ADDENDUM NO. 1

NOTICE is hereby given to prospective Bidders of the following information, clarifications, and modifications to the Bidding Documents. The Bidding Documents remain unchanged except as indicated below. Bidders must acknowledge receipt of this Addendum in the Bid Form and comply with the requirements for submission of Bids as set forth in the Bidding Documents.

A. CLARIFICATIONS

1. An optional pre-bid conference was held on Tuesday, June 26, 2018 at 11:00 AM local prevailing time at the Department of Public Works, 55 Sea Street, Quincy, MA 02169. A list of attendees and the agenda from the pre-bid conference are attached.

2. Staging Area: As stated in SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS, “Owner is not providing a location for staging area. Determine and secure a location for staging area.”

NOTICE is hereby given that the Bidding Documents have been modified as follows.

Replacement pages are issued herewith as Attachment No. 1, have an Issue Date of June 29, 2018, contain reference to “ADDENDUM NO. 1” in the footer, and text changes identified by double-underline for additions and Strikeout for deletions.

<table>
<thead>
<tr>
<th>Replacement pages (with text changes)</th>
<th>Provided for purposes of double-sided printing only - no changes (front or back of replacement page)</th>
</tr>
</thead>
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<td>00 73 10-6-8</td>
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<tr>
<td>33 14 19-8</td>
<td>33 14 19-7</td>
</tr>
</tbody>
</table>

B. DRAWINGS

Drawing replacement pages/sheets have a revision date of June 29, 2018 in the revision block with changes encircled by “clouds” and designated as “Addendum 1”.

Drawing No. C-105, Sheet 7 of 9
This Addendum is provided to Bidders in a single Portable Document Format (.PDF) posted on the Owner’s the website as indicated in the Instructions to Bidders and will be available for examination at the Issuing Office. It is each Bidder’s responsibility to check the website for issued Addendum.

**Prepared and Issued by Woodard & Curran (Engineer) on behalf of:**
The City of Quincy, Massachusetts
City of Quincy, Massachusetts  
Bid (Revised) FY18 Water Mains Contract 2  
Pre-Bid Meeting  
June 26, 2018 at 11:00 AM

SIGN IN SHEET

<table>
<thead>
<tr>
<th>Name</th>
<th>Company/Organization</th>
<th>Telephone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rachel Patenaude</td>
<td>Woodard &amp; Curran</td>
<td>781-613-0463</td>
<td><a href="mailto:rpatenaude@woodardcurran.com">rpatenaude@woodardcurran.com</a></td>
</tr>
<tr>
<td>Arthur Leventis</td>
<td>Woodard &amp; Curran</td>
<td>978-482-7636</td>
<td><a href="mailto:aleventis@woodardcurran.com">aleventis@woodardcurran.com</a></td>
</tr>
<tr>
<td>John Bacon</td>
<td>Quing</td>
<td>413-376-1527</td>
<td><a href="mailto:jbacon@quing.mta.gov">jbacon@quing.mta.gov</a></td>
</tr>
<tr>
<td>Dan Giannandrea</td>
<td>City of Quincy</td>
<td>(617) 376-1938</td>
<td><a href="mailto:dgiannandrea@quincy.mta.gov">dgiannandrea@quincy.mta.gov</a></td>
</tr>
<tr>
<td>Joe Shea</td>
<td>Woodard &amp; Curran</td>
<td>781-257-0200</td>
<td><a href="mailto:jshea@woodardcurran.com">jshea@woodardcurran.com</a></td>
</tr>
<tr>
<td>Larry Prendiville</td>
<td>City of Quincy</td>
<td>617-326-1937</td>
<td><a href="mailto:LPrendiville@quincy.mta.gov">LPrendiville@quincy.mta.gov</a></td>
</tr>
</tbody>
</table>
This Meeting: Pre-bid Meeting
Date/Time: June 26, 2018 at 11:00 AM
Location: Department of Public Works
55 Sea Street
Quincy, MA 02169
Project Name: Bid (Revised) FY18 Water Mains Contract 2
Client: City of Quincy, Department of Public Works

Memo

Introductions/Opening

- Thank you all for coming. This is the pre-bid meeting for the Bid (Revised) FY18 Water Mains Contract 2 project.
- The Owner is the City of Quincy. (Dan Giannandrea, John Bacon, and Larry Prendeville from the City of Quincy are in attendance)
- Joe Shea, Arthur Leventis, and Rachel Patenaude are in attendance from Woodard and Curran.
- Please sign the sign-in sheet, and fill in all information requested.
- Any questions that arise during or after this meeting shall be dealt with as specified in contract documents.
- Contract Documents are available at the Office of the Purchasing Agent for a refundable printing charge of $100.00, if returned 10 days within Bid opening in unused condition. Contract Documents are also available at the City of Quincy’s website www.quincyma.gov.

Specifications:

- Bid Opening – July 5 at 11:45 AM at the Offices of the Purchasing Agent, 1305 Hancock St, Quincy, MA 02169.
• Project description – The Work under this Contract includes, but is not limited to, the removal of 6-inch through 10-inch unlined cast iron water main, installation of 8-inch cement lined ductile iron water mains, furnishing and installing related gate valves, hydrants, and appurtenances ranging in size from 6-inch to 16-inch, temporary bypass system, and all materials, equipment, services and construction inherent to the Work. See SECTION 00 43 22 – UNIT PRICES FORM for quantity estimates.

• Permits: DCR Construction Access Permit applies to the intersection of Quincy Shore Drive and Samoset Avenue. Quincy Shore Drive is a DCR owned road. MWRA 8M Permit applies to the intersection of Sea Street, Narragansett Rd, and Samoset Ave. There is an MWRA sewer located in Sea Street.

• Schedule – The Work shall be substantially complete by December 7, 2018 and completed and ready for final payment by January 7, 2019.
  o Streets include: N. Payne Street, Payne Street, South Street, Kittredge Avenue, Ruggles Street, Samoset Avenue, Kidder Street, and Winslow Road

• Bid Security – 5% of the total amount of the bid; in form of a Bid Bond issued by company qualified to do business in the Commonwealth of Massachusetts or a certified check drawn upon a national or state bank and made payable to City of Quincy.

• Performance and Payment Bonds – Performance Bond shall be 100% of the total bid amount, Payment Bond shall be 100% of the total bid amount; each shall remain in a minimum 1 year after the date when final payment becomes due or as specified by state or local roadway permits, whichever is later.

• Wage Rates – Wage rates for the project were from the Massachusetts Executive Office of Labor and Workforce Development and the United States Department of Labor are included in SECTION 00 73 43 - WAGE RATE REQUIREMENTS.

• Qualifications: Bidder’s organization must have completed at least 3 projects in the Commonwealth of Massachusetts, within the last 5 years which are similar in type, character and magnitude to that required by the Contract.

• Project Award – based on lowest Base Bid; lowest qualified eligible and responsible bidder whose Bid is in the best interests of the Project or public.

• Bid Items – Please review SECTION 00 43 22 – UNIT PRICES FORM and SECTION 01 20 25 - MEASUREMENT AND PAYMENT. Bidder’s attention is directed to the following: Item 1f: South Street Crossing, Items 5a and 5b: 16-inch and 12-inch line stops, Items 18a and 18b: 6-inch and 8-inch insertion valves; Item 22: Allowance for Police Details. Please note the successful Bidder will be required to pay police details immediately upon receipt of Police Invoice. This was not intended to be an exhaustive review of all bid items, all bidders shall carefully review SECTION 00 43 22 – UNIT PRICES FORM and SECTION 01 20 25 - MEASUREMENT AND PAYMENT for a complete description of bid items.

• SECTION 01 11 00 – SUMMARY OF WORK and SECTION 01 15 00 – SPECIFIC PROJECT REQUIREMENTS AND PROCEDURES:
  o Payment applications shall be submitted on EJCDC FORM C-00 62 76 (provided in the Contract Documents). Requisitions shall include Certified Payroll Statements. Monthly requisitions that do not include Certified Payroll Statements shall be considered incomplete and will not be processed until Certified Payroll Statements are received.
  o Except when road closure and road blockage permits are obtained, maintain, at a minimum, one lane of traffic (alternating traffic in each direction) on all roadways impacted by the Work
during construction hours. Restore normal traffic flow patterns at the end of each work day. Owner reserves the right to restrict lane closures from 7:00 am to 9:00 am and 3:00 pm to 5:00 pm within the Project area, except when road closure and road blockage permits are obtained.

- **SECTION 01 20 25 – MEASUREMENT AND PAYMENT:** Note that the following Work is not specifically described or designated as a pay item, is considered incidental to all pay items, and shall not be measured separately for payment.
  1. Division 01 General Requirements EXCEPT those items included in Mobilization/Demobilization and included as a separate pay item.
     a. Temporary bypass pumping
     b. Geotechnical instrumentation and monitoring
     c. Hazardous materials abatement
  2. Public notification
  3. Materials, equipment, and services necessary to verify existing field conditions and the location, size, type, material, and orientation of existing pipes and utilities shown on the Drawings including test pits.
  4. Restoration of all areas disturbed by the Contractor within the limits of Work.
  5. Field and laboratory testing and reporting by independent laboratory, including but not limited to compaction of backfill materials; aggregate gradation; and concrete testing

- **SECTION 01 51 38 – TEMPORARY WATER BYPASS:**
  o Temporary main: Fire protection main shall be 6-inch unless otherwise approved in writing; domestic service main shall be minimum 2-inch diameter.
  o Temporary hydrants: Provide for each existing and proposed hydrant and at buildings with siamese connection. Provide additional temporary hydrants when required by the local Fire Department at no additional cost to the Owner.
  o When bypass water main system has been tested and is approved to be put into service, it shall be maintained 24-hours per day, 7 days per week by the Contractor until the Work has been completed and the bypass system has been removed. Submit an emergency contact list with a minimum of three (3) employees skilled in the maintenance and repair of the temporary by-pass systems. Each employee must be well-informed of the bypass system in use with specific knowledge of its operational requirements and valve locations. The employees listed on the emergency contact list shall be on call 24 hours/day, 7 days/week while the temporary bypass system is active. Each shall be able to respond to emergency repair calls within a maximum of two (2) hours. The emergency contact list shall include, at a minimum the name, address, home and mobile telephone number for each employee listed.
  o Complete all sections of the Project in progress before the daily low temperature falls below 40 degrees Fahrenheit. Maintain all components of the by-pass system impacted by freezing conditions, including service connections and take reasonable measures when scheduling work as cold weather season approaches Should it become necessary to stop Work and remove the bypass system due to freezing conditions, re-install, chlorinate, test, and return the temporary bypass system to service at no additional cost to the Owner.
Instructions:

- Submit bids on most up to date bid forms furnished by Owner. Fill in all blank spaces in ink or typewritten. Bid prices for each item shall be provided in both words and figures. If there is a discrepancy between prices written in words and prices written in figures, the written words will govern.
- Bids with bid prices that are abnormally high or low may be rejected as unbalanced.
- Bids may not be withdrawn for 90 days after bid opening date.
- Bid will be awarded to an eligible and responsible bidder with the lowest base bid subject to available funds.

Schedule

- Bid opening is scheduled for July 5, 2018 at 11:45 AM at the offices of the Purchasing Agent, City Hall, 1305 Hancock Street, Quincy, Massachusetts 02169.
- No Bid may be withdrawn for at least 90 days after receipt of bids unless released by the Owner.
- Time is of the essence for the project. The City intends to award the project as soon as bid references and bid review are completed. The successful bidder is expected to provide information required in the Notice of Award within time required by Notice of Award. The City intends to issue the Notice to Proceed without delay upon execution of contract agreement. The successful bidder is expected to begin construction immediately upon receipt of Notice to Proceed.
- The Work shall be substantially complete by December 7, 2018 and completed and ready for final payment by January 7, 2019.
- Liquidated damages - $1,000 per calendar day
- Actual damages incurred as a result of non-compliance with permits, failure to maintain operation of the water system, and other damages directly related thereto shall be paid by the Contractor.

Questions

- Are there any questions?

Site Walk

- Bidders are encouraged to visit the project sites to gain an understanding of existing site conditions and potential site limitations

Meeting Conclusion

- There will be an addendum issued after this meeting that will address any questions received or raised at or prior to this meeting.
SC-6.11 Use of Site and Other Areas

Add the following immediately after Paragraph 6.11.A.

1. Contractor and its Subcontractor(s) shall not leave equipment on street at the Site of Work and shall remove equipment at the end of each working day. Unless written authorization is requested and received in advance, Contractor and its Subcontractor(s) shall not leave excavator at the Site of Work.

SC-6.12 Record Documents

Add the following immediately after Paragraph 6.12.A.

1. Contractor(s) shall maintain books, records, documents, and other evidence directly related to the performance on all Work receiving funding under the Owner’s executed Financial Assistance Agreement with MWRA in accordance with generally accepted professional practice and appropriate accounting procedures and practices. Contractor shall also maintain the financial information and data used in the preparation or support of Project invoices and associated progress reports.

2. The MWRA and any other duly authorized person shall have access to such books, records, documents, and other evidence for inspection, audit, and copying during normal business hours, upon ten (10) days’ notice and at MWRA's expense. Contractor shall provide proper facilities for such access and inspection. All documents shall be kept for at least seven (7) years after the final payment or at least seven (7) years after closeout of the Project, whichever is later.

SC-7.01 Related Work at Site

Pursuant to Paragraph 7.01, Owner has not and does not intend to separately contract for other work on the Project at the Site.

SC-8.09 Limitations on Owner’s Responsibilities

Add the following to Paragraph 8.09.

B. No officer, member or employee of the City of Quincy or its designees or agents, and no member of its governing body, and no other public official of the governing body of the locality or localities in which the Project is situated or being carried out, who exercises any function or responsibilities in the review or approval or the undertaking or carrying out of this Project, shall participate in any decisions relating to this Contract which affects his personal interest or the interest of any corporation, partnership, or associations in which he is directly or indirectly interested or have any personal or pecuniary interest, direct or indirect, in this Contract or proceeds thereof.
SC-8.11 Evidence of Financial Arrangements

Pursuant to Paragraph 8.11.A, the Project is to be funded in part under the Massachusetts Water Resource Authority (MWRA) Local Water System Assistance Program (LWSAP).

SC-13.02 Access to Work

Add the following immediately after Paragraph 13.02.A.

1. Contractor shall make the Project Site and all Project records available to MWRA staff for review during the course of the Project. MWRA staff will periodically monitor the progress of Work for which MWRA financial assistance has been provided. The intent of these periodic inspections will be to ensure that the Project is: (1) proceeding substantially as defined in the Scope of Work / Project Schedule sections of the Owner’s executed Financial Assistance Agreement; and (2) proceeding in a manner which will produce the water system improvements which the Owner estimated would be achieved in the Owner’s executed Financial Assistance Application.

SC-14.02 Progress Payments

Add the following at the end of Paragraph 14.02.C.1.

For the purposes of this Paragraph, “Owner” shall mean “Owner’s approving authorities”.

SC-16 DISPUTE RESOLUTION

Add the following new paragraphs immediately after Paragraph 16.01.D.

16.02 Arbitration

A. All Claims or counterclaims, disputes, or other matters in question between Owner and Contractor arising out of or relating to the Contract Documents or the breach thereof (except for Claims which have been waived by the making or acceptance of final payment as provided by Paragraph 14.09) including but not limited to those not resolved under the provisions of Paragraphs 10.05 or 16.01, will be subject to arbitration in accordance with the rules of Construction Industry Rules of the American Arbitration Association, subject to the conditions and limitations of this Paragraph 16.02. This agreement to arbitrate, and any other agreement or consent to arbitrate entered into, will be specifically enforceable under the prevailing Laws of any court having jurisdiction.

B. The demand for arbitration will be filed in writing with the other party to this Contract and with the selected arbitrator or arbitration provider, and a copy will be sent to Engineer for information. The demand for arbitration will be made
within the 30-day period specified in Paragraph 16.01.D, and in all other cases, within a reasonable time after the Claim or counterclaim, dispute, or other matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such Claim or other dispute or matter in question would be barred by the applicable statute of limitations.

C. No arbitration arising out of or relating to the Contract Documents shall include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer’s consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:

1. the inclusion of such other individual or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration; and

2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings.

D. Consolidation shall be by order of the arbitrator(s) in any pending case, or if the arbitrator(s) fail to make an order, a party may apply to a court of competent jurisdiction for such order. The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity shall be specifically enforceable in accordance with the Laws of any court having jurisdiction thereof.

E. The award rendered by the arbitrator(s) shall be consistent with the agreement of the parties, in writing, and include: (i) a concise breakdown of the award; (ii) a written explanation of the award specifically citing the Contract Document provisions deemed applicable and relied on in making the award.

F. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the controlling Laws relating to vacating or modifying an arbitral award.

G. If the parties decline to arbitrate, such Claims, disputes and other matters shall be decided by a court having jurisdiction.

16.03 General

A. The Contractor will require similar dispute resolution provisions in agreements with its Subcontractors and Suppliers.

B. Contractor shall not have the right to stop performance of the Work pending resolution of a Claim or dispute.
C. Notwithstanding any provision contained in this Article or elsewhere in the Contract Documents, the Owner reserves the following rights in connection with Claims and disputes between the Owner and the Contractor:

1. The right to institute legal action against the Contractor in any court of competent jurisdiction in lieu of demanding arbitration pursuant to this Article, in which case the Claims or disputes which are the subject of such action shall be decided by such court, and not by arbitration.

2. The right to obtain from any court of competent jurisdiction a stay of any arbitration instituted by the Contractor, provided that the application for such stay is made before the appointment of the neutral arbitrator in such arbitration, in which case the Claims or disputes which are the subject of such arbitration shall be decided by such court, and not by arbitration.

3. The right to require the Contractor to join as a party in any arbitration between the Owner and the Engineer relating to the Project, in which case the Contractor agrees to be bound by the decision of the arbitrator or arbitrators in such arbitration.

ATTACHMENTS

A. Quincy Code of Ordinances, Chapters 12.08 and 17.36

B. Quincy Code of Ordinances, cover, preface, contents and Quincy Zoning Ordinance June, 2011, contents and website

END OF SECTION
for the month during which the Work was performed. The Price Adjustment will be a separate payment item and processed by Change Order. It will be determined by multiplying the number of tons of hot mix asphalt mixtures placed within pay limits during each monthly period as shown on submitted certified weigh slips times the liquid asphalt content percentage times the variance in price between Base Price and Period Price of liquid asphalt. This Price Adjustment will be paid or credited if the variance from the Base Price is 5 percent or more for a monthly period. No further Price Adjustments will be processed after the Contract is finally complete, unless an extension of Contract Time is approved by the Owner.

b. Monthly Price Adjustment for Diesel Fuel and Gasoline: This adjustment will provide for either additional compensation to the Contractor or repayment to the Owner, depending on an increase or decrease in the Period Price of Diesel Fuel or Gasoline.

1) Base Price: The Base Price of Diesel Fuel and Gasoline listed above is the fixed price determined at the time of Bid by the Owner by using the same method as for the determination of the Period Price detailed below.

2) Price Adjustment: The Price Adjustment will be based on fuel usage factors for various items of Work included. These factors will be multiplied by the quantities of Work completed in each item during each monthly period and further multiplied by the variance in price from the Base Price to the Period Price.

3) Period Price: The Period Price for this Contract shall be the current Diesel Period Price and Gasoline Period Price per Gallon.

4) Applicability: The fuel Price Adjustment will apply only to the following items of Work listed at the fuel factors shown.
ITEMS OF WORK COVERED (PER UNIT PRICES FORM) | FUEL FACTORS
--- | --- | ---
1a-1e; 7a-7b | Diesel | 0.28 Gallons per LF | Gasoline | 0.17 Gallons per LF
2a-2e; 4; 8a-8d | Diesel | 0.28 Gallons per EA | Gasoline | 0.17 Gallons per EA
5a -5c; 18a; 18b | Diesel | 1.68 Gallons per EA | Gasoline | 1.02 Gallons per EA
3 | Diesel | 0.0015 Gallons per LB | Gasoline | 0.00089 gallons per LB
10a; 10b; 16 | Diesel | 0.29 Gallons per CY | Gasoline | 0.15 Gallons per CY
10c | Diesel | 0.39 Gallons per CY | Gasoline | 0.18 Gallons per CY
11a; 11b | Diesel | 0.85 Gallons per TON | Gasoline | Does not Apply

5) Payment/Credit of Price Adjustment: The Contract Price of items listed below will be paid under the respective items in the Contract. The price adjustment, as herein provided, upwards or downwards, will be made after the Work has been performed, using the monthly Period Price for the month during which the Work was performed.

a) The Price Adjustment will be a separate payment item. For all items except items 11a; 11b the Price Adjustment will be determined by multiplying the number of units of each item of Work times the fuel factor for each item of Work times the variance in price between Base Price and Period Price of diesel or gasoline.

b) For items 11a; 11b the Price Adjustment will be determined by multiplying the number TONS of Hot Mix Asphalt installed times the fuel factor for each item of Work times the variance in price between Base Price and Period Price of diesel or gasoline. The Contractor shall provide the Owner with weigh slips for all Hot Mix Asphalt installed.
4. Notification to residents who will be connected to the temporary bypass system, no less than 24 hours prior to connection to temporary bypass. See Bypass Notification attached to this section.

B. Do not leave equipment on streets at the Site of Work and remove equipment at the end of each working day. Unless written authorization is requested and received in advance, Contractor and its Subcontractor(s) shall not leave excavator at the Site of Work.

1.06 ATTACHMENTS

A. Shutdown Notification

B. Temporary Bypass Notification

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION
SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

1.03 TEMPORARY UTILITIES

Pursuant to Paragraph C. Water Service, specific requirements applicable to the Project include the following.

- Owner will provide water at no charge for construction and flushing. Owner shall not provide a backflow preventer. Backflow preventer shall be provided by Contractor.

1.04 TEMPORARY CONTROLS

Pursuant to Paragraph B. Water Control and Dewatering, comply with the following additional requirements.

- MassDEP requirements
- DCR requirements within DCR rights of way
- Section 02 61 05 Removal and Disposal of Contaminated Soil and Water

Pursuant to Paragraph C. Erosion and Sediment Control, comply with the following additional requirements.

- Quincy Conservation Commission requirements
- DCR requirements within DCR rights of way
- MassDEP requirements

Pursuant to Paragraph E. Pollution Control, submit a plan and employ additional protective measures to prevent harm to resource areas from a potential fuel leak or spill.

Pursuant to Paragraph F. Traffic Regulation,

subparagraph 1. regarding a plan for traffic control, also submit a schedule of road closures/detours and obtain a road closure and road blockage permit for every location where Work is being performed. Detours and street closures are subject to the approval of the [City] Traffic Engineer who will strictly control the periods when traffic is being detoured or streets can be closed.

subparagraph 2. regarding the MUTCD, comply with the following additional requirements.

subparagraph 4. regarding **use of police officers**, comply with the following additional requirements.

- Coordinate schedule of police details with Owner which will be paid by the Contractor and billed under Owner’s contingency allowance payment item. Contractor **must** pay police details immediately upon receipt of Police Detail invoice. Reimbursement shall be made through monthly payment requisition.

subparagraph 5, regarding **maintaining one moving lane**, comply with the following additional requirements.

- Except when road closure and road blockage permits are obtained, maintain two lanes of traffic (one in each direction) throughout construction and during non-working hours to the maximum extent possible.
- Lane closures will not be permitted from 7:00 am to 9:00 am and 3:30 pm to 5:30 pm except when road closure and road blockage permits are obtained.

**SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS**

**1.02 OVERALL EXECUTION REQUIREMENTS**

Pursuant to Paragraph A. **Coordination**, comply with the following additional requirements.

- technical requirements included in the Quincy Code of Ordinances (referenced portions and list of contents are included in Section 00 73 10)

subparagraph 4. regarding **space requirements**, a primary Site restriction is the width of the streets and volume of traffic within the Project Site which may require complete shut down or partial blocking of the streets during construction. Coordinate with the Fire Department and Police Department. **Do not leave equipment on streets at the Site of Work and remove equipment at the end of each working day. Unless written authorization is requested and received in advance, Contractor and its Subcontractor(s) shall not leave excavator at the Site of Work.**

Pursuant to Paragraph B. **Existing Conditions**, 

subparagraph 3. regarding **underground utilities**, comply with the following additional requirements.

- Contact DIGSAFE ([www.digsafe.com](http://www.digsafe.com)) by dialing 811.

subparagraph 4. regarding **reference points**, survey information is included on the Drawings.
1.03 STARTUP, TESTING, AND COMMISSIONING

Delete Paragraph C. Checkout and Starting of Systems, in its entirety.

ATTACHMENTS

A. Soil Boring Logs

B. Permits
   1. Massachusetts Water Resources Authority 8(m) Permit – To be provided prior to Bid opening
   2. Construction and/or Associated Access to MA Department of Conservation & Recreation (DCR) Park Lands & Roadways Permit

END OF SECTION
Certified Mail

June 21, 2018

City of Quincy DPW
55 Sea St.
Quincy, MA 02169

Re: MWRA – 8(m) Permit # 18-03-1271M
    Effective Date: June 21, 2018

Attn: Paul Costello,

Enclosed please find 8(m) permit number 18-03-1271M. The permit is effective as of June 21, 2018.

The permit authorizes you to conduct operations crossing within or near an easement or other property interest held by MWRA and provides important information. All of the requirements and conditions of the permit are in effect so please read the permit upon receiving it.

Permittee or its designee to provide at least 72-hour prior notice to the MWRA's Inspection Department, by calling Kevin McKenna (617) 305-5956, located at 2 Griffin Way, Chelsea, MA 02150

If you have any questions pertaining to the permit's terms and conditions or any information set forth in this letter, please contact me at (617) 305-5956.

Sincerely,

Kevin McKenna
Project Manager
TRAC
09-Apr-18

City of Quincy DPW
55 Sea Street
Quincy, MA 02169

This Permit is subject to the 8(m) Permit Terms and Conditions, and the 8(m) Permit Special Terms and Conditions, if any, attached hereto and made a part hereof. Permittee agrees that it shall be bound by, and shall comply with, said Terms and Conditions.

The land is described as follows:

MWRA Section 659 at Sta. 183+00 (Squantum Force Main) and MWRA Section 550 at Sta. 10+07 (High Level Sewer) as depicted within "City of Quincy FY18 Water Main Improvements - Samoset Avenue Sheet C-104 and Narragansett Road Sheet C-105.

You may use the land for the purpose of:
Replacement of existing 8-inch water mains with 8-inch and 12-inch water main and temporary trench pavement on Narragansett Road from Sea Street to Agawam Road and on Samoset Ave. from Sea St. to Waban Road.
Approved as to Form: Massachusetts Water Resources Authority

Christopher John
Law Division 4/18/18

Approved Massachusetts Water Resources Authority

Deputy Chief OO, PP&P

This Permit is subject to the 8(m) Permit Terms and Conditions, and the 8(m) Permit Special Terms and Conditions, if any, attached hereto and made a part hereof. Permittee agrees that it shall be bound by, and shall comply with, said Terms and Conditions.

Permittee: ___________________________ / Signature / Print Name

Paul G. Costello, P.E.

This permit shall have no effect until such time as the Authority issues the fully executed original of this Permit.
8(m) PERMIT TERMS AND CONDITIONS

1. Permittee’s use of the land shall at no time interfere with the Authority’s activities or operations on the land. The Authority has the right to review and approve all of the Permittee’s work including such plans and specifications as the MWRA deems necessary. Any proposed future work beyond the scope of this permit must have the prior written approval of the MWRA, which approval will not be unreasonably withheld.

2. The Permittee and its successors and assigns shall indemnify, hold harmless and defend the Authority and its successors and assigns from all damages and/or claims arising from the acts or omissions of the Permittee on the Premises or of anyone acting by or through the Permittee. The Permittee’s obligations under this paragraph shall include payment to the Authority of all costs to repair damage caused to the Authority’s property.

3. The granting of this permit shall in no way interfere with the rights of the Authority to exercise its existing rights in or over the permitted land. Permittee acknowledges that the Authority may enter upon the location at any time in order to carry out the inspection, maintenance, repair, and replacement of its property.

4. The Authority may revoke this permit at any time. The sale or disposition of the land by its owner will cause this permit to terminate without further notice. Permittee will give the Authority at least 72 hours notice before commencing the operations as pursuant herein. This permit may not be assigned or transferred.

5. No blasting, drilling or other activity that could in any way affect the integrity or operability of the Authority’s property or use of the Premises shall be permitted without express prior written approval of the Authority.

6. The Permittee shall remove, at its own expense, within six months of the date of written notice from MWRA, any or all conduits and appurtenances installed by the Permittee under this permit if, in the MWRA’s sole discretion, such removal is necessary for the operation, maintenance or replacement of the MWRA’s infrastructure.

7. In consideration of the issuance of this Permit, Permittee releases Massachusetts Water Resources Authority from any and all claims, suits, and causes of actions of any kind or description arising out of or related to any work or activity under this permit, including without limitation those for loss, damage or destruction of property, for personal injury or death of any consultant, contractor, employee, or agent of either Permittee or any entity acting by or through it hereunder, and from any and all damages arising out of any such claims including any direct, indirect or consequential damages, economic loss or loss of profits, together with all attorneys’ fees and any related costs and expenses.
8. The permittee shall conduct design, construction and excavation in accordance with all federal, state and local safety regulations including but not limited to federal OSHA regulations (29 CFR 1926) and Massachusetts Department of Public Safety regulations (520 CMR 14.00). During construction, appropriate sheeting and shoring measures must be taken to protect the integrity of the Authority’s water/ sewer mains. Any sheeting and shoring design must be submitted to MWRA prior to the start of the construction. The submitted design of excavation trench support and all temporary supports associated with excavating under or near MWRA water and sewer lines shall be stamped by a Professional Engineer, licensed in Massachusetts.

9. The Permittee is responsible to adjust any or all MWRA frames and covers to grade within their limits of work in accordance with the plans referenced in this permit. The Authority will provide the contractor with new replacement MWRA frames and covers that have been deemed unusable by Authority personnel.
Additional Conditions
8(m) Permit 18-03-1271M

- Applicant shall use non-destructive or hand digging within 2-ft of MWRA infrastructure
- No vibratory equipment as well as heavy construction equipment allowed within MWRA easement.
- No stockpiling of material within MWRA easement.
SECTION 01 20 25

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the measurement and payment for the Work to be completed under each item in Section 00 43 22 Unit Prices Form, which may also be referred to as “pay item”.

B. Payment procedures are in accordance with the Agreement, Article 14 of the General Conditions, the Supplementary Conditions (if any), and the General Requirements.

C. Measurement: as determined, verified, or approved by Engineer or Owner in accordance with Paragraph 11.03 of the General Conditions, the Supplementary Conditions (if any), and the General Requirements, except as otherwise specified.

D. The Work described in each pay item shall be as described in the Specifications and shown on the Drawings and not included in other pay items.

1. Pay item descriptions are general and may not specifically describe all associated Work or elements thereof, do not constitute Specifications, and do not supersede the content of the Specifications and Drawings.

2. Review the Specifications and Drawings for Work associated with each pay item. Claims for being unfamiliar with the content of the Specifications and Drawings will not be considered.

E. The following Work is not specifically described or designated as a pay item, is considered incidental to all pay items, and shall not be measured separately for payment.

1. Division 01 General Requirements EXCEPT those items included in Mobilization/Demobilization and included as a separate pay item.
   a. Temporary bypass pumping
   b. Geotechnical instrumentation and monitoring
   c. Hazardous materials abatement
   2. Public notification
   3. Materials, equipment, and services necessary to verify existing field conditions and the location, size, type, material, and orientation of existing pipes and utilities shown on the Drawings including test pits.
4. Restoration of all areas disturbed by the Contractor within the limits of Work.

5. Field and laboratory testing and reporting by independent laboratory, including but not limited to compaction of backfill materials; aggregate gradation; and concrete testing.

F. Payment will not be made for restoration of areas disturbed by the Contractor outside the limits of Work.

G. Payment will only be made for those utility services, including water and fire services, specifically identified for replacement on the Drawings. Relocation or replacement for the Contractor’s convenience or due to breakage by the Contractor of any other utility services shown on the Drawings, or at locations which could reasonably be assumed, shall be at no cost to Owner.

H. Design, installation and removal of excavation support systems, temporary and permanent utility/structure support systems associated with a pay item shall be considered incidental to that pay item.

I. Additional dewatering and erosion control (including installation, operation, maintenance, removal and off-Site disposal of erosion control devices) associated with a pay item shall be considered incidental to that pay item.

J. Pay items identified as a Contingency Allowance will be processed per Article 11.02 of the General Conditions.

K. All police details will be direct billed by the police department to the Contractor. Contractor must pay police details immediately upon receipt of Police Detail invoice. Reimbursement shall be made through monthly payment requisition.

K-L. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project. Work required to comply with permit requirements shall be considered incidental to the various pay items.
d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments
   1) 6 inches beneath bottom of concrete slabs-on-grade
   2) 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches in total width

F. Remove materials encountered to limits shown on Drawings, as specified or required Owner or Engineer.

G. Do not perform excavation below normal grade to remove and replace unsuitable materials until approved by Owner or Engineer.

H. Unauthorized excavation: removal of materials beyond indicated subgrade elevations or dimensions without specific direction.

1. Refilling Unauthorized Excavation
   a. Trenches: use 3/4-inch crushed stone or compacted structural fill and stabilization fabric as separator material as directed.
   b. Backfill and compact unauthorized excavations as specified for authorized excavations, of same classification, unless otherwise directed.
   c. Excavation below normal grade
      1) Notify Engineer to observe conditions when excavation has reached required subgrade elevations. Carry excavations deeper and replace excavated material with compacted structural fill or crushed stone if unsuitable materials are encountered at required subgrade elevations as directed.

2. Excavation Above Normal Grade
   a. Remove from Site and dispose of legally if unsuitable materials are encountered above normal grade. Do not use unsuitable materials as backfill on any portion of Project unless approved.
   b. Use approved suitable stockpiled material to replace unsuitable material to backfill trenches to dimensions for pipe and structure bedding and backfill as shown on Drawings. Use gravel borrow to complete trench backfills to elevation shown for pipe and structure backfill if suitable stockpile material is not sufficient to backfill trenches to required dimensions.
I. Site Clearing
   1. Clear site in accordance with Section 31 10 00.

J. Material Storage
   1. Stockpile and maintain suitable surplus excavated materials for re-use as approved by the Engineer and in accordance with all applicable regulations.

K. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project.

3.04 EXCAVATION IN ASPHALT PAVEMENT AREAS

A. Saw cut or mill to full depth through existing pavement for pipe or structure placement prior to excavation. Minimize disturbance of remaining pavement.

B. Use shoring and bracing where sides of excavation will not stand without undermining pavement.

C. Remove and legally dispose of existing pavements during course of Work. Avoid mixing existing pavement material with excavation material intended for backfill.

3.05 EXCAVATION FOR TRENCHES

A. Excavate to widths shown on Drawings or required by field conditions.

B. Produce an evenly graded flat trench bottom at subgrade elevation required for installation of pipe and bedding material.

C. Load excavated material directly into trucks unless otherwise approved.

D. Place backfill material directly into trench or excavation. Do not stockpile material to be used as backfill in traffic areas.

3.06 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within tolerance of plus or minus 1 inch. Extend excavations sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and inspections.

   1. Excavate footings, foundations, and structures to final grade by hand just before concrete reinforcement placement. Do not disturb bottom of excavation. Trim bottoms to required lines and grades to leave solid base to receive other Work.

   2. Do not excavate to final subgrade level until geotextile and compacted structural fill or crushed stone layer can be placed immediately to avoid softening or deterioration of formation. Leave a minimum depth of 3 feet overlying the final subgrade level in place where geotextile and compacted structural fill or crushed stone layer are not immediately placed.
D. Calculations and analysis data for excavation support and protection system by professional engineer licensed in the state where Project is located.

E. Closeout and maintenance material submittals: per Division 01 General Requirements.
   1. Identify locations and depths of capped utilities, abandoned-in-place support and protection systems, and other subsurface structural, electrical, or mechanical conditions on record documents.

F. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project.

1.06 QUALITY ASSURANCE

A. Provide in accordance with Division 01 General Requirements.

B. Qualifications: per Division 01 General Requirements for Installer and professional engineer.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Provide in accordance with Division 01 General Requirements.

1.08 SITE CONDITIONS

A. Existing conditions: per Division 01 General Requirements.

B. Review boring logs and determine need to perform additional test borings and conduct other exploratory operations necessary for excavation support and protection.

C. Verify dimensions and elevations before starting Work. Survey condition of adjoining properties with Engineer. Take photographs, recording any prior settlement or cracking of structures, pavements, and other improvements. Prepare list of existing damages, verified by dated photographs, signed by Contractor, Engineer and others conducting the investigation.

D. Survey adjacent structures and improvements, establishing exact elevations at fixed points to act as benchmarks. Identify benchmarks and record existing elevations. Locate datum level where it will not be affected by excavation operations.

E. Interruption of Existing Utilities
   1. Do not interrupt any utility serving facilities without Owner's written permission. Provide temporary utility if required.
   2. Provide minimum 5 days’ advance notice of proposed interruption of utility.
PART 2 – PRODUCTS

2.01 MATERIALS

A. Provide shoring and bracing materials, in serviceable condition and adequate for intended purpose.

B. Steel sheet piling and shapes: continuous interlocking type; section modulus, type of section specified, in accordance with ASTM A328, ASTM A572, and ASTM A690, with continuous interlocks.

C. Provide movable box where shoring system is required, and where sheet piling is not specified.

D. Bracing members: wood timbers or steel members in accordance with ASTM A36.

E. Provide bolts in accordance with ASTM A307.

F. Provide structural steel in accordance with ASTM A36, ASTM A690, and ASTM A992.

G. Wood lagging: lumber, mixed hardwood, pressure-treated.

H. Provide reinforcing bars in accordance with ASTM A 615, Grade 60, deformed.

2.02 DESIGN CRITERIA

A. Provide services by professional engineer licensed in the state where Project is located, including preparation of Shop Drawings.

B. Design excavation support system in accordance with earth pressures and other criteria indicated, for construction of permanent structures without excessive movement or settlement of adjacent buildings, roadways, structures, or utilities, as shown on Drawings and as specified. Include analysis by professional engineer licensed in the state where Project is located.

C. Earth support design: coordinated dewatering design incorporating lowest anticipated excavation depths and full differential water head during dewatering.

D. Consult official records of both surface and subsurface existing utilities and connections to verify existing conditions and limitations as they apply to this Work and its relation to other construction work. Proceed with caution in areas of utility facilities. Excavate by hand, or other methods acceptable to utility owner. Protect existing utilities to remain within and adjacent to Work area in accordance with requirements of authorities having jurisdiction.

2.03 SOURCE QUALITY CONTROL

A. Provide in accordance with Division 01 General Requirements.
PART 3 – EXECUTION

3.01 GENERAL

A. Anchor and brace system to resist earth and hydrostatic pressures, including surcharges from surface loads. Support excavation to prevent undermining or disturbance to foundations of existing structures and utilities, or of ongoing or previously completed Work. Shore, support, and protect utilities encountered.

B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or adjacent occupied or used facilities without approval. Provide alternate routes around closed or obstructed traffic ways if required.

C. Maintain shoring and bracing while excavation is open.

D. Check base stability.

E. Prevent surface water from entering excavations.

F. Monitor vibrations, settlements, and movements to ensure stability of excavations and constructed slopes to prevent damage to permanent structures.

F.G. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project.

3.02 STEEL SHEET PILING

A. Install 1-piece sheet piling lengths and interlock vertical edges to form a continuous barrier before starting excavation.

B. Place piling using templates and guide frame unless otherwise specified by sheet piling manufacturer. Limit vertical offset of adjacent sheet piling to 60 inches. Align exposed faces of sheet piling to vary not more than 2 inches from a horizontal line, and not more than 1:120 out of vertical alignment.

C. Cut off sheet piling to be left in place at least 5 feet below finish grade. Indicate location of sheet piling cut off and left in place on record documents.

D. Remove steel sheet piling following completion of Work where shown on Drawings or directed by Engineer. Obtain approval for steel sheet piling to be left in place.

3.03 BRACING

A. Locate bracing to clear columns, floor framing construction, and other permanent Work. Install new bracing before removing original brace if moved. Do not place bracing where it will be cast into permanent concrete Work unless approved by Engineer.
B. Install internal bracing if required to prevent spreading or distortion of braced frames.

C. Maintain bracing until structural elements are supported by other bracing, or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

### 3.04 REPAIR/RESTORATION

A. Remove excavation support and protection systems in stages to avoid disturbing underlying soils and rock, or damaging structures, pavements, facilities, and utilities.

B. Fill voids immediately with approved backfill compacted to density specified in accordance with Section 31 00 00.

C. Repair or replace adjacent Work damaged or displaced by removing excavation support and protection systems.

### 3.05 FIELD QUALITY CONTROL

A. Provide in accordance with Division 01 General Requirements.

B. Resurvey benchmarks weekly during installation of excavation support and protection systems, excavation progress, and for as long as excavation remains open. Maintain accurate log of surveyed elevations and positions for comparison with original elevations and positions. Promptly notify Engineer if changes in elevations or positions occur, or if cracks, sags, or other damage is evident in adjacent construction.

C. Promptly correct detected bulges, breakage, or other evidence of movement to ensure that excavation support and protection system remains stable.

D. Promptly repair damages to adjacent facilities caused by installation or faulty performance of excavation support and protection systems.

### 3.06 CLOSEOUT ACTIVITIES

A. Provide in accordance with Division 01 General Requirements.

END OF SECTION
2.02 HOT Poured Rubberized Asphalt Sealant
   A. Provide in accordance with MassDOT Section 460, Section M3 and Supplemental Specifications.

2.03 Hot Mix Asphalt Surface Course Standard Top
   A. Provide in accordance with MassDOT Section 460, Section M3 and Supplemental Specifications.

2.04 Hot Mix Asphalt Base Course
   A. Provide in accordance with MassDOT Section 460, Section M3 and Supplemental Specifications.

2.05 Bituminous Concrete BERM
   A. Provide in accordance with MassDOT Section 470, Section M3 and Supplemental Specifications.

2.06 Hot Mix Asphalt for Miscellaneous Work
   A. Provide in accordance with MassDOT Section 472, Section M3 and Supplemental Specifications.

2.07 Source Quality Control
   A. Provide in accordance with Division 01 General Requirements.

PART 3 – EXECUTION

3.01 General
   A. Minimize area of pavement removed to suitable width for installation of Work. Legally dispose of existing pavements.
   B. Place hot mix asphalt between April 1 and November 15, unless otherwise specified by Owner.
   C. Do not place hot mix asphalt mixture unless breakdown and intermediate rolling can be completed by time material has cooled to 175 degrees F, and provided density of completed pavement attains at least 92.5 percent of maximum theoretical density as determined by AASHTO T209.
   D. Do not place mix on wet or damp surfaces, or when ambient temperature is 40 degrees F and falling, unless otherwise specified by Owner.
E. When air temperature falls below 50 degrees F, take extra precaution drying aggregates, controlling temperatures of materials, placing, and compacting mixtures.

F. Use straightedge to check compacted surfaces and obtain Engineer’s approval.

G. Utilize approved dial type thermometer and infrared piston thermometer for each paving machine. Retain thermometer upon completion of Project.
   1. Fahrenheit or Celsius selectable
   2. Portable and battery operated
   3. Repeatability: plus or minus 5 degrees F.
   4. LCD display: to nearest 1 degree.
   5. Accuracy: plus or minus 2 percent.
   6. Emissivity: present at 0.95.
   7. Temperature operation range: 0 degrees F to 750 degrees F.

H. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project.

3.02 INSTALLATION

A. Place hot mix asphalt base and top courses on roadways, sidewalks and other areas to maintain traffic access and egress to properties abutting Work, and for safe passage of pedestrian and vehicular traffic in accordance with MassDOT Section 460, Supplemental Specifications, Construction Standard Details and the Contract Drawings.
   1. Provide minimum compacted thickness depth of hot mix asphalt base course indicated on Drawings or as directed by Engineer to achieve necessary base course grade in support of finish grade pavement elevations.
   2. Apply bitumen for prime and tack coat at a rate of 0.07 gallons per square yard over milled areas immediately prior to installation of top course, as shown on Drawings or directed by Engineer. Clean surface of sand and foreign matter, and dry before applying prime coat.
   3. Apply bitumen for prime and tack coat at a rate of 0.05 gallons per square yard over hot mix asphalt base course immediately prior to installation of top course, as shown on Drawings or directed by Engineer. Clean surface of sand and foreign matter, and dry before applying prime coat.
   4. Provide minimum compacted thickness depth of hot mix asphalt surface course indicated on Drawings or as directed by Engineer to achieve finish grades.
PART 2 - PRODUCTS

2.01 GENERAL

A. Products in contact with drinking water must meet NSF/ANSI 61 and NSF/ANSI 372.

B. Materials shall comply with the requirements of the Safe Drinking Water Act and U.S. Environmental Protection Agency

2.02 TAPPING SLEEVE

A. Body: ASTM A536 ductile iron or Type 304 stainless steel in conformance with AWWA C223; full circumferential seal; sized appropriately for the point of installation. Measure outside diameter of pipe at installation location prior to ordering materials.

B. Outlet Flange: ductile iron or Type 304 stainless steel meeting or exceeding the requirements of AWWA C228; compatible with ANSI B16.1, class 125 and B16.42, class 150; recessed for tapping valve in accordance with MSS-SP-60.

C. Completion Plug: ductile iron conforming to ASTM A536; fusion bonded epoxy finish meeting AWWA C213; designed for use with tapping and stopping equipment.

D. Cover Plate: carbon steel conforming to ASTM A283C; compatible with ANSI B16.1, class 125 and B16.42, class 150; designed for pressure sealing application.

E. Test Plug: 3/4-inch NTP Type 304 stainless steel; hex head; threads coated to prevent galling.

F. Gaskets

1. O-ring; Nitrile (Buna-N) per ASTM D2000, compounded to resists water, oil, acids, alkalies and other chemicals.

2. Cover: Styrene-Butadiene (SBR) “Red Rubber”; full face ANSI B16.1, class 125 and B16.42, class 150; compounded to resist water, oil, acids, alkalies and other chemicals.

G. Welds and Hardware

1. Welds: accomplished by qualified welders utilizing GMAW weld process.

2. Set screw: carbon steel; socket head cup point; designed to engage
and retain completion plug.

3. Flange plug: carbon steel; 3/4-inch NPT socket head, designed to seal flange pressure.

4. Bolts, nuts, washers: type 304 stainless steel; rolled threads; coated to prevent galling.

H. Working Pressure: 200 psi.

2.03 SOURCE QUALITY CONTROL

A. Provide in accordance with Division 01 General Requirements.

PART 3 - EXECUTION

3.01 GENERAL

A. Coordinate Work with Owner.

B. Perform excavation and backfill in accordance with Section 31 00 00. Support trenches in accordance with Section 31 50 00.

C. Coordinate and schedule Work required to be performed outside of normal business hours per Contract Drawings or per direction of Owner with Owner and Engineer.

C-D. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project.

3.02 INSTALLATION

A. Field verify line stop location with Owner and Engineer.

B. Confirm outside pipe diameter, inside pipe diameter, design pressure and operating pressure prior to ordering line stop materials.

C. Confirm range marked on line stop sleeve with pipe diameter prior to installation to ensure installation of appropriately sized sleeve.

D. Excavate trench to size and dimensions required by line stop sub-contractor for access and installation of Work. Thoroughly clean pipe surface to remove all dirt, rock, scale and foreign material in area where line stop sleeve is to be installed.

E. Provide timbers and cribbing required for temporary support of pipe and materials.

F. Install line stop sleeve in accordance with manufacturer’s installation instructions and pressure test to minimum 1.5 times pipeline pressure.
2. American Cast Iron Pipe Company
3. Tyler Union
4. Or equal

2.04 SOLID SLEEVE COUPLINGS

A. Performance/Design Criteria
1. Type: restrained solid sleeve.
2. Conform to AWWA C153.
3. Rated working pressure: 350 psi for 3-inch through 24-inch diameter and 250 psi working pressure for 30-inch through 48-inch diameter.

B. Manufacturers
1. U.S. Pipe
2. American Cast Iron Pipe Company
3. Tyler Union
4. Or equal

2.05 JOINT RESTRAINT

A. Concrete thrust blocks: 3,000 psi concrete minimum and sized according to thrust block schedule shown on Drawings.

B. Mechanical Joint Restraint
1. Type: mechanical joint restraint gland with multiple gripping wedges and torque limiting twist off nuts.
2. Materials: grade 65-45-12 ductile iron conforming to ASTM A536 for gland body, wedge and wedge actuating components.
3. Wedges: heat treated to hardness range of 370 to 470 BHN.
4. Rated working pressure: 350 psi for 3-inch to 16-inch diameter and 250 psi for 18-inch to 48-inch diameter.
5. Coating: fusion bonded epoxy.
6. Manufacturers
   a. EBAA Iron Inc
ADDENDUM NO. 1
WATER UTILITY PIPING - DUCTILE IRON
WOODARD & CURRAN

b. Ford Meter Box Company
c. Tyler Union
d. Smith-Blair
e. Or equal

C. Push-on joint restraint
   1. Type: rubber gasket with stainless steel locking segments compatible with pipe.
   2. Conform to AWWA C111.
   3. Rated working pressure: 350 psi up to 24-inch diameter.
   4. Manufacturers
      a. U.S. Pipe
      b. American Cast Iron Pipe Company
      c. McWane Ductile
      d. Or equal

2.06 SOURCE QUALITY CONTROL
   A. Provide in accordance with Division 01 General Requirements.

PART 3 – EXECUTION

3.01 GENERAL
   A. Coordinate Work with Owner.
   B. Perform excavation and backfill according to Section 31 00 00. Support trenches in accordance with Section 31 50 00.
   C. Install according to manufacturer’s installation instructions, AWWA C600, AWWA C651, as shown on Drawings and as specified.
   C-D. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project.

3.02 INSTALLATION
   A. Make joints in dry trench according to manufacturer's recommendations and best practices for class of exterior pipe laid. Wipe ends of pipe clean with dry cloth before making joint.
2.06 HYDRANT PAINT

A. Thoroughly clean hydrants and apply 2 coats of epoxy paint for top coating, either shop applied, or field applied, in accordance with AWWA C502 and paint manufacturer’s installation instructions. Verify paint colors with Owner prior to paint application.
   2. Bonnet
      a. 16-inch Water Main: Blue
      b. 12-inch Water Main: Green
      c. 8-inch Water Main: Grey
      d. 6-inch Water Main: Orange

B. Hydrants delivered with Owner’s standard color shall receive 1 field applied coat of matching alkyd gloss enamel. Hydrants not delivered with the Owner’s standard color shall receive 2 field applied coats of matching alkyd gloss enamel. Colors shall be as indicated above.

C. Hydrant paint shall be manufactured by Sherwin Williams, Tnemec Company, Inc., or Minnesota Mining and Manufacturing Co. (3M), or approved equal.

D. Alkyd gloss enamel: 801 DTM by Sherwin-Williams, 2H-Tneme by Tnemec; or approved equal. Reflective paint: Scotchlite #7211 by 3M.

2.07 PIPE BOLLARDS

A. Provide concrete filled, 4-inch diameter ductile iron pipe bollards shown on Drawings or as directed by Owner. Concrete: minimum 3,000 psi and trowel rounded at the top.

B. Provide a minimum 2 coats of field applied safety yellow epoxy paint.

2.08 THRUST RESTRAINT

A. Provide thrust restraint at valves and hydrants in accordance with Section 33 14 11.01.

2.09 TAPPING SLEEVES AND VALVES

A. Tapping Sleeve
1. ASTM A536 Grade 65-45-12 ductile iron rated for 250 psig maximum working pressure with end joint accessories and split glands to assemble sleeve to pipe.

2. Asphaltic varnish coating in accordance with NSF/ANSI 61.

3. Side flange seals: O-ring type, round, oval or rectangular in cross-sectional shape.

4. 12-inch and smaller: capable of working on Class ABCD pipe diameters without changing either half of sleeve.

5. Greater than 12-inch: field measured to determine class required.

6. Outlet flange dimensions and drilling in compliance with ASME B16.1, class 125 and MSS SP-60.

7. Provide 3/4-inch national pipe thread (NPT) test plug.

B. Tapping Valve

1. Conform to Gate Valves requirements specified.

2. Provide with inlet flange conforming to ASME B16.1 Class 125 and MSS SP-60, and mechanical joint outlet end with dimensions complying with AWWA C111.

3. Designed to connect directly to flanged end of tapping sleeve.

2.10 SOURCE QUALITY CONTROL

A. Provide in accordance with Division 01 General Requirements.

PART 3 – EXECUTION

3.01 GENERAL

A. Perform excavation and backfill in accordance with Section 31 00 00. Support trenches in accordance with Section 31 50 00.

B. Install in accordance with manufacturer’s installation instructions, AWWA C509, AWWA C515, AWWA C600, as shown on Drawings, and as specified.

B.C. Contractor and its Subcontractor(s) shall comply with all requirements stipulated within all permits that apply to this Project.

3.02 INSTALLATION

A. Valve and Valve Box

1. Provide that valves bear no stresses due to loads from adjacent pipe.

2. Inspect valves before installation, clean and lubricate prior to installation.