

CITY OF QUINCY, MASSACHUSETTS

DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

CWSRF NO. 3974

ADDENDUM NO. 1

.....

To be considered as part of the contract drawings and specifications for the Quincy Point Pump Station Renovation Project, dated August 2015:

SPECIFICATIONS

TABLE OF CONTENTS

1. Page iii, ADD "Chain Link Fence 02820".

SECTION 00100 – INVITATION TO BID

1. Page 00100-1, ADD the following after the fourth paragraph:
"General Contractor's CATEGORY OF CERTIFICATION: PUMPING STATIONS"

SECTION 02532 – VALVES AND APPURTENANCES FOR WASTEWATER WORK

1. Page 02532-3, ADD the following after Part 2.03:

"2.04 INSERTION VALVES:

- A. Insertion valves shall consist of ductile iron body, bonnet, and wedge constructed in accordance with ASTM A536 Grade 65-45-12 and shall meet or exceed requirements of AWWA C509 and C515 for Resilient Seat Valves suitable for potable water service.
- B. The valve shall have a maximum working pressure of 250 PSI and shall conform to all other requirements herein specified for gate valves. The valve gate shall be capable of creating a bubble tight seal, capable of sealing equally well with flow in either direction.
- C. Insertion valves shall be furnished with a 2-inch square operating nut and the entire valve body and bonnet shall be coated with a minimum of 8 mils epoxy in compliance with AWWA C550. The entire insertion valves shall be NSF-61 approved, suitable for

use in potable water and shall have a non-rising stem.

- D. All chips and debris created during installation of the insertion valve shall be flushed outside of the pipe and not into the distribution system.
- E. Before backfilling, all exposed portions of bolts used to hold the two halves of the sleeve together shall be heavily coated with two coats of bituminous paint comparable to Inertol No. 66, Special Heavy. Sleeves shall be furnished with a rubber gasket that fits 360 degrees around the pipe at each end.
- F. The contractor shall be responsible for verifying the outside diameter of the pipe where the valve will be inserted and the cover over the valve bonnet and operating nut. The valve bonnet and operating nut shall not extend above ground surface and shall be a minimum of 2-feet below grade. Valves shall be capable of working with a standard gate valve box.
- G. Insertion valves shall be installed by an installer certified in installing the specific type of insertion valve.
- H. Insertion valves shall be as manufactured by EZ Insertion Valve by Advanced Valve Technologies, Inc., Elk Grove Village, IL; or approved equal.”

SECTION 02820 – CHAIN LINK FENCE

- 1. ADD attached Section 02820 in its entirety.

SECTION 11310 – WASTEWATER PUMPING EQUIPMENT

- 1. DELETE “Section 11310 WASTEWATER PUMPING EQUIPMENT” and replace with the attached “Section 11310 WASTEWATER PUMPING EQUIPMENT.”

SECTION 15110 – VALVES AND APPURTENANCES (FOR WASTSEWATER PROCESSES)

- 1. Page 15110-3, ADD the following after Part 2.01.H:

“I. All Valves shall meet the American Iron and Steel (AIS) requirement of the Consolidated Appropriations Act, 2014.”

2. Page 15110-3, DELETE Part 2.02.F as follows:

“Valves shall be made by The William Powell Co., Cincinnati, OH; Crane Co., Chicago, IL; Jenkins Bros., New York, NY; or approved equal..”

and REPLACE with the following:

“Valves shall meet the American Iron and Steel (AIS) requirement of the Consolidated Appropriations Act, 2014. Valves shall be made by Clow Valve, Oskaloosa, IA; M&H Valve, Anniston, AL; Kennedy Valve, Elmira, NY; or approved equal.”

3. Page 15110-4, DELETE Part 2.03.B as follows:

“Valves shall be made by The William Powell Co., Cincinnati, OH; Crane Co., Chicago, IL; Jenkins Bros., New York, NY; or approved equal..”

and REPLACE with the following:

“Valves shall meet the American Iron and Steel (AIS) requirement of the Consolidated Appropriations Act, 2014. Valves shall be made by Clow Valve, Oskaloosa, IA; M&H Valve, Anniston, AL; Kennedy Valve, Elmira, NY; or approved equal.”

APPENDIX A

1. ADD attached Davis-Bacon Wage Rates in its entirety.

PLANS

DRAWING C-1

1. See attached sketch SK-C-1 for REVISION to show location of existing swing gate.

DRAWING C-2

1. See attached sketch SK-C-2 for REVISION to show location of new swing gate and new valve(s) and configuration.

PRE-BID CONFERENCE

A pre-bid meeting was held on September 3, 2015. A summary of the pre-bid meeting is attached.

QUESTIONS

Q1. Can the DCAMM certifications for the general bid category be expanded to include General Building Construction?

A1. No. The DCAMM certification category for the General Bidder shall be Pumping Stations per this Addendum No. 1.

Q2. Does the electrical contractor or the general contractor buy the VFDs?

A2. The VFDs shall be purchased with the pumps by the general contractor. The electrical contractor shall install and wire.

Q3. Is the standby generator included as part of the electrical filed sub-bid?

A3. The standby generator is included as part of the electrical filed sub-bid.

Q4. Will the existing standby generator remain in the building and in service during construction?

A4. The existing standby generator shall be removed as part of the demolition. The specified temporary bypass pumping system shall include a dedicated standby power source.

Q5. Will the permit fees be waived?

A5. No. Permit fees shall be paid by the Contractor.

- Q6. There doesn't appear to be any electric utility company charges available at this time. Has a work order number already been established for this project address?
- A6. Weston & Sampson met with National Grid during design. The associated work order number for the project is 18771070. The contact at National Grid is Douglas J. Clark, Senior Representative, phone (781) 907-3497. National Grid stated that there are items on site that need to be corrected as they are in poor shape and that National Grid will not be passing on any charges associated with the project. If National Grid will be doing the work during normal business hours, the decision to not pass on charges should hold. If they are required to work outside of normal business hours there will be charges for that work, and costs will be determined. The selected Electrical Filed Sub-bidder shall arrange to have National Grid complete their required work during normal business hours in order to avoid any charges for the project. If the work is scheduled outside of normal business hours, the Electrical Filed Sub-bidder shall be responsible for the charges.
- Q7. Does the Roofing FSB Contractor or the General Contractor own the demolition of the roof?
- A7. The Roofing FSB Contractor is to own the demolition of the roof for scheduling between demolition and renovation work.
- Q8. Will the engineer accept GAF EverGuard TPO 80 mil membrane systems as an approved equal?
- A8. The contractor may elect to submit alternative methodologies and materials for review as an approved equal in lieu of the products included in the Contract Documents during the submittal process.

END OF ADDENDUM

ATTACHMENTS

- Specification Section 02820 “Chain Link Fence”, add entire section (6 pages)
- Specification Section 11310 “Wastewater Pumping Equipment”, replace entire section (16 pages)
- Davis-Bacon Wage Rates, add to Appendix A (20 pages)
- Sketches – Civil (2 sketches)
- Summary of Pre-Bid Conference / American Iron and Steel Best Practices/ Sign-In Sheet (5 pages)

SECTION 02820

CHAIN LINK FENCE

PART 1 - GENERAL

1.01 WORK INCLUDED:

- A. The Contractor shall provide all labor, materials and appurtenances necessary for the installation of a six (6) foot wide chain link fence gate that shall be added to the existing fence upon reinstallation and shall meet or exceed the standards of the Chain Link Fence Manufacturer's Institute, New York, NY except as otherwise indicated on the Drawings and as herein specified.
- B. The manufacturer shall supply a vinyl PVC coated six (6) foot wide chain link fence gate that shall be added to the existing fence upon reinstallation and shall be of the height, fabric type, fabric gauge, framework strength, color (black) and coating specifications contained herein. All fence materials unless specifically stated otherwise, shall be extrusion bonded polyvinyl chloride (PVC) coated.
- C. The gate shall be located adjacent to the existing ten-(10) foot wide gate on the Des Moines Road side of the site as shown on the drawings.

1.02 RELATED WORK:

- A. Section 01330, SUBMITTALS
- B. Section 01564, EXISTING FENCES
- C. Section 03302, FIELD CONCRETE

1.03 REFERENCES:

- A. The following standards form a part of this specification as referenced.

American Society for Testing and Materials (ASTM)

| | | |
|------|------|--|
| ASTM | A53 | Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless |
| ASTM | A121 | Zinc-Coated (Galvanized) Steel Barbed Wire |
| ASTM | A392 | Zinc Coated Steel Chain Link Fence Fabric |
| ASTM | A123 | Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products |

| | | |
|------|-------|---|
| ASTM | A153 | Zinc Coating (Hot-Dip) on Iron and Steel Hardware |
| ASTM | F567 | Installation of Chain Link Fence |
| ASTM | F626 | Fence Fittings |
| ASTM | F668 | Specification for Poly Vinyl Chloride (PVC) - Coated Steel Chain-Link Fence Fabric. |
| ASTM | F1043 | Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework. |

Federal Specifications (FS)

| | | |
|-------------|--|--|
| FS RR-F-191 | | Fencing Wire and Post, Metal (and Gates, Chain-Link Fabric, and Accessories) |
|-------------|--|--|

1.04 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

- A. Six sets of manufacturers literature of the materials specified herein shall be submitted to the Engineer for review.
- B. Six sets of shop drawings of the fence and the proposed color (black) shall be submitted to the Engineer for review.

1.05 WARRANTY:

- A. Prior to installation, the fence contractor shall provide the fence manufacturer's notarized certification that all vinyl components are fully warranted by the manufacturer for 15 years against rust and corrosion.

PART 2 - PRODUCTS - PVC COATED

2.01 STEEL FRAMEWORK (GENERAL):

- A. All posts, gate frames, braces and horizontal rails shall be Type I round post, hot dipped galvanized with a minimum average coating of 1.8 oz/ft², meeting ASTM F 1083 for Standard Weight Galvanized Pipe and shall be of the sizes and weights given below or other approved equivalent sections of steel having a minimum tensile strength of 50,000 pounds per square inch and a minimum yield strength of 25,000 pounds per square inch.
- B. Minimum cross-section dimensions for line posts of specified shape shall be: either 2-3/8-inch (2.375-inch) outside diameter steel pipe weighing not less than 3.65 pounds per linear foot; or 2.25 by 1.95 by 9/64-inch steel H section weighing not less than 4.10 pounds per linear foot.

- C. Minimum cross-section dimensions for end, corner, and pull posts of specified shape shall be: 2-7/8-in. (2.875-in.) outside diameter steel pipe weighing not less than 5.79 pounds per linear foot; 2-1/2 by 2-1/2-inch square tubes weighing not less than 5.70 pounds per linear foot; or 3-1/2 by 3-1/2-inch rolled-formed sections weighing not less than 8.14 pounds per linear foot.
- D. All tubular and pipe posts shall be capped to prevent precipitation from entering the post, unless a barbed wire extension arm assembly acts as a cap.
- E. Posts, other fence framework, accessories, fittings, and miscellaneous items shall be galvanized and have an extrusion bonded polyvinyl chloride (PVC) coating. The PVC coating on posts shall be a minimum of 10 mils thick. Framework color coating shall match fabric. Galvanized finish shall have not less than the following weight of zinc per square foot:
 - 1. Pipe: 1.8 oz, complying with ASTM A53.
 - 2. H-sections and square tubing: 2.0 oz, complying with ASTM A123.
 - 3. Hardware and accessories: Comply with Table I of ASTM A153.
- F. For top railings and top, middle and bottom braces between terminal posts and adjacent line posts, the minimum cross-section dimensions for the specified shall be 1-5/8-inch outside diameter steel pipe weighing not less than 2.26 pounds per linear foot.
- G. Diagonal truss braces between terminal and adjacent line posts and for gauge framework shall not be less than either 3/8-inch diameter steel rod or double No. 9 AWG steel wire stranded together.
- H. Fittings shall be galvanized press steel, malleable or cast steel as specified in ASTM F626 and Federal Specification RR-F-191.
- I. Where posts do not have provisions for weaving fence fabric to posts, tension or stretcher bars for attaching fabric to terminal posts such as end, corner, gauge and pull posts, shall be flat bar with nominal dimensions no less than 3/16 by 3/4-inch for use with fence fabric having mesh larger than 1-inch, of a length equal to full height of the fence fabric, and used with bar bands, bolts and nuts. Bar bands shall be no thinner than No. 11 gauge coated sheet steel. Bolt diameters shall be not less than 3/8-inch for use with bar bands.
- J. Ties for fastening fence fabric to line posts and rails shall be not less than No. 9 AWG steel wire with the same coating as the fence fabric or other approved bands.

2.02 CHAIN LINK FENCE FABRIC – PVC COATED:

- A. Vinyl coated fabric shall be supplied with Class 2A (extrusion bonded) vinyl coating. The coating shall be applied over a galvanized steel core wire and be manufactured in accordance with Federal Specifications RR-F-191 and ASTM F668. The PVC coating

shall have a final coating thickness of 0.015-0.025-inch and a core wire size diameter of 0.148-inch.

- B. Wire size: The finished wire size shall be 6 gauge.
- C. Height and Mesh Size: The fabric height shall be seven (7) feet high with a mesh size of 2-inches.
- C. Selvage: Top edge and bottom edge of the fabric shall be knuckled.
- E. The tension wires shall either be No. 7 gauge steel-core wire. PVC coating shall conform to ASTM F668 Class 2a or 2b. Also, a 7-strand galvanized steel ½-inch guy wire with PVC coating may be supplied.
- F. The polyvinyl chloride (PVC) coating shall be free of voids, shall be dense and impervious, shall be of a plasticized or epoxy modified, high specific gravity polyvinyl chloride with high resistance to tear and suitable hardness. The PVC coating shall not support combustion and shall withstand an accelerated aging and weathering test a minimum of 2,000 hours at 145 degrees F with ultraviolet and salt spray without cracking or peeling the PVC coating and without corrosion of the base metal. The PVC coating shall withstand a mandrel bending test of ten times the thickness of the base metal at minus 25 degrees F without cracking. The PVC coating shall not separate from the metal or shrink. Color (black) used in PVC coating shall be stabilized so that it will not fade under long exposure to sunlight. Color (black) shall be approved by the Engineer as selected from the manufacturer's standard colors.
- G. Barbed wire support arms shall project inward from the top of the posts at 45 degrees, shall be of sufficient strength to support 250 pounds applied downwards at the outermost wire attachment, and shall have formed tongues or other approved provisions for attachment of three strands of barbed wire, with the outside strand located approximately 12-inches horizontally away from the fence, and the other strands spaced evenly.
- H. Barbed wire shall be double strand No. 12-1/2 AWG wire, conforming to ASTM A121, with No. 14 AWG 4-point barbs placed 5-inches apart.

2.03 SWING GATES – PVC COATED:

- A. Gate leaf frames shall be amply braced and trussed for rigidity. Truss rods shall be adjustable. Gate leaf framework shall be pipe or other approved suitable cross-section of the size recommended by the fencing manufacturer for the size of gate leaf, but shall be no smaller than 1-7/8-inch (1.875-inch) outside diameter steel pipe weighing not less than 2.72 pounds per linear foot. If bolted or riveted corner fittings are not used, the gate frame shall have the corrosion-resistant finish applied after welding.
- B. Gates, gate posts, fabric and associated hardware shall be thermally coated with PVC, 10 mils thick, to match the fence.

- C. Gate hinges shall be 180 degree, heavy pattern, of adequate strength for the gate size, with large bearing surfaces for clamping or bolting in position, and with hinge action such that the gates may be opened and closed easily.
- D. Gates shall be provided with accessible, suitable latches and provisions for padlocking.
- E. Double leaf gates shall have center bolts and center stops. Unless indicated otherwise on the drawings, the gates shall have automatic backstops to hold the leaves in open position.
- F. For gate openings, up to and including 12-feet, with double leaf gates, minimum cross-section dimensions for the gate posts of specified shape shall be the same as specified above for end posts.
- G. For gate openings larger than 12 feet, the minimum outside diameter for the gate posts shall be 6-5/8-inches, weighing not less than 18.97 pounds per linear foot.

PART 3 - EXECUTION

3.01 ERECTION:

- A. The fence and gates shall be erected by skilled mechanics in accordance with the recommendations of the manufacturer and these specifications. These specifications shall take precedence over the recommendations of the manufacturer if any discrepancy exists between them.
- B. Maximum post spacing shall be 10-feet. Post spacing shall be uniform and posts shall be plumb. All end, corner, pull and gate posts must be set in concrete. Line posts may be secured by driven blades.
- C. Concrete post foundations in earth shall be concrete cylinders with a minimum diameter of 12-inches, crowned at grade to shed water, and shall extend not less than 3-feet into the ground. Posts shall be set in the full depth of the foundations except for 3-inches of concrete under the posts. If foundation holes are excavated in unsuitable material, the Engineer shall be notified for determination of suitable construction precautions.
- D. If solid rock is encountered without an overburden of soil, poles shall be set into the rock a minimum depth of 12-inches for line posts and 18-inches for terminal posts, such as end, corner, gate and pull posts, and grouted into solid rock with the post hole diameter a minimum of one inch larger than that of the post.
- E. Where solid rock is covered by an overburden of soil or loose rock, the posts shall be set into the rock as specified above. The total pole setting depth shall not exceed the depths required for setting in earth.

- F. Any change in direction of fence line of 30 degrees or more shall be considered as a corner. Pull posts shall be used at all abrupt changes in grade. Maximum area of unbraced fence shall not exceed 1,500 square feet.
- G. Terminal posts such as end, corner, gate and pull posts shall be braced to the adjacent post(s) with horizontal rail braces used as compression members and diagonal truss braces with truss tighteners for tension members, with the lower ends at the terminal post in each panel of fence framework as indicated in detail on drawings.
- H. The top railing shall pass through intermediate or line post tops, form a continuous brace with all splices made by approved couplings, and shall be fastened to terminal posts.
- I. Fabric shall be stretched taut, with the bottom edge following the finished grade, and shall be a continuous mesh between terminal posts. Each span of fabric shall be attached independently at terminal posts. Where terminal posts do not have provisions for weaving fabric to posts, stretcher bars shall be placed through the end weave of the fabric and secured to the post with bar bands spaced not more than 15-inches apart on the post.
- J. Fabric shall be attached with ties to line posts at intervals of not more than 14-inches (and to the top railing and braces at intervals not exceeding 24-inches).
- K. The bottom tension wire shall be interlaced in the weave of the fabric, pulled taut and fastened to terminal posts.
- L. Barbed wire shall be stretched taut and fastened at each support.

END OF SECTION

O:\Quincy MA\2140649 Quincy Point PS Design\Bidding\Addendum No. 1\SECTION 02820 Chain Link Fence.docx

SECTION 11310

WASTEWATER PUMPING EQUIPMENT

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers the furnishing, installation and testing of the wastewater pumping unit(s) with motor, drive and appurtenances, complete as indicated on the drawings and as herein specified.

1.02 RELATED WORK:

- A. Services of Manufacturers Representative is included in Section 01750.
- B. Equipment Startup and Testing is included in Section 01751.
- C. Equipment Checkout and Testing is included in Section 01750.
- D. Concrete is included in Division 3.
- E. Painting is included in Division 9.
- F. Instrumentation is included in Division 13.
- G. Valves and Piping are included in Division 15.
- H. Electrical Work is included in Division 16.

1.03 SYSTEM DESCRIPTION:

- A. The wastewater pumping equipment shall consist of pumps and motors with parameters as specified in the Pumping Equipment Schedule (2.02), including frames, seals, couplings or intermediate shafting (whichever is applicable), grounding rings and electrical system interface, and all associated equipment and accessories required to make a complete and functional system.
- B. This specification directs special attention to certain features, but does not purport to cover all details of the design, manufacture or installation of the pumping unit. Final responsibility for supplying and installing pumping equipment which functions as specified herein rests with the Contractor.
- C. The pump manufacturer shall furnish a fully functional pump and motor as specified and be responsible for the coordination and compatibility of the pumping equipment. The Contractor shall be responsible for providing a complete, installed, tested, and fully functional pumping system.

1.04 QUALITY ASSURANCE:

A. All Equipment Shall Conform To The Following Criteria

1. Equipment shall be manufacturer's standard cataloged products, model and size, presently in commercial production. Unless otherwise specified, prototypes in model or size will not be accepted.
2. Conform to Hydraulic Institute Standards.
3. All equipment specified under this Section shall be furnished by a single pump manufacturer and shall be products of manufacturers regularly engaged in the production of said equipment. The manufacturer shall have the sole responsibility for proper functioning of the complete pumping unit.
4. Any reference to a specific manufacturer or model number is for the purpose of establishing a quality or parameter for specification writing and is not to be considered proprietary. In all cases any source or device that has the quality and operating capabilities specified may be acceptable.
5. Conform to requirements for materials, installation and equipment approvals of state, local, Underwriter's Laboratories, Inc., or other applicable codes, whether or not called for on the drawings or in the specifications.
6. Workmanship shall be first class in all respects.
7. Base the use of unspecified materials on their continuous and successful employment under similar conditions, as called for in this section.
8. Motors, couplings or intermediate shafting (whichever is applicable), shall be furnished by the pump manufacturer who shall assume responsibility for their compatibility, coordination and proper operation. The manufacturer shall have a minimum of 10 installations of comparable size and complexity in operation for a minimum of 5 years.

B. Manufacturer's Qualifications

1. On request from the Engineer, the pump manufacturer shall demonstrate proof of financial responsibility and capacity with respect to performance and delivery date.
2. On request from the Engineer, the pump manufacturer shall provide proof or evidence of facilities, equipment and skilled personnel required to produce the equipment specified herein.
3. In addition to requirements set forth in Section 01750 under "Services of Manufacturer's Representative," the manufacturer shall provide the supervisory service of a factory trained technician, who is specifically trained on the type of

equipment supplied, for a period of not less than two 8-hour days to provide technical assistance for installation and initial startup of the pumping equipment and related appurtenances, and to provide instruction of the Owner's operating personnel in the operation and maintenance of the equipment provided. The specified time period is a minimum time requirement. The actual time required to complete specified tasks may take longer, but shall be completed at no additional cost to the Owner.

4. The plans were developed based on the first named manufacturer in Section 2.01. Should Contractor propose to furnish other manufacturers, any changes to structures, pipe, fittings, cabling, conduit, etc. required to accommodate those manufacturers shall be provided at no additional cost or contract time. Any changes shall be coordinated with any applicable trades and shall be noted during the shop drawing submittal.
5. The actual time required to complete the specified tasks may take longer, but shall be completed at no additional cost to the Owner.

C. Factory Tests

1. General:

- a. Pumps shall be tested at the factory and will simulate the conditions of service listed in the specification.

2. Pump Testing Requirements:

- a. The pump manufacturer shall not ship any pump until after the certified pump performance tests have been submitted to and reviewed by the Engineer.
- b. Hydrostatic testing of the pump casing, suction cover and stuffing box cover shall be performed after assembly of the pump. The minimum test pressure shall be the greater of: one point two five (1.25) times the shutoff head at full diameter impeller, or one point five (1.50) times the design head, whichever is greater. Certified hydrostatic test results shall be submitted to the Engineer with pump performance testing.
- c. The pump to be furnished under this Section shall be performance tested with water at the pump manufacturer's plant, before shipment. The pump shall be tested with actual suction elbow to be furnished for this system as specified.
- d. The purpose of performance testing shall be to prove that the pump to be supplied conforms to the Specification requirements, and that the pump can properly operate throughout the entire pump envelope. Tests shall conform to the Standards of the Hydraulic Institute, acceptance level "B", except as specifically modified herein.

- e. The pump to be supplied shall be performance tested for all four (4) parameters listed below. Each test shall be conducted from "no flow at shut-off head" condition to "runout" condition with a minimum of 3 points between, one of which shall be as close to the specified design point as possible.
 - 1. Head
 - 2. Capacity
 - 3. Brake horsepower
 - 4. Efficiency

- f. The performance test data report shall be certified by a Registered Professional Engineer retained by the pump manufacturer, and shall state the pump usage name, pump model number, pump serial number, date of testing, and contain pump curves and data sheets showing for speeds from 60% to 100% at 10% intervals showing the following at each point.
 - 1. Total Dynamic Head (TDH) versus flow rate (gpm)
 - 2. Brake horsepower versus flow rate (gpm)
 - 3. Calculated "Net Positive Suction Head Required" (NPSHR) versus flow rate (gpm)
 - 4. Efficiency versus flow rate (gpm)
 - 5. Motor amperage and voltage readings when job motors are used for test.

- g. If, in the sole opinion of the Engineer, any pump test indicates that the pump performance differs from the Specification requirements and/or the previously submitted pump performance data, the cause of the difference shall be determined and corrected by the manufacturer. The pump shall be retested until it meets the performance requirements specified herein. Pumps failing the tests twice may be rejected by the Engineer.

3. Motor Testing Requirements

- a. The pump motor to be furnished under this Section shall be tested according to generally recognized "Short Commercial Test." Provide test results for record purposes.

- b. The motor manufacturer shall not ship any motor until after the motor test information has been submitted to and reviewed by the Engineer.

D. Field acceptance tests shall be performed as specified in PART 3 - EXECUTION. All field testing reports shall be submitted to the Engineer for review.

1.05 REFERENCES:

- A. The latest editions of the following standards form a part of this specification. Specific references are listed as a guide only. Additional specific references may be applicable.

American National Standard Institute (ANSI)

- ANSI A21.10 Standard for Gray-Iron and Ductile Iron Fittings, 3-in. through 38-in. for Water and Other Liquids.
- ANSI A21.11 Standard for Rubber-Gasket Joints for Ductile Cast-Iron and Gray-Iron Pressure Pipe and Fittings.
- ANSI A21.15 Standard for Flanged Cast-Iron and Ductile-Iron Pipe with Threaded Flanges.
- ANSI A21.51 Ductile-Iron Pipe Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids.

American Society for Testing and Materials (ASTM)

- ASTM A48 Specifications for Gray-Iron Castings.
- ASTM A53 Specifications for Pipe, Steel, Black and Hot-dipped, Zinc Coated, Welded and Seamless.
- ASTM A108 Steel Bars, Carbon, Cold Finished, Standard Quality
- ASTM D429 Rubber Property - Adhesion to Rigid Substrates

Massachusetts Electrical Code (MEC)

527 CMR 12.00 Massachusetts Electrical Code.

National Electric Manufacturer's Association (NEMA)

NEMA MG1 Motors and Generators

1.06 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

- A. Prior to shipment, submit six (6) copies of the following to the Engineer:
1. Complete shop drawings showing dimensions, materials of construction, and all particulars as herein specified.
 2. Pump hydrostatic and performance testing procedures and description of test facility. Demonstrate manufacturer's ability to test per H.I. Standards and these specifications.
 3. Certified pump curve showing the actual performance of the pump to be supplied under factory testing, stamped and approved by a Registered Professional Engineer in the appropriate field.

4. Certified hydrostatic test results.
5. Complete list of shipped components with cut sheets for all accessories.
6. Complete test results on each motor from the complete test as defined in the NEMA standard for a motor of its class and rating to determine that it is free from electrical and mechanical defects and to provide assurance that it meets the design specifications. Provide certification of factory motor balancing. Pump motor performance data shall include:
 - a. Guaranteed minimum efficiency at full load.
 - b. Guaranteed minimum Power Factor at full load.
 - c. Locked rotor and full load current.
 - d. Starting, full load, and breakdown torque.
7. Pump bulletin.
 - a. Storage and installation instructions for pump and motor, couplings or shafting (whichever is applicable), seals and other appurtenances,
9. Assembly and installation drawings showing pump, motor, frame size, coupling and base with component weights and dimensions, and installation instructions.
10. Maximum reverse runaway speed calculations.
11. Complete pump and motor nameplate information.
12. Complete functional description of all system components.
13. Furnished parts lists including the manufacturer's reference and ordering numbers.
14. Recommended spare parts list with ordering numbers.
15. Pump and motor warranty.
16. B10 bearing calculations for pump and motor.
17. Surface preparation and paint specifications for pump and motor.
18. Component drawings and selection calculations for intermediate shafting. Cut sheets on steady bearings and guards.

B For approval, submit six (6) copies of the following to the Engineer:

1. "Operation and Maintenance" manuals of all equipment supplied and installed as specified in Section 01330, SUBMITTALS. Manuals shall contain, but not be limited to, a complete list of shipped equipment, a preventative maintenance schedule, a list of troubleshooting information, assembly drawings with components clearly identified and numbered, parts lists, wiring diagrams, pertinent technical data and factory service information, warranties and emergency telephone number(s).

C. Upon completion of installation, submit six (6) copies of the following to the Engineer:

1. Results of the field and acceptance tests as specified under this section of the specification.

1.07 DELIVERY, STORAGE, AND HANDLING:

A. Shipping

1. The wastewater pump, materials and spare parts shall be shipped complete and ready for installation except where partial disassembly is required by transportation regulations, is recommended by the manufacturer or for protection of components.
2. All anchor bolts and embedded items required for complete installation or mounting, holding down or supporting of equipment to be furnished under this section, including necessary location drawings and/or templates required to install the items in concrete, masonry, etc., shall be furnished and delivered to the site by the manufacturer of the equipment furnished under this section, for installation under other sections of the specifications. Delivery of these items shall be as required by the overall construction schedule.
3. Spare parts shall be packed in containers bearing labels clearly designating contents and pieces of equipment for which intended.
4. Spare parts shall be delivered to the site at the same time as the basic equipment and turned over to the Owner after completion of work.

B. Storage

1. The Contractor shall receive, store, and safeguard all equipment, materials, and spare parts at the job site.

1.08 WARRANTY:

- A. The pump manufacturer and the pump motor manufacturer shall each individually and separately warranty that the equipment they supplied under this Section fully meets the criteria specified herein, and shall further warranty that the equipment is free from all defects in materials and workmanship.

- B. The manufacturer's warranties from defects shall contain a provision that the manufacturer shall repair or replace any defects, at no additional cost to the Owner, for a period of twenty-four (24) months for the pump and motor, from the date of factory shipment of the pump and pump motor, or 1- year from acceptance by Owner, whichever occurs first.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

- A. Flowserve, Irving, TX
Local Representative: James G. Deluca, Aqua Solutions, Inc., Tel – (508) 947-5777
- B. Fairbanks-Nijhuis, Division of Pentair Pump Group, Kansas City, KS
Local Representative: Craig Huff, Hayes Pump, Inc., Tel – (978) 369-8800
- C. Cornell Pump Company, Portland, OR.
Local Representative: Steve Buckley, Blake Equipment, Tel – (508) 742-7324
- D. Flygt Pump (formerly Allis Chalmers)
Local Representative: Brendan Kennedy, Tel – (781) 935-6515
- E. An acceptable equivalent manufacturer.

2.02 PUMPING EQUIPMENT SCHEDULE:

- A. The pump shall have the necessary characteristics and be properly selected to perform under the following operating conditions:

| | |
|--|---------------------|
| Numbers of Pumps: | 3 |
| Minimum Spherical Solid Diameter to be passed (inches): | 6-inches |
| Pump/Motor Rotation: | 900 RPM (max) |
| Maximum Motor Size (HP): | 125 |
| Maximum Motor Speed (RPM): | 900 |
| Motor Volts/Phase/Hertz: | 480V / 3 Ph. / 60Hz |
| Design Operating Point (Flow, gpm vs. TDH, ft) | 4150 gpm @ 80' TDH |
| Operating Point with Speed Turndown via VFD (Flow, gpm vs. TDH, ft) | 2750 gpm @ 49' TDH |
| Secondary Design Operating Point (Flow, gpm vs. TDH, ft) ¹ | 5500 gpm @ 70' TDH |
| Minimum Pump Efficiency at Design Point (%): | 75% |
| Maximum Net Positive Suction Head Required (feet) ² : | 20 feet |

1 Secondary Design Point is not on the same system curve, but is an assumed run out point for the system should a new forcemain ever be installed.

2 Maximum Net Positive Suction Head Required is for all Operating Points.

2.03 PUMP:

A. General

1. The centrifugal pump shall be a dry-pit non-clog vertical-coupled type unit. The unit shall include pump, high ring base, coupling, coupling guard and vertical solid shaft motor.

B. Base

1. The pump shall be supported by a cast-iron A48 class 30 or fabricated steel (plate is A283 Grd & channel is A7 or A36) pedestal base with openings large enough to permit access to the suction line to the inspection opening in the suction elbow. The base shall be rugged enough to support the full weight of the pump. The legs of the pedestal base shall be of such length that the suction elbow of the pump will not touch the floor or the level foundation upon which it is anchored.

C. Casing

1. The pump casing shall be centerline discharge, with back pull-out design allowing for the removal of the rotating element without disturbing piping connections. The pump casing shall be made of close-grained cast iron conforming to ASTM A48, Class 30, of ample thickness, capable of prolonged resistance to the abrasive action of solids or foreign matter contained in the liquid passing through the pump. Ample and convenient access to the impeller and interior parts shall be provided by means of handholes, removable plates, or otherwise as approved.
2. Handholes shall be equipped with covers designed for easy removal. The interior surface of the covers shall be shaped to continue the contour of the interior of the casing to which it is attached so as to maintain efficiency and to minimize lodging of solids.
3. The high point of the casing shall be fitted with an air vent and the low point fitted with a drain.
4. The pump suction and discharge nozzles shall be drilled and tapped for installation of pressure gauges. The pipe connections shall be ANSI flat faced drilled flange.
5. The casing shall be one-piece construction or have a separate bolted-on front head, with replaceable 316 (or better) stainless steel casing wear rings with minimum hardness range of 300-350 BHN, and cast iron volute and back head adapter.

D. Impeller

1. The impeller shall satisfy the physical and tensile strength requirements of ASTM A48, Class 30.

2. The impeller shall be single-suction, symmetrical and statically and dynamically balanced, and of non-clog design. Non-clog impellers shall be built with a minimum number of vanes or blades and shall allow impeller waterways to pass spherical solids as indicated in Section 2.02. Provision shall be made for external impeller adjustment.
3. Impeller vanes shall be free of sharp edges and waterways shall have smooth contours and well-rounded entrances. The impeller hub shall not have ports for reduction of thrust on the impeller. The impellers shall be key-seated and held securely to the shaft by a streamlined locknut, or by an equally efficient method which shall permit easy removal of the impeller and shall also be capable of holding securely in the event of pump reversal to full runaway speed.
4. Removable wearing rings made of stainless steel of different degrees of hardness (minimum of 50 BHN difference between them) shall be installed on the impeller and in the pump casing at the suction side. They shall be securely fastened to prevent any relative rotation, and shall be designed to compensate for a minimum of one-eighth inch wear. The wear ring(s) shall be easily replaceable in the field.
5. Peripheral wear rings shall require no axial adjustment. Peripheral or axial wear rings (whichever is applicable) shall have a minimum of 400-500 BHN.

E. Shaft

1. The pump shaft shall be high strength manganese, A311, Class B, A1S1 1141 or 1144 or better, stress-proof alloy steel. The shaft shall be accurately machined and polished and of sufficient size to transmit the full driver output without excessive flexure or stressing. All steps in the shaft shall be radiused to reduce stress connections. Shaft deflection shall not exceed 0.002 inches measured at the end of the shaft when operating at the specified design condition(s).
2. The shaft shall be protected from wear at the stuffing box and under the gland from contact with sewage by a renewable shaft sleeve, which shall extend through the stuffing box. The shaft sleeve shall be sealed to prevent leakage along the shaft and shall be positively locked to prevent rotation. The sleeve shall be constructed of (300-350 BHN) stainless steel, and the sleeve O.D. shall be a minimum of 0.375 inches over the shaft diameter.
3. Shaft and bearing grounding rings shall be provided.

F. Frame

1. The end suction centrifugal pump shall be coupled with a modular style ASTM A48 Class 30 grey iron bearing frame. The bearing frame shall be provided with anti-friction style bearings to accommodate both axial and radial loads. The high ring base frame shall be provided with a machined register fit to accept a vertical solid shaft motor.

2. The back head adapter shall be cast iron construction, flanged and machined on both ends to maintain alignment between the pump and driver and to eliminate vibration. The back head frame shall be built to allow for complete removal of bearings, shaft and impeller by unbolting it from the volute casing.
3. The main frame shall be made of hard, close-grained cast iron and shall be fitted to the casing with machine-faced joints. The design shall be heavy and rigid, so as to resist safely and without distortion the stresses due to impeller thrust and the bearing loads. Means shall be provided in the bearing cases, such as a removable plug or the equivalent, to prevent excessive greasing of the bearings.
4. The back head, exterior bearing housing or frame shall be designed with a provision to remove any wastewater that has leaked from the seal. The collection point shall be at the lowest point to provide efficient drainage and have a 3/4-inch (minimum) - NPT tapping to receive a pipe away connection.

G. Bearings

1. Pump bearings shall be of the ball or roller type properly sized to accommodate all thrusts, both mechanical and hydraulic, imposed upon them. Each pump shaft shall be supported by bearings suitable for the entire loads and arranged for grease lubrication.
2. The bearings shall be properly protected from corrosion during shipment and installation. Bearings shall be designed in accordance with the Anti-Friction Bearing Manufacturers Association, Inc. Standards and have a minimum calculated B-10 bearing life rating of 100,000+ hours at BEP and 40,000 hours at design conditions of operation. The pump manufacturer shall illustrate compliance with this requirement by providing a complete bearing life stress and loading calculation.
3. The bearing frame shall be constructed of fine grain ASTM A48 Class 30 grey iron, and be equipped with antifriction style bearings. The Frame shall provide for the axial adjustment of axial wearing rings (if applicable).
4. Bearing lubrication shall be grease, with proper provisions, drains, vents or reliefs to facilitate easy relubrication in the field.

H. Shaft Seal

1. Single Mechanical Seal:

- a. The pump shall be supplied with a single mechanical seal, with a tungsten carbide rotary face and a silicon carbide stationary face. The mechanical seal shall be a John Crane Type 1.
- c. Ample space shall be provided for shaft seal removal and replacement.
- d. The pump shall in no way be machined to accommodate the mechanical seal.

- e. The seal manufacturer shall also recommend and supply the appropriate mechanical seal lubricating/flushing system. The lubricating flushing system shall utilize wastewater recirculation from the pump. The seal manufacturer shall coordinate with the pump manufacturer to verify all connections necessary for a complete working seal lubricating/flushing system.

I. Flexible Couplings

1. The coupling between the pump and motor shall be flexible, designed for both angular and parallel misalignment and free-end float, and shall be provided with means of lubrication.
2. A removable guard shall be provided to fully encapsulate the rotating flexible coupling.

J. Shafting (For vertical long coupled units)

2. Provide intermediate shafting of the universal joint type with pump and motor half couplings of the shrink fit type. Tube and joint sizes shall be selected by the shafting manufacturer based on rated load and the results of torsional/critical speed calculations. Selection calculations shall be submitted for review by the Engineer.
3. Shafting shall be DOM steel, not pipe.
4. Bearings shall be rated for 25,000 hours B 10 life. Bearings shall be antifriction, grease lubricated. Ujoint bearings shall be industrial roller type, not needle.
5. Number of sections shall be as required by the shafting manufacturer to meet these specifications. Manufacturer shall provide necessary steady bearings and advise loading to Contractor.
6. Contractor shall design and furnish steady bearing supports based on loads provided by manufacturer. Design of proposed bearing support shall be submitted to the Engineer for review.
7. Furnish guard kits to a height of 7 feet above any surface where personnel can stand and reach the shaft.

K. Motor

1. The motor shall be vertical mount true inverter duty type, solid shaft, totally enclosed, fan cooled (TEFC), squirrel cage, induction type, rated for continuous duty operation. NEMA Class F insulation with NEMA Class B temperature rise based on a 40 degree C ambient temperature, 1.15 service factor for operating on solid state reduced voltage motor starter and capable of operating on 3 phase, 60 Hertz, 480 volt current. The motor shall be designed, manufactured and tested in accordance

with NEMA standard MG1. The motor shall be non-overloading, exclusive of the service factor, at all points on the head-capacity curve.

2. The speed and horsepower rating of the motor shall be as indicated in 2.02 PUMPING EQUIPMENT SCHEDULE. The motor shall have a KVA per horsepower rating of NEMA code letter G or lower.
3. The motor manufacturer shall certify in writing that the motors meet the limits for amplitude and velocity of vibrations as specified in Section 01750.
4. The motors shall be equipped with grease fittings and automatic grease reliefs. The motor shall also be provided with a driphood over the top end bell.
5. Shaft and bearing grounding rings shall be provided.
6. Motors shall be premium efficiency type which meet or exceed the NSTAR technical energy efficiency requirements in order to be eligible for energy rebates.

L. Gauges

1. Gauges shall be furnished for the suction and discharge nozzle for each pump and shall include bronze petcocks. Gauges shall be round black case, 4-1/2 inch nominal diameter, with phosphor bronze Bourdon tubes, 1/4-inch NPT bottom male threaded connections, stainless steel, rack and pinion movement, black micro-adjusted pointers, and black figures with white plastic dials and a threaded ring. Gauges shall have an accuracy of 1/2 percent of the scale range and shall be bracket supported.
2. Gauges shall be furnished complete with a factory-mounted protective diaphragm attachment which will allow cleaning of the lower diaphragm assembly without breaking the seal or refilling and shall not require calibration of the gauge.
3. Gauge assemblies shall be complete with brass pipe and fittings, brass shutoff valve or cock and a tee with a brass test cock with female outlet end, all arranged to allow field checking with a 4-1/2 inch test gauge.
4. Suction gauges shall be compound type having a range of -30 to 30 feet.
5. Discharge gauges shall be selected at the nearest standard range which provides a top limit above the pump shutoff head at the operating conditions or pump relief valve setting. The markings shall be given in feet.
6. The gauge shall have a glycerin filled case and lower section.

M. Equipment Drive Guards

1. All equipment driven by open shafts, belts, chains, or gears shall be provided with all-metal guards enclosing the drive mechanism. Guards shall be removable with quick open latches.

2. Guards shall be constructed of galvanized sheet steel or galvanized woven wire or expanded metal set in a frame of galvanized steel members, unless otherwise specified.
3. Guards shall be secured in position by steel braces or straps that will permit easy removal for servicing the equipment.
4. The guards shall conform in all respects to all applicable safety codes and regulations.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Installation of the pump and related appurtenances shall be performed in accordance with all written instructions furnished by the manufacturer.
- B. After installation, the Contractor shall clean all surfaces damaged in shipment or installation and shall touch up in the field with the same materials as the original coatings.

3.02 FIELD ACCEPTANCE TESTS:

- A. After installation of the equipment and after completion of the services of the manufacturer's representative as detailed in Section 01750, EQUIPMENT CHECKOUT AND TESTING, the Contractor shall operate the unit to demonstrate its ability to pump without excessive vibration, overloading of the motor, or overheating. The pump shall be operated for a sufficient period of time to permit thorough observation of all pump components.
- B. Start-up and testing shall be conducted in accordance with Section 01751, STARTUP AND TESTING FOR SEWER PUMP STATIONS.
- C. Performance tests shall be conducted on the pumping unit installed. The tests shall be conducted for the operating point (flow versus head capacity), overall system efficiency, and overall system power requirements. These parameters shall be measured, documented in writing, and delivered to the Engineer.
- D. If the pump(s) are equipped with Variable Frequency Drives, the pump(s) shall be run at its shutoff head for a period of at least one (1) minute at each VFD speed from 60% to 100% at 10% intervals. The pump shall be run at its maximum rating point for a period of at least thirty (30) minutes.
- E. If the pump(s) are not equipped with Variable Frequency Drives, they shall be run at its shutoff head for a period of at least one (1) minute for each operating condition. The pump(s) shall be run at its specified operating point (with a full force main) for a minimum of three (3) normal operating wetwell volumes per pump. These parameters shall be recorded, documented in writing, and delivered to the Engineer.

- F. All pumping equipment shall be tested to check for proper operation, proper alignment, faulty equipment, and for excessive vibration. The Contractor shall provide vibration testing by a qualified and independent testing company. This testing of the complete system shall cover all duty conditions outlined in this Section of the Specifications. The vibration testing shall be conducted in the presence of the pump and pump motor field service representatives in accordance with procedures outlined in the applicable sections of the Hydraulic Institute Standards and Section 01750, EQUIPMENT CHECKOUT AND TESTING, of these specifications.
- G. In the event vibration exceeds the specified limits and the cause of the vibration is attributable to the pumping equipment, the equipment manufacturers and contractor shall make the necessary balancing or alignment adjustments to bring the equipment to within the specified limits.
- H. At the discretion and expense of the Owner, an independent vibration analysis may be conducted on the new wastewater pump. The Contractor and manufacturer will be permitted to witness the test.
- I. The completed pump and motor installation shall be tested for sound generation in accordance with the Hydraulic Institute Standards for sound measurement from pumping equipment.
- J. Any and all alterations, modifications, additions and/or work necessary to rectify defects or non-conformance with this Section of the Specification shall be done in such a manner as to provide for the satisfactory operation of the pumps and pump motors, all at no additional cost to the Owner.
- K. All defects and defective equipment shall be replaced or corrected by methods approved by the Owner and the Engineer, at the Contractor's expense.
- L. All final adjustments necessary to place the equipment in satisfactory working order shall be made prior to the tests.
- M. If sufficient sewage is not available for the test, the Contractor shall provide water for testing. All labor and materials necessary for the test shall be furnished by the Contractor.
- N. After installation, all piping connections shall be tested for tightness in an approved manner. Should leaks be found, faulty joints shall be repaired, even to the extent of disassembling and remaking the joint, and all defective pipe and fittings shall be removed and replaced in a manner satisfactory to the Engineer.

3.03 SPARE PARTS:

- A. The Contractor shall furnish and deliver to the Owner at the site of the work the following spare parts for each pump type, model or size, all of which shall be identical and interchangeable with similar parts installed in the work.

1. One (1) complete set of gaskets required for the pump, for each pump.
2. One (1) complete set of wearing rings for the impeller and pump casing.
3. One impeller key, washer and lock screw.
4. One shaft sleeve.
5. One (1) pump suction spare gauge and one (1) pump discharge spare gauge.
6. One (1) mechanical seal repair kit.
7. Provide all other spare parts as recommended in the manufacturer's standard operations and maintenance information.

END OF SECTION

O:\Quincy MA\2140649 Quincy Point PS Design\Bidding\Addendum No. 1\Addendum Section 11310 - Wastewater Pumping Equipment.docx

General Decision Number: MA150001 09/04/2015 MA1

Superseded General Decision Number: MA20140001

State: Massachusetts

Construction Type: Building

Counties: Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk and Suffolk Counties in Massachusetts.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes and apartments up to and including 4 stories)

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

| Modification Number | Publication Date |
|---------------------|------------------|
| 0 | 01/02/2015 |
| 1 | 01/09/2015 |
| 2 | 02/13/2015 |
| 3 | 03/06/2015 |
| 4 | 03/20/2015 |
| 5 | 04/17/2015 |
| 6 | 05/01/2015 |
| 7 | 05/08/2015 |
| 8 | 07/03/2015 |
| 9 | 07/17/2015 |
| 10 | 07/31/2015 |
| 11 | 08/21/2015 |
| 12 | 08/28/2015 |
| 13 | 09/04/2015 |

ASBE0006-001 09/01/2014

| | Rates | Fringes |
|---|----------|---------|
| Insulator/asbestos worker | | |
| Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems | | |
| (ZONE A) | \$ 43.31 | 24.15 |
| (ZONE B) | \$ 38.98 | 24.15 |

ZONES:

ZONE A

BARNSTABLE COUNTY (Brewster, Chatham, Dennis, Eastham, Harwich, Orleans, Provincetown, Truro, Wellfleet, Yarmouth) BRISTOL COUNTY (Easton), MIDDLESEX COUNTY, and NORFOLK COUNTY (Avon, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxborough, Holbrook, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Randolph, Sharon, Stoughton, Walpole, Wellesley, Westwood, Weymouth)

ZONE B

BARNSTABLE COUNTY (Barnstable, Bourne, Falmouth, Mashpee, Sandwich), BRISTOL COUNTY (All cities except Easton), and NORFOLK COUNTY (Bellingham, Franklin, Plainville)

ASBE0006-002 12/01/2014

BARNSTABLE (Brewster, Chatham, Dennis, Eastham, Harwich, Orleans, Provincetown, Truro, Wellfleet and Yarmouth); BRISTOL (Easton); ESSEX; MIDDLESEX; NORFOLK (Avon, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Holbrook, Hull, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Randolph, Sharon Stoughton, Walpole, Wellesley, Westwood, and Weymouth) AND SUFFOLK COUNTIES

Rates Fringes

HAZARDOUS MATERIAL HANDLER
(Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems whether they contain asbestos or not)....\$ 31.18 17.80

ASBE0006-010 09/01/2014

BARNSTABLE (Barnstable, Bourne, Falmouth, Mashpee and Sandwich); BRISTOL (Acushnet, Attleboro city, Berkeley, Dartmouth, Dighton, Fairhaven, Fall river City, Freetown, Marion, Mansfield, New Bedford City, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Somerset, Swansea, Taunton City and Westport); DUKES; NANTUCKET; NORFOLK (Bellingham, Franklin, Plainville, and Wrentham); PLYMOUTH (Lakeville, Mattapoisett, Middleboro, Rochester and Wareham)

Rates Fringes

Insulator/asbestos worker
(Includes the application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.)....\$ 38.98 24.15

BOIL0029-001 10/01/2009

| | Rates | Fringes |
|------------------|----------|---------|
| BOILERMAKER..... | \$ 38.25 | 17.04 |

BRMA0001-008 09/01/2013

FOXBORO CHAPTER
BRISTOL (Attleboro, Berkley, Dighton, Mansfield, North
Attleboro, Norton, Raynham, Rehoboth, Seekonk, Taunton) AND
NORFOLK (Bellingham, Canton, Dedham, Foxboro, Franklin,
Norfolk, Norwood, Plainville, Sharon, Walpole, Westwood,
Wrentham) COUNTIES

| | Rates | Fringes |
|---|----------|---------|
| Bricklayer, Cement Mason, Plasterer..... | \$ 45.96 | 29.74 |

BRMA0001-009 09/01/2013

LOWELL CHAPTER
MIDDLESEX (Acton, Asby, Ayer, Bedford, Billerica, Boxboro,
Carlisle, Chemsford, Dracut, Dunstable, Ft. Denvens, Groton,
Littleton, Lowell, North Acton, Pepperell, Shirley, South
Acton, Tewksbury, Townsend, Tyngsboro, West Acton, Westford,
Wilmington)

| | Rates | Fringes |
|-------------------------------|----------|---------|
| Bricklayer and plasterer..... | \$ 45.96 | 29.74 |

BRMA0001-010 09/01/2013

LOWELL CHAPTER
MIDDLESEX (Ashland, Framingham, Holliston, Hopkinton, Hudson,
Maynard, Natick, Sherborn, Stow); and NORFOLK (Medfield,
Medway, Millis)

| | Rates | Fringes |
|-----------------|----------|---------|
| BRICKLAYER..... | \$ 45.96 | 29.74 |

BRMA0003-001 08/01/2015

| | Rates | Fringes |
|---|----------|---------|
| Marble & Tile Finisher..... | \$ 38.08 | 27.55 |
| Marble, Tile & Terrazzo Workers..... | \$ 49.90 | 29.07 |
| TERRAZZO FINISHER..... | \$ 48.80 | 28.90 |

BRMA0003-003 08/01/2015

BOSTON CHAPTER
MIDDLESEX (Arlington, Cambridge, Everett, Malden, Medford,

Melrose, Somerville); NORFOLK (Brookline, Milton); and SUFFOLK

| | Rates | Fringes |
|-----------------|----------|---------|
| BRICKLAYER..... | \$ 49.86 | 29.12 |

BRMA0003-006 08/01/2015

LYNN CHAPTER

ESSEX (Amesbury, Andover, Beverly, Boxford, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Lynn, Lynnfield, Manchester, Marblehead, Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salisbury, Salem, Saugus, Swampscott, Topsfield Wakefield, Wenham, West Newbury); and MIDDLESEX (Reading, North Reading, Wakefield)

| | Rates | Fringes |
|---|----------|---------|
| Bricklayer, cement mason and plasterer..... | \$ 49.86 | 29.12 |

BRMA0003-007 08/01/2015

WALTHAM CHAPTER

MIDDLESEX (Belmont, Burlington, Concord, Lexington, Lincoln, Stoneham, Sudbury, Waltham, Watertown, Wayland, Weston, Winchester, Woburn)

| | Rates | Fringes |
|-------------------------------|----------|---------|
| Bricklayer and plasterer..... | \$ 49.86 | 29.12 |

BRMA0003-008 08/01/2015

NEWTON CHAPTER

MIDDLESEX (Newton) and NORFOLK (Dover, Needham, Wellesley)

| | Rates | Fringes |
|---|----------|---------|
| Bricklayer, cement mason and plasterer..... | \$ 49.86 | 29.12 |

BRMA0003-009 08/01/2015

NEW BEDFORD

BARNSTABLE; BRISTOL (Acushnet, Darmouth, Farhaven, Fall River, Freetown, New Bedford, Somerset, Swansea, Westport); DUKES; and NANTUCKET COUNTIES

| | Rates | Fringes |
|---|----------|---------|
| Bricklayer, cement mason and plasterer..... | \$ 49.86 | 29.12 |

BRMA0003-010 08/01/2015

QUINCY CHAPTER
NORFOLK COUNTY (Avon, Braintree, Cohasset, Holbrook, Quincy,
Randolph, Soughton, Weymouth)

| | Rates | Fringes |
|--|----------|---------|
| Bricklayer, cement mason and plasterer..... | \$ 49.86 | 29.12 |

CARP0026-001 03/01/2015

BRISTOL (Attleborough, North Attleborough); ESSEX; MIDDLESEX
(Except Belmont, Cambridge, Everett, Malden, Medford,
Somerville); AND NORFOLK (Bellingham, Canton, Foxboro,
Franklin, Medfield, Medway, Millis, Needham, Norfolk, Norwood,
Plainville, Sharon, Walpole, Wellesley, Westwood, Wrentham)

| | Rates | Fringes |
|----------------|----------|---------|
| CARPENTER..... | \$ 35.75 | 26.88 |

CARP0033-001 03/01/2015

MIDDLESEX (Belmont, Cambridge, Everett, Malden, Medford,
Somerville); NORFOLK (Brookline, Dedham, Milton); and SUFFOLK

| | Rates | Fringes |
|----------------|----------|---------|
| CARPENTER..... | \$ 42.30 | 27.38 |

CARP0056-011 08/01/2015

SUFFOLK (All of County); and those areas of BARNSTABLE,
BRISTOL, ESSEX, MIDDLESEX & NORFOLK COUNTIES situated inside
Boston Beltway (I-495) and North of Cape Cod Canal. ALL of
DUKES AND NANTUCKET COUNTIES

| | Rates | Fringes |
|--------------------|----------|---------|
| PILEDRIVERMAN..... | \$ 42.04 | 29.73 |

CARP0056-012 08/01/2015

The areas of BARNSTABLE, BRISTOL, and NORFOLK COUNTIES situated
OUTSIDE Boston Beltway (I-495) and South of Cape Cod Canal

| | Rates | Fringes |
|--------------------|----------|---------|
| PILEDRIVERMAN..... | \$ 42.04 | 29.73 |

CARP0056-013 08/01/2015

Those areas of ESSEX and MIDDLESEX COUNTIES situated OUTSIDE

Boston Beltway (I-495)

| | Rates | Fringes |
|--------------------|----------|---------|
| PILEDRIVERMAN..... | \$ 42.04 | 29.73 |

CARP0424-003 03/01/2015

NORFOLK COUNTY (Braintree, Cohasset, Scituate, Weymouth, Quincy)

| | Rates | Fringes |
|----------------|----------|---------|
| CARPENTER..... | \$ 35.75 | 26.88 |

CARP0624-005 03/01/2015

DUKES; NANTUCKET

| | Rates | Fringes |
|----------------|----------|---------|
| CARPENTER..... | \$ 42.30 | 27.38 |

CARP0624-007 03/01/2015

BARNSTABLE; BRISTOL (Except Attleboro & North Attleboro); AND NORFOLK (Avon, Holbrook, Randolph, Stoughton) COUNTIES

| | Rates | Fringes |
|----------------|----------|---------|
| CARPENTER..... | \$ 35.75 | 26.88 |

CARP1121-001 04/01/2015

| | Rates | Fringes |
|-----------------|----------|---------|
| MILLWRIGHT..... | \$ 36.64 | 27.88 |

CARP2168-001 03/01/2015

MIDDLESEX (Belmont, Cambridge, Everett, Malden, Medford, Somerville); NORFOLK (Brookline, Dedham, Milton); and SUFFOLK

| | Rates | Fringes |
|--------------------------|----------|---------|
| FLOOR LAYER: Carpet..... | \$ 41.11 | 27.68 |

CARP2168-004 03/01/2015

BRISTOL; ESSEX; MIDDLESEX (Except Belmont, Cambridge, Everett, Malden, Medford, Somerville); Remainder of Norfolk County

| | Rates | Fringes |
|--------------------------|----------|---------|
| FLOOR LAYER: Carpet..... | \$ 41.11 | 27.68 |

CARP2168-005 03/01/2015

BARNSTABALE; DUKES; AND NANTUCKET

| | Rates | Fringes |
|--------------------------|----------|---------|
| FLOOR LAYER: Carpet..... | \$ 41.11 | 27.68 |

ELEC0096-001 06/01/2015

MIDDLESEX (Ashby, Ashland, Ayer, Ft. Devens, Groton, Hopkinton, Hudson, Marlboro, Pepperell, Shirley, Stow, Townsend)

| | Rates | Fringes |
|--------------------------------|----------|-----------|
| ELECTRICIAN..... | \$ 38.87 | 14%+16.83 |
| Teledata System Installer..... | \$ 26.25 | 3%+19.87 |

ELEC0099-001 06/01/2015

BRISTOL (Attleboro, North Attleboro, Seekonk)

| | Rates | Fringes |
|--------------------------------|----------|-------------|
| ELECTRICIAN..... | \$ 35.83 | 59.94% |
| Teledata System Installer..... | \$ 26.87 | 13.72%+3.33 |

ELEC0103-001 03/01/2015

ESSEX; MIDDLESEX (Excluding Ashby, Ashland, Ayer, Ft. Devens, Groton, Hopkinton, Hudson, Marlboro, Pepperell, Shirley, Stow, Townsend); NORFOLK (Excluding Avon, Holbrook, Plainville, Randolph, Stoughton) SUFFOLK

| | Rates | Fringes |
|--------------------------------|----------|---------|
| Teledata System Installer..... | \$ 33.88 | 27.21 |

ELEC0103-002 03/01/2015

ESSEX (Amesbury, Andover, Boxford, Georgetown, Groveland, Haverhill, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rowley, Salisbury, West Newbury); MIDDLESEX (Bedford, Billerica, Boxboro, Burlington, Carlisle, Chelmsford, Dracut, Dunstable littleton, Lowell, North Reading, Tewksbury, Tyngsboro, Westford, Wilmington)

| | Rates | Fringes |
|------------------|----------|---------|
| ELECTRICIAN..... | \$ 45.17 | 29.08 |

ELEC0103-004 03/01/2015

ESSEX (Beverly, Danvers, Essex, Gloucester, Hamilton, Ipswich, Manchester, Marblehead, Middleton, Peabody, Rockport, Salem, Topsfield, Wenham)

| | Rates | Fringes |
|------------------|----------|---------|
| ELECTRICIAN..... | \$ 45.17 | 29.08 |

ELEC0103-005 03/01/2015

ESSEX (Lynn, Lynnfield, Nahant, Saugus, Swampscott); MIDDLESEX (Acton, Arlington, Belmont, Cambridge, Concord, Everett, Framingham, Holliston, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Natick, Newton, Reading, Sherborn, Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland, Weston, Winchester, Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklino, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham and Hull); SUFFOLK

| | Rates | Fringes |
|------------------|----------|---------|
| ELECTRICIAN..... | \$ 45.17 | 29.08 |

ELEC0104-001 08/31/2014

| | Rates | Fringes |
|-------------------------|----------|---------|
| Line Construction: | | |
| Cableman..... | \$ 43.51 | 21.64+A |
| Equipment Operator..... | \$ 36.98 | 18.93+A |
| Groundman..... | \$ 23.93 | 12.26+A |
| Lineman..... | \$ 43.51 | 21.64+A |

A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Christmas Day and Columbus Day, provided the employee has been employed 5 working days prior to any one of the listed holidays.

ELEC0223-005 09/01/2014

BARNSTABLE; BRISTOL (Except Attleboro, North Attleboro, Seekonk); DUKES; NANTUCKET AND NORFOLK (Avon, Halbrook, Plainville, Randolph, Stoughton)

| | Rates | Fringes |
|------------------|----------|-------------|
| ELECTRICIAN..... | \$ 37.31 | 27.75%+9.70 |

ELEC0223-006 09/01/2014

BARNSTABLE; BRISTOL (Except Attleboro, North Attleboro, Seekonk); DUKES; NANTUCKET AND NORFOLK (Avon, Halbrook, Plainville, Randolph, Stoughton)

| | Rates | Fringes |
|--|-------|---------|
|--|-------|---------|

Teledata System Installer.....\$ 37.31 27.75%+9.70

ELEV0004-001 01/01/2015

| | Rates | Fringes |
|------------------------|----------|------------|
| ELEVATOR MECHANIC..... | \$ 53.30 | 28.385+a+b |

FOOTNOTE FOR ELEVATOR MECHANICS:

a. Vacation: 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.

b. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

ENGI0004-001 06/01/2015

| | Rates | Fringes |
|----------------------------|----------|---------|
| Power equipment operators: | | |
| Group 1..... | \$ 42.83 | 25.45+A |
| Group 2..... | \$ 42.42 | 25.45+A |
| Group 3..... | \$ 29.61 | 25.45+A |
| Group 4..... | \$ 35.64 | 25.45+A |
| Group 5..... | \$ 21.97 | 25.45+A |
| Group 6..... | \$ 25.68 | 25.45+A |

FOOTNOTE FOR POWER EQUIPMENT OPERATORS:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Labor Day, Memorial Day, Independence Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day

HOURLY PREMIUM FOR BOOM LENGTHS (Including Jib):

Over 150 ft. +2.12
Over 185 ft. +3.72
Over 210 ft. +5.23
Over 250 ft. +7.92
Over 295 ft. +10.97
Over 350 ft. +12.76

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

Group 1: Crane; shovel; truck crane; cherry picker; dragline; trench hoe; backhoe; three drum machine; derrick; pile driver; elevator tower; hoist; gradall; shovel dozer; front end loader; fork lift; suger; boring machine; rotaryu drill; post hole hammer; post hole digger; pumpcrete machine; asphalt plant (on site); concrete batching and/or mixing plant (on site); crusher plant (on site); paving concrete mixer; timber jack
Group 2: Sonic or vibratory hammer; grader; scraper; tandem scraper; concrete pump; bulldozer; tractor; york rake; mulching machine; portable steam boiler; portable steam generator; roller; spreader; tamper (self propelled or tractor drawn); asphalt paver; mechanic - maintenance; paving screed machine; stationary steam boiler; paving concrete finishing machine; cal truck; ballast regulator;

switch tamper; rail anchor machine; tire truck
 Group 3: Pumps (1-3 grouped); compressor; welding machine
 (1-3 grouped); generator; concrete vibrator; heater (power
 driven 1- 5); well point system (operating);
 syphon-pulsometer; concrete mixer; valves controlling
 permanent plant air or steam; conveyor; Jackson type
 tamper; single diaphragm pump; lighting plant
 Group 4: Assistant engineer (fireman)
 Group 5: Oiler (other than truck cranes and gradalls)
 Group 6: Oiler (on truck cranes and gradalls) stant engineer
 (on truck crane and gradall)

 IRON0007-006 03/16/2015

AREA 1: BRISTOL (Easton); ESSEX (Beverly, Gloucester,
 Lynn, Lynnfield, Manchester, Marblehead, Nahant, Rockport,
 Salem, Saugus, Swampscott); MIDDLESEX (Arlington, Bedford,
 Belmont, Burlington, Cambridge, Carlisle, Concord, Dunstable,
 Everett, Framingham, Lexington, Lincoln, Malden, Maynard,
 Medford, Melrose, Natick, Newton, Reading, Sherborn,
 Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown,
 Wayland, Weston, Winchester, Woburn); NORFOLK (Except Medway);
 SUFFOLK

AREA 2: ESSEX (Amesbury, Andover, Boxford, Danvers, Essex,
 Georgetown, Hamilton, Haverhill, Ipswich, Lawrence, Merrimac,
 Methuen, Newbury, Newburyport, North Andover, Rowley,
 Salisbury, Topsfield, Wenham, West Newbury); MIDDLESEX (Action,
 Billerica, Chelmsford, Dracut, Groton, Groveland, Littleton,
 Lowell, Middleton, North Reading, Pepperell, Tewksbury,
 Tyngsboro, Westford, Wilmington)

| | Rates | Fringes |
|--------------|----------|---------|
| Ironworkers: | | |
| AREA 1..... | \$ 42.11 | 28.67 |
| AREA 2..... | \$ 37.70 | 28.67 |

 IRON0007-010 03/16/2015

MIDDLESEX (Ashby, Ashland, Ayer, Boxboro, Holliston, Hopkinton,
 Hudson, Marlboro, Shirley, Stow, Townsend); NORFOLK (Medway)

| | Rates | Fringes |
|-----------------|----------|---------|
| IRONWORKER..... | \$ 41.81 | 28.67 |

 IRON0037-005 03/16/2015

BARNSTABLE; BRISTOL (Acushnet, Attleboro, Berkley, Dartmouth,
 Dighton, Fairhaven, Fall River, Freetown, Mansfield, New
 Bedford, North Attleboro, Norton, Raynham, Rehoboth, Seekonk,
 Somerset, Swansea, Taunton, Westport); DUKES; NANTUCKET;
 NORFOLK (Billingham, Franklin, Plainville, Wrentham)

Rates Fringes

IRONWORKER.....\$ 33.96 23.77

LABO0014-001 06/01/2011

| | Rates | Fringes |
|---|-------|---------|
| Plasterer tender | | |
| BARNSTABLE, BRISTOL, DUKES, ESSEX, NANTUCKET, MIDDLESEX (with the exception of Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Somerville, Stoneham, Wakefield, Winchester, Winthrop and Woburn); NORFOLK (with the exception of Brookline Dedham and Milton) COUNTIES.\$ 28.60 | 28.60 | 19.00 |
| SUFFOLK COUNTY (Boston, Chelsea, Revere, Winthrop, Deer Island, Nut Island); MIDDLESEX COUNTY (Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Somerville, Stoneham, Wakefield, Winchester, Winthrop and Woburn only); NORFOLK COUNTY (Brookline, Dedham, and Milton only)....\$ 31.05 | 31.05 | 19.90 |

LABO0022-009 12/01/2012

SUFFOLK COUNTY (Boston, Chelsea, Revere, Winthrop, Deer & Nut Islands); MIDDLESEX COUNTY (Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Somerville, Stoneham, Wakefield, Winchester, Winthrop, and Woburn only); NORFOLK COUNTY (Brookline, Dedham, and Milton only)

| | Rates | Fringes |
|----------------------|-------|---------|
| Laborers: | | |
| Group 1.....\$ 32.30 | 32.30 | 20.40 |
| Group 2.....\$ 32.55 | 32.55 | 20.40 |
| Group 3.....\$ 33.05 | 33.05 | 20.40 |
| Group 4.....\$ 33.30 | 33.30 | 20.40 |
| Group 5.....\$ 33.05 | 33.05 | 20.40 |
| Group 6.....\$ 34.30 | 34.30 | 20.40 |
| Group 7.....\$ 20.50 | 20.50 | 20.40 |

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; Carpenter Tenders

GROUP 2: Jackhammer operator; pavement breaker; asphalt raker carbide core drilling machine; chain saw operator; pipelayer; barco type jumping tampers; laser beam; concrete pump; mason tender; motorized mortar mixer; ride-on motorized buggy; fence and beam rail erector

GROUP 3: Air track, block paver; rammer; curb setter, hydraulic and similar self-powered drills

GROUP 4: Blaster; powderman

GROUP 5: Pre-cast floor and roof plank erector

GROUP 6: Asbestos removal laborers/haz-mat laborers

GROUP 7: Flaggers

LABO0022-010 12/01/2012

Counties of BARNSTABLE; BRISTOL; DUKES; ESSEX; NANTUCKET; MIDDLESEX (with the exception of Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Somerville, Stoneham, Wakfield, Winchester, Winthrop and Woburn); NORFOLK (with the exception of Brookline, Dedham and Milton)

| | Rates | Fringes |
|--------------|----------|---------|
| Laborers: | | |
| Group 1..... | \$ 29.60 | 19.50 |
| Group 2..... | \$ 29.85 | 19.50 |
| Group 3..... | \$ 30.35 | 19.50 |
| Group 4..... | \$ 30.60 | 19.50 |
| Group 5..... | \$ 30.35 | 19.50 |
| Group 6..... | \$ 31.60 | 19.50 |

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; Carpenter Tenders

GROUP 2: Jackhammer operator; pavement breaker; asphalt raker carbide core drilling machine; chain saw operator; pipelayer; barco type jumping tampers; laser beam; concrete pump; mason tender; motorized mortar mixer; ride-on motorized buggy; fence and beam rail erector

GROUP 3: Air track, block paver; hammer; curb setter, hydraulic and similar self-powered drills

GROUP 4: Blaster; powderman

GROUP 5: Pre-cast floor and roof plank erector

GROUP 6: Asbestos removal laborers/haz-mat laborers

LABO1421-004 06/01/2014

BARNSTABLE, BRISTOL, DUKES, ESSEX, MIDDLESEX, NANTUCKET NORFOLK
AND SUFFOLK COUNTIES

| | Rates | Fringes |
|----------------------|----------|---------|
| Laborers: (Wrecking) | | |
| Group 1..... | \$ 34.25 | 20.85 |
| Group 2..... | \$ 35.00 | 20.85 |
| Group 3..... | \$ 35.25 | 20.85 |
| Group 4..... | \$ 30.25 | 20.85 |
| Group 5..... | \$ 33.35 | 20.85 |
| Group 6..... | \$ 34.25 | 20.85 |

- Group 1: Adzeman, Wrecking Laborer.
- Group 2: Burners, Jackhammers.
- Group 3: Small Backhoes, Loaders on tracks, Bobcat Type Loaders, Hydraulic "Brock" Type Hammer Operators, Concrete Cutting Saws.
- Group 4: Yardman (Salvage Yard Only).
- Group 5: Yardman, Burners, Sawyers.
- Group 6: Asbestos, Lead Paint, Toxic and Hazardous Waste.

PAIN0011-007 06/01/2015

BARNSTABLE, BRISTOL, DUKES, AND NANTUCKET COUNTIES

| | Rates | Fringes |
|--------------|----------|---------|
| GLAZIER..... | \$ 35.08 | 19.35+A |

FOOTNOTE:
A. PAID HOLIDAY: LABOR DAY (provided employee has worked any part of the week prior to Labor Day and any part of the week after Labor Day)

PAIN0035-004 01/01/2015

BARNSTABLE; BRISTOL; ESSEX; NANTUCKET; DUKES; COUNTIES;
REMAINDER OF NORFOLK; MIDDLESEX AND SUFFOLK COUNTIES

| | Rates | Fringes |
|-----------------------|----------|---------|
| Painters: | | |
| NEW CONSTRUCTION: | | |
| Brush, Taper..... | \$ 36.26 | 25.95 |
| Spray, Sandblast..... | \$ 37.66 | 25.95 |
| REPAINT: | | |
| Brush, Taper..... | \$ 34.32 | 25.95 |
| Spray, Sandblast..... | \$ 35.72 | 25.95 |

PAIN0035-013 01/01/2015

MIDDLESEX (Cambridge, Everett, Malden, Medford, Somerville)
SUFFOLK COUNTY (Boston, Chelsea) NORFOLK COUNTY (Brookline)

| | Rates | Fringes |
|-----------------------|----------|---------|
| Painters: | | |
| NEW CONSTRUCTION: | | |
| Brush, Taper..... | \$ 42.05 | 25.95 |
| Spray, Sandblast..... | \$ 43.45 | 25.95 |
| REPAINT: | | |
| Brush, Taper..... | \$ 40.11 | 25.95 |
| Spray, Sandblast..... | \$ 41.51 | 25.95 |

PAIN0035-020 01/01/2015

ESSEX; MIDDLESEX; NORFOLK; SUFFOLK

| | Rates | Fringes |
|--------------|----------|---------|
| GLAZIER..... | \$ 36.26 | 25.95 |

PLAS0534-001 07/01/2014

ESSEX; MIDDLESEX; NORFOLK AND SUFFOLK COUNTY

| | Rates | Fringes |
|-----------------------------------|----------|---------|
| CEMENT MASON/CONCRETE FINISHER... | \$ 37.25 | 32.26 |

PLAS0534-004 07/01/2014

MIDDLESEX; NORFOLK AND SUFFOLK COUNTIES

| | Rates | Fringes |
|----------------|----------|---------|
| PLASTERER..... | \$ 37.25 | 32.26 |

PLUM0004-001 09/01/2014

MIDDLESEX (Ashby, Ayer-West of Greenville branch of Boston and
Maine Railroad, Ft. Devens, Groton, Shirley, Townsend)

| | Rates | Fringes |
|-------------------------------|----------|---------|
| Plumbers and Pipefitters..... | \$ 41.11 | 24.71 |

PLUM0012-005 09/01/2013

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers,
Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill,
Ipswich, Lawrence, Manchester, Marblehead, Merrimac, Methuen,
Middleton, Newbury, Newburyport, North Andover, Peabody,
Rockport, Rowley, Salem, Salisbury, Topsfield, Wenham, West
Newbury)

| | Rates | Fringes |
|--------------|----------|---------|
| PLUMBER..... | \$ 44.98 | 24.56 |

PLUM0012-007 09/01/2013

ESSEX (Lynn, Lynnfield, Nahant, Saugus, and Swampscott);
MIDDLESEX (Acton, Arlington, Ashford, Ayer-except west of
Greenville Branch of Boston & Maine Rail Road, Bedford,
Belmont, Billerica, Boxboro, Burlington, Cambridge, Carlise,
Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham,
Hudson, Holliiston, Hopkinton, Lexington, Lincoln, Littleton,
Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Natick,
Newton, North Reading, Pepperell, Reading, Sherborn,
Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro,
Wakefield, Watham, Watertown, Wayland, Westford, Wilmington,
Winchester and Woburn), NORFOLK (Bellingham, Braintree,
Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin,
Medford, Medway, Millis, Milton, Needham, Norfolk, Norwood,
Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood,
Weymouth and Wrentham); PLYMOUTH (Hingham, Hull, Scituate);
SUFFOLK; WORCESTER (Hopedale and Southboro)

| | Rates | Fringes |
|-------------------------|----------|---------|
| PLUMBER..... | \$ 49.06 | 24.56 |
| ----- | | |
| PLUM0051-004 03/01/2014 | | |

BARNSTABLE; BRISTOL; DUKES; NANTUCKET; AND NORFOLK (Avon,
Holbrook, Randolph, Stoughton) COUNTIES

| | Rates | Fringes |
|-------------------------------|----------|---------|
| Plumbers and Pipefitters..... | \$ 35.51 | 27.32 |
| ----- | | |
| * PLUM0537-005 09/01/2015 | | |

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers,
Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill,
Ipswich, Lawrence, Lynn, Lynnfield, Manchester, Marblehead,
Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport,
North Andover, Peabody, Rockport, Rowley, Salem, Salisbury,
Saugus, Swampscott, Topsfield, Wenham, West Newbury); MIDDLESEX
(Acton, Arlington, Ashford, Ayer-except west of Greenville
Branch of Boston & Maine Rail Road, Bedford, Belmont,
Billerica, Boxboro, Burlington, Cambridge, Carlise,
Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham,
Hudson, Holliiston, Hopkinton, Lexington, Lincoln, Littleton,
Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Natick,
Newton, North Reading, Pepperell, Reading, Sherborn,
Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro,
Wakefield, Watham, Watertown, Wayland, Westford, Wilmington,
Winchester and Woburn), NORFOLK (Bellingham, Braintree,
Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin,
Medford, Medway, Millis, Milton, Needham, Norfolk, Norwood,
Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood,
Weymouth and Wrentham); PLYMOUTH (Hingham, Hull, Scituate);
SUFFOLK; WORCHESTER (Hopedale and Southboro)

| | Rates | Fringes |
|-----------------|----------|---------|
| PIPEFITTER..... | \$ 50.69 | 27.76 |

ROOF0033-001 08/01/2014

| | Rates | Fringes |
|---|----------|---------|
| Roofers: All Tear-off and/or removal of any types of roofing and all spudding, sweeping, vacuuming and/or cleanup of any and all areas of any type where a roof is to be relaid..... | \$ 39.21 | 22.92 |

SFMA0550-001 01/01/2014

BRISTOL (Portion within 35 mile radius from Boston City Hall;
ESSEX; MIDDLESEX (Except Ashby, Townsend, and portions of
Pepperell and Shirley beyond 35 mile radius from Boston City
Hall); NORFOLK; PLYMOUTH (Portion within 35 mile radius of
Boston City Hall); SUFFOLK

| | Rates | Fringes |
|-----------------------|----------|---------|
| SPRINKLER FITTER..... | \$ 53.33 | 22.08 |

SFMA0550-002 01/01/2014

BRISTOL (Seekonk, Swansea, and Somerset)

| | Rates | Fringes |
|-----------------------|----------|---------|
| SPRINKLER FITTER..... | \$ 39.40 | 21.05+a |

a. PAID HOLIDAYS: Memorial Day, July 4th, Labor Day,
Thanksgiving Day and Christmas Day, provided the employee
has been in the employment of a contractor 20 working days
prior to any such paid holiday.

SFMA0669-001 04/01/2015

BARNSTABLE; BRISTOL (Beyond 35 mile radius of Boston City
Hall); DUKES; MIDDLESEX (Ashby, Townsend, portions of Pepperell
and Shirley beyond 35 mile radius of Boston City Hall);
NANTUCKET; PLYMOUTH (Beyond 35 mile radius of Boston City Hall)

| | Rates | Fringes |
|-----------------------|----------|---------|
| SPRINKLER FITTER..... | \$ 38.01 | 20.95 |

SHEE0017-003 02/01/2012

BRISTOL (Attleboro, Berkley, Easton, Mansfield, North
Attleboro, Norton, Raynham, Taunton); ESSEX; MIDDLESEX;
NORFOLK; PLYMOUTH (except except Marion, Mattapoissett,
Rochester, Wareham); SUFFOLK

| | Rates | Fringes |
|-------------------------|----------|---------|
| Sheet metal worker..... | \$ 40.79 | 28.83 |
| ----- | | |
| SHEE0017-007 02/01/2012 | | |

BARNSTABLE; BRISTOL (Acushnet, Assonet, Dartmouth, Dighton, Fairhaven, Fall River, Freetown, New Bedford, Rehoboth, Seekonk, Somerset, Swansea, Westport); DUKES; AND NANTUCKET

| | Rates | Fringes |
|-------------------------|----------|---------|
| Sheet metal worker..... | \$ 40.79 | 28.83 |
| ----- | | |
| TEAM0379-001 08/01/2013 | | |

| | Rates | Fringes |
|----------------|----------|-----------|
| Truck drivers: | | |
| Group 1..... | \$ 30.78 | 18.37+A+B |
| Group 2..... | \$ 30.95 | 18.37+A+B |
| Group 3..... | \$ 31.02 | 18.37+A+B |
| Group 4..... | \$ 31.14 | 18.37+A+B |
| Group 5..... | \$ 31.24 | 18.37+A+B |
| Group 6..... | \$ 31.53 | 18.37+A+B |
| Group 7..... | \$ 31.82 | 18.37+A+B |

POWER TRUCKS \$.25 DIFFERENTIAL BY AXLE
TUNNEL WORK (UNDERGROUND ONLY) \$.40 DIFFERENTIAL BY AXLE
HAZARDOUS MATERIALS (IN HOT ZONE ONLY) \$2.00 PREMIUM

TRUCK DRIVERS CLASSIFICATIONS

- Group 1: Station wagons; panel trucks; and pickup trucks
- Group 2: Two axle equipment; & forklift operator
- Group 3: Three axle equipment and tireman
- Group 4: Four and Five Axle equipment
- Group 5: Specialized earth moving equipment under 35 tons other than conventional type trucks; low bed; vachual; mechanics, paving restoration equipment
- Group 6: Specialized earth moving equipment over 35 tons
- Group 7: Trailers for earth moving equipment (double hookup)

FOOTNOTES:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day

B. PAID VACATION: Employees with 4 months to 1 year of service receive 1/2 day's pay per month; 1 week vacation for 1 - 5 years of service; 2 weeks vacation for 5 - 10 years of service; and 3 weeks vacation for more than 10 years of service

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and

non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

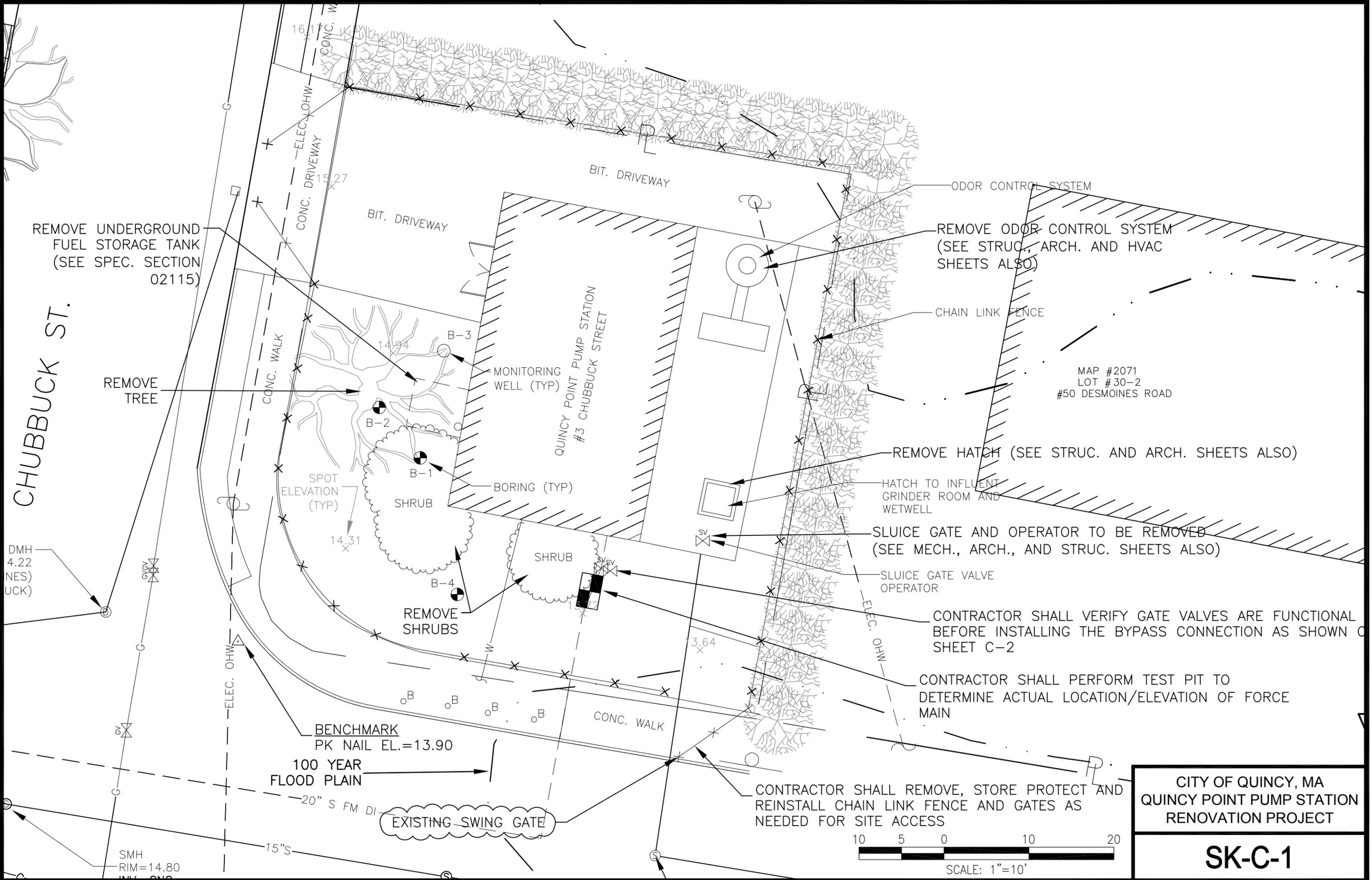
Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

c:\quincy\ma\2140649 Quincy Point PS Design\CAD\Civil\C-1 Existing Conditions.dwg



REMOVE UNDERGROUND FUEL STORAGE TANK (SEE SPEC. SECTION 02115)

REMOVE TREE

DMH 4.22 (NES) (UCK)

SMH RIM=14.80

BENCHMARK PK NAIL EL.=13.90

100 YEAR FLOOD PLAIN

20" S FM DI

EXISTING SWING GATE

CONC. WALK

BIT. DRIVEWAY

QUINCY POINT PUMP STATION #3 CHUBBUCK STREET

MONITORING WELL (TYP)

BORING (TYP)

SHRUB

SHRUB

REMOVE SHRUBS

ODOR CONTROL SYSTEM

REMOVE ODOR CONTROL SYSTEM (SEE STRUC., ARCH. AND HVAC SHEETS ALSO)

CHAIN LINK FENCE

MAP #2071 LOT #30-2 #50 DESMOINES ROAD

REMOVE HATCH (SEE STRUC. AND ARCH. SHEETS ALSO)

HATCH TO INFLUENT GRINDER ROOM AND WETWELL

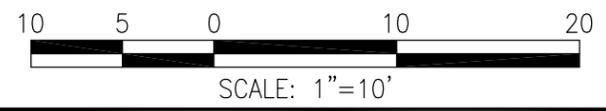
SLUICE GATE AND OPERATOR TO BE REMOVED (SEE MECH., ARCH., AND STRUC. SHEETS ALSO)

SLUICE GATE VALVE OPERATOR

CONTRACTOR SHALL VERIFY GATE VALVES ARE FUNCTIONAL BEFORE INSTALLING THE BYPASS CONNECTION AS SHOWN ON SHEET C-2

CONTRACTOR SHALL PERFORM TEST PIT TO DETERMINE ACTUAL LOCATION/ELEVATION OF FORCE MAIN

CONTRACTOR SHALL REMOVE, STORE PROTECT AND REINSTALL CHAIN LINK FENCE AND GATES AS NEEDED FOR SITE ACCESS



CITY OF QUINCY, MA
QUINCY POINT PUMP STATION
RENOVATION PROJECT

SK-C-1

PER SPECIFICATIONS & DETAILS

CHUBBUCK

BIT. DRIVEWAY

ODOR CONTROL SYSTEM, PER SPEC. 11233
(SEE STRUC. AND ARCH. AND HVAC SHEETS AL)

BOLLARD (TYP)
SHRUB PLANTING
(TYP)- (23) TO

STANDBY GENERATOR
SLAB,
FOR SUBBASE AND
SLAB THICKNESS AND
REINFORCING SEE
STRUCTURAL DETAILS

STANDBY GENERATOR,
SEE ELEC. SHEETS

CHAIN LINK FENCE

MAP #2071
LOT #30-2
#50 DESMOINES ROAD

QUINCY POINT PUMP STATION
#3 CHUBBUCK STREET

HATCH
(SEE STRUC. AND ARCH. SHEETS ALSO)

BENCHMARK
PK NAIL EL.=13.90

DMH
RIM=14.22
92(DES MOINES)
0.87(CHUBBUCK)

20-INCH
GATE VALVE

REMOVE & RELOCATE EXISTING
WATER SERVICE AROUND
BYPASS MANHOLE, COORDINATE
SHUTDOWNS WITH OWNER

CONTRACTOR TO TEMP. PLUG
LINE IN MANHOLE TO
PREVENT FLOW INTO STATION
DURING CONSTRUCTION

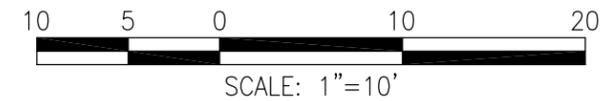
FORCE MAIN
BYPASS VAULT & PIPING
(SEE DETAIL SHEET C-3)

8' DIA. FLAT TOP DROP
OVER MANHOLE
RIM=13.6±
INV.=3.45

100 YEAR FLOOD
(ELEV. 14, AS OF JAN

CONTRACTOR SHALL INSTALL NEW 6
FOOT WIDE SWING GATE. SWING GATE
SHALL BE COMPATIBLE WITH THE
EXISTING CHAIN LINK FENCE AND GATE

20-INCH
INSERTION
VALVE



CITY OF QUINCY, MA
QUINCY POINT PUMP STATION
RENOVATION PROJECT

SK-C-2

o:\Quincy MA\2140649 Quincy Point PS Design\CAD\Civil\C-2 Proposed Conditions.dwg

**CITY OF QUINCY, MA
DEPARTMENT OF PUBLIC WORKS & PARKS**

**QUINCY POINT PUMP STATION RENOVATION PROJECT
CWSRF NO. 3974**

PRE-BID MEETING SUMMARY

SEPTEMBER 3, 2015

Due to the size of the site, there is no area for staging. There is a vacant lot at the corner of DesMoines Road and East Howard Street. The contact numbers for Tom McFarland, RE/MAX real estate agent, are (617) 328-3200 and (617) 851-0900.

A hand-out with the Massachusetts Department of Environmental Protection (DEP) State Revolving Fund Loan Program American Iron and Steel Best Practices Guide (attached) was provided by DEP.

Questions:

- Q1. Can the DCAMM certifications for the general bid category be expanded to include General Building Construction?
A1. This question will be addressed in Addendum No. 1.
- Q2. Does the electrical contractor or the general contractor buy the VFDs?
A2. This question will be addressed in Addendum No. 1.
- Q3. Is the standby generator included as part of the electrical filed sub-bid?
A3. This question will be addressed in Addendum No. 1.
- Q4. Will the existing standby generator remain in the building and in service during construction?
A4. This question will be addressed in Addendum No. 1.

END

O:\Quincy MA\2140649 Quincy Point PS Design\Bidding\Addendum No. 1\QPPS Pre-Bid Meeting Summary.docx

**MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE REVOLVING FUND LOAN PROGRAM
AMERICAN IRON AND STEEL
BEST PRACTICES GUIDE**

Based on MassDEP's experience with the Buy American provisions of the American Recovery and Reinvestment Act (ARRA), this best practices guide has been developed to assist borrowers in the implementation of the American Iron and Steel (AIS) requirements.

American Iron and Steel is required for the vast majority of SRF construction projects from the 2014 Intended Use Plan going forward. The US Environmental Protection Agency (EPA) has issued program guidance, which has been incorporated in its entirety into Appendix I of the MassDEP Plans and Specifications package (<http://www.mass.gov/eea/docs/dep/water/approvals/year-thru-alpha/m-thru-s/pspkg.pdf>). This guidance provides detailed questions and answers with respect to the AIS program.

OVERALL AIS COMPLIANCE

It is the responsibility of the Owner to ensure that the project complies with the AIS requirements. This means that it will be a joint effort between the Owner, the Consultants and the project Contractors. MassDEP's role is to ensure that these provisions are consistently being met across the SRF program. MassDEP is not mandating an exact method for compliance to take into account the many types of projects the SRF undertakes. We don't believe there is a one size fits all approach to compliance. However, MassDEP may not be the only entity reviewing AIS compliance. The EPA is planning to conduct site visits in all 50 states in 2015 and the EPA's Office of Inspector General could be looking into AIS compliance as well. Therefore, it is in every project's interest to develop a simple, transparent, well-documented program to ensure compliance with the AIS requirements that can be understood by engineers as well as non-technical personnel.

PRIOR TO BIDDING AND CONSTRUCTION

The Consultant should be identifying those materials that will need to comply with AIS. They should also be identifying those items that are exempt from AIS. Developing a materials list that shows which items need to comply and which don't need to comply will help assist contractors in the bidding phase.

The Consultant should be identifying, to the extent possible, those materials that may need a project specific waiver from the AIS requirements. If particular materials can be identified before the start of bidding or construction, waiver requests can be submitted early in the process to prevent delays after contract award. The EPA AIS guidance outlines the process for submitting a waiver requests.

The Consultant should develop a system to ensure that AIS compliance is maintained throughout the project. During ARRA, MassDEP found that obtaining the necessary manufacturers certifications during the shop drawing submittal and review process simplified the process significantly. Specifically, shop drawings for items requiring AIS compliance would not be approved until the certification was submitted.

DURING BIDDING

The Consultant should identify that the project is required to comply with the AIS provisions in the Invitation to Bid. This will let the prospective contractors know up front what they will need to deal with

when the project gets underway. The bid documents must include the required AIS language that is included in the Plan and Specifications package.

If a pre-bid conference is held, time should be set aside to discuss the AIS provisions and in general, what will be expected of the contractor. MassDEP staff can attend this meeting if requested to assist in explaining the AIS requirements and answering questions.

AFTER AWARD

Time should be set-aside during the pre-construction meeting to discuss AIS and how the Consultant and the Contractor will work together to ensure compliance. MassDEP will make every effort to attend the pre-construction meeting to discuss how we will review AIS compliance and what the ramifications are if AIS compliance is not maintained.

DURING CONSTRUCTION

MassDEP recommends that a copy of all records pertaining to AIS compliance be maintained on the project site. It is MassDEP's responsibility to ensure that each project is maintaining compliance with AIS and this will be done during the routine construction monitoring that is conducted throughout the project. Therefore, having appropriate records on-site will expedite these reviews.

AIS CERTIFICATIONS

Manufacturer certifications must be provided for all covered iron and steel products. These must certify that the product meets the AIS requirements and should, at a minimum, include the name of the item and the location the product is being manufactured. Buy American certification under ARRA is not acceptable for AIS.

DE MINIMIS WAIVER

The DeMinimis waiver allows small, incidental items that do not comply with AIS to be used on the project as long as the total value of these items is less than 5% of the total cost of all materials on the project with no one item being more than 1% of the total material cost. Examples of incidental items could include small washers, screws, fasteners (nuts and bolts), miscellaneous wire, corner bead, ancillary tube, etc. These items are typically low cost and procured in bulk. It is expected that most projects will need to utilize the DeMinimis waiver to account for these incidental items.

In order to comply with the waiver, a baseline cost of project materials needs to be developed so that 5% of that cost can be readily determined. This materials cost can include approximate costs for those items that have not yet been procured. This cost is best developed by the Contractor since they have direct knowledge of the actual material costs, although it could be developed by the Consultant in conjunction with the Contractor.

A list of all of the items on the project that are being included in the DeMinimis waiver must be tracked. MassDEP recommends the use of a simple spreadsheet or ledger that identifies the name of the item, the amount of the item to be used on the project, the unit cost of the item and the total cost of the item. As with the material estimate, some level of estimation can be used in developing this DeMinimis list. If the project is approaching the 5% limit, MassDEP recommends that the earlier estimates be fine tuned based on actual material purchases to ensure that the 5% is not exceeded.

**CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS**

QUINCY POINT PUMP STATION RENOVATION PROJECT – CWSRF NO. 3974

PRE-BID CONFERENCE SIGN-IN SHEET

DATE & TIME: Thursday, September 3, 2015, 11:00 a.m.

LOCATION: Quincy Point Pump Station
Chubbuck Street, Quincy

| Name | Affiliation Name and Address | Email | Phone Number |
|------------------|--|---|-----------------|
| CHRIS CROWLEY | MCDONALD ELECTRIC 72 SHARP ST. QUINCY MA | CCROWLEY@ MCDONALDCORP.COM | 781-261-6157 |
| Peter Rugg | Systems Electricalsug 5 Wesley St Chelsea ma | Peter@systems electricalservices. com | 617-466-0920 |
| MIKE CREPIEL | WATERLINE IND 7 LONDON LANE SEABROOK NH | JDUCHESNE @WATERLINEIND.COM | 603-474-7477 |
| MIKE FRANK | JOHN FISHER electric 41 Hollingsworth MATTAPAN MA | M FRANK R JOHN FISHER . COM | 617 298 0356 |
| TONY AKOURY | DALLE ELECTRIC | taakoury@dalcorp .com | 617-592-2716 |
| Joe Annesi | Annesi Electric | Janneese@annese electric.com | 781 337 6462 |
| Ken Gaddard | MFCO Environmental | Kgaddard@cmvnet.net | 781-331-6446 |
| Ryan Mello | Sparks Co. Inc 15 SIMMONS RD (near) Little Compton, RI 02837 | sparks@sparkscompanyinc.com | (401) 675-2440 |
| David Tamulis | City of Quincy | DNTAMULIS@ gmail.com | 339-237 7577 |

**CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS**

QUINCY POINT PUMP STATION RENOVATION PROJECT – CWSRF NO. 3974

PRE-BID CONFERENCE SIGN-IN SHEET

DATE & TIME: Thursday, September 3, 2015, 11:00 a.m.

LOCATION: Quincy Point Pump Station
3 Chubbuck Street, Quincy

| Name | Affiliation Name and Address | Email | Phone Number |
|------------------------|---------------------------------|--------------------------|----------------|
| James Arzoglou | W4S | | 617-429-8477 |
| Chris Deligiannidis | Shipsview Inc | shipsviewinc@gmail.com | (508) 888-1910 |
| Kelly Taylor | Mass DEP - SRF | kelly.taylor@state.ma.us | 617 292-5817 |
| Frank Ocehipinti | W4S | | |
| Kara Keleher | Weston & Sampson | keleherk@wseinc.com | 978 532-1900 |
| | | | |
| | | | |
| | | | |
| | | | |