steel plates that form the tank roof was found with coating fatigue throughout the vertical welds and throughout the wall panels adjacent to the vertical welds. Cracking and lifting of the coating applied to the welds and adjacent wall panels has resulted in exposure of the underlying steel and causing mild surface corrosion, yet no obvious fatigue (pitting) of the steel was evident within these areas of steel exposure at the time this inspection was completed. The average dry film thickness within the areas showing coating fatigue was 10.46 mils at the time of this inspection.

The protective coating applied to the steel panels that form the roof was found having good adhesion value, and with an average dry film thickness of 13.46 mils.

An accumulation of mildew throughout all elevations of the pedestal and bowl base has caused a reduction in the overall aesthetics of this structure.

It is our recommendation to high-pressure wash the exterior surfaces of the pedestal and bowl base to remove the accumulated mildew in an effort to preserve the adhesion value of the coating system, while improving the overall aesthetics.

It is also our recommendation to spot grind and re-coat the areas showing coating fatigue and steel exposure throughout the vertical welds and wall panels in an effort to halt corrosion, prevent steel fatigue and provide good protection for the steel, while improving the overall aesthetics.

The welded steel angle iron safety railings installed on the roof of this tank appeared to be in sound condition and free of obvious fatigue or failures. Although the protective coating was applied to an adequate dry film thickness, isolated areas of coating fatigue were found throughout these safety railings that have resulted in exposure of the underlying steel. No obvious fatigue or deterioration of these railings was evident within the areas showing steel exposure, rather mild surface corrosion exists at this time.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELLFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELLFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 12***

It is our recommendation to spot grind and re-coat the areas of steel exposure found throughout the safety railings to halt corrosion and prevent fatigue.

All components affixed to this tank are properly installed at this time. A cap and associated screen installed over the vent penetration within the roof dome remains secure, and the frost proof break screen located at the underside of the vent moves freely and is free of obstructions at this time.

The screen installed at the end of the overflow pipe was found securely installed, preventing access to the interior of the pipe/tank.

One of the interior access hatches is secured with a lock, and the second interior access hatch is secured with a series of nuts and bolts, preventing unwanted access to the interior of the tank.

Each of the six rigging hole penetrations within the roof dome remains secured with rubber caps and stainless steel clamps, preventing access to the interior of the tank.

All interior welded steel floor, wall, center access tube and overhead surfaces appeared sound, while no obvious fatigue or failures of these welded steel surfaces was evident at the time this inspection was completed.

The protective coating applied to all interior floor surfaces was found having good adhesion value, and with an average dry film thickness of 14.77 mils, providing good protection for these steel surfaces.

The protective coating applied to all elevations of the interior walls was found having good adhesion value, and with an average dry film thickness of 18.36 mils, providing good protection for these steel surfaces.

The protective coating applied to the center access tube was found having good adhesion value, and with an average dry film thickness of 16.86 mils, providing good protection for these welded steel surfaces.

The protective coating applied to all welded steel overhead panels was found having good adhesion value, and with an average dry film thickness of 9.98 mils, providing good protection for these steel surfaces.

The piping and associated influent and effluent rubber check valves that extend from this pipe were found to be properly installed and free of obvious obstructions.

***INSPECTION AND CLEANING (SEDIMENT REMOVAL) OF THE  
LAWRENCE ROAD 500,000-GALLON HYDROSPHERE WELDED  
STEEL SPHEROID WATER STORAGE TANK LOCATED  
IN WELFLEET, MASSACHUSETTS  
WHITEWATER INC. - WELFLEET  
AUBURN, MASSACHUSETTS  
JULY 23, 2015  
PAGE 13***

A second pipe that penetrates the floor and serves as the final bowl drain was free of obvious obstructions, while a third penetration within the floor was found secured with a plug on the interior of the tank.

The concentric ring cathodic protection system within this tank appeared to be properly installed and free of obvious fatigue, yet was not tested at the time of this inspection. The nine sacrificial anodes welded to the center access tube appeared to be properly installed and remain with approximately 99% service life.

After completing this inspection, all precipitate was removed (vacuumed) from the floor.

As always, we recommend re-inspection and cleaning of all water storage facilities in accordance with state and federal mandates, A.W.W.A. standards, and be completed by an experienced and authorized inspection corporation.



---

UNDERWATER SOLUTIONS INC.  
Christopher A. Cole, Project Manager

*This report, the conclusions, recommendations and comments prepared by Underwater Solutions Inc. are based upon spot examination from readily accessible parts of the tank. Should latent defects or conditions which vary significantly from those described in the report be discovered at a later date, these should be brought to the attention of a qualified individual at that time. These comments and recommendations should be viewed as information to be used by the Owner in determining the proper course of action and not to replace a complete set of specifications. All repairs should be done in accordance with A.W.W.A. and/or other applicable standards.*



1 *Exterior Pedestal Wall*



2 *Exterior Pedestal Wall*



3 *Exterior Pedestal Wall*



4 *Exterior Pedestal Wall*



5 *Exterior Pedestal Wall*



6 *Exterior Pedestal Wall*



7 *Exterior Pedestal Wall*



8 *Exterior Pedestal Wall*



9 *Exterior Pedestal Wall*



10 *Exterior Pedestal Wall*



11 *Exterior Pedestal Wall*



12 *Exterior Pedestal Wall*



13 *Interior Pedestal Wall*



14 *Interior Pedestal Wall*



15 *Interior Pedestal Wall*



16 *Interior Pedestal Wall*



17 *Interior Pedestal Wall*



18 *Interior Pedestal Wall*



19 *Interior Pedestal Wall*



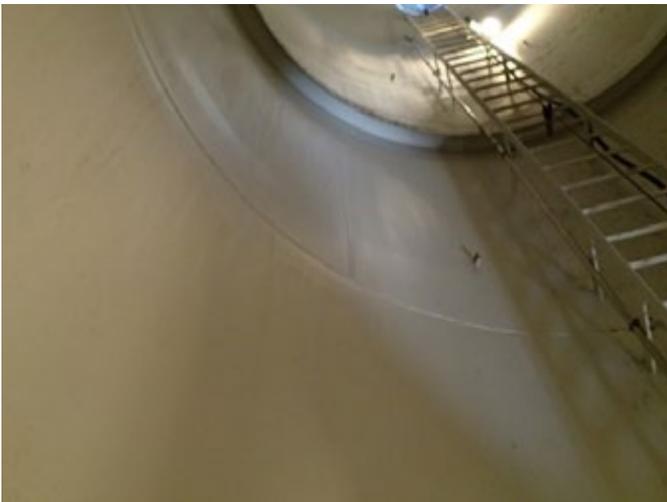
20 *Interior Pedestal Wall*



21 *Interior Pedestal Wall*



22 *Interior Pedestal Wall*



23 *Interior Pedestal Wall*



24 *Steel Base Plate With Coating Fatigue, Exposed Steel And Mild Surface Corrosion*



25 *Steel Base Plate With Coating Fatigue, Exposed Steel And Mild Surface Corrosion*



26 *Steel Base Plate With Coating Fatigue, Exposed Steel And Mild Surface Corrosion*



27 *Steel Base Plate With Coating Fatigue, Exposed Steel And Mild Surface Corrosion*



28 *Steel Base Plate With Coating Fatigue, Exposed Steel And Mild Surface Corrosion*



29 *Steel Base Plate With Coating Fatigue, Exposed Steel And Mild Surface Corrosion*



30 *Bowl Exterior With Mildew*



31 *Bowl Exterior With Mildew*



32 *Bowl Exterior With Mildew*



33 *Bowl Exterior With Mildew*



34 *Exterior Bowl With Coating Cracking/Lifting, Exposed Underlying Steel And Surface Corrosion*



35 *Exterior Bowl With Coating Cracking/Lifting, Exposed Underlying Steel And Surface Corrosion*



36 *Exterior Bowl With Coating Cracking/Lifting, Exposed Underlying Steel And Surface Corrosion*



37 *Exterior Bowl With Coating Cracking/Lifting,  
Exposed Underlying Steel And Surface Corrosion*



38 *Exterior Bowl With Coating Cracking/Lifting,  
Exposed Underlying Steel And Surface Corrosion*



39 *Exterior Bowl With Coating Cracking/Lifting,  
Exposed Underlying Steel And Surface Corrosion*



40 *Exterior Bowl With Coating Cracking/Lifting,  
Exposed Underlying Steel And Surface Corrosion*



41 *Exterior Bowl With Coating Cracking/Lifting,  
Exposed Underlying Steel And Surface Corrosion*



42 *Exterior Bowl With Coating Cracking/Lifting,  
Exposed Underlying Steel And Surface Corrosion*



43 *Exterior Bowl With Coating Cracking/Lifting, Exposed Underlying Steel And Surface Corrosion*



44 *Exterior Bowl With Coating Cracking/Lifting, Exposed Underlying Steel And Surface Corrosion*



45 *Exterior Bowl With Coating Cracking/Lifting, Exposed Underlying Steel And Surface Corrosion*



46 *Exterior Bowl With Coating Cracking/Lifting, Exposed Underlying Steel And Surface Corrosion*



47 *Roof Surface*



48 *Roof Surface*



49 *Roof Surface*



50 *Roof Surface*



51 *Safety Railing With Coating Loss And Exposed Steel*



52 *Safety Railing With Coating Loss And Exposed Steel*



53 *Safety Railing With Coating Loss And Exposed Steel*



54 *Safety Railing With Coating Loss And Exposed Steel*



55 *Roof Surface/Rigging Hole With Secure Rubber Cap*



56 *Roof Surface/Rigging Hole With Secure Rubber Cap*



57 *Open Hatch*



58 *Secure Hatch*



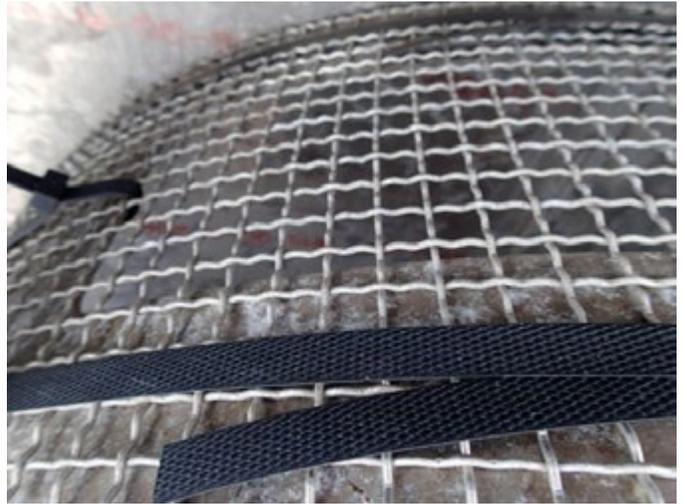
59 *Center Tube Access Hatch*



60 *Vent*



61 *Vent*



62 *Screened Vent*



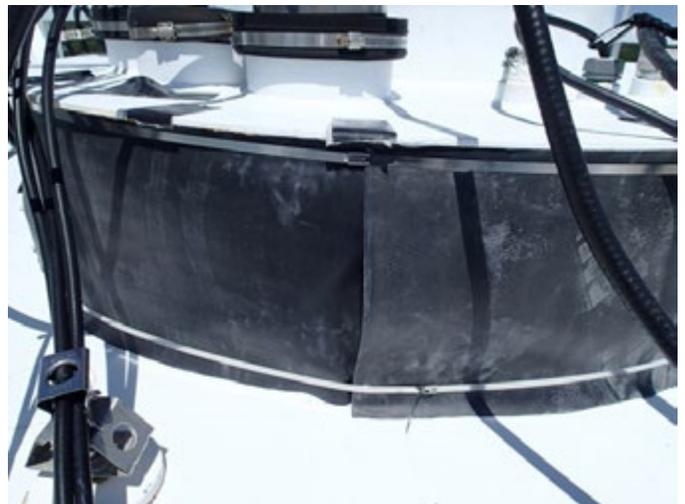
63 *Screened Vent*



64 *Screened Vent*



65 *Rubber Boot At The Access Tube Expansion Joint*



66 *Rubber Boot At The Access Tube Expansion Joint*



67 *Rubber Boot At The Access Tube Expansion Joint*



68 *Anchor Bolts*



69 *Anchor Bolts*



70 *Anchor Bolt*



71 *Concrete Foundation*



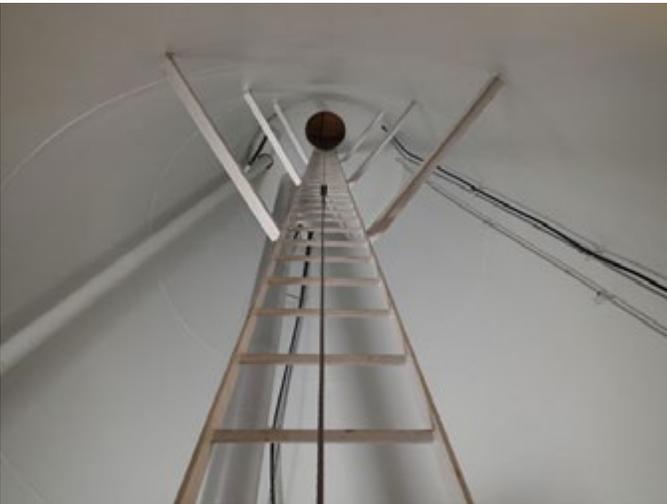
72 *Concrete Foundation*



73 *Concrete Foundation*



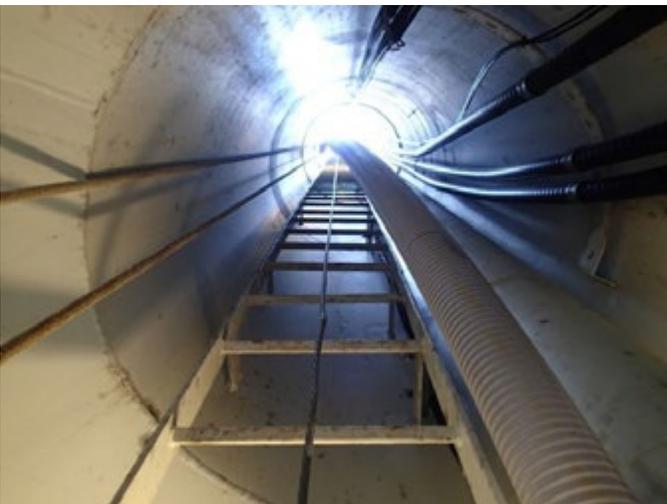
74 *Manway With Blotch Rusting Of Hardware*



75 *Ladder With A Fall Prevention Device*



76 *Ladder With A Fall Prevention Device*



77 *Ladder With A Fall Prevention Device*



78 *Overflow Pipe*



79 *Overflow Pipe*



80 *Overflow Pipe*



81 *Overflow Pipe*



82 *Screened Overflow Pipe*



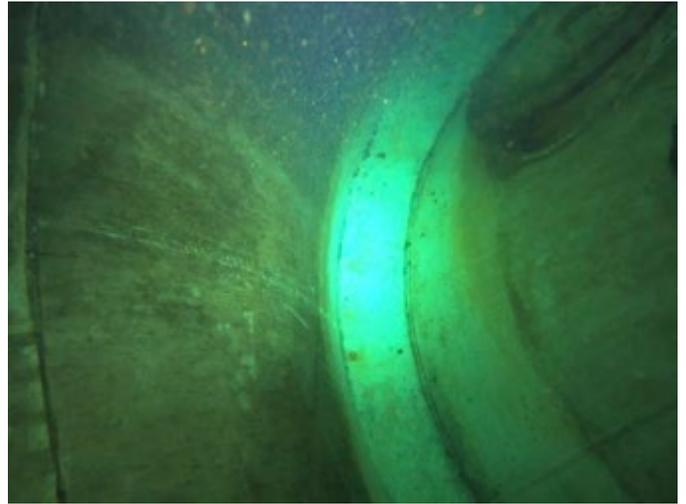
83 *Layer Of Precipitate*



84 *Layer Of Precipitate*



85 *Layer Of Precipitate*



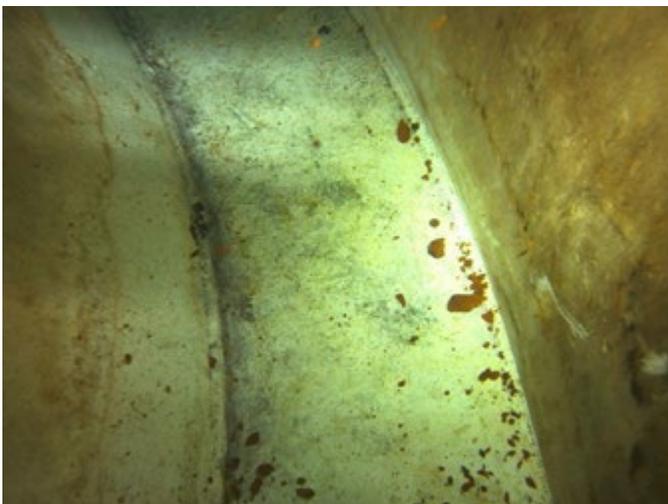
86 *Floor With Mild Staining*



87 *Floor With Mild Staining*



88 *Floor With Mild Staining*



89 *Floor With Mild Staining*



90 *Floor With Mild Staining*



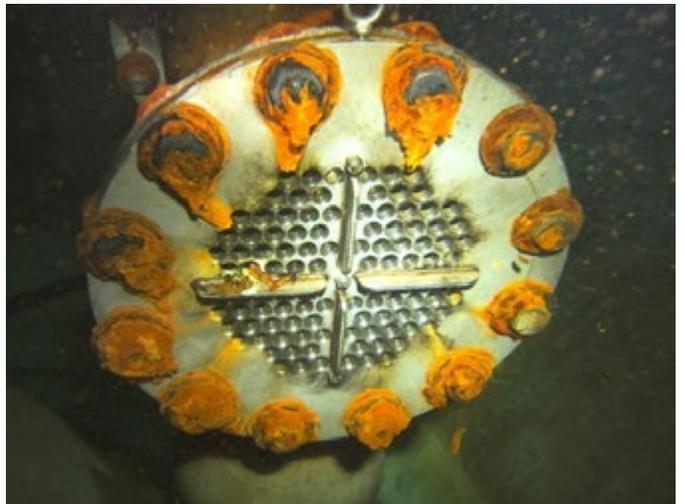
91 *Manway*



92 *Piping*



93 *Effluent Grate*



94 *Effluent Grate*



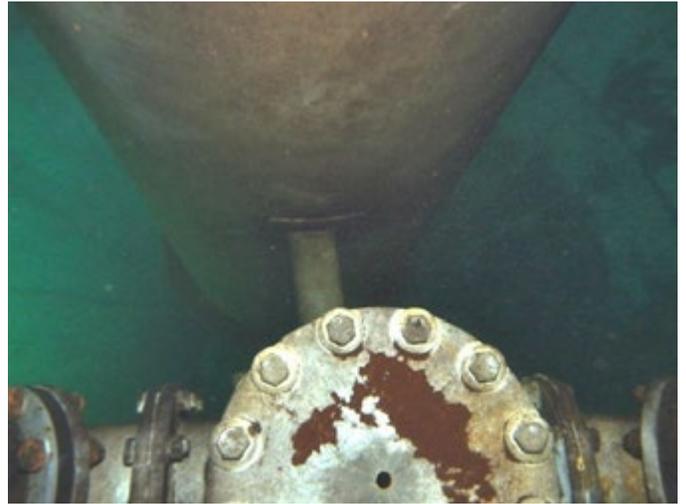
95 *Piping*



96 *Piping*



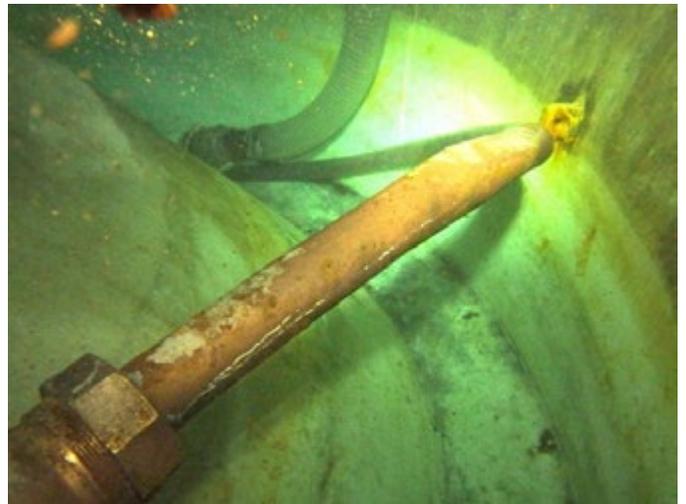
97 *Influent Check Valve*



98 *Influent Check Valve*



99 *Piping*



100 *Piping*



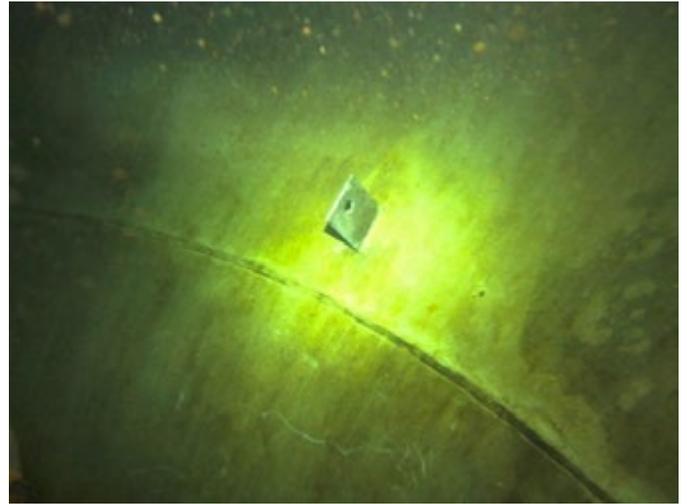
101 *Piping*



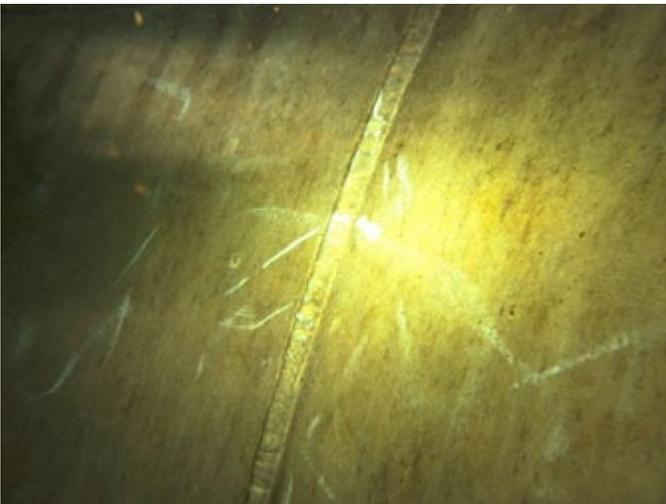
102 *Piping*



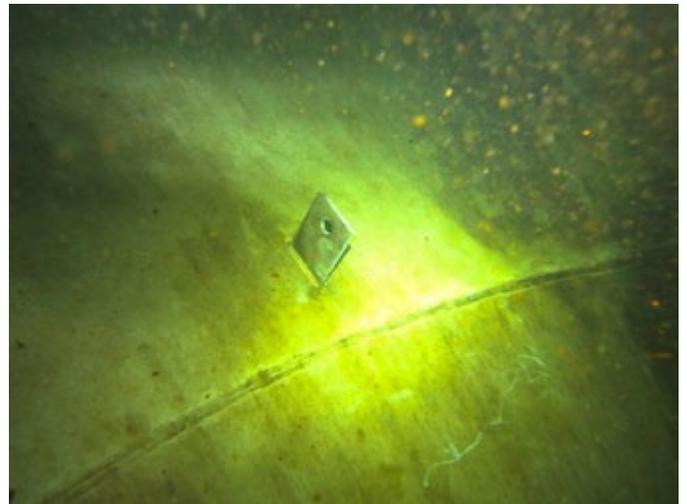
103 *Piping Secured With A Plug*



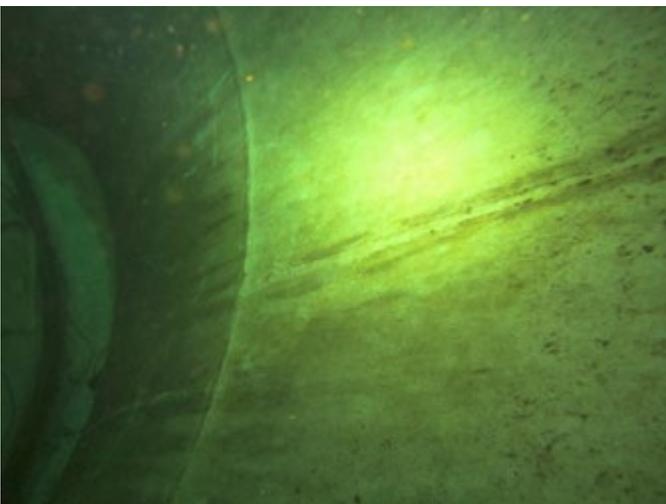
104 *Interior Wall With Mild Staining*



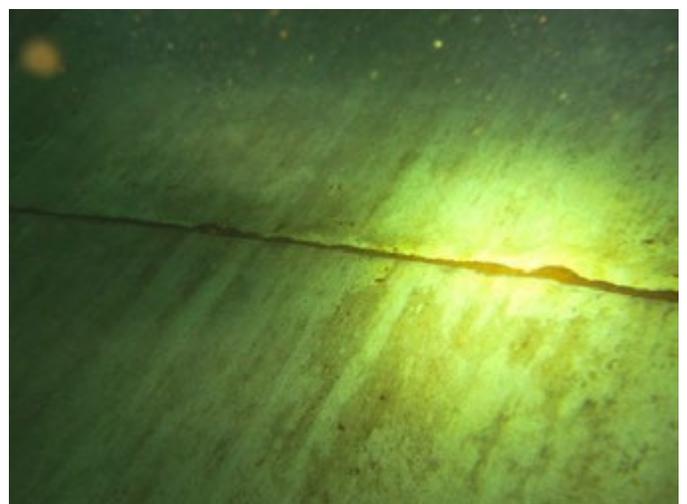
105 *Interior Wall With Mild Staining*



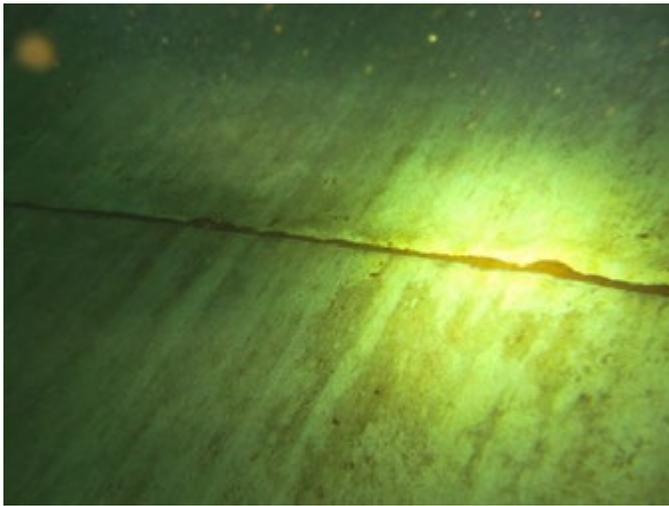
106 *Interior Wall With Mild Staining*



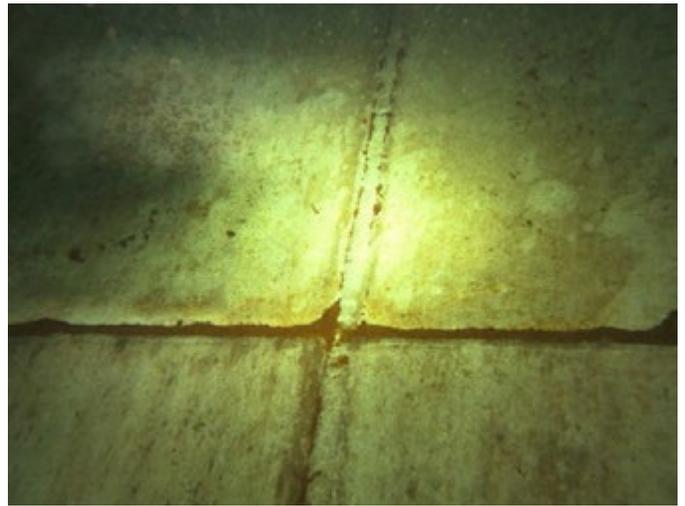
107 *Interior Wall With Mild Staining*



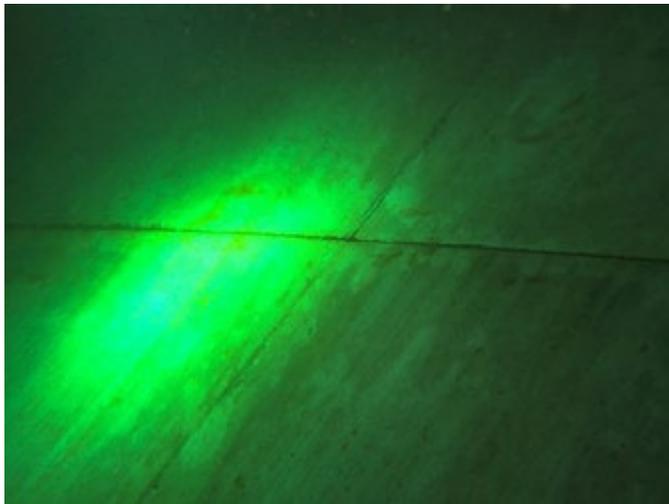
108 *Interior Wall With Mild Staining*



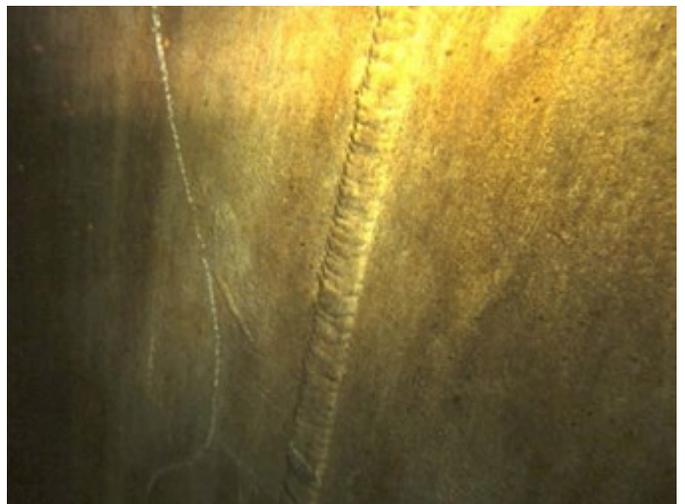
109 *Interior Wall With Mild Staining*



110 *Interior Wall With Mild Staining*



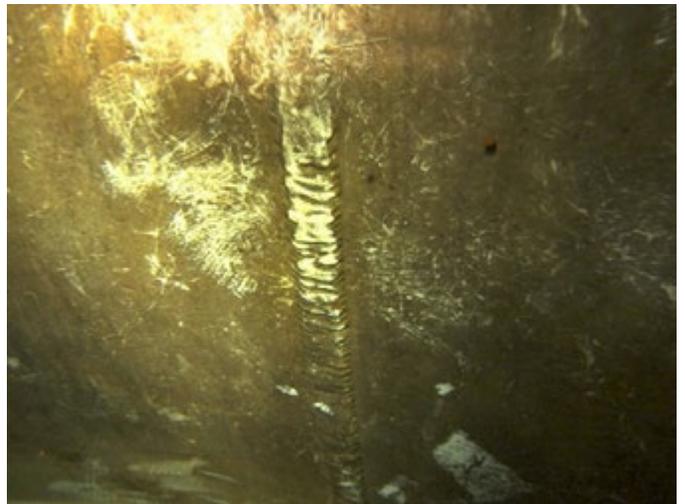
111 *Interior Wall With Mild Staining*



112 *Interior Wall With Mild Staining*



113 *Interior Wall With Mild Staining*



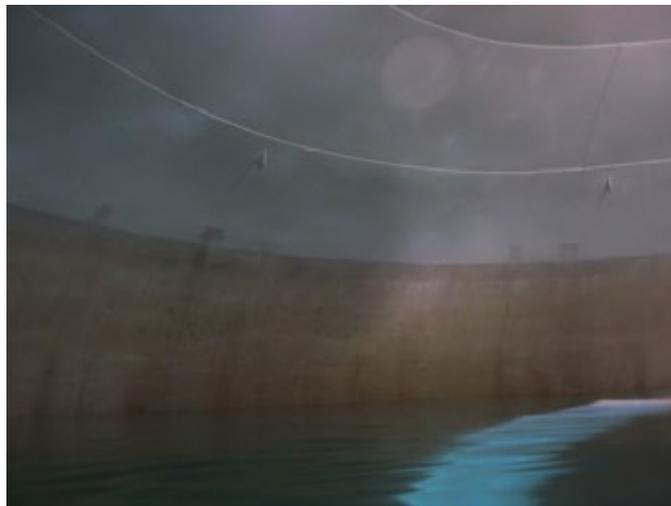
114 *Interior Wall With Mild Staining*



115 *Interior Wall With Mild Staining*



116 *Interior Wall With Mild Staining*



117 *Interior Wall With Mild Staining*



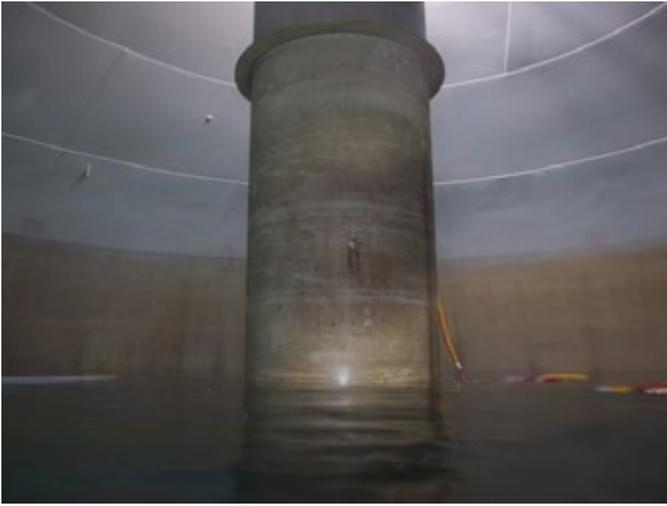
118 *Interior Wall With Mild Staining*



119 *Center Access Tube*



120 *Center Access Tube*



121 *Center Access Tube*



122 *Center Access Tube*



123 *Interior Ladder With A Fall Prevention Device*



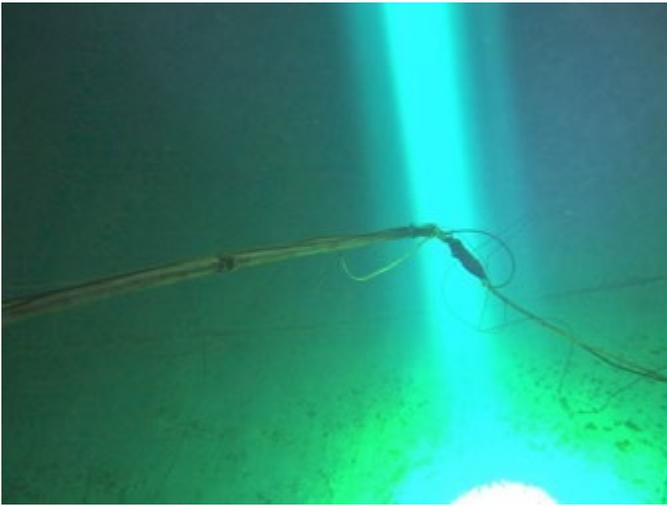
124 *Interior Ladder With A Fall Prevention Device*



125 *Interior Ladder With A Fall Prevention Device*



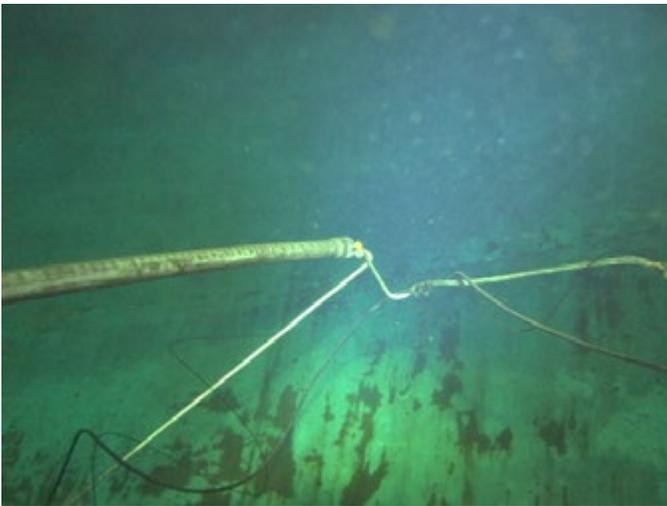
126 *Cathodic Protection System*



127 *Cathodic Protection System*



128 *Cathodic Protection System*



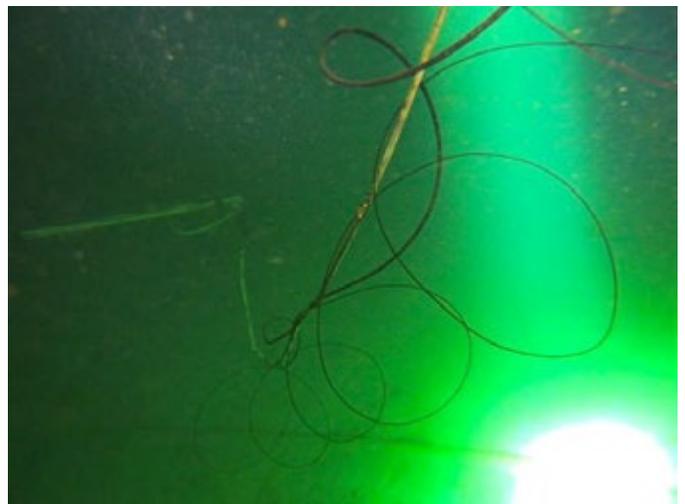
129 *Cathodic Protection System*



130 *Cathodic Protection System*



131 *Cathodic Protection System*



132 *Cathodic Protection System Cable*



133 *Sacrificial Anode*



134 *Sacrificial Anode*



135 *Overhead*



136 *Overhead*



137 *Overhead*



138 *Overhead*



139 *Overflow*



140 *Discharge During Cleaning*

---

***APPENDIX C***  
***TANK CONDITION PHOTOS***





Wellfleet Tank Bottom View Exterior



Wellfleet Tank Top Exterior



Wellfleet Tank Exterior Top Close



---

*APPENDIX D*

*TANK RECORD DRAWINGS*



# TOWN OF WELLFLEET, MASSACHUSETTS

## WATER SYSTEM EXPANSION - CONTRACT NO.2: STORAGE TANK

DEP DW SRF 3229

APRIL 2009

DEPARTMENT OF PUBLIC WORKS

MARK VINCENT, DIRECTOR

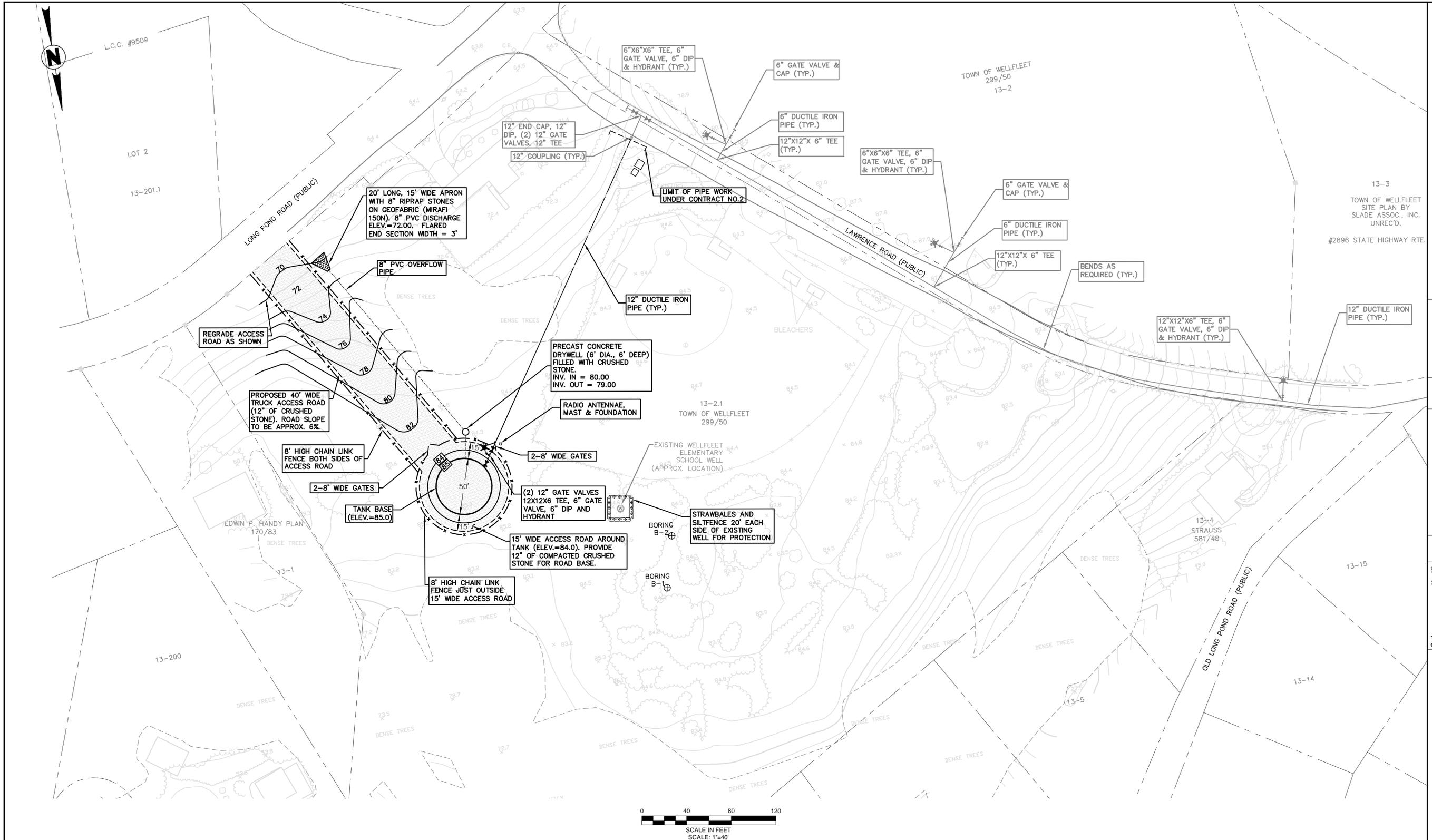


### LOCUS PLAN

SCALE: 1" = 2000'

### LIST OF DRAWINGS

SHEET NUMBER	DRAWING TITLE
C-1	LAWRENCE ROAD (STORAGE TANK SITE)
DET-1	DETAIL SHEET #1
DET-2	DETAIL SHEET #2
I-1	BOY SCOUT CAMP WELL CONTROL BUILDING AND STORAGE TANK INSTRUMENTATION AND CONTROL SYSTEMS
T-1	TANK DETAIL SHEET
E-1	ELECTRICAL SITE PLAN



- NOTES:**
1. PROVIDE ELECTRICAL SERVICE FOR TANK & VALVE VAULT AND RADIO TELEMETRY. COORDINATE WITH POWER COMPANY.
  2. COORDINATE INSTRUMENTATION WORK WITH SCADA SYSTEM SUPPLIER.
  3. SEE SHEET T-1 FOR TANK DETAILS.
  4. PROTECT EXISTING SCHOOL WELL DURING CONSTRUCTION.
  5. CONSTRUCTION SHALL NOT ENCROACH ON SCHOOL PROPERTY OR BASEBALL FIELD. LAYDOWN AND STAGING AREAS TO BE REVIEWED AND APPROVED BY THE TOWN.

**Environmental Partners**  
A partnership for engineering solutions.  
www.envpartners.com  
Quincy, MA

Scale	Date	Job No.	Designed by	Drawn by	Checked by	Approved by	Description	Date
1"=40'	03/24/09	113-0701.05	PCM	SDB	SCO	PCM	REVISIONS	

TOWN OF WELFLEET, MASSACHUSETTS

WATER SYSTEM EXPANSION - CONTRACT NO.2

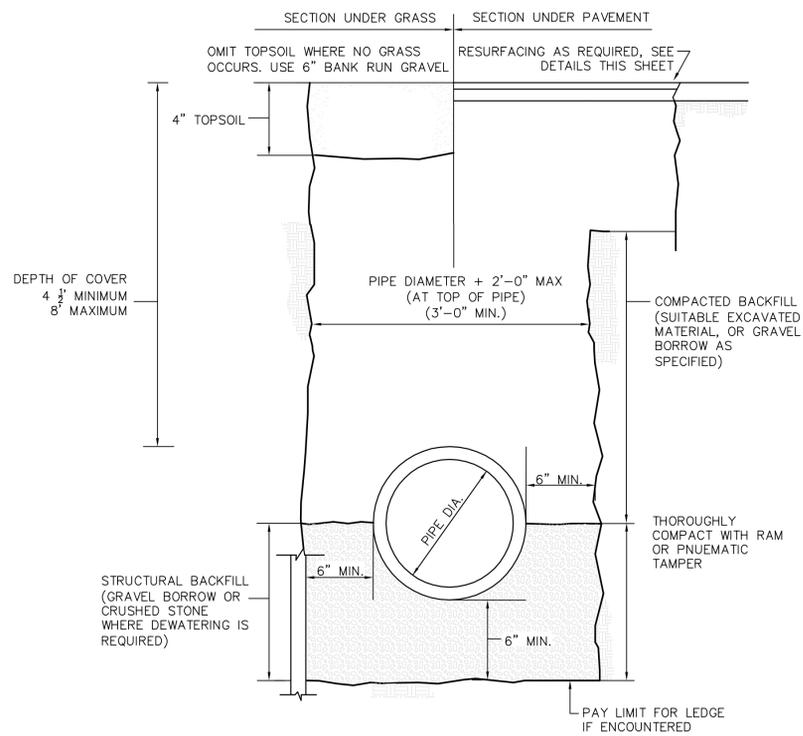
LAWRENCE ROAD (STORAGE TANK SITE)

13-3  
TOWN OF WELFLEET  
SITE PLAN BY  
SLADE ASSOC., INC.  
UNREC'D.  
#2896 STATE HIGHWAY RTE.

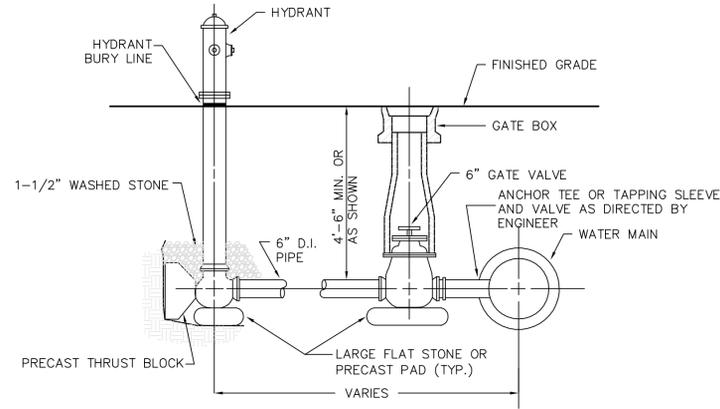
13-21  
TOWN OF WELFLEET  
299/50  
EXISTING WELFLEET  
ELEMENTARY  
SCHOOL WELL  
(APPROX. LOCATION)

13-4  
STRAUSS  
581/48

C-1

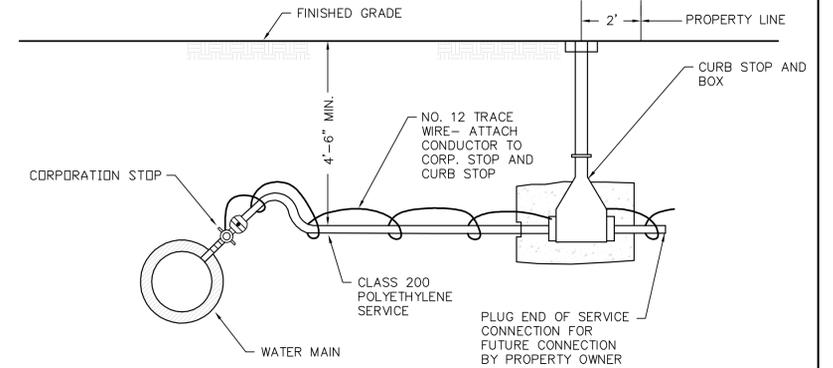


**1 TYPICAL TRENCH DETAIL**  
N.T.S.

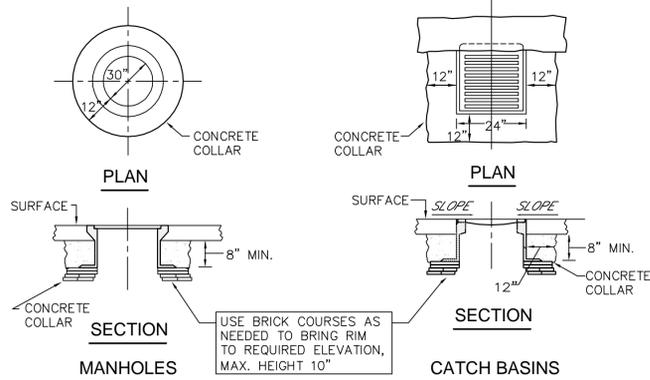


NOTE: ALL HYDRANT, VALVE AND TEE JOINTS TO BE RESTRAINED MECHANICAL JOINTS

**2 HYDRANT ASSEMBLY DETAIL**  
N.T.S.



**3 TYPICAL SERVICE CONNECTION**  
N.T.S.



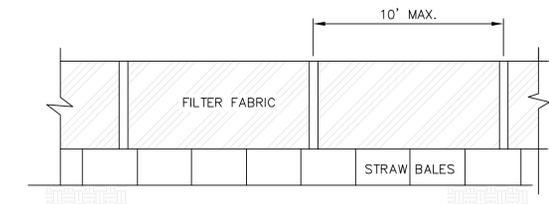
NOTE: ALL HYDRANT, VALVE AND TEE JOINTS TO BE RESTRAINED MECHANICAL JOINTS

**4 HYDRANT STUB DETAIL**  
N.T.S.

NOTE: ALL THRUST BLOCKS SHALL BE PRECAST AND PLACED AGAINST UNDISTURBED SOIL.

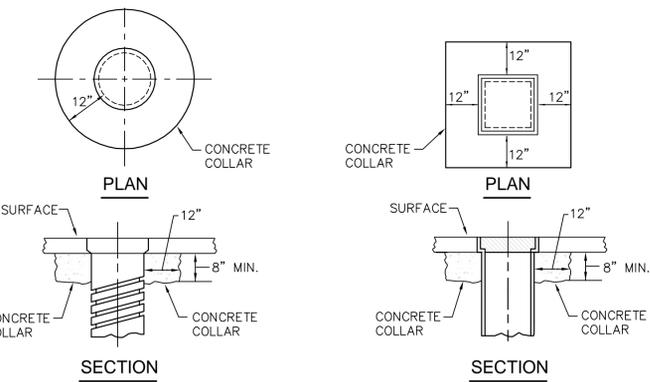
**5 WATER MAIN THRUST BLOCK DETAILS**  
N.T.S.

HORIZONTAL THRUST BLOCK SCHEDULE			
TYPE FITTING	DIMENSIONS IN INCHES		
	A	B	C
<b>6", 8" BEND</b>			
1/32, 1/16	6	9	9
1/8	6	12	12
1/4	9	18	18
<b>10", 12" BEND</b>			
1/32, 1/16	6	12	12
1/8	6	18	18
1/4	9	24	24
<b>TEE (BRANCH)</b>			
6"	6	15	15
8"	9	15	15
10"	9	15	15
12"	9	21	21
16"	12	30	24
<b>TEE (BRANCH)</b>			
4", 6" PLUG	6	15	15
8" PLUG	6	15	15
12" PLUG	6	21	21
HYDRANT	4	18	18



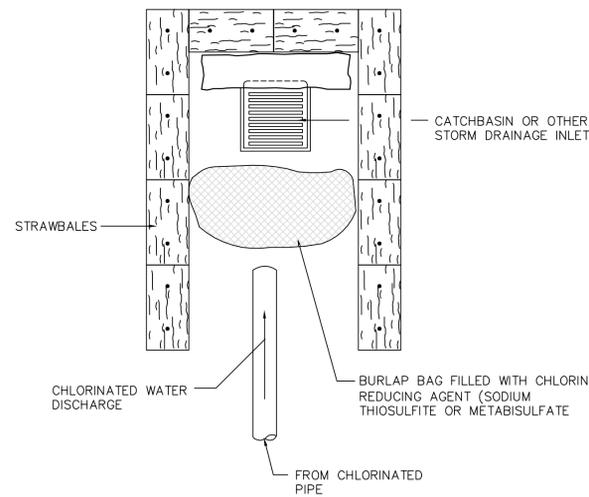
NOTES:  
1. FABRIC TO BE ATTACHED TO STAKES WITH STAPLES.  
2. CONTINUOUS STRAW BALES TRENCHED 4" INTO EXISTING GRADE. DOUBLE STAKE STRAW BALES WITH WOODEN STAKES, MINIMUM 12" IN GROUND.  
3. FABRIC TO BE UV RESISTANT POLYPROPYLENE WITH A MIN. WEIGHT OF 2.5 OZ./S.Y.

**6 STRAWBALES AND SILTFENCE DETAILS**  
N.T.S.

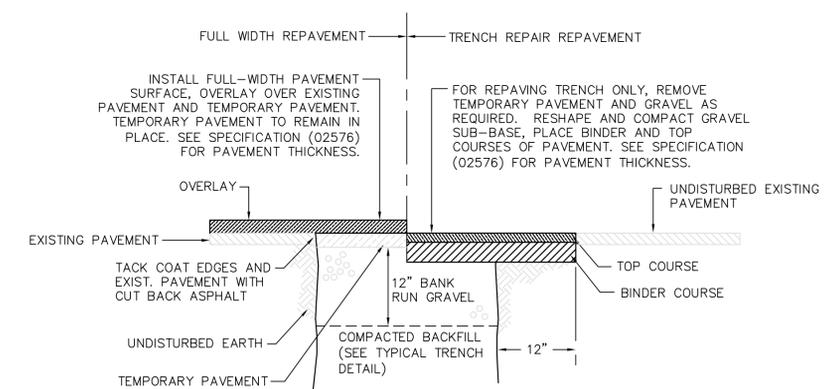


UTILITY SERVICE BOXES

**7 DETAILS FOR RAISING CASTINGS**  
N.T.S.

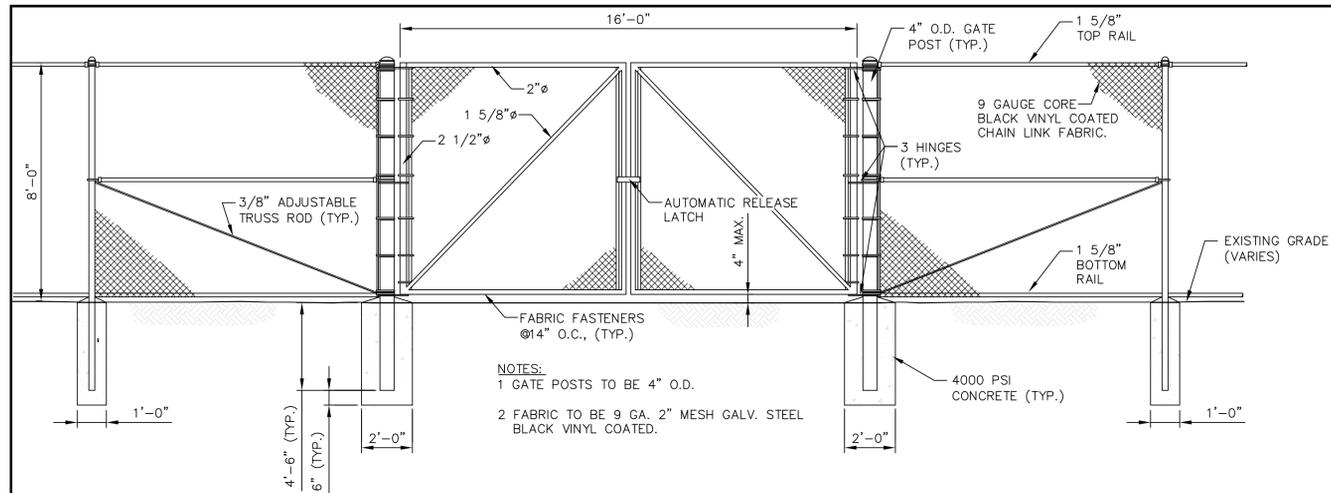


**8 DECHLORINATION DETAIL**  
N.T.S.



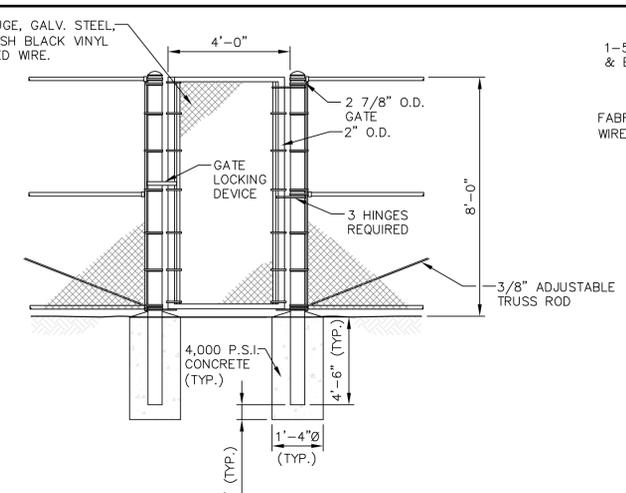
**9 PERMANENT PAVEMENT DETAIL**  
N.T.S.

Scale	Date	Job No.	Designed by	Drawn by	Checked by	Approved by	Description	REVISIONS
N.T.S.	03/24/09	113-0701.05	PCM	SDB	SCO	PCM		

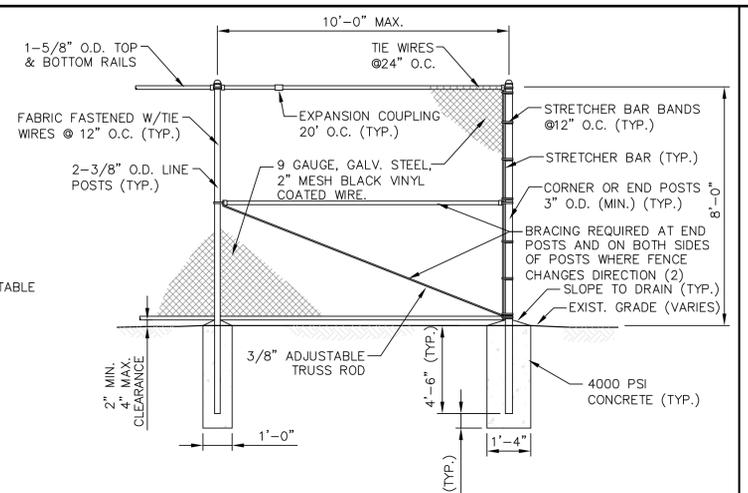


**1 8' WIDE DOUBLE SWING GATE**  
N.T.S.

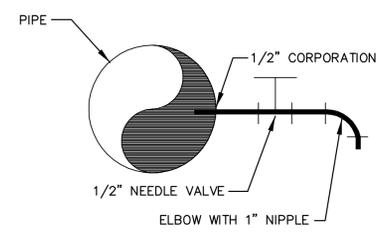
**GENERAL CHAIN LINK FENCE NOTES:**  
 1. ALL CHAINLINK FENCE FABRIC TO BE KNUCKLED (TOP AND BOTTOM).  
 2. ALL CHAIN LINK FENCE POSTS, FABRIC, TIES AND MATERIALS SHALL BE BLACK VINYL COATED.



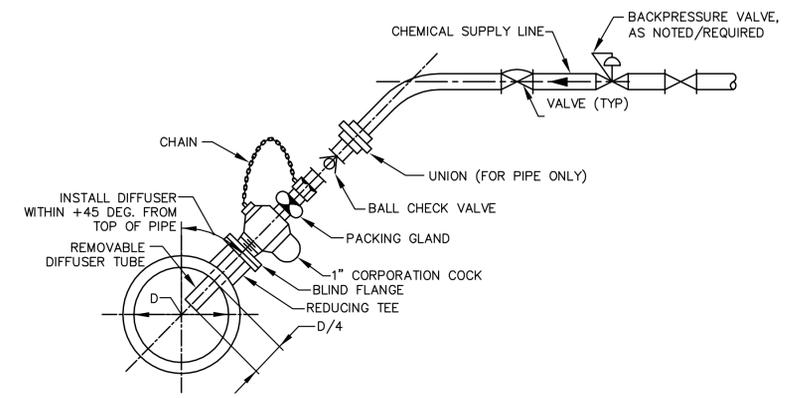
**2 4' WIDE PEDESTRIAN GATE**  
N.T.S.



**3 8' HIGH FENCE DETAIL**  
N.T.S.

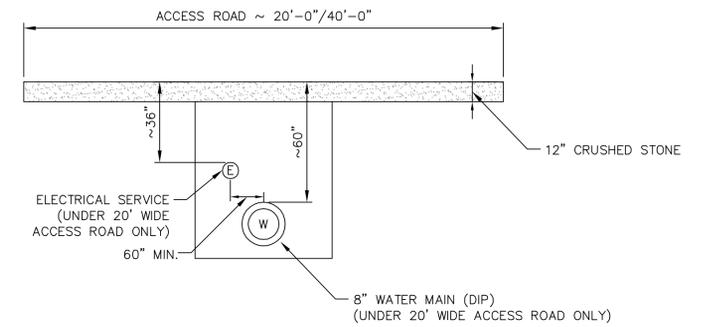


**4 SAMPLE TAP DETAIL**  
N.T.S.

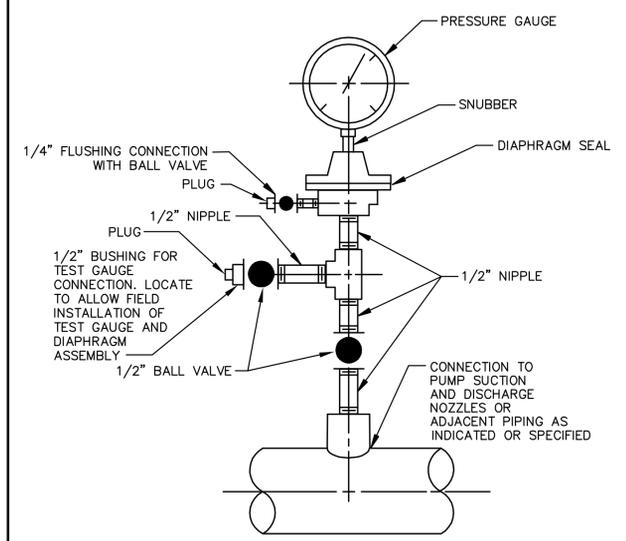


**8" OR SMALLER PIPE (REDUCING TEE)**  
N.T.S.

**5 CHEMICAL DIFFUSER DETAILS**  
N.T.S.



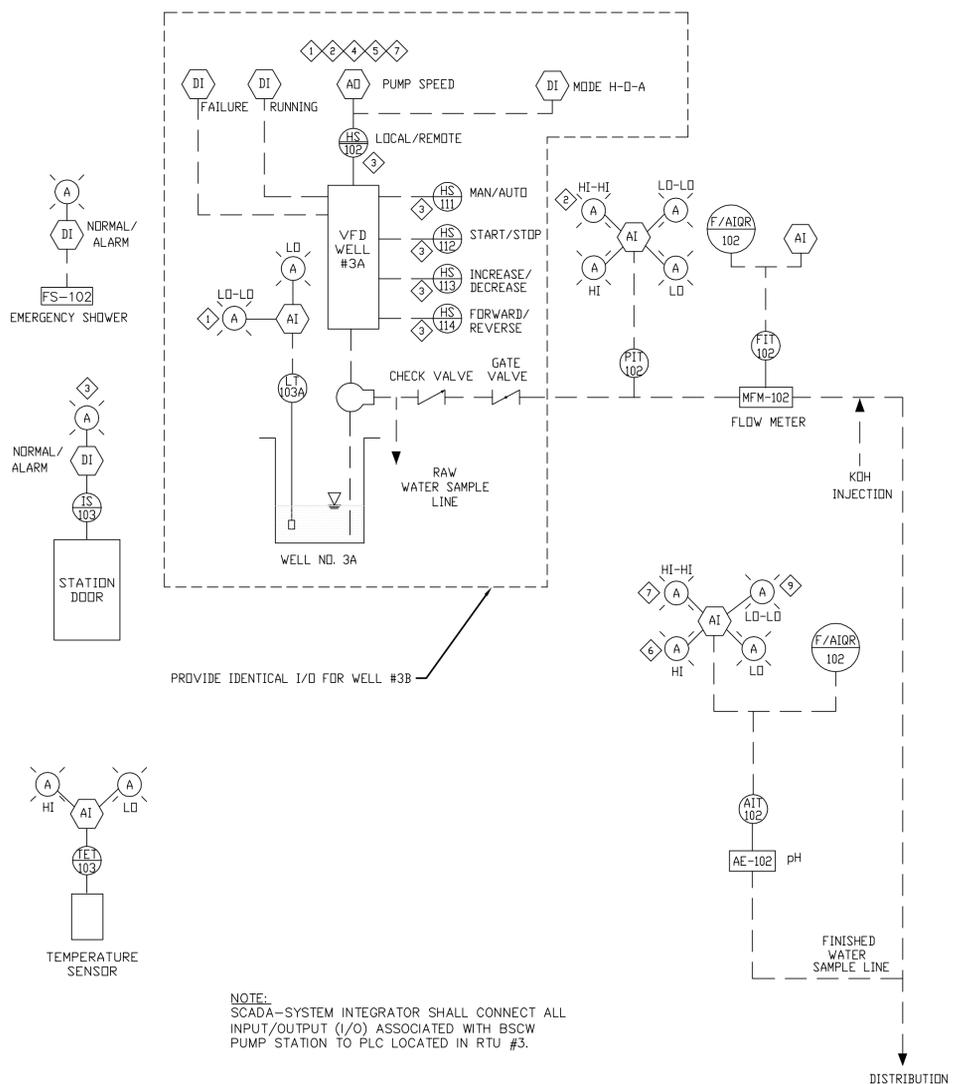
**6 20'/40' WIDE ACCESS ROAD CROSS SECTION**  
N.T.S.



**7 PRESSURE GAUGE MOUNTING DETAIL FOR LIQUID PIPING**  
N.T.S.

Scale	Date	Job No.	Designed by	Drawn by	Checked by	Approved by	Description	Revisions
N.T.S.	03/24/09	113-0701.05	PCM	SDB	SCO	PCM		

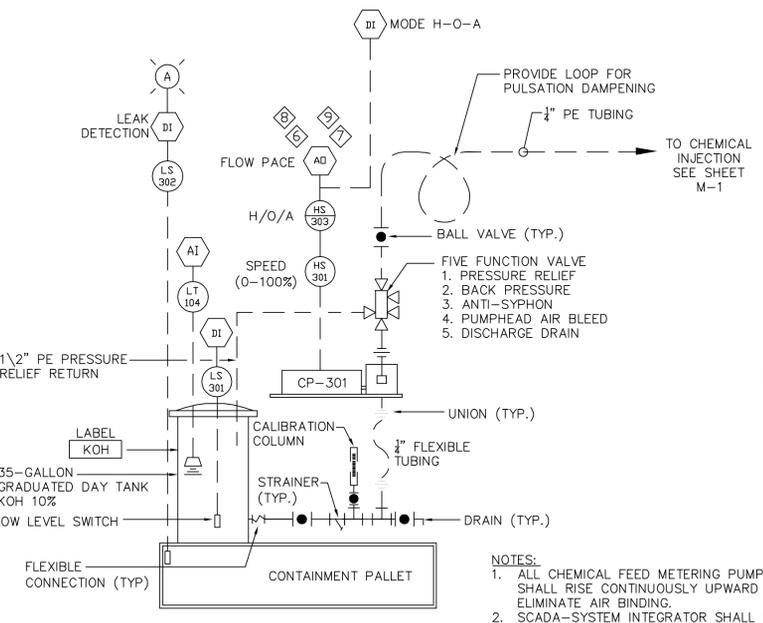
TOWN OF WELFLEET, MASSACHUSETTS  
 WATER SYSTEM EXPANSION - CONTRACT NO.2  
 DETAIL SHEET #2



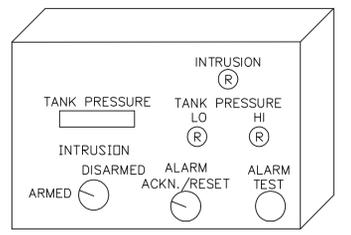
**BOY SCOUT CAMP WELL (BSCW) PUMP STATION  
PROCESS AND INSTRUMENTATION DIAGRAM**

#	DEVICE	INTERLOCK WITH
1	LO-LO WELL LEVEL (LIT-103)	STOP LEAD WELL PUMP
2	HI-HI PUMP DISCHARGE PRESSURE (PIT-102)	STOP WELL PUMPS
3	INTRUSION SENSOR (IS-103)	LOCK OUT LOCAL HAND SWITCHES
4	HI-HI TANK PRESSURE (PIT-204)	STOP WELL PUMPS
5	LO-LO TANK PRESSURE (PIT-204)	SET BOTH PUMP SPEEDS TO 100% - OVERRIDE OPERATOR SETPOINT
6	HI pH (AE-102)	STOP CHEMICAL FEED PUMP (CP-301)
7	HI-HI pH (AE-102)	STOP WELL PUMPS
8	WELL PUMP ON/OFF	CHEMICAL FEED PUMP (CP-301) START/STOP
9	LO-LO PH	STOP CHEMICAL FEED PUMP (CP-301)

**INTERLOCK SCHEDULE**



**POTASSIUM HYDROXIDE (KOH)  
FEED SYSTEM**



**STORAGE TANK (LAWRENCE ROAD)  
RTU#4 CONTROL PANEL**

**OPERATIONS DESCRIPTION**

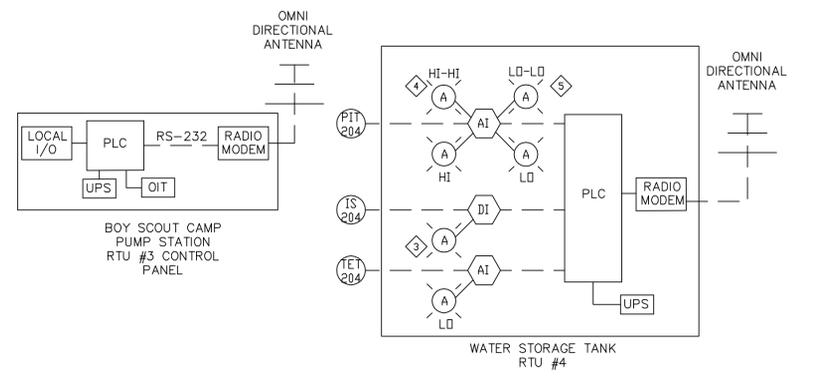
PLC TO BE PROGRAMMED TO MAINTAIN PRESSURE/LEVEL AT STORAGE TANK (SEE TABLE BELOW) USING PT-204 AS INPUT AND AUTOMATIC SPEED SETTING OF VFD(S) AT COLE'S NECK WELLS #1 & #2 AND BOY SCOUT CAMP WELL #3A OR #3B AS OUTPUT. REFER TO SPECIFICATIONS SECTION 11320.

**TANK AND WELLS OPERATION SETTINGS**

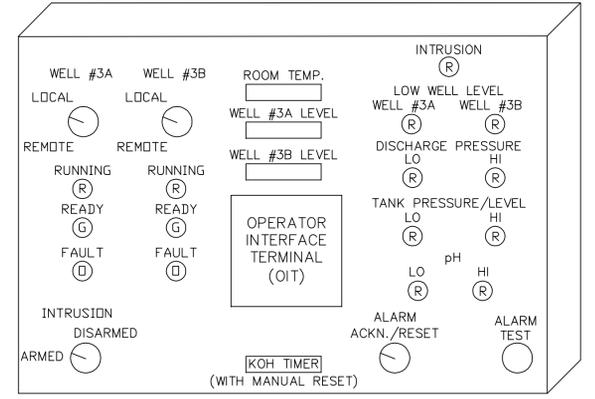
HIGH-HIGH PRESSURE ALARM	ELEV. 211.5
HIGH PRESSURE ALARM	ELEV. 211.0
STOP LEAD PUMP (1)	ELEV. 210
STOP LAG PUMP	ELEV. 208
START LEAD PUMP	ELEV. 188
START LAG PUMP	ELEV. 185
LOW PRESSURE ALARM	ELEV. 182
LOW-LOW PRESSURE ALARM	ELEV. 180

- NOTES:
- PROVIDE SOFTWARE SO THAT EITHER WELL #1 OR WELL #2 AT COLE'S NECK OR WELL #3A OR WELL #3B AT THE BOY SCOUT CAMP CAN BE SELECTED AS THE LEAD PUMP.
  - ALL ELEVATION AND PRESSURE SETTINGS SHALL BE ADJUSTABLE.
  - SCADA SYSTEM INTEGRATOR SHALL CONNECT ALL I/O ASSOCIATED WITH THE PLC IN RTU #3 AND RTU #4.

- RED (R)=RUNNING
- GREEN (G)=READY
- ORANGE (O)=FAULT



**EXISTING PLC/SCADA CONTROL SYSTEM SCHEMATIC  
AND PROPOSED CONTROLS FROM RTU #3 AND #4**



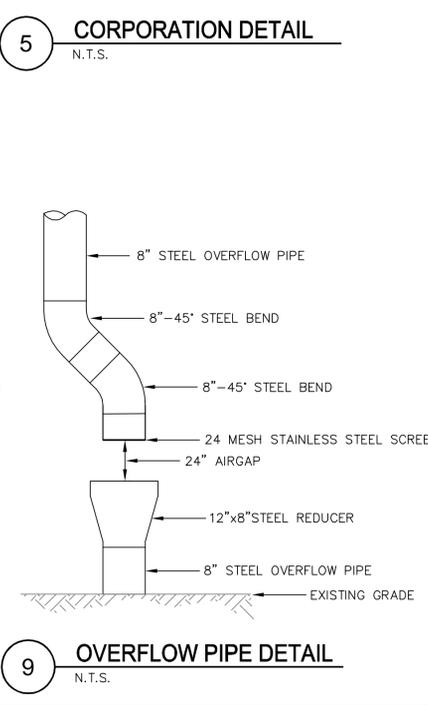
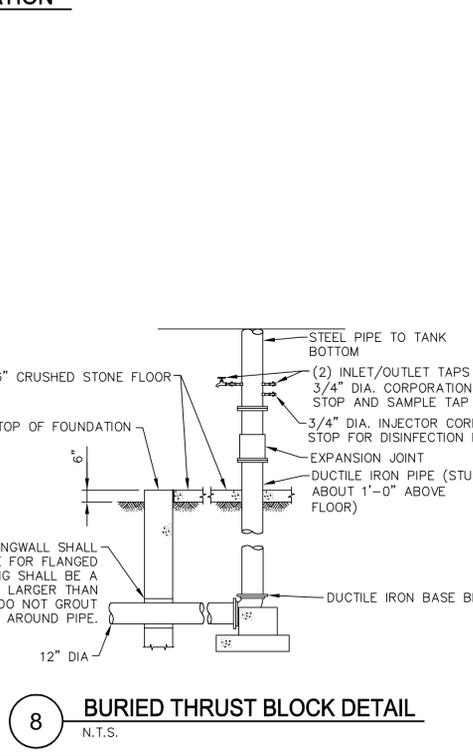
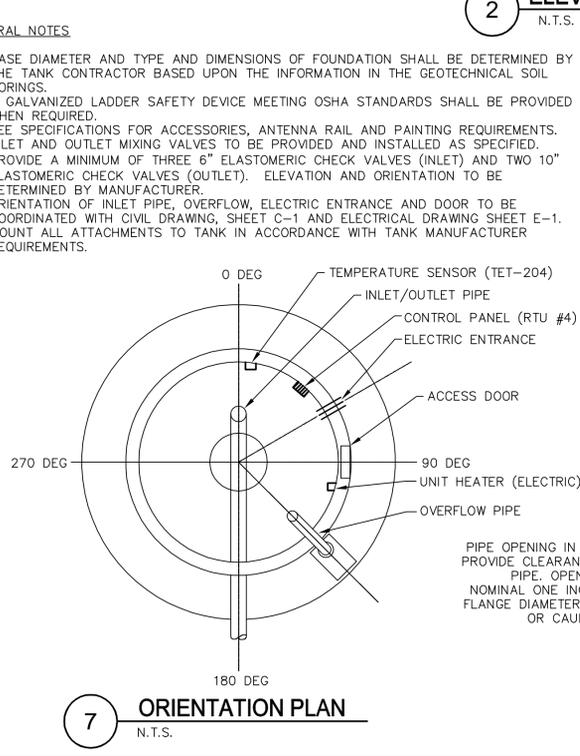
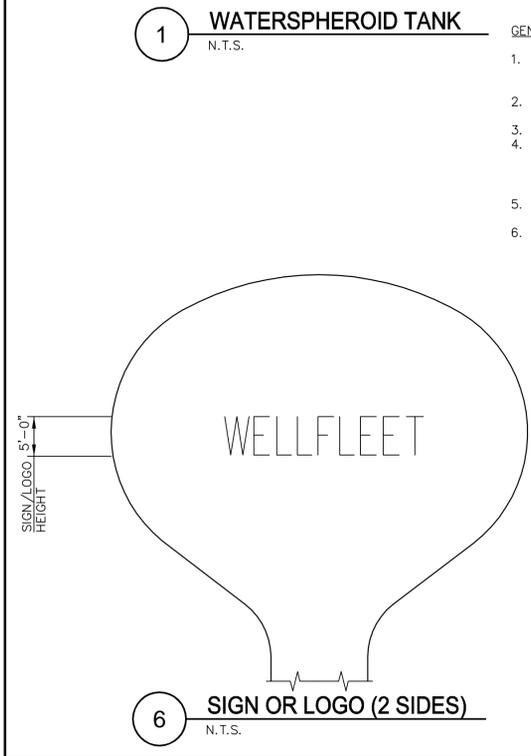
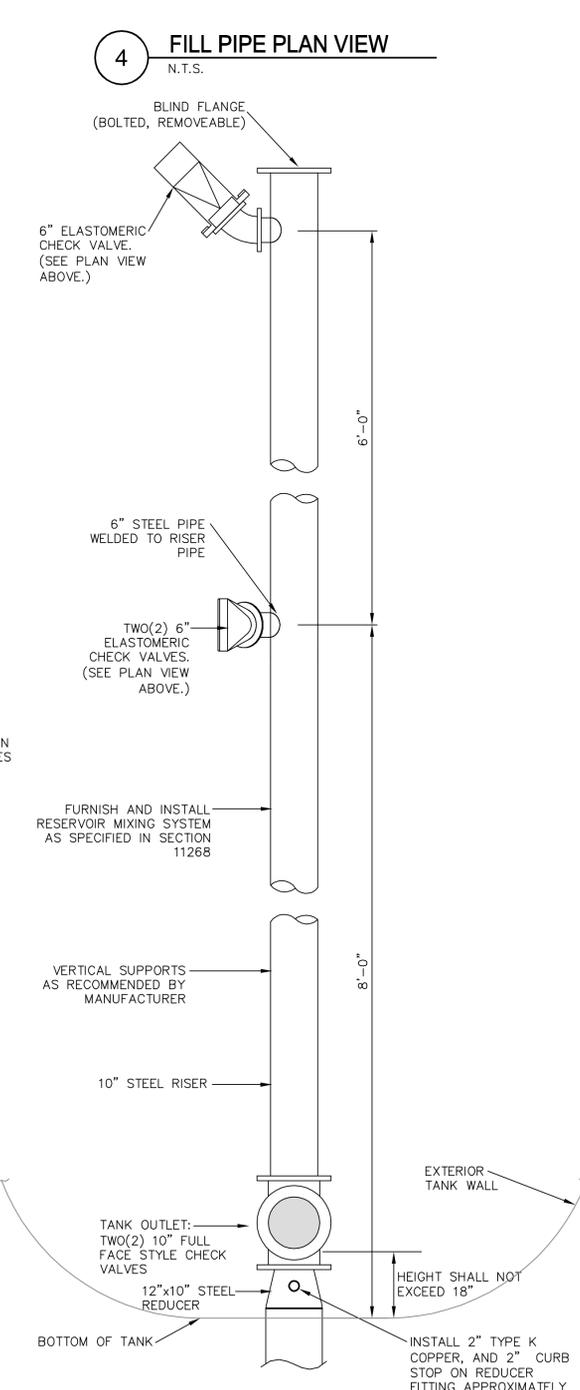
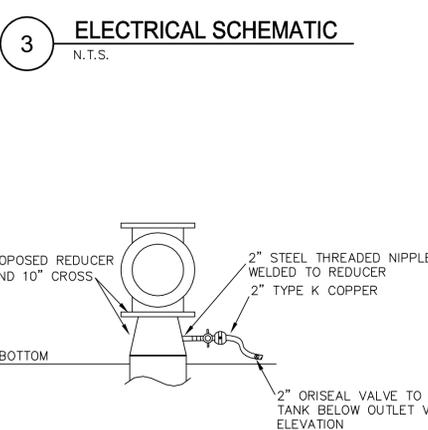
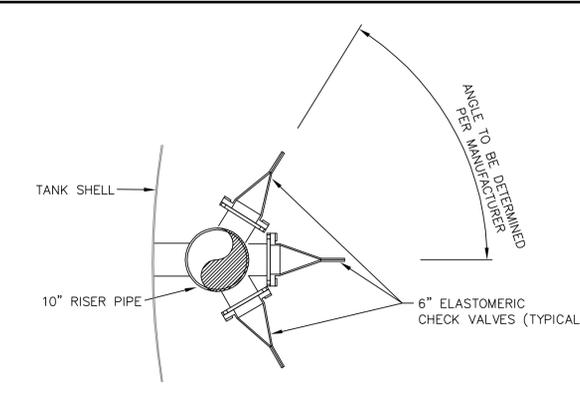
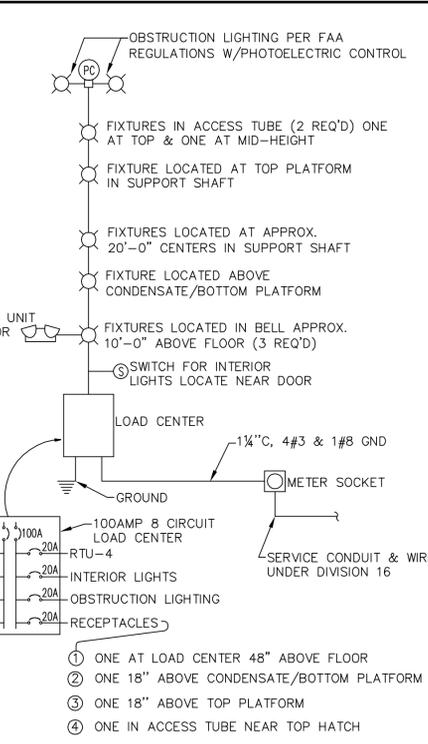
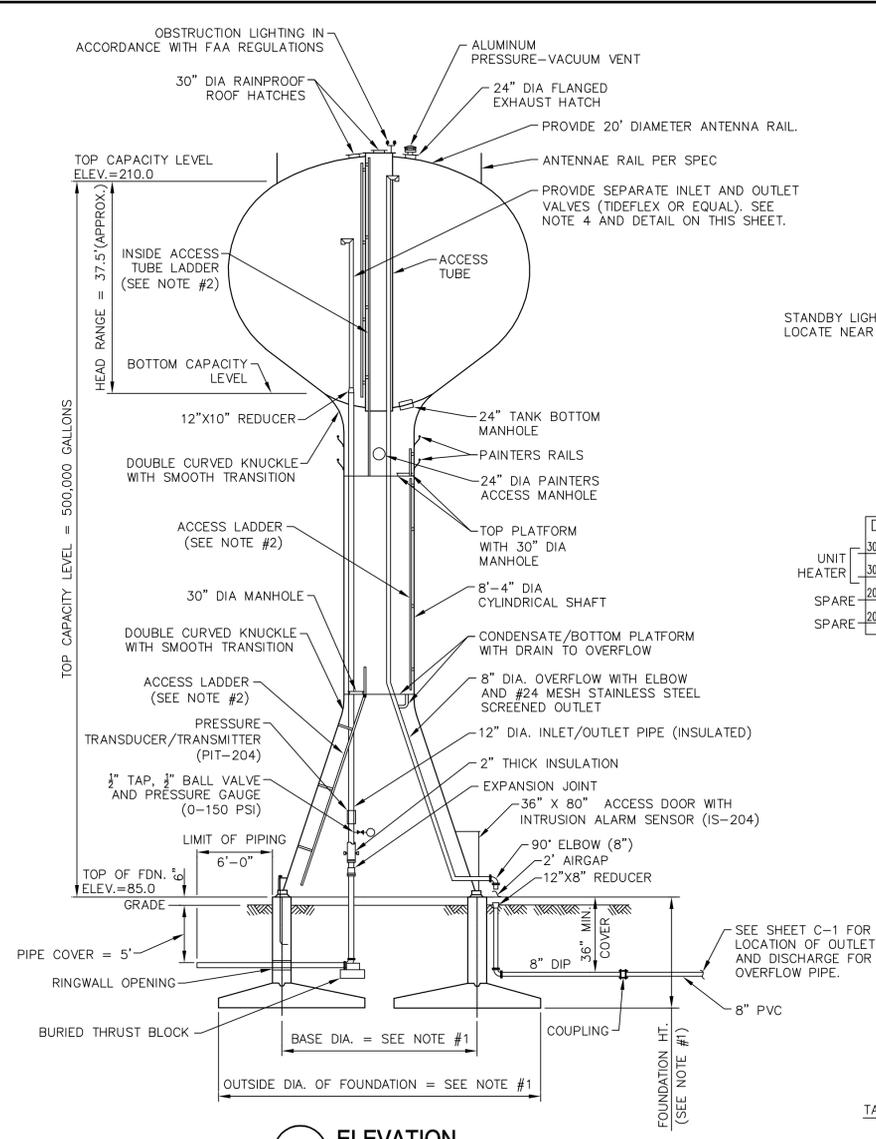
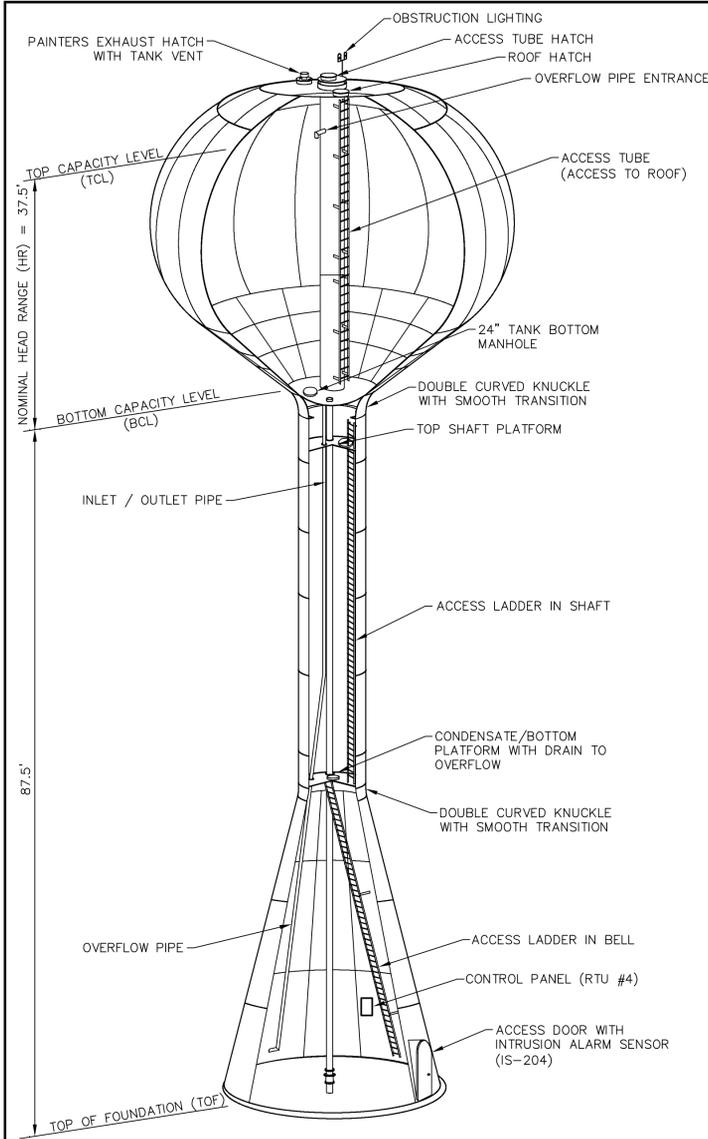
**BOY SCOUT CAMP WELL PUMP STATION  
RTU #3 CONTROL PANEL**

**LEGEND**

- AE - ANALYTICAL ELEMENT
- AIT - ANALYTICAL INSTRUMENT TRANSMITTER
- CP - CHEMICAL PUMP
- F/AIOR - FLOW/ANALYTICAL INDICATOR/TOTALIZER/RECORDER
- FIT - FLOW INDICATOR/TRANSMITTER
- HS - HAND SWITCH
- IS - INTRUSION SWITCH
- LS - LEVEL SWITCH
- LT - LEVEL TRANSMITTER
- MAN/AUTO - MANUAL/AUTOMATIC
- MFM - MAGNETIC FLOW METER
- OIT - OPERATOR INTERFACE TERMINAL
- PIT - PRESSURE INDICATOR/TRANSMITTER
- PLC - PROGRAMMABLE LOGICAL CONTROLLER
- RTU - REMOTE TERMINAL UNIT
- SBS - SIGNAL BOOSTER/SPLITTER
- TET - TEMPERATURE ELEMENT/TRANSMITTER
- UPS - UNINTERRUPTIBLE POWER SUPPLY
- VFD - VARIABLE FREQUENCY DRIVE
- HS 126 - PANEL MOUNTED INSTRUMENT TAG (INSTRUMENTATION CONTRACTORS PANEL)
- HS 301 - PANEL MOUNTED INSTRUMENT TAG (MANUFACTURERS PANEL)
- HS 301 - FIELD MOUNTED INSTRUMENT TAG
- AO - SCADA SIGNAL TAG: A=ANALOG, D=DISCRETE, I=INPUT, O=OUTPUT
- ELECTRICAL/SIGNAL WIRE
- ⊗ ALARM SIGNAL
- ⊕ INTERLOCK

Scale	N.T.S.	Date	Job No.	Designed by	Drawn by	Checked by	Approved by	Description	REVISIONS
		03/24/09	113-0701.05	PCM	SDB	SCO	PCM		

TOWN OF WELFLEET, MASSACHUSETTS  
WATER SYSTEM EXPANSION - CONTRACT NO.2  
BOY SCOUT CAMP WELL CONTROL BUILDING AND STORAGE TANK INSTRUMENTATION AND CONTROL SYSTEMS



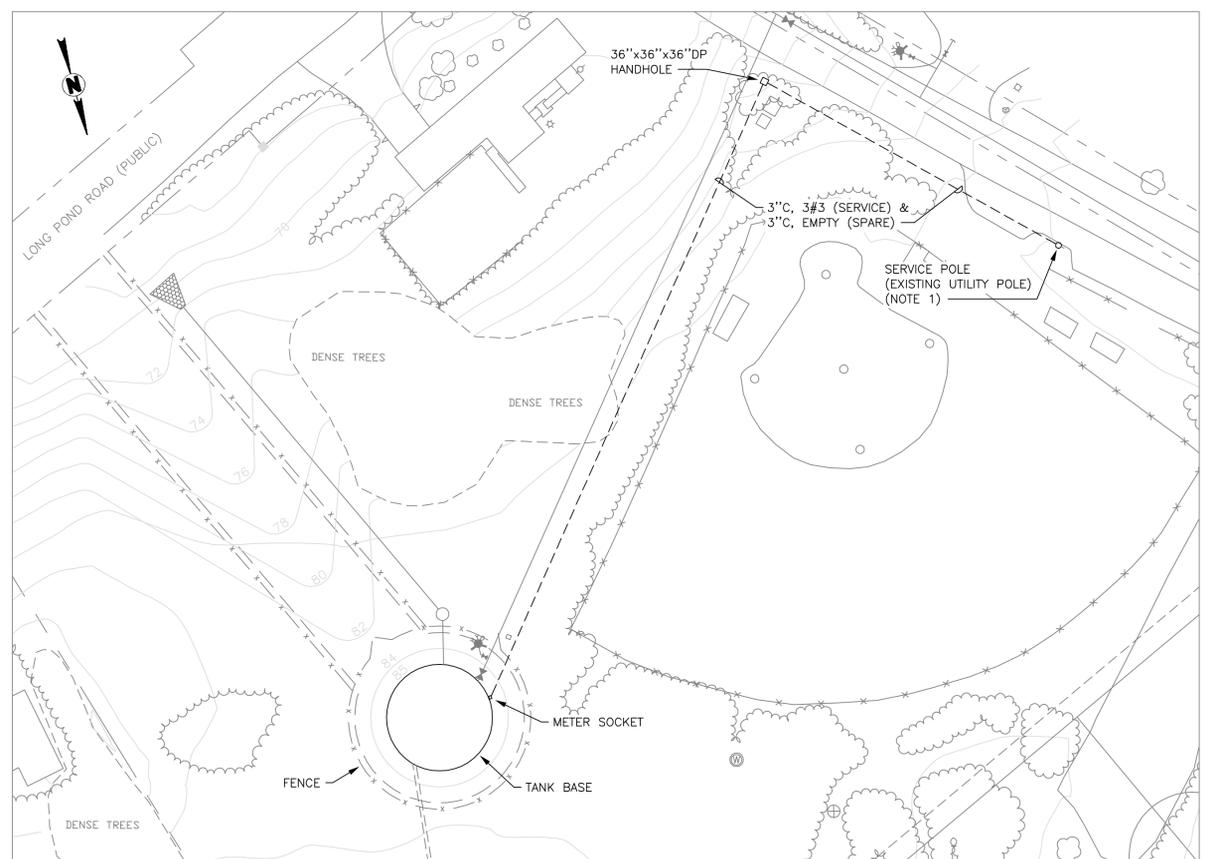
- GENERAL NOTES**
- BASE DIAMETER AND TYPE AND DIMENSIONS OF FOUNDATION SHALL BE DETERMINED BY THE TANK CONTRACTOR BASED UPON THE INFORMATION IN THE GEOTECHNICAL SOIL BORINGS.
  - A GALVANIZED LADDER SAFETY DEVICE MEETING OSHA STANDARDS SHALL BE PROVIDED WHEN REQUIRED.
  - SEE SPECIFICATIONS FOR ACCESSORIES, ANTENNA RAIL AND PAINTING REQUIREMENTS.
  - INLET AND OUTLET MIXING VALVES TO BE PROVIDED AND INSTALLED AS SPECIFIED. PROVIDE A MINIMUM OF THREE 6" ELASTOMERIC CHECK VALVES (INLET) AND TWO 10" ELASTOMERIC CHECK VALVES (OUTLET). ELEVATION AND ORIENTATION TO BE DETERMINED BY MANUFACTURER.
  - ORIENTATION OF INLET PIPE, OVERFLOW, ELECTRIC ENTRANCE AND DOOR TO BE COORDINATED WITH CIVIL DRAWING, SHEET C-1 AND ELECTRICAL DRAWING SHEET E-1.
  - MOUNT ALL ATTACHMENTS TO TANK IN ACCORDANCE WITH TANK MANUFACTURER REQUIREMENTS.

**Environmental Partners**  
A partnership for engineering solutions.  
www.envpartners.com  
Quincy, MA

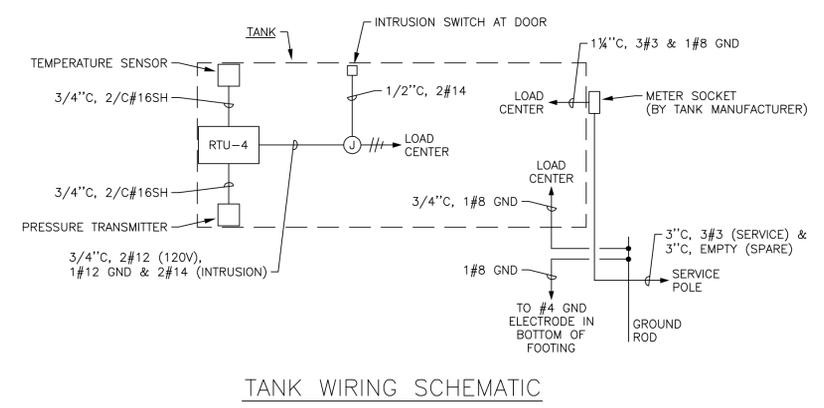
Scale	Date	Job No.	Designed by	Drawn by	Checked by	Approved by	Description	REVISIONS
N.T.S.	03/24/09	113-0701.05	PCM	SDB	SCO	PCM		

TOWN OF WELLFLEET, MASSACHUSETTS  
WATER SYSTEM EXPANSION - CONTRACT NO.2  
TANK DETAIL SHEET

**T.1**



**SITE PLAN**  
**LAWRENCE ROAD STORAGE TANK**  
 SCALE: 1"=40'



**TANK WIRING SCHEMATIC**

**NOTES:**

1. PROVIDE AN ELECTRIC CONDUIT AND WIRE RISER ON THE NOTED SERVICE POLE IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS. TERMINATE THE SPARE SERVICE CONDUIT 6 INCHES ABOVE GRADE AT THE SERVICE POLE, AT THE TANK METER SOCKET AND 6 INCHES ABOVE THE FLOOR BELOW THE PUMP STATION MAIN CIRCUIT BREAKER USING NEOPRENE PLUGS OR THREADED, REMOVABLE CAPS.
2. PROVIDE AT EACH WELL A JUNCTION BOX WITH A STRAIN-RELIEF, COMPRESSION TYPE CABLE FITTING HAVING A NEOPRENE GLAND SUITABLE FOR THE CABLE FURNISHED ON THE WELL LEVEL SENSOR. MOUNT THE BOXES IN THE NOTED WELL PITLESS ADAPTERS. SPLICE ONE PAIR OF SENSOR CABLE WIRES TO SIGNAL CABLE INSIDE THE BOX.
3. PROVIDE AN EQUIPMENT GROUND WIRE IN EACH RACEWAY AND CABLE CONTAINING FEEDER OR BRANCH CIRCUIT WIRING.
4. PROVIDE AN INDIVIDUAL NEUTRAL CONDUCTOR WITH EACH FEEDER AND BRANCH CIRCUIT HAVING A NEUTRAL CONNECTION. COMMON NEUTRALS SHALL NOT BE PERMITTED.
5. FOR THE COMPLETE SITE PLANS, SEE SHEET C-1.
6. BOXES AND ENCLOSURES SHALL BE NEMA TYPE 4X EXCEPT LOAD CENTER BOX SHALL BE NEMA TYPE 1 AND METER SOCKET SHALL BE NEMA TYPE 3R.

3/4" CONDUIT WITH #12 AWG WIRES.  
 --- LONG SLASH LINES = QUANTITY OF PHASE/NEUTRAL WIRES.  
 - - - SHORT SLASH LINES = QUANTITY OF EQUIPMENT GROUND WIRES.

Scale	Date	Job No.	Designed by	Drawn by	Checked by	Approved by	No.	Description	REVISIONS
AS SHOWN	03/24/09	113-0701.05	GAWE	EWE	GAWE	PCM			

TOWN OF WELFLEET, MASSACHUSETTS  
 WATER SYSTEM EXPANSION - CONTRACT NO.2  
 SITE PLAN AND TANK SCHEMATIC