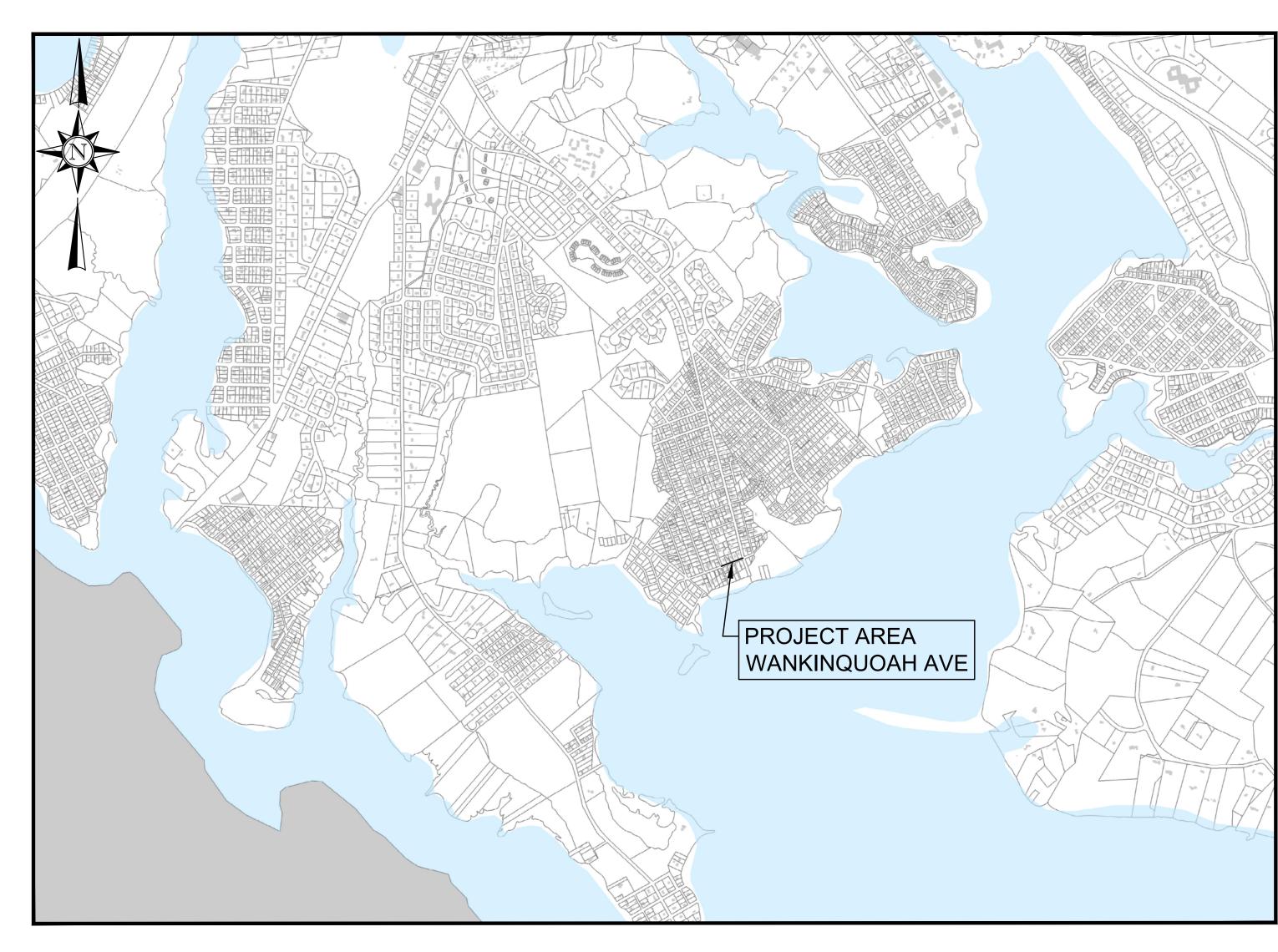
# TOWN OF WAREHAM, MASSACHUSETTS WAREHAM WATER POLLUTION CONTROL SWIFTS BEACH EMERGENCY SEWER REPAIR CONTRACT NO. XXX MAY 2023



WAREHAM WATER POLLUTION CONTROL

GUY CAMPINHA, DIRECTOR OF WATER POLLUTION CONTROL



# **PLAN INDEX**

SHEET NO.	<b>DESCRIPTION</b>		
G-1	LOCUS PLAN		
G-2	LEGEND AND GENERAL NOTES		
C-1	PROPOSED UTILITY PLAN		
#### thru ####	CONSTRUCTION DETAILS		

LOCATION MAP

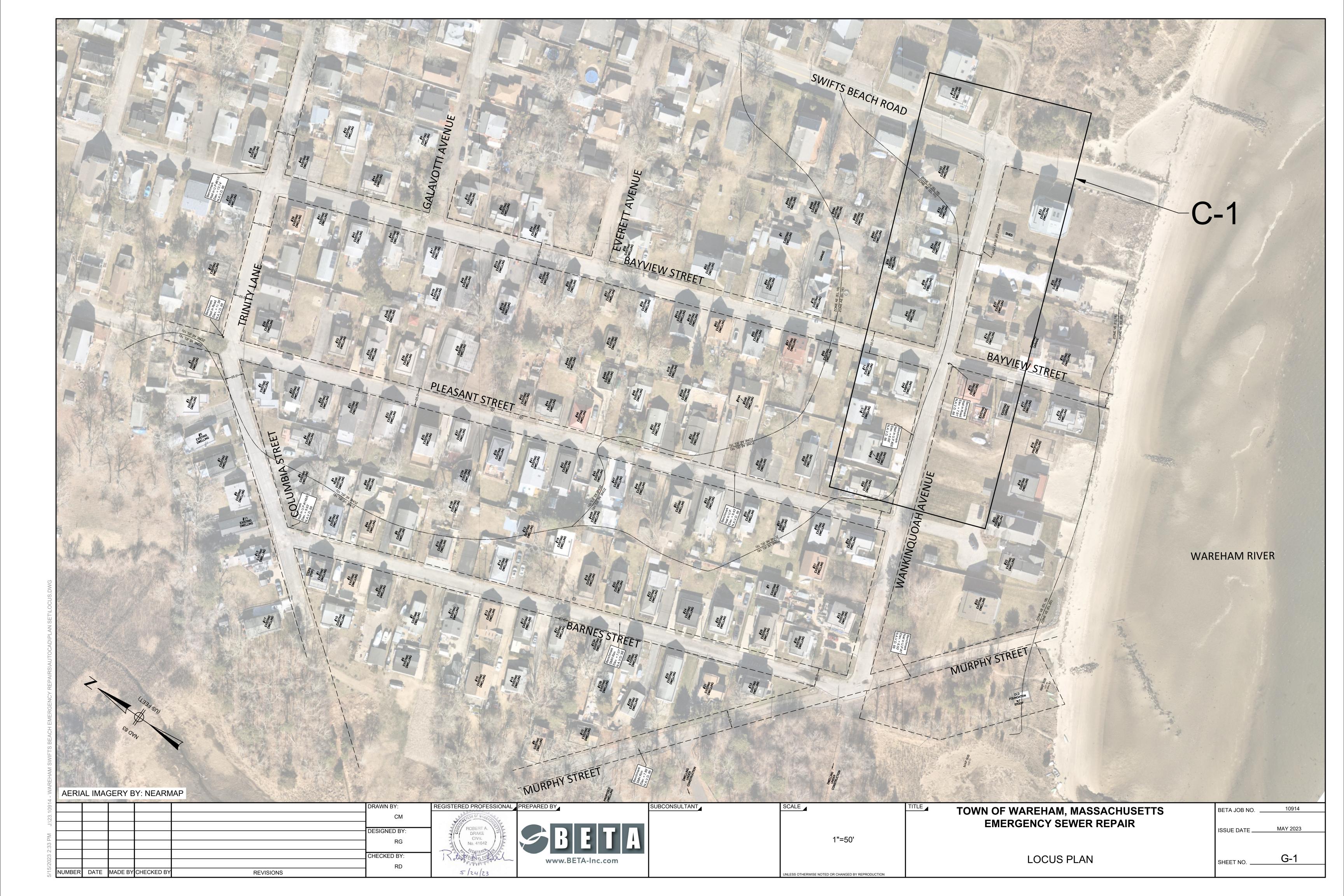
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PREPARED BY:



NOT FOR CONSTRUCTION





XISTING FEATURES		<b>ABBREVIATIONS</b>	
= = = = 12" VC D= = = =	DRAIN LINE	BIT.	BITUMINOUS
		СВ	CATCH BASIN
====15" AC S====		CONC.	CONCRETE
SS		CBDISC	CONCRETE BOUND W/DISC
====8" C  W====		CBDH	CONCRETE BOUND W/DRILLHOL
WS	WATER SERVICE	CBN	CONCRETE BOUND W/NO DH
6" PE G	GAS LINE	CMP	CORRUGATED METAL PIPE
GS	GAS SERVICE	DYL	DOUBLE YELLOW LINE
OHW	OVERHEAD WIRES	DH	DRILL HOLE
	PIPE CAPPED	EOP	EDGE OF PAVEMENT
	PIPE CONTINUES BEYOND LIMITS SHOWN	EL., ELEV.	ELEVATION
(	SEWER MANHOLE	FNC	FENCE
	DRAIN MANHOLE	GS	GAS SERVICE
(b)			
	CATCH BASIN	GPL	GUY POLE
	UTILITY POLE	INV.	INVERT
<b>X</b>	HYDRANT	IP	IRON PIPE
$\bowtie$	WATER GATE	IR	IRON ROD
凸	TEE	R	RISER ON UTILITY POLE
$\triangle$	BEND	SS	SEWER SERVICE
=====	REDUCER	SMH	SEWER MANHOLE
<i>n</i> <sub>2</sub> 0			
	CURB STOP	SWL	SOLID WHITE LINE
GG	GAS GATE	SYL	SOLID YELLOW LINE
0	TRAFFIC SIGN	STKD	STOCKADE
	CURBING	STL	STOP LINE
	PROPERTY LINE	UP	UTILITY POLE
	RIGHT OF WAY LINE	WS	WATER SERVICE
	STONE WALL	PE	POLYETHYLENE
X — X — — X	FENCE	M-C	MAIN TO CURB
Z///////	HOUSE / BUILDING STRUCTURE	С-Н	CURB TO HOUSE
	DECIDUOUS TREE	MTD	MULTIPLE TILE DUCT
***************************************	TREE LINE	STD	STEEL DUCT
15	CONTOUR MAJOR	GALV.	GALVANIZED
14	CONTOUR MINOR	CL	CEMENT LINED STEEL
×16.5	SPOT ELEVATION	UNK.	UNKNOWN MATERIAL
□ SB/DH	STONE BOUND/ DRILLHOLE	CDF	CONTROLLED DENSITY FILL
O IP	IRON PIPE	SHLO	STATE HIGHWAY LAYOUT
$\triangle$	TRAVERSE STATION	ABD.	ABANDON / ABANDONED
		CTE	CONNECT TO EXISTING
ROPOSED WORK		C&C	CUT & CAP
	SEWER LINE	R&D	REMOVE AND DISPOSE
	SEWER LINE (PIPE SCRIBING)	VIF	VERIFY IN FIELD
	WATER LINE	MAT.	MATERIAL
55	SEWER SERVICE DIG AND REPLACE	GRAN.	GRANITE
WS **	WATER SERVICE DIG AND REPLACE	PK	PK NAIL
	TRANSITION COUPLING / SOLID SLEEVE (TYPE AS NOTED)	CI	CAST IRON
•	HYDRANT	VC, VCP	VITRIFIED CLAY (PIPE)
<b>—</b>	TEE	DI	DUCTILE IRON
H	WATER GATE	DICL	DUCTILE IRON CEMENT-LINED
	REDUCER	RC, RCP	REINFORCED CONCRETE (PIPE)
7			, ,
L	CAP	HDPE	HIGH DENSITY POLYETHYLENE
· · · · · · · · · · · · · · · · · · ·	STRAW WATTLE	CP, CPP	CORRUGATED PLASTIC (PIPE)
		CLF	CHAIN LINK FENCE
		PROP.	PROPOSED
		TYP.	TYPICAL
		DYL	DOUBLE YELLOW LINE
		SWL	SINGLE WHITE LIN
		STB	STOP BAR
		HMC	HOT MIX CURB

GENERAL NOTES

## GENERAL

1. THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE THE SPECIFICATIONS FOR THIS CONTRACT. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS IN ADDITION TO THE GENERAL NOTES.

2. FOR ALL CONSTRUCTION, THE PUBLIC RIGHT-OF-WAY SHALL BE THE LIMIT OF DISTURBANCE. ALL SURFACES DAMAGED OUTSIDE OUTSIDE THE PUBLIC RIGHT-OF-WAY SHALL BE REPLACE IN KIND, AT THE CONTRACTORS EXPENSE.

3. THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE INDICATED LIMITS OF WORK AS SHOWN IN THE CONTRACT DRAWINGS. ALL SURFACES DAMAGED OUTSIDE THESE LIMITS BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

## **MAPPING**

4. BASE MAPPING BASED ON GEOGRAPHIC INFORMATION SYSTEMS (GIS) DATA, DATA DIGITIZED FROM AERIAL, DATA COLLECTED VIA GPS AND SURVEY BY JC ENGINEERING, INC., 2854 CRANBERRY HIGHWAY, EAST WAREHAM, MA 02538.

# 5. VERTICAL DATUM IS NAVD88.

6. THE LOCATION, SIZE, AND MATERIAL OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES AND/OR UTILITIES SHOWN ON THESE PLANS ARE FROM THE BEST AVAILABLE SOURCES AND ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES, UTILITIES OR STRUCTURES ARE SHOWN. EXACT LOCATION TO BE DETERMINED BY CONTRACTOR IN FIELD.

7. EXISTING UTILITIES HAVE BEEN PLOTTED FROM THE BEST AVAILABLE DATA AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES AND NOTIFY ALL UTILITY COMPANIES (PUBLIC AND PRIVATE). IN ADDITION, "DIG SAFE" MUST BE CONTACTED AT 1(888)-DIG-SAFE. CONTRACTOR TO CONTACT TOWN OF WAREHAM FOR THE LOCATION OF TOWN OF WAREHAM OWNED UTILITIES INCLUDING SEWER, WATER, DRAIN AND OTHER TOWN OWNED UTILITIES.

8. "AS-BUILT" DRAWINGS MAY BE EXAMINED AT THE TOWN OF WAREHAM ENGINEERING OFFICE. THE OWNER DOES NOT GUARANTEE THE CORRECTNESS OF THE CONTENTS OF THESE PLANS. THE CONTRACTOR IS CAUTIONED AGAINST RELYING SOLELY ON THE "AS-BUILTS" WITHOUT VERIFYING THE SAME BY FIELD INVESTIGATIONS.

9. PROPERTY LINES AND CITY/TOWN LINES ARE SHOWN FOR INFORMATION ONLY.

# **EXISTING UTILITIES**

10. EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE PROTECTED AND SUPPORTED AT ALL TIMES BY THE CONTRACTOR. ALL EXISTING SERVICES TO BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS TO INTERFERE AS LITTLE AS POSSIBLE WITH EXISTING UTILITIES. PAYMENT FOR PROVIDING SAID PROTECTION AND SUPPORTS SHALL BE CONSIDERED A PART OF AND PAID FOR UNDER THE APPROPRIATE PIPE OR STRUCTURE ITEMS UNLESS OTHERWISE INDICATED AND/OR DIRECTED BY THE OWNER. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION BY REASON OF DELAY AND/OR INCONVENIENCE IN ADAPTING HIS OPERATIONS ACCORDINGLY.

11. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF DAMAGED UTILITIES CAUSED BY THE CONTRACTORS OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.

## REMOVAL AND DISPOSAL

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS INDICATED ON THE PLANS INCLUDING BUT NOT LIMITED TO ALL GRIT AND DEBRIS FROM THE EXISTING STRUCTURES WHICH SHALL BE CONSIDERED 'SPECIAL WASTE' AND SHALL BE REMOVED AND DISPOSED OF AS INDICATED IN THE SPECIFICATIONS. ALL DEMOLITION MATERIAL INCLUDING CONCRETE, PIPE, AND BRICK THAT WAS IN CONTACT WITH SEWAGE SHALL BE CLEANED IN ACCORDANCE WITH MA DEP REQUIREMENTS AND DISPOSED OF ACCORDINGLY. ONCE CLEANED, DEMOLITION MATERIALS SHALL NOT BE CONSIDERED SPECIAL WASTE. NO TEMPORARY STORAGE WILL BE ALLOWED IN TOWN.

## SITE RESTORATION

13. EXCEPT WHERE NOTED BY PROPOSED CONTOUR LINES, ALL FINAL CONTOUR LINE ELEVATIONS SHALL BE THE SAME AS EXISTING CONTOUR LINE ELEVATIONS.

14. JOINTS BETWEEN NEW BITUMINOUS CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED

15. ALL CURBING DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE RESET, RESTORED OR REPLACED IN KIND, IF DAMAGED, INCLUDING CEMENT CONCRETE, AS SPECIFIED IN MHD DETAIL 10.3.0, REGARDLESS OF ITS PROXIMITY TO THE DRAIN OR SEWER, AS DIRECTED BY THE OWNER/ENGINEER. PAYMENT SHALL BE CONSIDERED PART OF AND PAID FOR UNDER THE APPROPRIATE PIPE ITEMS AS APPLICABLE UNLESS OTHERWISE INDICATED ON PLANS.

16. ALL SIDEWALK AND WHEELCHAIR RAMP AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IN CONFORMANCE TO THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS AND THE ARCHITECTURAL ACCESS BOARD (AAB) REQUIREMENTS AT THE CONTRACTOR'S EXPENSE.

17. THE CONTRACTOR SHALL REMOVE AND RESET ALL SIGNS DISTURBED DURING CONSTRUCTION, IN CONFORMANCE WITH THE MASSACHUSETTS STANDARD SPECIFICATIONS AND CONSTRUCTION STANDARDS.

18. ALL GRASSED OR WOODED AREAS DISTURBED BY THE CONSTRUCTION OPERATIONS SHALL BE LOAMED AND SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS. FINAL RESTORATION SHALL BE EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION AS DETERMINED SOLELY BY THE OWNER/ENGINEER. PAYMENT SHALL BE CONSIDERED PART OF AND PAID FOR UNDER THE APPROPRIATE PIPE ITEMS AS APPLICABLE UNLESS OTHERWISE INDICATED.

# MAINTENANCE OF EXISTING FLOWS

19. FLOW IN ALL SANITARY SEWERS, COMBINED SEWERS AND DRAINS SHALL BE MAINTAINED AT ALL TIMES. CONTRACTOR SHALL PROVIDE BYPASS EQUIPMENT AS NECESSARY TO COMPLETE WORK. SEE SPECIFICATIONS.

20. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY EQUIPMENT, PIPING, FITTINGS AND APPURTENANCES NECESSARY TO COMPLETE THIS CONTRACT.

21. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TEMPORARY BYPASS-LINES UNTIL THE MODIFICATIONS AND CONSTRUCTION ARE COMPLETE.

# **EXCAVATION SUPPORT, DEWATERING**

22. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WELL POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.

23. DISCHARGE FROM DEWATERING OPERATIONS SHALL NOT BE DIRECTLY DISCHARGED INTO THE SEWER OR DRAIN. ALL CONSTRUCTION DEWATERING SHALL HAVE SILT AND SEDIMENT REMOVED PRIOR TO DISCHARGE (SEE SPECIFICATIONS).

# SOIL EROSION AND SEDIMENTATION CONTROL

24. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (HAYBALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED.

SUBCONSULTANT

## SOIL EROSION AND SEDIMENTATION CONTROL (CONTINUED)

25. ALL EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. THE E&S CONTROLS SHALL BE CLEANED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION OPERATIONS AND UNTIL ALL DISTURBED AREAS ARE STABILIZED AFTER CONSTRUCTION IS COMPLETE. E&S CONTROLS SHALL BE INSPECTED AND CLEANED AFTER ALL STORM EVENTS AND UPON THE REQUEST OF THE OWNER OR ENGINEER. CONTRACTOR SHALL MAINTAIN AN ADEQUATE SUPPLY OF HAY BALES ON SITE TO BE INSTALLED IN AREAS WHERE EXISTING E&S CONTROLS HAVE FAILED OR AS DETERMINED NECESSARY BY THE ENGINEER. NO WORK OR STORAGE OF CONSTRUCTION EQUIPMENT WILL BE PERMITTED OUTSIDE THE LIMIT OF DISTURBANCE.

26. PROVIDE SOIL EROSION AND SEDIMENT CONTROL MEASURES AT PERIMETERS OF ALL EXCAVATION AREAS, DISTURBED SURFACES AND AT ALL CATCH BASINS ADJACENT TO DISTURBED AREAS. PROVIDE SILT FENCING AND HAY BALES IN ACCORDANCE WITH DIVISION 2 SPECIFICATION REQUIREMENTS AND AS SHOWN ON THE CIVIL DETAIL DRAWINGS.

#### TREE PRESERVATION

27. PROTECT TREES WITHIN THE LIMITS OF WORK BY INSTALLING BLACK CORRUGATED PLASTIC AROUND TREES, AS INDICATED IN THE CONTRACT DRAWINGS.

28. PRIOR TO CONSTRUCTION DETERMINE REQUIRED CLEARANCES AND CONTRACT LICENSED ARBORIST TO PRUNE TREES.

29. BRANCHES OR LIMBS DAMAGED DURING CONSTRUCTION SHALL BE CUT BACK TO THE TRUNK OR A LATERAL BRANCH.

30. MAKE EVERY EFFORT TO MAINTAIN EXCAVATION ACTIVITIES OUTSIDE LIMITS OF THE TREE CANOPY.

31. ROOTS LARGER THAN 1.5" IN DIAMETER ENCOUNTERED IN EXCAVATIONS SHALL BE CUT OFF SQUARELY USING A SHARP ARBORIST SAW.

32. MAINTAIN STORAGE OF EQUIPMENT AND MATERIALS OUTSIDE THE DISTANCE OF THE RADIUS OF THE TREE CANOPY.



SCALE

TOWN OF WAREHAM, MASSACHUSETTS
EMERGENCY SEWER REPAIR

LEGEND AND GENERAL NOTES

BETA JOB NO. 10914

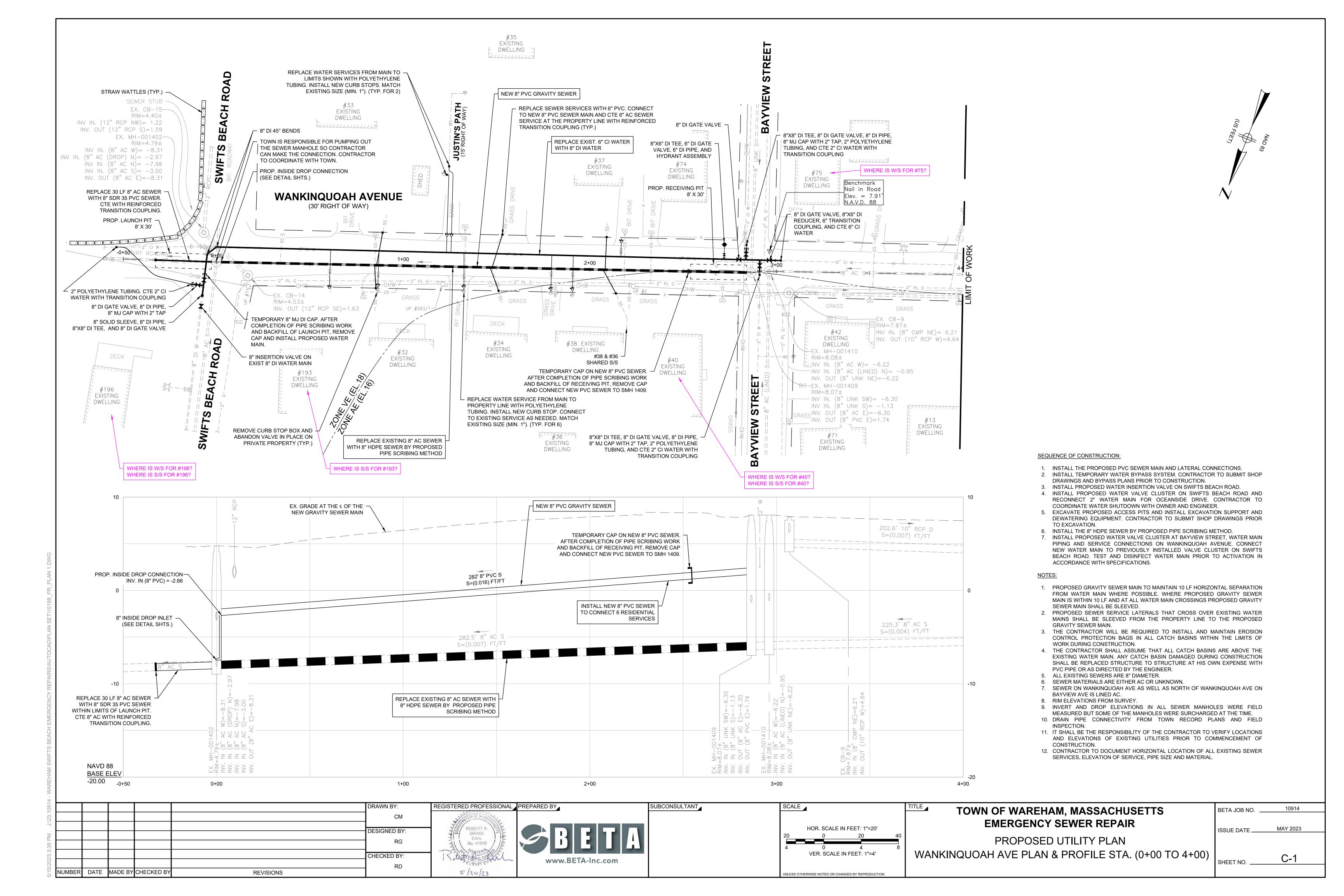
ISSUE DATE MAY 2023

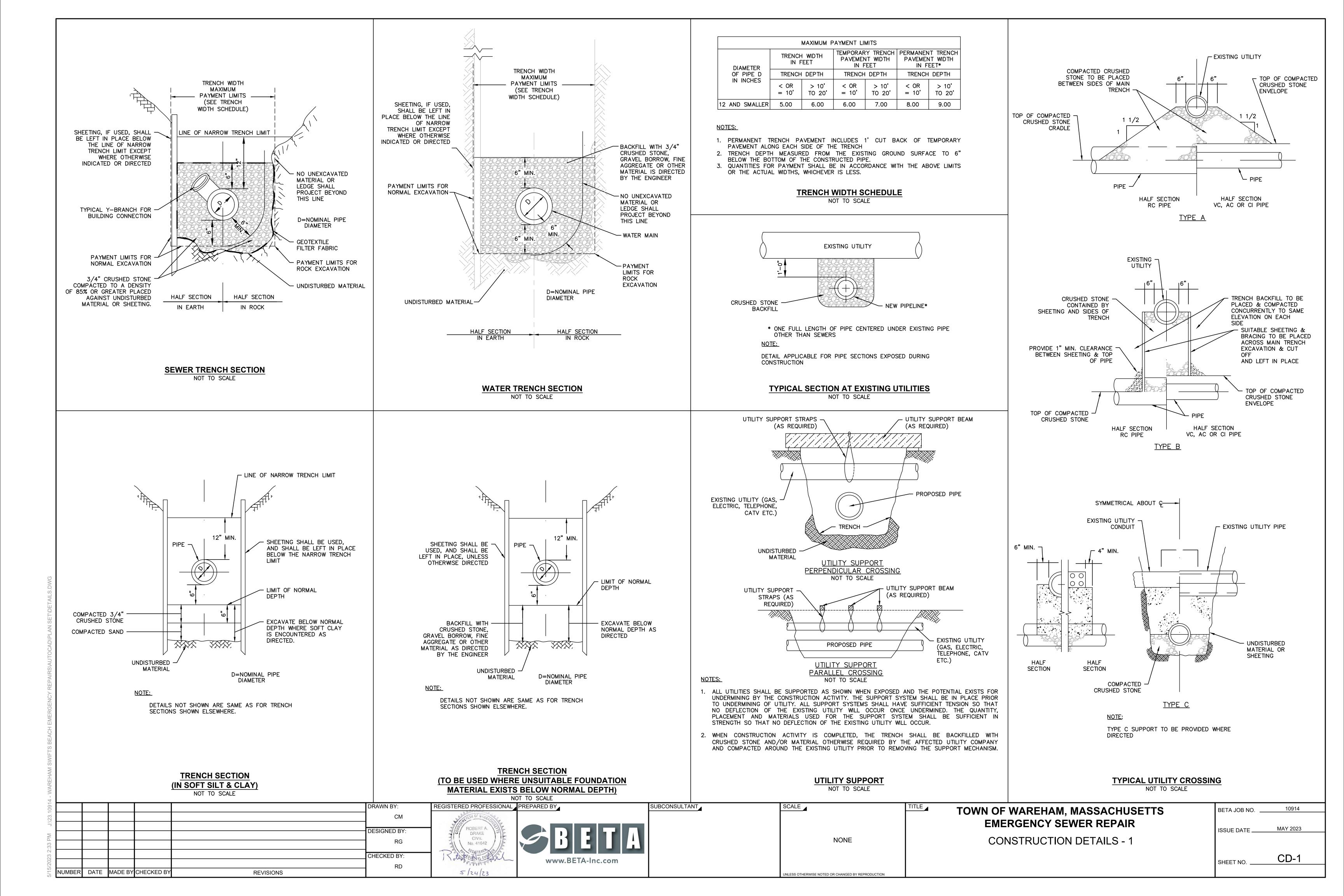
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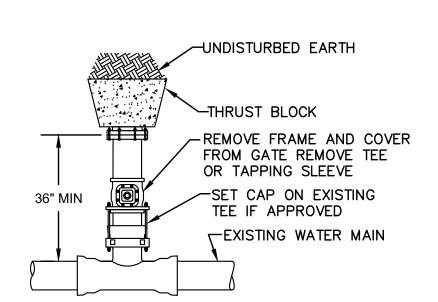
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

NONE

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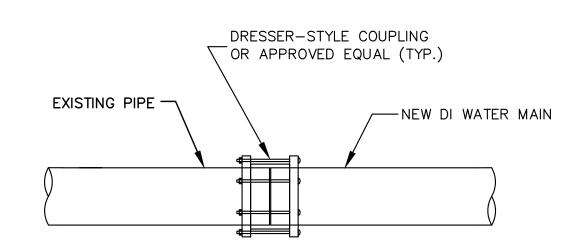






- THIS PROCEDURE WILL INVOLVE A WATER MAIN SHUT DOWN THAT THE CONTRACTOR WILL COORDINATE WITH THE ENGINEER AND OWNER.
- 48-HOUR PRIOR WRITTEN NOTIFICATION OF ALL AFFECTED CUSTOMERS MUST BE PERFORMED BY THE CONTRACTOR. WORK MAY NOT COMMENCE UNTIL ALL APPLICABLE PERMITS HAVE BEEN
- 4. ALL WORK MUST BE INSPECTED BY THE ENGINEER PRIOR TO BACKFILLING.

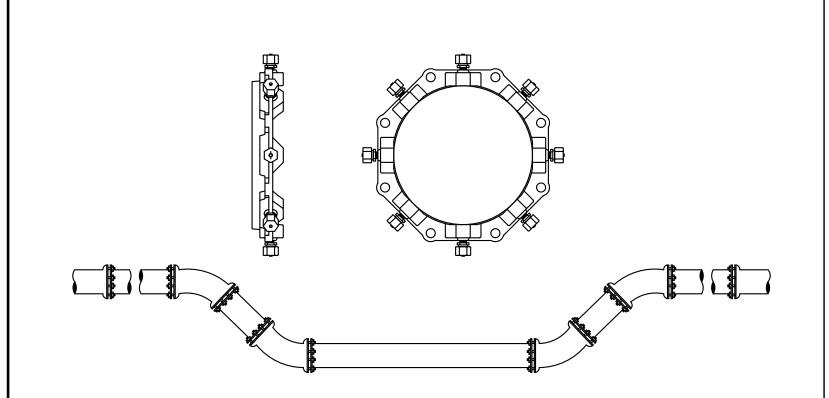
# **CUTTING AND CAPPING OF WATER CONNECTION 4" AND OVER**



- 1. DRESSER-STYLE COUPLING TO BE USED ONLY WHERE A SOLID
- SLEEVE CANNOT BE INSTALLED. CONNECTION SHALL INCLUDE TIE RODS AND FRICTION CLAMPS. (SEE DETAIL)

# WATER MAIN COUPLING CONNECTION

NOT TO SCALE



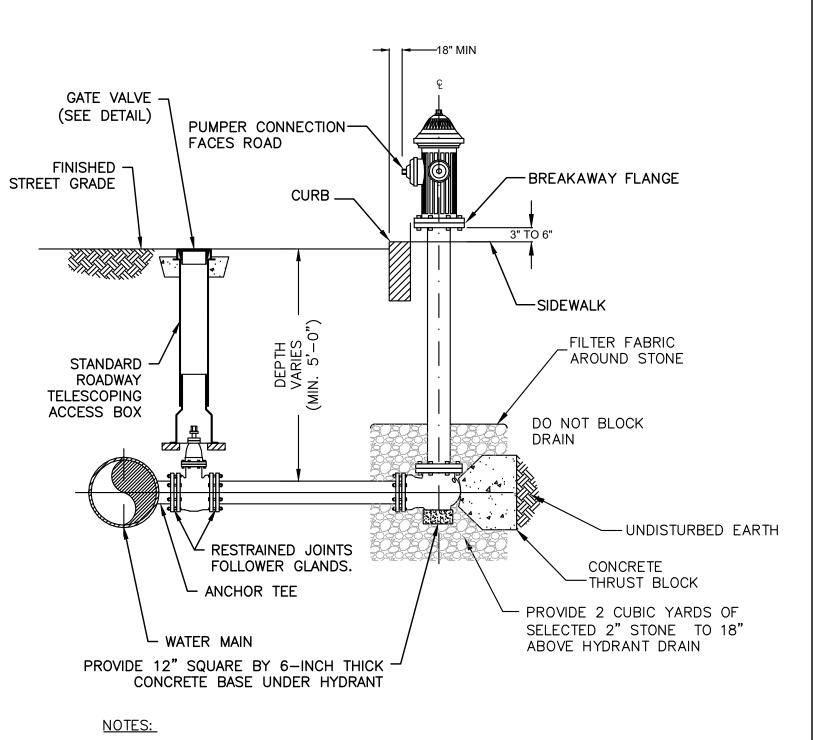
# NOTES:

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- DEVICES NEED TO BE PLACED BEYOND THE AREA OF RESTRAINTS IN
- ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.

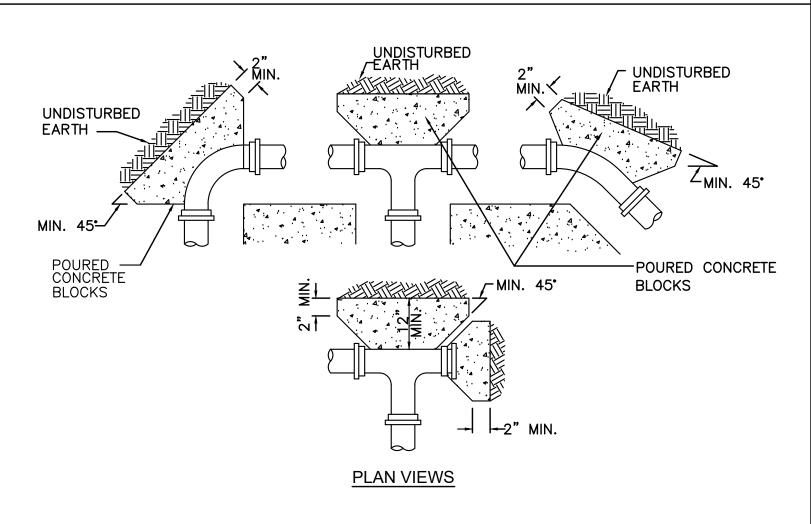
  2. RESTRAINED JOINT LENGTHS TO BE IN ACCORDANCE WITH SPECIFICATION

# TYPICAL THRUST RESTRAINT WEDGE ACTION TYPE JOINTS NOT TO SCALE



- 1. PROVIDE HYDRANT AND VALVE JOINTS WITH RESTRAINED MECHANICAL JOINTS. 2. ALL JOINTS BETWEEN ANCHOR TEE AND HYDRANT SHALL BE RESTRAINED.
- 3. SUPPORT BLOCKS TO BE CONCRETE MASONRY BLOCK.
- 4. ALL VALVES OPEN LEFT. 5. ALL HYDRANTS OUT OF SERVICE MUST BE BAGGED.
- 6. HYDRANT TO BE PAINTED ACCORDING TO TOWN'S STANDARD COLOR SCHEME.

# HYDRANT ASSEMBLY NOT TO SCALE



NOMINAL PIPE SIZE (INCHES)	MAXIMUM PIPE OD (INCHES)	REQUIRED BEARING AREA (SQ FT)					
		TEES& CAPS	90 DEG	45 DEG	30 DEG	22.5 DEG	11.25 DEG
6	6.90	2.6	3.7	2	1.4	1	.5
8	9.05	5	6.4	3.5	2.3	1.8	0.9

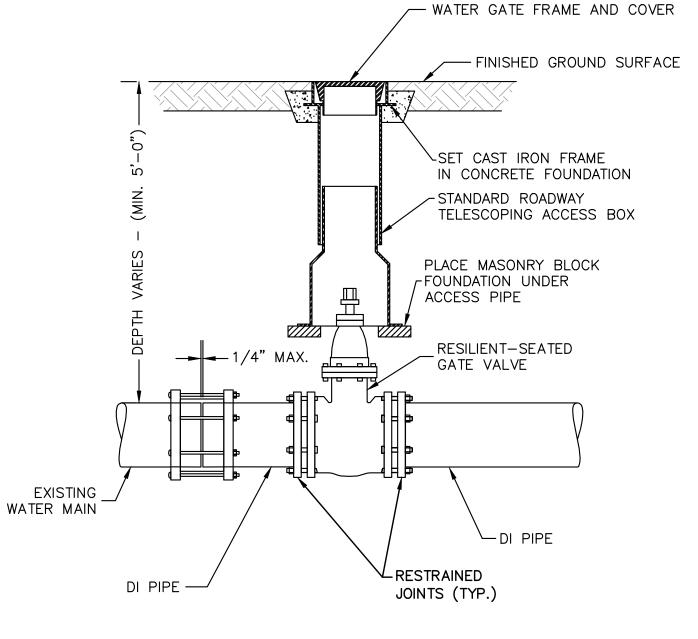
# THRUST BLOCK BEARING FOR WATER MAIN

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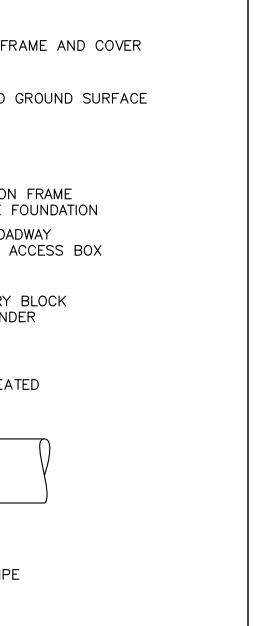
- SPECIFIC THRUST BLOCK DESIGN SHALL CONFORM TO AWWA GUIDELINES.
- 2. PLACE 4 MIL. POLYETHYLENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT).
- MINIMUM CONCRETE THICKNESS SHALL BE 12 INCHES. THRUST BLOCK ORIENTATION SHALL BE SUCH THAT THE CENTER OF THE
- FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
- 5. THE MINIMUM ALLOWABLE ANGLE (EITHER VERTICAL OR HORIZONTAL) SHALL BE 45 DEGREES.

## THRUST BLOCK DETAILS NOT TO SCALE



- 1. ALL EXCAVATION, BACKFILLING AND PAVING SHALL BE IN ACCORDANCE WITH THE
- TOWN OF SWANSEA REQUIREMENTS. 2. WATER GATE COVER SHALL HAVE A MINIMUM HEIGHT OF FOUR (4) INCHES. BRAND NAME EJ GROUP (FORMERLY LEBARON FOUNDRY CO.) OR EQUAL.

# **GATE VALVE** NOT TO SCALE



# NOTES:

MINIMUM MAIN LINE -

JOINT RESTRAINT (TYP.) WATER MAIN

**RESTRAINED JOINTS -**

WATER MAIN-

MINIMUM MAIN LINE

JOINT RESTRAINT (TYP.)

(MIN.)

GATE VALVE

(MIN.)

1. ALL FITTING AND VALVES SHALL BE "ALL-BELL" FITTINGS.

STANDARD BRANCH

UNDISTURBED EARTH

ANCHOR TEE BRANCH

/ POURED CONCRETE

RESTRAINED JOINTS

-RESTRAINED JOINTS

BLOCK

RESTRAINED JOINTS

RESTRAINED JOINT

GATE VALVE

CONNECT GATE VALVE DIRECTLY TO

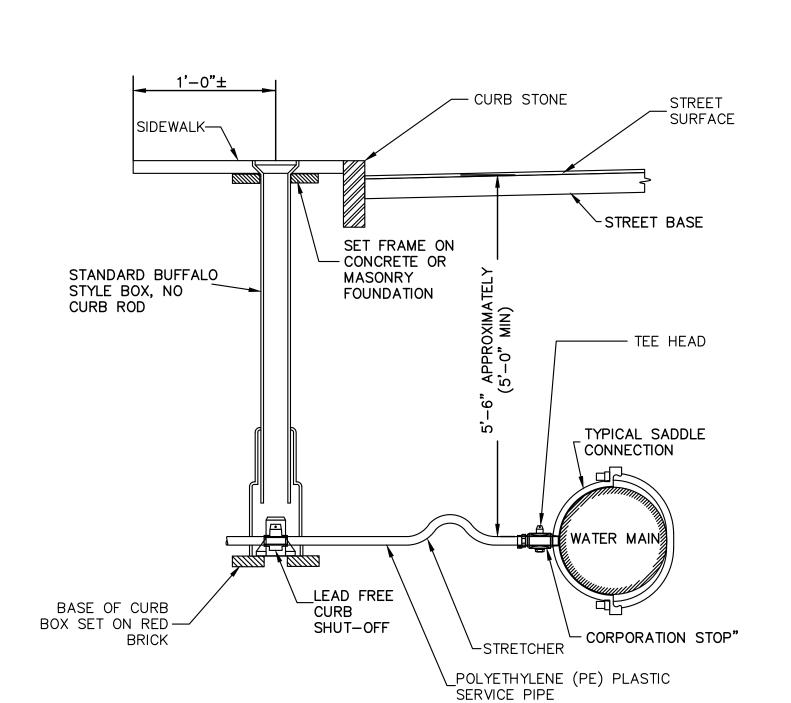
ANCHOR TEE (MJ CONNECTION)

- POURED CONCRETE

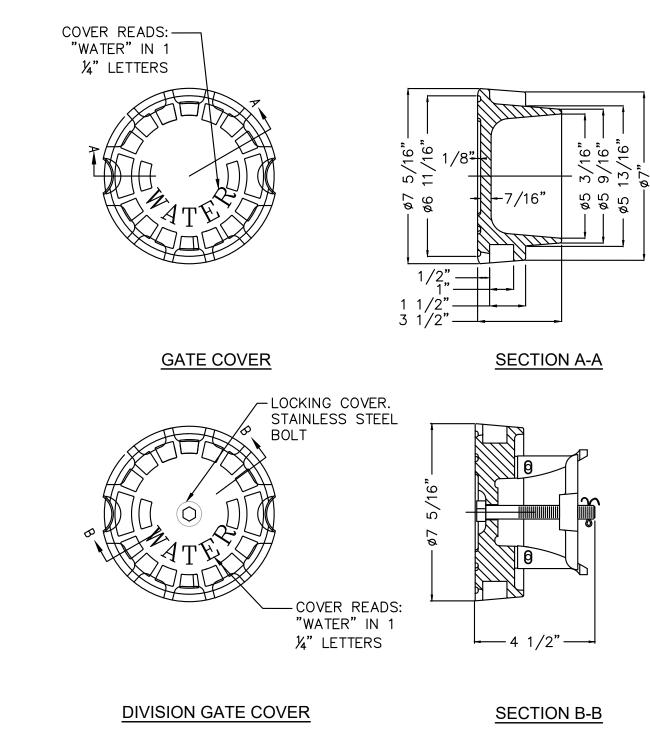
BLOCK

2. ALL CONNECTIONS SHALL BE RESTRAINED MECHANICAL JOINT (MJ) CONNECTIONS. . MAIN LINE TO BE RESTRAINED A MINIMUM OF THREE FEET ON EITHER SIDE OF TEE. 4. SEE RESTRAINT TABLES FOR BRANCH LINE RESTRAINT REQUIREMENTS.

# TYPICAL DUCTILE IRON WATER MAIN BRANCHES NOT TO SCALE



# TYPICAL WATER SERVICE CONNECTION NOT TO SCALE



# NOTES:

1. WATER GATE COVER SHALL HAVE A MINIMUM HEIGHT OF 3.5 INCHES AND MINIMUM WEIGHT OF 13 POUNDS, BRAND NAME BIBBY-STE-CROIX OR EQUAL.

# **WATER GATE COVERS**

NOT TO SCALE

TOWN OF WAREHAM, MASSACHUSETTS **EMERGENCY SEWER REPAIR** CONSTRUCTION DETAILS - 2

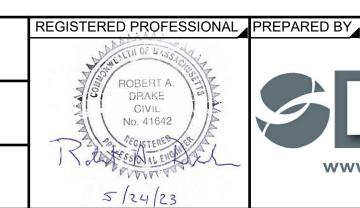
10914 BETA JOB NO. MAY 2023 ISSUE DATE \_\_\_

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DESIGNED BY CHECKED BY:

REVISIONS





NONE

SCALE \_

