



PROVIDENCE WATER

**PROJECT MANUAL
FOR
TRINITY SQUARE AREA
WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

JUNE 2023

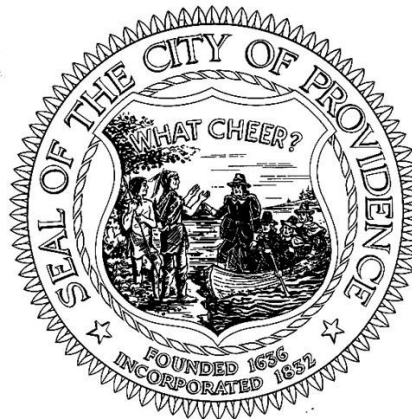
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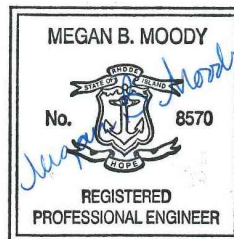
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Prepared by:



**PROVIDENCE WATER
 TRINITY SQUARE AREA WATER MAIN REHABILITATION
 CONTRACT NO. 8-23**

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**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

REQUEST FOR PROPOSALS

Item Description: TRINITY SQUARE AREA WATER MAIN REHABILITATION

Procurement/MinuteTraq #: 41321

Date to be opened: 2:15 P.M. MONDAY, JULY 31, 2023

Issuing Department: Providence Water Supply Board

QUESTIONS

- Please direct questions related to the bidding process, how to fill out forms, and how to submit a bid (Pages 1-8) to the Purchasing Department.
 - Email: purchasing@providenceri.gov
 - Please use the subject line “**Solicitation Question**”
- Please direct questions relative to the Minority and Women’s Business Enterprise Program and the corresponding forms (Pages 11-15) to the MBE/WBE Outreach Director for the City of Providence, Grace Diaz
 - Email: gdiaz@providenceri.gov
 - Please use subject line “**MBE WBE Forms**”
- Please direct questions relative to the project manual and contract documents to the issuing department’s subject matter expert:
 - Name: Megan Moody
 - Title: CDM Smith Project Manager
 - Email Address: moodymb@cdmsmith.com

**BIDDERS MUST MEET THE QUALIFICATION REQUIREMENTS AS DESCRIBED IN
SECTION 00 21 13 – INSTRUCTIONS TO BIDDERS, ARTICLE 2.**

Pre-bid Conference

There will be a Non-Mandatory Pre-Bid Conference

Date of Pre-Bid Conference: 6/27/2023 Time: 2:00PM

Other details: <https://www.microsoft.com/microsoft-teams/join-a-meeting>

Meeting ID: 222 117 482 185 Passcode: bwPByi

Or call in (audio only) +1 857-327-8948,,810644850# United States, Boston

(844) 566-5330,,810644850# United States (Toll-free)



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

INSTRUCTIONS FOR SUBMISSION

Bids may be submitted up to **2:15 P.M.** on the above meeting date at the **Department of the City Clerk, Room 311, City Hall, 25 Dorrance Street, Providence.** At 2:15 P.M. all bids will be publicly opened and read at the Board of Contract Meeting in Conference Room 305, on the 3rd floor of City Hall.

- Bidders must submit **2 copies** of their bid in sealed envelopes or packages labeled with the captioned **Item Description** and the **City Department to which the solicitation and bid are related and must include the company name and address on the envelope as well.** (On page 1).
- If required by the Department, please keep the original bid bond and check in only one of the envelopes.
- Communications to the Board of Contract and Supply that are not competitive sealed bids (i.e. product information/samples) should have **“NOT A BID”** written on the envelope or wrapper.
- Only use form versions and templates included in this solicitation. If you have an old version of a form **do not recycle it for use in this bid.**
- The bid envelope and information relative to the bid must be addressed to:

**Board of Contract and Supply
Department of the City Clerk – City Hall, Room 311
25 Dorrance Street
Providence, RI 02903**

****PLEASE NOTE:** This bid may include details regarding information that you will need to provide (such as proof of licenses) to the issuing department before the formalization of an award.

*This information is **NOT** requested to be provided in your initial bid by design.*

All bids submitted to the City Clerk become public record. Failure to follow instructions could result in information considered private being posted to the city’s Open Meetings Portal and made available as a public record. The City has made a conscious effort to avoid the posting of sensitive information on the City’s Open Meetings Portal, by requesting that such sensitive information be submitted to the issuing department only at their request.



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

BID PACKAGE CHECKLIST

Bid Documents (drawings, specifications, etc.) can be obtained from the City of Providence Bid Opportunities web portal at <http://www.bidnetdirect.com/rhode-island/providenceri>.

Digital forms are available in the City of Providence Purchasing Department Office or online at <http://www.providenceri.gov/purchasing/how-to-submit-a-bid/>

The bid package **MUST** include the following, in this order:

- Bid Form 1: Bidder's Blank as the cover page/ 1st page (*see page 6 of this document*)
- Bid Form 2: Certification of Bidder as 2nd page (*see page 7 of this document*)
- Bid Form 3: Certificate Regarding Public Records (*see page 8 of this document*)
- Bid Form 4: Affidavit of City Vendor (*see pages 9 and 10 of this document*)
- Forms from the Minority and Women Business Enterprise Program: Based on Bidder Category. *See forms and instructions enclosed (pages 11-15) or on:*
<https://www.providenceri.gov/purchasing/minority-women-owned-business-mbewbe-procurement-program/>
- *Forms for the EPA Disadvantage Enterprise (DBE) Program*
See forms attached and instructions included in Appendix A of the contract documents or on:
https://health.ri.gov/programs/detail.php?pgm_id=127
 - EPA Form 6100-2
 - EPA Form 6100-3
 - EPA Form 6100-4

***Please note: MBE/WBE and DBE forms must be completed for EVERY bid submitted and must be inclusive of ALL required signatures. Forms without all required signatures will be considered incomplete.**

- Bidder's Proposal/Packet: Formal response to the specifications outlined in this RFP, including pricing information and details related to the good(s) or service(s) being provided. Please be mindful of formatting responses as requested to ensure clarity.
- Financial Assurance, *if requested* (as indicated on page 5 of this document under "Bid Terms")

All of the above listed documents are REQUIRED. (With the exception of financial assurances, which are only required if specified on page 5.)

*****Failure to meet specified deadlines, follow specific submission instructions, or enclose all required documents with all applicable signatures will result in disqualification, or in an inability to appropriately evaluate bids.**



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

NOTICE TO VENDORS

1. The Board of Contract and Supply will make the award to the lowest qualified and responsible bidder.
2. In determining the lowest responsible bidder, cash discounts based on preferable payment terms will not be considered.
3. Where prices are the same, the Board of Contract and Supply reserves the right to award to one bidder, or to split the award.
4. No proposal will be accepted if the bid is made in collusion with any other bidder.
5. Bids may be submitted on an “equal in quality” basis. The City reserves the right to decide equality. Bidders must indicate brand or the make being offered and submit detailed specifications if other than brand requested.
6. A bidder who is an out-of-state corporation shall qualify or register to transact business in this State, in accordance with the Rhode Island Business Corporation Act, RIGL Sec. 7-1.2-1401, et seq.
7. The Board of Contract and Supply reserves the right to reject any and all bids.
8. Competing bids may be viewed in person at the Department of the City Clerk, City Hall, Providence, immediately upon the conclusion of the formal Board of Contract and Supply meeting during which the bids were unsealed/opened. Bids may also be accessed electronically on the internet via the City’s [Open Meetings Portal](#).
9. As the City of Providence is exempt from the payment of Federal Excise Taxes and Rhode Island Sales Tax, prices quoted are not to include these taxes.
10. In case of error in the extension of prices quoted, the unit price will govern.
11. The contractor will **NOT** be permitted to: a) assign or underlet the contract, or b) assign either legally or equitably any monies or any claim thereto without the previous written consent of the City Purchasing Director.
12. Delivery dates must be shown in the bid. If no delivery date is specified, it will be assumed that an immediate delivery from stock will be made.
13. A certificate of insurance will normally be required of a successful vendor.
14. For many contracts involving construction, alteration and/or repair work, State law provisions concerning payment of prevailing wage rates apply ([RIGL Sec. 37-13-1 et seq.](#))
15. No goods should be delivered, or work started without a Purchase Order.
- 16. Submit 2 copies of the bid to the City Clerk, unless the specification section of this document indicates otherwise.**
17. Bidder must certify that it does not unlawfully discriminate on the basis of race, color, national origin, gender, gender identity or expression, sexual orientation and/or religion in its business and hiring practices and that all of its employees are lawfully employed under all applicable federal, state and local laws, rules and regulations. (See Bid Form 2.)
18. This project is also subject to the requirements of the Rhode Island Drinking Water State Revolving Fund (DWSRF) Assistance Agreements, as administered by the Environmental Protection Agency (EPA) including but not limited to American Iron and Steel (AIS), Build America Buy American (BABA) and Disadvantaged Business Enterprise (DBE) requirements. **DBE participation requirement for this project is 8%.** DBE participation can be applied to the City of Providence MBE/WBE requirement.



BOARD OF CONTRACT AND SUPPLY
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BID TERMS

1. Financial assurances may be required in order to be a successful bidder for Commodity or Construction and Service contracts. If either of the first two checkboxes below is checked, the specified assurance must accompany a bid, or the bid will not be considered by the Board of Contract and Supply. The third checkbox indicates the lowest responsible bidder will be contacted and required to post a bond to be awarded the contract.
 - a) A certified check for \$25,000 must be deposited with the City Clerk as a guarantee that the Contract will be signed and delivered by the bidder.
 - b) A bid bond in the amount of 50,000 per centum (%) of the proposed total price, must be deposited with the City Clerk as a guarantee that the contract will be signed and delivered by the bidder; and the amount of such bid bond shall be retained for the use of the City as liquidated damages in case of default. Any person signing a bid bond as an attorney-in-fact shall include with the bid bond an original, or a photocopy or facsimile of an original, power of attorney.
 - c) A performance and payment bond with a satisfactory surety company will be posted by the bidder in a sum equal to one hundred per centum (100%) of the awarded contract.
 - d) No financial assurance is necessary for this item.
2. Awards will be made within **sixty (60) days of bid opening**. All bid prices will be considered firm, unless qualified otherwise. Requests for price increases will not be honored.
3. Failure to deliver within the time quoted or failure to meet specifications may result in default in accordance with the general specifications. It is agreed that deliveries and/or completion are subject to strikes, lockouts, accidents, and Acts of God.

The following entry applies only for COMMODITY BID TERMS:

4. Payment for partial delivery will not be allowed except when provided for in blanket or term contracts.

The following entries apply only for CONSTRUCTION AND SERVICE BID TERMS:

5. Only one shipping charge will be applied in the event of partial deliveries for blanket or term contracts.
6. Prior to commencing performance under the contract, the successful bidder shall attest to compliance with the provisions of the Rhode Island Worker's Compensation Act, [RIGL 28-29-1, et seq.](#) If exempt from compliance, the successful bidder shall submit a sworn Affidavit by a corporate officer to that effect, which shall accompany the signed contract.
7. Prior to commencing performance under the contract, the successful bidder shall, submit a certificate of insurance, in a form and in an amount satisfactory to the City.



**BOARD OF CONTRACT AND SUPPLY
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BID FORM 1: Bidders Blank

1. Bids must meet the attached specifications. Any exceptions or modifications must be noted and fully explained.
2. Bidder's responses must be in ink or typewritten, and all blanks on the bid form should be completed.
3. The price or prices proposed should be stated both in **WRITING** and in **FIGURES**, and any proposal not so stated may be rejected. **Contracts exceeding twelve months must specify annual costs for each year.**
4. Bids **SHOULD BE TOTALED** so that the final cost is clearly stated (unless submitting a unit price bid), however **each item should be priced individually**. Do not group items. Awards may be made on the basis of *total* bid or by *individual items*.
5. All bids **MUST BE SIGNED IN INK.**

Name of Bidder (Firm or Individual): _____

Contact Name: _____

Business Address: _____

Business Phone #: _____

Contact Email Address: _____

Agrees to bid on (Write the "Item Description" here): _____

If the bidder's company is based in a state *other than Rhode Island*, list name and contact information for a local agent for service of process that *is located within Rhode Island* _____

Delivery Date (if applicable): _____

Name of Surety Company (if applicable): _____

Total Amount in Writing*: _____

Total Amount in Figures*: _____

****If you are submitting a unit price bid, please insert "Unit Price Bid"***

Use additional pages if necessary for additional bidding details.

Signature of Representation

Title



**BOARD OF CONTRACT AND SUPPLY
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BID FORM 2: Certification of Bidder
(Non-Discrimination/Hiring)

Upon behalf of _____ (Firm or Individual Bidding),

I, _____ (Name of Person Making Certification),

being its _____ (Title or "Self"), hereby certify that:

1. Bidder does not unlawfully discriminate on the basis of race, color, national origin, gender, sexual orientation and/or religion in its business and hiring practices.
2. All of Bidder's employees have been hired in compliance with all applicable federal, state and local laws, rules and regulations.

I affirm by signing below that I am duly authorized on behalf of Bidder, on
this _____ day of _____, 20_____.

Signature of Representation

Printed Name



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BID FORM 3: Certificate Regarding Public Records

Upon behalf of _____ (Firm or Individual Bidding),

I, _____ (Name of Person Making Certification),

being its _____ (Title or "Self"), hereby certify an

understanding that:

1. All bids submitted in response to Requests for Proposals (RFP's) and Requests for Qualification (RFQ's), documents contained within, and the details outlined on those documents become public record upon receipt by the City Clerk's office and opening at the corresponding Board of Contract and Supply (BOCS) meeting.
2. The Purchasing Department and the issuing department for this RFP/RFQ have made a conscious effort to request that sensitive/personal information be submitted directly to the issuing department and only at request if verification of specific details is critical the evaluation of a vendor's bid.
3. The requested supplemental information may be crucial to evaluating bids. Failure to provide such details may result in disqualification, or an inability to appropriately evaluate bids.
4. If sensitive information that has not been requested is enclosed or if a bidder opts to enclose the defined supplemental information prior to the issuing department's request in the bidding packet submitted to the City Clerk, the City of Providence has no obligation to redact those details and bears no liability associated with the information becoming public record.
5. The City of Providence observes a public and transparent bidding process. Information required in the bidding packet may not be submitted directly to the issuing department at the discretion of the bidder in order to protect other information, such as pricing terms, from becoming public. Bidders who make such an attempt will be disqualified.

I affirm by signing below that I am duly authorized on behalf of Bidder, on

this _____ day of _____ 20 _____.

Signature of Representation

Printed Name



**BOARD OF CONTRACT AND SUPPLY
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BID FORM 4: Affidavit of City Vendor

Per our Code of Ordinances [Sec. 21.-28.1 \(e\)](#), this form applies to a) the business, b) any political action committee whose name includes the name of the business, c) all persons holding ten (10) percent or greater equity interest or five thousand dollars (\$5,000.00) or greater cash value interest in the business at any time during the reporting period, d) all executive officers of the business entity, e) any spouse or dependent child of any individual identified in a) though d) above.

Executive officers who are not residents of the state of Rhode Island are exempted from this requirement.

Per [R.I.G.L. § 36-14-2](#), “Business” means a sole proprietorship, partnership, firm, corporation, holding company, joint stock company, receivership, trust, or any other entity recognized in law through which business for profit or not for profit is conducted.

Name of the person making this affidavit: _____

Position in the “Business” _____

Name of Entity _____

Address: _____

Phone number: _____

The number of persons or entities in your entity that are required to report under [Sec. 21.-28.1 \(e\)](#): _____

Read the following paragraph and answer one of the options:

Within the 12 month period preceding the date of this bid submission with the City of Providence, or with respect to the contracts that are not in writing within the 12 month period preceding the date of notification that the contract has reached the \$100,000 threshold, have you made campaign contributions within a calendar year to (please list all persons or entities required under [Sec. 21.-28.1 \(e\)](#)).

a. Members of the Providence City Council? Yes No

- If Yes, please complete the following:

Recipient(s) of the Contribution:

Contribution Date(s):

Contribution Amount(s):

b. Candidates for election or reelection to the Providence City Council? Yes No

- If Yes, please complete the following:

Recipient(s) of the Contribution:

Contribution Date(s):

Contribution Amount(s):



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

c. The Mayor of Providence? Yes No

- If Yes, please complete the following:
 Recipient(s) of the Contribution:
 Contribution Date(s):

Contribution Amount(s):

d. Candidates for election or reelection to the office of Mayor of Providence? Yes No

- If Yes, please complete the following:
 Recipient(s) of the Contribution:
 Contribution Date(s):

Contribution Amount(s):

Signed under the pains and penalties of perjury.

Position



**BOARD OF CONTRACT AND SUPPLY
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WBE/MBE Form Instructions

The City of Providence actively seeks Minority and Women business enterprises to participate in bids to meet the City's procurement needs. Pursuant to the City of Providence Code of Ordinances, Chapter 21, Article II, [Sec. 21-52](#) (Minority and Women's Business Enterprise) and Rhode Island General Laws (as amended), Chapter 37-14, et seq. (Minority Business Enterprise), Minority Business Enterprise (MBE) and Women's Business Enterprise (WBE) participation goals apply to contracts.

The goal for Minority Business Enterprise (MBE) participation is **10%** of the total bid value.

The goal for Women's Business Enterprise (WBE) participation is **10%** of the total bid value.

The goal for combined MBE/WBE participation is **20%** of the total bid value.

Only businesses certified with the State of Rhode Island as minority and/or women business enterprises are counted towards the City's goals. Eligible minority or women-owned businesses are encouraged to seek certification from the State of Rhode Island Minority Business Enterprise Compliance Office at: <https://dedi.ri.gov/divisions-units/minority-business-enterprise-compliance-office>

Note: MBE certification with the State of Rhode Island on the basis of Portuguese heritage is not currently recognized by the City of Providence's MBE program.

Bid Requirements:

1. **All Bidders:** All bidders **must complete and submit the *MBE/WBE Participation Affidavit (page 13)*** indicating whether or not they are a state-certified MBE/WBE and acknowledging the City's participation goals. Submission of this form is **required with every bid. Your bid will not be accepted without an affidavit.**
2. **Bidders who will be subcontracting:** *In addition to the MBE/WBE Participation Affidavit*, Bidders who will be subcontracting must submit the ***Subcontractor Disclosure Form*** as part of their bid submission. All subcontractors, regardless of MBE/WBE status, must be listed on this form. Business NAICS codes can be found at <https://www.naics.com/search/>. Awarded bidders are required to submit ***Subcontractor Utilization and Payment Reports*** with each invoice.
3. **Waiver Requests:**
 - a) If the percentage of the total amount of the bid being awarded to MBE or WBE vendors is less than 20% (Box F on the Subcontractor Disclosure Form) and the prime contractor is not a Rhode Island State-certified MBE or WBE, the Bidder must complete the ***MBE/WBE Waiver Request Form (page 14)*** and obtain approvals prior to bid submission.
 - b) If the prime contractor company has the capacity to perform the whole project, the City of Providence requires the contractor to complete the ***MBE/WBE Waiver Request Form (page 14)*** and obtain approvals prior to bid submission.
 - c) If the contractor is a nonprofit organization, they are not required to complete the ***MBE/WBE Waiver Request Form***. However, the City of Providence requires the nonprofit organization to provide the ***MBE/WBE Participation Affidavit Form*** and proof of its nonprofit status.
 - d) If the contractor has researched the RI Certified minority list (<https://dedi.ri.gov/divisions-units/minority-business-enterprise-compliance-office/minority-business-enterprise-mbe>) and the state does not have any companies in the desired trade, the contractor must complete the ***MBE/WBE Waiver Request Form (page 14)*** and obtain approvals prior to bid submission.
 - e) Waivers will be considered for approval on a case-by-case basis.



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Verifying MBE/WBE Certification

It is the responsibility of the bidder to confirm that every MBE or WBE named in a proposal and included in a contract is certified by the Rhode Island Minority Business Enterprise Compliance Office. The current MBE/WBE directory is available at the State of RI MBE Office, One Capitol Hill, 2nd Floor, Providence, RI, or online at <http://odeo.ri.gov/offices/mbeco/mbe-wbe.php>. You can also call (401) 574-8670 to verify certification, expiration dates, and services that the MBE/WBE is certified to provide. Note: MBE certification with the State of Rhode Island on the basis of Portuguese heritage is not currently recognized by the City of Providence's MBE program.

Form Instructions:

Access all bid forms from <http://www.providenceri.gov/oeo/> or <http://www.providenceri.gov/purchasing/minority-women-owned-business-mbewbe-procurement-program/>. Download the forms as blank PDFs. Once saved on your computer, fill them out using the Adobe program. The fillable PDFs must be completed in Adobe in order to be saved properly. Google Chrome and similar platforms do not allow for the forms to be saved as filled PDFs. Therefore, please download the blank forms to your computer, then fill them out and save.

Assistance with Form Requirements

Examples of completed forms can be found on the City of Providence website at <http://www.providenceri.gov/oeo/> or <http://www.providenceri.gov/purchasing/minority-women-owned-business-mbewbe-procurement-program/>.

Contract Requirements:

Prime contractors engaging subcontractors must submit the *Subcontractor Utilization and Payment Report* to the City Department's Fiscal Agent with every invoice and request for final payment. A copy of all forms should be sent to the MBE/WBE Outreach Director Office, Grace Diaz at gdiaz@providenceri.gov. This form is not submitted as a part of the initial bid package.

For contracts with durations of less than 3 months, this form must be submitted along with the contractor's request for final payment. The form must include all subcontractors utilized on the contract, both MBE/WBE and non- MBE/WBE, the total amount paid to each subcontractor for the given period and to date, A copy of all forms should be sent to the MBE/WBE Outreach Director Office, Grace Diaz at gdiaz@providenceri.gov. During the term of the contract, any unjustified failure to comply with the MBE/WBE participation requirements is a material breach of contract.

Questions?

For more information or for assistance with MBE/WBE Forms, contact the City of Providence MBE/WBE Outreach Director, Grace Diaz, at gdiaz@providenceri.gov or (401) 680-5766.



**BOARD OF CONTRACT AND SUPPLY
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MBE/WBE PARTICIPATION AFFIDAVIT

Project /Item Description (as seen on RFP):

Prime Bidder: _____ Contact Email and Phone _____
Company Name, Address and Trade: _____

Which one of the following describes your business' status in terms of Minority and/or Woman-Owned Business Enterprise certification with the State of Rhode Island? MBE WBE Neither MBE nor WBE

By initialing the following sections and signing the bottom of this document in my capacity as the contractor or an authorized representative of contractor, I make this Affidavit:

It is the policy of the City of Providence that minority business enterprises (MBEs) and women business enterprises (WBEs) should have the maximum opportunity to participate in procurements and projects as prime contractors and vendors. Pursuant to [Sec. 21-52](#) of the Providence Code of Ordinances and [Chapter 37-14 et seq.](#) of the Rhode Island General Laws (as amended), MBE and WBE participation goals apply to contracts.

The goal for Minority Business Enterprise (MBE) participation is 10% of the total bid value.
The goal for Women's Business Enterprise (WBE) participation is 10% of the total bid value.
The goal for combined MBE/WBE participation is 20% of the total bid value.

I acknowledge the City of Providence's goals of supporting MBE/WBE certified businesses. Initial _____

If awarded the contract, I understand that my company must submit to the Minority and Women's Business Coordinator at the City of Providence (MBE/WBE Office), copies of all executed agreements with the subcontractor(s) being utilized to achieve the participation goals and other requirements of the RI General Laws. **I understand that these documents must be submitted prior to the issuance of a notice to proceed.** Initial _____

I understand that, if awarded the contract, my firm must submit to the MBE/WBE Office canceled checks and reports required by the MBE/WBE Office on a quarterly basis verifying payments to the subcontractors(s) utilized on the contract. Initial _____

If I am awarded this contract and find that I am unable to utilize the subcontractor(s) identified in my Statement of Intent, I understand that I must substitute another certified MBE and WBE firm(s) to meet the participation goals. **I understand that I may not make a substitution until I have obtained the written approval of the MBE/WBE Office.**

Initial _____
If awarded this contract, I understand that authorized representatives of the City of Providence may examine the books, records and files of my firm from time to time, to the extent that such material is relevant to a determination of whether my firm is complying with the City's MBE/WBE participation requirements.

Initial _____
I do solemnly declare and affirm under the penalty of perjury that the contents of the foregoing Affidavit are true and correct to the best of my knowledge, information, and belief.

Signature of Bidder

Printed Name

Company Name

Date



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

SUBCONTRACTOR DISCLOSURE FORM

Fill out this form only if you WILL SUBCONTRACT with other parties. If you will not subcontract any portion of the proposed bid, do not fill out this form.

Prime Bidder: _____ Primary NAICS _____

Code: _____

Item Description (as seen on RFP): _____

Please list all Subcontractors below. Include the total dollar value that you propose to share with each subcontractor and the dollar amount to be subcontracted. Please check off MBE and WBE where applicable. The directory of all state-certified MBE/WBE firms is located at www.mbe.ri.gov. Business NAICS codes can be found at <https://www.naics.com/search/>

Proposed Subcontractor	MBE	WBE	Primary NAICS Code	Date of Mobilization	\$ Value of Subcontract
					\$
					\$
					\$
					\$
					\$
					\$
A. MBE SUBCONTRACTED AMOUNT:					\$
B. WBE SUBCONTRACTED AMOUNT:					\$
C. NON-MBE WBE SUBCONTRACTED AMOUNT:					\$
D. DOLLAR AMOUNT OF WORK DONE BY THE PRIME CONTRACTOR:					\$
E. TOTAL AMOUNT OF BID (SUM OF A, B, C, & D):					\$
F. PERCENTAGE OF BID SUBCONTRACTED TO MBEs AND WBEs. (Divide the sum of A and B by E and multiply result by 100).					%

Please read and initial the following statement acknowledging you understand. If the percentage of the total amount of the bid being awarded to MBE or WBE vendors is less than 20% (Box (F)) and the prime contractor is NOT a Rhode Island State-certified MBE or WBE, you must fill out the MBE/WBE WAIVER REQUEST FORM for consideration by City of Providence MBE/WBE Outreach Director. Initial _____ Required

Signature of Bidder

Printed Name



**BOARD OF CONTRACT AND SUPPLY
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MBE/WBE Waiver Request Form

**Fill out this form only if you did not meet the 20% MBE/WBE participation goal.
State-certified MBE or WBE Prime Bidders are NOT REQUIRED to fill out this form.**

Submit this form to the City of Providence MBE/WBE Outreach Director, Grace Diaz, at gdiaz@providenceri.gov, for review **prior to bid submission**. This waiver applies only to the current bid which you are submitting to the City of Providence and does not apply to other bids your company may submit in the future. **In case a waiver is needed, City Department Directors should not recommend a bidder for an award if this form is not included, absent or is not signed by the city of Providence MBE/WBE director.**

Prime Bidder: _____ Contact Email and Phone _____
Company Name, Address: _____ Trade _____
Project /Item Description (as seen on RFP): _____

To receive a waiver, you must list the certified MBE and/or WBE companies you contacted, the name of the primary individual with whom you interacted, and the reason the MBE/WBE company could not participate on this project.

MBE/WBE Company Name	Individual's Name	Company Name	Why did you choose not to work with this company?

I acknowledge the City of Providence's goal of a combined MBE/WBE participation is 20% of the total bid value. I am requesting a waiver of _____ % MBE/WBE (20% minus the value of **Box F** on the Subcontractor Disclosure Form). If an opportunity is identified to subcontract any task associated with the fulfillment of this contract, a good faith effort will be made to select MBE/WBE certified businesses as partners.

Signature of Prime Contractor /
or Duly Authorized Representative

Printed Name

Date Signed

Signature of City of Providence
MBE/WBE Outreach Director /
or Duly Authorized Representative

Printed Name of City of Providence
MBE/WBE Outreach Director

Date Signed



**BOARD OF CONTRACT AND SUPPLY
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EPA DBE Program Form Instructions

The work of this Contract shall comply with EPA's Disadvantaged Business Enterprise (DBE) Program under the provision of 40 CFR Part 33. Program requirements are provided at <https://epa.gov/grants/disadvantaged-business-enterprise-program-requirements> and as included in Appendix A. The City of Providence has committed to an 8% DBE participation goal, which may overlap with the MBE/WBE participation. A waiver will not be granted for the 8% DBE goal.

Good Faith Efforts

What is the Purpose of the Good Faith Efforts?

The Good Faith Efforts are methods employed by all EPA financial assistance agreement recipients to ensure that disadvantaged business enterprises (DBEs) have the opportunity to compete for procurements funded by EPA financial assistance funds.

What Are the Good Faith Efforts?

- ❖ Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and local government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
- ❖ Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- ❖ Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
- ❖ Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
- ❖ Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.
- ❖ If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs (a) through (e) of this section.

What are the New Contract Administration Provisions?

When the DBE rule goes into effect, there are a number of new provisions designed to prevent unfair practices that adversely affect DBEs. Those provisions are as follows:

- ❖ A recipient must require its prime contractor to pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient.
- ❖ A recipient must be notified in writing by its prime contractor prior to any



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termination of a DBE subcontractor for convenience by the prime contractor.

- ❖ If a DBE subcontractor fails to complete work under the subcontract for any reason, the recipient must require the prime contractor to employ the Six Good Faith Efforts if soliciting a replacement subcontractor.
- ❖ A recipient must require its prime contractor to employ the Six Good Faith Efforts even if the prime contractor has achieved its fair share objectives.

What are the New Forms Associated With the New Contract Administration Provisions?

EPA Form 6100-2 - DBE Program Subcontractor Participation Form. This form gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the prime contractor, how much the DBE subcontractor was paid and any other concerns the DBE subcontractor might have.

EPA Form 6100-3 - DBE Program Subcontractor Performance Form. This form captures an intended subcontractor's description of work to be performed for the prime contractor and the price of the work submitted to the prime.

EPA Form 6100-4 – DBE Program Subcontractor Utilization Form. This form captures the prime's intended use of an identified DBE subcontractor, and the estimated dollar amount of the subcontract.

Form	Requirement	Provided By	Completed By	Submitted To
EPA Form 6100-2	Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	EPA DBE Coordinator
EPA Form 6100-3	Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	Recipients as part of bid or proposal package
EPA Form 6100-4	Recipients required to have prime contractors complete the form	Recipients	Prime Contractors	Recipients as part of bid or proposal package



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OMB Control No: 2090-0030
Approved: 8/13/2013
Approval Expires: 8/31/2015

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Participation Form**

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



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Approved: 8/13/2013
Approval Expires: 8/31/2015

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Participation Form**

Please use the space below to report any concerns regarding the above EPA-funded project:

Multiple horizontal lines for reporting concerns.

Subcontractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.



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OMB Control No: 2090-0030
Approved: 8/13/2013
Approval Expires: 8/31/2015

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form**

This form is intended to capture the DBE¹ subcontractor's² description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
DBE Certified By: ___ DOT ___ SBA ___ Other: _____		Meets/ exceeds EPA certification standards? ___ YES ___ NO ___ Unknown

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



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**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	Date

Subcontractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.



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Approval Expires: 8/31/2015

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Utilization Form**

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	__ YES	__ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?

Continue on back if needed

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



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**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Utilization Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

SUPPLEMENTAL INFORMATION

If the issuing department for this RFP determines that your firm's bid is best suited to accommodate their need, you will be asked to provide proof of the following prior to formalizing an award.

An inability to provide the outlined items at the request of the department may lead to the disqualification of your bid.

*This information is **NOT** requested to be provided in your initial bid that you will submit to the City Clerk's office by the "date to be opened" noted on page 1. This list only serves as a list of items that your firm should be ready to provide on request.*

All bids submitted to the City Clerk become public record. Failure to follow instructions could result in information considered private being posted to the city's Open Meetings Portal and made available as a public record.

You must be able to provide:

- Business Tax ID will be requested after an award is approved by the Board of Contract and Supply.
- Proof of Insurance.
- Certificate of Good Standing with the Rhode Island Secretary of State.
- Bidders shall provide all required supplemental documentation and information as specified in the Bidding/Contract Documents.



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

CITY OF PROVIDENCE STANDARD TERMS & CONDITIONS

1. The terms “you” and “your” contained herein refer to the person or entity that is a party to the agreement with the City of Providence (“the City”) and to such person’s or entity’s employees, officers, and agents.
2. The Request For Proposals (“RFP”) and these Standard Terms and Conditions together constitute the entire agreement of the parties (“the Agreement”) with regard to any and all matters. By your submission of a bid proposal or response to the City’s RFP, you accept these Standard Terms & Conditions and agree that they supersede any conflicting provisions provided by bid or in any terms and conditions contained or linked within a bid and/or response. Changes in the terms and conditions of the Agreement, or the scope of work thereunder, may only be made by a writing signed by the parties.
3. You are an independent contractor and in no way does this Agreement render you an employee or agent of the City or entitle you to fringe benefits, workers’ compensation, pension obligations, retirement or any other employment benefits. The City shall not deduct federal or state income taxes, social security or Medicare withholdings, or any other taxes required to be deducted by an employer, and this is your responsibility to yourself and your employees and agents.
4. You shall not assign your rights and obligations under this Agreement without the prior written consent of the City. Any assignment without prior written consent of the City shall be voidable at the election of the City. The City retains the right to refuse any and all assignments in the City’s sole and absolute discretion.
5. Invoices submitted to the City shall be payable sixty (60) days from the time of receipt by the City. Invoices shall include support documentation necessary to evidence completion of the work being invoiced. The City may request any other reasonable documentation in support of an invoice. The time for payment shall not commence, and invoices shall not be processed for payment, until you provide reasonably sufficient support documentation. In no circumstances shall the City be obligated to pay or shall you be entitled to receive interest on any overdue invoice or payment. In no circumstances shall the City be obligated to pay any costs associated with your collection of an outstanding invoice.
6. For contracts involving construction, alteration, and/or repair work, the provisions of applicable state labor law concerning payment of prevailing wage rates (R.I. Gen. Laws §§ 37-13-1 et seq., as amended) and the City’s First Source Ordinance (Providence Code of Ordinances §§ 21-91 et seq., as amended) apply.
7. With regard to any issues, claims, or controversies that may arise under this Agreement, the City shall not be required to submit to dispute resolution or mandatory/binding arbitration. Nothing prevents the parties from mutually agreeing to settle any disputes using mediation or non-binding arbitration.
8. To the fullest extent permitted by law, you shall indemnify, defend, and hold harmless the City, its employees, officers, agents, and assigns from and against any and all claims, damages, losses, allegations, demands, actions, causes of action, suits, obligations, fines, penalties, judgments, liabilities, costs and expenses, including but not limited to attorneys’ fees, of any nature whatsoever arising out of, in connection with, or resulting from the performance of the work provided in the Agreement.
9. You shall maintain throughout the term of this Agreement the insurance coverage that is required by the RFP or, if none is required in the RFP, insurance coverage that is considered in your industry to be commercially reasonable, and you agree to name the City as an additional insured on your general liability policy and on any umbrella policy you carry.
10. The City shall not subject itself to any contractual limitations on liability. The City shall have the time permitted within the applicable statute of limitations, and no less, to bring or assert any and all causes of action, suits, claims or demands the City may have arising out of, in connection with, or resulting from the performance of the work provided in the Agreement, and in no event does the City agree to limit your liability to the price of the Agreement or any other monetary limit.
11. The City may terminate this Agreement upon five (5) days’ written notice to you if you fail to observe any of the terms and conditions of this Agreement, or if the City believes your ability to perform the



**BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND**

- terms and conditions of this Agreement has been materially impaired in any way, including but in no way limited to loss of insurance coverage, lapsing of a surety bond, if required, declaration of bankruptcy, or appointment of a receiver. In the event of termination by the City, you shall be entitled to just and equitable compensation for any satisfactory work completed and expenses incurred up to the date of termination.
12. Written notice hereunder shall be deemed to have been duly served if delivered in person to the individual or member of the firm or entity or to an officer of the entity for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known by the party providing notice.
 13. In no event shall the Agreement automatically renew or be extended without a writing signed by the parties.
 14. You agree that products produced or resulting from the performance of the Agreement are the sole property of the City and may not be used by you without the express written permission of the City.
 15. For any Agreement involving the sharing or exchange of data involving potentially confidential and/or personal information, you shall comply with any and all state and/or federal laws or regulations applicable to confidential and/or personal information you receive from the City, including but not limited to the Rhode Island Identity Theft Protection Act, R.I. Gen. Laws § 11-49.3-1, during the term of the Agreement. You shall implement and maintain appropriate physical, technical, and administrative security measures for the protection of, and to prevent access to, use, or disclosure of, confidential and/or personal information. In the event of a breach of such information, you shall notify the City of such breach immediately, but in no event later than twenty-four (24) hours after discovery of such breach.
 16. The Agreement is governed by the laws of the State of Rhode Island. You expressly submit yourself to and agree that any and all actions arising out of, in connection with, or resulting from the performance of the Agreement or relationship between the parties shall occur solely in the venue and jurisdiction of the State of Rhode Island or the federal court located in Rhode Island.
 17. The failure of the City to require performance of any provision shall not affect the City's right to require performance at any time thereafter, nor shall a waiver of any breach or default of this Agreement constitute a waiver of any subsequent breach or default or a waiver of the provision itself.
 18. If any term or provision of this Agreement, or the application thereof to any person or circumstance shall, in any extent, be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby, and each term and provision shall be valid and enforceable to the fullest extent permitted by law.

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

INVITATION TO BID

On behalf of the Providence Water Supply Board (Owner), the City of Providence and its Board of Contract and Supply is accepting Sealed Bids for construction of Trinity Square Area Water Main Rehabilitation project. Sealed Bids will be received by the City of Providence Board of Contract and Supply at the location and until the date and time indicated in the City of Providence, Rhode Island Board of Contract and Supply Request for Proposals included in these Specifications, and at that time bids will be publicly opened and read aloud.

The Work of this Project generally includes rehabilitation of approximately 62,000 Linear Feet (LF) of existing 6-inch, 8-inch, 10-inch, and 12-inch cast iron water mains within the Owner's retail water service area in the Trinity Square Area of the City of Providence, Rhode Island. Bidders are requested to provide bid prices for cleaning and lining of water mains and other items associated with cleaning and lining, along with their qualifications to perform the work. The intent of this Project is that the Owner will make an award to one contractor based on meeting the required qualifications specified herein and based on evaluation of the submitted bid prices.

The Work of this Project shall also include, but is not limited to the installation of temporary bypass systems to maintain water service, removal and replacement of appurtenances (valves, hydrants, and services) including the installation of new 4-inch, 6-inch, 8-inch, 10-inch, 12-inch, 16-inch, 20-inch, and 30-inch ductile iron water main adjacent to the appurtenances, temporary restoration and maintenance of street sections (disturbed by construction operations) and the associated full depth asphalt restoration of street excavations and permanent restoration of street sections (disturbed during construction operations) according to the schedule specified herein, and restoration of sidewalks and grassy areas within the Trinity Square, Providence service area of Providence Water's distribution system. Without any prejudice to any other direction as indicated on the Contract Documents or mentioned in the Specifications, the Contractor shall provide all labor, equipment, materials, and services necessary to complete the work, including excavation and backfill; removal and disposal of existing water mains and appurtenances; installation of new connecting water main; rehabilitation of existing water mains by cleaning and cement lining; installation of gate valves, blow-offs and hydrant assemblies; installation of wet taps for tapping sleeves and new corporation stops; reconnection of existing water services (including copper and HPDE tubing and fittings) and appurtenance disturbed by the project within the Public Space. The contract work also includes excavation and backfilling; the permanent restoration of street and sidewalks within Private Property (locations to be determined); and the temporary and permanent restoration of grassy areas within both the Public Space and Private Property for the maintenance of private water services. All work on private property is contingent upon approval by each respective property owner and signed agreements between the individual property owners and Owner (Providence Water).

The Contract Time for this Project shall be as indicated in the City of Providence, Rhode Island Board of Contract and Supply Request for Proposals included in these Specifications, commencing as specified in the Standard General Conditions of the Construction Contract, as amended and/or modified by the Supplementary Conditions.

To obtain and/or examine Contract Documents, including any required deposits and fees for obtaining Contract Documents, refer to the City of Providence, Rhode Island Board of Contract and Supply Request for Proposals included in these Specifications.

Details for any pre-bid conference, where representatives of the Owner will review and discuss the Project and Work, are included in the City of Providence, Rhode Island Board of Contract and Supply Request for Proposals included in these Specifications.

Each Bid shall be submitted in accordance with the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals included in these Specifications and the Instructions To Bidders.

Bidders may not withdraw their Bids for a period of 60 days after the actual date of the opening of the Bids.

The Successful Bidder must furnish a Performance Bond and Payment Bond, as specified in the City of Providence, Rhode Island Board of Contract and Supply Request for Proposals included in these Specifications, with a surety company acceptable to the Owner, as well as all required Certificates of Insurance.

Complete instructions for filing Bids are included in the City of Providence, Rhode Island Board of Contract and Supply Request for Proposals and Instructions to Bidders.

The work of this Contract shall comply with the State of Rhode Island General Laws (RIGL) Chapter 37. Prevailing wage rates under the provision of RIGL Chapter 37-13 apply to the Project in accordance with the United States Department of Labor under the Davis-Bacon Act. RIGL Chapter 37-14.1, RIGL Chapter 37-2.2 and RICR 220-RICR-80-10-2 apply to this project.

This project is subject to the requirements of the Rhode Island Drinking Water State Revolving Fund (DWSRF) Program as administered by the Rhode Island Department of Health (RIDOH) Office of Drinking Water Quality. Reference is made to the RIDOH DWSRF Program requirements bound within Appendix A of the Contract Specifications which include but are not limited to the American Iron and Steel (AIS), Build America Buy America (BABA) and Disadvantaged Business Enterprise (DBE) requirements. Bidders must complete and submit with their bids Disadvantaged Business Enterprise (DBE) participation forms as included in Appendices A with a participation requirement of 8%.

The Owner reserves the right to waive any informality in or to reject any or all Bids if deemed to be in its best interest.

PROVIDENCE WATER SUPPLY BOARD
CITY OF PROVIDENCE, RHODE ISLAND

PROVIDENCE WATER TRINITY SQUARE AREA WATER MAIN REHABILITATION

INSTRUCTIONS TO BIDDERS

ARTICLE 1. DEFINITIONS & TERMINOLOGY

- 1.1 Definitions and terms used in these Instructions To Bidders, Specifications, and Contract Documents will have the meanings defined in the Standard General Conditions of the Construction Contract and Supplementary Conditions of these Specifications.
- 1.2 Definitions and terms shall have the additional meanings indicated below, which are applicable to both the singular and plural thereof:
 - A. Contractor / General Contractor: The individual or entity with whom Owner enters into an Agreement to perform the Work of the Project.
 - B. Bidder: The individual, firm, or entity who submits a Bid to perform the Work of the Project as Contractor / General Contractor.
 - C. Issuing Office: The office issuing the Bidding Documents, the City of Providence Purchasing Department, Providence City Hall, 25 Dorrance Street, Providence, Rhode Island.
 - D. Owner: Providence Water Supply Board (Providence Water), the administrator of this Contract and Work of the Project, through and in conjunction with the City of Providence and its Board of Contract and Supply.
 - E. Owner's Representative: A representative designated and authorized by the Owner to act on the Owner's behalf with respect to the Contract, Project, and Work, who may include but not be limited to Advisors, Architectural and/or Engineering Consultants, Construction Managers, and/or Resident Construction Inspectors who are contracted by the Owner to represent and act on Owner's behalf.
 - F. Successful Bidder: The lowest qualified and responsible Bidder whose Bid is deemed to be responsible, eligible, responsive and is the lowest of those Bidders that possess the necessary skill, ability, experience, qualifications, and integrity necessary to the faithful performance of the Work and whose Bid represents the best value and is in the best interests of the Owner to whom Owner on the sole basis of Owner's evaluation makes an award for the Work. Such a Bidder shall possess the skill, ability, and integrity necessary for the faithful performance of the work and shall meet the required minimum qualifications specified herein. The terms "lowest responsible and eligible Bidder" or "lowest qualified and responsible bidder" if used herein and elsewhere in the Contract Documents shall have the same meaning as "Successful Bidder".
 - G. Work: Denotes any and all required activities under this Contract and Project, regardless of its nature.

ARTICLE 2. QUALIFICATIONS OF BIDDERS

2.1 General

- A. Bidders may be investigated by Owner to determine if they are qualified to perform the Work. In addition to the information required to be submitted with the Bid, all Bidders shall be prepared to submit within five days of Owner's request, written evidence of such additional information and data necessary to make this determination. Additional information may include, but is not limited to, experience, qualifications, references for past and other current work, performance on other projects, compliance with contract documents on other projects, compliance with required schedules on other work, health and safety performance, administrative and management performance, present work commitments, equipment available for this Work, financial data and capacity, bonding capacity and information, insurance information, information on previous claims against, and any and all other such data as Owner requests.
- B. The investigation of a Bidder will seek to determine whether the organization is adequate in size, is authorized to do business in the jurisdiction where the project is located, is qualified, has had previous experience and whether available equipment and financial resources are adequate to assure Owner that the Work will be completed in accordance with the terms of the Contract Agreement. The amount of other work to which the Bidder is committed may also be considered.
- C. In evaluating Bids, Owner will consider the qualifications of only those Bidders whose Bids are in compliance with the prescribed requirements.
- D. Bidders shall completely and truthfully respond to and provide all information requested by the Contract Documents and by the Owner. Failure of a Bidder to provide all requested information may, at the Owner's discretion, render a Bid being considered non-responsive and rejected.
- E. Owner requests Bids from Contractors that specialize in the water main construction and rehabilitation method(s) specified in the Contract Documents and that meet the minimum qualifications defined herein. It is the intent of these Contract Documents that that Bidder who submits a Bid as the Prime/General Contractor must meet the minimum qualification requirements specified herein for the project's specified water main construction and/or rehabilitation method. The Bid of a Bidder who does not meet the minimum qualification requirements will be considered non-responsive and will be rejected.
- F. Bidder shall provide information on the experience of the firm, the experience of the personnel who will oversee and perform the work, and on the equipment and materials (e.g., temporary bypass piping) to be used to perform the Work. The experience of personnel with any other contractor, company or firm does not qualify the Bidder; the experience to meet these qualifications must be with the Contractor bidding the project as Bidder. The Owner reserves the right to reject individual crew leaders and/or any personnel due to inadequate experience or previous unsatisfactory or poor performance.
- G. Bidder must be able to field multiple crews at all times to accomplish the Work.

- H. Bidders must have experience working around congested underground utilities, coordinating with utility owners and agencies, and performing required temporary and subsequent final/permanent surface restoration on both public and private property.
- I. Bidder shall describe any work that will be subcontracted as required in Section 00 43 36 – Proposed Subcontractors and Suppliers.
- J. Owner reserves the right to reject any Bid if the evidence submitted by or the investigation of such Bidder fails to satisfy Owner that such Bidder is properly qualified and/or capable to carry out the obligations of the Contract Documents and to complete the Work specified therein.

2.2 Cleaning and Cement Mortar Lining Water Mains

- A. Bidder/Contractor shall have a minimum of five (5) consecutive years of experience as a prime/general contractor self-performing cleaning and cement mortar lining of water mains.
- B. Bidder/Contractor must have successfully cleaned and lined a minimum total of 100,000 linear feet of cast-iron (CI) water mains within the last five (5) years.
- C. Bidder/Contractor is required to self-perform all cleaning and cement mortar lining Work of this Project as the Prime/General Contractor.
- D. Bidder must self-perform at least 50% of all Work (defined as 50% of the total footage of all water main rehabilitation (cleaning and lining, water main replacement, new water main installation)) of the Project with their own labor forces and equipment.

2.3 Water Main Replacements and Installations

- A. Bidder/Contractor shall have a minimum of five (5) consecutive years of experience as a prime/general contractor replacing water mains and/or installing new water mains.
- B. Bidder must have successfully replaced and/or installed a minimum total of 100,000 linear feet of water mains within the last five (5) years.
- C. Bidder must self-perform at least 50% of all Work (defined as 50% of the total footage of all water main rehabilitation (cleaning and lining, water main replacement, new water main installation)) of the Project with their own labor forces and equipment.

ARTICLE 3. COPIES OF CONTRACT DOCUMENTS

- 3.1 Complete sets of Contract Documents may be obtained as described in the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals and the Invitation To Bid of these Specifications.
- 3.2 Complete sets of Contract Documents shall be used in preparing Bids; Owner does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

- 3.3 Owner in making copies of Contract Documents available does so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

ARTICLE 4. CONTRACT DOCUMENTS AND PROJECT SITE(S)

- 4.1 The Project Site(s) is/are identified in the Contract Documents. Additional areas or land and access thereto for temporary construction facilities, construction equipment, or storage of equipment and materials for the Work are to be obtained and paid for by the Contractor. Easements for permanent changes in existing facilities are to be obtained and paid for by the Owner unless otherwise provided in the Contract Documents.
- 4.2 Before submitting a Bid, each Bidder must (1) examine the Contract Documents thoroughly, (2) visit the site(s) to become familiar with local conditions that may in any manner affect cost, progress or performance of the Work, (3) become familiar with Federal, State and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (4) study and carefully correlate Bidder's observations with the requirements of the Contract Documents.
- 4.3 Surveys and investigative reports of subsurface or latent physical conditions at the site(s), if any, which have been relied upon by Owner in preparing the Contract Documents are identified in Article 4 of the Supplementary Conditions. Copies of these reports, if available, are included in the Appendices to the Project Manual. These reports are not guaranteed or warranted as to accuracy or completeness, nor are they part of the Contract Documents. Bidder is solely responsible for any interpretation or conclusion that Bidder makes from this information or any other data or information.
- 4.4 Unless otherwise stated in the Contract Documents or on the Drawings, existing site conditions depicted are not based on actual survey and may not show all existing utilities that may be present. Information on existing utilities shown on the Drawings, if any, is based upon information furnished to Owner by others. Owner makes no guarantee or warranty as to the accuracy or completeness of this information. Contractor is responsible for confirming the location of all underground utilities prior to the commencement of construction and prior to any excavation. Contractor is responsible for all underground utilities and structures, whether active or not, and shall continually communicate and coordinate with all respective utility companies and agencies. Contractor is solely responsible to repair any and all damage to existing utilities and structures at Contractor's own expense. Prior to any excavation work, Contractor must contact DigSafe and all utility agencies to mark out the location of underground utilities, structures, and facilities.
- 4.5 Before submitting a Bid, Bidders may, at their own expense, make such additional investigations and tests as they may deem necessary to determine their Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 4.6 Upon request, Owner will provide each Bidder access to the site(s) to conduct such examinations, investigations, explorations, studies, and tests as each Bidder deems necessary for the submission of a Bid. Bidder shall provide Owner with a minimum of 72 hours of notice for any such investigative work. For work on private property, Bidder shall contact private property owner directly for access to the site(s). Bidder shall fill all holes

- and clean up and restore the site(s) to original condition following completion of such work.
- 4.7 The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Supplementary Conditions, General Requirements, and/or on the Drawings or otherwise in the Contract Documents.
 - 4.8 Prior to the submission of a Bid, Bidders shall promptly give written notice to the Owner of any conflict, error, ambiguity, and/or discrepancy in the Contract Documents and Bidders bear full responsibility for determining that Owner's written resolution by formal written Addenda is acceptable to the Bidder.
 - 4.9 The submission of a Bid will constitute an incontrovertible representation that the Bidder has complied with every requirement of this Article and these Contract Documents; that no additional examinations, investigations, explorations, studies, or tests are needed; that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work; and that the Bidder provided written notice of any conflict, error, ambiguity, and/or discrepancy in the Contract Documents and that Owner's written resolution by formal written Addenda is acceptable to the Bidder.
 - 4.10 Representatives of Federal, State and local agencies having a direct interest in the Work shall have access to the Work wherever it is in preparation or progress and the Contractor shall provide proper facilities for such access and inspection.

ARTICLE 5. INTERPRETATIONS AND ADDENDA

- 5.1 All questions about the meaning or intent of the Contract Documents shall be received in writing by the Owner, as described in the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals and the Invitation to Bid of these Specifications, at least ten days before the date set herein for the opening of bids.
- 5.2 Written clarifications or interpretations will be issued by Addenda not later than five days before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other clarifications or interpretations will be without legal effect. Addenda will be issued by delivery service with delivery confirmation and/or transmitted electronically to all parties recorded as having received the Contract Documents.
- 5.3 Bidders are responsible for determining that they have received all Addenda issued.

ARTICLE 6. PRE-BID CONFERENCE

- 6.1 If a pre-bid conference is to be held for this project where representatives of the Owner will review and discuss the project, the date, time, and place of the pre-bid conference is specified in the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals and/or Invitation To Bid of these Specifications and the proceeds of any pre-bid conference will be issued by formal written Addenda.

ARTICLE 7. BID SECURITY

- 7.1 Each Bid must be accompanied by Bid Security payable to Owner as indicated in the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals and/or Invitation To Bid of these Specifications. Bid Security shall be sealed in a separate envelope from the Bid and then attached to the envelope containing the Bid. All Bid Securities will be returned on the execution of the Agreement or if no award is made, no later than 90 days after the actual date of opening of the Bids, unless forfeited under the conditions herein stipulated.
- 7.2 In case a party to whom a Contract is awarded shall fail or neglect to execute the Agreement and furnish the satisfactory bonds, insurance and documents within the time specified, Owner may determine that the Bidder has abandoned the Contract, and thereupon the Bid Forms and acceptance shall be null and void and the Bid Security accompanying the Bid Form shall be forfeited to Owner as liquidated damages for such failure or neglect and to indemnify said Owner for any loss which may be sustained by failure of the Bidder to execute the Contract Agreement and furnish the bonds as aforesaid, provided that the amount forfeited to Owner shall not exceed the difference between the Bid Price of said Bidder and that of the next lowest responsible and eligible bidder and provided further that, in case of death, disability, or other unforeseen circumstances affecting the Bidder, such Bid Security may be returned to the Bidder. After execution of the Agreement and acceptance of the bonds by Owner, the Bid Security accompanying the Bid Form of the Successful Bidder will be returned.

ARTICLE 8. PERFORMANCE, PAYMENT AND OTHER BONDS

- 8.1 Performance, Payment and other Bonds shall be provided in accordance with Article 5 of the General Conditions of the Contract.
- 8.2 All Bonds required as Contract Security shall be furnished with/for the executed Contract Agreement.

ARTICLE 9. TAX EXEMPTION

- 9.1 Owner is exempt from sales tax on materials and equipment permanently incorporated into the Work. A sales tax exemption certificate will be made available by Owner upon request. The cost of such taxes shall not be included with any Bid.

ARTICLE 10. CONTRACT TIME

- 10.1 The Contract duration and the time that the Work and Project must be completed is set forth in the Invitation To Bid and/or Contract Agreement.

ARTICLE 11. LIQUIDATED DAMAGES

- 11.1 Provisions for liquidated damages are set forth in the Invitation To Bid and/or Agreement.

ARTICLE 12. SUBCONTRACTORS, SUPPLIERS, APPRENTICE UTILIZATION & LOCAL HIRING

- 12.1 If the Bid Form requires the listing of proposed subcontractors and/or suppliers, the Bidder shall provide the names and requested information for all subcontractors and/or suppliers whose prices the Bidder used in preparing the Bid and/or who Bidder knows to intend to enter into agreements with to participate in any portion of the Work. Failure to provide such requested information may, at the Owner's sole discretion, result in the Bid being considered non-responsive and rejected.
- 12.2 If the Contract Documents require the identity of subcontractors, suppliers, individuals, or entities to be submitted to Owner prior to the executed date of the Contract Agreement or prior to their participation in the Work, the Successful Bidder, and any other Bidder so requested, shall within five (5) days after the Bid opening or at other such time requested by the Owner or stated in the Contract Documents submit to Owner a list of all such subcontractors, suppliers, individuals, or entities proposed for stated portions of the Work. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such subcontractor, supplier, individual, or entity if requested by Owner. If the Owner, after due investigation, has reasonable objection to any proposed subcontractor, supplier, individual, or entity, Owner may request Successful Bidder to submit a substitute in which case Successful Bidder shall submit an acceptable substitute.
- 12.3 Bidder shall not be required to employ any subcontractor, supplier, individual, or entity against whom Bidder has reasonable objection.
- 12.4 This Contract is subject to the requirements of the following sections of the Providence Code of Ordinances: Section 21-28.1 – "Qualifications for parties doing business with the City"; Section 2-169.1 – "Local Hiring (First Source)." Refer to "Apprentice Utilization, Local Hiring Requirements, & Air Quality Protocols" included with these Specifications.

ARTICLE 13. MANUFACTURER'S EXPERIENCE, SUBSTITUTES & "EQUAL" ITEMS

- 13.1 Wherever it may be written that an equipment or product manufacturer must have a specified period of experience with its product, equipment and/or products which do not meet the specified experience period can be considered if the supplier or manufacturer is willing to provide a bond or cash deposit for the duration of the specified time period which will guarantee replacement of that equipment in the event of failure. Such bond shall be an Efficiency Guarantee Bond, executed on forms to be approved by the Owner.
- 13.2 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Contract Documents, including any Addenda issued prior to the receipt of Bids. The materials and equipment described in the Contract Documents establish a standard of required type, function, quality, and performance to be met by any proposed substitute or "equal" item. Whenever it is specified or described in the Contract Documents that a substitute or "equal" item of material or equipment may be furnished or used by the Contractor if acceptable to the Owner, application for such acceptance will not be formally considered by the Owner until after the execution date of the Agreement. The procedure for submission of any such application by the Contractor and consideration by the Owner is set forth in the Contract Documents. The burden of proof of

the merit of a proposed substitute or “equal” item is solely upon the Bidder/Contractor, and the Owner’s decision of approval or disapproval will be final. The Bidder shall not rely on any assumption of approval by the Owner in preparing their Bid.

ARTICLE 14. LAWS, REGULATIONS, ORDINANCES, REQUIREMENTS, PERMITTING & WAGE RATES

- 14.1 The language of all applicable Federal, State, and local laws, regulations, and ordinances shall be deemed to be incorporated into this Contract herein by reference. Bidders shall be familiar with and comply with all applicable laws, regulations, ordinances, and requirements that may in any way affect the cost, progress, and/or performance of the Work and the price submitted with their Bids. Bidders assume full responsibility for full compliance with all applicable Federal, State, and local laws, regulations, ordinances, and requirements.
- 14.2 Applicable provisions of the State of Rhode Island General Laws and/or the United States Code and Code of Federal Regulations govern this Contract and any provision in violation of the foregoing shall be deemed null, void, and of no effect. Where conflict between the Code of Federal Regulations and State Laws exist, the more stringent shall apply.
- 14.3 Specific reference is made to State of Rhode Island General Laws, Chapters 37-12 and 37-13 and applicable State of Rhode Island prevailing wage rate provisions, which are included in the Contract Documents.
- 14.4 Bidder must comply with all Federal, State, and local permitting requirements applicable to the Work.
- 14.5 By the submission of a Bid, the Bidder represents to the Owner that the Bidder is in full compliance with and will comply with all such requirements specified herein.

ARTICLE 15. BID FORM

- 15.1 Each Bid shall be submitted on the Bid Form included in the Contract Documents. Additional copies of the Bid Form may be appended to the Project Manual. The Bid Form shall be removed and submitted separately. All blank spaces for Bid prices must be filled in with the unit price for the item or the lump sum for which the Bid is made.
- 15.2 Bid Forms shall be completed in ink or by typewriter. The Bid price of each item on the form shall be stated in words and figures. If unit prices are required on the Bid Form, discrepancies between unit prices and their respective total amounts will be resolved in favor of the unit prices. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- 15.3 Bids by corporations shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

- 15.4 Bids by Limited Liability Companies shall be executed in the Limited Liability name by the Manager (or other Limited Liability Company officer/representative accompanied by evidence of authority to sign). The Limited Liability Company address and state where the Limited Liability Company was formed shall be shown below the signature.
- 15.5 Bids by partnerships shall be executed in the partnership name and signed by a partner, whose title shall appear under the signature. The official address of the partnership shall be shown below the signature.
- 15.6 Bid Forms shall be signed and executed in ink.
- 15.7 All names shall be typed or printed below the signature.
- 15.8 The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).
- 15.9 The address and phone number to which communications regarding the Bid are to be directed shall be shown.
- 15.10 The Bid shall include evidence of Bidder's authority and qualifications to do business in the State of Rhode Island. Bidder's State of Rhode Island contractor license number(s) shall be shown on the Bid Form or otherwise provided with the Bid.
- 15.11 The Bid and Bid Forms shall be submitted with all required forms and information, including but not limited to all City of Providence forms and information, Bidder's Qualifications Forms and Proposed Subcontractors & Suppliers. Failure to submit required forms and information may result in rejection of a Bid.

ARTICLE 16. RECEIPT OF BIDS

- 16.1 Copies of Bids shall be submitted in accordance with the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals, Invitation To Bid, and these Instructions to Bidders of these Specifications. Bids shall be submitted in a sealed opaque envelope bearing on the outside the Bidder's name, address, and the Project Title for which the Bid is submitted. The Bid shall be addressed to and submitted as specified in the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals and Invitation To Bid of these Specifications (If forwarded by mail, Bid and sealed envelope marked as described above shall be enclosed in another envelope with the notation "BID ENCLOSED" on the face and addressed as specified).
- 16.2 Sealed Bids for the Work of this Contract will be received at the time and place indicated in the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals and Invitation To Bid of these Specifications
- 16.3 Owner may consider informal any Bid not prepared and submitted in accordance with the provisions hereof.
- 16.4 It is the responsibility of each individual Bidder to assure that their Bid is in the possession of the responsible official or the designated alternate prior to the stated time

and at the place of the Bid Opening. Owner is not responsible for Bids delayed by mail and/or delivery services, of any nature.

- 16.5 All Bids will remain subject to acceptance for the period of time stated in the Contract Documents. Owner may, at its sole discretion, release any Bid and return any Bid security prior to the end of this period.

ARTICLE 17. MODIFICATION AND WITHDRAWAL OF BIDS

- 17.1 Bids may be modified only by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 17.2 Bids may be withdrawn prior to the scheduled time (or authorized postponement thereof) for the opening of Bids.
- 17.3 Any Bid received after the time and date specified shall not be considered. No Bid may be withdrawn for a period of 60 days, after the actual date of the opening of the Bids.

ARTICLE 18. EVALUATION OF BIDS & BASIS OF AWARD

- 18.1 In evaluating Bids, Owner will consider whether or not Bids comply with the prescribed requirements herein, pricing, and other data, as may be requested in the Bid Form, Advertisement, Request For Proposals, Invitation To Bid, and/or Instructions To Bidders.
- 18.2 In evaluating Bids, Owner will consider the qualifications and experience of Bidders and may also consider the qualifications and experience of subcontractors, suppliers, and other individuals or entities proposed by Bidders for portions of the Work as submitted with the Bid Form.
- 18.3 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, experience, capability, and financial ability of Bidders, proposed subcontractors, suppliers, individuals, and/or entities proposed to perform the Work.
- 18.4 Discrepancies on the Bid Form will be resolved as previously specified herein.
- 18.5 Evaluation of Bids and Bidders:
- A. Bids and Bidders will be evaluated based on the following criteria:
1. The qualifications and experience of Bidders as set forth and specified herein and in the Contract Documents.
 2. The Bid Prices (resolved in favor of corrected amounts) submitted on the Bid Form.
 3. The adequacy of the financial resources of Bidders.

4. The ability of Bidder to comply with Article 5 of the Standard General Conditions of the Construction Contract, as amended and/or modified by the Supplementary Conditions.
5. The adequacy and availability of equipment of Bidders.
6. The experience of Bidders and quality of work performed previously on projects for Owner, if any, and on projects of comparable size for other entities.
7. The record of Bidders in accomplishing and completing work on other, similar projects within the required and contractual timeframes.
8. The ability of Bidders to obtain the necessary and required/specified materials for the Work.
9. Consistency with historical pricing of similar and related work.

ARTICLE 19. AWARD OF CONTRACT

- 19.1 The intent of the Owner is to award one contract to the lowest qualified and responsible Bidder (Successful Bidder). Such a Bidder shall possess the skill, ability, and integrity necessary for the faithful performance of the Work and shall meet the required minimum qualifications specified herein.
- 19.2 Owner reserves the right to reject any and all Bids, to waive any and all informalities if it is in Owner's best interest to do so, and the right to disregard all nonconforming, non-responsive, unbalanced or conditional Bids.
- 19.3 Owner reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be not responsible and/or not meet the required qualifications specified herein and that Owner considers to be unqualified to perform the Work of the Project.
- 19.4 Owner reserves the right to reject the Bid of any Bidder if in Owner's sole opinion would not be in the best interest of the Owner or project to make an award to Bidder.
- 19.5 A Bid which includes for any item a Bid Price that is abnormally low or high may be rejected as unbalanced.
- 19.6 More than one Bid for the same Work or Project from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for the disqualification of that Bidder and the rejection of all Bids for which that Bidder has an interest.
- 19.7 In evaluating Bids, Owner will consider whether or not the Bids comply with the specified requirements of the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals, Invitation To Bid and Instructions To Bidders of these Specifications.

- 19.8 In evaluating Bids, Owner will consider the qualifications and experience of Bidders as specified herein, and may also consider the qualifications and experience of any subcontractors, suppliers, and other individuals or entities proposed for portions of the Work as submitted by Bidder with the Bid.
- 19.9 If the Contract is to be awarded, Owner will award the Contract to the Successful Bidder whose bid represents the best interests of the Owner and project and will provide a Notice of Award to the Successful Bidder.
- 19.10 Owner may, at Owner's sole discretion, release any Bid and return the Bid Security at any time.

ARTICLE 20. EXECUTION OF AGREEMENT

- 20.1 When Owner gives a Notice of Award to the Successful Bidder, the Successful Bidder shall deliver the required Bonds, Insurance Certificates and all other applicable Contract Documents to the Owner within the time period specified in the Standard General Conditions of the Construction Contract, as may be amended and/or modified by the Supplementary Conditions. Owner will prepare the Contract Agreement and provide unsigned copies of the Agreement to the Successful Bidder for execution. The Successful Bidder shall execute the Agreement and return it to Owner and Owner shall then execute the Agreement and return copy(ies) of the fully executed Agreement to the Successful Bidder as specified in the Standard General Conditions of the Construction Contract, as may be amended and/or modified by the Supplementary Conditions.
- 20.2 The Contract Agreement provided in these Specifications is a sample of the Contract Agreement to be executed by the Successful Bidder. Owner reserves the right to negotiate contract terms and conditions with the Successful Bidder.

ARTICLE 21. GUARANTEE & WARRANTY

- 21.1 The Contractor guarantees that the Work and Services to be performed under the Contract, and all workmanship, materials, and equipment performed, furnished, used or installed in the construction of the same shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Drawings, Specifications, and other Contract Documents, that the strength of all parts of all manufactured equipment shall be adequate and as specified, and that the performance test requirements of the Contract Documents shall be fulfilled. Unless otherwise specified in other sections of the Contract Documents or in required permits, this guarantee shall be for a period of one year minimum from and after the date of completion and acceptance of the Work as stated in the final estimate. If part of the Work is accepted in accordance with that subsection of this Agreement titled "Partial Acceptance," the guarantee for that part of the Work shall be for a period of one-year minimum from the date fixed for such acceptance.
- 21.2 If at any time within the said period of guarantee any part of the Work requires repairing, correction or replacement, the Owner may notify the Contractor in writing to make the required repairs, corrections or replacements. If the Contractor neglects to commence making such repairs, corrections or replacements to the satisfaction of the Owner within seven days from the date of receipt of such notice, or having commenced fails to prosecute such Work with diligence, the Owner may employ other persons to make said

repairs, corrections or replacements, and charge the costs, including compensation for additional professional services, to the Contractor.

ARTICLE 22. PAYMENT AND RETAINAGE

22.1 Provisions regarding payments to Contractor and retainage withheld are set forth in the General and Supplementary Conditions and the Contract Agreement. At the Owner's sole discretion, retainage held from prior Applications for Payment may be released at any time.

ARTICLE 23. RHODE ISLAND DRINKING WATER STATE REVOLVING FUND (SRF) REQUIREMENTS

23.1 This project is subject to the Davis-Bacon Prevailing Wage Requirements, Federal Wage Rates, American Iron and Steel Requirements, Build America, Buy America (BABA) Requirements, EPA DBE Requirements, EPA Debarment and Suspension Requirements, EPA Prohibition on Certain Telecommunication and Video Surveillance Requirements, and Rhode Island MBE Utilization Requirements.

PROVIDENCE WATER SUPPLY BOARD
CITY OF PROVIDENCE, RHODE ISLAND

END OF SECTION

SECTION 00 30 00 AVAILABLE INFORMATION

PART 1 GENERAL

1.01 GENERAL INFORMATION

- A. Information made available is for Bidder's review and convenience. Refer to the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals, Invitation to Bid, Instructions to Bidders, and the General and Supplemental Contract Conditions of these Specifications for further information pertaining to the use of these documents and information, as well as what documents and information constitute part of the Contract Documents.
- B. Owner makes no warranty, expressed or implied, regarding the accuracy, completeness, or usefulness of information made available to Bidders. Bidders, Contractors, and any other user of provided information assumes all liability and responsibility for the fitness for a particular use.
- C. Unless otherwise provided in these Contract Documents, information made available to Bidder is available for review by appointment at Owner's (Providence Water) Central Operations Facility (COF), 125 Dupont Drive, Providence, Rhode Island 02907. See the City of Providence, Rhode Island Board of Contract and Supply Request For Proposals and Instructions to Bidders of these Specifications for contact information to set up an appointment.

1.02 OWNER (PROVIDENCE WATER) INFORMATION

- A. Information that Owner makes available to Bidders and Contractors includes but is not limited to:
 - 1. Technical specifications, requirements and typical standard construction details (see the Appendices of these Specifications, which are part of these Contract Documents). These documents are the Owner's typical construction specifications and details for water main and water service line construction, which must be adhered to for all Work of this Project.
 - 2. List of Approved Materials & Manufacturers for use in the Providence Water Distribution System (see the Appendices of these Specifications, which are part of these Contract Documents). This guidance document provides a quick reference of approved materials and manufacturers that meet the intent of the items and materials specified herein and in the Owner's typical specifications (included in the Appendices of these Specifications). It is the responsibility of all Bidders and Contractors prior to construction to verify that the items and materials to be provided are acceptable to the Owner.
 - 3. Distribution Sheets. Owner will make available distribution sheets for Contractor to schedule and sequence the Work (if needed), as well as to plan and layout temporary bypass piping (if required).

4. Requirements for Water Mains, Services and Appurtenances. This document provides general information related to Owner administrative procedures, engineering requirements, materials, construction procedures, and typical construction installation details and can be accessed at <https://engineering.provwater.com/assets/forms/ConstServ/ReqWaterMainServAppurt.pdf>.

1.03 RHODE ISLAND ENERGY (FORMERLY NATIONAL GRID INFORMATION)

- A. Information from Rhode Island Energy/National Grid that is available to Bidders and Contractors includes but is not limited to:
 1. National Grid Guidelines (see the Appendices of these Specifications). These guidelines show sketches and related criteria related to cast-iron (CI) gas main encroachments for informational purposes only. Contractor shall notify National Grid of any locations where CI gas mains are exposed to the limits indicated in the guidelines, where CI gas mains are parallel to excavations for this Work, and where CI gas main bell and spigot joints are exposed. This information is provided for Contractor convenience only, as furnished by National Grid to Owner. It is the sole responsibility of the Contractor to contact and coordinate with National Grid as required throughout all the Work of the entire Project.

1.04 CITY OF PROVIDENCE INFORMATION

- A. Information from the City of Providence that is available to Bidders and Contractors through the City of Providence includes but is not limited to:
 1. *City of Providence Standards to be Employed by Public Utility Operators When Restoring any of the Streets, Lanes, and Highways in Providence ("the Standards")*, dated June 2008.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION



BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

BID FROM:

Company Name: _____

(SEAL)

If incorporated, State of Incorporation: _____

Date of Incorporation: _____

Type of Business (from incorporation papers): _____

By: _____

(Signature - attach evidence of authority to sign if not an individual submitting Bid)

Name (typed or printed): _____

Title: _____

Date: _____

Business Address: _____

Phone No. _____ Fax No. _____

Bidder State of Rhode Island License Information:

License No.

Type of License/Trade Licensed

SECTION 00 43 36
PROPOSED SUBCONTRACTORS & SUPPLIERS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Bidder must, to the best of their knowledge at the time of the Bid, completely provide all information requested herein and submit the form(s) of this Section attached to their Bid Forms. Failure to submit this information may result in rejection of a Bid.
- B. Bidder shall provide and submit to Owner any additional information requested by Owner to demonstrate that proposed Subcontractors and Suppliers are sufficiently capable and qualified of performing their required work or supplying equipment and/or materials.
- C. Bidder must clearly identify the scope of work to be performed by all proposed Subcontractors and the items, materials, and/or equipment to be provided by a proposed Supplier.
- D. If sufficient space is not available on the provided form, Bidder may use and attach additional sheets (including copying the attached form) as needed to fully satisfy the requirements of this section.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION



PROPOSED SUBCONTRACTORS & SUPPLIERS FORM

<u>SUBCONTRACTOR NAME</u>	<u>LICENSE NO.</u>	<u>SCOPE OF WORK</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

<u>SUPPLIER NAME</u>	<u>MATERIALS AND/OR EQUIPMENT TO BE PROVIDED</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

CERTIFICATION:

The undersigned certifies that all information provided herein is complete, true, and accurate.

COMPANY NAME: _____

SIGNATURE: _____

NAME (typed or printed): _____

TITLE: _____

DATE: _____

SECTION 00 45 13
BIDDER'S QUALIFICATIONS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Bidder must, to the best of their knowledge at the time of the Bid, completely provide all information requested herein and submit the forms of this Section attached to their Bid Forms. Failure to submit this information may result in rejection of a Bid.
- B. Bidder agrees to furnish to Owner an audited or certified financial statement of as recent a date as possible, including the latest balance sheet and income statement, as well as any other supporting financial documentation requested by Owner.
- C. Bidder shall provide and submit to Owner any additional information requested by Owner to demonstrate their ability, experience, qualifications, and financial security to perform the Work.
- D. If sufficient space is not available on the provided forms, Bidder may use and attach additional sheets as needed (including copying the attached forms) to fully satisfy the requirements of this section.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION



BIDDER/CONTRACTOR QUALIFICATIONS FORM

COMPANY INFORMATION:

COMPANY NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

MAILING ADDRESS (if different): _____

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS(ES): _____

TYPE OF BUSINESS: _____
(Corporation, Partnership, Sole Proprietorship, Joint Venture, Other (explain))

STATE INCORPORATED OR REGISTERED TO DO BUSINESS: _____

DATE INCORPORATED OR REGISTERED TO DO BUSINESS: _____

NAMES OF COMPANY OFFICERS & TITLES:

<u>Name:</u>	<u>Title:</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

LICENSE NUMBERS (MUST BE IN RHODE ISLAND):

<u>Business/Trade:</u>	<u>License No.:</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____



BONDING/SURETY INFORMATION:

BONDING/SURETY COMPANY NAME: _____

BONDING/SURETY CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

MAILING ADDRESS (if different): _____

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

HOW LONG HAS BIDDER/CONTRACTOR BEEN A CUSTOMER (YEARS)?: _____

WILL BONDING BE READILY PROVIDED FOR THIS WORK (YES/NO)*: _____
(* Please provide and attach a letter from bonding company indicating their intent to provide the required bonds.)

WHAT ARE THE BONDING LIMITS OF THE BIDDER/CONTRACTOR?:

\$ _____
(Aggregate)

\$ _____
(Single)

WHAT IS THE TOTAL AMOUNT OF WORK THAT BIDDER/CONTRACTOR CURRENTLY HAS BONDED?: \$ _____

HAS THERE EVER BEEN ANY ACTION TAKEN AGAINST THE BOND OF THE BIDDER/CONTRACTOR (YES/NO, IF YES EXPLAIN)?: _____

HAS THE BIDDER/CONTRACTOR EVER FAILED TO COMPLETE ANY WORK (YES/NO, IF YES EXPLAIN)?: _____



FINANCIAL INFORMATION:

(Bidder/Contractor shall provide/attach a signed letter authorizing Owner to inquire about financial status & records.)

BANK NAME: _____

BANK CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

MAILING ADDRESS (if different): _____

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

HOW LONG HAS BIDDER/CONTRACTOR BEEN A CUSTOMER (YEARS)?: _____

WHAT ARE THE AVERAGE ACCOUNT BALANCES OF THE BIDDER/CONTRACTOR (IF NOT ACTUAL ACCOUNT BALANCES, NUMBER OF FIGURES)?: \$ _____

IF THE BIDDER/CONTRACTOR HAS A LINE OF CREDIT, WHAT IS THE LIMIT AND IS IT SECURED OR UNSECURED?: \$ _____

HAS THE BIDDER/CONTRACTOR HAD OVERDRAFTS OR RETURNED PAYMENTS (YES/NO, IF YES EXPLAIN)?: _____

BANK NAME: _____

BANK CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

MAILING ADDRESS (if different): _____

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

HOW LONG HAS BIDDER/CONTRACTOR BEEN A CUSTOMER (YEARS)?: _____

WHAT ARE THE AVERAGE ACCOUNT BALANCES OF THE BIDDER/CONTRACTOR (IF NOT ACTUAL ACCOUNT BALANCES, NUMBER OF FIGURES)?: \$ _____

IF THE BIDDER/CONTRACTOR HAS A LINE OF CREDIT, WHAT IS THE LIMIT AND IS IT SECURED OR UNSECURED?: \$ _____

HAS THE BIDDER/CONTRACTOR HAD OVERDRAFTS OR RETURNED PAYMENTS (YES/NO, IF YES EXPLAIN)?: _____



QUALIFICATIONS INFORMATION:

DESCRIBE/LIST QUALIFICATIONS AS REQUIRED PER THE INSTRUCTIONS TO BIDDERS, QUALIFICATIONS ARTICLE (AND PROVIDE SUPPORTING PROJECT REFERENCE INFORMATION ON THE PAGES AT THE END OF THIS SECTION): _____

DESCRIBE/LIST THE CATEGORIES/TYPES OF WORK THAT BIDDER/CONTRACTOR WILL PERFORM WITH ITS OWN LABOR FORCES AND EQUIPMENT: _____

WHAT IS THE TOTAL DOLLAR VALUE OF THE LARGEST SINGLE CONTRACT THAT BIDDER/CONTRACTOR HAS COMPLETED: \$ _____

WHAT IS THE TOTAL DOLLAR VALUE OF BIDDER/CONTRACTOR'S CURRENT WORK BACKLOG: \$ _____

HAS THE BIDDER/CONTRACTOR EVER FAILED TO COMPLETE ANY WORK (YES/NO, IF YES EXPLAIN AND ATTACH ADDITIONAL SHEETS AS NEEDED): _____



DOES THE BIDDER/CONTRACTOR HAVE ANY UNRESOLVED CLAIMS OR LAWSUITS PENDING AS A RESULT OF WORK IT PERFORMED (YES/NO, IF YES EXPLAIN AND ATTACH ADDITIONAL SHEETS AS NEEDED): _____

PROVIDE/ATTACH A LIST OF ALL MAJOR ITEMS OF EQUIPMENT THAT BIDDER/CONTRACTOR HAS AVAILABE FOR USE FOR THE WORK, INCLUDING THE AGE AND EXTENT OF OWNERSHIP IN EACH.

PROVIDE/ATTACH THE EXPERIENCE AND QUALIFICATIONS (E.G., RESUMES) OF BIDDER/CONTRACTOR'S KEY PERSONNEL FOR THIS WORK (CORPORATE OFFICERS OR PARTNERS, SUPERINTENDENT, FOREMEN, LABORERS, ETC.).

PROVIDE/ATTACH A LIST OF ALL CONTRACTS ENTERED INTO DURING THE PAST FIVE (5) YEARS (INCLUDING OTHER CURRENT/ONGOING WORK), INDICATING THE TYPE OF WORK AND VALUE OF THE CONTRACT.

ON THE FOLLOWING PAGES, PROVIDE PROJECT REFERENCE INFORMATION. PROJECT REFERENCES SHOULD INCLUDE WORK WITHIN THE PAST FIVE (5) YEARS OF A SIMILAR NATURE TO THIS CONTRACT TO MEET THE INTENT OF THE REQUIRED QUALIFICATIONS.



PROJECT REFERENCE:

PROJECT NAME: _____

PROJECT LOCATION: _____

PROJECTS DATES: FROM: _____ TO: _____

TOTAL DOLLAR VALUE OF PROJECT: \$ _____

DOLLAR VALUE OF BIDDER/CONTRACTOR'S WORK: \$ _____

OWNER NAME: _____

OWNER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

ENGINEER NAME: _____

ENGINEER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

DESCRIPTION OF THE PROJECT & WORK PERFORMED / COMMENTS / NOTES:



PROJECT REFERENCE:

PROJECT NAME: _____

PROJECT LOCATION: _____

PROJECTS DATES: FROM: _____ TO: _____

TOTAL DOLLAR VALUE OF PROJECT: \$ _____

DOLLAR VALUE OF BIDDER/CONTRACTOR'S WORK: \$ _____

OWNER NAME: _____

OWNER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

ENGINEER NAME: _____

ENGINEER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

DESCRIPTION OF THE PROJECT & WORK PERFORMED / COMMENTS / NOTES:



PROJECT REFERENCE:

PROJECT NAME: _____

PROJECT LOCATION: _____

PROJECTS DATES: FROM: _____ TO: _____

TOTAL DOLLAR VALUE OF PROJECT: \$ _____

DOLLAR VALUE OF BIDDER/CONTRACTOR'S WORK: \$ _____

OWNER NAME: _____

OWNER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

ENGINEER NAME: _____

ENGINEER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

DESCRIPTION OF THE PROJECT & WORK PERFORMED / COMMENTS / NOTES:



PROJECT REFERENCE:

PROJECT NAME: _____

PROJECT LOCATION: _____

PROJECTS DATES: FROM: _____ TO: _____

TOTAL DOLLAR VALUE OF PROJECT: \$ _____

DOLLAR VALUE OF BIDDER/CONTRACTOR'S WORK: \$ _____

OWNER NAME: _____

OWNER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

ENGINEER NAME: _____

ENGINEER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

DESCRIPTION OF THE PROJECT & WORK PERFORMED / COMMENTS / NOTES:



PROJECT REFERENCE:

PROJECT NAME: _____

PROJECT LOCATION: _____

PROJECTS DATES: FROM: _____ TO: _____

TOTAL DOLLAR VALUE OF PROJECT: \$ _____

DOLLAR VALUE OF BIDDER/CONTRACTOR'S WORK: \$ _____

OWNER NAME: _____

OWNER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

ENGINEER NAME: _____

ENGINEER CONTACT NAME: _____

STREET ADDRESS: _____
(Street Address, City/Town, State, and Zip Code)

TELEPHONE NO.: _____ FAX NO.: _____

EMAIL ADDRESS: _____

DESCRIPTION OF THE PROJECT & WORK PERFORMED / COMMENTS / NOTES:



CERTIFICATION:

The undersigned certifies that all information provided herein on the Bidder's Qualifications forms is complete, true, and accurate.

COMPANY NAME: _____

SIGNATURE: _____

NAME (typed or printed): _____

TITLE: _____

DATE: _____

Signed and sworn to before me on this _____ day of _____, 20_____.

(Notary Public)

My commission expires: _____



**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**SECTION 00 52 00
AGREEMENT**

Made and concluded this _____ day of _____, 20_____, by and between the City of Providence (acting through the Providence Water Supply Board), hereinafter called Owner or City, a municipal corporation created by the General Assembly of the State of Rhode Island, in the County of Providence, in said State, party of the first part; and [Contractor Name and Address] _____, hereinafter called Contractor, party of the second part, WITNESSETH, that the said party of the second part, in consideration of the promises and agreements herein mutually entered into, both for itself and for its Successors and Assigns, promise and agree to and with the said City that it, the said party of the second part, shall and will in a good and workmanlike manner, and to the satisfaction of the Executive Engineer of Providence Water, to be expressed in writing by said officer, at its own proper cost and expense, do and perform all the work, furnish all the materials which may be required, to wit Trinity Square Area Water Main Rehabilitation in accordance with the Contract Documents (as hereinafter defined), hereto annexed and made a part hereof, in an amount Not To Exceed _____, which will be received and payable in accordance with the Standard General Conditions of the Construction Contract of the Contract Documents, as amended and/or modified by the Supplementary Conditions of the Contract Documents. Retainage withheld from Applications for Payment shall be five (5) percent of all completed work.

That said party of the second part, its Successors and Assigns, shall and will hold said City harmless, saved and indemnified from and against all loss, cost, damage and expense on account of all mechanics' liens, and all other liens, arising out of the services performed under this Contract Agreement and also on account of any and all other lawful claims and demands for work done or materials furnished by subcontractors, subconsultants and suppliers to party of the second part under this Contract Agreement. And also, that all Work to be done under this Contract Agreement on the part of said party of the second part

shall be fully completed and performed by July 1, 2025, unless a subsequent time extension is granted. Any work taking place after the contract completion date will be subject to liquidated damages at a rate of \$2,000 for each day.

That said party of the second part, its Successors and Assigns, acknowledge, understand and agree to perform the obligations enumerated under this Contract Agreement, subject to the provisions of Section 1006(d) of the Providence Home Rule Charter of 1980, which provides that this Contract or any Purchase Order for payment on this Contract shall be void and of no effect and that the City shall be under no obligation hereunder unless there is compliance with Sections 813(b)(3) and 1007(c)(2) of said Charter. Said sections require that prior to entering into this Contract Agreement or delivering any Purchase Order, the Board of Contract and Supply and the City Controller, respectively, shall each have ascertained that there exists a sufficient unexpended and unencumbered balance in funds appropriated and allotted for the purpose to justify the cost thereof.

That said party of the second part, its Executors, Administrators, Successors and Assigns, further acknowledge, understand and agree that all City Contracts for purchase of materials, supplies, services, equipment and property, which include a cost per unit shall also include a maximum cost for the Contract, and such maximum cost shall be used by the Board of Contract and Supply and the City Controller for compliance with Sections 813(b)(3) and 1007(c)(2) of the Providence Home Rule Charter of 1980.

And said City, party of the first part, and said party of the second part will faithfully perform said Contract Agreement in all its parts, and satisfying said City that no liens or other claims for labor done or materials furnished in the aforesaid work exist, will pay therefore the aforesaid sum, to be in full satisfaction of all claims and demands therefore, and which sum will be paid in manner aforesaid.

And it is hereby mutually understood and agreed that no payment for extra work shall or will be claimed or made unless ordered in writing by the Board of Contract and Supply and said City of Providence (acting through the Providence Water Supply Board). The said party of the second part, by execution of the Contract Agreement, represents and warrants

to said City that (1) they have examined the Contract Documents thoroughly, including all the requirements specified in the Request For Proposals, Invitation to Bid and Instructions to Bidders; (2) they have had the opportunity to visit the Project site(s) to become familiar with local conditions that may in any manner affect cost, progress or performance of the Work; (3) they are familiar with all Federal, State and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; (4) they have studied and carefully correlated their observations with the requirements of the Contract Documents; (5) they have had the opportunity to make additional investigations and tests as they may deem necessary to determine their Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents; (6) no additional examinations, investigations, explorations, studies, or tests are needed; (7) the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work; (8) they provided written notice of any conflict, error, ambiguity, and/or discrepancy in the Contract Documents and that the written resolution issued by formal written Addenda is acceptable; and (9) they satisfied itself as to anticipated availability and cost of labor, materials, tools, and equipment. In arriving at their Bid Prices, the said party of the second part has, as an experienced and prudent manager and contractor, exercised its reasonable judgment and expertise to include the impact of all such circumstances upon their Bid Prices and the Contract Time. Claims for additional compensation or time, by said party of the second part, because of the failure of the said party of the second part to familiarize itself with conditions under which the Work is to be performed will not be allowed.

In addition to this Contract Agreement document, the additional Contract Documents which shall constitute this Contract Agreement shall include the following:

1. Exhibit I – Bidding/Contract Documents as listed in the *Project Manual for Trinity Square Area Water Main Rehabilitation*, dated May 2023, prepared by CDM Smith, including but not limited to: Request For Proposals, Invitation to Bid, Instructions to Bidders, General Conditions of the Construction Contract (EJCDC Document No. C-700), Supplementary Conditions, City of Providence Terms and Conditions, Rhode Island General Laws, EPA General Terms and Conditions, and all other Requirements and Specifications in the Project Manual; and all issued Addenda.

These documents are hereby incorporated into this Contract Agreement by reference; the cover page of the Project Manual is included herein as Exhibit I.

2. Exhibit II – Contractor’s Original Bid and Bid Forms.
3. Exhibit III – Contractor’s Certificate of Insurance.
4. Exhibit IV – Contractor’s Bonds.

Said additional documents shall be interpreted in the order of priority listed above. The most recently executed addendum shall have the greatest priority.

SAMPLE



IN WITNESS WHEREOF, the parties hereto have signed and executed this Contract Agreement, the City of Providence, by Brett P. Smiley, the Mayor thereof, hereunto duly authorized, at said Providence, Rhode Island, on the day and year first above written.

This Contract Agreement shall become effective on the day and year first above written (Effective Date of the Agreement).

SIGNED IN THE PRESENCE OF:

WITNESS TO MAYOR

CITY OF PROVIDENCE
MAYOR AND CHAIRMAN

WITNESS TO CONTRACTOR

CONTRACTOR SIGNATURE

CONTRACTOR NAME & ADDRESS

APPROVED AS TO FORM & CORRECTNESS: _____
PROVIDENCE WATER LEGAL COUNSEL

APPROVED AS TO FORM & CORRECTNESS: _____
CITY SOLICITOR

PERFORMANCE BOND

<p>Contractor</p> <p>Name: [Full formal name of Contractor]</p> <p>Address <i>(principal place of business)</i>: [Address of Contractor's principal place of business]</p>	<p>Surety</p> <p>Name: [Full formal name of Surety]</p> <p>Address <i>(principal place of business)</i>: [Address of Surety's principal place of business]</p>
<p>Owner</p> <p>Name: [Full formal name of Owner]</p> <p>Mailing address <i>(principal place of business)</i>: [Address of Owner's principal place of business]</p>	<p>Contract</p> <p>Description <i>(name and location)</i>: [Owner's project/contract name, and location of the project]</p> <p>Contract Price: [Amount from Contract]</p> <p>Effective Date of Contract: [Date from Contract]</p>
<p>Bond</p> <p>Bond Amount: [Amount]</p> <p>Date of Bond: [Date]</p> <p><i>(Date of Bond cannot be earlier than Effective Date of Contract)</i></p> <p>Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 16</p>	
<p>Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.</p>	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<p><i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i></p>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
 - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
 - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
 - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
 - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
 - 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
 - 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
 - 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
16. Modifications to this Bond are as follows: **[Describe modification or enter “None”]**

PAYMENT BOND

<p>Contractor</p> <p>Name: [Full formal name of Contractor]</p> <p>Address <i>(principal place of business)</i>: [Address of Contractor's principal place of business]</p>	<p>Surety</p> <p>Name: [Full formal name of Surety]</p> <p>Address <i>(principal place of business)</i>: [Address of Surety's principal place of business]</p>
<p>Owner</p> <p>Name: [Full formal name of Owner]</p> <p>Mailing address <i>(principal place of business)</i>: [Address of Owner's principal place of business]</p>	<p>Contract</p> <p>Description <i>(name and location)</i>: [Owner's project/contract name, and location of the project]</p> <p>Contract Price: [Amount, from Contract]</p> <p>Effective Date of Contract: [Date, from Contract]</p>
<p>Bond</p> <p>Bond Amount: [Amount]</p> <p>Date of Bond: [Date]</p> <p><i>(Date of Bond cannot be earlier than Effective Date of Contract)</i></p> <p>Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 18</p>	
<p>Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.</p>	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<p><i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i></p>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Contractor
 - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety

shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

16.1. *Claim*—A written statement by the Claimant including at a minimum:

16.1.1. The name of the Claimant;

16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;

- 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 - 16.1.4. A brief description of the labor, materials, or equipment furnished;
 - 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 - 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 - 16.1.7. The total amount of previous payments received by the Claimant; and
 - 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic’s lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of “labor, materials, or equipment” that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor’s subcontractors, and all other items for which a mechanic’s lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
18. Modifications to this Bond are as follows: **[Describe modification or enter “None”]**

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer

concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.

33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to

conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*:
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

- C. *Day*:
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*:
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide*:
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

- B. *Evidence of Contractor's Insurance:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner's Insurance:* After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations:*
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check

and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and

binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the

Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

- A. *Limitation on Use of Site and Other Areas:*
 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site,

adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
2. is of such a nature as to require a change in the Drawings or Specifications; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection

therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
 - 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study

of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents,

or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Possible Price and Times Adjustments:*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such

actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.

- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.

- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 - 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
 - 1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 - 2. claims for damages insured by reasonably available personal injury liability coverage.
 - 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
 - 1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 - 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 - 3. Broad form property damage coverage.

4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may

be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

- I. *General provisions:* The policies of insurance required by this Paragraph 6.03 shall:
 1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
6. extend to cover damage or loss to insured property while in transit.
7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
8. allow for the waiver of the insurer's subrogation rights, as set forth below.
9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.

10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and

damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and

- 3) be suited to the same use as that specified.
- b. will state:
- 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
- c. will identify:
- 1) all variations of the proposed substitute item from that specified, and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals

and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them

in the protection, removal, relocation, and replacement of their property or work in progress.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a

change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding

the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.

- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying,

disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any

Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.

2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
3. *Field Orders:* Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

- B. An adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or
 - 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 - 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

3. *Binding Decision*: Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
1. Appeals by Owner or Contractor of Engineer’s decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor’s knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
 3. Owner and Contractor shall each pay one-half of the mediator’s fees and costs.

- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

- E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.

- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
3. by manufacturers of equipment furnished under the Contract Documents;
4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective

Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

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

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and

accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due*: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;

2. correct such defective Work;
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be

construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 007300.16 - SUPPLEMENTARY CONDITIONS (NON-MA PROJECTS)
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SECTION 007300.16 - SUPPLEMENTARY CONDITIONS

PART 1 - AMENDMENTS TO GENERAL CONDITIONS

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

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

SC-1.01A.7.

Delete paragraph 1.01A.7. of the General Conditions in its entirety and replace with the following:

7. Bidding Requirements – The Advertisement or Request for Proposals, Invitation to Bid, Instructions to Bidders, Information Available to Bidders, Bid Security Form, if any, and the Bid Form with any supplements.

SC-1.01A.15.

Delete paragraph 1.01A.15. of the General Conditions in its entirety and replace with the following:

15. Contract Times – The number of days or dates stated in the Contract Document and in the Agreement to: (I) Achieve substantial completion; and (II) Complete the work so that it is ready for final payment as evidenced by Owner's or Owner's Designee's written recommendation of final payment.

SC-1.01A.20.

Delete paragraph 1.01A.20. of the General Conditions in its entirety and replace with the following:

20. Engineer – The individual or entity named as such elsewhere in the Contract Documents or as designated by the Owner. The Owner may act in the Engineer's capacity at its sole discretion if another individual or entity is not so named, in which case where the word Engineer is used the word Owner may be substituted at the Owner's sole discretion.

SC-1.01A.38.

Delete paragraph 1.01A.38. of the General Conditions in its entirety and replace with the following:

39. Specifications - Sections included under Division 01 through Division 15 of the Project Manual.

SC-1.01A.49.

Add the following new paragraph immediately after Paragraph 1.01.48 of the General Conditions which is to read as follows:

49. Cover Documents – City of Providence, Rhode Island documents found at the beginning of the Bidding Documents, which provide City of Providence terms and requirements for bidding and for the Contract. The title of these documents may include, but are not limited to “Board of Contract and Supply, City of Providence, Rhode Island, Request for Proposals”.

ARTICLE 2 - PRELIMINARY MATTERS

SC-2.01A.

Delete Paragraph 2.01A of the General Conditions in its entirety and replace it with the following:

A. Within ten (10) calendar days following the receipt of a Notice of Award, the Contractor shall deliver the required bonds to the Owner for preparation of the Contract Agreement by Owner.

SC-2.01B.

Add the following new sentence at the end of this paragraph:

The Contractor shall file the original and one certified copy of all policies with the Owner before exposure to loss may occur. If the Owner is damaged by failure of the Contractor to maintain such insurance and to so notify the Owner, then the Contractor shall bear all responsible costs properly attributable thereto.

SC-2.01C.

Delete Paragraph 2.01C of the General Conditions in its entirety.

SC-2.02A.

Delete "four" in the first line and replace with "six."

SC-2.03A.4.

Add the following new paragraph immediately after Paragraph 2.03A.3 of the General Conditions which is to read as follows:

4. Contractor shall prepare all schedules in a format approved by the Owner and compatible with the complexity of the project to adequately illustrate the relationship of major work activities. Minimum requirements will include a horizontal bar chart on a monthly time scale, with separate activities conforming to major divisions of the Specifications. Projected percentage completion of each activity and cumulative total of all activities should be shown for the first day of each month throughout the projected contract duration.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01E.

Add the following new paragraph immediately after Paragraph 3.01E. of the General Conditions which is to read as follows:

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

SC-3.03B.2.

Add the following new paragraph immediately after Paragraph 3.03.B.1.b of the General Conditions which is to read as follows:

2. In case of a discrepancy between requirements of the Cover Documents and requirements stated in other section of the Contract Documents, the requirements stated in the Cover Documents shall prevail.

SC-3.03C

Add the following new paragraph immediately after Paragraph 3.03.B.2 of the General Conditions which is to read as follows:

C. In case of conflict as to the type or quality of materials to be applied, the Contractor shall provide the best quality of materials, unless otherwise directed by the Owner.

ARTICLE 4 - COMMENCEMENT AND PROGRESS OF THE WORK

SC-4.01A.

Delete Paragraph 4.01A of the General Conditions in its entirety and replace with the following:

A. The Contract Time will commence to run as indicated in the Contract Documents. If not specifically stated in the Contract Documents, the Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed.

SC-4.03A.

Add the following new paragraph immediately after Paragraph 4.03A of the General Conditions which is to read as follows:

B. Engineer may check the lines, elevations, reference marks, batter boards, etc., set by Contractor, and Contractor shall correct any errors disclosed by such check. Such a check shall not be considered approval of Contractor's work and shall not relieve Contractor of the responsibility for accurate construction of the entire Work. Contractor shall furnish personnel to assist Engineer in checking lines and grades.

SC-4.04A.3

Add the following new paragraph immediately after Paragraph 4.04.A.2 of the General Conditions which is to read as follows:

3. Submit periodic updates as necessary to reflect any deviations of actual progress from the initial schedule.

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

SC-5.01A.

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

1. If all lands and rights-of-way are not obtained as herein contemplated before construction begins, Contractor shall begin the Work upon such land and rights-of-way as Owner has previously acquired.

SC-5.01.B

Delete Paragraph 5.01.B of the General Conditions in its entirety and relabel the subsequent Paragraph 5.01.C to 5.01.B.

SC-5.03.A

Delete the words “Supplementary Conditions” and replace them with the words “Bidding Documents, may, if applicable,”.

SC-5.03.B

Delete Paragraph 5.03.B of the General Conditions in its entirety and replace it with the following:

B. Limited Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the general accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data”, if any, will be specifically identified and defined in the Bidding Documents, if applicable. Except for such reliance on such “technical data”, Contractor may not rely upon or make any Claim against Owner, Engineer, or any of the Engineer’s Consultants with respect to:”

SC-5.03

Delete Paragraphs 5.03A and 5.03B in their entirety and insert the following:

A. No reports of explorations or tests of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

SC-5.04.D.1.d

Add the following new paragraph immediately after Paragraph 5.04.D.1.c of the General Conditions which is to read as follows:

d. the provisions of this paragraph are not in conflict with other provisions of the Contract Documents.

SC-5.06

Delete Paragraphs 5.06A and 5.06B in their entirety and insert the following:

A. No reports or drawings related to Hazardous Environmental Conditions at the Site, are known to Owner.

ARTICLE 6 - BONDS AND INSURANCE

SC-6.01A.

Add the following new sentences immediately following the first sentence of Paragraph 6.01A:

If the Contract is for a multiple year period, the Owner reserves the right to direct the Contractor to supply bonding for one-year periods, but such bonds must be renewed prior to expiration during the required period; it is the Contractor's responsibility to renew such bonds and provide proof of such renewal to the Owner without notice from the Owner. Failure to renew such bonds before expiration will result in termination of the Contract by the Owner and liquidated damages may apply.

SC-6.01B.

Add the following paragraph immediately after Paragraph 6.01B of the General Conditions:

Bonds shall be executed by a company licensed to do business in the State of Rhode Island. All out-of-state corporations must add the following language to the original bond: “[*Name of Incorporating State*] corporation, authorized to do business in the State of Rhode Island.” A private individual will not be accepted as a surety to provide the required bonds.

SC-6.02G

Add the following paragraphs immediately after Paragraph 6.02F of the General Conditions which are to read as follows:

G. The reference to the Contract Date on the bond must be left blank. This date will be filled in upon execution of the Contract by the Owner. The Contractor must submit all required Bonds to the Owners within 10 calendar days after notification of award of the Contract. If the required Bonds are not submitted to the Owner by the required date, the Owner may cancel the award of the Contract and award the Contract to another bidder. The original and one copy of the required Bonds must be submitted to Providence Water, 125 Dupont Drive, Providence, Rhode Island 02907 Attn: Purchasing Department.

Any costs incurred from obtaining the required Bonds shall be solely the responsibility of the Contractor and shall be included in the prices bid, unless a specific bid line item on the Bid Forms provides separately for them as an additional cost or allowance.

SC-6.02C

Add the following paragraphs immediately after Paragraph 6.02C of the General Conditions which are to read as follows:

Contractor shall provide evidence of its insurance coverage on the ACORD certificate of insurance form and shall include the following statement in its entirety in the section of the form entitled “Description of Operations/Locations/Vehicles/Special Items”.

The City of Providence, Rhode Island, Providence Water, and CDM Smith Inc., and their officers, agents, directors, partners, employees and other consultants and subcontractors are named as additional insureds with respect to the insured's Commercial General Liability, Automobile Liability and Pollution Liability Insurance Policies. All insurers waive all rights of subrogation against the City of Providence, Rhode Island, Providence Water, and CDM Smith Inc., their officers, agents, directors, partners, employees and other consultants and subcontractors. All insurance is primary for all claims covered thereby. Commercial General Liability Insurance includes contractual liability coverage.

The insured name must be the same name as the name on the Bid submitted.

Insurance Certificates must state the title of the Project to be performed.

Cancellation and/or reduction in coverage must provide 30 days written notice.

The Successful Bidder must produce satisfactory Certificates of Insurance within 10 days following a Notice of Award. The Contract shall not be executed and no work shall begin unless all these requirements are satisfied. Failure to do so may result in the cancellation of an award and award to another bidder.

The insurance coverages specified shall be carried until all the Work required to be completed per the Contract Documents and Contract are satisfactorily completed by the Contractor and for a period of at least two years after the date when final payment becomes due. Failure to carry or keep such insurance in force shall constitute a violation of the Contract, and Owner maintains the right to stop work and/or withhold payment until proper evidence of insurance is provided.

The insurance shall provide for 30 days prior written notice to be given to Owner in the event coverage is substantially changed, canceled or not renewed.

In no case shall the coverage limits for Commercial General Liability, Automobile Liability, or Professional Liability Insurance stated above be less than the total Contract amount. If the total Contract amount exceeds any stated limit, the limit shall be adjusted to the satisfaction of the Owner to the next highest \$1,000,000 exceeding the total Contract amount.

Owner maintains the right to modify, delete, alter or change these requirements.

The Successful Bidder understands and agrees that any insurance protection furnished by the Contractor hereunder shall in no way limit its responsibility to indemnify and save harmless Owner, CDM Smith, and their officers, agents, directors, partners, employees and other consultants and subcontractors.

For additional information, contact the Purchasing Department of Providence Water at (401) 521-6300 Ext. 7227.

SC-6.02.D

Delete paragraph 6.02D of the General Conditions in its entirety and replace with the following which is to read as follows:

D. The Contractor shall send the original and one copy of all Certificates of Insurance required by Contract Documents to Providence Water, 125 Dupont Drive, Providence, Rhode Island 02907 Attn: Purchasing Department. These Certificates shall be furnished to the Owner within 10 days of a Notice of Award of the Contract and will be attached to the final executed copies of the Contract. The Certificates

must be completely filled out listing all insurance companies, evidence of the coverages and limits set forth by the Contract Documents, and additional insureds. The Certificates shall be on standard insurance Accord Forms.

SC-6.02.E.

Add the following new paragraph immediately after new Paragraph 6.02.D of the General Conditions which is to read as follows and reletter all following paragraphs:

E. The Owner shall be notified immediately by the Contractor and the insurance company of their termination or cancellation of the policy or coverages, and the protection shall be renewed before further work will be permitted at the site(s) of the Contract. The Contractor shall not cause any policy or coverage to be canceled or permit them to lapse or be subject to cancellation or a reduction in the required limits of liability or amounts of insurance. Copies of any endorsements that are subsequently issued amending coverages or limits shall immediately be furnished to the Owner.

SC-6.03.A

Insert the words “from a company or companies licensed to do business in the State in which the Project is located” immediately following the word “insurance” in the second line.

SC-6.03

Add the following new paragraph immediately after Paragraph 6.03.J of the General Conditions:

K. Additional Insureds: The City of Providence, Rhode Island, Providence Water, and CDM Smith, and their officers, agents, directors, partners, employees and other consultants and subcontractors are named as additional insureds. All insurers waive all rights of subrogation against the City of Providence, Rhode Island, Providence Water, and CDM Smith, their officers, agents, directors, partners, employees and other consultants and subcontractors. All insurance is primary for all claims covered thereby. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

1. 6.03.A Workers' Compensation and related coverages

(1) Worker's Compensation Statutory

(2) Employer's Liability	\$500,000	Each Occurrence
	\$500,000	Disease per employee

2. 6.03B. and 6.03C. Commercial General Liability including Premise/Operations; Explosion, Collapse and Underground Property Damage; Products/Completed Operations, Contractual, Independent Contractors; Property Damage; and Personal Injury liabilities:

(1) Bodily Injury:	\$1,000,000	Each Occurrence
		\$2,000,000 Annual Aggregate

(2) Property Damage:	\$1,000,000	Each Occurrence
		\$2,000,000 Annual Aggregate

(3) Personal Injury:	\$1,000,000	Annual Aggregate
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3. 6.03D. Comprehensive Automobile Liability including all owned (private and others), hired and non owned vehicles:

- | | | | |
|---|-------------|----------------------------|-----------------|
| (1) Bodily Injury | \$1,000,000 | Each Person
\$1,000,000 | Each Accident |
| (2) Property Damage: Each accident
or Combined Single Limit of | | \$1,000,000 | Each Occurrence |

4. 6.03E Umbrella or Excess Liability:
Per Occurrence \$5,000,000

General Aggregate \$5,000,000

5. 6.03F Contractor's Pollution Liability:
- | | |
|-------------------|-------------|
| Each Occurrence | \$2,000,000 |
| General Aggregate | \$2,000,000 |

If box is checked, Contractor is required to provide Contractor's Pollution Liability insurance under this Contract.

6. 6.03H Contractor's Professional Liability. When any architects, engineers and/or consulting firms perform work for the Contractor in connection with the Contract, the Contractor shall maintain Professional Liability Insurance with limits as follows:

- | | |
|------------------|-------------|
| Each Claim | \$2,000,000 |
| Annual Aggregate | \$2,000,000 |

If box is checked, Contractor is required to provide Contractor's Professional Liability insurance under this Contract.

7. Owner's Liability Insurance: Here list additional types and amounts of insurance that may be required by Owner.

SC 6.04A.

Delete Paragraph 6.04A. of the General Conditions in its entirety and replace with the following:

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

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

SC-6.04B

Delete Paragraph 6.04B of the General Conditions in its entirety and replace with the following:

B. All policies required by this Paragraph 6.04 shall contain provisions to the effect that the insurer(s) waive all rights of subrogation against the Owner, Engineer and their officers, directors, partners, employees and other consultants and subcontractors of each and any of them.

SC 6.05 Property Insurance

Delete Paragraph 6.05 of the General Conditions in its entirety.

SC-6.08

Add the following new paragraph immediately after Paragraph 6.07 of the General Conditions which is to read as follows:

6.08 *Other Data*

A. In the event the form of any policy or certificate for the amounts of insurance or the companies writing same are not satisfactory to the Owner, the Contractor shall secure other policies or certificates in form and amount and with companies satisfactory to the Owner. The Contractor shall not cause policies to be canceled or permit them to lapse and all insurance policies shall include a clause to the effect that the policy shall not be subject to cancellation or a reduction in the required limits of liability or amounts of insurance until notice has been sent by registered mail to the Owner, stating when, not less than thirty (30) days thereafter, such cancellation or insurance shall take effect. Such notice shall contain true transcripts from the policy, authenticated by the proper officer of the insurer evidencing in particular those insured, the extent of the insurance, the location and operations to which the insurance applies, the expiration date, and the above mentioned notice of cancellation clause. All policies and certificates by the accepted Successful Bidder shall be delivered to the Owner immediately before preparation of the Contract.

ARTICLE 7 - CONTRACTOR'S RESPONSIBILITIES

SC-7.01.C

Add the following new paragraph immediately after Paragraph 7.01.B of the General Conditions which is to read as follows:

C. Prior to work on the project commencing, the Contractor shall provide the Owner with the name and qualifications of its resident superintendent for the work. The superintendent shall be permanently assigned to this project and shall be present at all times during the performance of the work. Any proposed replacement superintendent will be subject to the approval of the Owner. The Contractor shall provide the Owner with the qualifications of any superintendent for review.

SC-7.02.B

Delete Paragraph 7.02.B of the General Conditions in its entirety and replace it with the following:

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during the Owner's regular working hours, and Contractor will not permit overtime work or performance of Work on Saturday, Sunday, or any holiday observed by the Owner without Owner's

written consent (which will not be unreasonably withheld) given after prior written notice to Engineer. Requests to work other than regular working hours shall be submitted to Engineer not less than 48 hours prior to any proposed weekend work or scheduled extended work weeks. Occasional unscheduled overtime on weekdays may be permitted provided two hours' notice is given to Engineer.

SC-7.02.C

Add the following new paragraph immediately after Paragraph 7.02B. of the General Conditions which is to read as follows:

C. Contractor shall reimburse the Owner for additional engineering and/or inspection costs incurred as a result of overtime work in excess of the regular working hours stipulated in Paragraph SC 7.02B. At Owner's option, overtime costs may either be deducted from the Contractor's monthly payment request or deducted from the Contractor's retention prior to release of final payment. Overtime costs for the Owner's personnel shall be based on the individual's current overtime wage rate. Overtime costs for personnel employed by the Engineer or Owner's independent testing laboratory shall be calculated in accordance with the terms of their respective contracts with the Owner.

SC-7.02D.

Add the following new paragraphs immediately after Paragraph 7.02C. of the General Conditions which are to read as follows:

D. This Agreement is subject to the applicable provisions of the Contract Work Hours and Safety Standards Act, Public Law 87 581, 87th Congress. No Contractor or Subcontractor contracting for any part of the Work shall require or permit any laborer or mechanic to be employed on the Work in excess of forty hours in any work week unless such laborer or mechanic receives compensation at a rate not less than one and one half times that person's basic rate of pay for all hours worked in excess of forty hours in such work week.

E. Contractor shall employ only competent persons to do the work and whenever Owner shall notify Contractor, in writing, that any person on the Work appears to be incompetent, disorderly, or otherwise unsatisfactory, such person shall be removed from the Project and shall not again be employed on it except with the consent of Owner.

F. Contractor and Subcontractors shall, insofar as practicable, give preference in the hiring of workers for the Project to qualified local residents with first preference being given to citizens of the United States who have served in the armed forces of the United States and have been honorably discharged therefrom or released from active duty therein.

G. Contractor and all Subcontractors shall pay to all laborers and mechanics employed for the construction covered by this Contract the minimum rates of pay as determined by the Secretary of Labor in accordance with the Act of March 3, 1931, as amended, known as the Davis Bacon Act (40 U.S.C. 276a through 276a 7). Furthermore, Contractor and Subcontractors shall adhere to the stipulations and provisions published by the Secretary of Health, Education, and Welfare in "Labor Standards (Federal Water Pollution Control Act)." The Wage Rate Schedule as prepared by the Secretary of Labor and the "Labor Standards" are part of this Contract and are included in PART II of these Supplementary Conditions.

H. Except as may be otherwise required by law, all claims and disputes pertaining to the classification of labor employed on the project under this Contract shall be decided by the governing body having jurisdiction.

I. Contractor and all Subcontractors shall comply with the Regulations of the Secretary of Labor made pursuant to the Anti-Kickback Act of June 30, 1940 (40 U.S.C. 276c) and all amendments or modifications thereto. Contractor and all Subcontractors shall furnish Owner with weekly Statements of Compliance. In case of Subcontracts, Contractor shall cause appropriate provision to be inserted in all subcontracts for the Work which Contractor may let to ensure compliance with said Anti-Kickback Act by all Subcontractors subject thereto, and Contractor shall be responsible for the submission of all Statements of Compliance required of Subcontractors by said Anti-Kickback Act except as the Secretary of Labor may specifically provide for reasonable limitations, variations, and exemptions from the requirements thereof. These regulations are part of this Contract and are included in PART II of these Supplementary Conditions.

SC-7.03.B.

Add the following new sentences at the end of this paragraph:

All equipment incorporated into the Work shall bear the manufacturer's original identification numbers and nameplates. Manufacturer's identification numbers and nameplates shall not be removed from equipment, and shall be protected from damage during installation and during performance of any Work.

7.03.D.

Add the following new paragraph immediately after Paragraph 7.03.C of the General Conditions which is to read as follows:

D. Omissions of items from the Drawings and Specifications that are obviously needed to properly perform the Work, such as attachments, bolts, hangers, and other fastening devices, shall not relieve the Contractor from furnishing and installing same to properly perform the required Work. It shall be the Contractor's responsibility to obtain from Engineer all necessary interpretations of the designs, Drawings, and Specifications.

SC-7.07B

Delete Paragraph 7.07B of the General Conditions in its entirety.

SC-7.08.B.

Add the following new paragraph immediately after Paragraph 7.08.A of the General Conditions which is to read as follows:

B. The Contractor shall make himself aware of all laws applicable to the Work pertaining to the licensing of specific trades and securing of related permits. The Contractor shall be solely responsible to assure that he and all his proposed Subcontractors are in compliance with such laws at the time of submission of Contractor's Bid. The Contractor shall submit to the Owner any documentation necessary or required to verify such compliance.

SC-7.09.A

Add the following new paragraph immediately after Paragraph 7.09.A of the General Conditions which is to read as follows:

B. This Project is exempt from sales tax on products permanently incorporated into the Work. Sales tax exemption certificate shall be available from the Owner. Contractor shall attach the tax exemption certificate to invoices for materials incorporated in the Work. Upon completion of the Work, Contractor Shall file with Owner a notarized statement that all purchases were entitled to be exempt. Contractor shall pay legally assessed penalties, including any unpaid sales taxes, for improper use of Owner's tax exemption status.

SC-7.10.D

Add the following new paragraph immediately after Paragraph 7.10.C of the General Conditions which is to read as follows:

D. During execution of the Work, the Contractor and each of his Subcontractors and any firms with employees performing portions of the Work under these Contract Documents agree not to discriminate against any employee or applicant for employment because of race, color, religion, age, sex, or national origin. The Contractor shall ensure that applicants are employed, and that employees are treated during employment without regard to race, color, religion, age, sex, or national origin. This includes, but is not limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruiting advertisement, lay-off or termination, rate of pay or other form of compensation, and selection for training, including apprenticeship.

SC-7.11.A

Add the following new sentence at the end of this paragraph:

Should the Owner find that the Contractor is not satisfying the requirements of this paragraph, the Owner may withhold all or portions of progress payments until these requirements are complied with by the Contractor to the satisfaction of the Owner.

SC-7.15.A

Delete the last sentence in Paragraph 7.15A. of the General Conditions in its entirety and replace with the following:

If Engineer determines that the incident giving rise to the emergency action was not the responsibility of the Contractor and that a change in the Contract Document is required because of the action taken by the Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

SC-7.16D.1.

Add the following new sentence at the end of paragraph 7.16.D.1 of the General Conditions to read as follows:

Approval of Shop Drawings for equipment requiring Efficiency Guarantee Bonds will be withheld until the receipt of such Bonds.

SC-7.17A.

Add the following new paragraph immediately after Paragraph 7.17A. of the General Conditions which is to read as follow:

B. The Contractor guarantees that the Work and Services to be performed under the Contract, and all workmanship, materials and equipment performed, furnished, used or installed in the construction of the same shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Drawings, Specifications, and other Contract Documents, that the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year from and after the date of substantial completion. If part of the Work is accepted in accordance with Paragraph 15.04 of the General Conditions, the guarantee for that part of the Work shall be for a period of one year from the date fixed for such acceptance.

1. If at any time within the said period of guarantee any part of the Work requires repairing, correction or replacement, the Owner may notify the Contractor in writing to make the required repairs, correction or replacements. If the Contractor neglects to commence making such repairs, corrections or replacements to the satisfaction of the Owner within seven (7) days from the date of receipt of such notice, or having commenced fails to prosecute such Work with diligence, the Owner may employ other persons to make said repairs, correction or replacements, and charge the costs, including compensation for additional professional services, to the Contractor.

2. The Contractor's guarantee under Paragraph 7.17A and 7.17B, is in addition to the Contractor's express or implied warranties under this Contract and State law and in no way diminish any other rights that the Owner may have against the Contractor.

SC-7.17B, C, and D

Renumber Paragraphs 7.17B., 7.17C and 7.17D. of the General Conditions to read 7.17C., 7.17D. and 7.17E.

SC-7.17E.

Add the following new paragraph immediately after Paragraph 7.17E. of the General Conditions which is to read as follows:

F. Manufacturer's Guaranty/Warranty

1. The Contractor shall obtain the following guaranty/warranty from the manufacturer of all major pieces of equipment furnished and installed on this Project. Such guaranty/warranty shall be for the benefit of Owner and be furnished in writing by the manufacturer. The Contractor's and manufacturer's obligations under this provision are in addition to other express or implied warranties under the Contract Documents and under the law and in no way diminish any other right that the Owner may have against the Contractor or manufacturer for faulty material, equipment or work. The warranty period shall not be interpreted as a limitation on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.

2. The manufacturer warrants and guarantees for a period of one year from the date of Substantial Completion, or such longer period that may be specified in the Contract Documents, that all materials and equipment furnished and installed shall be free from flaws, defects in material and workmanship and shall be in conformance with the Contract Documents.

SC-7.18A.

Delete Paragraph 7.18A of the General Conditions in its entirety and replace with the following:

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall defend, indemnify and hold harmless Owner, Engineer and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages (including but not limited to all reasonable fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost or loss or damage:

1. is attributable to bodily injury, sickness, disease or death or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and
2. is caused in whole or in part by any act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such indemnified party unless caused by the sole negligence of a party indemnified hereunder. If through the omissions or acts of neglect on the part of Contractor, any other contractor or any Subcontractor shall suffer loss or damage on the Work, Contractor shall settle with such other contractor or Subcontractor by agreement or arbitration if such other contractor or Subcontractor will so settle. If such other contractor or Subcontractor shall assert any claim against Owner and/or Engineer, or the officers, directors, members, partners, employees, agents, consultants and subcontractors of each on account of any damage alleged to have been sustained, Owner shall notify Contractor, who shall defend, indemnify and save harmless Owner, Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each against any such claims.

SC-7.18.D

Add the following new paragraph immediately after Paragraph 7.18.C.2 of the General Conditions which is to read as follows:

D. The indemnification obligations of the Contractor under paragraph 7.18.A shall include defending all those indemnified, including, but not limited to, payment of all professional court, mediation, arbitration and attorney costs which may be incurred as a result of such defense.

ARTICLE 8. OTHER WORK AT THE SITE

SC-8.02 A

Delete the words “Supplementary Conditions” in the fourth line and replace them with the words “Contract Documents”.

SC-8.02.B

Delete the words “Supplementary Conditions” and replace them with the words “Contract Documents”.

SC-8.03A

Delete paragraph 8.03 A of the General Conditions in its entirety and replace with the following.

A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall not institute any action, legal or equitable, against Owner, Engineer, Engineer's Consultants or the Construction Coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, Engineer's Consultants or the Construction Coordinator on account of any such damage or claim. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, Engineer, Engineer's Consultants and Construction Coordinator for any delay, disruption, interference or hindrance caused by any separate contractor. This paragraph does not prevent recovery from Owner, Engineer, Engineer's Consultant or Construction Coordinator for activities that are their respective responsibilities.

SC-8.03D.

Delete Paragraph 8.03D of the General Conditions in its entirety and replace with the following.

D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, Engineer's Consultants, the Construction Coordinator or any person then Contractor shall promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, Contractor shall, to the fullest extent permitted by Laws and Regulations defend, indemnify and hold Owner, Engineer, Engineer's Consultants and the Construction Coordinator harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals, and court and arbitration or mediation costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against Owner, Engineer, Engineer's Consultants or the Construction Coordinator to the extent based on a claim arising out of Contractor's performance of the Work.

E. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor, and Owner and Contractor are unable to agree as the adjustment in Contract Time attributable thereto, Contractor may make a Claim for an extension of time in accordance with Article 11. An extension of the Contract Time shall be Contractor's sole and exclusive remedy with respect to Owner, Engineer, Engineer's Consultants, and construction coordinator for any delay, disruption, interference, or hindrance caused by any separate contractor.

ARTICLE 9. OWNER'S RESPONSIBILITIES

SC-9.01

Delete Paragraph 9.01 of the General Conditions in its entirety.

SC-9.02.A

Delete Paragraph 902.A of the General Conditions in its entirety and replace it with the following:

A. In case of termination of employment of the Engineer, the Owner may, at his option, appoint another Engineer or the Owner may assume the responsibilities and authority of the Engineer defined in the Contract Documents.

SC-9.04

Delete the words "Pay When Due" in the title of this paragraph and replace them with the word "Payment".

SC-9.06

Delete Paragraph 9.06 of the General Conditions in its entirety.

SC-9.08.A

Delete Paragraph 9.08.A of the General Conditions in its entirety and replace it with the following:

A. OWNER'S responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 14.02.B and as may be supplemented by the General Requirements.

SC-9.11

Delete Paragraph 9.11 of the general conditions in its entirety.

ARTICLE 10 - ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.01A.

Delete Paragraph 10.01.A of the General Conditions in its entirety and replace it with the following:

A. OWNER will designate its representative for the Project.

SC-10.01B

Add the following new paragraph immediately after Paragraph 10.01.A of the General Conditions which is to read as follows:

B. The Owner may act in the Engineer's capacity during construction if a representative is not named. In such cases, where the word "Engineer" is stated in this document and the Contract Documents, the word "Owner" may be substituted at the Owner's sole discretion and the Owner may assume the designated responsibilities and authority of the Engineer.

SC-10.02.A

Insert the words “and Owner” immediately after the word “Engineer” in the first sentence on the third line.

SC-10.03A

Delete Paragraph 10.03.A of the General Conditions in its entirety and replace it with the following:

A. The Owner may furnish or name a Resident Project Representative to assist the Owner and Engineer in providing more extensive observation of the Work. This Resident Project Representative may be a consultant, agent or employee of the Engineer or of the Owner. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in Paragraph 9.10 and elsewhere in the General and Supplementary Conditions, whether provided by the Owner or Engineer.

SC-10.05A

Insert the words “and any applicable requirements of the General Requirements” after the words “paragraph 7.16”.

SC-10.05C

Insert the words “and any applicable requirements of the General Requirements” after the words “Article 11”.

SC-10.05D

Insert the words “and any applicable requirements of the General Requirements” after the words “Articles 15”.

SC-10.06A

Delete Paragraph 10.06.A of the General Conditions in its entirety and replace it with the following:

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Owner and Contractor the Engineer’s preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer’s written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Contractor, subject to the provisions of paragraph 13.03.

SC-10.07B

Add the following Paragraph 10.07.B immediately after Paragraph 10.07.A of the General Conditions:

B. The rendering of a decision by Engineer pursuant to this Paragraph 10.07 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 15.06) will be a condition precedent to any exercise by Contractor of such rights or remedies as Contractor may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

ARTICLE 13 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-13.01B.1.

Delete the second sentence in paragraph 13.01B.1. of the General Conditions in its entirety and replace with the following:

Such employees shall include foremen at the site.

SC-13.01B.1.

Add the following new paragraph immediately after paragraph 13.01B.1. of the General Conditions which is to read as follows:

a. Following award and prior to execution of a construction contract Contractor shall establish, in the Agreement, the Direct Labor Cost percentage. This percentage, where approved by Owner, will be used in the determination of the Direct Labor Cost listed in the Change Order Form included in PART II of the Supplementary Conditions. The Direct Labor Costs are defined to include social security contributions, unemployment, excise and payroll taxes, workers' and workmen's compensation, health and retirement benefits, sick leave, vacation and holiday pay, and cost of premiums for all additional insurance required because of changes in the Work.

SC-13.02.

Delete Paragraph 13.02 of the General Conditions in its entirety.

SC-13.03E.

Delete Paragraph 13.03E. of the General Conditions in its entirety and replace with the following:

E. The unit price of an item of Unit Price Work shall be subject to re-evaluation and adjustment under the following conditions:

1. if the total cost of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 15 percent from the estimated quantity of such item indicated in the Agreement; and
2. if there is no corresponding adjustment with respect to any other item of Work; and
3. if Contractor believes that Contractor has incurred additional expense as a result thereof; or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a claim for an adjustment in the Unit Price for that quantity by which the actual quantity exceeds 115% of the estimated quantity in accordance with Article 12 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

ARTICLE 14 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

SC-14.06A.

Add the following new paragraph immediately after Paragraph 14.06A. of the General Conditions to read as follows:

B. If Owner stops Work under Paragraph 14.06A. Contractor shall not be entitled to any extension of Contract Time or increase in Contract Price.

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

SC-15.01B.1.

In the first sentence of paragraph 15.01.B.1 of the General Conditions delete the number "20" and replace with the number "10".

SC-15.01.B.2

Add the following new sentences at the end of this paragraph:

To support this statement, if requested by the Owner, the Contractor shall also provide with each Application for Payment releases of liens from all Subcontractors and Suppliers of materials and equipment for the Work, documenting payments made to them by the Contractor for items invoiced by the Contractor on previous payment applications and for which Contractor has received compensation from the Owner.

SC-15.01B.4

Add the following three new paragraphs immediately after paragraph 15.01B.3 of the General Conditions which are to read as follows:

4. With each Application for Payment, the CONTRACTOR shall submit certified payrolls for all his employees that performed work on the project for the payment application period and for all Subcontractors' employees to demonstrate compliance with Rhode Island General Laws Chapter 37-13-1 through 37-13-7 and State of Rhode Island Department of Labor prevailing wage requirements. Certified payrolls shall be prepared and submitted on the "Statement of Compliance" forms as prescribed and in accordance with the State of Rhode Island Department of Labor.

5. The form used for preparation and submission of Applications for Payments shall be AIA Form G702 and G703, which shall be provided by the Contractor, unless another form is approved by the Owner prior to the submission of the first Application for Payment.

6. Applications for Payments shall be submitted monthly by Contractor.

SC-15.01.C.1

Delete the words "within 10 days" from the first sentence.

SC-15.01D

Delete Paragraph 15.01.D of the General Conditions in its entirety.

SC-15.01.E.1.m

Add the following new paragraph immediately after Paragraph 15.01.E.1.d of the General Conditions which is to read as follows:

m. Invoices submitted by Contractor for work exceeds 90 days, following completion of said work. Time is of the essence for Contractor to promptly submit invoices to Owner for review and processing and Owner reserves the right to withhold or refuse payment for invoices for work completed over 90 days prior.

SC-15.01.E.2

Delete the word “promptly” from both the first and second sentences.

SC-15.01.E.3

Delete Paragraph 15.01.E.3 of the General Conditions in its entirety.

SC-15.01.F

Add the following new paragraph immediately after Paragraph 15.01.E.2 of the General Conditions which is to read as follows:

F. The Owner will accept Applications for Payment on account of this Contract as provided herein as follows:

1. For Contracts with a total value of less than \$500,00.00; on or about the 15th of each month 90 percent of the total value, based on Contract Prices, of labor and materials incorporated in the Work and of materials suitably stored at the Site thereof or at some other location agreed upon in writing by the parties up to the first day of that month, less the aggregate of previous payments, and upon Substantial Completion of the entire Work, Owner will consider approving a sum sufficient to increase the total payments to 95 percent of the Contract amount paid. Additional retainage may be required depending upon State of Rhode Island laws and regulations. Any additional retainage, however, shall be in addition to the initial amount of retainage specified to be retained in the Contract Documents.

2. For Contracts with a total value of \$500,000.00 or greater; on or about the 15th of each month 95 percent of the value, based on the Contract Prices, of labor and materials incorporated in the Work and of materials suitably stored at the Site thereof or at some other location agreed upon in writing by the parties up to the first day of that month, less the aggregate of previous payments. Additional retainage may be required depending upon State of Rhode Island laws and regulations. Any additional retainage, however, shall be in addition to the initial amount of retainage specified to be retained in the Contract Documents.

3. In the event that the total Contract value increases or decreases due to changes in the scope of work and adjustments made in accordance with Article 10 of the General Conditions, as modified by these Supplementary Conditions, the amount retained shall be adjusted in accordance with the provisions of Paragraphs 15.01.E.1 and 15.01.E.2 of these Supplementary Conditions.

4. In lieu of the retainage provisions of Paragraphs 15.01.E.1 through 15.01.E.3 of these Supplementary Conditions, the Owner reserves the right to retain 10% of each Application for Payment. At the Owner’s discretion, retainage held from prior Applications for Payment may be released in the current Application for Payment.

SC-15.02B

Add the following new paragraphs immediately after Paragraph 15.02A of the General Conditions which are to read as follows:

B. The Contractor shall immediately satisfy any Lien or encumbrance which, because of any act or default of the Contractor, is filed against the premises of the project, and shall indemnify and save the Owner harmless against all resulting loss and expense, including attorney's fees. In addition, monies due under this Contract, as may be considered necessary by the Owner, may be retained by the Owner until all such suits, claims for damages, or expense, etc. shall have been settled and paid.

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

D. Contractor shall defend, indemnify and save Owner and Engineer harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. Contractor shall at Owner's request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If Contractor fails to do so, then Owner may, after having served written notice on the said Contractor either pay unpaid bills, of which Owner has written notice, direct, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to Contractor shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon Owner to either Contractor or Contractor's Surety. In paying any unpaid bills of the Contractor, Owner shall be deemed the agent of Contractor and any payment so made by Owner shall be considered as payment made under the Contract by Owner to Contractor and Owner shall not be liable to Contractor for any such payment made in good faith.

SC-15.03.F

Delete Paragraph 15.03.F of the General Conditions in its entirety.

SC-15.05.B

Add the following new paragraph immediately after Paragraph 15.05.A of the General Conditions which is to read as follows:

B. Upon completion of the Work, the Contractor shall deliver to the Owner all required certificates of testing and inspection.

SC-15.06.A.4

Add the following new paragraph immediately after Paragraph 15.06.A.3 of the General Conditions which is to read as follows:

4. Prior to preparation of the punch list by the Engineer, the Contractor and his Subcontractors shall submit their respective certificates of contract document compliance with Contractor's written notice that the Work is complete. After Final Completion, including completion of all punch list items, the Owner will consider processing of the final Application for Payment only after receipt of: 1) warranties and guaranties; 2) operations and maintenance manuals; 3) record (as-built) drawings; 4) Contractor's affidavits; 5) consent of surety; 6) extra materials and samples required for Owner; 7) lien waivers and releases; and 8) occupancy permit, if required. Completion of the Project shall be construed to include accomplishment and acceptance of punch list items.

SC-15.06.B.1

Delete paragraph 15.06B.1. of the General Conditions in its entirety and replace with the following:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation all as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will indicate in writing Engineer's recommendation of payment and present the Application to Owner for payment. Thereupon Engineer will give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of paragraph 15.07. Otherwise, Engineer will return the Application to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application. If the Application and accompanying documentation are appropriate as to form and substance, Owner shall in accordance with the applicable laws and regulations, pay Contractor the amount recommended by Engineer.

SC-15.06.D

Delete the word "Thirty" and replace it with "Ninety".

SC-15.06D

Add the following new paragraph immediately after Paragraph 15.06D. of the General Conditions which is to read as follows:

E. Final payment will be reduced by the amount of excessive costs of plant inspection of pipe. Excessive costs are defined as the inspection costs incurred by Owner for that amount of pipe which exceeds 125 percent of the aggregate length of each type installed.

ARTICLE 16 - SUSPENSION OF WORK AND TERMINATION

SC-16.02A.4.

Add the following new paragraph immediately after paragraph 16.02.A.4 of the General Conditions which is to read as follows:

5. If Contractor abandons the Work, or sublets this Contract or any part thereof, without the previous written consent of Owner, or if the Contract or any claim thereunder shall be assigned by Contractor otherwise than as herein specified.

SC-16.04

Delete Paragraph 16.04 of the General Conditions in its entirety.

ARTICLE 17 - FINAL RESOLUTION OF DISPUTES

SC-17.01

Delete Paragraph 17.01 of the General Conditions in its entirety and replace it with the following:

17.01 Conditions

A. As a precondition to the implementation of action under this Article 17, the claim, when applicable, must be made and a decision rendered in accordance with the provisions of Paragraphs 10.07 and 12.01 as they apply to each party under the Contract Documents.

B. By entering into the Contract, the Owner and Contractor agree that time is of the essence in resolving any disputes and that failure to make any claim for damages or delays in accordance with the requirements and time constraints set forth in the Contract Documents shall nullify the claim and the claimant shall waive his rights to further action provided by the Contract or laws and waive its right to litigate the claim.

C. The location of all meetings for negotiations and mediation shall be the Owner's offices, with the actual physical location to be determined by the Owner.

D. It is understood and accepted by all parties that any agreement reached as a result of this Article resolving a dispute will require the final approval of the City of Providence Board of Contract and Supply before the agreement can be finalized and executed.

SC-17.02

17.02 Negotiations

A. If either the Owner or Contractor chooses to appeal the Engineer's decision rendered under Paragraph 10.05 as applicable, or for unresolved claims not requiring such a decision, the Owner or Contractor must, within 15 days of the date of the Engineer's decision, deliver to the Engineer and to the opposing party a written notice requesting that the negotiation procedures of this Article be initiated. Within 15 days after the initial written notice, the opposing party must submit its written response to the Engineer and the other party. The initial notice and the response must include a statement of each party's position on the claim, a summary of the party's arguments supporting its position, and the name and title of the Principal who will represent the party and the names and titles of each person who will be attending the negotiations. The Principals representing each party must be at a higher management level than the persons responsible for administering the Work and have authority to make decisions that settle the claim, subject to the provisions of paragraph 17.01.D.

B. The initial negotiations meeting will be scheduled by the Engineer and must be held within 30 days of the date of the initial written notice. Within 10 days of the date of such notice to the Engineer and opposing party, the Engineer will contact each party and arrange and schedule a mutually agreeable time and date to meet. The Engineer will confirm in writing with each party the date, time and location of the meeting. All parties to the claim must make themselves available to a date within this period or the

Engineer will establish a mandatory date and time for the meeting which both parties must attend. Failure to attend this meeting will result in the forfeiture of the claim by the party not attending and in that party's waiver of any rights to further pursue or litigate the claim.

C. The parties shall meet at the initially scheduled meeting and additional meetings arranged thereafter as necessary to attempt to resolve the claim. The parties shall use their best efforts to resolve the claim and shall consult and negotiate with each other in good faith. Recognizing their mutual interests, the parties shall attempt to reach a just and equitable resolution satisfactory to both parties. The Engineer shall attend the negotiation meetings if requested by either party for the sole purpose of providing information pertinent to resolving the claim.

D. Conduct and statements made pursuant to this paragraph during the negotiation process, both written and verbal, shall be considered to have been made during compromised negotiations and shall not be admissible in any further litigation pursuant to Rule 408 of the Federal Rules of Evidence and State of Rhode Island counterparts and any similarly applicable rules.

E. Each party involved in the negotiation process shall be responsible for and pay its own costs incurred, including all administrative costs, costs of witnesses produced by the party, and legal costs and fees, and shall not pursue nor be entitled to reimbursement in any way from the opposing party.

F. If the parties do not reach a mutually acceptable resolution within 30 days of the initial meeting, either party may provide written notice to the opposing party terminating the negotiation process after that time.

SC-17.03

Add the following new paragraph immediately after new Paragraph 17.02 of the General Conditions which is to read as follows:

17.03 Non-Binding Mediation

A. Owner and Contractor agree that they shall submit any and all claims, counterclaims, disputes, or other matters in question between them arising out of or relating to the Contract Documents or the breach thereof that remain unsettled after negotiation to non-binding mediation prior to either of them initiating against the other a demand for arbitration under the Public Works Arbitration Act, if applicable, or litigation in Superior Court, as provided in Paragraph 17.04. Completion of the negotiation process of Paragraph 17.02 shall be a precondition to requesting non-binding mediation.

B. If the Owner and Contractor cannot reach a mutually agreeable resolution to the claim through negotiation as provided for in paragraph 17.02, either party may choose to deliver to the opposing party a request for non-binding mediation. The request for non-binding mediation must be delivered to the opposing party within 10 days of the date of the written notice terminating the negotiation process as provided under paragraph 17.02.F.

C. Representatives of each party authorized to make the decisions required of the non-binding mediation process shall meet within 15 days of the date of the request for non-binding mediation. Each party to the claim must provide the other with at least five dates within that period that they are available to meet and a meeting arranged on a mutually agreeable date. The failure of either party to attend a scheduled meeting will result in the forfeiture of the claim by that party and that party's waiver of any rights to further pursue or litigate the claim.

D. The parties shall meet in good faith to discuss the issues surrounding the non-binding mediation process and to negotiate to choose an outside party as a mediator for the proceedings. If after 15 days

from the initial meeting of the parties they are unable to agree upon a mediator, each of the parties shall select a mediator of its own to represent them, and the two mediators selected shall meet with each other within 10 days of their selection and negotiate and select a single mediator (herein after referred to as the “mediator”) for the proceedings.

E. The mediator shall establish the rules and procedures used during the mediation proceedings. All parties to the proceedings shall abide by the rules established by the mediator.

F. Conduct and statements made pursuant to this paragraph during the mediation process, both written and verbal, shall be considered to have been made during compromised negotiations and shall not be admissible in any further litigation pursuant to Rule 408 of the Federal Rules of Evidence and State of Rhode Island counterparts and any similarly applicable rules.

G. Each party involved in the mediation process shall be responsible for and pay its own costs incurred to present its case, including all administrative costs, costs of witnesses produced by the party, and legal costs and fees, and shall not pursue or be entitled to reimbursement in any way from the opposing party. The parties will equally divide and pay all costs for the services of the mediator and any witnesses or experts (having no direct or indirect connection to or interests in either party’s behalf) produced at the direct request of the mediator, including administrative, travel and incidental expenses of both the mediator and such witnesses. If the parties were unable to agree on a single mediator and had to choose separate mediators to select the final mediator, each party shall be responsible for and pay all costs and expenses of the mediator that it chose, in addition to equally dividing the costs of the final mediator as described above.

H. If the parties do not reach a mutually acceptable resolution within 90 days of the initial meeting of the parties, either party may provide written notice to the opposing party terminating the mediation proceedings after that time.

SC-17.04

Add the following new paragraph immediately after new Paragraph 17.03 of the General Conditions which is to read as follows:

17.04 Litigation and Public Works Arbitration

A. If the parties fail to reach a mutually acceptable agreement as a result of the non-binding mediation proceedings described in paragraph 16.03, the exclusive remedy remaining to the parties, unless the Work is subject to the provisions of the Public Works Arbitration Act of the State of Rhode Island General Laws, will be to file suit in Superior Court for Providence County, Rhode Island before the business calendar in that court. The Owner and Contractor agree to waive any claims that venue is inappropriate in this court.

B. If the parties fail to reach a mutually acceptable agreement as a result of the non-binding mediation proceedings described in Paragraph 17.03 and the Public Works Arbitration Act of Chapter 37-16 of the State of Rhode Island General Laws applies to the Work as determined by the contract types listed by Section 37-16-2 of the Chapter, then the Chapter shall apply and the context of Paragraph 37-16-2(b)(2) shall be in effect as if included in these Supplemental Conditions.

ARTICLE 18 - MISCELLANEOUS

SC-18.08

Add the following new paragraphs immediately after Paragraph 18.08 of the General Conditions which are to read as follows:

18.09 Addresses

A. Both the address given in the Bid Form upon which this Agreement is founded, and Contractor's office at or near the site of the Work are hereby designated as places to either of which notices, letters, and other communications to Contractor shall be certified, mailed, or delivered. The delivering at the above-named place, or depositing in a postpaid wrapper directed to the first named place, in any post office box regularly maintained by the post office department, of any notice, letter or other communication to Contractor shall be deemed sufficient service thereof upon Contractor; and the date of said service shall be the date of such delivery or mailing. The first named address may be changed at any time by an instrument in writing, executed and acknowledged by Contractor, and delivered to Owner and Engineer. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon Contractor personally.

SC-18.10

Add the following new paragraphs immediately after Paragraph 18.09 which are to read as follows:

18.10 Wage Rates and Payroll

A. The Contractor shall comply with all minimum wage rates in accordance with Rhode Island Department of Labor Laws (reference the General Laws of Rhode Island, Chapters 37-12 and 37-13, as amended). These rates may change without notice, and it is the responsibility of the Contractor to check and confirm at the time of the submission of a Bid that the rates used in the preparation of the Bid meet the most current wage rates issued. No additional compensation will be considered by the Owner for failure of the Contractor to comply with these requirements.

B. The Contractor shall regularly submit to the Owner, but no less frequently than his request for payment, certified payrolls for all his applicable employees performing work on the Project and for all his Subcontractors. Certified payrolls shall be submitted on "Statement of Compliance" forms or other such forms as prescribed and provided by the State of Rhode Island Department of Labor.

18.11 State of Rhode Island General Law Chapter 37-13

A. The Contractor's attention is specifically called to the provisions of Rhode Island General Law Chapter 37-13, Sections 37-13-1 through 37-13-13, as amended. The Contractor shall fully adhere to all provisions of the latest revision of this Chapter. Appending the referenced Sections of this Chapter of the State of Rhode Island General Laws shall in no way limit the responsibilities of the CONTRACTOR to comply with this and all other applicable Federal, State, and local laws. The CONTRACTOR shall verify that they comply with the latest version of this and all other such applicable laws.

18.12 Compliance

A. All Subcontractors employed by the Contractor for the Work shall fully comply with the requirements of this Article.

B. The Contractor shall bear full responsibility for compliance to the requirements of this Article by both himself and by his Subcontractors. Submissions made to the Owner shall not relieve, nor be construed to relieve, the Contractor of this responsibility.

PART 2 - FEDERAL, STATE, AND LOCAL GOVERNMENT PROVISIONS

Federal, State and Local Government Provisions included herein, have been selected from those to which specific references have been made elsewhere in the Contract Documents. Each and every other provision of law or clause required by law to be inserted in this Contract shall be deemed to be also inserted herein in accordance with Paragraph 3.01D of the Supplementary Conditions. This information may change without notice and therefore it is important for Bidders and Contractor to obtain the most recent information.

This Contract is subject to certain rules and regulations, especially those pertaining to bonds, labor and payment, minority/women businesses, and prevailing wage rates.

It is the responsibility of each Bidder to thoroughly research and make themselves fully aware of all Federal, State, and Local laws, ordinances, regulations and requirements. It is the responsibility of each Bidder, Contractor, and all Subcontractors to ensure that they fully comply with all laws, ordinances, regulations and requirements.

1.0. FEDERAL GOVERNMENT PROVISIONS

1.1. Davis Bacon Act Requirements

See Appendix A for requirements.

1.2. Federal Wage Rates

See Appendix A for requirements.

1.3. American Iron and Steel Requirements of P. L. 113-76, the Consolidated Appropriations Act of 2014.

See Appendix A for requirements.

1.4. Build America, Buy America Act Requirements

This project is subject to American Iron and Steel and the Build America, Buy America Act (BABA). The amendments to the Clean Water Act, as part of WRRDA, apply the American Iron and Steel (AIS) requirements to all treatment works projects. Furthermore, Bipartisan Infrastructure Law (BIL) extends this procurement requirement to all State Revolving Fund (SRF) construction projects going forward with the inclusion of the Build America, Buy America Act (BABA). Starting on May 14, 2022, all steel, iron, manufactured products, non-ferrous metals, plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables), glass (including optic glass), lumber, and drywall used in infrastructure projects for federal financial assistance programs must be produced in the United States. Rhode Island Department of Health ensures that the required procurement language is included in contracts and conducts field verifications of project compliance.

See Appendix A for requirements.

1.5 EPA Disadvantaged Business Enterprise (DBE) Program

See Appendix A for requirements.

1.6 EPA Debarment and Suspension

See Appendix A for requirements.

1.7 EPA Prohibition on Certain Telecommunication and Video Surveillance

See Appendix A for requirements.

2.0. STATE GOVERNMENT PROVISIONS

2.1. Owner and Contractor agree that the following State Government Provisions apply to the work to be performed under this Contract and that these provisions supersede any conflicting provisions of this Contract.

1. For State of Rhode Island General Laws, information can be obtained from <http://webservice.rilin.state.ri.us/Statutes/>.
2. For State of Rhode Island Department of Labor and Training (Current Wage Rate Determinations & Laws, Rules and Regulations), information can be obtained from <https://dlt.ri.gov/>.
3. For State of Rhode Island Office of Diversity, Equity & Opportunity (MBE/WBE Directory Search), information can be obtained from <http://odeo.ri.gov/>.

3.0 CITY OF PROVIDENCE PROVISIONS

3.1. Owner and Contractor agree that the following Local Government Provisions apply to the work to be performed under this Contract and that these provisions supersede any conflicting provisions of this Contract.

1. For City of Providence Code of Ordinances, information can be obtained from <https://council.providenceri.gov/city-clerk/>
2. The City of Providence has initiated, by Section 21-52 of its Code of Ordinances and by Executive Order No. 1992-01, a Minority & Women Business Enterprise program. This program, by inclusion and reference, shall be considered part of this section. All Work performed under this Project and Contract shall be carried out in accordance with the requirements of this program. Subcontractor Payment and Utilization Report and MBE/WBE Project Utilization Summary forms are included in Section 001000.
3. City of Providence Apprentice Utilization, Local Hiring Requirements, and Air Quality Protocols are included in Appendix B.
4. City of Providence Contract Terms & Conditions are included in Appendix C.

Before a final payment and/or retainage is released, Contractor must submit a notarized confirmation by an officer of the company confirming that the Contractor and all their Subcontractors working on the

Project have fully complied with all Federal, State, and Local Labor Laws, including but not limited to payment of prevailing wages and posting of said wages on-site.

END OF SECTION 007300.16

SECTION 01010
SUMMARY OF WORK

PART 1 GENERAL

1.01 LOCATION OF WORK

The work of this Contract is located within the Trinity Square area of the City of Providence, Rhode Island. The Work Area is shown on the Drawings and on a plan in Appendix E.

1.02 SCOPE OF WORK

A. Water Main Cleaning and Cementitious Lining

Furnish all labor, materials, equipment and incidentals required to perform the water main cleaning and cementitious lining of the existing drinking water mains, including the replacement of existing water main in select areas and intersections in the Trinity Square area of Providence, Rhode Island in its entirety as specified herein and as shown on the Drawings. The work includes but is not limited to the following: installation, maintenance, and removal of temporary bypass pumping; the removal and replacement of appurtenances (valves, hydrants and services); excavation and backfill; rehabilitating existing water mains by cleaning and cement lining; installing gate valves, blow offs and hydrant assemblies; and the associated full depth asphalt restoration of street excavations and permanent restoration of street sections (disturbed during construction operations) in accordance with the paving schedule herein, sidewalks, and grassy areas, within the Trinity Square, Providence service area of Providence Water Supply Board's distribution system.

B. No work shall be performed by the Contractor at any time without first obtaining and securing the proper permits from the respective jurisdiction and issuing authority.

1.03 WORK BY OTHERS

A. The following work may be performed by others concurrently with the Work of this Contract and it is the sole responsibility of the Contractor to coordinate their work with the Owner or Owner's Designee and the other contractors as required.

1. Water main rehabilitation by the Owner or Owner's Designee.
2. Work on private property for private property owners and/or residents.
3. Work by municipal agencies.
4. Work by other utility agencies.
5. Work by local schools.

1.04 WORK BY LICENSED PLUMBER

A. The following work shall be performed by a licensed plumber in accordance with Rhode Island Plumbing Code under this Contract:

1. Installation of new interior copper piping within 5 feet from the exterior of the building.
2. Installation of a new full port ball valves of the necessary size in building interior upstream of the existing building water meter. If a meter replacement by PWSB is to occur, the installation of a new full port ball valve of the necessary size both upstream and downstream of the existing building water meter shall be installed as well.
3. All required interior piping modifications for the convenience of the installation.
4. Final connection to the existing water meter.

1.04 CONTRACTOR'S USE OF PREMISES

- A. Coordinate all work with Owner or Owner's Designee to facilitate the usage of water service lines, with minimal conflicts and interruptions to the water service.
- B. Coordinate work to allow full, uninterrupted access to all residences and businesses, and allow for pedestrian access around work zones and closed sidewalks. Contractor shall limit the use of the premises for his/her Work and storage to allow for:
 1. Work by other contractors or by Owner.
 2. Access of public to homes and businesses.
 3. Public use and safety.
 4. Fire Protection.
- C. Coordinate use of premises with Owner or Owner's Designee prior to the start of Contractor's work thereon.
- D. Contractor shall assume full responsibility for the security of all his/her personnel, materials and equipment stored on the project including all subcontractors.
- E. If directed by the Owner or Owner's Designee, move any stored items that interfere with operations of Owner, other contractors, Customer, or public.
- F. Obtain and pay for use of additional storage or work areas if needed to perform the Work.

1.05 OWNER AND CUSTOMER OCCUPANCY

- A. Customer (Private property owners, tenants, businesses and residents) will occupy premises during the performance of the work. Coordinate all construction operations with Customer, Owner, and Owner's Designee to minimize conflict and to facilitate usage and occupancy during construction.

1.07 WORK HOURS

- A. The Contractor shall arrange work hours in accordance with the hours of Owner's personnel (8:30 a.m. to 4:30 p.m., Monday-Friday) so that access to the site can be coordinated with the Owner. Hours worked by the Contractor's personnel beyond eight (8) hours per day (between the hours 7:00 a.m. to 4:30 p.m., Monday-Friday, excluding holidays) shall be deemed Overtime hours. Requests to work other than regular working hours shall be submitted to the Owner's Designee not less than 48 hours prior to any proposed weekend work or scheduled extended work weeks. Occasional unscheduled overtime on weekdays may be permitted provided two hours notice is given to the Owner's Designee.

1.05 ROAD WORK

- A. Road work in City of Providence or State of Rhode Island rights-of-way shall conform to City or RIDOT requirements where applicable. Contractor shall obtain all permits necessary.
- B. All traffic control devices shall be in accordance with the Manual on Uniform Traffic Control Devices, published by U.S.D.O.T., Federal Highway Administration latest revision, and local police and government requirements.
- C. Where permission is granted to the Contractor by the authority having jurisdiction, for the use of road plates to secure excavations on a temporary basis, all road plates shall be recessed to match existing pavement surface and shall be secured with at least four railroad spikes per plate (minimum one spike in each side of plate).
- D. Traffic Control Officers will be paid from the Uniformed Traffic Control Allowance.

END OF SECTION

SECTION 01026
APPLICATION FOR PAYMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to the Owner or Owner's Designee in accordance with the schedule established by Conditions of the Contract and Agreement between Owner and Contractor.
- B. The accepted Schedule of Values, Section 01370, shall be used as the basis for the Contractor's Application for Payment.

1.02 RELATED WORK

- A. Standard General Conditions of the Construction Contract are included in Section 00 72 00.
- B. Schedule of Values are included in Section 01370.
- C. Contract Closeout is included in Section 01700.

1.03 SUBMITTALS

- A. Submit, in accordance with Section 01300, applications typed on forms provided by the Owner, Application for Payment, with itemized data typed on 8-1/2-in by 11-in or 8-1/2-in by 14-in white paper continuation sheets.
- B. Provide itemized data on a continuation sheet.
 - 1. Format, schedules, line items, and values: Those of the Schedule of Values accepted by the Owner or Owner's Designee.

1.04 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

- A. Application Form
 - 1. Fill in the required information, including that for Change Orders executed prior to the date of submittal of application.
 - 2. Fill in the summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with the signature of a responsible officer of Contract firm.
- B. Continuation Sheets
 - 1. Fill in the total list of all scheduled component items of Work, with item number and scheduled dollar value for each item.
 - 2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.

- a. Round off values to the nearest dollar, or as specified for Schedule of Values.
3. List each Change Order executed prior to the date of submission, at the end of the continuation sheets.
 - a. List by Change Order Number and description, as for an original component item of work.
4. To receive approval for payment on component material stored on site, submit copies of the original paid invoices with the application for payment.

1.05 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the Owner or the Owner's Designee requires substantiating data, submit suitable information, with a cover letter identifying.
 1. Project name and location.
 2. Application number and date
 3. Detailed list of enclosures
 4. For stored products:
 - a. Item number and identification as shown on the application
 - b. Description of specific material
- B. Submit one copy of data and cover letter for each copy of the application.
- C. As a prerequisite for payment, submit a "Surety Acknowledgement of Payment Request" letter showing the amount of progress payment which the Contractor is requesting.
- D. Quantities in pay applications will be checked with the information stored in CityWorks. No payment will be made to Contractor unless all record information for every installed service line matches between the CityWorks database, the Contractor's pay application, and the Owner or Owner's Designee's measured quantities.

1.06 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in the Application form as specified for progress payments.
- B. Use a continuation sheet for presenting the final statement of accounting as specified in Section 01700.
- C. Submit all Project Record Documents in accordance with Section 01720.

1.07 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to the Owner or Owner's Designee at times stipulated in the Agreement.
- B. Number: Five copies of each Application.

- C. When the Owner or Owner's Designee finds Application properly completed and correct, he/she will transmit certificate for payment to Owner, with a copy to Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

APPLICATION AND CERTIFICATE FOR PAYMENT

FROM AIA DOCUMENT G702

ORIGINAL INVOICE TO: Gina Palano Project Manager Providence Water Supply Board 125 Dupont Drive Providence, RI 02907	INVOICE NO.: 1 INVOICE DATE: X/X/202X PERIOD: X/X/202X to X/X/202X PROJECT #: 27002 & 21073 CONTRACT DATE: X/X/202X	DISTRIBUTION TO: Owner: X Project Manager: X Contractor: X Other:
FROM CONTRACTOR: Contractor Address City, State zip	PROJECT NAME: Providence Water - Trinity Square Lead Service Line Replacement Project Project No. 27002 & 20173	

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract Continuation Sheet(s), from AIA Document G702, is/are attached.

1. ORIGINAL CONTRACT SUM	\$	-
2. NET CHANGE	\$	-
3. CONTRACT SUM TO DATE	\$	-
(Line 1 +/- Line 2)		
4. TOTAL COMPLETED & STORED TO DATE	\$	-
(Sum of Column G on Continuation Sheet(s))		
5. RETAINAGE:		
a. 10% of Completed Work	\$	-
(Sum of Columns D + E on Continuation Sheet(s))		
b. 0% of Stored Material	\$	-
(Sum of Column F on Continuation Sheet(s))		
Total Retainage	\$	-
(Lines 5a + 5b or Sum of Total Column I Continuation Sheet(s))		
6. TOTAL EARNED LESS RETAINAGE	\$	-
(Line 4 less Line 5 Total)		
7. LESS PREVIOUS CERTIFICATE FOR PAYMENT	\$	-
(Line 6 from prior Certificate)		
8. CURRENT PAYMENT DUE	\$	-
9. BALANCE TO FINISH, PLUS RETAINAGE	\$	-
(Line 3 less Line 6)		

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
CHANGE ORDERS approved in previous months by Owner =		\$	\$
TOTAL		\$ -	\$ -
Approved this Month			
Number	Date App'd		
Net Change by CHANGE ORDERS (COs) =		\$	-

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in full accordance with all Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates of Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR: Contractor

By: _____ Date: _____

State of: _____
 County of: _____
 Subscribed & sworn to before me this _____ day of _____
 Notary Public: _____ My Commission expires: _____

PLEASE REMIT TO:
 Contractor
 Address
 City, State zip

END OF SECTION

SECTION 01038
REQUESTS FOR INFORMATION

PART 1 GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. This Section specifies the general methods and requirements of Requests for Information (RFIs).

1.02 RELATED WORK

- A. Additional requirements may be specified in the General Conditions.
- B. Submittals are included in Section 01300.
- C. Special Provisions are included in Section 01170.
- D. Project Record Documents are included in Section 01720.

1.03 REQUESTS FOR INFORMATION

- A. When the Contractor believes that additional information or clarification of a contract requirement is needed, it may initiate a Request for Information.
- B. RFIs may relate to Technical matters or Administrative matters. The RFI process shall be limited to the clarification of technical and/or administrative matters. While the response to an RFI might lead to a change in the contract scope, cost or time, RFIs are not a substitute for the notification requirements stipulated in the General Conditions.
- C. A response to an RFI may authorize minor changes to the contract consistent with the terms of the contract related to the responsibilities and limitations of authority of the Owner or Owner's Designee.
- D. A response to an RFI is not an authorization to perform any additional work that would require that change order or written amendment to the contract. If the Contractor believes the response an RFI requires a change to the contract, Contractor shall promptly provide written notice to the Owner or Owner's Designee in accordance with the General Conditions.
- E. RFIs are not a substitute for the Submittals process specified elsewhere.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 ORIGINATION

- A. Originate RFIs using the form appended to this section.
 - 1. RFIs shall be numbered consecutively. In the event that an answered RFI results in a follow-up inquiry, the follow-up shall maintain the same number as the original, appended with a suffix.

2. Include Specification Section(s), Contract Maps(s), or detail(s) for which information is requested.
 3. Attach drawings, sketches, photographs or other relevant information.
 4. If the question concerns an interpretation of the Contract Documents, enter the Contractor's interpretation.
 5. Indicate the date by which the Contractor requests a reply.
 6. Sign the upper portion of the form.
- B. RFIs may not be submitted by subcontractors or suppliers. When a subcontractor or supplier generates a request for information or clarification to the Contractor, Contractor shall incorporate such requests into the required format, assign the next number, and sign.
- C. Maintain a log of all RFIs including the date originated, date delivered, and date answered.

3.02 PROCESSING

- A. Contractor shall submit all RFIs to the Owner or Owner's Designee for processing.
- B. Technical RFIs will generally be reviewed and answered by the respective discipline engineer or architect.
- C. Administrative RFIs will generally be reviewed and answered by the Owner or Owner's Designee in consultation with the Owner.
- D. The Owner or Owner's Designee will generally respond to RFIs within fourteen calendar days of receipt – depending on the complexity of the inquiry.

3.03 RESPONSES

- A. If the RFI contains sufficient clarity, the Owner or Owner's Designee will insert a response in the lower portion of the RFI form, sign and date the response; and, return the completed form to the Contractor.
- B. If the RFI does not contain sufficient clarity, the Owner or Owner's Designee may request additional information from the Contractor.
- C. The Owner or Owner's Designee will distribute copies to the Owner and project files.
- D. The Owner or Owner's Designee will maintain a log of all RFIs including the date received, and date returned to Contractor.

3.04 RECORD INFORMATION

- A. Include all clarifications obtained through the RFI process into the record information in accordance with Section 01720.

END OF SECTION

(Standard RFI Form Follows)

Request for Information

Project Name:		
Contract Number.:		
Contractor:	RFI No.:	
	Date:	
Subject:		
Spec Section:	Drawing/Map:	Detail:

QUESTION:	
<p>If the above question concerns an interpretation of the Contract Documents, the Contractor's interpretation is:</p>	
Please Respond by This Date:	
Submitted by Contractor:	Date:
Received by (CDM Smith):	Date:

RESPONSE:	
By:	Date:
Distribution: Contractor, Owner, File, Field, RFI Notebook	

SECTION 01046
CONTROL OF WORK

PART 1 GENERAL

1.01 CONSTRUCTION EQUIPMENT

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

1.02 PRIVATE LAND

- A. Do not enter or occupy private land outside of easements, except by written permission of the Customer. See requirements for the Right of Entry (ROE) in Section 01170.

1.03 PIPE LOCATIONS

- A. Pipelines and manholes shall be located substantially as indicated on the Drawings. The Owner or Owner's Designee reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons.

1.04 OPEN EXCAVATIONS

- A. If open excavations are used, adequate safeguarding shall include but not limited to temporary barricades, caution signs, lights and other means to prevent accidents to persons and damage to property. The Contractor shall, at his/her own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workers. Bridges provided for access during construction shall be removed when no longer required. The length or size of excavation will be controlled by the particular surrounding conditions but shall always be confined to the limits prescribed by the Owner or Owner's Designee. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the Owner or Owner's Designee may require special construction procedures such as limiting the length of the open trench, prohibiting stacking excavated material in the street and requiring that the trench shall not remain open overnight.
- B. Take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be well lighted at night. Accordingly, unattended trenches must be covered, barricaded or backfilled.
- C. Where the use of road plates is approved for temporarily securing open excavations in roads, plates shall be spiked and recessed to be flush with the surrounding pavement.

1.05 TEST PITS

- A. Excavate test pits, at the direction of the Owner or Owner's Designee, to locate underground pipelines or structures in advance of the construction. Backfill test pits immediately after their purpose has been satisfied and restore and maintain the surface in a manner satisfactory to the Owner or Owner's Designee.

1.06 MAINTENANCE OF TRAFFIC

- A. Traffic on the affected roads and streets shall be maintained at all times under responsibility of the Contractor. Maintenance of traffic provisions shall be approved in writing by the Owner, Owner's Designee, and the jurisdiction Police Department. All maintenance of traffic and road closures shall be in accordance with all Providence Department of Public Works permits. Work on State roads also shall be approved in writing by the Rhode Island Department of Transportation (RIDOT). All traffic control devices shall be in accordance with the Manual on Uniform Traffic Control Devices, latest issue.
- B. Unless permission to close a street is received in writing from the Police Department, Owner's Designee and Owner, all construction equipment and excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operations cause traffic hazards, he/she shall repair the road surface, provide temporary ways, erect wheel guards or fences, or take other measures for safety satisfactory to the Owner or Owner's Designee.
- C. Detours around construction will be subject to permit approval, and approval of the Owner's Designee and Owner. Where detours are permitted, provide all necessary barricades and signs as required to divert the flow of traffic. Provide expedited construction when traffic is detoured.
- D. Take precautions to prevent injury to the public due to open trenches. Night guards may be required where special hazards exist, or traffic control officers provided for traffic while work is in progress. The Contractor shall be fully responsible for damage or injuries whether or not traffic control officers have been provided.
- E. See Section 01576 for additional requirements for traffic control.

1.07 CARE AND PROTECTION OF PROPERTY

- A. Be responsible for the preservation of all public and private property and use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, restore such property to a condition similar or equal to that existing before the damage was done, or make good the damage in other manner acceptable to the Owner or Owner's Designee.

1.08 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

- A. Assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables. Carefully support and protect all such structures and utilities from injury of any kind. All damage resulting from the

Contractor's operations shall be repaired at the Contractor's expense. Establish the location and extent of all existing utilities before the commencement of excavation by calling 811 Dig Safe RI and obtaining a dig ticket. Notify all utility companies and Dig Safe in writing at least 72 hours (excluding Saturdays, Sundays and Legal holidays) before excavating or otherwise affecting utilities in any public way or easement. Only Providence Water Supply Board personnel may operate Providence Water Supply Board valves.

- B. Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor at no additional cost to the Owner.
- C. Protection and temporary removal and replacement of existing utilities and structures as described in this Section shall be a part of the work under the Contract at no additional cost to the Owner.
- D. Coordinate the removal and replacement of traffic loops and signals, as required for the performance of the work, at no additional cost to the Owner.
- E. The Contractor shall bear full responsibility, for obtaining all locations of underground structures and utilities (including existing water services, drain lines, gas, electric, telecommunication, and sewers). All utilities are considered unknown and shall not be considered as differing site conditions.

1.09 WATER FOR CONSTRUCTION PURPOSES

- A. In locations where public water is available, the Contractor may be allowed to use water for construction purposes without charge.
- B. The express approval of the Owner shall be obtained before water is used. Waste of water shall be sufficient cause for withdrawing the privilege of unrestricted use. Hydrants or valves shall only be operated under the supervision of the Owner's personnel.
- C. If water restrictions are in force, the Contractor shall supply his/her own source of water which shall be acceptable to the Owner or Owner's Designee.
- D. When drawing water for construction purposes, use caution at all times to prevent potential contamination of the Owner's water distribution system. Hydrant connections will require a backflow preventer and meter suitably installed to the satisfaction of the Owner's Designee and Owner.
- E. Coordinate with the Owner for the opening and closing of hydrants. Hydrants shall be operated under the supervision of the Owner. All hydrants must be opened and closed SLOWLY to prevent damage.
- F. Supply a working reduced pressure backflow preventer and flow meter on each hydrant utilized during construction. The Contractor shall be responsible for providing all hoses and special fittings needed for utilizing the Owner's water supply. During the shop drawing process, submit information on the hydrant meters and backflow preventer intended for use for construction purposes.
- G. At the end of construction, furnish a tabulation of the total gallons of water utilized during the course of the contract.

- H. Prior to the start of work at any location, submit a water use plan for approval by the Owner and Owner's Designee. The plan shall detail the location of hydrants to be utilized, the routing of hoses across sidewalks and roadways, and the means to be used to protect hoses from traffic and pedestrians from tripping hazards as well as to minimize the occurrence of water hammer.
- I. The Contractor will be responsible for all damage caused by water which passes through the hydrant meter, whether it is used or wasted. If damage does occur, Contractor shall incur all responsibility and costs for repair of any damage and returning the site to its original condition.

1.10 MAINTENANCE OF FLOW

- A. The Contractor shall at his/her own cost, provide for the flow of drains and watercourses interrupted during the progress of the work, and shall immediately cart away and remove all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Owner or Owner's Designee well in advance of the interruption of any flow.

1.11 COOPERATION WITHIN THIS CONTRACT

- A. All firms or persons authorized to perform any work under this Contract shall cooperate with Contractor and his/her subcontractors or trades and shall assist in incorporating the work of other trades where necessary or required.

1.12 CLEANUP AND DISPOSAL OF EXCESS MATERIAL

- A. During the course of the work, keep the site of Contractor operations in as clean and neat a condition as is possible. Contractor shall dispose of all residue resulting from the construction work and, at the conclusion of the work, Contractor shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures and any other refuse remaining from the construction operations and shall leave the entire site of the work in a neat and orderly condition.
- B. Immediately remove from the site and legally dispose of all service lines and appurtenances replaced under this Contract. At no time shall these materials be stacked along the trench.
- C. In order to prevent environmental pollution arising from the construction activities related to the performance of this Contract, the Contractor and his/her subcontractors shall comply with all applicable Federal, State and local laws and regulations concerning waste material disposal, as well as the specific requirements stated in this Section and elsewhere in the Specifications.
- D. Disposal of excess excavated material in wetlands, stream corridors, and floodplains is strictly prohibited even if the permission of the Owner is obtained. Any violation of this restriction by the Contractor or any person employed by him/her will be brought to the immediate attention of the responsible regulatory agencies, with a request that appropriate action is taken against the offending parties. The Contractor will be required to remove the fill at his/her own expense and restore the area impacted.
- E. Dispose of all surplus excavated soil material, including construction debris, boulders, broken pavement, demolished pipe, and other non-soil material.

1.13 RESTORATION

- A. Restore all areas to conditions that existed prior to construction. Restoration outside of the pipe trench limits required as a result of the construction activities shall be at the Contractor's own expense. Restoration within the pipe trench limits shall be included in the appropriate bid items as required in Section 01025. Restoration, including restoration on private property, as specified in Sections 01025 (Measurement and Payment), Section 02576 (Pavement Repair and Resurfacing), Section 02900 (Landscaping), and Section (02930) Loaming and Seeding.
- B. Existing public and private driveways and sidewalks disturbed by the construction shall be replaced to the limits and thicknesses existing prior to construction and as specified in Section 02576 (Pavement Repair and Resurfacing), Section 02900 (Landscaping), and Section (02930) Loaming and Seeding.
- C. Existing signs, lampposts and mailboxes which are damaged by the Contractor or removed by the Contractor during the course of the work shall be reinstalled in a vertical position at the same location from which they were removed. Damaged items shall be replaced with an item equal to or better than the damaged items. A concrete anchor shall be provided as necessary, at no additional cost, to ensure a rigid alignment. Care shall be exercised in the reinstallation of all items to prevent damage to the newly installed pipelines.
- D. Existing concrete, bituminous, timber, granite or other material curbing shall be protected. If necessary, curbing shall be removed and replaced after backfilling. Curbing which is damaged during construction shall be replaced with curbing of equal quality and dimension. Granite curbing removed and reset shall conform to the local municipality's standards. Joints between sections shall be expansion type as required. Bituminous berms shall conform to the Owner's Standards.
- E. Restoration of any areas on private property disturbed by construction is as specified in Sections 02576 Pavement Repair and Resurfacing, 02900 Landscaping, and 02930 Loaming and Seeding.

1.14 HOURS OF OPERATION

- A. The Contractor's hours of operation will be limited to an 8-hour shift between the hours of 8:30 AM to 4:30 PM on Mondays through Fridays only and holiday work is prohibited. There shall be no work performed on Saturdays or outside the hours of operation except when prior written approval is obtained by the Contractor from the Owner's Designee and Owner.

END OF SECTION

SECTION 01110
ENVIRONMENTAL PROTECTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Furnish all labor, materials and equipment and perform all work required for the prevention of environmental pollution in conformance with applicable laws and regulations, during and as the result of construction operations under this Contract. For the purpose of this Section, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and/or recreational purposes.
- B. The control of environmental pollution requires consideration of air, water and land, and involves management of noise and solid waste, as well as other pollutants.
- C. Schedule and conduct all work in a manner that will minimize the erosion of soils in the area of the work. Provide erosion control measures such as diversion channels, sedimentation or filtration systems, berms, seeding, mulching or other special surface treatments as are required to prevent silting and muddying of streams, rivers, impoundments, lakes, etc. All erosion control measures shall be in place in an area prior to any construction activity in that area. Specific requirements for erosion and sedimentation controls are specified in Section 02270 "Sedimentation and Erosion Control."
- D. This Section is intended to ensure that construction is achieved with a minimum of disturbance to the existing ecological balance between a water resource and its surroundings. These are general guidelines. It is the Contractor's responsibility to determine the specific construction techniques to meet these guidelines.
- E. All phases of sedimentation and erosion control shall comply with and be subject to the approval of the Owner's Designee and Owner.
 - 1. Maintenance of Pollution Control Facilities During Construction.

1.3 QUALITY CONTROL

- A. Comply with all applicable Federal, State and local laws and regulations concerning environmental pollution control and abatement.
- B. Owner or Owner's Designee will notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the

environmental protection requirements shall notify the Contractor in writing, through the Owner or Owner's Designee, of any non-compliance with State or local requirements. After receipt of such notice from the Owner or Owner's Designee or from the regulatory agency through the Owner or Owner's Designee, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

1.4 PREINSTALLATION MEETINGS

- A. Prior to commencement of the work, meet with the Owner's Designee and Owner to develop mutual understandings relative to compliance with these provisions and administration of the environmental pollution control program.

1.5 IMPLEMENTATION

- A. Remove temporary environmental control features, when approved by the Owner or Owner's Designee and incorporate permanent control features into the project at the earliest practicable time.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PROHIBITED ACTIVITIES

- A. Do not use procedures, activities, or operations that may adversely impact the natural environment or the public health and safety. Prohibited construction procedures, activities, or operations include but are not limited to:
 - 1. Dumping or disposal of spoil materials, discharging of solid waste deleterious to any stream corridors, any wetlands, any surface waters, or on any public or private property not specified for said purpose.
 - 2. Disposal of debris in any stream corridors, any wetlands, any surface water, or at unspecified locations.
 - 3. Storing construction equipment and vehicles and/or stockpiling construction materials at locations not previously specified and approved by the Owner for said purposes.
 - 4. Dumping, disposing, or stockpiling of any material at any location within the City of Providence without approval.

3.2 EROSION CONTROL

- A. Provide positive means of erosion control such as shallow ditches around construction to carry off surface water. Erosion control measures, such as siltation basins, hay check dams, mulching, jute netting and other equivalent techniques, shall be used as appropriate. Offsite surface water shall be diverted around the site, to a downstream channel ahead of siltation barriers. Flow of surface water into excavated areas shall be prevented. Ditches around construction area shall also be used to carry away water resulting from dewatering of excavated areas. All erosion control measures shall be in place in an area prior to construction activity in that area. Specific requirements for erosion and sedimentation controls are specified in Section 02270 "Sedimentation and Erosion Control." At the completion of the work, ditches shall be backfilled and the ground surface restored to original condition.
- B. Clearing of vegetation shall be limited to what is necessary for equipment to access the manholes. Roots shall not be removed.

3.3 PROTECTION OF STREAMS AND SURFACE WATERS

- A. Temporary stockpiling of soil materials shall be upgradient of the hay bale barrier to prevent sediments from being transported to adjacent wetland resource areas.
- B. Take all precautions to prevent, or reduce to a minimum, any damage to any stream or surface water from pollution by debris, sediment or other material, or from the manipulation of equipment and/or materials in or near such streams. Water that has been used for washing or processing, that contains oils or sediments that will reduce the quality of the water in the stream, shall not be directly returned to the stream. Divert such waters through a settling basin or filter before being directed into streams or surface waters.
- C. Do not discharge water from dewatering operations directly into any live or intermittent stream, channel, wetlands, surface water or any storm sewer. Water from dewatering operations shall be treated by filtration, settling basins, or other approved method to reduce the amount of sediment contained in the water to allowable levels.
- D. Take all preventative measures to avoid spillage of petroleum products and other pollutants. Maintenance and refueling of vehicles will take place outside of the 100-foot buffer zone to any resource areas. In the event of any spillage, prompt remedial action shall be taken in accordance with a contingency action plan approved by the Rhode Island Department of Environmental Management. A supply of "Speedy Dry", oil absorbent pads, or an approved equivalent, shall be maintained with the construction equipment at all times which shall be used to contain any accidental release of oil or other petroleum products during the field work. Submit two copies of approved contingency plans to the Owner or Owner's Designee.

3.4 PROTECTION OF LAND RESOURCES

- A. Restore land resources within the project boundaries and outside the limits of permanent work to a condition, after completion of construction that will appear to be natural and not detract from the appearance of the project. Confine all construction activities to areas shown on the Drawings.
- B. Outside of areas requiring earthwork for the construction of the new sewer lines and manholes, do not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval.

No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized by the Owner or Owner's Designee. Where such special emergency use is permitted, first wrap the trunk with a sufficient thickness of burlap or rags over which softwood cleats shall be tied before any rope, cable, or wire is placed. The Contractor shall in any event be responsible for any damage resulting from such use.

- C. Before beginning operations near them, protect trees that may possibly be defaced, bruised, injured, or otherwise damaged by the construction equipment, dumping or other operations, by placing boards, planks, or poles around them. Monuments and markers shall be protected similarly.
- D. Trees or other landscape features scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to their original condition. The local Tree Warden will decide the method of restoration to be used and whether damaged trees shall be treated and healed or removed and disposed of.
 - 1. All scars made on trees by equipment, construction operations, or by the removal of limbs larger than 1-in in diameter shall be coated as soon as possible with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted.
 - 2. Climbing ropes shall be used where necessary for safety. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged by the Contractor and are beyond saving in the opinion of the Owner or Owner's Designee or local Tree Warden, shall be immediately removed and replaced.
- E. The locations of the Contractor's storage and other construction buildings required temporarily in the performance of the work, shall be cleared portions of the job site or areas to be cleared as shown on the Drawings and approved by the Owner or Owner's Designee and shall not be within wetlands or floodplains. The preservation of the landscape shall be an imperative consideration in the selection of all sites and in the construction of buildings. Drawings showing storage facilities shall be submitted for approval of the Owner or Owner's Designee.
- F. If the Contractor proposes to construct temporary roads or embankments and excavations for plant and/or work areas, he shall submit the following for approval at least ten days prior to scheduled start of such temporary work.
 - 1. A layout of all temporary roads, excavations, embankments and drainage to be constructed within the work area.
 - 2. Details of temporary road construction.
 - 3. Drawings and cross sections of proposed embankments and their foundations, including a description of proposed materials.
 - 4. A landscaping drawing showing the proposed restoration of the area. Indicate the proposed removal of any trees and shrubs outside the limits of existing clearing area. Indicate locations of guard posts or barriers required to control vehicular traffic and protect trees and shrubs to be maintained undamaged. The Drawing shall provide for the obliteration of construction scars as such and shall provide for a natural appearing final condition of the area. Modification of the Contractor's approved drawings shall be made only with the written approval of the Owner or Owner's Designee. No unauthorized road construction, excavation or embankment construction including disposal areas will be permitted.

- G. Remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess of waste materials, or any other vestiges of construction as directed by the Owner or Owner's Designee. It is anticipated that excavation, filling and plowing of roadways will be required to restore the area to near natural conditions which will permit the growth of vegetation thereon. This work is only anticipated to impact roadways, the disturbed areas will be prepared as described in Section 02576 "Pavement Repair and Resurfacing."
- H. All debris and excess material will be disposed of outside wetland or floodplain areas in an environmentally sound manner.
- I. All new tress shall be maintained and guaranteed by the Contractor for not less than one full year from the time of provisional acceptance.
- J. At the end of this period, any tree that is missing, dead, not true to name or size as specified, or not in satisfactory growth, as determined by the Owner or Owner's Designee, shall be replaced at no cost to the Owner. In case of any question regarding the condition and satisfactory establishment of a rejected plant, the Owner or Owner's Designee may allow such a plant to remain through another complete planting season at which time the rejected tree, if found to be dead, in an unhealthy, or badly impaired condition, shall be replaced at once at no cost to the Owner.
- K. All replacements shall be trees of the same kind and size, and the cost shall be borne by the Contractor except where it can be definitely shown that loss resulted from vandalism or the Owner's failure to maintain planting as instructed.
- L. At the end of the maintenance and guarantee period, and after all necessary corrective work has been completed, an inspection will be made by the Owner or Owner's Designee who will certify in writing the final acceptance of the trees.

3.5 PROTECTION OF AIR QUALITY

- A. Burning - The use of burning at the project site for the disposal of refuse and debris will not be permitted.
- B. Dust Control - Maintain all excavations, embankment, stockpiles, access roads, plant sites, waste areas, borrow areas and all other work areas within or without the project boundaries free from dust which could cause the standards for air pollution to be exceeded and which would cause a hazard or nuisance to others.
- C. An approved method of stabilization consisting of sprinkling or other similar methods will be permitted to control dust. The use of petroleum products is prohibited. The use of chlorides may be permitted with approval from the Owner or Owner's Designee.
- D. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor shall have sufficient competent equipment on the job to accomplish this. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs, as determined by the Owner or Owner's Designee.

3.6 NOISE CONTROL

- A. Make every effort to minimize noises caused by the construction operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with Federal and State regulations.

3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION

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

END OF SECTION

SECTION 01170
SPECIAL PROVISIONS

PART 1 GENERAL

1.01 GENERAL OBLIGATIONS OF THE CONTRACTOR

- A. General obligations of the Contractor shall be as set forth in the Contract Documents. Unless special payment is specifically provided in the payment paragraphs of the specifications, all incidental work and expense in connection with the completion of work under the Contract will be considered a subsidiary obligation of the Contractor and all such costs shall be included in the appropriate items in the Bid Form in connection with which the costs are incurred.
- B. Obtain and maintain all licenses required to complete the work, including but not limited to plumbing, contractor, municipal contractor licenses.

1.02 SITE INVESTIGATION

- A. Review and become familiar with the conditions existing within the project area, the type of equipment required to perform the work, the character, quality and quantity of the subsurface materials to be encountered insofar as this information is reasonably ascertainable from an inspection of the site(s), as well as from information presented by Contract Maps, Details and Specifications. Failure of the Contractor to become acquainted with the available information will not relieve the Contractor from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusions or interpretation made by the Contractor on the basis of the information made available by the Owner.
- B. Note that during excavations Contractor may encounter cobbles, street car tracks, railroad ties and/or tracks, etc. Excavation of these materials shall be considered as excavatable material and not specifically identified for separately payment.

1.03 COORDINATION WITH LOCAL AGENCIES

- A. Coordinate with the local Police Department, public and private schools, Fire Department, Traffic Engineering Department, Public Works Department, the Owner, and other City and local agencies as required, and supply the following information.
 - 1. A list of streets and intersections where work will be performed and the schedule (dates and work hours) for the work.
 - 2. Areas and dates where approved detours will be in effect.
 - 3. Immediate notification of any drain, gas or water main breaks.
- B. Advise local agencies of changes in the work schedule and locations immediately and provide construction progress updates.
- C. Maintain pavement as specified in Section 02576 and provide the Owner with a telephone number where the Contractor may be reached at any time of day or night. Upon notification by

the Owner or the Owner's Designee, promptly make such repairs as necessary to paved surfaces.

1.04 ASBESTOS CEMENT (AC) PIPE ABATEMENT REQUIREMENTS

- A. The Contractor shall employ the services of a Subcontractor who is licensed in the State of Rhode Island to perform asbestos abatement. All work associated with the handling of asbestos cement pipe shall be conducted only by the licensed Subcontractor.
- B. Subcontractor shall comply with all the laws, ordinances, codes, rules and regulations of the local, state and federal authorities including the requirements of the State of Rhode Island.
- C. Subcontractor shall execute all notifications and manifests, and obtain all permits and licenses for removing, handling and disposing of the AC pipe.
- D. Existing AC pipe shall not be saw cut. The collar at each joint shall be removed and then the section of pipe shall be removed from the trench without disturbing the AC pipe to remain in service.
- E. Submit to the Owner or Owner's Designee the following items prior to the performance of work associated with asbestos cement pipe.
 - 1. Copy of the Subcontractor's licenses to perform asbestos abatement work.
 - 2. Copy of training certificates for each worker.
 - 3. OSHA medical surveillance documents conducted within the last 12 months for each worker.
 - 4. Plan describing the method for performing air monitoring and sampling to be in compliance with OSHA Asbestos Standards.
 - 5. Name, address and applicable licenses of the transporter and landfill that will handle and dispose of the asbestos cement pipe.

1.05 EMPLOYEE IDENTIFICATION AND BACKGROUND CHECKS

- A. The successful bidder is required to submit all names of all employees who will be performing work on behalf of the Owner. The successful bidder, at no cost to Owner, is required to perform a State of Rhode Island BCI check on those employees. The Owner requires a sworn notarized affidavit that the named employees performing the work have successfully passed a State of Rhode Island BCI check. As new employees, and or subcontracted employees are hired, a State of Rhode Island BCI check must be performed for each individual. Submit an updated BCI screening list prior to them performing work for the Owner. The successful bidder is responsible for the professional behavior of their employees and Subcontractor employees while working at the Owner's job site.
- B. In the event of mitigating circumstances or blemishes found on the BCI, the Owner may consider granting an exemption. Exemptions are considered on a case by case basis, once all

parties agree to release the BCI results to the Owner. The Owner's executive panel will review all exemption requests and make a determination.

- C. The Owner reserves the right to deny access to private property to any person, as allowed by law. All of Contractor's employees, and subcontractor's staff and all other people associated with the Work that are to enter private property are required to possess and carry a valid and current Driver's License, Identification Card (issued by the Rhode Island Division of Motor Vehicles), or current driver's license from another State in the United States. This identification must include a photograph and signature of the holder.
- D. Provide project-specific identification badges labeled "PW Contractor" for use by Contractor's staff, all subcontractor's staff and all other personnel employed at the site. At least ten days in advance of accessing the site, submit to the Owner or Owner's Designee for approval a list of all Contractors' staff, all subcontractor's staff, and all other personnel intended to work at the site requiring a photographic identification badge. The list shall include the name, employer (Contractor and subcontractor), and work phone number of each person requiring a photographic identification badge along with a sample of the identification badge. Upon approval by the Owner or Owner's Designee, prepare the identification badges. Order identification badges for all new employees or subcontractor's employees that will be working on private property throughout the course of the project.
- E. Keep a written record of the name, employer and work telephone number of each person issued a photo identification badge. Lost or missing badges shall be reported immediately to the Owner or Owner's Designee.
- F. If any Contractor's employee is reassigned to other sites or terminated during the construction, the Contractor shall return the badge issued to that employee to the Owner. The Contractor shall be responsible for collecting and returning the badges from all Contractors' staff, all subcontractor's staff all other personnel when their particular assignment on the site is complete.
- G. It is required that all trucks and equipment shall be marked with company logo. Contractor employees and subcontractors shall wear a uniform shirt or vest with the Contractor's logo displayed at all times while working.

1.06 WORK ON PRIVATE PROPERTY/ACCESS

- A. Right-Of-Entry and Replacement Agreement
 - 1. Before scheduling or commencing any work on private property, Owner will obtain the consent of each Customer on Owner's (ROE) and Replacement Agreement form (a sample is provided at the end of this section). No work shall commence on private property until Owner has obtained a ROE and Replacement Agreement form authorizing permission to complete work on the private property.
- B. Coordination with Owner
 - 1. Coordinate all work activities with the Owner and Owner's Designee.
 - 2. Coordinate all policing needs with the Owner, Owner's Designee, and police.
- C. Coordination with other contractors

- D. Coordinate all work activities with any other Contractors performing work in adjacent areas.
- E. Coordination with Customers
- F. Owner will obtain Homeowner signatures for the ROE and Replacement Agreement Form prior to Contractor commencing construction activities. Contractor shall have hard copy of ROE and Replacement Agreement Form in hand when attempting to schedule and access private property.
 - 1. Coordinate all work activities with Customers whose water service may be temporarily interrupted to facilitate work for this project. No water services shall be disconnected without alerting the customer and for a duration more than 8-hours.
 - 2. Schedule construction activities at the convenience of the Customer. If the Customer cancels the work or is unavailable at the time of the scheduled appointment, the Contractor shall attempt to reschedule the work with the customer within 72 hours at the mutual convenience of the Customer and Contractor.
 - 3. Customer shall provide reasonable access and a working area for the Contractor at the service line and water meter location inside their home. If such access is not provided, Contractor shall request Customer provide such access within 72 hours. If no access is provided during that time, immediately inform Owner and Owner's Designee in writing of the address and Customer name. If no access is provided by the Customer, then they shall be removed from the contract list, and the Contractor shall not be compensated for any work at this address.
 - 4. Any Contractor personnel that will enter private property for any work on this project are required to have background checks and badges/identification. Only personnel which have completed background checks and issued badges/identification by the Owner shall enter private property. No Contractor personnel will be allowed to attempt entry into private property or enter private property without wearing proper identification.\
 - 5. The Contractor, subcontractors and all members of the construction crew shall continuously use all courtesies when working with the residents and their property. Such practices include, but are not limited to, using foot covers when inside the home, using electric saws and performing dust control to minimize any air contamination. Contractor shall minimize property disturbance to the minimum necessary disturbance in order to complete the replacement work.

1.07 HOURS OF CONSTRUCTION

- A. Work outside of normal hours as specified in section 01014 may be done upon Customers' request. Notify Owner and Owner's Designee of such work and Contractor shall make all accommodations to meet such Customer requests. All work performed to accommodate the Customer shall be done at no additional cost to Owner; this includes overtime and weekend work.

1.08 PUBLIC UTILITIES

- A. Comply with all state and local requirements related to excavations in public and private property. Compliance shall include the following:
 - 1. Notify public utility companies in writing at least seventy-two (72) hours (excluding Saturdays, Sundays and legal holidays) but not more than thirty (30) days before excavating in areas where underground utilities (pipes, cables, manholes, etc.) exist.
 - 2. The Contractor shall be responsible for providing the Utility Companies with a schedule of his activities in areas where their utilities exist.
 - 3. Immediately notify utility companies of any damage to their utilities resulting from construction operations and coordinate repair to such utilities with the utility company at no cost to the Owner.
 - 4. Notify Dig Safe at 811 at a minimum of 72 hours before digging, trenching, boring, test pits, backfilling, grading, landscaping, or other earthmoving operations in any public ways, rights of way and easements.
- B. All mark outs of utilities shall be considered by the Contractor as the approximate location for the purpose of damage prevention. The Contractor shall be solely responsible for employing prudent techniques to determine the precise position of the water distribution system underground facility for connection purposes. No additional compensation or time extensions will be made for mis-marked utilities.

1.09 PERMITS

- A. The Contractor shall be required to obtain all necessary permits for proper execution of certain phases of the project that were not obtained by the Owner. Fill out all forms and furnish all drawings required to obtain the permits. A copy of the approved permit shall be submitted to the Owner or Owner's Designee. Permit fees will not be reimbursed through an allowance item but will be included as part of the respective replacement bid item. Work shall not commence on any phase of the work requiring a permit until the permit is obtained.
- B. Obtain required street, sidewalk opening, and road closure permits for excavations and work within streets or sidewalk areas. Road opening, sidewalk, and road closure permit fees will not be reimbursed through an allowance item but will be included as part of the respective replacement bid item.
- C. Prepare and submit the plumbing permit and Providence Water Supply Board standard service application on behalf of the Customer. Plumbing permit fees are included as part of the bid items and will not be reimbursed under any allowance item.

1.10 PROGRESS SCHEDULE

- A. Submit a progress schedule before starting any work, in accordance with Article 2.05A.1 of the General Conditions.

- B. Review the progress schedule with the Owner or Owner's Designee on a monthly basis or more frequently as required by the Owner or Owner's Designee. The progress schedule shall be adjusted as required in accordance with the General Conditions.

1.11 DISRUPTIONS TO THE EXISTING WATER SYSTEM

- A. If during the course of the excavation, the Contractor, for whatever reason, causes existing water mains to fail, restore service in the shortest possible time, working around the clock if necessary. Pay all costs associated with, or resulting from, all water main breaks at no additional cost to the Owner or Customer. Cooperate with the Owner in supplying emergency water.
- B. Planned or scheduled water shutdowns (only if approved by the Owner's Designee or Owner) require the Contractor to notify the Owner in writing at least 72 hours prior to work on the existing water distribution system, including water distribution shutdown requests.
- C. Notify all affected residents and businesses along the project limits of any impending water main or water service work. It is the Contractor's responsibility to provide and distribute written notifications describing the expected water distribution system construction activities, the responsibility of the residents and/or businesses, how long the residents and/or businesses will be without service, and the estimated time of completion of the water distribution system construction activities. The notice should identify the location of the water distribution system construction activities as well as the times of any disruptions to the water system. The water distribution system shall not be taken out of service unless everyone serviced by the water main or water service has been notified at least 72 hours in advance. Notifications shall include 24-hour local or toll-free telephone numbers on the written notification in order to accommodate the residents' or business owners' questions or comments. Notices shall be approved in advance by the Owner and Owner's Designee and shall be written in English and Spanish.
- D. The Contractor shall distribute "Shutdown Notices" to each building, which will have their water service temporarily shut off as a result of the Contractor's construction activities, 24 hours prior to the Contractor shutting off the occupant's water. Blank "24 Hour Shutdown" notifications will be furnished by the Owner to the Contractor. The Contractor shall provide accurate "Date", "Time of Shutdown", and "Duration of Shutdown" information on the notices prior to distribution.

1.12 TOOLS

- A. Any special tools unique to a special piece of equipment or appurtenances (including grease guns or other lubricating devices) which may be necessary for the adjustment, operation, and maintenance of any equipment or appurtenances shall be furnished with the respective equipment.

1.13 PARTS

- A. Parts for certain appurtenances have been specified in the pertinent Sections of the Specifications. Deliver to the Owner all required parts.
- B. Parts shall be packed in original cartons, properly labeled with indelible markings with complete descriptive information including manufacturer, part number, and part name.

1.14 CONNECTIONS TO EXISTING WATER MAINS

- A. Perform all work necessary to locate, excavate and prepare for connections to the existing mains and service connections. The cost for this work and the physical connection of new water service lines to the existing mains shall be included in the bid for the project and shall not result in any additional cost to the Owner.
- B. The Owner may direct services be transferred to a newer or larger adjacent main located on the same part of the street as the lead service line replacement. Existing service will be capped/plugged at the existing main. The service shall be transferred to the adjacent main, with a new connection of the same size as the service line. The cost for this work and the actual connection to the adjacent mains shall be included in the respective replacement bid item and shall not result in any additional cost to the Owner.

1.15 EXISTING WATER SERVICE LINES

- A. Existing service lines made of galvanized steel are known to be brittle and have several bends. They may not extract in one piece if pipe pulling is used. The difficulty of pulling the existing pipe shall not result in any additional cost to the Owner.

1.16 UTILITY CROSSINGS

- A. It is intended that wherever existing utilities such as water, sewer, electrical or other service lines must be crossed, deflection of the pipe within recommended limits and cover shall be used to clear the obstruction satisfactorily. However, when in the opinion of the Owner or Owner's Designee this procedure is not feasible the Owner or Owner's Designee may direct the use of fittings for a utility crossing.

1.17 DAMAGE ON ACCOUNT OF HIGH WATER

- A. The Contractor will hold themselves responsible for all damage done to Contractor's work by heavy rains or floods, and Contractor shall take all reasonable precautions to provide against damages by building such temporary dikes, channels, or shoring to carry off stormwater as the nature of the work may require.

1.18 RELOCATIONS

- A. Contractor is responsible for the relocation of above-ground structures, including but not limited to light poles, signs, sign poles, fences, piping, laterals and french drains that interfere with the positioning of the work. The cost of all such relocations shall be included in the bid for the project and shall not result in any additional cost to the Owner.

1.19 OBSTRUCTIONS

- A. The attention of the Contractor is drawn to the fact that during excavation at the Project site, the possibility exists of the Contractor encountering various water, sewer, electrical, or other lines unknown to Owner or Owner's Designee. Exercise extreme care before and during excavation to locate and flag these lines to avoid damage to the existing lines. Should damage occur to an existing line, repair the line at no cost to the Owner.

- B. It is the responsibility of the Contractor to ensure that all utility or other poles, the stability of which may be endangered by the close proximity of excavation, are temporarily stayed in position while work proceeds in the vicinity of the pole and that the utility or other companies concerned be given reasonable advanced notice of any such excavation by the Contractor.

1.20 EXCAVATED SOIL

- A. The project excavation areas are located within the public right of way and private property. All excess soils for disposal shall be excavated, stockpiled, hauled and disposed of in accordance with all local, state and federal regulations at no additional cost to the Owner.
- B. Native soil may be reused on the property it was excavated from if it meets the requirements for Common Fill in accordance with Section 02230.

1.21 PROVISIONS FOR CONTROL OF EROSION

- A. Take sufficient precautions during construction to minimize the run-off of polluting substances such as silt, clay, fuels, oils, bitumens and calcium chloride into the supplies and surface waters of the State. Special precautions shall be taken in the use of construction equipment to prevent operations which promote erosion.
- B. Disposal of drainage shall be in an area approved by the Owner. Prevent the flow or seepage of drainage back into the drainage area. Drainage shall not be disposed of until silt and other sedimentary materials have been removed. Particular care shall be taken to prevent the discharge of unsuitable drainage to a water supply or surface water body.
- C. As a minimum, the following shall apply:
 - 1. Staked bales of hay and/or silt fence shall be provided at points where drainage from the work site leaves the site, to reduce the sediment content of the water. Sufficient bales of hay shall be provided such that all flow will filter through the hay. Other methods which reduce the sediment content to an equal or greater degree may be used as approved by the Owner or Owner's Designee.
 - 2. Drainage leaving the site shall flow in a manner to prevent erosion.
- D. Measures for control of erosion shall be adequate to assure that turbidity in the receiving water will not be increased more than 10 standard turbidity units (s.t.u.), or as otherwise required by the State or other controlling body, in waters used for public water supply or fish unless limits have been established for the particular water. In surface water used for other purposes, the turbidity shall not exceed 25 s.t.u. unless otherwise permitted.
- E. When excavating in wetlands or floodplain, where no temporary diversion structure is required, place the excavated material on the uphill side of the trench so that the trench serves as a barrier between the excavated material and the wetland or floodplain.

1.22 USE OF HYDRANTS AND VALVES

- A. Contractor shall use hydrants that are assigned by the Providence Water Supply Board during the pre-construction meeting and subsequent construction meetings. Travel costs or additional

time related to the use of these limited hydrants will not trigger a change order. Under no circumstances shall a ball valve be used to shut off water at the hydrant..

- B. Before accessing any hydrant, Contractor shall confirm with Providence Water Supply Board that the desired hydrant is acceptable to use.
- C. All Contractor valve operation must be under the direct supervision of an Owner's representative. The immediacy of water main shutdowns or valve operation is not warranted by Owner. In the operation of valves, for the purpose of shutting down existing mains, Owner does not guarantee or imply that shut down will be completely effective in stopping the flow of water to open ends. The Contractor must notify Owner and/or its representative of all problematic valves. Ultimately, the Owner will make the determination on whom will accomplish the valve repair or replacement.
- D. Unless directed otherwise by the Owner, the Contractor may not shutdown the same section of customers for two consecutive time periods (i.e., the same section of customers may not be shut down one day, reactivated, and then shut down again the following day).

1.23 STEEL ROAD PLATE USAGE

- A. At the end of each day the Contractor shall remove all debris, stored material, equipment, and generally sweep the site(s), and all excavations shall be paved with temporary bituminous pavement or trench plated, with approval from the Owner.
- B. Extensive use of trench plates overnight shall not be allowed.
- C. Steel plates shall be designed for the safety of vehicles and pedestrians and conform to the following requirements.

Steel plates shall withstand traffic loading without movement;

1. When two (2) or more steel plates are used, the plates shall be pinned in a manner to eliminate vertical movement;
2. All steel plates shall be marked with the utility or contractor name and contact information;
3. Steel plates shall be installed to extend a minimum of twelve inches (12") beyond the edge of the excavation;
4. Temporary paving with a cold asphalt mix shall be used to feather the edges of the plate to form a wedged taper to cover the edges of the steel plate;
5. Each corner of the steel plate shall be marked with durable and highly reflective white pavement marking tape no less than four inches (4") in width;
6. The exposed surface area of the steel plate shall be slip resistant or if required by the DPW Director (or the appropriate municipal authority) have a friction coefficient equal to the street surface friction coefficient;

7. All signage advising motorists of the steel plate shall be in compliance with the current addition of the manual on uniform traffic control devices.

END OF SECTION

PROVIDENCE WATER SUPPLY BOARD (PWSB)

RIGHT OF ENTRY AND RELEASE FORM FOR SERVICE LINE REPLACEMENT.

PLEASE RETURN BY

PERSONAL CONTACT INFORMATION (REQUIRED)

Owner Name(s):

Stop Number:

Account Number:

Providence Water ("PWSB") requests that you, as an owner of your Property ("**you**"), sign, complete, and return this document ("**Right of Entry**") to grant PWSB's Contractor and Representatives a right of entry onto your property, at the address ("**your Property**"), so PWSB may provide your Property with a service line replacement (the "Work"). *If you are a tenant*, please provide a copy of this Right of Entry to your landlord and have the landlord sign. *If your property is rented*, please notify your tenant of the scheduled work.

REASON FOR PWSB'S REQUEST FOR A RIGHT OF ENTRY:

SERVICE LINE REPLACEMENT: PWSB's records indicate that the pipe from PWSB's water main to your home may need to be replaced. PWSB's contractor will be replacing the service. PWSB's Contractor, and other Representatives will need access to your Property to perform work associated with the service removal and replacement. Before beginning, PWSB's Contractor will notify you when they will be on your Property to perform the work. It is your responsibility to provide reasonable access and a working area for the Contractor at the service line and water meter location as requested by the Contractor. The Contractor and PWSB Representatives may continue to enter onto your Property until construction is completed and you and PWSB accepts the work.

RIGHT-OF-ENTRY:

By signing and returning this Right of Entry, you grant PWSB, its Representatives and Contractor the right to enter your Property between the hours of 7:00 a.m. and 6:00 p.m. The right to enter your property is for the purpose of **replacement of your service line**.

PWSB's Contractor will identify themselves prior to entering the property.

This Work involves shutting off your water service for an estimated eight (8) hours, removal of your existing water service, installation of a new service from the street to your home and through your basement to the existing water meter, connection to PWSB water main and flushing the new service. Work also involves interior work in the area of the water meter to install the new service from the exterior to the interior of the building, including plumbing work (e.g., new valves, backflow preventer, expansion tank, pressure reducing valve, etc.) in the area of the water meter to meet the current Plumbing Code.

All construction excavations will be backfilled, topped with topsoil, and seeded. Any removed asphalt or concrete will be replaced in-kind. The penetration through the building wall or floor will be sealed. No other restoration of existing internal surfaces, finishes or other features will be performed.

Any other items located in the way of the construction, and disturbed during construction on private property outside the building (including but not limited to walls, fences, shrubs and other landscaping, brick sidewalks or driveways, and lawns requiring specific seed or sod), will not be restored. If disturbed by the Contractor, stones, fences, shrubs, plants, bricks, sod, etc., will be left on the property for re-use by the Owner, and the costs of re-installation or restoration shall be borne by the Owner. Neither PWSB nor the Contractor is responsible for damage to trees, shrubs, and living plant material disturbed as a result of construction operations to replace the private service line. The Owner will be required to dig up plant materials that they wish to save prior to the start of construction, and provide the necessary protection for the plants during construction. The Owner will be responsible for the replanting of the plant material.

In consideration of the foregoing, you affirm that you are the lawful, recorded owner at your Property and hereby grant PWSB Right of Entry allowing PWSB and its contractors, agents, and employees to enter your Property, take photographs and videos of the interior and exterior of your property in the area of the water service line before and after installation, bring workers, material, equipment, and supplies onto your Property and to utilize your Property for the purpose of performing your service line replacement.

IN CONSIDERATION OF AND AS A CONDITION TO THE PERFORMANCE OF THE SERVICE LINE REPLACEMENT, YOU, THE UNDERSIGNED, HEREBY RELEASE AND FOREVER DISCHARGE PWSB, ITS EMPLOYEES, AND LEGAL REPRESENTATIVE (COLLECTIVELY THE "PWSB") FROM ALL LIABILITY FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS, REAL PROPERTY, OR PERSONAL PROPERTY IN CONNECTION WITH THE PERFORMANCE OF THE SERVICE LINE REPLACEMENT. YOU UNDERSTAND THAT PWSB'S CONTRACTOR ACTUALLY PERFORMING THE WORK WILL BE RESPONSIBLE FOR ANY CLAIM IN CONNECTION TO THIS RIGHT OF ENTRY FOR DAMAGE TO YOUR PROPERTY OR ASSETS ON YOUR PROPERTY.

SIGN BELOW:

Name (Property Owner/Authorized Tenant):

Property Address (Street Number & Street Name): _____

Signature (Name) **Date** **Mailing Address (Street Number & Street**

Printed name **City** **State Zip**

Phone number **Email address**

ONCE COMPLETED, RETURN BY EMAIL OR MAIL TO CONTRACTOR:

Scan and e-mail:

Mail: Providence Water

125 Dupont Drive
Providence, RI 02907
Attn: Water Quality Group

REQUESTS & CLAIMS:

A. YOUR PRESENCE DURING WORK: Someone must be present during the work to provide access to the Contractor in the area where your water service line enters your home up to your meter.

B. CLAIM PROCEDURES: In order to make a claim against the PWSB's Contractor for damage to your Property in connection to this Right of Entry, please call (401) 521-6303 and have a copy of this Right-of-Entry form available.

JUNTA DEL SUMINISTRO DE AGUA DE PROVIDENCE (PWSB)

PERMISO DE INGRESO Y FORMULARIO DE AUTORIZACIÓN PARA LA SUSTITUCIÓN DE LA TUBERÍA DE SERVICIO.

POR FAVOR, ENVIAR ANTES DE

INFORMACIÓN PERSONAL DE CONTACTO (OBLIGATORIA)

Nombre del/la propietario/a:

Número de válvula:

Número de cuenta:

Providence Water ("PWSB") solicita que usted, como dueño de su propiedad ("usted"), firme, complete y envíe este documento ("**Permiso de ingreso**") para conceder al contratista y a los representantes de PWSB el permiso de ingreso a su propiedad, en la dirección ("**su propiedad**"), para que PWSB pueda realizar en su propiedad el reemplazo de la tubería de servicio (el "Trabajo"). Si usted es un inquilino, por favor proporcione una copia de este permiso de ingreso a su propietario y haga que el propietario firme. Si su propiedad *está alquilada*, por favor notifique a su inquilino del trabajo programado.

MOTIVO DE LA SOLICITUD DEL PERMISO DE INGRESO DE PWSB:

REEMPLAZO DE LA TUBERÍA DE SERVICIO: El contratista de PWSB reemplazará la tubería. El contratista de PWSB, y otros representantes, necesitarán acceso a su propiedad para realizar el trabajo asociado con la remoción y reemplazo de la tubería de servicio. Antes de comenzar, el contratista de PWSB le notificará cuándo estará en su propiedad para realizar el trabajo. Es su responsabilidad proporcionar un acceso razonable y un área de trabajo para el Contratista en la tubería de servicio y la ubicación del contador de agua según lo solicitado por el Contratista. El Contratista y los Representantes de PWSB pueden continuar entrando en su Propiedad hasta que la construcción esté terminada y usted y PWSB acepten el trabajo.

PERMISO DE INGRESO:

Al firmar y devolver este Permiso de ingreso, usted otorga a PWSB, sus Representantes y el Contratista, el permiso de entrar en su Propiedad entre las horas de 7:00 a.m. y 6:00 p.m. El permiso de entrar en su propiedad es con el propósito de reemplazar su tubería de servicio.

El contratista de PWSB se identificará antes de entrar en la propiedad.

Este trabajo implica el corte de su servicio de agua durante aproximadamente ocho (8) horas, la remoción de su tubería de servicio de agua existente, la instalación de una tubería de servicio desde la calle hasta su casa y a través de su sótano hasta el contador de agua existente, la conexión a la red de agua de PWSB y el llenado de la nueva tubería. El trabajo también incluye el trabajo interior en el área del contador de agua para instalar la nueva tubería de servicio desde el exterior hasta el interior de la edificación, incluyendo el trabajo de plomería (por ejemplo, nuevas válvulas, válvula contra reflujo, tanque de expansión, válvula de reducción de presión, etc.) en el área del contador de agua para cumplir con el Código de Plomería actual.

Todas las excavaciones de la construcción se rellenarán, se cubrirán con mantillo y se sembrarán. El asfalto y el hormigón retirados se sustituirán en especie. Se sellará la penetración de la pared o el suelo de la edificación. No se llevará a cabo ninguna otra restauración de las superficies internas existentes, acabados u otras características.

Cualquier otro elemento situado en el camino de la construcción, y modificado durante la construcción en la propiedad privada fuera de la edificación (incluyendo pero no limitado a las paredes, vallas, arbustos y otros jardines, aceras de ladrillo o calzadas, y el césped que requiere semillas o césped específico), no será restaurado. Si son modificados por el Contratista, las piedras, las vallas, arbustos, plantas, ladrillos, césped, etc., se dejarán en la propiedad para su reutilización por el Propietario, y los costos de reinstalación o restauración correrán a cargo del Propietario. Ni la PWSB ni el Contratista son responsables de los daños causados a los árboles, arbustos y material vegetal vivo perturbado como resultado de las operaciones de construcción para reemplazar la tubería de servicio privada. El Propietario deberá desenterrar los materiales vegetales que desee salvar antes del inicio de la construcción, y proporcionar la protección necesaria para las plantas durante la construcción. El propietario será responsable de volver a plantar el material vegetal.

Teniendo en cuenta lo anterior, usted afirma que es el propietario legal y registrado en su Propiedad y por la presente concede a PWSB el Permiso de Ingreso permitiendo a PWSB y a sus contratistas, agentes y empleados entrar en su Propiedad, tomar fotografías y videos del interior y exterior de su propiedad en el área de la tubería de servicio de agua antes y después de la instalación, llevar trabajadores, material, equipo y suministros a su Propiedad y utilizar su Propiedad con el propósito de realizar el reemplazo de su tubería de servicio.

EN CONSIDERACION Y COMO CONDICION PARA LA REALIZACION DEL REEMPLAZO DE LA TUBERÍA DE SERVICIO, USTED, EL ABAJO FIRMANTE, POR LA PRESENTE LIBERA Y EXIME PARA SIEMPRE A PWSB, SUS EMPLEADOS Y REPRESENTANTE LEGAL (COLECTIVAMENTE EL "PWSB") DE TODA RESPONSABILIDAD POR LESIONES, MUERTE, DAÑOS O PÉRDIDAS A PERSONAS, BIENES RAÍCES O BIENES PERSONALES EN RELACION CON LA REALIZACIÓN DEL REEMPLAZO DE LA TUBERÍA DE SERVICIO. USTED ENTIENDE QUE EL CONTRATISTA DE PWSB QUE REALICE EL TRABAJO SERÁ RESPONSABLE DE CUALQUIER RECLAMO EN RELACIÓN CON ESTE PERMISO DE INGRESO POR DAÑOS A SU PROPIEDAD O A LOS BIENES DE SU PROPIEDAD.

FIRME ABAJO:

Nombre (Propietario/a/Arrendatario autorizado/a): _____

Dirección de la propiedad (número y nombre de la calle):

Firma: Fecha: Dirección postal (número y nombre de la calle):

Aclaración: Ciudad: Código postal del estado:

Número de teléfono: Correo electrónico:

UNA VEZ COMPLETADO, POR FAVOR ENVÍELO POR CORREO ELECTRÓNICO O POR CORREO AL CONTRATISTA:

Por favor escanee y envíe el documento por correo electrónico a: pwsblsr@provwater.com

Correo: Providence Water
125 Dupont Drive
Providence, RI 02907
Attn: Water Quality Group

PETICIONES Y RECLAMOS:

- A. SU PRESENCIA DURANTE EL TRABAJO:** Alguien debe estar presente durante el trabajo para dar acceso al Contratista en el área donde su tubería de servicio de agua entra en su casa hasta su medidor.
- B. PROCEDIMIENTOS PARA HACER RECLAMOS:** Para presentar un reclamo contra el Contratista de la PWSB por daños a su Propiedad en relación con este Permiso de ingreso, por favor llame al (401) 521-6303 y tenga a mano una copia de este formulario de Permiso de ingreso.

NO, I CHOOSE NOT TO REPLACE MY SERVICE LINE

I, the undersigned, **choose not to replace** the portion of service line which I own.

Printed Name

Date

Signature

Telephone Number

Your feedback is important to us. Please check the reason for choosing not to participate in Providence Water's Service Line Replacement Program:

- I am not concerned about my service line.
- I want to be able to hire my own contractor.
- Other – please explain:

NO, ELIJO NO REEMPLAZAR MI TUBERÍA DE SERVICIO

Yo, el abajo firmante, **decido no sustituir** la parte de la tubería de servicio de la que soy propietario.

Aclaración

Fecha

Firma

Número de teléfono

Su opinión es importante para nosotros. Por favor, marque la razón por la que eligió no participar en el programa de reemplazo de tuberías de servicio de Providence Water:

- No me preocupa el servicio.
- Quiero poder contratar a mi propio contratista.
- Otros - por favor, explique: _____

SECTION 01300
SUBMITTALS

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section specifies the general methods and requirements of submissions applicable to Shop Drawings, Product Data, Samples, Construction Photographs, and Construction or Submittal Schedules. Additional general submission requirements are contained in Article 7.16 of the General Conditions. Detailed submittal requirements are specified in the technical sections.
- B. All submittals shall be clearly identified by reference to Section Number, Paragraph, Contract Map number or Detail as applicable. Submittals shall be clear and legible and of sufficient size for presentation of data.
 - 1. Submittals are categorized into two types: Action Submittals and Informational Submittals
Action Submittal: Written and graphic information submitted by the Contractor that requires the Owner and Owner's Designee's approval. The following are examples of action submittals:
 - a. Shop drawings (including working drawings and product data)
 - b. Samples
 - c. Operation & maintenance manuals
 - d. Site Usage Plan (Contractor's staging - including trailer siting and material laydown area)
 - e. Schedule of values
 - f. Payment application format
 - 2. Informational Submittal: Information submitted by the Contractor that does not require the Owner or Owner's Designee's approval. The following are examples of informational submittals:
 - a. Shop Drawing Schedule
 - b. Construction Schedule
 - c. Construction Sequencing Plan
 - d. Statements of Qualifications
 - e. Health and Safety Plans including precautions to prevent the spread of COVID-19
 - f. Construction Photography and Videography
 - g. Work Plans
 - h. Maintenance of Traffic Plans
 - i. Outage Requests
 - j. Proposed Testing Procedures
 - k. Test Records and Reports
 - l. Vendor Training Outlines/Plans
 - m. Test and Start-Up Reports
 - n. Certifications
 - o. Record Drawings
 - p. Record Shop Drawings
 - q. Submittals required by laws, regulations and governing agencies
 - r. Submittals required by funding agencies

- s. Other requirements found within the technical specifications
- t. Warranties and Bonds
- u. Contract Close-out Documents

1.02 RELATED WORK

- A. Additional requirements may be specified in the General Conditions for the Contract.
- B. Additional submittal requirements may be specified in the respective technical Specification Sections.
- C. Requests for Information are included in Section 01038.
- D. Photographic Documentation is included in Section 01322.
- E. Contract Closeout submittals are included in Section 01700.
- F. Project Record Documents are included in Section 01720.

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. All submittals shall be clearly identified as follows:
 - 1. Date of Submission
 - 2. Project Number
 - 3. Project Name
 - 4. Contractor Identification
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 - d. Manufacturer or supplier representative
 - 5. Identification of the Product
 - 6. Reference to Contract Maps and Details
 - 7. Reference to specification section number, page and paragraph(s)
 - 8. Reference to applicable standards, such as ASTM or Federal Standards numbers
 - 9. An indication of Contractor's approval
 - 10. Contractor's Certification statement
 - 11. Identification of deviations from the Contract Documents, if any
 - 12. Reference to previous submittal (for re-submittals)
 - 13. Made in America (when required by the Contract)
- B. Submittals shall be clear and legible, and of sufficient size for legibility and clarity of the presented data.
- C. Submittal Log: Maintain a log of all submittals. The submittal log shall be kept accurate and up to date. This log should include the following items (as applicable):
 - 1. Description
 - 2. Submittal Number

3. Date transmitted to the Owner or Owner's Designee
 4. Date returned to Contractor (from Owner or Owner's Designee)
 5. Status of Submittal (Approved/Not Approved/etc.)
 6. Date of Resubmittal to Owner or Owner's Designee and Return from Owner or Owner's Designee (if applicable and repeat as necessary)
 7. Date material released for fabrication
 8. Projected (or actual) delivery date
- D. Numbering System: Utilize the following submittal identification numbering system:
1. The first character shall be a D, S, M or I which represents Shop Drawing (including working drawings and product data), Sample, Manual (Operating & Maintenance) or Informational, respectively.
 2. The next five digits shall be the applicable Section Number.
 3. The next three digits shall be the sequential number of each separate item or drawing submitted under each Specification Section, in the chronological order submitted, starting at 001.
 4. The last character shall be a letter, A to Z, indicating the submission (or resubmission) of the same submittal, i.e., "A" = 1st submission, "B" = 2nd submission, "C" = 3rd submission, etc. A typical submittal number would be as follows:
 - a. D-03300-008-B.
 - b. D = Shop Drawing
 - c. 03300 = Section for Concrete.
 - d. 008 = the eighth different submittal under this Section.
 - e. B = the second submission (first resubmission) of that particular shop drawing.
 5. Submittals that are not cataloged as described in this Section will not be reviewed by the Owner or Owner's Designee and will be immediately returned to the Contractor for resubmittal.
- E. Variances
1. Notify the Owner or Owner's Designee in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
 2. Notify the Owner or Owner's Designee in writing, at the time of re-submittal (resubmission), of all deviations from previous submissions of that particular shop drawing, except those deviations which are the specific result of prior comments from the Owner or Owner's Designee.
- F. Submit all of the data and documents required by the Contract Documents (unless specified otherwise) to the Owner or Owner's Designee electronically:
1. Facilitate exchanging information electronically
 2. Expedite the review process for submitted documents
 3. Centralize Project information
- G. Project communications shall be submitted and processed using electronic file sharing and shall be the primary communication tool for all document transfers between the Owner, the Owner's Designee, and the Contractor.

1.04 SHOP DRAWINGS, PRODUCT DATA, SAMPLES, OUTAGE REQUEST

A. Shop Drawings

1. Shop drawings as specified in individual Sections include such items as custom-prepared data such as fabrication and erection/installation (working) drawings, scheduled information, setting diagrams, actual shopwork manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports including pump curves and certifications, as applicable to the Work.
2. All shop drawings submitted by subcontractors shall be sent directly to the Contractor for checking. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
3. Check all subcontractors' shop drawings regarding measurements, size of members, materials and details to make sure that they conform to the intent of the Details and related Sections. Return shop drawings found to be inaccurate or otherwise in error to the subcontractors for correction before submission thereof.
4. All details on shop drawings shall show clearly the relation of the various parts to the main members and lines of the structure and where correct fabrication of the work depends upon field measurements, such measurements shall be made and noted on the drawings before being submitted.
5. Submittals for equipment or material specified under Divisions 2 or 3 shall include a listing of all installations where identical or similar equipment or material has been installed and been in operation or use for a period of at least one year.
6. Delays to construction due to the untimely submission of submittals will constitute inexcusable delays, for which Contractor shall not be eligible for additional cost nor additional contract time. Inexcusable delays consist of any delay within the Contractor's control.

B. Product Data

1. Product data as specified in individual Sections include such items as, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliance and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing and printed product warranties, as applicable to the work.

C. Samples

1. Samples specified in individual Sections include, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols and units of work to be used by the Owner's Designee or Owner for independent inspection and testing, as applicable to the work.

D. Outage Request

1. Provide sufficient notification of any outages required (electrical, flow processes, etc.) as may be required to tie-in new work into existing facilities. Unless specified otherwise elsewhere, a minimum of seven calendar days' notice shall be provided.

E. Proposed Testing Procedures

1. Prepare and submit testing procedures it proposes to use to perform the testing required by the various technical specifications.

F. Test Records and Reports

1. Provide copies of all test records and reports as specified in the various technical specifications.

G. Record Information

1. No later than Substantial Completion, submit a record of all changes during construction not already incorporated into drawings – in accordance with specification on Project Record Documents.

H. Record Shop Drawings

1. Before final payment is made, furnish one set of record shop drawings to the Owner or Owner's Designee. These record shop drawings shall be in conformance with the approved documents and should show any field conditions which may affect their accuracy.
2. Submittals required by laws, regulations and governing agencies.
 - a. Prepare and submit all documentation required by state or local law, regulation or government agency directly to the applicable agency. This includes, but is not limited to, notifications, reports, certifications, certified payroll (for projects subject to wage requirements) and other documentation required to satisfy all requirements. Provide to Owner or Owner's Designee one copy of each submittal made in accordance with this paragraph.
3. Submittals required by funding agencies
 - a. Prepare and submit all documentation required by funding agencies. This includes, but is not limited to segregated pay applications and change orders when required to allocate funds to different funding sources properly; and certified payrolls for projects subject to wage requirements. Provide one copy of each submittal made in accordance with this paragraph to the Owner or Owner's Designee.

I. Other requirements of the technical Specification Sections

1. Comply with all other requirements of the technical specifications.

1.05 CONTRACTOR'S CERTIFICATION

- A. Review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:
 1. Field measurements

2. Field construction criteria
3. Catalog numbers and similar data
4. Conformance with related Sections

- B. Each shop drawing, sample and product data submitted by the Contractor shall have affixed to it the following Certification Statement including the Contractor's Company name and signed by the Contractor:

"Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements."

Shop drawings and product data sheets 11-in x 17-in and smaller shall be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet. Submittals presented without a Certification Statement will not be reviewed by the Owner or Owner's Designee and will be immediately returned to the Contractor for resubmittal. The cover sheet shall fully describe the packaged data and include a listing of all items within the package. Provide to the Resident Project Representative a copy of each transmittal sheet for shop drawings, product data and samples at the time of submittal to the Owner or Owner's Designee.

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

1.06 SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the Work or in the work of any other contractor.
- B. Each submittal, appropriately coded, will be returned within 30 working days following receipt of submittal by the Owner or Owner's Designee.
- C. All submittals and RFI's shall be provided to the Owner or Owner's Designee via electronic file sharing.

D. Number of submittals required:

1. Shop Drawings: One (1) PDF submission
2. Product Data: One (1) PDF submission.
3. Samples: Submit the number stated in the respective Sections.

E. Submittals shall contain:

1. The date of submission and the dates of any previous submissions.
2. The Project title and number.
3. Contractor identification.
4. The names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
5. Identification of the product, with the section number, page and paragraph(s).
6. Field dimensions, verified prior to submission, clearly identified as such.
7. Relation to adjacent or critical features of the work or materials.
8. Applicable standards, such as ASTM or Federal Standards numbers.
9. Identification of deviations from Contract Documents.
10. Identification of revisions on re-submittals.
11. An 8-inch by 3-inch blank space for Contractor and Owner or Owner's Designee stamps.
12. Where calculations are required to be submitted by the Contractor, a qualified individual other than the preparer shall have checked the calculations. The submitted calculations shall clearly show the names of the preparer and of the checker.

F. Submittals may be transmitted by electronic means provided the following conditions are met:

1. The above-specified transmittal form is included.
2. All other requirements specified above have been met including, but not limited to, coordination by the Contractor, review and approval by the Contractor, and the Contractor's Certification.
3. The submittal contains no pages or sheets larger than 11 x 17 inches.
4. The entire submittal is included in a single file.
5. The electronic files shall be in PDF format, the file shall be indexed, bookmarked, searchable and print enabled
6. The Owner or Owner's Designee's review time will commence upon receipt of the transmittal with the attached PDF's in proper format.
7. For Submittals that require certification, corporate seal, or professional embossment (i.e., P.E.s, Surveyors, etc.) transmit at least three hard-copy originals to the Owner or Owner's Designee. In addition, provide additional photocopied or scanned copies, as specified above, showing the required certification, corporate seal, or professional seal.

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

- A. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
1. as permitting any departure from the Contract requirements;

2. as relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;
 3. as approving departures from details furnished by the Owner or Owner's Designee, except as otherwise provided herein.
- B. The Contractor remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.
- C. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements which Owner or Owner's Designee finds to be in the interest of the Owner and to be so minor as not to involve a change in Contract Price or Contract Time, the Owner or Owner's Designee may return the reviewed drawings without noting an exception.
- D. Submittals will be returned to the Contractor under one of the following codes.

- Code 1 - "APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.
- Code 2 - "APPROVED AS NOTED" This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.
- Code 3 - "APPROVED AS NOTED/CONFIRM" This combination of codes is assigned when a confirmation of the notations and comments IS required by the Contractor. The Contractor may, at his own risk, release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This confirmation shall specifically address each omission and nonconforming item that was noted. Confirmation is to be received by the Owner or Owner's Designee within 15 calendar days of the date of the Owner or Owner's Designee's transmittal requiring the confirmation.
- Code 4 - "APPROVED AS NOTED/RESUBMIT" This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the Owner or Owner's Designee within 15 calendar days of the date of the Owner or Owner's Designee's transmittal requiring the resubmittal.
- Code 5 - "NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents. The Contractor must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.
- Code 6 - "COMMENTS ATTACHED" is assigned where there are comments attached to the returned submittal which provide additional data to aid the Contractor.

Codes 1 through 5 designate the status of the reviewed submittal with Code 6 showing there has been an attachment of additional data.

- E. Resubmittals will be handled in the same manner as first submittals. On re-submittals, the Contractor shall identify all revisions made to the submittals, either in writing on the letter of transmittal or on the shop drawings by use of revision triangles or other similar methods. The resubmittal shall clearly respond to each comment made by the Owner or Owner's Designee on the previous submission.
- F. Additionally, the Contractor shall direct specific attention to any revisions made other than the corrections requested by the Owner or Owner's Designee on previous submissions.
- G. The Owner or Owner's Designee will not review preliminary submittals that do not conform to the requirements of regular submittals. Any preliminary submittal will count as the first review and additional submittals will be considered resubmittals.
- H. Partial submittals may not be reviewed. The Owner or Owner's Designee will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the Contractor and will be considered "Not Approved" until resubmitted. The Owner or Owner's Designee may at his option provide a list or mark the submittal directing the Contractor to the areas that are incomplete.
- I. Repetitive Review
 - 1. Shop drawings and other submittals will be reviewed no more than twice at the Owner's expense. All subsequent reviews will be performed at times convenient to the Owner or Owner's Designee and at the Contractor's expense, based on the Owner or Owner's Designee's then prevailing rates. The Contractor shall reimburse the Owner for all such fees invoiced to the Owner by the Owner's Designee. Submittals are required until approved.
 - 2. Any need for more than one resubmission, or any other delay in obtaining Owner or Owner's Designee's review of submittals, will not entitle Contractor to an extension of the Contract Time.
- J. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the Contractor shall give written notice thereof to the Owner or Owner's Designee at least seven working days prior to release for manufacture.
- K. When the shop drawings have been completed to the satisfaction of the Owner or Owner's Designee, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Owner or Owner's Designee.

1.08 DISTRIBUTION

- A. Distribute electronic reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the Owner or Owner's Designee. The recipients of electronic copies shall be as directed by the Owner or Owner's Designee.

1.09 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM

- A. If specifically required in other related Sections, submit a P.E. Certification for each item required, in the form attached to this Section, completely filled in and sealed.

1.10 ELECTRONIC FILE SHARING REQUIREMENTS

- A. The online submittal exchange platform will be hosted by the Owner or Owner's Designee.
- B. Obtain and maintain access to an electronic file sharing site or service approved by Owner or Owner's Designee.
- C. All data entered into the electronic file sharing site or service shall be the Owner's sole property.
- D. The Contractor shall be responsible for the validity of the information placed on the electronic file sharing site or service and their personnel's ability to use the application.
- E. The Contractor is responsible for training their personnel in the use of the electronic file sharing site or service.
- F. Any costs associated with using the electronic file sharing site or service system shall be evenly distributed in the Project overheads; a separate added cost shall not be allowed.
- G. Notify the Owner and Owner's Designee immediately about any users who no longer are permitted access to the electronic file sharing site or service . Their user account shall be deactivated.
- H. Protect the electronic file sharing site or services security by limiting access to authorized users only and not allowing them to share usernames and passwords.
- I. Comply with the applicable laws and regulations regarding the electronic transmission of documents requiring the stamps or signatures of professional architects, professional engineers, geologists, and surveyors including any provisions to provide of hard copies of such documents as appropriate.
- J. The Contractor, their representatives, users, sub-consultants, and subcontractors shall not enter, attach, or store sensitive personal information such as Social Security numbers in the electronic file sharing site or service.
- K. Project Communications requiring an authorized person's signature shall use either of the following:
 - 1. An approved image of the official signature to be affixed to the document with the original signed hard copy/paper document to be provided as well.
 - 2. An electronic copy or electronic image of a fully executed document containing the required signatures with the original signed hard copy/paper document to be provided as well.

PART 2 PRODUCTS

2.01 SOFTWARE

- A. For the duration of the project, maintain access to an electronic file sharing site or service hosted by Owner or Owner's Designee.

2.02 HARDWARE

- A. The electronic file sharing site or service is to be accessed via the internet through a web browser. The Contractor shall provide computer hardware and software that meets the electronic file sharing site or service system requirements.
- B. The Owner and Owner's Designee shall not operate, install, or troubleshoot any of the Contractor's hardware or software. The Contractor is solely responsible for their system's functionality.
- C. Should the electronic file sharing site or service version be upgraded during the Contract time, the Contractor shall not be required to upgrade their system(s) to meet the upgraded application's requirements unless the Contractor cannot access the electronic file sharing site or service. Upgrading the Contractor's computer systems shall not be justification for a time and/or cost modification to the Contract.
- D. Owner and Owner's Designee shall accept no liabilities arising from the Contractor using the electronic file sharing site or service.

2.03 USER ACCESS LIMITATIONS

- A. Access to the electronic file sharing site or service shall be provided to allow for submitting and processing documents including, but not limited to, letters, shop drawings, submittals, meeting minutes, daily reports, drawings, Specifications, memoranda, payment requisitions, change order requests, testing reports, warranties, guarantees, and correspondence. Requests for Information (RFIs) shall be directly entered into PMIS and generated by the application unless specified otherwise.
- B. Subcontractors and suppliers shall not have direct access to the electronic file sharing site or service unless approved otherwise by Owner and Owner's Designee. Entering information to be exchanged and transferred between the Contractor and subcontractors and suppliers shall be the Contractor's responsibility.

2.04 INTERNET CONNECTIVITY

- A. The electronic file sharing site or service shall be a web-based environment subject to the Contractor's internet service provider's speed and connectivity issues. The Contractor is responsible for their own connectivity to the internet. The electronic file sharing site or service's response time depends on the user's equipment including processor speed, network interface equipment, internet service provider access speed, etc., and current traffic on the internet.
- B. Owner and Owner's Designee shall not be liable for any delays associated with the usage of the electronic file sharing site or service including, but not limited to, slow response time, down time periods, connectivity problems, or information loss on the Contractor's equipment.
- C. Under no circumstances shall using the electronic file sharing site or service be grounds for a time extension or cost adjustment to the Contract.
- D. The Contractor shall have access to the electronic file sharing site or service, and it shall be operational on the Notice to Proceed date.

2.05 DOWN TIME

- A. If the electronic file sharing site or service system is temporarily unavailable, continue with Project Communications using an alternate secure means (e-mail) or hard copies to transmit and receive Project communications.
- B. Maintain records for all Project communications during the electronic file sharing site or service down time and upload the records to the electronic file sharing site or service when it is operational.
- C. Notify the Owner and Owner's Designee by telephone and/or e-mail when the electronic file sharing site or service is not functional.

PART 3 EXECUTION

3.01 SUBMITTAL SCHEDULE

- A. Provide an initial submittal schedule at the pre-construction meeting for review by Owner and Owner's Designee. Incorporate comments from Owner or Owner's Designee into a revised submittal schedule.
- B. Maintain the submittal schedule and provide sufficient copies for review by Owner and Owner's Designee. An up-to-date submittal schedule shall be provided at each project progress meeting.

3.02 TRANSMITTALS

- A. Prepare separate transmittal sheets for each submittal. Each transmittal sheet shall include at least the following: the Contractor's name and address, Owner's name, project name, project number, submittal number, description of submittal and number of copies submitted.
- B. Submittals shall be transmitted or delivered directly to the Owner or Owner's Designee, as indicated in the Contract Documents or as otherwise directed by the Owner or Owner's Designee.

3.03 PROCEDURES

A. Action Submittals

1. Contractor's Responsibilities

- a. Coordination of Submittal Times: Prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work of other related Sections, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required). Coordinate with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. Extensions to the Contract Time will not be approved for the Contractor's failure to transmit submittals sufficiently in advance of the Work.
- b. The submittals of all shop drawings (including working drawings and product data) shall be sufficiently in advance of construction requirements to allow for possible

need of re-submittals, including the specified review time for the Owner or Owner's Designee.

- c. No less than 30 calendar days will be required for Owner or Owner's Designee's review time for shop drawings and O&M manuals involving only one engineering discipline. No less than 45 calendar days will be required for Owner or Owner's Designee's review time for shop drawings and O&M manuals that require review by more than one engineering discipline. Resubmittals will be subject to the same review time.
- d. Submittals of operation and maintenance data shall be provided within 30 days of approval of the related shop drawing(s).
- e. Before submission to the Owner or Owner's Designee, review shop drawings as follows:
 - 1) make corrections and add field measurements, as required
 - 2) use any color for its notations except red (reserved for the Owner or Owner's Designee's notations) and black (to be able to distinguish notations on black and white documents)
 - 3) identify and describe each and every deviation or variation from Contract documents or from previous submissions, except those specifically resulting from a comment from the Owner or Owner's Designee on a previous submission
 - 4) include the required Contractor's Certification statement
 - 5) provide field measurements (as needed)
 - 6) coordinate with other submittals
 - 7) indicate relationships to other features of the Work
 - 8) highlight information applicable to the Work and/or delete information not applicable to the Work.

2. Owner's Designee's Responsibilities

- a. The Owner's Designee will not review shop drawings (including working drawings and product data) that do not include the Contractor's approval stamp and the required certification statement. Such submittals will be returned to the Contractor, without action, for correction.
- b. Partial shop drawings (including working drawings and product data) will not be reviewed. If, in the opinion of the Owner's Designee, a submittal is incomplete, that submittal will be returned to the Contractor for completion. Such submittals may be returned with comments from Owner's Designee indicating the deficiencies requiring correction.
- c. If shop drawings (including working drawings and product data) meet the submittal requirements, Owner's Designee will forward copies to the appropriate reviewer(s). Otherwise, noncompliant submittals will be returned to the Contractor without action - with the Owner's Designee retaining one copy.
- d. Submittals which are transmitted in accordance with the specified requirements will be reviewed by the Owner's Designee within the time specified herein. The time for review will commence upon receipt of submittal by Owner's Designee.

3. Electronic Transmission

- a. Action submittals are to be transmitted by electronic means and meet all of the following conditions:

- 1) The above-specified transmittal form is included.
 - 2) The submittal contains no pages or sheets larger than 11 x 17 inches.
 - 3) The entire submittal is included in a single file.
 - 4) The electronic files are PDF format (with printing enabled).
4. For Submittals that require certification, corporate seal, or professional embossment (i.e., P.E.s, Surveyors, etc.) transmit three hard-copy originals to the Owner or Owner's Designee.

B. Informational Submittals

1. Contractor's Responsibilities

- a. Number of copies: Submit six copies, unless otherwise indicated in individual Specification sections
- b. Refer to individual technical Specification Sections for specific submittal requirements.

2. Owner's Designee's Responsibilities

- a. The Owner's Designee will review each informational submittal within 15 days. If the informational submittal complies with the Contract requirements, Owner's Designee will file for the project record and transmit a copy to the Owner. The Owner's Designee may elect not to respond to Contractor regarding informational submittals meeting the Contract requirements.
- b. If an informational submittal does not comply with the Contract requirements, Owner's Designee will respond accordingly to the Contractor within 15 days. Thereafter, the Contractor shall perform the required corrective action, including retesting, if needed, until the submittal, in the opinion of the Owner's Designee, is in conformance with the Contract Documents.

3. Electronic Transmission

- a. Informational submittals are to be transmitted by electronic means and meet all of the following conditions:
 - 1) The above-specified transmittal form is included.
 - 2) The submittal contains no pages or sheets larger than 11 x 17 inches.
 - 3) The entire submittal is included in a single file.
 - 4) The electronic files are PDF format (with printing enabled).
4. For Submittals that require certification, corporate seal, or professional embossment (i.e., P.E.s, Surveyors, etc.)) transmit three hard-copy originals to the Owner and Owner's Designee.

P.E. CERTIFICATION FORM

The undersigned hereby certifies that he/she is a professional engineer registered in the Commonwealth of Massachusetts and that he/she has been employed by

_____ to design
(Name of Contractor)

(Insert P.E. Responsibilities)

in accordance with Section _____ for the

(Name of Project)

The undersigned further certifies that he/she has performed the design of the _____

_____, that said design is in conformance
(Name of Project)

with all applicable local, state and federal codes, rules, and regulations, and that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to the

(Insert Name of Owner)

or Owner's representative within seven days following written request therefor by the Owner.

P.E. Name

Contractor's Name

Signature

Signature

Address

Title

Address

END OF SECTION

SECTION 01310 CONSTRUCTION SCHEDULING

PART 1 GENERAL

1.01 PROGRAM DESCRIPTION

- A. Within ten days after the effective date of Agreement, provide and submit to the Owner and Owner's Designee for approval, the schedule the Contractor plans to maintain in order to construct the work with the time allotted successfully. This Schedule shall be a time-scaled Bar Chart in order of early start and shall account for all the work of the Contractor. In addition to all reasonably important construction activities, the Schedule shall provide for the proper sequence of construction considering the various crafts, purchasing time, submittal approval, material delivery, equipment fabrication, and similar time-consuming factors. Failure to supply the construction schedule on time will be cause for withholding progress payments.
- B. Following receipt by the Owner and Owner's Designee of the Schedule, a pre-construction conference will then be held between the Owner, Owner's Designee and Contractor to review and, if necessary, revise the Schedule to afford ample time to perform the work in the proper sequence and construction operations. The Owner or Owner's Designee shall approve the schedule in accordance with paragraph 2.05 of the Conditions of the Contract.
- C. The Contractor bears full responsibility for scheduling all phases and stages of the work to ensure its successful execution and completion with the time specified in accordance with all provisions of these Specifications.
- D. Update the Schedule monthly and shall submit it to the Owner or Owner's Designee in duplicate. The monthly Schedule update shall include the following items:
 - 1. Activities that are completed or in the process are to be identified.
 - 2. Restraints imposed by material deliveries, precedent activity durations or schedule
 - 3. Actual start and completion dates are to be shown.

1.02 SUBMITTALS

- A. Submit schedules, and revisions including graphics, as specified herein.

PART 2 PRODUCTS

PART 3 EXECUTION

3.01 PROGRESS SCHEDULE

- A. Submit a progress schedule before starting any work, in accordance with Article 2.05 of the General Conditions.
- B. Review the progress schedule with the Owner or Owner's Designee periodically. Such review shall be made on a monthly basis or more frequently as required by the Owner or Owner's Designee. If the Contractor fails to adhere to any part of the progress schedule, the progress schedule shall be updated by the Contractor to reflect the accurate progress of work.

- C. Also submit a 2-week Look Ahead Schedule as described in Article 3.02 below. Adhere to the Look Ahead Schedule and provide written updates whenever the schedule changes due to weather or any other reason.

3.02 2-WEEK LOOK AHEAD

- A. 2-Week Look Ahead Schedule shall be provided weekly (but no later than 9:00 AM on Friday of each week).
 - 1. At a minimum the 2-week Look Ahead shall have the following items listed in a tabular form:
 - a. Project Name, and project number, Contractors Name
 - b. Detailed day-to-day schedule of the task identified in the overall work schedule
 - c. Identify crew and address for each task
 - d. Identify any outages, closures and control activities
 - e. Start and end dates of the week shall be clearly displayed by days of the week
 - f. Anticipated work areas for traffic control and if required, encouraging new registrants
 - g. Dig safe utility mark-out number
 - h. Assumed water main size and material type (i.e., 6-inch cast iron)
 - i. Proposed method of traffic control
 - j. Whether or not road is under a paving moratorium or anticipated to be under an upcoming paving moratorium
 - 2. Payment to be withheld if weekly updates to the 2-week look ahead are not being provided.

3.03 SCHEDULE UPDATES AND STATUS REPORTS

- A. Provide Monthly Schedule Updates with each application for payment. Unless approved otherwise by the Owner and Owner's Designee, the Date for the Monthly Status Reports shall be the end of the respective payment period.
- B. Prior to generating each month's status report, meet with the Owner and Owner's Designee to agree to the percent complete of each network activity.

3.04 DELIVERABLES

- A. Unless approved otherwise by the Owner and Owner's Designee, all schedule submittals shall be in electronic format (PDF) and in color on pages no larger than 11-in by 17-in and may be divided into as many separate sheets as required.
- B. 2-Week Look Ahead: Submit one electronic copy (PDF) to the Owner and Owner's Designee.
- C. Monthly Schedule Updates: Submit one electronic copy (PDF) to the Owner and Owner's Designee.

3.05 PROGRESS REPORTING

- A. The Monthly Schedule Update will be discussed at each progress meeting.

- B. The two-week look ahead shall be provided via e-mail every Friday by 12:00 P.M. The Owner and Owner's Designee shall provide the Contractor with a distribution list of who this two-week look ahead schedule should be sent to.

3.06 RESPONSIBILITY FOR SCHEDULE COMPLIANCE

- A. Whenever it becomes apparent from the current schedule that delays occurred and the contract completion date will not be met, or when so directed by Owner, submit to the Owner for approval, a written statement of the steps intended to take to remove or arrest the delay in the accepted schedule at no additional cost to the Owner, including:
 - 1. Increase construction manpower in such quantities and crafts,
 - 2. Increase the number of working hours per shift, shifts per day, working days per week,
 - 3. Increase the amount of construction equipment, and/or
 - 4. Reschedule activities to maximize the concurrence of activities and comply with the revised schedule.
- B. If when so requested by the Owner, failure to submit a written statement of the steps intended to take or should fail to take such steps as approved by the Owner and Owner's Designee, the Owner and Owner's Designee may direct the Contractor to increase the level of effort in manpower (trades), equipment and work schedule (overtime, weekend and holiday work, etc.) to be employed by the Contractor in order to remove or arrest the delay to the accepted schedule and the Contractor shall promptly provide such level of effort at no additional cost to the Owner.

3.07 ADJUSTMENT OF CONTRACT SCHEDULE AND COMPLETION TIME

- A. If the Contractor wants or needs to make changes in their execution of the construction schedule that would affect schedule, the Contractor shall notify the Owner and Owner's Designee in writing stating what changes are proposed and the reasons for the changes. If the Owner and Owner's Designee approves such changes, the Contractor shall revise and submit a revised schedule for acceptance - without additional cost to the Owner. The schedule shall be adjusted by the Contractor only after prior acceptance of their proposed changes. Adjustments may consist of changing portions of the activity sequence, activity durations, division of accepted activities, or other adjustments as may be accepted by the Owner and Owner's Designee; however, the addition of extraneous, non-working activities and activities that add unacceptable restraints to the schedule will not be allowed.
- B. Shop drawings that are not approved on the first submittal will require the addition of network activities for the re-submittals.
- C. Equipment that does not pass the specified tests will require the addition of network activities for the retesting.
- D. The contract completion time will be adjusted only for causes specified in this Contract. In the event the Contractor requests an extension of any contract completion date, the Contractor shall furnish such justification and supporting evidence as the Owner may deem necessary to determine whether the Contractor is entitled to an extension of time under the provisions of this Contract. After receipt of such justification and supporting evidence, the Owner shall perform an assessment or evaluation of the appropriate change in contract time based upon the currently accepted schedule and on all data relevant to the extension. Inexcusable delays (attributable to

the Contractor) and non-critical delays (delays to activities which, according to the schedule, do not affect any contract completion date) shall not be the basis for a change in contract time. The Owner will provide a written recommendation based on its assessment, with a copy to the Contractor. The Contractor shall not change any fixed contract milestones or required completion dates without the approval of the Owner, evidenced by the execution of a contract change order. However, the Contractor should make a note of such requests for changes in contract time in the narrative of monthly schedule status reports.

- E. Each request for a change in any contract completion date shall be submitted by the Contractor to the Owner in accordance with the notification requirements stipulated in the Contract Documents. No time extension will be granted for requests that are not submitted in accordance with the Contract requirements.
- F. Total float in the accepted schedule belongs to the project; i.e., either the Owner or Contractor may take advantage of available total float on a first-come, first-served basis. Therefore, without obligation to extend either the overall completion date or any intermediate completion dates set out in the schedule, the Owner may initiate changes to the work or delay work that absorb available total float existing at the time of the change or delay. Owner-initiated changes or delays that affect the schedule shall be the sole grounds for extending (or contracting) contract completion dates or fixed milestones.

END OF SECTION

SECTION 01322
PHOTOGRAPHIC DOCUMENTATION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to provide photographic documentation of the Project as specified herein.

1.02 SUMMARY

- A. The section includes administrative and procedural requirements for the following:
 - 1. Land-based preconstruction photographs.
 - 2. Land-based final completion construction photographs.

1.03 RELATED WORK

- A. Submittal procedures are included in Section 01300.
- B. Project Record Documents are included in Section 01720.

1.04 REFERENCES

- A. Not Used.

1.05 SUBMITTALS

- A. Digital Photographs land-based: Submit image files within three days of taking photographs.
 - 1. File Format: Minimum 3200 by 2400 pixels, in unaltered original files, uncropped, date and time stamped, in a folder named address and date of photograph, with the following required photos by replacement type:
 - 2. The photos of the existing conditions upon arrival, yard restoration, and the street patch should include the address number on the building legible and in clear focus. If no number is visible, then Contractor shall provide a white board and write the address on board with minimum number height of 3-inches.
 - 3. Submit digital photographs on media storage devices in a data format acceptable to Owner and Owner's Designee.
 - a. Provide photos on a file sharing website such as Dropbox or Google Drive with individual file folders for each address. Organize folders by city, street, and address number, in that order.
 - b. At the completion of the project, provide all photos on two, mirrored media storage devices (including USB drives or portable solid-state drives). Package each drive, clearly and indelibly labeled using self-adhesive labels specifically designed for labeling of media storage devices. Include on the label the project name and number, Owner and the time period covered by the photographs contained on the disc.

- B. Video Recordings: Submit video recordings within seven days of recording.

File Format: Minimum resolution of 720p (1280 x 720, progressive) in unaltered original files, in a folder named address and date of the video.

Submit video recordings in digital video on media storage devices in a format acceptable to Owner and Owner's Designee (Mpg, .mov, or MP4).

Two, mirrored media storage devices (including USB drives or portable solid-state drives) Package each media storage device, clearly and indelibly labeled using self-adhesive labels specifically designed for labeling of discs or media storage devices. Include on the label the project name program number, Owner and the time period covered by the photographs contained on the disc.

1.06 QUALITY ASSURANCE

- A. Photographs are to clearly show the Work. Exhibit correct exposure and focus, accurate color balance, maximum depth of field, minimal optical distortion, and minimal noise.
- B. Videographer Qualifications: An individual who has been regularly engaged as a professional videographer of construction projects for not less than three years.

1.07 USAGE RIGHTS

- A. All photos taken for the purpose of documenting construction and project related work are to be the Owner's property for unlimited reproduction of photographic documentation.

PART 2 PRODUCTS

2.01 PHOTOGRAPHIC MEDIA

- A. Provide digital photographs produced by a digital camera.
- B. Digital Camera: Have a minimum image resolution of twelve (12) megapixels and produce images in JPEG (.JPG) format with image dimensions of not less than 3200 by 2400 pixels.

2.02 DIGITAL VIDEO RECORDINGS:

- A. Digital Video Camera: Have a minimum resolution of 720p (1280 x 720, progressive).
- B. Provide video recordings in a common digital video format such as.MP4. The minimum resolution of all video files shall be 720p (1280 x 720, progressive).

PART 3 EXECUTION

3.01 CONSTRUCTION PHOTOGRAPHS

- A. General: Expose service line materials from debris and soil such that the materials can be easily identified from photographs. Photographs that, in the Owner and Owner's Designee's opinion, do not meet these quality criteria will not be accepted and shall be re-taken at no additional cost to the Owner.

- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software except in the case of captioning the photograph with the address, replacement type, date of work, materials observed on which side, and identification of private side and public side in all photos where the curb stop is exposed.
- C. Pre-construction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Owner and Owner's Designee.
- D. Post-Construction Photographs: Duplicate the location of the photo taken for pre-construction or as directed by Owner and Owner's Designee. Follow all photo requirements as listed in Section 1.05 above.

3.02 CONSTRUCTION VIDEO RECORDINGS

- A. Video Recordings:
Produce bright, clear, sharp pictures with accurate colors and free from distortion, excessive shake, or any other form of picture imperfection. Video recordings that, in the Owner and Owner's Designee's opinion, do not meet these quality criteria will not be accepted and shall be re-recorded at no additional cost to the Owner.
Display continuous running time and date.
- B. Pre-construction Video Recording: Before starting excavation, demolition or construction, the Contractor is advised to record video of Project site and surrounding properties from different vantage points. Contractor is advised to record individual videos of each street in the Work Area prior to beginning work. Each video file is to be captioned with its respective street name.
- C. Post-Construction Videos: Retrace path of preconstruction video or as directed by Owner and Owner's Designee.
- D. Additional Photographs or video: Owner's Designee or Owner may request photographs or videos in addition to photographs specified.
 - 1. Three days' notice will be given, where feasible.
 - 2. In emergency situations, take additional photographs within 24 hours of request.
 - 3. Circumstances that could require additional photographs or videos include, but are not limited to, the following:
 - a. Immediate follow-up when on-site events result in construction damage or losses.
 - b. Substantial Completion of a major phase or component of the Work.
 - c. Extra-record photographs at the time of final acceptance.
 - d. Owner's request for special publicity photographs.

END OF SECTION

SECTION 01576
TRAFFIC CONTROL

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Public safety and convenience require the Contractor to provide trained traffic control personnel to direct and control traffic within the location of work under this Contract. Uniform Police officers shall only be used when required by the road opening permit or as required by the agencies have jurisdiction over the road.
- B. Arrange with the Police Department for traffic direction services whenever work is conducted within a roadway or whenever traffic flow is restricted as a result of work performed under this Contract. The Contractor shall also be responsible for coordinating and scheduling with the Police Department whenever work is to be conducted within a roadway or whenever traffic flow is restricted as a result of work performed under this Contract.
- C. The traffic control services required herein are intended to ensure public safety by the direction and control of traffic. Traffic control personnel are not intended to serve as watchmen or security to protect the Contractor's equipment and material or to warn pedestrians of such hazards as open trenches or manholes. It is solely the Contractor's responsibility to guard open excavations by erecting suitable barriers by day and lights by night.
- D. Nothing contained herein shall be construed as relieving the Contractor of any of his/her responsibilities for the protection of persons and property under the terms of the Contract.
- E. All payments to the Uniformed Traffic Officers under this Contract shall be in accordance with the General Laws of the State of Rhode Island and any amendments thereto. On a weekly basis, the Contractor shall submit to the Owner and Owner's Designee a summary of the hours each officer provided traffic control services. Owner shall be responsible for reimbursing the Contractor for the cost charged by the jurisdiction for police officers' time, with no markup by the Contractor. Reimbursement for police officers' time within a given month shall coincide with the corresponding month's Payment Application. The Contractor will be responsible for paying the police cost, and the police cost from the City shall be included in the Contractor's voucher for payment without overhead or profit and no other markup.
- F. Prior to submitting their bid on the project, contact all agencies having jurisdiction over the project including, but not limited to the City of Providence, and RIDOT in order to determine the traffic control requirements and costs of same. The cost of traffic control is included in appropriate bid item.
- G. Provide the Police Departments with construction schedules on a biweekly basis showing work that requires traffic control. In the event the construction schedule is revised after submittal to the Police Department, the Contractor shall provide at least 24 hours' notice before commencing the unscheduled work.
- H. Contractor shall be responsible for all snow removal and ice control within the construction zone throughout the duration of construction.

- I. No road shall be closed to traffic without the prior consent of the Owner and Owner's Designee, local Town or City, or RIDOT, as applicable.
- J. Traffic control, including but not restricted to signing, devices and message board, shall be provided for all openings in roads by the Contractor in accordance with City and State standards.

1.02 REQUIREMENTS

- A. All traffic control work performed by the Contractor shall be in accordance with the Manual on Uniform Traffic Control Devices (latest edition), the latest edition of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, the Details in Appendix F, and these Specifications. Where reference is made to one of the aforementioned publications, the revision in effect at the time of bid opening shall apply.
- B. Protect the traveling public and personnel by adhering to the requirements of Title 31, The Motor and Other Vehicles Code of the State of Rhode Island. The Contractor shall be liable for any neglect to safeguard the traveling public.
- C. Furnish, install, transport operate, maintain equipment, repair and replace; services, and personnel, with traffic control and protective devices, as required to expedite vehicular traffic flow during construction.
- D. Follow the traffic control requirements shown in the Contract Documents detailing all temporary changes in traffic control equipment, street or road closures, detours, etc. Make every effort to adhere to these requirements. The Owner and Owner's Designee reserve the right to modify traffic control requirements through the course of the Contract.
- E. Remove temporary equipment and facilities when no longer required and restore grounds to original or to specified conditions.
- F. Notify all Customers at least 72 hours in advance of any work that will interfere with access to their residence or place of business.
- G. No road shall be closed to traffic without the prior consent of the Owner's Designee and the Owner.
- H. Traffic control, including but not restricted to signing and devices, shall be provided for all openings in roads by the Contractor in accordance with Owner and State standards.
- I. Special work hour limitations are discussed in Section 01014.

1.03 MINIMUM REQUIREMENTS FOR TRAFFIC CONTROL

- A. Provide for access to all buildings including business and parking areas at all times. This shall include but is not limited to schools, churches, hospitals, urgent care centers, polling stations, and grocery stores. The Contractor shall allow for the maintenance of a minimum of one – 11-foot lane of traffic, in one direction, at all times.
- B. Make every reasonable effort to avoid detours. No detour shall be allowed without prior approval from the Owner's Designee and the Owner. A detailed Traffic Control Detour Plan

shall be submitted by the Contractor to the Owner's Designee and Owner showing schedule, signing and control for the proposed detour. Said plan(s) shall be submitted at least five workdays prior to the proposed detour and shall be subject to the review and approval of the Owner's Designee and Owner.

- C. Traffic control and road closings in the City of Providence are under the direct control of the Police Department.
- D. Normal drainage shall be maintained. The pavement shall be maintained in broom-swept clean condition, and all work shall be cleaned up at the close of operations each day.
- E. During non-working hours, all excavations shall be either back-filled or steel-plated, and all roadways shall be kept completely clear of any obstructions to traffic. No barricades shall be left within the roadway at night when work is not in progress.
- F. If the Contractor is notified of hazardous construction practice, violation of a regulation or motor vehicle code or if traffic volumes become excessive, all operations shall be summarily discontinued and immediate corrective action shall be taken to the satisfaction of regulator before work can resume.
- G. In the event an obstruction blocks pedestrian traffic, provide a safe passage area for pedestrians.
- H. When the Contractor will be performing an operation which requires the closing of a lane of traffic, even for brief periods of time, close the lane and so mark it with the necessary Protections. Flagmen shall be placed in advance of all lane closures. Additional flagmen shall be placed anywhere in the work area that trucks or other vehicles enter or leave the traffic stream. The cost of flagmen shall be included in unit price. The local police departments shall determine the number of flagmen which may be required by the Contractor.

1.04 TRAFFIC CONTROL

- A. All traffic control shall be performed in accordance with all Federal, State, and local laws, codes, rules and regulations.
- B. All individuals performing traffic control shall be properly equipped and trained. Where required by the road opening permit or as required by the agencies have jurisdiction over the road a Uniformed Police officer for Traffic Control shall be paid for under the Traffic Control Allowance (Item 1K) on the Bid Form (Section 00 41 00).
- C. A minimum of one trained traffic control person shall be present during all work in public streets. If the setup is such that more than one trained traffic control person is needed to control traffic at any one location, provide the additional personal at no additional cost to the Owner.
- D. Be aware of certain festivals and activities that occur in the local municipality. These activities may cause changes in traffic patterns and road closures. Work with Owner and Owner's Designee and is responsible for being aware of the dates, times and locations of all festivals and activities that may be located in work areas and require adjustments to traffic control and construction schedule. Coordinate all work with Owner and Owner's Designee.
- E. Personal vehicles shall not be permitted to park in the work area or immediately adjacent thereto.

1.05 TRAFFIC CONTROL SUBMITTALS

- A. Maintain traffic on affected roads and streets at all times as specified and required for permit approvals.
- B. Work shall not commence until approval has been obtained from the Police Department, the Owner, Owner's Designee, and the City's Department of Public Works Traffic Engineering Division. Approval by the Owner and Owner's Designee shall be required before the Contractor applies for street occupancy and street opening permits with the Department of Public Works' Engineering Division. The traffic control plans submitted to and approved by the Owner and Owner's Designee shall be the basis of the plans submitted with the permit applications to the Department of Engineering. Revise and resubmit the traffic control plans based on the Department of Public Works' Engineering Division comments as required to receive approval for street occupancy and street opening permits. Approval by the Owner and Owner's Designee does not assure approval without revision by the Department of Public Works' Engineering Division. All traffic control work and road closures must abide by permits issued by the City's Department of Public Works Traffic Engineering Division.
- C. Prior to submitting the traffic control plans to the Owner and Owner's Designee, Contractor is to review its proposed traffic control set-up for each work site and work activity with representatives of the local Police Department having jurisdiction. Obtain input from the Police Department regarding the level of police presence and any work hour restrictions on construction activities at the sites.
- D. The traffic control plans shall indicate:
 - 1. Street right-of-way, traffic flow directions, driveway locations, and other site features.
 - 2. The location and arrangement of all traffic control devices, signs, equipment, and personals.
 - 3. Location where temporary no parking signs will be posted. No parking signs shall be dated for a period longer than five (5) calendar days.
 - 4. Legend and description of symbols used.
 - 5. Arrangement and dimensions of work zones, buffer areas, transition zones, and traffic lanes.
 - 6. Location of bypass pumps, hose, and water hose routes and required hose ramps.
 - 7. Anticipated work schedule, including work hours (start and ending times), dates, and duration.
- E. Modifications to approved traffic control plans shall be submitted for approval before being implemented in the field.
- F. See Section 01010 and Section 01046 for related work.
- G. Provide to the Owner and Owner's Designee complete copies of approved street permits for each site per Section 01170 prior to commencing work at each site.
- H. Provide to the Owner and Owner's Designee written approval from the Police Department and the Department of Public Works prior to commencing work at each site.

- I. The Owner and Owner's Designee shall be copied on all correspondence to and from the Police Department and Department of Public Works Traffic Engineering Division concerning obtaining approval of the traffic control plans.

END OF SECTION

SECTION 01580
PROJECT IDENTIFICATION SIGNS

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Provide and install, prior to the start of construction, the project sign(s) indicated below.

PART 2 PRODUCTS

2.01 ENVIRONMENTAL INFRASTRUCTURE PROJECT SIGN

- A. In accordance with Rhode Island Drinking Water State Revolving Fund (RI DWSRF) signage specifications, a project identification sign, at least eight feet long and four feet high, bearing the emblem of the Department shall be displayed in a prominent location at each publicly visible project site and facility.
- B. The Project Sign shall be constructed as shown on the illustration appended to this specification section. Verify that all information is accurate and current before fabrication of the identification sign.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Signs shall be located at a prominent location in the vicinity of the project selected by the Contractor and approved by the Owner.
- B. All project signs shall be maintained by the Contractor in good condition at all times for the duration of the construction.
- C. Remove all project signs from the construction sites at the conclusion of the work when ordered by the Engineer.

END OF SECTION

SECTION 01601
CONTROL OF MATERIALS

PART 1 GENERAL

1.01 APPROVAL OF MATERIALS

- A. Unless otherwise specified, only new materials and equipment shall be incorporated in the work. All materials and equipment furnished shall be subject to the inspection and approval of the Owner and Owner's Designee. No material shall be delivered to the work without prior approval of the Owner and Owner's Designee.
- B. Submit to the Owner and Owner's Designee, in accordance with Section 01300, data relating to materials and equipment proposed to be furnished for the work. Such data shall be in sufficient detail to enable the Owner and Owner's Designee to identify the particular product and to form an opinion as to its conformity to the specifications.
- C. Furnish facilities and labor for handling and inspection of all materials and equipment. If the Owner and Owner's Designee requires, either prior to beginning or during the progress of the Work, the Contractor shall submit additional samples or materials for such special tests as may be necessary to demonstrate that they conform to the specifications. Such samples shall be furnished, stored, packed and shipped as directed at the Contractor's expense.
- D. Any delay of approval resulting from the Contractor's failure to submit samples or data promptly shall not be used as a basis of a claim against the Owner or the Owner's Designee.
- E. In order to demonstrate the proficiency of workmen or to facilitate the choice among several textures, types, finishes and surfaces, provide such samples of workmanship or finish as may be required.
- F. The materials and equipment used on the work shall correspond to the approved samples or other data.

1.02 HANDLING AND STORAGE OF MATERIALS

- A. All materials and equipment to be incorporated in the work shall be handled and stored by the manufacturer, fabricator, supplier and Contractor before, during and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting and any injury, theft or damage of any kind whatsoever to the material or equipment.
- B. Cement and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All structural, miscellaneous, reinforcing steel shall be stored off the ground or otherwise to prevent accumulations of dirt or grease and in a position to prevent accumulations of standing water and to minimize rusting. Flat metal shall be stored vertically. Precast concrete shall be handled and stored in a manner to prevent accumulation of dirt, standing water, staining, chipping, or cracking. Brick, block and similar masonry products shall be handled and stored in a manner to reduce breakage, chipping, cracking and spalling to a minimum.
- C. All mechanical equipment subject to corrosive damage by the atmosphere if stored outdoors (even though covered by canvas) shall be stored in a building to prevent injury. The building

may be a temporary structure on the site or elsewhere, but it must be satisfactory to the Owner and Owner's Designee.

- D. All materials which, in the opinion of the Owner and Owner's Designee, have become so damaged as to be unfit for the use intended or specified shall be promptly removed from the site of the work and no compensation shall be given for the damaged material or its removal.
- E. All pipe and other materials delivered to the job shall be unloaded and placed in a manner which will not hamper the normal operation of the existing work or interfere with the flow of necessary traffic. All pipe and other material delivered to the site shall be stored in an area accepted by the Owner and Owner's Designee.

END OF SECTION

SECTION 01700
CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Special provisions are included in Section 01170.
 - 2. Submittals are included in Section 01300.
 - 3. Photographic Documentation is included in Section 01322.
 - 4. Project Record Documents are included in Section 01720.

1.02 RELATED WORK

- A. Project deliverables are described in Division 1, 2, 3 and 15.

1.03 PROJECT RECORDS

- A. Maintain in Contractor's on-site office, one set of the following information; actual revisions to work shall be recorded in these documents:
 - 1. Specifications
 - 2. Addenda
 - 3. Change Orders and other Modifications to the Contract
 - 4. Reviewed submittals
 - 5. Contract Maps
 - 6. Details
- B. Record information concurrent with the progress of the Work.
- C. Specifications:
 - 1. Changes made by Addenda and Modifications.
- D. Submit record information and complete service line log documents to Owner and Owner's Designee prior to Application for Final Payment.
 - 1. Record information shall be submitted in accordance with as specified in Section 01720.

1.04 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Owner and Owner's Designee's inspection.
- B. Provide all deliverables as specified, prior to submitting the final payment application.

- C. Provide submittals to Owner and Owner's Designee that are required by governing or other authorities having applicable jurisdiction including but not limited to permit close out information, certificates of occupancy, etc.
- D. Submit Application for Final Payment identifying total adjusted Contract Sum, previous payments and sum remaining due. The adjusted Contract Sum shall reflect the actual installed unit quantities as well as other possible adjustments for change orders, liquidated damages, and recovery of engineering fees.
- E. Submit fully executed Contractor's Certificate, Final Release and Release of Liens with a final payment application.
- F. Submit the information required by the Contract, including tabulations and an accurate list and the proof of business registration of each subcontractor or supplier used in the fulfillment of the Contract, or attest that no subcontractor was used.

1.05 FINAL CLEANING

- A. Before requesting the inspection for certification of substantial completion, the Contractor shall complete the following to the extent that the inspection operations left the work area in an unacceptable condition.
 - 1. Clean the project area of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface, as necessary.

END OF SECTION

SECTION 01720
PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 SCOPE

- A. Keep and maintain, at the job site, a copy of contract documents, Contract maps, details, photos, service applications and sketches of installed service line marked up to indicate all changes made during the course of a project, as specified herein.
- B. Owner or Owner's Designee will maintain the electronic CityWorks database that shall be updated as work progresses. The information in the CityWorks database will be compared with the Contractor's pay applications on a weekly and monthly basis. No pay applications will be approved by the Owner or Owner's Designee until the quantities match between the Contractor's pay application, CityWorks database and the Owner or Owner's Designee's recorded quantities.

1.02 RELATED REQUIREMENTS

- A. Submittals are included in Section 01300.
- B. Photographic documentation is included in Section 01322.
- C. Contract Closeout is included in Section 01700.

1.03 REQUIREMENTS INCLUDED

- A. Maintain a record copy of the following documents, marked up to indicate all changes made during the course of a project:
 - 1. Contract maps (included in appendices of the Specifications).
 - 2. Specifications
 - 3. Service applications with information and database for every water service line replaced as specified herein.
- B. Assemble copies of the following documents for turnover to the Owner at the end of the project, as specified.
 - 1. Field Orders, Change Orders, Design Modifications, and RFIs
 - 2. Field Test records
 - 3. Permits and permit close-outs (final approvals)
 - 4. Certificate of Completion, as applicable
 - 5. Laboratory test reports
 - 6. Certificates of Compliance for materials and equipment
 - 7. Record Shop Drawings
 - 8. Material delivery tickets
 - 9. Pre-construction and post-construction photography
 - 10. Service Applications

C. Record Drawings

1. Photographs shall be provided in a file sharing site as required in Section 01322.
2. Provide Providence Water Supply Board standard service application for every water service line replaced. All information on the service applications shall also be tracked in a database as the work progresses.
 - a. Record service applications shall be provided via email, with one file for each service application.
 - b. Service application and database shall include the following information
 - 1) Section A – Applicant Information
 - 2) Section B – Backflow Device Data
 - 3) Section C – Fixture Information
 - 4) Section D – Schedule of Fees (Not applicable for service line replacements)
 - 5) Section E – Disclosures and Signature
 - 6) Site Plan – Proposed
 - 7) Rules and Regulations Governing Water Service Application and Installation
 - 8) Rules and Regulations Governing Water Supplies Used for Fire Service
3. These annotated service applications constitute the Contractor's Record documents and shall be actual representations of as-built conditions, including all revisions made necessary by change orders, design modifications, requests for information and field orders.
4. Record drawings shall be accessible to the Owner and Owner's Designee at all times during the construction period.
5. Record documents and service applications are considered incidental to the project. Ascertain as-built record information specific to the work, including surveying and/or taking GPS points to indicate the location, alignment, and elevations of all features.
 - a. Compile record information contemporaneously with construction progress for review and approval on a monthly basis along with pay application. If Owner or Owner's Designee determines that the record information provided by the Contractor be inaccurate, incomplete or does not meet the requirements of these Specifications, Owner or Owner's Designee will return the information to the Contractor for correction. Contractor shall correct the record information at no additional cost to the Owner and shall resubmit to the Owner or Owner's Designee for review and approval. Requirements for as-built record documents and information for the work include:
 - 1) Laboratory test reports (e.g., bacteriological and primary & secondary water quality, soil and concrete test).
 - 2) Legibly mark the Specifications to record the manufacturer, trade name, catalog number, and supplier of each product and item of equipment or material actually installed, as well as any changes made by Field Order, Change Order, RFI, and approved shop drawing.
 - 3) Service applications
6. Record documents shall be stored on-site apart from documents used for construction. Record documents shall not be used for construction purposes. The information submitted

by the Contractor in the Record Documents will be assumed to be correct, and the Contractor shall be responsible for the accuracy of such information and shall bear the costs resulting from the correction of incorrect data.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 MAINTENANCE OF RECORD DOCUMENTS AND SAMPLES

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
- B. File documents and samples in accordance with the Construction Specifications Institute (CSI) format.
- C. Maintain documents in a clean, dry, legible, condition and good order. Do not use record documents for construction purposes.
- D. Make documents and sample available for inspection by the Owner's Designee or Owner at all times.
- E. Up-to-date Record documents may be a pre-requisite of processing periodic monthly pay applications if so specified under the section for progress payments.

3.02 RECORD INFORMATION COMPILATION

- A. Do not conceal any work until the required information is acquired.
- B. Items to be recorded include, but are not limited to:
 - 1. Location of utilities and appurtenances concealed in the construction – referenced to visible and accessible features.
- C. Details not indicated on the original Details.
- D. Service Applications.
- E. Specifications - legibly mark each Section to record:
 - 1. Manufacturer, trade name, catalog number, and Supplier of each product and item of equipment actually installed.
 - 2. Changes made by Field Order, Change Order, RFI, and approved shop drawing.

3.03 SUBMITTAL

- A. Monthly applications for payment will be contingent upon up-to-date Record documents. Contractor is to send weekly updates on replacement item quantities completed at each address. If requested by the Owner's Designee or Owner, provide a copy of the Record documents, or present them for review prior to processing monthly applications for payment.

- B. Upon substantial completion of the work and prior to final acceptance, the Contractor shall finalize and deliver a complete set of Project Record Documents to the Owner or Owner's Designee conforming to the construction records of the Contractor. The Project Record Documents shall consist of service applications and corrected and annotated Contract maps. Unless specified otherwise elsewhere, Record Documents shall be both a hard copy of the service applications and in scanned in PDF format.
- C. The information submitted by the Contractor into the Project Record Documents will be assumed to be correct, and the Contractor shall be responsible for the accuracy of such information and shall bear the costs resulting from the correction of incorrect data.
- D. Delivery of Project Record Documents to the Owner and Owner's Designee will be a prerequisite to final payment.
- E. Maintain a copy of all books, records, and documents pertinent to the performance under this Agreement for a period of five years following completion of the contract.

END OF SECTION

SECTION 02100
SITE PREPARATION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, and equipment required and perform all clearing, including relocating existing stored materials, grubbing, stripping of topsoil and grading within permanent easements as shown on the Drawings and as specified herein.
- B. The areas to be cleared, grubbed, and stripped within public rights-of-way and utility easements shall be minimized to the extent possible for the scope of pipeline work and in consideration of the actual means and methods of construction used. No unnecessary site preparation within these areas shall be performed.

1.02 RELATED WORK

- A. Trenching, Backfilling, and Compaction is included in Section 02221.
- B. Loaming and Seeding is included in Section 02930.

PART 2 PRODUCTS

NONE THIS SECTION

PART 3 EXECUTION

3.01 CLEARING

- A. Cut and remove all timber, trees, stumps, brush, shrubs, roots, grass, weeds, rubbish, and any other objectionable material resting on or protruding through the surface of the ground.
- B. Trees and other vegetation designated on the Drawings or directed by the Owner or Owner's Designee to remain shall be preserved and protected as specified below.
- C. No materials are to be disposed of without prior approval from the Owner and Owner's Designee.
- D. Areas outside permanent easements shall be protected from damage and no equipment or materials shall be stored in these areas.
- E. No trees, limbs or brush shall be buried in any fills or embankments.

3.02 GRUBBING

- A. Grub and remove all stumps, roots in excess of 1-1/2-in in diameter, matted roots, brush, timber, logs, concrete rubble, and other debris encountered to a depth of 18-in below original grade or 18-in beneath the bottom of foundations, whichever is greater.
- B. All grubbing holes and depressions excavated below the original ground surface shall be refilled with suitable materials and compacted to a density conforming to the surrounding ground surface in accordance with Section 02221.

3.03 STRIPPING

- A. Topsoil shall be free from brush, trash, large stones and other extraneous material. Avoid mixing topsoil with subsoil.
- B. Stockpile and protect topsoil until it is used in landscaping, loaming, and seeding operations. Dispose of surplus topsoil as directed by the Owner and Owner's Designee after all work is completed.

3.04 DISPOSAL

- A. Cut tree trunks and limbs exceeding 4-in in diameter shall be cut into 4-ft lengths and stockpiled on site in the area designated on the Drawings.
- B. Material and debris from site preparation operations shall be disposed of by hauling such materials and debris to an approved offsite disposal area. No rubbish or debris of any kind shall be permitted to be buried on the project site.
- C. Burning of cleared and grubbed materials, or other fires for any reason will not be permitted.

3.05 PROTECTION

- A. Trees and other vegetation designated on the Drawings or directed by the Owner and Owner's Designee to remain shall be protected from damage by all construction operations by erecting suitable barriers, guards, and enclosures, or by other approved means. Clearing operations shall be conducted in a manner to prevent falling trees from damaging trees and vegetation designated to remain and to the work being constructed and so as to provide for the safety of employees and others.
- B. Protection shall be maintained until all work in the vicinity of the work being protected has been completed.
- C. Heavy equipment operation or stockpiling of materials shall not be permitted within the branch spread of existing trees.
- D. Any damage to existing tree crowns, trunks, or root systems shall be repaired immediately. Roots exposed and/or damaged during the work shall immediately be cut off cleanly inside the exposed or damaged area. Cut surfaces shall be treated with an acceptable tree wound paint, and topsoil spread over the exposed root area.
- E. When work is completed, all dead and downed trees shall be removed. Live trees shall be trimmed of all dead and diseased limbs and branches. All cuts shall be cleanly made at their juncture with the trunk or preceding branch without injury to the trunk or remaining branches. Cuts over 1-in in diameter shall be treated with an acceptable tree wound paint.
- F. Construction activities shall be restricted to those areas within the limits of construction designated on the Drawings, within public rights-of-way, and within easements provided by the Owner. Adjacent properties and improvements thereon, public or private, which become damaged by construction operations shall be promptly restored to their original condition, to the full satisfaction of the property owner.

END OF SECTION

SECTION 02140
DEWATERING AND DRAINAGE

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Design, furnish, install, operate, monitor, maintain and remove a temporary dewatering system as required to lower and control water levels at least 2-ft below subgrades of excavations and to permit construction to proceed in-the-dry.
- B. Furnish, maintain and remove temporary surface water control measures adequate to drain and remove surface water entering excavations.
- C. As required, retain the services of a professional engineer registered in the State of Rhode Island to prepare dewatering and drainage system designs and submittals described herein.
- D. Work shall include the design, equipment, materials, installation, protection, and monitoring of geotechnical instrumentation required to monitor the performance of the dewatering and drainage system as required herein.
- E. Collect and properly dispose of all discharge water from the dewatering and drainage systems. Under no circumstances shall water from dewatering systems be discharged into the existing sewer system without prior approval from the Owner which may include fees and applications.
- F. All discharges from dewatering activities to surface waters, wetlands, vernal habitats, or storm sewers shall be free of sediment. Discharges due to dewatering activities shall be in accordance with local and state regulations and any related permitting fees are to be at the Contractor's expense. Care shall be taken not to damage or kill vegetation by excessive watering or by damaging silt accumulation in the discharge area. If discharges are sediment-laden, techniques shall be employed to remove sediment prior to discharge. A sedimentation basin shall be constructed and used as specified, where necessary, to protect vegetation and to achieve environmental objectives.
- G. Obtain and pay for all permits required for dewatering and drainage systems. Dewatering permit fees will be paid under Item 1M, Permit Fee Allowance – Road Opening.
- H. Repair damage caused by dewatering and drainage system operations.

1.02 RELATED WORK

- A. Submittals are included in Section 01300.
- B. Trenching, Backfilling and Compaction is included in Section 02221.
- C. Granular Fill Material is included in Section 02230.
- D. Sedimentation and Erosion Control are included in Section 02270.
- E. Pavement Repair and Resurfacing is included in Section 02576.
- F. Loaming and Seeding is included in Section 02930.

1.03 SUBMITTALS

- A. Dewatering and drainage system designs shall be prepared by a licensed professional engineer retained by the Contractor. Submit an original and three copies of the licensed professional engineer's certification on the PE form specified in Section 01300. Also submit qualifications as required herein.
- B. Submit a dewatering and drainage system design plan.
 - 1. The plan shall include a description of the proposed dewatering system(s) and include the proposed installation methods to be used for dewatering and drainage system(s) elements. The plan shall include equipment, and dewatering system design calculations in the plan.
- C. The plan shall identify the anticipated area influenced by the dewatering system(s) and address impacts to adjacent existing and proposed structures.
- D. Coordinate dewatering and drainage submittals with the excavation and support of excavation submittals. The submittal shall show the areas and depths of excavation to be dewatered.
- E. Do not proceed with any excavation or dewatering activities until the dewatering submittals have been reviewed by the Owner and Owner's Designee.

1.04 QUALITY ASSURANCE

- A. Perform all work in accordance with current applicable regulations and codes of all Federal, State and local agencies.
- B. The Contractor shall have at least 5 years of experience with work compatible to the Work specified, employing labor and supervisory personnel who are similarly experienced in this type of Work.
- C. The Contractor's design engineer shall be registered in the State of Rhode Island and have a minimum of 5 years of professional experience in the design and construction of dewatering and drainage systems and shall have completed not less than 5 successful dewatering and drainage projects.

1.05 DESIGN REQUIREMENTS

- A. The Contractor is responsible for the proper design and implementation of methods for controlling surface water and groundwater.
- B. The primary purpose of the groundwater control system(s) is to perform all pipe laying "in-the-dry" and on undisturbed subgrade soils in the areas of the proposed excavations. The Contractor is responsible for lowering the groundwater as necessary to complete construction in accordance with the details and specifications at no additional cost to the Owner.
- C. Design all groundwater control system components to prevent loss of fines from surrounding soils.
- D. The Contractor shall be responsible for damage to properties, buildings or structures, sewers and other utility installations, pavements and work that may result from dewatering or surface water control operations.

- E. Design review and field monitoring activities by the Owner or by the Owner's Designee shall not relieve the Contractor of his/her responsibilities for the work.

1.06 DEFINITIONS

- A. Where the phrase "in-the-dry" is used in this Section, it shall be defined as an excavation subgrade where the groundwater level has been lowered to at least 2-ft below the lowest level of the excavation, is stable with no ponded water, mud, or muck, is able to support construction equipment without rutting or disturbance and is suitable for the placement and compaction of fill material, pipe or concrete foundations.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Piping, pumping equipment and all other materials required to control of surface water and groundwater in excavations shall be suitable for the intended purpose.
- B. Standby pumping systems and a source of standby power shall be maintained at all sites.

PART 3 EXECUTION

3.01 GENERAL

- A. Control surface water and groundwater such that excavation to final grade is made in-the-dry, the natural undisturbed condition of the subgrade soils is maintained and softening and/or instability or disturbance due to the presence or seepage of water does not occur. All construction and backfilling shall proceed in-the-dry and flotation of completed portions of work shall be prohibited.
- B. Methods of groundwater control may include but are not limited to perimeter trenches and sump pumping, perimeter groundwater cutoff, ejectors and combinations thereof.
- C. It is expected that the type of system, and details of the work will have to be varied depending on soil/water conditions at a particular location.
- D. All work included in this Section shall be done in a manner which will protect adjacent structures and utilities and shall not cause loss of ground or disturbance to the pipe bearing soils or to soils which support overlying or adjacent structures.
- E. Locate groundwater control system components where they will not interfere with construction activities adjacent to the work area. Excavations for sumps or drainage ditches shall not be made within or below 1H:1V slopes extending downward and out from the edges of existing or proposed foundation elements or from the downward vertical footprint of the pipe.

3.02 SURFACE WATER CONTROL

- A. Construct surface water control measures, including dikes, ditches, sumps and other methods to prevent, as necessary, flow of surface water into excavations and to allow construction to proceed without delay.

- B. All sewer and storm inlets within construction areas shall be provided with perimeter hay bales or other appropriate siltation control measures. All inlets shall be maintained to allow capture of incoming flow and shall not be blocked.

3.03 EXCAVATION DEWATERING

- A. At all times during construction, provide and maintain proper equipment and facilities to promptly remove and properly dispose of all water entering excavations. Excavations shall be maintained in-the-dry. Groundwater levels shall be kept at least 2-ft below the lowest excavation level.
- B. Excavation dewatering shall maintain the subgrade in a natural undisturbed condition and until the fill, structure or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.
- C. Pipe, masonry, and concrete shall not be placed in water or be submerged within 24 hours after being installed. Water shall not flow over new masonry or concrete within four days after placement.
- D. In no event shall water rise to cause unbalanced pressure on structures until the concrete or mortar has set at least 24 hours. Prevent flotation of the pipe by promptly placing backfill.
- E. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed condition of the subgrade soils at the proposed bottom of excavation.
- F. If the subgrade of the trench or excavation bottom becomes disturbed due to inadequate dewatering or drainage, excavate below normal grade as directed by the Owner or Owner's Designee and refill with structural fill, screened gravel or other material as approved by the Owner or Owner's Designee at the Contractor's expense.
- G. It is expected that the initial dewatering plan may have to be modified to suit the variable soil/water conditions to be encountered during construction. Dewater and excavate, at all times, in a manner which does not cause loss of ground or disturbance to the pipe bearing soil or soil which supports overlying or adjacent structures.
- H. Pumping from the dewatering system shall be continuous until pipe or structure is adequately backfilled. Stand-by pumps shall be provided.
- I. Water entering the excavation from precipitation or surface runoff shall be collected in shallow ditches around the perimeter of the excavation, drained to a sump and pumped from the excavation to maintain a bottom free from standing water.
- J. Drainage shall be disposed of in an approved area as specified in Section 01110. Existing or new sanitary sewers shall not be used to dispose of drainage without first obtaining written permission from the local municipality.

3.04 REMOVAL OF SYSTEMS

- A. At the completion of the excavation and backfilling work, and when approved by the Owner or Owner's Designee, all pipe, pumps, generators, other equipment and accessories used for the groundwater and surface water control systems shall be removed from the site. All materials and equipment shall become the property of the Contractor. All areas disturbed by the

installation and removal of groundwater control systems shall be restored to their original condition.

END OF SECTION

SECTION 02213
ROCK AND BOULDER EXCAVATION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required and excavate and dispose of rock and boulders as specified herein. Furnish acceptable material for backfill in place of the excavated rock to bring the limits of the trench and/or excavation to those required on this project.
- B. Blasting will not be permitted on this project.
- C. Protect existing structures, utilities, roadway, adjacent property, workers, Owner's Designee, Owner, all abutters, and the public from damage or injury from excessive ground vibrations and rock block movements.

1.02 RELATED WORK

- A. Granular Fill Materials are included in Section 02230.
- B. Sedimentation and Erosion Control is included in Section 02270.
- C. Excavation Support and Protection is included in Section 02311.

1.03 SUBMITTALS

- A. Submit, in accordance with Section 01300, at least two weeks prior to commencing excavation the following:
 - 1. A description of the means and methods of rock and boulder excavation techniques including size and energy of any impact equipment and chemical properties of any chemical agents to be used for chemical splitting.
 - 2. Name and qualifications of the person(s) responsible for monitoring and reporting rock excavation vibrations.
- B. Review by the Owner and Owner's Designee of material submitted by the Contractor shall not relieve the Contractor of responsibility for the accuracy, adequacy, and safety of the rock and boulder excavation, exercising proper supervision and field judgment and producing the results within the limits required by this Section.

1.04 DEFINITIONS

- A. Rock: Any large mass of stone, bedrock, or ledge rock.
- B. Soil Excavation: The removal of earth, including boulder, weathered rock and rock fragment, loose or disintegrated rock, loose or rotted shale, nested stones, hardpan and the like. Soil Excavation shall include all excavation of earth materials including rock excavation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. Vibrations shall be limited to peak particle velocity (PPV) of 0.5-inches per second (ips).

3.02 ROCK EXCAVATION

- A. Rock excavation may be performed by drilling, wedging, sledging, cutting, barring, jackhammering, hoe ramming, expansive chemical splitting, or another similar process in a manner, which does not cause damage to the existing structures, new construction.
- B. Blasting is not allowed.
- C. All rock excavation operations shall comply with the project, state and local noise and dust regulations.
- D. If rock below grade is shattered by rock excavation methods, and if, in the opinion of the Owner and Owner's Designee, the shattered rock is unfit for subgrade, the rock shall be removed and the excavation refilled with thoroughly compacted screened gravel or structural fill at no additional cost.

3.03 DISPOSAL OF ROCK

- A. Fragmented rock with dimensions not exceeding 6 inches in any direction may be mixed with common fill and used as common fill in accordance with Section 02230.
- B. Excavated material shall be stacked without excessive surcharge on the excavation or obstructing free access to hydrants and gate valves. Inconvenience to traffic and abutters shall be avoided as much as possible.
- C. Should conditions make it impracticable or unsafe to stack material adjacent to the excavation, the material shall be hauled and stored at a location provided. When required, it shall be rehandled and used in backfilling the trench at no additional cost to the Owner.
- D. Rock and boulder material disposed of by wasting shall be replaced by available surplus suitable soils. Common fill to supply any deficiency of backfill shall be provided at no additional cost.
- E. Unused rock and boulders shall be removed and disposed of off-site.
- F. Provide to the Owner and Owner's Designee the name and address of the facility receiving any unused rock generated during construction. In addition, provide to the Owner and Owner's representative documentation of the facility's commitment to accept the rock and boulders and the facility's intended use.

END OF SECTION

SECTION 02221
TRENCHING, BACKFILLING AND COMPACTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals necessary to perform all trenching for pipelines and appurtenances, including drainage, filling, backfilling, disposal of surplus material and restoration of trench surfaces and easements.
- B. Excavation shall extend to the width and depth as specified and shall provide suitable room for installing pipe, structures and appurtenances.
- C. The Contractor shall furnish and place all sheeting, bracing and supports and shall remove from the excavation all materials which the Owner or Owner's Designee may deem unsuitable for backfilling. The bottom of the excavation shall be firm, dry and in all respects, acceptable. If conditions warrant, the Contractor may be ordered to deposit gravel for pipe bedding, or gravel refill for excavation below grade, directly on the bottom of the trench immediately after excavation has reached the proper depth and before the bottom of the trench has become softened or disturbed by any cause whatsoever. The length of open trench shall be related closely to the rate of pipe laying. All excavation shall be made in open trenches.
- D. All excavation, trenching, and related sheeting, bracing, etc. shall comply with the requirements of OSHA excavation safety standards (29 CFR Part 1926.650 Subpart P) and State requirements. Where conflict between OSHA and State regulations exists, the more stringent requirements shall apply.
- E. Wherever the requirement for 95 percent compaction is referred to herein it shall mean "at least 95 percent of maximum density as determined by ASTM D1557, Method D".
- F. Prior to the start of work the Contractor is required to submit his/her proposed method of backfilling and compaction to the Owner and Owner's Designee for review.

1.02 RELATED WORK

- A. Testing and laboratory services are included in Section 01410.
- B. Dewatering and drainage is included in Section 02140.
- C. Rock and boulder excavation is included in Section 02213.
- D. Granular fill materials is included in Section 02230.
- E. Excavation support and protection is included in Section 02311.
- F. Warning tape to identify buried water piping is included in Section 02616.
- G. Pavement repair and resurfacing is included in Section 02576.

1.03 SUBMITTALS

- A. Submit to the Owner and Owner's Designee the sheeting and bracing design as required prior to excavation.
- B. Submit to the Owner and Owner's Designee the proposed method of backfilling and compaction prior to excavation.

PART 2 PRODUCTS

NONE THIS SECTION

PART 3 EXECUTION

3.01 TRENCH EXCAVATION

- A. Trench excavation shall include material of every description and of whatever substance encountered including cobblestones and brick pavers, except rock and boulders. Pavement shall be cut with a saw, wheel or pneumatic chisel along straight lines before excavating.
- B. The Contractor shall strip and stockpile topsoil from grassed areas crossed by trenches. At the Contractor's option, topsoil may be otherwise disposed of and replaced, when required, with approved topsoil of equal quality.
- C. While excavating and backfilling is in progress, traffic shall be maintained, and all utilities and other property protected as provided in the General Conditions and General Requirements.
- D. Trenches shall be excavated to the depth indicated on the Drawings and in widths sufficient for laying the pipe, bracing and for dewatering equipment. The bottom of the excavations shall be firm and dry and in all respects acceptable to the Owner and Owner's Designee. Trench width shall be a practical minimum.
- E. Excavation and dewatering shall be accomplished by methods which preserve the undisturbed state of subgrade soils. The trench may be excavated by machinery to, or just below the designated subgrade, provided that material remaining in the bottom of the trench is no more than slightly disturbed. Subgrade soils which become soft, loose, "quick", or otherwise unsatisfactory as a result of inadequate excavation, dewatering or other construction methods shall be removed and replaced by screened gravel fill as required by the Owner and Owner's Designee at the Contractor's expense.
- F. Clay and organic silt soils are particularly susceptible to disturbance due to construction operations. When excavation is to end in such soils, use a smooth-edge bucket to excavate the last one foot of depth.
- G. Where pipe is to be laid in screened gravel bedding, the trench may be excavated by machinery to the normal depth of the pipe provided that the material remaining in the bottom of the trench is no more than slightly disturbed.
- H. Where pipe is to be laid directly on the trench bottom, final excavation at the bottom of the trench shall be performed manually, providing a flat-bottom true to grade upon undisturbed material. Bell holes shall be made as required.

- I. All trenches shall be fully backfilled at the end of each day or, in lieu thereof, shall be covered by recessed heavy steel plates adequately braced pinned and capable of supporting vehicular traffic in those locations where it is impractical to backfill at the end of each day.

3.02 DISPOSAL OF MATERIALS

- A. Excavated material shall be stacked without excessive surcharge on the trench bank or obstructing free access to hydrants and gate valves. Inconvenience to traffic and abutters shall be avoided as much as possible. Excavated material shall be segregated for use in backfilling as specified below.
- B. It is expressly understood that no excavated material shall be removed from the site of the work or disposed of by the Contractor except as directed by the Owner and Owner's Designee. When removal of surplus materials has been approved by the Owner and Owner's Designee, the materials shall be transported, stockpiled, and disposed of in accordance with all local, state, and federal regulations at no additional cost to the Owner.
- C. Should conditions make it impracticable or unsafe to stack material adjacent to the trench, the material shall be hauled and stored at a location provided by the Contractor. When possible, it shall be re-handled and used in backfilling the trench.

3.03 SHEETING AND BRACING

- A. Furnish, put in place and maintain sheeting and bracing required by Federal, State or local safety requirements to support the sides of the excavation and prevent loss of ground which could endanger personnel, damage or delay the work or endanger adjacent structures. If the Owner and Owner's Designee is of the opinion that at any point sufficient or proper supports have not been provided, he may order additional supports placed at the expense of the Contractor. Compliance with such order shall not relieve the Contractor from his responsibility for the sufficiency of such supports. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and rammed.
- B. When moveable trench bracing such as trench boxes, moveable sheeting, shoring or plates are used to support the sides of the trench, care shall be taken in placing and moving the boxes or supporting bracing to prevent movement of the pipe, or disturbance of the pipe bedding and the screened gravel backfill.
- C. The Contractor will be permitted to use steel sheeting in lieu of wood sheeting for the entire job wherever the use of sheeting is necessary. The cost for use of sheeting will be included in the bid items for pipe and shall include full compensation for driving, bracing and later removal of sheeting.
- D. All sheeting and bracing shall be carefully removed in such manner as not to endanger the construction of other structures, utilities, or property, whether public or private. All voids left after withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by watering or otherwise as directed.
- E. The Contractor shall receive no payment, for sheeting, bracing, etc., during the progress of the work. The Contractor shall receive no payment for sheeting which has actually been left in the trench for the convenience of the Contractor.

- F. Sheeting driven below mid-diameter of any pipe shall remain in place from the driven elevation to at least 1-ft above the top of the pipe.

3.04 TEST PITS

- A. The Contractor may be required to excavate test pits for the purpose of locating underground utilities or structures as an aid in establishing the precise location of new work.
- B. Test pits shall be backfilled as soon as the desired information has been obtained. The backfilled surface shall be maintained in a satisfactory condition for travel until resurfaced as specified.

3.05 EXCAVATION BELOW GRADE AND REFILL

- A. Whatever the nature of unstable material encountered or the groundwater conditions, trench drainage shall be complete and effective.
- B. If the Contractor excavates below grade through error or for his own convenience, or through failure to properly dewater the trench, or disturbs the subgrade before dewatering is sufficiently complete, he may be directed by the Owner and Owner's Designee to excavate below grade as set forth in the following paragraph, in which case the work of excavating below grade and furnishing and placing the refill shall be performed at his own expense.
- C. If the material at the level of trench bottom consists of fine sand, sand and silt or soft earth which may work into the screened gravel notwithstanding effective drainage, the subgrade material shall be removed to the extent directed and the excavation refilled with a 6-in layer of coarse sand, or a mixture graded from coarse sand to the fine peastone, as approved by the Owner and Owner's Designee, to form a filter layer preserving the voids in the gravel bed of the pipe. The composition and gradation of gravel shall be approved by the Owner and Owner's Designee prior to placement. Screened gravel or crushed stone shall then be placed in 6-inch layers thoroughly compacted up to the normal grade of the pipe. If directed by the Owner and Owner's Designee, bank-run gravel shall be used for refill of excavation below grade.
- D. Geotextile filter fabric may be substituted for filter layer if approved by the Owner and Owner's Designee. Filter fabric shall be Mirafi 140N, Supac equivalent, or equal.

3.06 BACKFILLING

- A. As soon as the pipe and structures has been laid and jointed, backfilling shall begin and thereafter be prosecuted expeditiously. Common fill material, free of boulders greater than 6-in, pieces of pavement, and concrete shall be placed up to 1-ft over the pipe. Backfill materials shall be in compliance with RIDOT Standard Specifications for Roads and Bridge Construction Section 205.03.5.
- B. Where the pipes and structures are laid in streets, the remainder of the trench up to a depth of 1-ft below the bottom of the specified permanent paving shall be backfilled with compacted backfill in layers not to exceed 1-ft and thoroughly compacted. The subbase layer for paving shall be of bank-run gravel thoroughly compacted in 6-in layers.
- C. To prevent longitudinal movement of the pipe, dumping backfill material into the trench and then spreading will not be permitted until fill material has been placed and compacted to a level 1-ft over the pipe.

- D. Backfill shall be brought up evenly on all sides. Each layer of backfill material shall be thoroughly compacted by rolling, tamping, or vibrating with mechanical compacting equipment or hand tamping, to 92 percent compaction. If rolling is employed, it shall be by use of a suitable roller or tractor, being careful to compact the fill throughout the full width of the trench.
- E. Upon approval of the Owner and Owner's Designee, water jetting or puddling may be used unless the refill contains too great a proportion of clay or loam to permit satisfactory drying. Water jetting shall consist of using a suitable length of pipe at least 1-1/4-in in diameter fitted with quick acting valve and sufficient hose to connect to hydrant or pump having adequate pressure and capacity. The full depth of backfill shall be thoroughly inundated by thrusting the pipe into the fill at frequent intervals with the valve open until all slumping ceases. Where backfill is compacted by puddling, it shall be done by depositing in water. Water for jetting or puddling may be obtained from Owner hydrants wherever possible. Water may be furnished by the Owner from these hydrants if reasonable care is exercised in its use and when approved by the Water Department.
- F. If water restrictions are in force, the Contractor shall obtain his own water elsewhere, or compact the backfill by other approved methods at no additional cost to this Contract.
- G. Where other methods are not practicable, compaction shall be by use of hand or pneumatic ramming with tools weighing at least 20 lbs. The material being spread and compacted in layers not over 6-in thick. If necessary, sprinkling shall be employed in conjunction with rolling or ramming.
- H. All percentages of compaction specified herein shall be related to the maximum dry density as established by Method D, ASTM D1557-70, and verified in the field by the Contractor's field/laboratory testing representative utilizing ASTM D1556-68, D2167-66 or an approved nuclear density testing device. Prior to placing the backfill material, at least one (1) laboratory test shall be made on a representative sample to determine gradation and the moisture density characteristics of the proposed material.
- I. Backfill around structures shall be selected common fill material, may be compacted by puddling where approved by the Owner and Owner's Designee. All backfill shall be compacted, especially under and over pipes connected to the structures.
- J. Subject to the approval of the Owner and Owner's Designee, fragments of ledge and boulders smaller than 6-in may be used in trench backfill provided that the quantity in the opinion of the Owner and Owner's Designee, is not excessive. Rock fragments shall not be placed until the pipe has at least 2-ft of earth cover. Small stones and rocks shall be placed in thin layers alternating with earth to insure that all voids are completely filled. Fill shall not be dropped into the trench in a manner to endanger the pipe. All other rock, ledge, boulders, and other materials unsuitable for backfill material shall be removed from the site and disposed of by the Contractor.
- K. Bituminous paving shall not be placed in backfill. Frozen material shall not be used under any circumstances.
- J. All road surfaces shall be broomed and hose-cleaned immediately after backfilling. Employ dust control measures shall be employed at all times.

3.07 WARNING TAPE

- A. During the backfilling process, all pipes and service lines and appurtenance shall have a continuous warning tape, as specified in Section 02616, placed above the pipe and through out the length of the pipe at a depth of eighteen (18) inches below the ground surface above the pipe/service.

3.08 RESTORING TRENCH SURFACE

- A. Where the trench occurs adjacent to paved streets, in shoulders, sidewalks, or in cross-country areas, the Contractor shall thoroughly consolidate the backfill and shall maintain the surface as the work progresses. If settlement takes place, he shall immediately deposit additional fill to restore the level of the ground.
- B. In and adjacent to streets, the top 12-in layer of trench backfill shall consist of compacted bank-run gravel. Should the Contractor wish to use material excavated from the trench as gravel subbase for pavement replacement, the Contractor shall at his own expense have samples of the material tested by an independent testing laboratory at intervals not to exceed 500 feet, in order to establish its compliance with the specifications. Only material which has been tested by the Contractor and approved by the Owner and Owner's Designee shall be allowed to be incorporated into the work.
- C. The surface of any driveway or any other area which is disturbed by the trench excavation and which is not a part of the paved road shall be restored to a condition at least equal to that existing before work began.
- D. In sections where the work passes through grassed areas, the Contractor shall, at his own expense, remove and replace the sod, or shall loam and seed the surface to the satisfaction of the Owner and Owner's Designee.

END OF SECTION

SECTION 02230
GRANULAR FILL MATERIALS

GENERAL

1.01 DESCRIPTION

- A. Granular fill materials are specified in this Section, but their use for bedding pipe, pavement base, and similar uses are specified in detail elsewhere. The Owner and Owner's Designee may order the use of fill materials for purposes other than those specified in other Sections if, in his/her opinion, such use is advisable.
- B. Granular fill materials shall be natural or processed mineral soils, graded crushed stone or gravel obtained from off-site sources. Granular fill materials shall be free of all organic material, trash, snow, ice, frozen soil, or other objectionable materials which may be compressible, or which cannot be properly compacted. Soft, wet, plastic soils which may be expansive, clay soils having a natural, in-place water content in excess of 30 percent, soils containing more than 5 percent (by weight) fibrous organic materials, and soils having a plasticity index greater than 30 shall be considered unsuitable for use as granular fill materials. Granular fill materials shall have a maximum of 1 percent expansion when testing is performed on a sample remolded to 95 percent of maximum dry density (per ASTM D1557) at 2 percent below optimum moisture content under a 100 lbs/sq ft surcharge.

1.02 RELATED WORK

- A. Trenching, Backfilling, and Compaction are included in Section 02221.
- B. Sedimentation and Erosion Control is included in Section 02270.
- C. Pavement Repair and Resurfacing is included in Section 02576.
- D. Loaming and Seeding is included in Section 02930.

1.03 QUALITY ASSURANCE

- A. Laboratory Testing
 - 1. At least 7 days prior to the placement of any backfill or fill materials, deliver a representative sample of the proposed materials weighing at least 50 lbs to the soils testing laboratory in accordance with Section 01410.
 - 2. Engage the soils testing laboratory to perform:
 - a. Grain size analyses of the samples to determine their suitability for use as backfill or fill material in conformance to the materials requirements specified herein.
 - b. The appropriate Proctor analyses to determine the maximum dry densities required for compaction testing as specified elsewhere in the Contract Documents.
 - c. Test results and determinations of suitability shall be delivered to the resident project representative no later than 3 days prior to the placement of backfill or fill materials.

1.04 SUBMITTALS

- A. Submit to the Owner and Owner's Designee all laboratory testing and certification prior to any work.

PART 2 PRODUCTS

2.01 BORROW AND AGGREGATE MATERIALS

- A. Common Fill/Borrow: In accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Subsection M.01.01.
- B. Gravel Borrow: In accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Subsection M.01.02 and Subsection M.01.09, Table I (Gradation – Percent Passing), Column I. Gravel Borrow shall also include:
 - 1. Bank Run or Plant-Processed Sand and Gravel: in accordance with Subsection M.01.02.1 and meeting the gradation requirements specified in Subsection M.01.09, Table I, Column I(a).
 - 2. Reclaimed and Processed Granular Material: in accordance with Subsection M.01.02.2 and meeting gradation requirements specified in Subsection M.01.09, Table I, Column I(b).
- C. Crushed Stone or Crushed Gravel: In accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Subsection M.01.09, Table I, Column II.
- D. Pervious Fill: In accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Subsection M.01.03, Table I, Column IV.
- E. Bedding material shall be gravel borrow as specified in 2.01 B.1.Coarse Aggregate for Bituminous Concrete and Portland Cement Concrete: In accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Subsection M.01.05.
- F. Fine Aggregate for Asphalt or Portland Cement Concrete: In accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Subsection M.01.08.
- G. Fine Aggregate - Sand: Natural river or bank sand; free of silt, clay, loam, friable or soluble materials, and organic matter; graded according to ASTM C 33; within the following limits:
 - 1. Percent Passing per Sieve Size:
 - a. No. 4:95 to 100.
 - b. No. 8:80 to 100.
 - c. No. 16:50 to 85.
 - d. No. 30:25 to 60.
 - e. No. 50:10 to 30.
 - f. No. 100:2 to 10.
- H. Topsoil: In accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Sections L.01 and L.02.

- I. Select Common Fill/Unclassified Fill : Select common fill shall be as specified above for common fill/borrow except that the material shall contain no stones larger than 1-inch in its largest dimension..
- J. Controlled Low-Strength Material (CLSM)/Controlled Density Fill (CDF)/Flowable Fill used as backfill in State Highway right-of-ways or as specified in the Drawings, shall be in accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Section 603.
- K. Suitability of Backfill Material
 - 1. Suitable backfill material is free of stones larger than half the size of the compacted lift as provided for in RI Highway Standards, construction debris, trash frozen soil, and other foreign material. It consists of the following:
 - a. Well graded gravel and sand;
 - b. Poorly graded gravel and sand;
 - c. Gravel-sand mixtures with a small amount of silt;
 - d. Gravel-sand mixtures with a small amount of silt and trace amounts of clay.
 - 2. Unsuitable backfill materials consist of the following:
 - a. Inorganic silts and clays;
 - b. Organic silts;
 - c. Organic soils including peat, humus, topsoil, swamp soils, mulch, and soils containing leaves, grass, branches, and other fibrous vegetable matter.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02270
SEDIMENTATION AND EROSION CONTROL

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required and perform all installation, maintenance, removal, and area cleanup related to sedimentation control work as shown on the Details and as specified herein.

1.02 RELATED WORK

- A. Environmental Protection Procedures are included in Section 01110.
- B. Trenching, Backfilling and Compaction specifications are included in Section 02221.
- C. Granular Fill Materials are included in Section 02230.

1.03 SUBMITTALS

- A. Submit to the Owner and Owner's Designee, in accordance with Section 01300 and within 10 days after award of Contract, technical product literature for all commercial products to be used for sedimentation and erosion control.

1.04 QUALITY ASSURANCE

- A. Be responsible for the timely installation and maintenance of all sedimentation control devices necessary to prevent the movement of sediment from the construction site, staging or laydown areas to off-site areas or into the sewer and/or drainage systems. Measures in addition to those shown in the details necessary to prevent the movement of sediment off site shall be installed, maintained, removed, and cleaned up at the expense of the Contractor. No additional charges to the Owner will be considered.
- B. Sedimentation and erosion control measures shall conform to the requirements outlined in the Rhode Island Soil Erosion and Sediment Control Handbook, most recent edition, which are incorporated herein by reference.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Filter Fabric
 - 1. Filter fabric shall be a woven, polypropylene, ultraviolet resistant material such as Mirafi 100X by Mirafi Inc., Charlotte, NC or equal.
- B. Crushed stone shall be as specified in Section 02230 Granular Fill Materials.

PART 3 EXECUTION

3.01 GENERAL

- A. Take sufficient precautions during construction to minimize the runoff of polluting substances such as silt, clay, fuels, oils, bitumen, and calcium chloride into the supplies and surface waters of the State. Special precautions shall be taken in the use of construction equipment to prevent operations that promote erosion.
- B. Prevent the flow or seepage of drainage back into the drainage area. Drainage shall not be disposed of until silt and other sedimentary materials have been removed. Particular care shall be taken to prevent the discharge of unsuitable drainage to a water supply or surface water body.
- C. Measures for control of erosion must be adequate to assure that turbidity in the receiving water will not be increased more than 10 standard turbidity units (s.t.u.), or as otherwise required by the State or other controlling body, in waters used for public water supply or fishing unless limits have been established for the particular water. In surface water used for other purposes, the turbidity must not exceed 25 s.t.u. unless otherwise permitted.

3.02 INSTALLATION

- A. Construct inlet filters using filter fabric as specified in this Section and as shown in the details. Filter fabric shall be secured to inlet frame with bricks and in a fashion as to minimize impedance on traffic flow.

3.03 MAINTENANCE AND INSPECTIONS

- A. Inspections
 - 1. Make a visual inspection of all sedimentation control devices once per week and promptly before and after every rainstorm.
 - 2. If such inspection reveals that additional measures are needed to prevent movement of sediment to offsite areas or into the vent trench, promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly.
- B. Device Maintenance
 - 1. Filter Boxes
 - a. Replace crushed stone when it becomes saturated with silt.

3.04 REMOVAL AND FINAL CLEANUP

- A. Once the site has been fully stabilized against erosion, remove sediment control devices and all accumulated silt. Dispose of silt and waste materials in proper manner. Regrade all areas disturbed during this process and stabilize against erosion with surfacing materials.

END OF SECTION

SECTION 02311
EXCAVATION SUPPORT AND PROTECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The work specified in this Section includes requirements for excavation and support of temporary excavations, and trenches. The Contractor shall design, furnish, install, and maintain a system of supports, including all bracing and associated items, to retain excavations in a safe manner and to control ground movements. Upon completion of the required construction, the system of supports shall be completely removed and the excavation and staging area sites restored as discussed herein.
- B. The work shall include site grading; fencing, barricades and signing; construction staging areas; design and construction of excavation support systems; disposal of excavated material, surface water, and groundwater; backfilling; and site restoration. Work shall include all labor, materials, and equipment required to complete excavation support.
- C. Retain the services of a professional engineer registered in the State of Rhode Island to prepare excavation support and protection system designs and submittals described herein. Work shall include the design, equipment, materials, installation, protection, and monitoring of geotechnical instrumentation required to monitor the performance of the excavation support system as required herein.
- D. All excavations and support systems shall conform to applicable OSHA excavation, trenching, and shoring standards which are contained in the U.S. Code of Federal Regulations 29 (C.F.R.) 1926.650-1926.653, other federal, state or local requirements. In the event of a conflict, comply with the more restrictive applicable requirements.

1.02 RELATED WORK

- A. Dewatering and Drainage are included in Section 02140.
- B. Rock and Boulder Excavation are included in Section 02213.
- C. Trenching, Backfilling, and Compaction are included in Section 02221.
- D. Granular Fill Materials are included in Section 02230.

1.03 SUBMITTALS

- A. Submit to the Owner and Owner's Designee in accordance with Section 01300, Shop Drawings and design calculations for the Contractor-designed excavation support system stamped by a Professional Engineer in the State of Rhode Island.
- B. Shop Drawings shall include:
 - 1. Overall plan layout of the system, indicating clearances, dimensions, material properties, member sizes, locations, spacing and penetrations depth of all members, locations of various types of lateral supports. Indicate existing and proposed utilities, structures or other

obstruction, location and type of instrumentation and monitoring points within the area of influence of the excavation.

2. Wall elevations and locations of all bracing.
 3. Overall sequence of installation and removal of bracing, indicating levels to which the work will be carried out before bracing is installed or removed.
 4. Method of preloading bracing (if required) and the preload for each member, and the method of locking-off the preload. Include detailed drawings of the connections, jacking supports and method of shimming.
 5. Details, layout, arrangement, equipment requirements, and method of construction of the proposed excavation support system.
 6. Procedures for resolving difficulties arising from misalignment of members exposed during excavation, and criteria for implementing those procedures.
- C. Design calculations shall include:
1. Loads on the excavation support system for all stages of excavation, bracing removal, and concrete placement, including material and equipment loads on the adjacent ground during construction.
 2. Design of wall and all bracing members including all details for all stages of construction.
 3. Theoretical deflections of excavation support system and deformation of structures, pipelines, and other improvements located within the area of influence of the excavation.
 4. Submit to the Owner and Owner's Designee for review and acceptance, a plan of action to be implemented in the event any threshold value for deformation is reached. The plan of actions shall be positive measures by the Contractor to limit further movement of the wall including but not limited to trenching for struts and wales, placement of granular earth berms against the wall, installation of additional struts, or combinations thereof. The details of the mitigating measures shall include a schedule of implementation, location and/or availability of materials, structural details for all connections to the wall and support elements, and a detailed description of the method of implementation. The Contractor shall be prepared to work 24 hours per day to implement such measures. The remedial work/mitigating measures shall be at no additional cost to the Owner.
- D. Submit quality control measures as required to ensure that the performance of the excavation support system is consistent with the approved shop drawings and the requirements herein.
- E. Submit welder qualifications and weld procedures in accordance with AWS D1.1.
- F. Submit Contractor's and Design Engineer's qualifications as described in herein.
- G. At least one copy of the design shall be maintained at the job site during excavation that includes a plan indicating the sizes, types, and configurations of the materials to be used in the protective system, and the identity of the registered engineer who approved the design.

- H. Do not proceed with any support of excavation or protection activities until the submittal has been approved by the Owner and Owner's Designee.
- I. Design Engineer's documentation shall include:
 - 1. On-site inspections of the excavation support system as the systems are constructed.
 - 2. Review of quality control measures and performance data.
 - 3. Certification that the excavation support system is constructed per the applicable design following completion of each support system and following any modifications by Contractor during construction.

1.04 QUALITY ASSURANCE

- A. Regulations: Perform all work in accordance with current applicable regulations and codes of all Federal, State and local agencies.
- B. The Contractor shall have at least 5 years of experience with work compatible with the Work shown and specified, employing labor and supervisory personnel who are similarly experienced in this type of Work.
- C. The Contractor's Design Engineer shall be a Registered Professional Engineer in the State in which the work is located with at least 5 years professional experience in the design and construction of support of excavation systems and shall have completed not less than 5 successful excavation support projects of equal type, size, and complexity to that required for the work.

1.05 DESIGN REQUIREMENTS

- A. The design of temporary excavation support systems is the responsibility of the Contractor. The design calculations and drawings shall be prepared, stamped and signed by a Professional Engineer registered in the State of Rhode Island, who is experienced in designing similar excavation support systems.
- B. Design temporary excavation support systems in accordance with the requirements of this Section. These criteria are the minimum acceptable standards.
- C. All underground utility lines shall be identified, located, and protected from damage or displacement. Utility companies and other responsible authorities shall be contacted to locate and mark the locations and, if they so desire, direct or assist with protecting the underground installation. However, all mark outs of utilities shall be considered by the Contractor as approximate and the Contractor shall be solely responsible for employing prudent techniques to determine the actual location. When required, the Contractor shall obtain an excavation permit from the local authority having jurisdiction prior to the initiation of any excavation work.
- D. Design excavation support systems in accordance with all OSHA requirements and other local and agency requirements.
- E. Design the support system to minimize horizontal and vertical movements and to protect adjacent structures and utilities from damage.

- F. Excavations below the level of the base of any adjacent foundation or retaining wall shall not be permitted unless the design of the excavation and bracing includes an analysis of the stability of the structure supported by the foundation and as necessary, incorporates required bracing/underpinning of the foundation.
- G. For support systems in which bracing is installed between opposite sides of the excavation, design the excavation support of both sides to be nearly the same as feasible.
- H. Where necessary to resist point loads, pipe piles used as soldier piles shall be filled with concrete with a compressive strength not less than 3,000 psi. The strength of the concrete shall not be considered in the design of the pipe pile for bending stress.
- I. Design, install, operate, and maintain groundwater control system to control groundwater inflows, prevent piping or loss of ground, and maintain the stability of the excavation. Refer to the requirements of Section 02140.
- J. Design review and field monitoring activities by the Owner or by the Owner's Designee shall not relieve the Contractor of his/her responsibilities for the work.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Soldier piles and structural steel members shall conform to ASTM A572 or ASTM A242 unless approved otherwise. No members with permanent deformations are to be provided. Members shall not be spliced unless approved by the Owner and Owner's Designee.
- B. Pipe piles used as soldier piles shall conform to ASTM A252.
- C. Steel sheet piling shall conform to ASTM A328 or ASTM A572 or ASTM A690 unless approved otherwise.
- D. Liner plates shall be fabricated from structural quality hot-rolled carbon steel sheets or plates conforming to ASTM A1101 with the following minimum properties before cold forming:
 - E. Plates shall be of either the two- or four-flange type, punched for bolting on all sides. Bolt spacing shall be in accordance with the manufacturer's standard spacing and shall be multiples of the plate length so that the plates having the same curvature shall be interchangeable. Bolt numbers and pattern shall be determined by the liner supplier.
- F. Tensile Strength: 42,000 psi
 - 1. Yield strength: 28,000 psi
- G. Concrete shall conform to Section 03301 or ASTM C33 and ASTM C150 unless otherwise approved.
- H. All timber shall be structural grade with a minimum allowable flexural strength of 1100 psi. Timber lagging shall be at least 3 inches thick and free of large or loose knots.

PART 3 EXECUTION

3.01 GENERAL

- A. Commence installation of support system and excavations only after shop drawings have been reviewed and accepted by the Owner and Owner's Designee.
- B. All required instrumentation shall be installed and initialized prior to the start of work.
- C. Methods of construction for excavations shall be such as to ensure the safety of the Work, Contractor's employees, Owner's Designee, and Owner's employees and inspectors, the public and adjacent property and improvements, whether public or private.
- D. Before beginning construction at any location of this project, adequately protect existing structures, utilities, trees, shrubs, and other existing facilities. The repair of or compensation for damage to existing facilities shall be at no additional cost to the Owner.
- E. As a minimum, place fencing or suitable barricades, gates, lights, and signs as necessary around the excavations and staging areas to provide for public safety. Provide personnel to serve as flagmen and watchmen.
- F. Install excavation support systems in accordance with the approved shop drawings and applicable permits.
- G. All voids between the excavation support system and earth shall be filled with materials acceptable to the Owner and Owner's Designee.
- H. If unstable material is encountered during excavation, all necessary measures shall be taken immediately to contain it in place and prevent ground displacement.
- I. If settlement or deflections of supports indicate that support system requires modification to prevent excessive movements, redesign and resubmit revised shop drawings and calculations to the Owner and Owner's Designee at no additional cost to the Owner.
- J. Sufficient quantity of material shall be maintained on site for the protection of work and use in case of accident or emergency.
- K. All welding shall conform to the applicable provisions of ANSI/AWS D1.1.

3.02 PORTABLE TRENCH BOXES

- A. Portable trench boxes or sliding trench shields may be used for the protection of workers only.
- B. Additional excavation, backfilling, and surface restoration required as the result of trench box use shall be at no additional cost to the Owner.
- C. Trench boxes or shields shall be designed, constructed, and maintained to meet acceptable engineering and industry standards.
- D. Shields shall be installed in a manner to restrict lateral or other hazardous movement of the shield in the event of the application of sudden lateral loads.

- E. A copy of the trench box manufacturer's specifications, recommendations, and limitations shall be in written form and maintained at the job site during all excavation work.

3.03 SOLDIER PILES

- A. Install soldier piles with the minimum embedment depths as shown on approved shop drawings.
- B. Driven piles shall be installed with driving shoes where hard driving is anticipated.
- C. For soldier piles installed in predrilled holes, provide casing or other methods of support as necessary to prevent caving of holes and loss of ground.
- D. Predrilled holes for soldier piles shall be backfilled with concrete from the pile tip elevation to the elevation of the bottom of the excavation. The remainder of the predrilled hole shall be backfilled with lean concrete or sand. Concrete strength shall be in accordance with the approved shop drawings.
- E. The predrilled hole diameter shall be sufficient to allow for proper alignment and concrete backfilling of the pile.
- F. Driven soldier piles shall be advanced without the aid of a water jet.
- G. Provide timber lagging of sufficient thickness to withstand earth pressures and in accordance with the approved shop drawings.
- H. Install lagging such that ground loss does not occur between adjacent or below the lowest board. As excavation proceeds, the maximum height of unlagged face of excavation shall not exceed 4 feet. The unlagged face shall not exceed 2-ft if water seeps or flows from the face of the excavation or if the face of the excavation becomes unstable.
- I. As installation progresses, backfill the voids between the excavation face and the lagging. Pack with materials such as hay, burlap, or geotextile filter fabric where necessary to allow drainage of groundwater without loss of ground.

3.04 STEEL SHEET PILING

- A. Install steel sheet piling with the minimum embedment depths as shown on the approved shop drawings.
- B. Drive sheeting in plumb position with each sheet pile interlocked with adjoining piles for its entire length to form a continuous diaphragm throughout the length of each run of the wall, bearing tightly against the original ground. Exercise care in driving so that interlocking members can be extracted without damaging adjacent structures or utilities. The methods of driving, cutting, and splicing shall conform to the approved shop drawings.
- C. Use templates or other temporary alignment facilities to maintain piling line.
- D. Prior to installation, the sheet piles shall be thoroughly cleaned and inspected for defects and proper interlock dimensions. Provide a tool for checking the interlock dimensions.

- E. Each sheet pile shall have sufficient clearance in the interlocks to slide, under its own weight, into the interlock of the sheet pile previously placed.
- F. Excavation shall not be carried in advance of steel sheet piling installation.
- G. Where obstructions are anticipated, pre-excavation or pre-drilling along the sheet pile wall alignment shall be conducted at no additional cost to the Owner. Pre-excavation and pre-drilling shall not extend below the lowest excavation level or into bearing soils for existing or future structures.
- H. Obstructions encountered before the specified embedment for piles shall be removed. Where obstructions cannot be removed, the sheet pile system shall be re-evaluated by the Contractor's Design Engineer for the resulted reduced embedment and additional toe stability measure implemented, as required or for realignment of the sheet pile wall. Submittal of the proposed measures shall be provided.
- I. Damaged piling or piling with faulty alignment shall be withdrawn and new piling driven properly in its place. The cost of such additional work shall be considered as part of the pile driving and shall be borne by the Contractor.

3.05 LINER PLATES

- A. Liner plates shall be installed as soon as excavation has progressed sufficiently for the next ring of plates to be installed. A complete circumferential ring of liner plates shall be installed prior to continuing the excavation. Installing more than one incomplete ring of liner plates at any time is not acceptable. Plates shall be staggered in the vertical direction to facilitate shaft strength and leakage resistance.
- B. Liner plates shall be grouted in accordance with the approved shop drawings.

3.06 INTERNAL BRACING

- A. Provide internal bracing to carry maximum design load without distortion or buckling.
- B. Include web stiffeners, plates, or angles as needed to prevent rotation, crippling, or buckling of connections and points of bearing between structural steel members. Allow for eccentricities caused by field fabrication and assembly.
- C. Install and maintain all bracing support members in tight contact with each other and with the surface being supported.
- D. Coordinate excavation work with the installation of bracing. Excavation shall extend no more than 2 feet below any brace level prior to installation of the bracing.
- E. Use procedures that produce uniform loading of a bracing member without eccentricities or overstressing and distortion of members of the system.

3.07 REMOVAL OF EXCAVATION SUPPORT

- A. Do not remove internal bracing and transfer loads to the permanent structure without prior acceptance of the Owner and Owner's Designee.

- B. Removal shall begin at and progress from the bottom of the excavation. Members shall be released slowly as to note any indication of the possible failure of the remaining members or possible cave-in of the sides of the excavation.
- C. Backfilling shall progress together with the removal of support systems from excavations.
- D. Unless otherwise indicated, remove all portions of excavation support.
- E. Do not remove vertical support members that were installed within the zone of influence of new or existing structures. The zone of influence is defined as a zone extending down and away from the outer edge of the structure at 1 horizontal to 1 vertical. Support members installed within this zone shall be cut off at 5 ft below finished grade and abandoned in place.
- F. No untreated wood shall remain as part of the abandoned portion of the work.
- G. When removing the excavation support system, do not disturb or damage adjacent buildings, structures, waterproofing material, or utilities. Fill voids immediately with lean concrete or well-graded cohesionless sand, as indicated or as directed by the Owner and Owner's Designee.
- H. Remove material of the excavation support system from the site immediately.

END OF SECTION

SECTION 02517

DISINFECTING OF WATER UTILITY DISTRIBUTION

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required for disinfection of cleaned and lined water main, temporary service piping and property connections, and new ductile iron water main in accordance with AWWA C651 and testing and reporting of results.

1.2 RELATED WORK

- A. Submittals are included in Section 01300.
- B. Ductile Iron Pipe and Fittings are included Section 02616.
- C. Temporary Services are included in Section 02656.

1.3 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data: Procedures, proposed chemicals, and treatment levels.
- B. Informational Submittals:
 - 1. Certify water conforms to quality standards of Providence Water Supply Board.
 - 2. Test and Evaluation Reports: Testing results comparative to specified requirements.
 - 3. Field Quality-Control Submittals: Results of Contractor-furnished tests and inspections.
 - 4. Disinfection and Chlorination Water Disposal Plan: To be submitted by Contractor for review and acceptance by Owner and Owner's Designee.
 - 5. Qualifications Statements: Qualifications for water treatment firm and testing firm. Include operator's license to perform the disinfection Work as required by Authorities Having Jurisdiction.
- C. Closeout Submittals:
 - 1. Disinfection Report:
 - a. Type and form of disinfectant used.
 - b. Date and time of disinfectant injection start and time of completion.
 - c. Test locations.
 - d. Special disinfecting procedures used for connections to existing pipes.
 - e. Name of person collecting samples.
 - f. Initial and 24-hour disinfectant residuals in treated water in ppm for each outlet tested.
 - g. Date and time of flushing start and completion.
 - h. Disinfectant residual after flushing in ppm for each outlet tested.

2. Bacteriological Report:
 - a. Date issued, project name, and testing laboratory name, address, and telephone number.
 - b. Time and date of water sample collection.
 - c. Name of person collecting samples.
 - d. Test locations.
 - e. Initial and 24-hour disinfectant residuals in ppm for each outlet tested.
 - f. Coliform bacteria test results for each outlet tested.
 - g. Submit bacteriologist's signature and authority associated with testing.

1.4 QUALITY ASSURANCE

- A. Perform Work according to Providence Water Supply Board requirements and AWWA C651.

PART 2 - PRODUCTS

2.1 DISINFECTION CHEMICALS

- A. Chemicals: Owner approved Chlorine liquid/gas. Comply with AWWA B301. Chlorine, or other Owner-approved disinfection agents, shall be ANSI/NSF-60 certified for use in potable water.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that piping system has been cleaned, inspected, and pressure tested.
- B. Perform scheduling and disinfecting activity with startup, water pressure testing, adjusting and balancing, and demonstration procedures, including coordination with related systems.

3.2 INSTALLATION

- A. Provide and attach required equipment to perform Work of this Section. Closely coordinate efforts with Owner for maintenance of site operations and for testing services.
- B. Conform to all federal, state, and local discharge and permitting requirements. The costs associated with the dechlorination and discharge of water (including permitting, if required) to a location approved by the Owner shall be borne by the Contractor, at no additional cost to the Owner.
- C. Perform disinfection in accordance with continuous feed method specified in AWWA C651. All discharged water will be dechlorinated/neutralized utilizing an approved neutralizing agent per AWW C651. Once the water has been dechlorinated, it will be tested for residual chlorine which shall not exceed the RIDEM ambient water quality criteria of 0.019 ppm. Dechlorinated water shall be discharged into the storm sewer system pending state or municipal approval as appropriate.

- D. Replace permanent system devices that were removed for disinfection.
- E. Connections at cuttings shall be swabbed with 50 ppm solution of chlorine at locations when other methods are not applicable.

3.3 FIELD QUALITY CONTROL

A. Disinfection, Flushing, and Sampling:

1. Furnish and install suitable temporary plugs, caps, pumps, pipe connections and appurtenances, as necessary for filling water main and/or temporary piping for disinfection.
2. Water required to fill the new water main, cleaned and lined water main, and temporary service piping for disinfection and flushing shall be supplied through a temporary connection to the distribution system. The temporary connection shall include an appropriate double-check valve backflow prevention device and shall be disconnected (physically separated) from the new water main, cleaned and lined water main, or temporary service piping to flush out the disinfectant water prior to final connection of the new or cleaned and lined water main to the distribution system. The source of potable water used for disinfection and pressure testing shall be flushed prior to its use to ensure that contaminants or debris are not introduced into the new pipe. Adequate drainage must be provided during flushing.
 - a. Particular attention is directed to the requirement that a double-check valve shall be made in the water supply to the main under treatment, to prevent possible backflow or siphonage of chlorine treated solutions into the distribution system in service. At no time is an existing valve separating a live water main to the new water main be opened for the purpose of flushing or filing a newly installed water main, until that new water main has been accepted by Owner and placed into service.
3. Disinfect pipeline installation.
 - a. Pipes shall be completely filled with water, all air released, and then thoroughly flushed out in the amount of twice the capacity of the section to be treated. Chlorine liquid/gas, or other Owner approved disinfection agents, shall be introduced into the new water main near the point of water supply, with Owner approved Chlorine constant feed chemical injection equipment, in the concentration required (not less than 100 parts of available chlorine per millions parts of water [ppm]) to maintain residual concentrations at the end of the disinfection period, as specified.
4. The disinfecting solution shall be left in the mains under full pressure for a period of not less than 24 hours. Prior to flushing the water main, a sample shall be obtained from the water main to verify that a minimum chlorine residual concentration of 50 ppm is present. The entire section shall then be flushed through a neutralizing agent until all traces of chlorine are removed in accordance with the latest revision to AWWA Standard C655, Field Dechlorination. NOTE: Under special circumstances approved by the Owner, a 3-hour disinfection period may be allowed with the requirement that a minimum chlorine residual concentration 100 ppm is present in the main at the end of the disinfection period.
5. For Fire service piping, flush pipeline until free of all sediment.

6. Disposal:
 - a. Legally dispose of chlorinated water.
 - b. When chlorinated discharge may cause damage to environment, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.
 7. After completion of the final flushing of the new water main, and prior to connecting main to the distribution system and placing into service, two (2) consecutive sets of water samples from the new main shall be taken by the Owner and delivered to the Owner's laboratory, at least 24 hours apart, to be analyzed for total coliform and heterotrophic plate count (HPC).
 - a. Water samples shall be collected by the Owner's representative, from only approved water sample location. At no time shall bacterial sampled be collected from fire hydrants without prior approval by the Owner and special procedures followed. Water sample shall be taken at every terminus of the main, also at points no further apart than 1,000 feet. Sample collection and analysis must be performed by the Owner's personnel and laboratory, at no additional cost to the Contractor.
 - b. Samples that are visibly discolored due to elevated iron levels shall be rejected.
 8. Any new water main or section of pipe failing to meet Owner's laboratory standards for disinfection shall be flushed or re-chlorinated, at the discretion of the Owner, until the desired results are obtained.
 9. The analytical results of the samples shall reflect what is typical of the distribution system in the area where the water main is replaced.
 10. Permission of the Owner must be obtained by the Contractor before any water main is placed into service.
- B. Before valves and fittings are installed, they shall be thoroughly disinfected in accordance with AWWA C651. Chlorine used for disinfection shall be ANSI/NSF-60 certified for potable water use.
1. A solution of 50% available chlorine shall be applied directly to the surfaces of all parts of the valve and fittings that would be in contact with potable water.
 2. The chlorine solution may be applied with suitable brushes or spray equipment. The solution shall thoroughly coat all surfaces to be treated.
 3. The disinfected surfaces shall remain in contact with the string chlorine solution for at least 30 minutes, after which the valve and fittings shall be rinsed with potable water. Following this procedure, the valve and fittings may be installed upon approval of the Owner.
- C. As pipe laying progresses and at the conclusion of the work thoroughly clean all new pipelines by flushing with water or other means to remove all dirt, stones, pieces of wood or other material which may have entered during the construction period. Debris cleaned from the lines must be removed from the low end of the pipeline. If, after this cleaning, obstructions remain, they must be removed. Fire Service piping must be flushed until no visible debris is evident.

END OF SECTION 02517

SECTION 02576
PAVEMENT REPAIR AND RESURFACING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, material, equipment, and incidentals required and replace all pavement removed over trenches or excavations or otherwise disturbed by the Contractor's operations.
- B. New pavement in streets shall consist of initial pavement over all trenches. Final bituminous concrete pavement shall be placed over trenches and excavations only on roads indicated in the plan and paving schedule in Appendix E.
- C. Final pavement on streets under moratorium must comply with the paving requirements of the corresponding City of Providence Department of Public Works or RIDOT permit issued, which may be infra-red or curb to curb paving. Infra-red paving shall be performed as described in Section 02577.
- D. Streets, driveways, parking areas or sidewalk pavements damaged or disturbed by the Contractor's operations shall be repaired, replaced, or restored in accordance with the requirements specified herein and as directed for the respective type of pavement replacement and in a manner satisfactory to the Owner, and City.
- E. Obtain all necessary City and State permits for road opening and comply with all rules and regulations governing road opening permits.
- F. Damage to the pavement outside of the limits of work which, in the opinion of the Owner or Owner's Designee, is not necessary to complete the Work and is a result of activities by the Contractor, his laborers, agents or subcontractors shall be repaired in a manner satisfactory to the Owner or Owner's Designee, Owner, City and State at the expense of the Contractor.
- G. Limits of pavement and pavement details for the City of Providence are shown on the details in Appendix E.

3. RELATED WORK

- A. Trenching, Backfilling, and Compaction are included in Section 02221.
- B. Granular Fill Materials are included in Section 02230.
- C. Infra-red Pavement Repair and Patching are included in Section 02577.

1.02 REFERENCE STANDARDS

- A. Except as otherwise specified herein, the current Standard Specifications for Road and Bridge Construction, including all addenda, issued by the State of Rhode Island Department of Transportation (RIDOT), shall apply to materials and workmanship required for the work of this Section.

- B. American Association of State Highways and Transportation Officials (AASHTO)
 - 1. AASHTO M144 - Standard Specification for Calcium Chloride.
- D. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.03 MAINTENANCE

- A. The CONTRACTOR will be held responsible for any pavement failures due to settlement or failures associated with his excavations, for a period of five (5) years from the date of the pavement's installation and acceptance.
- B. If, at any time during the five (5) year period following final acceptance of paving work under this contract, any part of the paving or surfacing work which, in the opinion of the OWNER, requires replacement, repair, or remedial action to damaged private or public property (caused by any defect in the paving work), the OWNER will require the CONTRACTOR to make the necessary repairs or replacement to the OWNER's satisfaction within ten (10) days of notification.
- C. At the OWNER's discretion, the OWNER may employ other persons to make such repairs and replacement. The CONTRACTOR agrees, upon demand, to reimburse the City all amounts expended for such repairs or replacements.
- D. All material and labor required for such maintenance shall be supplied by the Contractor, and the work shall be done in a manner satisfactory to the Owner at no additional cost to the Owner.
- E. Failure to meet the warranty requirements constitutes a breach of contract.

1.04 SUBMITTALS

- A. Submit to the Owner and Owner's Designee, in accordance with Section 01300, design mix for each bituminous material.
- B. Samples: Provide samples of materials for laboratory testing and job mix design.
- C. The following submittals must be furnished for the work of this Section:
 - 1. Certified Mix Designs
 - 2. Certified Test results for gravel gradation.
- D. Product Data: Submit data on material and equipment to be used in concrete pavement including:
 - 1. Sources of aggregate, manufacturer data sheets for cement and concrete admixtures used in the concrete mix design.
 - 2. Dowels and dowel bar assemblies.
 - 3. Reinforcement or welded wire mesh.
 - 4. Proposed Techniques: submit proposed techniques for placement, consolidation, finishing texturing and curing of concrete.
 - 5. Concrete Mix Design Data:

- a. Submit concrete mix design for each concrete strength.
- b. Identify mix ingredients and proportions, including admixtures.

PART 2 PRODUCTS

2.01 MATERIALS

A. Asphalt Paving

1. Bituminous concrete pavement and bituminous materials shall conform to Section M.03 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.
2. Asphalt-Tack coat type, grade, and application methods shall conform to both Section M.03; Materials and Section 403; Asphalt Emulsion Tack Coat of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.
3. Backfill shall be in accordance with RIDOT Minimum Standards for State and Municipal Road Repair for Utility Work.
4. Initial pavement shall be in accordance with the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction and RIDOT Minimum Standards for State and Municipal Road Repair for Utility Work.
5. Temporary pavement marking paint shall be epoxy and thermoplastic markings. Paint shall be white or yellow to match existing conditions or as directed by the Owner and Owner's Designee.
6. Final street pavement restoration shall include two (2) inches of micro-milling and resurfacing of all impacted travel lanes and/or shoulders for their full width using Class 9.5 or 12.5 hot mix asphalt (as directed by City permit conditions).

B. Concrete Paving

1. Concrete pavement shall be Class A concrete, as specified in Section 03301, repaired with a minimum of 3,000 psi concrete in accordance with RIDOT Standard Specifications for Road and Bridge Construction, Section 601, Table 2.
2. Permanent pavement marking paint shall be epoxy resin reflectorized traffic paint. Paint shall be white or yellow to match existing conditions or as directed by the Owner and Owner's Designee.

C. Concrete sidewalks shall conform to Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, Section 905.

D. Concrete curbs shall conform to Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, Section 906.

PART 3 EXECUTION

3.01 GENERAL

A. Openings

1. It shall be unlawful for any person or persons, firm, corporation, or municipality to make any excavation in or to open or damage the surface of any road or street under the

- jurisdiction of the RIDOT or City of Providence without written approval from the authority having jurisdiction.
2. No Providence Department of Public Works controlled roads can be open after November 15th or before April 15th. Road plates may not be left in place after November 15th. The only exceptions shall be for emergencies declared by the City Department of Public Works.
 3. The Contractor shall abide by the hours of construction specified in Section 01014.
 4. Notify residents and business 72-hours prior to beginning roadwork.
 5. Steel plates are to be used over excavations to permit full traffic flow during non-working hours. No barricades, equipment, materials, or other obstructions to traffic shall be left in the roadway when work is not actually in progress.
 6. Provisions shall be made to protect all existing underground utilities during construction. Work shall be conducted to eliminate interference with subsurface utilities and their appurtenances unless permission for interference has been obtained from the proper authorities.
 7. All roadways shall be cleanly saw cut before excavation is made.
 8. After an opening is made, the work shall be continuous, and restoration of disturbed surfaces shall be completed as soon as conditions permit.
 9. Backfill the excavated area and complete temporary pavement the same day trench is made. Open trenches shall not be permitted overnight.
 10. If the edge of any excavation ends with two (2) feet or less to the curb or edge of the pavement, remove and replace all pavement between the edge of the trench and curb or edge of pavement at no additional cost other than at the unit price bid for pavement replacement.
 11. All excavations shall be completely backfilled. Trenches may not be flushed or puddled except by specific permission of the City.
 12. All backfill of trench work or excavated areas within City Road Right of Way shall be done in the presence of the assigned Inspector. If inspector is not present and the excavated area has been backfilled, re-excavate the opening and backfill with the inspector present at Contractor's sole expense.
 13. All openings shall be properly guarded, day and night, with approved signs, barricades, lights, etc. Flagmen shall be provided in the amount as directed by the involved jurisdiction's Police Department. If necessary, a uniformed police officer for traffic control will be determined by the involved jurisdiction's Police Department. Transverse openings shall be restricted so that not more than one half of a traveled way will be obstructed at any time, one line in each direction must be maintained at all times. Recessed and pinned steel plates are to be used as protection on openings maintained overnight in the traveled ways.
 14. All pavement replacement, curbing, and sidewalk replacement shall be performed in strict accordance with the requirements of the City of Providence.
 15. Materials for pavement shall be mixed, delivered, placed, and compacted in accordance with the RIDOT standards and as specified herein.
 16. When the air temperature falls below 50 degrees F, extra precautions shall be taken in drying the aggregates, controlling the temperatures of the materials, and placing and compacting the mixtures.
 17. No mixtures shall be placed when the air temperature is below 40 degrees F, nor when the material on which the mixtures are to be placed contains frost or has a surface temperature not suitable to the Owner and Owner's Designee. Before the Contractor leaves each site, all areas shall be restored to original conditions. If the existing traffic lines are removed or damaged during the day's construction, the Contractor is to restripe these lines as necessary and return them to their original condition. Following final completion, restore all traffic lines with long life epoxy resin.

B. Permits

1. The Contractor shall solely be responsible for obtaining and maintaining road opening and street closure permits with the City as needed. Notify police jurisdiction of work.
2. Apply for a road opening permit with Providence Department of Public Works Engineering Division and receive approval from the Department of Public Works a minimum of 2-weeks prior to the start of work.
3. Road opening permits are valid for 30-days from the date of issuance.
4. Contractor shall be responsible for taking out and maintaining the minimum required Insurances, Bonds, statements, and providing any and all information requested by the City Department of Public Works to obtain permits.
5. Schedule all inspections 72-hours prior to the commencement of work. If the anticipated date and duration of work change, notify the City of Providence Department of Public Works Traffic Engineering Division the prior business day. Failure to notify the Department of Public Works may result in the nullification of the permit. Contractor shall be responsible for providing any and all information requested by the City Department of Public Works.

C. Protection of Traffic

1. Employ Police Officers as required by the City of Providence Traffic Engineering Division Permit to maintain and control the flow of traffic and for the protection of motorists and pedestrians. Place and maintain such barricades, detour signs, flashing lights, etc. as are deemed necessary by the by the involved jurisdiction's Police Department. Traffic control shall be coordinated with Police and City.
2. Special attention shall be given for the protection of pedestrians, school children, and motorists.
3. Ingress and egress shall be maintained to the abutting properties at all times.
4. Daily notification of the area of operations shall be made to the Owner and Owner's Designee, Police, Fire Department, City Engineer, Department of Public Works, or City Road Supervisor.
5. No vehicular traffic or loads shall be permitted on the newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. If the climatic or other conditions warrant it, the period of time before opening to traffic may be extended at the discretion of the Owner and Owner's Designee.
6. All agencies must be notified in the event of a detour or road closure, these include but are not limited to Police, Fire, and other emergency departments.

3.02 ROLLING AND COMPACTION

- A. Compaction shall be started immediately after spreading. Rollers shall be types approved by the Owner and Owner's Designee. Rolling shall be a continuous process, and all parts of the pavement shall receive uniform compaction.
- B. All pavement thicknesses referred to herein are compacted thicknesses. The Contractor shall place sufficient mix to ensure that the specified thickness of pavement occurs wherever called for.
- C. After the paving mixture has been properly spread, initial compaction shall be obtained by the use of power rollers weighing not less than 240 pounds per inch width of tread.

- D. Final compaction of the surface shall be accomplished by rollers weighing not less than 285 pounds per inch width of tread. Along curbs, structures and all places not accessible with a roller, the mixture shall be thoroughly compacted with tampers. Such tampers shall not weigh less than 25 pounds and shall have a tamping face of not more than 50 square inches. The surface of the mixture after compaction shall be smooth and true to the established line and grade.

3.03 TEMPORARY PAVEMENT

- A. Initial Pavement shall be placed immediately after trenches have been backfilled and compacted unless otherwise approved by the City. Initial Pavement shall be placed wherever existing pavement has been removed or disturbed as soon as practical, but in no case, more than 24 hours after backfilling is completed. Exceptions are noted elsewhere in the Specification.
- B. During the interval between the completion of backfill and the time of placement of initial paving, all areas shall be maintained in a safe and satisfactory condition to allow for normal traffic use.
- C. If during the winter months, the initial pavement is not available, the Contractor may substitute Type "A" cold patch material if approved in writing by the City. Cold patches shall be a minimum of 2" compacted, underlaid by the appropriate Base Course or Compacted backfill as applicable to the work area. However, as soon as Initial Pavement is available and able to be laid, the Contractor shall excavate the cold patch and base material to its full depth or a depth of 10-inches, whichever is greater, and replace it with compacted Initial Pavement. Installation and removal of temporary cold patch material and replacement with the specified Initial Pavement material shall be at no additional cost to the Initial Paving unit price bid.
- D. The Initial Pavement shall be placed in two equal layers. Tack coat shall be applied between all layers and along the edges of the existing pavement. Prior to placing any initial, temporary pavement, ensure the edges of the cut pavement are vertical and square. The Owner and Owner's Designee will inspect the conditions prior to pavement placement, and the Contractor will correct any deficiencies prior to paving operations. This Initial Pavement shall be maintained in a safe and usable condition and brought to pre-construction grade at no additional cost until top mix pavement is placed.
- E. The base pavement shall be placed and compacted by a roller to thoroughly compact the bituminous concrete without damaging the existing pavement. The width of the roller must be less than the width of the trench. The new pavement shall be rolled smooth and flush with the existing pavement.
- F. Hose clean all road surfaces adjacent to the trench area to be paved. No paving is to be placed until subsurface is dry.
- G. Initial pavement shall be maintained in a condition suitable for traffic until replaced or overlaid by top mix. Defects shall be repaired within 3 days of notification of such defects.
- H. If the Contractor fails to maintain the trench and pavements in a safe and satisfactory condition and fails to remedy these conditions, the Owner may repair these areas at his own expenses with the cost of such repairs being deducted from payments due to the Contractor.

- I. The work area shall be cleaned with a sweeper with a water attachment for dust control immediately after each excavation is backfilled and temporarily paved. A mechanical sweeper is required to be available on-site and used at all times while construction is taking place.

3.04 FINAL PAVEMENT

- A. Final pavement shall only be completed on roads shown in Appendix E. Final pavement on all roads not shown in Appendix E and final restoration of all sidewalks in the Work Area will be completed as part of a separate paving project and therefore will not be performed as part of this project.

3.05 CONCRETE ROADS

- A. Where concrete road repair is required, concrete shall be placed to match existing concrete thickness. Steel plates shall be used to protect the concrete during curing time.
- B. Prior to placing concrete, the Contractor shall cut back the existing concrete for a minimum of twelve inches beyond the limits of the pipe trench. Existing concrete shall be of suitable quality to abut repair.
- C. Drill holes into the face of the existing concrete pavement not more than 1/4 inch in diameter greater than the dowels. Maintain vertical and horizontal alignment during drilling and do not damage existing concrete surrounding the hole. Before installing dowels and joint ties, clean the holes of cement dust, standing water, and materials that interfere with the proper bonding of the epoxy grout.
- D. Place concrete in 2 layers with the first layer placed to such a depth that the surface of the layer is at the proper elevation to receive the reinforcement steel. Place the reinforcement steel followed by the next layer of concrete. Remove and replace the lower layer concrete if it has developed initial set or has been in place more than 30 minutes before being covered with the next layer. Texture the surface using a stiff broom.
- E. Steel plates shall be set flush with surrounding pavement and pinned with a minimum of one spike at each corner of the individual steel plate.
- F. All manhole/catch basin covers, grates, valve covers, and other items at the roadway surfaces shall be appropriately raised or lowered to bring them flush with the new pavement.
- G. Repair any defects in curbing caused by the Contractor's operations.

3.06 STAMPED ASPHALT

- A. Repair stamped asphalt to match the pattern, color and texture of the surrounding stamped asphalt during the placement of the final surface course.

3.07 BITUMINOUS SIDEWALKS AND DRIVEWAYS

- A. In areas where existing sidewalks are to be removed and/or new sidewalks construction is required, the Contractor's attention is directed to the fact that miscellaneous items such as parking meter and/or bases, traffic control signs, light poles and bases, mail boxes, etc. are not specified in the contract. However, all items shall be protected from damage and shall remain in

place unless removed by others. All curb stop (valve) boxes, gate boxes, frame and covers, etc. shall be reset to finish flush with the new sidewalk pavement.

- B. Impacted asphalt sidewalks and driveways full width shall be restored in accordance with RI Standard 43.2.0. Asphalt sidewalks and driveways shall be paved with a full depth of three (3) inches (2 lifts of 1 ½ inches each) of the same material used for bituminous concrete street surface course. The Contractor shall remove 2 inches of temporary pavement and an additional one inch of the pavement material to provide space for the 3 inches of permanent pavement. The paving mixture shall be compacted by means of a power roller of sufficient size, or as directed by Owner or Owner's Designee, to give proper compaction. In areas inaccessible to the roller, compaction must be accompanied by means of a mechanical compactor.
- C. Compaction of the subgrade material must be accompanied by means of a mechanical compactor.
- D. The elevation of the new sidewalk surface shall match the original surface elevation prior to disturbance.

3.08 CONCRETE SIDEWALKS

- A. The subgrade shall be constructed to the required elevation to match the existing. All soft and unsuitable materials shall be removed and replaced with approved materials. The subgrade shall be compacted until a smooth, hard and dense surface is obtained. The subgrade shall be moistened prior to the placing of concrete.
- B. Forms shall be of wood or metal and shall be of the full depth of the concrete.
- C. Concrete shall be placed in the forms by methods which will prevent segregation, spread to the full depth and brought to grade by screening and straight edging and shall be floated with a wooden float to produce a surface free from irregularities.
- D. Joints shall be constructed in intervals of 12 ft, except for closures, but a slab shall not be less than 6 ft in length. Slabs shall be separated by transverse premolded expansion joint filler for the full width of the slab, extending from the bottom of the slab to within 1/4-in of its top surface. The slab between expansion joints shall be divided into blocks approximately 5 ft in length by scoring transversely. Transverse scoring shall extend to at least 1/3 of the depth of the concrete slab.
- E. Concrete sidewalk panels disturbed by construction activities shall be replaced in their entirety to the nearest joint. New slabs shall be separated from existing adjacent slabs by a transverse premolded expansion joint filler for the full width of the slab, extending from the bottom of the slab to within 1/4-in of its top surface.
- F. Where sidewalks are constructed adjacent to permanent structures or other rigid construction on one side and curb on the other, an expansion joint of premolded material extending along both structure and the curb shall be placed for the full depth of the slab. A premolded expansion joint shall be placed between the sidewalk and adjacent curb at all crosswalks. All joint filler shall be fastened to prevent displacement. The walk shall be sloped so that water will drain away from the structure.

- G. After the sidewalk has been placed and finished it shall be cured as specified in Section 03301. The area shall be protected from pedestrians, animals, and vehicular traffic.

3.09 CURBS

- A. Concrete curbs shall be constructed of the same dimensions as the existing curbs. Curbs shall be poured in forms and finished with a steel trowel, float or broom so as to duplicate the finish of the existing curb of local municipal DPW or RIDOT.

3.10 DRIVEWAY APRONS

- A. Driveway aprons shall be 6-inches thick and include 6" x 6" steel welded fabric placed in the center of the slab. The apron shall slope uniformly from sidewalk to gutter, without depressions or humps. The surface shall be broomed to create a rough but uniform surface. If existing apron is left in place, then the new apron shall be finished to match.

3.11 TRAFFIC LOOPS

- A. In accordance with RIDOT Standard Specifications, when the Contractor mills and overlays or otherwise resurfaces an existing roadway that will be open to traffic, and such operations damage existing traffic signal loop detectors, thereby rendering such to be non-functional, the Contractor shall restore (at no additional cost to the Owner) properly operating detection within seven (7) calendar days. When existing detection is rendered non-functional by the Permittee's operations for any other reason, the Contractor shall restore (at no additional cost to the Owner) properly operating detection within seventy-two (72) hours.

3.12 STRIPING

- A. Surface Preparation: All dirt, oil, grease and other foreign material shall be removed from the areas upon which the traffic paint or stripes are to be placed. Large areas of tar, grease or foreign materials may require sand blasting, steam cleaning or power brooming to accomplish complete removal. Application of stripes shall not proceed until final authorization is received from the Owner and Owner's Designee.
- B. The paint shall be applied in accordance with the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction. Traffic shall not be permitted until the paint is thoroughly dry.
- C. Permanent markings shall be applied no sooner than 2 weeks after final paving is completed but no later than 4 weeks after.
- D. All disturbed pavement markings shall be replaced to the satisfaction of the Owner and Owner's Designee.
- E. No thinners shall be used for the above listed pavement marking applications except in accordance with the manufacturer's specifications and at the direction of the Owner and Owner's Designee.
- F. No paint or pavement marking material shall be heated above the temperature marked on the container.

- G. Bituminous concrete pavements shall have been in place for 48 hours prior to the application of pavement markings.
- H. If for any reason material is spilled or tracked on the pavement, or any markings applied, in the Owner and Owner's Designee's judgement, fail to conform because of a deviation from the desired pattern, remove such material by a method that is not injurious to the roadway surface and is acceptable to the Owner and Owner's Designee, clean the roadway surface and prepare the surface for a reapplication of markings and reapply the markings as directed without additional compensation for any of the foregoing corrective operations.
- I. Parking area pavement of each handicapped parking space shall be painted with an international symbol of accessibility as shown on the Drawings, and as approved by the Owner and Owner's Designee. Provide an R7-8 sign in accordance with the Manual of Uniform Traffic Control Devices at each space. Sign shall be fastened to a single aluminum post and bottom of sign shall be mounted 5'-0" above finished grade. Post shall have a 12-in diameter by 4'-0" deep concrete base. Concrete shall conform to Section 03301.
- J. Access aisles shall be painted with parallel pavement markings as shown on the Drawings. Markings inside the perimeter border shall be equally spaced twice the distance of the line width.

END OF SECTION

SECTION 02577
INFRA-RED PAVEMENT REPAIR AND PATCHING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. When required by the road opening permit, furnish all labor, material, equipment, and incidentals required and replace all pavement removed over trenches or otherwise disturbed by the Contractor's operations utilizing infra-red paving techniques.
- B. Products, procedures, and equipment to provide a seamless repair of bituminous pavement by the application of evenly distributed infrared heat to aid in the reworking and remixing of the existing asphalt mix.
- C. New pavement installed by infra-red repair and patching method shall consist of bituminous concrete pavement placed over trenches as outlined below -
 - 1. Initial pavement shall be as per Section 02576 unless directed otherwise by the Owner and Owner's Designee.
 - 2. Permanent pavement shall consist of initial pavement treatment by the infra-red method as specified below.
- D. Work consists of furnishing the labor, materials and equipment required to blend new bituminous material with infrared heated existing material to form a joint free integral mix. This special provision is for locations as indicated on the design plans or as directed by the Owner and Owner's Designee.
 - 1. New pavement in streets shall consist of Class 9.5 (Marshall Mix: Class I, Type I-1) bituminous concrete pavement placed over trenches as outlined below.
 - 2. For non-state-owned roads, at a minimum, the restored pavement thickness shall match the existing depth of the roadway, or equal four (4) inches, whichever is greater, unless directed otherwise by the Owner. For state-owned roads, at a minimum, the restored pavement thickness shall match the existing depth of the roadway, or equal six (6) inches, whichever is greater.
 - 3. After a 60-day settlement period, permanent pavement shall consist of infra-red treatment of the initial pavement as specified herein.
 - 4. Driveway, parking area or sidewalk pavements damaged or disturbed by the Contractor's operations shall be repaired, restored or replaced in accordance with the requirements specified herein or as directed by the Owner and Owner's Designee for the respective type of pavement replacement and in a manner satisfactory to the Owner and the Owner's Designee.

1.02 RELATED WORK

- A. Trenching, backfilling and compaction are included in Section 02221.
- B. Granular fill materials are included in Section 02230.
- C. Pavement Repair and Resurfacing is included in Section 02576.

1.03 STANDARD REFERENCES

- A. Except as otherwise specified herein, the current Standard Specifications for Road and Bridge Construction, including all addenda, issued by the State of Rhode Island Department of Transportation (RIDOT), shall apply to materials and workmanship required for the work of this Section.
- B. American Association of State Highways and Transportation Officials (AASHTO)
 - 1. AASHTO M144 Standard Specification for Calcium Chloride.
- C. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.04 MAINTENANCE

- A. The Contractor shall warrantee the infrared patches for a 5-year period starting from the date of acceptance. Within the 5-year period, the Contractor will be held responsible for maintaining the final restoration work and repair any failures at no expense to the Owner. During this period, all areas that have settled or are unsatisfactory for traffic shall be refilled and replaced within 5 days of notification by the Owner.
- B. All material and labor required for such maintenance shall be supplied by the Contractor, and the work shall be done in a manner satisfactory to the Owner at no additional cost to the Owner.

1.05 QUALITY ASSURANCE

Failure to meet the warranty requirements constitutes a breach of contract. Failure is defined as the following:

- 1. Greater than 5% cracking in the repaired area within 12 months
 - 2. Greater than 5% raveling of material from the repaired area within 12 months
 - 3. Rutting more than ½” within 12 months
 - 4. Not providing a seamless repair
- A. The infra-red bituminous concrete pavement replacement and repairs shall be performed by a fully qualified, experienced paving subcontractor. Submit the following information for the proposed paving subcontractor to the Owner and Owner’s Designee for review and approval before any infra-red repair work is performed:
 - 1. The number of years of experience in performing specialized work of this nature.
 - 2. A list of municipal clients that the Contractor has performed this type of work for without any pavement deterioration resulting from heat treatment for a period of 5 years after repair.
 - 3. The list shall contain names and telephone numbers of persons who can be called to verify previous satisfactory performance.
 - 4. Work performed for utility companies will not be acceptable.

5. The size, number, type and BTU rating of the operational infra-red heating equipment and heated storage units owned that would be available for this project.
 6. The Contractor shall be capable of providing a variety of infra-red units having different shield sizes in order not to needlessly oxidize pavement beyond the limits of the repair.
- B. The Contractor shall also be capable of providing multiple crews as needed to complete the work without undue delay.
- C. The Owner reserves the right to approve or disapprove the Infra-red Contractor, based on the submitted qualifications and a follow-up interview.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Bituminous concrete pavement and bituminous materials shall conform to Part 400 of the RIDOT Standard Specifications for Road and Bridge Construction.
- B. Hot Mix Asphalt Pavement (HMA) uniformly mixed and well graded. The Contractor shall maintain records to be given to the Owner upon request of the plant that supplied the HMA and of the gradation and Superpave binder grade (in accordance with RIDOT Standard Specifications) that is utilized in the Infrared Pavement Repair process.
1. Aggregate size for Wearing Course as prescribed by RIDOT shall conform to Class 9.5 (Marshall Mix: Class I, Type I-1) 9.5 mm maximum, well-graded aggregate.
 2. From pick up through placement, the Contractor shall conduct and record periodic temperature checks of the Virgin HMA in its hotbox to ensure the temperature does not fall below 250°F or exceed 300°F. This documentation shall be provided to the Owner upon request.
- C. Asphalt Rejuvenator Agent (ARA) shall be a petroleum product additive that falls under one of the recycling agent (RA) groups outlined in ASTM D4552.
1. The Contractor shall apply a one-component emulsified maltenes recycling agent (rejuvenator) in a ratio of 1:1 with water.
 2. The rejuvenator application area shall include both the area under repair as well as the area heated but left undisturbed around the perimeter of the repair.
 3. The application shall take place after the area has been scarified and just prior to the addition of new asphalt. The rejuvenator replaces the light oil component of asphalt which has oxidized out over time.
- D. Tack Coat/ Sealant shall be emulsified asphalt with the same asphaltic cement as the HMA pavement mix placed, SSI or equal. In accordance with requirements of AASHTO M140/M208 and Section 403 of RIDOT Standard Specifications.
- E. Cationic asphalt emulsion shall be a homogeneous asphalt emulsion and shall remain homogeneous for a minimum of three months. It shall conform to the requirements of AASHTO

M208 and except that its viscosity, Saybolt Furol at 77 degrees F, sec. shall be between 15 and 20.

- F. Stone dust for the cover material shall be free from dirt, organic material, clay balls and film, dust or other objectionable matter, and shall be suitable for the intended use as approved by the Owner and Owner's Designee.
- G. Temporary pavement marking paint shall be epoxy and thermoplastic markings conforming to Section T.20 of the RIDOT Standard Specifications for Road and Bridge Construction. Paint shall be white or yellow to match existing conditions or as directed by the Owner and Owner's Designee.
- H. Permanent pavement marking paint shall be epoxy resin reflectorized traffic paint conforming to Section T.20 of the RIDOT Standard Specifications for Road and Bridge Construction. Paint shall be white or yellow to match existing conditions or as directed by the Owner and Owner's Designee.

2.02 EQUIPMENT

- A. PRV and Hotbox: Pavement Restoration Vehicle (PRV) shall be a truck mounted, self-contained pavement maintenance heating system (Hotbox) equipped with a fuel system and a heated chamber capable of maintaining the fresh asphalt at a temperature of 250-300°F. The Hotbox storage unit shall be utilized to ensure that sufficient hot virgin asphalt is on hand. This unit must ensure that the temperature of the asphalt is never in excess of 325 degrees Fahrenheit.
- B. Infrared Heater: The adjustable height infrared heating unit may be truck or trailer mounted to the PRV. The unit shall be equipped with a chamber or chambers capable of heating the existing bituminous pavement to a workable condition without oxidation or burning. There shall be no flame in direct contact with the existing bituminous surface.
 - 1. The heating chamber used shall consume no more than 12,500 BTU per square foot of heated area. This rate of consumption shall translate into the ability of the heater to soften asphalt to a depth of 1½ -2½ inches in 8-10 minutes without burning the surface.
- C. Commercial Grade Sprayer: The sprayer for the asphalt rejuvenator agent (ARA) shall deliver the ARA with a fan spray ensuring equal and uniform coverage of the heated. The sprayer shall have a clear tank with measurement markings on the side or a fluid gauge to determine the amount of ARA used.
- D. Steel Rake: A steel rake shall be used to delineate the repair area along the chalk line and to scarify the heated area of the patch inside the chalk line to a depth of at least 2 inches.
- E. Asphalt Lute: A 36-inch-wide lute shall be used to evenly distribute the added asphalt and to establish the proper grade.
- F. Tandem Ride-on Vibratory Roller: Compaction shall be achieved with a tandem ride-on 1.25 Ton (min) Vibratory Roller.

PART 3 EXECUTION

3.01 GENERAL

- A. Materials for pavement shall be mixed, delivered, placed and compacted in accordance with the RIDOT standards and as specified herein.
- B. Whenever the sub-base becomes dry enough to cause dust problems, spread water uniformly over the gravel surface in sufficient quantity to eliminate the dust.
- C. When the air temperature falls below 50 degrees F, extra precautions shall be taken in drying the aggregates, controlling the temperatures of the materials, placing and compacting the mixtures.
- D. No mixtures shall be placed when the air temperature is below 40 degrees F unless authorized in writing by the Owner and Owner's Designee.
- E. No mixtures shall be placed when the material on which the mixtures are to be placed contains frost or has a surface temperature not suitable to the Owner and Owner's Designee. No mixtures shall be placed in the rain or wet conditions not suitable to the Owner and Owner's Designee.
- F. Identify, mark, and measure the specific area to be repaired in coordination with the Owner's representative (Inspector).
 - 1. A chalk line shall be drawn a minimum of 6" beyond the original temporary patch limits, unless otherwise directed by Owner.
- G. No vehicular traffic or loads shall be permitted on the newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortions or loss of fines. If the climatic or other conditions warrant it, the period of time before opening to traffic may be extended at the discretion of the Owner and Owner's Designee.

3.02 INSTALLATION

- A. Heat area to be repaired to a sufficient temperature using infrared heat to allow remixing of the asphalt without oxidation or burning.
 - 1. The heater shall be lowered to within 10-14 inches of the existing pavement, centered over the existing temporary patch with at least 6" of heated area beyond the perimeter of the original opening (as delineated with the chalk outline).
 - 2. Do not exceed a surface temperature of 350° F. Measurement shall be conducted with a temperature probe or infrared temperature gun provided by the contractor. If the temperature is exceeded additional material shall be removed.
 - 3. Heating is sufficient when the existing asphalt can be worked with a rake to a depth of 2 inches (typically 8-10 minutes).
- B. After heating no less than the top ¼ - ½" of asphalt shall be removed to take away any charred material. If the surface temperature exceeds 350°F as mentioned in section 3.3.A.2, another ½" of material shall be removed for every 100°F over.

- C. ARA shall be uniformly sprayed to the surface of the heated asphalt with a fan nozzle at a rate of 0.1-0.5 gallons per square yard. The color of the ARA will be used to help assess adequate coverage.
- D. Using a hand rake or mechanical tiller, scarify and thoroughly mix the repair area to depth of 2 inches. Add additional virgin HMA as necessary. As required, the Contractor shall add the Superpave Class 9.5 (Marshall Mix Class 1 Type I-1) surface coarse asphalt mix.
 - 1. When placing additional HMA the temperature shall not fall below 225 degrees F during placement.
- E. Reshape repair area by hand (luting) to match grade of adjacent pavement.
- F. Compact the surface with a tandem 1.25 ton (min) ride-on vibratory roller. The surface should be smooth, tight, and matching the grade of the adjacent pavement.
 - 1. The outside perimeter shall be compacted first in order to ensure a full thermal bond with the existing heated pavement.
 - 2. If greater than 2 inches of asphalt is to be compacted, multiple lifts should be placed and compacted.
 - 3. If evidence of asphalt shoving occurs during compaction the vibratory compactor shall be operated in static mode or the pavement shall be allowed to cool for a slight amount of time before compaction resumes.
 - 4. The temperature of the asphalt shall not fall below 175 degrees F during compaction. Temperature at compaction shall be recorded by the Contractor.
- G. At the direction of Owner, stone dust or fine sand may be applied to reduce the tackiness of the patch. Sand should be evenly distributed over the surface to fill small voids and absorb excess sealant if surface sealant is applied.
- H. The total time for a typical single heat restoration should be no more than 20-25 minutes. This timeframe shall be strictly adhered to ensure that both the heated pavement and added asphalt have not been allowed to cool significantly. This provides the proper fusion between the repair and the existing road surface.
- I. Allow the repaired area to cool to 175°F before opening to traffic. Measurement shall be conducted with an infrared temperature gun.
- J. No vehicular traffic or loads shall be permitted on the newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortions or loss of fines. If the climatic or other conditions warrant it, the period of time before opening to traffic may be extended at the discretion of Owner.

3.03 PAVEMENT MARKINGS

- A. Reline all streets with pavement markings equal in materials, type, and location to those that existed prior to excavation.

END OF SECTION

SECTION 02616
DUCTILE IRON PIPE AND FITTINGS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to install, disinfect, test and repair ductile iron pipe and fittings as shown on the Drawings and as specified herein.
- B. Where the word “pipe” is used it shall refer to pipe, fittings, or appurtenances unless otherwise noted.
- C. Existing asbestos cement water main shall be removed and replaced with ductile iron pipe of equal size as shown on the Drawings or as directed by the Owner’s Designee or Owner. This work shall be paid for under Miscellaneous Work at Direction of the Owner.
- D. All water main work shall be in accordance with this Section regardless of whether it is work requested by the Owner and paid for under the allowance Miscellaneous Work at Direction of the Owner or results from the Contractor’s activities where no additional compensation will be provided by the Owner.

1.02 RELATED WORK

- A. Trenching, Backfilling, and Compaction are included in Section 02221.
- B. Granular Fill Materials are included in Section 02230.
- C. Disinfecting of Water Utility Distribution is included in Section 02517D. Hydrants, Valves and Appurtenances are included in Section 02640.
- D. Concrete and Reinforcing Steel is included in Section 03301.

1.03 SUBMITTALS

- A. Submit to the Owner and Owner’s Designee, within five days of the Effective Date of the Agreement, the name of the pipe and fitting suppliers and a list of materials to be furnished.
- B. Submit to the Owner and Owner’s Designee in accordance with Section 01300 shop drawings and product data for review.
- C. Submit a certified affidavit of compliance from the manufacturer stating that the pipe, fittings, gaskets, linings, and exterior coatings for this project have been manufactured and tested in accordance the ASTM and AWWA standards and requirements specified herein.

- D. Submit, in accordance with Section 01300, completely detailed shop drawings and schedules. Review of shop drawings does not relieve the Contractor of responsibility for proper fit or detail design of connections or for supplying all material required by the Drawing s.
- E. Submit pipeline testing procedures.

1.04 QUALITY ASSURANCE

- A. All ductile-iron pipe and fittings shall be from a single manufacturer on the List of Approved Materials/Manufacturers in Appendix G. Each length of ductile-iron pipe supplied for the project shall be hydrostatically tested at the point of manufacture to 500 psi for a duration of 10 seconds per AWWA C151. Testing may be performed prior to machining bell and spigot. Failure of ductile-iron pipe shall be defined as any rupture of the pipe wall.
- B. All ductile-iron pipe and fittings to be installed under this project shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.
- C. Inspection of the pipe and fittings will be made by the Owner’s Designee or representative of the Owner after delivery. The pipe shall be subject to rejection at any time on account of failure to meet any of the requirements specified herein, even though pipes may have been accepted as satisfactory at the place of manufacture. Pipe rejected after delivery shall be marked for identification and immediately removed from the job site.
- D. All pipe and fittings shall be permanently marked with the following information:
 - 1. Manufacturer, date.
 - 2. Size, type, class, or wall thickness.
 - 3. Standard produced to (ASTM, AWWA, etc).
 - 4. Interior coating type.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. The zinc coated ductile iron pipe, to be furnished and installed by the Contractor under these specifications, shall be from manufacturers listed in Appendix G or approved substitutes, shall be manufactured in accordance with the standard specifications of AWWA C-151 (ANSI Designation A-21.51) newest edition, and amendments thereto without exception. Ductile iron pipe shall be Class 52. In areas of the system where “High Service Fire Mains” are present or other circumstances directed by the Owner, Class 56 ductile iron pipe shall be required.
- B. Prior to delivery, all lengths of ductile iron pipe must be secured with plastic bags on both ends.
- C. Care shall be taken in loading, transporting, and unloading to prevent injury to the pipe, lining or coatings. Under no circumstances shall the pipe or fittings be dropped or skidded against each other. Slings, hooks, or pipe tongs shall be used in pipe handling.
- D. Materials, as stored, shall be kept safe from damage. The interior of all pipe, fittings, and other appurtenances shall be kept free from dirt or foreign matter at all times.

- E. Pipe shall not be stacked higher than the limits recommended by its manufacturer. The bottom tier shall be kept off the ground on timbers, rails, or concrete. Stacking shall conform to the manufacturer's recommendations.
- F. Gaskets for mechanical joints to be stored shall be placed in a cool location out of direct sunlight. Gaskets shall not come in contact with petroleum products. Gaskets shall be used on a first-in, first-out basis.
- G. Handling and laying of pipe and fittings shall be in accordance with the manufacturer's instruction and as specified herein.

PART 2 - PRODUCTS

2.01 PIPING

- A. Zinc coated ductile iron pipe shall be from manufacturers listed in Appendix G and must conform to AWWA C151. Pipe shall be supplied in standard lengths as much as possible.
- B. Thickness design shall be per AWWA C150, except provide minimum Thickness Class 52 piping. In areas of the system where "High Service Fire Mains" are present or other circumstances directed by the Owner, Class 56 ductile iron pipe shall be required.
- C. Metalized detectable identification tape, 2-inches wide, blue in color and imprinted with the words "Caution - WATER LINE BURIED BELOW," shall be utilized over the new water main and all service lines from the main to curb stop. The tape shall be buried a depth of 18-24 inches below finished grade.

2.02 JOINTS

- A. Joints for pipe shall be restrained mechanical joints with retainer glands conforming to ANSI/AWWA C111. Joints for fittings shall be restrained mechanical joints with retainer glands conforming to ANSI/AWWA C153.
- B. Glands, bolts, nuts and gaskets used in mechanical joint assemblies for fittings and pipe shall meet the material and dimension requirements of ANSI/AWWA C153 and C111, respectively. Bolts and nuts as required shall be low carbon steel conforming to ASTM A307, Grade B. Rubber gaskets for mechanical joints shall conform to ANSI/AWWA C111 .
- C. All restrained joints shall be mechanical restrained joints. Restraint of field cut ductile iron pipe shall be provided by retainer gland joint restraint. Restrained joints shall be suitable for a working pressure of 250 psi with a minimum safety factor of 2:1 and fabricated of heavy section ductile iron casting. Gaskets shall meet the material requirements of ANSI/AWWA C111 for mechanical joint gaskets. Bolts and nuts as required shall be low carbon steel conforming to ASTM A307, Grade B. Glands and restraining devices shall be made of ductile iron, with glands conforming to ASTM A536 80. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist off nuts shall

be used to insure proper actuating of the restraining devices on retainer gland systems. Retainer gland systems for mechanical joint pipe shall be EBAA Iron, Inc., MEGALUG or equal.

- D. Joint restraint harness system shall be EBAA Iron, Inc., 1100 CH split restraint harness or equal.

2.03 FITTINGS

- A. The zinc coated ductile iron fittings shall be from manufacturers listed in Appendix G. Fittings are to be furnished and installed by the Contractor under these specifications and shall be Rubber Seat Mechanical Joints. The fittings shall be standard length or short body castings conforming to AWWA Standard Ductile Iron Fittings specifications designation C-153 or ANSI Standard for Ductile Iron Fittings specifications designation A21.53, newest edition and as amended to date. Fittings shall be Class 350 and 250.
- B. Cement mortar lining shall be in accordance with AWWA C-104 or ANSI A21.4, newest edition and as amended to date.
- C. Zinc Coating - The exterior of ductile iron fittings shall be coated with a layer of arc-sprayed zinc per ISO 8179, newest edition and as amended to date. The external protective coating system shall be factory applied to ductile iron pipeline components as specified in ISO 2531. A finishing layer topcoat shall be applied to the zinc. The coating system shall conform in every respect to ISO 8179, newest edition and as amended to date.
- D. Rubber gaskets for pipes and fittings shall be in accordance with AWWA specification designation C-111 or ANSI A21.11, newest edition and as amended to date.

2.04 INTERIOR LINING

- A. Ductile iron pipe and fittings shall have a double thickness cement mortar lining in accordance with AWWA C104 and liner shall be NSF/ANSI 61 certified. Ductile iron pipe and fittings shall have the same type of lining.

2.05 EXTERIOR COATING

- F. Zinc Coating - The exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc per ISO 8179, newest edition and as amended to date. The external protective coating system shall be factory applied to ductile iron pipeline components as specified in ISO 2531. A finishing layer topcoat shall be applied to the zinc. The coating system shall conform in every respect to ISO 8179, newest edition and as amended to date.

2.06 REPAIR SLEEVES

- A. Repair sleeves for repairing potable water mains shall be from a single manufacturer on the List of Approved Materials/Manufacturers in Appendix G. Clamps for water mains up to and including 10-inches in diameter shall be single band and clamps for water mains greater than 10 inches in diameter shall be multi-band. All clamps shall be Type 304 stainless steel, with Type

304 stainless steel bolts and nuts. Clamp width shall be as required to properly and fully seal the leak area.

- B. Mechanical Joint solid sleeves shall be from a single manufacturer on the List of Approved Materials/Manufacturers in Appendix G. Solid sleeves shall be installed with ductile iron retainer glands and shall be installed in accordance with manufacturers recommendations. Solid sleeves shall be installed where shown on the drawings and where necessary to prevent movement of cut out lengthen that are to be rejoined.
- C. Flexible couplings shall be from a single manufacturer on the List of Approved Materials/Manufacturers in Appendix G. Couplings shall be used only where existing pipe diameters make the use of mechanical joint solid sleeves inappropriate. Couplings shall be installed in accordance with the recommendations of the manufacturer. All flexible couplings are to be adequately harnessed to withstand the test pressures in the lines unless other means are provided to take the thrust. Where new ductile iron mains are to be joined to existing pit cast pipe, transitional couplings suitable for the actual field-measured pipe diameters shall be provided.
- D. Coupling devices for connecting existing water mains to new mains shall be from a single manufacturer on the List of Approved Materials/Manufacturers in Appendix G. All couplings shall be furnished with a fusion bonded epoxy coating meeting the requirements of AWWA C213 and AWWA C550. Coupling shall be furnished with black steel bolts and nuts and with pipe stop removed. Gaskets shall be of a material suitable for exposure to liquid within the pipe.

PART 3 - EXECUTION

3.01 GENERAL

- A. All pipe or fittings shall be examined before laying, and no piece shall be installed which is found to be defective. Damage to the pipe linings or coatings shall be repaired per manufacturer's recommendations.
- B. Prior to delivery, all lengths of ductile iron must be secured with plastic bags on both ends.
- C. If any defective pipe is discovered after it has been laid, it shall be removed and replaced with a sound pipe in a satisfactory manner. All pipe and fittings shall be thoroughly cleaned before laying, shall be kept clean until they are used in the work, and when installed or laid, shall conform to the lines and grades required.

3.02 INSTALLING DUCTILE IRON PIPE AND FITTINGS

- A. Ductile iron pipe and fittings shall be installed in accordance with requirements of AWWA C600, except as otherwise specified herein. A firm, even bearing throughout the length of the pipe shall be provided by digging bell holes at each joint and by tamping backfill materials at the side of the pipe to the springline. Blocking will not be permitted.

- B. All pipe and fittings shall be sound and clean before laying. When laying is not in progress, including lunchtime, the open ends of the pipe shall be closed by watertight plugs or other approved means. Sufficient backfill shall be placed to prevent flotation. Good alignment shall be preserved in laying. The deflection at joints shall not exceed 75 percent of allowable deflection recommended by the manufacturer. If any defective pipe or fitting is discovered after it has been laid, it shall be removed and replaced with a sound pipe in a satisfactory manner at the Contractor's own expense.
- C. All ductile iron pipe laid underground shall have a minimum of 4.5-ft of cover.
- D. Fittings, in addition to those shown on the Drawings, shall be provided, where required, in crossing utilities that may be encountered upon opening the trench. Solid sleeve closures shall be installed at locations approved by the Owner and Owner's Designee.
- E. The pipe interior shall be maintained dry and brush clean throughout the construction period.
- F. When cutting pipe is required, the cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe. Cut ends of pipe to be joined with a bell shall be beveled to conform to the manufactured spigot end. Cement lining shall be undamaged. Field cut ends shall be sealed with approved epoxy in accordance with manufacturer's instructions. Cutting of restrained joint pipe will not be allowed, unless approved at specific joints in conjunction with the use of mechanical joint retaining brands or field adaptable restrained joints.
- G. The preferred method of counteracting thrust is through the use of a mechanical joint restraint device. Concrete thrust blocks are allowed and may be used as an option to or in conjunction with a mechanical joint restraint device as noted in Drawings. Thrust blocks shall be designed using a soil bearing strength of 1,500 pounds per square foot (psf). They shall be constructed in place using Portland cement concrete (R.I. Department of Transportation Class "B") having a 28-day compressive strength of at least 3,000 psi, and be located in such a way so as to bear against undisturbed earth. They shall be utilized on all water mains for the following conditions:
 - a. Pipeline direction changes (tees, bends, etc.)
 - b. Dead end lines (caps, plugs or hydrants)
 - c. Transition pieces (reducers, offsets, etc.)
- H. The sides of thrust blocks shall be formed. Forms shall be removed before backfilling commences. Curing time should be at least forty-eight (48) hours. Minimum bearing shall be that which is depicted on the plans or as directed by Owner. Felt roofing paper shall be used to protect pipe joints.
- I. Concrete shall not be placed over bolts or nuts, or placed in such a way that will prevent the removal of joints (NOTE: concrete reaction blocks may be used when bearing against undisturbed soil cannot achieved). Concrete thrust blocks shall be installed at all fittings and other locations as directed by the Owner and Owner's Designee. The minimum bearing area shall be as shown on the Drawings. Joints shall be protected by felt roofing paper prior to placing concrete. Concrete shall be placed against the undisturbed material, and shall not cover joints, bolts or nuts, or interfere with the removal of any joint. Wooden side forms or sandbags shall be provided for thrust blocks.

- J. The Contractor shall have on hand at the start of the job one 1/16 bend and two 1/8 bend for each size of pipe. These shall be used as job conditions require.
- K. Jointing Ductile-Iron Pipe
1. Mechanical joints shall be assembled in strict accordance with the manufacturer's instructions and AWWA C600. Pipe shall be laid with bell ends looking ahead. To assemble the joints in the field, thoroughly clean and lubricate the joint surfaces and rubber gasket. Bolts shall be tightened to the specified torque. Under no condition shall extension wrenches or pipe over the handle of ordinary ratchet wrench be used to secure greater leverage.
 2. Bolts in mechanical or restrained joints shall be tightened alternately and evenly.
 3. Restrained joints shall be installed according to the pipe manufacturer's instructions.
 4. Transition couplings shall be used where new ductile iron mains are to be joined to existing pipe and be from a single manufacturer on the List of Approved Materials/Manufacturers in Appendix G. Couplings shall be installed in accordance with the recommendation of the manufacturer. All transition couplings are to be adequately harnessed to withstand the test pressures in the lines unless other means are provided to take the thrust.
- L. Mechanical joints shall be made in accordance with Appendix A of ANSI/AWWA C111 and the manufacturer's instructions. Thoroughly clean and lubricate the joint surfaces and rubber gasket with soapy water before assembly. Bolts shall be tightened to the specified torques. Under no conditions shall extension wrenches or pipe over handle of ordinary ratchet wrench be used to secure greater leverage.
- M. Restrained joints shall be installed at all pipe and fittings. The joint assemblies shall be made in accordance with the manufacturer's recommendations.
- N. Retainer glands shall be installed in accordance with manufacturer's recommendations and as approved by the Owner and Owner's Designee.
- O. Before valves and fittings are installed, they shall be thoroughly disinfected in accordance with AWWA C651. Chlorine used for disinfection shall be ANSI/NSF-60 certified for potable water use.
1. A solution of 50 mg/L available chlorine shall be applied directly to the surfaces of all parts of the valve and fittings that would be in contact with potable water.
 2. The chlorine solution may be applied with suitable brushes or spray equipment. The solution shall thoroughly coat all surfaces to be treated.
 3. The disinfected surfaces shall remain in contact with the string chlorine solution for at least 30 minutes, after which the valve and fittings shall be rinsed with potable water. Following this procedure, the valve and fittings may be installed upon approval of the Owner.

3.03 OPERATION OF VALVES

- A. Unless precluded by unexpected events, the Contractor shall notify the Owner at least seventy-two (72) hours prior to a water main shutdown. The Owner shall determine if the operation of valves will be performed by Owner work forces, the Contractor, or an Owner Subcontractor.

The immediacy of water main shutdowns or valve operation is not warranted by Owner. In the operation of valves, for the purpose of shutting down existing mains, the Owner does not guarantee or imply that shut down will be completely effective in stopping the flow of water to open ends.

- B. The Contractor must notify the Owner and/or its representative at least seventy- two (72) hours prior to a water main shutdown. Prior to the shutdown notification, and whereupon Owner authorizes the Contractor to operate valves, the Contractor shall locate, uncover buried valves, and clean the valve boxes, if necessary, and perform a preliminary test of the valves required to accomplish the shutdown, in order to assess the condition of the valve and its capability to achieve the shutdown. If a valve within the scope of work is found to be inoperable or not functioning properly and is required to complete a shutdown, it may be replaced out of sequence (as directed by Owner) at no additional cost. Additionally if a valve not within the scope of work is found to be inoperable or not functioning properly and is required to complete a shutdown, the Contractor shall notify Owner and/or its representative. Upon notification by the Contractor, Owner will make the determination on whether the valve repair or replacement will be accomplished by the Contractor (at cost to the owner in accordance with the Bid Schedule, its own forces, or by an Owner's contractor. The Contractor must notify Owner and/or its representative of all problematic valves. Ultimately, Owner will make the determination on whom will accomplish the valve repair or replacement, as delineated above. During the interim period, the Contractor shall locate other backup isolation valves and test in a like manner. The preparatory and/or explorative work required for a satisfactory shutdown shall be completed at no cost to Owner.
- C. As specified herein, the Contractor may be authorized to operate all valves required to shut down (and subsequently reopen) existing water mains under this contract. Whereupon the Contractor is unable to shut down a valve after two (2) hours of attempting to do so,
- D. Owner will direct the Contractor as to how to proceed. In order to complete the shutdown, it may be necessary to operate additional isolation valves not originally anticipated in the shutdown. There shall be no additional payment to the contractor for the operation of these auxiliary valves to achieve the shutdown.
- E. When authorized, the operation of valves of any diameter, hydrants, and other water appurtenances for work associated with this contract shall be performed by the Contractor under the supervision of the Owner and/or its representative. Valves shall be operated slowly, especially in the near closed position, so as to cause the least disturbance to the distribution system. Upon completion of the construction work in the area, all new and all existing valves that have been operated in conjunction with the contract work shall be checked for position by the Contractor in the presence of Owner or its representative. All valves shall be left fully open unless otherwise directed.
- F. During the required valve operations, packing leaks may appear on valves left in the closed position. Should this occur, Owner will make the determination on whether to have the valve repaired to make it leak free by the Contractor, its own forces, or by another Owner contractor.
- G. In accessing and operating existing valves, the Contractor shall take the utmost care to protect the valve and appurtenances including the valve box assembly. The Contractor shall immediately notify Owner or its representative of any pre-construction/existing damage of the valve and appurtenances such as a rounded operating nut, broken stem, cracked casting, or other observed conditions. Should the Contractor damage an existing valve or appurtenances through

its own neglect, the Contractor shall repair or replace the asset to the satisfaction of Owner and at no additional cost to Owner.

3.04 SALVAGE AND DISPOSAL

- G. Unless otherwise stated herein, or as directed by the Owner or its Construction Manager, all existing water mains, valves, hydrants and appurtenances, which are removed as part of the contract work, shall be disposed of by the Contractor.
- H. As the contract work progresses, Owner will identify certain items, such as hydrants, valves, or parts thereof, including valve box covers, where Owner will retain ownership. In these cases, Owner forces will pick up the item in its entirety, or remove pertinent parts in the field for future use by Owner. Upon completion of the pick-up or the removal of parts by Owner forces, any remaining portions will be disposed of by the Contractor.

3.05 PRESSURE TESTING

- A. After installation, the pipe shall be tested for compliance as specified herein. Furnish all necessary equipment and labor for the pressure tests and leakage tests on the pipelines, including but not limited to temporary testing plugs, caps, pumps, pipe connections, and appurtenances, as necessary.
- B. The Owner and Owner's Designee shall approve the procedures and method for carrying out the pressure and leakage tests. Contractor shall submit detailed test procedures and method for Owner and Owner's Designee's review. Testing shall be conducted in accordance with Section 4 of AWWA C600, excepted as modified herein.
- C. Contract work shall remain separated from the existing distribution system, except for test connections, until the pressure/leakage test, and chlorination work has been completed, and connection to the water distribution system is approved by Owner. Testing against closed valves shall be permitted only under special circumstances and with prior approval by Owner.
- D. Test gauges shall have pressure scale increments of no more than two (2) psi and have an operating range of 0 to 250 psi. The Contractor shall demonstrate that the test gauges have been tested, and that their calibration is certified within one year of the proposed date of the test. Otherwise, the test gauges shall be newly purchased.
- E. Openings in pipe and fittings shall be closed tight to prevent leakage. All temporary plugged and capped ends shall be properly blocked to prevent displacement and leakage. All fire hydrant laterals shall be installed and the hydrant control valves in the open position. The Contractor shall install water source and discharge connections to the isolated pipe section for test purposes as directed. If a water main tap is approved for test connection to new water main, the tap will be furnished and installed by the Contractor.
- F. Water required to fill the new water main for hydrostatic pressure testing, disinfection, and flushing shall be supplied through a temporary connection between the distribution system and the new water main. The temporary connection shall include an approved double-check valve backflow prevention device and shall be disconnected (physically separated) from the new water main during the hydrostatic pressure test. It will be necessary to re-establish the

temporary connection after completion of the hydrostatic pressure test to flush out the disinfectant water prior to final connection of the new water main to the distribution system. The source of potable water used for disinfection and pressure testing shall be flushed prior to its use to ensure that contaminants or debris are not introduced into the new pipe. Adequate drainage must be provided during flushing.

- G. Pressure pipelines shall be subjected to a hydrostatic pressure 50 percent above the normal operating pressure for the line being tested. This test pressure shall be maintained for a minimum of 2 hours. The leakage rate shall not exceed those indicated in AWWA C600. Provide suitably restrained bulkheads as required to complete the hydrostatic testing specified.
- H. All valves and valve boxes shall be properly located, installed, and operable prior to testing. Bulkheads shall be provided with a sufficient number of outlets for filling and draining the line and for venting air.
- I. Duration of pressure test shall not be less than 2 hours.. All leaks evident at the surface shall be repaired, and leakage eliminated regardless of the total leakage as shown by the test. Lines that fail to meet test criteria shall be repaired and retested as necessary until test requirements are met. Defective materials, pipes, valves, and accessories shall be removed and replaced.
- J. The Contractor shall fill and flush the new main to remove any air that may become trapped within the new piping. The new water main shall be filled no less than twenty four (24) hours prior to the start of testing procedures.
- K. If the Contractor should choose to conduct tests prior to backfilling, he shall be responsible for providing and installing temporary blocking to properly restrain pipe. Temporary blocking shall be approved by Owner prior to testing.
- L. Upon test completion and approval of samples tested for bacteriological quality, the Contractor shall remove temporary caps, plugs, and other temporary construction, and shall complete connections of new work to the water distribution system. Corporations used for air releases shall be removed and the holes plugged with brass plugs.
- M. The Contractor shall provide and install approved caps and plugs in sections to be tested. Openings in pipe and fittings shall be closed tight to prevent leakage. All temporary plugged and capped ends shall be properly blocked to prevent displacement and leakage. All fire hydrant laterals shall be installed and the hydrant control valves in the open position. The Contractor shall install water source and discharge connections to the isolated pipe section for test purposes as directed. If a water main tap is approved for test connection to new water main, the tap will be furnished and installed by the Contractor.
- N. Each segregated section to be tested shall be subjected to a hydrostatic test pressure per subsection 8.3, which shall:
 - 1. Be of at least one hour duration; and
 - 2. Be pressurized to 150 psi, or 1-½ times the working pressure of the existing main.
 - 3. Not vary by more than + 5 psi from the specified test pressure for the duration of the test.

Leakage shall not exceed the total computed from the Table 08-02-01 as determined by the following formula:

$$SD \times \sqrt{P}$$

$$L = \frac{\quad}{133,200}$$

L = Allowable leakage in gallons per hour S = Length of pipe tested in feet

D = Nominal diameter of the pipe in inches

P = Average test pressure during the test in pounds per square inch

Pipe Size (in.)	Maximum Allowable Leakage Per 1,000 LF of Pipeline (Gallons / Hour)
4	0.37
6	0.55
8	0.74
10	0.92
12	1.10
14	1.29
16	1.47
18	1.66
20	1.84
24	2.21
30	2.76
36	3.31
42	3.86
48	4.41
54	4.97

*If the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size.

- O. Any section that fails the pressure and leakage test shall be repaired by the Contractor. The Contractor shall then retest the section until approved at no additional costs to Owner.
- P. All visible leaks shall be repaired regardless of the amount of leakage.

3.06 CLEANING

- A. At the conclusion of the work, thoroughly clean the entire pipe by flushing with water or other means to remove all dirt, stones, pieces of wood, or other material that may have entered during the construction period. All debris shall be removed from the pipeline. The lowest segment outlet shall be flushed last to assure debris removal.
- B. After pipes have been cleaned and if groundwater level is above the pipes or water in the pipe trench is above the pipe following a heavy rain, the Owner and Owner’s Designee will examine the pipe for leaks.

1. Repair and replace defective pipes, fittings, or joints that are discovered.

3.07 DISINFECTION

- I. Disinfect ductile iron pipe used for potable water service after cleaning. Provide necessary equipment and labor.
 1. Disinfection per AWWA C651 standard.
 2. Discharge chlorinated water in compliance with Federal, State, and local standards. Provide neutralizing agent for de-chlorination prior.
 3. Refer to Section 02517 “Disinfecting of Water Utility Distribution”.

END OF SECTION

SECTION 02640
HYDRANTS, VALVES, AND APPURTENANCES

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, appurtenances and incidentals required and provide, install, test, complete and ready for operation all valves and appurtenances complete with actuators and all accessories as shown on the Drawings and as specified herein.

1.02 RELATED WORK

- A. Trenching Backfilling and compaction is included in Section 02221.
- B. Granular Fill Materials are included in Section 02230.
- C. Disinfecting of Water Utility Distribution is included in Section 02517.
- D. Concrete and Reinforcing Steel is included in Section 03301.

1.03 SUBMITTALS

- A. Submit, in accordance with Section 01300, materials required to establish compliance with this Section for shop drawings. Submittals shall include the following:
 - 1. Manufacturer's literature, illustrations, specifications and engineering data including:
 - a. Dimensions.
 - b. Size.
 - c. Materials of construction.
 - d. Weight.
 - e. Protective coatings.
- B. Test Reports
 - 1. Six copies of all certified shop test results specified herein.
- C. Operation and Maintenance Manuals
 - 1. Submit complete operation and maintenance manuals including copies of all approved Shop Drawings.

D. Certificates

1. Certificates of compliance where required by referenced standards: For each valve specified to be manufactured and/or installed in accordance with AWWA and other standards, submit an affidavit of compliance with the appropriate standards, including certified results of required tests and certification of proper installation.

1.04 QUALITY ASSURANCE

A. Manufacturer's Qualifications

1. Valves and appurtenances provided under this Section shall be the standard product in regular production by manufacturers whose products have proven reliable in similar service for at least 5 years. If required, the manufacturer shall furnish evidence of installation in satisfactory operation.
2. All units of the same type shall be the product of one manufacturer.

B. Design Criteria

1. All valves and appurtenances shall be new and in perfect working condition. Valves shall be designed for continuous use with a minimum of maintenance and service required and shall perform the required function without exceeding the safe limits for stress, strain or vibration. In no case will used or damaged valves be acceptable. The selection of equipment to meet the specified design conditions is the responsibility of the Contractor. Both workmanship and material shall be of the very best quality and shall be entirely suitable for the service conditions specified.

C. Source Quality Control

1. Valves shall be shop tested in accordance with the following:
 - a. Gate valves: AWWA C500.
2. Obtain each type of valve from no more than one manufacturer.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the site to ensure uninterrupted progress of the work.

B. Protect threads and seats from corrosion and damage. Rising stems and exposed stem valves shall be coated with a protective oil film which shall be maintained until time of use.

C. Furnish covers for all openings.

1. All valves 3-in and larger shall be shipped and stored on site until time of use with wood or plywood or plastic covers on each valve end.
2. All valves smaller than 3-in shall be shipped and stored as above except that heavy card board or plastic covers may be furnished instead of wood.

- D. Rising stems and exposed stem valves shall be coated with a protective oil film which shall be maintained until the valve is installed and put into use.
- E. Store equipment to permit easy access for inspection and identification. Any corrosion in evidence at the time of Owner acceptance shall be removed, or the valve shall be removed from the job.
- F. Store all equipment in covered storage off the ground.

1.06 COORDINATION

- A. Review installation procedures under other Sections and coordinate with the work which is related to this Section including buried piping installation and site utilities.
- B. Coordinate the location and placement of concrete thrust blocks when required.

1.07 MAINTENANCE

- A. Special tools including packing, maintenance hardware and the manufacturer's standard spare parts, if required for normal operation and maintenance, shall be supplied with the equipment, as specified herein.
- B. Provide all special tools required for normal maintenance. Tools shall be packaged in a steel case, clearly and indelibly marked on the exterior to indicate equipment for which tools are intended.
- C. Provide to the Owner a list of all spare and replacement parts with individual prices and location where they are available. Prices shall remain in effect for a period of not less than 1 year after start-up and final acceptance.

PART 2 PRODUCTS

2.01 GENERAL

- A. All buried valves shall open to the right, clockwise.
- B. The use of a manufacturer's name and/or model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.
- C. Valves shall be of the size shown on the Drawings or as noted and as far as possible equipment of the same type shall be identical and from one manufacturer.
- D. Valves shall have the name of the maker, nominal size, flow directional arrows, working pressure for which they are designed and standard to which they are manufactured cast in raised letters on some appropriate part of the body.
- E. Unless otherwise noted, valves shall have a minimum working pressure of 100 psi or be of the same working pressure as the pipe they connect to, whichever is higher, and suitable for the pressures noted where they are installed.

- F. Gate Valves shall be of the same nominal diameter as the pipe or fittings they are connected to. Joints shall be mechanical joints, with joint restraint.
- G. Provide all special adaptors as required to ensure compatibility between valves, appurtenances, and adjacent pipe.
- H. Valves shall be especially constructed for buried service.

2.02 RESILIENT SEATED GATE VALVES

- A. Valves shall be manufactured in accordance with AWWA C509 and as specified herein. Valves shall be:
 - 1. The Series 2638 resilient seated gate valve (available in 4-in through 36-in) by Clow Valve Company (A Division of McWane Inc.) of Oskaloosa, Iowa;
 - 2. The 7000 Series resilient seated gate valve (available in 4-in through 36-in) by Kennedy Valve Company (A Division of McWane Inc.) of Elmira, New York.
 - 3. The RS series resilient wedge gate valve (available in 4-in through 36-in) by M&H Valve Company of Anniston, Alabama;
 - 4. The Series 2500 ductile iron resilient wedge gate valve (available in 2-in through 48-in) by American Flow Control of Birmingham, Alabama;
 - 5. The Series 2361 ductile iron resilient wedge gate valve (available in 14-in through 48-in) by Mueller Company of Decatur, Illinois;
 - 6. The Model A-USP1 resilient wedge gate valve (available in 14-in through 48-in) by the US Pipe & Hydrant Division of Mueller Company of Decatur, Illinois;
 - 7. Or equal.
- B. Water main gate valves shall be rated for 200 psi minimum working pressure and a 300 psi minimum test pressure. The operating nuts shall be 2-in square. All valves shall open right or clockwise. Valves for water mains shall be fitted with a minimum of two "O-Ring" stem seals and shall be Ken-Seal resilient gate valves as manufactured by Kennedy Valve; Clow, American Darling, Dresser, U.S. Pipe, Mueller, or equal.
- C. Valves shall be provided with a minimum of two O-ring stem seals.
- D. Bonnet and gland bolts and nuts shall be either fabricated from a low alloy steel for corrosion resistance or electroplated with zinc or cadmium, either Type 304 or 316 stainless steel. The hot-dip process in accordance with ASTM A153 is not acceptable. Allen-wrench type bonnet and gland fastening shall not be acceptable and will be rejected.
- E. Wedges shall be totally encapsulated.
- F. Units shall be, in addition, UL and FM approved.

- G. Cast the word “OPEN” and an arrow indicating direction to open on each valve body or operator.
- H. Operating nut for all gate valves shall be 2-in square.
- I. Extension stems shall be fabricated from solid steel. Stems shall not be smaller in diameter than the valve stem. Equip stem with wrench nut. Ensure all stem connections are pinned.
- J. Valves shall be non-rising stem.
- K. AWWA requirements for thrust collar and stem to be integrally cast (not pinned on), and copper alloy valve stems shall be strictly enforced.
- L. Valves shall have mechanical joint ends compliant with AWWA C111 unless otherwise noted.
- M. Gearing shall be required for gate valves 14-in diameter and larger, and shall be in accordance with AWWA C509 Part 4.4.9 and AWWA C515 Part 4.4.9.

2.03 TAPPING SLEEVES AND TAPPING VALVES

- A. Tapping sleeves shall be of cast iron, designated for working pressure not less than 200 psi. Armored end gaskets shall be provided for the full area of the sleeve flanges. Sleeves shall be as manufactured by A.P. Smith Division of U.S. Pipe; Mueller; Clow or equal. Nuts and bolts shall be Type 304 stainless steel.
- B. Tapping valves shall conform to the requirements specified above for the gate valves except that one end shall be flanged and one mechanical. Tapping valves shall be provided with an oversized opening to permit the use of full size cutters.

2.04 LINE STOPS

- A. Line stopping mechanical devices shall be manufactured by Hydra-Stop, Inc., or approved equivalent as approved by the Owner and Owner’s Designee.
- B. The outlet of each fitting shall be machined from 150 lb. forged steel flange (ASTM A181 or A105) or from pressure vessel quality steel plate (ASTM A285, Grade C); flat faced and drilled per ANSI B16.5. Suitable independently operated locking devices shall be provided in the periphery of the flange to secure the completion plug.
 - a. Machine an internal circular shoulder to seal against the circumferential gasket carried on the plugging head
- C. The nozzle, which lies between the saddle and the flange shall be fabricated from steel pipe (ASTM A234). After welding and stress relief, the nozzle shall be accurately bored as follows to accommodate the line stop plugging head:
- D. Fittings shall be full encirclement, pressure retention type split tee. It shall consist of two steel weldments; 1) an upper line stop flange saddle plate and 2) a lower saddle plate. These two saddle plates shall be contiguous.

- E. The interior of the upper saddle plate, adjacent to and concentric with the O.D. of the nozzle, shall be grooved to retain a gasket which shall seal the saddle plate to the exterior of the cast iron main. This gasket shall constitute the only seal between the main and the fitting.
- F. The completion plug shall be machined from a stress relieved carbon steel weldment. It shall contain two (2) circumferential grooves; 1) one to receive the locking devices from the line stop flange, and 2) the second to contain a compressible "O" ring to seal pressure tight against the bore of the flange.
- G. Each line stop fitting shall be closed with a blind flange. Facing and drilling of the blind flange shall be compatible with that of the line stop flange. Minimum blind flange thickness shall be that of AWWA specification 207, class D.
- H. Each saddle half shall be matched and marked with serial numbers, to insure proper alignment in the field.
- I. All bolts, studs, and nuts used on the line stop and drain/equalization fittings shall be of the heavy series.
- J. The Manufacturer shall exercise extreme care to ensure that weldments are of adequate strength, properly shaped, securely reinforced, and free from distortion that could stress the cast iron main during installation, pressure tapping, or line stopping operations. All steel shall meet the requirements of ASTM A36, as a minimum. All weldments shall be braced and stress relieved.
- K. Gaskets shall be molded from elastomer compounds that resist compression setting and are compatible with water in the 32 to 140 degree Fahrenheit temperature range.
- L. The upper line stop flange saddle shall consist of a saddle plate, a line stop flange, and a line stop nozzle.
 - a. Saddle plate shall be of a minimum of .375" in thickness. It shall be shaped to be concentric to the outside of the cast iron main. The smallest I.D. of the saddle and its interior rings shall exceed the O.D. of the main by a minimum of .250" to allow for ovality of the main.
 - b. A line stop nozzle of .375" minimum wall thickness shall be securely welded to the saddle plate.
 - c. The line stop flange shall be securely welded to the nozzle. After welding, the assembly shall be braced, stress relieved, and bored to receive the completion plug and the circumferential gasket of the line stop machine plugging head.
 - d. Bolts and nuts, except where otherwise indicated, shall be heavy unfinished head bolts and nuts Grade B, low-carbon steel or equal. Bolt studs and nuts shall be of the same quality as machine bolts.

- e. The lower saddle plate shall be of a minimum .375" thickness and shall be shaped to be concentric to the outside of the cast iron main. Gusseted bolting brackets shall match upper half.
 - f. After fitting has been stress relieved and machined, the exterior and un-machined interior surfaces shall be sandblasted and coated with coal tar epoxy to a final minimum cured thickness of .020".
 - g. The Contractor shall use proper and suitable tools for safe and convenient handling of line stop assemblies.
 - h. The Contractor shall take great care to prevent damage to protective coatings. Minor damage to exterior coating may be patched with asphaltum. Materials with excessive damaged to exterior coatings must be removed and replaced.
 - i. The Contractor shall carefully examine all fittings and appurtenances for defects. No material is to be installed which is known to be defective. The Contractor shall replace, at his own expense, any defective material incorporated into the work.
- M. Line stop equipment shall consist of a cylindrical plugging head that contains a flat, expandable elastomer sealing element or equal as approved by the Owner and Owner's Designee.
- N. The sealing element shall be monolithically molded from a suitable polyurethane compound. The element shall be flat in a plane perpendicular to the flow in the main. Minimum thickness of the element shall be 1.5". The bottom of the element shall be semicircular to conform to the bore of the main.
- O. The diameter of the cylindrical plugging head shall be slightly smaller than the bore of the line stop nozzle. The plugging head gasket shall seal against the sealing element to prevent bypass flow around the line stop.
- P. The semi-cylindrical bottom of the plugging head shall be designed to break and dislodge tuberculation and other deposits in the bore of the main which might interfere with a satisfactory line stop.

2.05 VALVE BOXES

- A. All gate valves shall be provided with operating nuts and adjustable valve boxes as follows:
- 1. Valve boxes shall be as manufactured by Mueller; Tyler; Bingham & Taylor or equal and shall be a heavy-pattern cast iron, three-piece, telescoping type box with dome base suitable for installation on the buried valves. Inside diameter shall be at least 5-in. Barrel length shall be adapted to the depth of cover, with a lap of at least 6-in when in the most extended position. Covers shall be cast iron with integrally-cast direction-to-open arrow. Aluminum or plastic are not acceptable.
 - 2. The upper section of each box shall have a bottom flange of sufficient bearing area to prevent settling. The bottom of the lower section shall enclose the stuffing box and operating nut of the valve and shall be oval.

3. Two tee-handled gate wrenches of suitable length shall be furnished to operate all valves with valve boxes.

2.06 FIRE HYDRANTS

- A. Fire hydrants shall be dry-barrel, post-type type conforming to the requirements of AWWA C502. Hydrants shall be designed such that the hydrant valve closes with line pressure preventing loss of water and consequent flooding in the event of traffic damage.
- B. Hydrants shall have 6-in mechanical joint inlet connections, two 2-1/2-in hose connections 180 degrees apart and one 4-1/2-in steamer port nozzle, unless designated as a “Special High Service Hydrant” which would be ULFM rated and have three (3) 2-1/2 inch hose nozzles. Hydrants shall have a bronze seat ring threaded to a bronze sub-set. Note: threads of the main valve seat ring shall not be designed as a sealing thread. All nozzle threads shall be National Standard Thread (NST). Lead shall not be used to secure nozzles to the hydrant barrel. Hydrants shall be according to manufacturer's standard pattern. Hydrants shall be equipped with "O" ring packing. All “o” ring seals in the main valve area shall seat against bronze or epoxy coated cast iron. Each nozzle cap shall be provided with a Buna-N rubber washer. Nozzle caps shall be cast iron and shall be secured to the hydrant barrel with rustproof steel chains.
- Q. The hydrant bonnet shall be designed so that no part of the threads of the operating stem shall be in contact with water. Two (2) “O” rings shall be used to accomplish this. Also, one (1) “O” ring shall be used to seal the upper end of the operating mechanism from atmospheric moisture. The operating valve stem shall be sheathed with nautical brass or bronze where it contacts the lower “O” rings. All temperature grease shall be used as a lubricant for the operating rod threads. Oil is not acceptable. The grease shall be certified by the National Sanitation Foundation (NSF 61) as “nontoxic and safe for use in contact with potable water supplies”. Changing the main valve and seat shall only require removal of the bonnet and lubrication chamber or bonnet and seal plate.
- R. Hydrant inlets shall be mechanical joints with all accessories, and shall accommodate 6-inch ductile iron and cast iron pipe, when requested, All mechanical joint bolts and nuts shall be “Cor-Ten” or an approved substitute. Interior surfaces of the boot, or shoe, shall be epoxy coated.
- E. Hydrants shall be so arranged that the direction of outlets may be turned 90 degrees without interference with the drip mechanism or obstructing the discharge from any outlet. Hydrants shall be designed so that when properly installed a standard 15-inch hydrant wrench will not contact the ground when making a full 360-degree turn on any nozzle cap. Hydrants shall have a minimum vertical distance from the center of the steamer port nozzle to the shoulder of the operation nut (lower most part of the hydrant wrench) of nine (9) inches.
- F. A bronze or rustproof steel nut and check nut shall be provided to hold the main hydrant valve on its stem.
- G. Hydrant valve opening shall have a 5-1/4-in diameter opening and shall be constructed of solid rubber that may be reinforced with steel. The opening may be obstructed only by the valve rod. Each hydrant shall be able to deliver 500 gallons minimum through its two 2-1/2-in hose nozzles when opened together with a loss of not more than 2 psi in the hydrant.
- H. Hydrants shall be designed for installation in a trench that will provide minimum cover as noted on Drawings. Hydrant extensions shall be as manufactured by the company furnishing the hydrants and of a style appropriate for the hydrants as furnished.

- I. Hydrants shall open right and shall utilize a breakaway design and shall be marked with a raised arrow and the word "open" to indicate the direction to turn stem to open hydrant.
- J. Hydrants shall be furnished with caps, double galvanized steel hose cap chain, galvanized steel pumper hose cap chain, a galvanized steel chain holder and any other hooks and/or appurtenances required for proper use. The bottom cap nut shall be bronze or epoxy coated ductile iron or cast iron.
- K. Hydrant operating nut shall be AWWA Standard pentagonal type measuring 1-1/2-in point to flat.
- L. Drainways shall be manufactured of nautical brass, bronze, epoxy coated cast iron, or an approved substitute. A minimum of two (2) drain ports shall be provided with a minimum net diameter of 1/4-inch. Drain valves shall momentarily force flush each time the hydrant is operated.
- M. Hydrants shall be hydrostatically tested as specified in AWWA C502.
- N. See Appendix G for approved hydrant manufacturers. Hydrants shall be manufactured by the following:
 - 1. Kennedy Guardian
 - 2. Or equal.
- O. All iron work to be set below ground, after being thoroughly cleaned, shall be painted with two coats of asphalt varnish specified in AWWA C502. Iron work to be left above ground shall be shop painted with one coat of primer and two finish coats of "Ivy Green" paint that will produce a surface to which subsequent coats of paint, having a linseed oil base, will readily adhere. The bonnet of the hydrant shall be painted in the same manner, to match existing color ("Safety Yellow").
- P. Hydrants must be "hydra-shield custodian" ready. Typical low service hydrants must be installed at a depth of five (5) feet. Typical high service hydrants must be installed at a depth of five (5) feet six (6) inches. For the replacement of existing hydrants, the depth should be determined prior to installation to assure that new hydrant is installed at the prescribed depth.
- Q. Hydrant extension kits and traffic repair kits shall be available from the manufacturer as an off-the-shelf item for the hydrant supplied to the Owner. Kit components shall be those manufactured by the original hydrant manufacturer and considered original equipment. Substitutes shall not be allowed under any circumstances.

2.07 RESTRAINING CLAMPS

- A. Restraining clamp assemblies as detailed in the Drawings for use at hydrant connections to hydrant gate valves shall be as manufactured by Stellar Corp., Columbus, Ohio, or equal.

2.08 SOLID SLEEVE, PLUGS, AND REDUCERS

- A. Solid sleeves for use with ductile iron pipe shall be of cast iron or ductile iron construction and shall be Clow Model F-1012 or F-1014, or equal. Gaskets shall be of an approved composition suitable for exposure to the liquid in the pipe and/or groundwater. Solid sleeves shall conform to AWWA C110.
- B. Plugs and reducers shall conform to AWWA C100, Class D, and shall be of cast iron construction. Plugs and reducers shall be manufactured by American Cast Iron Pipe Company or equal.
- C. Solid sleeves, plugs and reducers shall have a bituminous seal coat on the inside and a coal tar enamel coat on the outside in conformance with ANSI A21.4.

2.09 STRAIGHT AND TRANSITION COUPLINGS

- A. Coupling bolts shall be ANSI 304 grade stainless steel with heavy hex nuts which conform to the latest edition of AWWA C-111.
- B. Couplings for connecting new ductile iron pipe to existing water mains shall be by ROMAC Industries, Smith-Blair, Baker, or Total Piping Solutions (Hymax).
- C. The center and end rings of couplings shall be modular ductile iron or epoxy coated steel, meeting or exceeding ASTM A536 and ASTM A576. The couplings shall accommodate the entire outer diameter range in the specified size, and shall meet or exceed AWWA C219-01.
- D. The coupling gasket shall be made of virgin rubber or an EDPM compound for water use. The gasket shall have raised lettering and sizing and state the proper color code for the appropriate end ring or be designed with a multi-layered wide range removable outer layer.
- E. All coupling connections at work limit terminations shall be restrained to the new piping for future work in adjacent areas.

2.10 SURFACE PREPARATION AND SHOP COATINGS

- A. Notwithstanding any of the specified requirements, all coatings and lubricants in contact with potable water shall be certified as acceptable for use with that fluid.
- B. If the manufacturer's requirement is not to require finished coating on any interior surfaces, then manufacturer shall so state and no interior finish coating will be required, if acceptable to the Owner and Owner's Designee.
- C. The exterior surface of various parts of valves, operators, floor-stands and miscellaneous piping shall be thoroughly cleaned of all scale, dirt, grease or other foreign matter and thereafter one shop coat of an approved rust-inhibitive primer shall be applied in accordance with the instructions of the paint manufacturer. Primer shall be compatible with the finish coat provided.
- D. Unless otherwise noted, interior ferrous surfaces of all valves shall be given a shop finish of an asphalt varnish conforming to AWWA C509, (except mounting faces/surfaces) or epoxy AWWA C550 with a minimum thickness of 4 mil.
- E. Ferrous surfaces obviously not to be painted shall be given a shop coat of grease or other suitable rust-resistant coating. Mounting surfaces shall be especially coated with a rust preventative.

- F. Special care shall be taken to protect uncoated items and plastic items, especially from environmental damage.

PART 3 EXECUTION

3.01 INSPECTION AND PREPARATION

- A. During installation of all valves and appurtenances, verify that all items are clean, free of defects in material and workmanship and function properly.
- B. Before valves and fittings are installed, they shall be thoroughly disinfected in accordance with AWWA C651. Chlorine used for disinfection shall be ANSI/NSF-60 certified for potable water use.
- C. All valves shall be closed and kept closed until otherwise directed by the Owner and Owner's Designee.

3.02 INSTALLATION OF LINE STOPS

- A. Prior to the installation of the line stop the Contractor shall power wire brush and grind the exterior of the main to remove any debris, corrosion deposits, or other surface irregularities that might interfere with proper seating and sealing of the line stop fitting around the main. Under no circumstances shall the Contractor attempt to force, reshape, or bend saddle studs while line stop fitting is assembled around the main.
 - a. Any retrofitting shall be accomplished with the fitting removed from the main.
 - b. Any damage to fittings, accessories, or main shall be repaired at Contractor's expense
- B. Prior to mounting temporary tapping valve and pressure tapping machinery, the Contractor shall install concrete thrust and support blocking as designed and certified by a registered Professional Engineer. Blocking shall reach a minimum cure strength specified by the OWNER before any valves or machinery shall be mounted onto the line stop fitting.
- C. The entirety of the cast iron main shall be power ground for the entire length of the line stop fitting. Upper and lower saddle halves shall be drawn together by bolt assemblies in the horizontal position.
- D. Line stops and appurtenances shall be swabbed with a chlorine solution, by the Contractor, in accordance with American Water Works Association (A.W.W.A.) specifications prior to assembly. Chlorine used for the disinfection of line stops and appurtenances shall be NSF 60 certified for potable water use.
- E. Final closure shall be accomplished by insertion of a completion plug, test of completion plug sealing through bleed-off in machine housing, temporary valve shall be removed and installation of blind flange shall be completed. Upon completion, the Contractor shall test the plug sealing, remove the temporary valve, cap and coat the entire assembly with coal tar epoxy to a final minimum cured thickness of 0.02", and ensure that the entire assembly is completely watertight under the full normal working pressure in the main.

- F. Upon completing the repair activities, the Contractor shall remove the temporary line stop valve as follows:
- a. Retract line stop plugging head(s), and close temporary valves.
 - b. Remove line stop machine.
 - c. Install completion machine; open valve.
 - d. Insert completion plug into nozzle of line stop fitting.
 - e. Remove completion machine and temporary valve.
 - f. Repeat items a through d at other line stop fitting.
 - g. Install blind flange(s) onto nozzle of line stop fitting(s) and onto drain fitting(s).
 - h. Cap and coat the entire assembly(s) with coal tar epoxy to final minimum cured thickness of 0.02".
 - i. The Contractor shall backfill and restore as necessary

3.03 INSTALLATION OF BURIED VALVES AND VALVE BOXES

- A. Buried valves shall be cleaned and manually operated before installation. Buried valves and valve boxes shall be set with the stem vertically aligned in the center of the valve box. Valves shall be set on a firm foundation and supported by tamping pipe bedding material under the sides of the valve. The valve box shall be supported during backfilling and maintained in vertical alignment with the top flush with finish grade. The valve box shall be set so as not to transmit traffic loads to the valve.
- B. Before backfilling, all exposed portions of any bolts shall be coated with two coats of bituminous paint comparable to Bitumastic No. 50 by Kop-Coat Inc.

3.04 INSTALLATION OF TAPPING SLEEVES AND VALVES

- A. The proper authority shall be contacted and their permission granted prior to tapping a "live" line. The required procedures and time table shall be followed exactly.
- B. Installation shall be made under pressure and flow shall be maintained. The diameter of the tap shall be a minimum of 1/4-in less than the inside diameter of the branch line.
- C. The entire operation shall be conducted by workers experienced in the installation of tapping sleeves and valves, and under supervision of qualified personnel furnished by the manufacturer. The tapping machine shall be furnished by the Contractor.
- D. Determine the location of the line to be tapped to confirm that the proposed location will be satisfactory and that no interference will be encountered such as the occurrence of existing utilities or joints or fittings. No tap or sleeve will be made closer than three feet from a pipe joint.
- E. Tapping sleeve and valve with boxes shall be set squarely centered on the line to be tapped. Adequate support shall be provided under the sleeve and valve during the tapping operation. Thrust blocks or other permanent restraint acceptable to the Owner and Owner's Designee shall be provided behind all tapping sleeves. Proper tamping of supporting pipe bedding material around and under the valve and sleeve is mandatory for buried installations.
- F. After completing the tap, the valve shall be flushed to ensure that the valve seat is clean. All proper regulatory procedures (including disinfection) shall be followed exactly.

- G. 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.

3.05 INSTALLATION OF FIRE HYDRANTS

- A. Fire hydrants shall be set at the locations as shown on the Drawings or designated by the Owner and Owner's Designee and bedded on a firm foundation. Hydrants and connecting pipe shall have at least the same depth of cover as the distributing pipe. Hydrants shall be set so that the manufacturer's "bury" mark or ground line is at finished grade. If there is no "bury" mark on the hydrant, the bottom of the breakaway feature shall be set at a minimum of 2-inches to a maximum of 4-inches above finished grade. Depths of bury shall be at least 4 feet 6 inches. A drainage pit 2-ft 6-in diameter shall be filled with screened gravel and compacted. The hydrants shall be set upon a slab of concrete not less than 6-in thick and 14-in square. During backfilling, additional screened gravel shall be brought up around and 6-in over the drain port. Each hydrant shall be set in true vertical alignment and properly braced. Hydrants shall be set plumb with the steamer port facing the roadway. Hydrants shall be positioned with the center of the operating nut 24-inches back from the face of the curb or as required by the local fire chief.
- B. Anchor tee fittings, as opposed to a tapping sleeve and valve approach for a newly installed water main, shall be utilized. At the necessary locations, the Contractor shall cut the new ductile iron main and install an anchor tee fitting to provide a service to the new hydrant. Tapping sleeve and valve for hydrant installation shall be utilized only with prior Owner and Owner's Designee approval.
- C. Hydrants shall be fed from the main with a 6- or 8-inch ductile iron lateral (8-inch is used when hydrant laterals exceed 10 feet). A resilient seated gate valve shall be installed in the lateral between the tee and the hydrant. Special anchor or swivel tees shall be used to connect the hydrant branch to the main.
- D. Hydrants shall be restrained using poured concrete thrust blocks along with a mechanical restraining device such as the "Megalug" or strapped back to the hydrant gate valve. Minimum bearing area shall be as shown on the Drawings. Felt roofing paper shall be placed around hydrant elbow before placing concrete. CARE SHALL BE TAKEN TO ENSURE THAT CONCRETE DOES NOT PLUG THE DRAIN PORTS.
- E. If directed the hydrant shall be tied to the pipe with suitable rods, clamps, or restraining glands, galvanized, painted, or otherwise rustproof treated. Hydrant paint shall be touched up as required after installation.
- F. Fire hydrants shall be painted in accordance with Owner's standard practice.
- G. As directed on the Drawings or at the Owner's discretion, existing hydrants removed from service shall be properly disposed of by the Contractor. If the Contractor is directed not to remove an existing hydrant, and the hydrant is removed by Owner forces, the Owner shall be the responsible part for disposal.

3.06 FIELD TESTS AND ADJUSTMENTS

- A. Conduct a functional field test of each valve, including actuators and valve control equipment, in presence of Owner and Owner's Designee to demonstrate that each part and all components together function correctly. All testing equipment required shall be furnished by the Contractor.

3.07 MANUFACTURER'S SERVICE

- A. The Contractor shall furnish the services of a qualified representative of the tapping equipment manufacturer to provide on-site instruction during wet tapping of the existing water mains indicated on the Drawings.

3.08 DISINFECTION

- A. Tapping valves shall be swabbed with a solution of sodium hypochlorite before the connection is made. The procedure shall be approved by the Owner and Owner's Designee in advance.
- B. The hydrants and branch connections shall be disinfected in conjunction with the pipeline.

END OF SECTION

SECTION 02651
TELEVISION INSPECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all necessary labor, materials, equipment, services and incidentals required and visually inspect by means of closed-circuit television designated water main line sections, including, but not limited to, all recording and playback equipment, materials and supplies such as tape.
- B. The inspection shall be done one length of water main (access pit location to access pit location) at a time.
- C. All inspections shall be witnessed by the Owner and Owner's Designee.
- D. Video recordings shall be made of the television inspections and copies of both the recordings and digital inspection logs shall be supplied to the Owner.
- E. Television inspection shall be conducted before the main has been cleaned and again after the cement mortar lining has been performed.
- F. All equipment used shall be suitable for potable water applications and disinfected to the approval of the Owner and Owner's Designee.
- G. Television Inspection shall be performed to verify cleaning and lining work.

1.02 RELATED WORK

- A. Cleaning and Lining Water Mains is included in Section 02760.

PART 2 PRODUCTS

2.01 EQUIPMENT

- A. The television camera used for the inspection shall be one specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe. The camera shall be operative in 100 percent humidity conditions. The camera, television monitor and other components of the video system shall be capable of producing a minimum 500-line resolution video picture. Picture quality and definition shall be to the satisfaction of the Owner and Owner's Designee and if unsatisfactory, equipment shall be removed and no payment made for an unsatisfactory inspection.

PART 3 EXECUTION

3.01 PROCEDURE

- A. The camera shall be moved through the line in either direction at a uniform rate, stopping when necessary to ensure proper documentation of the mains condition but in no case will the television camera be pulled at a speed greater than 3 fps. Manual winches, power winches, TV cable and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the main conditions shall be used to move the camera through the mains line. If, during the inspection operation, the television camera will not pass through the entire main line section, the equipment shall be removed and repositioned in a manner so that the inspection can be performed from the opposite access pit. If, again, the camera fails to pass through the entire main line section, the inspection shall be considered complete and no additional inspection work will be required.
- B. Whenever non-remote powered and controlled winches are used to pull the television camera through the line, telephones, radios, or other suitable means of communication shall be set up between the two access pits of the main line being inspected to ensure that good communications exist between members of the crew.
- C. The accuracy of the measurements cannot be stressed too strongly. Measurement for location of defects shall be above ground by means of a meter device. Marking on cable, or the like, which would require interpolation for depth of access pit, shall not be allowed. Measurement meters shall be accurate to two-tenths of a foot over the length of the main line section being inspected. Accuracy of the measurement meters shall be checked daily by use of a walking meter, roll-a-tape or other suitable device.

3.02 RECORDING OF FIELD OBSERVATIONS

A. General

1. Submit to the Owner and Owner's Designee, two copies of digital recordings (video and audio) of the pipeline television inspections and summary data DVD format. The DVD shall be written in accordance with the ISO-9660 Level 2 specification. Each DVD shall be labeled with the appropriate identification of its contents. The label shall correspond to a schedule of every main access pit contained on the DVD.
2. The digital recordings shall be linked to software capable of performing multiple summaries, queries, and analysis. The software shall also have the capability of recording, digitizing and storing single frames of video images and full time live video, as well as collecting, storing and printing pipe line inspection data for display and report generation.
3. The included software package shall be fully Object Oriented. It shall be capable of printing pipeline inspection reports with captured images of defects or other related significant visual information on a standard inkjet color printer. The software shall also have the capability of being linked with graphical software such as those used for Geographical Information Systems.

B. Field Data Recordings

1. Image Capture

- a. Create still shots of video recordings. Selected digitized picture images shall be stored and the picture files shall be exportable to Industry Standard Formats to include JPEG, BMP, TIFF, formats and are transferable by disk to an external personal computer that utilizes standard viewers and printers. Picture files will be stored and exported with inspection data.

2. Video Capture

- a. Full time live video and audio files shall be captured for each pipe inspected. The files shall be stored in industry standard MPEG (Moving Pictures Expert Group) format and can be transferable by DVD to an external personal computer that utilizes standard MPEG viewers. The MPEG video shall be defined as ISO-MPEG Level 1 (MPEG-1) coding with a resolution of 352-pixel (x) by 240-pixel (y) and an encoded frame rate of 29.97 frames per second.
- b. System shall perform an automatic disk image/file naming structure to allow saved video/data sections to be “Burned” to CDR or DVDR format. It shall have the capability of “burning” a minimum of 45 minutes of video to the DVD media with full “Linked” pipeline data information.
- c. The video recording shall be free of electrical interference and shall produce a clear and stable image. The audio recording shall be sufficiently free of background and electrical noise as to produce an oral report that is clear and discernable.
- d. The recordings shall identify the location both within the pipe segment (physical location) and within the digital recording (video frame location) for each defect or observation. The digital recordings and inspection data shall be cross-referenced to allow instant access to any point of interest within the digital recording. A user defined, pipeline search mechanism shall be provided.
- e. The video inspection shall include segment information (start and ending access pit, station footage, pipe size, date, time, client, address, etc.). A pointer shall be provided from each observation to the digital recording and any accompanying digital still images. The audio track shall include the date and time of inspection, limits of cleaning and lining, date and time of inspection, verbal descriptions of the pipe size and type, and description of any defects. At no additional cost, the Owner reserves the right to require repairs to any defects noted during the television inspection before acceptance. The DVD video of the pipeline shall be submitted to the Owner for review prior to closure of the pipe access openings for that pipeline.

3. Data Base

- a. Develop a summary log of each main reach inspected. The system software shall be a PACP Exchange Database data acquisition system incorporating an ODBC windows standard data base format. Inspection files shall be able to be exported into other databases and other computers. Information on software file headers format shall be provided to allow the inspection database to be customized with the correct

headers into the user's unique application or software. The defect codes shall include standard defect codes and user defined codes. Defect severity codes shall include standard codes and user defined codes. There shall be graphical and tabular reports showing all observation points and pertinent data. All graphic and tabular reports shall be in color to match the defect severity codes. Inspection information shall be stored in a relational database management system that employs relationships to increase data integrity and reduce storage space.

- b. System shall have the capability of being customized to meet local area requirements and regulations as necessary. These available changes shall encompass variations of the operation layout, functions and printed reports. The program shall be capable of sorting all data stored using generic sort key and user defined sort fields.

4. Television Inspection Logs

- a. Printed location records shall be included showing unusual conditions, severity of tuberculation, cracked or collapsed sections, obstructions, main line sections that the camera failed to pass through and reasons for the failure and other discernible features shall be recorded and a copy of such records shall be supplied to both the Owner and the Owner's Designee.

END OF SECTION

SECTION 02656
TEMPORARY SERVICES

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to install, disinfect, maintain, and remove temporary bypass and temporary service pipe and fire hydrants of the sizes required, including bypass and temporary services outside of the contract limits, to provide adequate service to all water consumers and dwellings/buildings with sprinkler systems or stand pipes, whose service will be interrupted by new water main installation or existing water main rehabilitation and to fulfill fire service requirements. Existing fire hydrants connected to pipe being replaced and serving as temporary fire hydrants shall be connected to the temporary pipe at locations directed by the Owner and Owner's Designee. The purpose of the 4-inch size is to provide adequate pressure on the hydrant side of the street and the 2-inch for the services only side. 6-inch bypass piping may be warranted in select areas to support a higher fire service supply demand for existing commercial facilities, or for multiple fire hydrants, as directed by the Owner and Owner's Designee.
- B. The work includes temporary building service piping and connections, valves, fittings, piping, hydrants, connections to other piping and facilities, disinfection of temporary bypass line and service piping, excavations and backfills, temporary asphalt restoration, replacement of all disturbed existing work, crossings over traveled ways, and all other incidental and appurtenant work required to satisfactorily provide temporary water service to consumers for domestic and fire protection uses during the completion of the new main installation and the cleaning and lining operations.
- C. Temporary service pipe shall be placed in the gutter line, and not at the back of sidewalk. Temporary service piping and services shall not compromise ADA compliance of sidewalks, ramps, and other ADA compliant features.
- D. Provide temporary water service to one- and two-family residences and to other water customers with small diameter services currently connected to mains to be shut off, including water customers outside of the contract limits, in order to facilitate the work, by means of temporary hose connections. These temporary service connections shall be made to sillcocks outside the buildings or to temporary connections at the meter inside the buildings, as may be required or directed by the Owner and Owner's Designee. Each building shall have its own temporary service.
- E. In cases where access to the building water meter is not possible or where temporary service connection using hoses would not provide adequate supply capacity, a temporary service connection shall be made to the existing service pipe in the street between the corporation stop at the main and the curb stop, or in the sidewalk area between the curb stop and the service shut off valves inside the building.
- F. The work of relocating existing service and of furnishing and installing temporary service pipe, temporary customer services and other branches, maintaining the same, providing suitable safety precautions and removal of the temporary service pipe system shall be the sole responsibility and expense of the Contractor.
- G. Restore all pavement and surfaces to existing conditions after the temporary services are removed.

1.02 SUBMITTALS

- A. Prior to installation, the Contractor shall prepare a plan (2 copies) showing all proposed bypass piping locations and shall submit this plan to the Owner for review. Plans shall clearly show locations of feeds, sample points, and temporary hydrants. Bleeder locations shall be determined in the field and verified by the inspector. Upon receipt of written approval by the Owner, the Contractor will proceed to install the temporary bypass piping and services, as outlined in this section. Should it be determined at any time during the construction, that the proposed bypass system piping cannot be installed as shown on the temporary bypass piping plan or in alternate locations approved by the Owner, without extensive disruption of service of the existing water system, the Contractor will immediately notify the Owner. The Owner shall have the final approval on the layout and pipe sizes of the proposed bypass piping system
- B. If the existing hydrants that Contractor proposes for bypass piping feed hydrants are not breakaway type or are found to be operationally deficient, Contractor shall replace said hydrants at the unit cost listed in the Bid Schedule (Section 00410-Bid-Form, Item Nos. 4A and 4B) prior to installation of the bypass piping system. Owner reserves the right to review the Contractor's proposed hydrants for bypass piping and require the Contractor to replace any existing hydrant (including those outside the limits of work) at the unit cost listed in the Bid Schedule (Section 00410-Bid-Form, Item Nos. 4A and 4B) prior to installation of the bypass piping system.
- C. The Contractor shall submit for Owner's review and approval a plan detailing all work to be performed and a list of materials including, but not limited to, all pipes, fittings and appurtenances to be installed as part of the work. In addition, all catalog cuts pertaining to the work shall be submitted. All documentation shall be submitted prior to commencement of any construction activities.
- D. The Contractor shall submit to Owner a list of equipment to be used for the installation and removal of temporary by-pass piping and appurtenances.
- E. The Contractor shall submit to Owner the method that shall be utilized to disinfect temporary by-pass piping and appurtenances.
- F. A Subcontractor must be approved by the Owner before any subcontract work is performed. The Contractor is responsible for any and all work performed by their Subcontractors.

PART 2 PRODUCTS

2.01 TEMPORARY SERVICE PIPE

- A. General
 1. All materials furnished for use as temporary bypass pipe, service hose, connections and related appurtenances that come into contact with drinking water are to be certified for conformance with American National Standards Institute/National Sanitation Foundation Standard 61 (ANSI/NSF Standard 61) by an American National Standards Institute (ANSI) approved third-party certification program or laboratory. All service connections shall be "lead free" as defined for lead-free brass alloys in accordance with the ANSI/NSF-60 and ANSI/NSF-61 standards for components in contact with drinking water. These projects shall have the letters "NL" or "LF" cast into the main body for proper identification.
 2. All materials shall be fully adequate to withstand the required water pressure and all other conditions of use, and shall provide adequate water tightness before being put into service.

3. Temporary bypass pipe must be drawn from water main equipment stocks that are dedicated exclusively for use in pipe projects involving fresh potable water.
 4. Temporary bypass pipe shall be fusion welded HDPE having a minimum working pressure rating of 200 pounds per square inch with restrained couplings.
 5. Water service hose to be used for connection from the temporary bypass pipe to the building/residence shall be PVC tube with a blue compound cover (as required by RIDOH) and have a minimum working pressure of 200 pounds per square inch and be made of a material that will not have an adverse effect on the taste or odor of the water.
 6. Six-inch bypass piping may be warranted in select areas to support a higher fire service supply demand for existing commercial facilities, or for multiple fire hydrants, as directed by the Owner and Owner's Designee. 6-inch bypass piping shall be utilized where two (2) or more hydrants are located within the bypass system, unless a 4-inch bypass system has multiple feeder (supply) hydrants, or direct system connections. The Contractor shall always utilize 6-inch bypass piping for bypass systems that serve facilities with existing 6-inch fire services.
- B. Bulkhead (Temporary Line Cap)
1. Bulkhead (temporary line cap) shall consist of a bolted sleeve type pipe coupling with steel end cap capable of sliding over the cut end of the water main pipe.
- C. Temporary Fire Hydrant
1. Temporary fire hydrant shall consist of a 4-inch by 4-inch tee or 4-inch 90 degree bend, with a butterfly valve connected to the end of the tee or bend, and an operating nut to control the valve. Temporary fire hydrant shall be equipped with 4-1/2 inch diameter National Standard threaded nozzle with hydrant cap installed.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Temporary service pipe shall not be installed without the prior approval of the Owner and Owner's Designee.
- B. All temporary customer service connections shall extend from the bypass pipe and terminate at the connection to the building plumbing. Temporary building services shall include all necessary hoses, pipes, valves and fittings of approved size, required to service Owner consumers. The Contractor shall make the actual connection and disconnection to the consumer's building plumbing, and shall coordinate his work with the owner of any building to be serviced so that there will be the least amount of inconvenience to the owners. In general, the Contractor may connect temporary service hose or piping to the consumer's plumbing by any means acceptable to the Owner and the property owner, including either inside or outside connections to temporarily disassembled water system components, or direct connections to hose bibs, standpipes or other acceptable connection points. The locations of connections and methods used must be acceptable to the Owner and the property owners. Connection to the hose bib requires the installation of a wye fitting to allow the property owner use of the hose bib. After multiple failed attempts to gain access to the meter, the contractor shall excavate the service and directly connect to the service curb stop. This shall be accomplished at no cost to the Owner.

- C. Sanitary precautions shall be satisfactory to the Owner and Owner's Designee and shall meet all requirements of the public health authorities having jurisdiction. The installation shall be watertight. Care shall be exercised throughout to avoid any possible pollution of mains, house services, or the temporary service pipe. The interior of temporary service pipe, temporary hoses and any other connection pipe to convey water for potable use shall be chlorinated prior to its use in accordance with AWWA C651.
- D. The size of the bypass mainline piping to serve Owner customers shall be a minimum of 2-inches in diameter. All temporary pipe shall be suitably valved and meet the approval of the Owner and Owner's Designee. A valve shall be provided at each hydrant connection, each intersection, and each tap hole connection. Valves shall be located no further than 500-ft apart or be spaced no further than every ten (10) service connections, unless directed by the Owner and Owner's Designee.
- E. When connecting service tubing, the Contractor shall gain access to the meter location and close the valve before the meter and/or disconnect the meter assembly (as required) before connecting service tubing to the sill cock. The temporary service must be shut to prevent leakage into the replacement/relining main. It is not acceptable to shut the curb stop as the means to isolate the customer line.
- F. No property basement windows or access points shall be left open. A suitable temporary secure enclosure must be fitted over the window opening or access point to prohibit weather or animals into the home. The cover must be approved by the building owner.
- G. Temporary service connections for select commercial facilities will require temporary backflow prevention devices while the temporary service pipe is used during the construction period. Select commercial facilities include, but are not limited to, dentist offices, laboratories, medical facilities, and restaurants.
- H. Provide adequate temporary supply for building or commercial facilities that are served by separate fire service lines. A fire service connection to existing exterior, "Siamese" service connections for these buildings is not allowed. The Contractor may be required to excavate, tap, or directly connect to the existing underground fire service, with temporary fire service piping, of the sizes required and directed by Owner.
- I. After the temporary service connections are completed, the Contractor shall check each building to confirm that the applicable existing service(s) to the buildings are shut off at the curb stop (by Owner work forces) or at the gate valve(s), as applicable, outside the building or with the interior of the building, as required, to prevent any potential backfeeding of water into the new or existing water mains during water main replacement or cleaning and lining operation.
- J. Maintain the temporary service piping and service connections during the construction period so there is no disruption of service until the new water main or newly lined pipe is put back into service. Any interruption caused by frost, physical damage, or otherwise shall be immediately corrected, and the service restored or replaced by the Contractor at no cost to the Owner.
- K. Dead end bypass lines shall be provided with valves and piping for blow-offs and bleeding. Check valves shall be installed at the end of the bleeder hose. Temporary building service connections shall extend from the bypass pipe with a control valve; terminate at the connection to the building plumbing; and shall be of adequate size to satisfactorily provide adequate water to the building being serviced.

- L. Temporary service piping shall be supplied from dual check valve assembly connections to hydrants or existing water mains that are to remain service.
- M. Whether it is being installed, in service, or being removed, the amount of temporary service pipe kept on the job shall be the minimum that will allow the work to continue at a reasonable rate.
- N. Temporary services will only be permitted to be placed upon substantial completion of previous streets and no sooner than one week before mobilization to future streets.
- O. All out-of-service hydrants, new or existing, shall be clearly indicated “Out of Service” by orange out-of-service bags or other methods acceptable to the Owner and the Fire Department.
- S. Temporary service piping shall be removed prior to the second Friday of November unless otherwise directed by the Owner and Owner’s Designee.

3.02 PIPING CROSSING TRAVELED WAYS

- A. Temporary service pipe shall be laid in gutters. At driveways, pipe crossings shall be provided by cold patch cover or other approved method. At street intersections, cut a straight line in the existing bituminous paving and lay the temporary service pipe in a shallow trench covered with temporary surfacing. At the Owner and Owner’s Designee's options, the Contractor may be allowed to use hose to come around bends or to cross driveways.
- B. The Contractor shall install temporary bypass piping in such a manner as to minimize the number of street crossings required. Where temporary bypass pipes and service lines are permitted to cross streets, driveways or sidewalks, the Contractor shall provide all necessary and required construction to protect and prevent injury to persons, property, vehicles and pipelines. At street crossings, narrow trenches shall be excavated and the pipe shall be installed below the roadway surface with bituminous concrete (hot-mix or cold patch) placed around and above the pipe flush with the existing roadway surface. At driveways, provisions shall be made, as approved by the Owner, to permit vehicles to drive over the temporary pipe by the use of rubber hose ramps. Unprotected flexible service hose is not acceptable for driveway crossings. In areas of high traffic and business entrance crossings all 4” and 6” temporary service piping must be buried and paved with temporary asphalt. At sidewalk crossings, provisions shall be made, as approved by the owner, to permit the safe travel of pedestrians by the use of rubber hose ramps. These ramps must meet or exceed ADA requirements. At the Owner’s discretion, ramps constructed of bituminous concrete (hot-mix or cold patch), wood or other acceptable material on each side of the pipe; by depressing the pipe as at street crossings; or by other methods that may be acceptable and suitable for the purpose intended. Gravel or stone dust alone will not be considered suitable material.
- C. The Contractor shall provide watchmen, lights, barriers, signs and such other methods as may be necessary or required to maintain and direct traffic through the project and to prevent injury to persons and property and to comply with all State and City safety codes, ordinances and regulations. Separate payment will not be made for the furnishing of watchmen, lights, barriers, signs, etc. for protection of traffic and to prevent injury to persons and property.
- D. All pavement shall be saw-cut; trench excavations shall be straight and all cut edges shall have clean vertical faces. Permanent restoration is required to restore street pavement, sidewalks, and driveways damage or displaced as a result of the work. No separate payment will be made for the temporary restoration nor saw-cutting required for the temporary services.

3.03 DISINFECTION

- A. All temporary service lines, services and connections shall be disinfected just before being placed into service. Disinfection of service lines shall be done as part of the work included under this section of the specifications, and in accordance with the disinfection requirements specified under Section 5000, Utility Piping.

3.04 DISCONNECTION AND REMOVAL OF TEMPORARY SERVICE PIPING

- A. After the new water main is accepted and placed in service, and permanent service to consumers has been restored, and when approved, the Contractor shall remove all temporary bypass piping and building service connections and all other temporary work, as directed; place temporary paving, as required; restore all walks, drives, curbs, grassed areas to their original condition, and such other parts which have been disturbed as a result of the Contractor's operations; and do all other work as necessary and directed, to leave all work and property in a clean and acceptable condition, at no additional expense to the Owner. When the by-pass pipe and the driveway crossing material is removed, the Contractor, using a self-contained road sweeper, must clean both sides of the road where the by-pass piping was installed. The aforementioned restoration must be completed no more than five (5) business days following the removal of the last service from by-pass. Where a bypass is to be retained for service to adjacent sections or streets, the work shall be so scheduled to minimize the overall "in- place" time.
- B. To flush any residual, cleaning and lining material or heavily chlorinated water from the service line, each service shall be flushed through a blow-back hose before reconnecting the meter.

3.03 TEMPORARY CONNECTION TO EXISTING WATER MAINS

- A. At locations, as approved or directed by the Owner, where connections for temporary bypass piping are to be made underground to the existing water mains with corporation stops, the Contractor shall make the necessary excavations at the locations and to the limits as necessary to uncover the existing underground water lines and permit the installation of corporation stops. The Contractor shall furnish and install a corporation stop, a pipe nipple or gooseneck and a shut-off valve at the connection to the existing water line; connect the temporary bypass piping to the shut-off valve and, where directed by the Owner, backfill the excavation and install temporary bituminous pavement. When the need for the service piping has ceased, the Contractor shall re-excavate, where necessary; close the corporation stop; disconnect and remove the service piping, shut-off valve, and pipe nipple or gooseneck; backfill the excavations; and provide the gravel base course and permanent pavement over the excavated and disturbed areas, in accordance with the requirements specified, and as directed.

3.04 TEMPORARY FIRE HYDRANTS

- A. Where fire hydrants are bypassed, the Contractor shall furnish, install, maintain and remove temporary hydrants. Temporary fire hydrants must be installed within 50 feet of the existing hydrant it is replacing. Temporary hydrants may be located across the street from the permanent hydrant. A minimum of a 4-inch bypass line, with a 4-inch outlet and valve, shall serve as a temporary hydrant. Temporary hydrants shall meet the approval of the Owner, and shall be set in such a manner that the Fire Department will have no difficulty making a connection with a fire hose, and where they will cause the least obstruction to vehicular and pedestrian traffic, and will be least likely to be damaged. Nozzles shall be threaded for a cap and grooved for a fire hose attachment which meets the requirements of the governing Fire Department. Before permanently shutting off the water main that is to be replaced, the Contractor shall test all temporary hydrants and valves to be sure that they are in proper working order. Once put into use, the temporary

hydrants shall be maintained until the existing hydrants and/or new hydrants are restored to service.

3.05 FIELD QUALITY CONTROL

- A. The Contractor shall be responsible for taking and providing all necessary and required precautionary measures at all times during the installation and removal of the temporary bypass service piping and building service connections, to prevent any contamination of the Owner distribution system, and for the protection of public health and safety. When dechlorinating bypass piping, water discharged from the piping shall be free of residual chlorine in accordance with the latest revision to AWWA Standard C655, Field Dechlorination.
- B. The Contractor shall conform to all federal, state, and local discharge and permitting requirements. The costs associated with the dechlorination and discharge of water (including permitting, if required) shall be borne by the Contractor, at no additional cost to the Owner.
- C. The Contractor shall be responsible for providing labor, materials, and equipment on a twenty-four (24) hour stand-by status to maintain continuous water service to all Owner customers at no additional cost to the Owner. Any service interruptions, whether caused by defective piping, pipe jointing or other components; physical damage by vehicles; vandalism; frost action; or other unforeseen reasons, shall be immediately corrected and repaired so as to restore the temporary service to all Owner customers as soon as possible.

3.06 DISINFECTION

- A. All temporary service pipe shall be disinfected in accordance with Section 02517 “Disinfecting of Water Utility Distribution”.

END OF SECTION

SECTION 02663
WATER SERVICE CONNECTIONS

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Typical Water Service Connection Details are included in Appendix F of this Project Manual. Replace existing lead service lines using trenchless technology in accordance with these details.
- B. Obtain approval from the Owner or Owner's Designee to install the entire new service line, or portions of the new service line, utilizing a method other than a trenchless method. If a service line or portion of the new service line, is installed via open-cut trench due to site conditions, failure of trenchless methods or other approved reasons, payment shall be under Bid Items 1A,1B, 2A, 3A, or 3B, the same as if the service line was installed via trenchless methods including all restoration requirements as specified.
- C. Furnish all labor, materials, equipment, tools, and incidentals required to verify existing service line material, replace water service connections to the limits directed by the Owner and Owner's Designee. Furnish all necessary labor and equipment to replace existing lead service line piping and install new rolled copper tubing, saddles on water mains as required, corporation stops, curb stops, curb boxes, meter pits as required, adapters and fittings of the necessary size required, and restore the street, sidewalk, landscaped areas and any other areas disturbed by construction to their original condition.
- D. Contractor shall make no replacement on the public side of the service line if the public side (corporation to curb stop) is copper or plastic. Replace the private side of the service line if found to be lead, and the Homeowner has signed the Right-of-Entry (ROE) and Replacement Agreement.
- E. The Contractor may encounter different water main pipe materials such as Asbestos Cement, Cast Iron, Ductile Iron, PVC, PCCP, and Steel.
- F. Unless otherwise directed, the new curb stops shall be located 1.0-feet behind the curb line. Contractor shall be responsible for the removal of existing curb stops and/or installation of curb stops in the locations directed by the Owner or Owner's Designee.
- G. Unless otherwise directed, any service line with a diameter less than 1.0 inches in diameter shall be replaced with a 1.0-inch service line.
- H. Any lead service piping removed shall be handled and disposed of in accordance with all local, state and federal laws and regulations.
- I. Replacement work within private property shall be coordinated with the Owner, Owner's Designee, and Customer prior to starting any work.
- J. For service replacements into the building, Contractor is to either bring the new rolled copper tubing by expanding the existing pipe penetration into the building or create a new penetration for the new water service line, as approved by the OWner and Owner's Designee. The water service line shall extend into the building, and either be reconnected to the existing water meter. Water meter configuration shall be horizontal. If any water meter is found to be configured

vertically, Contractor is to notify Owner immediately. If a new water meter is necessary, the Contractor shall notify the Owner immediately, in accordance with Section 15410. The Contractor shall repair and provide a watertight seal of the pipe penetration through the building in accordance with Section 01180, as approved by Owner and Owner's Designee.

- K. Existing water service lines constructed of pipe materials that contain lead or of a pipe material not designed for use in a potable water system shall be considered lead, replaced as such, and paid for under the appropriate associated Bid Item. These materials include but are not limited to brass and black iron.
- L. Maintain an on-site supply of anticipated specialty fittings, including but not limited to tapping saddles, repair clamps, repair sleeves, repair saddles, corporation stops, curb stops, curb boxes, etc., such that the work proceeds without impacting the execution of the work and causing a delay in connecting the service.
- M. Any changes to meter alignment must be first approved by the Owner and must comply with Providence Water Supply Board Rules and Regulations Section 2.1.3.
- N. If at any point the Contractor encounters a leaking service line at an adjacent property to a scheduled service line replacement, Contractor is to notify Owner immediately to determine the appropriate course of action.
- O. Dewatering shall be in accordance with Section 02140. Dewatering cost shall be included in applicable service line replacement Bid Items. If, during the course of work, an existing corporation stop becomes dislodged from the water main for any reason, Contractor shall immediately contact Owner to coordinate shut down of main and repair. Owner's inspector shall be present. The contractor shall be responsible for dewatering the excavation to perform a new water service connection in the dry, all work and dewatering shall be included in the applicable replacement Bid Item.

1.02 RELATED WORK

- A. Special Provisions are included in Section 01170.
- B. Pipe Penetration is included in Section 01180.
- C. Photographic Documentation is included in Section 01322.
- D. Project Record Documents are included in Section 01720.
- E. Trenching, Backfilling, and Compaction are included in Section 02221.
- F. Granular Fill Material is included in Section 02230.
- G. Piping - General Requirements is included in Section 15050.

1.03 SUBMITTALS

- A. Submit, in accordance with Section 01300, and within 10 days after signing the contract a list of materials to be furnished, the name of suppliers and the date of delivery of materials on the job site. Submit means and methods for repairing and sealing pipe penetrations through all types of

building foundations during shop drawing submittals. All proposed means and methods for repairing and sealing pipe penetrations through building foundations shall be reviewed by the Owner and Owner's Designee.

1.04 REFERENCE STANDARDS

A. National Sanitation Foundation (NSF)

1. NSF 61 - Drinking Water System Components Health Effects.

1.05 DELIVERY, STORAGE AND HANDLING

- A. All materials shall be inspected for size, quality, and quantity against approved shop drawings upon delivery.
- B. Delivery schedule of all equipment shall be coordinated with the Contractor. Equipment ready for shipment prior to the agreed upon shipping date shall be stored without cost to the Owner by the manufacturer.
- C. All materials shall be suitably packed for shipment and long-term storage. Each package shall be labeled to indicate the project and the contents of each package. Where applicable, equipment numbers shall be marked on the container.
- D. All equipment shipped that is exposed, such as on a flatbed truck, shall be protected during transit. The equipment shall be protected from moisture, road salt, dirt, stones or other materials thrown up from other vehicles. Electrical components shall be protected as above, but with special attention to moisture. The method of shipment protection shall be defined in the submittals.
- E. All materials shall be stored in a covered dry location off of the ground. When required to protect the materials they shall be stored in a temperature-controlled location.

1.06 QUALITY ASSURANCE

- A. All products and materials provided for potable water service application shall be certified "lead-free," by an ANSI certified, third-party independent organization. The term "lead-free" shall refer to the wetted surface of the pipe, fittings, and fixtures in potable water systems that have a weighted average lead content less than or equal to 0.25 percent per the Safe Drinking Water Act (Sec. 1417) amended in 2020 and other equivalent state regulations.
- B. All products of a given type included in this Section shall be furnished by or through a single manufacturer.
- C. Inspection by the Owner and Owner's Designee's representative or failure to inspect shall not relieve the Contractor of responsibility to provide materials and perform the work in accordance with the Contract Documents.
- D. The piping manufacturer shall furnish an affidavit of compliance certifying that all materials used and work performed complies with the specified requirements. Provide copies of the mill test confirming the type of material used in the various components.

- E. All the types of valves and appurtenances shall be the product of well-established firms who are fully experienced, reputable and qualified in the manufacture of the equipment to be furnished. The equipment shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with this Section as applicable.
- F. The Owner and wreserve the right to sample and test any materials after delivery and to reject all components represented by a sample that fails to comply with the specified requirements.

1.07 WARRANTY:

- A. Warrant the work against defects for two (2) years from the date of Substantial Completion.

PART 2 PRODUCTS

2.01 COPPER SERVICE PIPE

- A. Service pipe shall be soft, annealed seamless rolled copper tubing conforming to ASTM B88 and NSF/ANSI 61 requirements, Type "K" with a maximum working pressure of 200 psi. The name and trademark of the manufacturer shall be stamped along the pipe. Copper tubing shall be a minimum of 1-inch or shall match the existing service connection size if larger than 1-inch. Type "L" copper tubing may be used for interior piping only in accordance with Section 15410.
- B. Tubing for water services over 100 ft. long shall be polyethylene CTS water service tubing (PE 3408) with a 200-psi pressure rating in accordance with AWWA Standard Specification C-901

2.02 FITTINGS

- A. Line fittings, as required on the new service line and if approved by Owner and Owner's Designee, shall be standard three-part unions conforming to AWWA C800. For full-service line replacements from the water main into the building, fittings shall be used only at the corporation and curb stop.
- B. All service fittings shall be in accordance with Appendix G – List of Approved Materials/Manufacturers for Use in the Providence Water Distribution System. Contractors are responsible for contacting Owner to verify their selection of materials prior to starting any construction.
- C. The couplings shall be the "lead-free" brass compression style couplings for use with service piping (tubing), or the polypropylene compression couplings as specified herein. The conventional brass couplings shall be utilized for service connections when the house (building) foundation is less than ten (10) feet from the curb stop location. The polypropylene couplings shall be utilized for service connections when the foundation is greater than ten (10) feet from the curb stop location.

2.03 JOINING OF PIPE

- A. Pipe shall only be joined if approved by the Owner and Owner's Designee.
- B. Compression

1. Rolled copper tubing shall be joined by bronze bodied compression fittings with a synthetic rubber gasket that holds stainless steel gripper band, such as Mueller 110 Compression Connections or equal.

2.04 VALVES AND APPURTENANCES

- A. Valves and appurtenances shall be in accordance with Appendix G – List of Approved Materials/Manufacturers for Use in the Providence Water Distribution System. Contractors are responsible for contacting Owner to verify their selection of materials prior to starting any construction.
- B. All valves for service lines shall open right - clockwise. Valves of the same type shall be identical and from one manufacturer.
- C. Valves shall have the name of the maker, nominal size, flow directional arrows, working pressure for which they are designed and standard to which they are manufactured cast in raised letters on some appropriate part of the body.
- D. Unless otherwise noted, valves shall have a minimum working pressure of 200 psi and suitable for the pressures noted where they are installed.
- E. Valves shall be of the same nominal diameter as the pipe or fittings they are connected to. Except as otherwise noted, joints shall be compression joints for copper tubing.
- F. Valves shall be specially constructed for buried service.

2.05 CORPORATION STOP ASSEMBLIES

- A. Corporation stops shall be lead-free meeting all NSF lead-free requirements, shall be compliant with ASTM B62 and AWWA C800. Corporation stops for service connections shall not be less than 3/4-inch in diameter. Corporation stops shall be the same size as the service unless otherwise directed by the Owner and Owner's Designee. Corporation stops shall be rated at 200 psi working pressure.
- B. Corporation Stops shall be from manufacturers in accordance with Appendix G – List of Approved Materials/Manufacturers for Use in the Providence Water Distribution System. Contractors are responsible for contacting Owner to verify their selection of materials prior to starting any construction.
- C. The inlet thread of all corporation stops shall be AWWA Standard CC inlet thread for their respective sizes. The outlet of all corporation stops shall be provided with compression couplings for type "K" copper service pipe for their respective sizes.
- D. New corporation stops shall be installed in the same location as the existing. The existing corporation stop shall be removed from the main using the tapping machine with the extraction tool and the new stop shall be installed after drilling for the larger corporation.

2.06 CURB STOP ASSEMBLIES

- A. Curb stops shall be from manufacturers in accordance with Appendix G – List of Approved Materials/Manufacturers for Use in the Providence Water Distribution System. Contractors are

responsible for contacting Owner to verify their selection of materials prior to starting any construction.

- B. Curb stops shall be manufactured in accordance with AWWA Standard C800 and shall be "Lead-Free" as defined for lead-free brass alloys in accordance with the ANSI/NSF- 60 and ANSI/NSF-61 standards for components in contact with potable water. These products shall have the letters "NL" or "LF" cast into the main body of curb stop for proper identification.
- C. Curb stops shall be ball valve type with combined cap and tee and shall be provided with a positive stop at fully open and fully closed.
- D. The inlet and outlet ends of the curb stops shall be provided with compression couplings for Type "K" copper service pipe for their respective sizes.
- E. The curb stops to be furnished under these specifications shall "OPEN TO THE RIGHT - CLOCKWISE."

2.07 CURB BOXES

- A. Curb boxes shall be installed for all new curb stops. Curb boxes shall be compatible with approved curb stop.
- B. Curb boxes shall be from manufacturers in accordance with Appendix G – List of Approved Materials/Manufacturers for Use in the Providence Water Distribution System. Contractors are responsible for contacting Owner to verify their selection of materials prior to starting any construction. Lid shall be inscribed with "WATER". Box extension shall be 50.5-inches to 60-inches fully extended or shall be sized to fit actual service depth.
 - 1. Curb boxes for ¾ and 1" services shall be Erie style type boxes with an arch or bell bottom and shall be so constructed as to permit the total length of the box to be adjusted from not less than 4 ½ feet to 5 ½ feet.
 - 2. The upper section of the box shall not be less than one (1) inch in diameter and provided with a suitable and removable cover. The covers for all curb boxes shall be screwed to top section, have a bronze pentagon plug, and have the word "Water" cast into them.
 - 3. The boxes shall be constructed so as to prevent the separation of the upper section from the lower section and to prevent the upper section from turning when removing the lid.
 - 4. The boxes shall be furnished with stationary rods extending up into the upper section to allow the use of a short wrench. The rod shall be stainless steel not less than 5/8 of an inch in diameter, the upper end of which shall be shaped to receive a curb stop operating wrench. The lower end of the rod shall be provided with a malleable iron fork to fit standard curb stop operating keys. A suitable pin shall be furnished to attach the rod to the key.
 - 5. The boxes shall be coated both inside and outside with the manufacturer's standard paint or enamel.
 - 6. The service box covers are to be furnished with a plug cover.
 - 7. Curb boxes for 1-1/2 inch and 2-inch curb stops shall be constructed of a cast iron two section roadway style box and shall have a 4-1/2 inch cover with the word "Water" cast into them, with an arched bell and foot bottom section. Curb stops shall be placed on a bedding of crushed stone to provide adequate drainage with suitable blocking on each side of the pipe to support the curb box bottom. At no time should the service box bottom rest

or contact the service piping. Boxes shall be adjustable for a maximum burial depth of 5.5 feet.

8. One curb box key of appropriate size shall be provided for every 100 services installed of that size.

2.08 TAPPING SADDLES

- A. Service saddles shall be utilized for all connections to asbestos-cement (transite) pipe and for 1-1/2" and 2" connections on all other pipe. Service saddles, which are to be furnished and installed by the Contractor under these specifications, shall be constructed of Epoxy Coated Ductile Iron with a body curvature designed to fit pipes accurately with a broad pressure activated gasket to provide uniform sealing pressure. Service saddles shall have double straps.
- B. Shall be compatible with approved corporation stops.
- C. The saddle clamp must be furnished with a tapped outlet with full length threads that meet AWWA Standards for corporation stops and shall be from manufacturers on the latest revision of the "List of Approved Materials / Manufacturers for use in the Providence Water Distribution System", or approved substitutes.
- D. The saddle's double straps, bolts, nuts and washers shall be 18-8 stainless steel with all welds passivated for resistance to corrosion. The combined strap width shall be 3-1/4" wide to provide a wide stance on the pipe.
- E. A neoprene or virgin rubber gasket must be bonded into a cavity in the saddle body to provide a pressure tight seal on a water main.
- F. Tapping Saddles for 1-inch services shall only be used if approved or directed by the Owner and Owner's Designee. Tapping saddles shall be compatible with approved corporation stops.

2.09 SERVICE TAP REPAIRS

- A. Repair saddle for broken or leaking tap shall be from a single manufacturer on the List of Approved Materials/Manufacturers in Appendix G.
- B. Abandon Corporation Cap for the abandonment of a water service corporation shall be from a single manufacturer on the List of Approved Materials/Manufacturers in Appendix G.

2.10 FILTERS

- A. The filters shall be NSF 53 certified to remove lead under the certification at the time of bid. The filter shall be:
 1. Pitcher filter with replacement cartridges - both the filter and the replacement cartridges shall be certified to the NSF 53 standard for lead.
- B. Pitcher filters with three (3) replacement cartridges will be provided by the Owner to each unit in a household following replacements along with instructions for use.

PART 3 INSTALLATION

3.01 WATER SERVICE INSTALLATION

- A. Lead service line replacement, testing, and flushing shall be in strict accordance with AWWA C810, latest edition. Water service to the interior plumbing of the building must be shut off before any excavation, or test pits are commenced.
- B. If any portion of the service line is lead, it shall be replaced as a whole, no partial replacements will be allowed without approval from the Owner/Owner's Designee.
- C. Unless otherwise approved or directed by the Owner or Owner's Designee, all work shall be performed with water mains live and in service as specified in Section 01170.
- D. If and when required, the Contractor shall also install additional interior plumbing equipment as part of the overall interior private service replacement work. This work will consist of the installation of new pressure reducing valve before the water meter, and the installation of a new expansion tank. This work will also include all appurtenant interior copper piping and fittings required for the completed equipment installations. All materials and installations shall be in accordance with Owner specifications and/or the local plumbing code.
- E. All service connections shall be installed as shown in Detail No. 1 and shall have a minimum of 4.5 feet of cover unless approved by the Owner's Designee or Owner. Any new service connection that is not installed in the same location as the existing service and is installed in a new location must not be laid in the same trench as other utilities (i.e., gas, electric, sewer).
- F. Care shall be exercised when either pulling or placing and laying copper tubing to be sure that the pipe does not have kinks or sharp bends and to assure against it being in contact with sharp stones or ledge which would cause damage to the pipe. At least 6-inches of sand shall be placed adjacent to and above the service line in open cut locations.
- G. New corporation stops shall be installed at each service and shall be the same size as the new service line diameter. Extract and remove existing corporation stop with an extraction tool and install the new corporation stop matching diameter of new service, in the same penetration unless otherwise approved or directed by the Owner or Owner's Designee. If existing corporation stop location cannot be reused, notify the Owner or Owner's Designee and install a new tap a minimum of 1 ft from the existing tap and 18 inches away from a water main joint. The existing corporation shall be shutoff in a permanent manner, capped/plugged (wood plug with stainless steel strap), abandon Corporation cap, or other approved manner and abandoned. Corporation extraction and installation, direct tapping, repairing, relocation, capping/plugging, and abandonment shall be at no additional cost to the Owner. Rolled copper tubing, curb stops, and necessary adapters and fittings shall be used to make connections between new corporation stops and new and existing service piping.
- H. All valves shall be closed and kept closed until otherwise directed by the Owner or Owner's Designee.
- I. During installation of all valves and appurtenances, verify that all items are clean, free of defects in material and workmanship and function properly.

- J. Buried valves shall be cleaned and manually operated to verify that all items are clean, free of defects in material and workmanship and function properly before installation. Buried valves and valve boxes shall be set with the stem vertically aligned in the center of the valve box. Valves shall be set on a firm foundation and supported by tamping pipe bedding material under the sides of the valve. The valve box shall be supported during backfilling and maintained in vertical alignment with the top flush with finish grade.
- K. The drilling and tapping machine shall be rigidly fastened to the pipe. The length of travel of the tap should be so established that when the stop is inserted and tightened per manufacturer recommendations so that no more than one to three threads will be exposed on the outside. When a wet tapping machine is used, the corporation stops shall be inserted with the machine while it is still in place. Corporation stops shall be tightened only sufficiently to give water tightness, and care must be constantly exercised not to overtighten them.
- L. Water service lines shall be installed with a minimum vertical separation distance of 12 inches at all sewer and stormwater utility crossings. Where possible, water service lines shall be installed above sewer utilities in accordance with the applicable State Plumbing Code.
- M. Curb stops will, unless otherwise directed, be installed 1.5-feet from the curb line or pavement limit. Contractor shall be responsible for the removal of existing curb stops and/or installation of curb stops in the locations directed by the Owner or Owner's Designee. Install the curb stops and boxes in a workmanlike manner as described herein and as directed by the Owner or Owner's Designee and place compacted pea gravel around and below the stop to permit ready draining of the pipe through the waste opening.
 - 1. Curb Boxes shall be set center and plum over curb stops.
 - 2. Set curb box flush with finished grade, except when located in the roadway. If curb box is within a roadway the box shall be set ½-inch below finished grade.

3.02 DISINFECTION, FLUSHING, AND LEAK TESTING

- A. Disinfection
 - 1. Before the piping, curb valve and fittings are installed, they shall be disinfected in accordance with AWWA Standard C651. Chlorine used for disinfection shall be NSF 60 certified for potable water use.
 - 2. A 50% chlorine solution shall be applied directly to the surfaces of the corporation stop, service piping, curb valve and fittings. The chlorine solution may be applied with suitable brushes or spraying devices. The solution shall thoroughly coat all surfaces to be treated.
- B. Flushing and Leak Testing
 - 1. When the service line has been installed, prior to backfilling of the access pits or trenches and connecting the customer service, the ball valve shall be closed, and the Contractor shall open the corporation at the water main connection to perform a preliminary flushing and cleaning of the new service piping prior to connection to the existing private-side service piping.
 - 2. After all air is expelled, a visual leakage test is to be conducted on all exposed unions and connections. Test all pipelines for water tightness as specified herein at system pressure. Furnish all labor, testing plugs or caps, pipe connections, gauges and all other equipment required. Testing shall be performed after the line has been constructed in the presence of the Owner's Designee or the Owner's representative, and no backfilling of the access pits or trenches will be permitted until the leakage testing is satisfactorily completed.

3. Whereupon the final connection of the new service to the existing private service piping is completed, and the water service is activated, the Contractor will perform a final flushing of the overall service line utilizing the exterior faucet/hose bib of the house or building. The final flushing shall be performed by installing a jumper before water meter or other methods approved by Owner or Owner's Designee, and shall be performed for a minimum period of fifteen (15) minutes (or in accordance with the latest recommendation in AWWA C810), whichever is greater. If an exterior faucet is not available, or is inoperable, and a final flush cannot be performed, the Contractor shall deliver and place a "red" door-hanger notice, as provided by the Owner, at the home (building). This notice will advise the homeowner and/or resident to flush their internal plumbing.
 4. When the flush is complete, the final connection shall be made to the water meter and final visual leakage test under "system pressure" will commence for 10 minutes and be observed by Owner or Owner's Designee. Repair faulty joints or remove any cracked or defective piping, valves, and fittings and replace as approved by the Owner or Owner's Designee. Retest until water service line passes.
- C. The contractor must coordinate with Owner before removing a lead water service from the bypass and shall notify Owner 24 hours prior to the final connection and activation of a new service line connection to an existing lead private side pipe.
- D. Partial Replacements
1. If, for any reason, a part of a lead service line cannot be replaced but has been disturbed in any manner, a thirty (30) minute flush of the service line is to be performed. The Contractor shall inform Owner and Owner's Designee immediately if such a situation arises.
 - a. Flushing shall be performed by installing jumper before water meter or other methods approved by Owner and Owner's Designee.
- E. Flushing Instructions
1. Post-replacement customer flushing instructions shall be left with Customer. These instructions will be distributed by the Owner.

END OF SECTION

SECTION 02760
CLEANING AND LINING WATER MAINS

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required for cleaning and cement lining in place existing water mains, and all incidental and related work, as shown on the Drawings and as specified herein.
- B. The work to be done, without limiting the generality thereof, shall be as follows:
 - 1. Install, connect, and remove all temporary service pipe required to maintain to all water service to all existing building service connections.
 - 2. Excavate and backfill all pits and trenches necessary for pipe removal. Sheet, brace and deck trenches as necessary for safety.
 - 3. Make all necessary pipe openings for pipeline television inspection and cleaning and lining. Maintain adequate cover on open pipe and replace pipe.
 - 4. Removing all valves, fittings, or other pipe obstructions to complete the lining work.
 - 5. Clean and cement-line pipe. The method of cleaning the existing water mains will be the dragline method only.
 - 6. Clear service connections.
 - 7. Chlorinate pipeline.
 - 8. Restore all excavated surfaces.
- C. All work shall be in accordance with AWWA C602, or insofar as they apply unless otherwise specified. Cement mortar and admixtures must comply with ANSI/NSF-61.
- D. All excavations within the rights-of-way of public streets shall be sheeted. The cost of sheeting shall be in the unit price for cleaning and cement mortar lining.

1.02 RELATED WORK

- A. Rock and Boulder Excavation is included in Section 02213.
- B. Trenching, Backfilling and Compaction is included in Section 02221.
- C. Disinfecting Water Utility Distribution is included in Section 02517
- D. Ductile Pipe and Fittings is included in Section 02616.
- E. Valves and Appurtenances are included in Section 02640.

F. Television Inspection is included in Section 02651.

G. Temporary Services are included in Section 02656.

1.03 SUBMITTALS

A. Make submittals for the cleaning and lining procedure including equipment and the approach for disinfection of the pipe.

1.03 PIPE OPENINGS

A. Make all openings in the existing pipe line as necessary to carry on the work. Such openings shall include the openings required to replace mainline and sideline valves, openings for access to the pipeline and additional openings in the pipeline at any other location approved by the Owner and Owner's Designee.

B. Openings in the existing pipeline shall be made with a power-driven metal-cutting saw designed for the purpose and guided by a circular track secured to the outside circumference of the pipeline to assure a continuously uniform and closing cut. The opening cuts shall be "square" - in a plane exactly perpendicular to the axis of the pipe section cut. The use of "squeeze type" or "chain type" cutters will not be allowed.

C. Once the pipe is open, keep the open ends covered and plugged as directed by the Owner and Owner's Designee to prevent any run-off or other foreign matter from entering into it until such time that it is again closed.

D. Solid sleeve type couplings and connecting pieces shall be dual purpose ductile iron mechanical joint solid sleeves, and shall be manufactured by U.S. Pipe, or equal. Couplings shall be furnished with bolts, nuts, gaskets and glands. Gaskets shall be of a material suitable for exposure to liquid within the pipe. Dual purpose sleeves and gaskets shall be provided for connecting to cast iron pipe of the same nominal size but with different outside diameters.

E. Pipe closures shall be made using Dresser, Style 38 or 138 couplings, similar to Rockwell International, as required, for cast-iron pipe or equal. After installation, couplings shall be cleaned, dried and given a coat of "Bitumastic 50" by Carboline Co., or equal.

1.05 OBSTRUCTIONS

A. Notify the Owner and Owner's Designee of any obstruction before proceeding with the necessary excavations and all other related work.

B. Multiple pipe fittings within a distance of 15-ft or less will be considered to be one single obstruction. Corporation stops will not be considered obstructions.

C. Inspect all existing records on the existing pipe prior to lining. There will be no claim for delays. Bends or other restricting specials or physical parts or objects not anticipated shall not be considered "obstructions" for the purpose of payment unless the Owner's Designee/Owner

certifies in writing that such are not indicated on department records of such mains included hereunder or are not apparent from visual inspection.

1.06 GUARANTEE OF CEMENT-MORTAR LINING

- A. Guarantee all materials and workmanship furnished under this Contract against deterioration and failure for a period of 1 year after final acceptance of the work. Any deteriorated cement-mortar lining shall be repaired by patching or by removal and replacement as may be deemed necessary by the Owner and Owner's Designee. Repairs or replacement shall include removal of defective lining, cleaning of the pipes, cutting and repairing or replacing access openings and all incidental work. Repair work shall be in conformity with this Section and at the sole expense of the Contractor.
- B. Restore all cleaned and cement-mortar-lined water mains to the following coefficients "C" in Hazen-Williams formula, all based on nominal pipe diameters with proper allowance being made for bends and fittings in accordance with accepted practice:

<u>Nominal Pipe Diameter</u>	<u>Guaranteed Coefficient "C"</u> <u>Hazen-Williams Formula</u>
4- to 12-inch	130-140

- C. After the mains under this Contract have been cleaned and cement-mortar-lined, the Owner and Owner's Designee may require the Contractor to retain an independent firm to conduct loss of head tests to determine coefficient "C" in the Hazen-Williams formula.
- D. If, in any section of cleaned and lined water main, the coefficient "C" as determined by the loss-of-head tests fails to meet the guaranteed figure, the unit price bid for cleaning and cement mortar lining that size pipe will be reduced as follows:
 - 1. For drop of five points or fraction thereof below the guaranteed coefficient there will be no reduction in price.
 - 2. For the next ten points drop in excess of five points below the guaranteed coefficient, the unit price shall be reduced by 1 percent per point.
 - 3. For a drop in excess of fifteen points below the guaranteed coefficient, the Owner and Owner's Designee will decide whether a further reduction in payment of 2 percent per point below fifteen points will be made, or if the cement-mortar-lining shall be removed and the water main properly cement-mortar-lined again at no additional cost to the Owner.
- E. For the purpose of establishing "C" coefficient on such mains where it is not practicable to carry the loss-of-head test through the full extent of the cleaned and cement-mortar-lined main, the several sections thereof shall be tested and the weighted average coefficient "C" from test of such portions shall be considered to be acceptable for the whole of the cleaned and cement-mortar-lined main.
- F. Take all necessary steps to attain the required coefficient before deductions, if any, will be determined.

- G. All tests for establishing the coefficient "C" for water mains cleaned and cement-mortar-lined under this Contract shall be completed prior to final acceptance of this job.

PART 2 PRODUCTS

2.01 CEMENT MORTAR LINING

- A. As soon as practicable after a section of pipeline has been cleaned and approved by the Owner, cement-mortar-lining shall be applied to the interior of the pipeline. The cement-mortar-lining shall be continuous, dense and of uniform quality. The lining thickness of mains 4- to 10-inch in diameter shall be 1/8-inch, with an allowable plus tolerance of 1/8-inch. The lining thickness of mains 12-inch shall be 3/16-inch, with an allowable plus tolerance of 1/8-inch. No minus tolerances in the cement-mortar lining thickness specified will be permitted.
- B. Cement-mortar shall be the proportion of one part of cement and one to one and one-half parts of screened sand by volume: the exact proportion shall be designed to produce the most satisfactory mortar with the sand to be used. Shovel measurement shall not be used.
- C. Unless otherwise permitted, cement used in the mortar mix shall be portland cement.
- D. The water cement ratio shall be maintained at a minimum and shall be carefully controlled at all times. The use of mortar which has attained its initial set prior to being applied to the pipe will not be allowed. Cement, sand and water shall be mixed by machine for not less than 3 minutes to obtain proper plasticity before being applied to the inside surface of the pipe.
- E. No admixture shall be added to the cement-mortar unless specifically permitted by the Owner and Owner's Designee.
- F. Portland cement shall meet the requirements of ASTM C150, Type II and shall, if deemed necessary by the Owner and Owner's Designee, be passed through a 16-mesh screen before incorporation into the mortar.
- G. Cement mortar lining shall be tested for strength evaluation and absorption quality. The minimum allowable strength of the cement lining shall be 5000 psi at 28 days.
- H. Sand shall be clean, sharp, well-graded, with no organic impurities and shall meet the requirements of ASTM C144 as to quality and shall be graded within the following limits, depending on whether natural sand or manufactured sand is used. Two, 100 lb bags of sand proposed for this project shall be delivered to the Owner and Owner's Designee for a sieve analysis prior to use on this job. No lining will be allowed until the Owner and Owner's Designee is satisfied that the proposed sand meets all requirements specified herein. Once the sand is shipped to the job site, the Owner and Owner's Designee may take random samples of the sand for additional testing. If two randomly selected 100 lb bags, selected at the job site for further testing fail to meet the requirements stated herein, all sand shipped to the site shall be rejected at no additional cost to the Owner. The Owner and Owner's Designee will not allow any water mains to be taken out of service until the requirements for sand are approved.

<u>Sieve</u>	<u>Percent Passing</u>	
	<u>Natural Sand</u>	<u>Manufactured Sand</u>
4	100	100

8	95 to 100	95 - 100
16	70 to 100	70 - 100
30	40 to 75	40 - 75
50	10 to 35	20 - 40
100	2 to 15	10 - 25
200	-	0 - 10

- I. Not more than 60 percent of the sand shall be retained between any two consecutive sieves and not more than 25 percent retained between the No. 50 and the No. 100 sieves.
- J. The fineness modulus of the sand shall be 2.25 plus/minus 0.20.
- K. Field mixing of sand will not be permitted.
- L. Water shall be clean and free from injurious ingredients. A testable backflow preventer shall be utilized at the location where the Contractor is granted access to the Owner's water supply for construction purposes.

PART 3 EXECUTION

3.01 ACCESS PITS FOR CLEANING AND LINING

- A. The Contractor shall open the water main at each end of the section to be cleaned and lined, at all main line valves, bends, fittings, and obstructions shown on the Plans or identified by the Owner and Owner's Designee, and at other locations to install new valves or relocate existing valves, and as necessary to permit satisfactory cleaning and lining. Additional openings may be required due to obstructions that prevent the passage of cleaning and lining equipment; payment for the removal of obstructions shall be made as defined in Section 01025 Measurement and Payment.
- B. Prior to construction, a plan showing all proposed access pit locations shall be submitted to the Owner and Owner's Designee for review and approval.
- C. Openings in the pipes shall be made by guillotine saw cuts, with an approved power-operated pipe cutter, removing existing couplings or other approved methods for cutting the pipe square and true by hand or machine. Any material not reused shall become property of the Contractor and shall be disposed of by the Contractor to a site approved by the Owner.
- D. At openings adjacent to sections under pressure or in service, the Contractor shall install adequate blocking to prevent movement during the time the pipe is open. The Contractor shall be responsible for the design and adequacy of all blocking required and the design of the blocking shall be submitted to the Owner and Owner's Designee for review. The Contractor shall include in his unit prices, the cost of all access openings, especially in locations at or adjacent to valves and water main intersections; hand cleaning and lining; and bracing of existing or replaced valves as may be required to facilitate cleaning and lining of all portions of a main to the limits shown on the Plans. Additional new valves shall be added to the pipeline as shown on the Plans and elsewhere as required by the Owner and Owner's Designee.

3.02 DEWATERING PIPELINES

- A. Dewater all pipeline prior to the state of the cleaning, lining, and such other work; drain all spots; plug and close all services; close valves or otherwise isolate work areas. The Contractor shall be responsible for taking all necessary precautions to prevent the possibility of any water entering the sections where men are working.
- B. Bulkheads shall be installed at the terminals of the dewatered sections. Water shall be disposed on in a maner and to a location meeting the approval of the Owner's Designee and Owner.
- C. The Owner makes no warranty as the completeness of the water shutdowns from open pipes during the work. It is the Contractor's responsibility to provide an adequate number and proper type of pump(s) to dewater the excavations to perform the work. There will be no extra payment to the Contractor for delays as a result of inadequate dewatering.

3.03 CLEANING

- A. Cleaning shall be by the dragline method only. All rust, tubercles, deposits, old coating and other foreign materials shall be removed from the inside of the pipe, leaving the surface satisfactory for the application of cement-mortar-lining. Several passages of the cleaning machine through the pipe shall be made, if required, to produce the specified results. The metal surface shall be free from deposits or residue, which could prevent the bonding of the cement-mortar-lining. If necessary, the interior of the pipe shall be washed or wiped clean. The materials scrapped from the pipe shall be removed from the site at the end of each working day and shall be disposed of properly.
- B. Each section being cleaned shall be flushed with water during the progress of the cleaning. Dry cleaning will not be permitted. Furnish cable sheaves or blocks, adequately secured, to avoid contact between the cable and pipe wall, to prevent scoring or grooving the pipe by the cable. Any damage to pipe or fittings resulting from failure to meet this requirement shall be removed and replaced by the Contractor, at his/her expense, with new pipeline materials as directed by the Owner and Owner's Designee and subject to approval. Any replacement work shall be tested to withstand the severest operating conditions of the existing pipeline.
- C. Take precautions to prevent obstruction of any lateral, hydrant, or service connection by deposit of cleaning debris. If requested by the Owner and Owner's Designee, backflush all laterals, hydrants and service connections after cleaning. Restore such connections to normal service condition at own expense.
- D. When side-line valves on lateral water mains adjacent to the section being worked cannot be tightly shut off by the Owner, the Owner and Owner's Designee may direct to replace the existing side-line valve at the unit price agreed upon in the Bid Form. The Owner and Owner's Designee may direct to cut and drain the lateral adjacent to main pipeline as follows. Excavate a pit around the lateral main, off the main street and in the side street, saw a clean square cut into the bottom of the main and pump away the sideline leakage that would interfere with proper application and curing of the cement mortar lining.
- E. After review and approval by the Owner and Owner's Designee, dispose of cleaning water and the residue from cleaning the mains. Furnish effective means for settling particulate matter from sediment-bearing effluents produced by the pipeline cleaning. No pipeline cleaning effluents shall be released to existing drainage systems or waterways without being passed through an effective sedimentation tank, or other suitable device, or temporary basin furnished. Examine the locations where cuts are to be made and make adequate preparations to avoid the flooding of

streets and adjacent structures or private property. Precaution shall be taken to prevent cleaning wastes from being deposited in drains, sewers, or waterways. Immediately following cleaning, the street and affected areas shall be hosed and swept clean.

- F. Any short runs of pipe or the interiors of fittings, cleaned by a method or equipment other than that employed for cleaning main-line sections of the pipeline shall be cleaned to the same standard as specified under Paragraph 3.01A above.
- G. Dispose of waste materials generated in the process of cleaning the mains in an approved manner. Satisfactory method of disposal of wastes materials shall conform to the following specific requirements of the contract and shall also include taking such other measures necessary for the safety of the public and the avoidance of visual or physical nuisance conditions created by solid, liquid, or semi-solid waste discharges or storage volumes. The specific requirements (which, by themselves, may not include all measures necessary to accomplish the required results) include the following:
 - 1. It is understood that only the "drag" method of cleaning shall be used on this project (except where hand-cleaning is required) and that the "hydraulic" method shall not be used. Accordingly there shall be no discharges of hydraulically-suspended pipe-cleaning sediments.
 - 2. The water drained from the mains shall be discharged or pumped to storm drains and not to sanitary sewers.
 - 3. All solid, particulate, or semi-solid material scraped from the mains by the "drag" cleaning process shall be confined so they are not eroded by rainfall and runoff and shall be trucked away to a landfill disposal site or ad daily basis as they are generated.

3.04 OBSTRUCTIONS

- A. Horizontal or vertical pipe bends, or other physical obstructions, within the pipelines, that will not permit the passage of pipe cleaning or cement-mortar lining devices, and which are not shown on the Drawings or other plans made available to the Contractor; or are not made known to the Contractor prior to the pipe cleaning operations along the respective pipe sections; are not obviously implied by the layout on the drawings, will be considered as "Obstructions" for the purpose of payment. When an obstruction is encountered in the pipe cleaning operation that will not permit the passage of the pipe cleaning or lining equipment, the Contractor shall provide all work necessary to permit the satisfactory passage of the equipment, as directed by the Owner and Owner's Designee, and said work will be paid for in the manner specified as unforeseen additional work in the Bid Form and Measurement and Payment. After pipe cleaning and before lining, the Contractor shall run a "prover" through the pipeline sections to determine if there are any obstructions that would not permit passage of the equipment.

3.04 PLACING CEMENT-MORTAR LININGS

- A. Cement-mortar-lining shall be placed by machine having the following features:
 - 1. An applicator head that will centrifugally project the mortar against the wall of the pipe at a higher velocity in such a manner as to produce a dense mortar lining of uniform thickness.

2. An attachment with rotating or drag steel trowels following the applicator head troweling the cement-mortar-lining to a smooth, hard surface of uniform thickness. The trowels shall be cleaned at frequent intervals to prevent accumulated mortar from obtaining initial set and drawing a sanded unglazed finish. The operation of the trowels shall be continuous ring the application of cement-mortar and forward movement of the applicator head.
 3. The machine shall move ahead of the lining so that nothing will come in contact with the troweled surface until it has attained its final set. Control of the forward movement of the machine and of the mechanical placing of the mortar shall be provided to assure a uniform thickness of mortar lining as specified above.
- B. Sections of the pipeline that have an access opening at one end of the section only (e.g. where there is a valve closed against an active section of the pipeline at the opposite end) shall be lined by machine for the maximum distance mechanically possible and the remaining distance shall be lined by hand placing of mortar.
 - C. All waste material, spatter and mortar of improper consistency such as may result from starting or stopping the machine, shall be removed from the pipe ahead of the trowels. Only mortar of suitable consistency and which adheres firmly to the pipe shall be troweled finally to form the finished lining. Where in limited areas, the machine fails to produce a smooth finish, free from trowel marks and imperfections, hand troweling may be used to correct the imperfections. Hand troweling, if allowed, shall be done as soon as possible after the application of the machine lining. Freshly mixed mortar of approved consistency shall be used to fill voids.
 - D. Mortar may be applied by hand to sections of pipe used to close access openings in mains.
 - E. Any leakage into the main line that would adversely affect the placement and/or curing of the mortar shall not be permitted.
 - F. If any section of lining shows evidence of failure, lack of adherence to the pipe wall, non-homogenous coating, undue irregularity or inferior workmanship, or requires excessive patching, or shows segregation or deficiency in cement content, remove the faulty section, re-clean the pipe and reline in accordance with this Section.
 - G. Mortar lining applied by hand shall be placed and finished to the same standard of quality as is attained by machine placing and troweling of the cement-mortar-lining.

3.05 CURING

- A. Immediately upon the completion of the lining of a length of pipe between access openings or at the end of a day's run, that section of pipe shall be closed at each end and the access openings covered to prevent the circulation of air. As soon as practicable after the placing of the lining, a sufficient amount of water shall be introduced into the section between bulkheads or valves to create a moist atmosphere and keep the lining damp. The Contractor shall be responsible for the proper curing of the cement mortar linings.

3.06 CONNECTIONS AND APPURTENANCES

- A. After placing the lining in mains, all valves, laterals, appurtenances and service lines shall be cleared of mortar or other materials deposited during the lining operations. If service lines are cleared by means of compressed air applied at the service line meter connection, blow back shall

be done before initial set has occurred in the cement-mortar applied to the pipe. Compressed air pressure for blow-back operations shall be regulated to produce a clear service opening and prevent dislodging or blistering of cement-mortar-lining in the main. Compressed air lines for cleaning out the services shall be installed in each building when the temporary service connections are installed.

- B. If a different method is proposed other than the use of compressed air for cleaning service lines, etc, of mortar or other materials, such method shall be subject to the approval of the Owner and Owner's Designee.
- C. After placement of the mortar lining is completed, the completed sections shall be filled with water and chlorinated as soon as possible so the mortar lining cures under water. The completed main shall overflow through hydrants and not be brought to service pressure until the adjacent valves are adequately blocked by completed pipe closures.

3.07 PROTECTION OF LINING

- A. Should the finished lining be damaged through negligence, or reveal evidence of defective work or materials at any time previous to the completion of this Contract, such damage or defective portions shall be removed to the extent directed and replaced to the full satisfaction of the Owner and Owner's Designee.

3.08 INSPECTIONS

- A. The thickness of the cement-mortar lining for various pipe diameters shall be checked at each entrance/exit pit by the Contractor and Owner and other inspection points as directed by the Owner. If the cement mortar lining is found to be defective at any random inspection point, the Owner may require the Contractor to provide additional inspection pits to determine the extent of the defective lining and the Contractor shall repair the cement mortar lining at no expense to the Owner. The Contractor shall make the necessary excavations, at location as directed, cut out a three-foot section of cleaned and cement lined pipe for visual inspection, path the lining as required at pipe pits, reinsert the pipe section with approved couplings as specified in Section 02616 and/or, with the approval of the Owner's Designee or Owner, the Contractor shall repair the pipe coupon/sample cut out with a new lined segment of ductile iron pipe at no expense to the Owner. The inspection location shall be backfilled with the specified pipe bedding and cover, and the inspection pit shall be restored. No separate payment will be made for inspection pit and related work.

3.08 CLEANING AND CHLORINATING INSIDE OF PIPE

- A. All reasonable precautions shall be taken to prevent contamination of the interior of the pipelines by water from excavations and otherwise. Upon completion of the work and before chlorinating, all fragments of mortar and other debris shall be removed so that the pipeline is clean and ready for use in all respects pending the application of Chlorine.
- B. Upon completion of all cleaning and lining operations in a section of pipe line and after the work has been approved by the Owner and Owner's Designee, chlorinate the interior of the completed section in accordance with AWWA C651 and Section 02517 – Disinfecting of Water Utility Distribution. All materials, equipment, labor and chlorine shall be furnished by the Contractor. The entire procedure of chlorinating the pipes shall be discussed in advance of the time the work is to be done and the methods employed shall be fully satisfactory to the Owner

and Owner's Designee and Water Works Department as they relate to the Contract as a whole and to the operation of the distribution system.

- C. In general, the procedure of chlorinating the main shall be to apply the chlorine in approved dosage through a tap in one end of the section while drawing water from or near the other end of the section, at which location the rate of flow may be approximated. The chlorine solution shall be allowed to remain in the pipe for at least 24 hours and the section shall be thoroughly flushed out before being placed in use. Special procedures may be outlined by the Owner and Owner's Designee where the above outlined method is not practicable. The entire procedure of chlorinating the mains shall be such as to prevent flows of water from a section exposed to possible contamination to a section of pipe which has been completed and chlorinated. Should such water from a contaminated section be allowed to enter a previously chlorinate section as a result of negligence or through necessity caused by failure to properly schedule the work, the section or sections of pipe thus affected shall be rechlorinated at the Contractor's own expense. Any temporary connection to the mains or other facilities required to accomplish the chlorination as just described shall be at the Contractor's expense.
- D. Prior to returning the main to service, the Owner will have the water tested after chlorination to determine if it is contaminated. In the event the water is contaminated, rechlorinate and/or perform all work necessary to make the main acceptable. No claims shall be made for such delays. No additional payment will be made for rechlorination and/or any other work required to make the main acceptable.

3.09 LEAKAGE

- A. If any leaks occur in the water mains at locations where sections have been removed for access and later replaced, or if leaks occur at any other locations which are directly attributable to the operations in the cleaning and lining of mains, at the Contractor's own expense, uncover and satisfactorily repair such leaks before the contract is declared completed and is finally accepted.

END OF SECTION

SECTION 02901
MISCELLANEOUS WORK AND CLEANUP

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to do the miscellaneous work not specified in other sections but obviously necessary for the proper completion of the work as shown on the Drawings.
- B. When applicable the Contractor will perform the work in accordance with other sections of this Specification. When no applicable specification exists, perform the work in accordance with the best modern practice and/or as directed by the Engineer.
- C. The work of this Section includes, but is not limited to, the following:
 - 1. Crossing and Relocating Existing Utilities
 - 2. Abandonment of Existing Water Main
 - 3. Restoring of Driveways, Fences and Curbing
 - 4. Cleaning Up
 - 5. Incidental Work
 - 6. Restoring Easements and Rights-of-Way
 - 7. Restoring Traffic Loops, if disturbed

PART 2 PRODUCTS

2.01 MATERIALS

- A. Materials required for this Section shall be the same quality of materials that are to be restored. Where possible, re-use of existing materials that are removed.

PART 3 EXECUTION

3.01 CROSSING AND RELOCATING EXISTING UTILITIES

- A. This item includes any extra work required in crossing culverts, water courses including brooks and drainage ditches, drains, gas mains, water main, water services, sewers, sewer services and other utilities. This work shall include but is not limited to the following: bracing, hand excavation and backfill (except screened gravel), proper replacement of a section of the utility and any other work required for crossing the utility or obstruction not included for payment in other items of this specification. Notification of Utility Companies shall be as specified in Section 01046.

- B. In locations where existing utilities cannot be crossed without interfering with the construction of the work as shown on the Drawings, remove and relocate the utility as directed by the Engineer or cooperate with the Utility Companies concerned if they relocate their own utility.
- C. At pipe crossings and where designated by the Engineer, furnish and place screened gravel bedding so that the existing utility or pipe is firmly supported for its entire exposed length. The bedding shall extend to the mid-diameter of the pipe crossed. Payment for screened gravel at pipe crossings will be made according to the unit price bid established in the Bid Form.

3.02 ABANDONMENT OF EXISTING WATER MAIN

- A. As shown on the Drawings, some existing segments of existing water main shall be abandoned. The work shall include capping the water main to be abandoned on each end and removing all existing gate valve boxes.

3.03 RESTORING OF DRIVEWAYS, FENCES, AND SIDEWALKS

- A. Existing public and private driveways disturbed by the construction shall be replaced. Paved drives shall be repaved to the limits and thicknesses existing prior to construction. Gravel dirt roads and drives shall be replaced and regraded.
- B. Fences in the vicinity of the work shall be protected from damage under this item. If damaged, fences shall be replaced in condition equal to that prior to being damaged and the work shall be satisfactory to the Engineer.
- C. Existing public and private sidewalks disturbed by the construction shall be replaced with sidewalks of equal quality and dimension.

3.04 CLEANING UP

- A. Remove all construction material, excess excavation, buildings, equipment and other debris remaining on the job as a result of construction operations and shall restore the site of the work to a neat and orderly condition.

3.05 INCIDENTAL WORK

- A. Do all incidental work not otherwise specified, but obviously necessary to the proper completion of the Contract as specified and as shown on the Drawings.

3.06 RESTORING THE EASEMENTS AND RIGHTS-OF-WAY

- A. If by project changes, portions of the work are required within easements through private and public property, the Contractor shall be responsible for all damage to private property due to his/her operations. He/She shall protect from injury all walls, fences, trees, cultivated shrubbery and vegetables, fruit trees, pavement, underground facilities, such as water pipe, or other utilities which may be encountered along the easement. If removal and replacement are required, it shall be done in a workmanlike manner so that replacement is equivalent to that which existed prior to construction.
- B. Existing lawn and sod surfaces damaged by construction in easements shall be replaced. The Contractor may cut and replace the lawn and sod, or he/she may restore the areas with an

equivalent depth and quality of loam, seeded and fertilized. These areas shall be maintained and reseeded, if necessary, until all work under this Contract has been completed and accepted. Any additional work required to restore easements to their original condition shall be performed by the Contractor.

3.07 RESTORING TRAFFIC LOOPS

- A. Existing traffic loops disturbed by the construction shall be restored per Rhode Island Department of Transportation Standard Specifications and Details.

3.08 PHOTOGRAPHS OF PROJECT

- A. Provide DVDs as specified in Section 01381.
- B. The DVDs shall be retained in a secure location throughout the project and shall then be turned over to the Engineer.

END OF SECTION

SECTION 02930
LOAMING AND SEEDING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required and place loam, finish grade, apply lime and fertilizer, apply seed and mulch and maintain all seeded areas to fully restoration of all areas to conditions equal to or better than pre-construction and as specified herein, including all areas disturbed and all existing lawn areas.

1.02 RELATED WORK

- A. Trenching, Backfilling, and Compaction included in Section 02221.
- B. Landscaping included in Section 02900.

1.03 SUBMITTALS

- A. Submit, in accordance with Section 01300, complete shop drawings, materials, and equipment furnished under this Section including seed mixtures and product label information.
- B. Samples of all materials shall be submitted for inspection and acceptance upon Owner and Owner's Designee's request.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Loam: In accordance with State of Rhode Island, Department of Transportation Standard Specifications for Road and Bridge Construction, Subsection M.18.01.
- B. Starter fertilizer shall be a complete commercial fertilizer, 10-6-4 grade for grass areas. It shall be delivered to the site in the original unopened containers each showing the manufacturer's guaranteed analysis. Store fertilizer so that when used it shall be dry and free-flowing.
- C. Lime shall be ground limestone consisting of a standard commercial product of ground dolomitic limestone intended for agricultural use.
- D. Grass seed shall be equal in mixture to Improved U.R.I. No. 2.
- E. Unrotten straw, hay free of seeds, or salt hay is required on all seeding and shall be applied at a rate of 1.5 to 2 tons/acre (70 to 90 lbs./1,000 square feet). If a crimper is used instead of a liquid mulch-binder, the rate of application shall be 3 tons per acre.
- F. Mulch anchoring shall be a specially processed cellulose fiber containing no growth or germination-inhibiting factors. It shall be manufactured in such a manner that after addition and agitation in slurry tanks with water, the fibers in the material become uniformly suspended to form a homogeneous slurry. When sprayed on the ground, the material shall allow absorption

and percolation of moisture. Each package of the cellulose fiber shall be marked by the manufacturer to show the air-dry weight content.

- G. Other approved mulch anchors include synthetic or organic binders, Peg and twine, mulch netting, and mechanical crimping.

PART 3 EXECUTION

3.01 STRIPPING AND STOCKPILING

- A. 6-inch stripping depth is typical but may vary depending on the soil structure.
- B. Stockpiles shall be located not to obstruct natural drainage, constructed according to the stockpile detail.

3.02 APPLICATION

- A. All areas having lawn or landscaping shall have loam placed to a minimum depth of 5-in (Unsettled).
- B. For all areas to be seeded:
 - 1. Unless otherwise shown on the Details, lime shall be applied at the rate of 0.5 lbs per square yard.
 - 2. Fertilizer shall be applied at the rate of 0.20 lb per square yard.
 - 3. Lawn grass seed shall be applied at the rate of 0.05 lbs per square yard. If the seed is applied by Hydroseeding, then the seed rate shall be increased by 25%
 - 4. Small grain straw mulch shall be applied at the rate of 70 to 90 lbs/1,000 sq ft.
 - 5. Fiber mulch shall be applied by hydroseeding at the rate of 35 lbs/1,000 sq ft.
- C. The application of fertilizer and lime and hydroseeding must be performed separately. Hydroseeding shall be performed as a two-step process applying seed first and covering with mulch second; mulch shall not be mixed with the seed. Seed and mulch must be cleaned from all structures and paved areas of unwanted deposits.

3.03 INSTALLATION

- A. The subgrade of all areas to be loamed and seeded shall be raked, and all rubbish, sticks, roots, and stones larger than 2-in shall be removed. Subgrade surfaces shall be raked or otherwise loosened immediately prior to being covered with loam. Subgrade shall be inspected and approved by the Owner and Owner's Designee before loam is placed.
- B. Loam shall be placed over approved areas to a depth sufficiently greater than required so that after natural settlement and light rolling, the complete work will conform to the lines, grades and elevations indicated. No loam shall be spread in water or while frozen or muddy.
- C. After loam has been spread, it shall be carefully prepared by scarifying or harrowing and hand raking. All large stiff clods, lumps, brush, roots, stumps, litter, and other foreign material, shall be removed from the loamed area and disposed of. The areas shall also be free of smaller stones, in excessive quantities, as determined by the Owner and Owner's Designee. The whole surface shall then be rolled with a hand roller weighing not more than 100 lbs/ft of width.

During the rolling, all depressions caused by settlement of rolling shall be filled with additional loam, and the surface shall be regraded and rolled until a smooth and even finished grade is created.

- D. Seeding, mulching, and conditioning shall only be performed during those periods within the seasons which are normal for such work as determined by the weather and locally accepted practice, as approved by the Owner and Owner's Designee.
- E. Schedules for seeding and fertilizing shall be submitted to the Owner and Owner's Designee for approval prior to the work. Landscape work shall only be performed during acceptable growing seasons, as defined for USDA hardiness zone 6b. The customer shall be responsible for the watering of the newly seeded areas to promote satisfactory initial grass growth within the restored grassed areas.
- F. Lime and fertilizer are to be spread mechanically, then:
 - 1. After the loam is placed and before it is raked to true lines and rolled, limestone shall be spread evenly over loam surface and thoroughly incorporated with loam by heavy raking to at least 4-inches of loam.
 - 2. Fertilizer shall be uniformly spread and immediately mixed with the upper 4-inches of topsoil.
- G. Seeding shall be done within 10 days following soil preparation. Seed shall be applied rates and percentages indicated.
- H. In order to prevent unnecessary erosion of newly graded slopes and unnecessary siltation of drainage ways, carry out seeding and mulching as soon as satisfactory completion of a unit or portion of the project. A unit of the work will be defined as not more than 5,000 sq ft.
- I. When protection of newly graded areas is necessary at a time that is outside of the normal seeding season, protect those areas by whatever means necessary (such as straw applied with a tar tack) or by other measures as approved by the Owner and Owner's Designee.

3.04 SEEDING IN WOODED AND UNGRADED AREAS

- A. For preparation and seeding in wooded areas under this Contract and where no grading is required, all of the specified materials and procedures shall be utilized except that no disking shall be performed within the drip line of trees to be preserved. The seedbed shall be prepared by the addition of a thin layer of topsoil roughly 1-in deep.

3.05 MAINTENANCE AND PROVISIONAL ACCEPTANCE

- A. Keep all seeded areas watered and in good condition, reseeding if and when necessary until a good, healthy, uniform growth is established over the entire area seeded.
- B. On slopes, provide against washouts by an approved method. Any washout that occurs shall be regraded and reseeded at the Contractor's expense until a good sod is established.
- C. The Owner and Owner's Designee will inspect all work for provisional acceptance at the end of the 8-week grass maintenance period, upon the written request, received at least 10 days before the anticipated date of inspection.

- D. A satisfactory stand will be defined as a section of grass of 5 sq ft or larger that has:
 - 1. No bare spots larger than 1 sq ft.
 - 2. No more than 10 percent of total area with bare spots larger than a 4-inch square.
- E. Furnish full and complete written instructions for maintenance of the lawns to the Customer at the time of provisional acceptance.
- F. The inspection by the Owner and Owner's Designee will determine whether maintenance shall continue in any area of manner.
- G. After all necessary corrective work and clean-up has been completed and maintenance instructions have been received by the Customer, the Owner and Owner's Designee will certify in writing the provisional acceptance of the lawn areas. Maintenance of lawns or parts of lawns shall cease on receipt of provisional acceptance.

3.06 GUARANTEE PERIOD AND FINAL ACCEPTANCE

- A. All seeded areas shall be guaranteed for not less than 1 full year from the time of provisional acceptance.
- B. At the end of the guarantee period, an inspection will be made by the Owner and Owner's Designee upon written request submitted at least 10 days before the anticipated date. Lawn areas not demonstrating satisfactory stands as outlined above, as determined by the Owner and Owner's Designee, shall be renovated, reseeded and maintained meeting all requirements as specified herein.
- C. After all necessary corrective work has been completed, the Owner and Owner's Designee shall certify in writing the final acceptance of the lawns.

END OF SECTION

SECTION 03301
CONCRETE AND REINFORCING STEEL

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required and install all concrete work complete as shown on the Drawings and as specified herein.

1.02 SUBMITTALS

- A. Submit to the Owner and Owner's Designee, in accordance with Section 01300, shop drawings and product data. Submittals shall include at least the following:

- 1. Concrete mix for each formulation of concrete proposed for use including constituent quantities per cubic yard, water-cementitious ratio, type and manufacturer of cement.
- 2. Bar schedules and bar bending details in conformity with the recommendations of ACI 315.
- 3. Technical data on all materials and components.
- 4. Material Safety Data Sheets (MSDS) for all concrete admixtures and curing agents.

- B. Certifications

- 1. Certify concrete proposed will have a minimum 28-day compressive strength as specified.

1.03 QUALITY ASSURANCE

- A. If during the progress of the work, it is impossible to secure concrete of the required workability and strength with the materials being furnished, the Owner and Owner's Designee may order such changes in proportions or materials, or both, as may be necessary to secure the desired properties. All changes so ordered shall be made at the Contractor's expense.

- B. Reinforced concrete shall comply with ACI 318.

- C. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products, and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

- D. All testing and inspection services required, unless otherwise specified, shall be provided and paid for by the Contractor. Testing necessary to establish the concrete mixes shall be performed by and at the expense of the Contractor. Methods of testing shall comply with the latest applicable ASTM standards.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Reinforcing steel shall be shipped and stored with bars of the same size and shape fastened bundles with durable tags, marked in a legible manner with waterproof markings showing the same designations as shown on the submitted bar schedules and shop drawings.

- B. Reinforcing steel and Welded Steel Wire Fabric shall be free from mill scale, loose rust, dirt, grease, or other foreign matter. Store off the ground and protect from moisture, dirt, oil, or other injurious contaminants.
- C. Products shall be stored in conformity with the manufacturer's recommendations.
- D. Sand, aggregates, and cement shall be stored or stockpiled in conformity with the recommendations of ACI 301.

1.05 FIELD CONDITIONS

- A. Cold-Weather Concrete Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:
 - 1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
 - 2. Do not use frozen materials or materials containing ice or snow.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.
- B. Hot-Weather Concrete Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
 - 1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Cement shall be domestic Portland cement conforming to ASTM C150, Type II.
- B. Fine aggregate shall be washed inert natural sand conforming to the requirements of ASTM C33.
- C. Coarse aggregate shall be well-graded crushed stone or washed gravel conforming to the requirements of ASTM C33, size 57 unless otherwise directed.
- D. Water shall be potable, clean, and free from injurious amounts of oils, acids, alkalis, organic matter, or other deleterious substances.
- E. Concrete admixtures shall be free of chlorides and alkalis (except for those attributable to water). When it is required to use more than one admixture in a concrete mix, the admixtures shall be from the same manufacturer. Admixtures shall be compatible with the concrete mix including other admixtures and shall be suitable for use in contact with potable water after 30 days of concrete curing. No admixtures shall be used unless approved by the Owner and Owner's Designee in writing.

1. Air-entraining admixture shall comply with ASTM C260. Proportioning and mixing shall be in accordance with manufacturer's recommendations.
 2. Water reducing admixture shall comply with ASTM C494, Type A. Proportioning and mixing shall be in accordance with manufacturer's recommendations.
 3. Admixtures causing retarded or accelerated setting of concrete shall not be used without written approval from the Owner and Owner's Designee. When allowed, the admixtures shall be retarding or accelerating water-reducing admixtures.
- F. Reinforcing steel bars shall be deformed, intermediate grade, steel bars conforming to ASTM A615 Grade 40. Rail-steel bars will not be permitted in the work.
- G. Welded Steel Wire Fabric: Conforming to ASTM A1064.
- H. Tie wires for reinforcing steel shall be 16 gauge or heavier, black annealed wire.
- I. Precast concrete block bar supports shall conform to CRSI - Manual of Standard Practice (MSP) for Precast Concrete Bar Supports.

2.02 CONCRETE QUALITY

- A. Class A concrete, as indicated on Table 1 of Section 601 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, shall be designed in accordance with the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, Section 601.02 and Section M.02.

2.03 MIXING CONCRETE

- A. Ready-mix concrete shall conform to ASTM C94 and the requirements herein, or as otherwise approved by the Owner and Owner's Designee. If ready-mix concrete is to be used, the manufacturer shall furnish a statement to the Owner and Owner's Designee for his approval giving the dry portions to be used, with evidence that these will produce concrete of the quality specified.
- B. Select proportions of ingredients to meet the design strength and materials limits specified and to produce concrete having proper placability, durability, strength, appearance, and other required properties. Proportion ingredients to produce a homogenous mixture which will readily work into corners and angles of forms and around reinforcement without permitting materials to segregate or allowing excessive free water to collect on the surface.

2.04 MEASURING, BATCHING, MIXING AND TRANSPORTING CONCRETE

- A. Measuring, batching, mixing and transporting concrete shall conform to ASTM C94 and the requirements herein, or as otherwise approved in writing by the Owner and Owner's Designee.
- B. Ready-mixed concrete, whether produced by a concrete supplier or the Contractor shall conform to the requirements above. No hand mixing will be permitted.
- C. Admixtures shall be dispensed into the batch in conformity with the recommendations of the manufacturer of the admixtures.

- D. Concrete shall be mixed until there is uniform distribution of the materials and shall be discharged completely before the mixer is recharged. The mixer shall be rotated at a speed recommended by the mixer manufacturer and mixing shall be continued for at least 1-1/2 minutes after all the materials are in the mixer. Concrete shall be placed within 1-1/2 hours of the time at which water was first added, otherwise it shall be rejected. Concrete which has been remixed or retempered, or to which an excess amount of water has been added, shall also be rejected.

2.05 FORMS

- A. Forms shall be free from roughness and imperfections, substantially watertight and adequately braced and tied to prevent motion when concrete is placed. No wooden spreaders will be allowed in the concrete.
- B. Wire ties will not be allowed. Metal ties or anchorages which are necessary within the forms shall be so constructed that the metal work can be removed for a depth of at least 1-in from the surface of the concrete without injury to such surface by spalling or otherwise. Forms shall be thoroughly cleaned before using and shall be treated with oil, or other approved material.

PART 3 EXECUTION

3.01 REINFORCING STEEL

- A. Fabricate reinforcing steel accurately to the dimensions shown. Bend bars around a revolving collar having a diameter of not less than that recommended in ACI 318. All bars shall be bent cold.
- B. Provide tension lap splices in compliance with ACI 318. Stagger splices in adjacent bars where possible. Provide Class B tension lap splices at all locations unless otherwise indicated.
- C. Lap splices in welded wire fabric in accordance with the requirements of ACI 318 but not less than 12-in. Tie the spliced fabrics together with wire ties spaced not more than 24-in on center and lace with wire of the same diameter as the welded wire fabric. Offset splices in adjacent widths to prevent continuous splices.
- D. Before being placed in position, reinforcement shall be thoroughly cleaned of loose mill and rust scale, dirt and other coatings, including ice, that reduce or destroy bond. Where there is a delay in depositing concrete after the reinforcement is in place bars shall be reinspected and cleaned when necessary.
- E. Reinforcement which is to be exposed for a considerable length of time after being placed shall be given a heavy coat of cement grout.
- F. In no case shall any reinforcing steel be covered with concrete until the amount and position of the reinforcements have been checked and permission given to proceed by the Owner and Owner's Designee.

3.02 INSPECTION AND COORDINATION

- A. The batching, mixing, transporting, placing and curing of concrete shall be subject to the inspection of the Owner and Owner's Designee at all times. The Contractor shall advise the

Owner and Owner's Designee of his/her readiness to proceed at least 24 hours prior to each concrete placement. The Owner and Owner's Designee will inspect the preparations for concreting including the preparation of previously placed concrete, the reinforcing steel, and the alignment, cleanliness and tightness of formwork. No placement shall be made without the inspection and acceptance of the Owner and Owner's Designee.

3.03 CONCRETE APPEARANCE

- A. Concrete mix showing either poor cohesion or poor coating of the coarse aggregate with paste shall be remixed. If this does not correct the condition, the concrete shall be rejected.
- B. Concrete for the work shall provide a homogeneous structure which, when hardened, will have the required strength, durability and appearance. Mixtures and workmanship shall be such that concrete surfaces, when exposed, will require no finishing. When concrete surfaces are stripped, the concrete when viewed in good lighting from 10-ft away shall be pleasing in appearance and at 20-ft shall show no visible defects.

3.04 PLACING AND COMPACTING

- A. Reinforcement, where required, shall be accurately placed in exact positions shown, shall be secured against displacement with annealed iron wire ties or suitable clips at intersections and shall have a clear space of 2-in between the steel and face of forms unless otherwise indicated. Wire ties passing through the forms for the purpose of holding the steel in proper position will not be allowed. Concrete blocks with wire ties cast therein may be used where approved by the Owner and Owner's Designee for the purpose of maintaining the clearance between reinforcement and forms. Reinforcing bars shall be free from rust, scale, dirt, grease, and injurious contaminants.
- B. No concrete shall be placed until forms, the condition of subgrade and method of placement have been approved by the Owner and Owner's Designee. Before depositing concrete, all debris, foreign matter, dirt, and water shall be removed from the forms. The contact surface between concrete previously placed and new concrete shall be cleaned and brushed with cement paste.
- C. Concrete shall not be placed in water or submerged within 24 hours after placing, nor shall running water be permitted to flow over the surface of fresh concrete within 4 days after its placing.
- D. Deposit concrete as near its final position as possible to avoid segregation due to rehandling or flowing. Pumping of concrete will be permitted when an approved design mix and aggregate sizes, suitable for pumping, are used. Do not deposit concrete which has partially hardened or has been contaminated by foreign materials. If the section cannot be placed continuously, place construction joints as specified or as approved. Do not drop concrete more than 4-ft.
- E. High-frequency mechanical vibrators shall be used to the extent necessary to obtain proper consolidation of the concrete, but not to move or transport concrete in the forms. Care shall be taken to avoid segregation of aggregates by excess vibration. Vibration shall continue until the frequency returns to normal, trapped air ceases to rise and the surface appears liquefied, flattened and glistening. Concrete adjacent to forms and around pipe stubs shall be carefully spaded or rodded.

- F. No concrete shall be mixed or placed during freezing weather without explicit permission. When placing concrete when the air temperature is below 40 degrees F, the water, sand, and gravel shall be heated so that the temperature of the concrete will be at least 50 degrees F. This temperature shall be maintained for 72 hours after placing. No concrete shall be placed on the frozen ground.
- G. Preformed expansion joint filler shall be placed adjacent to structures as directed.
- H. Concrete walkways shall be placed in such quantity that, after being thoroughly consolidated in place, it shall be 4-in in depth. Finishing operations shall be delayed until all bleed water and water sheen has left the surface and concrete has started to stiffen. After water sheen has disappeared, edging operations shall be completed. After edging and jointing operations, the surface shall be floated with an aluminum or magnesium float. Immediately following floating, the surface shall be steel troweled. If necessary, tooled joints and edges shall be rerun before and after troweling to maintain uniformity. Finish shall match as near as possible the original finish.
- I. The curb face shall be equal to the face of the adjacent undisturbed curb, and the type (i.e., stand up curb or gutter curb) shall be replaced in kind to a condition equal to or better than that which existed previously. Curb that is broken or cracked during construction operations shall be removed and disposed and replaced of by the Contractor at his own expense.

3.05 CURING AND PROTECTION

- A. Protect all concrete work against injury from the elements and defacements of any nature during construction operations.
- B. All concrete shall be cured in conformity with ACI 301. Concrete that is to be used for the containment of water shall be water cured. Water curing shall be by ponding, by continuous sprinkling or by covering with continuously saturated burlap.
- C. Other concrete shall be cured by either water curing, sheet material curing or liquid membrane curing compound except that liquid membrane curing compound shall not be used on any concrete surface where additional concrete is to be placed or where the concrete surface is to be coated or painted.
- D. Finished surfaces and slabs shall be protected from the direct rays of the sun to prevent checking and crazing.
- E. Concrete placed during cold weather shall be batched, delivered, placed, cured and protected in compliance with the recommendations of ACI 306R. Salt, manure or other chemicals shall not be used for cold weather protection.
- F. Concrete placed during hot weather shall be batched, delivered, placed, cured and protected in compliance with the recommendations of ACI 305R. The temperature of the concrete shall be such that it will cause no difficulties from loss of slump, flash set or cold joints. Immediately cover the plastic concrete with sheet material during hot weather.

3.06 CONCRETE ENCASEMENTS AND THRUST BLOCKS

- A. Concrete encasements shall be placed as directed by the Owner and Owner's Designee. Backfill shall not be placed on the concrete until permitted by the Owner and Owner's Designee.
- B. The backs of thrust block anchors shall be placed against undisturbed earth. The sides of thrust blocks shall be formed. Minimum bearing area shall be as designated by the Owner and Owner's Designee. Felt roofing paper shall be placed to protect pipe joints. Concrete shall not be placed over bolts or nuts, or to prevent the removal of joints.

3.07 FIELD TESTS

- A. Sets of three field control cylinder specimens will be taken by the Contractor during the progress of the work as directed by Owner and Owner's Designee, in compliance with ASTM C31. The number of sets of concrete test cylinders taken of each class of concrete shall be determined by the Owner and Owner's Designee. One cylinder shall be broken at 7 days and two cylinders shall be broken and their strengths averaged at 28 days. When the average 28 day compressive strength of the cylinders in any set falls below the specified compressive strength or below proportional minimum 7 day strengths (where proper relation between 7 and 28 day strengths have been established by tests); the Owner and Owner's Designee may reject the concrete represented by the set of cylinders, may require modification of the concrete and/or require modification of the proportions, water content, or temperature conditions of the design mix to achieve the required strengths.
- B. Cooperate in the making of tests by allowing free access to the work for the selection of samples, providing an insulated closed curing box for specimens, affording protection to the specimens against injury or loss through his/her operations and furnishing material and labor required for the purpose of taking concrete cylinder samples. All shipping of specimens will be paid for by the Contractor.
- C. Slump tests will be made in the field by the Contractor in conformity with ASTM C143.
- D. Tests for air content shall be made in compliance with either the pressure method complying with ASTM C231 or by the volumetric method complying with ASTM C173.

3.08 STRIPPING AND FINISHING CONCRETE

- A. Forms shall not be stripped before the concrete has attained a strength of at least 30 percent of the specified design strength unless otherwise approved by the Owner and Owner's Designee. This is equivalent to approximately "100 day-degrees" of moist curing.
- B. Care shall be exercised to prevent damaging edges or to obliterate the lines of chamfers, rustications or corners when removing the forms or doing any other work adjacent thereto.
- C. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to the satisfaction of the Owner and Owner's Designee.
- D. As soon as forms have been stripped, form ties, if employed, shall be removed, and the recess filled to ensure complete water tightness. Any defects in the surface of the walls shall be chipped out and repaired in a workmanlike manner. Defective concrete where it occurs shall be cut to a minimum depth of 1-in, thoroughly roughened and neat cement brushed in. The hole

shall then be filled with mortar in the proportion of 1 part cement and 2-1/2 parts sand with a minimum of water. Mortar for filling form tie recesses shall be mixed to a slightly damp consistency (just short of "balling"), pressed into the recess until dense, and troweled smooth. Mortar in larger patches shall be applied and allowed to assume a partial set following which it shall be struck off flush with the adjoining surface.

- E. Patches shall be kept moist for several days to assure proper curing.
- F. Concrete to receive damp proofing and concrete not exposed in the finished work shall have off-form finish with fins, and other projections removed and tie cones and defects filled as specified.
- G. Sidewalks broken or cracked as a result of the construction operations shall be removed and disposed of by the Contractor and replaced in their entirety to the nearest joint at the Contractor's own cost.

END OF SECTION

Appendix A

RI SRF Requirements Including EPA Requirements



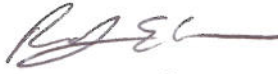
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460


MAR 20 2014

OFFICE OF WATER

MEMORANDUM

SUBJECT: Implementation of American Iron and Steel provisions of P.L. 113-76,
Consolidated Appropriations Act, 2014

FROM: For Andrew D. Sawyers, Director 
Office of Wastewater Management (4201M)

Peter C. Grevatt, Director 
Office of Ground Water and Drinking Water (4601M)

TO: Water Management Division Directors
Regions I - X

P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), includes an “American Iron and Steel (AIS)” requirement in section 436 that requires Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system or treatment works if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Federal Fiscal Year 2014.

Section 436 also sets forth certain circumstances under which EPA may waive the AIS requirement. Furthermore, the Act specifically exempts projects where engineering plans and specifications were approved by a State agency prior to January 17, 2014.

The approach described below explains how EPA will implement the AIS requirement. The first section is in the form of questions and answers that address the types of projects that must comply with the AIS requirement, the types of products covered by the AIS requirement, and compliance. The second section is a step-by-step process for requesting waivers and the circumstances under which waivers may be granted.

Implementation

The Act states:

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out

the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

The following questions and answers provide guidance for implementing and complying with the AIS requirements:

Project Coverage

1) What classes of projects are covered by the AIS requirement?

All treatment works projects funded by a CWSRF assistance agreement, and all public water system projects funded by a DWSRF assistance agreement, from the date of enactment through the end of Federal Fiscal Year 2014, are covered. The AIS requirements apply to the entirety of the project, no matter when construction begins or ends. Additionally, the AIS requirements apply to all parts of the project, no matter the source of funding.

2) Does the AIS requirement apply to nonpoint source projects or national estuary projects?

No. Congress did not include an AIS requirement for nonpoint source and national estuary projects unless the project can also be classified as a 'treatment works' as defined by section 212 of the Clean Water Act.

3) Are any projects for the construction, alteration, maintenance, or repair of a public water system or treatment works excluded from the AIS requirement?

Any project, whether a treatment works project or a public water system project, for which engineering plans and specifications were approved by the responsible state agency prior to January 17, 2014, is excluded from the AIS requirements.

4) What if the project does not have approved engineering plans and specifications but has signed an assistance agreement with a CWSRF or DWSRF program prior to January 17, 2014?

The AIS requirements do not apply to any project for which an assistance agreement was signed prior to January 17, 2014.

5) What if the project does not have approved engineering plans and specifications, but bids were advertised prior to January 17, 2014 and an assistance agreement was signed after January 17, 2014?

If the project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the approval date for purposes of the exemption in section 436(f).

6) What if the assistance agreement that was signed prior to January 17, 2014, only funded a part of the overall project, where the remainder of the project will be funded later with another SRF loan?

If the original assistance agreement funded any construction of the project, the date of the original assistance agreement counts for purposes of the exemption. If the original assistance agreement was only for planning and design, the date of that assistance agreement will count for purposes of the exemption only if there is a written commitment or expectation on the part of the assistance recipient to fund the remainder of the project with SRF funds.

7) What if the assistance agreement that was signed prior to January 17, 2014, funded the first phase of a multi-phase project, where the remaining phases will be funded by SRF assistance in the future?

In such a case, the phases of the project will be considered a single project if all construction necessary to complete the building or work, regardless of the number of contracts or assistance agreements involved, are closely related in purpose, time and place. However, there are many situations in which major construction activities are clearly undertaken in phases that are distinct in purpose, time, or place. In the case of distinct phases, projects with engineering plans and specifications approval or assistance agreements signed prior to January 17, 2014 would be excluded from AIS requirements while those approved/signed on January 17, 2014, or later would be covered by the AIS requirements.

8) What if a project has split funding from a non-SRF source?

Many States intend to fund projects with “split” funding, from the SRF program and from State or other programs. Based on the Act language in section 436, which requires that American iron and steel products be used in any project for the construction, alteration, maintenance, or repair of a public water system or treatment works receiving SRF funding between and including January 17, 2014 and September 30, 2014, any project that is funded in whole or in part with such funds must comply with the AIS requirement. A “project” consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all contracts and assistance agreements awarded are closely related in purpose, time and place. This precludes the intentional splitting of SRF projects into separate and smaller contracts or assistance agreements to avoid AIS coverage on some portion of a larger

project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in separate phases that are distinct in purpose, time, or place, in which case, separate contracts or assistance agreement for SRF and State or other funding would carry separate requirements.

9) What about refinancing?

If a project began construction, financed from a non-SRF source, prior to January 17, 2014, but is refinanced through an SRF assistance agreement executed on or after January 17, 2014 and prior to October 1, 2014, AIS requirements will apply to all construction that occurs on or after January 17, 2014, through completion of construction, unless, as is likely, engineering plans and specifications were approved by a responsible state agency prior to January 17, 2014. There is no retroactive application of the AIS requirements where a refinancing occurs for a project that has completed construction prior to January 17, 2014.

10) Do the AIS requirements apply to any other EPA programs, besides the SRF program, such as the Tribal Set-aside grants or grants to the Territories and DC?

No, the AIS requirement only applies to funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12)

Covered Iron and Steel Products

11) What is an iron or steel product?

For purposes of the CWSRF and DWSRF projects that must comply with the AIS requirement, an iron or steel product is one of the following made primarily of iron or steel that is permanently incorporated into the public water system or treatment works:

- Lined or unlined pipes or fittings;
- Manhole Covers;
- Municipal Castings (defined in more detail below);
- Hydrants;
- Tanks;
- Flanges;
- Pipe clamps and restraints;
- Valves;
- Structural steel (defined in more detail below);
- Reinforced precast concrete; and
- Construction materials (defined in more detail below).

12) What does the term ‘primarily iron or steel’ mean?

‘Primarily iron or steel’ places constraints on the list of products above. For one of the listed products to be considered subject to the AIS requirements, it must be made of greater than 50% iron or steel, measured by cost. The cost should be based on the material costs.

13) Can you provide an example of how to perform a cost determination?

For example, the iron portion of a fire hydrant would likely be the bonnet, body and shoe, and the cost then would include the pouring and casting to create those components. The other material costs would include non-iron and steel internal workings of the fire hydrant (i.e., stem, coupling, valve, seals, etc). However, the assembly of the internal workings into the hydrant body would not be included in this cost calculation. If one of the listed products is not made primarily of iron or steel, United States (US) provenance is not required. An exception to this definition is reinforced precast concrete, which is addressed in a later question.

14) If a product is composed of more than 50% iron or steel, but is not listed in the above list of items, must the item be produced in the US? Alternatively, must the iron or steel in such a product be produced in the US?

The answer to both question is no. Only items on the above list must be produced in the US. Additionally, the iron or steel in a non-listed item can be sourced from outside the US.

15) What is the definition of steel?

Steel means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of steel for the purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of steel covers carbon steel, alloy steel, stainless steel, tool steel and other specialty steels.

16) What does ‘produced in the United States’ mean?

Production in the United States of the iron or steel products used in the project requires that all manufacturing processes, including application of coatings, must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives. All manufacturing processes includes processes such as melting, refining, forming, rolling, drawing, finishing, fabricating and coating. Further, if a domestic iron and steel product is taken out of the US for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the

material(s), if any, being applied as a coating are similarly not covered. Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components do not have to be of domestic origin.

17) Are the raw materials used in the production of iron or steel required to come from US sources?

No. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-US sources.

18) If an above listed item is primarily made of iron or steel, but is only at the construction site temporarily, must such an item be produced in the US?

No. Only the above listed products made primarily of iron or steel, permanently incorporated into the project must be produced in the US. For example trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel.

19) What is the definition of ‘municipal castings’?

Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings are:

- Access Hatches;
- Ballast Screen;
- Benches (Iron or Steel);
- Bollards;
- Cast Bases;
- Cast Iron Hinged Hatches, Square and Rectangular;
- Cast Iron Riser Rings;
- Catch Basin Inlet;
- Cleanout/Monument Boxes;
- Construction Covers and Frames;
- Curb and Corner Guards;
- Curb Openings;
- Detectable Warning Plates;
- Downspout Shoes (Boot, Inlet);
- Drainage Grates, Frames and Curb Inlets;
- Inlets;
- Junction Boxes;
- Lampposts;
- Manhole Covers, Rings and Frames, Risers;

Meter Boxes;
Service Boxes;
Steel Hinged Hatches, Square and Rectangular;
Steel Riser Rings;
Trash receptacles;
Tree Grates;
Tree Guards;
Trench Grates; and
Valve Boxes, Covers and Risers.

20) What is ‘structural steel’?

Structural steel is rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

21) What is a ‘construction material’ for purposes of the AIS requirement?

Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. This includes, but is not limited to, the following products: wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), welding rods, decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, and stationary screens.

22) What is not considered a ‘construction material’ for purposes of the AIS requirement?

Mechanical and electrical components, equipment and systems are not considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

The following examples (including their appurtenances necessary for their intended use and operation) are NOT considered construction materials: pumps, motors, gear reducers, drives (including variable frequency drives (VFDs)), electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators), mixers, gates, motorized screens (such as traveling screens), blowers/aeration equipment, compressors, meters, sensors, controls and switches, supervisory control and

data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, analytical instrumentation, and dewatering equipment.

23) If the iron or steel is produced in the US, may other steps in the manufacturing process take place outside of the US, such as assembly?

No. Production in the US of the iron or steel used in a listed product requires that all manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.

24) What processes must occur in the US to be compliant with the AIS requirement for reinforced precast concrete?

While reinforced precast concrete may not be at least 50% iron or steel, in this particular case, the reinforcing bar and wire must be produced in the US and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the US. The cement and other raw materials used in concrete production are not required to be of domestic origin.

If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered to be a construction material and must be produced in the US.

Compliance

25) How should an assistance recipient document compliance with the AIS requirement?

In order to ensure compliance with the AIS requirement, specific AIS contract language must be included in each contract, starting with the assistance agreement, all the way down to the purchase agreements. Sample language for assistance agreements and contracts can be found in Appendix 3 and 4.

EPA recommends the use of a step certification process, similar to one used by the Federal Highway Administration. The step certification process is a method to ensure that producers adhere to the AIS requirement and assistance recipients can verify that products comply with the AIS requirement. The process also establishes accountability and better enables States to take enforcement actions against violators.

Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. A step certification is a process under which each handler (supplier, fabricator, manufacturer,

processor, etc) of the iron and steel products certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. A certification can be quite simple. Typically, it includes the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a manufacturer's responsible party. Attached, as Appendix 5, are sample certifications. These certifications should be collected and maintained by assistance recipients.

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the US. While this type of certification may be acceptable, it may not provide the same degree of assurance. Additional documentation may be needed if the certification is lacking important information. Step certification is the best practice.

26) How should a State ensure assistance recipients are complying with the AIS requirement?

In order to ensure compliance with the AIS requirement, States SRF programs must include specific AIS contract language in the assistance agreement. Sample language for assistance agreements can be found in Appendix 3.

States should also, as a best practice, conduct site visits of projects during construction and review documentation demonstrating proof of compliance which the assistance recipient has gathered.

27) What happens if a State or EPA finds a non-compliant iron and/or steel product permanently incorporated in the project?

If a potentially non-compliant product is identified, the State should notify the assistance recipient of the apparent unauthorized use of the non-domestic component, including a proposed corrective action, and should be given the opportunity to reply. If unauthorized use is confirmed, the State can take one or more of the following actions: request a waiver where appropriate; require the removal of the non-domestic item; or withhold payment for all or part of the project. Only EPA can issue waivers to authorize the use of a non-domestic item. EPA may use remedies available to it under the Clean Water Act, the Safe Drinking Water Act, and 40 CFR part 31 grant regulations, in the event of a violation of a grant term and condition.

It is recommended that the State work collaboratively with EPA to determine the appropriate corrective action, especially in cases where the State is the one who identifies the item in noncompliance or there is a disagreement with the assistance recipient.

If fraud, waste, abuse, or any violation of the law is suspected, the Office of Inspector General (OIG) should be contacted immediately. The OIG can be reached at 1-

888-546-8740 or OIG_Hotline@epa.gov. More information can be found at this website: <http://www.epa.gov/oig/hotline.htm>.

28) How do international trade agreements affect the implementation of the AIS requirements?

The AIS provision applies in a manner consistent with United States obligations under international agreements. Typically, these obligations only apply to direct procurement by the entities that are signatories to such agreements. In general, SRF assistance recipients are not signatories to such agreements, so these agreements have no impact on this AIS provision. In the few instances where such an agreement applies to a municipality, that municipality is under the obligation to determine its applicability and requirements and document the actions taken to comply for the State.

Waiver Process

The statute permits EPA to issue waivers for a case or category of cases where EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the US will increase the cost of the overall project by more than 25 percent.

In order to implement the AIS requirements, EPA has developed an approach to allow for effective and efficient implementation of the waiver process to allow projects to proceed in a timely manner. The framework described below will allow States, on behalf of the assistance recipients, to apply for waivers of the AIS requirement directly to EPA Headquarters. Only waiver requests received from states will be considered. Pursuant to the Act, EPA has the responsibility to make findings as to the issuance of waivers to the AIS requirements.

Definitions

The following terms are critical to the interpretation and implementation of the AIS requirements and apply to the process described in this memorandum:

Reasonably Available Quantity: The quantity of iron or steel products is available or will be available at the time needed and place needed, and in the proper form or specification as specified in the project plans and design.

Satisfactory Quality: The quality of iron or steel products, as specified in the project plans and designs.

Assistance Recipient: A borrower or grantee that receives funding from a State CWSRF or DWSRF program.

Step-By-Step Waiver Process

Application by Assistance Recipient

Each local entity that receives SRF water infrastructure financial assistance is required by section 436 of the Act to use American made iron and steel products in the construction of its project. However, the recipient may request a waiver. Until a waiver is granted by EPA, the AIS requirement stands, except as noted above with respect to municipalities covered by international agreements.

The waiver process begins with the SRF assistance recipient. In order to fulfill the AIS requirement, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American made iron and steel products. It is essential that the assistance recipient include the AIS terms in any request for proposals or solicitations for bids, and in all contracts (see Appendix 3 for sample construction contract language). The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three conditions is met:

1. Applying the American Iron and Steel requirements of the Act would be inconsistent with the public interest;
2. Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
3. Inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Proper and sufficient documentation must be provided by the assistance recipient. A checklist detailing the types of information required for a waiver to be processed is attached as Appendix 1.

Additionally, it is strongly encouraged that assistance recipients hold pre-bid conferences with potential bidders. A pre-bid conference can help to identify iron and steel products needed to complete the project as described in the plans and specifications that may not be available from domestic sources. It may also identify the need to seek a waiver prior to bid, and can help inform the recipient on compliance options.

In order to apply for a project waiver, the assistance recipient should email the request in the form of a Word document (.doc) to the State SRF program. It is strongly recommended that the State designate a single person for all AIS communications. The State SRF designee will review the application for the waiver and determine whether the necessary information has been included. Once the waiver application is complete, the State designee will forward the application to either of two email addresses. For CWSRF waiver requests, please send the application to: cwsrfwaiver@epa.gov. For DWSRF waiver requests, please send the application to: dwsrfwaiver@epa.gov.

Evaluation by EPA

After receiving an application for waiver of the AIS requirements, EPA Headquarters will publish the request on its website for 15 days and receive informal comment. EPA Headquarters will then use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.

In the event that EPA finds that adequate documentation and justification has been submitted, the Administrator may grant a waiver to the assistance recipient. EPA will notify the State designee that a waiver request has been approved or denied as soon as such a decision has been made. Granting such a waiver is a three-step process:

1. Posting – After receiving an application for a waiver, EPA is required to publish the application and all material submitted with the application on EPA’s website for 15 days. During that period, the public will have the opportunity to review the request and provide informal comment to EPA. The website can be found at: http://water.epa.gov/grants_funding/aisrequirement.cfm
2. Evaluation – After receiving an application for waiver of the AIS requirements, EPA Headquarters will use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.
3. Signature of waiver approval by the Administrator or another agency official with delegated authority – As soon as the waiver is signed and dated, EPA will notify the State SRF program, and post the signed waiver on our website. The assistance recipient should keep a copy of the signed waiver in its project files.

Public Interest Waivers

EPA has the authority to issue public interest waivers. Evaluation of a public interest waiver request may be more complicated than that of other waiver requests so they may take more time than other waiver requests for a decision to be made. An example of a public interest waiver that might be issued could be for a community that has standardized on a particular type or manufacturer of a valve because of its performance to meet their specifications. Switching to an alternative valve may require staff to be trained on the new equipment and additional spare parts would need to be purchased and stocked, existing valves may need to be unnecessarily replaced, and portions of the system may need to be redesigned. Therefore, requiring the community to install an alternative valve would be inconsistent with public interest.

EPA also has the authority to issue a public interest waiver that covers categories of products that might apply to all projects.

EPA reserves the right to issue national waivers that may apply to particular classes of assistance recipients, particular classes of projects, or particular categories of iron or steel products. EPA may develop national or (US geographic) regional categorical waivers through the identification of similar circumstances in the detailed justifications presented to EPA in a waiver request or requests. EPA may issue a national waiver based on policy decisions regarding the public's interest or a determination that a particular item is not produced domestically in reasonably available quantities or of a sufficient quality. In such cases, EPA may determine it is necessary to issue a national waiver.

If you have any questions concerning the contents of this memorandum, you may contact us, or have your staff contact Jordan Dorfman, Attorney-Advisor, State Revolving Fund Branch, Municipal Support Division, at dorfman.jordan@epa.gov or (202) 564-0614 or Kiri Anderer, Environmental Engineer, Infrastructure Branch, Drinking Water Protection Division, at anderer.kirsten@epa.gov or (202) 564-3134.

Attachments

Appendix 1: Information Checklist for Waiver Request

The purpose of this checklist is to help ensure that all appropriate and necessary information is submitted to EPA. EPA recommends that States review this checklist carefully and provide all appropriate information to EPA. This checklist is for informational purposes only and does not need to be included as part of a waiver application.

Items	✓	Notes
<p>General</p> <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> — Description of the foreign and domestic construction materials — Unit of measure — Quantity — Price — Time of delivery or availability — Location of the construction project — Name and address of the proposed supplier — A detailed justification for the use of foreign construction materials • Waiver request was submitted according to the instructions in the memorandum • Assistance recipient made a good faith effort to solicit bids for domestic iron and steel products, as demonstrated by language in requests for proposals, contracts, and communications with the prime contractor 		
<p>Cost Waiver Requests</p> <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> — Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products — Relevant excerpts from the bid documents used by the contractors to complete the comparison — Supporting documentation indicating that the contractor made a reasonable survey of the market, such as a description of the process for identifying suppliers and a list of contacted suppliers 		
<p>Availability Waiver Requests</p> <ul style="list-style-type: none"> • Waiver request includes the following supporting documentation necessary to demonstrate the availability, quantity, and/or quality of the materials for which the waiver is requested: <ul style="list-style-type: none"> — Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/delivery date for construction materials — Documentation of the assistance recipient's efforts to find available domestic sources, such as a description of the process for identifying suppliers and a list of contacted suppliers. — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials • Waiver request includes a statement from the prime contractor and/or supplier confirming the non-availability of the domestic construction materials for which the waiver is sought • Has the State received other waiver requests for the materials described in this waiver request, for comparable projects? 		

Appendix 2: HQ Review Checklist for Waiver Request

Instructions: To be completed by EPA. Review all waiver requests using the questions in the checklist, and mark the appropriate box as Yes, No or N/A. Marks that fall inside the shaded boxes may be grounds for denying the waiver. If none of your review markings fall into a shaded box, the waiver is eligible for approval if it indicates that one or more of the following conditions applies to the domestic product for which the waiver is sought:

1. The iron and/or steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.
2. The inclusion of iron and/or steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Review Items	Yes	No	N/A	Comments
Cost Waiver Requests <ul style="list-style-type: none"> • Does the waiver request include the following information? <ul style="list-style-type: none"> — Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products — Relevant excerpts from the bid documents used by the contractors to complete the comparison — A sufficient number of bid documents or pricing information from domestic sources to constitute a reasonable survey of the market • Does the Total Domestic Project exceed the Total Foreign Project Cost by more than 25%? 				
Availability Waiver Requests <ul style="list-style-type: none"> • Does the waiver request include supporting documentation sufficient to show the availability, quantity, and/or quality of the iron and/or steel product for which the waiver is requested? <ul style="list-style-type: none"> — Supplier information or other documentation indicating availability/delivery date for materials — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of materials • Does supporting documentation provide sufficient evidence that the contractors made a reasonable effort to locate domestic suppliers of materials, such as a description of the process for identifying suppliers and a list of contacted suppliers? • Based on the materials delivery/availability date indicated in the supporting documentation, will the materials be unavailable when they are needed according to the project schedule? (By item, list schedule date and domestic delivery quote date or other relevant information) • Is EPA aware of any other evidence indicating the non-availability of the materials for which the waiver is requested? Examples include: <ul style="list-style-type: none"> — Multiple waiver requests for the materials described in this waiver request, for comparable projects in the same State — Multiple waiver requests for the materials described in this waiver request, for comparable projects in other States — Correspondence with construction trade associations indicating the non-availability of the materials • Are the available domestic materials indicated in the bid documents of inadequate quality compared those required by the project plans, specifications, and/or permits? 				

Appendix 3: Example Loan Agreement Language

ALL ASSISTANCE AGREEMENT MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN SRF ASSISTANCE AGREEMENTS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE LAW:

Comply with all federal requirements applicable to the Loan (including those imposed by the 2014 Appropriations Act and related SRF Policy Guidelines) which the Participant understands includes, among other, requirements that all of the iron and steel products used in the Project are to be produced in the United States (“American Iron and Steel Requirement”) unless (i) the Participant has requested and obtained a waiver from the Agency pertaining to the Project or (ii) the Finance Authority has otherwise advised the Participant in writing that the American Iron and Steel Requirement is not applicable to the Project.

Comply with all record keeping and reporting requirements under the Clean Water Act/Safe Drinking Water Act, including any reports required by a Federal agency or the Finance Authority such as performance indicators of program deliverables, information on costs and project progress. The Participant understands that (i) each contract and subcontract related to the Project is subject to audit by appropriate federal and state entities and (ii) failure to comply with the Clean Water Act/Safe Drinking Water Act and this Agreement may be a default hereunder that results in a repayment of the Loan in advance of the maturity of the Bonds and/or other remedial actions.

Appendix 4: Sample Construction Contract Language

ALL CONTRACTS MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN ALL CONTRACTS IN PROJECTS THAT USE SRF FUNDS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE OR LOCAL LAW:

The Contractor acknowledges to and for the benefit of the City of _____ (“Purchaser”) and the _____ (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

Appendix 5: Sample Certifications

The following information is provided as a sample letter of **step** certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

The following information is provided as a sample letter of certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Certification for Project (XXXXXXXXXXXX)

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative



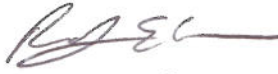
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

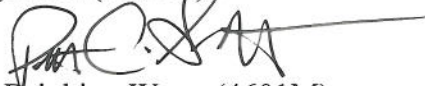
MAR 20 2014

OFFICE OF WATER

MEMORANDUM

SUBJECT: Implementation of American Iron and Steel provisions of P.L. 113-76,
Consolidated Appropriations Act, 2014

FROM: For Andrew D. Sawyers, Director 
Office of Wastewater Management (4201M)

Peter C. Grevatt, Director 
Office of Ground Water and Drinking Water (4601M)

TO: Water Management Division Directors
Regions I - X

P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), includes an “American Iron and Steel (AIS)” requirement in section 436 that requires Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system or treatment works if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Federal Fiscal Year 2014.

Section 436 also sets forth certain circumstances under which EPA may waive the AIS requirement. Furthermore, the Act specifically exempts projects where engineering plans and specifications were approved by a State agency prior to January 17, 2014.

The approach described below explains how EPA will implement the AIS requirement. The first section is in the form of questions and answers that address the types of projects that must comply with the AIS requirement, the types of products covered by the AIS requirement, and compliance. The second section is a step-by-step process for requesting waivers and the circumstances under which waivers may be granted.

Implementation

The Act states:

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out

the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

The following questions and answers provide guidance for implementing and complying with the AIS requirements:

Project Coverage

1) What classes of projects are covered by the AIS requirement?

All treatment works projects funded by a CWSRF assistance agreement, and all public water system projects funded by a DWSRF assistance agreement, from the date of enactment through the end of Federal Fiscal Year 2014, are covered. The AIS requirements apply to the entirety of the project, no matter when construction begins or ends. Additionally, the AIS requirements apply to all parts of the project, no matter the source of funding.

2) Does the AIS requirement apply to nonpoint source projects or national estuary projects?

No. Congress did not include an AIS requirement for nonpoint source and national estuary projects unless the project can also be classified as a 'treatment works' as defined by section 212 of the Clean Water Act.

3) Are any projects for the construction, alteration, maintenance, or repair of a public water system or treatment works excluded from the AIS requirement?

Any project, whether a treatment works project or a public water system project, for which engineering plans and specifications were approved by the responsible state agency prior to January 17, 2014, is excluded from the AIS requirements.

4) What if the project does not have approved engineering plans and specifications but has signed an assistance agreement with a CWSRF or DWSRF program prior to January 17, 2014?

The AIS requirements do not apply to any project for which an assistance agreement was signed prior to January 17, 2014.

5) What if the project does not have approved engineering plans and specifications, but bids were advertised prior to January 17, 2014 and an assistance agreement was signed after January 17, 2014?

If the project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the approval date for purposes of the exemption in section 436(f).

6) What if the assistance agreement that was signed prior to January 17, 2014, only funded a part of the overall project, where the remainder of the project will be funded later with another SRF loan?

If the original assistance agreement funded any construction of the project, the date of the original assistance agreement counts for purposes of the exemption. If the original assistance agreement was only for planning and design, the date of that assistance agreement will count for purposes of the exemption only if there is a written commitment or expectation on the part of the assistance recipient to fund the remainder of the project with SRF funds.

7) What if the assistance agreement that was signed prior to January 17, 2014, funded the first phase of a multi-phase project, where the remaining phases will be funded by SRF assistance in the future?

In such a case, the phases of the project will be considered a single project if all construction necessary to complete the building or work, regardless of the number of contracts or assistance agreements involved, are closely related in purpose, time and place. However, there are many situations in which major construction activities are clearly undertaken in phases that are distinct in purpose, time, or place. In the case of distinct phases, projects with engineering plans and specifications approval or assistance agreements signed prior to January 17, 2014 would be excluded from AIS requirements while those approved/signed on January 17, 2014, or later would be covered by the AIS requirements.

8) What if a project has split funding from a non-SRF source?

Many States intend to fund projects with “split” funding, from the SRF program and from State or other programs. Based on the Act language in section 436, which requires that American iron and steel products be used in any project for the construction, alteration, maintenance, or repair of a public water system or treatment works receiving SRF funding between and including January 17, 2014 and September 30, 2014, any project that is funded in whole or in part with such funds must comply with the AIS requirement. A “project” consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all contracts and assistance agreements awarded are closely related in purpose, time and place. This precludes the intentional splitting of SRF projects into separate and smaller contracts or assistance agreements to avoid AIS coverage on some portion of a larger

project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in separate phases that are distinct in purpose, time, or place, in which case, separate contracts or assistance agreement for SRF and State or other funding would carry separate requirements.

9) What about refinancing?

If a project began construction, financed from a non-SRF source, prior to January 17, 2014, but is refinanced through an SRF assistance agreement executed on or after January 17, 2014 and prior to October 1, 2014, AIS requirements will apply to all construction that occurs on or after January 17, 2014, through completion of construction, unless, as is likely, engineering plans and specifications were approved by a responsible state agency prior to January 17, 2014. There is no retroactive application of the AIS requirements where a refinancing occurs for a project that has completed construction prior to January 17, 2014.

10) Do the AIS requirements apply to any other EPA programs, besides the SRF program, such as the Tribal Set-aside grants or grants to the Territories and DC?

No, the AIS requirement only applies to funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12)

Covered Iron and Steel Products

11) What is an iron or steel product?

For purposes of the CWSRF and DWSRF projects that must comply with the AIS requirement, an iron or steel product is one of the following made primarily of iron or steel that is permanently incorporated into the public water system or treatment works:

- Lined or unlined pipes or fittings;
- Manhole Covers;
- Municipal Castings (defined in more detail below);
- Hydrants;
- Tanks;
- Flanges;
- Pipe clamps and restraints;
- Valves;
- Structural steel (defined in more detail below);
- Reinforced precast concrete; and
- Construction materials (defined in more detail below).

12) What does the term ‘primarily iron or steel’ mean?

‘Primarily iron or steel’ places constraints on the list of products above. For one of the listed products to be considered subject to the AIS requirements, it must be made of greater than 50% iron or steel, measured by cost. The cost should be based on the material costs.

13) Can you provide an example of how to perform a cost determination?

For example, the iron portion of a fire hydrant would likely be the bonnet, body and shoe, and the cost then would include the pouring and casting to create those components. The other material costs would include non-iron and steel internal workings of the fire hydrant (i.e., stem, coupling, valve, seals, etc). However, the assembly of the internal workings into the hydrant body would not be included in this cost calculation. If one of the listed products is not made primarily of iron or steel, United States (US) provenance is not required. An exception to this definition is reinforced precast concrete, which is addressed in a later question.

14) If a product is composed of more than 50% iron or steel, but is not listed in the above list of items, must the item be produced in the US? Alternatively, must the iron or steel in such a product be produced in the US?

The answer to both question is no. Only items on the above list must be produced in the US. Additionally, the iron or steel in a non-listed item can be sourced from outside the US.

15) What is the definition of steel?

Steel means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of steel for the purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of steel covers carbon steel, alloy steel, stainless steel, tool steel and other specialty steels.

16) What does ‘produced in the United States’ mean?

Production in the United States of the iron or steel products used in the project requires that all manufacturing processes, including application of coatings, must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives. All manufacturing processes includes processes such as melting, refining, forming, rolling, drawing, finishing, fabricating and coating. Further, if a domestic iron and steel product is taken out of the US for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the

material(s), if any, being applied as a coating are similarly not covered. Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components do not have to be of domestic origin.

17) Are the raw materials used in the production of iron or steel required to come from US sources?

No. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-US sources.

18) If an above listed item is primarily made of iron or steel, but is only at the construction site temporarily, must such an item be produced in the US?

No. Only the above listed products made primarily of iron or steel, permanently incorporated into the project must be produced in the US. For example trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel.

19) What is the definition of ‘municipal castings’?

Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings are:

- Access Hatches;
- Ballast Screen;
- Benches (Iron or Steel);
- Bollards;
- Cast Bases;
- Cast Iron Hinged Hatches, Square and Rectangular;
- Cast Iron Riser Rings;
- Catch Basin Inlet;
- Cleanout/Monument Boxes;
- Construction Covers and Frames;
- Curb and Corner Guards;
- Curb Openings;
- Detectable Warning Plates;
- Downspout Shoes (Boot, Inlet);
- Drainage Grates, Frames and Curb Inlets;
- Inlets;
- Junction Boxes;
- Lampposts;
- Manhole Covers, Rings and Frames, Risers;

Meter Boxes;
Service Boxes;
Steel Hinged Hatches, Square and Rectangular;
Steel Riser Rings;
Trash receptacles;
Tree Grates;
Tree Guards;
Trench Grates; and
Valve Boxes, Covers and Risers.

20) What is ‘structural steel’?

Structural steel is rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

21) What is a ‘construction material’ for purposes of the AIS requirement?

Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. This includes, but is not limited to, the following products: wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), welding rods, decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, and stationary screens.

22) What is not considered a ‘construction material’ for purposes of the AIS requirement?

Mechanical and electrical components, equipment and systems are not considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

The following examples (including their appurtenances necessary for their intended use and operation) are NOT considered construction materials: pumps, motors, gear reducers, drives (including variable frequency drives (VFDs)), electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators), mixers, gates, motorized screens (such as traveling screens), blowers/aeration equipment, compressors, meters, sensors, controls and switches, supervisory control and

data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, analytical instrumentation, and dewatering equipment.

23) If the iron or steel is produced in the US, may other steps in the manufacturing process take place outside of the US, such as assembly?

No. Production in the US of the iron or steel used in a listed product requires that all manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.

24) What processes must occur in the US to be compliant with the AIS requirement for reinforced precast concrete?

While reinforced precast concrete may not be at least 50% iron or steel, in this particular case, the reinforcing bar and wire must be produced in the US and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the US. The cement and other raw materials used in concrete production are not required to be of domestic origin.

If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered to be a construction material and must be produced in the US.

Compliance

25) How should an assistance recipient document compliance with the AIS requirement?

In order to ensure compliance with the AIS requirement, specific AIS contract language must be included in each contract, starting with the assistance agreement, all the way down to the purchase agreements. Sample language for assistance agreements and contracts can be found in Appendix 3 and 4.

EPA recommends the use of a step certification process, similar to one used by the Federal Highway Administration. The step certification process is a method to ensure that producers adhere to the AIS requirement and assistance recipients can verify that products comply with the AIS requirement. The process also establishes accountability and better enables States to take enforcement actions against violators.

Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. A step certification is a process under which each handler (supplier, fabricator, manufacturer,

processor, etc) of the iron and steel products certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. A certification can be quite simple. Typically, it includes the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a manufacturer's responsible party. Attached, as Appendix 5, are sample certifications. These certifications should be collected and maintained by assistance recipients.

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the US. While this type of certification may be acceptable, it may not provide the same degree of assurance. Additional documentation may be needed if the certification is lacking important information. Step certification is the best practice.

26) How should a State ensure assistance recipients are complying with the AIS requirement?

In order to ensure compliance with the AIS requirement, States SRF programs must include specific AIS contract language in the assistance agreement. Sample language for assistance agreements can be found in Appendix 3.

States should also, as a best practice, conduct site visits of projects during construction and review documentation demonstrating proof of compliance which the assistance recipient has gathered.

27) What happens if a State or EPA finds a non-compliant iron and/or steel product permanently incorporated in the project?

If a potentially non-compliant product is identified, the State should notify the assistance recipient of the apparent unauthorized use of the non-domestic component, including a proposed corrective action, and should be given the opportunity to reply. If unauthorized use is confirmed, the State can take one or more of the following actions: request a waiver where appropriate; require the removal of the non-domestic item; or withhold payment for all or part of the project. Only EPA can issue waivers to authorize the use of a non-domestic item. EPA may use remedies available to it under the Clean Water Act, the Safe Drinking Water Act, and 40 CFR part 31 grant regulations, in the event of a violation of a grant term and condition.

It is recommended that the State work collaboratively with EPA to determine the appropriate corrective action, especially in cases where the State is the one who identifies the item in noncompliance or there is a disagreement with the assistance recipient.

If fraud, waste, abuse, or any violation of the law is suspected, the Office of Inspector General (OIG) should be contacted immediately. The OIG can be reached at 1-

888-546-8740 or OIG_Hotline@epa.gov. More information can be found at this website: <http://www.epa.gov/oig/hotline.htm>.

28) How do international trade agreements affect the implementation of the AIS requirements?

The AIS provision applies in a manner consistent with United States obligations under international agreements. Typically, these obligations only apply to direct procurement by the entities that are signatories to such agreements. In general, SRF assistance recipients are not signatories to such agreements, so these agreements have no impact on this AIS provision. In the few instances where such an agreement applies to a municipality, that municipality is under the obligation to determine its applicability and requirements and document the actions taken to comply for the State.

Waiver Process

The statute permits EPA to issue waivers for a case or category of cases where EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the US will increase the cost of the overall project by more than 25 percent.

In order to implement the AIS requirements, EPA has developed an approach to allow for effective and efficient implementation of the waiver process to allow projects to proceed in a timely manner. The framework described below will allow States, on behalf of the assistance recipients, to apply for waivers of the AIS requirement directly to EPA Headquarters. Only waiver requests received from states will be considered. Pursuant to the Act, EPA has the responsibility to make findings as to the issuance of waivers to the AIS requirements.

Definitions

The following terms are critical to the interpretation and implementation of the AIS requirements and apply to the process described in this memorandum:

Reasonably Available Quantity: The quantity of iron or steel products is available or will be available at the time needed and place needed, and in the proper form or specification as specified in the project plans and design.

Satisfactory Quality: The quality of iron or steel products, as specified in the project plans and designs.

Assistance Recipient: A borrower or grantee that receives funding from a State CWSRF or DWSRF program.

Step-By-Step Waiver Process

Application by Assistance Recipient

Each local entity that receives SRF water infrastructure financial assistance is required by section 436 of the Act to use American made iron and steel products in the construction of its project. However, the recipient may request a waiver. Until a waiver is granted by EPA, the AIS requirement stands, except as noted above with respect to municipalities covered by international agreements.

The waiver process begins with the SRF assistance recipient. In order to fulfill the AIS requirement, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American made iron and steel products. It is essential that the assistance recipient include the AIS terms in any request for proposals or solicitations for bids, and in all contracts (see Appendix 3 for sample construction contract language). The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three conditions is met:

1. Applying the American Iron and Steel requirements of the Act would be inconsistent with the public interest;
2. Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
3. Inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Proper and sufficient documentation must be provided by the assistance recipient. A checklist detailing the types of information required for a waiver to be processed is attached as Appendix 1.

Additionally, it is strongly encouraged that assistance recipients hold pre-bid conferences with potential bidders. A pre-bid conference can help to identify iron and steel products needed to complete the project as described in the plans and specifications that may not be available from domestic sources. It may also identify the need to seek a waiver prior to bid, and can help inform the recipient on compliance options.

In order to apply for a project waiver, the assistance recipient should email the request in the form of a Word document (.doc) to the State SRF program. It is strongly recommended that the State designate a single person for all AIS communications. The State SRF designee will review the application for the waiver and determine whether the necessary information has been included. Once the waiver application is complete, the State designee will forward the application to either of two email addresses. For CWSRF waiver requests, please send the application to: cwsrfwaiver@epa.gov. For DWSRF waiver requests, please send the application to: dwsrfwaiver@epa.gov.

Evaluation by EPA

After receiving an application for waiver of the AIS requirements, EPA Headquarters will publish the request on its website for 15 days and receive informal comment. EPA Headquarters will then use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.

In the event that EPA finds that adequate documentation and justification has been submitted, the Administrator may grant a waiver to the assistance recipient. EPA will notify the State designee that a waiver request has been approved or denied as soon as such a decision has been made. Granting such a waiver is a three-step process:

1. Posting – After receiving an application for a waiver, EPA is required to publish the application and all material submitted with the application on EPA’s website for 15 days. During that period, the public will have the opportunity to review the request and provide informal comment to EPA. The website can be found at: http://water.epa.gov/grants_funding/aisrequirement.cfm
2. Evaluation – After receiving an application for waiver of the AIS requirements, EPA Headquarters will use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.
3. Signature of waiver approval by the Administrator or another agency official with delegated authority – As soon as the waiver is signed and dated, EPA will notify the State SRF program, and post the signed waiver on our website. The assistance recipient should keep a copy of the signed waiver in its project files.

Public Interest Waivers

EPA has the authority to issue public interest waivers. Evaluation of a public interest waiver request may be more complicated than that of other waiver requests so they may take more time than other waiver requests for a decision to be made. An example of a public interest waiver that might be issued could be for a community that has standardized on a particular type or manufacturer of a valve because of its performance to meet their specifications. Switching to an alternative valve may require staff to be trained on the new equipment and additional spare parts would need to be purchased and stocked, existing valves may need to be unnecessarily replaced, and portions of the system may need to be redesigned. Therefore, requiring the community to install an alternative valve would be inconsistent with public interest.

EPA also has the authority to issue a public interest waiver that covers categories of products that might apply to all projects.

EPA reserves the right to issue national waivers that may apply to particular classes of assistance recipients, particular classes of projects, or particular categories of iron or steel products. EPA may develop national or (US geographic) regional categorical waivers through the identification of similar circumstances in the detailed justifications presented to EPA in a waiver request or requests. EPA may issue a national waiver based on policy decisions regarding the public's interest or a determination that a particular item is not produced domestically in reasonably available quantities or of a sufficient quality. In such cases, EPA may determine it is necessary to issue a national waiver.

If you have any questions concerning the contents of this memorandum, you may contact us, or have your staff contact Jordan Dorfman, Attorney-Advisor, State Revolving Fund Branch, Municipal Support Division, at dorfman.jordan@epa.gov or (202) 564-0614 or Kiri Anderer, Environmental Engineer, Infrastructure Branch, Drinking Water Protection Division, at anderer.kirsten@epa.gov or (202) 564-3134.

Attachments

Appendix 1: Information Checklist for Waiver Request

The purpose of this checklist is to help ensure that all appropriate and necessary information is submitted to EPA. EPA recommends that States review this checklist carefully and provide all appropriate information to EPA. This checklist is for informational purposes only and does not need to be included as part of a waiver application.

Items	✓	Notes
<p>General</p> <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> — Description of the foreign and domestic construction materials — Unit of measure — Quantity — Price — Time of delivery or availability — Location of the construction project — Name and address of the proposed supplier — A detailed justification for the use of foreign construction materials • Waiver request was submitted according to the instructions in the memorandum • Assistance recipient made a good faith effort to solicit bids for domestic iron and steel products, as demonstrated by language in requests for proposals, contracts, and communications with the prime contractor 		
<p>Cost Waiver Requests</p> <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> — Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products — Relevant excerpts from the bid documents used by the contractors to complete the comparison — Supporting documentation indicating that the contractor made a reasonable survey of the market, such as a description of the process for identifying suppliers and a list of contacted suppliers 		
<p>Availability Waiver Requests</p> <ul style="list-style-type: none"> • Waiver request includes the following supporting documentation necessary to demonstrate the availability, quantity, and/or quality of the materials for which the waiver is requested: <ul style="list-style-type: none"> — Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/delivery date for construction materials — Documentation of the assistance recipient's efforts to find available domestic sources, such as a description of the process for identifying suppliers and a list of contacted suppliers. — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials • Waiver request includes a statement from the prime contractor and/or supplier confirming the non-availability of the domestic construction materials for which the waiver is sought • Has the State received other waiver requests for the materials described in this waiver request, for comparable projects? 		

Appendix 2: HQ Review Checklist for Waiver Request

Instructions: To be completed by EPA. Review all waiver requests using the questions in the checklist, and mark the appropriate box as Yes, No or N/A. Marks that fall inside the shaded boxes may be grounds for denying the waiver. If none of your review markings fall into a shaded box, the waiver is eligible for approval if it indicates that one or more of the following conditions applies to the domestic product for which the waiver is sought:

1. The iron and/or steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.
2. The inclusion of iron and/or steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

Review Items	Yes	No	N/A	Comments
Cost Waiver Requests <ul style="list-style-type: none"> • Does the waiver request include the following information? <ul style="list-style-type: none"> – Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products – Relevant excerpts from the bid documents used by the contractors to complete the comparison – A sufficient number of bid documents or pricing information from domestic sources to constitute a reasonable survey of the market • Does the Total Domestic Project exceed the Total Foreign Project Cost by more than 25%? 				
Availability Waiver Requests <ul style="list-style-type: none"> • Does the waiver request include supporting documentation sufficient to show the availability, quantity, and/or quality of the iron and/or steel product for which the waiver is requested? <ul style="list-style-type: none"> – Supplier information or other documentation indicating availability/delivery date for materials – Project schedule – Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of materials • Does supporting documentation provide sufficient evidence that the contractors made a reasonable effort to locate domestic suppliers of materials, such as a description of the process for identifying suppliers and a list of contacted suppliers? • Based on the materials delivery/availability date indicated in the supporting documentation, will the materials be unavailable when they are needed according to the project schedule? (By item, list schedule date and domestic delivery quote date or other relevant information) • Is EPA aware of any other evidence indicating the non-availability of the materials for which the waiver is requested? Examples include: <ul style="list-style-type: none"> – Multiple waiver requests for the materials described in this waiver request, for comparable projects in the same State – Multiple waiver requests for the materials described in this waiver request, for comparable projects in other States – Correspondence with construction trade associations indicating the non-availability of the materials • Are the available domestic materials indicated in the bid documents of inadequate quality compared those required by the project plans, specifications, and/or permits? 				

Appendix 3: Example Loan Agreement Language

ALL ASSISTANCE AGREEMENT MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN SRF ASSISTANCE AGREEMENTS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE LAW:

Comply with all federal requirements applicable to the Loan (including those imposed by the 2014 Appropriations Act and related SRF Policy Guidelines) which the Participant understands includes, among other, requirements that all of the iron and steel products used in the Project are to be produced in the United States (“American Iron and Steel Requirement”) unless (i) the Participant has requested and obtained a waiver from the Agency pertaining to the Project or (ii) the Finance Authority has otherwise advised the Participant in writing that the American Iron and Steel Requirement is not applicable to the Project.

Comply with all record keeping and reporting requirements under the Clean Water Act/Safe Drinking Water Act, including any reports required by a Federal agency or the Finance Authority such as performance indicators of program deliverables, information on costs and project progress. The Participant understands that (i) each contract and subcontract related to the Project is subject to audit by appropriate federal and state entities and (ii) failure to comply with the Clean Water Act/Safe Drinking Water Act and this Agreement may be a default hereunder that results in a repayment of the Loan in advance of the maturity of the Bonds and/or other remedial actions.

Appendix 4: Sample Construction Contract Language

ALL CONTRACTS MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN ALL CONTRACTS IN PROJECTS THAT USE SRF FUNDS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE OR LOCAL LAW:

The Contractor acknowledges to and for the benefit of the City of _____ (“Purchaser”) and the _____ (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

Appendix 5: Sample Certifications

The following information is provided as a sample letter of **step** certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

DAVIS-BACON PREVAILING WAGE REQUIREMENTS

(a) GENERAL CONTRACT AND SUBCONTRACT PROVISIONS

For any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in §5.1 or the FY 2010 appropriation, the following clauses shall be inserted in full:

(1) Minimum Wages

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in §5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Wage determinations may be obtained from the U.S. Department of Labor's website, www.dol.gov.

(ii)(A) The Owner, on behalf of the EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

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

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

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

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Owner agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the Owner to the State award official. The State award official will transmit the request to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the Owner do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the questions, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding

The Owner, shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this

contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and Basic Records

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

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Owner, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the Owner shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the owner for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of

compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the Owner.

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

(1) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

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

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

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

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

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

(4) Apprentices and Trainees

(i) *Apprentices.* Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of

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

(ii) *Trainees*. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

(5) Compliance with Copeland Act Requirements

The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract Termination: Debarment

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

(8) Compliance with Davis-Bacon and Related Act Requirements

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes Concerning Labor Standards

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

(10) Certification of Eligibility

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

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

For any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act, the following clauses set forth in paragraphs (b) (1), (2), (3) and (4) of this section shall be inserted in full. These clauses shall be inserted in addition to the clauses required in Section (a), above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime Requirements

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

(2) Violation; Liability for Unpaid Wages; Liquidated Damages

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

(3) Withholding for Unpaid Wages and Liquidated Damages

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

(4) Subcontracts

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

(c) MAINTENANCE OF RECORDS

In addition to the clauses contained in Section (a), above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in §5.1 the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the Owner, the State, EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

(d) COMPLIANCE VERIFICATION

(1) The Owner shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The Owner must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(2) The Owner shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the Owner should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Owners must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB . Owners shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(3) The Owner shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The Owner shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the Owner should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract . Owners must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the Owner shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(4) The Owner shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees

and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(5) Owners must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/esa/contacts/whd/america2.htm>.

The following information is provided as a sample letter of certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Certification for Project (XXXXXXXXXXXX)

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

Good Faith Efforts

What is the Purpose of the Good Faith Efforts?

The Good Faith Efforts are methods employed by all EPA financial assistance agreement recipients to ensure that disadvantaged business enterprises (DBEs) have the opportunity to compete for procurements funded by EPA financial assistance funds.

What Are the Good Faith Efforts?

- ❖ Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and local government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
- ❖ Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- ❖ Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
- ❖ Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
- ❖ Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.
- ❖ If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs (a) through (e) of this section.

What are the New Contract Administration Provisions?

When the DBE rule goes into effect, there are a number of new provisions designed to prevent unfair practices that adversely affect DBEs. Those provisions are as follows:

- ❖ A recipient must require its prime contractor to pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient.
- ❖ A recipient must be notified in writing by its prime contractor prior to any

termination of a DBE subcontractor for convenience by the prime contractor.

- ❖ If a DBE subcontractor fails to complete work under the subcontract for any reason, the recipient must require the prime contractor to employ the Six Good Faith Efforts if soliciting a replacement subcontractor.
- ❖ A recipient must require its prime contractor to employ the Six Good Faith Efforts even if the prime contractor has achieved its fair share objectives.

What are the New Forms Associated With the New Contract Administration Provisions?

EPA Form 6100-2 - DBE Program Subcontractor Participation Form. This form gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the prime contractor, how much the DBE subcontractor was paid and any other concerns the DBE subcontractor might have.

EPA Form 6100-3 - DBE Program Subcontractor Performance Form. This form captures an intended subcontractor's description of work to be performed for the prime contractor and the price of the work submitted to the prime.

EPA Form 6100-4 – DBE Program Subcontractor Utilization Form. This form captures the prime's intended use of an identified DBE subcontractor, and the estimated dollar amount of the subcontract.

Form	Requirement	Provided By	Completed By	Submitted To
EPA Form 6100-2	Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	EPA DBE Coordinator
EPA Form 6100-3	Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	Recipients as part of bid or proposal package
EPA Form 6100-4	Recipients required to have prime contractors complete the form	Recipients	Prime Contractors	Recipients as part of bid or proposal package

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Participation Form**

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Participation Form**

Please use the space below to report any concerns regarding the above EPA-funded project:

Subcontractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form**

This form is intended to capture the DBE¹ subcontractor's² description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
DBE Certified By: <input type="checkbox"/> DOT <input type="checkbox"/> SBA <input type="checkbox"/> Other: _____		Meets/ exceeds EPA certification standards? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Unknown

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	Date

Subcontractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	__ YES	__ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?

_____ Continue on back if needed _____

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Utilization Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

DEBARMENT & SUSPENSION

Executive Order 12549--Debarment and Suspension

Source: The provisions of Executive Order 12549 of Feb. 18, 1986, appear at 51 FR 6370, 3 CFR, 1986 Comp., p. 189, unless otherwise noted.

By the authority vested in me as President by the Constitution and laws of the United States of America, and in order to curb fraud, waste, and abuse in Federal programs, increase agency accountability, and ensure consistency among agency regulations concerning debarment and suspension of participants in Federal programs, it is hereby ordered that:

Section 1. (a) To the extent permitted by law and subject to the limitations in Section 1(c), Executive departments and agencies shall participate in a system for debarment and suspension from programs and activities involving Federal financial and nonfinancial assistance and benefits. Debarment or suspension of a participant in a program by one agency shall have government-wide effect.

(b) Activities covered by this Order include but are not limited to: grants, cooperative agreements, contracts of assistance, loans, and loan guarantees.

(c) This Order does not cover procurement programs and activities, direct Federal statutory entitlements or mandatory awards, direct awards to foreign governments or public international organizations, benefits to an individual as a personal entitlement, or Federal employment.

Sec. 2. To the extent permitted by law, Executive departments and agencies shall:

(a) Follow government-wide criteria and government-wide minimum due process procedures when they act to debar or suspend participants in affected programs.

(b) Send to the agency designated pursuant to Section 5 identifying information concerning debarred and suspended participants in affected programs, participants who have agreed to exclusion from participation, and participants declared ineligible under applicable law, including Executive Orders. This information shall be included in the list to be maintained pursuant to Section 5.

(c) Not allow a party to participate in any affected program if any Executive department or agency has debarred, suspended, or otherwise excluded (to the extent specified in the exclusion agreement) that party from participation in an affected program. An agency may grant an exception permitting a debarred, suspended, or excluded party to participate in a particular transaction upon a written determination by the agency head or authorized designee stating the reason(s) for deviating from this Presidential policy. However, I intend that exceptions to this policy should be granted only infrequently.

Sec. 3. Executive departments and agencies shall issue regulations governing their implementation of this Order that shall be consistent with the guidelines issued under Section 6. Proposed regulations shall be submitted to the Office of Management and Budget for review within four months of the date of the guidelines issued under Section 6. The Director of the Office of Management and Budget may return for reconsideration proposed regulations that the Director believes are inconsistent with the guidelines. Final regulations shall be published within twelve months of the date of the guidelines.

Sec. 4. There is hereby constituted the Interagency Committee on Debarment and Suspension, which shall monitor implementation of this Order. The Committee shall consist of representatives of agencies designated by the Director of the Office of Management and Budget.

Sec. 5. The Director of the Office of Management and Budget shall designate a Federal agency to perform the following functions: maintain a current list of all individuals and organizations excluded from program participation under this Order, periodically distribute the list to Federal agencies, and study the feasibility of automating the list; coordinate with the lead agency responsible for government-wide debarment and suspension of contractors; chair the Interagency Committee established by Section 4; and report periodically to the Director on implementation of this Order, with the first report due within two years of the date of the Order.

Sec. 6. The Director of the Office of Management and Budget is authorized to issue guidelines to Executive departments and agencies that govern which programs and activities are covered by this Order, prescribe government-wide criteria and government-wide minimum due process procedures, and set forth other related details for the effective administration of the guidelines.

Sec. 7. The Director of the Office of Management and Budget shall report to the President within three years of the date of this Order on Federal agency compliance with the Order, including the number of exceptions made under Section 2(c), and shall make recommendations as are appropriate further to curb fraud, waste, and abuse.

Implementation in the SRF Programs

A company or individual who is debarred or suspended cannot participate in primary and lower-tiered covered transactions. These transactions include SRF loans and contracts and subcontracts awarded with SRF loan funds.

Under 40 C.F.R. 32.510, the SRF agency must submit a certification stating that it shall not knowingly enter into any transaction with a person who is proposed for debarment, suspended, declared ineligible, or voluntarily excluded from participation in the SRF program. This certification is reviewed by the EPA regional office before the capitalization grant is awarded.

A recipient of SRF assistance directly made available by capitalization grants must provide a certification that it will not knowingly enter into a contract with anyone who is ineligible under the regulations to participate in the project. Contractors on the project have to provide a similar certification prior to the award of a contract and subcontractors on the project have to provide the general contractor with the certification prior to the award of any subcontract.

In addition to actions taken under 40 C.F.R. Part 32, there are a wide range of other sanctions that can render a party ineligible to participate in the SRF program. Lists of debarred, suspended and otherwise ineligible parties are maintained by the General Services Administration and should be checked by the SRF agency and all recipients of funds directly made available by capitalization grants to ensure the accuracy of certifications.

Additional References

C 40 C.F.R. Part 32: EPA Regulations on Debarment and Suspension.

**CERTIFICATION REGARDING DEBARMENT & SUSPENSION
AND OTHER RESPONSIBILITY MATTERS**

In accordance with the Executive Order 12549, the prospective primary participant certifies to the best of his / her knowledge and belief, that its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offence in connection with obtaining, attempting to obtain, or performing a public (federal, state, or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state, or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification.
- d. Have not within a three-year period preceding this application / proposal had one or more public transactions (federal, state, or local) terminated for cause of default.
- e. Acknowledge that all sub-contractors selected for this project must be in compliance with paragraphs (1) (a – d) of this certification.

Name and Title of Authorized Agent

Date

Signature of Authorized Agent

Company Name

_____ I am unable to certify to the above statements. My explanation is attached.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

MEMORANDUM

SUBJECT: Prohibition on Certain Telecommunication and Video Surveillance Services or Equipment in the SRF Programs

FROM: Kiri Anderer, P.E., Acting Associate Branch Chief
Infrastructure Branch, OGWDW

KIRSTEN
ANDERER

Digitally signed by KIRSTEN
ANDERER
Date: 2020.12.11 07:55:52
-05'00'

Michael Deane, Branch Chief
State Revolving Fund Branch, OWM

MICHAEL DEANE

Digitally signed by MICHAEL
DEANE
Date: 2020.12.11 17:56:38 -05'00'

TO: SRF Branch Chiefs
Regions 1-10

Effective August 13, 2020, recipients and subrecipients of EPA funded assistance agreements, including borrowers under EPA funded revolving loan funds, must comply with regulations at [2 CFR 200.216](#), *Prohibition on certain telecommunication and video surveillance services or equipment*, implementing section 889 of [Public Law 115-232](#). The regulation prohibits the use of Federal funds to procure (enter into, extend, or renew contracts) or obtain equipment, systems, or services that use “covered telecommunications equipment or services” identified in the regulation as a substantial or essential component of any system, or as critical technology as part of any system. Prohibitions extend to the use of Federal funds by recipients and subrecipients to enter into a contract with an entity that “uses any equipment, system, or service that uses covered telecommunications equipment or services” as a substantial or essential component of any system, or as critical technology as part of any system. Certain equipment, systems, or services, including equipment, systems, or services produced or provided by entities subject to the prohibition are recorded in the [System for Award Management](#) exclusion list.

As described in section 889 of Public Law 115-232, covered telecommunications equipment or services includes:

- Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
- For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- Telecommunications or video surveillance services provided by such entities or using such equipment.

- Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Applicability in the State Revolving Fund (SRF) Programs

Clean Water and Drinking Water SRF (CWSRF and DWSRF) programs may not expend equivalency funds for these products on or after August 13, 2020. States must ensure that equivalency assistance agreements include the telecommunications prohibition condition [provided by EPA's Office of Grants and Debarment](#) (OGD) in OGD's most recent EPA General Terms and Conditions. The condition must also be in construction contracts associated with equivalency assistance agreements.

There is no exhaustive list of components and services that fall under the prohibition. State SRF managers and local assistance recipients should exercise due diligence and be particularly mindful of project components with internet or cellular connections. For example, recipients should be mindful of automatic meter reading (AMR) technology and advanced metering infrastructure (AMI), instrumentation control systems (e.g. process control systems, distributed control systems and programmable logic controls), and security cameras and other electronic security measures to ensure that those items are procured from a non-excluded entity. Items included in the prohibition are not eligible SRF costs, and the SRF programs cannot reimburse borrowers for these costs.

The prohibition also applies to the CWSRF administrative funds (if states are billing those costs to the federal CWSRF capitalization grant) and the four DWSRF set-asides. States should be mindful of items such as cell phones, computers, and mobile WiFi routers or hotspots funded by those accounts.

If you have questions on the implementation of this grant condition, please contact Michael Deane at Deane.Michael@epa.gov or Kiri Anderer at Anderer.Kirsten@epa.gov.

Office of Diversity, Equity and Opportunity (ODEO)
MBE Compliance Office
1 Capitol Hill, 3rd Floor
Providence, RI 02908

(401) 574-8670
www.mbe.ri.gov

Pursuant to RIGL 37-14.1 as well as the regulations promulgated thereto, the MBE Compliance Office requires that you complete the following table. Please note that these figures will be verified with the MBEs identified. If there are outstanding issues, such as retainage or a dispute, please indicate and attach supporting documentation for same. Also note that copies of invoice and cancelled checks for payment to all MBE subcontractors and suppliers are required.

Contractor/Vendor Name:

Project Name & Location:

Original Prime Contract Amount: \$ _____ Current Prime Contract Amount: \$ _____ % Complete: _____

MBE/WBE Subcontractor	Original Contract Amount	Change Orders	Revised Contract Value	% Completed To Date	Amount Paid To Date	Amount Due	Retainage %	Retainage Amount	Explanation

I declare, under penalty of perjury, that the information provided in this verification form and supporting documents is true and correct.

Signature

Date

Printed Name

Notary Certificate:

Sworn before me this _____ day of _____, 20____.

Notary Signature

Commission Expires



Rhode Island Department of Health Center for Drinking Water Quality

Drinking Water State Revolving Fund Program Relevant Federal and State Laws

A. Federal

- 1) Equal Employment Opportunity and Affirmative Action (Executive Order 11246)
 - i) OFCCP fact sheet.
 - ii) Equal Opportunity Clause and the Standard Federal Equal Employment Specifications.
 - iii) Notice of Non-Discrimination in Employment.
- 2) Non-discrimination in employment notice.
- 3) Assurance of compliance with Title VI of the Civil Rights Act of 1964 and Section 13 of the FWPCA Amendments of 1972 (EPA form 4700-1).
- 4) Affirmative steps for soliciting MBE/WBE (40 CFR 31.36(e))

Applicable cross-cutting Federal authorities for projects funded through SRF programs are made available at http://water.epa.gov/grants_funding/dwsrf/xcuts.cfm. Additional information is provided in the United States Environmental Protection Agency's cross-cutting handbook available at <https://www.epa.gov/sites/production/files/2015-08/documents/crosscutterhandbook.pdf>.

B. State of Rhode Island

- 1) RIGL 37-2.1, Domestic Steel
- 2) RIGL 37-12, Contractors Bonds
- 3) RIGL 37-12.1, Substitution of Security for Retained Earnings of Architects and Engineers.
- 4) RIGL 37-13, Labor and Payment of Debts by Contractors
 - i) Prevailing Wage Rates
- 5) RIGL 37-14.1, Minority Business Enterprise
 - i) Regulations Governing Participation by Minority Business Enterprises in State Funded and Directed Public Construction Projects, Construction Contracts and Procurement Contracts Goods and Services.
- 6) RIGL 37-16, Public Works Arbitration
- 7) RIGL 45-55, Award of Municipal Contracts

NOTE: This package is prepared by DOH as a service of the DWSRF program. While every attempt at accuracy has been made, these are not certified true copies of the laws presented. **The responsibility for compliance with all applicable provisions of Federal and State laws and regulations relating to the bidding, award, and performance of contracts is the applicant's and the bidder's.** Certified true and complete copies of any Rhode Island laws and regulations may be obtained from the Office of the Secretary of State.

Employment Standards Administration Office of Federal Contract Compliance Programs

Fact Sheet EXECUTIVE ORDER 11246

EEO and Affirmative Action Guidelines for Federal Contractors Regarding Race, Color, Gender, Religion, and National Origin.

BASIC PROVISIONS

Since 1965, the U.S. Department of Labor's Office of Federal Contract Compliance Programs (OFCCP) has been committed to ensuring that Government contractors comply with the equal employment opportunity (EEO) and the affirmative action provisions of their contracts.

OFCCP administers and enforces Executive Order 11246, as amended, which prohibits federal contractors and federally-assisted construction contractors and subcontractors, who do over \$10,000 in Government business in one year from discriminating in employment decisions on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin.

The Executive Order also requires Government contractors to take affirmative action to insure that equal opportunity is provided in all aspects of their employment.

AFFIRMATIVE ACTION REQUIREMENTS

Each Government contractor with 50 or more employees and \$50,000 or more in government contracts is required to develop a written affirmative action program (AAP) for each of its establishments.

A written affirmative action program helps the contractor identify and analyze potential problems in the participation and utilization of women and minorities in the contractor's workforce.

If there are problems, the contractor will specify in its AAP the specific procedures it will follow and the good faith efforts it will make to provide equal employment opportunity.

Expanded efforts in outreach, recruitment, training and other areas are some of the affirmative steps contractors can take to help members of the protected groups compete for jobs on equal footing with other applicants and employees.

Affirmative action is not preferential treatment. It does not mean that unqualified persons should be hired or promoted over other people. What affirmative action does mean is that positive steps must be taken to ensure equal employment opportunity for traditionally disadvantaged groups.

ENFORCEMENT AND COMPLIANCE

Compliance Reviews

OFCCP conducts compliance reviews to investigate the employment practices of Government contractors. During a compliance review, a compliance officer examines the contractor's affirmative action program; checks personnel, payroll, and other employment records; interviews employees and company officials; and investigates virtually all aspects of employment in the company.

The investigator also checks to see whether the contractor is making special efforts to achieve equal opportunity through affirmative action. If problems are discovered, OFCCP will recommend corrective action and suggest ways to achieve equal employment opportunity.

Complaint Investigations

Individuals may file complaints if they believe they have been discriminated against by federal contractors or subcontractors. Complaints also may be filed by organizations on behalf of the person or persons affected.

Complaints must be filed within 180 days from the date of the alleged discrimination, although filing time can be extended for a good reason.

If a complaint filed under Executive Order 11246 involves discrimination against only one person, OFCCP will normally refer it to the EEOC. Cases involving groups of people or indicating patterns of discrimination are generally investigated and resolved by OFCCP. Complaints may be filed directly with any of OFCCP's regional or district offices throughout the country, or with OFCCP in Washington, D.C.

Compliance Assistance

To help contractors understand their contractual obligations for EEO and affirmative action, OFCCP provides technical assistance. District office staff offers guidance to contractors on how to develop an affirmative program through company seminars, training programs held in conjunction with industry liaison groups, and one-on-one consultations on affirmative action practices and procedures.

Enforcing Contract Compliance

When a compliance review discloses problems, OFCCP attempts to work with the contractor, often entering into a conciliation agreement. A conciliation agreement may include back pay, job offers, seniority credit, promotions or other forms of relief for victims of discrimination. It may also involve new training programs, special recruitment efforts, or other affirmative action measures.

When conciliation efforts are unsuccessful, OFCCP refers the case to the Office of the Solicitor for enforcement through administrative enforcement proceedings. A contractor cited for violating EEO and affirmative action requirements may have a formal hearing before an administrative law judge.

If conciliation is not reached before or after the hearing, sanctions may be imposed. For example, a contractor could lose its government contracts or subcontracts or be debarred, i.e., declared ineligible for any future government contracts.

Further Information

For more information about contract compliance, filing complaints, or compliance assistance, contact any of OFCCP's regional or district offices. All offices are listed in telephone directories under U.S. Department of Labor, Employment Standards Administration, Office of Federal Contract Compliance Programs.

EQUAL EMPLOYMENT OPPORTUNITY AND AFFIRMATIVE ACTION

Executive Order 11246
(Excerpts from 41 CFR 60 Parts 1 and 4)

41 CFR 60-1.4 - Equal opportunity clause

(b) Federally assisted construction contracts. Except as otherwise provided, each administering agency shall require the inclusion of the following language as a condition of any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of the equal opportunity clause:

The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following *equal opportunity clause*:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause. Such action shall include but not be limited to the following:
- (2) Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will

permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

(c) *Subcontracts.* Each nonexempt prime contractor or subcontractor shall include the equal opportunity clause in each of its nonexempt subcontracts.

(d) *Incorporation of the equal opportunity clause by reference.* The equal opportunity clause may be incorporated by reference in all Government contracts and subcontracts, including Government bills of lading, transportation requests, contracts for deposit of Government funds, and contracts for issuing and paying U.S. savings bonds and notes, and such other contracts and subcontracts as the Director may designate.

(e) *Incorporation by operation of the order.* By operation of the order, the equal opportunity clause shall be considered to be a part of every contract and subcontract required by the order and the regulations in this part to include such a clause whether or not it is physically incorporated in such contracts and whether or not the contract between the agency and the contractor is written.

(f) Adaptation of language. Such necessary changes in language may be made in the equal opportunity clause as shall be appropriate to identify properly the parties and their undertakings.

41 CFR 60-4.3 - Equal opportunity clauses

(a) The equal opportunity clause published at 41 CFR 60-1.4(a) of this chapter is required to be included in, and is part of, all nonexempt Federal contracts and subcontracts, including construction contracts and subcontracts. The equal opportunity clause published at 41 CFR 60-1.4(b) is required to be included in, and is a part of, all nonexempt federally assisted construction contracts and subcontracts. In addition to the clauses described above, all Federal contracting officers, all applicants and all non-construction contractors, as applicable, shall include the specifications set forth in this section in all Federal and federally assisted construction contracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to 60-4.6 of this part and in construction subcontracts in excess of \$10,000 necessary in whole or in part to the performance of non-construction Federal contracts and subcontracts covered under the Executive order.

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

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

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations

- serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to

comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(b) The notice set forth in 41 CFR 60-4.2 and the specifications set forth in 41 CFR 60-4.3 replace the New Form for Federal Equal Employment Opportunity Bid Conditions for Federal and Federally Assisted Construction published at 41 FR 32482 and commonly known as the Model Federal EEO Bid Conditions, and the New Form shall not be used after the regulations in 41 CFR Part 60-4 become effective.

[43 FR 49254, Oct. 20, 1978; 43 FR 51401, Nov. 3, 1978, as amended at 45 FR 65978, Oct. 3, 1980]

NOTICE TO LABOR UNIONS OR OTHER ORGANIZATIONS OF WORKERS

NON-DISCRIMINATION IN EMPLOYMENT

TO: _____
(Name of Union or Organization of Workers)

The undersigned currently holds contract(s) with _____
(Name of Applicant)

involving funds or credit of the U.S. Government of (a) subcontract(s) with a prime contractor holding such contract(s).

You are advised that under the provisions of the above contract(s) or subcontract(s) and in accordance with Executive Order 11246, dated September 24, 1965, the undersigned is obliged not to discriminate against any employee or applicant for employment because of race, age, handicap, veteran status, color, creed, or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following:

**HIRING, PLACEMENT, UPGRADING, TRANSFER, OR DEMOTION,
RECRUITMENT, ADVERTISING, OR SOLICITATION FOR
EMPLOYMENT TRAINING DURING EMPLOYMENT, RATES OF PAY
OR OTHER FORMS OF COMPENSATION, SELECTION FOR TRAINING
INCLUDING APPRENTICESHIP, LAYOFF, OR TERMINATION.**

This notice is furnished you pursuant to the provisions of the above contract(s) or subcontract(s) and Executive Order 11246.

COPIES OF THIS NOTICE WILL BE POSTED BY THE UNDERSIGNED IN CONSPICUOUS PLACES AVAILABLE TO EMPLOYEES OR APPLICANTS FOR EMPLOYMENT.

(Contractor or Subcontractor)

(Date)

**UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY**

**ASSURANCE OF COMPLIANCE
FOR
TITLE VI OF THE CIVIL RIGHTS ACT OF 1964
AND
SECTION 13 OF THE FWPCA AMENDMENTS OF 1972**

NAME AND ADDRESS OF APPLICANT/RECIPIENT (<i>Hereinafter called ASSUROR</i>)	GRANT IDENTIFICATION NUMBER <i>(To be completed by EPA)</i>	GRANT AMOUNT REQUESTED \$
	TYPE OF GRANT <input type="checkbox"/> DEMONSTRATION <input type="checkbox"/> RESEARCH <input type="checkbox"/> TRAINING <input type="checkbox"/> OTHER (<i>Specify</i>):	
	CHECK ONE: <input type="checkbox"/> NEW <input type="checkbox"/> CONTINUATION	

HEREBY AGREES THAT IT will comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352) and all requirements of the U.S. Environmental Protection Agency (*hereinafter called "EPA"*) issued pursuant to that title, to the end that in accordance with Title VI of that Act, no person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Assuror receives financial assistance from EPA and hereby gives assurance that it will now and hereafter take all necessary measures to effectuate this agreement.

HEREBY AGREES THAT IT will comply with all applicable requirements of Section 13 of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500) and all requirements of EPA issued pursuant to that section, to the end that in accordance with that section of that Act, no person in the United States shall, on the ground of sex be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity under the said Federal Water Pollution Control Act Amendments for which the Assuror receives assistance from EPA and hereby gives assurance that it will now and hereafter take all necessary measures to effectuate this agreement.

If any real property or structure thereon is provided or improved with the aid of financial assistance extended to the Assuror by EPA, this Assurance obligates the Assuror, or, in the case of any transfer of such property, any transferee for the period during which the real property or structure is used for a purpose involving the provisions of similar services or benefits. If any personal property is so provided, this Assurance obligates the Assuror for the period during which it retains ownership or possession of the property. In all other cases, this Assurance obligates the Assuror for the period during which the financial assistance is extended to it by EPA.

THE ASSURANCE is given in consideration of and for the purpose of obtained any and all Federal grants, loans, contracts, property discounts or other financial assistance extended after the date hereof to the Assuror by EPA including installment payments after such date on account of arrangements for Federal financial assistance which were approved before such date. The Assuror recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this Assurance and that the United States shall reserve the right to seek judicial enforcement of this Assurance. The Assurance is binding on the Assuror, its successors, transferees, and assignees, and the person or persons whose signature appear below are authorized to sign this Assurance on behalf of the Assuror.

The obligations assumed by the Assuror hereunder are in addition to any obligations which may be imposed to the Assuror by any applicable regulation now outstanding or which may hereafter be adopted by EPA to effectuate any provision or goal of the said Title VI and all applicable requirements of the said Section 13, and no part of this Assurance shall be read so as to in any way detract from or modify any obligation which may be imposed on the Assuror by any such regulation standing alone.

SIGNATURE OF ASSUROR BY PRESIDENT, CHAIRMAN OF BOARD OR COMPARABLE AUTHORIZED OFFICIAL	DATE
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CONTRACTING WITH SMALL AND MINORITY FIRMS, WOMEN'S BUSINESS ENTERPRISE

40 CFR 31.36(e)

40 CFR 31.36(e) – Contracting with small and minority firms, women's business enterprise and labor surplus area firms.

(1) The grantee and sub-grantee will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

(2) Affirmative steps shall include:

- (i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (ii) Assuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;
- (iii) Dividing the total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
- (iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
- (v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and
- (vi) Requiring the prime contractor, if subcontracts are to be let, to take affirmative steps listed in paragraphs (e)(2)(i) through (v) of this section.

TITLE 37

CHAPTER 2.1 DOMESTIC STEEL

Section

37-2.1-1.	Short Title
37-2.1-2.	Purpose
37-2.1-3.	Purchase of steel and steel products
37-2.1-4.	Payment
37-2.1-5.	Definitions

37-2.1-1. Short title.

This chapter shall be known and may be cited as the "Steel Products Procurement Act".

37-2.1-2. Purpose.

- (a) This chapter shall be deemed to be an exercise of the police powers of the state for the protection of the health, safety, and general welfare of the people of the state.
- (b) It is hereby determined by the general assembly of Rhode Island and declared as a matter of legislative findings that:
 - (1) The United States is one of the leading countries in the production and use of steel and its allied products;
 - (2) The use of steel products constitutes a major industry of the United States and, as such, provides the jobs and family incomes of millions of persons in the United States;
 - (3) The taxes paid to Rhode Island and the United States by employers and employees engaged in the production and sale of steel products are one of the largest single sources of public revenues in this country;
 - (4) It has, for many years, been the policy of the state to aid and support the development and expansion of industry in the United States in order to foster the economic well-being of the state and its people; and
 - (5) The economy, general welfare, and national security of the United States, are inseparably related to the preservation and development of the steel industry in the United States.
- (c) The general assembly therefore declares it to be the policy of the state that all public officers and agencies should, at all times, aid and promote the development of the steel industry of the United States in order to stimulate and improve the economic well-being of the state and its people.

37-2.1-3. Purchase of steel and steel products.

- (a) Every public agency shall require that every contract document for the construction, reconstruction, alteration, repair, improvement, or maintenance of public works contain a provision that, if any steel products are to be used or supplied in the performance of the contract, only steel products as herein defined shall be used or supplied in the performance of the contract or any subcontracts thereunder.
- (b) This section shall not apply in any case where the head of the public agency, in writing, determines that steel products as herein defined are not produced in, or readily available in the United States or that such steel products shall not exceed fifteen percent (15%) of the costs of any other steel products obtainable nationally or internationally.

37-2.1-4. Payment.

No public agency shall authorize, provide for, or make any payments to any person under any contract containing the provision required by 37-2.1-3 unless the public agency is satisfied that such person has fully complied with that provision. Any such payments made to any person by any public agency which should not have been made, as a result of this section, shall be recoverable directly from the contractor or subcontractor who did not comply with 37-2.1-3 by either such public agency or the attorney general upon suit filed in the court of any county.

37-2.1-5. Definitions.

The following words and phrases when used in this chapter shall have, unless the context clearly indicates otherwise, the meanings given to them in this section:

- (a) "Person" means natural persons as well as corporations, partnerships, business units, and associations;
- (b) "Public agency" means (1) the state and its departments, boards, commissions and agencies, (2) cities, towns, school districts, and any other governmental unit or district, (3) any and all other public bodies, authorities, officers, agencies, or instrumentalities, whether exercising a governmental or proprietary function;
- (c) "Public works" means steel to construct, frame or reinforce any public structure, building, highway, waterway, street, bridge, transit system, airport, or other betterment, work or improvement, whether of a permanent or temporary nature, and whether for governmental or proprietary use;
- (d) "Steel products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated, or otherwise similarly processed, or processed by a combination of two or more of such operations, from steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer, or other steel making process;
- (e) "United States" means the United States of America and includes all territory, continental or insular, subject to the jurisdiction of the United States.

TITLE 37

CHAPTER 12 CONTRACTORS' BONDS

Sections

- 37-12-1. Contractors required to give bond – Terms and conditions.
- 37-12-2. Rights of persons furnishing labor and materials.
- 37-12-3. Remedies of creditors and state – Priority of claims.
- 37-12-4. Intervention by creditor in suit brought by state.
- 37-12-5. Time limitation on creditors' actions.
- 37-12-6. Intervention in suit brought by creditor – Consolidation of suits.
- 37-12-7. Notice of Pendency of Suit
- 37-12-8. Certified copies of documents.
- 37-12-9. Payment into court by surety – Discharge.
- 37-12-10. Retainers relating to contracts for public works or sewer or water main construction.
- 37-12-11. Substitution of securities for retained earnings.

§ 37-12-1. Contractors required to give bond – Terms and conditions. – Every person (which word for the purposes of this chapter shall include a co-partnership, a number of persons engaged in a joint enterprise, or a corporation), before being awarded a contract by the department of transportation or by the department of administration, as the case may be, and every person awarded such a contract as a general contractor or construction or project manager for the construction, improvement, completion, or repair of any public road or portion thereof or of any bridge in which the contract price shall be in excess of fifty thousand dollars (\$ 50,000), or for a contract for the construction, improvement, completion, or repair of any public building, or portion thereof, shall be required to furnish to the respective department a bond of that person to the state, with good and sufficient surety or sureties (hereafter in this chapter referred to as surety), acceptable to the respective department, in a sum not less than fifty percent (50%) and not more than one hundred percent (100%) of the contract price, conditioned that the contractor, principal in the bond, the person's executors, administrators, or successors, shall in all things, well and truly keep and perform the covenants, conditions, and agreements in the contract, and in any alterations thereof made as therein provided, on the person's part to be kept and performed, at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the state, the respective department, and all of its officers, agents, and employees, as therein stipulated, and shall also promptly pay for all such labor performed or furnished and for all such materials and equipment furnished, (which as to equipment shall mean payment of the reasonable rental value, as determined by the respective department, of its use during the period of its use), as shall be used in the carrying on of the work covered by the contract, or shall see that they are promptly paid for, whether or not the labor is directly performed for or furnished to the contractor or is even directly performed upon the work covered by the contract, and whether or not the materials are furnished to the contractor or become component parts of the work, and whether or not the equipment is furnished to the contractor or even directly used upon the work. The bond shall contain the provisions that it is subject to all such rights and powers of the respective department and such other provisions as are set forth in the contract and the plans, specifications, and proposal incorporated by reference in the contract, and that no extension of the time of performance of the contract or delay in the completion of the work thereunder or any alterations thereof, made as therein provided, shall invalidate the bond or release the liability of the surety thereunder. Waiver of the bonding requirements of this section is expressly prohibited.

37-12-2. Rights of persons furnishing labor and materials.

Every person who shall have performed labor and every person who shall have furnished or supplied labor, material, or equipment in the prosecution of the work provided for in the contract, in respect of which a payment bond is furnished under § 37-12-1, and who has not been paid in full therefor before the expiration of a period of ninety (90) days after the day on which the last of the labor was performed or furnished by him or her, or material or equipment furnished or supplied by him or her for which a claim is made, shall have the right to sue on the payment bond for the amount, or the balance thereof, unpaid at the time of institution of the suit and to prosecute the action to final execution and judgment for the sum or sums justly due him or her; provided, however, that any person having direct contractual relationship with a subcontractor but no contractual relationship express or implied with the contractor

furnishing the payment bond shall have a right of action upon the payment bond upon giving written notice to the contractor within ninety (90) days from the date on which the person furnished or performed the last of the labor, or furnished or supplied the last of the material or equipment for which the claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the labor was furnished or performed or the material or equipment was furnished or supplied. The notice shall be served by mailing the same by certified mail, postage prepaid, in an envelope addressed to the contractor at any place he or she maintains an office, conducts his or her business, or his or her residence.

37-12-3. Remedies of creditors and state - Priority of claims.

The remedy on the bond shall be by a civil action brought in the superior court for the counties of Providence and Bristol and in any suit brought on the bond the rights of the state shall be prior to those of all creditors. The rights of persons who shall have performed labor as aforesaid shall be prior to the rights of all other creditors, and there shall be no priorities among laborers or among other creditors under the bond. The state, either after having recovered a judgment against the contractor on the contract or without having recovered a judgment, may bring a suit on the bond against the contractor and surety on the bond, and may join as parties defendant in the suit any persons claiming to have rights under the bond as creditors; and, if it has not brought such a suit, it may at any time before a final and conclusive decree, intervene and become a party in any suit brought, as hereafter provided in this chapter, by any person claiming to be a creditor under the bond.

37-12-4. Intervention by creditor in suit brought by state.

Any person claiming to be a creditor under the bond may at any time intervene and become a party in any pending suit brought as aforesaid by the state on the bond, and by so intervening may have the rights to the person adjudicated in the suit.

37-12-5. Time limitation on creditors' actions.

No suit instituted under § 37-12-2 shall be commenced after the expiration of two (2) years, or under the maximum time limit as contained within any labor or material payment bond required under § 37-12-1, whichever period is longer, after the day on which the last of the labor was furnished or performed or material or equipment was furnished or supplied by any person claiming under the section.

37-12-6. Intervention in suit brought by creditor - Consolidation of suits.

When a suit has been so brought on the bond by a person claiming to be a creditor under the bond and is pending, any other person claiming to be a creditor under the bond may intervene and become a party in the first suit thus brought and pending and by so intervening may have the rights of the other person adjudicated in the suit. If two (2) or more of the suits be filed in the court on the same day, the one in which the larger sum shall be claimed shall be regarded as the earlier suit. All suits brought upon the bond as provided in this chapter shall be consolidated together by the court and heard as one suit.

37-12-7. Notice of pendency of suit.

In any suit brought under the provisions of this chapter such personal notice of the pendency of the suit as the court may order shall be given to all such known creditors and persons claiming to be creditors under the bond as shall not have entered their appearances in the suit and, in addition to the notice, notice of the pendency of the suit shall be given by publication in some newspaper published in this state of general circulation in the city or town or every city or town in which the work covered by the contract was carried on, once a week for three (3) successive weeks, in such form as the court may order. The court, however, may dispense with the notices if satisfied that sufficient notices shall have been given in some other suit brought under the provisions of this chapter.

37-12-8. Certified copies of documents.

Any person claiming to be a creditor under the bond and having filed a claim with the respective department, in accordance with the requirements of § 37-12-2, shall have the right, at any time when the person could under this chapter file a suit or intervene in a pending suit, to require the respective department to furnish to the person certified copies of the contract, proposal, plans specifications, and bond.

37-12-9. Payment into court by surety - Discharge.

The surety on the bond may pay into the registry of the court, for distribution among those who may be or become entitled thereto under the decree of the court, the penal sum named in the bond less any amount which the surety

may have paid to the state in satisfaction of the liability of the surety to the state under the bond, and then shall be entitled to be discharged from all further liability under the bond.

37-12-10. Retainers relating to contracts for public works or sewer or water main construction.

(a) Upon substantial completion of the work required by a contract aggregating in amount less than five hundred thousand dollars (\$ 500,000) with any municipality, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair, or improvement of sewers and water mains, or any public works project defined in, the awarding authority may deduct from its payment a retention to secure satisfactory performance of the contractual work not exceeding five percent (5%) of the contract price unless otherwise agreed to by the parties. Upon substantial completion of the work required by a contract aggregating in an amount of five hundred thousand dollars (\$ 500,000) or greater with any municipality, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair, or improvement of sewers and water mains, or any public works project defined in § 37-13-1, the awarding authority may deduct from its payment a retention to secure satisfactory performance of the contractual work not exceeding five percent (5%) of the contract price. In the case of periodic payments with respect to contracts less than the aggregate amount of five hundred thousand dollars (\$ 500,000), the awarding authority may deduct from its payment a retention to secure satisfactory performance of the contractual work not exceeding five percent (5%) of the approved amount of any periodic payment unless otherwise agreed to by the parties. In the case of periodic payments with respect to contracts in the aggregate amount of five hundred thousand dollars (\$ 500,000) or greater, the awarding authority may deduct from its payment a retention to secure satisfactory performance of the contractual work not exceeding five percent (5%) of the approved amount of any periodic payment.

(b) The retainage shall be paid to any contractor or subcontractor within ninety (90) days of the date the work is accepted by the awarding authority unless a dispute exists with respect to the work. If payment is not made within ninety (90) days for any reason other than a dispute, which, if resolved and it is not the fault of the contractor, interest shall be assessed at the rate of ten percent (10%) per annum on all money which is to be paid to the contractor or subcontractor.

(c) The retainage shall be paid to any contractor or subcontractor within ninety (90) days of the date his or her work is completed and accepted by the awarding authority. If payment is not made, interest shall be assessed at the rate of ten percent (10%) per annum.

(d) There shall also be deducted and retained from the contract price an additional sum sufficient to pay the estimated cost of municipal police traffic control on any public works project. Municipalities shall directly pay the officers working traffic details and shall bill and be reimbursed by the withholding authority for which the contract is being performed every thirty (30) days until the project is complete.

(e) Notwithstanding the foregoing, with respect to projects located within the town of Warren, the withholding authority shall hold an amount from the contract price which shall be reasonably sufficient to pay the estimated cost of municipal police traffic control. The withholding authority shall pay to the town of Warren within seventy-two (72) hours of written demand the actual costs of police traffic control associated with said project on an ongoing basis.

37-12-11. Substitution of securities for retained earnings.

(a) Where any public works contract as defined by § 37-13-1 provides for the retention of earned estimates by the state of Rhode Island, the contractor may, from time to time, withdraw the whole or any portion of the amount retained for payments to the contractor pursuant to the terms of the contract, upon depositing with the general treasurer either; (1) United States treasury bonds, United States treasury notes, United States treasury certificates of indebtedness, or United States treasury bills; (2) Bonds or notes of the state of Rhode Island ; or (3) Bonds of any political subdivision in the state of Rhode Island.

(b) No amount shall be withdrawn in excess of the market value of the securities at the time of deposit or of the par value of the securities, whichever is lower. The general treasurer shall, on a regular basis, collect all interest or income on the obligations so deposited and shall pay the interest or income, when and as collected, to the contractor who deposited the obligations. If the deposit is in the form of coupon bonds, the general treasurer shall deliver each coupon as it matures to the contractor. Any amount deducted by the state, or by any public department or official thereof, pursuant to the terms of the contract, from the retained payments otherwise due the contractor, shall be

deducted, first from that portion of the retained payments for which no security has been substituted, then from the proceeds of any deposited security. In the latter case, the contractor shall be entitled to receive interest, coupons, or income only from those securities which remain after the amount has been deducted. The securities so deposited shall be properly endorsed by the contractor in such manner so as to enable the general treasurer to carry out the provisions of this section.

TITLE 37

CHAPTER 12.1 SUBSTITUTION OF SECURITY FOR RETAINED EARNINGS OF ARCHITECTS AND ENGINEERS

Sections

- 37-12.1-1. Definition of Terms.
- 37-12.1-2. Substitution of security for retained earnings by designers.
- 37-12.1-3. Deduction from retained earnings.
- 37-12.1-4. Endorsement on securities.
- 37-12.1-5. Applicability.

37-12.1-1. Definition of terms.

Terms used in this chapter shall be construed as follows:

- (a) "Designers", means any person, firm or corporation duly authorized pursuant to the laws of this state to engage in the practice of architecture and/or engineering within this state.
- (b) "Public works contract" means a contract to perform design or planning services by a designer with the state or any agency or governmental subdivisions thereof.
- (c) "Retained earnings" means any moneys or earned estimates withheld from a designer pursuant to the terms of a public works contract.

37-12.1-2. Substitution of security for retained earnings by designers.

(a) Where any public works contract provides for the holding of retained earnings from a designer, the designer may from time to time withdraw the whole or any portion of the amount retained upon either depositing with the general treasurer:

- (1) United States treasury bonds, United States treasury notes, United States treasury certificates of indebtedness, or United States treasury bills;
- (2) Bonds or notes of the state of Rhode Island; or
- (3) Bonds of any political subdivision of the state of Rhode Island.

(b) With respect to the deposit of securities, the general treasurer shall, on a regular basis, collect all interest or income on the securities so deposited and shall pay the interest or income when and as collected to the designer depositing the securities. If the security is in the form of coupon bonds, the general treasurer shall deliver each coupon as it matures to the designer.

37-12.1-3. Deduction from retained earnings.

In the event that pursuant to the terms of the public works contract it is necessary to deduct any sum from retained earnings, the state or governmental unit or agency thereof shall first apply such deduction against sums not withdrawn and thereafter from the proceeds of the sale of any securities deposited or from the income earned on such securities, whichever is applicable.

37-12.1-4. Endorsement on securities.

All securities deposited with the general treasurer pursuant to this chapter shall be properly endorsed by the designer in such manner as to enable the general treasurer to carry out the provisions of this chapter.

37-12.1-5. Applicability.

This chapter shall apply to all retained earnings held pursuant to any public works contract as of [June 16, 1991].

TITLE 37

CHAPTER 13 LABOR AND PAYMENT OF DEBTS BY CONTRACTORS

Sections

- 37-13-1. "Public Works" defined
- 37-13-2. "Contractor" defined – information required.
- 37-13-3. Contractors subject to provisions – Weekly payment of employees.
- 37-13-3.1 State public works contract apprenticeship requirements
- 37-13-4. Provisions applicable to public works contracts – List of Subcontractors.
- 37-13-5. Payment for trucking or materials furnished – Withholding of sums due.
- 37-12-6. Ascertainment of prevailing rate of wages and other payments – Specification of rate in call for bids and in contract.
- 37-13-7. Specification in contract of amount and frequency of payment and wages.
- 37-13-8. Investigation and determination of prevailing wages – Filing of schedule.
- 37-13-9. Statutory provisions included in contracts.
- 37-13-10. Overtime compensation.
- 37-13-11. Posting of prevailing wage rates.
- 37-13-12. Wage records of contractors.
- 37-13-12.1. Obstruction of enforcement.
- 37-13-12.2. Subpoena powers.
- 37-13-12.3. Compelling obedience to subpoenas.
- 37-13-12.4. Penalty for violations.
- 37-13-13. Furnishing payroll record to director of labor.
- 37-13-13.1. Audits of wage records of out of state contractors and subcontractors.
- 37-13-14. Contractor's bond.
- 37-13-14.1. Enforcement – Hearings.
- 37-13-15. Review.
- 37-13-16. Termination of work on failure to pay agreed wages – Completion of work.
- 37-13-17. Private right of action to collect wages or benefits

37-13-1. "Public works" defined.

"Public works" as used in this chapter shall mean any public work consisting of grading, clearing, demolition, improvement, completion, repair, alteration, or construction of any public road or any bridge, or portion thereof, or any public building or portion thereof, or any heavy construction, or any public works projects of any nature or kind whatsoever.

37-13-2. "Contractor" defined - Information required.

The term "contractor" as used in this chapter shall mean the bidder whose bid has been accepted by an authorized agency or awarding authority as the bidder possessing the skills, ability, and integrity necessary to the faithful performance of the contract or work, and who shall certify that he or she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the contract or work. Essential information in regard to qualifications shall be submitted in such form to the awarding authority and the director of labor and training as the director of labor and training shall require. The authorized agency or awarding authority shall reserve the right to reject all bids, if it be in the public interest to do so.

37-13-3. Contractors subject to provisions - Weekly payment of employees.

All contractors, who have been awarded contracts for public works by an awarding agency or authority of the state or of any city, town, committee, or by any person or persons therein, in which state or municipal funds are used and of which the contract price shall be in excess of one thousand dollars (\$1,000) whether payable at the time of the signing of the contract or at a later date, and their subcontractors, on such public works shall pay their employees at weekly intervals and shall comply with the provisions set forth in 37-13-4 - 37-13-14, inclusive, and 37-13-16.

37-13-3.1. State public works contract apprenticeship requirements.

Notwithstanding any laws to the contrary, all general contractors and subcontractors who perform work on any public works contract awarded by the state after passage of this act and valued at one million dollars (\$ 1,000,000) or more shall employ apprentices required for the performance of the awarded contract. The number of apprentices shall comply with the apprentice to journeyman ratio for each trade approved by the apprenticeship council of the department of labor and training. To the extent that any of the provisions contained in this section conflict with the requirements for federal aid contracts, federal laws and regulations shall control.

37-13-4. Provisions applicable to public works contracts - Lists of subcontractors.

All public works shall be done by contract, subject to the same provisions of law relating thereto and to the letting thereof, which are applicable to similar contracts of the awarding authority or authorized agency, hereinafter called the "proper authority," in the general location where the work is to be performed and which are not contrary to the provisions of 37-13-1 - 37-13-14, and 37-13-16. Each contractor after the award of a contract for public works shall submit to the proper authority a list of his or her subcontractors of any part or all of the work. The list shall be submitted in such manner or form as the proper authority shall uniformly require from contractors in all public works.

37-13-5. Payment for trucking or materials furnished - Withholding of sums due.

A contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of the contractor or subcontractor, in connection with the public works being performed by him or her, within ninety (90) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the contractor or subcontractor, the equivalent amount of such sums certified by a trucker or material man creditor as due him or her, as provided in this section, and which the proper authority determines is reasonable for trucking performed or materials furnished for the public works.

37-13-6. Ascertainment of prevailing rate of wages and other payments - Specification of rate in call for bids and in contract.

Before awarding any contract for public works to be done, the proper authority shall ascertain from the director of labor and training the general prevailing rate of the regular, holiday, and overtime wages paid and the general prevailing payments on behalf of employees only, to lawful welfare, pension, vacation, apprentice training, and educational funds (payments to the funds must constitute an ordinary business expense deduction for federal income tax purposes by contractors) in the city, town, village, or other appropriate political subdivision of the state in which the work is to be performed, for each craft, mechanic, teamster, laborer, or type of worker needed to execute the contract for the public works. The proper authority shall, also, specify in the call for bids for the contract and in the contract itself the general prevailing rate of the regular, holiday, and overtime wages paid and the payments on behalf of employees only, to the welfare, pension, vacation, apprentice training, and education funds existing in the locality for each craft, mechanic, teamster, laborer, or type of worker needed to execute the contract or work.

37-13-7. Specification in contract of amount and frequency of payment of wages.

Every call for bids for every contract in excess of one thousand dollars (\$ 1,000), to which the state of Rhode Island or any political subdivision thereof or any public agency or quasi-public agency is a party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, or any public agency or quasi-public agency and which requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor and training to be prevailing for the corresponding types of employees employed on projects of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed. Every contract shall contain a stipulation that the contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for bids, regardless of any contractual relationships which may be alleged to exist between the contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the contractor, subcontractors, or their agents.

(b) The terms "wages" , "scale of wages" , "wage rates" , "minimum wages" , and "prevailing wages" shall include:

(1) The basic hourly rate of pay; and

(2) The amount of:

(A) The rate of contribution made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and

(B) The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program which was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits ; provided, that the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor and training insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (b)(2), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b)(2).

(c) The term "employees" , as used in this section, shall include employees of contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works, the removal and/or delivery of gravel or fill or ready-mix concrete, sand, bituminous stone, or asphalt flowable fill from the site of public works, or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b) .

(d) The terms "public agency" and "quasi-public agency" shall include, but not be limited to, the Rhode Island industrial recreational building authority, the Rhode Island economic development corporation, the Rhode Island airport corporation, the Rhode Island industrial facilities corporation, the Rhode Island refunding bond authority, the Rhode Island housing and mortgage finance corporation, the Rhode Island resource recovery corporation, the Rhode Island public transit authority, the Rhode Island student loan authority, the water resources board corporate, the Rhode Island health and education building corporation, the Rhode Island turnpike and bridge authority, the Narragansett Bay water quality management district commission, Rhode Island telecommunications authority, the

convention center authority, the board of governors for higher education, the board of regents for elementary and secondary education, the capital center commission, the housing resources commission, the Quonset Point-Davisville management corporation, the Rhode Island children's crusade for higher education, the Rhode Island depositors economic protection corporation, the Rhode Island lottery commission, the Rhode Island partnership for science and technology, the Rhode Island public building authority, and the Rhode Island underground storage tank board.

37-13-8. Investigation and determination of prevailing wages - Filing of schedule.

The director of labor and training shall investigate and determine the prevailing wages and payments made to or on behalf of employees, as set forth in § 37-13-7, paid in the trade or occupation in the city, town, village, or other appropriate political subdivision of the state and keep a schedule on file in his or her office of the customary prevailing rate of wages and payments made to or on behalf of the employees which shall be open to public inspection. In making a determination, the director of labor may adopt and use such appropriate and applicable prevailing wage rate determinations as have been made by the secretary of labor of the United States of America in accordance with the Davis-Bacon Act, as amended, 40 U.S.C. § 276a; provided, however, that each contractor awarded a public works contract after July 1, 2007 shall contact the department of labor and training on or before July first of each year, for the duration of such contract to ascertain the prevailing wage rate of wages on a hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done each year and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee every July first.

37-13-9. Statutory provisions included in contracts.

A copy of 37-13-5, 37-13-6, and 37-13-7 shall be inserted in all contracts for public works awarded by the state or any city or town, committee, an authorized agency or awarding authority thereof, or any person or persons in their behalf in which state or municipal funds are used if the contract price be in excess of one thousand dollars (\$1,000).

37-13-10. Overtime compensation.

Labor performed under the provisions of 37-13-1 - 37-13-16, inclusive, during the period of forty (40) hours in any one week and during the period of eight (8) hours in any one day, shall be considered a legal week's work or a legal day's work, as the case may be, and any number of hours of employment in any one week greater than the number of forty (40) hours or in any one day greater than the number of eight (8) hours shall be compensated at the prevailing rate of wages for overtime employment; provided, however, when the director of labor and training has determined in the investigation provided for in 37-13-7 and 37-13-8 that there is a prevailing practice in a city, town, or other appropriate political subdivision to pay an overtime rate of wages for work of any craft, mechanic, teamster, laborer, or type of worker needed to execute the work other than hours worked in any one week greater than the number of forty (40) or in hours worked in any one day greater than the number of eight (8), then the prevailing practice shall determine the legal workday and the legal workweek in the city or town for the work and the prevailing rate of overtime wages shall be paid for such work in excess of that legal workday or week, as the case may be.

37-13-11. Posting of prevailing wage rates.

Each contractor awarded a contract for public works with a contract price in excess of one thousand dollars (\$ 1,000), and each subcontractor who performs work on those public works, shall post in conspicuous places on the project, where covered workers are employed, posters which contain the current, prevailing rate of wages and the current, prevailing rate of payments to the funds required to be paid for each craft or type of worker employed to execute the contract as set forth in §§ 37-13-6 and 37-13- 7, and the rights and remedies of any employee described in § 37-13-17 for nonpayment of any wages earned pursuant to this chapter. Posters shall be furnished to contractors and subcontractors by the director of labor and training, who shall determine the size and context thereof from time to time, at the time a contract is awarded. A contractor or subcontractor who fails to comply with the provisions of this section shall be deemed guilty of a misdemeanor and shall pay to the director of labor and training one hundred dollars (\$ 100) for each calendar day of noncompliance as determined by him or her. Contracts set forth in this section shall not be awarded by the state, any city, town, or any agency thereof until the director of labor and training has prepared and delivered the posters to the division of purchases, if the state or any agency thereof is the proper authority, or to the city, town, or an agency thereof, if it is the proper authority, and the contractor to whom the contract is to be awarded.

37-13-12. Wage records of contractors.

Each contractor awarded a contract with a contract price in excess of one thousand dollars (\$1,000) for public works, and each subcontractor who performs work on those public works, shall keep an accurate record showing the name, occupation, and actual wages paid to each worker employed by him or her and the payments to all the employee funds specified in sections 37-13-6 and 37-13-7 by him or her in connection with the contract or work. The director and his or her authorized representatives shall have the right to enter any place of employment at all reasonable hours for the purpose of inspecting the wage records and seeing that all provisions of this chapter are complied with.

37-13-12.1. Obstruction of enforcement.

Any effort of any employer to obstruct the director and his or her authorized representatives in the performance of their duties shall be deemed a violation of this chapter and punishable as such.

37-13-12.2. Subpoena powers.

The director and his or her authorized representatives shall have power to administer oaths and examine witnesses under oath, issue subpoenas, subpoenas duces tecum, compel the attendance of witnesses, and the production of papers, books, accounts, records, payrolls, documents, and testimony, and to take depositions and affidavits in any proceeding before the director.

37-13-12.3. Compelling obedience to subpoenas.

In case of failure of any person to comply with any subpoena lawfully issued, or subpoena duces tecum, or on the refusal of any witness to testify to any matter regarding which he may be lawfully interrogated, it shall be the duty of the superior court, or any judge thereof, on application by the director, to compel obedience by proceedings in the nature of those for contempt.

37-13-12.4. Penalty for violations.

Except as otherwise provided in this chapter, any employer who shall violate or fail to comply with any of the provisions of this chapter shall be guilty of a misdemeanor and shall be punished by a fine of not less than five hundred dollars (\$500) nor more than one thousand dollars (\$1,000) for each separate offense, or by imprisonment of up to one year, or by both fine and imprisonment. Each day of failure to pay wages due an employee at the time specified in this chapter shall constitute a separate and distinct violation.

37-13-13. Furnishing payroll record to director of labor.

(a) Every contractor and subcontractor awarded a contract for public works as defined by this chapter shall furnish a certified copy of his or her payroll records of his or her employees employed on the project to the awarding authority on a monthly basis for all work completed in the preceding month on a uniform form prescribed by the director of labor and training. Notwithstanding the foregoing, certified payrolls for department of transportation public works may be submitted on the federal payroll form, provided that, when a complaint is being investigated, the director or his or her designee may require that a contractor resubmit the certified payroll on the uniform department form.

(b) Awarding authorities, contractors and subcontractors shall provide any and all payroll records to the director of labor and training within ten (10) days of their request by the director or his or her designee.

(c) In addition, every contractor and subcontractor shall maintain on the site where public works are being constructed and the general or primary contract is one million dollars (\$1,000,000) or more, a daily log of employees employed each day on the public works project. The log shall include, at a minimum, for each employee his or her name, primary job title, and employer and shall be kept on a uniform form prescribed by the director of labor and training. Such log shall be available for inspection on the site at all times by the awarding authority and/or the director of the department of labor and training and his or her designee. This subsection shall not apply to road, highway, or bridge public works projects.

(d) The director of labor and training may promulgate reasonable rules and regulations to enforce the provisions of this section.

(e) The awarding authority of any public works project shall withhold the next scheduled payment to any contractor or subcontractor who fails to comply with the provisions of subsections (a) or (b) above and shall also

notify the director of labor and training. The awarding authority shall withhold any further payments until such time as the contractor or subcontractor has fully complied. If it is a subcontractor who has failed to comply, the amount withheld shall be proportionate to the amount attributed or due to the offending subcontractor as determined by the awarding authority. The department may also impose a penalty of up to five hundred dollars (\$500) for each calendar day of noncompliance with this section, as determined by the director of labor and training. Mere errors and/or omissions in the daily logs maintained under subsection (c) shall not be grounds for imposing a penalty under this subsection.

37-13-13.1. Audits of wage records of out of state contractors and subcontractors.

Out of state contractors or subcontractors who perform work on public works in this state authorize the director of labor and training to conduct wage and hour audits of their payroll records pursuant to the provisions of chapter 14 of title 28.

37-13-14. Contractor's bond.

The state or any city, town, agency, or committee therein awarding contracts for public works shall require the contractor awarded a contract with a contract price in excess of fifty thousand dollars (\$ 50,000) for public works to file with the proper authority good and sufficient bond with surety furnished by any surety company authorized to do business in the state, conditioned upon the faithful performance of the contract and upon the payment for labor performed and material furnished in connection therewith, a bond to contain the terms and conditions set forth in chapter 12 of this title, and to be subject to the provisions of that chapter. Waiver of the bonding requirements of this section is expressly prohibited.

37-13-14.1. Enforcement - Hearing

(a) Before issuing an order or determination, the director of labor and training shall order a hearing thereon at a time and place to be specified, and shall give notice thereof, together with a copy of the complaint or the purpose thereof, or a statement of the facts disclosed upon investigation, which notice shall be served personally or by mail on any person, firm, or corporation affected thereby. The person, firm, or corporation shall have an opportunity to be heard in respect to the matters complained of at the time and place specified in the notice, which time shall be not less than five (5) days from the service of the notice personally or by mail. The hearing shall be held within ten (10) days from the order of hearing. The hearing shall be conducted by the director of labor and training or his or her designee. The hearing officer in the hearing shall be deemed to be acting in a judicial capacity and shall have the right to issue subpoenas, administer oaths, and examine witnesses. The enforcement of a subpoena issued under this section shall be regulated by Rhode Island civil practice law and rules. The hearing shall be expeditiously conducted, and upon such hearing, the hearing officer shall determine the issues raised thereon and shall make a determination and enter an order within ten (10) days of the close of the hearing, and forthwith serve a copy of the order, with a notice of the filing thereof, upon the parties to the proceeding, personally or by mail. The order shall dismiss the charges or direct payment of wages or supplements found to be due, including interest at the rate of twelve percent (12%) per annum from the date of the underpayment to the date of payment, and may direct payment of reasonable attorney's fees and costs to the complaining party.

(b) In addition to directing payment of wages or supplements including interest found to be due, the order shall also require payment of a further sum as a civil penalty in an amount up to three times the total amount found to be due. Further, if the amount of salary owed to an employee pursuant to this chapter but not paid to the employee in violation of thereof exceeds five thousand dollars (\$5,000), it shall constitute a misdemeanor and shall be referred to the office of the attorney general. The misdemeanor shall be punishable for a period of not more than one year in prison and/or fined not more than one thousand dollars (\$1,000). In assessing the amount of the penalty, due consideration shall be given to the size of the employer's business, the good faith of the employer, the gravity of the violation, the history of previous violations, and the failure to comply with recordkeeping or other nonwage requirements. The surety of the person, firm, or corporation found to be in violation of the provisions of this chapter shall be bound to pay any penalties assessed on such person, firm, or corporation. The penalty shall be paid to the department of labor and training for deposit in the state treasury; provided, however, it is hereby provided that the general treasurer shall establish a dedicated "prevailing wages enforcement fund" for the purpose of depositing the penalties paid as provided herein. There is hereby appropriated to the annual budget of the department of labor and training the amount of the fund collected annually under this section, to be used at the direction of the director of labor and training for the sole purpose of enforcing prevailing wage rates as provided in this chapter.

(c) For the purposes of this chapter, each day or part thereof of violation of any provision of this chapter by a person, firm, or corporation, whether the violation is continuous or intermittent, shall constitute a separate and succeeding violation.

(d) In addition to the above, any person, firm, or corporation found in violation of any of the provisions of this chapter by the director of labor and training, an awarding authority, or the hearing officer, shall be ineligible to bid on, or be awarded work by, an awarding authority or perform any such work for a period of no less than eighteen (18) months and no more than thirty-six (36) months from the date of the order entered by the hearing officer. Once a person, firm, or corporation is found to be in violation of this chapter, all pending bids with any awarding authority shall be revoked, and any bid awarded by an awarding authority prior to the commencement of the work shall also be revoked.

(e) In addition to the above, any person, firm, or corporation found to have committed two (2) or more willful violations in any period of eighteen (18) months of any of the provisions of this chapter by the hearing officer, which violations are not arising from the same incident, shall be ineligible to bid on, or be awarded work by, an awarding authority or perform any work for a period of sixty (60) months from the date of the second violation.

(f) The order of the hearing officer shall remain in full force and effect unless stayed by order of the superior court.

(g) The director of labor and training, awarding authority, or hearing officer shall notify the bonding company of any person, firm, or corporation suspected of violating any section of this chapter. The notice shall be mailed certified mail and shall enumerate the alleged violations being investigated.

(h) In addition to the above, any person, firm, or corporation found to have willfully made a false or fraudulent representation on certified payroll records shall be referred to the office of the attorney general. A first violation of this section shall be considered a misdemeanor and shall be punishable for a period of not more than one year in prison and/or fined one thousand dollars (\$1,000). A second or subsequent violation of this section shall be considered a felony and shall be punishable for a period of not more than three (3) years imprisonment, a fine of three thousand dollars (\$3,000), or both. Further, any person, firm, or corporation found to have willfully made a false or fraudulent representation on certified payroll records shall be required to pay a civil penalty to the department of labor and training in an amount of no less than two thousand dollars (\$2,000) and not greater than fifteen thousand dollars (\$15,000) per representation.

37-13-15. Review.

(a) There is hereby created an appeals board which shall be comprised of three (3) members who shall be appointed by the governor; provided, however, that each member of the appeals board shall have at least five (5) years experience with prevailing wage rates as they apply to the construction industry. The members of such appeals board shall serve without compensation. The members of the appeals board shall be appointed for terms of three (3) years except that of the three (3) members originally appointed by each of the appointing authorities; one (1) shall be appointed for a term of one (1) year, one (1) shall be appointed for a term of two (2) years and one (1) for a term of three (3) years.

(b) Any person aggrieved by any action taken by the director of labor and training or his or her designated hearing officer under the authority of this chapter, or by the failure or refusal of the director of labor and training to take any action authorized by this chapter, may obtain a review thereof for the purpose of obtaining relief from the action or lack of action by filing a petition for administrative review and relief, to the appeals board as provided herein. The petition for administrative review shall be filed within twenty (20) days of the action taken by the director of labor and training or designated hearing officer: The petition for administrative review shall be heard within ten (10) days of the date of filing. An aggrieved person under this section shall include:

- (1) Any person who is required to pay wages to his or her employees or make payments to a fund on behalf of his or her employees, as provided in this chapter;
- (2) Any person who is required to be paid wages for his or her labor or on whose behalf payments are required to be paid to funds, as provided by this chapter;
- (3) The lawful collective bargaining representative of a person defined in subdivision (2) above;
- (4) A trade association of which a person defined in subdivision (1) above is a member;
- (5) A proper authority as defined in this chapter;

- (6) A contractor who submitted a bid for work to be or which has been awarded under the provisions of this chapter or a trade association of which he or her is a member, and
 - (7) A labor organization which has one or more written collective bargaining agreements with one or more employers or a trade association which sets forth the hours, wages, and working conditions of a craft, mechanic, teamster, or type of worker needed to execute the work, as provided in this chapter to the extent that it would be affected by the action or the failure to act of the director of labor and training or the hearing officer.
- (c) Any aggrieved person as defined herein may obtain a review of a decision of the appeals board by filing a petition in the superior court in Providence county pursuant to the provisions of the administrative procedures act, praying for review and relief and the petition shall follow the course of and be subject to the procedures for causes filed in the court.
- (d) The director is hereby empowered to enforce his or her decision and/or the decision of the appeals board in the superior court for the county of Providence.

37-13-16. Termination of work on failure to pay agreed wages - Completion of work.

Every contract within the scope of this chapter shall contain the further provision that in the event it is found by the director of labor and training that any employee employed by the contractor or any subcontractor directly on the site of the work covered by the contract has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid as aforesaid, the awarding party may, by written notice to the contractor or subcontractor, terminate his or her right as the case may be, to proceed with the work, or such part of the work as to which there has been a failure to pay the required wages, and shall prosecute the work to completion by contract or otherwise, and the contractor and his or her sureties shall be liable to the awarding party for any excess costs occasioned the awarding authority thereby.

37-13-17. Private right of action to collect wages or benefits

(a) An employee or former employee, or any organization representing such an employee or former employee, of a contractor or subcontractor may bring a civil action for a violation of § 37-13-7 for appropriate injunctive relief, or actual damages, or both within three (3) years after the occurrence of the alleged violation. An action commenced pursuant to this section, may be brought in the superior court for the county where the alleged violation occurred, the county where the complainant resides, or the county where the person against whom in the civil complaint is filed resides or has their principal place of business. Any contractor or subcontractor who violates the provisions of § 37-13-7 shall be liable to the affected employee or employees in the amount of unpaid wages or benefits, plus interest. A civil action filed in court under this section may be instituted instead of, but not in addition to the director of labor and training enforcement procedures authorized by § 37-13-14.1, provided the civil action is filed prior to the date the director of labor and training issues notice of an administrative hearing.

(b) An employer's responsibility and liability is solely for its own employees.

(c) An action instituted pursuant to this section may be brought by one or more employees or former employees on behalf of himself/herself or themselves and other employees similarly situated, except that no employee shall be a party plaintiff to any such action unless he/she gives his/her consent in writing to become such a party and such consent is filed in the court in which such action is brought.

(d) In an action filed under this section in which the plaintiff prevails, the court shall, in addition to any judgment awarded to the plaintiff, require reasonable attorneys' fees and the costs of the action to be paid by the defendant.

(e) The court in an action filed under this section shall award affected employees or former employees liquidated damages in an amount equal to two (2) times the amount of unpaid wages or benefits owed. Unpaid fringe benefit contributions owed pursuant to this section in any form shall be paid to the appropriate benefit fund, however, in the absence of an appropriate fund the benefit shall be paid directly to the individual.

(f) The filing of a civil action under this section shall not preclude the director of labor and training from referring a matter to the attorney general as provided in § 37-13-14.1(b), from prohibiting a contractor or subcontractor from bidding on or otherwise participating in contracts as provided in § 37-13-14.1(d), (e) and (h), or from prohibiting termination of work on failure to pay agreed wages pursuant to § 37-13-16.

(g) Any person, firm, or corporation found to have willfully made a false or fraudulent representation in connection with wage obligations owed on a contract shall be required to pay a civil penalty to the department of labor and training in an amount of no less than one thousand dollars (\$ 1,000) and not greater than three thousand dollars (\$ 3,000) per representation. Such penalties shall be recoverable in civil actions filed pursuant to this section. For purposes of this subsection "willfully" shall mean representations that are known to be false, or representations made with deliberate ignorance or reckless disregard for their truth or falsity.

(h) An employer shall not discharge, threaten, or otherwise discriminate against an employee, or former employee, regarding compensation terms, conditions, locations or privileges of employment because the employee or former employee, or a person or organization acting on his or her behalf: (1) Reports or makes a complaint under this section; or otherwise asserts his or her rights under this section; and/or (2) Participates in any investigation, hearing or inquiry held by the director of labor and training under § 37-13-14.1. In the event a contractor or subcontractor retaliates or discriminates against an employee in violation of this section, the affected employee may file an action in any court of competent jurisdiction and the court shall order reinstatement and/or restitution of the affected employee, as appropriate, with back pay to the date of the violation, and an additional amount in liquidated damages equal to two (2) times the amount of back pay and reasonable attorneys' fees and costs.

(i) If any one or more subsections of this section shall for any reason be adjudged unconstitutional or otherwise invalid, the judgment shall not affect, impair, or invalidate the remaining subsections.

PREVAILING WAGE RATES

(THE PREVAILING WAGE RATES THAT ARE IN EFFECT AT THE TIME THAT THE PROJECT GOES OUT TO BID MUST BE INCLUDED IN THE BID SPECIFICATIONS)

Find current prevailing wage rates using the Department of Labor and Training website:

<https://dlt.ri.gov/regulation-and-safety/prevailing-wage>

TITLE 37

CHAPTER 14.1 MINORITY BUSINESS ENTERPRISE

Sections

37-14.1-1.	Purpose.
37-14.1-2.	Applicability.
37-14.1-3.	Definitions.
37-14.1-4.	Policy.
37-14.1-5.	Discrimination prohibited.
37-14.1-6.	Minority business enterprise guidelines.
37-14.1-7.	Establishment of criteria and guidelines.
37-14.1-8.	Sanctions.

37-14.1-1. Purpose.

The purpose of this chapter is to carry out the state's policy of supporting the fullest possible participation of firms owned and controlled by minorities and women (MBE's), in state funded and state directed public construction programs and projects and in state purchases of goods and services. This includes assisting MBE's throughout the life of contracts in which they participate.

37-14.1-2. Applicability.

This chapter shall apply to any and all state purchasing, including, but not limited to the procurement of goods, services, construction projects, or contracts funded in whole or in part by state funds, or funds which, in accordance with a federal grant or otherwise, the state expends or administers or in which the state is a signatory to the construction contract.

37-14.1-3. Definitions.

- (a) "Affirmative action" means taking specific steps to eliminate discrimination and its effects, to ensure nondiscriminatory results and practices in the future, and to involve minority business enterprises fully in contracts and programs funded by the state.
- (b) "Compliance" means the condition existing when a contractor has met and implemented the requirements of this chapter.
- (c) "Contract" means a mutually binding legal relationship or any modification thereof obligating the seller to furnish supplies or services, including construction, and the buyer to pay for them. For purposes of this chapter, a lease is a contract.
- (d) "Contractor" means one who participates, through a contract or subcontract, in any procurement or program covered by this chapter, and includes lessees and material suppliers.
- (e) "Minority" means a person who is a citizen or lawful permanent resident of the United States and who is:
 - (1) Black (a person having origins in any of the black racial groups of Africa);
 - (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
 - (3) Portuguese (a person of Portuguese, Brazilian, or other Portuguese culture or origin, regardless of race);
 - (4) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands);
 - (5) American Indian and Alaskan Native (a person having origins in any of the original peoples of North America.); or
 - (6) Members of other groups, or other individuals, found to be economically and socially disadvantaged by the Small Business Administration under section 8(a) of the Small Business Act, as amended [15 U.S.C. 637(a)].
- (f) "Minority business enterprise" or "MBE" means a small business concern, as defined pursuant to section 3 of the federal Small Business Act [15 U.S.C. 632] and implementing regulations, which is owned and controlled by one or more minorities or women. For the purposes of this chapter, owned and controlled means a business.

- (1) Which is at least fifty-one percent (51%) owned by one or more minorities or women or, in the case of a publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by one or more minorities or women; and
- (2) Whose management and daily business operations are controlled by one or more such individuals.

(g) "MBE coordinator" means the official designated to have overall responsibility for promotion of minority business enterprise in his or her departmental element.

(h) "Noncompliance" means the condition existing when a recipient or contractor has failed to implement the requirements of this chapter.

37-14.1-4. Policy.

It is the policy of the state of Rhode Island that minority business enterprises (MBE's) shall have the maximum opportunity to participate in the performance of procurements and projects outlined in 37-14.1-2.

37-14.1-5. Discrimination prohibited.

No person shall be excluded from participation in, denied the benefits of, or otherwise discriminated against in connection with the award and performance of any project covered by this chapter, on the grounds of race, color, national origin, or sex.

37-14.1-6. Minority business enterprise participation.

Minority business enterprises shall be included in all procurements and construction projects under this chapter and shall be awarded a minimum of ten percent (10%) of the dollar value of the entire procurement or project. The director of the department of administration is further authorized to establish by rules and regulation formulas for giving minority business enterprises a preference in contract and subcontract awards.

37-14.1-7. Establishment of criteria and guidelines.

The director of the department of administration shall establish, by rule and regulations adopted in accordance with chapter 35 of title 42, standards which shall determine whether a construction project is covered by this chapter, compliance formulas, procedures for implementation, and procedures for enforcement which are not inconsistent with 49 CFR 23 of the federal regulations. As to Rhode Island department of transportation contracts, the director of administration may delegate this authority to the director of transportation.

37-14.1-8. Sanctions.

(a) The director of the department of administration shall have the power to impose sanctions upon contractors not in compliance with this chapter and shall include but not be limited to:

- (1) Suspension of payments;
- (2) Termination of the contract;
- (3) Recovery by the state of ten percent (10%) of the contract award price as liquidated damages; and
- (4) Denial of right to participate in future projects for up to three (3) years.

(b) As to Rhode Island department of transportation contracts, the director of the department of administration may delegate this authority to the director of transportation.

RHODE ISLAND REQUIREMENTS FOR PARTICIPATION BY MINORITY BUSINESS ENTERPRISES
IN STATE FUNDED AND DIRECTED PUBLIC CONSTRUCTION PROJECTS, CONSTRUCTION
CONTRACTS AND PROCUREMENT CONTRACTS

In accordance with RI Gen. Law § 37-14.1-1, it is the policy of the State of Rhode Island to support the fullest possible participation of firms owned and controlled by minorities (MBEs) and women (WBEs). Pursuant to §§ 37-14.1-2 and 37-14.1-6, MBEs and WBEs shall be included in all state purchasing, including, but not limited to, the procurement of goods, services, construction projects, or contracts funded in whole or in part with state funds, or funds which, in accordance with a federal grant or otherwise, the state expends or administers. MBEs and WBEs shall be awarded a minimum of ten percent (10%) of the dollar value of the entire procurement or project. MBE participation credit shall only be granted for firms duly certified as MBEs or WBEs by the State of Rhode Island, Department of Administration, Office of Diversity, Equity and Opportunity, MBE Compliance Office (MBECO). The current directory of firms certified as MBEs or WBEs may be accessed at <http://odeo.ri.gov/offices/mbeco/mbe-wbe.php> or by contacting Kate Constance Brody, Esq. Administrator at the MBECO at (401) 574-8670 or via email at Kate.Brody@doa.ri.gov.

TITLE 37

CHAPTER 16 PUBLIC WORKS ARBITRATION

Sections

37-16-1.	Short Title.
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37-16-27.	Application of sureties.

37-16-1. Short title.

This chapter shall be known as the "Public Works Arbitration Act".

37-16-2. Contract provision for arbitration.

(a) A provision in a written contract executed on or after January 1, 1962, for the construction, alteration, repair, or painting of any public building, sewer, highway, bridge, water treatment or disposal projects one party to which is the state, a city, a town, or an authority, a board, a public corporation, or any similar body created by statute or ordinance or any committee, agency, or subdivision of any of them, to settle by arbitration any dispute or claim arising out of or concerning the performance or interpretation of the contract shall be valid, irrevocable, and enforceable, save upon grounds existing in law or equity for the revocation of the contract.

(b) (1) Every contract for the construction, alteration, repair, painting, or demolition of any public building, sewer, water treatment or disposal project, highway, or bridge one party to which is the state, a city, a town, or an authority, a board, a public corporation, or any similar body created by statute or ordinance or any committee, agency, or subdivision of any of them which has a contract price of ten thousand dollars (\$ 10,000) or more and which is executed on or after July 1, 1967, shall contain a provision for arbitration of disputes and claims arising out of or concerning the performance or interpretation of the contract as follows:

(2) "All claims, disputes, and other matters in question arising out of or relating to this contract or the performance or interpretation thereof shall be submitted to arbitration. Arbitration shall be commenced by a demand in writing made by one party to the contract upon the other within a reasonable time after the dispute, claim, or other matter in question arose but in no event after payment in full of the contract price has been made and accepted. The written demand shall contain a statement of the question to be arbitrated and a detailed statement of each item or matter in

dispute and the name of the arbitrator appointed by that party. The other party to the contract within ten (10) days of the receipt of the written demand shall appoint an arbitrator and give notice in writing thereof to the party who commenced arbitration. The two (2) arbitrators appointed by the parties shall within ten (10) days of the date of the appointment of the second arbitrator select a third arbitrator who shall be designated as chairperson and who immediately shall give written notice to the parties of his or her appointment. The third arbitrator shall select a time, date, and place for hearing and give each party five (5) days notice in writing thereof. The date for hearing shall not be more than fifteen (15) days after the date of appointment of the third arbitrator. The award shall be made promptly by the arbitrators and, unless otherwise agreed by the parties or specified by law, no later than thirty (30) days from the date of closing the hearing, or, if oral hearings have been waived, from the date of the transmittal of the final statements and proofs to the arbitrators. The award shall be in writing and shall be signed by a majority of the arbitrators. It shall be executed in the manner required by law. The arbitrator shall provide a written explanation of the reasoning for the award. In the event the party of whom arbitration is demanded shall fail to appoint his or her arbitrator within the time specified or the two (2) arbitrators appointed by the parties are unable to agree on an appointment of the third arbitrator within the time specified, either party may petition the presiding justice of the superior court to appoint a single arbitrator who shall hear the parties and make an award as provided herein. The petitioner shall give five (5) days notice in writing to the other party before filing his or her petition."

(c) Any dispute involving claims less than one hundred thousand dollars (\$ 100,000) and associated with construction of a highway or bridge as referred to in subsection (b) shall be submitted to arbitration. Any dispute involving claims of one hundred thousand dollars (\$ 100,000) or more and associated with construction of a highway or bridge as referred to in subsection (b) shall only be arbitrated with the consent of the parties. If the parties fail to consent to arbitration and the state of Rhode Island is a party to the dispute, then the claim will proceed in accordance with § 37-13.1-1.

(d) For the purposes of this section, the term "claims" shall not mean the aggregate amount sought under the contract or in the arbitration, but shall refer specifically to each item or matter in dispute for which additional compensation is sought or for each item for which a credit is sought.

(e) Notwithstanding subsection (a) or (b) of this section, if any contract except for highway and bridge contracts provides for an arbitration procedure, and a method of appointment of an arbitrator or arbitrators, that method shall be followed instead of the method provided in subsection (b) of this section.

(f) This section shall apply to all written contracts executed on or after January 1, 1986.

37-16-3. Application to subcontracts.

When a contract described in 37-16-2 is in effect and any party thereto has entered into a subcontract to perform part of the work and/or furnish any materials in connection with the work described in the contract and the terms of the subcontract provide for arbitration of a dispute or claim concerning the performance or interpretation thereof, or the subcontract, expressly or by reference to the terms of the contract, provides that the parties to the subcontract shall comply with the arbitration provisions of the contract, the following shall apply when a request is made or an order of court is entered for arbitration either under the terms of the contract or subcontract.

(a) When arbitration under the contract may adversely affect the interest of a party thereto because of the effect of an award of the arbitrator or arbitrators upon the performance or interpretation of the terms of a subcontract to which he or she is also a party, he or she may require any other party or all other parties to the subcontract to become a party or parties to the arbitration.

(b) When a party to a subcontract makes a demand or an order of court is entered for arbitration under the terms of the subcontract which comply with the provision of this chapter, any party thereto who is also a party to the contract and whose rights under the contract may be adversely affected by the effect of an award of the arbitrator or arbitrators upon the performance or interpretation of the contract, may require any other party to the contract to become a party to the arbitration.

(c) When a party to a contract or to a subcontract is made a party to arbitration by virtue of the provisions of this section, he or she shall have all the rights of a party to arbitration as provided in this chapter except the appointment of an arbitrator. Provided, however, he or she may object to the arbitrators appointed by the parties in which event a single arbitrator shall be appointed as provided in 37-16-2 in the petition of either of the original parties to arbitration. The award of the arbitrator or arbitrators shall be valid and shall be binding on him or her to

the extent that it affects the performance or interpretation of the contract and/or subcontract to which he or she is a party. The award of the arbitrator or arbitrators may be enforced, modified, or vacated as this chapter provides an award made in an arbitration of a contract described in 37-16-2 may be enforced, modified, or vacated.

37-16-4. Stay of legal proceedings pending arbitration.

If any suit or proceedings be brought upon any issue referable to arbitration under contract in writing providing for arbitration, the court in which the suit is pending upon being satisfied that the issue involved in the suit or proceedings is referable to arbitration under the contract, shall on application of one of the parties, stay the trial of the action until arbitration has been held.

37-16-5. Jurisdiction of superior court to enforce arbitration provision and awards.

The entering into a contract in writing providing for arbitration shall be deemed a consent of all parties, including those enumerated in 37-16-2, thereto to the jurisdiction of the superior court of this state to enforce the arbitration provision and any award made pursuant to that provision. A party aggrieved by the failure, neglect, or refusal of another to perform under a contract providing for arbitration, may petition the superior court, or a judge thereof, for an order directing that arbitration proceed in the manner provided for in the contract. Five (5) days' notice in writing of the application shall be served upon the party in default. Service thereof shall be made in the manner specified in the contract, and if no manner specified therein, then in the manner provided by law for personal service of a summons, within or without the state, or substituted service of a summons, or upon satisfactory proof that the party aggrieved has been or will be unable with due diligence to make service in any of the foregoing manners, then notice shall be served in such manner as the court or judge may direct. A judge of the superior court shall hear the parties and upon being satisfied that there is no substantial issue as to the making of the contract or the failure to comply therewith, the court, or the judge thereof, hearing the application, shall make an order directing the parties to proceed to arbitration in accordance with the terms of the contract.

37-16-6. Trial upon evidence of substantial issue.

If evidentiary facts are set forth raising a substantial issue as to the making of the contract or the failure to comply therewith, the court, or the judge thereof, shall proceed immediately to the trial of the issues. Whenever an immediate trial is ordered, the order therefor shall provide that, if the court finds that a written contract providing for arbitration was made, and that there was a failure to comply therewith, the parties shall proceed with the arbitration in accordance with the terms of the contract and the order shall provide that if the court finds that there was no contract or failure to comply with the contract, then the proceeding shall be dismissed.

37-16-7. Method of appointing arbitrators or umpire.

If in the contract providing for arbitration, provision is made for a method of naming or appointing an arbitrator or arbitrators or an umpire, that method shall be followed, but if no method be provided therein, then the parties to the contract shall agree to the method of naming or appointing an arbitrator or arbitrators or an umpire and if the parties shall fail to agree, then the court or the judge thereof upon application of either of the parties after due notice to the other party shall appoint an arbitrator to hear the dispute.

37-16-8. Scheduling and notice of arbitration hearing - Adjournment.

Subject to the terms of the contract, if any are specified therein, the arbitrators selected as prescribed in this chapter must appoint a time and place for the hearing of the matters submitted to them, and must cause notice thereof to be given to each of the parties. They, or a majority of them, may adjourn the hearing from time to time upon the application of either party for good cause shown or upon their own motion, but not beyond the day fixed if a date in the contract, if any, for rendering their award, unless the time so fixed is extended by the written consent of the parties to the contract or their attorney, or the parties have continued with the arbitration without objection to such adjournment.

37-16-9. Power of court to direct prompt hearing.

The court shall have power to direct the arbitrators to proceed promptly with the hearing and determination of the dispute, claim, or matter in question.

37-16-10. Arbitrator's oath - Waiver.

Before hearing any testimony, arbitrators selected as prescribed in this chapter must be sworn, by an officer authorized by law to administer an oath, faithfully and fairly to hear and examine the claim, dispute, or matter in question and to make a just award according to the best of their understanding, unless the oath is waived by the

written consent of the parties to the contract or their attorneys or the parties have continued with the arbitration without objection to the failure of the arbitrators to take the oath.

37-16-11. Powers of arbitrators.

The arbitrator or arbitrators selected as prescribed in this chapter, may require any person to attend before them as a witness; and he or she and they have, and each of them has, the same powers with respect to all the proceedings before them which are conferred upon a board or a member of a board authorized by law to hear testimony. All the arbitrators selected as prescribed in this chapter must meet together and hear all the allegations and proofs of the parties; but an award by a majority of them is valid.

37-16-12. Fees.

In any proceeding under this chapter, unless the parties agree as to the arbitrator's or arbitrators' fees, such fees shall be fixed by the court or the judges thereof who shall require the payment equally by both parties of the arbitrators' fees.

37-16-13. Validity of awards.

An award shall be valid and enforceable according to its terms and under the provisions of this chapter, without previous adjudication of the existence of a contract to arbitrate, subject, nevertheless, to the provisions of this section:

- (a) A party who has participated in any of the proceedings before the arbitrator or arbitrators may object to the confirmation of the award only on one or more of the grounds hereinafter specified (provided that he did not continue with the arbitration with notice of the facts or defects upon which his objection is based) because of a failure to comply with 37-16-8 or with 37-16-10 or because of the improper manner of the selection of the arbitrators.
- (b) A party who has not participated in any of the proceedings had before the arbitrator or arbitrators and who has not made or been served with an application to compel arbitration under 37-16-5 may also put in issue the making of the contract or the failure to comply therewith, either by a motion for a stay of the arbitration or in opposition to the confirmation of the award. If a notice shall have been personally served upon such party of an intention to conduct the arbitration pursuant to the provisions of a contract specified in the notice, then the issues specified in this subdivision may be raised only by a motion for a stay of the arbitration, notice of which motion must be served within ten (10) days after the service of the notice of intention to arbitrate. The notice must state in substance that unless within ten (10) days after its service, the party served therewith shall serve a notice of motion to stay the arbitration, he or she shall thereafter be barred from putting in issue the making of the contract or the failure to comply therewith. The arbitration hearing shall be adjourned upon service of the notice pending the determination of the motion. Where the opposing party, either on a motion for a stay or in opposition to the confirmation of an award, sets forth evidentiary facts raising a substantial issue as to the making of the contract or the failure to comply therewith, an immediate trial of the same shall be had. In the event that the party is unsuccessful he or she may, nevertheless, participate in the arbitration if the same is still being carried on.

37-16-14. Arbitration under chapter deemed special proceeding - Jurisdiction of superior court.

Arbitration of a claim, dispute, or matter in question under a contract described in this chapter shall be deemed a special proceeding, of which the superior court for Providence County shall have jurisdiction.

37-16-15. Procedure for hearing of application to court.

Any application to the court, or a judge thereof, hereunder shall be made and heard in the manner provided by law for the making and hearing of motions, except as otherwise herein expressly provided.

37-16-16. Form of award.

To entitle the award to be enforced, as prescribed in this chapter, it must be in writing; and, within the time limited in the contract, if any, subscribed by the arbitrator or arbitrators making it and either filed in the office of the clerk of the court having jurisdiction as provided in 37-16-14 or delivered to one of the parties or his or her attorney.

37-16-17. Court order confirming award.

At any time within one year after the award is made, as prescribed in 37-16-16, any party to the contract by the terms of which arbitration was had, may apply to the court having jurisdiction as provided in 37-16-14 for an order confirming the award. Thereupon the court must grant the order unless the award is vacated, modified, or corrected, as prescribed in 37-16-18 and 37-16-19 or unless the award is unenforceable under the provisions of 37-16-13. Notice of the motion must be served upon the adverse party or parties or his or her or their attorneys, as prescribed by law for service of notice of a motion upon an attorney in an action in the same court.

37-16-18. Court order vacating award.

In any of the following cases, the court must make an order vacating the award, upon the application of any party to the controversy which was arbitrated

- (a) When the award was procured by fraud.
- (b) Where the arbitrator or arbitrators exceeded their powers, or so imperfectly executed them, that a mutual, final, and definite award upon the subject matter submitted was not made.
- (c) If there was no valid contract, and the objection has been raised under the conditions set forth in 37-16-13.

37-16-19. Rehearing after vacation of award.

Where an award is vacated, the court, in its discretion may direct a rehearing either before the same arbitrator or arbitrators or before a new arbitrator or arbitrators to be chosen in the manner provided in the contract for the selection of the original arbitrator or arbitrators or as provided for in 37-16-7 and any provision limiting the time in which the arbitrator or arbitrators may make a decision shall be deemed applicable to the new arbitration and to commence from the date of the court's order.

37-16-20. Court order modifying or correcting award.

In any of the following cases, the court must make an order modifying or correcting the award, upon the application of any party to the contract by the terms of which the arbitration was held.

- (a) Where there was an evident miscalculation of figures or an evident mistake in the description of any persons, thing, or property referred to in the award.
- (b) Where the arbitrator or arbitrators have awarded upon a matter not submitted to them, not affecting the merits of the decision upon the matter submitted.
- (c) Where the award is imperfect in a matter of form not affecting the merits of the controversy, and, if it had been a master's report the defect could have been amended or disregarded by the court.

37-16-21. Notice of motion to vacate, modify, or correct an award.

Notice of a motion to vacate, modify, or correct an award must be served upon all adverse parties, or their attorneys, within sixty (60) days after the award is filed or delivered, as prescribed by law for service of notice of a motion upon an attorney in an action; except that in opposition to a motion to confirm an award, any of the grounds specified in 37-16-18 may be set up. For the purpose of the motion, any judge who might make an order, to stay the proceedings in an action brought in the same court may make an order, to be served with the notice of motion, staying the proceedings of an adverse party or parties to enforce the award.

37-16-22. Entry of judgment - Costs.

Upon the granting of an order confirming, modifying, or correcting an award, judgment may be entered in conformity therewith, except as is otherwise prescribed in this chapter. Costs of the application and of the proceedings subsequent thereto, not exceeding twenty-five dollars (\$25.00) and disbursements, may be awarded by the court in its discretion. If awarded, the amount thereof must be included in the judgment.

37-16-23. Filing of papers after judgment.

(a) Immediately after entering judgment, the clerk must attach together and file the following papers:

- (1) The contract, and each written extension of the time, if any, within which to make the award.
- (2) The award.
- (3) Each notice, affidavit or other paper used upon an application to confirm, modify, or correct the award, and a copy of each order of the court upon the application.
- (4) A copy of the judgment.

(b) The judgment may be docketed as if it was rendered in an action.

37-16-24. Effect of judgment.

The judgment so entered has the same force and effect, in all respects as, and is subject to all the provisions of law relating to a judgment in an action. The judgment may be enforced as if it had been rendered in an action in the court in which it is entered.

37-16-25. Appeals.

An appeal may be taken from an order made in a proceeding under this chapter, or from a judgment entered upon an award. The proceedings upon the appeal, including the judgment thereupon and the enforcement of the judgment, are governed by the provisions of statute and rule regulating appeal in actions as far as they are applicable.

37-16-26. Satisfaction of award.

- (a) An award which requires the payment of a sum of money by a city, town, or the state or any body described in 37-16-2 created or organized by or through the authority of any of them, shall be satisfied to the extent of payment of that sum by payment thereof to the party to whom the award was made by the treasurer or officer exercising the duties of a treasurer thereof from its general funds.
- (b) An award which requires the payment of a sum of money to a city, a town, or the state or any body described in 37-16-2 created or organized by or through the authority of any of them shall be satisfied to the extent of payment of that sum by payment thereof to its treasurer or officer exercising the duties of a treasurer thereof who shall deposit the same in its general funds.

37-16-27. Application to sureties.

- (a) If a contractor principal on a bond furnished to guarantee performance or payment on a construction contract and the claimant are parties to a written contract with a provision to submit to arbitration any controversy thereafter arising under the contract, or subject to arbitration as provided in 37-16-2(b), the arbitration provisions shall apply to the surety for all disputes involving questions of the claimant's right of recovery against the surety. Either the claimant, the contractor principal, or surety may demand arbitration in accordance with the written contract or as provided in 37-16-2(b) if applicable in one arbitration proceeding, provided that the provisions of 37-16-3 shall be applicable to any such demand for arbitration. The arbitration award shall decide all controversies subject to arbitration between the claimant, on the one hand, and the contractor principal and surety on the other hand, including all questions involving liability of the contractor principal and surety on the bond, but a claimant must file suit for recovery against the surety within the time limits set forth in 37-12-2 and 37-12-5. The arbitration shall be in accordance with this chapter and the court shall enter judgment thereon as provided therein.
- (b) The arbitrator or arbitrators, if more than one, shall make findings of fact as to the compliance with the requirements for recovery against the surety, and those findings of fact shall be a part of the award binding on all parties to the arbitration.

TITLE 45

CHAPTER 55 AWARD OF MUNICIPAL CONTRACTS

SECTIONS

- 45-55-1 Legislative findings
- 45-55-2. Method of source selection
- 45-55-3. Purchasing agent - Appointment - Duties.
- 45-55-4. Definitions.
- 45-55-5. Competitive sealed bidding.
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- 45-55-7. Negotiations after unsuccessful competitive sealed bidding
- 45-55-8. Sole source procurement and emergency procurements.
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- 45-55-14. Staff consultants.
- 45-55-15. Severability.
- 45-55-16 Prohibition against the use of lead based paints.
- 44-55-17 Penalties

45-55-1. Legislative findings.

It is hereby declared that a need exists to establish a uniform system for the award of contracts by municipalities, utilizing open cooperative bids.

45-55-2. Method of source selection.

Except as otherwise authorized by law, all municipal contracts shall be awarded by:

- (1) Competitive sealed bidding, pursuant to 45-55-5;
- (2) Competitive negotiations, pursuant to 45-55-6;
- (3) Non-competitive negotiations, pursuant to 45-55-7 and 45-55-8;
- (4) Small purchase procedures, pursuant to 45-55-9.
- (5) Qualification based selection (QBS) process for architects/engineers pursuant to 45-55-8.1

45-55-3. Purchasing agent - Appointment - Duties.

Within each city or town or quasi public agency there shall be designated a person or persons to act as purchasing officer to exercise the powers and duties as set forth in this chapter.

45-55-4. Definitions.

The words defined in this section have the following meanings whenever they appear in this chapter, unless the context in which they are used clearly requires a different meaning or a different definition is prescribed for a particular section, group of sections or provision.

- (1) "Business" means any corporation, partnership, individual, sole proprietorship, joint stock company, joint venture, or any other legal entity through which business is conducted.
- (2) "Change order" means a written order signed by the purchasing agent, or contractor directing or allowing the contractor to make changes which the changes clause of the contract authorizes the purchasing agent or contractor to order without the consent of the contractor or purchasing agent.
- (3) "Construction" means the process of building, altering, repairing, improving, or demolishing any public structures or building, or other public improvements of any kind to any public real property. It does not include the routine maintenance or repair of existing structures, buildings, or real property performed by salaried employees of the municipality in the usual course of their job.
- (4) "Contract" means all types of agreements, including grants and orders, for the purchase or disposal of supplies, services, construction, or any other item. It includes awards; contracts of a fixed-price, cost, cost-plus-a-fixed-fee, or incentive type; contracts providing for the issuance of job or task orders; leases; letter contracts, purchase orders, and construction management contracts. It also includes supplemental agreements with respect to any of the preceding. "Contract" does not include labor contracts with employees of the municipality.
- (5) "Contract modification" means any written alteration in the specifications, delivery point, rate of delivery, contract period, price, quantity, or other contract provisions of any existing contract, whether accomplished by unilateral action in accordance with a contract provision, or by mutual action of the parties to the contract. It includes bilateral actions, as supplemental agreements, and unilateral actions, as change orders, administrative changes, notices of termination, and notices of the exercise of a contract option.
- (6) "Contractor" means any person having a contract with a municipality.
- (8) "Data" means recorded information, regardless of form or characteristic.
- (8) "Designee" means a duly authorized representative of a person holding a superior position.
- (9) "Employee" means an individual drawing a salary from a municipality, whether elected or not, and any non-salaried individual performing personal services for any municipality.
- (10) "May" means permissive.
- (11) "Municipality" means the individual cities and towns of the state of Rhode Island.
- (12) "Negotiation" means contracting by either of the methods described in §§ 45-55-6, 45-55-7, and 45-55-8.
- (13) "Person" means any business, individual, organization, or group of individuals.
- (14) "Procurement" means the purchasing, buying, renting, leasing, or otherwise obtaining of any supplies, services, or construction. It also includes all functions that pertain to the obtaining of any supply, service, or construction item, including description of requirements, selection and solicitation of sources, preparation and award of contract, and all phases of contract administration.
- (15) "Purchasing officer" means the person designated in each municipality or quasi public agency pursuant to section 45-55-3.
- (16) "Regulations" means rules and regulations adopted by the individual cities or towns, concerning the implementation of the provisions of this chapter.

(17) "Services" means the rendering, by a contractor, of its time and effort rather than the furnishing of a specific end product, other than reports which are merely incidental to the required performance of services. "Services" does not include labor contracts with employees of governmental agencies.

(18) "Shall" means imperative.

(19) "Supplemental agreement" means any contract modification which is accomplished by the mutual action of the parties.

(20) "Supplies" means all property, including, but not limited to, leases of real property, printing and insurance, except land or permanent interest in land.

45-55-5. Competitive sealed bidding.

(a) Contracts exceeding the amount provided by 45-55-9 shall be awarded by competitive bidding unless they are professional engineering/architectural services pursuant to 45-55-8.1 and it is determined in writing that this method is not practicable. Factors to be considered in determining whether competitive sealed bidding is practicable shall include whether:

- (1) Specifications can be prepared that permit award on the basis of either the lowest qualified bid price or the lowest qualified evaluated bid price; and
 - (2) The available sources, the time and place of performance, and other relevant circumstances as are appropriate for the use of competitive sealed bidding.
- (b) The invitation for bids shall state whether award shall be made on the basis of the lowest bid price or the lowest evaluated or responsive bid price. If the latter basis is used, the objective measurable criteria to be utilized shall be stated in the invitation for bids, if available.
- (c) Adequate public notice of the invitation for bids shall be given a sufficient time prior to the date stated in the notice for the opening of bids. Notice may include publication in a newspaper of general circulation in the state as determined by the purchasing officer for the municipality not less than seven (7) days nor more than twenty-one (21) days before the date set for opening of the bids. The purchasing officer may make a written determination that the twenty-one (21) day limitation needs to be waived. The written determination shall state the reason why the twenty-one (21) day limitation is being waived and shall state the number of days, giving a minimum and maximum, before the date set for the opening of bids when public notice is to be given.
- (4) Bids shall be opened publicly in full view of the public at the time and place designated in the invitation for bids. Each bid, together with the name of the bidder, shall be recorded and an abstract made available for public inspection. Subsequent to the awarding of the bid, all documents pertinent to the awarding of the bid shall be made available and open to public inspection and retained in the bid file.
- (5) The contract shall be awarded with reasonable promptness by written notice to the responsive and responsible bidder whose bid is either the lowest bid price, or lowest evaluated or responsive bid price.
- (6) Correction or withdrawal of bids may be allowed only to the extent permitted by regulations issued by the purchasing officer.

45-55-5.1. Business exempt.

The North Kingstown Bus Contractors Association and the Scituate School Bus Owners Club shall be exempt from the provisions of this chapter.

45-55-5.2. Town of North Smithfield - Exemption.

The town of North Smithfield is exempt from the provisions of this chapter with regard to the contracting for fire and rescue services with the Primrose Volunteer Fire Department and/or North Smithfield Fire Department and/or their respective successors and assigns.

45-55-6. Competitive negotiation.

- (a) When, under regulations adopted by the city or town council, the purchasing agent determines in writing that the use of competitive sealed bidding is not practicable, and except as provided in 45-55-8, 45-55-9, and 45-55-10 a contract may be awarded by competitive negotiation.
- (b) Adequate public notice of the request for proposals shall be given in the same manner as provided in 45-55-5(c).
- (c) Contracts may be competitively negotiated when it is determined, in writing, by the purchasing agent that the bid prices received by competitive sealed bidding either are unreasonable as to all or part of the requirements, or were not independently reached in open competition, and for which:
 - (1) Each competitive bidder has been notified of the intention to negotiate and is given reasonable opportunity to negotiate; and
 - (2) The negotiated price is lower than the lowest rejected bid by any competitive bidder; and
 - (3) The negotiated price is the lowest negotiated price offered by a competitive offeror.
- (d) The request for proposals shall indicate the relative importance of price and other evaluation factors.
- (e) Award shall be made to the responsible offeror whose proposal is determined in writing to be the most advantageous to the municipality taking into consideration price and the evaluation factors set forth in the request for proposals.
- (f) Written or oral discussions shall be conducted with all responsible offerors who submit proposals determined, in writing, to be reasonably susceptible of being selected for award. Discussions shall not disclose any information derived from proposals submitted by competing offerors. Discussions need not be conducted:
 - (1) With respect to prices, where such prices are fixed by law or regulation, except that consideration shall be given to competitive terms and conditions; or
 - (2) Where time of delivery or performance will not permit discussions; or
 - (3) Where it can be clearly demonstrated and documented from the existence of adequate competition or accurate prior cost experience with the particular supply, service, or construction item, that acceptance of an initial offer without discussion would result in fair and reasonable prices, and the request for proposals notifies all offerors of the possibility that award may be made on the basis of the initial offers.

45-55-7. Negotiations after unsuccessful competitive sealed bidding.

- (a) In the event that all bids submitted pursuant to competitive sealed bidding under 45-55-5 result in bid prices in excess of the funds available for the purchase, and the purchasing officer determines in writing:
 - (1) That there are no additional funds available from any source so as to permit an award to the lowest responsive and responsible bidder, and
 - (2) The best interest of the municipality will not permit the delay attendant to a re-solicitation under revised specifications, or for revised quantities, under competitive sealed bidding as provided in 45-55-5, then a negotiated award may be made as stated in subsection (b) or (c) of this section.
- (b) Where there is more than one bidder, competitive negotiations pursuant to 45-55-6, shall be conducted with the three (3) (two (2) if there are only two (2)) bidders determined in writing, to be the lowest responsive and responsible bidders to the competitive sealed bid invitation. Competitive negotiations shall be conducted under the following restrictions:
 - (1) If discussions pertaining to the revision of the specifications or quantities are held with any potential offeror, all other potential offerors shall be afforded an opportunity to take part in the discussions; or

(2) A request for proposals, based upon revised specifications or quantities, shall be issued as promptly as possible, shall provide for an expeditious response to the revised requirements, and shall be awarded upon the basis of the lowest bid price, or lowest evaluated bid price submitted by any responsive and responsible offeror.

(c) When after competitive sealed bidding, it is determined in writing, that there is only one responsive and responsible bidder, a noncompetitive negotiated award may be made with such bidder in accordance with 45-55-8.

45-55-8. Sole source procurement and emergency procurements.

(a) A contract may be awarded for a supply, service, or construction item without competition when, under published regulations, the purchasing officer determines, in writing, that there is only one source for the required supply, service, or construction item.

(b) Notwithstanding any other provision of this chapter, the purchasing agent may make or authorize others to make emergency procurements when there exists a threat to public health, welfare, or safety under emergency conditions as defined in regulations or where the procurement will be in the best interest of the city as established by properly promulgated rules and regulations; provided, that such emergency procurements shall be made with such competition as is practicable under the circumstances. A written determination of the basis for the emergency, and for the selection of the particular contractor, shall be included in the contract file.

45-55-8.1. Qualification based selection of architects and engineers.

When the purchasing agent determines that the city or town needs the services of a professional architect or engineer, the purchasing agent shall follow the qualification based selection process for the procurement of architectural and engineering consulting services.

45-55-9. Small purchases.

Procurements, not to exceed an aggregate amount of ten thousand dollars (\$10,000) for construction and five thousand dollars (\$5,000) for all other purchases may be made in accordance with small purchase regulations promulgated by the municipality. These amounts shall be increased or decreased annually hereafter at the same rate as the Boston Regional Consumer Price Index. Procurement requirements shall not be artificially divided so as to constitute a small purchase under this section. A municipality may further reduce the aggregate purchase amount, as provided for in this section by ordinance.

45-55-10. Cancellation of invitation for bids and requests for proposals.

An invitation for bids, a request for proposals, or other solicitation may be canceled, or all bids or proposals rejected, if it is determined, in writing, that such action if taken is not in the best interest of the municipality and approved by the chief purchasing officer.

45-55-11. Responsibilities of bidders and offerors.

(1) A written determination of responsibility of a bidder or offeror shall be made and it shall be made in accordance with regulations issued by the municipality.

A reasonable inquiry to determine the responsibility of a bidder or offeror may be conducted. The failure of a bidder or offeror to promptly supply information in connection with a reasonable inquiry may be grounds for a determination of non-responsibility with respect to a bidder or offeror.

(2) Except as otherwise provided, by law, information furnished by a bidder or offeror pursuant to this section may not be disclosed outside of the purchasing department administering the contract without prior written consent of the bidder or offeror.

45-55-12. Prequalification of contractors - General.

The municipality may provide for prequalification of suppliers as responsible prospective contractors for particular types of supplies, services, and construction. Municipalities which choose to provide for prequalification of suppliers shall adopt regulations for prequalification in the same manner provided for in the adoption of ordinances in the manner provided for in the legislative or home rule charter of the municipality. Solicitation mailing lists of

potential contractors of supplies, services, and construction shall include but need not be limited to prequalified contractors. Prequalification shall not foreclose a written determination:

- (1) Between the time of the bid opening or receipt of offers and the making of an award, that a prequalified supplier is not responsible; or
- (2) That a supplier who is not prequalified at the time of bid opening or receipt of offers is responsible.

45-55-13. Exclusion of state mandated costs.

The provisions of 45-13-7 through 45-13-10 do not apply to this section.

45-55-13.1. Exclusion of multi-cities or towns insurance corporations and cooperative risk management programs.

The provisions of this chapter shall not apply to entities organized pursuant to section 45-5-20.1. Those entities are exempt from all of the provisions of this chapter.

45-55-13.2. Exclusion of multi-cities or towns energy aggregation programs.

The provisions of this chapter do not apply to entities organized for the purpose of negotiating the purchase of electric power pursuant to § 39-3-1.1, or energy or energy related services. Those entities are exempt from all provisions of this chapter.

45-55-13.3. Exclusion of multi-school district combined purchasing consortia.

The provisions of this chapter do not apply to purchases and contracts entered into by those consortia established pursuant to § 16-2-9.2, and such entities shall be exempt from all provisions of this chapter.

45-55-14. Staff consultants.

The procurement of the service of an attorney, physician or dentist by a municipality, is exempt from the provisions of this chapter.

45-55-15. Severability.

If any one or more sections, clauses, sentences or parts of this chapter are for any reason be adjudged unconstitutional or otherwise invalid in any court, that judgment shall not affect, impair or invalidate the remaining provisions of this chapter but shall be confined in its operation to the specific provisions so held unconstitutional or invalid and the inapplicability or invalidity of any section, clause or provisions of this chapter in any one or more instances or circumstances shall not be taken to affect or prejudice in any way its applicability or validity in any other instance.

45-55-16. Prohibition against the use of lead based paints.

When purchasing paint products or contracting or subcontracting for painting, construction, improvement, completion, or repair of any public buildings, public road, public bridge, or public construction, all municipalities, as defined by 45-55-4(11), shall be prohibited from the use of lead based paint.

45-55-17. Penalties.

Any person who knowingly and intentionally violates any provision of this chapter shall be subject to a misdemeanor, punishable by a fine of not more than five hundred dollars (\$500), or by imprisonment for not more than one year, or both.



State of Rhode Island
Division of Equity, Diversity, and Inclusion (DEDI)
Minority Business Enterprise Compliance Office
Minority Business Enterprise Utilization Plan

Company Name: _____

Representative's Name who administers MBE Program: _____

Street Address: _____

City, State, Zip: _____ Telephone: _____

Email: _____ Project Location: _____

Bid or Project #: _____ Date Bid Opened: _____

Description of Work: _____

Contract Value: _____ MBE % Assigned: _____

Total # of All Subcontractors/Suppliers used: _____ # of MBE Subcontractors/Suppliers used: _____

List All Subcontractors/Suppliers/Consultants/Independent Contractors – Total Dollar Amounts – Scope of Work:

Subcontractor / Supplier	Dollar Award	Scope/Description of Work	RI Certified M/WBE Yes/No

Please note that all MBE/WBE firms must be certified by the RI MBE Compliance Office, and that MBE/WBE firms must self-perform 100% of the work with their own forces or subcontract to another RI certified MBE/WBE in order to receive participation credit. Vendors may count 60% of expenditures for materials and supplies obtained from an MBE certified as a regular dealer/supplier, and 100% of such expenditures obtained from an MBE/WBE certified as a manufacturer. For firms certified as a broker, you may receive MBE participation credit only for the fees and commissions charged for the procurement of the good and materials, but not the cost of the materials themselves.

The above referenced contract will not be released until this plan has been approved by the Director of the Department of Administration or its designee.

For assistance and advice in identifying MBE/WBE firms, please call the Minority Business Enterprise Compliance Office at (401) 574-8253. The directory of all certified MBE firms is also located at www.mbe.ri.gov.

Signature of Authorized Agent of Business: _____ Date: _____

Send Completed Form to:
Kate Constance Brody, Esq. Administrator – MBE Compliance Office
Division of Equity, Diversity, and Inclusion (DEDI)
Minority Business Enterprise Compliance Office
One Capitol Hill, 3rd Floor
Providence, RI 02908
Phone: (401) 574-8670
Kate.Brody@doa.ri.gov

THIS PROJECT IS FUNDED BY THE



STATE REVOLVING FUND

JOINTLY ADMINISTERED BY THE

**Rhode Island
Infrastructure Bank**

Vahid Ownjazayeri
Chair

Jeffrey R. Diehl
Executive Director



**State of Rhode Island
Department of Health**

Daniel J. McKee
Governor

James V. McDonald,
MD, MPH, Interim Director-
RIDOH



"Dedicated To Protecting And Preserving Our State's Most Important Resource...Clean Water"



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**State of Rhode Island
Department of Health**

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Governor

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MD, MPH, Interim Director-
RIDOH



"Dedicated To Protecting And Preserving Our State's Most Important Resource...Clean Water"

Black

Navy Blue

Black

Green &
Navy Blue

Navy Blue

Black

Navy Blue

Grade

Navy Blue

8'



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STATE REVOLVING FUND

JOINTLY ADMINISTERED BY THE

**Rhode Island
Infrastructure Bank**

Vahid Ownjazayeri
Chair

Jeffrey R. Diehl
Executive Director



**State of Rhode Island
Department of Health**

Daniel J. McKee
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MD, MPH, Interim Director-
RIDOH



"Dedicated To Protecting And Preserving Our State's Most Important Resource...Clean Water"

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Appendix B

City of Providence Apprentice Utilization, Local Hiring Requirements, and Air Quality Protocols

APPRENTICE UTILIZATION, LOCAL HIRING REQUIREMENTS, & AIR QUALITY PROTOCOLS

ARTICLE 1 - GENERAL

- A. The City of Providence has initiated, by Sections 21-28.1 and Section 2-169.1 of its Code of Ordinances, Apprentice Utilization / Local Hiring (First Source) requirements, and Air Quality Protocols.
- B. OSHA - 29 CFR 1926.1153, “Respirable Crystalline Silica Standard for Construction”, City of Providence Code of Ordinance Section 21-28.1, “Qualifications for Parties Doing Business with the City” and Section 2-169.1, “Local Hiring (First Source)” by inclusion and reference, shall be considered to be a part of this section.

ARTICLE 2 - APPRENTICE UTILIZATION

- A. Any and all bidders shall certify in writing, as a condition precedent for bidding on any City of Providence-sponsored project worth in excess of one hundred thousand dollars (\$100,000.00), that the bidder shall comply with the following.
- B. All CONTRACTORS and SUBCONTRACTORS shall be affiliated with a state registered apprenticeship program as defined in 29 C.F.R. § 29 et seq.
- C. No less than fifteen percent (15%) of the total labor hours performed by contractors and subcontractors on any one (1) project shall be completed by apprentices registered in state registered apprenticeship programs. This requirement pertains to all labor hours for a given project, not just those of new hires.
- D. Subsequent to the City's award of the contract and prior to commencement of work, the prime contractor may petition to adjust the apprenticeship work hour requirements in Article 2.2. The awarding agency may lower the fifteen (15) requirement only if it determines in writing that compliance is not feasible or that it would be unduly cost prohibitive to the project.
- E. All contractors and subcontractors shall submit written reports documenting compliance with their apprenticeship obligations prior to approval and issuance of any periodic and/or final payments being made by Providence Water, the contracting party.
- F. The following sanctions may be imposed on any contractor or subcontractor found not to be in compliance with its obligations under the Apprentice Utilization (AU) requirement. Such sanctions shall include, but not be limited to:
 - 1. Termination of contract.
 - 2. Debarment from future city projects.

3. Recovery of any benefits which accrued to the business during the period of violation.
4. Referral for civil sanctions and/or prosecution under the False Claims Act.

ARTICLE 3 – LOCAL HIRING (FIRST SOURCE PROVIDENCE)

- A. Jobs covered by this section and requiring adherence to the provisions of a first source agreement shall include all non-supervisory positions created as a result of internal promotions, terminations, and expansion of the employers workforce, except those filled by internal promotion from within the employers local workforce.
- B. The CONTRACTOR and all SUBCONTRACTORS shall agree to recruit and hire all covered employees from the first source list provided by First Source Providence. At least ten (10) days before hiring the CONTRACTOR/SUBCONTRACTOR shall notify First Source Providence who shall refer appropriately trained and qualified employees to said CONTRACTOR / SUBCONTRACTOR until the CONTRACTOR / SUBCONTRACTOR has filled such jobs.
- C. In the event that the CONTRACTOR / SUBCONTRACTOR is unable to find acceptable employees after exhausting the entire first source list, the CONTRACTOR / SUBCONTRACTOR shall notify First Source Providence that it wishes to seek outside employees. If after conference the CONTRACTOR / SUBCONTRACTOR and First Source Providence agree that the first source list is unable to provide suitable employees for said positions the CONTRACTOR / SUBCONTRACTOR shall be free to seek employees from other sources.
- D. If the CONTRACTOR / SUBCONTRACTOR and First Source Providence do not agree that First Source Providence is able to find suitable employees First Source Providence shall be given an additional thirty (30) days to recruit employees for said positions. If at the end of thirty (30) days First Source Providence is unable to provide suitable employees the CONTRACTOR / SUBCONTRACTOR shall be free to hire from other sources.
- E. CONTRACTOR and SUBCONTRACTOR shall notify First Source Providence as the “First Source” of referral. If the awarded contractors, regardless of tier, are signatory to Collective Bargaining Agreements which govern the contractors’ hiring and referral process, they shall contact both First Source Providence and the local hiring halls to request Providence resident Apprentices or Journey workers.
- F. Should the CONTRACTOR or SUBCONTRACTOR have difficulty securing registered apprentices who reside in Providence, or in general, please contact First Source Providence. If there are concerns that the project will not allow the CONTRACTOR or SUBCONTRACTOR to achieve the 15% AU requirement, contact Building Futures before commencing work.

- G. For questions regarding monthly reporting requirements and compliance with Apprentice Utilization or Local Hiring (First Source), contact Natalie Lopes, Director of First Source Providence at 401-680-8416 or via email at nlopes@providenceri.com.

ARTICLE 4 – AIR QUALITY PROTOCOLS

- A. Any and all bidders shall certify in writing, as a condition precedent for bidding on any City of Providence-sponsored project worth in excess of fifty thousand dollars (\$50,000.00), that the bidder shall comply with the following.
- B. All bidders shall adhere to air quality protocols outlined in the “Green During Construction” initiative. These refer specifically to:
1. The implementation of dust controls - especially silica control measures as defined in **OSHA Standard 29 CFR 1926.1153** - during construction;
 2. The substitution of all gasoline, propane, and diesel-powered construction equipment - either stationary and mobile - with equipment designed to reduce toxic emissions, either through engine modification, the use of alternative fuels, or the implementation of electric or hybrid power systems; and
 3. The prohibition of idling motors on gasoline and diesel vehicles as published by the Rhode Island Committee on Occupational Safety and Health.
- C. All bidders who are awarded or otherwise obtain contracts with the City of Providence shall comply with all obligations set forth in paragraph B. for the entire duration of the contract. Any bidder performing work pursuant to this initiative shall be obligated to immediately notify the City of Providence regarding any material changes relating to concurrence with this initiative. Failure to notify the city of any material change shall be considered a submission of false information and the city shall have the discretion to impose any and all sanctions authorized by this section.
- D. Any bidder who negligently or willfully fails or refuses to comply with any of the obligations set forth in paragraph B., above, for any period of time, shall be subject to sanctions at the discretion of the City of Providence, which may or may not include one (1) or more of the following:
1. Cessation of work on the project until compliance is obtained;
 2. Withholding of payment due under any contract or subcontract until compliance is obtained;
 3. Permanent removal from any further work on the project;
 4. Debarment from eligibility to contract with the City of Providence;
 5. Declaration of any contract held by the bidder null and void.
- E. Each bidder shall be responsible for, and shall ensure that any and all subcontractors to the bidder shall comply with all the requirements of the section, and each bidder shall certify the compliance of any and all subcontractors with the provisions of this section in the manner provided in paragraph D above.

END of SECTION

Appendix C

City of Providence Contract Terms and Conditions

**CITY OF PROVIDENCE
CONTRACT TERMS & CONDITIONS**

1. Termination of Contract for Cause. If through and cause, the Contractor shall fail to uphold any of the covenants, agreements, or stipulations of this Contract, the City of Providence shall thereupon have the right to terminate this Contract by giving written notice to the Contractor and specifying the effective date thereof, at least seven (7) days before the effective date of such termination. In such event, all finished or unfinished documents, data, studies, and reports prepared by the Contractor under this Contract, shall, at the option of the City of Providence, become City property and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such documents.

Notwithstanding the above, the Contractor shall not be relieved of liability to the City of Providence for damages sustained by the City of Providence by virtue of any breach of the Contract by the Contractor and the City of Providence may withhold any payments to the Contractor for the purpose of set off until such time as the exact amount of damages due the City of Providence from the Contractor is determined.

2. Termination for convenience of the City of Providence. The City of Providence may terminate this Contract any time by a notice in writing from the City of Providence to the Contractor. If the Contract is terminated by the City of Providence as provided herein, the Contractor will be paid an amount which bears the same ratio to the total compensation as the services actually performed. If this Contract is terminated due to the fault of the Contractor, Article 1 hereof relative to termination shall apply.

3. Changes. The City of Providence, may from time to time, request changes in the scope of the services of the Contractor to be performed hereupon. Such changes, including any increase or decrease in the amount of the Contract compensation, which are mutually agreed upon by and between the City of Providence and the Contractor shall be incorporated in written amendments to this Contract.

4. Personnel.

- a. The Contractor represents that it has, or will secure at its own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have contractual relationship with the City of Providence.

- b. All the services required hereunder will be performed by the Contractor or under its supervision and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services.
- c. No person who is serving sentences in a penal or Correctional institution shall be employed on work under this Contract.

5. Anti-Kickback Rules. Salaries of personnel performing work under this Contract shall except only such payroll deductions as are mandatory by law or permitted by the applicable regulation issued by the Secretary of Labor pursuant to the Copeland Act (or "Anti-Kickback Act of June 13, 1934 48 Stat. 948:62 Stat. 740:63 Stat. 108: Title 18 U.S.C. Section 874: and Title 40 U.S.C. Section 276(c). The Contractor shall comply with all applicable "Anti-Kickback" regulations and shall insert appropriate provisions in all subcontracts with such regulations, and shall be responsible for the submission of affidavits required of subcontractors thereunder except as the Secretary of Labor may specifically provide for variations of or exemptions from the requirements thereof.

6. Claims and Disputes Pertaining to Salary Rates. Claims and disputes pertaining to salary rates or to classifications of personnel performing work under this Contract shall be promptly reported in writing by the Contractor to the City of Providence for the latter's decision which shall be final with respect thereto.

7. Equal Employment Opportunity. During the performance of the Contract, the Contractor agrees as follows:

- a. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, country of national origin, age, ancestry or handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to race, religion, sex, country of national origin, age, ancestry or handicap. Such action will include, but not limited to the following: upgrading, demotion, or transfer, recruitment, or recruitment advertising, layoff or termination rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth provisions of this nondiscrimination clause.

- b. The Contractor will, in all solicitation or advertisements for employees placed by or on behalf of the Contractor state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex country of national origin, age, ancestry or handicap.
- c. The Contractor will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this Contract so that such provisions will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

8. Compliance with Local Laws. The Contractor shall comply with all laws, ordinances, and codes of the state and local governments, and shall commit no trespass on any public or private property in performing any of the work embraced by this contract.

9. Subcontracting. None of the services covered by this Contract shall be subcontracted without the prior written consent of the City of Providence. The Contractor shall be as fully responsible to the City of Providence for the acts and omissions of its/his subcontractors and of persons either directly employed by it/him. The Contractor shall insert in each subcontract appropriate provisions requiring compliance with the labor standards provisions of the Contract.

10. Assignability. The Contractor shall not assign any interest in this Contract, and shall not transfer any interest in the same (whether by or novation) without the prior written approval of the City of Providence; provided, however, that claims for money due or to become due the Contractor from the City of Providence, under this contract may be assigned to a bank, trust company, or other financial institution, or to a Trustee in Bankruptcy, without such approval.

11. Interest of Members of the City of Providence. No member of this governing body of the City of Providence and no other officer, employee, or agent of the City of Providence who exercises any functions or responsibilities in connection with the carrying out of the project to which this Contract pertains, shall have any personal interest, direct or indirect, in the Contract.

12. Findings Confidential. All of the reports, information, data, etc., prepared or assembled by the Contractor under this Contract are confidential and the Contractor agrees that they shall not be made available to any individual or organization without the prior written approval of the City of Providence.

13. Non-Expendable Property. At the conclusion of this Contract, all non-expendable property purchased with Contract funds shall revert to the City of Providence.

14. Records.

a. Establishment and Maintenance of Records. Records shall be maintained by the Contractor for a period of five years after the receipt of final payment under this contract.

1. Documentation of Costs. All costs shall be supported by properly executed payrolls, time records, invoices, contracts, or vouchers, or other documentation evidencing in proper detail the nature of and propriety of the charges. All checks, payrolls, invoices, contracts, vouchers, orders or other accounting documents pertaining in whole or in part to this Contract shall be clearly identified and readily accessible.

15. Audits and Inspections. At any time during normal business hours and as often as the City of Providence may deem necessary, there shall be made available by the Contractor to the City of Providence for examination all of its records with respect to all matters covered by this Contract. The Contractor will permit the City of Providence to audit, examine, and make excerpts of transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment, and other data or information relating to all matters covered by this Contract.

16. Political Activity Prohibited. None of the funds, materials, property or services provided directly or indirectly under this Contract shall be used for any partisan political activity, or to further the election or defeat of any candidate for public office, and shall be used solely for the performance of this Contract.

17. The Contractor shall, prior to commencing performance under the Contract, attach a Certificate of Insurance in a form and amount acceptable to the City of Providence, covering the damages which arise from the negligence of the Contractor in performance under the Contract, including all claims for personal injury or damages to property sustained by third persons, or their agents, servants and/or those claimed under them.

END OF EXHIBIT III

Appendix D

Rhode Island Office of Diversity, Equity, and Opportunity MBE Forms



**State of Rhode Island and Providence Plantations
Office of Diversity, Equity and Opportunity (ODEO)
Minority Business Enterprise Compliance Office
Minority Business Enterprise Utilization Plan**

Company Name: _____

Representative's Name who administers MBE Program: _____

Street Address: _____

City, State, Zip: _____ Telephone: _____

Email: _____ Project Location: _____

Bid or Project #: _____ Date Bid Opened: _____

Description of Work: _____

Contract Value: _____ MBE % Assigned: _____

Total # of All Subcontractors/Suppliers used: _____ # of MBE Subcontractors/Suppliers used: _____

List All Subcontractors/Suppliers/Consultants/Independent Contractors – Total Dollar Amounts – Scope of Work:

Subcontractor / Supplier	Dollar Award	Scope/Description of Work	RI Certified M/WBE Yes/No

Please note that all MBE/WBE firms must be certified by the RI MBE Compliance Office, and that MBE/WBE firms must self-perform 100% of the work with their own forces or subcontract to another RI certified MBE/WBE in order to receive participation credit. Vendors may count 60% of expenditures for materials and supplies obtained from an MBE certified as a regular dealer/supplier, and 100% of such expenditures obtained from an MBE/WBE certified as a manufacturer. For firms certified as a broker, you may receive MBE participation credit only for the fees and commissions charged for the procurement of the good and materials, but not the cost of the materials themselves.

The above referenced contract will not be released until this plan has been approved by the Director of the Department of Administration or its designee.

For assistance and advice in identifying MBE/WBE firms, please call the Minority Business Enterprise Compliance Office at (401) 574-8670. The directory of all certified MBE firms is also located at <http://odeo.ri.gov/>.

Signature of Authorized Agent of Business: _____ Date: _____

Send Completed Form to:
Dorinda Keene, Assistant Administrator - MBE
Office of Diversity, Equity and Opportunity (ODEO)
Minority Business Enterprise Compliance Office
One Capitol Hill, 3rd Floor
Providence, RI 02908
Phone: (401) 574-8670
Dorinda.Keene@doa.ri.gov

Office of Diversity, Equity and Opportunity (ODEO)
MBE Compliance Office
1 Capitol Hill, 3rd Floor
Providence, RI 02908

(401) 574-8670
www.mbe.ri.gov

Pursuant to RIGL 37-14.1 as well as the regulations promulgated thereto, the MBE Compliance Office requires that you complete the following table. Please note that these figures will be verified with the MBEs identified. If there are outstanding issues, such as retainage or a dispute, please indicate and attach supporting documentation for same. Also note that copies of invoice and cancelled checks for payment to all MBE subcontractors and suppliers are required.

Contractor/Vendor Name:

Project Name & Location:

Original Prime Contract Amount: \$ _____ Current Prime Contract Amount: \$ _____ % Complete: _____

MBE/WBE Subcontractor	Original Contract Amount	Change Orders	Revised Contract Value	% Completed To Date	Amount Paid To Date	Amount Due	Retainage %	Retainage Amount	Explanation

I declare, under penalty of perjury, that the information provided in this verification form and supporting documents is true and correct.

Signature

Date

Printed Name

Notary Certificate:

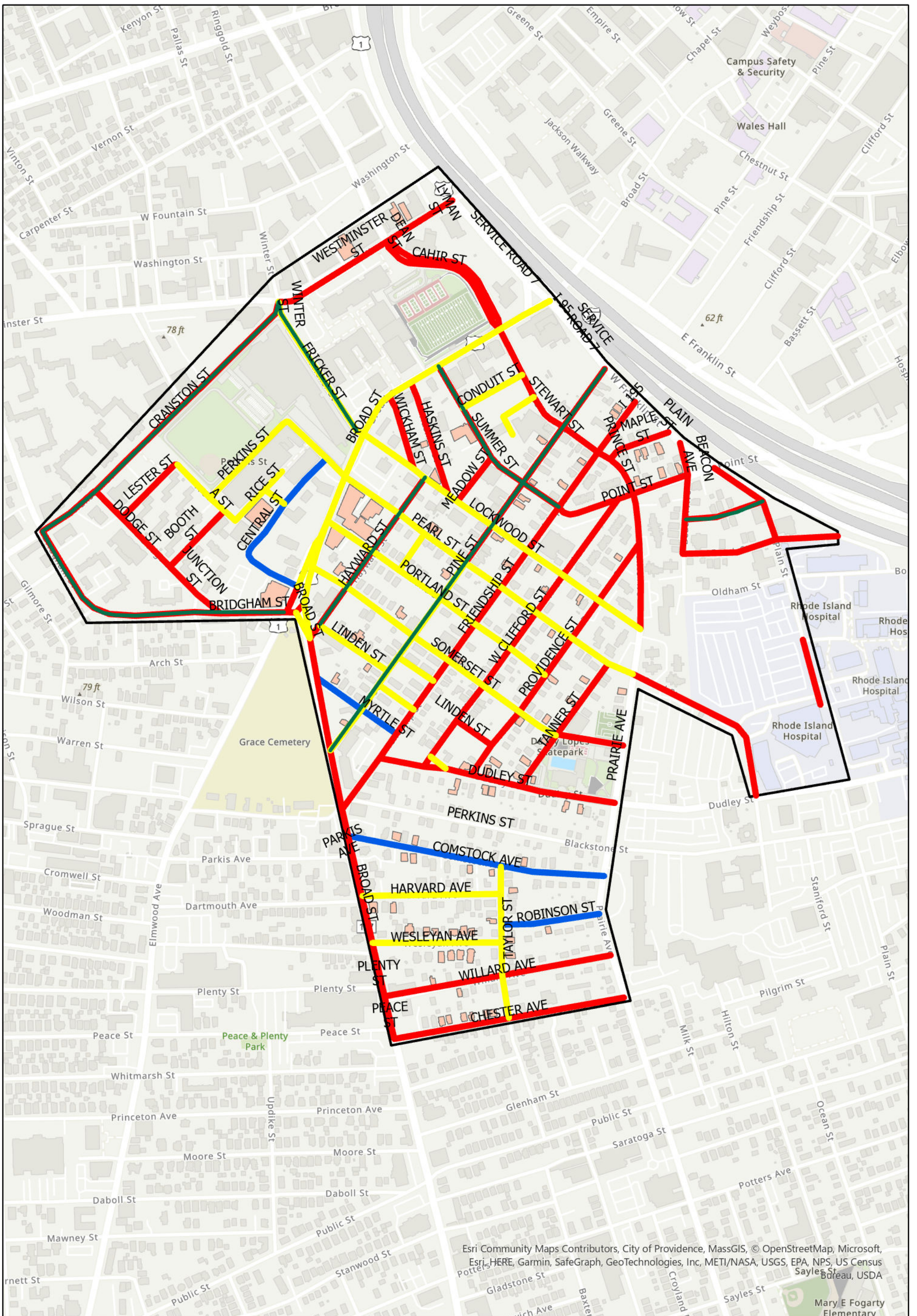
Sworn before me this _____ day of _____, 20____.

Notary Signature

Commission Expires

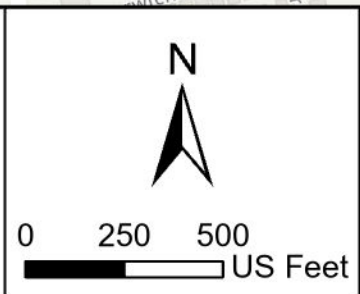
Appendix E

Trinity Square Area Water Main Rehabilitation Project Area



Legend

- Final Pavement Restoration By City
- Final Pavement Restoration By Contractor
- Moratorium Roads - Final Pavement Restoration By Permit
- Trinity_Square_Streets
- Trinity Square Project Area
- Lead Service Line Replacements
- Possible Concrete Subbase Road



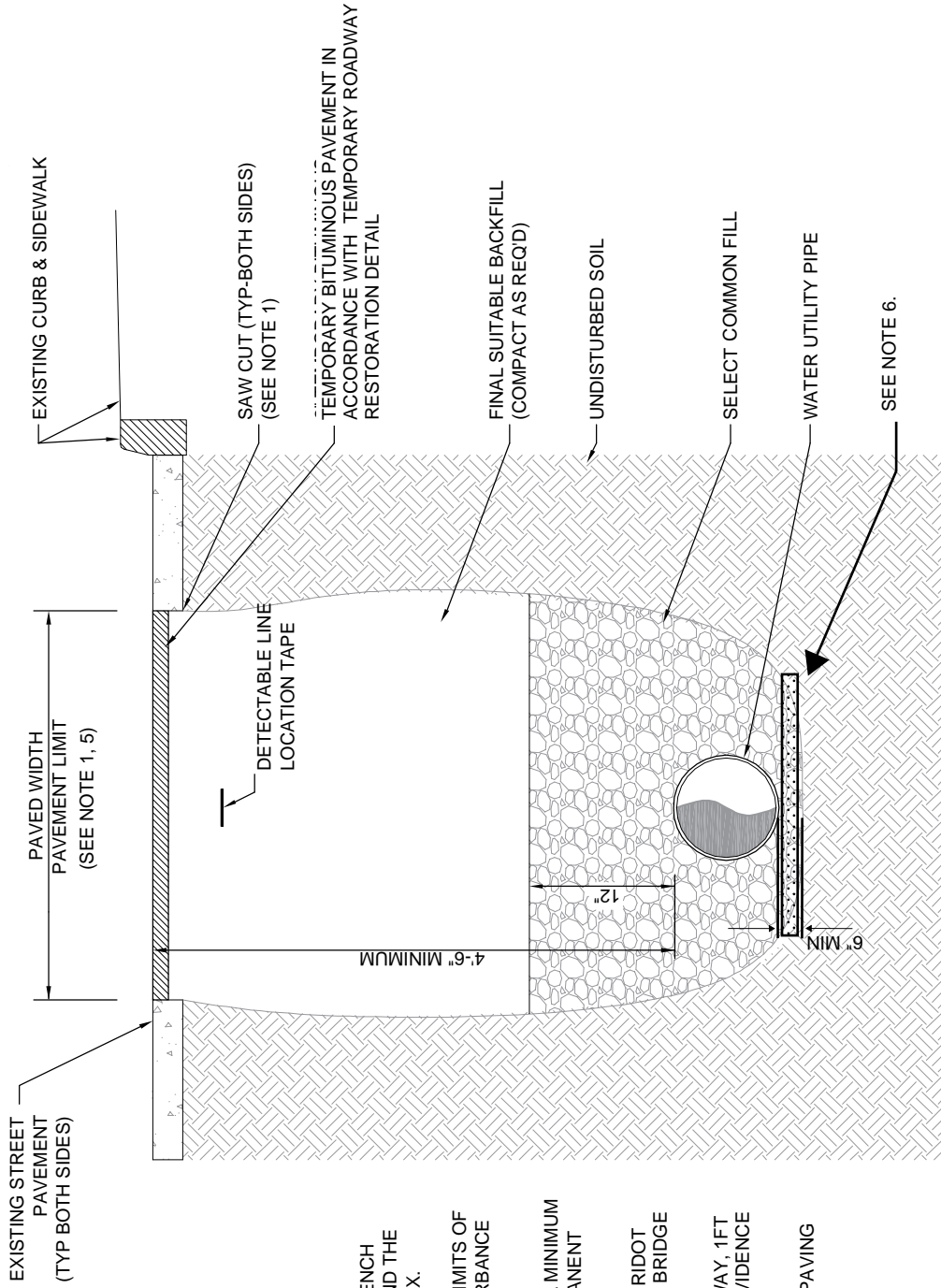
Providence Water Supply Board
 Trinity Square Area Water Main
 Rehabilitation
 Project Map
 March 2023

Esri Community Maps Contributors, City of Providence, MassGIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Appendix F

Typical Construction Details

1. Typical Water Main and Water Service Trench Detail
2. Typical Permanent Trench Pavement Restoration
3. PWSB New Hydrant Installation & Replacements (H-1)
4. Typical Hydrant Guards Detail
5. Typical Detail Gate Valve
6. Typical Gate Valve with Solid Sleeves
7. Typical 4" to 8" Gate Valve Installation with Hymax Couplings (On Existing AC and DI Pipe)
8. Valve and Curbstop Boxes
9. Temporary End Cap and Plug Detail
10. Thrust Block Details – Dead End, Bend, Tee, Typical Section and Tables (1 of 4)
11. Typical Temporary Hydrant Detail
12. Temporary By-Pass Feed Detail
13. Horizontal Installation of Reduced Pressure Zone and Double Check Valve Backflow Prevention Assembly
14. Residential Water Service Connection Schematic – Elevation View
15. Typical Reducer Installation
16. 3'-0" Precast Concrete Transition Curb
17. 6'-0" Precast Concrete Transition Curb
18. Precast Concrete Wheelchair Ramp Transition Curb
19. Sack Insert Catch Basin inlet Protection
20. Granite Ramp Stone
21. Curb Setting Detail
22. Cement Concrete Sidewalk
23. Sidewalk Removal Detail
24. Cement Concrete Driveways
25. Temporary Roadway Restoration
26. Permanent Roadway Restoration – Granular Base
27. Permanent Roadway Restoration – Concrete Base
28. Precast Concrete Curb
29. Driveway Development for 3'-0" Transition Curb
30. Driveway Development for 6'-0" Transition Curb
31. Cement Concrete Driveways
32. Tree Protection Device
33. Drip Line Tree Protection Device for Existing Trees
34. Shrub Protection Device
35. Typical Lane Shift on Two-Lane Roadway
36. Typical Lane Closure on Two-Lane Roadway
37. Typical Shoulder Closure on Two-Lane Roadway



NOTES:

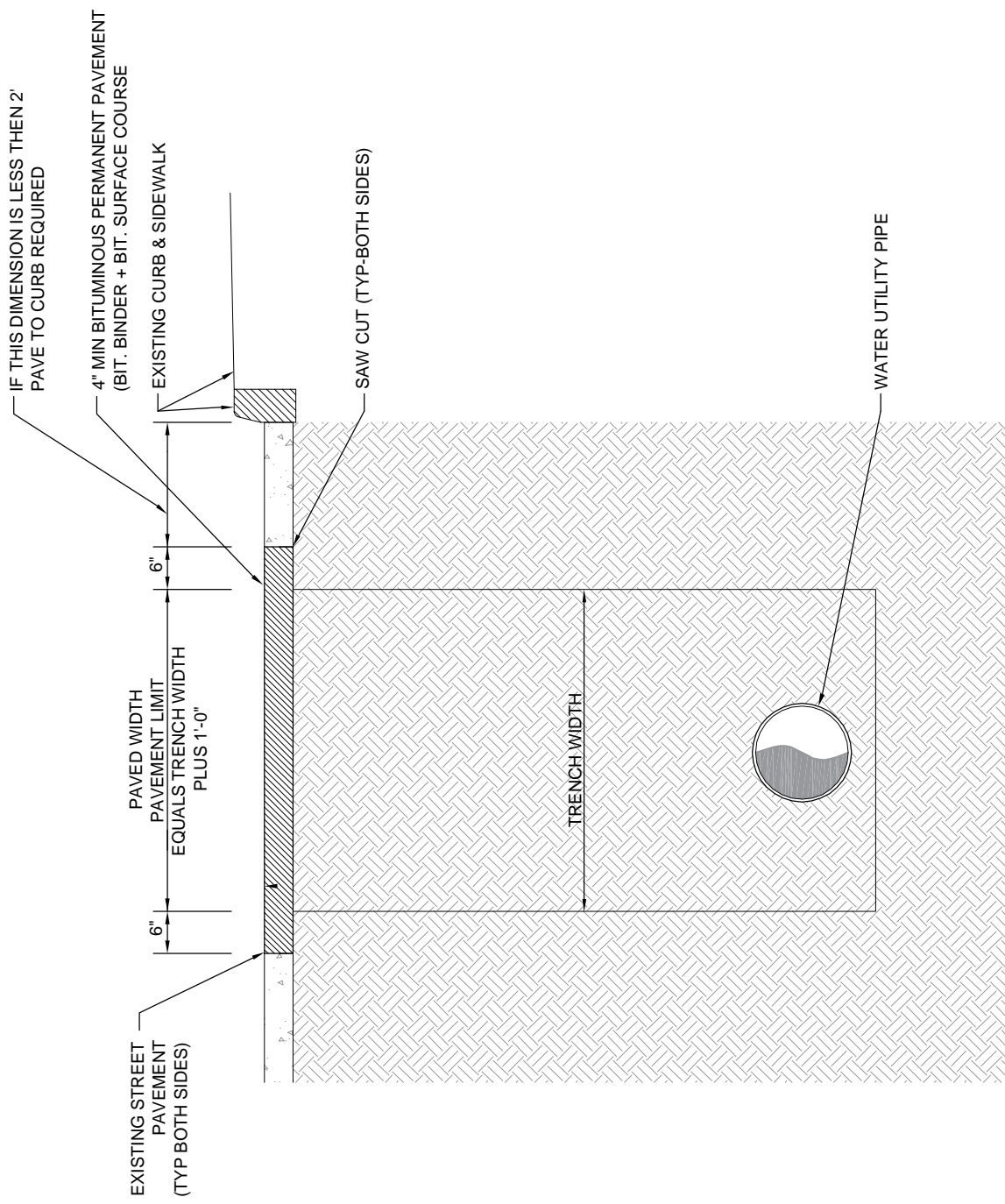
1. EXISTING STREET PAVEMENT SAW-CUT TO ACCOMMODATE DESIRED TRENCH WIDTH. TRENCH WIDTH SHALL NOT EXCEED 4'-0" OR 6" BEYOND THE EXTERIOR OF THE SHEETING OR TRENCH BOX.
2. TEMPORARY PAVEMENT PLACED WITHIN LIMITS OF SAW-CUT TRENCH, OR THE LIMITS OF DISTURBANCE OF EXISTING PAVEMENT, AS REQUIRED
3. TEMPORARY PAVEMENT REMOVED AFTER A MINIMUM PERIOD OF 60 DAYS. SEE DETAIL FOR PERMANENT TRENCH RESTORATION METHOD
4. BACKFILL SHALL BE IN COMPLIANCE WITH RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 205.03.5.
5. MINIMUM 6" BEDDING OUTSIDE OF ROADWAY, 1FT BEDDING REQUIRED IN ROADWAY PER PROVIDENCE DPW.
6. REFER TO APPENDIX E FOR PERMANENT PAVING RESTORATION SCHEDULE.

TYPICAL DETAIL WATER MAIN & WATER SERVICE TRENCH DETAIL

NOT TO SCALE

[Signature]
Senior Manager of Engineering

Date

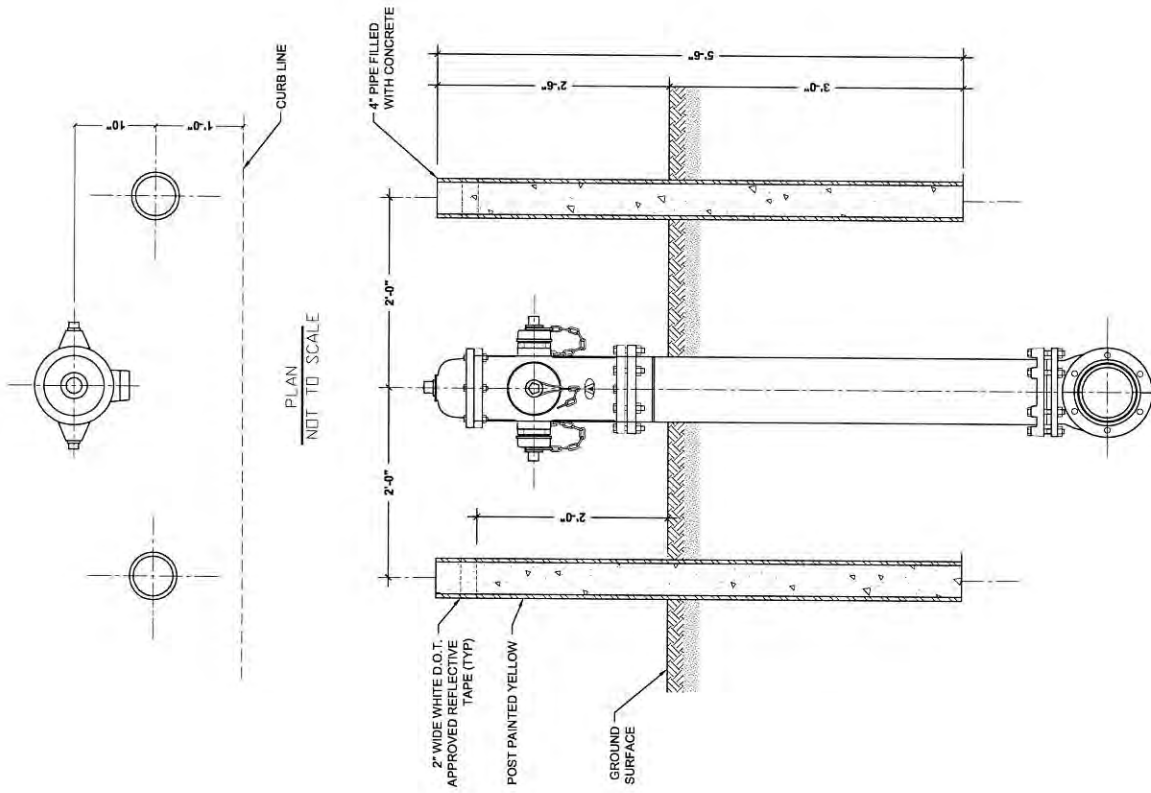


TYPICAL PERMANENT TRENCH PAVEMENT RESTORATION

NOT TO SCALE

B. R. C. [Signature]
 Senior Manager of Engineering Date _____



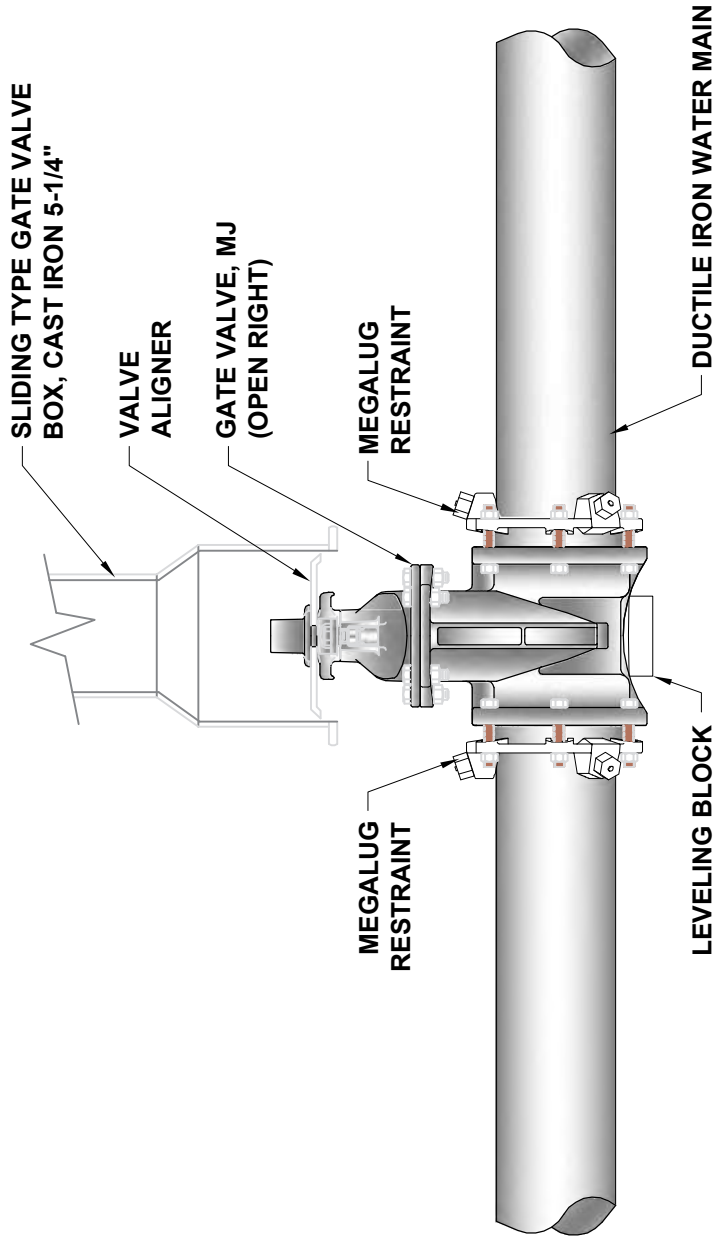


TYPICAL HYDRANT GUARDS DETAIL

NOT TO SCALE


 Senior Manager of Engineering Date 6-25-14

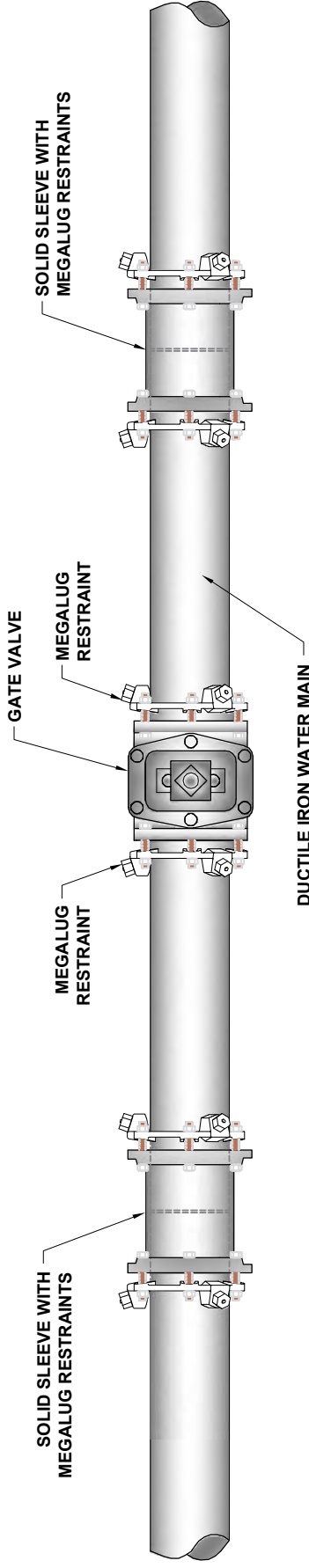
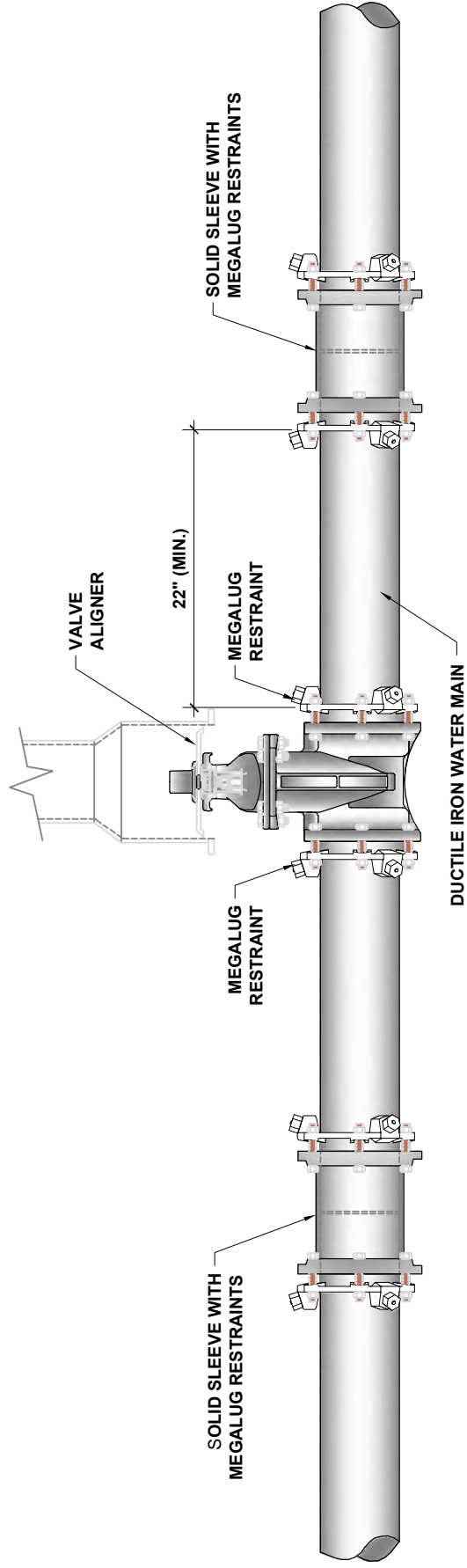




TYPICAL DETAIL
GATE VALVE

NOT TO SCALE



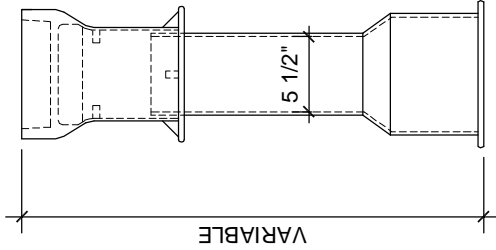


TYPICAL GATE VALVE W/ SOLID SLEEVES

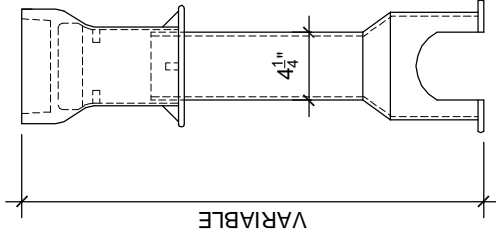
NOT TO SCALE


 Senior Manager of Engineering
 3-11-13
 Date

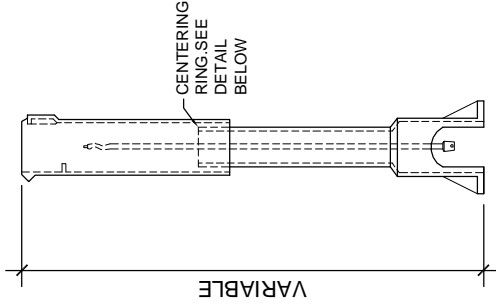




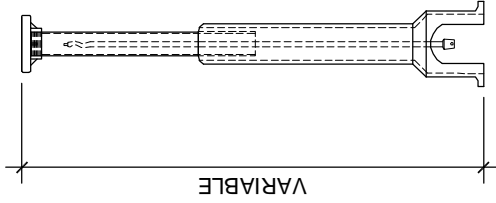
GATE VALVE BOX
 BINGHAM & TAYLOR
 FIG. NO. 4908
 OR EQUIVLANT



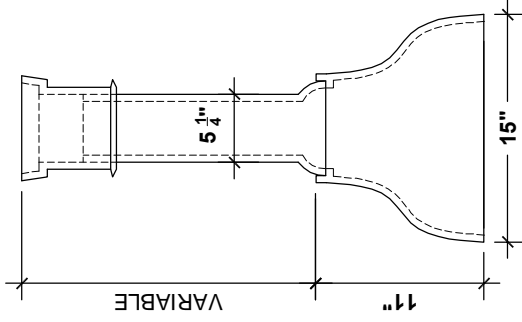
ROADWAY BOX
 1-1/2" - 2" SERVICE
 BINGHAM & TAYLOR
 FIG. NO. 4903
 OR EQUIVLANT



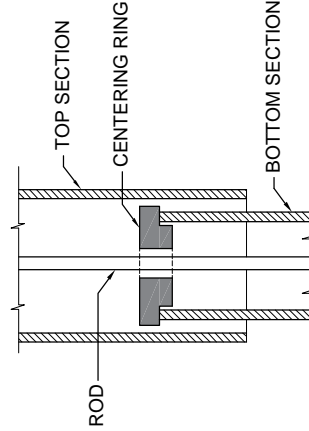
BUFFALO BOX
 USED UNDER SPECIAL
 CIRCUMSTANCES
 BINGHAM & TAYLOR
 FIG. NO. 4901
 OR EQUIVLANT



ERIE BOX
 3/4" - 1" SERVICE
 BINGHAM & TAYLOR
 FIG. NO. E-100 / E-125
 OR EQUIVLANT



3-PIECE VALVE BOX
 WEDGE 2" BLOW OFF
 BINGHAM & TAYLOR
 FIG. NO. 4909-A
 OR EQUIVLANT



VALVE & CURBSTOP BOXES

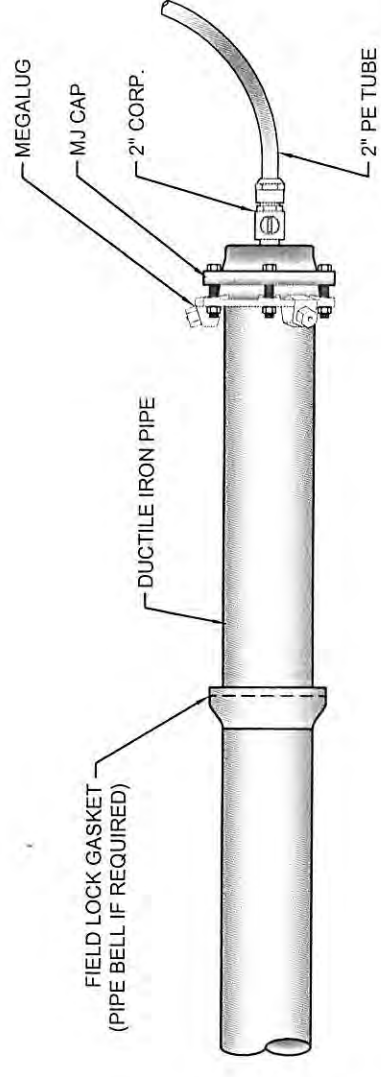
NOT TO SCALE


 Senior Manager of Engineering
 Date 3-11-13

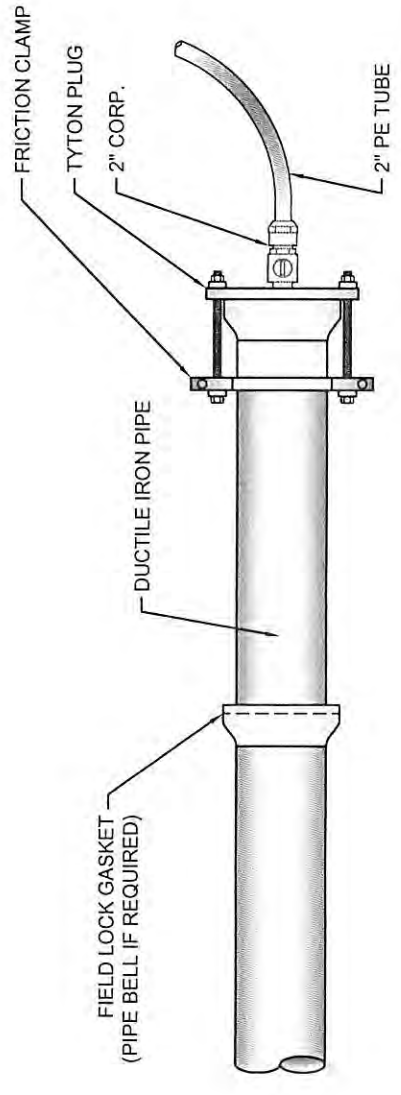


GENERAL NOTES:

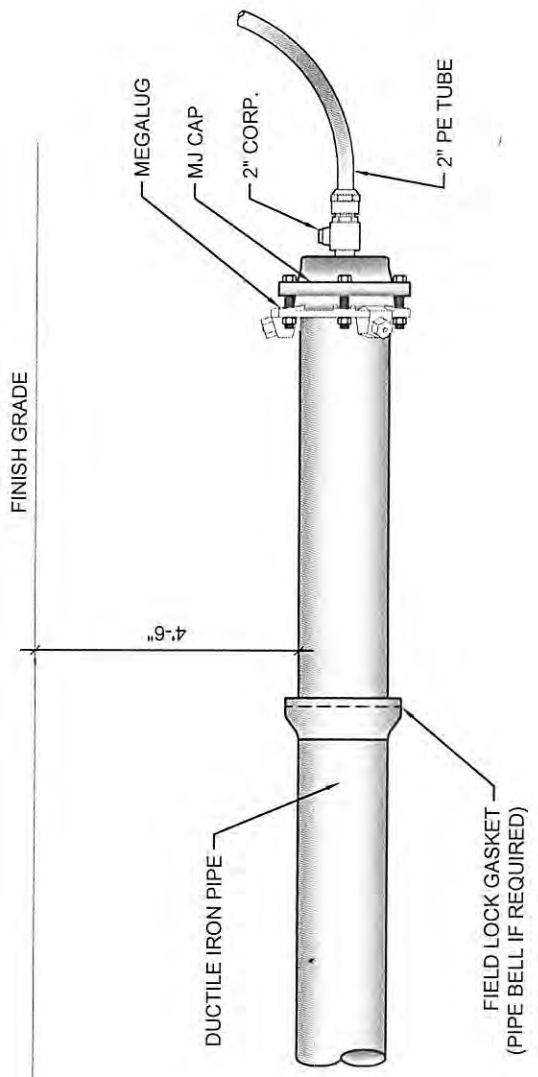
- OTHER EXISTING UTILITIES ARE NOT SHOWN. CONTRACTOR SHALL NOTIFY "DIG-SAFE" PRIOR TO COMMENCING WORK.
- NEW WATER MAINS SHALL BE TESTED AND CALIBRATED IN ACCORDANCE WITH PROVIDENCE WATER STANDARDS AND AS DIRECTED BY PROVIDENCE WATER.
- NEW WATER MAINS SHALL BE CEMENT-LINED DUCTILE IRON PIPE, CLASS 52, CONFORMING TO THE LATEST AWWA STANDARDS.
- PIPE FITTINGS SHALL BE CEMENT-LINED DUCTILE IRON, CLASS 550, WITH MECHANICAL JOINT ENDS.
- UNLESS OTHERWISE NOTED, EARTH COVER OVER PIPE SHALL NOT BE LESS THAN 4.5- FEET.
- GATE VALVES SHALL BE RESILIENT SEAT TYPE WITH MECHANICAL JOINT ENDS AND SHALL OPEN "RIGHT" (CLOCKWISE).
- METALLIZED, DETECTABLE IDENTIFICATION TAPE SHALL BE 2-INCHES WIDE BLUE IN COLOR AND IMPRINTED WITH THE WORDS "CAUTION - WATER LINE - BURIED BELOW" AND SHALL BE INSTALLED OVER ALL MAINS AND HYDRANT RUN-OUTS AT A DEPTH OF 12-INCHES BELOW FINISHED GRADE.
- CURB STOPS SHALL BE INSTALLED 1 FT. TO 1-1/2 FT. BEHIND FACE OF CURB OR EDGE OF PAVEMENT. CURB STOPS ARE NOT TO BE INSTALLED IN EXISTING OR FUTURE DRIVEWAYS.
- UNLESS OTHERWISE NOTED, BREAKAWAY TYPE HYDRANTS, WHERE REQUIRED, SHALL BE INSTALLED AT EXISTING LOCATIONS WITH OPERATING NUT POSITIONED 24-INCHES BEHIND FACE OF CURB OR EDGE OF PAVEMENT. THE BREAKAWAY FLANGE SHALL BE SET 2-INCHES TO 4-INCHES ABOVE FINISHED GRADE. HYDRANTS SHALL OPEN "RIGHT" (CLOCKWISE).
- PORTLAND CEMENT CONCRETE THRUST BLOCKS AND/OR GRAVITY BLOCKS SHALL BE CONSTRUCTED IN PLACE AT CHANGES OF PIPE DIRECTION (TEES, BENDS, ETC) AND/OR DEAD ENDS IN ACCORDANCE WITH PROVIDENCE WATER STANDARDS. FURTHERMORE, MECHANICAL JOINT THRUST RESTRAINTS SHALL BE PLACED ON EACH SIDE OF IN-LINE FITTINGS OR PIPE JOINTS PRIOR TO END CAPS/PLUGS SO AS TO SUFFICIENTLY RESTRAIN AN ADEQUATE LENGTH OF PIPE AT 1-1/2 TIMES THE STATIC PRESSURE, BUT IN ANY EVENT, NOT LESS THAN 150 PSI.



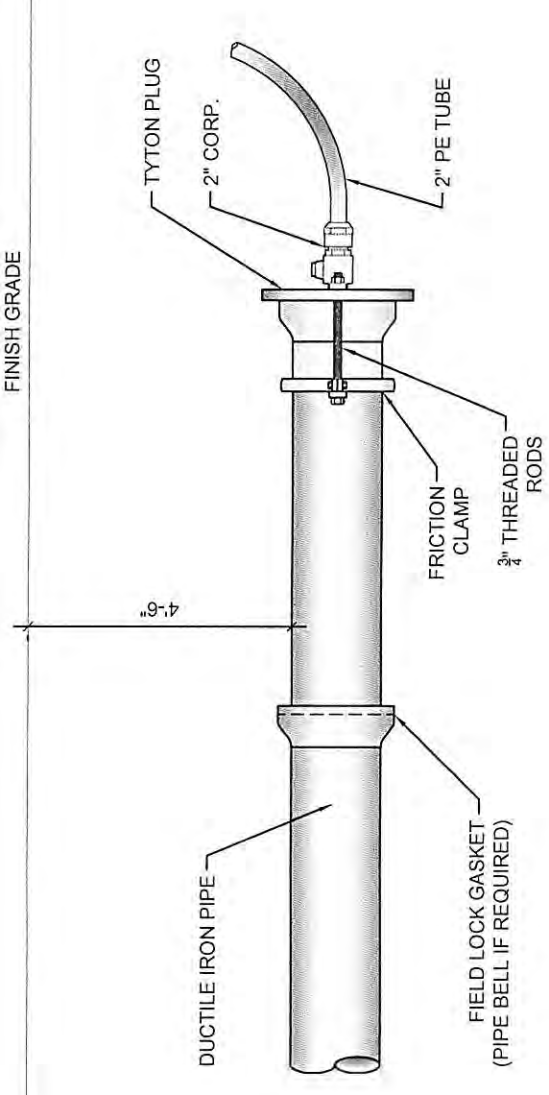
TEMPORARY END CAP
PLAN VIEW



TEMPORARY PLUG
PLAN VIEW




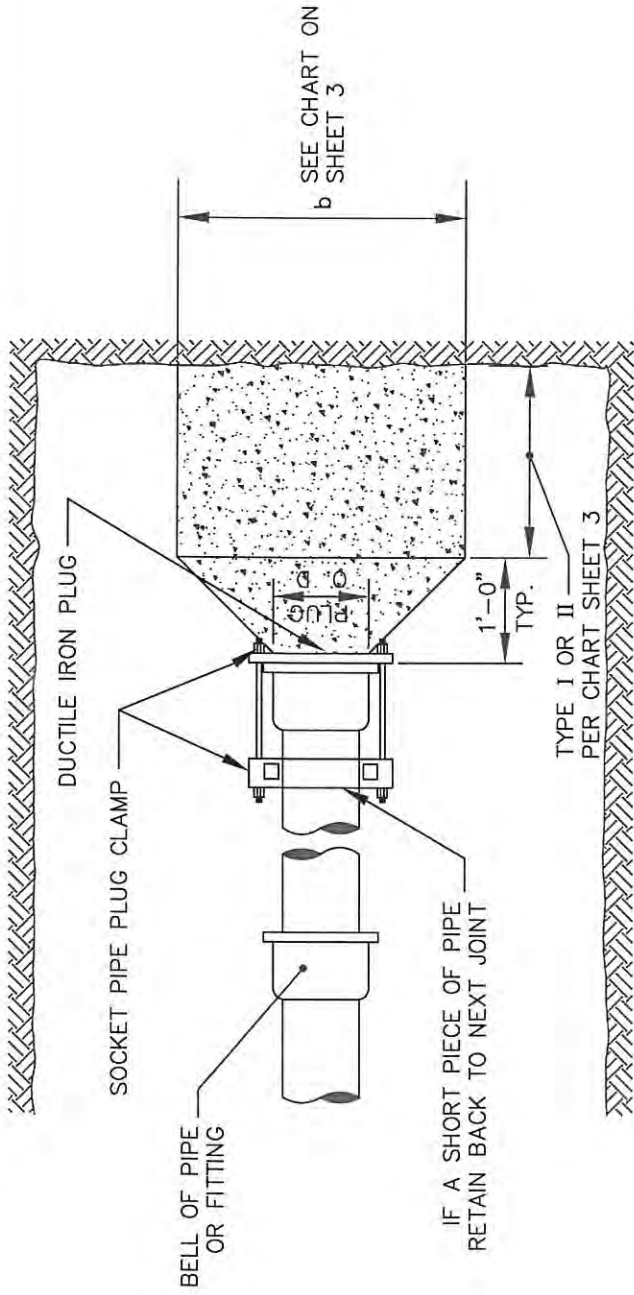
TEMPORARY END CAP
PROFILE VIEW



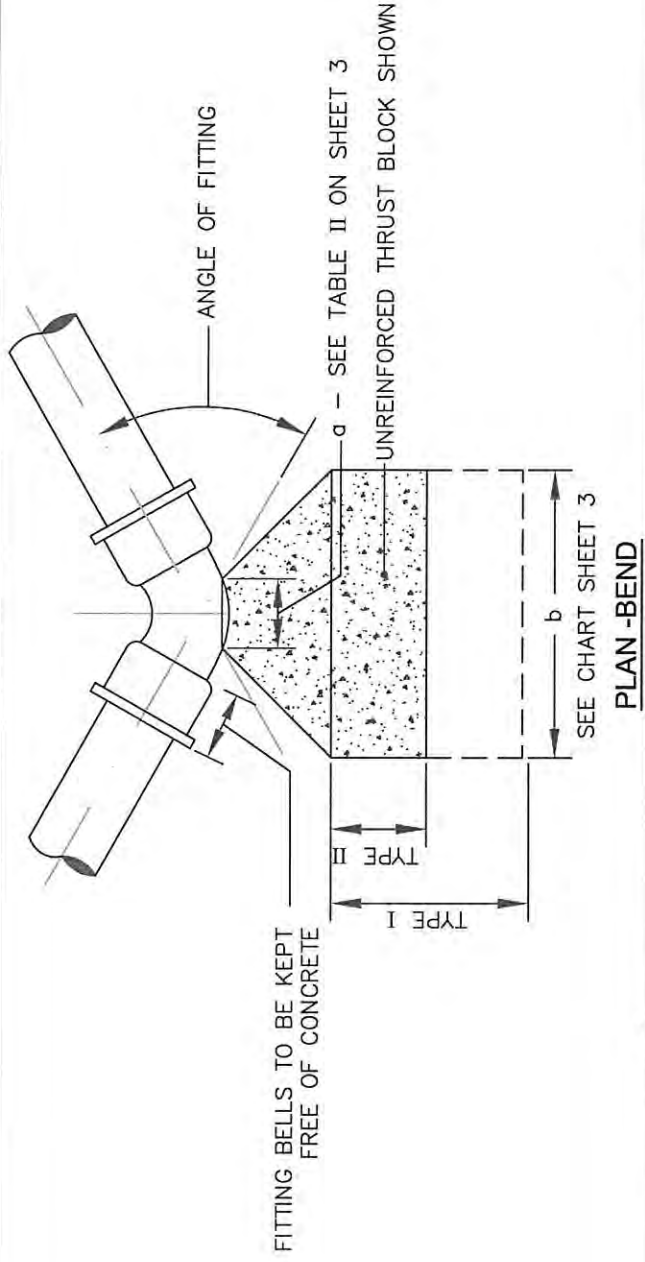
TEMPORARY PLUG
PROFILE VIEW

TEMPORARY END CAP AND PLUG DETAIL

MAD	AMP
DRAWN BY	CHECKED BY
N.T.S.	01-06-2014
SCALE	DATE
 SENIOR MANAGER OF ENGINEERING	



PLAN - DEAD END



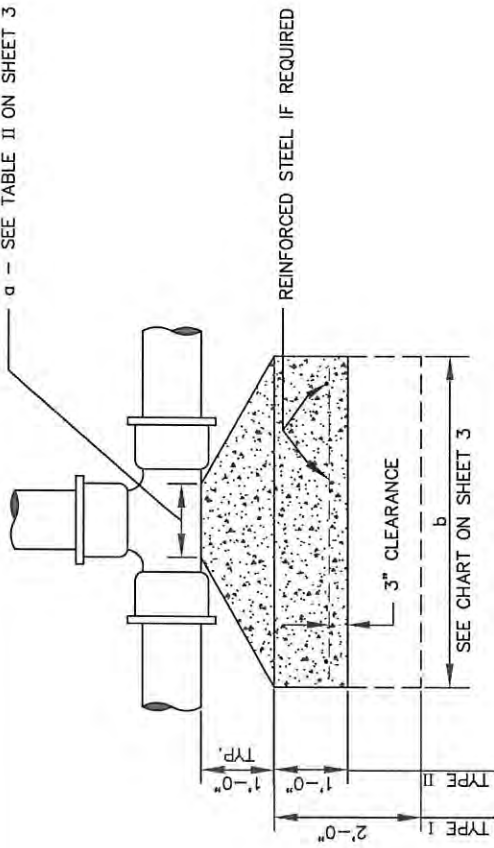
NOTE:
SEE CHARTS - SHEET 3
& ILLUSTRATIVE
PROBLEM - SHEET 4

THRUST BLOCK DETAILS

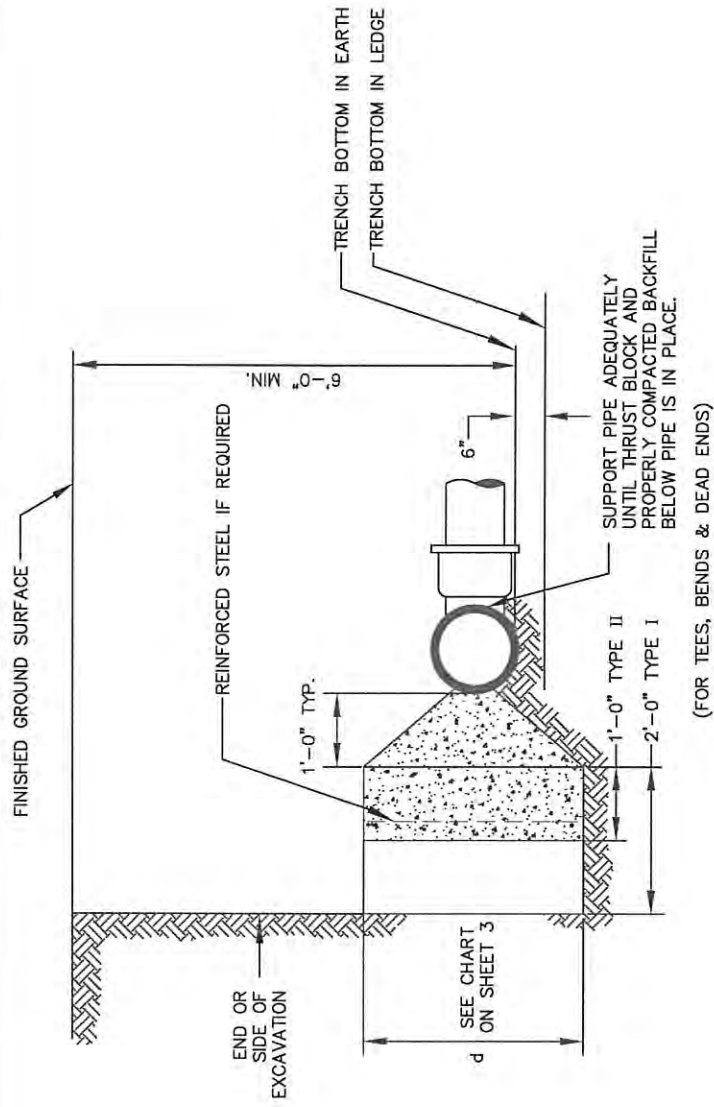
NOT TO SCALE

Senior Manager of Engineering _____ Date _____

a - SEE TABLE II ON SHEET 3



PLAN-TEE



TYPICAL SECTION

NOTE:
SEE CHARTS - SHEET 3
& ILLUSTRATIVE
PROBLEM - SHEET 4

THRUST BLOCK DETAILS

NOT TO SCALE



TABLE I - THRUST - KIPS (WATER PRESSURE = 200 P.S.I.)

PIPE DIAMETER INCHES	6	8	10	12	15	20	24	30	36	42
DEAD ENDS AND TEES	5.6	10	15.8	22.6	40.2	62.8	90.4	141.0	203.6	277.0
ANGLE FITTINGS	7.9	14.2	22.4	32.0	56.8	88.8	127.7	199.0	288.0	382.0
	67 1/2°	11.1	17.6	25.1	44.7	70.0	100.2	157.0	226.0	308.0
56 1/4°	-	-	14.9	21.2	37.9	59.2	85.1	133.0	192.0	251.0
45°	-	-	-	17.3	30.8	48.1	69.0	108.0	156.0	212.0
33 3/4°	-	-	-	13.1	23.3	36.5	52.5	82.0	118.0	161.0
22 1/2°	-	-	-	8.8	15.7	24.5	35.2	55.0	79.5	108.0

TABLE II - "a" DIMENSION - FEET

PIPE DIAMETER - INCHES	90° FITTING	OTHERS
6, 8, 10 & 12	1 - 6	1 - 0
16 & 20	2 - 0	1 - 6
24" - 30"	3 - 0	2 - 0

DESIGN THRUST BLOCKS OF OTHER SUITABLE ANCHORAGE TO SUIT ACTUAL CONDITIONS

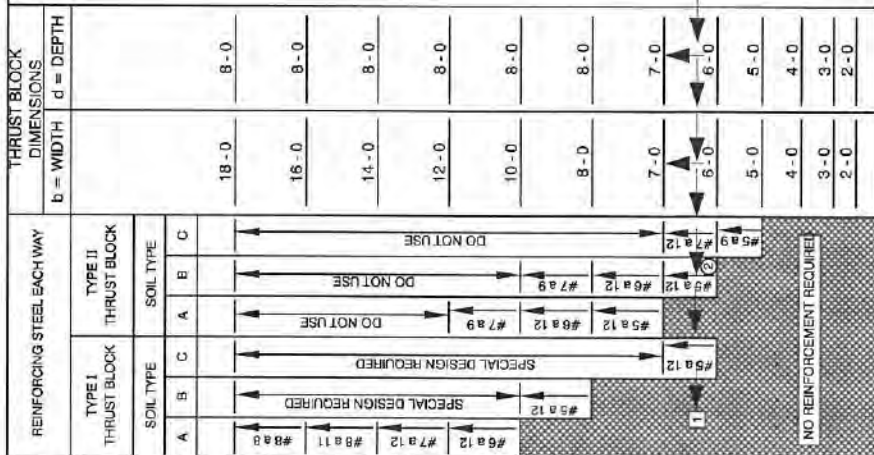
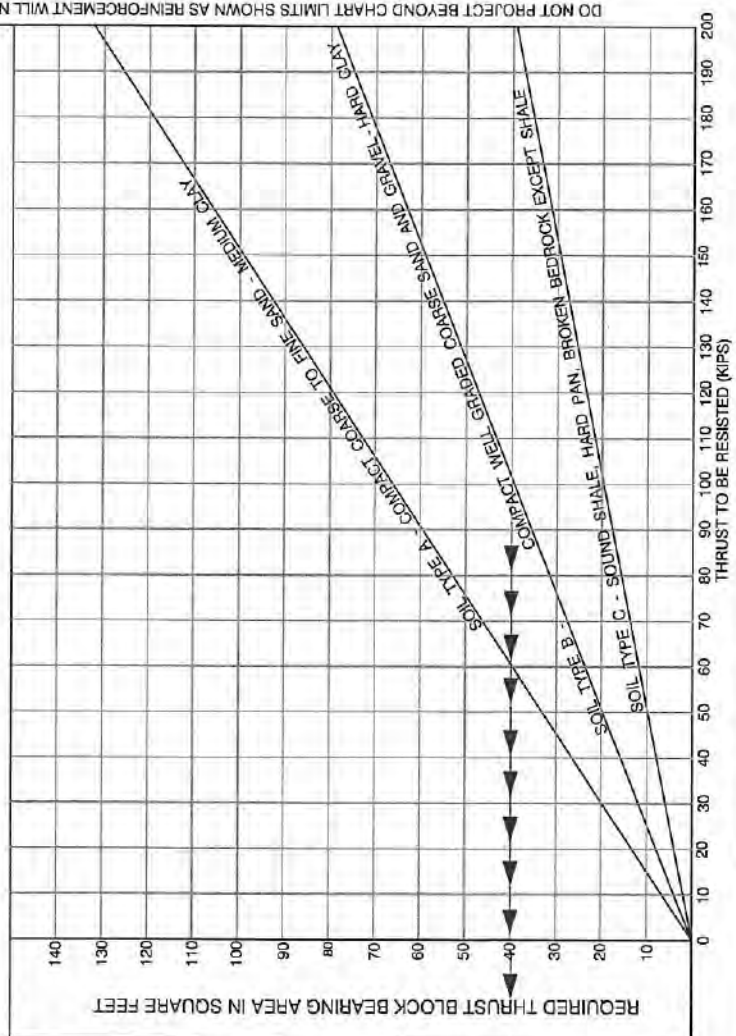


CHART FOR DETERMINING REQUIRED CONCRETE THRUST BLOCK DIMENSIONS AND REINFORCING



DO NOT PROJECT BEYOND CHART LIMITS SHOWN AS REINFORCEMENT WILL NOT BE ADEQUATE

THRUST BLOCK TABLES

NOT TO SCALE

NOTES:

ALL FITTINGS SHALL BE ANCHORED BY MECHANICAL MEANS OR BY CONCRETE THRUST BLOCKS, OR BOTH, IF REQUIRED BY THE BOSTON WATER AND SEWER COMMISSION OR AS NOTED ON THE CONTRACT PLANS. ALL EXPOSED METAL SHALL BE PAINTED OR COATED. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRESS OF 3,000 P.S.I. AT 28 DAYS. REINFORCING STEEL SHALL BE A.S.T.M. A615 GRADE 40. WATER PRESSURE IN TABLE 1 INCLUDES WATER HAMMER ALLOWANCE.

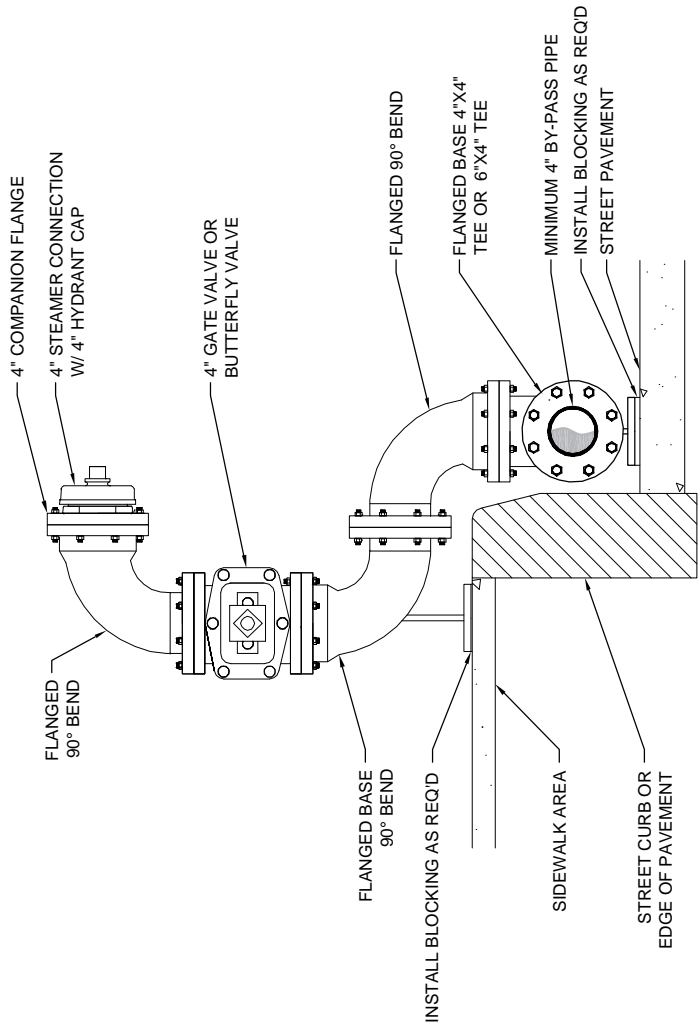
THE ACTUAL METHOD OF RESTRAINT MUST BE DETERMINED BY ACTUAL FIELD CONDITIONS. THESE ARE TYPICAL INSTALLATIONS TO BE USED AS A GUIDE TO THE DESIGNER. FINAL DESIGNS ARE SUBJECT TO REVIEW BY BOSTON WATER AND SEWER COMMISSION.

ILLUSTRATED PROBLEM

DESIGN A THRUST BLOCK FOR A 67'-1/2" BEND, A 24-INCH DIAMETER WATER MAIN, CARRYING A MAXIMUM PRESSURE OF 200 P.S.I. SOIL CLASSIFIED AS A WELL GRADED COMPACT COARSE SAND AND GRAVEL.

SOLUTION

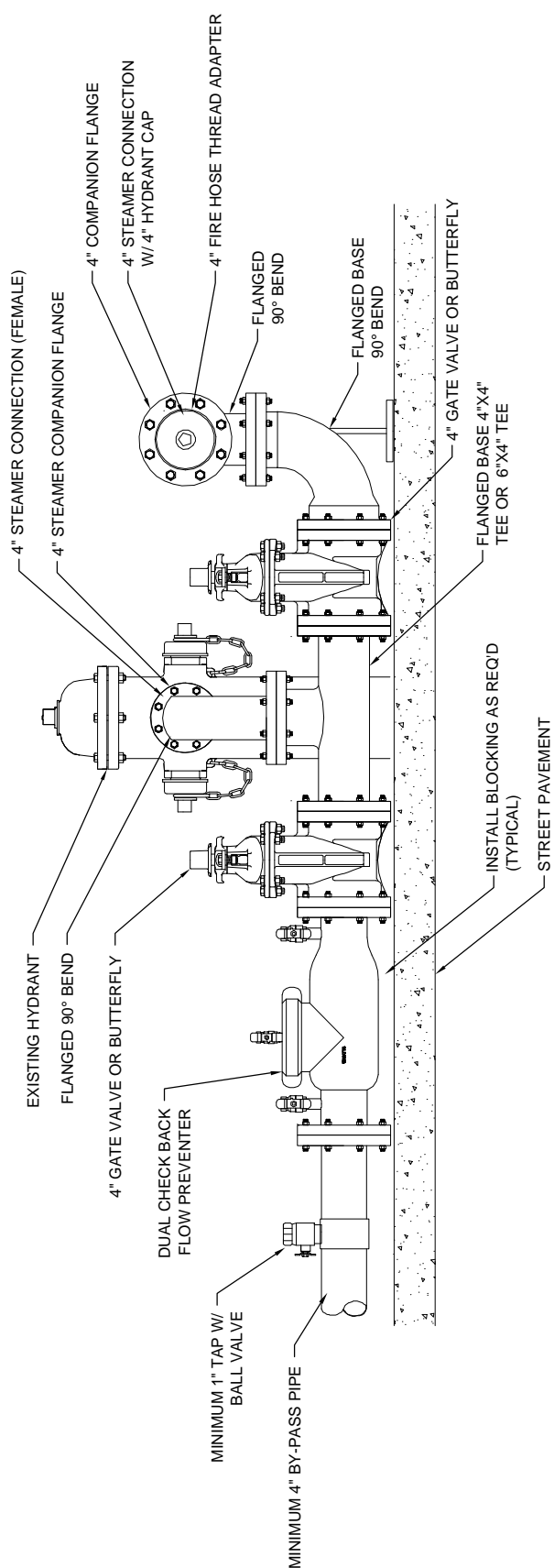
1. ENTER TABLE I AT 24-INCH PIPE DIAMETER - GO VERTICALLY DOWN COLUMN UNTIL OPPOSITE 67'-1/2" ANGLE FITTING. READ THRUST = 100.2 KIPS.
2. SEE CHART IMMEDIATELY BELOW TABLE I - SELECT SOIL TYPE CURVE REFLECTING ACTUAL SOIL CLASSIFICATION. TYPE B FOR THIS PROBLEM.
3. ENTER CHART AT THRUST TO BE RESISTED AND GO VERTICALLY TO SOIL TYPE CURVE SELECTED IN 2 ABOVE - SEE CHART AND FOLLOW ILLUSTRATIVE PROBLEM ARROW LINE FROM 100.2 KIP THRUST TO SOIL TYPE B CURVE.
4. FROM THIS INTERSECTION GO HORIZONTALLY FOLLOWING ARROW LINE TO INTERSECTION WITH REQUIRED THRUST BLOCK BEARING AREA IN SQUARE FEET - 40 SQUARE FEET MINIMUM IS REQUIRED TO RESIST THRUST.
5. CONTINUE HORIZONTALLY TO "THRUST BLOCK DIMENSIONS" COLUMN AND SELECT DIMENSIONS "b" AND "d" IMMEDIATELY ABOVE HORIZONTAL ARROW LINE PROJECTION 7' - 0" SQUARE THRUST BLOCK REQUIRED FOR THIS PROBLEM.
6. CONTINUE HORIZONTALLY TO "REINFORCING STEEL - EACH WAY" COLUMN, NOTING COLUMNS FURTHER CLASSIFICATION BY SOIL TYPE AND FOOTING TYPE (SEE "THRUST BLOCK DETAIL", FOR TYPE I AND TYPE II REQUIREMENTS.) TWO SOLUTIONS TO ILLUSTRATIVE PROBLEM ARE ACCEPTABLE:
SOLUTION 1 - TYPE I THRUST BLOCK AND SOIL TYPE B INDICATE NO REINFORCEMENT REQUIRED.
SOLUTION 2 - TYPE II THRUST BLOCK AND SOIL TYPE B INDICATES #5 @ 12 EACH WAY REQUIRED.



TYPICAL TEMPORARY HYDRANT DETAIL

NOT TO SCALE

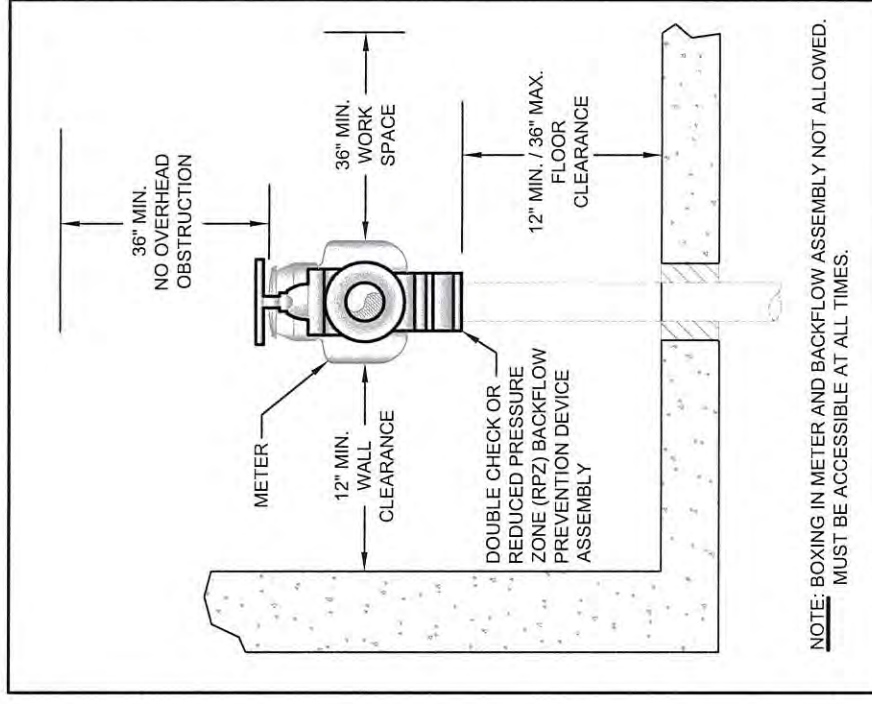
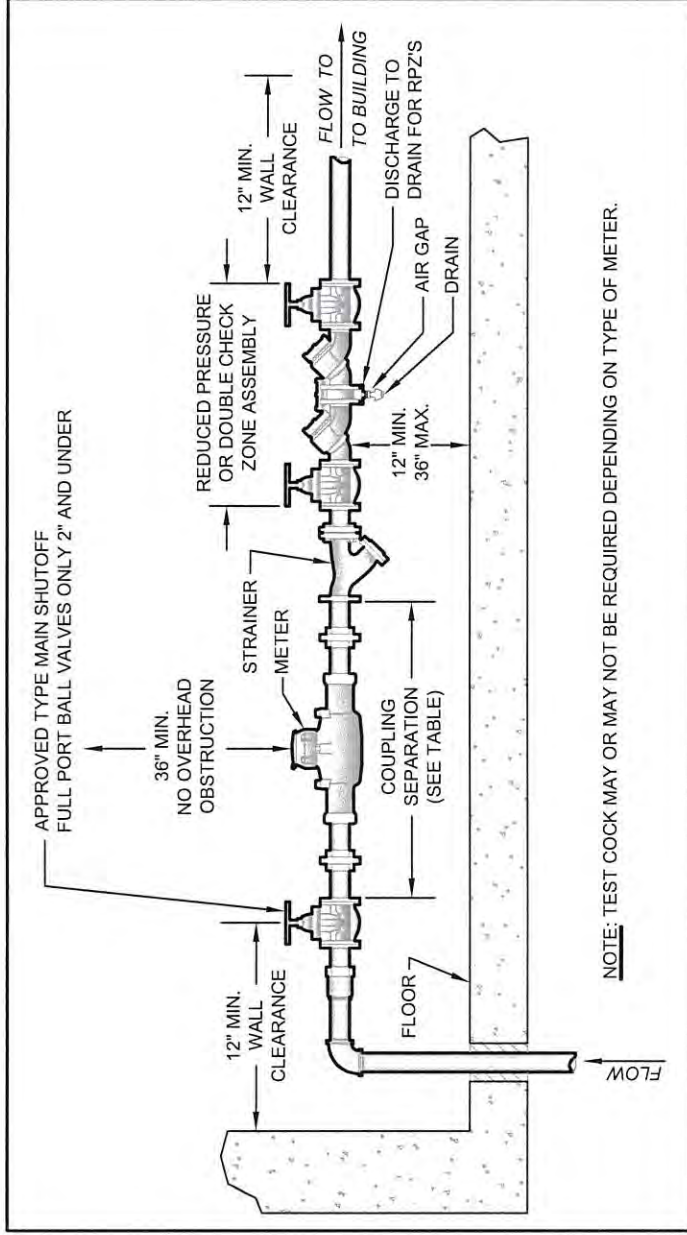

 Senior Manager of Engineering
 Date _____



TYPICAL TEMPORARY BY-PASS FEED DETAIL

NOT TO SCALE

[Signature]
 Senior Manager of Engineering Date _____



WATER METER COUPLING SEPARATION TABLE	
WATER METER SIZE (INCHES)	COUPLING SEPARATION (FEMALE PIPE THREAD TO FEMALE PIPE THREAD) (INCHES)
5/8	12
3/4	13-5/8
1	16-1/4
1-1/2	22-1/4
2	26-1/4

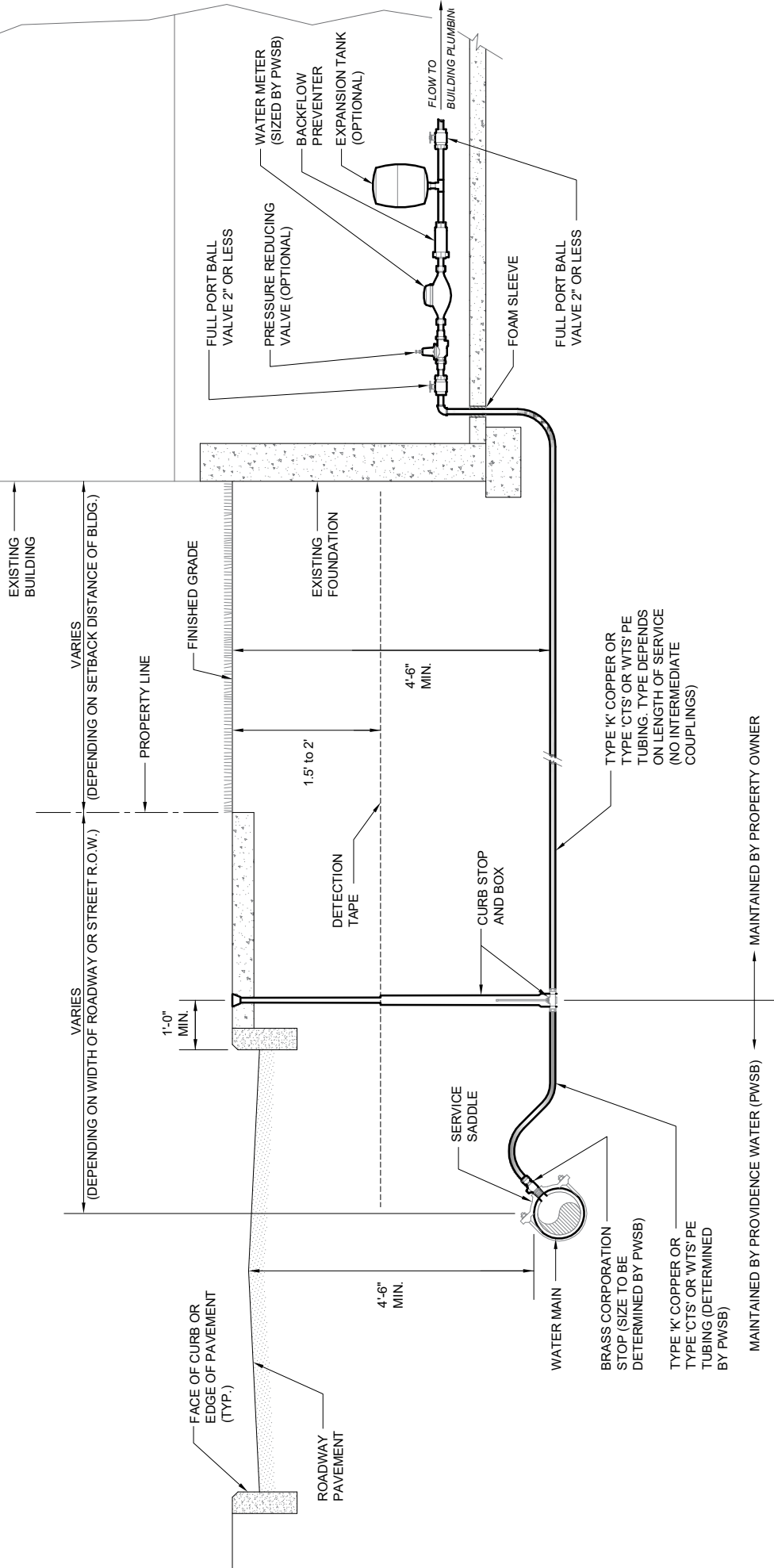
HORIZONTAL INSTALLATION OF REDUCED PRESSURE ZONE AND DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY

NOT TO SCALE

 9-28-12
 Senior Manager of Engineering Date

GENERAL NOTE:

WATER SERVICE SHALL BE KEPT AT LEAST TWENTY-FIVE (25) FEET AWAY FROM INDIVIDUAL SEWAGE DISPOSAL SYSTEM OR CESSPOOLS. LINES CLOSER THAN THE ALLOWABLE DISTANCE SHALL BE ENCASED IN SCHEDULE 40 PVC PIPE. INTERMEDIATE JOINTS SHALL BE JOINED TOGETHER AND SEALED TO FORM A WATER TIGHT CONNECTION. END SECTIONS SHALL BE FITTED WITH MECHANICAL DEVICE TO MAKE THE SPACE BETWEEN SERVICE PIPE AND ENCASEMENT WATER TIGHT.

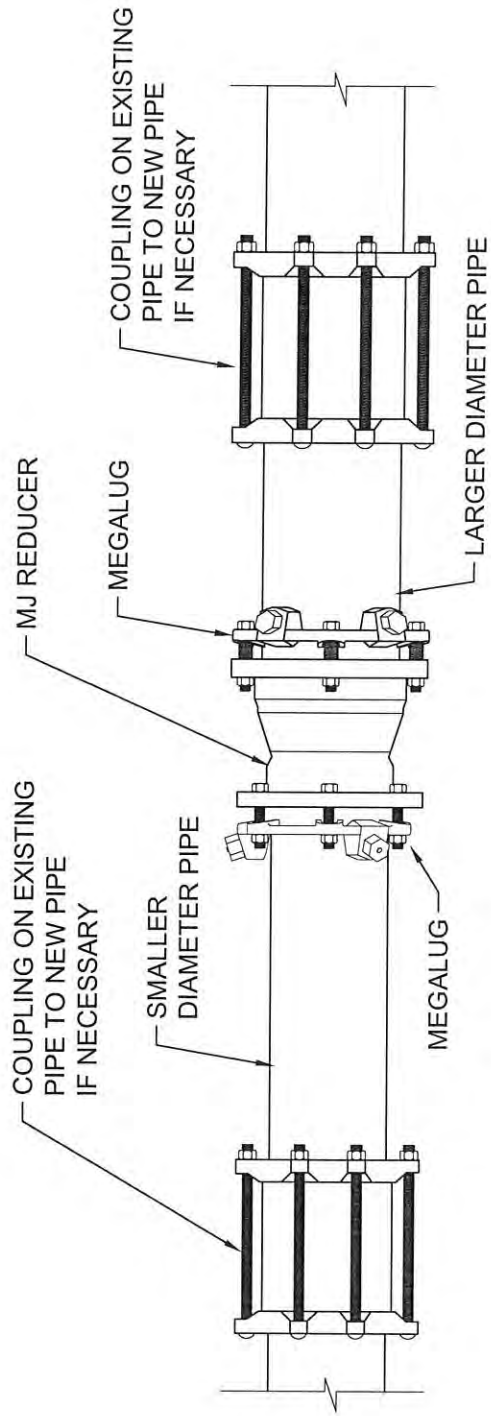


RESIDENTIAL WATER SERVICE CONNECTION SCHEMATIC - ELEVATION VIEW

NOT TO SCALE

Ph. R. y. l.
 Senior Manager of Engineering Date 9-28-12






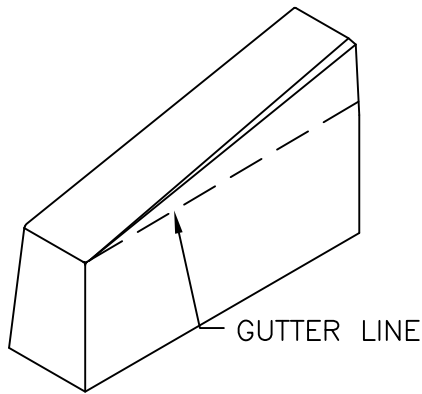
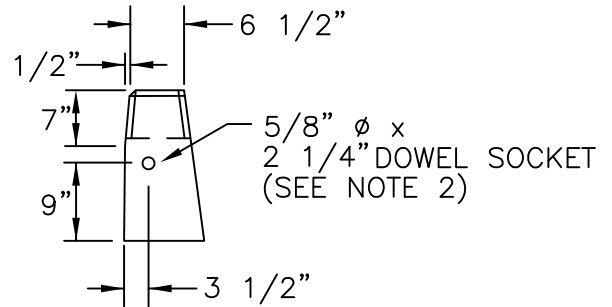
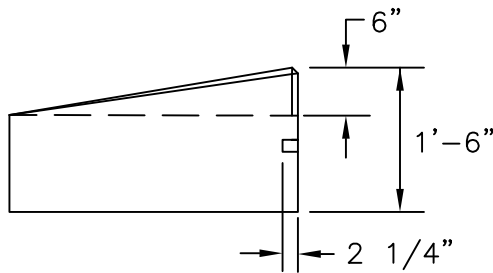
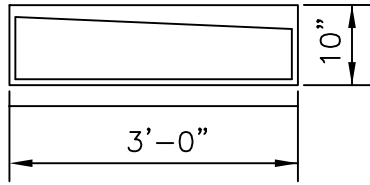
*PIPE RESTRAINT MUST MEET PWSB RESTRAINT GUIDELINES

TYPICAL REDUCER INSTALLATION

NOT TO SCALE




 Director of Engineering
 Date 5-15-18



NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ϕ x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. LEFT AND RIGHT SECTIONS SHALL BE INSTALLED AS REQUIRED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

**3'-0" PRECAST CONCRETE
TRANSITION CURB**

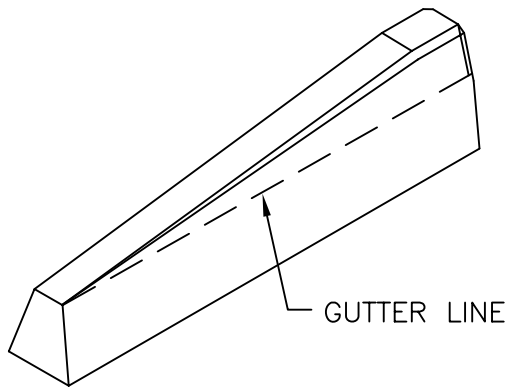
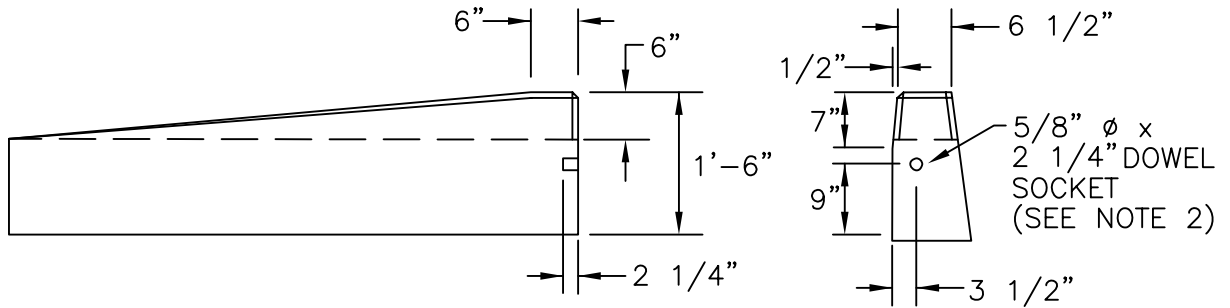
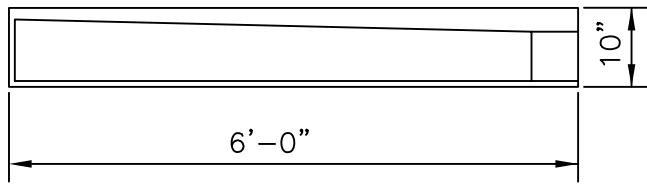


REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05
2	MLP	06/01/10

James A. Casaldi
 CHIEF ENGINEER
 TRANSPORTATION

Edmund J. Parker Jr.
 CHIEF DESIGN ENGINEER
 TRANSPORTATION

JUNE 15, 1998
 ISSUE DATE



NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION. FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ϕ x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

**6'-0" PRECAST CONCRETE
TRANSITION CURB**

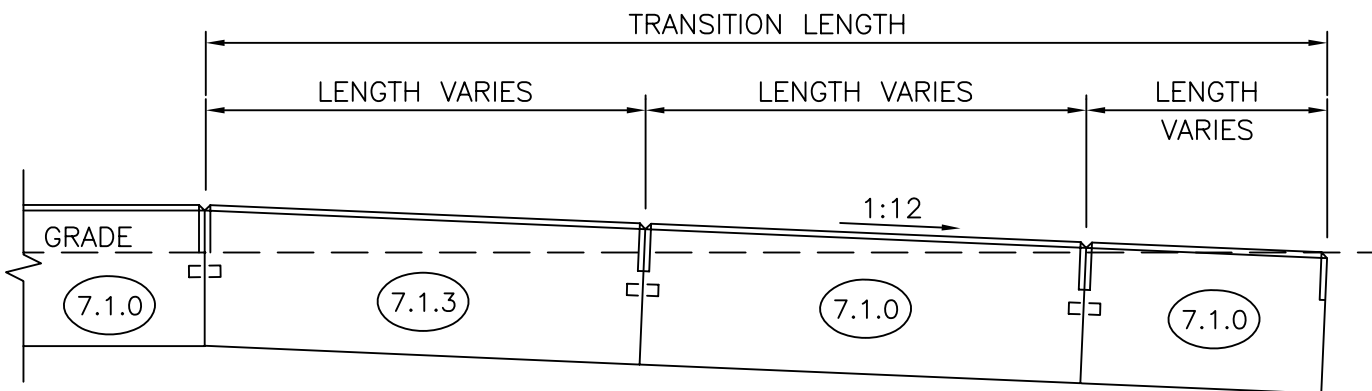
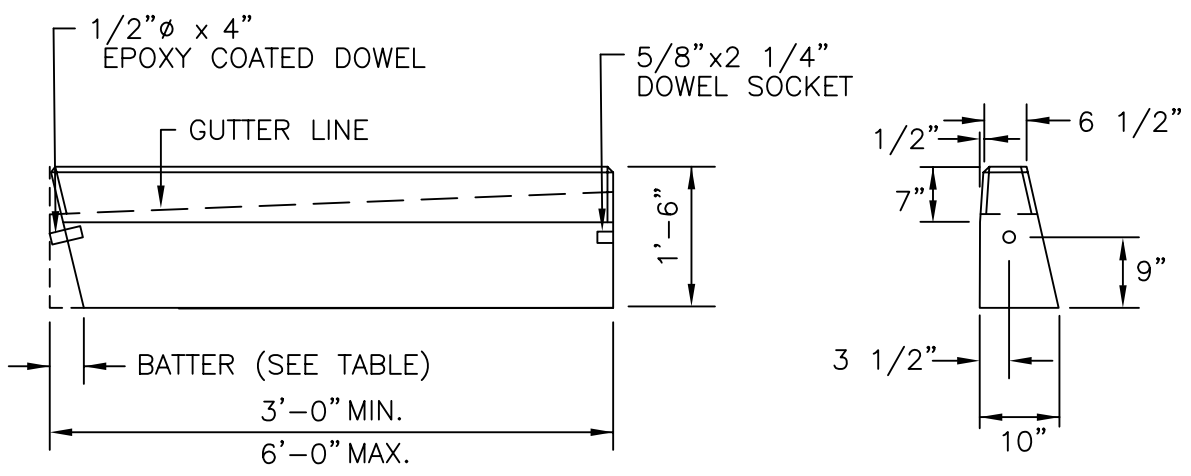
REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

James R. Casaldi
CHIEF ENGINEER
TRANSPORTATION

Edmund Parker Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION

JUNE 15, 1998
ISSUE DATE





TRANSITION LENGTH (FT.)	BATTER (IN.)
6.0	1.5
7.0	1.3
8.0	1.2
9.5	1.0
11.5	0.8
15.0	0.6
18.0	0.5

NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
3. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
4. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
5. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR CURB FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

**PRECAST CONCRETE WHEELCHAIR RAMP
TRANSITION CURB**

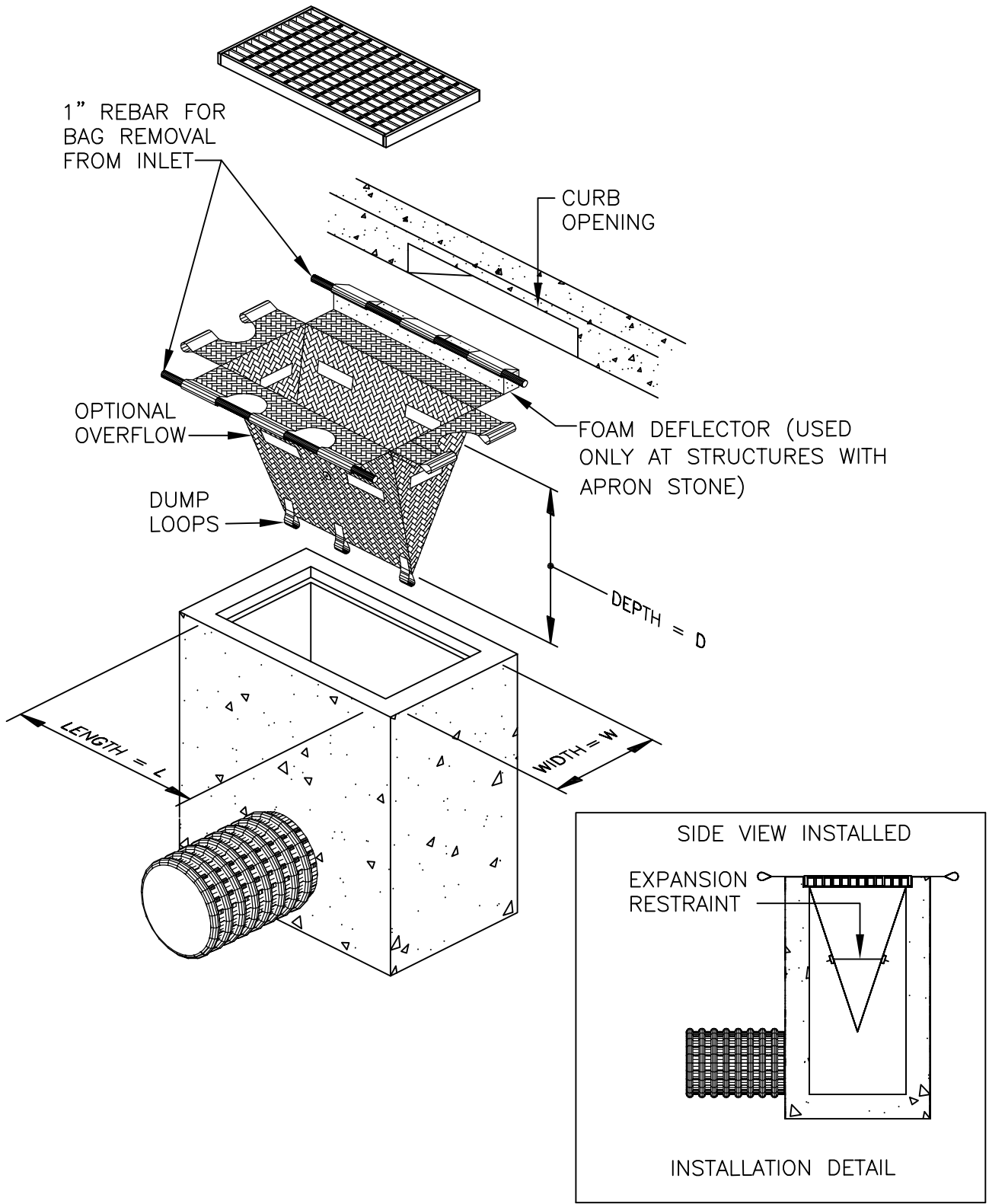
James A. Casabelli
CHIEF ENGINEER
TRANSPORTATION

Edmund J. Parker Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION

JUNE 15, 1998
ISSUE DATE



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SACK INSERT CATCH BASIN INLET PROTECTION

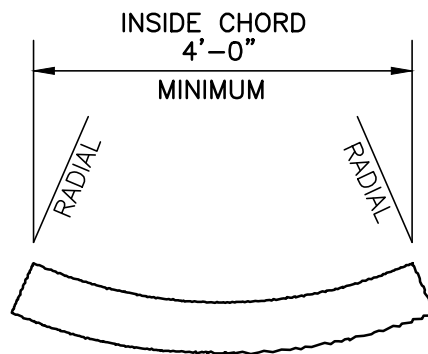
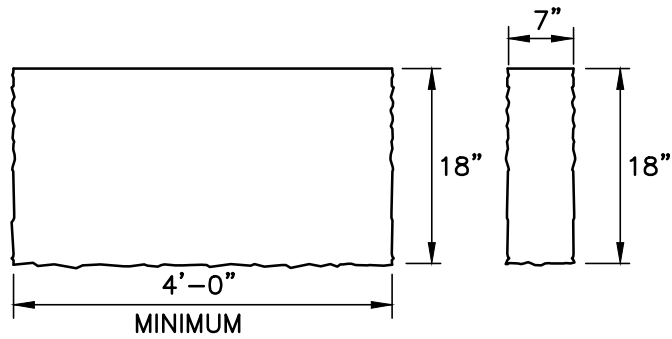
NOT TO SCALE



CITY OF PROVIDENCE, RHODE ISLAND
PROVIDENCE WATER SUPPLY BOARD
TRINITY SQUARE LEAD SERVICE LINE
REPLACEMENT PROJECT

Detail No. 20

AUGUST 2022

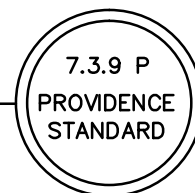


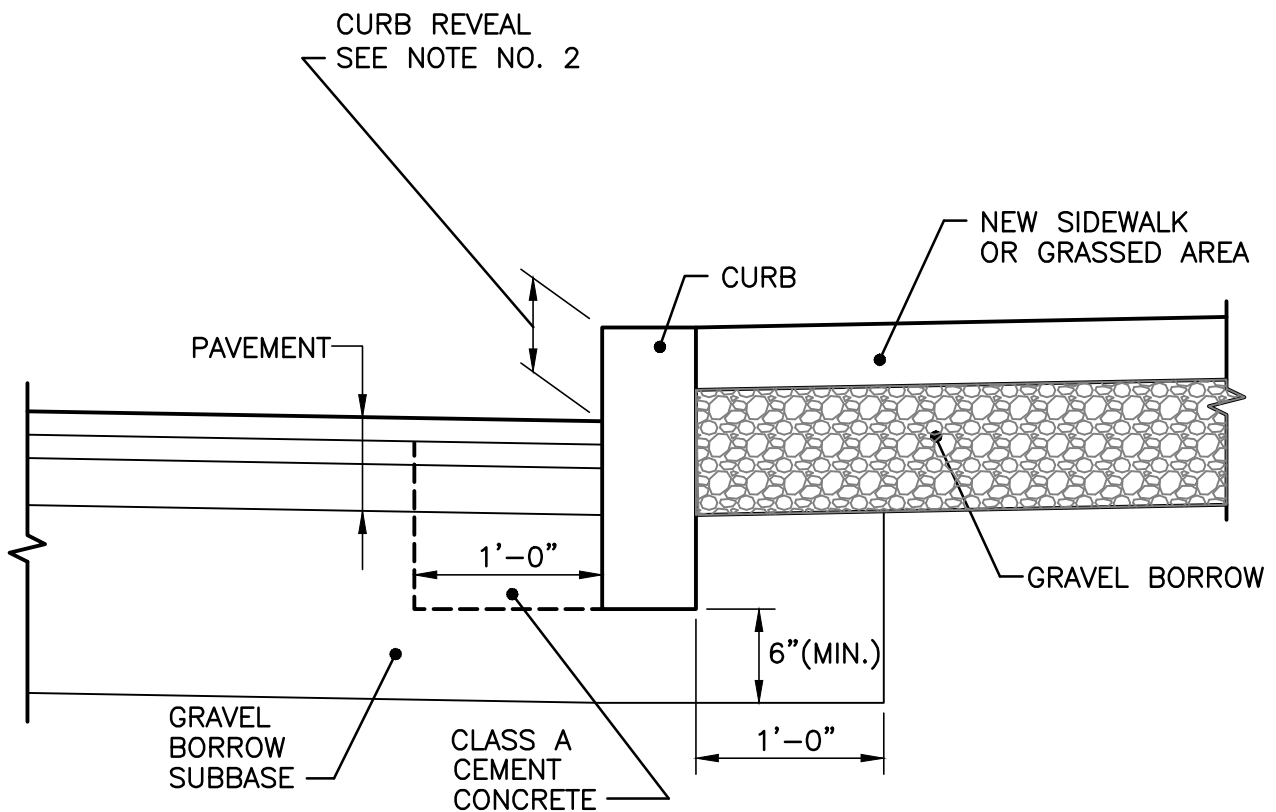
NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. TOP SURFACE TO BE DRESSED BY SAW TO PROVIDE NO-SLIP SURFACE; REMAINDER MAY BE QUARRY SPLIT.
3. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR CURB FILLER PIECES TO BE 4'-0"
4. CIRCULAR RAMP STONE IS REQUIRED ON CURVES AS INDICATED.
STRAIGHT RAMP STONE TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
5. RAMP STONE SHALL BE SET IN ACCORDANCE WITH PROVIDENCE CURB SETTING STANDARD.

GRANITE RAMP STONE

N.T.S.





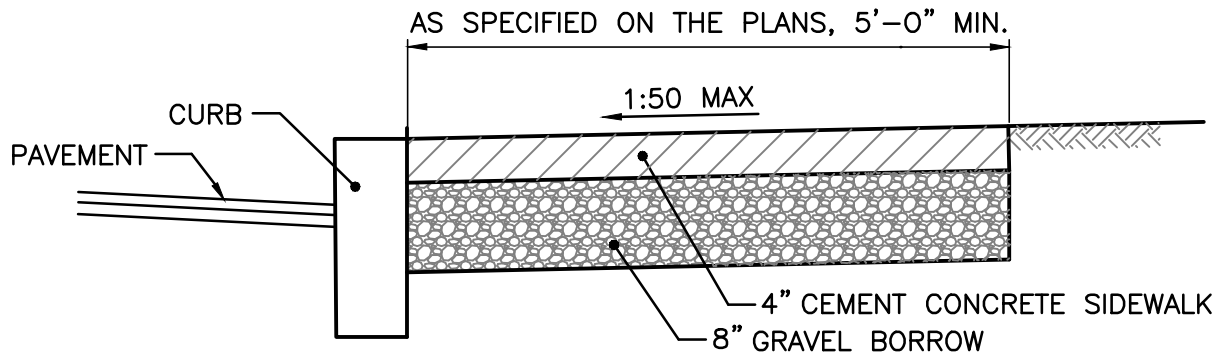
NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. NEW CURBING CONSTRUCTION SHALL BE SET AT A 6 INCH REVEAL OR AS INDICATED ON PLANS OR DIRECTED BY PROVIDENCE DPW. NEW CURBING INSTALLED ADJACENT TO EXISTING CURBING SHALL MATCH THE EXISTING REVEAL OR A MINIMUM OF 4 INCHES, WHICHEVER IS GREATER. IF ADJACENT EXISTING REVEAL IS LESS THAN 4 INCHES, THE FIRST SECTION OF NEW CURB SHALL TRANSITION TO 4" REVEAL,

CURB SETTING DETAIL

N.T.S.



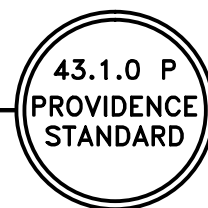


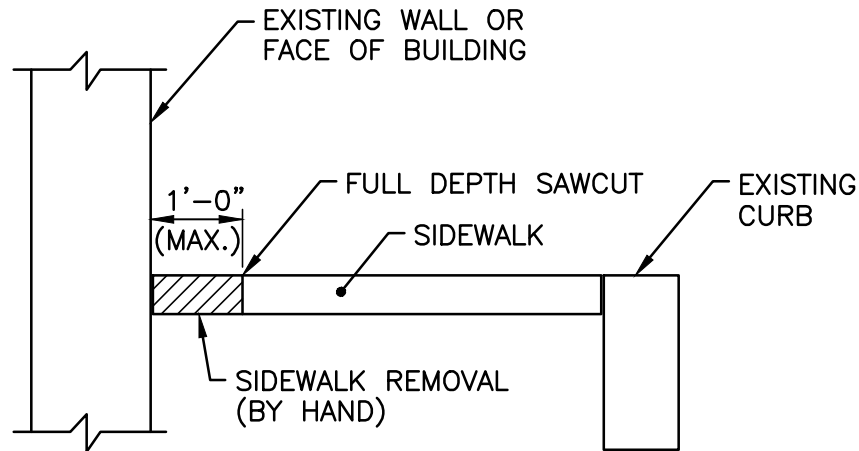
NOTES

1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE CURB SETTING DETAIL WHERE APPLICABLE.
3. RUNNING SLOPE OF SIDEWALK SHALL NOT EXCEED 8.3% (1:12). TYPICALLY, RUNNING SLOPE SHALL MATCH ROAD SLOPE.
4. CROSS SLOPE OF SIDEWALK SHALL NOT EXCEED 2% (1:50).
5. SIDEWALK MAY BE SUBJECT TO GRASS STRIP INSTALLATION. CONSULT WITH DPW ENGINEERING
6. GRAVEL BORROW BASE SHALL COMPACT TO ACHIEVE SOIL DENSITY VALUES OF 95% MODIFIED PROCTOR DENSITY (AASHTO T180).
7. SIDEWALK REPAIRS TWENTY FEET OR LONGER ARE SUBJECT TO REQUIREMENTS HEREIN. SIDEWALK REPAIRS SHORTER THAN TWENTY FEET SHALL MAKE EVERY EFFORT TO MEET REQUIRED SLOPES.
8. CONTROLL JOINTS SHALL BE INSTALLED EVERY 5 FEET IN EACH DIRECTION.
9. EXPANSION JOINTS SHALL BE INSTALLED EVERY 20 FEET IN EACH DIRECTION AT FOUNDATIONS AND WALLS AND IN A SQUARE PATTERN AROUND MANHOLE COVERS, HYDRANTS, SIGN POSTS AND UTILITY POLES. THE EXPANSION JOINT SHALL BE THE FULL DEPTH OF THE SIDEWALK AND FILLED WITH AN APPROVED TYPE OF PREMOLDED EXPANSION JOINT FILLER.

CEMENT CONCRETE SIDEWALK

N.T.S.



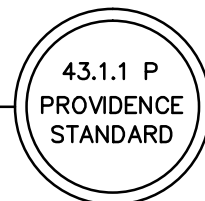


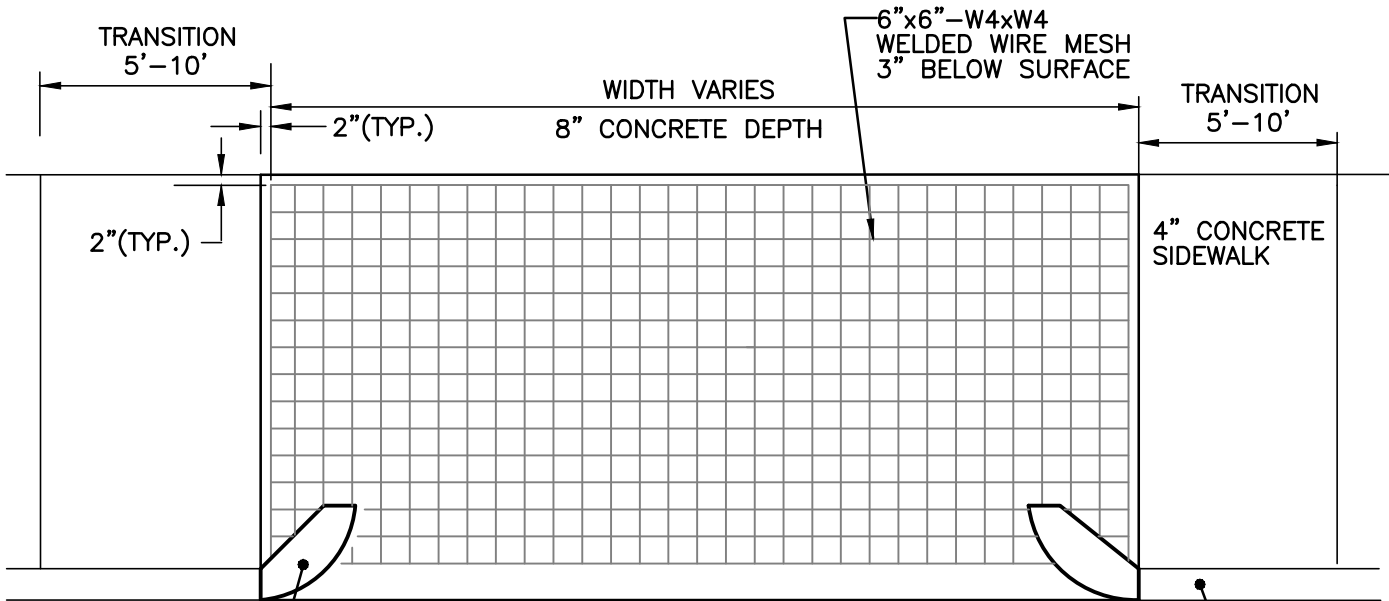
NOTES:

1. IN AREAS WHERE SIDEWALKS ARE TO BE REMOVED IN FRONT OF EXISTING WALLS OR BUILDINGS, THE CONTRACTOR SHALL SAWCUT ONE(1) FOOT (MAXIMUM) IN FRONT OF THE WALL/BUILDING AND REMOVE THE SIDEWALK STRUCTURE BY HAND.
2. IN THE EVENT THAT THE EXISTING SIDEWALK IS A STRUCTURAL ELEMENT OF THE WALL/BUILDING, THE EXISTING SIDEWALK IN FRONT OF THESE STRUCTURES WILL REMAIN IN-PLACE AND A NEW SIDEWALK CONSTRUCTED TO MATCH THE EXISTING SECTION.
3. ANY DAMAGE TO THE WALL OR BUILDING BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

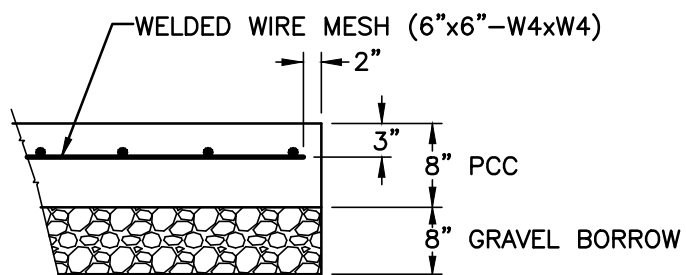
SIDEWALK REMOVAL DETAIL

N.T.S.

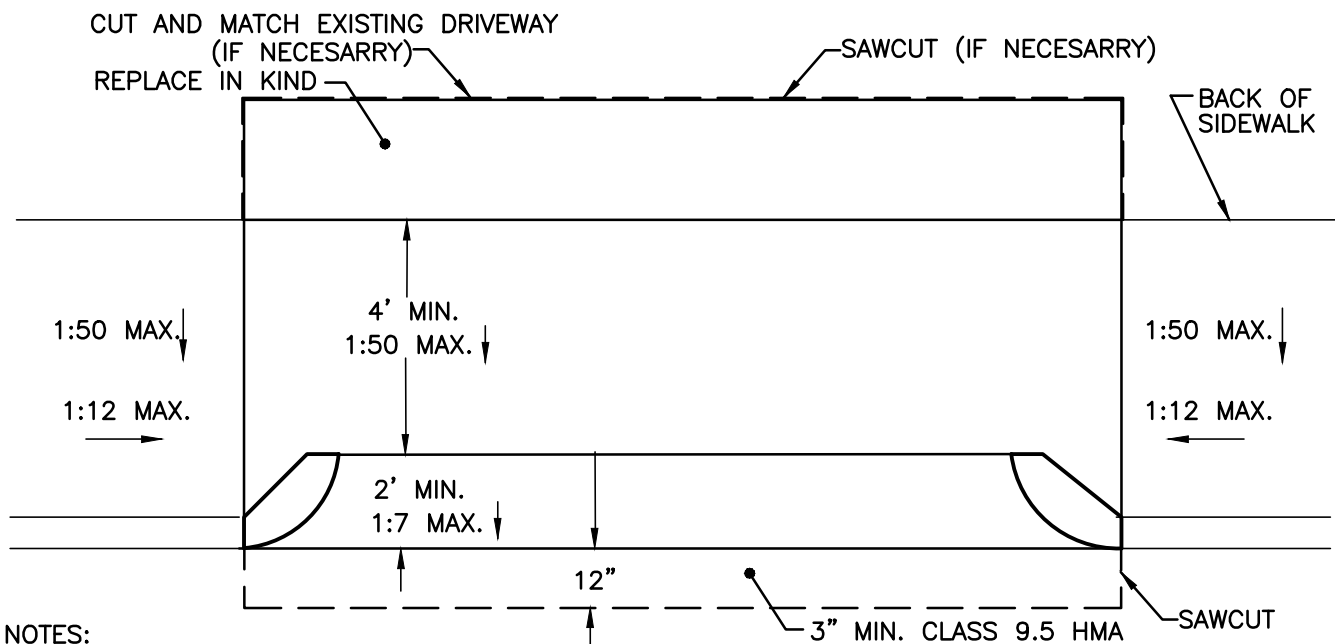




GRANITE 2' RADIUS CURB RETURN



DRIVEWAY SECTION



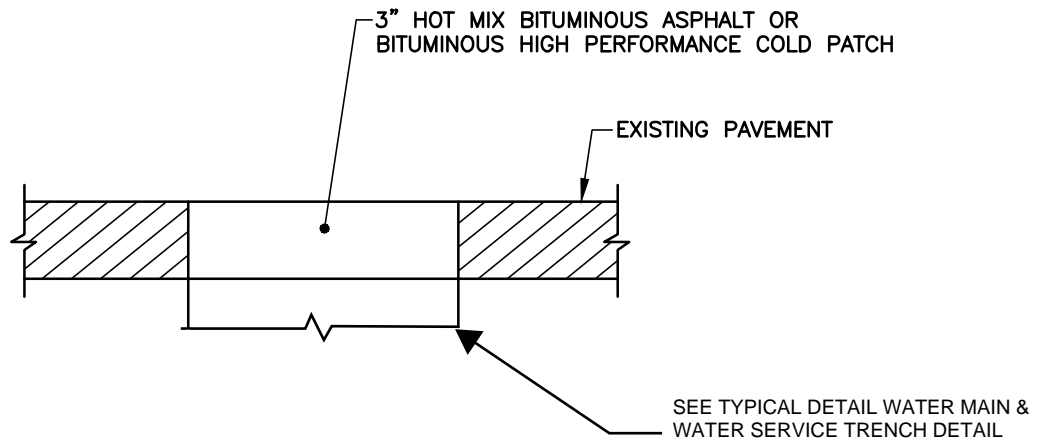
- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RIDOT STANDARD SPECIFICATIONS.
 2. RUNNING SLOPE OF SIDEWALK/DRIVEWAY SHALL NOT EXCEED 8.3% (1:12)
 3. 4' MINIMUM ACCESSIBLE PATH SHALL BE INSTALLED WITH CROSS SLOPE NOT EXCEEDING 2% (1:50)
 4. RESIDENTIAL CURB CUTS SHALL BE NO WIDER THAN 12' FROM INSIDE OF CURB RETURNS.

CEMENT CONCRETE DRIVEWAYS

N.T.S.



ISSUE DATE: 1/6/17, REVISED 10/6/17



NOTES:

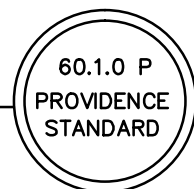
1. BITUMINOUS CONCRETE SHALL ADHERE TO RIDOT STANDARD SPECIFICATIONS, SECTION 401.
2. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY (AASHTO T180), AND SHALL ADHERE TO RIDOT STANDARD SPECIFICATION, SECTION 301.
3. EXCAVATABLE FLOWABLE FILL (CONTROLLED DENSITY FILL, CDF) SHALL ADHERE TO RIDOT STANDARD SPECIFICATIONS, SECTION 603.
4. ANY TEMPORARY PATCH INSTALLED PRIOR TO SEPTEMBER 1 IN ANY YEAR SHALL BE REPLACED WITH PERMANENT PATCH NO LATER THAN DECEMBER 1 OF THAT YEAR.

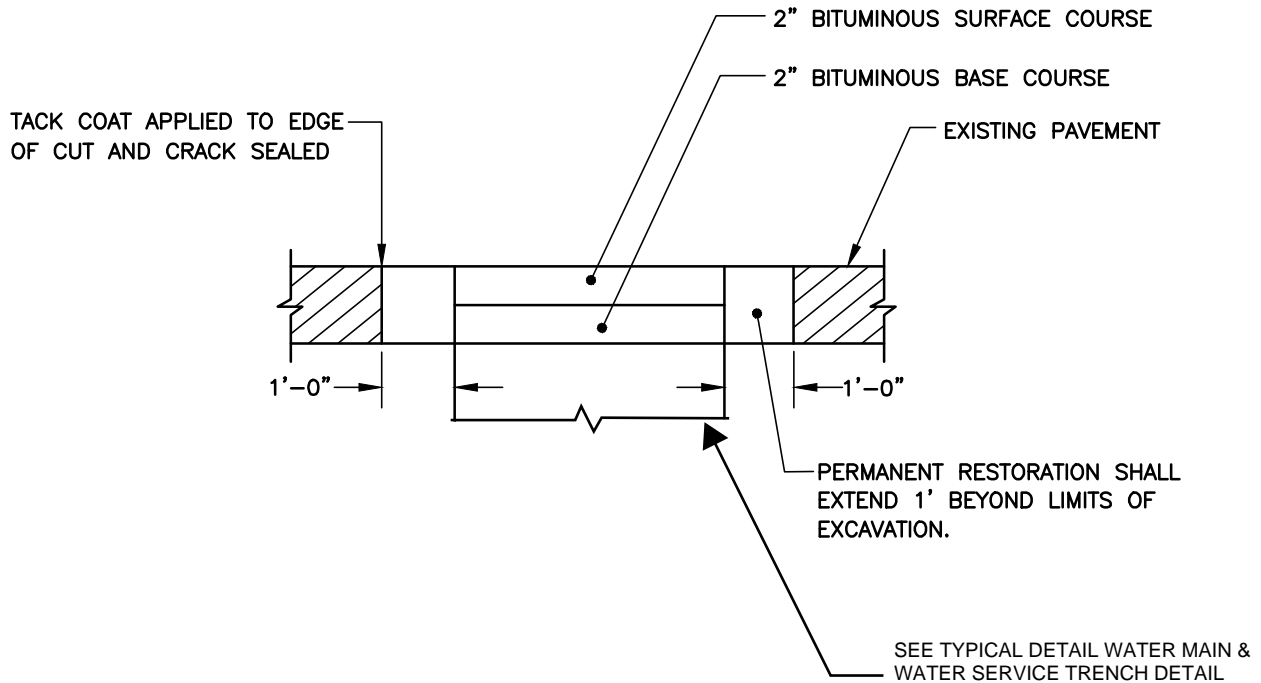
TEMPORARY PATCHES MADE BETWEEN SEPTEMBER 1 AND MARCH 30 SHALL BE MAINTAINED BY THE PERMITTEE UNTIL A PERMANENT PATCH CAN BE INSTALLED, NO LATER THAN JUNE 15.

5. IF TEMPORARY PATCH IS INSTALLED, PERMITTEE MAY ALLOW NO MORE THAN 45 DAYS FOR SETTLING BEFORE PERMANENT RESTORATION. THE PERMITTEE SHALL BE RESPONSIBLE TO MAINTAIN TEMPORARY ROADWAY RESTORATIONS IN A SAFE CONDITION FOR ALL TYPES OF TRAVEL UNTIL A PERMANENT PAVEMENT REPAIR HAS BEEN MADE. TO ENSURE PROPER MAINTENANCE, THE PERMITTEE SHALL PERFORM PERIODIC INSPECTION OF EACH TEMPORARY PATCH UNTIL IT IS REPLACED WITH A PERMANENT PATCH.
6. FOR ROADS UNDER STATE JURISDICTION AND MAINTENANCE, RESTORATION MUST BE IN ACCORDANCE WITH RIDOT STANDARD SPECIFICATIONS SECTION 410.

TEMPORARY ROADWAY RESTORATION

N.T.S.





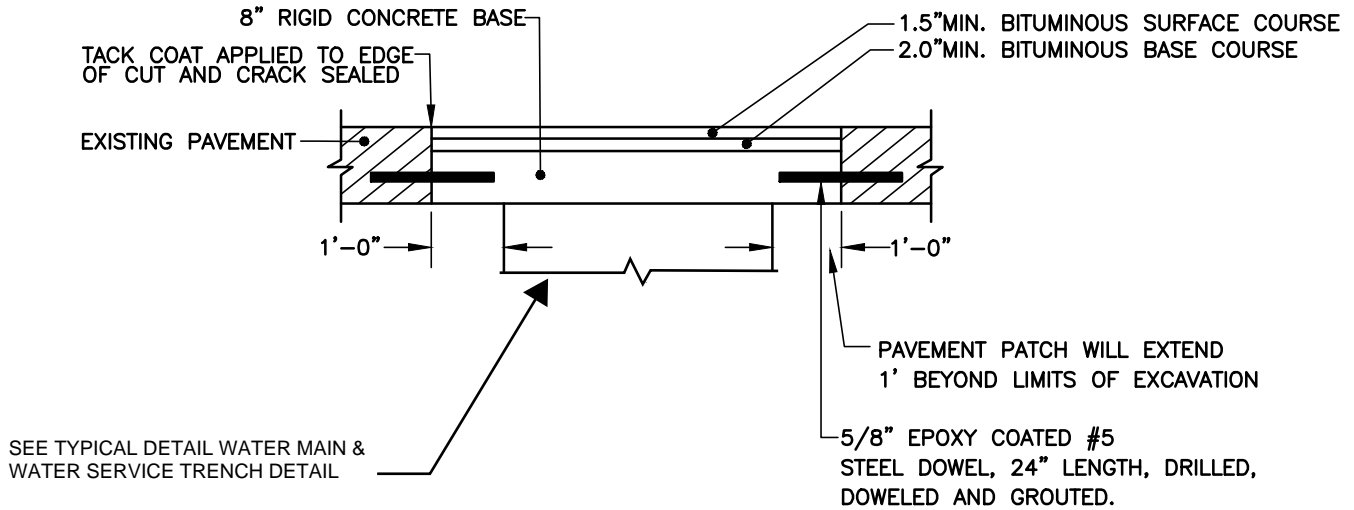
NOTES:

1. BITUMINOUS CONCRETE SHALL ADHERE TO RIDOT SPECIFICATIONS, SECTION 401.
2. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY (AASHTO T180), AND SHALL ADHERE TO RIDOT STANDARD SPECIFICATION, SECTION 301.
3. EXCAVATABLE FLOWABLE FILL (CONTROLLED DENSITY FILL. CDF) SHALL ADHERE TO RIDOT STANDARD SPECIFICATION, SECTION 603.
4. PRIOR TO PERMANENT RESTORATION, ALL EDGES OF THE EXCAVATED AREA AND ONE FOOT BEYOND SHALL BE SAWCUT TO A CLEAN, SQUARE EDGE.
5. IF STREET TO BE PAVED CURB TO CURB, THE REMAINING ROADWAY OUTSIDE THE TRENCH TO THE NEAREST CURB SHALL BE MILLED 2.0 INCHES WITH 2.0 INCH BITUMINOUS CONCRETE SURFACE OVERLAY. THE JOINTS SHALL BE SEALED USING INFRARED TECHNOLOGY. THE LENGTH OF THE NEW PAVED AREA MUST BE MINIMUM OF 10 FEET TO ALLOW FOR PROPER ROLLING.
6. IF THE DISTANCE FROM EDGE OF EXCAVATION TO EDGE OF ROADWAY IS TWO FEET OR LESS, THE REMAINING AREA TO EDGE OF ROADWAY SHALL BE REMOVED AND REPLACED IN CONJUNCTION WITH THE PERMANENT ROADWAY RESTORATION.
7. FOR ROADS UNDER STATE JURISDICTION AND MAINTENANCE, RESTORATION MUST BE IN ACCORDANCE WITH RIDOT STANDARD SPECIFICATIONS SECTION 410.04.
8. PERMANENT RESTORATION WILL ONLY BE REQUIRED FOR ROADS LISTED IN APPENDIX E.

PERMANENT ROADWAY RESTORATION - GRANULAR BASE

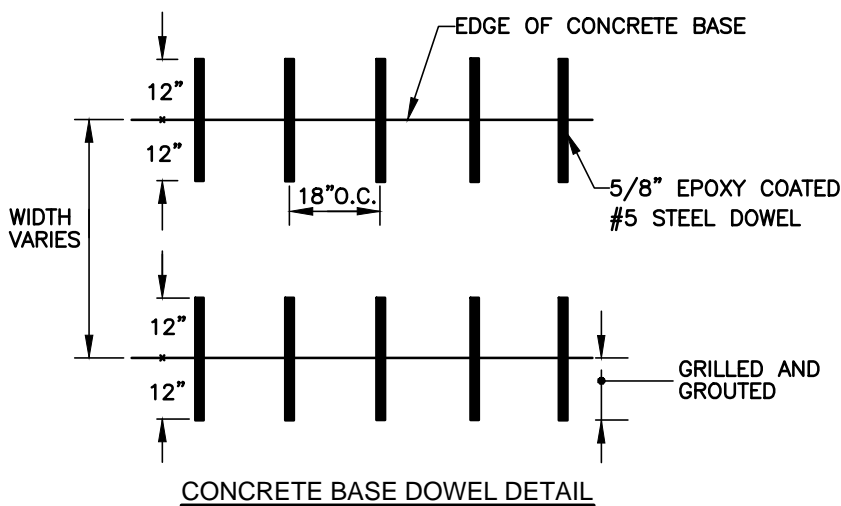
N.T.S.





NOTES:

1. CONCRETE ROAD BASE MUST BE RESTORED TO THE EXISTING DEPTH OR A MINIMUM OF 8 INCHES. A MINIMUM OF 3.5 INCHES OF BITUMINOUS CONCRETE SURFACE COURSE MEETING RIDOT SPECIFICATIONS, SECTION 401 SHALL BE PLACED OVER BASE.
2. 8 INCH RIGID CONCRETE BASE SHALL BE TYPE XX (28 DAY -4000 PSI) PER RIDOT SPECIFICATIONS, SECTION 601.
3. PRIOR TO PERMANENT RESTORATION, ALL EDGES OF THE EXCAVATED AREA AND ONE FOOT BEYOND SHALL BE SAWCUT TO A CLEAN, SQUARE EDGE.
4. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY (AASHTO T180), AND SHALL ADHERE TO RIDOT STANDARD SPECIFICATION, SECTION 301.
5. EXCAVATABLE FLOWABLE FILL (CONTROLLED DENSITY FILL, CDF) SHALL ADHERE TO RIDOT SPECIFICATIONS, SECTION 603.
6. THE REMAINING ROADWAY OUTSIDE THE TRENCH TO THE NEAREST CURB SHALL BE MILLED 1.5 INCHES WITH A 1.5 INCH BITUMINOUS CONCRETE SURFACE OVERLAY. THE JOINTS SHALL BE SEALED USING INFRARED TECHNOLOGY. THE LENGTH OF THE NEW PAVED AREA MUST BE A MINIMUM OF 10 FEET TO ALLOW FOR PROPER COMPACTION.
7. IF THE DISTANCE FROM EDGE OF EXCAVATION TO EDGE OF ROADWAY IS TWO FEET OR LESS, THE REMAINING AREA TO EDGE OF ROADWAY SHALL BE REMOVED AND REPLACED IN CONJUNCTION WITH THE PERMANENT ROADWAY RESTORATION.



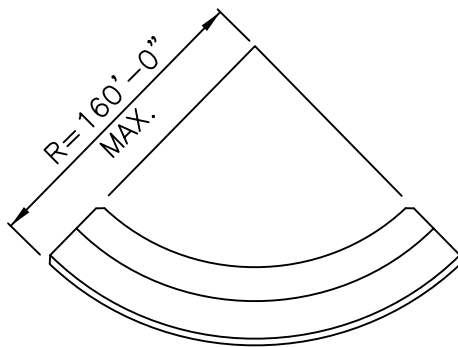
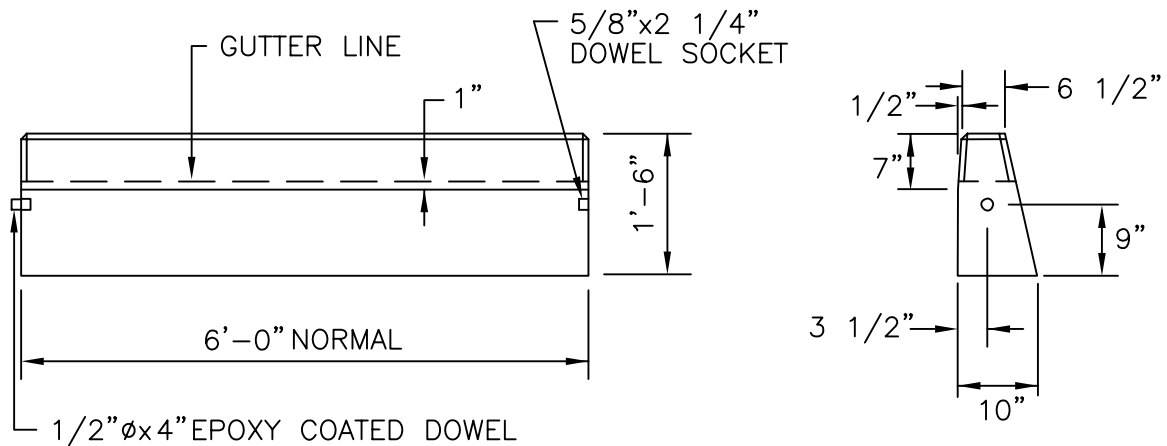
NOTES:

1. DOWEL SHALL BE INSTALLED 4" FROM SURFACE OF CONCRETE BASE.
2. THE EXISTING CONCRETE ROAD BASE SHALL BE DRILLED AND GROUTED EVERY 18" ON CENTER TO RECEIVE THE EPOXY COATED STEEL DOWELS.

PERMANENT ROADWAY RESTORATION - CONCRETE BASE

N.T.S.





CIRCULAR CURB

NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
5. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

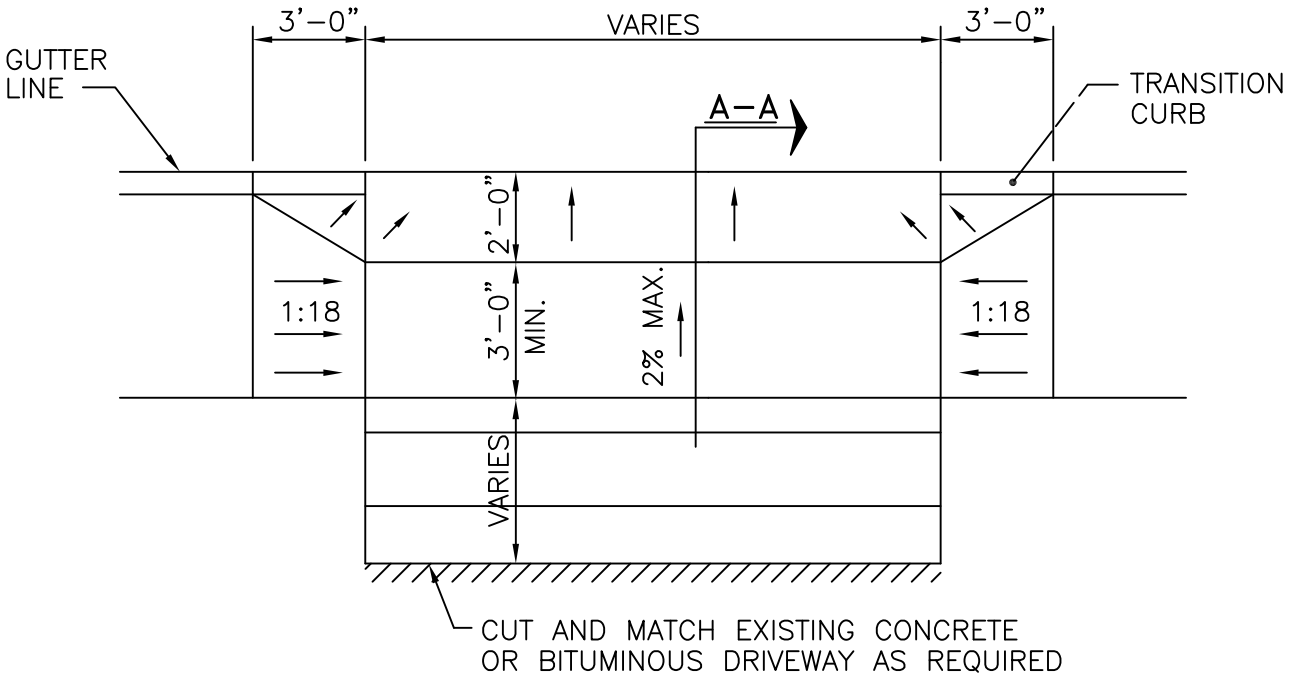
PRECAST CONCRETE CURB

James A. Capaldi
 CHIEF ENGINEER
 TRANSPORTATION

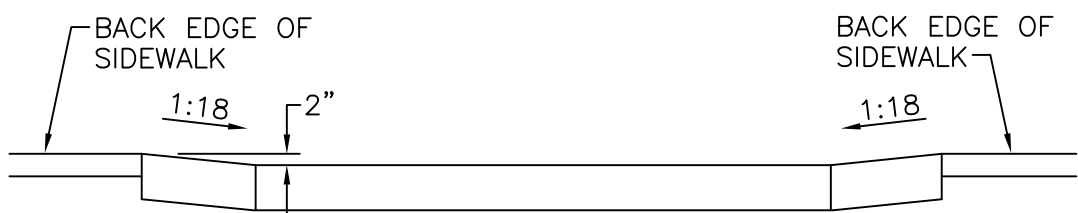
Edmund J. Parker Jr.
 CHIEF DESIGN ENGINEER
 TRANSPORTATION

JUNE 15, 1998
 ISSUE DATE

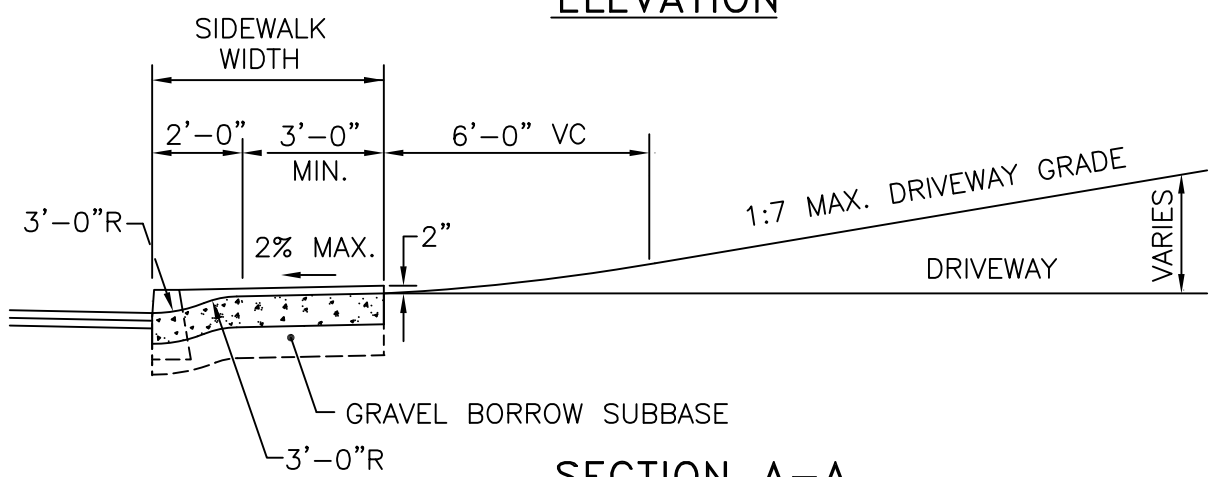




PLAN



ELEVATION



SECTION A-A

- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
 2. WHEN DRIVEWAY IS BELOW BACK EDGE OF SIDEWALK PROFILE, STD. 43.4.1 MUST BE USED.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

**DRIVEWAY DEVELOPMENT FOR
3'-0" TRANSITION CURB**

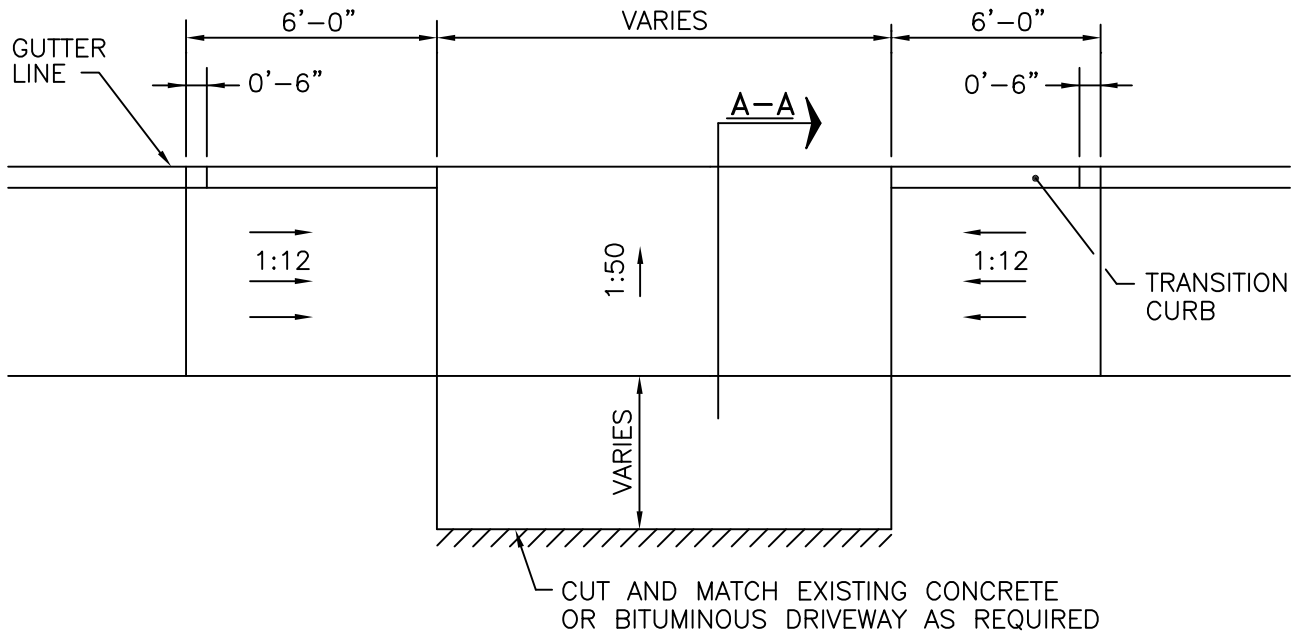
REVISIONS		
NO.	BY	DATE
1	MLP	3/01/05
2	MLP	6/27/08
3	MLP	6/01/10

James A. Capaldi
CHIEF ENGINEER
TRANSPORTATION

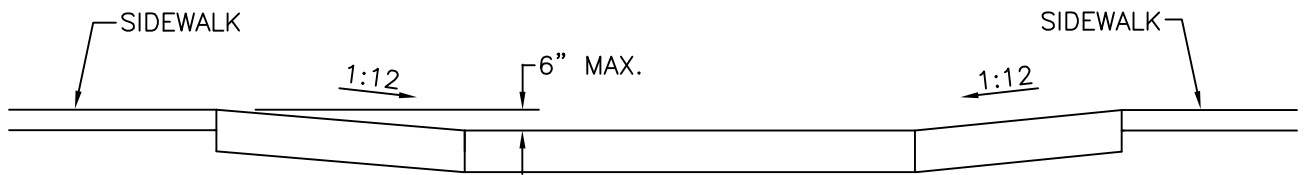
Edmund J. Parker Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION

JUNE 15, 1998
ISSUE DATE

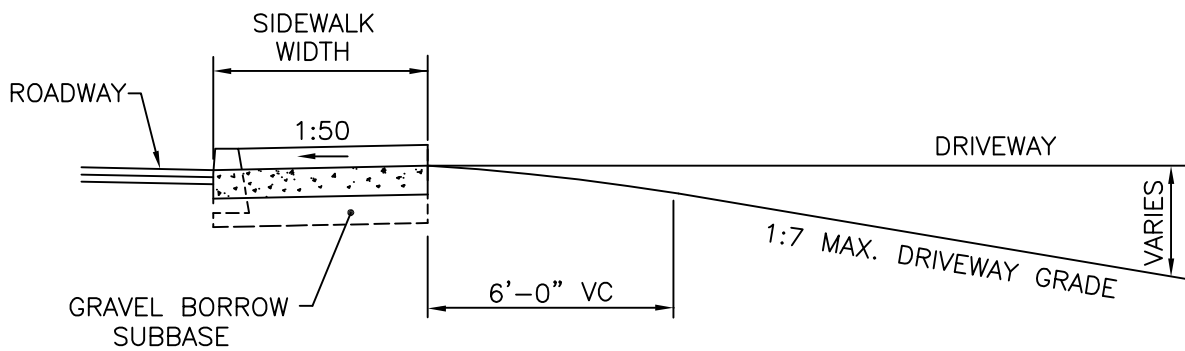




PLAN



ELEVATION



SECTION A-A

NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

**DRIVEWAY DEVELOPMENT FOR
6'-0" TRANSITION CURB**

REVISIONS		
NO.	BY	DATE
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2	MLP	6/27/08

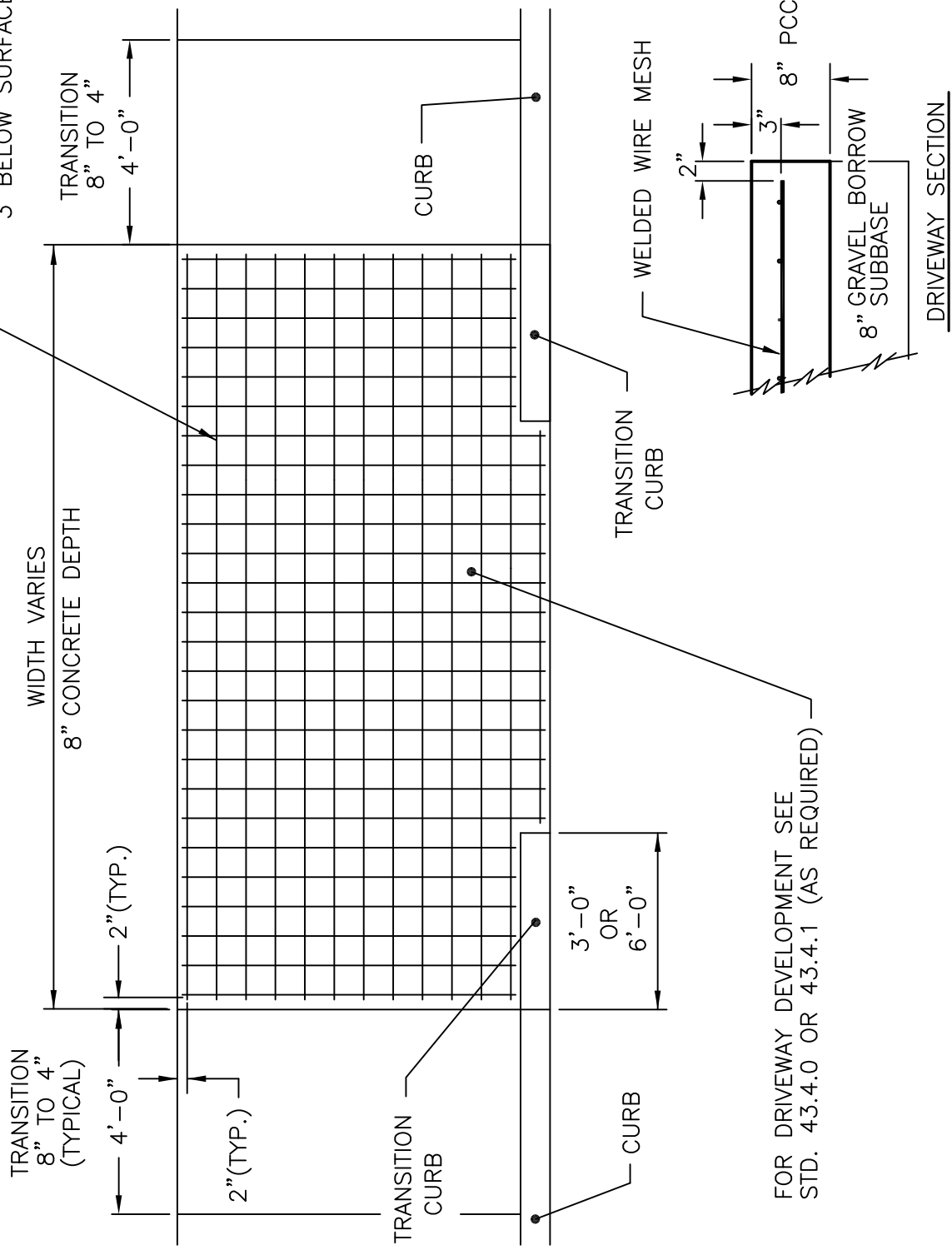
James A. Casadei
CHIEF ENGINEER
TRANSPORTATION

Edmund Parker Jr
CHIEF DESIGN ENGINEER
TRANSPORTATION

JUNE 15, 1998
ISSUE DATE



6" x 6" - W4 x W4
WELDED WIRE MESH
3" BELOW SURFACE



FOR DRIVEWAY DEVELOPMENT SEE
STD. 43.4.0 OR 43.4.1 (AS REQUIRED)

NOTE:

SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

CEMENT CONCRETE DRIVEWAYS

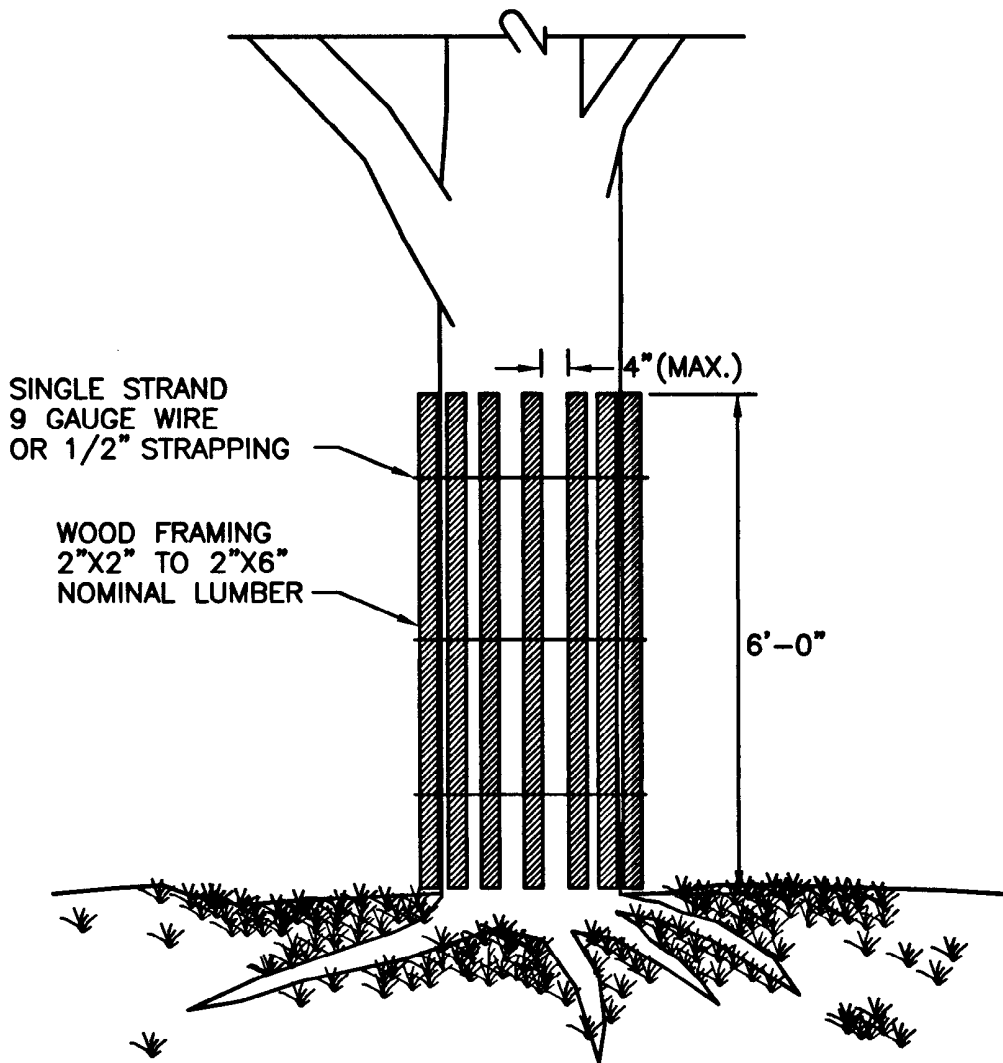
R.I.
STANDARD
43.5.0

REVISIONS		
NO.	BY	DATE
1	MLP	1/10/05
2	MLP	7/21/06
3	MLP	6/01/10

James H. Casabadi
CHIEF ENGINEER
TRANSPORTATION

Edmund J. Parker Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION

JUNE 15, 1998
ISSUE DATE



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

TREE PROTECTION DEVICE

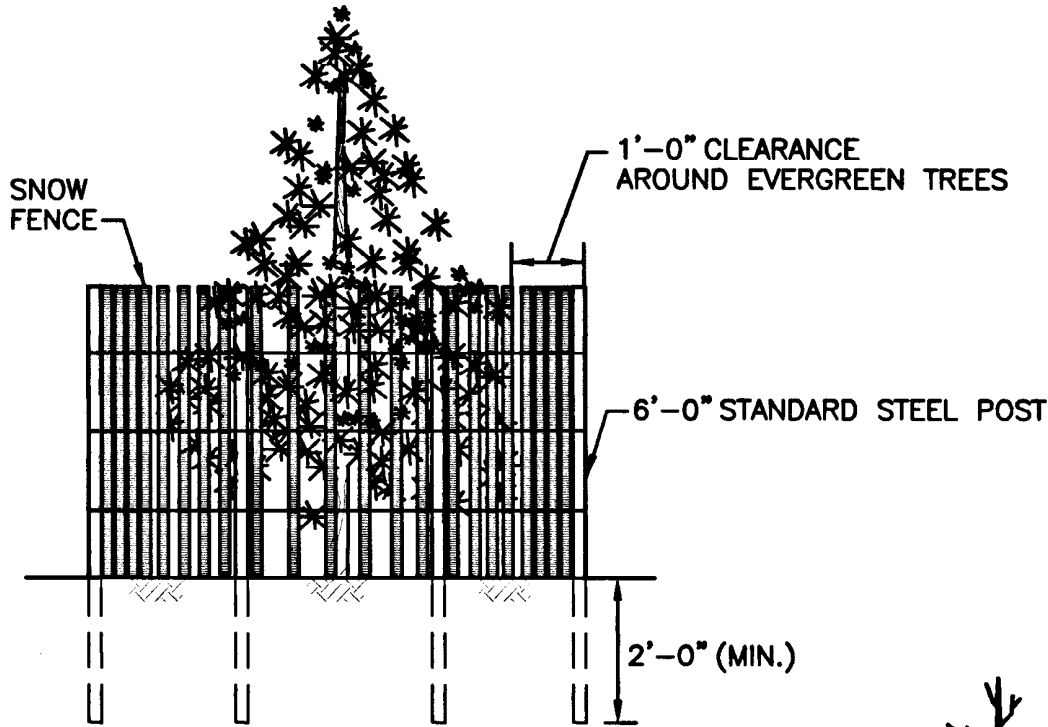
REVISIONS		
NO.	BY	DATE

James H. Casaldi
CHIEF ENGINEER
TRANSPORTATION

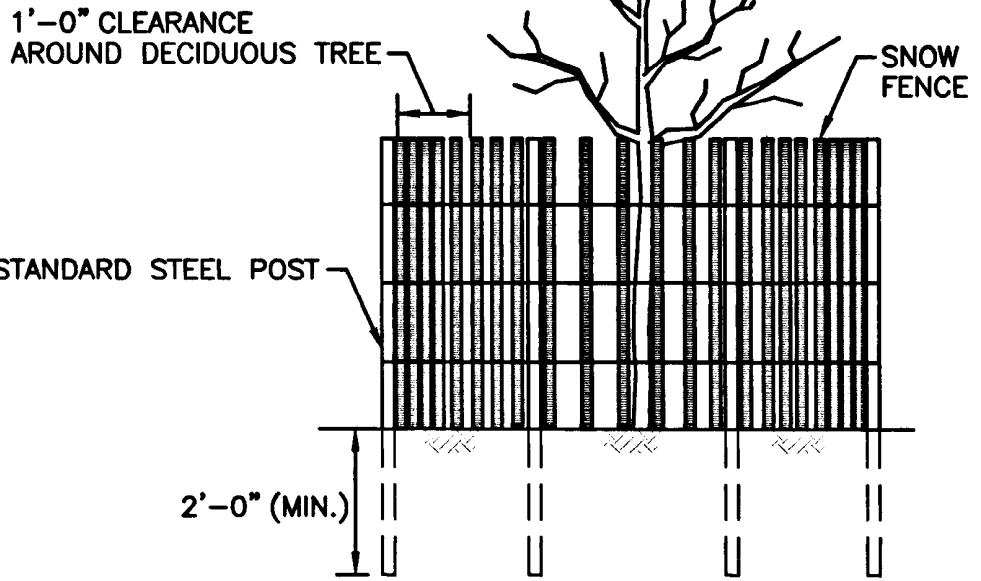
Edmund Parker Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION

JUNE 15, 1998
ISSUE DATE





EVERGREEN TREE



DECIDUOUS TREE

NOTE: SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

DRIP LINE TREE PROTECTION DEVICE FOR EXISTING TREES

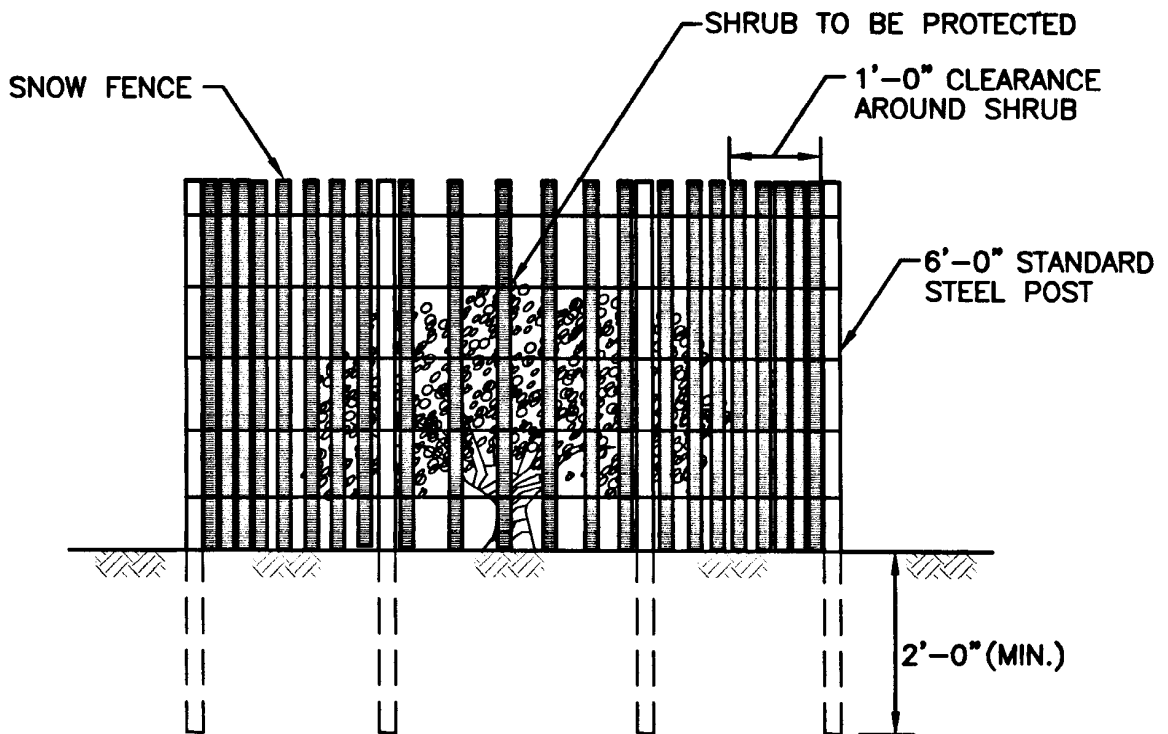
REVISIONS		
NO.	BY	DATE

James A. Caselli
 CHIEF ENGINEER
 TRANSPORTATION

Edmund Parker Jr.
 CHIEF DESIGN ENGINEER
 TRANSPORTATION

JUNE 15, 1998
 ISSUE DATE





NOTE:
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

SHRUB PROTECTION DEVICE

REVISIONS		
NO.	BY	DATE

James H. Gualdi
CHIEF ENGINEER
TRANSPORTATION

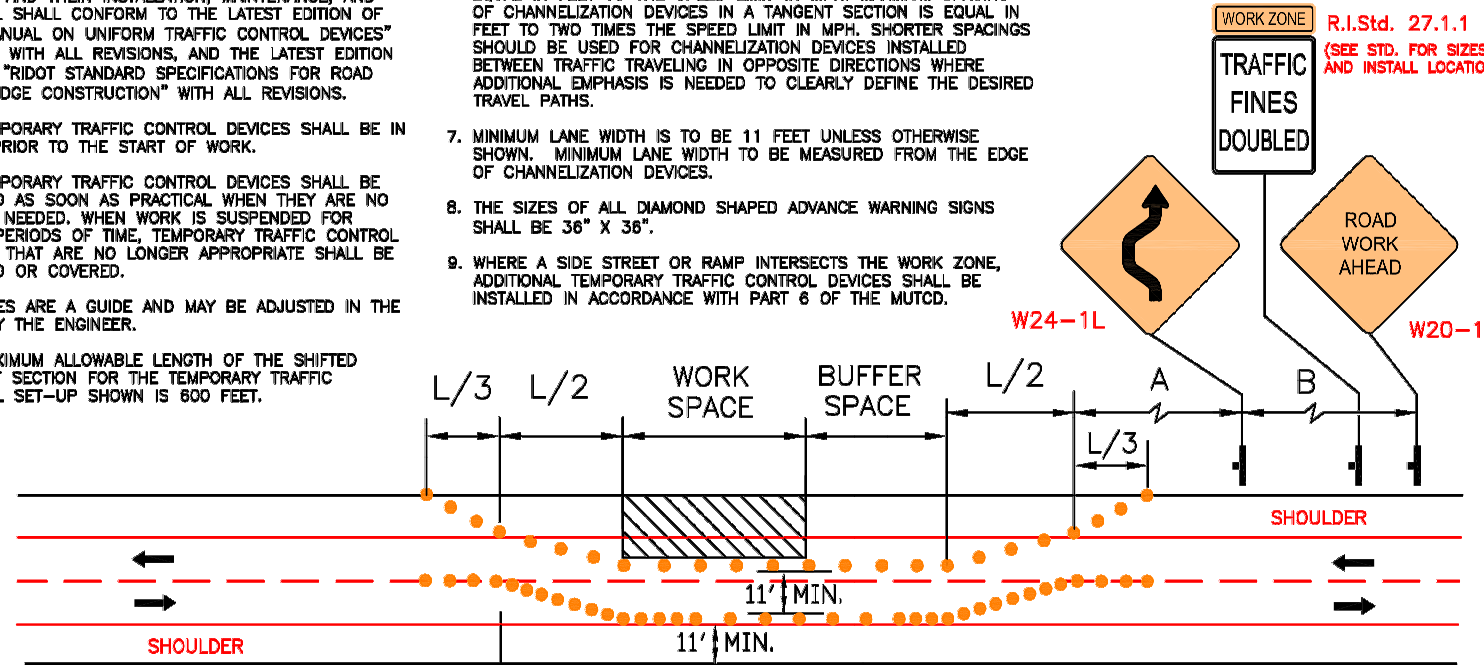
Edmund J. Parker Jr.
CHIEF DESIGN ENGINEER
TRANSPORTATION

JUNE 15, 1998
ISSUE DATE

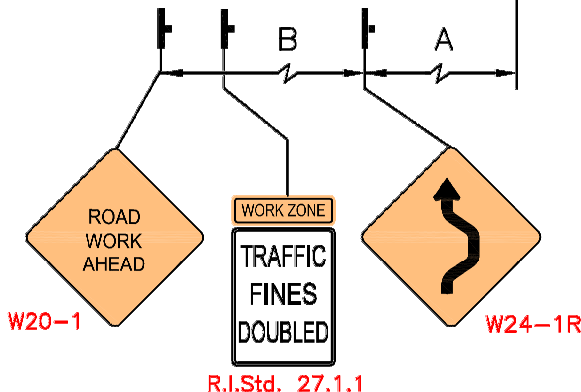


1. ALL TEMPORARY TRAFFIC CONTROL SET-UPS AND DEVICES AND THEIR INSTALLATION, MAINTENANCE, AND REMOVAL SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) WITH ALL REVISIONS, AND THE LATEST EDITION OF THE "RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" WITH ALL REVISIONS.
2. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK.
ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER NEEDED. WHEN WORK IS SUSPENDED FOR SHORT PERIODS OF TIME, TEMPORARY TRAFFIC CONTROL DEVICES THAT ARE NO LONGER APPROPRIATE SHALL BE REMOVED OR COVERED.
4. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
5. THE MAXIMUM ALLOWABLE LENGTH OF THE SHIFTED TANGENT SECTION FOR THE TEMPORARY TRAFFIC CONTROL SET-UP SHOWN IS 600 FEET.

6. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN A TAPER IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN A TANGENT SECTION IS EQUAL IN FEET TO TWO TIMES THE SPEED LIMIT IN MPH. SHORTER SPACINGS SHOULD BE USED FOR CHANNELIZATION DEVICES INSTALLED BETWEEN TRAFFIC TRAVELING IN OPPOSITE DIRECTIONS WHERE ADDITIONAL EMPHASIS IS NEEDED TO CLEARLY DEFINE THE DESIRED TRAVEL PATHS.
7. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF CHANNELIZATION DEVICES.
8. THE SIZES OF ALL DIAMOND SHAPED ADVANCE WARNING SIGNS SHALL BE 36" X 36".
9. WHERE A SIDE STREET OR RAMP INTERSECTS THE WORK ZONE, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH PART 6 OF THE MUTCD.



R.I.Std. 27.1.1
(SEE STD. FOR SIZES AND INSTALL LOCATION)



MINIMUM ADVANCE WARNING SIGN SPACING

Posted Speed Limit & Location	Distance Between Signs (Feet)		
	A	B	C
30 MPH OR LESS In URBAN OR RURAL AREA	100	100	100
35 MPH OR GREATER In URBAN AREA	350	350	350
35 MPH OR GREATER In RURAL AREA	500	500	500

TAPER AND BUFFER LENGTHS

Speed Limit	Taper Length* (L) Feet	Buffer Space* (Feet)
25 MPH	125	55
30 MPH	180	85
35 MPH	245	120
40 MPH	320	170
45 MPH	540	220
50 MPH	600	280

* Required
** Suggested

TYPICAL LANE SHIFT ON TWO-LANE ROADWAY

SOURCE: RHODE ISLAND DEPARTMENT OF TRANSPORTATION



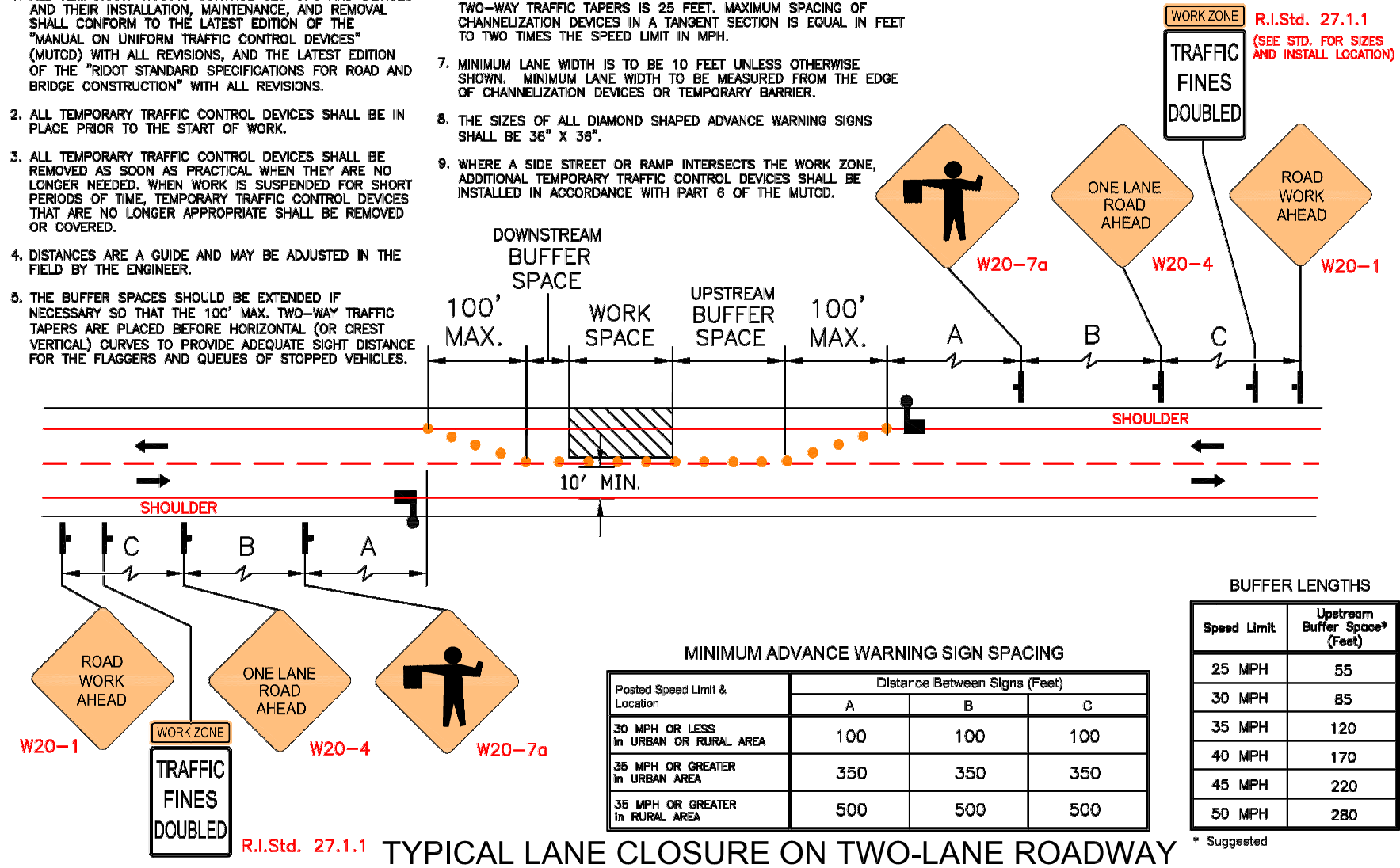
CITY OF PROVIDENCE, RHODE ISLAND
PROVIDENCE WATER SUPPLY BOARD
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

Detail No. 22

AUGUST 2022

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL SET-UPS AND DEVICES AND THEIR INSTALLATION, MAINTENANCE, AND REMOVAL SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) WITH ALL REVISIONS, AND THE LATEST EDITION OF THE "RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" WITH ALL REVISIONS.
2. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK.
3. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER NEEDED. WHEN WORK IS SUSPENDED FOR SHORT PERIODS OF TIME, TEMPORARY TRAFFIC CONTROL DEVICES THAT ARE NO LONGER APPROPRIATE SHALL BE REMOVED OR COVERED.
4. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
5. THE BUFFER SPACES SHOULD BE EXTENDED IF NECESSARY SO THAT THE 100' MAX. TWO-WAY TRAFFIC TAPERS ARE PLACED BEFORE HORIZONTAL (OR CREST VERTICAL) CURVES TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE FLAGGERS AND QUEUES OF STOPPED VEHICLES.
6. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN THE 100' MAX. TWO-WAY TRAFFIC TAPERS IS 25 FEET. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN A TANGENT SECTION IS EQUAL IN FEET TO TWO TIMES THE SPEED LIMIT IN MPH.
7. MINIMUM LANE WIDTH IS TO BE 10 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF CHANNELIZATION DEVICES OR TEMPORARY BARRIER.
8. THE SIZES OF ALL DIAMOND SHAPED ADVANCE WARNING SIGNS SHALL BE 36" X 36".
9. WHERE A SIDE STREET OR RAMP INTERSECTS THE WORK ZONE, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH PART 6 OF THE MUTCD.



MINIMUM ADVANCE WARNING SIGN SPACING

Posted Speed Limit & Location	Distance Between Signs (Feet)		
	A	B	C
30 MPH OR LESS In URBAN OR RURAL AREA	100	100	100
35 MPH OR GREATER In URBAN AREA	350	350	350
35 MPH OR GREATER In RURAL AREA	500	500	500

BUFFER LENGTHS

Speed Limit	Upstream Buffer Space* (Feet)
25 MPH	55
30 MPH	85
35 MPH	120
40 MPH	170
45 MPH	220
50 MPH	280

* Suggested

TYPICAL LANE CLOSURE ON TWO-LANE ROADWAY

SOURCE: RHODE ISLAND DEPARTMENT OF TRANSPORTATION



CITY OF PROVIDENCE, RHODE ISLAND
 PROVIDENCE WATER SUPPLY BOARD
 TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

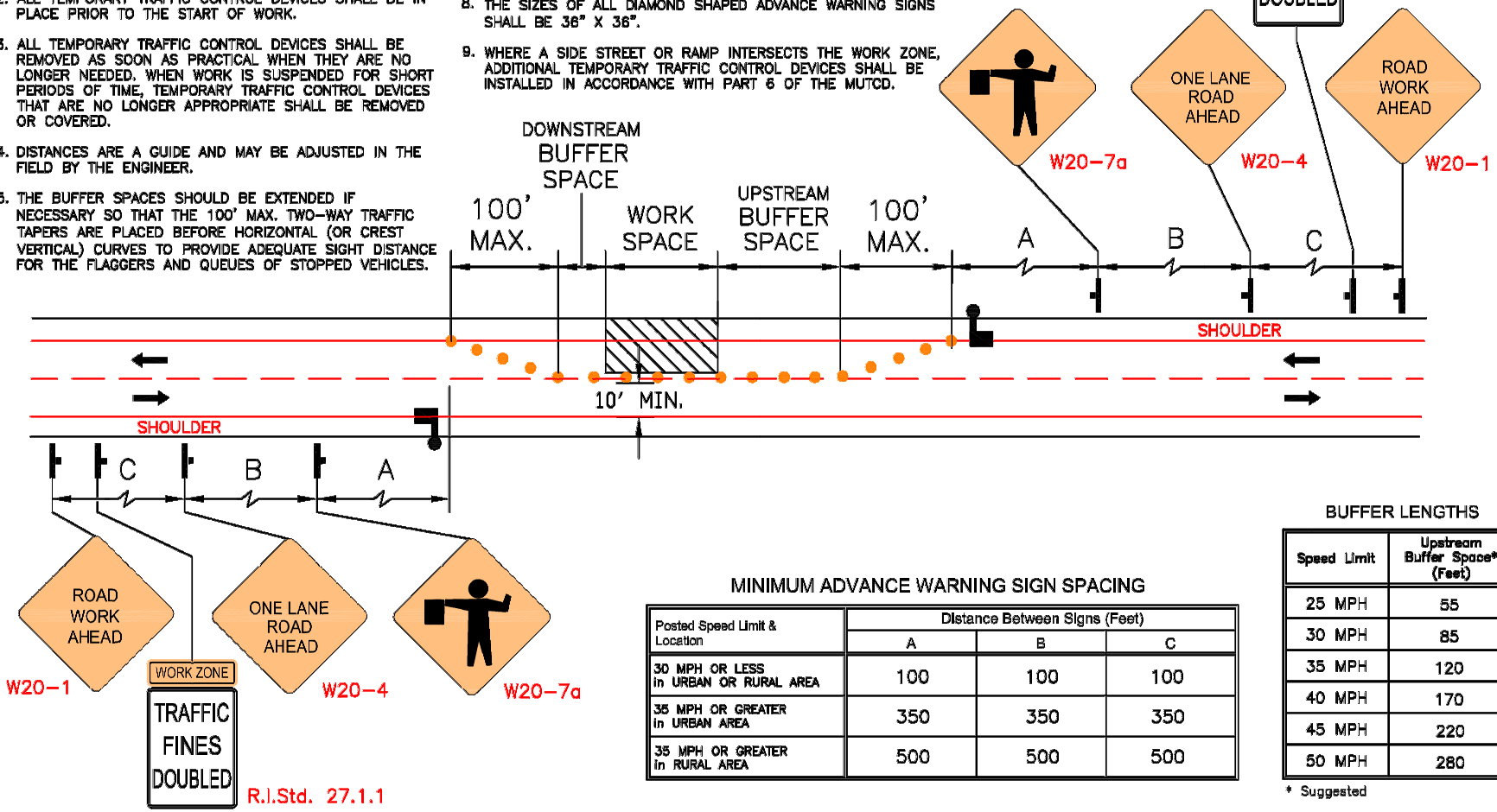
Detail No. 23

AUGUST 2022

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL SET-UPS AND DEVICES AND THEIR INSTALLATION, MAINTENANCE, AND REMOVAL SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) WITH ALL REVISIONS, AND THE LATEST EDITION OF THE "RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" WITH ALL REVISIONS.
2. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK.
3. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER NEEDED. WHEN WORK IS SUSPENDED FOR SHORT PERIODS OF TIME, TEMPORARY TRAFFIC CONTROL DEVICES THAT ARE NO LONGER APPROPRIATE SHALL BE REMOVED OR COVERED.
4. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
5. THE BUFFER SPACES SHOULD BE EXTENDED IF NECESSARY SO THAT THE 100' MAX. TWO-WAY TRAFFIC TAPERS ARE PLACED BEFORE HORIZONTAL (OR CREST VERTICAL) CURVES TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE FLAGGERS AND QUEUES OF STOPPED VEHICLES.
6. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN THE 100' MAX. TWO-WAY TRAFFIC TAPERS IS 25 FEET. MAXIMUM SPACING OF CHANNELIZATION DEVICES IN A TANGENT SECTION IS EQUAL IN FEET TO TWO TIMES THE SPEED LIMIT IN MPH.
7. MINIMUM LANE WIDTH IS TO BE 10 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF CHANNELIZATION DEVICES OR TEMPORARY BARRIER.
8. THE SIZES OF ALL DIAMOND SHAPED ADVANCE WARNING SIGNS SHALL BE 36" X 36".
9. WHERE A SIDE STREET OR RAMP INTERSECTS THE WORK ZONE, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH PART 6 OF THE MUTCD.

R.I.Std. 27.1.1
(SEE STD. FOR SIZES AND INSTALL LOCATION)



MINIMUM ADVANCE WARNING SIGN SPACING

Posted Speed Limit & Location	Distance Between Signs (Feet)		
	A	B	C
30 MPH OR LESS in URBAN OR RURAL AREA	100	100	100
35 MPH OR GREATER in URBAN AREA	350	350	350
35 MPH OR GREATER in RURAL AREA	500	500	500

BUFFER LENGTHS

Speed Limit	Upstream Buffer Space* (Feet)
25 MPH	55
30 MPH	85
35 MPH	120
40 MPH	170
45 MPH	220
50 MPH	280

* Suggested

TYPICAL SHOULDER CLOSURE ON TWO-LANE ROADWAY

SOURCE: RHODE ISLAND DEPARTMENT OF TRANSPORTATION



CITY OF PROVIDENCE, RHODE ISLAND
PROVIDENCE WATER SUPPLY BOARD
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

Detail No. 24

AUGUST 2022

Appendix G

List of Approved Materials Manufacturers for Use in the Providence Water Distribution System

ATTACHMENT 1

LIST OF APPROVED MATERIALS / MANUFACTURERS FOR USE IN THE PROVIDENCE WATER DISTRIBUTION SYSTEM (As of April 13, 2021)

DUCTILE IRON PIPE

McWane Ductile
American DI Pipe Co.
U.S. Pipe & Foundry Co.
Note: All DI pipe must be zinc coated

DUCTILE IRON FITTINGS

Tyler/Union Foundry Co. – US made only
US Pipe & Foundry Co. – US made only
Star Pipe Products – US made only
Note: All fittings must be zinc coated

VALVES

American
Clow Valve Co.
Kennedy Valve
M&H Valve Co.
Mueller Co.
U.S. Pipe & Foundry Co.
AVK

BUTTERFLY VALVES (16” and larger)

Mueller Co.
Henry Pratt Co.

VALVE AND SERVICE BOXES

Tyler Union / Biby – US made only
Bingham & Taylor
Mueller Co.

PIPE COUPLINGS

ROMAC Industries, Inc.
Smith-Blair, Inc.
Baker
Total Piping Solutions, Inc. (Hymax)

SERVICE ADAPTER COUPLINGS, PLASTIC

The Harrington Corp (HARCO)

FIRE HYDRANTS

Kennedy Guardian Hydrant - K81D, by Kennedy Valve (Must be “Hydra-Shield - Custodian” ready for installation in Providence only)

MECHANICAL JOINT RESTRAINT FOR DUCTILE IRON PIPE AND FITTINGS

EBA Iron Sales, Inc. - MEGALUG MJ Retainer Gland
Series 1100 – MJ Gland
Series 1100SDB – Mid Span Restraint
Tyler Union - Series 1000 TUFGRIP MJ Retainer Gland
– US made only
Star National Products - “Star Tie-Anchor III AC Joint Restraint”

JOINT RESTRAINT FOR DUCTILE IRON PIPE- GASKETED

U.S. Pipe & Foundry Co. - Field Lok 350 Gasket
McWane – Sure Stop 350 Gasket
American – Fast-Grip Gasket

SERVICE BRASS – Must Meet Lead Free Standard

A.Y. McDonald Manufacturing Co.
Cambridge Brass
Mueller Co.
Red Hed Manufacturing
The Ford Meter Box Co.

Appendix H

RIDOT Minimum Standards for State and Municipal Road Repair for Utility Work



**State of Rhode Island and
Providence Plantations
Department of Transportation**

**Minimum Standards
for State and Municipal Road Repair
for Utility Work**

**Peter Alviti, Jr., P.E.
Director of Transportation**

December 18, 2019

Introduction

This document contains the Rhode Island Department of Transportation (RIDOT) standards for state and municipal roadway repair by public utilities. The standards are produced herein in conformance with Rhode Island General Laws 1956 § 39-2.2-4.

Applicability

These standards reflect the minimum standards of road repair and repaving which must be complied with on any state or municipal owned road which is disturbed for the purposes of performing utility work, in accordance with Rhode Island General Laws 1956 § 39-2.2-4. Road-owning entities may establish stricter standards via their own permitting process.

Definitions

Final pavement restoration - Last phase of the utility work consisting of returning the impacted/disturbed portions of the roadway to the same or better condition that existed prior to the utility work.

Permanent pavement structure trench - Areas/cross sections of the roadway impacted or disturbed by the utility work that require to be rebuilt and restored to full depth from the bottom up, inclusive of backfill, gravel subbase, pavement layers.

Permittee - The party performing the construction work, whether the party named in the permit or its contractor.

Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction (RIDOT Standard Specifications) - The most recent available document of that same name, published by the Rhode Island Department of Transportation, including all revisions and addendums.

Rhode Island Standard Details – The most recent available document of that same name, published by the Rhode Island Department of Transportation, including all revisions and addendums.

A. General Provisions

1. Where this document or the specifications associated with the utility permit are silent, the road repair and repaving process shall be governed by the RIDOT Standard Specifications.
2. Any property damage caused by construction associated with this process shall be repaired and/or replaced to the satisfaction of the municipality.
3. Restoration of any altered roadway shall commence immediately after the completion of the alteration, and shall include, if necessary, temporary or intermediate restoration on an ongoing basis to keep the roadway smooth and bump free until the permanent restoration can be completed.
4. Spot checks for conformance with the utility permit may include compaction testing, pavement coring, ground penetrating radar, etc. If the permit-issuing entity deems any of the utility work non-conforming, insufficient, defective or incomplete, it is the responsibility of the Permittee to complete the repairs to the satisfaction of the permit issuer.
5. The Permittee will be held responsible for maintaining the final restoration work required under the utility permit for a minimum period of five (5) years starting from the date of acceptance of all work.
6. The RIDOT Hot Mix Asphalt Matrix is incorporated into this document by reference, and shall be applicable to utility permits.
7. The Rhode Island Standard Details is incorporated into this document by reference, and shall be applicable to utility permits.
8. In accordance with the RIDOT Standard Specifications, when the Permittee mills and overlays or otherwise resurfaces an existing roadway that will be open to traffic, and such operations damage existing traffic signal loop detectors, thereby rendering such to be non-functional, the Permittee shall restore properly operating detection within seven (7) calendar days. When existing detection is rendered non-functional by the Permittee's operations for any other reason, the Permittee shall restore properly operating detection within seventy-two (72) hours.

B. In all instances of roadway opening for the purpose of performing utility work, Permittee shall

1. Saw-cut the pavement in straight parallel lines and rectangular in shape with an abrasive wheel power saw, unless otherwise specified. Under no circumstances shall the pavement cut be made using a hammer or drop weight. All pavement cuts shall be full depth through the pavement; and,
2. Backfill in maximum one (1) foot lifts and place at minimum twelve (12) inches of gravel subbase, compacted to RIDOT Standard Specifications.

- C. When installing temporary patching on all excavations which will not be permanently restored within the same working day, Permittee shall place a minimum two (2) inch temporary hot mix asphalt pavement patch each day after completion of work in a roadway segment.
- D. When performing permanent pavement structure trench restoration
1. Permittee shall re-sawcut, full depth through the pavement, one (1) foot cutbacks at minimum from all vertical edges of the initial utility work trench(es) prior to installing permanent pavement.
 2. Permittee shall apply asphalt emulsion tack coat to all vertical and horizontal pavement surfaces prior to permanent pavement structure trench restoration.
 3. For state-owned roads, at a minimum, the restored pavement thickness shall match the existing depth of the roadway, or equal six (6) inches, whichever is greater. For non-state-owned roads, at a minimum, the restored pavement thickness shall match the existing depth of the roadway, or equal four (4) inches, whichever is greater.
 4. Class(es) of hot mix asphalt for permanent pavement shall be in accordance with the RIDOT Hot Mix Asphalt Matrix.
 5. If concrete base is present in the roadway, restoration shall include Class XX concrete and dowels, in accordance with the RIDOT Standard Specifications.
 6. The full depth permanent pavement structure trench shall be in place for a minimum thirty (30) calendar days, and for a maximum one (1) year or sooner in accordance with the municipal permit, prior to final pavement restoration.
 7. Permittee shall restore:
 - a. Full panels of impacted concrete sidewalk in accordance with RI Standard 43.1.0;
 - b. Full panels of impacted concrete driveways in accordance with RI Standard 43.5.0;
 - c. Impacted asphalt sidewalk full width in accordance with RI Standard 43.2.0 using Class 4.75 or 9.5 hot mix asphalt;
 - d. Impacted asphalt driveways full width using Class 9.5 hot mix asphalt;
 - e. Impacted curbing (replace) in kind and reset to original grade; and
 - f. Impacted plantable areas with loam and seed.
- E. Final pavement restoration shall include:
1. Two (2) inches of micromilling and resurfacing all impacted travel lanes and/or shoulders for their full width using Class 9.5 or 12.5 hot mix asphalt. Impacted travel lanes and/or shoulders are the roadway pavement areas that the utility work trench(es) are located within. In addition to the roadway pavement areas impacted by the utility work trenches, this final pavement restoration shall also apply to all travel lanes and/or shoulders impacted by either lateral or longitudinal utility work trenches when the trenches are less than or equal to one hundred (100) feet longitudinal from one another, including the sections

between trenches, so that no section(s) of roadway pavement less than or equal to one hundred (100) feet shall remain unpaved. This will provide a continuous final pavement between the utility work trenches.

2. Permittee shall apply asphalt emulsion tack coat to all vertical and horizontal pavement surfaces prior to final resurfacing.
3. Restoring permanent pavement markings in the same locations as originally located with epoxy resin paint, as per the RIDOT Standard Specifications.
4. Permanent epoxy resin pavement markings shall be placed no sooner than two (2) weeks but no later than four (4) weeks from the completion of the paving operation.
5. After final paving, as well as before permanent pavement markings are installed, Permittee shall install temporary waterborne reflectorized pavement markings, placed in the same locations as original markings, on any roadways opened to traffic at the completion of any day's paving operation.

Answers to Frequently Asked Questions:

- 1) **Q:** Why are you sending us this document.

A: The recently enacted, “THE RHODE ISLAND UTILITY FAIR SHARE ROADWAY REPAIR ACT,” (R.I. General Laws 1956 § 39-2.2) includes a provision that requires “any repaving and repair of a municipal road required by § 39-2.2-2 shall be in accordance with standards promulgated by the director of the department of transportation.”

- 2) **Q:** What is the purpose of this law?

A: The act requires public utilities to restore roadways which they altered or excavated to the satisfaction of the state or municipality controlling the roadway. It also allows for financial recovery for defective or incomplete work.

- 3) **Q:** What information is contained in this document.

A: This document sets the minimum roadway restoration requirements or “standards” that must be met when utility excavation or alteration work is performed in a public roadway. These standards apply to both temporary and permanent restorations.

- 4) **Q:** Can a Municipality choose to set its own roadway restoration standards in place of these standards.

A: A Municipality can choose to adopt, or keep in place, additional permit requirements as long as these minimum standards are met or exceeded. This document outlines only the minimum restoration standards for roadway restorations.

- 5) **Q:** Do these roadway restorations standards differ from RIDOT’s permit requirements?

A: No, they do not differ. However, RIDOT may require that higher restoration standards be met on State owned roadways.

- 6) **Q:** What role will RIDOT have in the implementation of these standards on a local roadway.

A: RIDOT will have no role in the implementation, oversight, or enforcement of these standards.

7) **Q:** Would a Municipality be in full compliance with the law if it implements these standards.

A: Yes. This document establishes the minimum standards for roadway repair on both state and municipal owned roads following utility work. Municipalities, through their own respective permitting processes, are free to impose requirements that meet or exceed those stated herein. This document does not bear on a Municipality's authority to oversee or enforce roadway repair standards within its jurisdiction.

Appendix I

City of Providence Standards to be Employed by Licensed Sidewalk Contractors for Road and Sidewalk Openings



CITY OF PROVIDENCE

Effective: November 20, 2017

STANDARDS TO BE EMPLOYED BY LICENSED SIDEWALK CONTRACTORS FOR ROAD AND SIDEWALK OPENINGS

I. Introduction

The public safety and convenience require both the installation and maintenance of utility services and the maintenance and restoration of safe and aesthetically pleasing roadways and sidewalks. These requirements unfortunately are sometimes in tension. Safe streets and sidewalks are unquestionably necessary and aesthetically pleasing highways are highly desirable. The public, though, has the right to expect the availability and delivery of both existing and improved or new utility services, to be provided in a safe and efficient manner.

The city seeks to allow the delivery of the expected services yet ensure public safety and the quality of life to which the city's citizenry is entitled. That goal requires the balancing of two (2) important dynamics. The city seeks to promote the prompt and safe delivery of old and new services without sacrificing the peoples' safety and convenience.

These Rules and Regulations are promulgated to assist contractors on the proper standards to be employed for public roadway and sidewalk opening. The authority for such promulgation is found in the City of Providence Code of Ordinances, Section 23-6 (Opening, excavating, etc., on, in, across or under public roadway or sidewalk) and specifically Section 23-6 (d) which states, "*The director shall promulgate such rules and regulation as may be necessary to effect the purpose of this article...*"

II. Applicability

These regulations apply to all applications for excavation or construction which fall within the parameters described below. Other applications continue to be governed by State law, such as R.I.G.L. § 24-7-1 (Sidewalks.) Failure to comply with these rules and regulations will result in a \$250-\$500 fine for each occurrence.

Excavation or construction in the Public Right-of-Way require the issuance of road opening permits. Road opening permits are only issued to Providence Sidewalk Contractors. Providence sidewalk contractor licences are issued to those who fill out an application, submit an application fee and provide proof of insurance and performance bond.

Sidewalk repair and/or curb alterations require the issuance of a Physical Alteration Permit. Physical Alteration Permits may be issued to a Providence Sidewalk Contractor, or Limited Providence Sidewalk Contractors. Limited sidewalk contractors have the same requirements as a full sidewalk contractor, with a lesser performance bond amount. Limited Providence Sidewalk Contractors may only be issued Physical Alteration Permits. Providence Sidewalk Contractors may be issued road opening permits and physical alteration permits.

A Geotech/Boring Sidewalk Contractor license will be issued to business seeking to perform vertical drill borings in the public right of way.

III. Standards to be Employed by Licensed Sidewalk Contractors for Road and Sidewalk Openings

Section

- 1.0 Purpose and Scope
- 2.0 Definitions
- 3.0 Permit Requirements
- 4.0 Work Standards
- 5.0 Safety
- 6.0 Protection of Adjoining Facilities
- 7.0 Excavations
- 8.0 Backfill and Compaction
- 9.0 Pavement Restoration
- 10.0 Striping and Traffic Detection Loop Restoration
- 11.0 Sidewalks and Driveways
- 12.0 Physical Alteration Permits
- 13.0 Other Permits
- 14.0 Clean up

1.0 Purpose and Scope

1.1 All aspects of rendering utility service – new installations, repair/maintenance and upgrading – are critical to the public welfare. The purpose of these standards are to ensure that a Permittee, after excavating City of Providence, any street, lane, highway ("public ways"), and sidewalk restores such street, lane, highway and sidewalk to the new restored condition. This includes restoring bituminous asphalt paving, decorative paving in streets, sidewalks and crosswalks, restoring epoxy resin traffic pavement markings and traffic loop detectors with in-kind materials.

1.2 These standards are developed and enforceable under the Providence Code of Ordinances, Part II, Section 23-6 – *Opening, excavating, etc., on, in, across or under public roadway or Sidewalk* and Article III – *Construction and Repair of Sidewalks*

1.3 Hundreds of complaints are received each year regarding failed road/sidewalk openings and road/sidewalk openings that have not been restored to the new restored condition including pavement/sidewalk condition, pavement markings, traffic detection loops and specialty paving. All efforts shall be taken to expedite the work and final restoration.

1.4 The Standards set forth herein, including specific performance requirements for excavation, backfilling, resurfacing and striping of roads are intended to establish uniform requirements for street opening work in the City. These Standards shall apply to excavations within streets, sidewalks and the Public Right of Way.

1.5 The Permittee is responsible for ensuring compliance, for itself and its contractors, with these standards. However, work may be inspected by the City to assure that proper procedures are being followed. In the event a Permittee fails to comply with these standards a Permittee shall, at its own expense, correct such failures. Failure to comply may result in revocation of existing permits, refusal to issue new permits, revocation of Sidewalk Contractor License or monetary fine, completion of work

through the Contractor's bond, or the City to correct the failures with the cost passed to the Sidewalk Contractor.

1.6 The Permittee shall work with the City to minimize the impact of street openings and specifically, to reduce the incidence of non-emergency excavations in newly-paved streets.

1.7 The Standards may be amended at any time and shall become effective immediately.

2.0 Definitions

AASHTO means The American Association of State Highway and Transportation Officials.

ADA means The Americans with Disabilities Act, which prohibits discrimination against individuals with disabilities. The ADA provides standards and regulations for State/local governments, in providing equal opportunity and access to all public facilities, including sidewalks, wheelchair curb ramps and public spaces. <https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines>

City means the jurisdiction of the City of Providence, having subordinate and local powers of legislation

Clay means very finely textured soil which, when moist, forms a cast which can be handled freely without crumbling/breaking; that exhibits plasticity; and when dried, breaks into very hard lumps (*i.e.*, high dry strength) and is difficult to pulverize into a soft, flour-like powder.

Cold Patch means a bituminous concrete made with slow curing asphalts and used primarily as a temporary patching material when hot mix plants are closed.

Compaction means compressing of suitable material and gravel that has been used to backfill an excavation by means of mechanical tamping to within 95% of maximum dry density as determined by the modified Proctor test in accordance with AASHTO, T180.

Controlled Density Fill ("CDF), also called flowable fill, means a mixture of portland cement, fly ash, sand and water. High air (25% plus) may be used instead of fly ash with an adjustment in sand content. CDF is hand-tool excavatable.

Curb Cut means the installation of a break in the curb to allow vehicles access from a roadway to private property.

Decorative Paving means street and sidewalk treatments that deviate from the traditional asphalt and concrete surfaces, such as bricks, pavers, cobblestones, stamped concrete, stamped synthetic paving, exposed aggregate, etc.

DPW means the City of Providence Department of Public Works

Emergency Repair Work means street opening work which must be commenced immediately to correct a hazardous condition whose continuation would unreasonably risk injury, loss of life or property damage.

Gravel means coarse to very coarse-grained soil ranging from approximately 0.1 inch to 3.0 inches. Gravel exhibits no plasticity.

Guaranteed Road means a road whose pavement surface is less than five years old.

Infrared Process means a restorative procedure whereby an infrared heater plasticizes the surface of an asphalt pavement, preparatory to the introduction of additional compatible paving materials uniformly re-worked and compacted to achieve a density and profile consistent and thoroughly integrated with the adjacent pavement.

MUTCD means the Manual on Uniform Traffic Control Devices. The MUTCD is the standard for signs, signals and pavement markings in the United States. <https://mutcd.fhwa.dot.gov/>

Organic Soil means soil high in organic content, usually dark (brown or black) in color. When considerable fibrous material is the principal constituent, it is generally classified as "peat." Plant remains or woody structures may be recognized and the soil usually has a distinct odor. Organic soil may exhibit little (or a trace of) plasticity.

Permanent Patch means a final repair of street opening work to be performed in accordance with these standards and intended to permanently return the opened portion of the roadway to as good a condition as it was prior to the performance of the street opening work.

Permit means a permit granted by the City to a Licensed Sidewalk Contractor for permission to work in the public right-of-way.

Permitee means a Licensed Sidewalk Contractor with the City of Providence, who has submitted an application, proof of general liability insurance and bond and maintains such as a condition of the license.

Physical Alteration Permit means a permit issued for performing sidewalk and driveway repairs and curb alterations. A Physical Alteration Permit may also be issued for installation of signs, or other permanent objects in sidewalks, medians or other features in the Public Right of Way. A Physical Alteration Permit is not issued for utility work.

Plasticity means that property of soil that allows it to be deformed or molded without crumbling (e.g., like dough or soft rubber). This property reflects the capacity of soil to absorb moisture.

Poorly Graded Soil means soil that contains a large percentage of its constituent particles within a relatively narrow range; also referred to as "uniform" soil.

Protected Street means a road or street whose pavement surface is less than 5 years old.

Providence Standard Details means construction details specific to the City of Providence. Standard details may be found on the following webpage under "Reports + Publications."
<https://www.providenceri.gov/wp-content/uploads/2017/04/Providence-DPW-Standard-Details.pdf>

RI Highway Standards means the "Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, including all revisions, addenda and updates."
<http://www.dot.ri.gov/business/bluebook.php>

RIDOT means the Rhode Island Department of Transportation.

Same Day Hot Patching means the installation of a permanent patch (“same day patch” on an excavation within one (1) business day of completion of the utility work.

Sand means coarse grained soil in which the individual grains can be visually detected. When moist it forms a cast which will crumble when lightly touched; when dry, it will not form a cast and will fall apart when confining pressure is released. Sand exhibits no plasticity.

Silt means finely-textured soil. When moist, it forms a cast which can be freely handled; when wet, it readily puddles; when dry, it may be cloddy and readily pulverizes into powder with a soft flour-like feel (*i.e.*, low dry strength). Silt exhibits little or no plasticity.

Street Opening Work means any cutting excavating, compacting, construction, repair or other disturbance in or under a public way together with restoration of the public way in accordance with these standards, municipal ordinances, and any other applicable law following such disturbance.

Temporary Patch means the interim application of either cold patch or Class 9.5mm bituminous concrete compacted to achieve a density equal to that of the surrounding pavement.

Well Graded Soil means soil having its constituent particles within a wide range, also referred to as "non-uniform" soil.

3.0 Permit and Notice Requirements

3.1 The issuance of a permit by the City shall be subject to these Standards. A permit shall be issued with the stipulation that it may be modified or revoked with just cause at any time at the discretion of the City without rendering the City liable in any way. The City shall have the authority to inspect work in progress and the permittee shall correct any deficiencies identified during said inspections. The following are the requirements that the City requires when granting permits.

3.2 The work shall be performed in accordance with plans on file with the City.

3.3 The Permittee shall notify Dig Safe, in accordance with R.I.G.L. §39-1.2 *et seq.*, at least 72 hours prior to the start of work for the purpose of identifying the location of underground utilities. The Permittee shall be responsible to obtain the field location of any underground traffic control devices and sewer locations from the City. The City does not provide Dig Safe services for these facilities. The Permittee may contact the Traffic Engineer for locations of underground traffic control device locations the Engineering Department for sewer location information.

3.4 A copy of the Permit must be on the job site at all times for inspection (except for emergency repair work). Failure to have the Permit available could result in suspension of the rights granted by the Permit, suspension of Sidewalk Contractor license and/or a monetary fine. Traffic Engineering Permits must be obtained prior the start of work, including but not limited to road closures, lane closures, parking restrictions, sidewalk closures and detours. In the event of emergency repair work, a permit shall be requested within twenty-four (24) hours of the work being performed.

3.5 Work, day, and time constraints shall be conditions of the Permit. As stated in Providence Code of Ordinances, Part II, Chapter 16, Article III – *Noise Control*, it is unlawful to operate machinery or equipment exceeding fifty-five (55) dBA between the hours of 8:00PM and 7:00AM. Requests to work

during the restricted hours shall be formally requested to the Director of Public Works, with an explanation of the work to be performed, equipment to be used and a reason for requesting night work.

3.6 If it becomes necessary to open the roadway surface in a larger area than specified in the Permit, the permittee shall amend the Permit to cover the project.

3.7 No portion of the work shall be sublet to any subcontractor without first giving the City due notice in writing of such intention. No subcontractor shall be employed who is unsatisfactory to the City.

3.8 The Permittee shall employ only competent and efficient laborers, operators and artisans for every kind of work, and whenever, in the opinion of the City, any person is unfit to perform their task, or does their work contrary to directions, or conducts themselves improperly, the permittee shall remove that person from the job site.

3.9 The Permittee shall notify the Engineering Division when the temporary restoration AND final restoration has been completed, including all specialty paving, roadway striping and traffic detection loop restoration by the permit end date. If more time is required, the Contractor shall request the permit be amended and charged an additional permit fee. The five year restoration warranty period begins on the date of final restoration and lasts five years from said date. Physical Alteration Permits require notification when all work is complete. The Contractor may request an inspection prior to pouring concrete to ensure the proposed facility complies with the Standards.

4.0 Work Standards

4.1 All work shall be in compliance with these *Standards to Be Employed by Licensed Sidewalk Contractors for Road and Sidewalk Openings*, Providence Standard Details and RI Highway Standards as it pertains to utility street excavations and repairs unless modified by these standards. Where any two standards are similar, the City Standard shall prevail.

4.2 The Permittee shall be responsible for any failure or settlement that may occur as a result of the work done in accordance with the Permit. The Permittee is responsible for the settlement of a patch (0.25" vertical difference or greater) for five (5) years from the completion of the final restoration.

4.3 The Permittee shall be responsible for the ponding of water that may develop within the roadway which was caused by this work.

4.4 In the event a street opening failure presents a nuisance or a public safety issue, the Permittee shall respond to protect the opening from all modes of traffic within one hour of notification. Repairs shall begin within 24 hours or sooner if specified by the City.

Street opening failures that do not present a nuisance or a public safety issue shall be repaired within thirty (30) calendar days, including striping and traffic detector loops.

Non-response within the specified time may result in the required restoration work being done by the City, with all expenses to be paid by the Permittee. The Permittee shall reimburse the City for the invoiced amount within thirty (30) days. Failure to reimburse the City will result in refusal to issue permits or the revocation of the sidewalk contractor's license. Additionally, the City may seek to have the work performed through the Permittee's performance bond.

If a failure develops within the Permittee's excavation or the vicinity of the excavation, within five years of the final restoration date, the Permittee will be responsible for repairing the failure.

5.0 Safety

5.1 Provisions shall be made for the safety and protection of pedestrian, bicycle and motorized traffic during the construction period. All required Traffic Engineering permits, including but not limited to road closures, lane closures, parking restrictions, sidewalk closures and detours shall be obtained prior to work starting and shall be maintained on site.

5.1.1 In most instances, work on the sidewalks reduces the path of travel to less than the American's with Disabilities Act (ADA) minimum width of four feet, resulting in the temporary closure of the sidewalk.

5.1.2 When it is necessary to close access to a sidewalk, the Permittee must notify all pedestrians that the sidewalk is closed by placing appropriate MUTCD compliant signage at the closest pedestrian access ramps at either end of the sidewalk being worked on. Signs must only be placed where there is both a crosswalk and a corresponding pedestrian access ramp across the street allowing individuals requiring mobility assistance to safely and successfully cross the street. Temporary, ADA compliant plywood or asphalt ramps may be suitable where no existing pedestrian access ramp is present.

5.2 The Permittee shall be responsible to furnish and erect all required signs and traffic safety devices.

5.3 Cones and non-reflecting warning devices shall not be left in operating position when the daytime operations have ceased. If it becomes necessary for the City to remove any construction warning devices or the appurtenances from the project due to negligence by the Permittee, all cost for this work will be charged to the Permittee.

5.4 Flashing arrow boards will be used as indicated in the Traffic Engineering permit when operations occupy the roadway and shall be available for use at all times.

5.5 All signs and devices shall conform to the current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

5.6 Efforts shall be made to maintain normal traffic flow, but interruptions or obstructions to traffic shall be defined by conditions of the Permit.

5.7 When, in the opinion of the City, the work constitutes a hazard to traffic in any area the Permittee may be required to suspend operations during certain hours and to remove any equipment from the roadway.

5.8 When a snow or ice condition exists during the progress of this work, the Permittee shall keep the area affected by the work safe for travel. The City may restrict work during snow, sleet, or ice storms and subsequent snow removal operations.

5.9 The road and sidewalk surface shall be kept clean of debris at all times and shall be thoroughly cleaned at the end of each work day.

5.10 At the completion of the work done in accordance with the Permit, all disturbed areas shall be restored.

5.11 Blasting, if necessary, shall be done in accordance with state law and local ordinance.

5.12 All federal, state, and local safety regulations shall be followed.

5.13 In connection with the Permit, the Permittee shall assume no greater responsibility for risks and casualties of every description, for loss or injury to persons and property arising out of the nature of the work, from the action of the elements or from any unforeseen or unusual difficulty, than is otherwise imposed by law.

5.14 If, in the exercise of its discretion pursuant to Section 3.0, the City should determine on the basis of factors affecting safety and health that a street opening failure presents a nuisance or a public safety problem, the Permittee shall respond to a request by the City within one hour to secure, stabilize and protect the site. The permittee shall begin emergency repairs within twenty four (24) hours of the request. Non-response within the specified time may result in the required restoration work being done by the City, with all expenses to be invoiced to the Permittee. The Permittee shall reimburse the City for the invoiced amount within thirty (30) days.

5.15 Failure to respond to trench restoration requests shall result in denial of future permit requests and/or revocation of the Sidewalk Contractor's License.

5.16 No vehicles, equipment, stockpiles, materials or other incidental items are permitted in the Public Right of Way outside of working hours. The site must be cleaned and restored at the end of each work day. Patches may be plated with appropriate signage if work will resume the next day. Plates must be secured to prevent movement and edges ramped with bituminous material. All other excavations shall be patched with bituminous concrete, with no exposed gravel. Fines may range from \$250-\$500 for failure to comply.

6.0 Protection of Adjoining Facilities

6.1 Care must be taken to not interfere with underground structures that exist in the area. The Permittee shall be responsible to obtain the field location of sewer locations and underground traffic control devices from the Department of Public Works.

6.2 Care shall be exercised not to disturb any subsurface traffic duct system. Any such system, if disturbed, shall be restored immediately to its original condition. Any traffic loop detector, if disturbed, shall be replaced immediately. The Permittee shall be responsible to obtain the field location of any underground traffic control devices from the Traffic Engineering Department.

6.3 The Permittee shall be responsible to replace all pavement markings in kind which have been disturbed as a result of work done in accordance with the Permit. These pavement markings shall be temporarily replaced at the end of each work day by use of appropriate signage, lighted safety barrels and asphalt markings approved by the City. These pavement markings shall be permanently restored; utilizing epoxy resin 15-30 days after the final restoration has been completed, or as deemed necessary by the City

6.4 Existing guardrail that may be removed or damaged shall be replaced to current RI Highway Standards.

6.5 The Permittee will be responsible for any damage caused by its operation to curbing, structures, roadway, trees, private property, etc.

6.6 Tree pruning should occur prior to any roadwork to accommodate the height of machinery. For any pruning, the contractor needs to hire an arborist with a RI Arborist license to perform the pruning. The forestry division should review the work prior to pruning. All pruning shall conform to the American National Standards Institute standard for Tree Care Operations – Pruning (ANSI A300), to the satisfaction of the City Forester. If damage occurs, branches of any size should be pruned by a licensed arborist back to a larger lateral branch or the trunk, as per ANSI A300 standards.

6.7 Hand digging shall be required around roots of trees. No mechanized or pneumatic equipment shall be permitted to be used around tree roots.

6.8 Tree Removal

6.8.1 The Permittee shall obtain written permission from the City Forester if it becomes necessary to remove any tree. Replacement trees must be obtained from an established nursery in accordance with "USA Standard for Nursery Stock". The trees will be replaced in size and species as directed by the City Forester.

6.8.2 The tree stump shall be removed a minimum of six inches below the surrounding surface and all debris shall be disposed of outside the right-of-way line.

6.8.3 The tree shall be removed under the supervision of a qualified tree surgeon.

6.9 Every effort shall be made to protect bound markers. However, if it becomes necessary to remove and reset any bound marker, the Permittee shall hire a Rhode Island Registered Professional Land Surveyor to perform this work. It shall be the responsibility of this land surveyor to submit to the City a statement in writing and a plan containing his stamp and signature showing that said work has been performed.

6.10 Sediment and Erosion controls (i.e. Silt sacks and hay waddles) should be installed and maintained at all adjacent and downstream inlets and catch basins. Failure to install and maintain may result in the City ordering the Permittee to clean effected drainage structures, or the City may clean the structures and invoice the Permittee. Failure to adhere may result in revocation of permit, refusal to issue future permits, monetary penalties and/or revocation of the Sidewalk Contractor's License. If, for any reason, the work on the project is delayed or interrupted, all sediment and erosion controls shall be removed and the work stabilized until such time as the work commences again.

7.0 Excavations

7.1 The surface of a roadway and/or sidewalk to be excavated for utility work shall be cut in straight and parallel/perpendicular lines using a saw to insure the least amount of damage to the roadway surface. The pavement, including reinforcing steel on concrete roadways, shall be cut full depth. The excavation shall only be between these lines. The cutting operation shall not be done with a backhoe, gradall or any type of ripping equipment. If necessary to extend the excavation beyond the original limits, the excavation shall be sawcut.

7.2 If steel plates are used by a Permittee to protect an excavation, they shall be of sufficient thickness to resist bending, vibration, etc., under traffic loads and shall be anchored securely to prevent movement. If these conditions are not met, the Permittee will be required to backfill and pave the excavations daily. No open trench shall be left unattended overnight. MUTCD compliant signs shall be installed warning motorists, bicyclists and pedestrians of the plate.

7.3 Sheeting, shoring or bracing, if employed, shall be left in place and cut off three (3) feet below the surface at the discretion of the City.

7.4 Excavations shall be signed in accordance with the applicable MUTCD standards.

7.5 If it is necessary to dewater any excavation, the Permittee must obtain the necessary authorization for the discharge of the groundwater. The City reserves the right to require whatever means necessary so as not to impact the sewer system.

7.6 Excavations in sidewalks shall be protected from pedestrian traffic by means of barrels and safety tape.

8.0 Backfill And Compaction

The following provisions set forth general guidelines and criteria to determine whether a soil is suitable as backfill for street work excavations in restoring municipal streets, lanes and highways and sidewalks. Permittees may utilize approved backfill material compacted to achieve soil density values of 95% modified Proctor density (as described in AASHTO T180), which may include, as the conditions warrant and in the discretion of the City, the use of Controlled Density Fill. The objective is to obtain a finished road repair which will settle within acceptable performance limits (no more than 0.25 inches) as defined within these standards for the functional life of the existing road. The guidelines are based on good engineering practice and testing of both materials and equipment. Compliance with these Standards will promote satisfactory backfill compaction.

8.1 In restoring City streets, the permittee shall use appropriate fill for excavations, in compliance with the Standards set forth below with respect to backfill suitability, and shall compact all fill to achieve soil density values of ninety-five percent (95%) modified Proctor density (as described in AASHTO T180). The use of the existing soil for backfilling is preferred provided it meets the suitability requirements and is able to be properly compacted.

8.2 Compliance with these standards will insure satisfactory compaction. These standards are to be used in the field when there is an absence of sieve analysis of materials, Proctor values of the soils and the corresponding inability to utilize a nuclear density gauge or sand cone field density test. The Permittee shall have the right, at its own expense, to verify compaction through an independent, qualified engineering consulting firm. In the event of test failure, the Permittee shall be responsible for re-compacting the excavation to meet the required standards.

8.3 Suitability of Backfill Material

8.3.1 Suitable backfill material is free of stones larger than half the size of the compacted lift as provided for in RI Highway Standards, construction debris, trash, frozen soil and other foreign material. It consists of the following:

- a. Well graded gravel and sand;
- b. Poorly graded gravel and sand;

- c. Gravel-sand mixtures with a small amount of silt;
- d. Gravel-sand mixtures with a small amount of silt and trace amounts of clay.

8.3.2 Unsuitable backfill materials consist of the following:

- a. Inorganic silts and clays;
- b. Organic silts;
- c. Organic soils including peat, humus, topsoil, swamp soils, mulch, and soils containing leaves, grass, branches, and other fibrous vegetable matter.

8.4 Evaluation of Excavated Soil

8.4.1 The soil excavated from a trench may be evaluated by the City to determine whether or not it is suitable as a backfill in accordance with Subsection 8.3.

8.4.2 An excavated soil that has been evaluated as suitable for backfill shall be reused upon completion of the work.

8.4.3 The Permittee shall have the right, at its own expense, to verify backfill suitability through an independent, qualified engineering consulting firm.

8.4.4 An excavated soil that has been evaluated as unsuitable for backfill shall be removed from the site and disposed of properly. New material, which meets the requirements of Subsection 8.3, shall be brought in to replace excavated soil found to be unsuitable.

8.5 Backfill And Compaction Of Excavations

8.5.1 Backfill and compaction shall be performed in accordance with RI Highway Standards, Section 301.03.2. Granular backfill shall be placed in lifts not exceeding six (6) inches.

8.5.2 All leak detection holes (*i.e.*, bar holes) shall be filled in lifts with an appropriate mineral filler and compacted to the bottom of the pavement.

8.6 A color coded marking tape shall be placed in an appropriate location below final grade above all underground utility installations, except sewers and drains running in straight lines between surface catch basins, manholes, or posts identifying the underground installation. Tape shall be durable, non-degradable plastic, not less than two (2) inches wide and in the following colors for the particular underground utility:

Blue	-	Water
Red	-	Electric Cable
Yellow	-	Gas
Orange	-	Telephone
Green	-	Sewer

9.0 Permanent Restoration

9.1 The Permittee shall be responsible to replace all pavement, sidewalks, pavers, grass and decorative paving disturbed by work under the Permit with homogeneous and in-kind pavement, unless otherwise stipulated. The Permittee shall be responsible to replace all pavement disturbed by work under the permit using (i) same day hot patching, (ii) grind and inlay, or (iii) temporary patch followed by

permanent patch, all as specified to at least the original strength and condition unless otherwise agreed. All repairs shall comply with Providence Standard Details.

9.2 Restoration Preparation - After performance of the procedures prescribed by the Standards relating to backfilling and compaction, the adjacent pavement shall be cut back a minimum of twelve inches (12”), full depth to encompass all disturbed pavement areas and underlying cavities associated with the excavation. All cutbacks shall be done in straight, continuous lines. Existing pavement surfaces shall be swept clean of dirt, dust, and debris prior to patching. The existing vertical pavement surfaces and all interfaces where layers of bituminous concrete are installed shall be coated with an appropriate asphalt tacking material (tack coat) prior to patching and subsequent to cleaning.

9.3 Permittees shall comply with the following standards in restoring pavement:

9.3.1 Pavement repair depths shall equal or exceed adjoining pavement depth, with a minimum asphalt depth of three inches. When existing pavement depths including penetrated stone base are greater than 3 inches, pavement repairs shall be made utilizing Class 9.5mm base course or Class 12.5 base course, and Class 9.5 surface course. All courses should be compacted to 95% prior to the next course being installed.

Class 9.5 Bituminous Concrete – 1.5” minimum compacted thickness
2.0” maximum compacted thickness
Class 12.5 Bituminous Concrete – 2.0” minimum compacted thickness
2.5” maximum compacted thickness

9.3.2 Mill and Inlay - Single gradation Class 9.5 bituminous concrete shall be used where grind/mill and inlay method is a condition of the Permit. This method is typically preceded by a temporary restoration, where the granular base is fully compacted or the concrete base has been fully restored with a temporary bituminous concrete patch.

The surface of the pavement shall be uniformly ground and removed to a minimum depth of 1.5 inches with a 3 inch keyway for subsequent pavement replacement. The grinding shall provide a 12 inch cutback into existing undisturbed pavement and shall encompass all disturbed pavement areas of the excavation. All work shall be done in straight lines. The existing pavement surface, all pavement layer interfaces and vertical faces shall have tack coat applied.

9.3.3 Concrete Roadway and Concrete Base - All excavations made within concrete roadways and roadways with concrete base shall be repaired with concrete in depths equal to the existing concrete, or a minimum of eight (8) inches. Concrete used for repairs shall conform to the requirements of RI Highway Standards for concrete roadway construction. 5/8”, 24” long epoxy coated #5 dowels shall be embedded into the existing concrete 12”, spaced every 18” on center. See City Roadway Restoration detail.

9.4 After backfilling and compaction, the Permittee shall either install a permanent patch (same day hot patching) or a temporary patch. If a temporary patch is installed, the Permittee may, subject to the provisions of this section, allow up to forty-five (45) days for settling before final patching.

9.4.1 Any temporary patch installed prior to November 1 in any year shall be replaced with a permanent patch no later than December 15 of that year. Temporary patches made between

September 1 and March 30 shall be maintained by the Permittee until a permanent patch can be installed, no later than June 15.

9.4.2 All excavation, backfilling and compaction work associated with temporary patches shall be performed in accordance with these Standards.

9.4.3 Temporary patches shall be made with Class 9.5 bituminous concrete to a minimum depth of 3 inches.

9.4.4 The Permittee shall be responsible to maintain temporary patches in a safe condition for all modes of travel until a permanent repair has been made. To ensure proper maintenance, the Permittee shall perform periodic inspection, at reasonable intervals of each temporary patch until it is replaced with a permanent patch.

9.4.5 All concrete sidewalk restorations shall take place between April 15 and November 15. If a permit is issued outside of this period, a hot bituminous asphalt patch shall be installed until the winter shutdown ends.

9.4.6 High performance bituminous cold patch is only permitted when hot mix asphalt is unavailable due to seasonal shutdowns.

9.5 Permanent patches on streets that are not Protected Streets shall be sealed with hot asphalt crack sealer.

9.6 Permanent patches on Protected Streets shall be the grind/mill and inlay method. The grinding/milling shall be a minimum of 10' in length (parallel to the curb) and shall extend from the curb to the nearest marked travel lane.

9.7 When the patch is less than two feet from the nearest curb, the permanent restoration shall extend to the curb.

9.8 If the length of the trench for any Permit exceeds the width of the roadway of that area, 1-1/2" asphalt repaving of the traffic lane impacted will be required. This may include cold planing of the existing pavement if it is deemed necessary by the permitting authority. Appropriate keyways shall be used where new pavement joins with existing pavement. Joints shall be treated with an infrared restoration process approved by the permitting authority for pavement less than 5 years old. Joints shall be treated with a joint sealant approved by the permitting authority for pavement greater than 5 years old.

9.9 The Permittee shall make every effort to limit excavations conducted under the aforementioned conditions.

9.10 All excavation, back fill, and compaction work associated with temporary and permanent patches shall be performed in accordance with these standards.

9.11 Completed pavement repairs shall not deviate more than 0.25 inches from the existing street surface. Deviation equal to or greater than 0.25 inches is cause for reconstruction of the restoration. Surface or joint cracking 0.125 (1/8) inches wide or greater shall be repaired utilizing a modified asphalt pavement sealant.

9.12 No less than thirty (30) days and no more than sixty (60) days from the completion of the permanent pavement repair, the Permittee shall inspect the excavation for settlements, cracking and other pavement defects. Any such excavation which has required repair shall then be reinspected no less than thirty (30) days and no more than sixty (60) days from the completion of the subsequent repair. The Permittee shall further inspect all excavations after a one-year time period and inform DPW Engineering of any failed restorations and the schedule for restoration.

9.13 Temporary and Permanent Restoration Failures

9.13.1 If a failure develops within the Permittee's excavation or the immediate vicinity of the excavation that is less than 5 years old, the Permittee will be responsible for repairing the failure.

9.13.2 Failures that are a threat to public safety (failure greater than two inches depth, shifted plate, etc.) shall be protected from traffic within one hour of notification, with crews mobilized for repair within four hours.

9.13.3 Failures that have settled a quarter inch to one inch shall be repaired within fifteen calendar days of notification

Failure to restore within the times stipulated may result in the DPW performing the repairs and invoicing the Contractor. Failure to pay for DPW performed work will result in revocation of License and refusal to issue permits.

9.14 When restoring roadways, special attention should be given to drainage structures. Inlet and apron stones (without frames and grates) shall be exposed to the full opening of the stone, despite the height of reveal prior to excavation. No inlets or drainage structures shall be paved over.

10.0 Striping and Traffic Detection Loop Restoration

10.1 Roadway striping and traffic detections loops are traffic control devices, which are used in part to apply and enforce traffic laws. It is imperative to restore striping and traffic detector loops as soon as possible.

10.2 Temporary Striping - Temporary waterborne paint, or adhesive roadway tape shall be installed prior to permanent restoration, and immediately after permanent restoration, until permanent striping is installed, matching the color and thickness of the existing striping.

Permanent Striping - Epoxy resin pavement markings shall be installed no later than 15 days after the final patch has been installed. The time after the installations allows the surface oils to dissipate from the roadway and ensure a satisfactory bond.

10.3 Traffic Detection Loops shall be restored within five (5) days of disruption. This may include restoration during the temporary patch, and restoration again after the permanent patch.

10.4 If the time from temporary patch to permanent patch is more than 30 days, with DPW permission, the permittee shall install, and re-apply, as needed, temporary waterborne pavement markings or temporary adhesive markings until the project is complete and prepared for epoxy resin pavement markings.

11.0 Sidewalks and Driveways

11.1 All work shall be performed in accordance the Americans with Disabilities Act (ADA), and RI Highway Standards, Section 904, and the Providence Standard Details. All sidewalk repairs greater than twenty five (25) feet in length shall conform to the ADA Standards (<https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines>) and Providence Standard Details <https://www.providenceri.gov/wp-content/uploads/2017/04/Providence-DPW-Standard-Details.pdf>

11.2 Grass sidewalks and grass strips shall be restored fully, including a full stand of grass, free of weeds.

11.3 Driveways shall be so graded that no water shall enter the layout, pond or collect thereon, including the roadway and shall conform to the ADA Standards and Providence Standard Details

11.4 Sidewalks at intersections shall be restored to include an ADA compliant wheelchair ramp. See Providence Standard Details

12.0 Physical Alteration Permits

12.1 All work shall comply with all sections of these Standards.

12.2 Unless otherwise permitted, all sidewalk and driveway materials shall be Portland cement concrete.

12.3 All curbing shall be seven inch (7") width granite, Providence Standard. All curb cuts shall install two foot (2') radius granite returns.

12.4 Excess curbing shall be cleaned of debris and delivered to the Department of Public Works. Curbing shall be unloaded with a machine provided by the Sidewalk Contractor and not dumped.

12.4 New or modified curb cuts require review of the Traffic Engineering Department and the Engineering Department. Curb cuts shall comply with Article 14, Section 1407 of the Providence Zoning Ordinance.

13.0 Other Permits

13.1 Sewer permits are required when installing a new sewer service or repairing an existing sewer service. Sewer permits are issued to Rhode Island Master Plumbers or Rhode Island Underground Utility Contractors. When a new sewer service or repair is performed in the City Right-of-Way, a road opening permit is required. Sewer permits are issued by the Engineering Division.

13.2 Narragansett Bay Commission permits are required when establishing new sewer service to a property, adjusting Narragansett Bay Commission structures, or connecting directly to a Narragansett Bay Commission sewer main. Narragansett Bay Commission permits are required prior to issuing a City Sewer Permit for a new service connection.

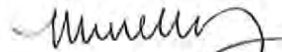
13.3 Providence Traffic Engineering permits are required anytime work is performed in the Public Right-of-way, including but not limited to sidewalk closure, lane closure, road closure, detour or posting of emergency no parking signs. More information is provided on the following webpage, under "Traffic Engineering Forms" <http://www.providenceri.gov/public-works/forms/>

14.0 Clean-Up

14.1 The work area and the adjacent areas affected by the progress of the work shall be kept clean. All rubbish, surplus materials and unneeded construction equipment shall be removed. All damage to adjacent areas shall be repaired immediately so as to minimize inconvenience to the general public and the property owners.

14.2 All damage repairs shall be the sole responsibility of the contractor.

14.3 Material or debris from the contractor's operations which have washed into, flowed into, or been placed in water courses, ditches, gutters, sanitary sewers, drains, catch basins, or elsewhere, shall be removed entirely and properly disposed of during the progress of the work. The water courses, ditches, gutters, sanitary sewers, drains, catch basins, and other repositories of material or debris shall be kept in a clean and neat condition thereafter. The contractor shall restore or replace, at the direction of the City, any public or private property damaged by the work, equipment, or employees to a condition at least equal to the condition existing immediately prior to the beginning of operations. To this end, the contractor shall complete all required driveway, highway, front walk and landscaping work. Suitable materials, equipment and methods shall be used for such restoration. The contractor shall save harmless the City from any damage claims caused by the operations.



Director of Public Works

28 NOV 2017

Date

Appendix J

National Grid Cast Iron Gas Main Encroachment Prevention

GAS UTILITY GENERAL NOTES

1. CONTRACTOR SHALL FOLLOW THE GUIDELINES LISTED IN NATIONAL GRID'S "GUIDELINES FOR WORKING AROUND GAS UTILITIES", DOCUMENT ATTACHED.
2. DEPTH OF GAS FACILITIES ARE UNKNOWN AND COULD BE SHALLOW, USE CAUTION WHEN WORKING IN THE VICINITY OF ANY GAS FACILITY, HAND DIGGING ONLY.
3. NATIONAL GRID REQUIRES A MINIMUM OF ONE FOOT OF SEPARATION BETWEEN CROSSING UTILITIES AND EXISTING GAS FACILITIES.
4. NATIONAL GRID REQUIRES A MINIMUM OF THREE FEET OF SEPARATION BETWEEN THE GAS MAIN AND THE PARALLEL FACILITY FOR STEEL AND PLASTIC GAS MAINS. **FOR CAST IRON GAS MAIN SEE LINE ITEM FOR ENCROACHMENT GUIDELINES.**
5. IF A **GAS MAIN IS** EXPOSED OR **GOING TO BE EXPOSED** CALL NATIONAL DISPATCH OFFICE AT 877-304-1203 FOR AN INSPECTOR TO BE DISPATCHED TO THE SITE TO INSPECT THE LINE BEFORE BACKFILL.
6. IF A **GAS MAIN OR GAS MAIN COATING IS** DAMAGED CALL NATIONAL DISPATCH OFFICE AT 877-304-1203 FOR AN INSPECTOR TO BE DISPATCHED TO THE SITE FOR REPAIR BEFORE BACKFILL.
7. FOR ANY EXPOSED GAS FACILITY, PROVIDE BACKFILL MATERIALS AND COMPACT THE BACKFILL MATERIALS IN ACCORDANCE WITH NATIONAL GRID'S "GUIDELINES FOR BACKFILL AND COMPACTION AROUND GAS PIPES", DOCUMENT ATTACHED.
8. WHEN CROSSING OR EXPOSING A STEEL OR PLASTIC GAS FACILITY SUPPORT MAY BE REQUIRED. FOLLOW THE GUIDELINES LISTED AND ILLUSTRATED IN NATIONAL GRID'S "SUPPORT REQUIREMENTS FOR EXPOSED & UNDERMINED STEEL OR PLASTIC GAS FACILITIES", DOCUMENT (DWG NO. CNST-6045) ATTACHED.
9. ALL GAS VALVE BOXES SHALL BE ADJUSTED TO THE NEW ROAD/SIDEWALK SURFACE. VALVE BOXES, IF REQUIRED FOR REPLACEMENT, CAN BE OBTAINED AT NATIONAL GRID'S PROVIDENCE LOCATION, 477 DEXTER STREET, PROVIDENCE, RI OR LINCOLN LOCATION, 642 GEORGE WASHINGTON HIGHWAY (QUANTITIES 5 OR LESS). GAS VALVE BOXES NEED TO BE ACCESSIBLE AT ALL TIMES TO BE OPERATED BY NATIONAL GRID IN THE EVENT OF AN EMERGENCY.
10. ALL CATHODIC PROTECTION BOXES (BOXES THAT CONTAIN WIRES THAT GO DOWN TO THE GAS MAIN) SHALL BE ADJUSTED TO THE NEW ROAD/SIDEWALK SURFACE. CARE SHALL BE EXERCISED WHEN ADJUSTING SO AS NOT TO DAMAGE THE WIRES. IF THE WIRES ARE DAMAGED OR IF ASSISTANCE IS NEEDED, CONTACT NATIONAL GRID CORROSION ENGINEER TO VISIT THE SITE. CONTACT RICK LEPAGE 508-948-8432 OR MIKE HARMON 781-953-2545. NEW BOXES, IF REQUIRED, CAN BE OBTAINED AT NATIONAL GRID'S PROVIDENCE FACILITY, 477 DEXTER ST, PROVIDENCE, RI OR NATIOANL GRID'S LINCOLN FACILITY, 642 GEORGE WASHINGTON HIGHWAY, LINCOLN, RI (QUANTITIES 5 OR LESS). CONTRACTOR SHALL FOLLOW THE GUIDELINES LISTED IN NATIONAL GRID'S "GUIDELINES FOR WORKING AROUND CORROSION CONTROL SYSTEM COMPONENTS", DOCUMENT ATTACHED.

11. IF EXCAVATING PARALLEL TO OR CROSSING A CAST IRON GAS FACILITY THEN ENCROACHMENT OF THE CAST IRON LINE IS A POSSIBILITY AND A CONCERN WHERE REPLACEMENT MAY BE REQUIRED. WHENEVER AN EXCAVATION IS IN THE VICINITY OF A CAST IRON GAS MAIN CONTACT NATIONAL GRID ENCROACHMENT ENGINEER TO BE ON SITE, CALL NICOLE TIMOTEO AT 781-514-0768. GUIDELINES IN AVOIDING AN ENCROACHMENT ARE LISTED IN NATIONAL GRID'S "CAST IRON GAS MAIN ENCROACHMENT PREVENTION", DOCUMENT ATTACHED.
12. IF EXCAVATING PARALLEL TO OR CROSSING A CAST IRON FACILITY THAT IS GREATER THAN 8", THIS LINE IS NOT COVERED UNDER THE ENCROACHMENT GUIDELINES AND LAW. NATIONAL GRID DOES NOT ALLOW MORE THAN 10' OF GAS MAIN TO BE EXPOSED AND ONLY ALLOWS (1) BELL & SPIGOT JOINT TO BE EXPOSED. IF A BELL & SPIGOT JOINT IS EXPOSED SAID JOINT MUST BE LEAK CLAMPED BEFORE BACKFILL UNLESS A CLAMP IS ALREADY IN PLACE. PROVIDE BACKFILL MATERIALS AND COMPACT THE BACKFILL MATERIALS IN ACCORDANCE WITH NATIONAL GRID'S "GUIDELINES FOR BACKFILL AND COMPACTION AROUND GAS PIPES", DOCUMENT ATTACHED. MINIMUM 95% COMPACTION OF THE SOIL BELOW A CAST IRON IS ALWAYS REQUIRED. ALWAYS CALL NATIONAL GRID DAMAGE PREVENTION DEPARTMENT FOR AN INSPECTOR TO BE DISPATCHED TO SITE. CALL ED SOUZA AT 401-283-9159.
13. DUE TO SYSTEM RELIABILITY AND PUBLIC SAFETY CONCERNS, IT IS NATIONAL GRID'S PRACTICE TO RESTRICT ALL CONSTRUCTION WORK ON OR NEAR GAS FACILITIES BETWEEN NOVEMBER 15TH AND APRIL 15TH. ALL SCHEDULED WORK SHOULD BE COMPLETED BETWEEN APRIL 15TH AND NOVEMBER 15TH. AS GAS USAGE PEAK DURING THE MONTHS OF DECEMBER TO MARCH DRIVEN BY HEATING NEEDS, NATIONAL GRID'S PRIORITY IS TO PROVIDE OUR CUSTOMERS WITH SAFE AND RELIABLE GAS SERVICE. ANY WORK ON OR NEAR THE GAS FACILITY WILL EXPOSE OUR CUSTOMERS TO UNNECESSARY RISK. EXCEPTIONS WILL BE CONSIDERED ON A CASE BY CASE BASIS. APPROVALS FROM GAS CONTROL, OPERATIONAL ENGINEERING, AND PROJECT ENGINEERING WILL BE REQUIRED FOR THESE CASES.
14. FOR A GAS LEAK CALL 800-640-1595.
15. FOR A DAMAGED GAS FACILITY CALL 800-870-1664.

Cast Iron Gas Main Encroachment Prevention

nationalgrid

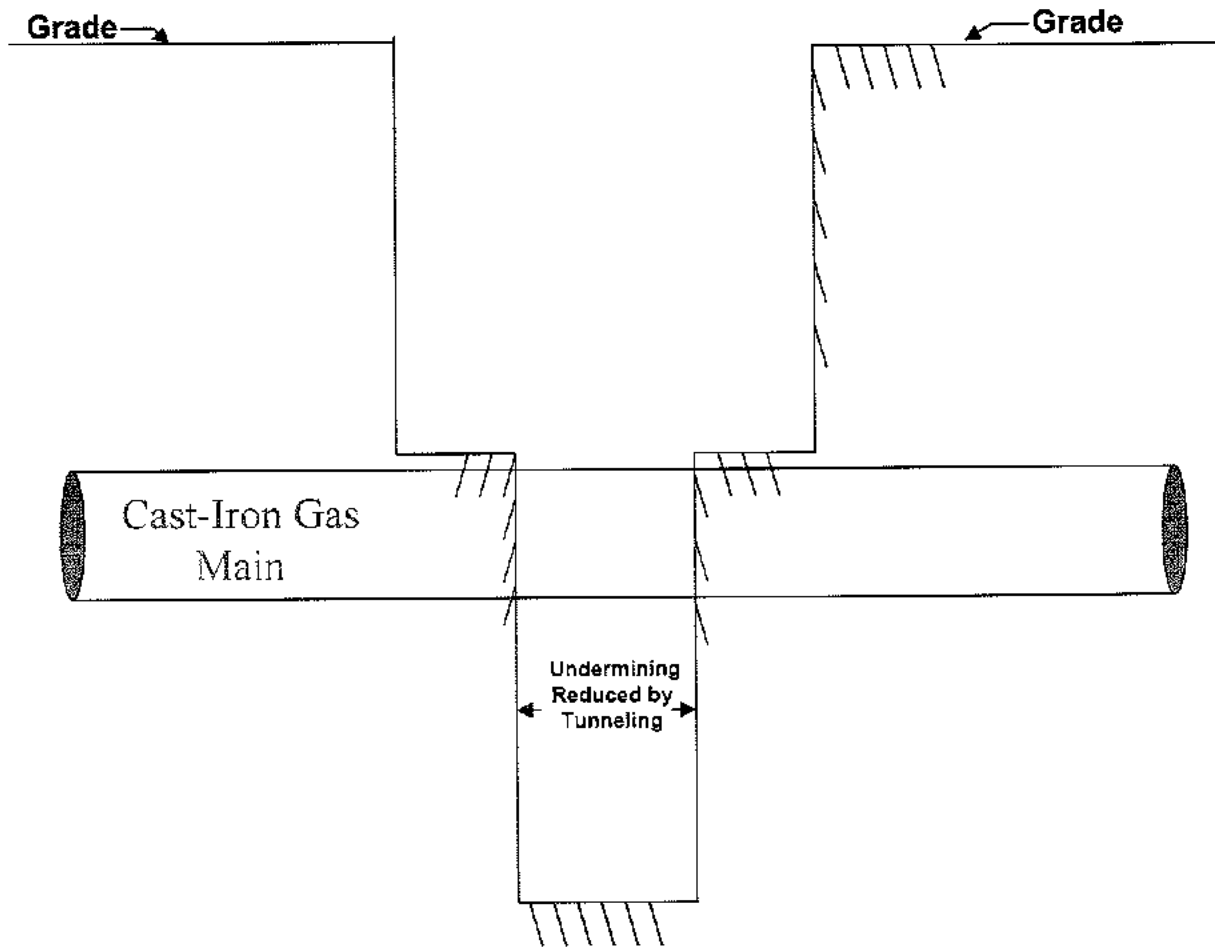
Nicole Timoteo
Encroachment Engineer
Gas Operations & Construction
Rhode Island
Cell: 781-514-0768
nicole.timoteo@nationalgrid.com

477 Dexter Street
Providence, RI 02863

CI Encroachments

- CI Encroachments can occur when excavating under or next to CI gas mains
- CI Encroachments can occur **Even when a gas main is not exposed**
- Two types of Encroachments: Undermine and Parallel
 - **Undermine Encroachments (Cross Trench)**
 - **Parallel Encroachments**

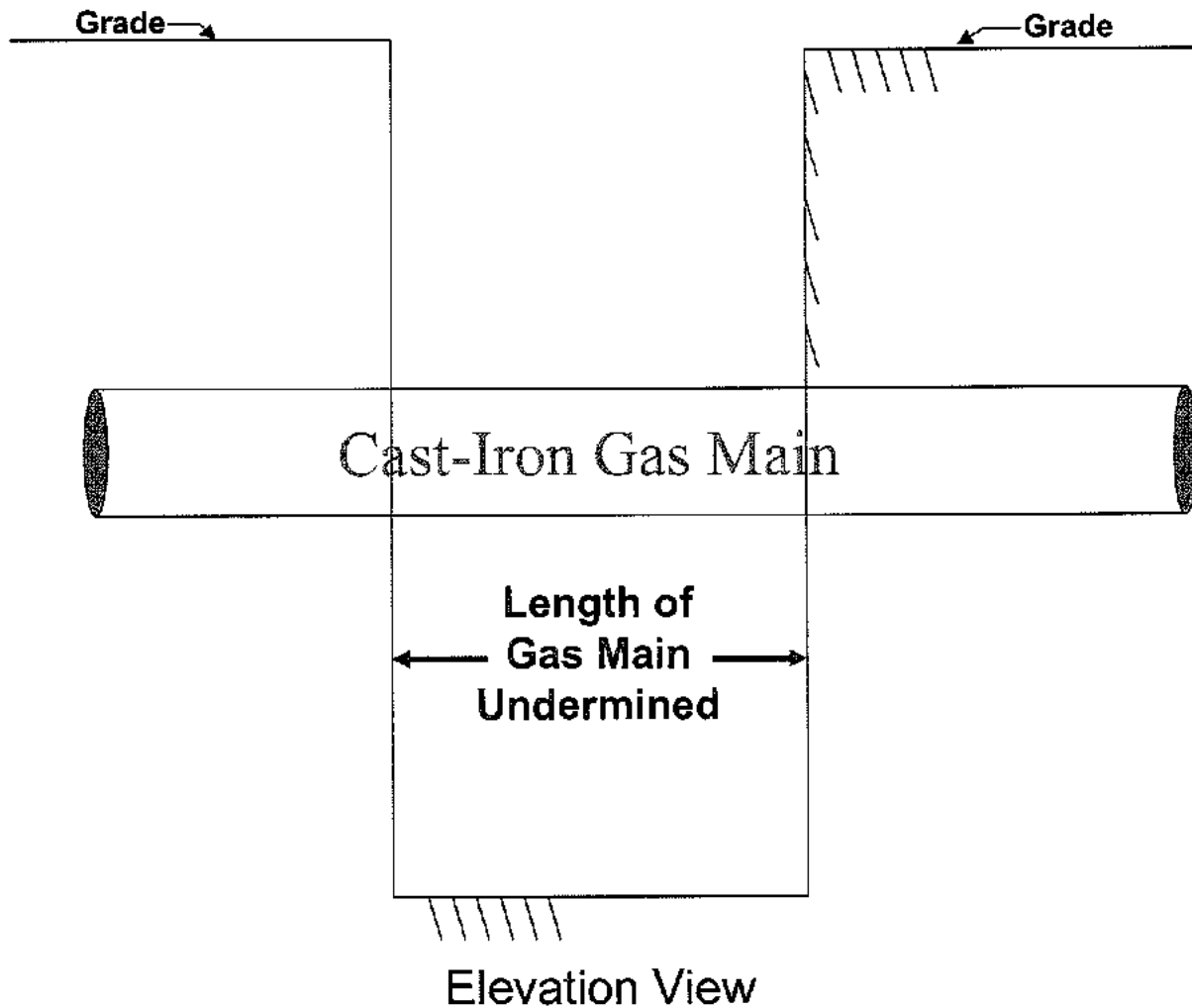
Cross Trench with Tunneling



Elevation View

Tunneling is an Effective Way of Preventing Encroachments

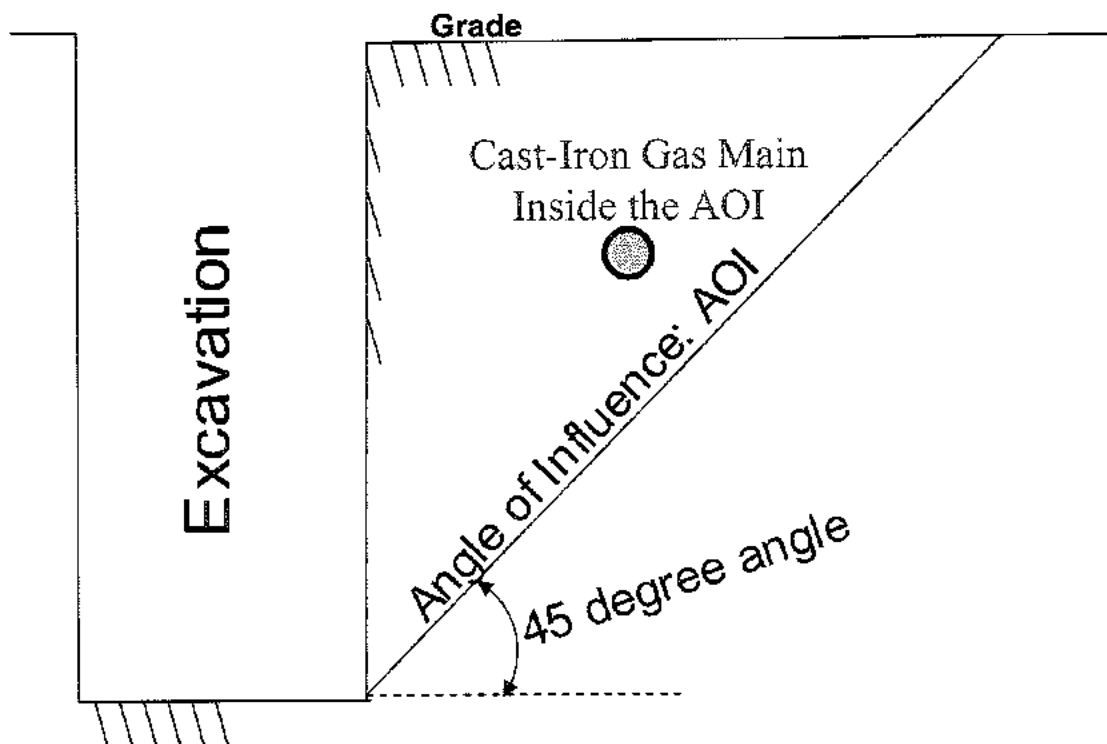
Cross Trench



Cross Trench - Rules of Thumb:

- The shorter the undermine, the better
- Limiting the length of the undermine to 30" or less will always avoid an encroachment

Cast Iron Encroachments can occur even when the Gas Main is not Exposed

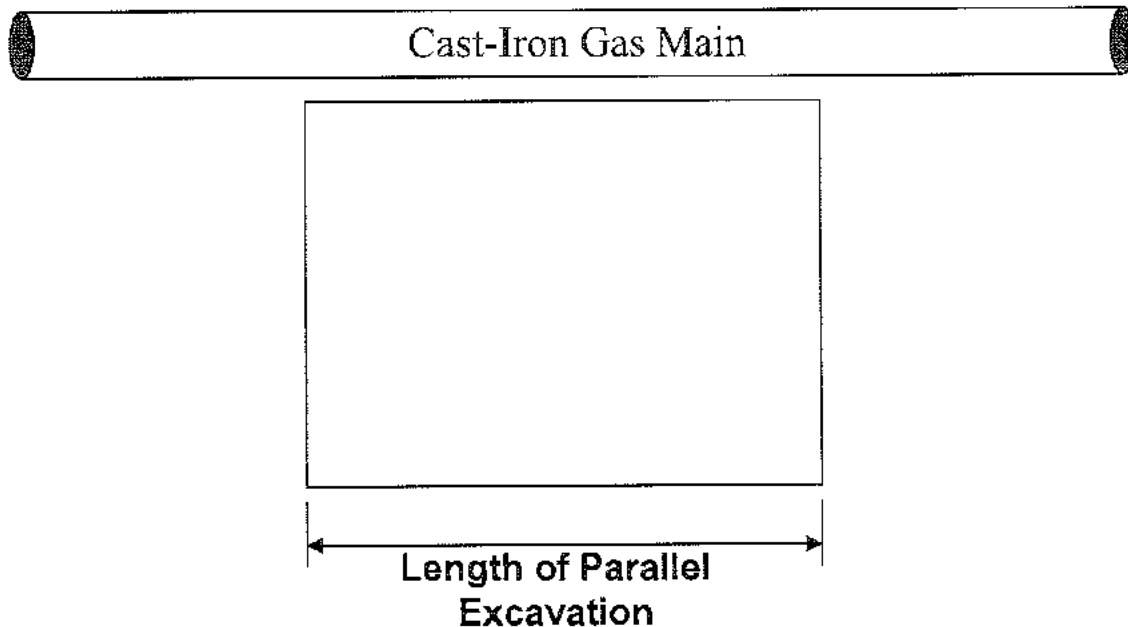


Angle of Influence:

- The AOI extends up from the bottom of the excavation at a 45 degree angle
- The AOI can affect cast iron gas mains even if the gas main is not exposed

Excavation Next to Gas Main

(view from above looking down)

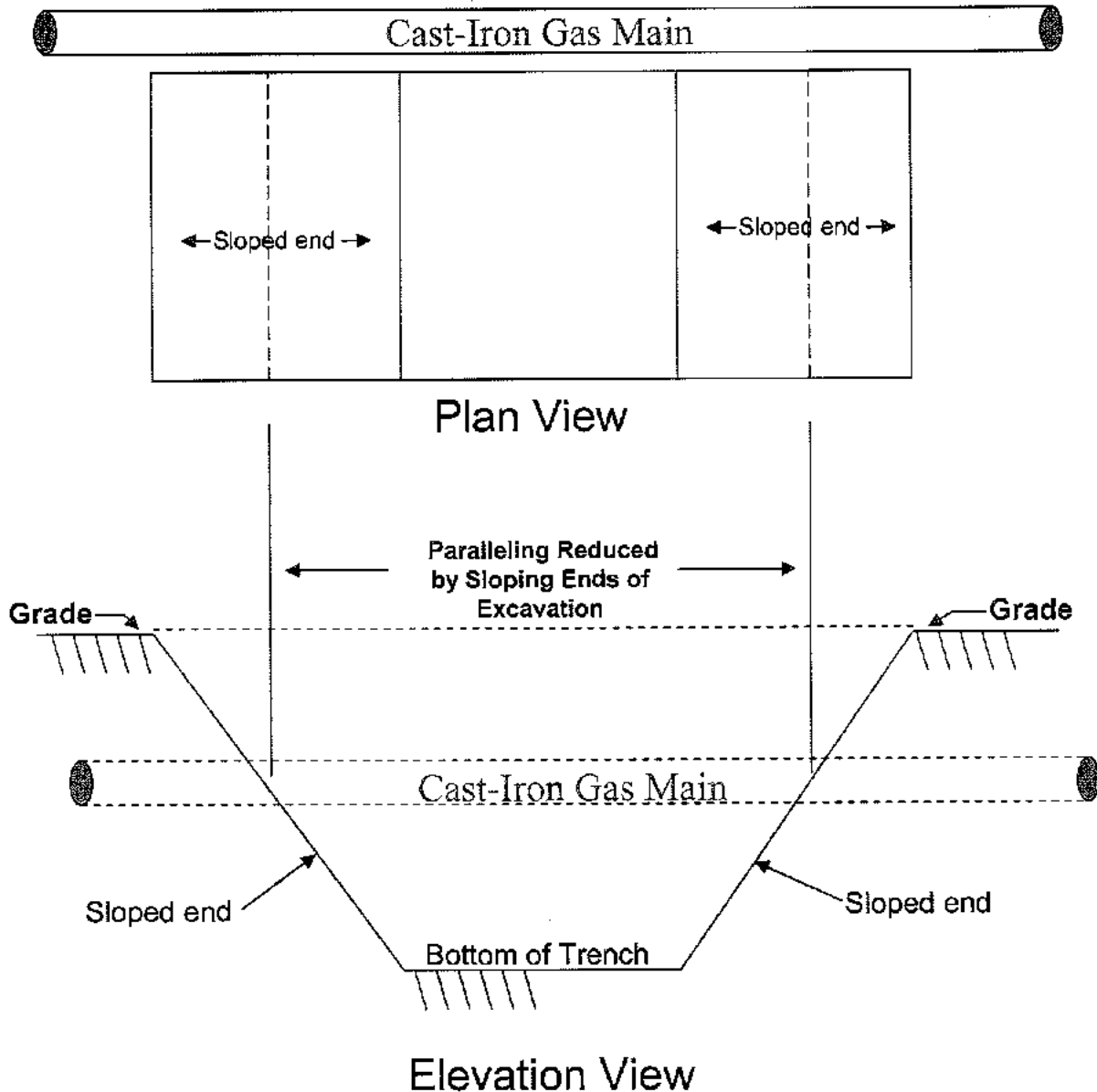


Plan View

Parallel Excavation Rule of Thumb:

- Limiting the length of the parallel to 7'-6" or less will always avoid an encroachment

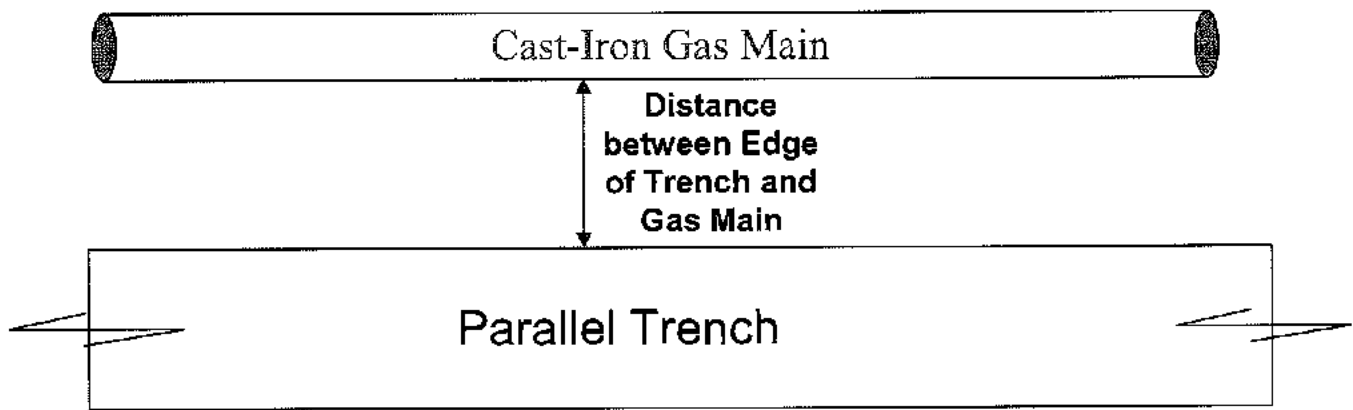
Parallel Excavation with Sloped Ends



Sloping the ends of an Excavation can be an Effective Way of Preventing Encroachments

Trenching Next to Gas Main

(view from above looking down)



Plan View

Parallel Trenching Rules of Thumb:

- The greater the separation between the gas main and the trench, the better
- Keeping the distance between the excavation and the gas main greater than the (depth of the trench - 2') will in most cases avoid an encroachment

CI Encroachments

- CI Encroachments can occur when excavating under or next to CI gas mains
- CI Encroachments can occur **Even when a gas main is not exposed**
- Two types of Encroachments: Undermine and Parallel
 - **Undermine Encroachments (Cross Trench)**
 - In all cases, the shorter the length of gas main undermined the better
 - Limiting undermining to less than 30” in length will always avoid an encroachment
 - Tunneling under the gas main can be an effective method for avoiding encroachments
 - **Parallel Encroachments**
 - Parallel Encroachments can occur even if the gas main is not exposed
 - In all cases, the greater the separation between the gas main and the parallel excavation, the better
 - Limiting excavations adjacent to gas main to less than 7’-6” in length will always avoid an encroachment
 - Keeping parallel excavations more than the (depth of the trench – 2’) from gas main in most cases will prevent an encroachment



10/01/12

Guidelines for Working Around Gas Utilities

Notification of Construction

National Grid requests at least six week advanced notification prior to the start of construction to perform scheduled work in the proposed project area. Be aware that some gas work cannot be performed during the normal heating season.

Support and Protect

Contractor must call Dig Safe to have the gas mains and services marked out before construction. Care must be exercised when saw cutting over any gas infrastructure, especially services, which are more shallow than the main. Depth of gas mains vary. Contractor shall dig test pits in order to ascertain exact locations, cover and invert elevations, clearances, alignment and operating status of existing gas facilities. Contractor shall exercise extreme caution when excavating in the vicinity of any gas facility. Hand excavation shall be performed to locate all gas facilities and whenever digging within 24" of gas facilities. If cover over gas piping is removed the required cover must be replaced, or if not feasible, National Grid must be notified for review of the issue. Undermined gas pipe must be adequately supported and protected from damage. Contact National Grid engineer for guidelines regarding proper pipe support. Significant vibration from pile driving and such may negatively impact gas facilities, particularly cast iron mains and regulator station vaults. Contact National Grid engineer prior to performing such activities as well as operations which may undermine gas facilities such as micro-tunneling, jacking, directional drilling, etc.

Gas Leaks

For any gas leak please call the appropriate number immediately.

Greater Boston - 800-233-5325

Other Massachusetts – 800-548-8000

Rhode Island – 800-640-1595

Types of Gas Facilities

Gas mains and services are made of several different materials and contain a wide range of pressures. Typical materials used for buried gas pipe includes bare steel, coated steel, plastic, cast iron, wrought iron, ductile iron, and copper. Never assume that a pipe is not gas. At times gas lines are inserted into older lines to save excavation cost.

Exposure of Gas Facilities

If any gas mains or services become exposed, National Grid must be notified to inspect the line before backfilling. Also any damage that may have been made to the pipe or pipe coating will need to be repaired by National Grid before backfilling. Contact our Dispatch office at (877) 304-1203 for inspection. It is important that even minor damage or scrapes be reported to National Grid. Backfill shall be 6" of sand around the gas line and clean compacted fill above.



Regulator Stations

Gas regulator stations are particularly critical facilities and National Grid must be notified whenever work is to take place within 200 feet of a station. Regulator stations are typically in buried vaults accessed through either manhole covers or aluminum doors. **ONLY AUTHORIZED NATIONAL GRID EMPLOYEES SHALL OPEN A REGULATOR STATION VAULT.** Be aware that a complex nest of piping and valves often exists in the vicinity outside the vaults.

Blasting

National Grid must be notified of any blasting that will take place within 200 feet of a gas utility. National Grid must be supplied with a detailed blast plan for blasting in the vicinity of gas facilities. The evaluation of the blast plan by a National Grid engineer may take some time, therefore, blast plan data should be submitted at least two weeks prior to the planned blasting. As a general rule blasting will not be permitted within 10 feet of a gas line and PPV at the nearest gas pipe shall not exceed 5 in/sec. PPV at the nearest gas main shall be monitored.

Valves

Access to gas valves must be maintained throughout construction and left at grade at the end of construction. Should valve boxes be damaged and need to be replaced National Grid will supply replacements upon request. **NEVER OPERATE A GAS VALVE. ONLY NATIONAL GRID SHALL OPERATE GAS VALVES.**

Clearance

Adequate clearance must be provided when installing other utilities, foundations, structures, etc. Contact National Grid engineer for guidance.

GUIDELINES FOR SUPPORT of GAS PIPES TEMPORARY SUPPORT of GAS PIPES

DESCRIPTION

This work shall consist of temporarily supporting gas pipes, during construction work and related activities. Any gas pipe that is exposed shall follow this specification stipulating pipe support criteria. Whether gas pipe is located directly in the excavation trench box or if it is located in the excavated adjacent slopes (Angle of Repose) all gas pipe must be supported.

When gas pipe is undermined for 5 feet or more at any given time, Nationalgrid must be notified and a decision will be made on what type of support system will be utilized. Nationalgrid reserves the right to insist that a Rhode Island Registered Professional Engineer submit plans, if the gas pipe being supported exceeds an unsupported span length of 12 feet, is located in cohesive soils (wet, silty soils), or feels that the structural integrity of the gas distribution system may be compromised.

All cast iron gas pipes will be replaced and not be temporarily supported, unless determined differently by Nationalgrid. This criterion is in accordance with Section 6315.6 of Nationalgrid's *Operations Standards and Practices Manual*.

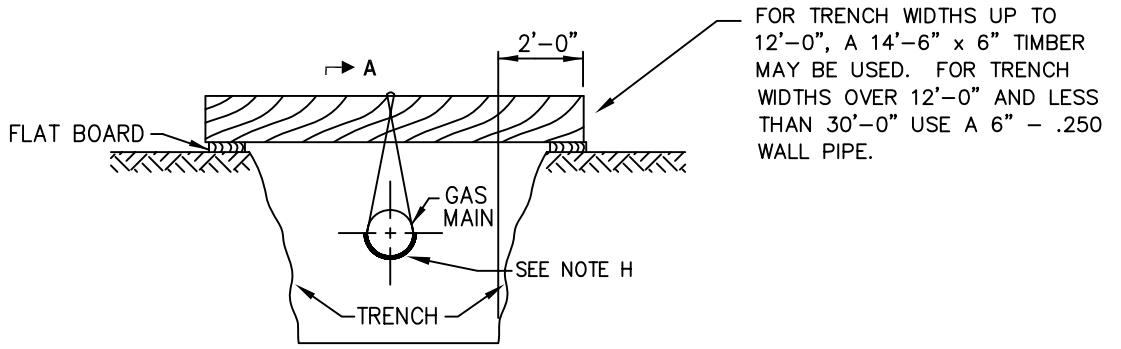
The following criteria should be used as guidelines when undermining existing steel or plastic gas pipes:

STEEL GAS PIPE

If pipe is undermined for a distance between 5 and 10 feet, the support system should consist, as a minimum, of adequately sized steel I-beams, steel plate girders, or 6" x 6" wood beams (Hem-Fir) with a sling supporting the pipe mid-span. For distances greater than 10 feet, these temporary support beams will have slings supporting the pipe every 10 to 12 feet along the length of the undermined pipe. Furthermore, when a mechanical coupling or fitting is encountered at any span length, the slings must be placed on either side of the fitting to avoid buckling.

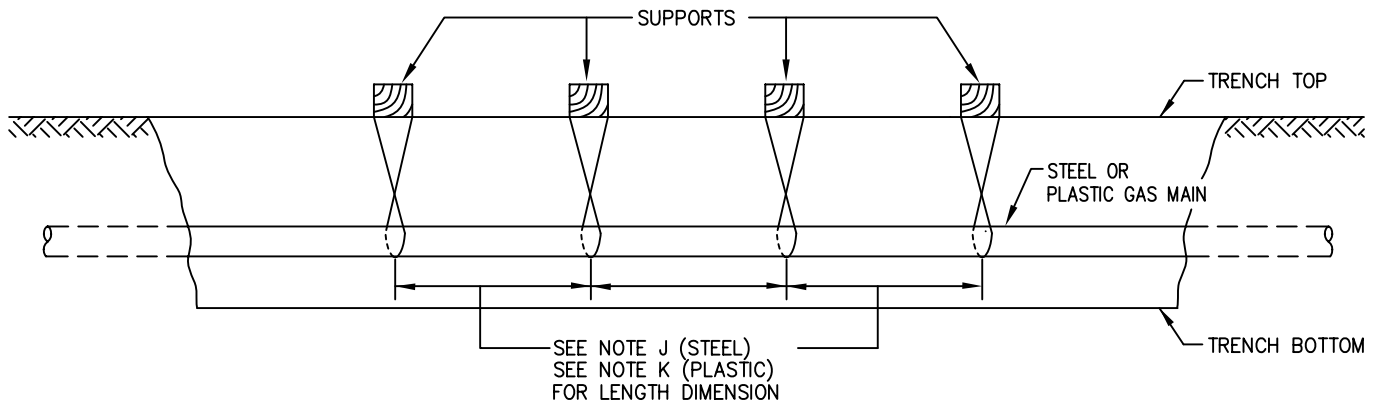
PLASTIC GAS PIPE

If pipe is undermined for a distance between 5 and 10 feet, the support system should consist, as a minimum, of adequately sized steel I-beams, steel plate girders, or 4" x 4" wood beams (Hem-Fir) with a sling supporting the pipe mid-span. For distances greater 10 feet, these temporary support beams will have slings supporting pipe every 10 to 12 feet along the length of the undermined pipe. Furthermore, when a mechanical coupling or fitting is encountered, the slings must be placed on either side of the fitting to avoid buckling.

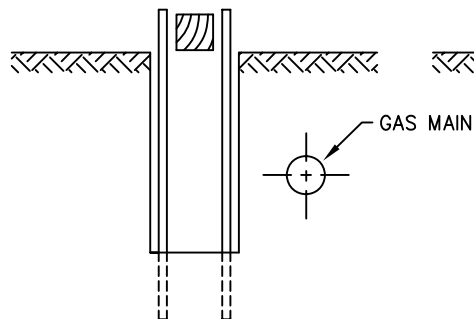


FOR TRENCH WIDTHS UP TO 12'-0", A 14'-6" x 6" TIMBER MAY BE USED. FOR TRENCH WIDTHS OVER 12'-0" AND LESS THAN 30'-0" USE A 6" - .250 WALL PIPE.

EXPOSED SUPPORT

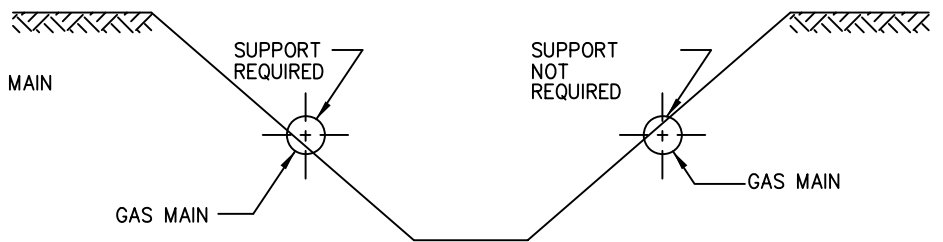


SUPPORTED LENGTH A-A



ADEQUATELY SHORED TRENCH

DETAIL A
SEE NOTE B



INADEQUATELY SHORED OR UNSHORED TRENCH

DETAIL B
SEE NOTE B

nationalgrid

LI-MA-NH-NYC

**SUPPORT REQUIREMENTS FOR
EXPOSED & UNDERMINED STEEL OR PLASTIC
GAS FACILITIES**

REVISIONS CLARIFIED NOTES B & C ADDED NOTE N.

DATE: 07/01/2003

DESIGN: A. GIULIANI

DRAWN: P. DIMAIO

EFFECTIVE DATE: 03/24/2006

STD. DWG.
NO.

CNST-6045

NOTES:

- A. THIS CONSTRUCTION STANDARD SHALL BE USED TO SUPPORT PLASTIC OR STEEL GAS FACILITIES WHICH ARE UNDERMINED AND EXPOSED BY CONSTRUCTION ACTIVITY.
- B. IF AN EXCAVATION IS MADE **AT ANY DISTANCE** PARALLEL TO THE GAS FACILITY WITH ADEQUATE **OSHA** STRUCTURAL SHORING, AS SHOWN IN DETAIL "A", OR IF A STABLE SOIL CONDITION WITH **SUFFICIENT COVER ABOVE THE PIPE'S CENTERLINE EXISTS**, AS SHOWN IN DETAIL "B", THEN SUPPORTS ARE NOT REQUIRED. **UNSTABLE SOIL IS DEFINED AS A SOIL WHICH CAN CAUSE "SOIL RUN OUT" FROM BENEATH THE PIPE (e.g., WASHOUT, SOFT CLAY, etc.) OR CAN SHIFT DUE TO CONSTRUCTION ACTIVITY, VIBRATIONS, etc.; AND CAUSE A SOIL SCENARIO TO OCCUR AS SHOWN IN DETAIL "B" TO REQUIRE PIPE SUPPORT.**
- C. IF AN EXCAVATION CROSSES OR RUNS PARALLEL TO A GAS FACILITY, SUPPORTS MAY NOT BE REQUIRED IF THE EXPOSED SECTION OF PLASTIC PIPES IS 3' OR LESS AND STEEL PIPES 7' OR LESS.
- D. ALL EXCAVATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE **ONE CALL DIG SAFE PROGRAM** USING THE APPROPRIATE MARK OUT, TEST HOLES AND EXCAVATION TO AVOID DAMAGE TO PIPE OR PIPE COATINGS:
 - NEW YORK STATE CODE RULE 753
 - MA CHAPTER 82 - SECTION 40, GENERAL LAWS, REGULATING NOTICE REQUIREMENTS FOR EXCAVATION IN PUBLIC WAYS
 - NH DIG SAFE LAW, RSA 374 – REGULATING UNDERGROUND UTILITY DAMAGE PREVENTION SYSTEM
- E. USE OF THIS CONSTRUCTION STANDARD DOES NOT RELIEVE THE CONSTRUCTION AGENCY OR AUTHORITY OR THEIR RESPECTIVE CONTRACTORS OF RESPONSIBILITY FOR DAMAGES. ALL DAMAGES WILL BE REPAIRED IN ACCORDANCE WITH EXISTING STANDARDS AND THE APPROPRIATE PARTY SHALL BE BILLED FOR ALL EXPENSES.
- F. GAS FACILITIES SHOULD NOT BE UNDERMINED WITHOUT ADEQUATE SUPPORT (DETAIL A). ALL SUPPORT LINES SHALL BE TENSIONED SO THAT NO DEFLECTION WILL OCCUR WHEN THE FACILITY IS UNDERMINED. THIS TENSION SHALL BE CHECKED AT THE START AND END OF EACH DAY AND ADJUSTED AS NECESSARY.
- G. WHERE A COUPLING, GAS SERVICE, CLAMP, VALVE, DRIP LINE OR OTHER APPURTENANCE EXISTS ON THE EXPOSED SECTION OF MAIN, AN ADDITIONAL SUPPORT SHALL BE INSTALLED AT THE LOCATION.
- H. WHEN SUPPORTING AN EXPOSED FACILITY, THE PIPE COATING SHALL BE PROTECTED WITH ROCK SHIELD (ITEM ID 00301097), OR OTHER LIKE MATERIAL CUT TO A MINIMUM WIDTH OF ½ THE SUPPORTED PIPE DIAMETER. SUPPORT LINES SHALL BE A MINIMUM OF ¾" POLYPROPYLENE OR BETTER.
- I. SUPPORTS FOR GAS TRANSMISSION FACILITIES SHALL BE REVIEWED WITH GAS ENGINEERING PRIOR TO INSTALLATION.
- J. THE MAXIMUM SPACING BETWEEN SUPPORTS FOR STEEL FACILITIES SHALL BE AS FOLLOWS:
 - 7' SPACING FOR ¾" AND 1 ¼" STEEL
 - 10' SPACING FOR 2" STEEL
 - 15' SPACING FOR 3" AND 4" STEEL
 - 20' SPACING FOR 6" AND LARGER STEEL
- K. THE MAXIMUM SPACING BETWEEN SUPPORTS FOR PLASTIC FACILITIES SHALL BE AS FOLLOWS :
 - 3' SPACING FOR 2" AND SMALLER PLASTIC
 - 6' SPACING FOR 4" AND LARGER PLASTIC
- L. VIBRATING MACHINES ARE ALLOWED OVER STEEL OR PLASTIC FACILITIES WITH 24" OR GREATER COVER. HAND HELD MECHANICAL TAMPER IS ACCEPTABLE OVER ANY FACILITY WITH 12" OR GREATER COVER.
- M. WHEN CONSTRUCTION ACTIVITY IS COMPLETED, CLEAN FILL SHALL BE COMPACTED AROUND AND UNDER THE GAS FACILITY BEFORE REMOVING SUPPORTS.
- N. **SEE REGIONAL PBWK5010 PROCEDURES FOR REPLACEMENT REQUIREMENTS OF CAST IRON PIPE.**

No.	ITEM	CODE No.
BILL OF MATERIAL		

GUIDELINES FOR BACKFILL AND COMPACTION AROUND GAS PIPES

PERMANENT BACKFILL AND COMPACTION

DESCRIPTION

This work shall consist of backfilling and compacting all disturbed material at and around existing gas pipes and facilities. Size of pipe, material, length of exposed pipe, location of pipe, etc. will all follow the same set of Standards and Specifications stipulated by Nationalgrid Company. If design plans call for gas pipes to be exposed and supported (sheeting methods not used), then at the time of backfill, all disturbed material below the invert of the gas pipe shall be removed and replaced with suitable roadway or trench excavation material or bedding material. The contractor will not be allowed to replace this disturbed material with the same existing material if it has now been mixed with adjacent silty subsoil (clays) and fines. Well-graded gravel and sands will be used to replace the unsuitable material when no excess suitable material is available on site. Soils with high humus or mineral content should not be used to for backfill because they can promote electrolytic or bacterial attack.

Backfilling the gas pipe should begin immediately after the work in that location is complete. The region within 6" alongside and on top of the gas pipe shall be backfilled with padding sand (free of cinders, ash, and rock). In no case shall the material used for backfilling in this region contain any stones. Backfill shall consist of suitable materials (medium to coarse sands with little or no silts) placed in layers of not more than 8" to 12" after compaction.

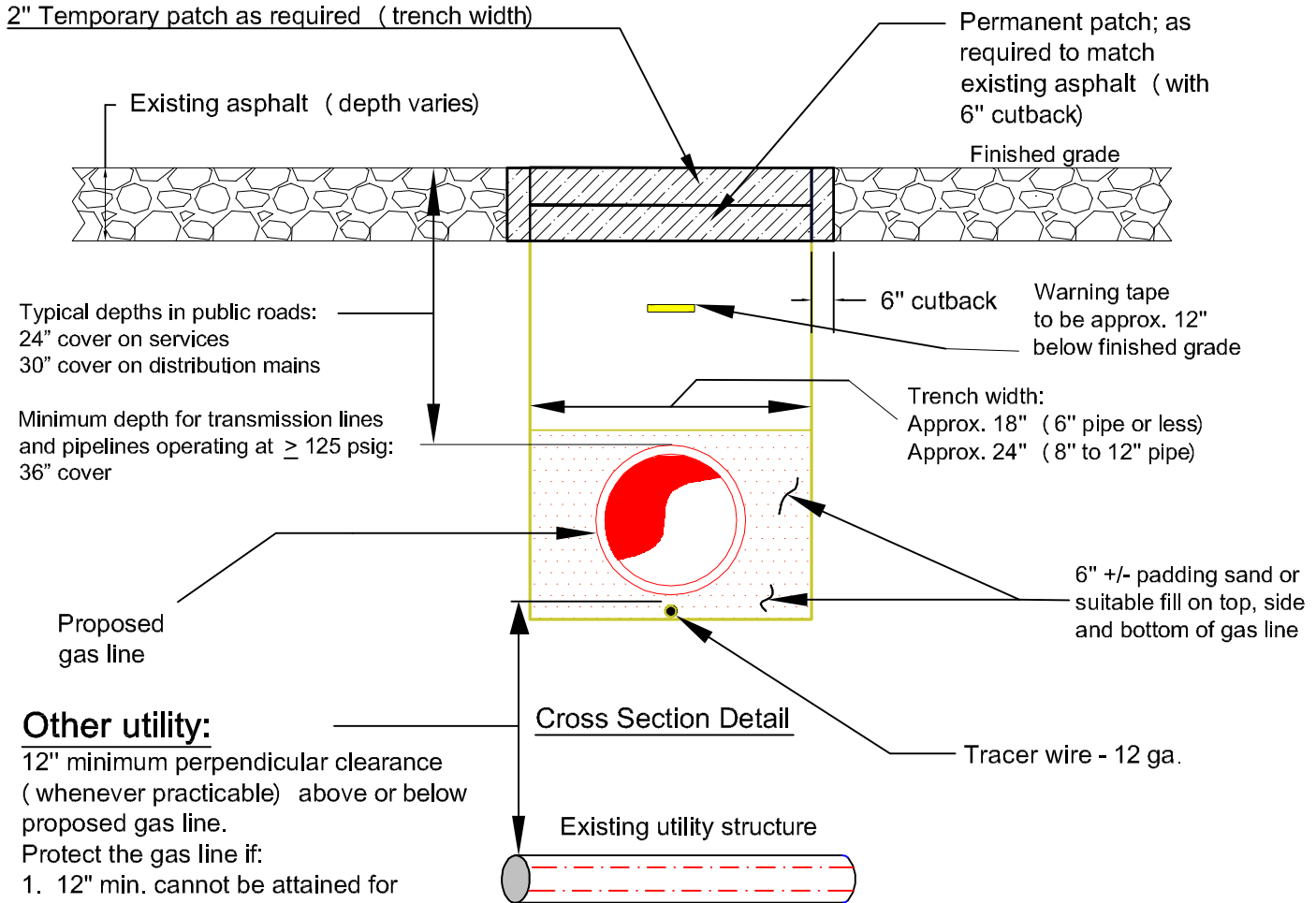
Trench spoil material shall be suitable for backfilling above the padding material as long as rocks with a diameter larger than 3" are removed. The layers shall be mechanically compacted to the industry standard of 95% or until a density comparable to the unexcavated material is achieved. In some instances, flooding with water is an acceptable method of compaction but only if the back-fill material is clean, coarse, and adequate drainage is existent. The above specified backfill material is essential in order to attain the degree of compaction necessary to avoid future settlement.

Tracing Wire, if necessary, shall be installed 2" to 6" below Plastic gas pipes.

Warning Tape shall be installed approximately 12" above the gas pipe.

A minimum of 2" temporary pavement shall be applied over the trench as soon as possible.

Typical Utility Crossing and Trench Guidelines



Typical depths in public roads:
24" cover on services
30" cover on distribution mains

Minimum depth for transmission lines
and pipelines operating at ≥ 125 psig:
36" cover

Other utility:

12" minimum perpendicular clearance
(whenever practicable) above or below
proposed gas line.

Protect the gas line if:

1. 12" min. cannot be attained for gas transmission lines and pipelines operating at ≥ 125 psig.
2. 6" min. cannot be attained for distribution mains.
3. 4" min. cannot be attained for services.

Minimum clearance when protection is provided against damage is 2" for all gas lines.

Pipeline backfill will consist of suitable materials (medium to coarse sands with little or no silts) placed in layers of no more than 8" to 12" after compaction. Trench spoil materials suitable for backfilling will be mechanically compacted to the industry standards of 95% (as measured by Drop-Cone Penetrometer method) or until a density comparable to the unexcavated material is achieved.

<p style="text-align: center;">RI</p>	TYPICAL UTILITY CROSSING AND TRENCH GUIDELINES	
	DATE: 09/15/2014	EFFECTIVE DATE: 09/15/2014
Key Changes:	DESIGN: N. COSTANZO	STD. DWG. NO. CS-CNST002
	DRAWN: N. COSTANZO	

GUIDELINES FOR WORKING AROUND CORROSION CONTROL SYSTEM COMPONENTS

DESCRIPTION

This guideline shall control work around existing Corrosion Control components. Replacement of test stations, anodes and test wire leads shall comply with Standards and Specifications stipulated by Nationalgrid. If design plans call for work in the area of Corrosion Control components, care must be taken to prevent damage to such components.

GENERAL NATIONALGRID CONSIDERATIONS

The contractor shall perform replacement of damaged corrosion control test boxes, resetting of disturbed test boxes, and ensure a minimum of 12" of excess wire above the rim of the test box after set to finished grade. Wires shall not be pulled taught to achieve the 12" above the box, as this will cause stress on the wire connection at the main. Wires needing to be lengthened, damaged corrosion control components i.e. wires, or wire coating, shall require notification to the Corrosion Control Department (525-5610 or 474-5171) to initiate inspection/repair or replacement of the damaged components.

Backfilling exposed Corrosion Control wire components should begin immediately after the work in that location is complete. The region within 6" alongside and on top of the connector wires shall be backfilled with padding sand (free of cinders, ash, and rock). Test wire leads must be kept with enough slack to prevent stress on the points where the wires connect to the gas main. Trench spoil material shall be suitable for backfilling above the padding material as long as rocks with a diameter larger than 3" are removed. The 8" to 12" backfill layers shall be mechanically compacted to the industry standard of 95%.

**CITY OF PROVIDENCE, RHODE ISLAND
WATER SUPPLY BOARD**

TRINITY SQUARE AREA WATER MAIN REHABILITATION

CONTRACT NO. 8-23

MAYOR

BRETT P. SMILEY

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 PETER LEPAGE, DIRECTOR OF ENGINEERING
 MATTHEW GALLANT, P.E., SENIOR MANAGER

JUNE 2023

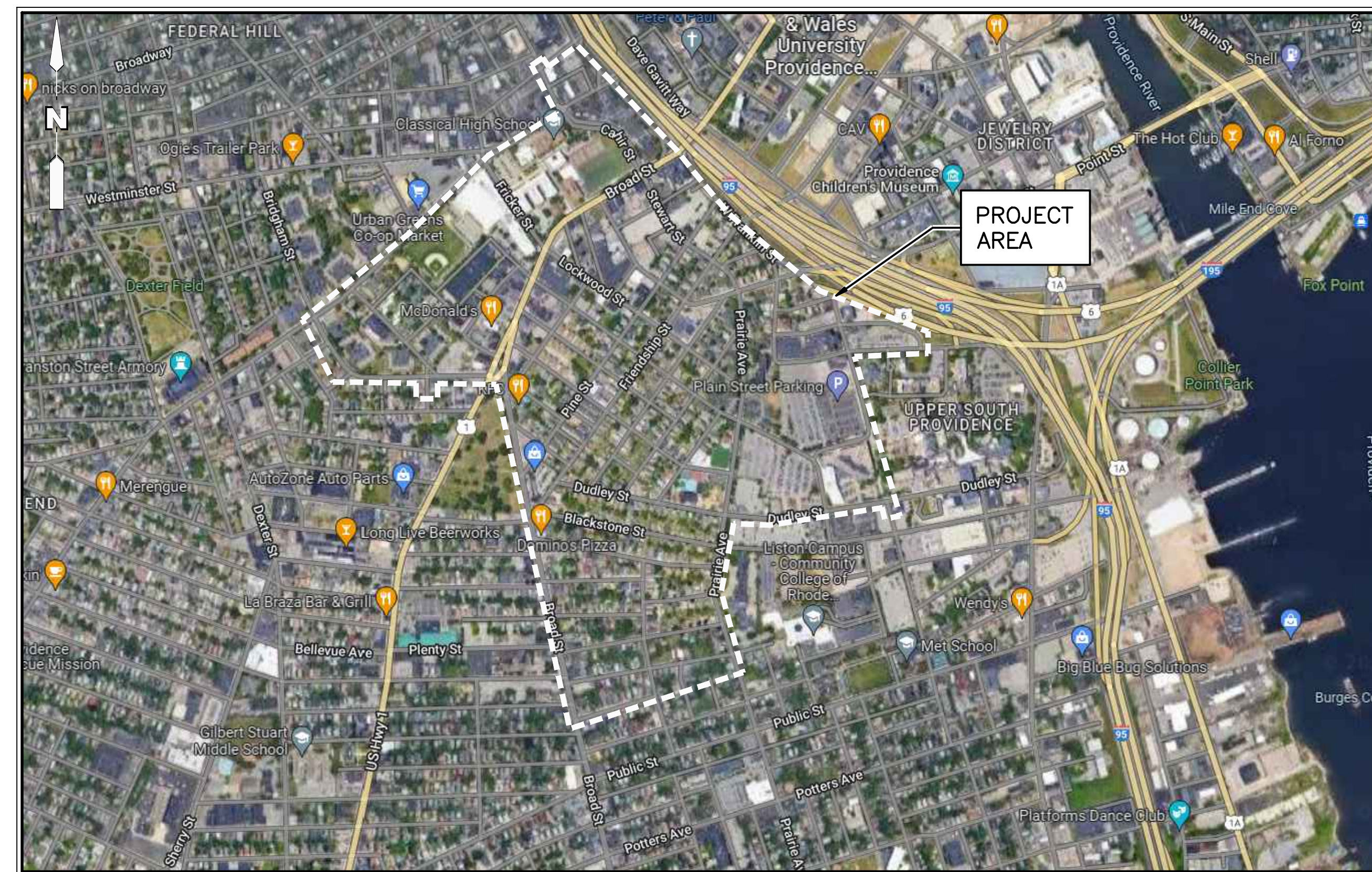
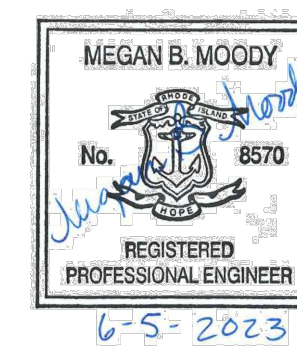


IMAGE PROVIDENCE BY GOOGLE MAP 2022

LOCATION PLAN

NTS



LIST OF DRAWINGS

<u>SHEET</u>	<u>TITLE</u>
G-0	COVER
G-1	LEGEND, GENERAL NOTES AND ABBREVIATIONS
G-2	SHEET INDEX
C-1	AREA PLAN 1
C-2	AREA PLAN 2
C-3	AREA PLAN 3
C-4	AREA PLAN 4
C-5	AREA PLAN 5
C-6	AREA PLAN 6
C-7	AREA PLAN 7
C-8	AREA PLAN 8
C-9	AREA PLAN 9
C-10	AREA PLAN 10
C-11	AREA PLAN 11
C-12	AREA PLAN 12
C-13	AREA PLAN 13
C-14	AREA PLAN 14
C-15	AREA PLAN 15
C-16	AREA PLAN 16
C-17	AREA PLAN 17
C-18	AREA PLAN 18
C-19	AREA PLAN 19
C-20	AREA PLAN 20
C-21	AREA PLAN 21
C-22	LEAD SERVICE REMOVALS TABLES
C-23	ENLARGED PLANS I
C-24	ENLARGED PLANS II



PROVIDENCE, RHODE ISLAND

Water

Environment

Transportation

Energy

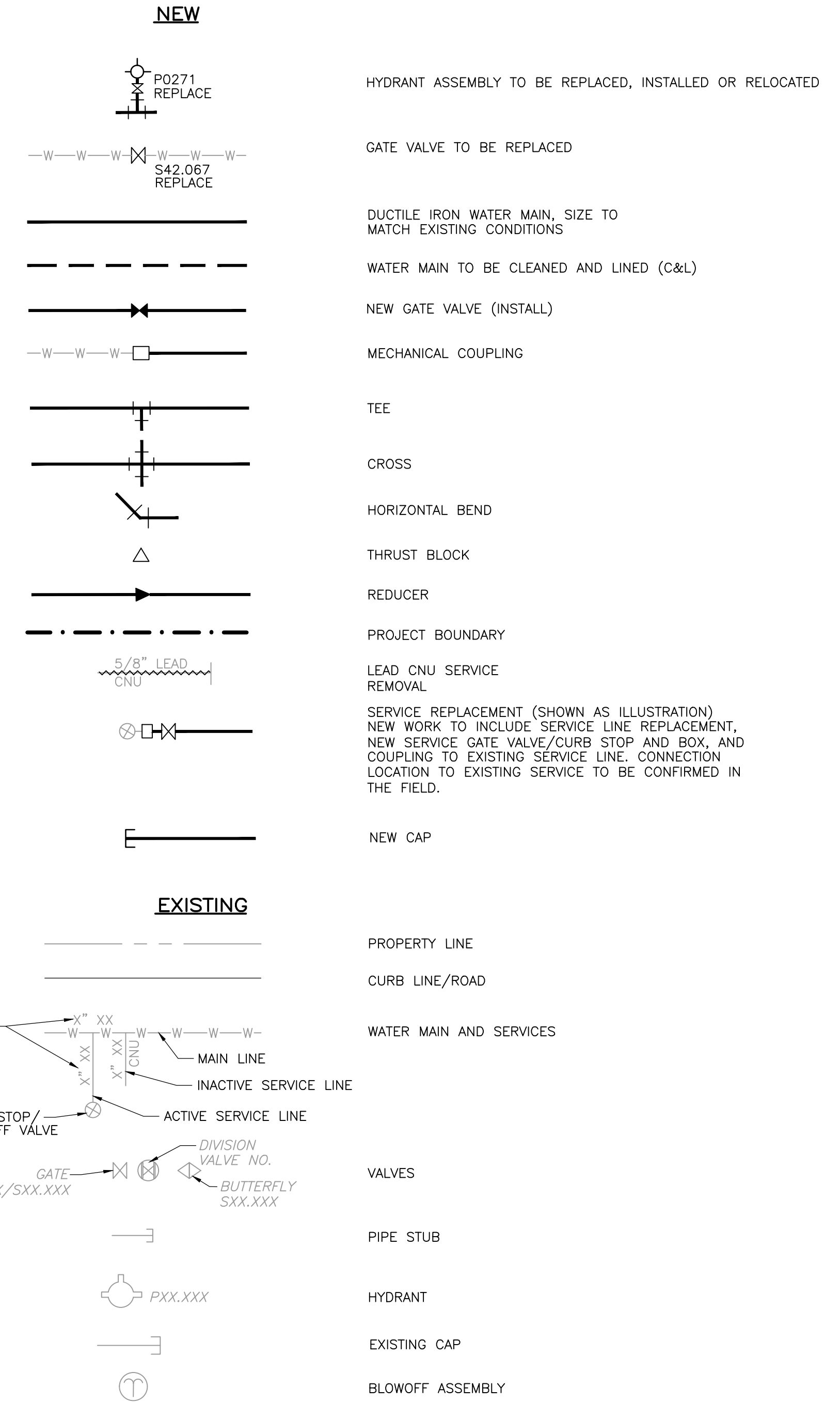
Facilities

GENERAL NOTES

LEGEND

- BASEPLAN AND WATER UTILITY DATA PROVIDED BY PROVIDENCE WATER SUPPLY BOARD (PWSB) GIS DEPARTMENT RECEIVED ON MARCH 2023.
- LOCATION OF EXISTING WATER UTILITIES AND SUB-SURFACE STRUCTURES ARE FROM GIS DATA SUPPLIED BY PWSB. INFORMATION IS CONSIDERED APPROXIMATE, BOTH AS TO SIZE AND LOCATIONS, AND IS SHOWN ON THESE DRAWINGS TO GIVE BIDDERS A GENERAL IDEA OF EXISTING CONDITIONS. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR SHALL NOT RELY UPON THESE DRAWINGS FOR SUCH INFORMATION, BUT SHALL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE METHODS, AND SHALL OBTAIN INFORMATION FROM PUBLIC UTILITIES AS TO THE LOCATION OF ALL SUB-SURFACE UTILITIES. CONTRACTOR SHALL NOTIFY "DIG-SAFE", PWSB, AND THE CITY OF PROVIDENCE PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL REVIEW ALL EXISTING AS-BUILT DOCUMENTATION AND VERIFY ALL EXISTING CONDITIONS IN THE FIELD.
- CONTRACT PLANS ARE DRAWN TO SCALE; HOWEVER, ALL SYMBOLOGY FOR WATER MAIN APPURTENANCES SHOWN ON DRAWINGS ARE FOR DIAGRAMMATIC PURPOSES ONLY AND ARE NOT TO SCALE.
- ELEVATIONS FOR EXISTING STRUCTURES MAY NOT BE SHOWN. CONTRACTOR SHALL OPEN STRUCTURES, PERFORM TEST PITS, OR OTHER INVESTIGATIONS TO CONFIRM LOCATIONS AND CLEARANCE.
- EXISTING WATER MAINS ARE ASSUMED TO HAVE 4.5 FEET OF COVER UNLESS SHOWN OTHERWISE. IT IS NOT WARRANTED THAT ALL UTILITIES ARE SHOWN. UTILITIES TO INDIVIDUAL BUILDINGS MAY NOT BE SHOWN. WHERE CONFLICTS WITH EXISTING UTILITIES ARE DISCOVERED, THE NEW WATER MAIN SHALL BE INSTALLED BELOW THESE UTILITIES. WATER MAIN SHALL BE INSTALLED ABOVE SEWER LINES AND PROTECTED IF WITHIN THE MINIMUM CLEARANCE BETWEEN WATER AND SEWER UTILITIES ALLOWED BY STATE REGULATIONS AND PWSB STANDARDS.
- EXISTING HYDRANTS THAT ARE CONNECTED TO A WATER MAIN THAT IS NOT FULLY FUNCTIONAL SHALL BE COVERED/BAGGED IMMEDIATELY UNTIL RETURNED TO FULL OPERATIONAL STATUS. FIRE HYDRANTS SHALL NOT BE REMOVED FROM SERVICE WITHOUT EXPRESSED CONSENT FROM THE FIRE DEPARTMENT AND PWSB. NOTIFY FIRE DEPARTMENT 48 HOURS PRIOR TO REMOVAL/REPLACEMENT OF HYDRANTS.
- CONTRACTOR SHALL SUBMIT A WORK PLAN IDENTIFYING SIZE AND LOCATION OF ACCESS PITS AND LAYOUT OF TEMPORARY BYPASS PIPING TO THE OWNER AND OWNER'S DESIGNEE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. THE WORK PLAN SHALL ALSO INCLUDE, BUT NOT LIMITED TO, UTILITY SUPPORT AND COORDINATION AND TRAFFIC MANAGEMENT DETAILS.
- CONTRACTOR SHALL SUPPLY SUPPORT OF UTILITY POLES, IF NECESSARY AS REQUIRED BY UTILITY COMPANY.
- NEW WATER MAINS, WATER MAINS TO BE CLEANED AND LINED, AND HYDRANTS CONNECTED TO THESE WATER MAINS SHALL NOT BE ACTIVATED AND PUT BACK INTO SERVICE UNTIL THE WATER MAINS, HYDRANTS, SERVICES, AND VALVES HAVE BEEN SUCCESSFULLY DISINFECTED AND TESTED IN ACCORDANCE WITH PWSB STANDARDS AND AS DIRECTED BY OWNER AND OWNER'S DESIGNEE.
- UNLESS OTHERWISE NOTED, EXISTING 6", 8", 10", AND 12" CAST-IRON WATER MAIN AS INDICATED SHALL BE CLEANED AND CEMENT-MORTAR LINED WITHIN THE LIMITS OF WORK ALONG THE RESPECTIVE STREETS.
- SELECT SECTIONS OF THE EXISTING CAST-IRON WATER MAINS SHALL BE REMOVED AND REPLACED WITH NEW DUCTILE IRON (DI) WATER MAIN AS SHOWN ON DRAWINGS. SIZES SHALL BE IDENTICAL TO EXISTING CONDITIONS UNLESS OTHERWISE NOTED.
- ALL PIPE, COUPLINGS, SLEEVES, FITTINGS, HARDWARE, ETC. INSTALLED UNDER THIS PROJECT SHALL BE NEW. ANY EXISTING COUPLINGS, SLEEVES, HARDWARE, ETC. REMOVED FOR NEW CONNECTIONS TO EXISTING FEATURES SHALL BE REPLACED.
- ALL CAST IRON SERVICES WHERE NOTED ON THE DRAWINGS SHALL BE REPLACED TO THE PROPERTY LINE UNLESS OTHERWISE NOTED.
- SERVICES FOUND CLOSED AT CURB STOP ARE TO BE LEFT IN CLOSED POSITION.
- GATE VALVES SHALL BE RESILIENT SEAT TYPE WITH MECHANICAL JOINT ENDS AND SHALL OPEN "RIGHT" (CLOCKWISE).
- METALLIZED, DETECTABLE, IDENTIFICATION TAPE SHALL BE 2" WIDE, BLUE IN COLOR, AND IMPRINTED WITH THE WORDS "CAUTION - WATER LINE BURIED BELOW", AND SHALL BE INSTALLED OVER ALL MAINS AND HYDRANT RUN-OUTS AT A DEPTH OF 18"-24" BELOW FINISHED GRADE.
- CURB STOPS SHALL BE INSTALLED 1' TO 1-1/2' BEHIND FACE OF CURB OR EDGE OF PAVEMENT. CURB STOPS ARE NOT TO BE INSTALLED IN EXISTING OR FUTURE DRIVEWAYS.
- UNLESS OTHERWISE NOTED, BREAKAWAY TYPE HYDRANTS SHALL BE INSTALLED AT EXISTING LOCATIONS WITH OPERATING NUT POSITIONED 24" BEHIND FACE OF CURB OR EDGE OF PAVEMENT. THE BREAKAWAY FLANGE SHALL BE SET 2" TO 4" ABOVE FINISHED GRADE. HYDRANTS SHALL OPEN "RIGHT" (CLOCKWISE). THE LOCATION OF NEW HYDRANTS ARE SHOWN SCHEMATICALLY AND SHALL NOT BE PLACED ON PRIVATE PROPERTY. SEE PWSB STANDARD DETAILS IN THE PROJECT SPECIFICATIONS.
- ALL END CAPS SHALL BE TAPPED AND CORPORATION VALVE BE INSTALLED.
- THE CONTRACTOR SHALL COORDINATE ANY SHUT DOWNS AND ACTIVATIONS OF WATER MAINS WITH THE OWNER AND OWNER'S DESIGNEE. PWSB MUST BE NOTIFIED A MINIMUM OF 72-HOURS IN ADVANCE OF ANY SERVICE INTERRUPTION. THE PWSB WILL ASSIST IN OPERATION OF TRANSMISSION SYSTEM VALVES FOR THE PURPOSE OF OBTAINING A SHUT DOWN, IF NEEDED AND DIRECTED BY OWNER AND OWNER'S DESIGNEE.
- THE CONTRACTOR IS ADVISED THAT IT MAY BE NECESSARY TO WORK DURING PERIODS OTHER THAN NORMAL WORKING HOURS FOR THE PURPOSE OF OBTAINING SHUT DOWNS AND/OR TO FACILITATE INSTALLATIONS OF NEW WORK. ALL WORK OUTSIDE OF NORMAL WORKING HOURS SHALL BE COORDINATED WITH OWNER AND OWNER'S DESIGNEE.
- IN MAKING CONNECTIONS FROM NEW DUCTILE IRON PIPE TO EXISTING CAST IRON PIPE, THE CONTRACTOR SHALL FURNISH COUPLINGS MADE TO ACCOUNT FOR VARYING OUTSIDE DIAMETER AND ECCENTRICITY DIMENSIONS.
- ALL APPURTENANCES (VALVES, TEES, HYDRANTS, ETC.) SHALL BE REMOVED AND REPLACED AS INDICATED ON DRAWINGS INCLUDING ALL COUPLINGS, RESTRAINTS, HARDWARE, ETC. NOTES AND INSTRUCTIONS TO CONTRACTORS FOR ALL NEW WORK ARE SHOWN THUS:
- CONTRACTOR SHALL NOT DISTURB OR OCCUPY ANY LAND OUTSIDE THE LIMITS OF CITY OF PROVIDENCE EASEMENTS AND RIGHT-OF-WAYS. WORK WITHIN STATE OF RHODE ISLAND RIGHT-OF-WAYS SHALL BE COORDINATED WITH THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.

- THE CONTRACTOR IS REQUIRED TO FOLLOW THE PIPE TESTING PROCEDURES STATED IN SECTION 02616 OF THE SPECIFICATIONS. PIPE TESTING WILL BE STRICTLY ENFORCED. PRESSURE TESTING IS NOT REQUIRED ON EXISTING WATER MAINS THAT ARE CLEANED AND LINED.
- THE CONTRACTOR SHALL BE AWARE THAT THE PIPE TRENCH AND PIPE BEDDING COMPACTION REQUIREMENTS STATED IN SECTION 02221 OF THE SPECIFICATIONS WILL BE STRICTLY ENFORCED.
- ALL EXISTING WATER SERVICE CONNECTIONS MAY NOT BE SHOWN ON THE DRAWINGS. ALL EXISTING WATER SERVICE CONNECTIONS THAT ARE CONNECTED TO EXISTING WATER MAINS WHICH WILL BE REMOVED, THE CURB STOP/SERVICE SHUT OFF VALVE BOX SHALL BE REMOVED (THE VALVE WILL BE ABANDONED IN PLACE) OR ABANDONED SHALL BE ABANDONED BETWEEN THE EXISTING WATER MAIN AND THE PROPERTY LINE AND BE REPLACED WITH NEW COPPER WATER SERVICE (1" MIN.), CORPORATION STOP, AND CURB STOP AND BOX BETWEEN THE PROPERTY LINE AND THE NEW WATER MAIN. SEE PWSB DETAILS WITHIN PROJECT SPECIFICATIONS - CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION, SIZE AND TYPE OF ALL EXISTING WATER SERVICE CONNECTIONS BEFORE CONSTRUCTION.
- EXACT LOCATION OF NEW PIPES, VALVES, FITTINGS, HYDRANTS, ETC. SHALL BE DETERMINED IN THE FIELD BY OWNER AND OWNER'S DESIGNEE.
- PORTLAND CEMENT CONCRETE THRUST BLOCKS AND/OR GRAVITY BLOCKS SHALL BE CONSTRUCTED IN PLACE AT CHANGES OF PIPE DIRECTION (TEES, BENDS, ETC.) AND/OR DEAD ENDS IN ACCORDANCE WITH PWSB STANDARDS. FURTHERMORE, MECHANICAL JOINT THRUST RESTRAINTS SHALL BE PLACED ON EACH SIDE OF IN-LINE FITTINGS OR PIPE JOINTS PRIOR TO END CAPS/PLUGS SO AS TO SUFFICIENTLY RESTRAIN AN ADEQUATE LENGTH OF PIPE AT 1-1/2 TIMES THE STATIC PRESSURE, BUT IN ANY EVENT, NOT LESS THAN 150 PSI. SEE APPENDIX F OF THE SPECIFICATIONS.
- ALL FITTINGS, MJ VALVES AND HYDRANT ASSEMBLIES SHALL BE RESTRAINED IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS SHOWN WITHIN THE PROJECT SPECIFICATIONS.
- ALL EXISTING HYDRANTS, HYDRANT GATE VALVES AND BOXES, AND GATE VALVES AND BOXES WHICH ARE TO BE REPLACED SHALL BE REMOVED, SALVAGED AND DEPOSITED AT THE PWSB YARD UNLESS OTHERWISE DIRECTED BY OWNER AND OWNER'S DESIGNEE.
- REMOVE AND RELOCATE ANY EXISTING LATERAL SEWER SERVICE CONNECTIONS THAT INTERFERE WITH THE NEW WATER MAINS.
- CONTRACTOR SHALL EXCAVATE TEST PITS TO DETERMINE EXACT LOCATION AND SIZE OF EXISTING WATER MAINS ON SIDE STREETS, AND TO VERIFY ANY UTILITY CROSSINGS ELEVATIONS OR INFORMATION NEEDED.
- ALL UTILITIES TO BE ABANDONED SHALL BE CAPPED OR PLUGGED.
- UTILITY SERVICE CONNECTIONS SHALL BE MAINTAINED TO ALL EXISTING FACILITIES.
- ALL TRAFFIC LIGHT SYSTEMS, INCLUDING UNDERGROUND LOOP SENSORS, SHALL BE MAINTAINED BY THE CONTRACTOR, OR REPLACED AT NO ADDITIONAL COST TO THE OWNER AND OWNER'S DESIGNEE.
- WHERE REQUIRED IN ORDER TO FACILITATE NEW CONSTRUCTION, CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING A.C. WATER MAIN IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
- PROTECT ALL EXISTING CURBING DURING CONSTRUCTION. REMOVE AND REPLACE ANY CURBING DAMAGED DURING CONSTRUCTION OPERATIONS.
- CONTRACTOR SHALL HAVE SUFFICIENT TRAFFIC CONTROL DEVICES AVAILABLE AT ALL TIMES DURING CONSTRUCTION. AT A MINIMUM, SUCH DEVICES SHALL INCLUDE TWO VARIABLE MESSAGE BOARDS, FOUR LIGHTED ARROW BOARDS, REFLECTIVE BARRELS WITH FLASHING LIGHTS, REFLECTIVE CONES, DETOUR SIGNS, ROAD CLOSED SIGNS, AND OTHER SIGNS AND DEVICES WARRANTED BY THE WORK. CONTRACTOR SHALL PLACE TRAFFIC CONTROL DEVICES AS DIRECTED BY OWNER AND OWNER'S DESIGNEE, AND MAINTAIN THEM AS REQUIRED THROUGHOUT CONSTRUCTION. SEE PROJECT SPECIFICATIONS FOR FURTHER TRAFFIC MANAGEMENT INFORMATION. REFER TO SPECIFICATION SECTION 01576.
- PRIOR TO CONSTRUCTION AND/OR TEMPORARY FLOW INTERRUPTIONS, CONTRACTOR MUST CONFIRM WITH PWSB THAT ALL VALVES AND CONNECTIONS IN AND AROUND THE WORK SITE ARE OPERATIONAL. CONTRACTOR SHALL HANDLE UP TO 100 GPM LEAKAGE PAST EXISTING VALVES.
- PAVEMENT REPLACEMENT SHALL NOT OCCUR UNTIL THE OWNER AND OWNER'S DESIGNEE HAS RECEIVED ALL SOIL TESTING RESULTS AND APPROVED THE COMPACTED BACKFILL MATERIAL AS SPECIFIED IN SECTION 02221 OF THE SPECIFICATIONS. ALSO OWNER AND OWNER'S DESIGNEE SHALL ASSESS THE EXISTING UNDISTURBED SUBGRADE MATERIAL AND DETERMINE IF THE MATERIAL IS SUITABLE FOR ROADWAY RECONSTRUCTION.
- DEMOLITION OF BITUMINOUS PAVING AND CONCRETE SHALL BE PERFORMED BY SAWCUTTING ONLY. RIPPING OF PAVEMENT IS PROHIBITED.
- UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR BE ALLOWED TO STOCKPILE REMOVED PAVEMENT MATERIALS WITHIN PUBLIC ROADWAYS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ROADWAYS FREE OF DEBRIS RESULTING FROM THEIR CONSTRUCTION OPERATIONS. ALL DEBRIS SHALL BE REMOVED TO THE SATISFACTION OF THE OWNER AND OWNER'S DESIGNEE AT THE END OF EACH WORK DAY.
- ALL TRENCH EXCAVATIONS SHALL BE TEMPORARILY PAVED AT THE CLOSE OF EACH DAY'S WORK IN ACCORDANCE WITH CITY PERMIT, AS REQUIRED PER SPECIFICATIONS. ACCESS PIT EXCAVATIONS FOR CLEANING AND LINING WORK SHALL BE PERMITTED TO BE COVERED WITH STEEL PLATES, AND ARE REQUIRED TO BE FLUSH WITH ROAD GRADE WITH THE EDGES AND GAPS FILLED WITH COLD-PATCH ASPHALT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION, REPAIRS AND/OR RESTORATION OF ALL AREAS ADJACENT TO THE CONTRACT AREA DISTURBED BY THE CONTRACTOR'S OPERATIONS.
- ALL VALVES AND COUPLING CONNECTIONS AT WORK LIMIT TERMINATIONS SHALL BE RESTRAINED TO THE NEW PIPING FOR FUTURE WORK IN ADJACENT AREAS.



ABBREVIATIONS

AC	ASBESTOS CEMENT
CI	CAST IRON
CIR	CAST IRON RELINED
CNU	CLOSED NOT USED
DI	DUCTILE IRON
FS	FIRE SERVICE
HDPE	HIGH-DENSITY POLYETHYLENE
HS	HIGH SERVICE
LS	LOW SERVICE
RC	REINFORCED CONCRETE
UN	UNKNOWN

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DESIGNED BY:	T. JOHNSON
DRAWN BY:	J. CABRERA
SHEET CHK'D BY:	T. JOHNSON
CROSS CHK'D BY:	J. DRAKE
APPROVED BY:	M. MOODY
DATE:	JUNE 2023

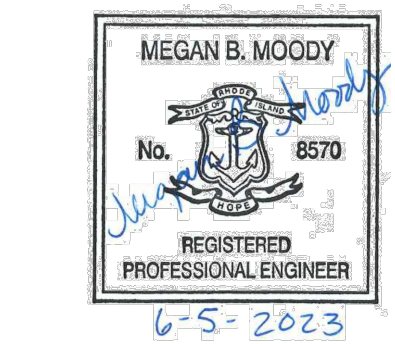
CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
 TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

LEGEND, GENERAL NOTES AND ABBREVIATIONS

PROJECT NO. 1516-274596
 FILE NAME: GPL0001
 SHEET NO. G-1



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N

PLAN

1" = 250'

125 0 250

MEGAN B. MOODY

REGISTERED PROFESSIONAL ENGINEER

6-5-2023

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

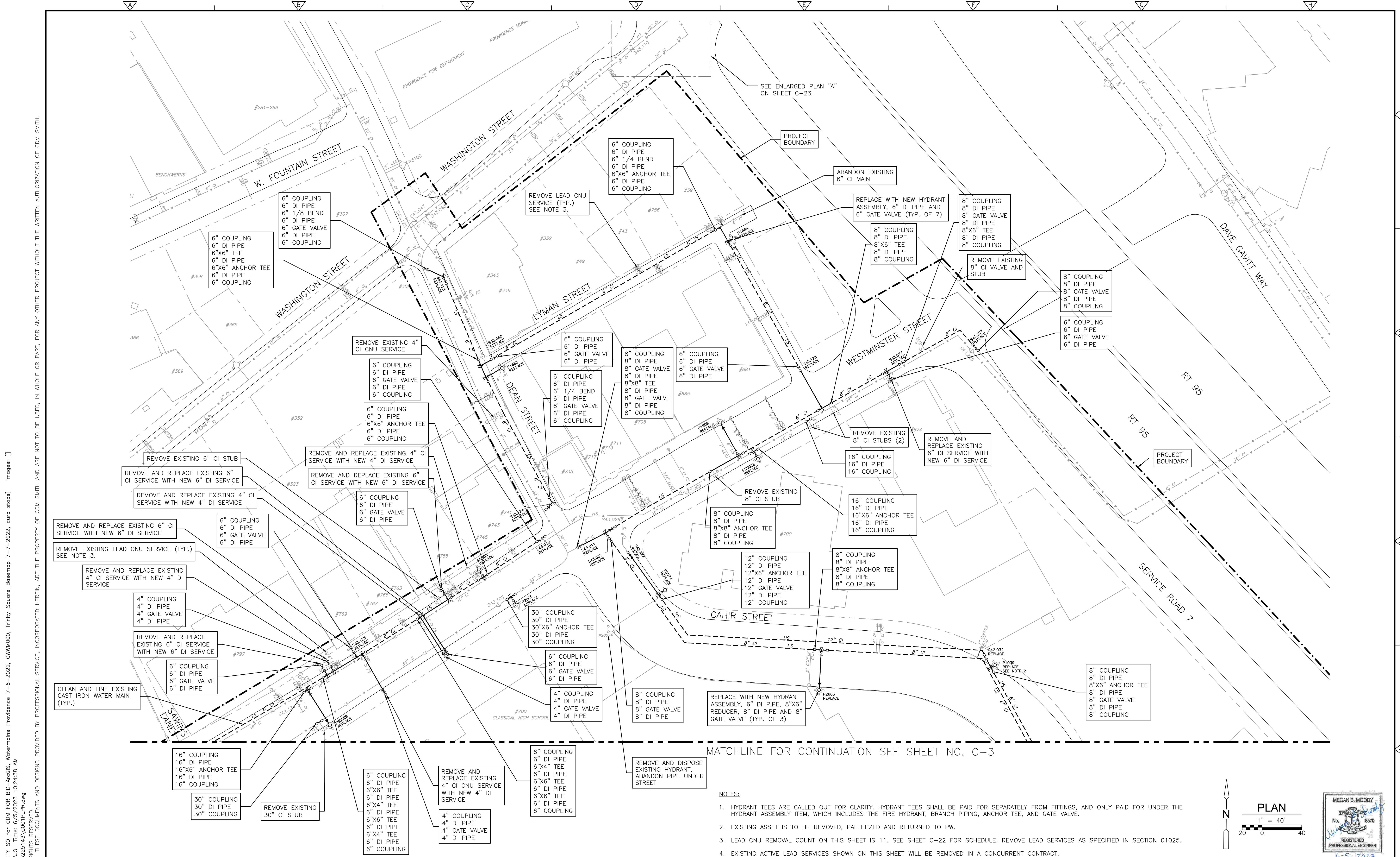
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CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

SHEET INDEX

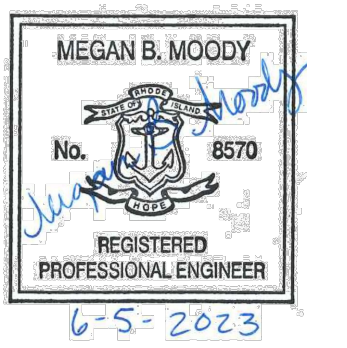
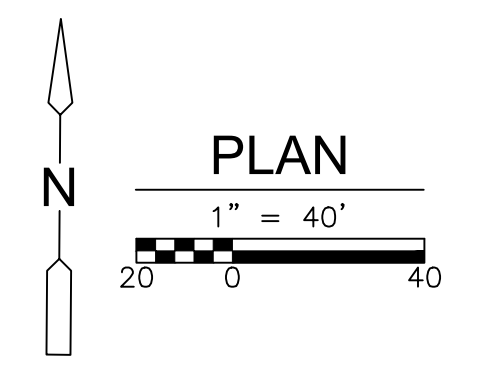
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G-2



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MATCHLINE FOR CONTINUATION SEE SHEET NO. C-3

- NOTES:
- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 - EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 - LEAD CNU REMOVAL COUNT ON THIS SHEET IS 11. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 - EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



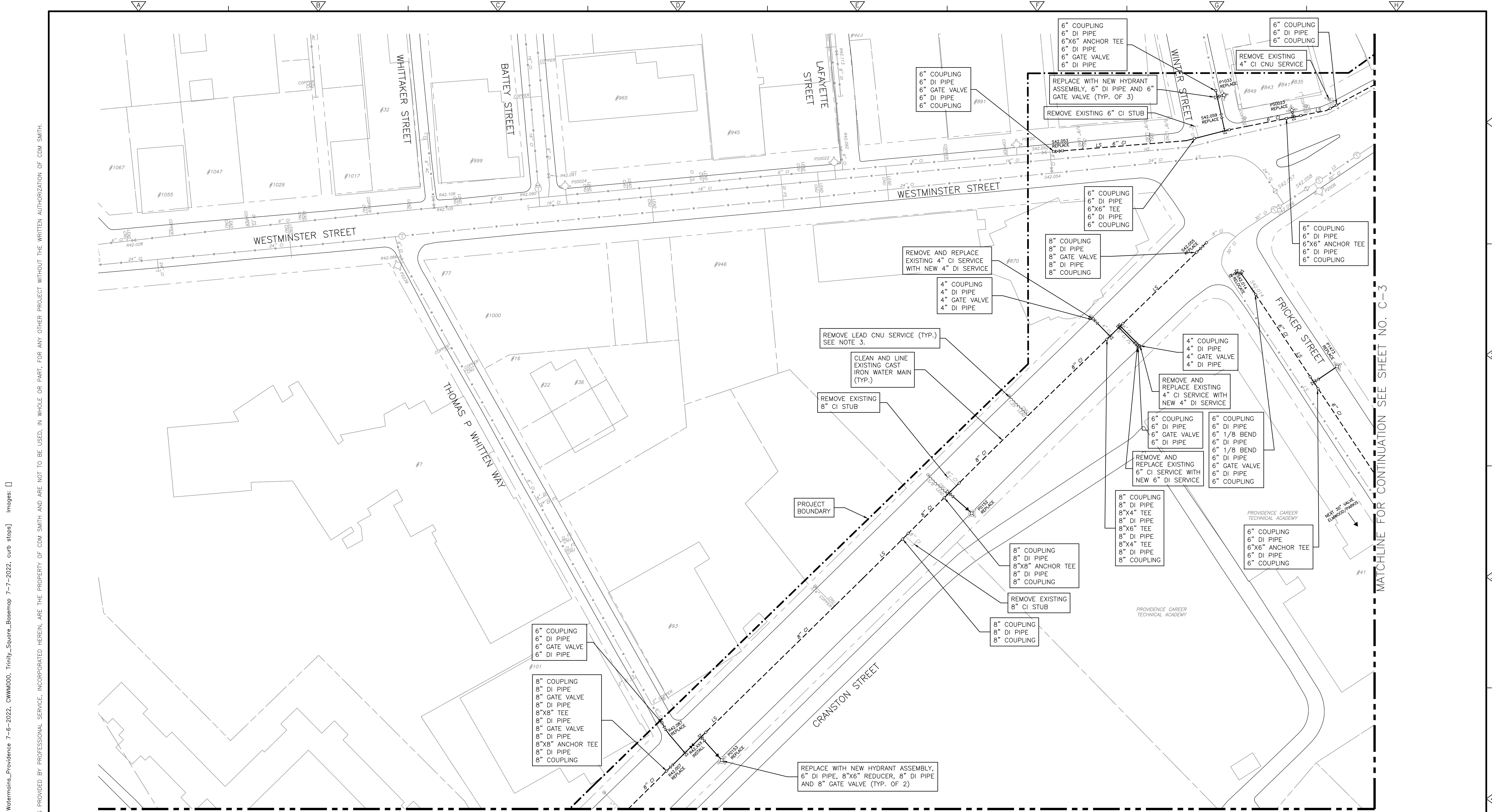
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



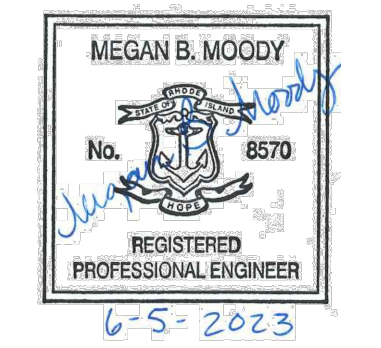
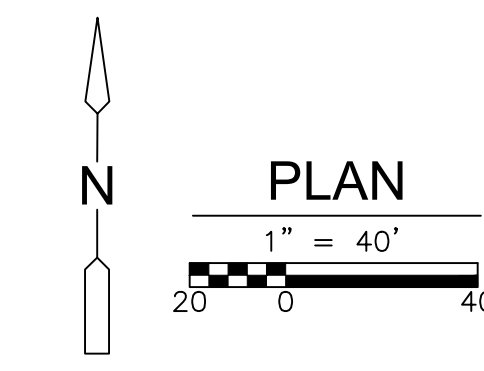
CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

AREA PLAN 1
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. **C-1**



MATCHLINE FOR CONTINUATION SEE SHEET NO. C-5

- NOTES:**
- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 - EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 - LEAD CNU REMOVAL COUNT ON THIS SHEET IS 4. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 - EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



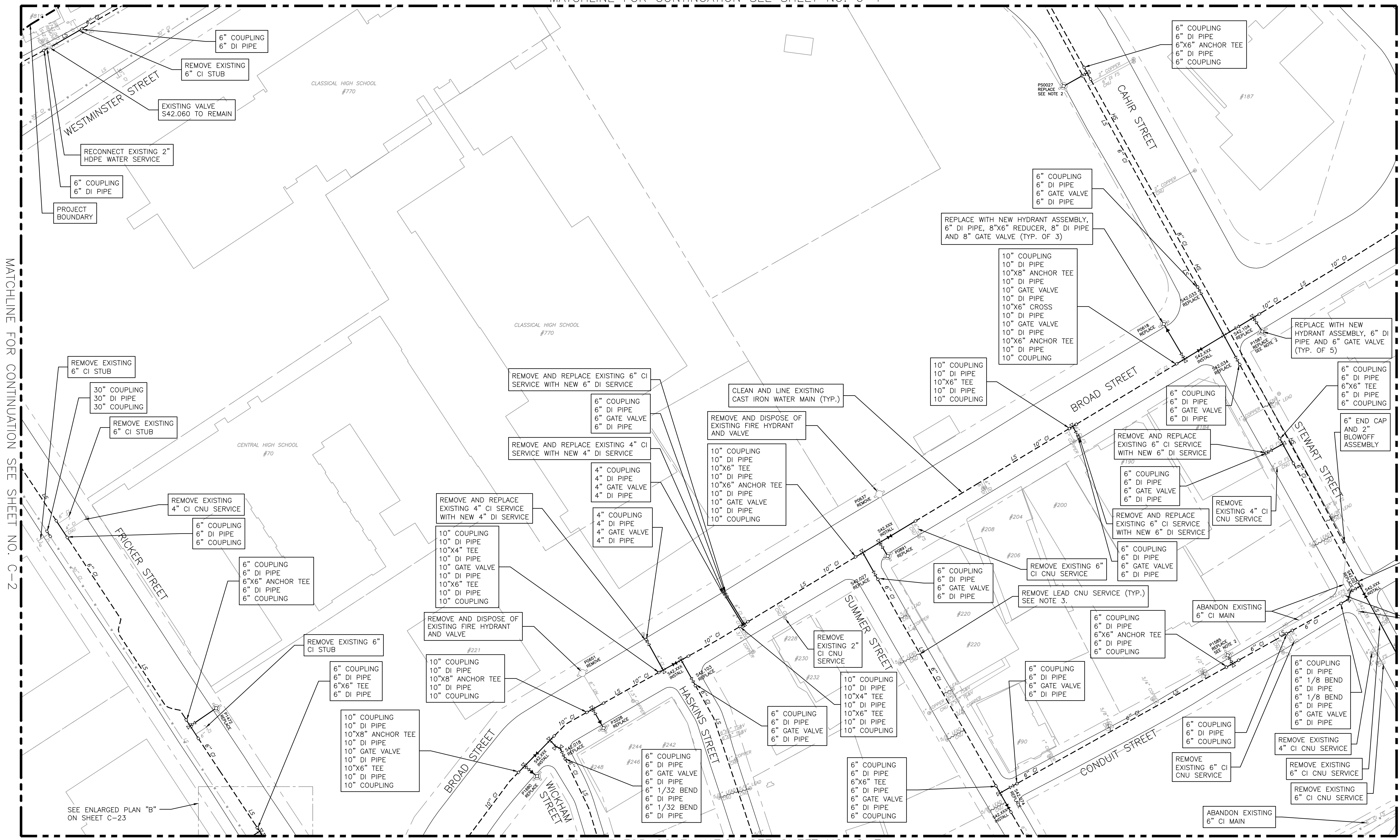
CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
 TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 2
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-2

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MATCHLINE FOR CONTINUATION SEE SHEET NO. C-3
 PROVIDENCE CAREER TECHNICAL ACADEMY
 NEW 30" WALKWAY (PAVING)

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-1



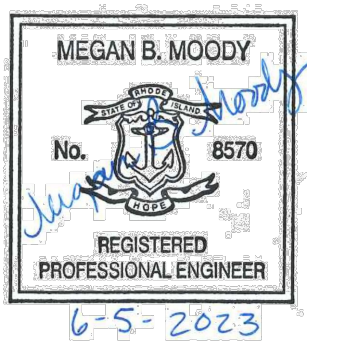
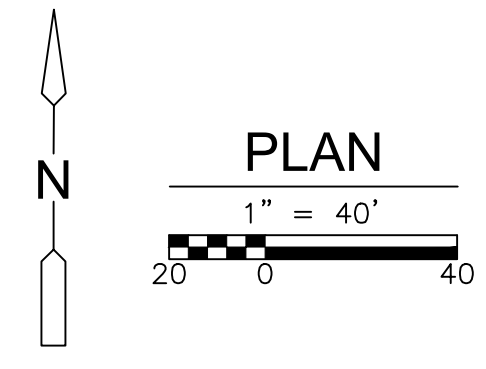
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-2

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-4

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-7

NOTES:

- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
- EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
- LEAD CNU REMOVAL COUNT ON THIS SHEET IS 12. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
- EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



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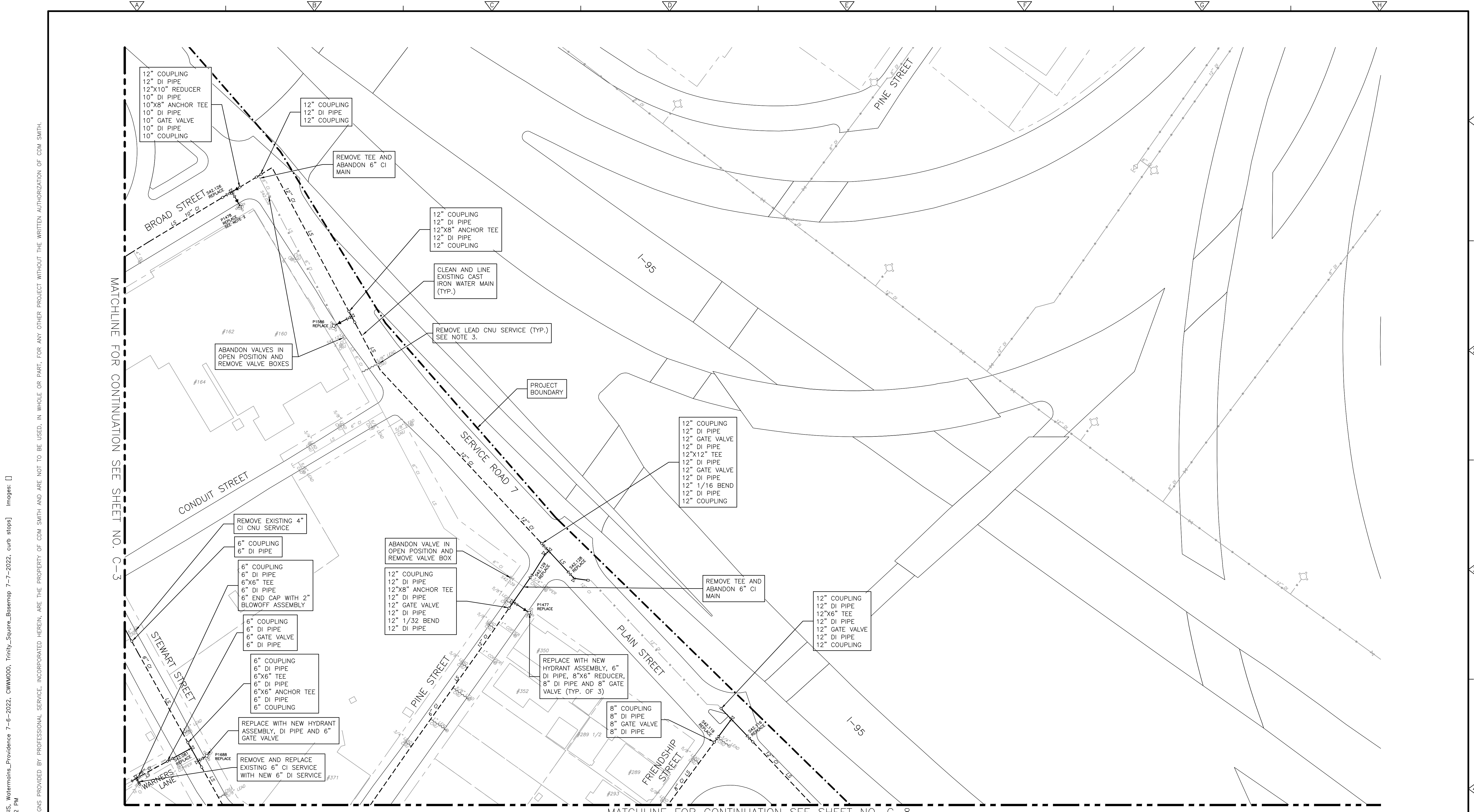
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
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 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



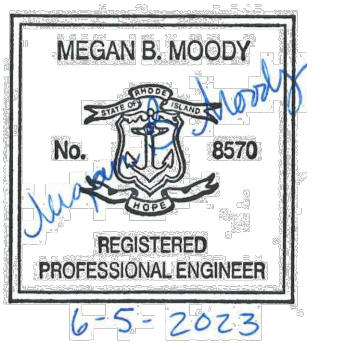
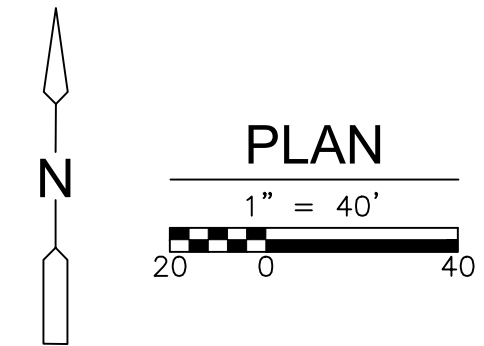
CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
 TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 3
 PROJECT NO. 1516-274596
 FILE NAME: CO01PLPR.DWG
 SHEET NO. C-3



NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 11. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 4

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-4

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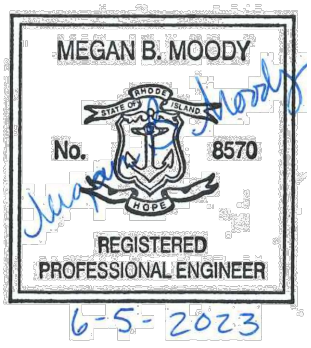
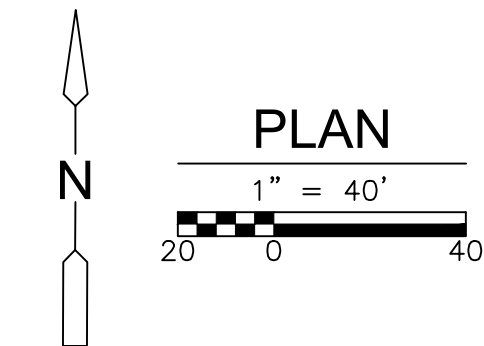


NOTES:

- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
- EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
- LEAD CNU REMOVAL COUNT ON THIS SHEET IS 3. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
- EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-10

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-6



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

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CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 5

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-5

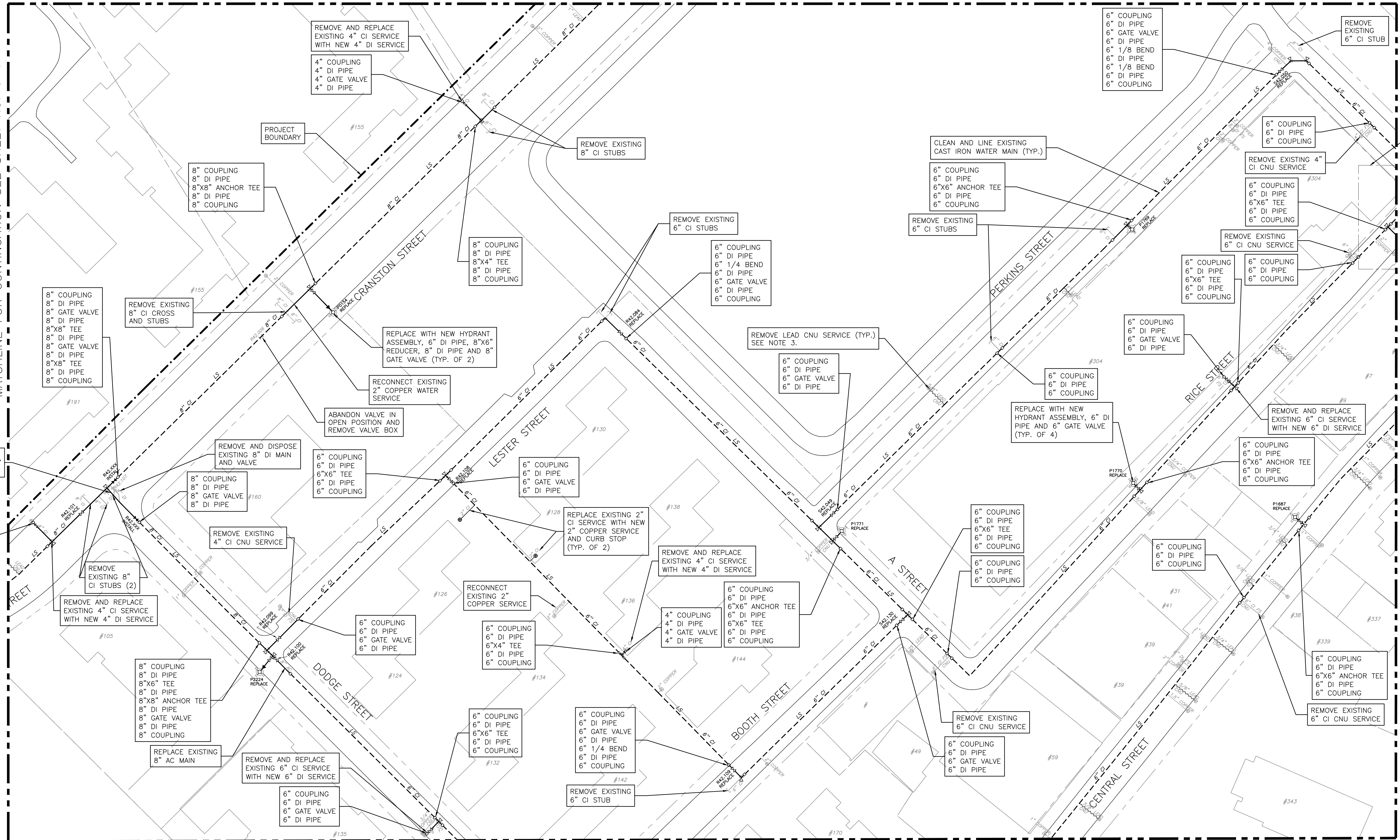
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MATCHLINE FOR CONTINUATION SEE SHEET NO. C-2

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-5

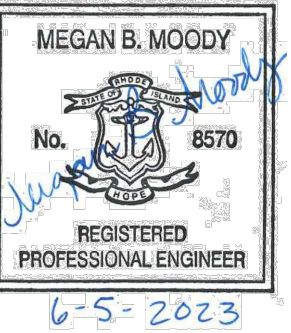
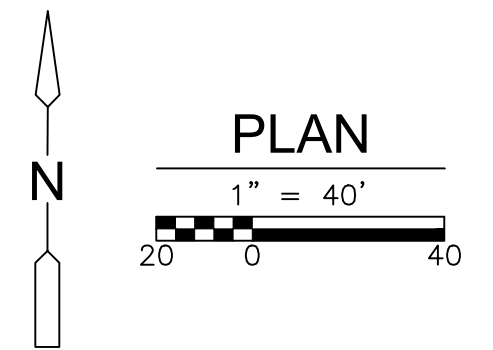
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-7

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-11



NOTES:

- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
- EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
- LEAD CNU REMOVAL COUNT ON THIS SHEET IS 10. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
- EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



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REV. NO.	DATE	DRWN	CHKD	REMARKS

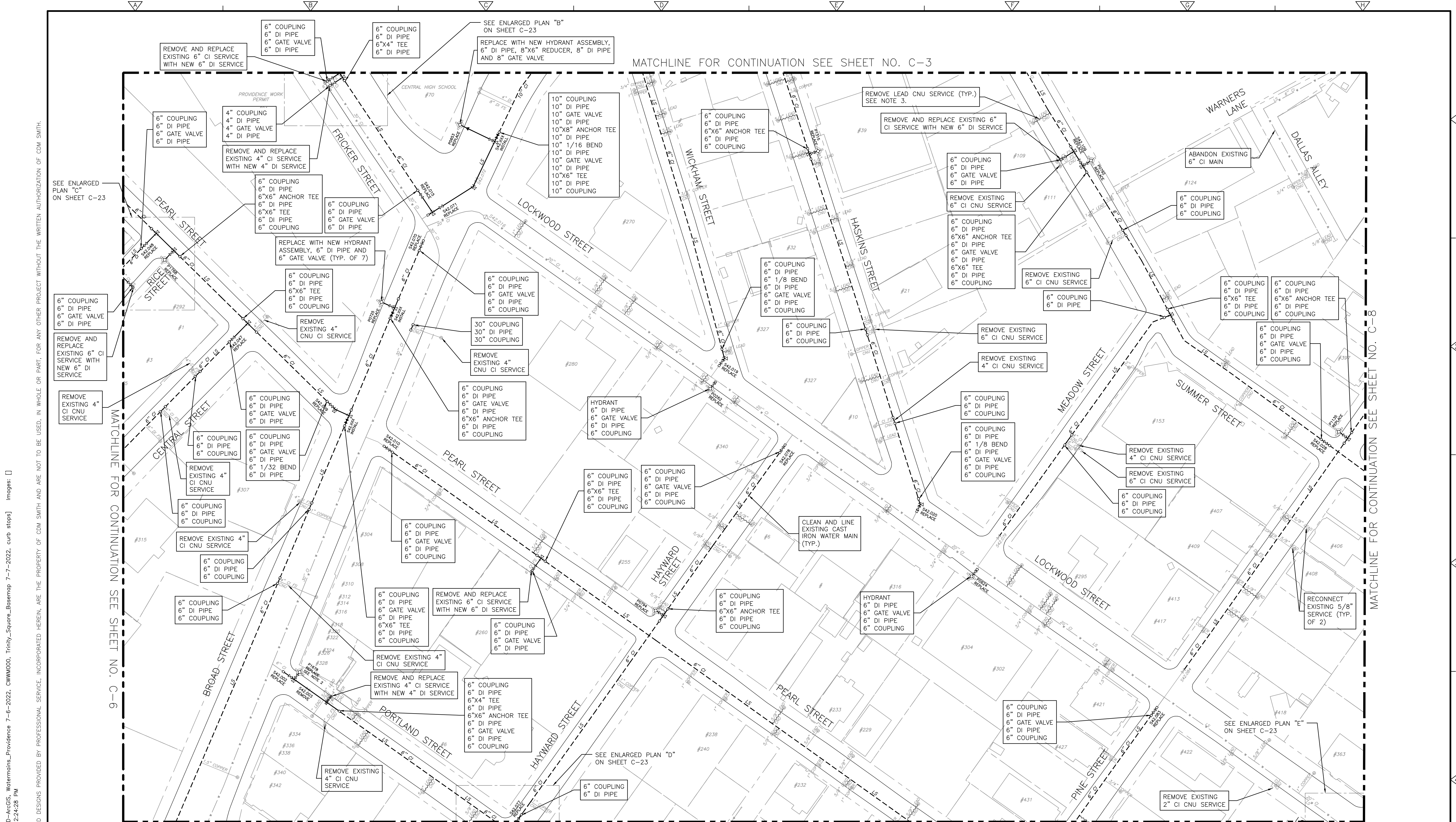
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 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

AREA PLAN 6
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-6



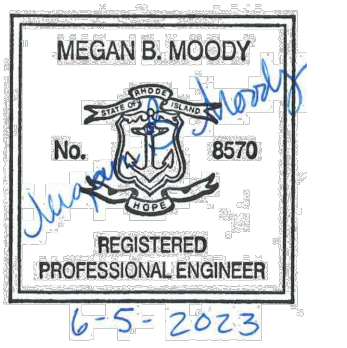
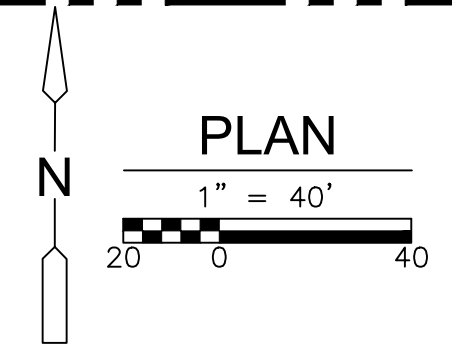
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-3

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-6

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-12

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-8

- NOTES:
- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 - EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 - LEAD CNU REMOVAL COUNT ON THIS SHEET IS 44. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 - EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436, INTY SQ. FOR CDM FOR BID-AcGIS, Watermain_Providence 7-6-2022, CWN000, Trinity_Square_BaseMap 7-7-2022, curb steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

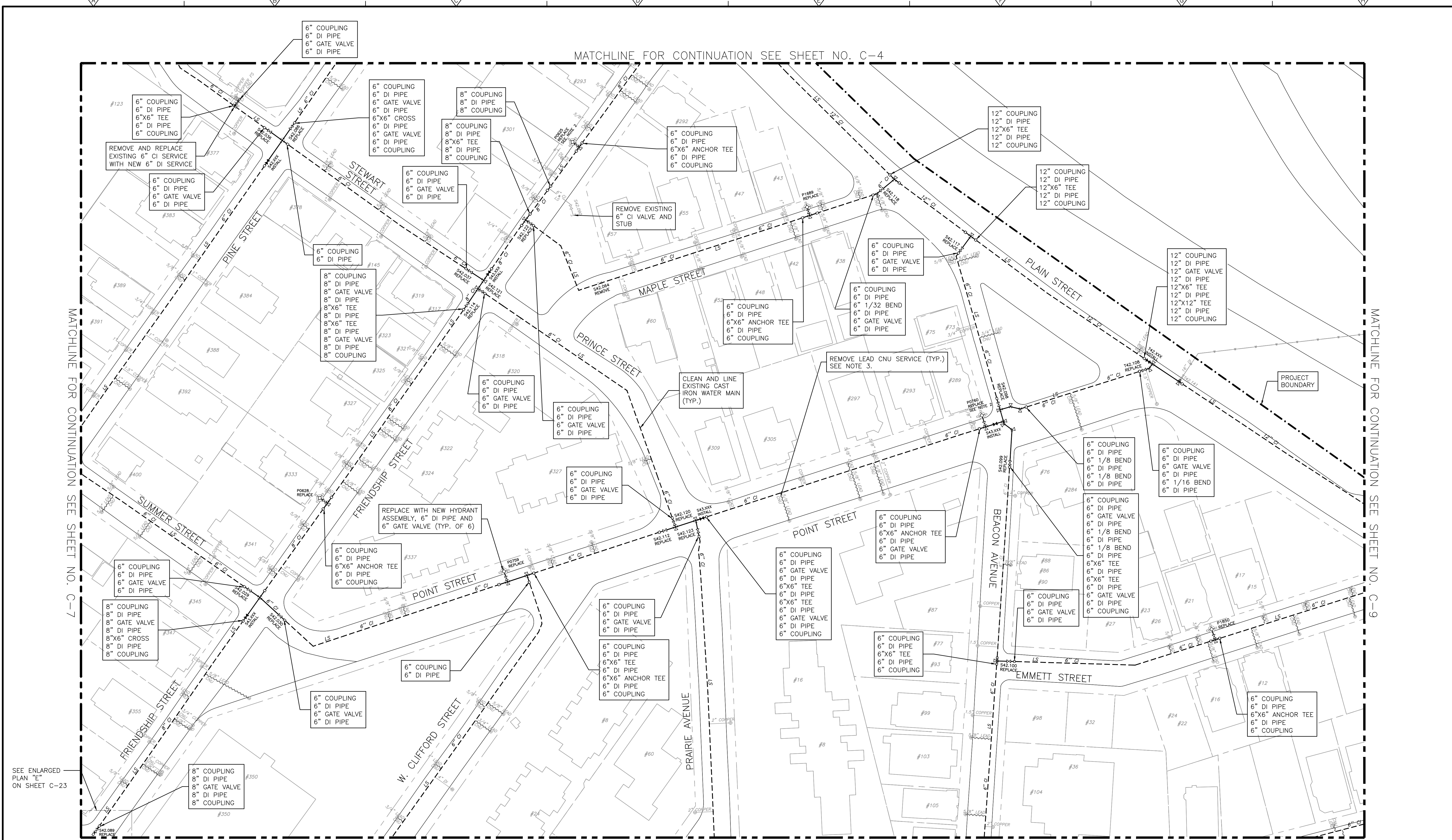
DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
 TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 7
 PROJECT NO. 1516-274596
 FILE NAME: CO01PLPR.DWG
 SHEET NO. C-7

XREFS: [CDMS-2436, INTY SQ. FOR CDM FOR BID-AcGIS, Watermain, Providence, 7-6-2022, CWNW000, Trinity_Square_BaseMap, 7-7-2022, curb steps] Images: []
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NOTES:

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2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 47. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 8
 SHEET NO. **C-8**

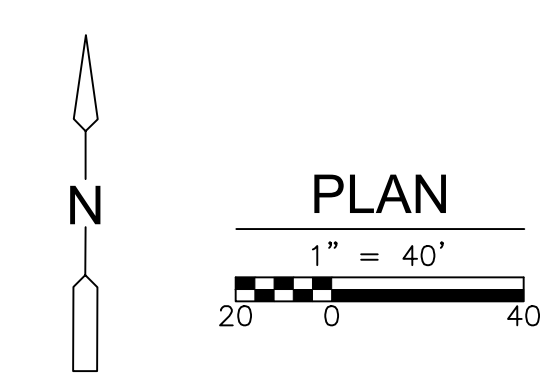


PROJECT NO. 1516-274596
 FILE NAME: CO01PLPR.DWG
 SHEET NO. **C-8**

XREFS: [CDMS-2436, INTY SQ FOR CDM FOR BID-AccGIS, Watermain_Providence 7-6-2022, CWNW000, Trinity_Square_BaseMap 7-7-2022, curb steps] Images: []
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- NOTES:**
- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 - EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 - LEAD CNU REMOVAL COUNT ON THIS SHEET IS 7. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 - EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



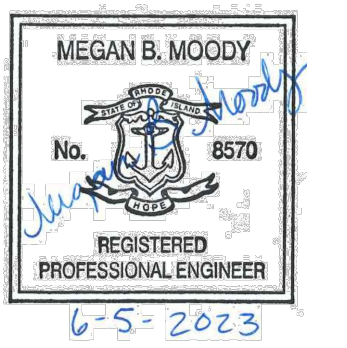
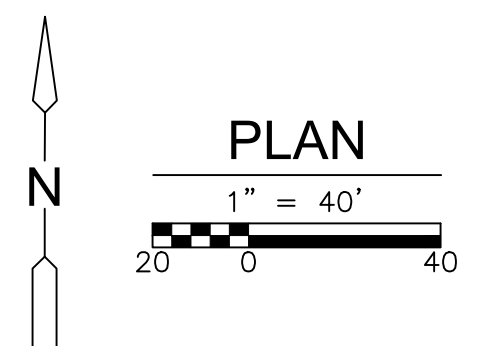
CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 9
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. **C-9**

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-5



- NOTES:
1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 2. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
 TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

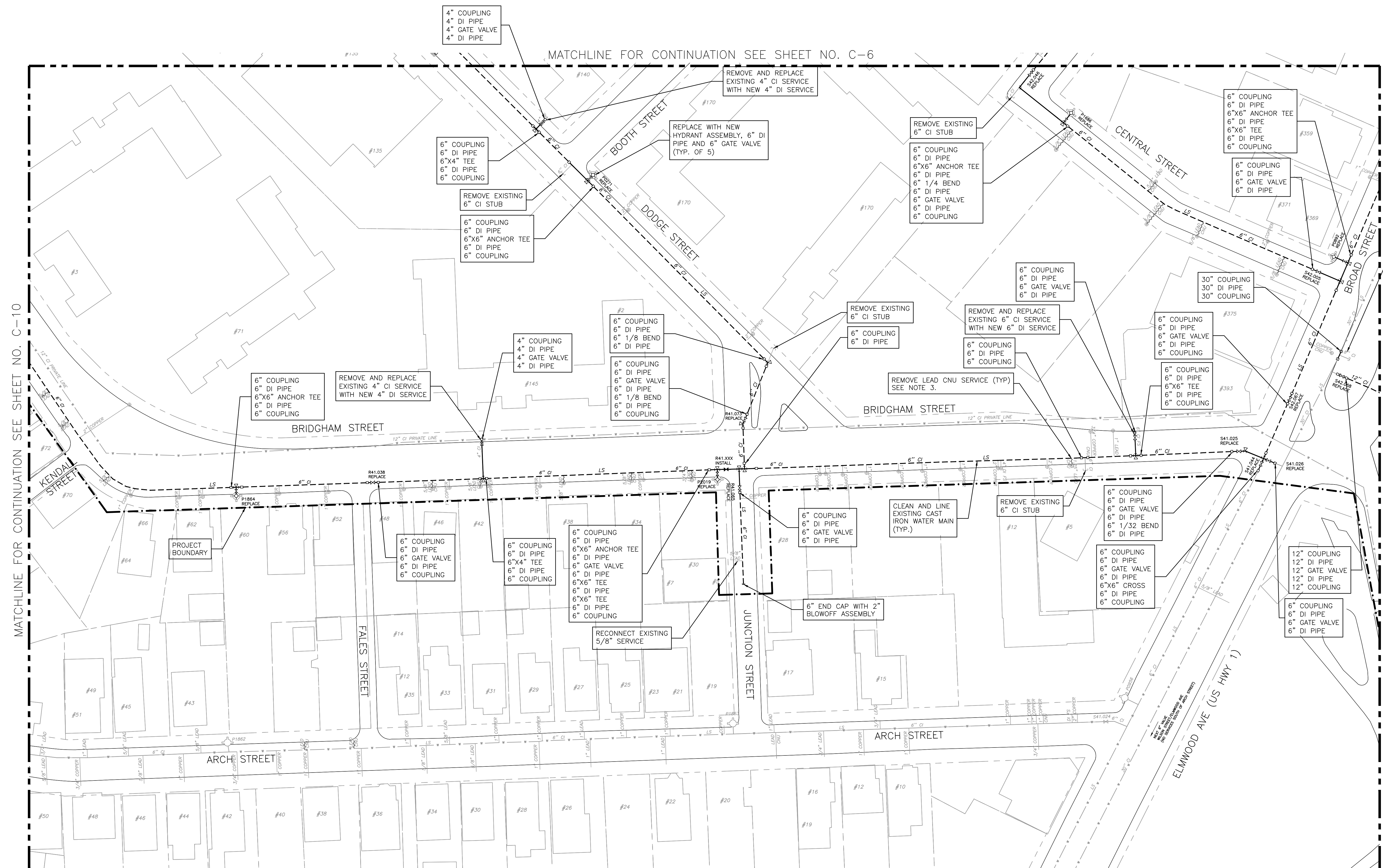
AREA PLAN 10

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-10

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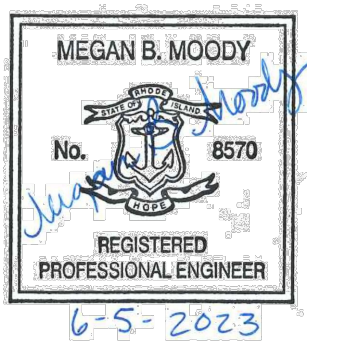
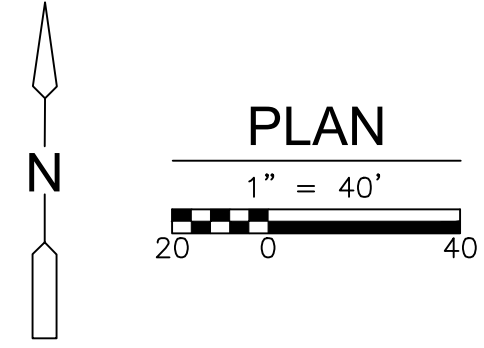
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-11

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NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 6. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



REV. NO.	DATE	DRWN	CHKD	REMARKS

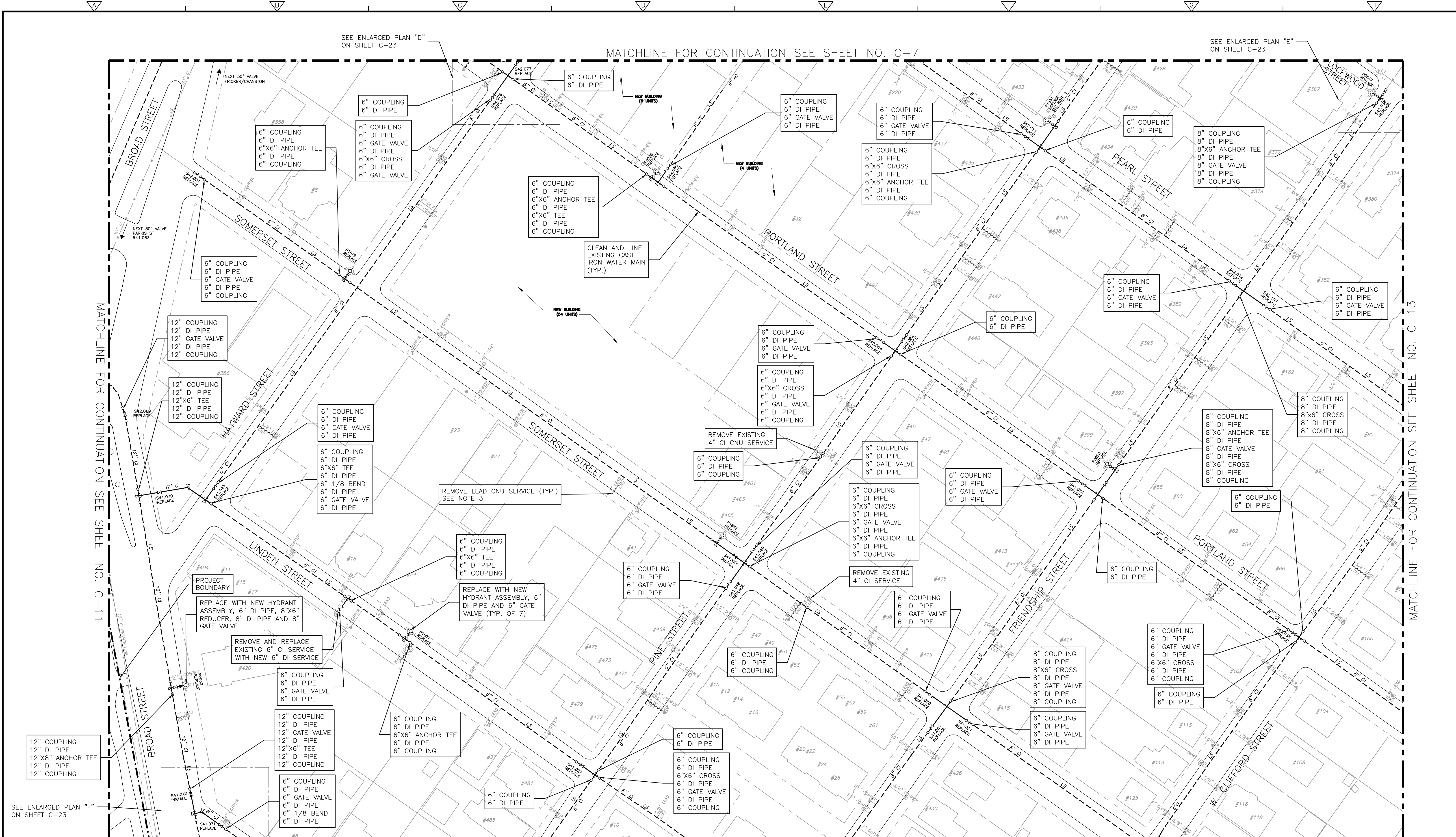
DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 11
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-11

XREFS: [CDMS_2436_INITY_SQ_for_CDM_FOR_BID-AcGIS_Watermain_Providence_7-6-2022_CWNW000_Trinity_Square_BaseMap_7-7-2022_curb_steps] Images: []
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- NOTES:**
1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 40. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



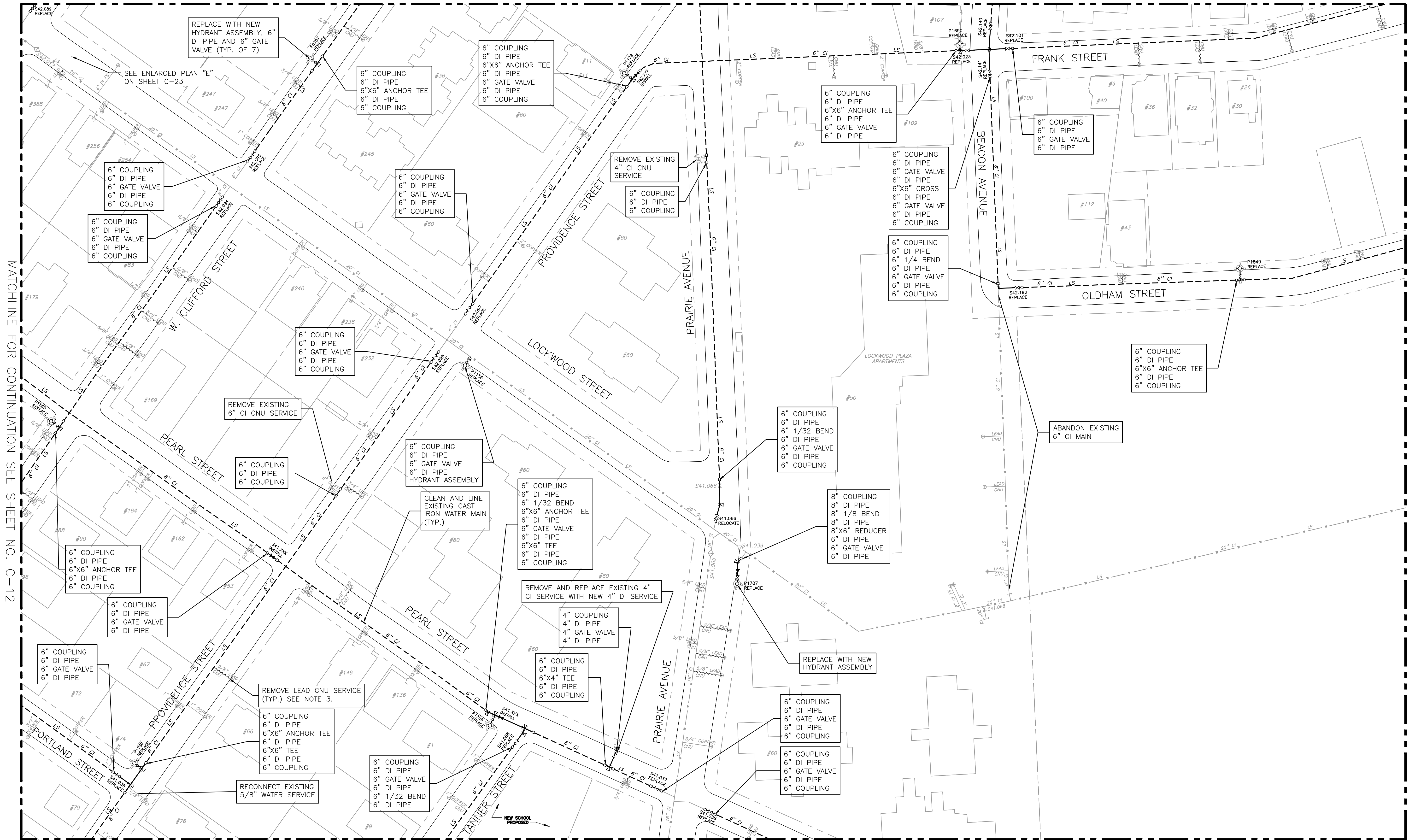
CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

AREA PLAN 12
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-12

PLAN
 1" = 40'
 20 0 40

MEGAN B. MOODY
 No. 6570
 REGISTERED PROFESSIONAL ENGINEER
 6-5-2023

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-8



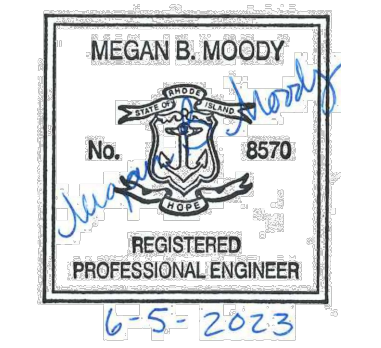
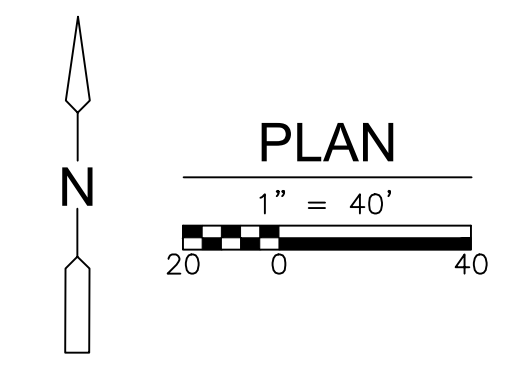
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-12

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-14

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-16

NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 24. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436_INITY_SQ_for_CDM_FOR_BID-AcGIS_Watermain_Providence_7-6-2022_CWN0000_Trinity_Square_BaseMap_7-7-2022_curb_steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

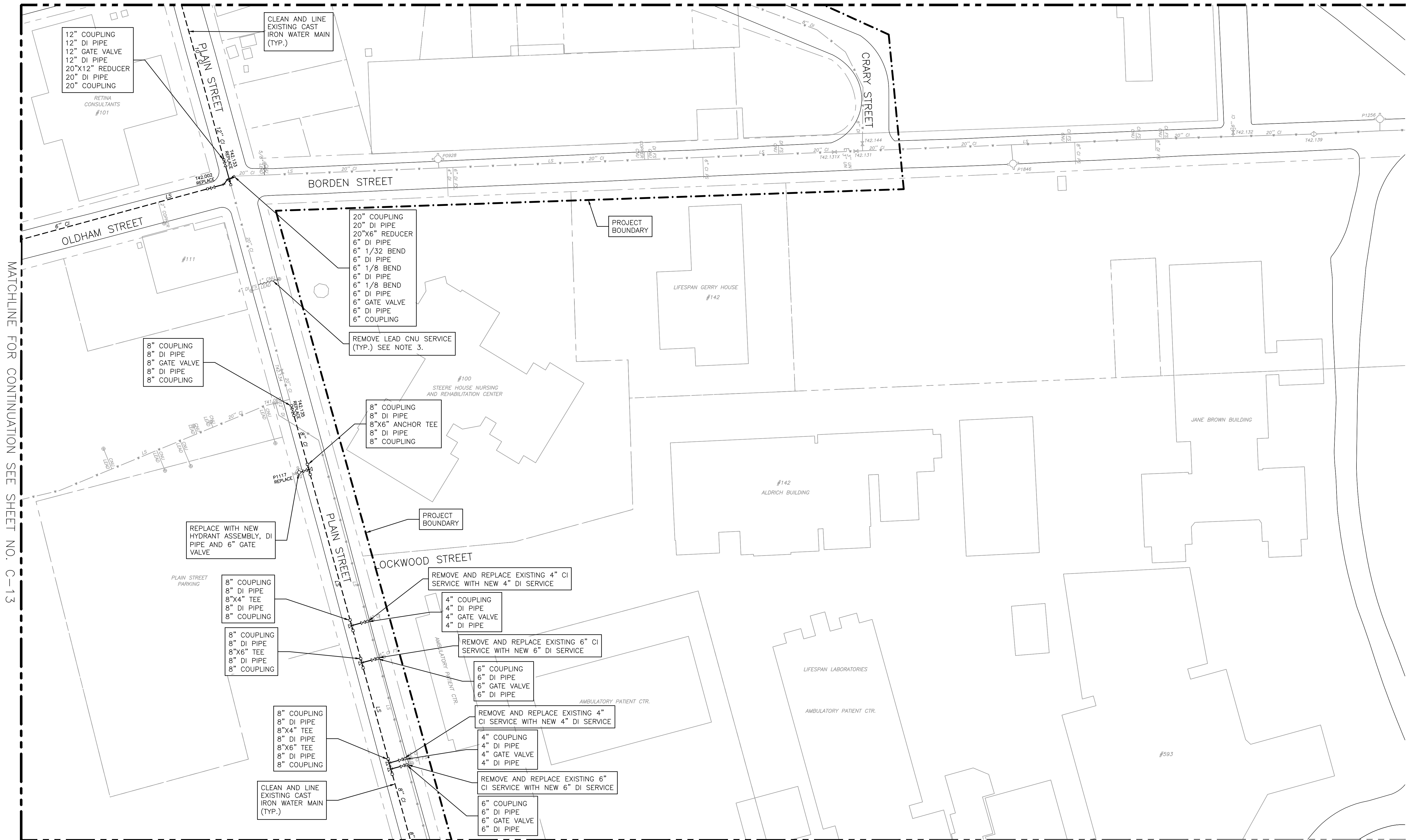
DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

PROJECT NO. 1516-274596
 FILE NAME: CO01PLPR.DWG
AREA PLAN 13
 SHEET NO. **C-13**

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-9

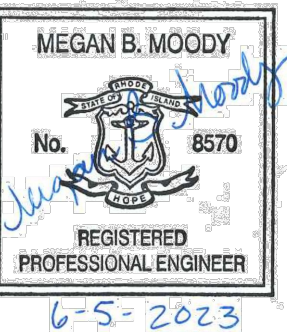
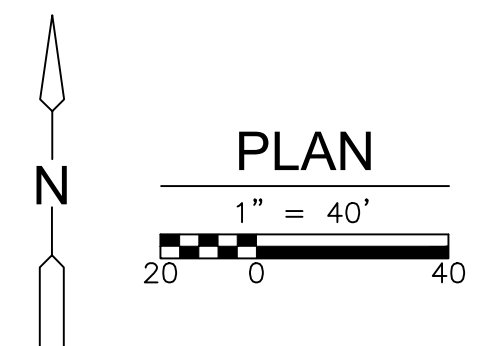


MATCHLINE FOR CONTINUATION SEE SHEET NO. C-13

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-17

NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 2. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFs: [CDMS-2436_INITY_SQ_for_CDM_FOR_BID-AcGIS_Watermain_Providence_7-6-2022_CWN0000_Trinity_Square_BaseMap_7-7-2022_curb_steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



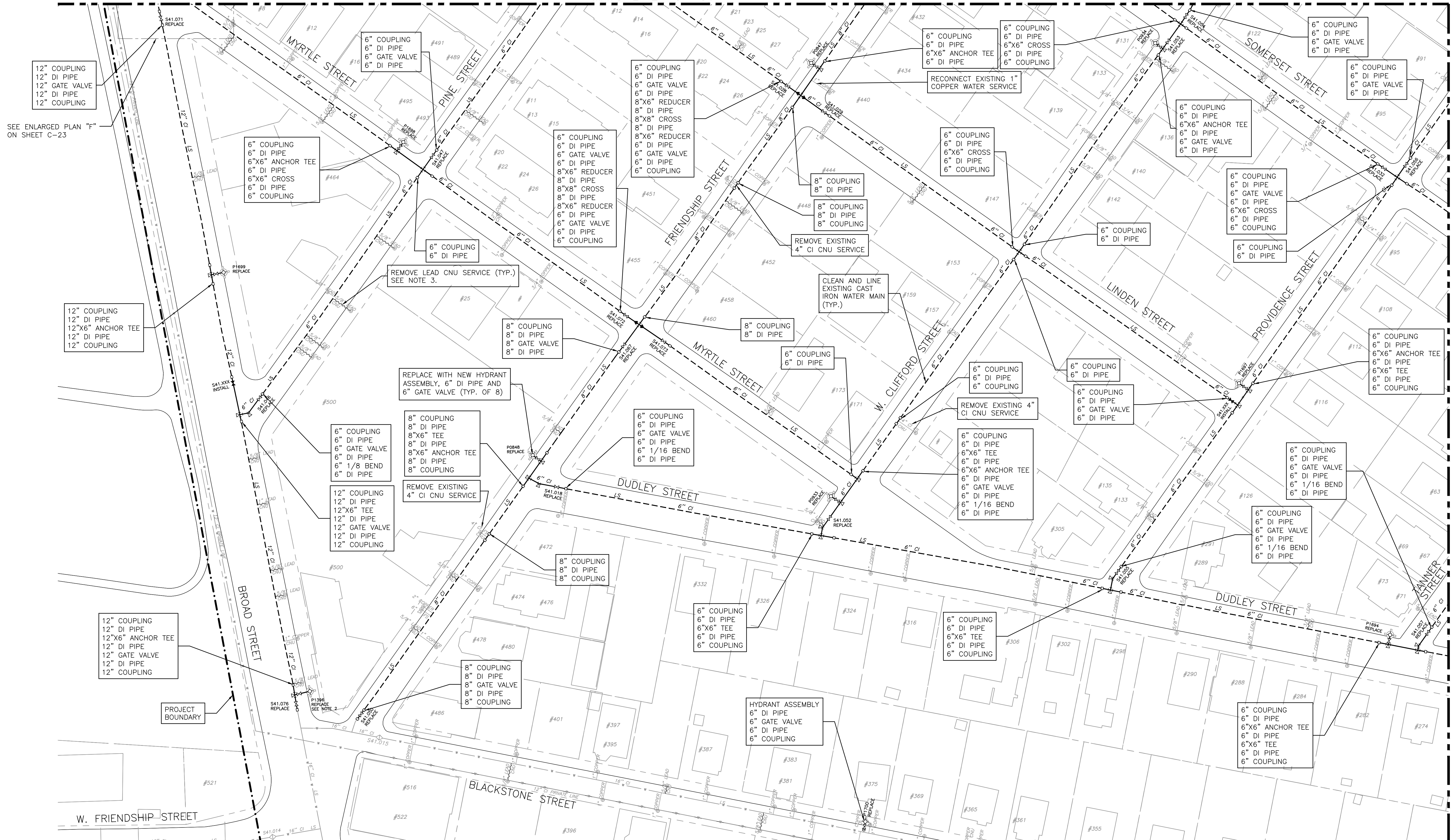
CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

AREA PLAN 14
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-14

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-12

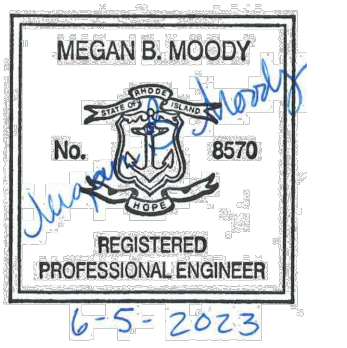
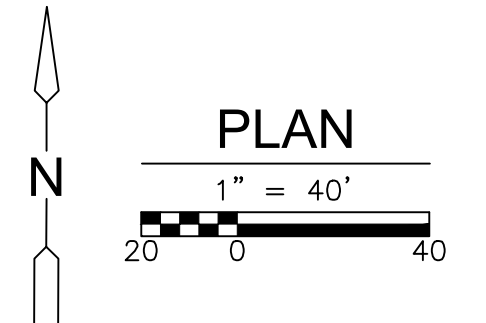
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-16

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-18



NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 27. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFs: [CDMS-2436, INTY SQ FOR CDM FOR BID-AcGIS, Watermain_Providence_7-6-2022, CWN000, Trinity_Square_BaseMap_7-7-2022, curb steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

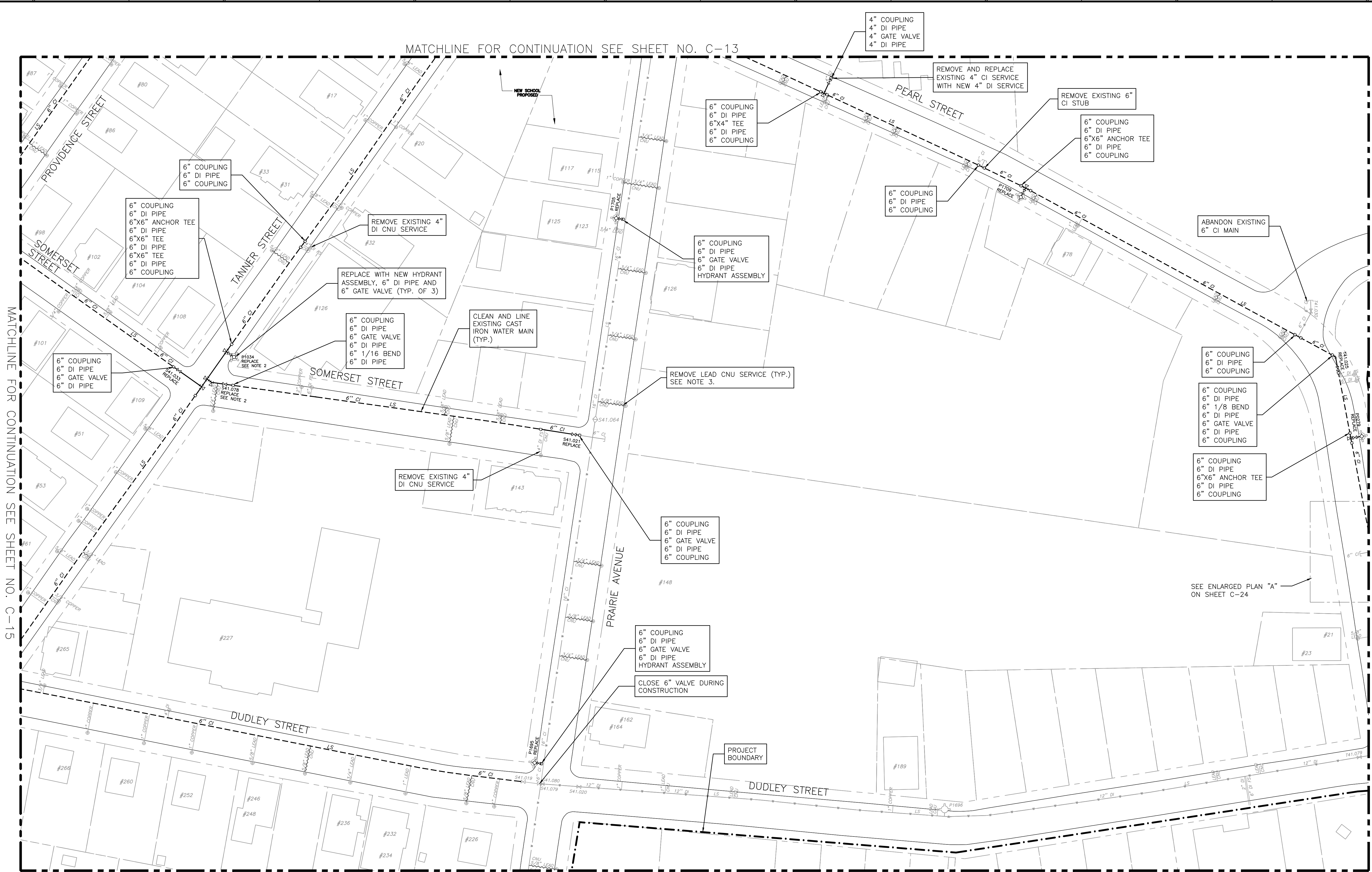
DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
AREA PLAN 15
 SHEET NO. **C-15**

XREFS: [CDMS-2436, INTY SQ. for CDM FOR BID-AcGIS, Watermain, Providence 7-6-2022, CWN0000, Trinity_Square_BaseMap 7-7-2022, curb steps] Images: []
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 - EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 - LEAD CNU REMOVAL COUNT ON THIS SHEET IS 24. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 - EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.

PLAN
1" = 40'

MEGAN B. MOODY
No. 6570
REGISTERED PROFESSIONAL ENGINEER
6-5-2023

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

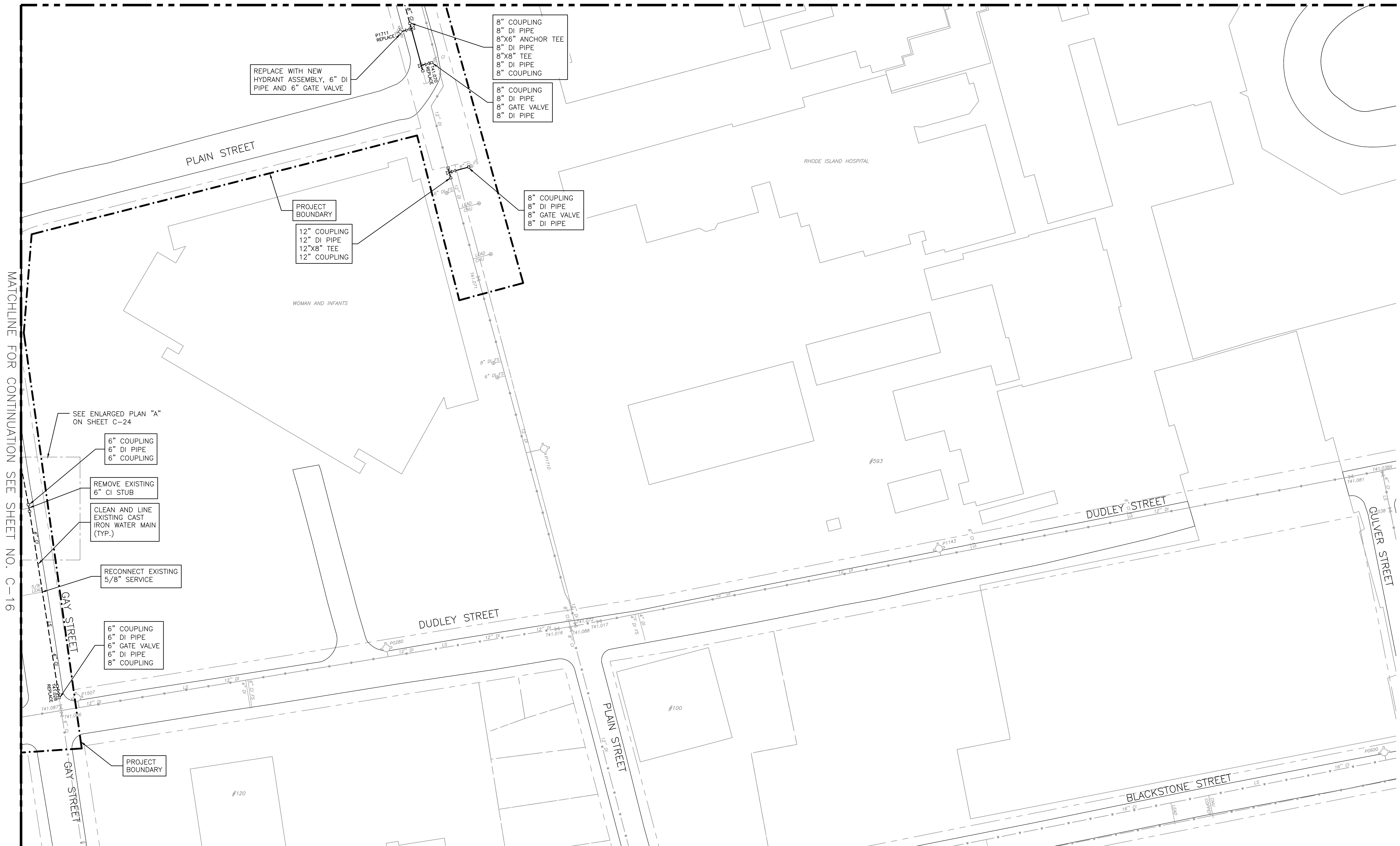


CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 16

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-16

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-14



MATCHLINE FOR CONTINUATION SEE SHEET NO. C-16

SEE ENLARGED PLAN "A" ON SHEET C-24

REPLACE WITH NEW HYDRANT ASSEMBLY, 6" DI PIPE AND 6" GATE VALVE

8" COUPLING
8" DI PIPE
8"X6" ANCHOR TEE
8" DI PIPE
8"X8" TEE
8" DI PIPE
8" GATE VALVE
8" DI PIPE

8" COUPLING
8" DI PIPE
8" GATE VALVE
8" DI PIPE

8" COUPLING
8" DI PIPE
8" GATE VALVE
8" DI PIPE

PROJECT BOUNDARY
12" COUPLING
12" DI PIPE
12"X8" TEE
12" COUPLING

6" COUPLING
6" DI PIPE
6" COUPLING

REMOVE EXISTING 6" CI STUB

CLEAN AND LINE EXISTING CAST IRON WATER MAIN (TYP.)

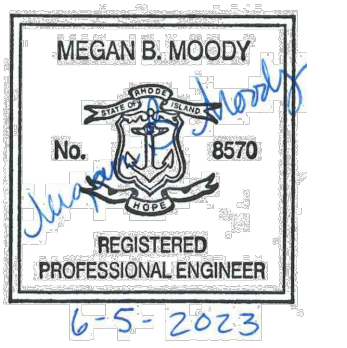
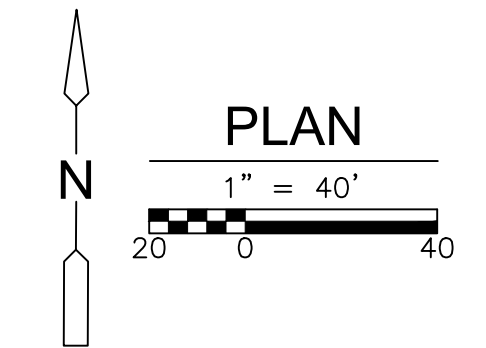
RECONNECT EXISTING 5/8" SERVICE

6" COUPLING
6" DI PIPE
6" GATE VALVE
6" DI PIPE
8" COUPLING

PROJECT BOUNDARY

NOTES:

- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
- EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
- LEAD CNU REMOVAL COUNT ON THIS SHEET IS 0.
- EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436_INITY_SQ_for_CDM_FOR_BID-AccGIS_Watermain_Providence_7-6-2022_CWNW000_Trinity_Square_BaseMap_7-7-2022_curb_steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 17

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-17

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-16

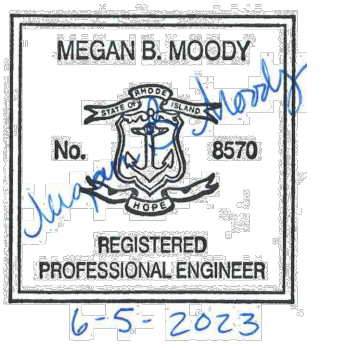
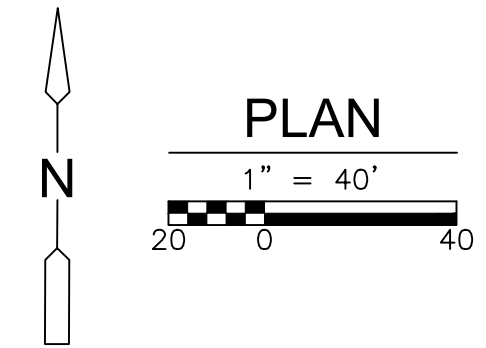


MATCHLINE FOR CONTINUATION SEE SHEET NO. C-18

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-21

NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 8. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436, INTY SQ FOR CDM FOR BID-AcGIS, Watermain_Providence 7-6-2022, CWNW000, Trinity_Square_BaseMap 7-7-2022, curb steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

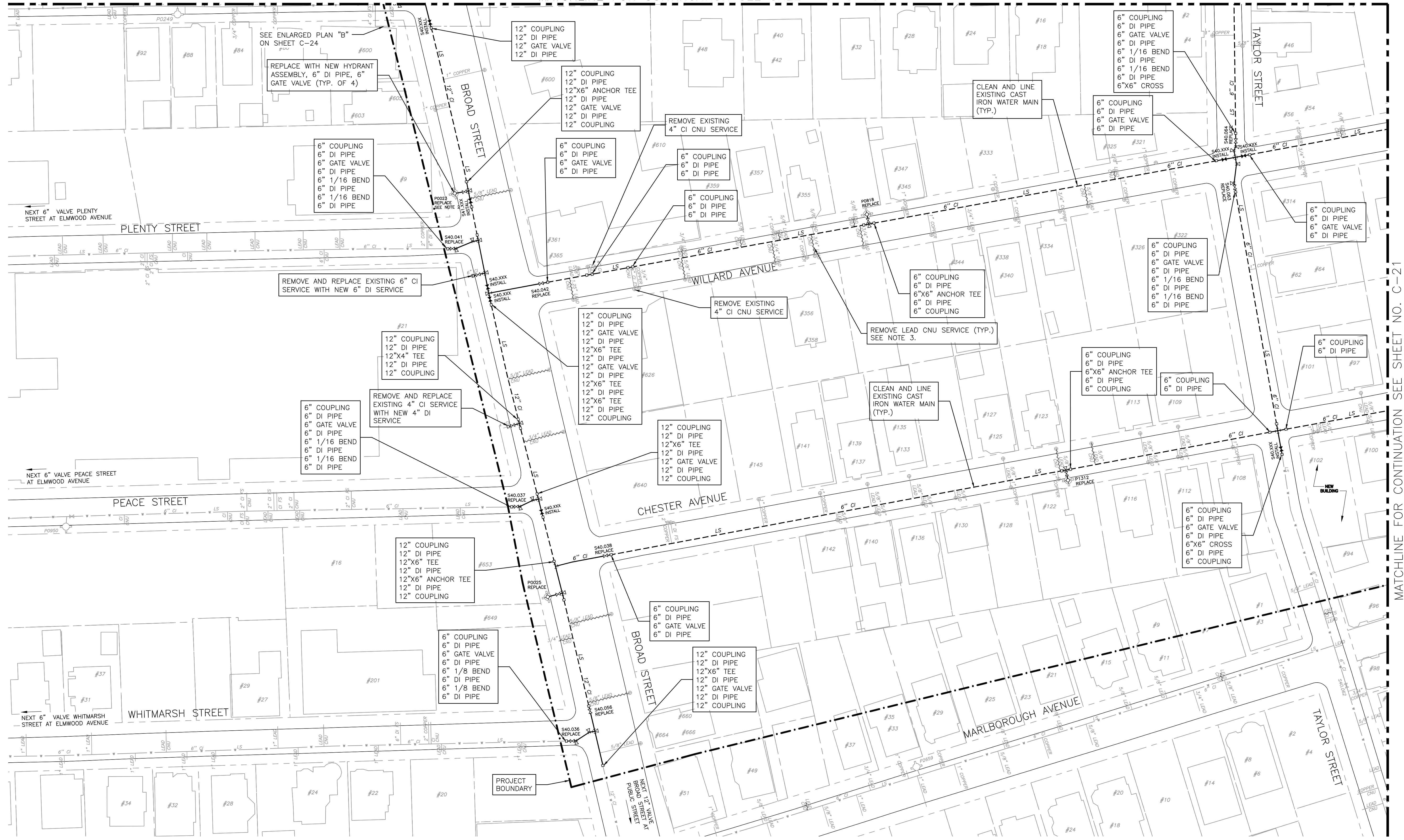


CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 19
 SHEET NO.
C-19

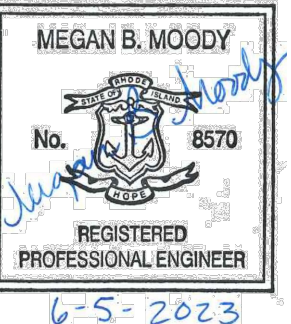
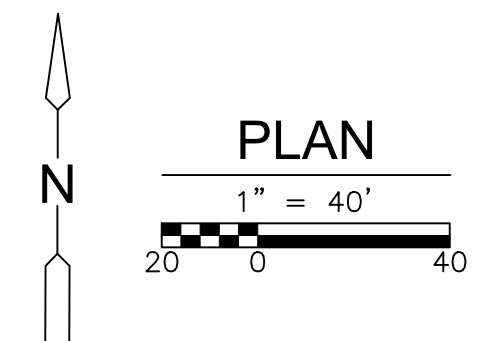
PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO.
C-19

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-18



NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 23. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436, INTY SQ. FOR CDM FOR BID-ArcGIS, Watermain_Providence 7-6-2022, CWNW000, Trinity_Square_BaseMap 7-7-2022, curb steps] Images: []
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MATCHLINE FOR CONTINUATION SEE SHEET NO. C-21

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

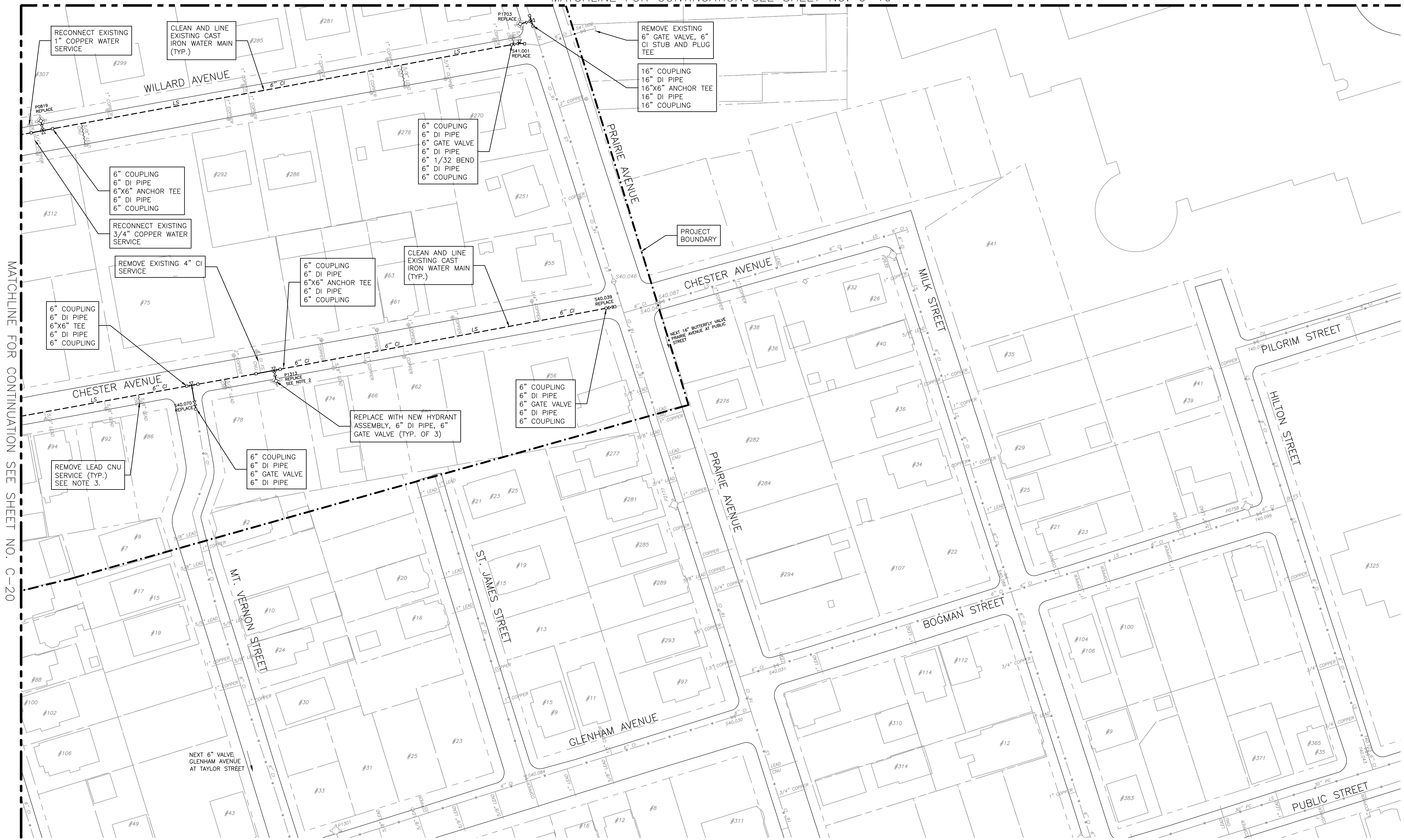
CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 20
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-20

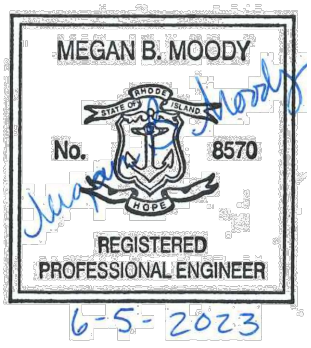
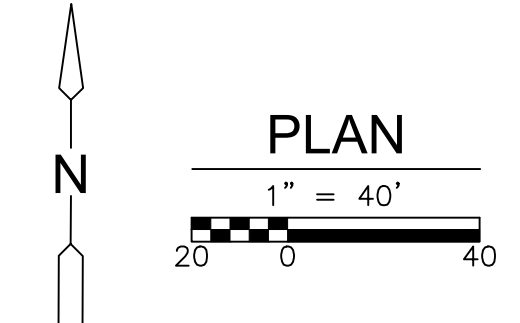
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-19



MATCHLINE FOR CONTINUATION SEE SHEET NO. C-20

NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 5. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436_INITY_SQ_for_CDM_FOR_BID-ArcGIS_Watermain_Providence_7-6-2022_CWN0000_Trinity_Square_BaseMap_7-7-2022_curb_steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 21
 PROJECT NO. 1516-274596
 FILE NAME: CO01PLPR.DWG
 SHEET NO. C-21

SHEET	MATERIAL	DIAMETER (IN)	STATUS	MAIN SIZE (IN)	HOUSE #	ADDRESS
C-1	LEAD	UNK	CNU	6	39	LYMAN ST
C-1	LEAD	UNK	CNU	6	43	LYMAN ST
C-1	LEAD	UNK	CNU	6	43	LYMAN ST
C-1	LEAD	UNK	CNU	6	49	LYMAN ST
C-1	LEAD	UNK	CNU	6	661	WESTMINSTER ST
C-1	LEAD	0.63	CNU	6	681	WESTMINSTER ST
C-1	LEAD	0.63	CNU	6	685	WESTMINSTER ST
C-1	LEAD	0.75	CNU	8	717	WESTMINSTER ST
C-1	LEAD	0.75	CNU	6	755	WESTMINSTER ST
C-1	LEAD	1	CNU	6	797	WESTMINSTER ST
C-1	LEAD	0.63	CNU	6	797	WESTMINSTER ST
C-1	LEAD	0.75	CNU	6	797	WESTMINSTER ST
SHEET MATERIAL DIAMETER (IN) STATUS MAIN SIZE (IN) HOUSE # ADDRESS						
C-2	LEAD	1.25	CNU	8	39	CRANSTON ST
C-2	LEAD	0.63	CNU	8	49	CRANSTON ST
C-2	LEAD	0.63	CNU	6	875	WESTMINSTER ST
C-2	LEAD	0.63	CNU	6	875	WESTMINSTER ST
SHEET MATERIAL DIAMETER (IN) STATUS MAIN SIZE (IN) HOUSE # ADDRESS						
C-3	LEAD	0.63	CNU	6	160	BROAD ST
C-3	LEAD	0.63	CNU	6	178	BROAD ST
C-3	LEAD	0.5	CNU	6	200	BROAD ST
C-3	LEAD	0.63	CNU	6	220	BROAD ST
C-3	LEAD	0.63	CNU	6	35	CONDUIT ST
C-3	LEAD	0.63	CNU	6	49	HASKINS ST
C-3	LEAD	0.63	CNU	6	50	HASKINS ST
C-3	LEAD	0.63	CNU	6	403	PINE ST
C-3	LEAD	0.63	CNU	6	99-95	STEWART ST
C-3	LEAD	0.63	CNU	6	73	SUMMER ST
C-3	LEAD	0.63	CNU	6	83	SUMMER ST
C-3	LEAD	0.63	CNU	6	99	SUMMER ST
C-3	LEAD	0.63	CNU	6	103	SUMMER ST
C-3	LEAD	0.63	CNU	6	136	SUMMER ST
C-3	LEAD	0.63	CNU	6	146	SUMMER ST
SHEET MATERIAL DIAMETER (IN) STATUS MAIN SIZE (IN) HOUSE # ADDRESS						
C-4	LEAD	0.75	CNU	8	284	FRIENDSHIP ST
C-4	LEAD	0.63	CNU	6	347	PINE ST
C-4	LEAD	0.63	CNU	6	351	PINE ST
C-4	LEAD	0.63	CNU	6	353	PINE ST
C-4	LEAD	0.63	CNU	6	356	PINE ST
C-4	LEAD	0.75	CNU	6	357	PINE ST
C-4	LEAD	1	CNU	6	362	PINE ST
C-4	LEAD	0.63	CNU	6	20	KELL (SERVICE) ST
C-4	LEAD	0.63	CNU	6	26	KELL (SERVICE) ST
C-4	LEAD	0.75	CNU	6	112	STEWART ST
C-4	LEAD	0.63	CNU	6	120	STEWART ST
SHEET MATERIAL DIAMETER (IN) STATUS MAIN SIZE (IN) HOUSE # ADDRESS						
C-5	LEAD	UNK	CNU	6	220	CRANSTON ST
SHEET MATERIAL DIAMETER (IN) STATUS MAIN SIZE (IN) HOUSE # ADDRESS						
C-6	LEAD	0.75	CNU	6	315	BROAD ST
C-6	LEAD	0.75	CNU	6	355	BROAD ST
C-6	LEAD	0.63	CNU	6	355	BROAD ST
C-6	LEAD	0.63	CNU	6	355	BROAD ST
C-6	LEAD	0.75	CNU	6	31	CENTRAL ST
C-6	LEAD	0.63	CNU	6	35	CENTRAL ST
C-6	LEAD	1	CNU	6	304	PEARL ST
C-6	LEAD	0.63	CNU	6	16	PERKINS ST
C-6	LEAD	0.75	CNU	6	41	RICE ST
SHEET MATERIAL DIAMETER (IN) STATUS MAIN SIZE (IN) HOUSE # ADDRESS						
C-7	LEAD	0.63	CNU	6	322	BROAD ST
C-7	LEAD	0.63	CNU	6	336	BROAD ST
C-7	LEAD	0.63	CNU	6	20	HASKINS ST
C-7	LEAD	0.63	CNU	6	25	HASKINS ST
C-7	LEAD	0.63	CNU	6	28	HASKINS ST
C-7	LEAD	0.63	CNU	6	33	HASKINS ST
C-7	LEAD	0.75	CNU	6	36	HASKINS ST
C-7	LEAD	0.63	CNU	6	39	HASKINS ST
C-7	LEAD	0.63	CNU	6	40	HASKINS ST
C-7	LEAD	0.63	CNU	6	44	HASKINS ST
C-7	LEAD	0.63	CNU	6	45	HASKINS ST
C-7	LEAD	0.63	CNU	6	46	HASKINS ST
C-7	LEAD	0.63	CNU	6	5	HAYWARD ST
C-7	LEAD	0.75	CNU	6	6	HAYWARD ST
C-7	LEAD	0.63	CNU	6	9	HAYWARD ST
C-7	LEAD	0.63	CNU	6	10	HAYWARD ST
C-7	LEAD	0.63	CNU	6	327	LOCKWOOD ST
C-7	LEAD	1	CNU	20	270	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	255	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	291	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	295	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	295	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	296	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	318	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	336	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	340	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	340	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	351	LOCKWOOD ST
C-7	LEAD	0.63	CNU	20	357	LOCKWOOD ST
C-7	LEAD	0.63	CNU	6	219	PEARL ST
C-7	LEAD	0.63	CNU	6	224	PEARL ST
C-7	LEAD	0.63	CNU	6	235	PEARL ST
C-7	LEAD	0.63	CNU	6	251	PEARL ST
C-7	LEAD	0.75	CNU	6	261	PEARL ST
C-7	LEAD	0.63	CNU	6	405	PINE ST
C-7	LEAD	0.63	CNU	6	412	PINE ST
C-7	LEAD	0.63	CNU	6	414	PINE ST
C-7	LEAD	0.63	CNU	6	6	PORTLAND ST
C-7	LEAD	0.63	CNU	6	11	PORTLAND ST
C-7	LEAD	0.63	CNU	6	11	PORTLAND ST
C-7	LEAD	0.63	CNU	6	6	WICKHAM ST
C-7	LEAD	0.63	CNU	6	10	WICKHAM ST
C-7	LEAD	0.63	CNU	6	14	WICKHAM ST

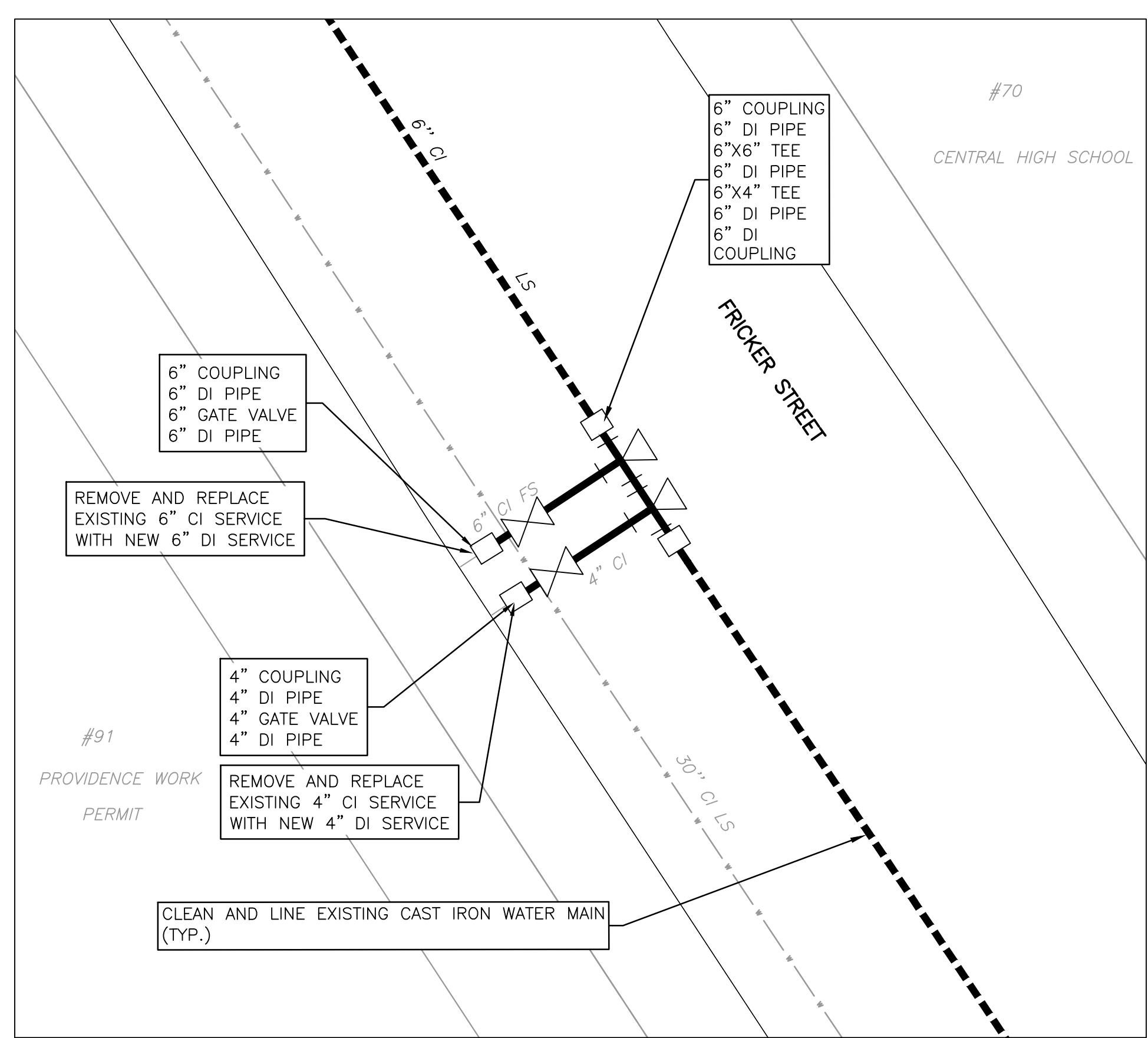
SHEET	MATERIAL	DIAMETER	STATUS	MAIN SIZE	HOUSE #	STREET
C-8	LEAD	0.63	CNU	8	292	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	292	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	297	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	305	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	322	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	322	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	324	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	325	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	329	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	337	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	341	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	345	FRIENDSHIP ST
C-8	LEAD	0.5	CNU	8	347	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	350	FRIENDSHIP ST
C-8	LEAD	0.63	CNU	8	255	LOCKWOOD ST
C-8	LEAD	0.63	CNU	6	36	MAPLE ST
C-8	LEAD	0.63	CNU	6	42	MAPLE ST
C-8	LEAD	0.63	CNU	6	43	MAPLE ST
C-8	LEAD	0.63	CNU	6	368	PINE ST
C-8	LEAD	0.63	CNU	6	372	PINE ST
C-8	LEAD	0.63	CNU	6	385	PINE ST
C-8	LEAD	1	CNU	6	392	PINE ST
C-8	LEAD	0.63	CNU	6	402	PINE ST
C-8	LEAD	0.63	CNU	6	284	POINT ST
C-8	LEAD	0.63	CNU	6	300	POINT ST
C-8	LEAD	0.63	CNU	6	302	POINT ST
C-8	LEAD	0.63	CNU	6	303	POINT ST
C-8	LEAD	0.63	CNU	6	325	POINT ST
C-8	LEAD	0.63	CNU	6	327	POINT ST
C-8	LEAD	0.63	CNU	6	337	POINT ST
C-8	LEAD	0.63	CNU	6	337	POINT ST
C-8	LEAD	1	CNU	6	340	POINT ST
C-8	LEAD	0.63	CNU	6	340	POINT ST
C-8	LEAD	0.63	CNU	6	16	PRAIRIE AV
C-8	LEAD	0.63	CNU	6	4	PRINCE ST
C-8	LEAD	0.63	CNU	6	140	STEWART ST
C-8	LEAD	0.63	CNU	6	148	STEWART ST
C-8	LEAD	0.63	CNU	6	171	SUMMER ST
C-8	LEAD	0.63	CNU	6	8	WEST CLIFFORD ST
C-8	LEAD	0.75	CNU	6	24	WEST CLIFFORD ST
C-8	LEAD	0.75	CNU	6	33	WEST CLIFFORD ST
SHEET MATERIAL DIAMETER STATUS MAIN SIZE HOUSE # STREET						
C-10	LEAD	1	CNU	6	86	BRIDGHAM ST
C-10	LEAD	UNK	CNU	6	868	BRIDGHAM ST
SHEET MATERIAL DIAMETER STATUS MAIN SIZE HOUSE # STREET						
C-11	LEAD	UNK	CNU	6	30	BRIDGHAM ST
C-11	LEAD	UNK	CNU	6	34	BRIDGHAM ST
C-11	LEAD	UNK	CNU	6	42	BRIDGHAM ST
C-11	LEAD	UNK	CNU	6	46	BRIDGHAM ST
C-11	LEAD	0.63	CNU	6	359	BROAD ST
C-11	LEAD	0.63	CNU	6	375	BROAD ST
C-11	LEAD	0.63	CNU	6	375	BROAD ST
C-11	LEAD	0.63	CNU	6	65	CENTRAL ST
C-11	LEAD	0.63	CNU	6	71	CENTRAL ST
C-11	LEAD	1.25	CNU	6	5	ELMWOOD AV
SHEET MATERIAL DIAMETER STATUS MAIN SIZE HOUSE # STREET						
C-12	LEAD	1	CNU	12	420	BROAD
C-12	LEAD	0.75	CNU	6	85	CLIFFORD ST
C-12	LEAD	0.63	CNU	6	125	FRIENDSHIP ST
C-12	LEAD	0.63	CNU	8	379	FRIENDSHIP ST
C-12	LEAD	0.63	CNU	6	389	FRIENDSHIP ST
C-12	LEAD	0.75	CNU	8	390	FRIENDSHIP ST
C-12	LEAD	0.75	CNU	8	394	FRIENDSHIP ST
C-12	LEAD	0.63	CNU	8	396	FRIENDSHIP ST
C-12	LEAD	0.63	CNU	6	409	FRIENDSHIP ST
C-12	LEAD	0.63	CNU	8	416	FRIENDSHIP ST
C-12	LEAD	UNK	CNU	6	22	HAYWARD ST
C-12	LEAD	0.63	CNU	6	54	HAYWARD ST
C-12	LEAD	0.63	CNU	6	23	LINDEN ST
C-12	LEAD	0.63	CNU	6	197	PEARL ST
C-12	LEAD	0.63	CNU	6	198	PEARL ST
C-12	LEAD	0.63	CNU	6	201	PEARL ST
C-12	LEAD	0.75	CNU	6	201	PEARL ST
C-12	LEAD	0.63	CNU	6	430	PINE ST
C-12	LEAD	0.75	CNU	6	435	PINE ST
C-12	LEAD	1	CNU	6	440	PINE ST
C-12	LEAD	0.63	CNU	6	442	PINE ST
C-12	LEAD	0.63	CNU	6	443	PINE ST
C-12	LEAD	0.75	CNU	6	451	PINE ST
C-12	LEAD	0.63	CNU	6	457	PINE ST
C-12	LEAD	0.63	CNU	6	468	PINE ST
C-12	LEAD	0.63	CNU	6	476	PINE ST
C-12	LEAD	0.63	CNU	6	478	PINE ST
C-12	LEAD	0.63	CNU	6	11	PORTLAND ST
C-12	LEAD	0.63	CNU	6	11	PORTLAND ST
C-12	LEAD	0.63	CNU	8	72	PORTLAND ST
C-12	LEAD	0.63	CNU	8	399	PORTLAND ST
C-12	LEAD	0.63	CNU	6	24	SOMERSET ST
C-12	LEAD	0.63	CNU	6	24	SOMERSET ST
C-12	LEAD	0.63	CNU	6	34	SOMERSET ST
C-12	LEAD	1	CNU	6	37	SOMERSET ST
C-12	LEAD	0.63	CNU	6	85	SOMERSET ST
C-12	LEAD	0.75	CNU	6	87	WEST CLIFFORD ST
C-12	LEAD	0.63	CNU	6	94	WEST CLIFFORD ST
C-12	LEAD	0.63	CNU	6	107	WEST CLIFFORD ST
C-12	LEAD	0.63	CNU	6	111	WEST CLIFFORD ST
C-12	LEAD	0.63	CNU	6	122	WEST CLIFFORD ST

SHEET	MATERIAL	DIAMETER	STATUS	MAIN SIZE	HOUSE #	STREET
C-13	LEAD	0.63	CNU	6	247	LOCKWOOD ST
C-13	LEAD	0.63	CNU	6	146	PEARL ST
C-13	LEAD	0.63	CNU	6	151	PEARL ST
C-13	LEAD	0.75	CNU	6	175	PEARL ST
C-13	LEAD	0.75	CNU	6	113	PRAIRIE AV
C-13	LEAD	0.75	CNU	16	91	PRAIRIE AV
C-13	LEAD	0.75	CNU	16	92	PRAIRIE AV
C-13	LEAD	0.75	CNU	16	93	PRAIRIE AV
C-13	LEAD	0.75	CNU	16	96	PRAIRIE AV
C-13	LEAD	0.75	CNU	16	113	PRAIRIE AV
C-13	LEAD	0.63	CNU	6	47	PROVIDENCE ST
C-13	LEAD	0.75	CNU	6	50	PROVIDENCE ST
C-13	LEAD	0.63	CNU	6	64	PROVIDENCE ST
C-13	LEAD	0.63	CNU	6	35	WEST CLIFFORD ST
C-13	LEAD	0.63	CNU	6	36	WEST CLIFFORD ST
C-13	LEAD	0.75	CNU	6	41	WEST CLIFFORD ST
C-13	LEAD	0.63	CNU	6	61	WEST CLIFFORD ST
C-13	LEAD	0.63	CNU	6	66	WEST CLIFFORD ST
C-13	LEAD	0.63	CNU	6	78	WEST CLIFFORD ST
C-13	LEAD	0.63	CNU	6	71	WEST CLIFFORD ST
C-13	LEAD	0.63	CNU	6	85	WEST CLIFFORD ST
C-13	LEAD	0.63	CNU			

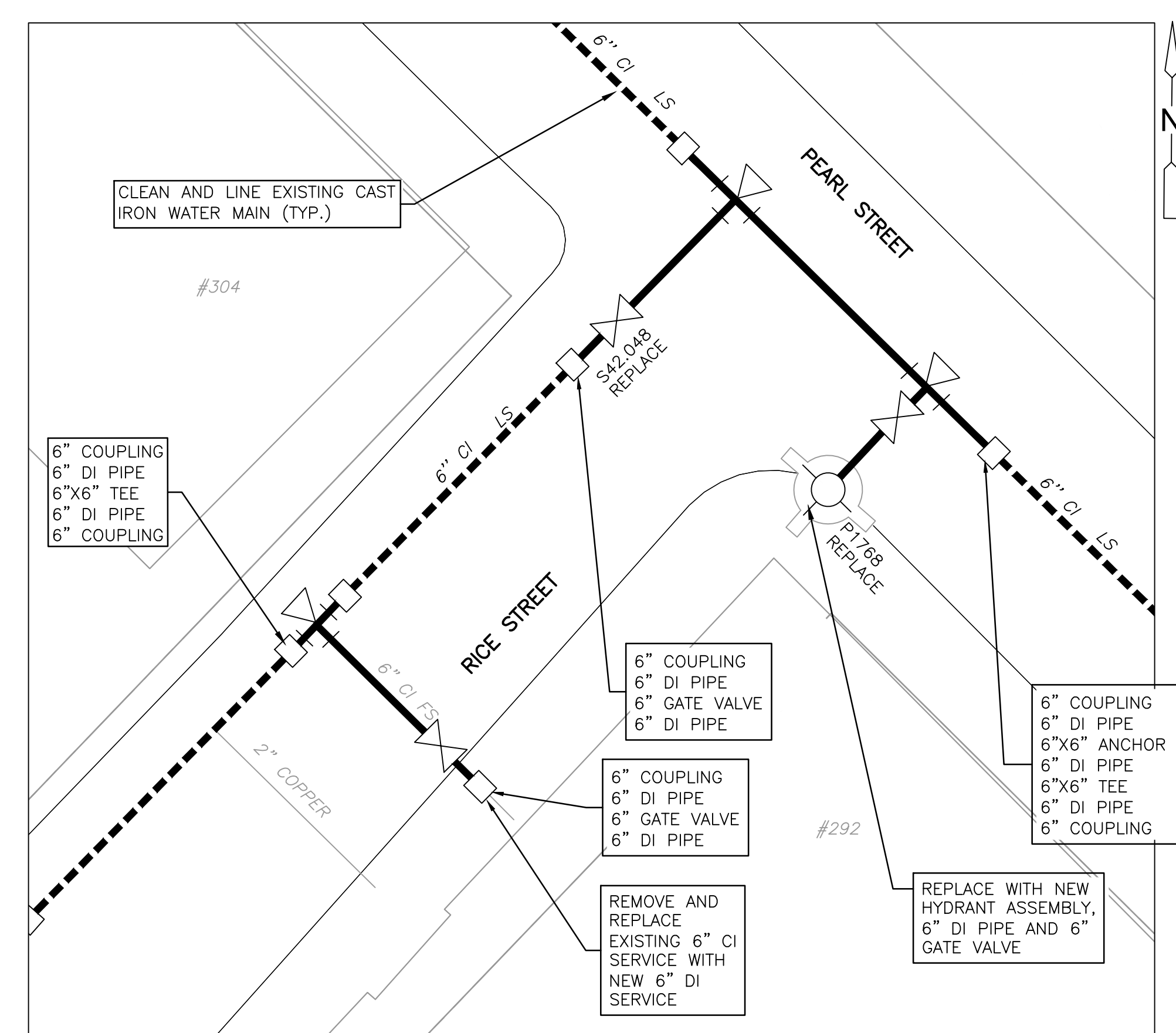
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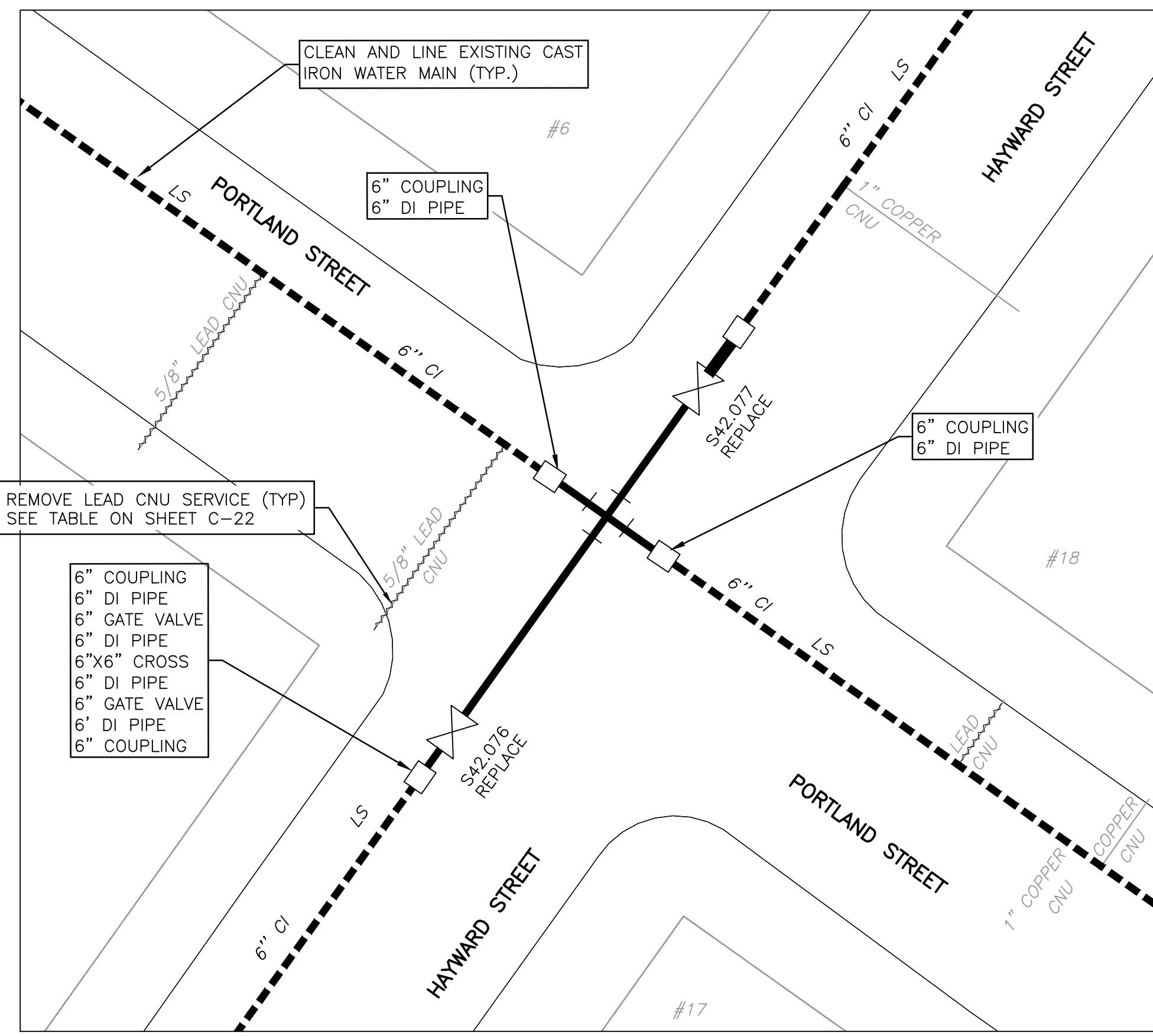
ENLARGED PLAN A
1" = 10'
C-1



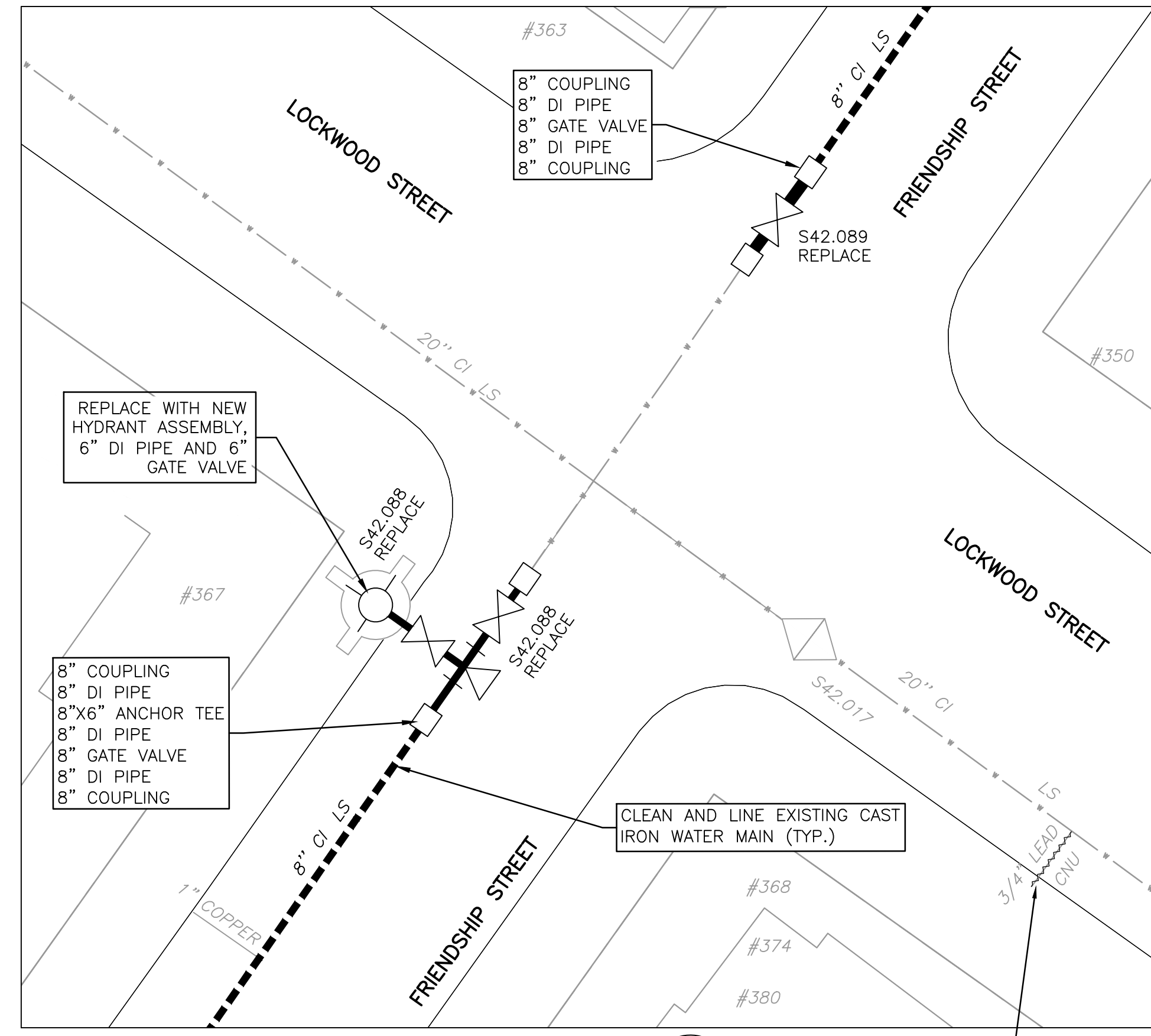
ENLARGED PLAN B
1" = 10'
C-3, C-7



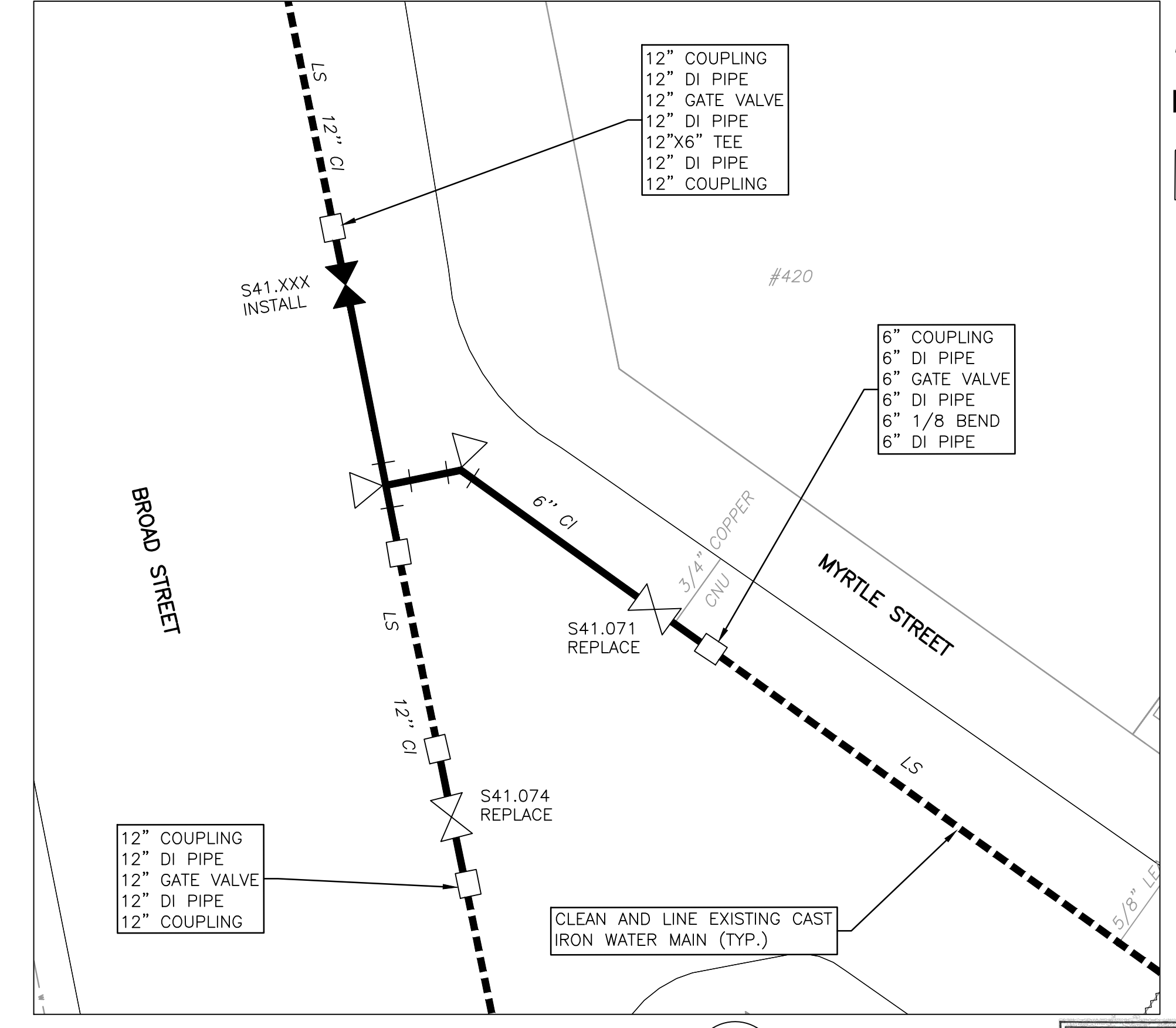
ENLARGED PLAN C
1" = 10'
C-6, C-7



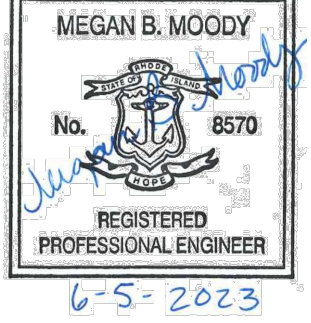
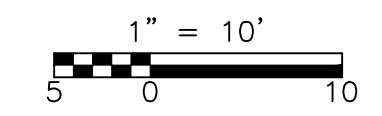
ENLARGED PLAN D
1" = 10'
C-7, C-12



ENLARGED PLAN E
1" = 10'
C-7, C-8, C-12, C-13



ENLARGED PLAN F
1" = 10'
C-12, C-15



REV. NO.	DATE	DRWN	CHKD	REMARKS

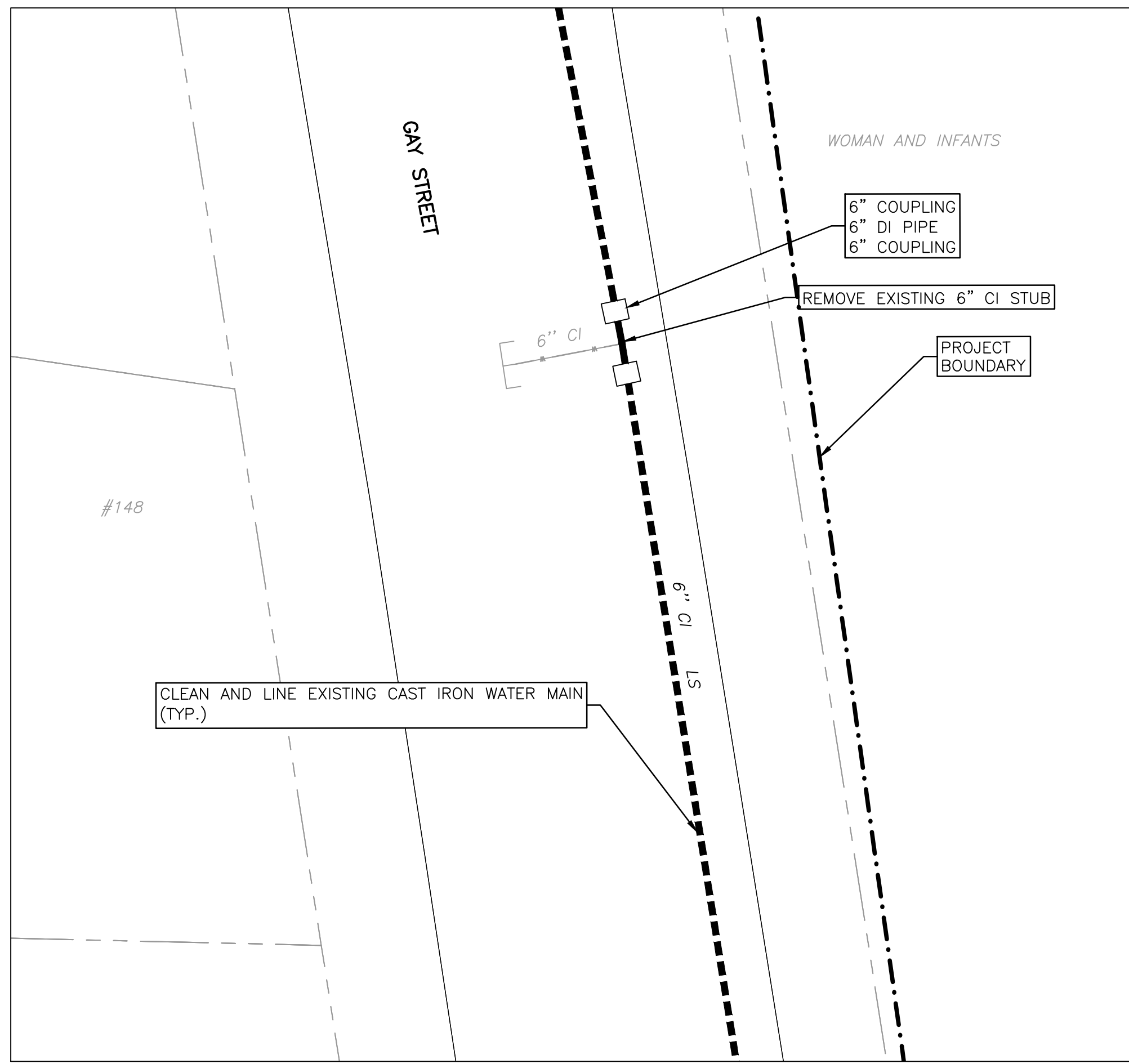
DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



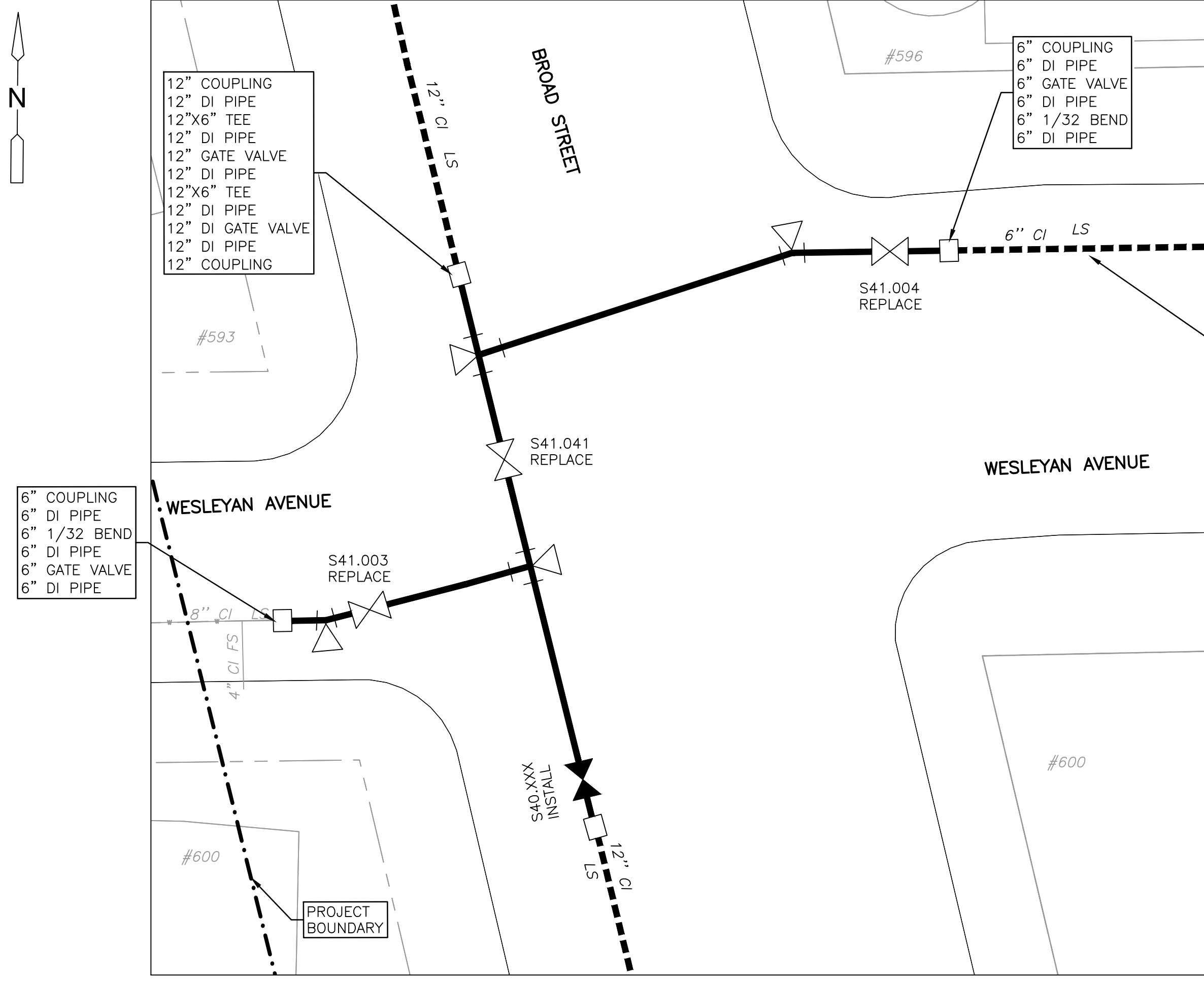
CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
 TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

ENLARGED PLANS I
 PROJECT NO. 1516-274596
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 SHEET NO. C-23

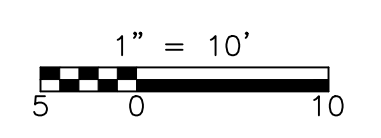
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ENLARGED PLAN A
1" = 10'
C-16, C-17



ENLARGED PLAN B
1" = 10'
C-18, C-20



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
 TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

ENLARGED PLANS II
 SHEET NO. C-24

PROJECT NO. 1516-274596
 FILE NAME: C023PLPR.DWG
 SHEET NO. C-24