

ADDENDUM #1

Manchester-by-the-Sea, MA
2019 Water Main Improvements Project

Date of Addendum: August 14, 2019
Bid Due Date: August 21, 2019 @ 1100am

Below is a list of plan holder questions followed by our responses **in bold**:

Question #1

There are items for bypass on all streets, however there is a note on each page stating pipe to be installed without use of temporary bypass, please clarify.

Answer #1:

The Contractor is to install temporary bypass on each street. The existing water main is to be removed with the new main installed in the same trench. Originally, the project was designed to install the new water main without requirement of bypass, however the Town has opted to make temporary bypass a requirement. See updated plan sheets to reflect this change.

Question #2:

Regarding the pavement items: Your UMs are inconsistent in alternate 4. Per the measurement and payment section, I believe all temp trench should be measured by the TON and all Perm Pavement should be measured by the SY.

Answer #2:

The temporary trench item has been updated to be measured by the TON. This change is reflected in the updated Bid Form.

Question #3:

In the bid form for Alt 1, the quantities for Items 15A and 15B don't match, and they should. (Also, Item 15A is listed as just 15).

Answer #3:

See the attached updated Bid Form that address this discrepancy along with other changes.

Question #4:

What is the Engineer's Estimate/Town's Budget for the project?

Answer #4:

The project estimate is approximately \$1,700,000.

Changes to Specifications:

Section 00 41 01 - Bid Form

- DELETE Section 00 41 01 in its entirety and REPLACE with the attached Section 00 41 01 (25 pages)

Section 01 20 25 – Measurement & Payment

- DELETE Section 01 20 25 in its entirety and REPLACE with the attached Section 01 20 25 (12 pages)

Changes to Drawings:

DELETE Note 12 “Proposed water main to be installed without use of temporary bypass piping. One 8-hour shutdown will be permitted for each connection to existing water main” on the following sheets:

- C-100, C-101, C-102, C-103, C-104, C-105, C-200, C-201, C-202, C-300, C-301, C-302, C-303, C-304, C-500, C-501, C-502 & C-503

Sheet C-400

- Revise Permanent Trench Pavement Detail on Sheet C-400 to reflect change in pavement restoration to include 8.5' wide mill & overlay in place of binder & top course
- Revise Temporary Trench Pavement Detail to include 4" binder

SECTION 00 41 01

BID FORM

ARTICLE 1 – DEFINED TERMS

1.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions and Supplementary Conditions, if any.

ARTICLE 2 – BID RECIPIENT

2.01 This Bid is submitted to:

**Manchester-By-The-Sea
10 Central Street, Room 6
Manchester-By-The-Sea, Massachusetts 01944
ATTN: Charles Dam, Public Works Director**

2.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 3 – BIDDER’S ACKNOWLEDGEMENTS

3.01 Bidder accepts all of the terms and conditions of the Bidding Documents including, without limitation:

- A. those dealing with disposition of Bid security;
- B. those included in the Supplementary Instructions to Bidders;
- C. insurance and bonding requirements (Payment Bond and Performance Bond each equal to 100% of the total Contract Price) set forth in the General Conditions and Supplementary Conditions, if any;
- D. Contract Times as set forth in the Agreement; and
- E. provisions for liquidated damages as set forth in the Agreement.

3.02 This Bid will remain subject to acceptance for 90 calendar days after the Bid opening or for such longer period of time that Bidder may agree to in writing upon request of Owner.

3.03 Bidder acknowledges receipt of the following Addenda.

Addendum No. Addendum Date

Bidder acknowledges the representations and certifications included in Section 00 45 05 are made a condition of the Bid.

ARTICLE 4 – BASIS OF BID

4.01 Bidder will complete the Work under Work Authorizations in accordance with the Contract Documents for the following price(s) based on unit prices included in the following schedule. **Bidder must complete all items. BID PRICES SHALL EXCLUDE SALES AND USE TAX.**

Base Bid Price Form

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
1	Mobilization/Demobilization	1		
	@	LS		
	Dollars and _____ Cents PER LUMP SUM			
2a	4" Cement Lined Ductile Iron Pipe	40		
	@	LF		
	Dollars and _____ Cents PER LINEAR FOOT			
2b	6" Cement Lined Ductile Iron Pipe	80		
	@	LF		
	Dollars and _____ Cents PER LINEAR FOOT			
2c	8" Cement Lined Ductile Iron Pipe	1,985		
	@	LF		
	Dollars and _____ Cents PER LINEAR FOOT			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
3a	6" C900 PVC Water Pipe @	50		
		LF		
	Dollars and _____ Cents LINEAR FOOT			
3b	8" C900 PVC Water Pipe @	4,715		
		LF		
	Dollars and _____ Cents LINEAR FOOT			
4a	1" Copper Tubing @	250		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			
4b	1 ½" Copper Tubing @	50		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			
4c	2" Copper Tubing @	50		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			
5a	1" PE Service Tubing @	975		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			
5b	1 ½" PE Service Tubing @	80		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
5c	2" PE Service Tubing @	50		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			
6a	1" Corporation @	52		
		EA		
	Dollars and _____ Cents PER EACH			
6b	1 1/2" Corporation @	4		
		EA		
	Dollars and _____ Cents PER EACH			
6c	2" Corporation @	1		
		EA		
	Dollars and _____ Cents PER EACH			
7a	1" Curb Stop & Box @	52		
		EA		
	Dollars and _____ Cents PER EACH			
7b	1 1/2" Curb Stop & Box @	4		
		EA		
	Dollars and _____ Cents PER EACH			
7c	2" Curb Stop & Box @	1		
		EA		
	Dollars and _____ Cents PER EACH			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
8a	4" Gate Valve @	2		
		EA		
	Dollars and _____ Cents PER EACH			
8b	6" Gate Valve @	7		
		EA		
	Dollars and _____ Cents PER EACH			
8c	8" Gate Valve @	15		
		EA		
	Dollars and _____ Cents PER EACH			
9	Hydrants @	9		
		EA		
	Dollars and _____ Cents PER EACH			
10	Fittings @	7,750		
		LBS		
	Dollars and _____ Cents PER POUNDS			
11	Temporary Trench Pavement (4") @	850		
		TON		
	Dollars and _____ Cents PER TON			
12	Permanent Trench 1-1/2" Mill & Overlay @	5,700		
		SY		
	Dollars and _____ Cents PER SQUARE YARD			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
13	1 ½" Mill & Overlay @	7,400		
		SY		
	Dollars and _____ Cents PER SY			
14a	Rock Removal @	125	\$100.00	\$12,500.00
		CY		
	Dollars and _____ Cents PER CY			
14b	Rock Removal Adjustment @	125		
		CY		
	Dollars and _____ Cents PER CY			
15	AC Pipe Removal & Disposal @	50		
		LF		
	Dollars and _____ Cents PER LF			
16	Erosion Control @	1		
		LS		
	Dollars and _____ Cents PER LUMP SUM			
17	Test Pits @	100		
		CY		
	Dollars and _____ Cents PER CY			
18	Project Closeout	1		
		LS		
	Dollars and _____ Cents PER LS			
19	Owner's Contingency Allowance for Police Details @	1	\$40,000	\$40,000
		LS		
	Dollars and _____ Cents PER LS			

20a	Ocean Street Water Bypass @	1		
		LS		
	Dollars and _____ Cents PER LS			
20b	Magnolia Avenue Water Bypass @	1		
		LS		
	Dollars and _____ Cents PER LS			
20c	Raymond Street Water Bypass @	1		
		LS		
	Dollars and _____ Cents PER LS			

TOTAL BASE BID PRICE (based on Unit Price Schedule above):

Add. Alternate #1 Bid Price Form - Overledge Road Water Main to University

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA1- 2b	6" Cement Lined Ductile Iron Pipe @	10		
		LF		
	Dollars and _____Cents PER LINEAR FOOT			
AA1- 2c	8" Cement Lined Ductile Iron Pipe @	525		
		LF		
	Dollars and _____Cents PER LINEAR FOOT			
AA1- 4a	1" Copper Tubing @	150		
		LF		
	Dollars and _____Cents PER LINEAR FOOT			
AA1- 6a	1" Corporation @	6		
		EA		
	Dollars and _____Cents PER EACH			
AA1- 7a	1" Curb Stop & Box @	6		
		EA		
	Dollars and _____Cents PER EACH			
AA1- 8c	8" Gate Valve @	1		
		EA		
	Dollars and _____Cents PER EACH			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA1- 10	Fittings @	600		
		LBS		
	Dollars and _____ Cents PER POUNDS			
AA1- 11	Temporary Trench Pavement (4") @	75		
		TON		
	Dollars and _____ Cents PER TON			
AA1- 12	Permanent Trench 1-1/2" Mill & Overlay @	475		
		SY		
	Dollars and _____ Cents PER SQUARE YARD			
AA1- 14a	Rock Removal @	125	\$100.00	\$12,500.00
		CY		
	Dollars and _____ Cents PER CY			
AA1- 14b	Rock Removal Adjustment @	125		
		CY		
	Dollars and _____ Cents PER CY			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA1- 15	AC Pipe Removal & Disposal @	10		
		LF		
	Dollars and _____ Cents PER LF			
AA1- 16	Erosion Control @	1		
		LS		
	Dollars and _____ Cents PER LUMP SUM			
AA1- 17	Test Pits @	25		
		CY		
	Dollars and _____ Cents PER CY			
AA1- 18	Project Closeout	1		
		LS		
	Dollars and _____ Cents PER LS			
AA1- 19	Owner's Contingency Allowance for Police Details @	1	\$4,000	\$4,000
		LS		
	Dollars and _____ Cents PER LS			
AA1- 20	Water Bypass @	1		
		LS		
	Dollars and _____ Cents PER LS			

TOTAL ADD ALT. #1 BID PRICE (based on Unit Price Schedule above):

Add. Alternate #2 Bid Price Form - Butler Avenue Water Main

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA2- 3a	6" C900 PVC Water Pipe @	930		
		LF		
	Dollars and _____ Cents LINEAR FOOT			
AA2- 5a	1" PE Service Tubing @	340		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			
AA2- 6a	1" Corporation @	17		
	Dollars and _____ Cents PER EACH	EA		
AA2- 7a	1" Curb Stop & Box @	17		
		EA		
	Dollars and _____ Cents PER EACH			
AA2- 9	Hydrants @	2		
		EA		
	Dollars and _____ Cents PER EACH			
AA2- 10	Fittings @	1,000		
		LBS		
	Dollars and _____ Cents PER POUNDS			
AA2- 11	Temporary Trench Pavement (4") @	125		
		TON		
	Dollars and _____ Cents PER TON			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA2- 12	Permanent Trench 1-1/2" Mill & Overlay @	1,250		
		SY		
	Dollars and _____ Cents PER SQAURE YARD			
AA2- 14a	Rock Removal @	10	\$100.00	\$1,000.00
		CY		
	Dollars and _____ Cents PER CY			
AA2- 14b	Rock Removal Adjustment @	10		
		CY		
	Dollars and _____ Cents PER CY			
AA2- 15	AC Pipe Removal & Disposal @	10		
		LF		
	Dollars and _____ Cents PER LF			
AA2- 16	Erosion Control @	1		
		LS		
	Dollars and _____ Cents PER LUMP SUM			
AA2- 17	Test Pits @	25		
		CY		
	Dollars and _____ Cents PER CY			
AA2- 18	Project Closeout	1		
		LS		
	Dollars and _____ Cents PER LS			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA2- 19	Owner's Contingency Allowance for Police Details @	1	\$4,000	\$4,000
		LS		
	Dollars and _____ Cents PER LS			
AA2- 20	Water Bypass @	1		
		LS		
	Dollars and _____ Cents PER LS			

TOTAL ADD ALT. #2 BID PRICE (based on Unit Price Schedule above):

Add. Alternate #3 Bid Price Form - Victoria Avenue Water Main

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA3- 2b	6" Cement Lined Ductile Iron Pipe @	610		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			
AA3- 4a	1" Copper Tubing @	200		
		LF		
	Dollars and _____ Cents PER LINEAR FOOT			
AA3- 6a	1" Corporation @	8		
		EA		
	Dollars and _____ Cents PER EACH			
AA3- 7a	1" Curb Stop & Box @	8		
		EA		
	Dollars and _____ Cents PER EACH			
AA3- 9	Hydrants @	1		
		EA		
	Dollars and _____ Cents PER EACH			
AA3- 10	Fittings @	675		
		LBS		
	Dollars and _____ Cents PER POUND			
AA3- 11	Temporary Trench Pavement (4") @	85		
		TON		
	Dollars and _____ Cents PER TON			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA3- 12	Permanent Trench 1-1/2" Mill & Overlay @	800		
		SY		
	Dollars and _____ Cents PER SQUARE YARD			
AA3- 14a	Rock Removal @	25	\$100.00	\$2,500.00
		CY		
	Dollars and _____ Cents PER CY			
AA3- 14b	Rock Removal Adjustment @	25		
		CY		
	Dollars and _____ Cents PER CY			
AA3- 15	AC Pipe Removal & Disposal @	10		
		LF		
	Dollars and _____ Cents PER LF			
AA3- 16	Erosion Control @	1		
		LS		
	Dollars and _____ Cents PER LUMP SUM			
AA3- 17	Test Pits @	25		
		CY		
	Dollars and _____ Cents PER CY			
AA3- 18	Project Closeout	1		
		LS		
	Dollars and _____ Cents PER LS			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA3- 19	Owner's Contingency Allowance for Police Details @	1	\$4,000	\$4,000
		LS		
	Dollars and _____ Cents PER LS			
AA3- 20	Water Bypass @	1		
		LS		
	Dollars and _____ Cents PER LS			

TOTAL ADD ALT. #3 BID PRICE (based on Unit Price Schedule above):

Add. Alternate #4 Bid Price Form - Magnolia Avenue Water Main Extension

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA4- 2c	8" Cement Lined Ductile Iron Pipe @	1,500		
		LF		
	Dollars and _____Cents PER LINEAR FOOT			
AA4- 4a	1" Copper Tubing @	1260		
		LF		
	Dollars and _____Cents PER LINEAR FOOT			
AA4- 4b	1 ½" Copper Tubing @	20		
		LF		
	Dollars and _____Cents PER LINEAR FOOT			
AA4- 4c	2" Copper Tubing @	25		
		LF		
	Dollars and _____Cents PER LINEAR FOOT			
AA4- 6a	1" Corporation @	13		
	Dollars and _____Cents PER EACH	EA		
AA4- 6b	1 1/2" Corporation @	1		
	Dollars and _____Cents PER EACH	EA		

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA4- 7a	1" Curb Stop & Box @	13		
		EA		
AA4- 7b	1 1/2" Curb Stop & Box @	1		
		EA		
	Dollars and _____ Cents PER EACH			
AA4- 8c	8" Gate Valve @	2		
		EA		
	Dollars and _____ Cents PER EACH			
AA4- 9	Hydrants @	2		
		EA		
	Dollars and _____ Cents PER EACH			
AA4- 10	Fittings @	1,600		
		LBS		
	Dollars and _____ Cents PER POUND			
AA4- 11	Temporary Trench Pavement (4") @	175		
		TON		
	Dollars and _____ Cents PER SQUARE YARD			
AA4- 12	Permanent Trench 1-1/2" Mill & Overlay @	1,700		
		SY		
	Dollars and _____ Cents PER SQUARE YARD			

Item No.	Item Description with Unit or Lump Sum Price in Written Words	Estimated Quantity & Unit	Unit Bid Price (Figures)	Total Bid Item Price (Figures)
AA4- 14a	Rock Removal @	50	\$100.00	\$5,000.00
		CY		
	Dollars and _____ Cents PER CY			
AA4- 14b	Rock Removal Adjustment @	50		
		CY		
	Dollars and _____ Cents PER CY			
AA4- 15	AC Pipe Removal & Disposal @	10		
		LF		
	Dollars and _____ Cents PER LF			
AA4- 16	Erosion Control @	1		
		LS		
	Dollars and _____ Cents PER LUMP SUM			
AA4- 17	Test Pits @	25		
		CY		
	Dollars and _____ Cents PER CY			
AA4- 18	Project Closeout	1		
		LS		
	Dollars and _____ Cents PER LS			
AA4- 19	Owner's Contingency Allowance for Police Details @	1	\$4,000	\$4,000
		LS		
	Dollars and _____ Cents PER LS			

AA4- 20	Water Bypass @	1		
		LS		
	Dollars and _____ Cents PER LS			

TOTAL ADD ALT #4 BID PRICE (based on Unit Price Schedule above):

SUMMARY OF BID:

BASE BID:

BASE BID & ADD ALT #1:

BASE BID, ADD ALT #1 & #2:

BASE BID, ADD ALT #1, #2 & #3:

BASE BID, ADD # 1, #2, #3, & #4:

4.02 Unit Prices have been computed in accordance with Paragraph 11.03.A of the General Conditions and Supplementary Conditions, if any.

4.03 Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for unit price items will be based on actual quantities determined and based on the unit prices included above, as provided in the General Conditions and Supplementary Conditions, if any.

4.04 Contract Price Adjustments:

A. Owner's Contingency Allowance items will be processed per Article 11.02 of the General Conditions.

1. Base Prices for diesel fuel, gasoline, liquid asphalt, and portland cement in cast-in-place concrete to be used for Contract Price Adjustments are established in Section 00 73 73, SC-12.01 per MGL c30s38A.

ARTICLE 5 – TIME OF COMPLETION

5.01 Bidder agrees to the Contract Times (Substantial Completion and ready for final payment) as stated in the Agreement.

5.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 6 – ATTACHMENTS TO THIS BID

6.01 The following documents are submitted with and made a condition of this Bid:

00 43 13 Bid Bond – Penal Sum Form

OR

Required Bid security in the form of 5% pf the Bidders Base Price

Supplements:

00 43 93 Bid Submittal Checklist

00 45 05 Bidder's Representations and Certifications including required submittals

00 45 13 Bidder's Qualifications

00 45 19 Non-collusion Affidavit

ARTICLE 7 – BID SUBMITTAL

7.01 This Bid is submitted by: _____

Fill out ONE of the following sections A, B, C or D as appropriate.

A. Corporation

Corporation Name: _____

State of incorporation: _____

Type: _____
(General Business, Professional, Service, other)

By: _____
(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest: _____

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

Date of qualification to do business as out-of-state corporation: _____

B. Limited Liability Company (LLC)

LLC Name: _____

State in which organized: _____

By: _____
(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

C. Joint Venture

First Joint Venturer Name:

By: _____
(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

Second Joint Venturer Name:

By: _____
(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, corporation and limited liability company that is a party to the joint venture should be in the manner indicated above.)

Phone & Facsimile Nos: _____

Email address: _____

D. An Individual

Name (*typed or printed*):

By:

(Individual's signature)

Doing business as:

Business Address:

Phone & Facsimile Nos:

Email address:

SUBMITTED ON:

EIN/FEIN:

Communications concerning this Bid shall be addressed to:

Name:

Title:

Business Address:

Phone & Facsimile Nos:

Email address:

END OF SECTION

SECTION 01 20 25**MEASUREMENT AND PAYMENT****PART 1 – GENERAL****1.01 DESCRIPTION**

- A. This Section describes the measurement and payment for the Work to be completed under each item in Section 00 41 01 Bid Form, which may also be referred to as “pay item”.
- B. Payment procedures are in accordance with the Agreement, Article 14 of the General Conditions, the Supplementary Conditions (if any), and the General Requirements.
- C. Measurement: as determined, verified, or approved by ENGINEER or OWNER in accordance with Paragraph 11.03 of the General Conditions, the Supplementary Conditions (if any), and the General Requirements, except as otherwise specified.
- D. The Work described in each pay item shall be as described in the Contract Documents and not included in other pay items.
 - 1. Pay item descriptions are general and may not specifically describe all associated Work or elements thereof, do not constitute Contract Documents, and do not supersede the content of the Contract Documents.
 - 2. Review the Contract Documents for Work associated with each pay item. Claims for being unfamiliar with the content of the Contract Documents will not be considered.
- E. The following Work is not specifically described or designated as a pay item, is considered incidental to all pay items and shall not be measured separately for payment.
 - 1. Division 01 General Requirements EXCEPT those items included in Mobilization/Demobilization.
 - 2. Materials, equipment, and services necessary to verify existing field conditions and the location, size, type, material, and orientation of existing pipes and utilities.
 - 3. Restoration of all areas disturbed by the CONTRACTOR within the limits of Work, including planting.
 - 4. Field and laboratory testing and reporting by independent laboratory,

including but not limited to compaction of backfill materials; aggregate gradation; and concrete testing.

- F. Payment will not be made for restoration of areas disturbed by the CONTRACTOR outside the limits of Work.
- G. Payment will only be made for those utility services, including water and fire services, specifically identified for replacement. Relocation or replacement for the CONTRACTOR's convenience or due to breakage by the CONTRACTOR of any other utility services or at locations which could reasonably be assumed, shall be at no cost to OWNER.
- H. Design, installation and removal of excavation support systems, temporary and permanent utility/structure support systems associated with a pay item shall be considered incidental to that pay item.
- I. Additional dewatering and erosion control (including installation, operation, maintenance, removal and off Site disposal of erosion control devices) associated with a pay item shall be considered incidental to that pay item.
- J. Pay items identified as a Contingency Allowance will be processed per Article 11.02 of the General Conditions.
- K. Add Alternate Item numbers correlate to the Base Bid Items and shall be enforced as described herein.
- L. Police details will be direct billed by the police department to the CONTRACTOR whom will direct bill to the OWNER utilizing the allowance item provided in the bid without markup. Provide daily detail slips to the ENGINEER. Police details scheduled and not used by the CONTRACTOR will be back-charged to CONTRACTOR.

1.02 MEASUREMENT AND PAYMENT BASIS (Base Bid & Alternates as Applicable)

ITEM 1 Mobilization/Demobilization	
Measurement	Per event
Payment	Percent of lump sum price on Schedule of Values
Schedule of Payment	<ol style="list-style-type: none"> 1. 50% at Project Commencement 2. 25% @ Substantial Completion 3. 25% @ Final Completion
<p>Includes delivery to and removal of equipment from the Project Site, temporary utilities, facilities and controls, obtaining necessary permits including associated fees, insurance and bond costs, signage, development of pre-construction schedules and plans required by the General Conditions, Supplementary Conditions and General Requirements, necessary pre-construction investigations, verifying existing field conditions, coordination, utility coordination, and Site clean-up, restoration and closeout.</p> <p>Note: Owner will waive fees associated with road opening and trench permits and costs for these permits shall not be included in this item.</p>	

ITEMS 2.a, 2.b, and 2.c 4"/6"/8" Cement Lined Ductile Iron Pipe	
Measurement	As measured along the horizontal projection of the centerline of the pipe, measured from and to face of water pipe fittings and valves.
Payment	Unit Price per Linear Foot
Schedule of Payment	Monthly based on work completed
<p>Material and equipment, services, installation, construction and testing inherent to the Work to furnish and install cement lined ductile iron pipe including clearing and grubbing, saw cutting, excavation, removing and disposing of excess material, removing and disposing of existing concrete encasement, shoring/bracing, dewatering, removing and disposing existing pipe, hydrants, valves and appurtenances, capping existing water mains abandoned in place, support of existing utilities, restraining thrust with rods and/or concrete, joint restraints, mega-lug fittings, pipe bedding, blanket and backfill, gravel roadway base, geotextile fabric, connecting to existing water mains (as applicable), compaction & testing, crossing utilities, support of existing utilities, chlorination, testing, bypass & water services, tree trimming, removing and replacing signs, fences and mail boxes, replacement of bituminous and concrete curbing, and other incidental Work, as shown on the Drawings and as specified or required by field conditions.</p>	

ITEMS 3.a and 3.b 6"/8" C900 PVC Water Pipe	
Measurement	As measured along the horizontal projection of the centerline of the pipe, measured from and to face of water pipe fittings and valves.
Payment	Unit Price per Linear Foot
Schedule of Payment	Monthly based on work completed
Material and equipment, services, installation, construction and testing inherent to the Work to furnish and install C900 pipe including clearing and grubbing, saw cutting, excavation, removing and disposing of excess material, removing and disposing of existing concrete encasement, shoring/bracing, dewatering, removing and disposing existing pipe, hydrants, valves and appurtenances, capping existing water mains abandoned in place, support of existing utilities, restraining thrust with rods and/or concrete, joint restraints, mega-lug fittings, pipe bedding, blanket and backfill, gravel roadway base, geotextile fabric, connecting to existing water mains (as applicable), compaction & testing, crossing utilities, support of existing utilities, chlorination, testing, bypass & water services, tree trimming, removing and replacing signs, fences and mail boxes, replacement of bituminous and concrete curbing, and other incidental Work, as shown on the Drawings and as specified or required by field conditions.	

ITEMS 4.a, 4.b, and 4.c 1"/1 1/2"/2" Copper Service Tubing	
Measurement	As measured along the centerline of the pipe, from outside face of corporation stop to outside face of curb stop
Payment	Unit Price per Linear Foot
Schedule of Payment	Monthly based on work completed
All labor, tools, equipment and materials to furnish and install copper service tubing, saw cutting, excavation, shoring/bracing, disposing of existing service piping, sand bedding and blanket, backfill, compaction crossing of underground utilities, support of existing utilities as specified, loam and seed, tree trimming, removing and replacing signs, fences, and mailboxes, removing and resetting granite and bituminous curbs, removing and resetting guard rails, and all other incidentals necessary to furnish and install water service fittings, complete in place, as specified, shown on the Drawings or required by field conditions.	

ITEMS 5.a, 5.b, and 5.c 1"/1 1/2"/2" PE Service Tubing	
Measurement	As measured along the centerline of the pipe, from outside face of corporation stop to outside face of curb stop
Payment	Unit Price per Linear Foot
Schedule of Payment	Monthly based on work completed
All labor, tools, equipment and materials to furnish and install PE service tubing, saw cutting, excavation, shoring/bracing, disposing of existing service piping, sand bedding and blanket, backfill, compaction crossing of underground utilities, support of existing utilities as specified, loam and seed, tree trimming, removing and replacing signs, fences, and mailboxes, removing and resetting granite and bituminous curbs, removing and resetting guard rails, and all other incidentals necessary to furnish and install water service fittings, complete in place, as specified, shown on the Drawings or required by field conditions.	

ITEMS 6.a, 6.b, and 6.c 1"/1 1/2"/2" Corporation	
Measurement	Units installed complete in place
Payment	Unit Price per each
Schedule of Payment	Monthly based on work completed
All labor, equipment, tools, and materials to furnish and install corporation stop and saddles, couplings, unions, clearing and grubbing, saw cutting, excavation, shoring/bracing, removing and disposing of excess material, tapping pipe, connecting to existing service, crossing of underground utilities, support of existing utilities as specified in the bid documents, sand bedding and blanket, gravel roadway base, backfill, compaction, loam and seed, tree trimming, removing and replacing signs, fences, and mailboxes, removing and resetting granite and bituminous curbs, removing and resetting guard rails, and all other incidentals necessary to furnish and install water service fittings, complete in place, as specified, shown on the Drawings or required by field conditions.	

ITEMS 7.a, 7.b, and 7.c 1"/1 1/2"/2" Curb Stop & Box	
Measurement	Units installed complete in place
Payment	Unit Price per Each
Schedule of Payment	Monthly based on work completed
All labor, equipment, tools, and materials to furnish and install curb stops and boxes, couplings, unions, clearing and grubbing, saw cutting, excavation, shoring/bracing, removing and disposing of excess material, tapping pipe, connecting to existing service, crossing of underground utilities, support of existing utilities as specified in the bid documents, sand bedding and blanket, gravel roadway base, backfill, compaction, loam and seed, tree trimming, removing and replacing signs, fences, and mailboxes, removing and resetting granite and bituminous curbs, removing and resetting guard rails, and all other incidentals necessary to furnish and install water service fittings, complete in place, as specified, shown on the Drawings or required by field conditions.	

ITEMS 8.a, 8.b, and 8.c 4"/6"/8" Gate Valves	
Measurement	Units installed complete in place
Payment	Unit Price per Each
Schedule of Payment	Monthly based on work completed
Material and equipment, services, installation, construction and testing inherent to the Work to furnish and install valves and valve boxes, cutting valves into existing mains where required, verifying outside diameter of existing pipe, clearing and grubbing, saw cutting, excavation, removing and disposing of excess materials, shoring/bracing, dewatering, cutting valves in to existing pipe, removing and disposing existing pipe, valves and appurtenances, plugging and capping existing water mains abandoned in place, valve installation, restraining thrust with rods, mega-lug fittings or concrete thrust blocks, blocking for support of valve, bedding, backfill and compaction, gravel roadway base, geotextile fabric, wax tape, crossing of underground utilities, support of existing utilities, tree trimming, removing and replacing signs, fences and mail boxes, resurfacing gravel surfaces, and other incidental Work, as shown on the Drawings and as specified or required by field conditions.	

ITEM 9 Hydrants	
Measurement	Each installed, complete in place, set in true horizontal and vertical alignment and with bury line at finished grade
Payment	Unit Price per Each
Schedule of Payment	Monthly based on work completed
Material and equipment, services, installation, construction and testing inherent to the Work to furnish and install hydrants, coordinate with Towns Water Department, clearing and grubbing, saw cutting, excavation, shoring/bracing, removing and disposing existing pipe, valves, fittings and hydrants, plugging and capping existing water mains abandoned in place, restraining thrust with rods and/or concrete, restrained joint fittings, mega-lug fittings, connecting existing water mains (as applicable), new tees, gate valves, ductile iron pipe for hydrant assembly, crushed stone dry well, roofing felt, bearing stone, installation of off-sets and extensions to set bury line to finished grade, thrust blocks, geotextile fabric, drainage sump setting true in vertical and horizontal plane, setting bury line at finish grade, bedding, backfill and compaction, gravel roadway base, crossing of underground utilities, support of existing utilities, replacement of existing pipe bollards, painting hydrant, tree trimming, fences, and mailboxes, and other incidental Work, as shown on the Drawings and as specified or required by field conditions.	

ITEM 10 Fittings	
Measurement	Each installed, complete in place
Payment	Unit Price per Pounds
Schedule of Payment	Monthly based on work completed
Material and equipment, services, installation, construction and testing inherent to the Work to furnish and install fittings on new and existing water mains, clearing and grubbing, saw cutting, excavation, removing and disposing of excess materials, removing and disposing of concrete encasement shown on Drawings, removing and disposing of existing thrust restraints, shoring/bracing, dewatering, removing and disposing existing pipe, valves and appurtenances, plugging and capping existing water mains abandoned in place, wax tape, restraining thrust with rods, mega-lug fittings, bedding and backfill, geotextile fabric, connecting existing water mains (as applicable), compaction, crossing of underground utilities, loam and seed, tree trimming, removing and replacing signs, fences and mail boxes, support of existing utilities, and other incidental Work, as shown on the Drawings and as specified or as required by field conditions.	

ITEM 11 Temporary Trench Pavement	
Measurement	Actual temporary pavement installed at depths indicated on the Drawings
Payment	Unit Price per Ton, complete in place
Schedule of Payment	Monthly based on work completed
Material and equipment, services, installation, construction and testing inherent to the Work for temporary trench pavement, including saw cutting, disposal of pavement, gravel for pavement sub-base to depth shown on the Drawings, grading, fine grading and compacting gravel for pavement sub-base, emulsion, bituminous tack coat, adjusting of roadway castings, placement and compaction of binder course to depths shown on the Drawings and in required lift depths, restoring pavement markings and other incidental Work, as shown on the Drawings and as specified.	

ITEM 12 Permanent Trench <u>1-1/2" Mill & Overlay</u>	
Measurement	In place within pay limits and depths shown on the drawings
Payment	Unit Price per SY
Schedule of Payment	Monthly based on work completed
<u>Material and equipment, services, installation, construction and testing inherent to the Work to furnish and install 1 ½" mill & overlay for a width of 8.5' as noted on the drawings, emulsion, key ways, repairing driveway abutments to meet new grade, butt joints, bituminous tack coat, joint sealant, adjusting roadway castings & structures, furnish, installation and compaction of the top course to the required depths, repairing or replacing loop detectors, backing sides of pavement up with gravel base, loam and seeding and other incidental Work, as shown on the Drawings and as specified.</u>	

ITEM 13 Permanent Trench Top Course (1 ½")	
Measurement	In place within pay limits and depths shown on the drawings
Payment	Unit Price per SY
Schedule of Payment	Monthly based on work completed
Material and equipment, services, installation, construction and testing inherent to the Work for permanent trench pavement base course, including saw cutting, keyway milling, disposal of pavement, gravel for pavement sub base to the depth shown on the Drawings, grading, fine grading and compacting gravel for pavement sub base, emulsion, bituminous tack coat, adjusting of roadway castings, placement and compaction of top course to the depths shown on the Drawings and in the required lift depths, restoration of pavement markings and other incidental Work, as shown on the Drawings and as specified.	

ITEM 13 1 ½" Mill & 2" Overlay	
Measurement	Work completed to date
Payment	Unit Price per SY
Schedule of Payment	Monthly based on work completed
Material and equipment, services, installation, construction and testing inherent to the Work to furnish and install full width pavement including 1 ½" mill & 2" overlay, emulsion, key ways, repairing driveway abutments to meet new grade, butt joints, bituminous tack coat, joint sealant, adjusting roadway castings & structures, furnish, installation and compaction of the top course to the required depths, repairing or replacing loop detectors, backing sides of pavement up with gravel base, loam and seeding and other incidental Work, as shown on the Drawings and as specified.	

ITEM <u>14a/b</u> Rock Removal/Rock Removal Adjustment	
Measurement	Per cubic yard measured in place prior to excavation within pay limits
Payment	Unit Price per CY
Schedule of Payment	Monthly based on work completed
<p>Material and equipment, services, installation, construction and testing inherent to the Work to remove rock and boulders, including excavation, removal, and disposal of the rock and replacement as necessary with suitable backfill material as directed by Engineer and other incidental Work, as shown on the Drawings and as specified.</p> <p>Item 15b: Adjustment +/- to the set unit price value for rock removal.</p>	

ITEM <u>15</u> AC Pipe Removal & Disposal	
Measurement	Linear Foot
Payment	Unit Price per LF
Schedule of Payment	Monthly based on work completed
<p>Material and equipment, services, installation, construction and testing inherent to the Work to remove & dispose of AC pipe, including excavation, removal, and disposal of the pipe per state regulations and as specified, and other incidental Work as shown on the Drawings and as specified.</p>	

ITEM <u>16</u> Erosion Control	
Measurement	Lump Sum
Payment	Lump Sum based on percentage of work completed
Schedule of Payment	1. 50% @ Project Commencement and acceptance by the Conservation Commission & Engineer 2. 50% at Final Completion
<p>Material and equipment, services, installation, construction inherent to the Work to install and maintain erosion controls as noted on the plan and as outlined in the Order of Conditions for the Project including removal and replacement as directed by the Engineer and other incidental Work, as shown on the Drawings and as specified.</p>	

ITEM <u>17</u> Test Pits	
Measurement	Cubic Yard
Payment	Unit Price per CY
Schedule of Payment	Monthly Based on work completed
Material and equipment, services, installation, construction and testing inherent to the Work to perform exploratory test, including excavation, removal, and disposal of the soil and replacement as necessary with Suitable backfill material as directed by Engineer and other incidental Work, as shown on the Drawings and as specified.	

Item <u>18</u> Project Closeout	
Measurement	As determined
Payment	Lump sum price per Schedule of Values
Schedule of Payment	Completion of Work – 100%
Includes all labor, services, material and equipment associated with preparing Conformed to Construction Record Drawings and other related items as specified in the General Requirements.	

Item <u>19</u> Owner's Contingency Allowance for Police Details	
Measurement	As Utilized, Portion of Owner's Contingency Allowance
Payment	Percent not to exceed contingency amount unless authorized by Change Order
Schedule of Payment	Completion of Work – 100%
For scheduling, coordinating and payment of Police details required for the duration of the project, from project commencement to Final Completion. No markup of police detail fees will be allowed.	

Item <u>20a/b/c</u> Ocean Street/Magnolia Avenue/Raymond Street & Alternates Water Bypass	
Measurement	Portion of Work completed and accepted
Payment	Percent of lump sum price based on Schedule of Values
Schedule of Payment	Completion of Work – 100%
<p>All labor, equipment, tools and materials to install temporary by-pass piping, saw cutting, excavation, backfill compaction, joining of pipe, bypass fittings, valves and hydrants, connecting to existing hydrants, tapping existing water mains with cut-in tees or tapping sleeves and valves, plates, ramping material, cold patch for ramping, burying bypass pipe as required, flushing, chlorinating, neutralizing chlorine residual, providing and removing temporary blow-off/sample lines, sampling, performing analysis of water quality, delivery of samples, water quality analysis in accordance with the latest revision of AWWA C651 - Disinfecting Water Mains by qualified laboratory, providing analysis results to the Engineer and Owner, delivery of notification, scheduling service connections with property owner, service connections, providing wye connections for all sillcocks, loam and seed, resetting curbing, sidewalk restoration, temporary and permanent patching of bypass trenches with hot mix asphalt, and all other incidentals necessary to install temporary by-pass piping complete in place.</p>	

PART 2 – PRODUCTS (not used)

PART 3 – EXECUTION (not used)

END OF SECTION

Client: Manchester-by-the-Sea, MA (18-014)
Project: 2019 Water Main Improvements Proejct
Date: August 14, 2019

Bobrek Engineering & Construction
141 Pine Street, Danvers, MA
By: Brendan Pyburn, P.E.



Plan Holder List

Bid Date 8-21-19 @11:00

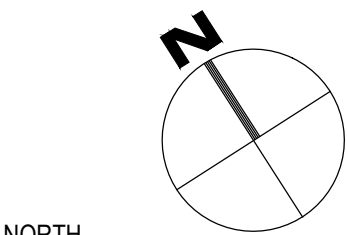
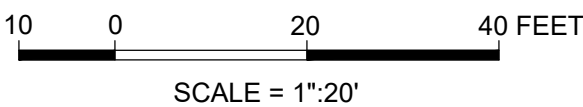
No	Company	Name	Phone	Fax	Email
1	Construct Connect	Justin Felisco	323-602-5079 x76476	866-570-8187	Justin.Felisco@ConstructConnect.com
2	N. Granese & Sons, Inc.	John Granese	(781) 592-8121	(781) 631-8466	jgranese@ngranese.com
3	Joseph P. Cardillo, Inc.	Maura Sarnaglia	(781) 245-8095 x223	(781) 245-3478	maura@jpcardillo.com
4	K&G Excavating	Ray Gomez	(978) 505-8596		ray@kgexcavating
5	Revoli Construction Co, Inc.	Jill Cunningham	(508) 520-2350 x29	(508) 520-2355	jillc@revoliconst.com
6	Project Dog	Jade Carpenter	(978) 499-9014	(978) 499-9016	addenda@projectdog.com
7	Works in Progress	Melissa Lapierre	(802) 658-3797 x 525	(802) 862-4926	melissa@worksinprogress.com
8	InSite Contracting, Inc.	Jeffrey Gordon	(781) 721-1275	(781) 721-1232	jgordon@insitecontracting.com
9	Blue Diamond Equipment Co.,	Katie Bisbee	(508) 543-3711	(508) 545-3755	bluediamondcc@comcast.net
10	McWane Ductile	Jim Guilbalt	(802) 578-7057		jim.guilbalt@mcwaneductile.com
11		Ben Cibotti			b.cibotti@verizon.net
12	Dodge Data & Analytics	Eujane Lumacang	(413) 239-3787		eujane.lumacang@construction.com

GENERAL NOTES

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- 50' COASTAL BANK NO BUILD
- 100' COASTAL BANK BUFFER
- BORDERING VEGETATED WETLAND
- 30' BVW NO DISTURB ZONE
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- 100' BVW BUFFER ZONE
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- 100' RIVERFRONT AREA
- 200' RIVERFRONT AREA
- RESOURCE AREA SEPARATOR
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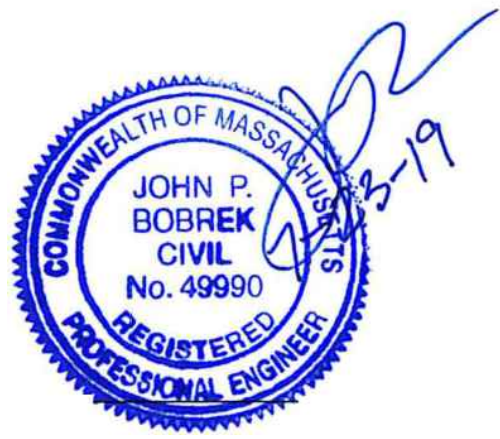
MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN
IMPROVEMENTS

PROJECT INFO

1	ADDENDUM #1	8/14/19
REV	DESCRIPTION	DATE



STAMP:

OCEAN ST.
WATER MAIN

SHEET NAME:

C-100

SHT NO:

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

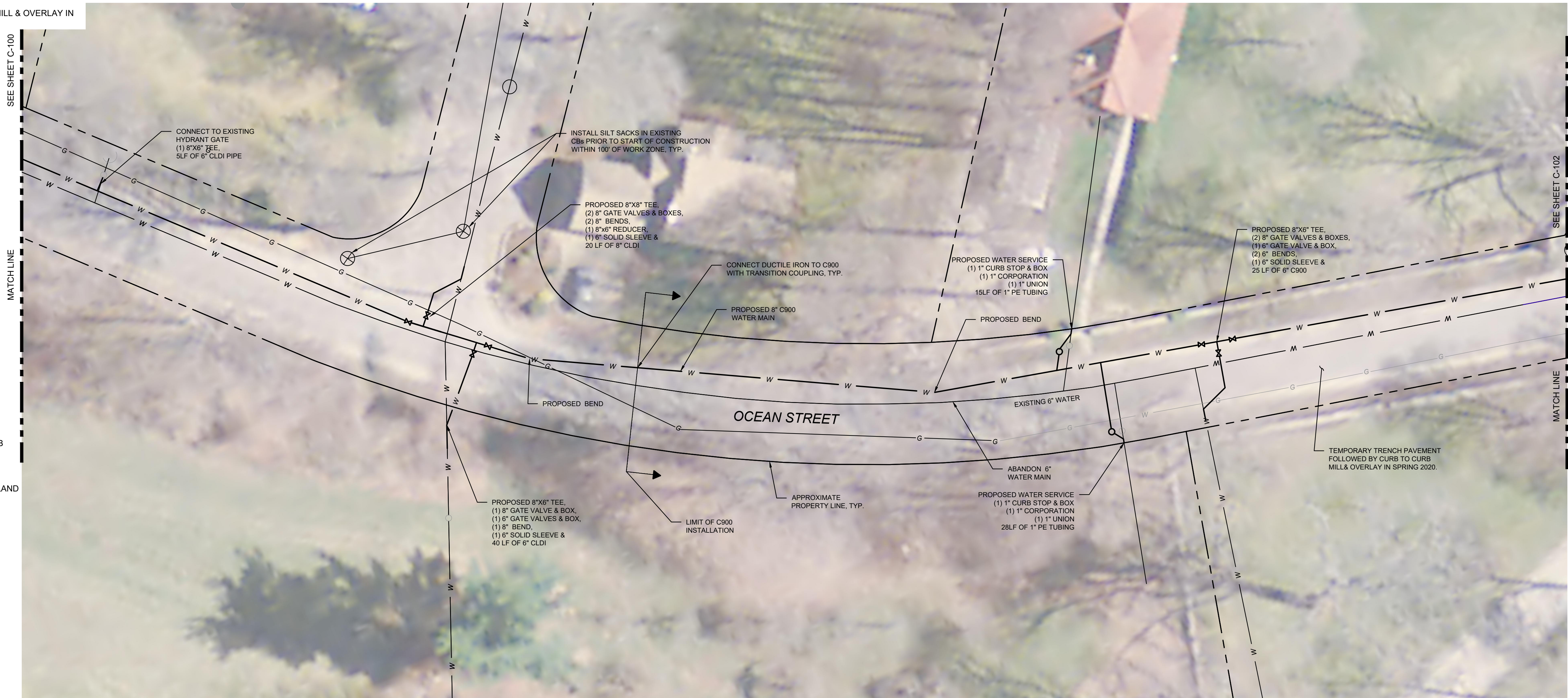
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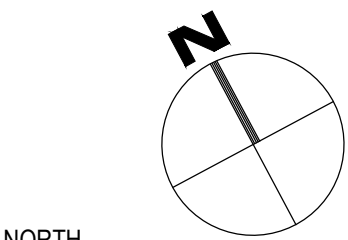
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10 0 20 40 FEET
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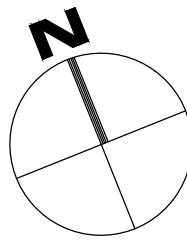
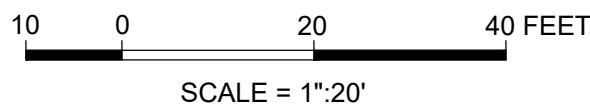
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IMPROVEMENTS

PROJECT INFO

1	ADDENDUM #1	8/14/19
REV	DESCRIPTION	DATE



STAMP:

OCEAN ST.
WATER MAIN

SHEET NAME:

C-102

SHT NO:

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=20'

1. BASE MAPPING OF THE PROJECT SITE HAS BEEN TAKEN FROM THE MANCHESTER BY THE SEA, GIS SYSTEM.
2. CONTRACTOR IS TO NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH PROPOSED WORK.
3. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION AND SIZE OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME INSIDE OR OUTSIDE OF EXISTING OR PROPOSED BUILDINGS, ON THE SUBJECT PROPERTY, WITHIN THE STREET RIGHT-OF-WAY, OR ON ABUTTING LOTS.
4. THE ADJACENT ABUTTER(S) MUST BE NOTIFIED TWO WEEKS PRIOR TO MOBILIZATION ON A STREET AND 48 HOURS PRIOR TO A SCHEDULED SHUTDOWN.
5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF EACH PROPOSED UTILITY CONNECTION.
7. CONTACT THE TOWN OF MANCHESTER BY THE SEA FOR THE MARKING OF MANCHESTER MUNICIPAL UTILITIES. CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.
8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.

COASTAL BANK

30' COASTAL BANK NO DISTURB

50' COASTAL BANK NO BUILD

100' COASTAL BANK BUFFER

BORDERING VEGETATED WETLAND

30' BVW NO DISTURB ZONE

50' BVW NO BUILD ZONE

100' BVW BUFFER ZONE

RIVER BANK

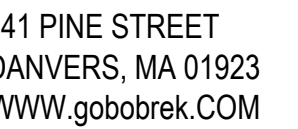
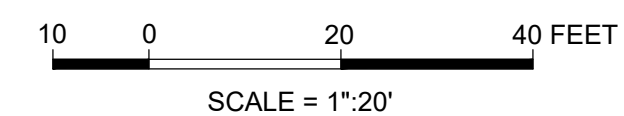
100' RIVERFRONT AREA

200' RIVERFRONT AREA

RESOURCE AREA SEPARATOR

FEMA 100-YEAR FLOOD

11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.
12. ~~PROPOSED WATER MAIN TO BE INSTALLED WITHOUT USE OF TEMPORARY DRYLASH PILING - ONE HOUR OF TOWDOWN WILL BE PERMITTED FOR EACH CONNECTION TO EXISTING WATER MAIN.~~
13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.



MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

OCEAN ST.
WATER MAIN

SHEET NAME:

C-103

HT NO:

OR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

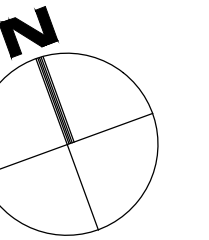
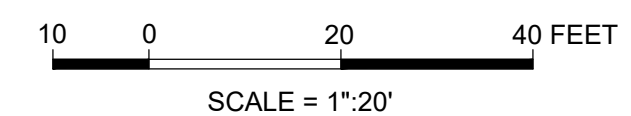
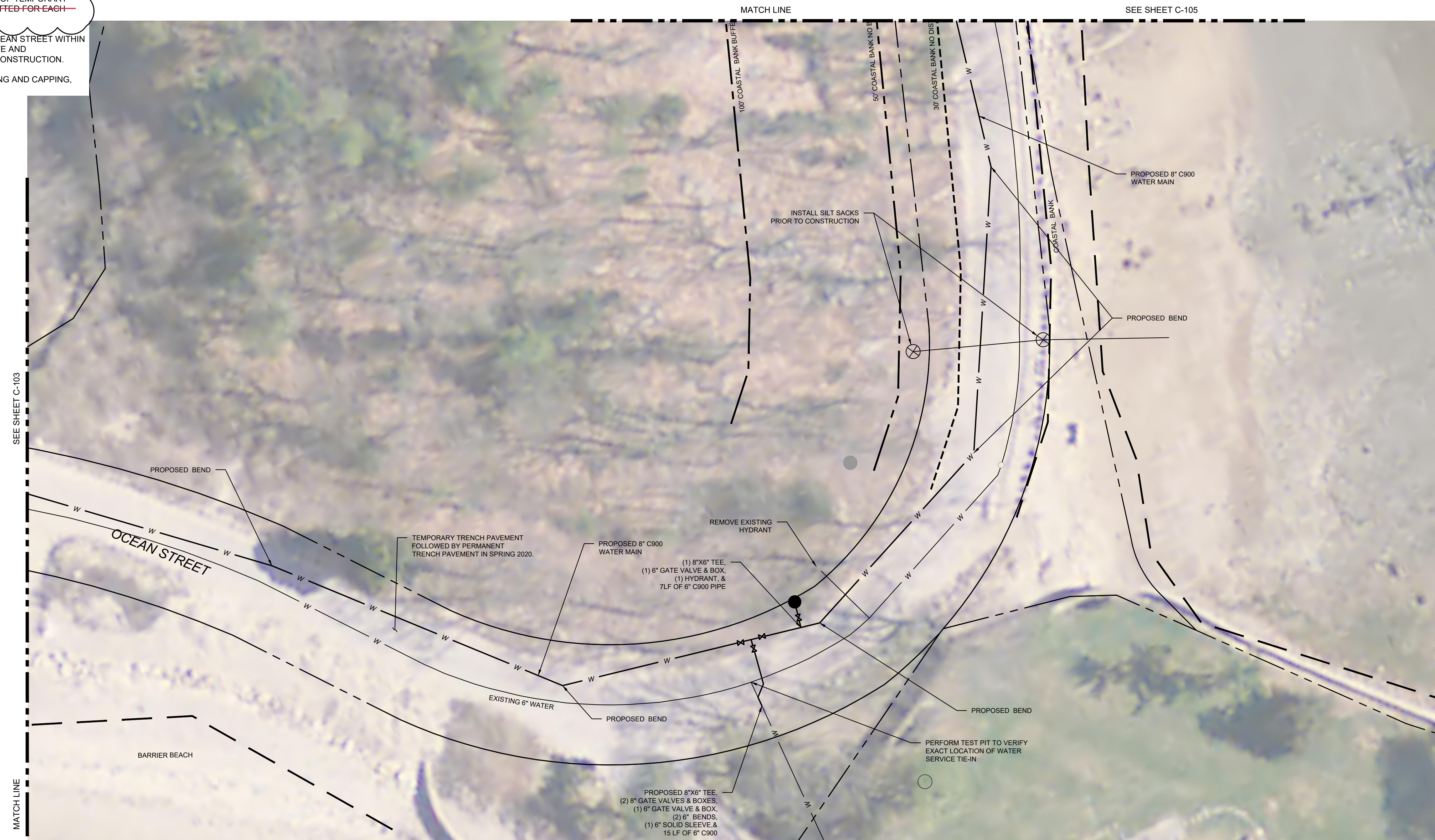
DATE: JULY 2019

SCALE: 1"=20'

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4. THE ADJACENT ABUTTER(S) MUST BE NOTIFIED TWO WEEKS PRIOR TO MOBILIZATION ON A STREET AND 48 HOURS PRIOR TO A SCHEDULED SHUTDOWN.
5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF EACH PROPOSED UTILITY CONNECTION.
7. CONTACT THE TOWN OF MANCHESTER BY THE SEA FOR THE MARKING OF MANCHESTER MUNICIPAL UTILITIES. CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.
8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.
12. ~~PROPOSED WATER MAIN TO BE INSTALLED WITHOUT USE OF TEMPORARY BYPASS PIPING. ONE 8-HOUR SHUTDOWN WILL BE PERMITTED FOR EACH CONNECTION TO EXISTING WATER MAIN.~~
13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.

Diagram illustrating various setbacks and buffers along a shoreline:

- COASTAL BANK
- 30' COASTAL BANK NO DISTURB
- COASTAL BANK NO BUILD
- 100' COASTAL BANK BUFFER
- BORDERING VEGETATED WETLAND
- 30' BVW NO DISTURB ZONE
- 50' BVW NO BUILD ZONE
- 100' BVW BUFFER ZONE
- RIVER BANK
- 100' RIVERFRONT AREA
- 200' RIVERFRONT AREA
- RESOURCE AREA SEPARATOR
- FEMA 100-YEAR FLOOD



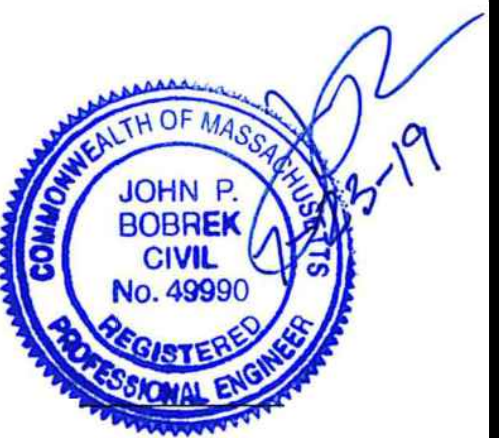
BOBREK
Engineering & Construction

MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

2019 WATER MAIN IMPROVEMENTS

[illegible]

1	ADDENDUM #1	8/14/19
EV	DESCRIPTION	DATE



OCEAN ST.
WATER MAIN

C-104

OR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=20'

1. BASE MAPPING OF THE PROJECT SITE HAS BEEN TAKEN FROM THE MANCHESTER BY THE SEA, GIS SYSTEM.
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4. THE ADJACENT BUTTER(S) MUST BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION.
5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF EACH PROPOSED UTILITY CONNECTION.
7. CONTACT THE TOWN OF MANCHESTER BY THE SEA FOR THE MARKING OF MANCHESTER MUNICIPAL UTILITIES. CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.
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10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.

COASTAL BANK

30' COASTAL BANK NO DISTURB

50' COASTAL BANK NO BUILD

100' COASTAL BANK BUFFER

BORDERING VEGETATED WETLAND

30' BVW NO DISTURB ZONE

50' BVW NO BUILD ZONE

100' BVW BUFFER ZONE

RIVER BANK

100' RIVERFRONT AREA

200' RIVERFRONT AREA

RESOURCE AREA SEPARATOR

FEMA 100-YEAR FLOOD



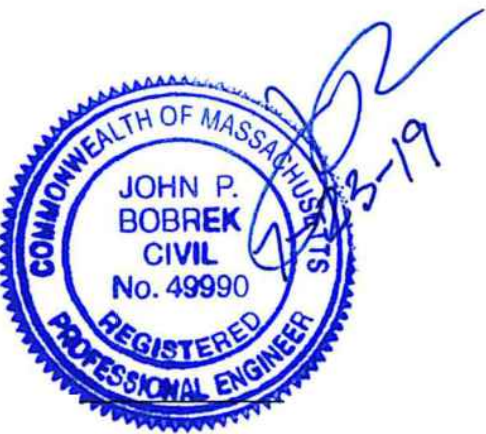
141 PINE STREET
DANVERS, MA 01923
WWW.gobobrek.COM

MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

STAMP:

OCEAN ST.
WATER MAIN

SHEET NAME:

C-105

HT NO

OR BY: BTP

CHK BY: JPE

PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=20'

GENERAL NOTES

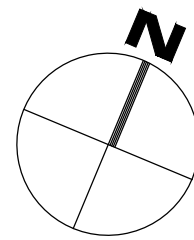
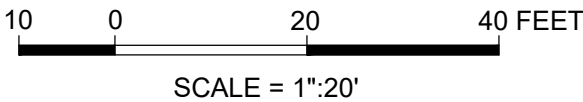
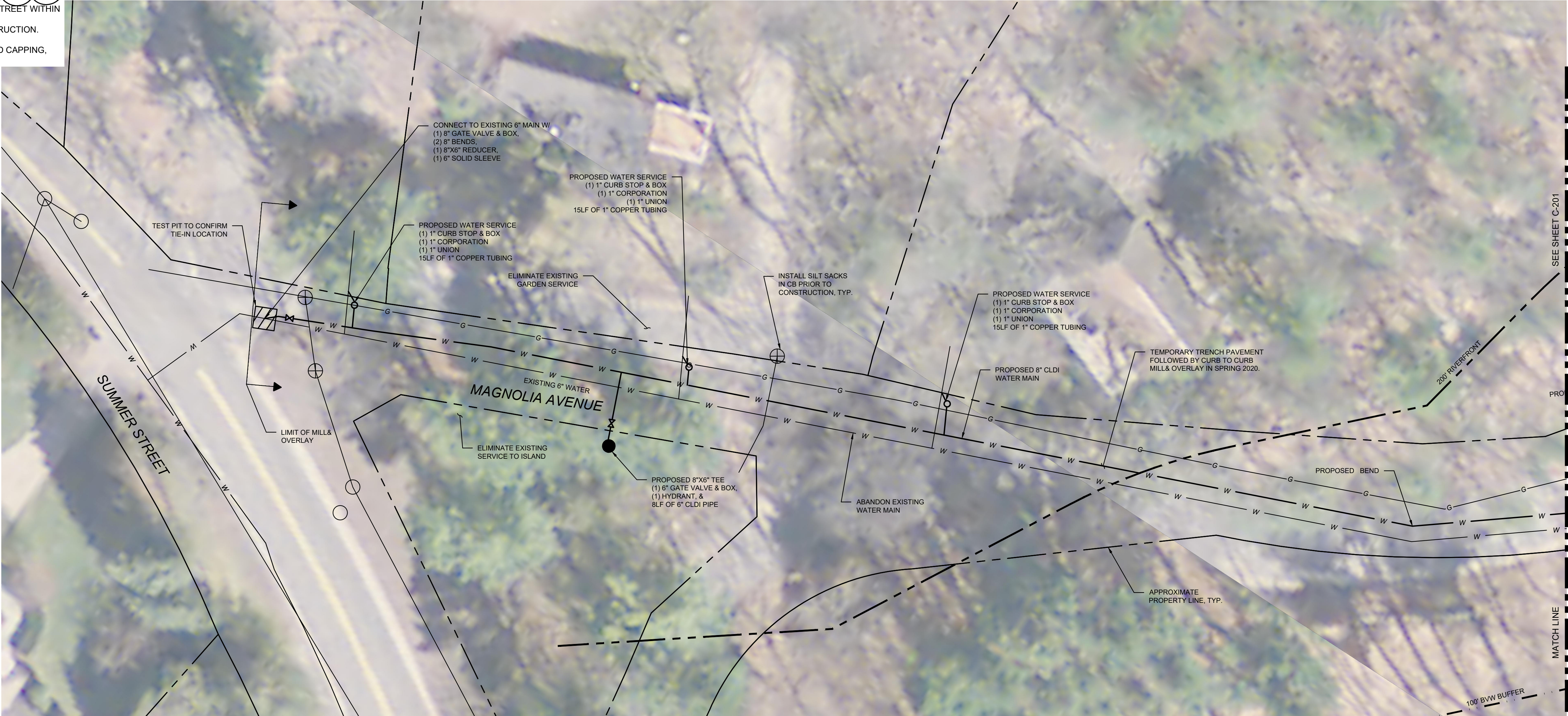
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9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS OUTSIDE OF C900 LIMITS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.

~~12. PROPOSED WATER MAIN TO BE INSTALLED WITHOUT USE OF TEMPORARY BYPASS PIPING. ONE 8-HOUR SHUTDOWN WILL BE PERMITTED FOR EACH CONNECTION TO EXISTING WATER MAIN.~~

13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.

RESOURCE AREA LEGEND

- COASTAL BANK
- 30' COASTAL BANK NO DISTURB
- 50' COASTAL BANK NO BUILD
- 100' COASTAL BANK BUFFER
- BORDERING VEGETATED WETLAND
- 30' BVW NO DISTURB ZONE
- 50' BVW NO BUILD ZONE
- 100' BVW BUFFER ZONE
- RIVER BANK
- 100' RIVERFRONT AREA
- 200' RIVERFRONT AREA
- RESOURCE AREA SEPARATOR
- FEMA 100-YEAR FLOOD



NORTH

Engineering & Construction
BOBREK

141 PINE STREET
DANVERS, MA 01923
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MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN
IMPROVEMENTS

PROJECT INFO

1	ADDENDUM #1	8/14/19
REV	DESCRIPTION	DATE



STAMP:

MAGNOLIA
AVENUE
WATER MAIN

SHEET NAME:

C-200

SHT NO:

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JUNE 2019

SCALE: 1"=20'

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8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
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10. ALL FITTINGS OUTSIDE OF C900 LIMITS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & GAYMOND STREET TO BE SS304.

COASTAL BANK

30' COASTAL BANK NO DISTURB

50' COASTAL BANK NO BUILD

100' COASTAL BANK BUFFER

BORDERING VEGETATED WETLAND

30' BVW NO DISTURB ZONE

50' BVW NO BUILD ZONE

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RIVER BANK

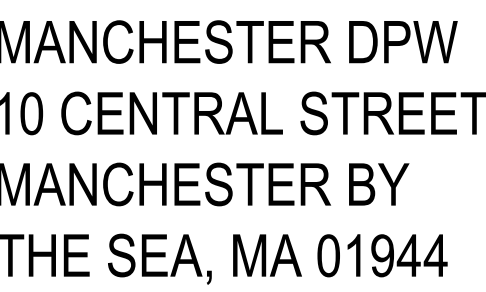
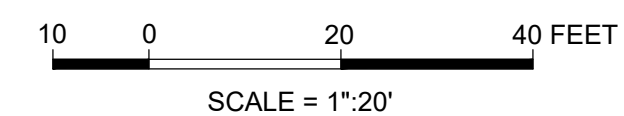
100' RIVERFRONT AREA

200' RIVERFRONT AREA

RESOURCE AREA SEPARATOR

FEMA 100-YEAR FLOOD

13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.



2019 WATER MAIN IMPROVEMENTS

[illegible]

MAGNOLIA
AVENUE
WATER MAIN

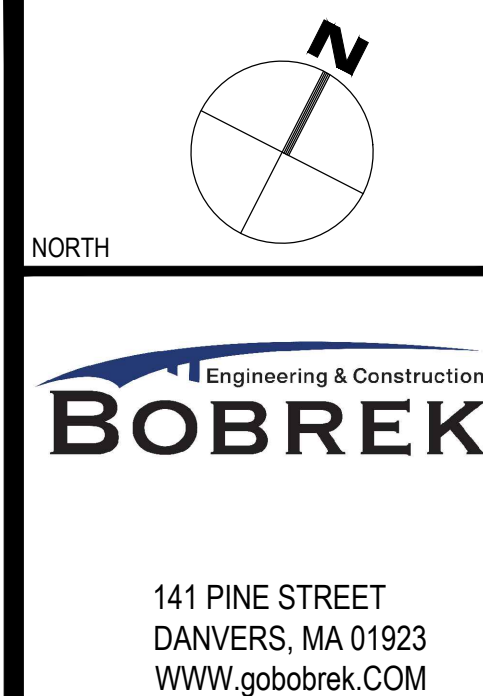
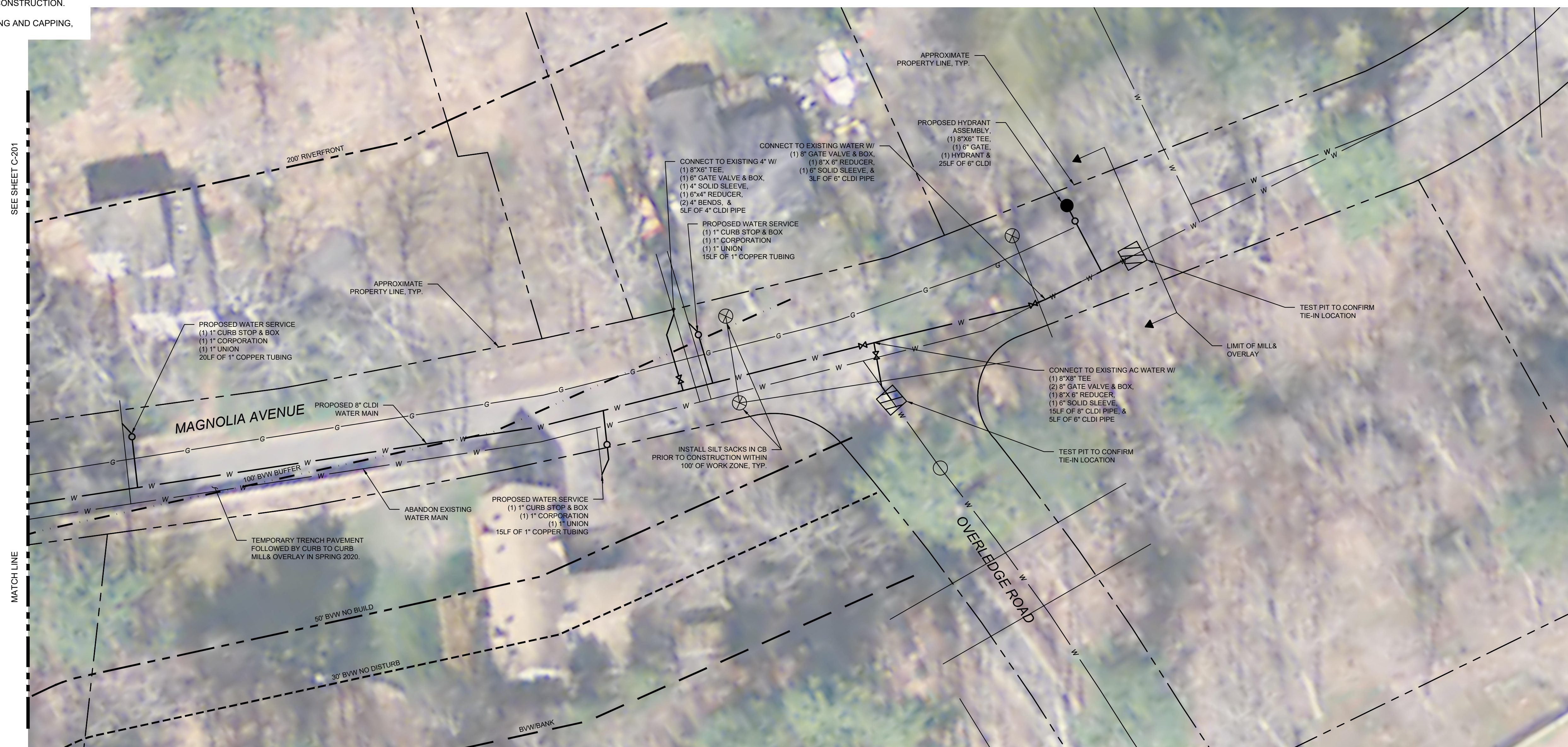
C-201

SCALE: 1"=20'

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_____	COASTAL BANK
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-----	50' COASTAL BANK NO BUILD
_____	100' COASTAL BANK BUFFER
_____	BORDERING VEGETATED WETLAND
-----	30' BVW NO DISTURB ZONE
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_____	RIVER BANK
_____	100' RIVERFRONT AREA
_____	200' RIVERFRONT AREA
_____	RESOURCE AREA SEPARATOR
_____	FEMA 100-YEAR FLOOD

13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
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MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

STAMP:

MAGNOLIA
AVENUE
WATER MAIN

SHEET NAME:

C-202

SHT NO

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

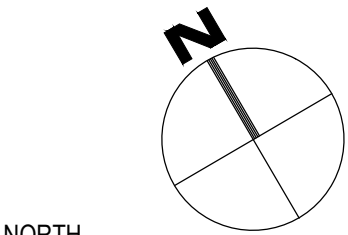
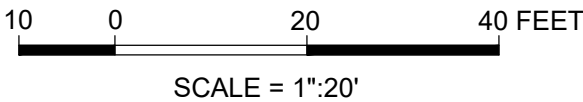
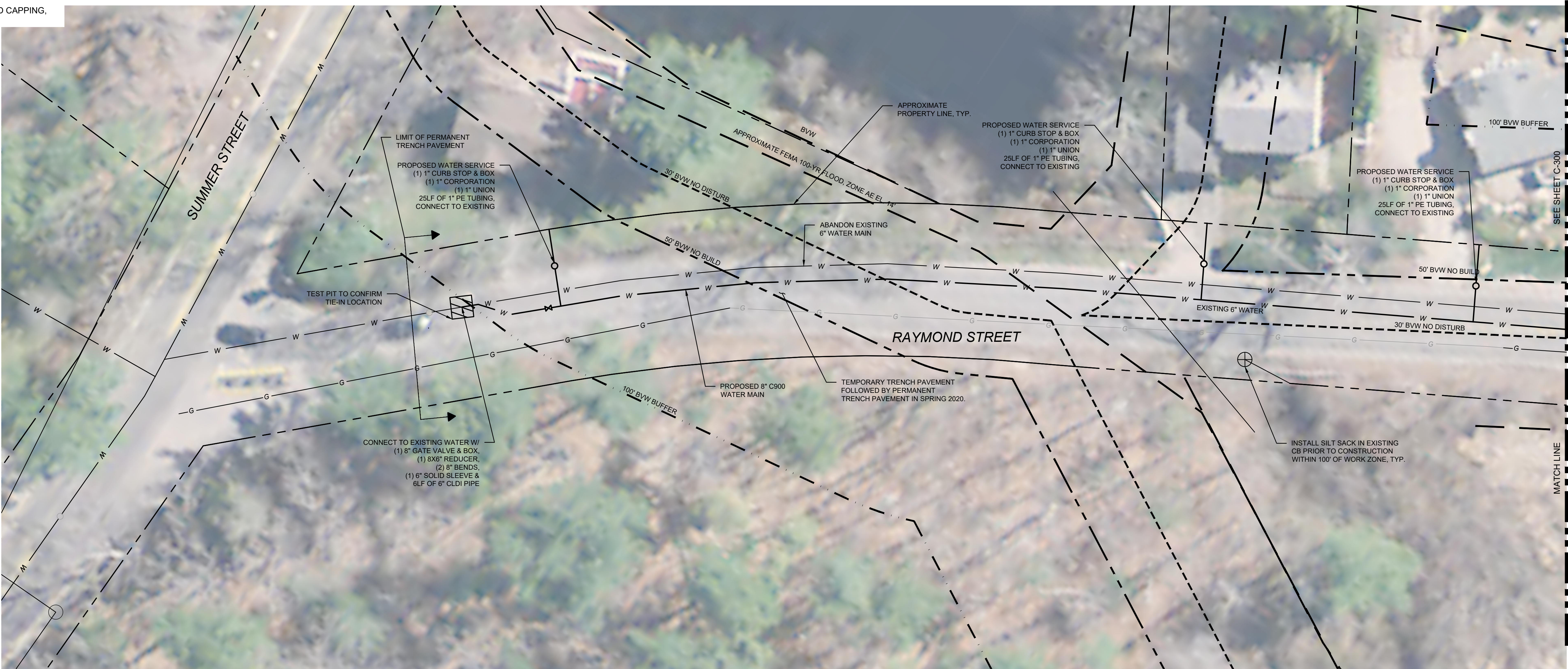
SCALE: 1"=20'

GENERAL NOTES

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RESOURCE AREA LEGEND

- COASTAL BANK
- 30' COASTAL BANK NO DISTURB
- 50' COASTAL BANK NO BUILD
- 100' COASTAL BANK BUFFER
- BORDERING VEGETATED WETLAND
- 30' BVW NO DISTURB ZONE
- 50' BVW NO BUILD ZONE
- 100' BVW BUFFER ZONE
- RIVER BANK
- 100' RIVERFRONT AREA
- 200' RIVERFRONT AREA
- RESOURCE AREA SEPARATOR
- FEMA 100-YEAR FLOOD



NORTH



141 PINE STREET
DANVERS, MA 01923
WWW.GOBREK.COM

MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN
IMPROVEMENTS

PROJECT INFO

1	ADDENDUM #1	8/14/19
REV	DESCRIPTION	DATE



STAMP:

RAYMOND
STREET
WATER MAIN

SHEET NAME:

C-300

SHT NO:

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=20'

1. BASE MAPPING OF THE PROJECT SITE HAS BEEN TAKEN FROM THE MANCHESTER BY THE SEA, GIS SYSTEM.
2. CONTRACTOR IS TO NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH PROPOSED WORK.
3. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION AND SIZE OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME INSIDE OR OUTSIDE OF EXISTING OR PROPOSED BUILDINGS, ON THE SUBJECT PROPERTY, WITHIN THE STREET RIGHT-OF-WAY, OR ON ABUTTING LOTS.
4. THE ADJACENT ABUTTER(S) MUST BE NOTIFIED TWO WEEKS PRIOR TO MOBILIZATION ON A STREET AND 48 HOURS PRIOR TO A SCHEDULED SHUTDOWN
5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF EACH PROPOSED UTILITY CONNECTION.
7. CONTACT THE TOWN OF MANCHESTER BY THE SEA FOR THE MARKING OF MANCHESTER MUNICIPAL UTILITIES, CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.
8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.

COASTAL BANK

30' COASTAL BANK NO DISTURB

50' COASTAL BANK NO BUILD

100' COASTAL BANK BUFFER

BORDERING VEGETATED WETLAND

30' BVW NO DISTURB ZONE

50' BVW NO BUILD ZONE

100' BVW BUFFER ZONE

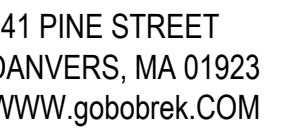
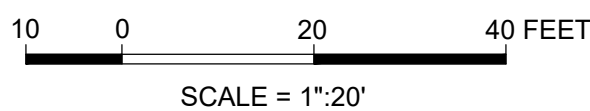
RIVER BANK

100' RIVERFRONT AREA

200' RIVERFRONT AREA

RESOURCE AREA SEPARATOR

FEMA 100-YEAR FLOOD



MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

RAYMOND
STREET
WATER MAIN

SHEET NAME:

C-301

HT NO:

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=20'

1. BASE MAPPING OF THE PROJECT SITE HAS BEEN TAKEN FROM THE MANCHESTER BY THE SEA, GIS SYSTEM.
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4. THE ADJACENT ABUTTER(S) MUST BE NOTIFIED TWO WEEKS PRIOR TO MOBILIZATION ON A STREET AND 48 HOURS PRIOR TO A SCHEDULED SHUTDOWN
5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF EACH PROPOSED UTILITY CONNECTION.
7. CONTACT THE TOWN OF MANCHESTER BY THE SEA FOR THE MARKING OF MANCHESTER MUNICIPAL UTILITIES. CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.
8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.
12. ~~PROPOSED WATER MAIN TO BE INSTALLED WITHOUT USE OF TEMPORARY BYPASS PIPING. ONE 4-HOUR SHUTDOWN WILL BE PERMITTED FOR EACH CONNECTION TO EXISTING WATER MAIN.~~
13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.

COASTAL BANK

30' COASTAL BANK NO DISTURB

50' COASTAL BANK NO BUILD

100' COASTAL BANK BUFFER

BORDERING VEGETATED WETLAND

30' BVW NO DISTURB ZONE

50' BVW NO BUILD ZONE

100' BVW BUFFER ZONE

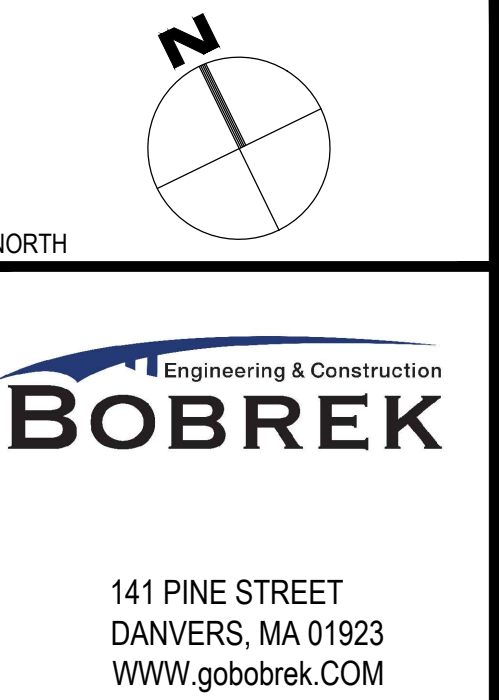
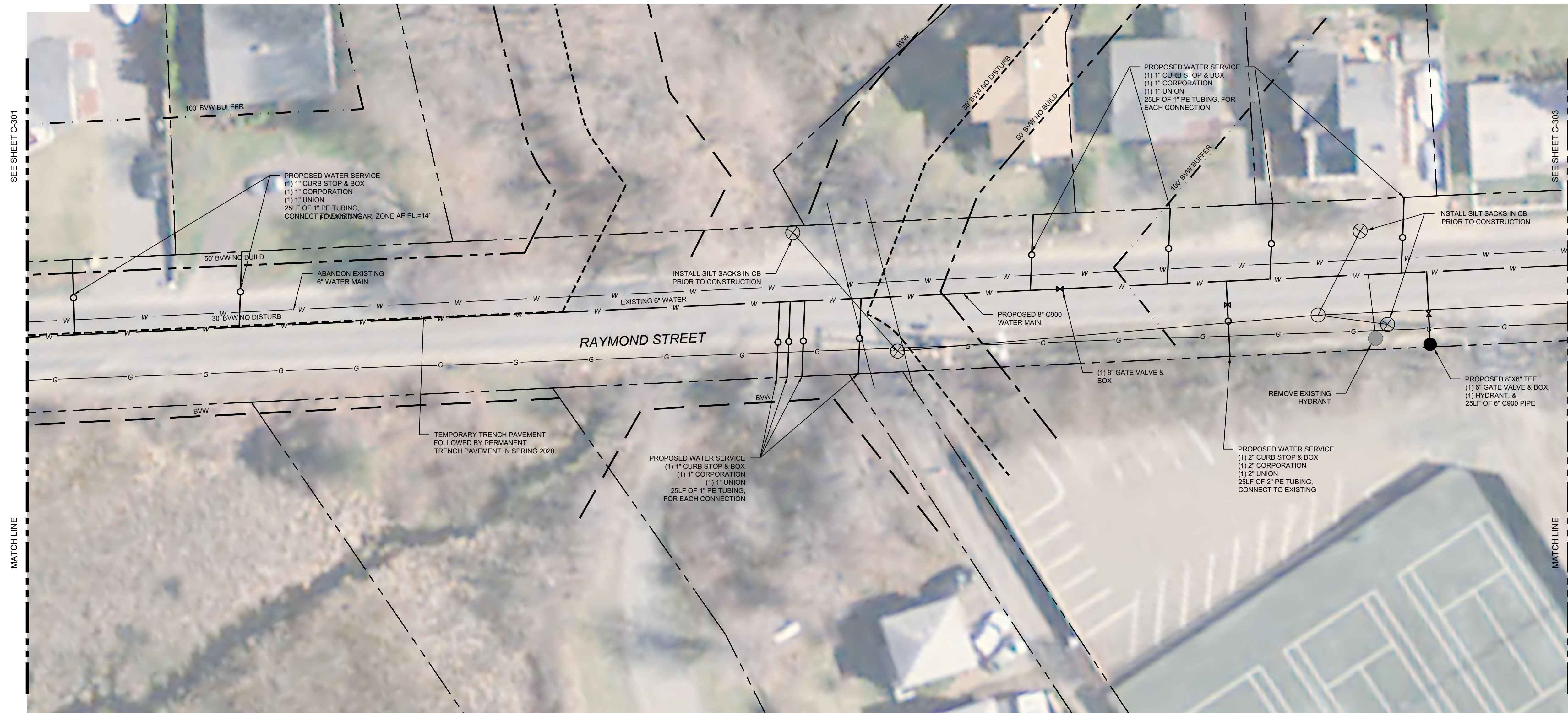
RIVER BANK

100' RIVERFRONT AREA

200' RIVERFRONT AREA

RESOURCE AREA SEPARATOR

FEMA 100-YEAR FLOOD

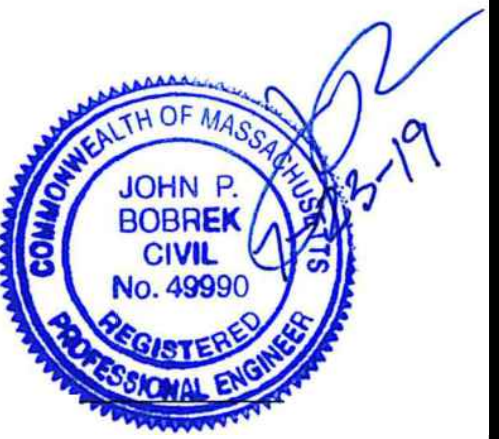


MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

STAMP:

RAYMOND
STREET
WATER MAIN

SHEET NAME:

C-302

HT NO:

OR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

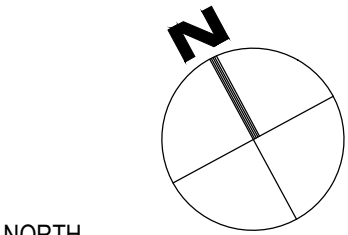
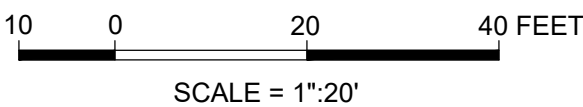
SCALE: 1"=20'

GENERAL NOTES

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9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.
12. ~~PROPOSED WATER MAIN TO BE INSTALLED WITHOUT USE OF TEMPORARY BYPASS PIPING—ONE 8-HOUR SHUTDOWN WILL BE PERMITTED FOR EACH CONNECTION TO EXISTING WATER MAIN.~~
13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.

RESOURCE AREA LEGEND

- COASTAL BANK
- 30' COASTAL BANK NO DISTURB
- 50' COASTAL BANK NO BUILD
- 100' COASTAL BANK BUFFER
- BORDERING VEGETATED WETLAND
- 30' BVW NO DISTURB ZONE
- 50' BVW NO BUILD ZONE
- 100' BVW BUFFER ZONE
- RIVER BANK
- 100' RIVERFRONT AREA
- 200' RIVERFRONT AREA
- RESOURCE AREA SEPARATOR
- FEMA 100-YEAR FLOOD



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10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN
IMPROVEMENTS

PROJECT INFO

1	ADDENDUM #1	8/14/19
REV	DESCRIPTION	DATE



STAMP:

RAYMOND
STREET
WATER MAIN

SHEET NAME:

C-303

SHT NO:

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=20'

GENERAL NOTES

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8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.

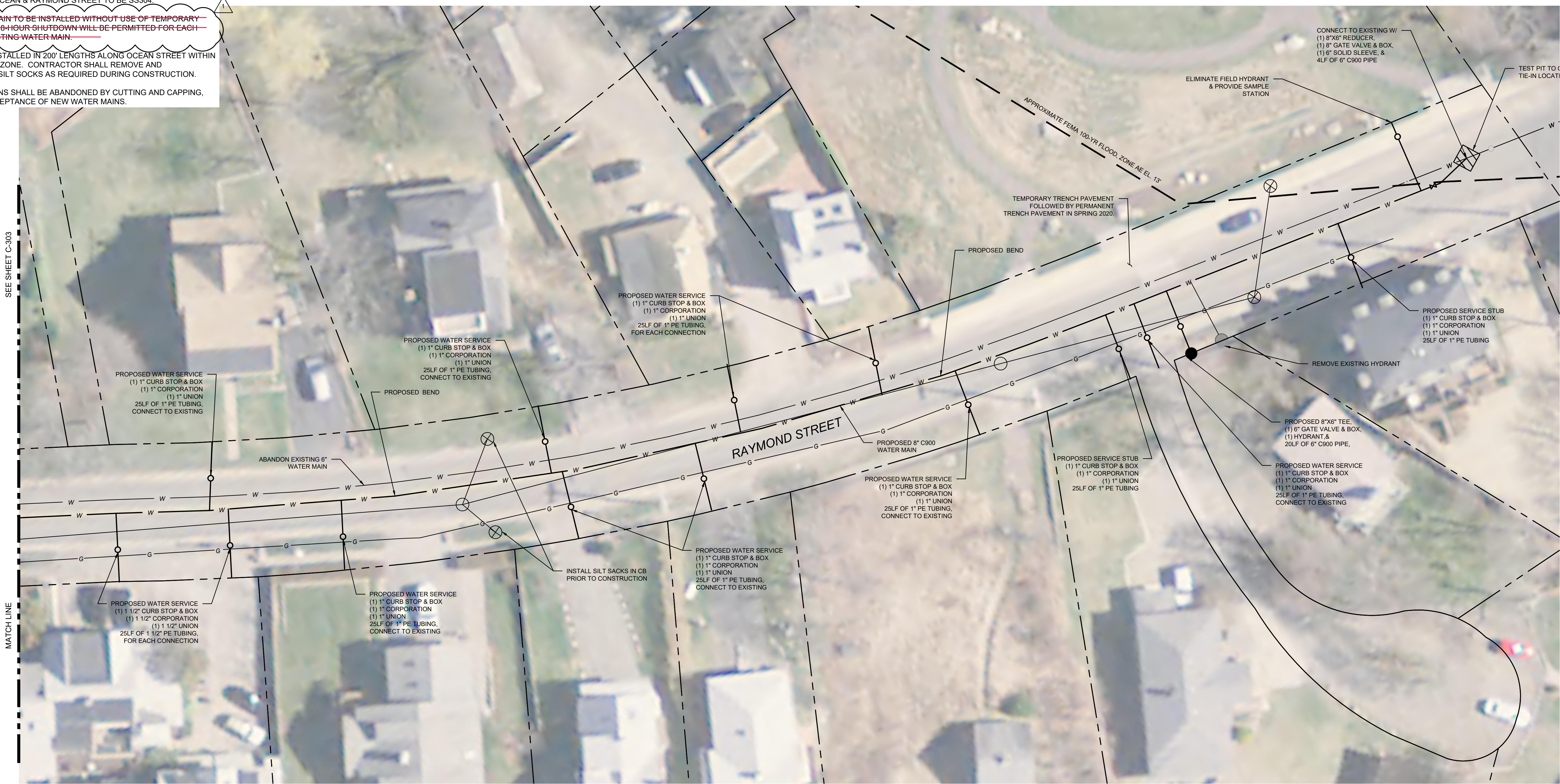
~~12. PROPOSED WATER MAIN TO BE INSTALLED WITHOUT USE OF TEMPORARY BYPASS PIPING. ONE 8-HOUR SHUTDOWN WILL BE PERMITTED FOR EACH CONNECTION TO EXISTING WATER MAIN.~~

13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.

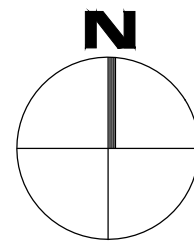
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.

RESOURCE AREA LEGEND

- | | |
|---------|-----------------------------|
| --- | COASTAL BANK |
| - - - - | 30' COASTAL BANK NO DISTURB |
| - - - - | 50' COASTAL BANK NO BUILD |
| ---- | 100' COASTAL BANK BUFFER |
| ---- | BORDERING VEGETATED WETLAND |
| - - - - | 30' BVW NO DISTURB ZONE |
| - - - - | 50' BVW NO BUILD ZONE |
| ---- | 100' BVW BUFFER ZONE |
| ---- | RIVER BANK |
| ---- | 100' RIVERFRONT AREA |
| ---- | 200' RIVERFRONT AREA |
| ---- | RESOURCE AREA SEPARATOR |
| ---- | FEMA 100-YEAR FLOOD |



10 0 20 40 FEET
SCALE = 1"=20'



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10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN
IMPROVEMENTS

PROJECT INFO

REV	DESCRIPTION	DATE
1	ADDENDUM #1	8/14/19



STAMP:

RAYMOND
STREET
WATER MAIN

SHEET NAME:

C-304

SHT NO:

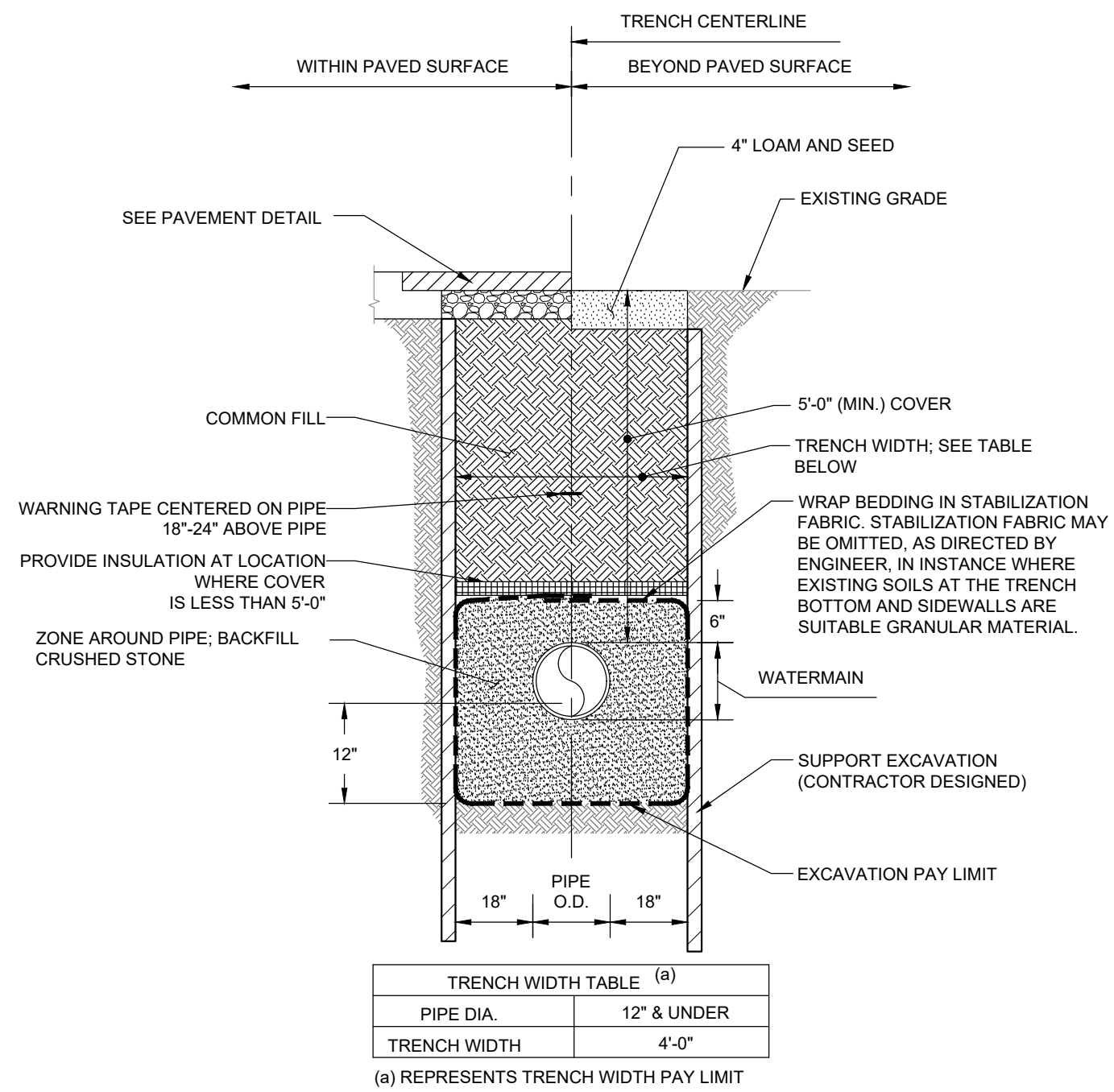
DR BY: BTP

CHK BY: JPB

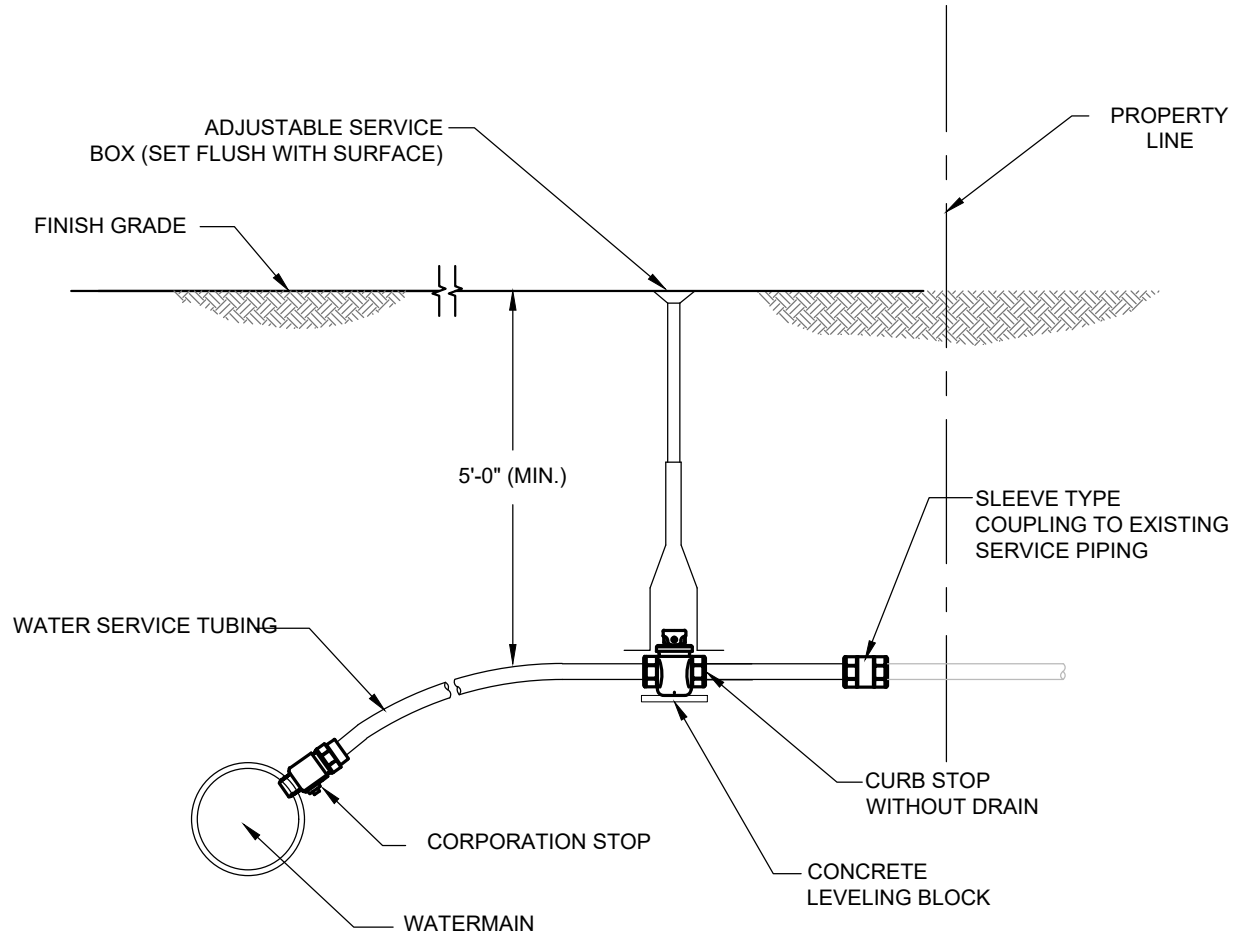
PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=20'

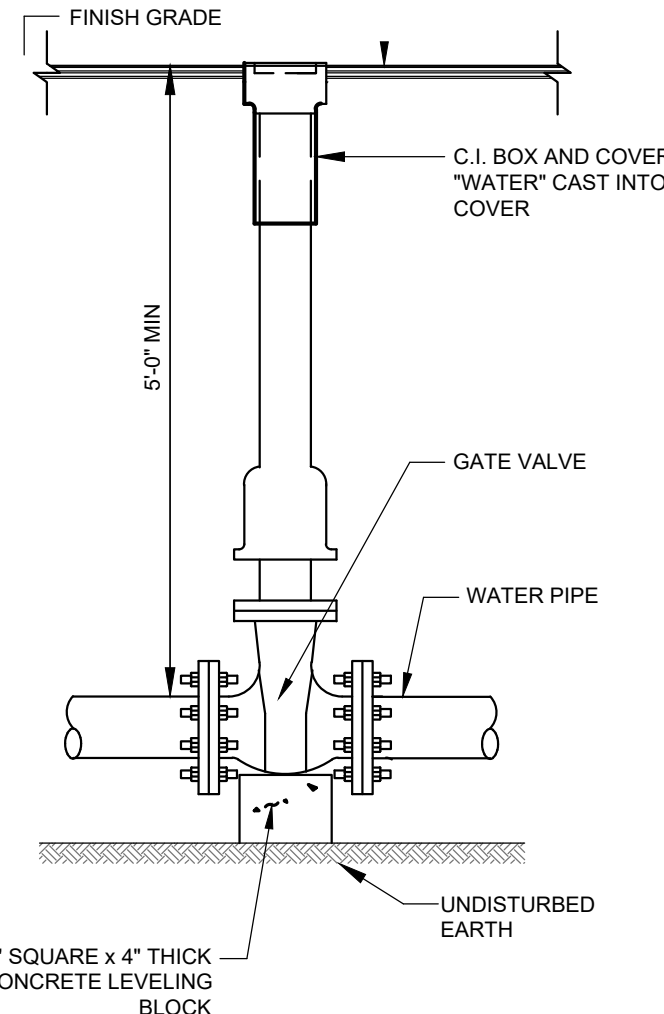


WATER MAIN TRENCH
NOT TO SCALE

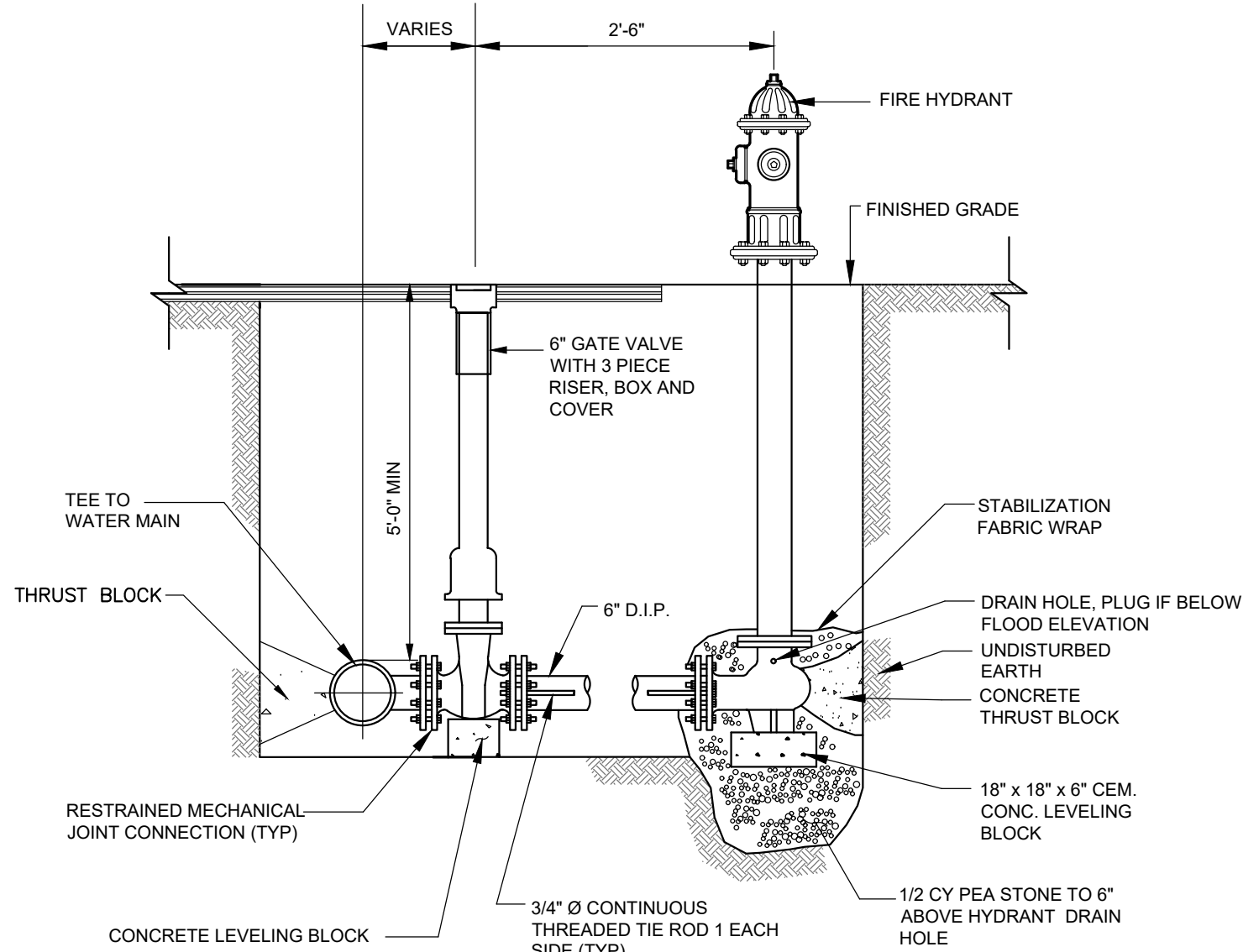


- NOTES:
1. ALL JOINTS SHALL BE COMPRESSION TYPE.
 2. WATER SERVICES SHALL BE BACKFILLED WITH SAND BY HAND TO 6" ABOVE COPPER TUBING AT 98% COMPACTION.
 3. CORPORATION STOP LARGER THAN ONE INCH SHALL HAVE A SADDLE.
 4. SERVICE TO BE WRAPPED WITH #12 TRACER WIRE FROM CORPORATION TO CURB STOP AS SPECIFIED.

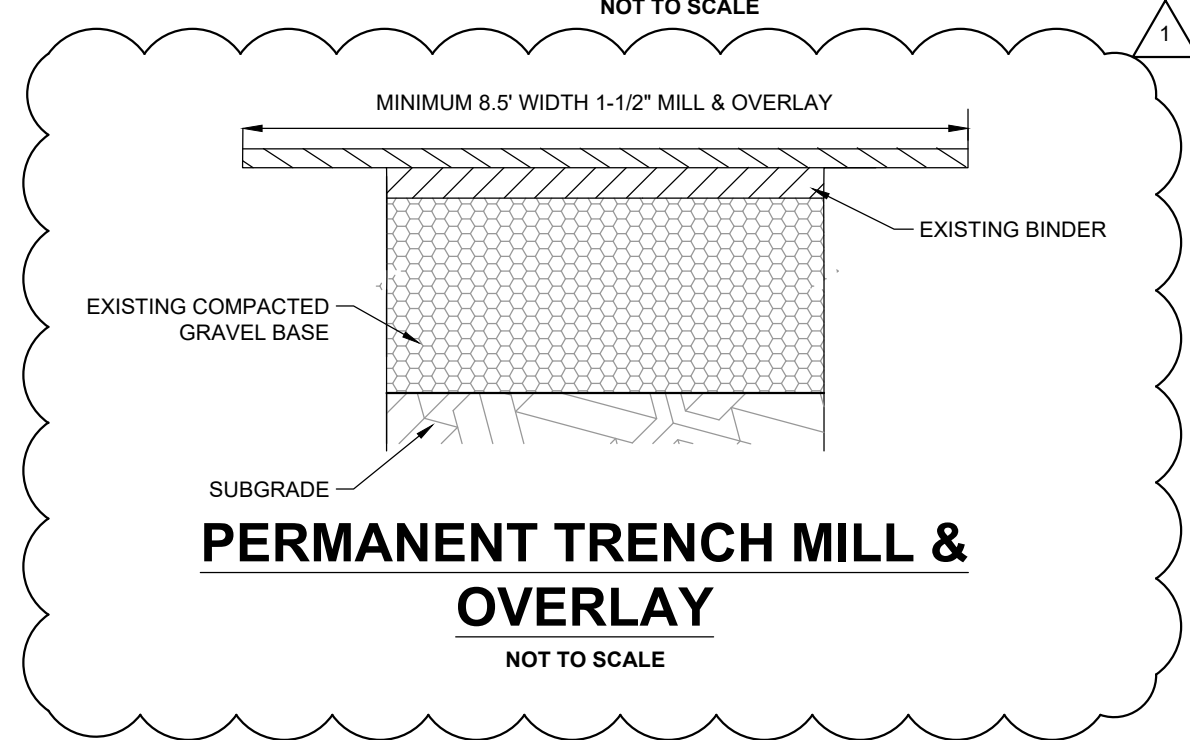
WATER SERVICE CONNECTION
NOT TO SCALE



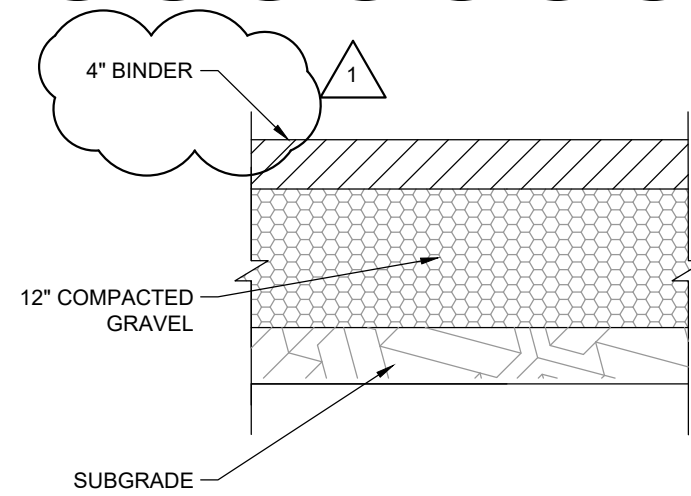
GATE BOX
NOT TO SCALE



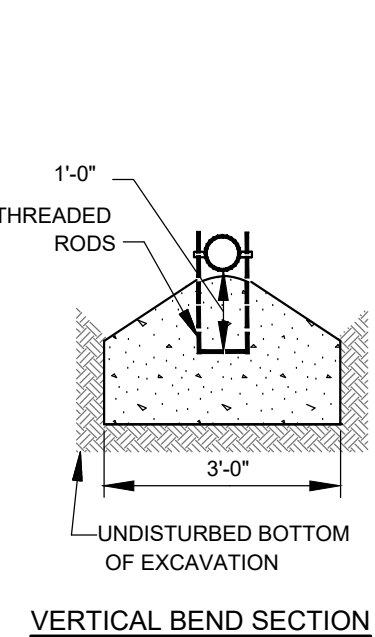
FIRE HYDRANT
NOT TO SCALE



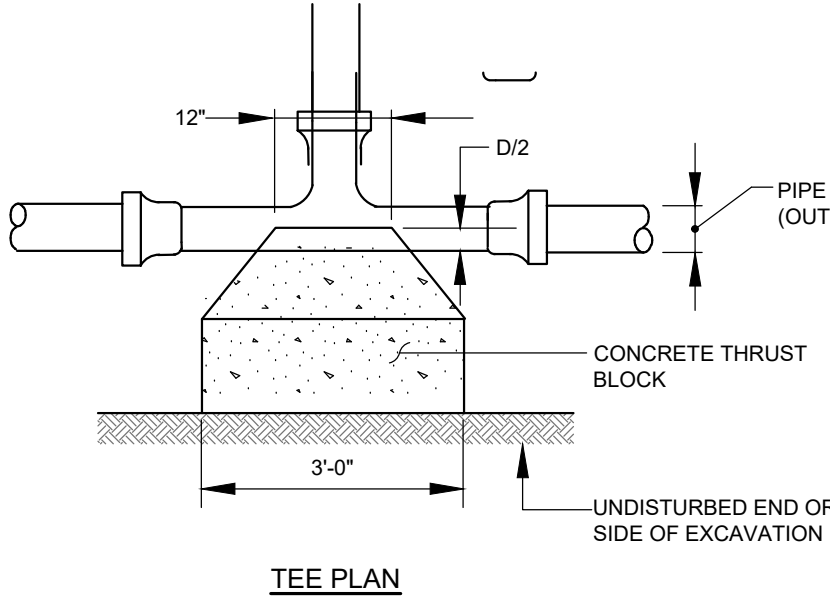
PERMANENT TRENCH MILL & OVERLAY
NOT TO SCALE



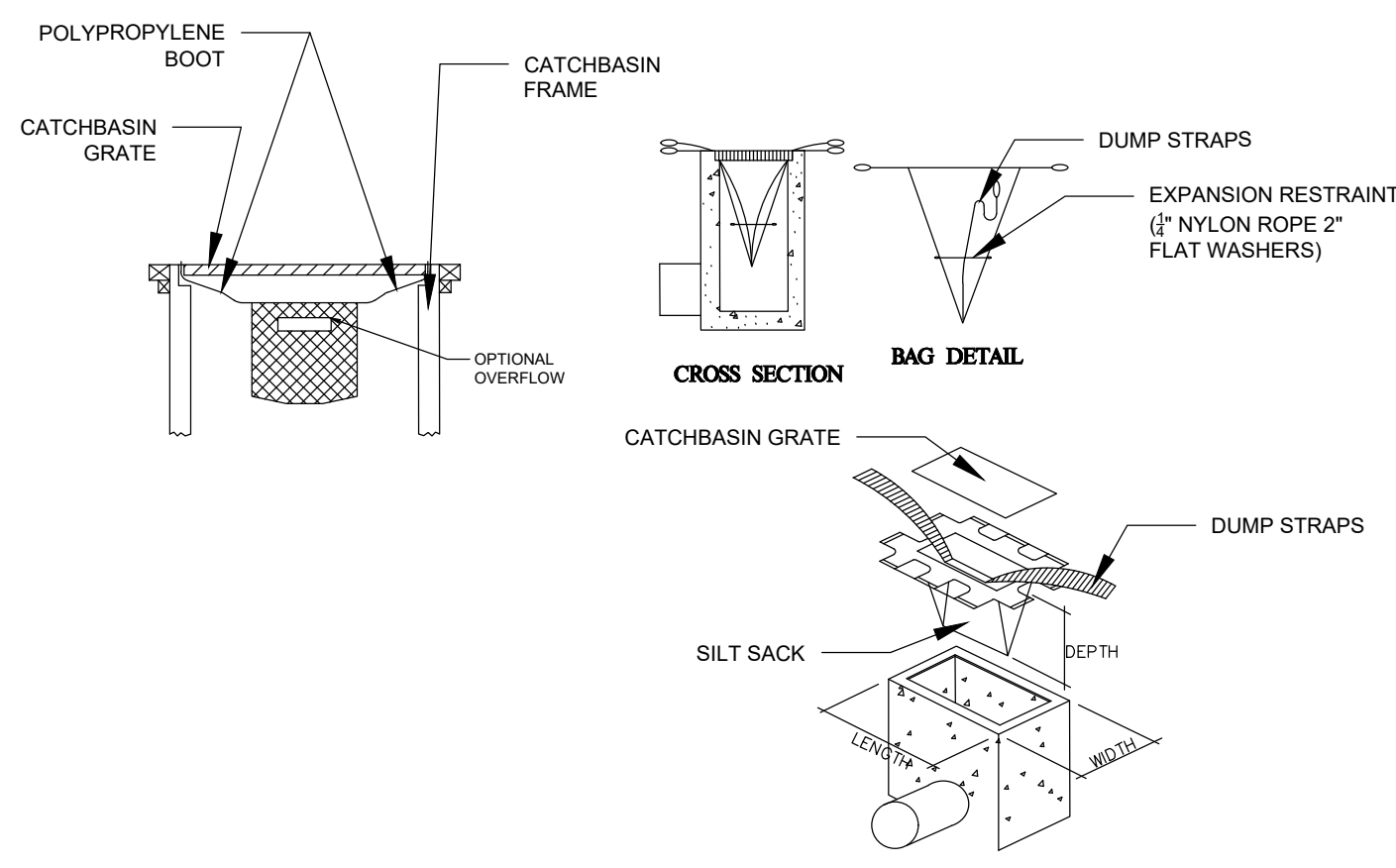
TEMPORARY TRENCH PAVEMENT
NOT TO SCALE



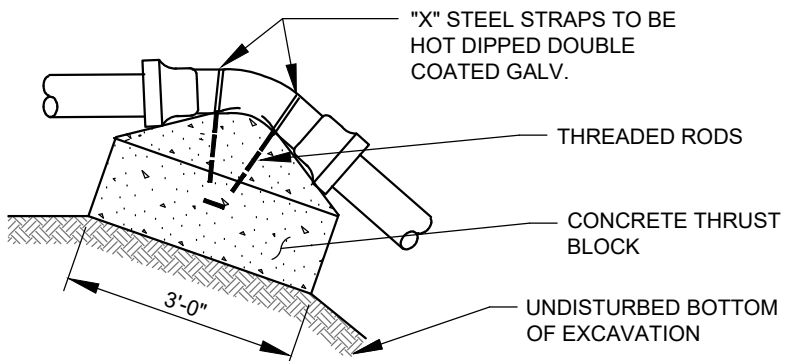
VERTICAL BEND SECTION



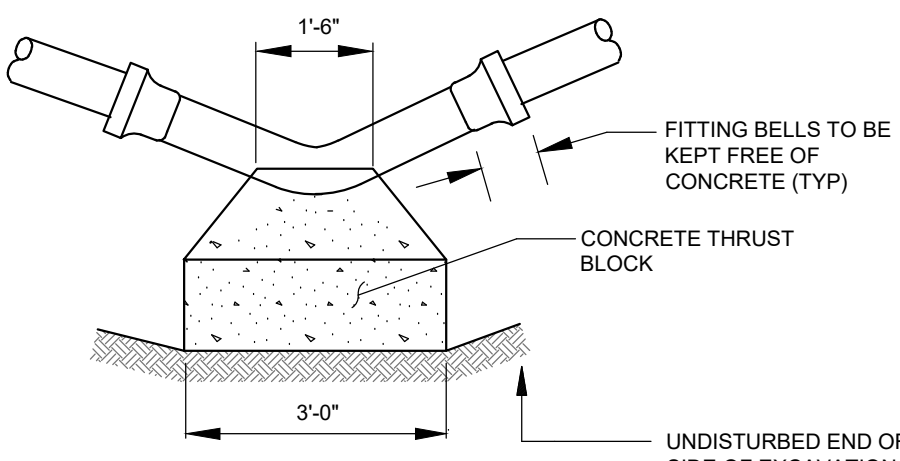
TEE PLAN



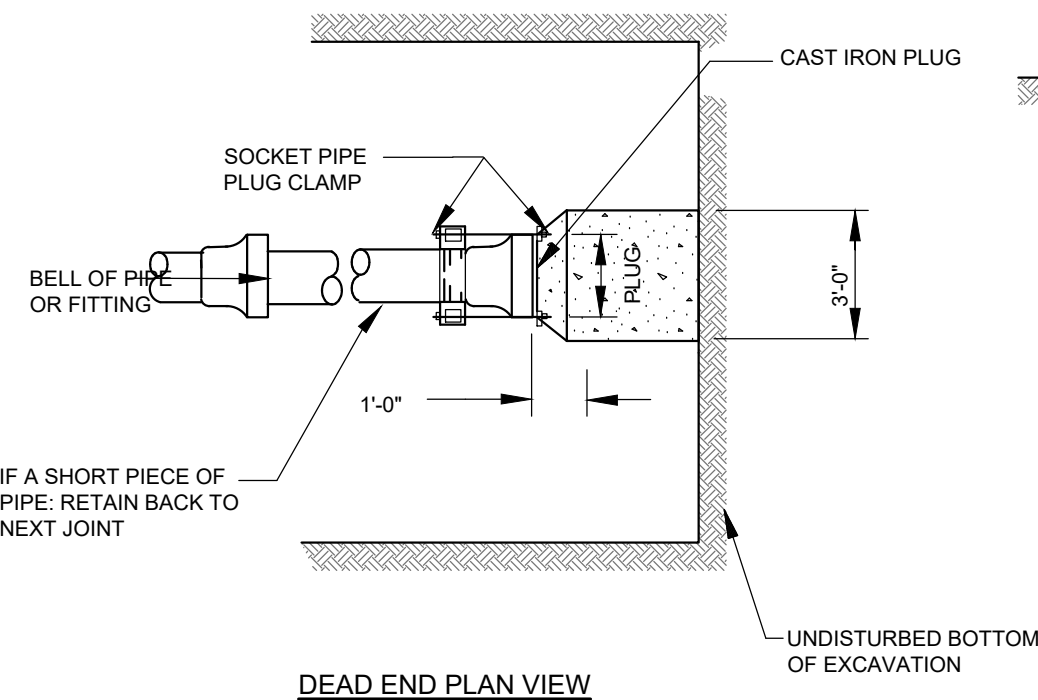
TYPICAL INLET PROTECTION
NOT TO SCALE



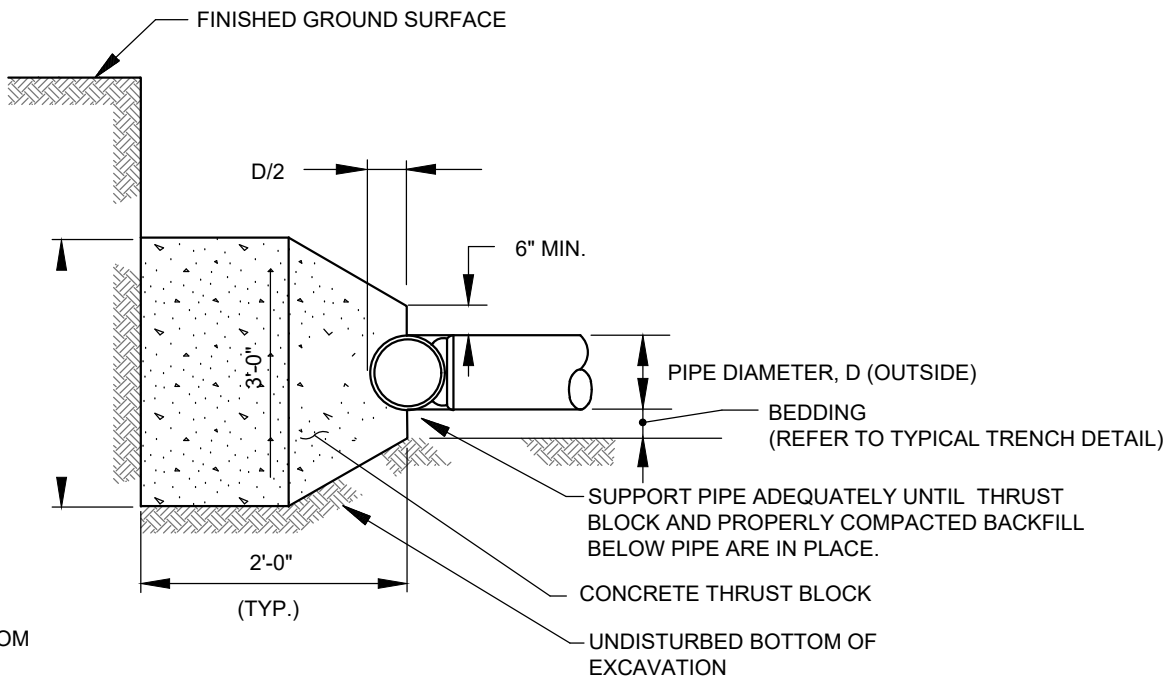
VERTICAL BEND PLAN VIEW



HORIZONTAL BEND PLAN VIEW



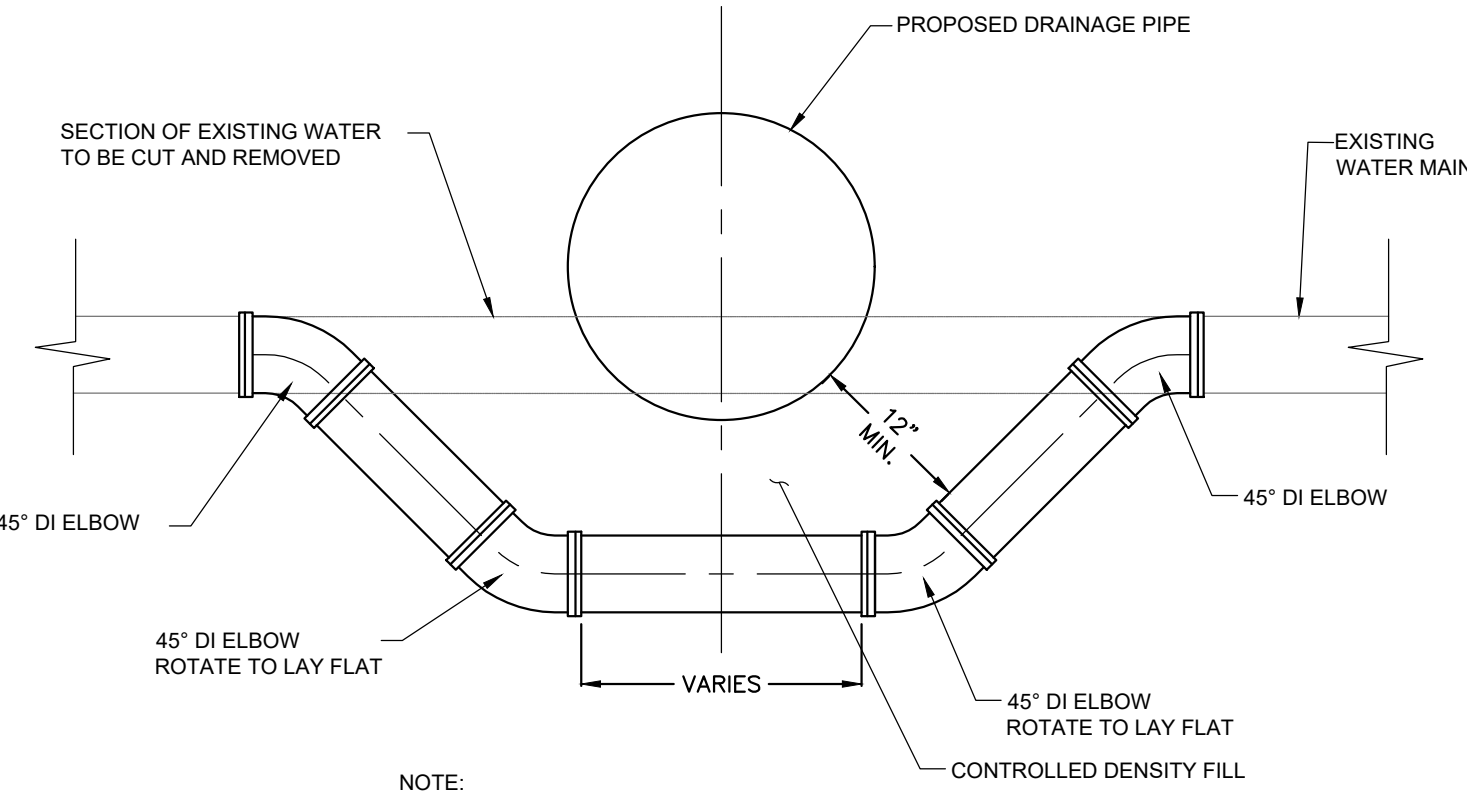
DEAD END PLAN VIEW



TYPICAL SECTION FOR TEES, BENDS AND DEAD ENDS

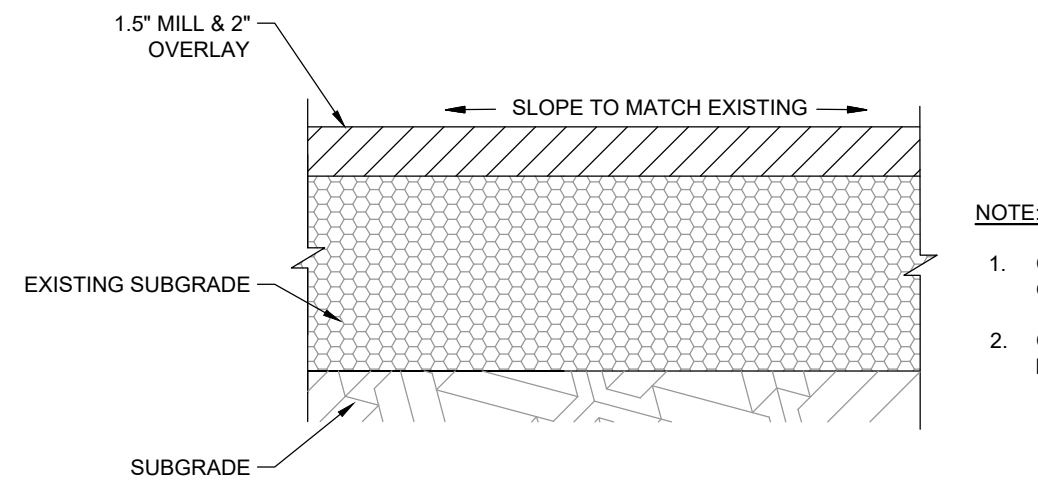
- NOTES:
1. ALL FITTINGS SHALL BE ANCHORED BY MECHANICAL MEANS OR BY CONCRETE THRUST BLOCKS, OR BOTH.
 2. ALL EXPOSED METAL SHALL BE SS304 AS SPECIFIED.
 3. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRESS OF 3000 P.S.I. AT 28 DAYS.
 4. THESE ARE TYPICAL THRUST BLOCK INSTALLATIONS. ACTUAL METHOD OF RESTRAINT MUST BE DETERMINED BY FIELD CONDITIONS. SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER.

TYPICAL THRUST BLOCKS
NOT TO SCALE

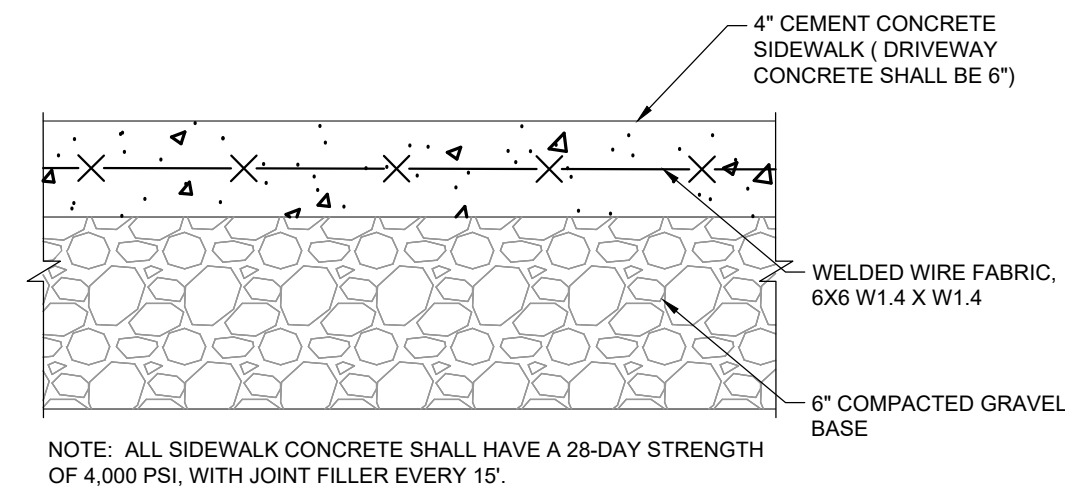


- NOTE:
1. ALL FITTINGS SHALL BE RESTRAINED MECHANICAL JOINTS.
 2. RESTRAIN EXISTING PIPE BEYOND CROSSING.

WATER LINE CROSSING
NOT TO SCALE



MILL & OVERLAY
NOT TO SCALE



CONCRETE SIDEWALK
NOT TO SCALE

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DANVERS, MA 01923
WWW.gobobrek.COM

MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN
IMPROVEMENTS

PROJECT INFO

REV	DESCRIPTION	DATE
1	ADDENDUM #1	8/14/19



STAMP:

DETAILS I

SHEET NAME:

C-400

SHT NO:

DR BY: BTP

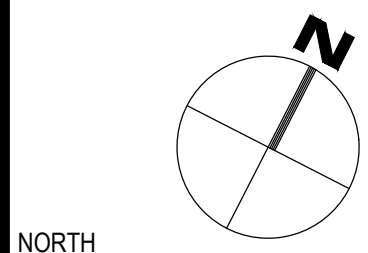
CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

SCALE: AS NOTED

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4. THE ADJACENT BUTTER(S) MUST BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION.
5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
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10. ALL FITTINGS OUTSIDE OF C900 LIMITS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.
- ~~12. PROPOSED WATER MAIN TO BE INSTALLED WITHOUT USE OF TEMPORARY BYPASS PIPING. ONE 8-HOUR SHUTDOWN WILL BE PERMITTED FOR EACH CONNECTION TO EXISTING WATER MAIN.~~
13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.
15. OVERLEDGE ROAD RESTORATION TO INCLUDE TEMPORARY TRENCH PAVE FOR THE WINTER, AND PERMANENT TRENCH RESTORATION IN SPRING 2020 IN PAVED AREAS.
16. NON-PAVED AREAS TO BE RESTORED WITH 12" COMPACTED GRAVEL PER SPECIFICATIONS.



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MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

STAMP:

ADD ALT. 1
OVERLEDGE
WATER MAIN

SHEET NAME:

C-500

SHT NO:

DR BY: RTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

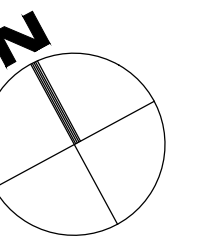
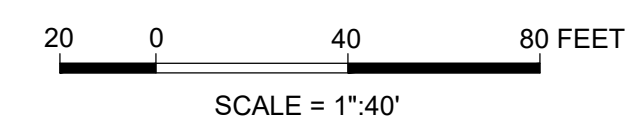
SCALE: 1"=40'

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5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF EACH PROPOSED UTILITY CONNECTION.
7. CONTACT THE TOWN OF MANCHESTER BY THE SEA FOR THE MARKING OF MANCHESTER MUNICIPAL UTILITIES. CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.
8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON THE OCEAN & GAYMOND STREET TO BE SS304.

13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.

14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.

15. OVERLEDGE ROAD RESTORATION TO INCLUDE TEMPORARY TRENCH PAVE FOR THE WINTER, FOLLOWED BY PERMANENT TRENCH RESTORATION IN SPRING 2020



NORTH



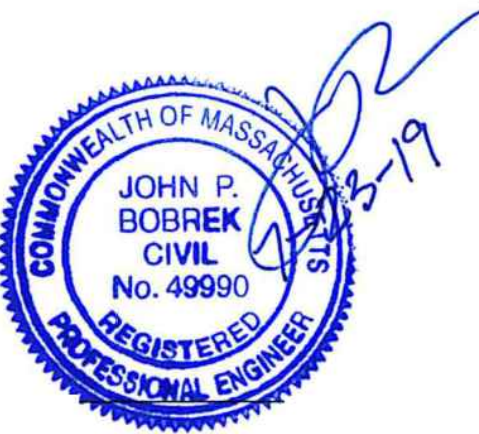
41 PINE STREET
DANVERS, MA 01923
WWW.gobobrek.COM

MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

STAMP:

ADD ALT. 2
BUTLER AVE.
WATER

SHEET NAME:

C-501

HT NO:

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=40'

1. BASE MAPPING OF THE PROJECT SITE HAS BEEN TAKEN FROM THE MANCHESTER BY THE SEA, GIS SYSTEM.
2. CONTRACTOR IS TO NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH PROPOSED WORK.
3. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION AND SIZE OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME INSIDE OR OUTSIDE OF EXISTING OR PROPOSED BUILDINGS, ON THE SUBJECT PROPERTY, WITHIN THE STREET RIGHT-OF-WAY, OR ON ABUTTING LOTS.
4. THE ADJACENT BUTTER(S) MUST BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION.
5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF EACH PROPOSED UTILITY CONNECTION.
7. CONTACT THE TOWN OF MANCHESTER BY THE SEA FOR THE MARKING OF MANCHESTER MUNICIPAL UTILITIES. CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.
8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS TO BE WAX TAPED PER SPECIFICATIONS.
11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304

13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.

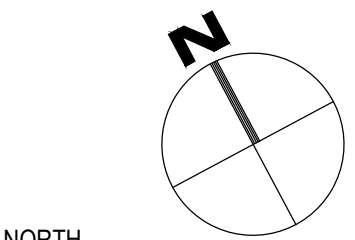
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.

15. VICTORIA ROAD RESTORATION TO INCLUDE TEMPORARY TRENCH PAVE FOR THE WINTER, FOLLOWED BY PERMANENT TRENCH RESTORATION IN SPRING 2020



10 0 20 40 FEET

SCALE = 1"=20'



NORTH



141 PINE STREET
DANVERS, MA 01923
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MANCHESTER DPW
10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

STAMP:

ADD ALT. 3
VICTORIA RD.
WATER

SHEET NAME:

C-502

SHT NO

DR BY: BTP

CHK BY: JPE

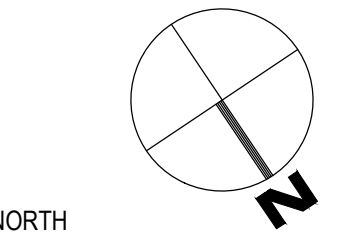
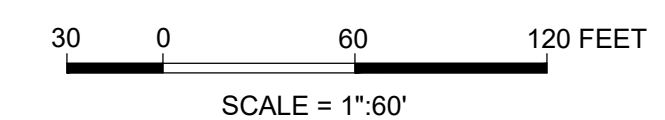
PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=20'

1. BASE MAPPING OF THE PROJECT SITE HAS BEEN TAKEN FROM THE MANCHESTER BY THE SEA, GIS SYSTEM.
2. CONTRACTOR IS TO NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH PROPOSED WORK.
3. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION AND SIZE OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME INSIDE OR OUTSIDE OF EXISTING OR PROPOSED BUILDINGS, ON THE SUBJECT PROPERTY, WITHIN THE STREET RIGHT-OF-WAY, OR ON ABUTTING LOTS.
4. THE ADJACENT ABUTTER(S) MUST BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION.
5. CUTTING AND CAPPING FOR SAID UTILITIES AND REMOVAL/ABANDONMENT/CAPPING BEYOND THE PROPERTY LINE SHALL BE AS PER INSTRUCTED BY THE RESPECTIVE UTILITY COMPANY.
6. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF EACH PROPOSED UTILITY CONNECTION.
7. CONTACT THE TOWN OF MANCHESTER BY THE SEA FOR THE MARKING OF MANCHESTER MUNICIPAL UTILITIES. CONTACT DIG-SAFE AT 1-888-344-7233 OR 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO EXCAVATION.
8. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
9. ALL CEMENT LINED DUCTILE IRON PIPE TO BE INSTALLED WITH POLY WRAP PER SPECIFICATIONS.
10. ALL FITTINGS OUTSIDE OF C900 LIMITS TO BE WAX TAPED PER SPECIFICATIONS.

11. ALL HARDWARE ON OCEAN & RAYMOND STREET TO BE SS304.
12. ~~PROPOSED WATER MAIN TO BE INSTALLED WITHOUT USE OF TEMPORARY BYPASS PIPING. ONE 6 HOUR SHUTOFFOWN WILL BE PERMITTED FOR EACH CONNECTION TO EXISTING WATER MAIN.~~
13. SILT SOCKS TO BE INSTALLED IN 200' LENGTHS ALONG OCEAN STREET WITHIN THE CURRENT WORK ZONE. CONTRACTOR SHALL REMOVE AND RELOCATE/REPLACE SILT SOCKS AS REQUIRED DURING CONSTRUCTION.
14. EXISTING WATER MAINS SHALL BE ABANDONED BY CUTTING AND CAPPING, UPON TESTING & ACCEPTANCE OF NEW WATER MAINS.
15. MAGNOLIA AVENUE RESTORATION TO INCLUDE TEMPORARY TRENCH PAVE FOR THE WINTER, FOLLOWED BY PERMANENT TRENCH RESTORATION IN SPRING 2020



BOBREK
Engineering & Construction

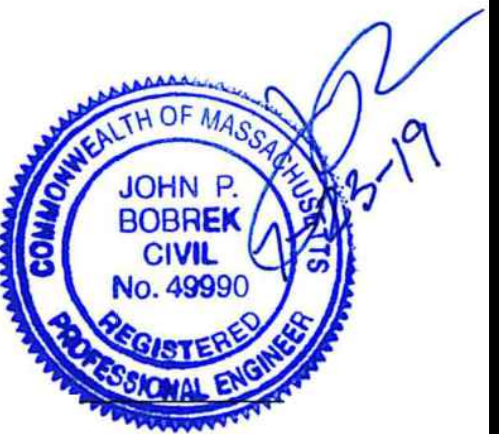
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10 CENTRAL STREET
MANCHESTER BY
THE SEA, MA 01944

CLIENT

2019 WATER MAIN IMPROVEMENTS

PROJECT INFO

[illegible]

STAMP:

ADD ALT. 4
MAGNOLIA
WATER EXT.

SHEET NAME:

C-503

HT NO:

DR BY: BTP

CHK BY: JPB

PROJ NO: 18-014

DATE: JULY 2019

SCALE: 1"=60'