1.2 MG HILL STREET WATER STORAGE TANK

TOWN OF FOXBOROUGH, MA

DECEMBER 2020
PRELIMINARY DESIGN

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DEPARTMENT OF PUBLIC WORKS
FOXBOROUGH, MASSACHUSETTS

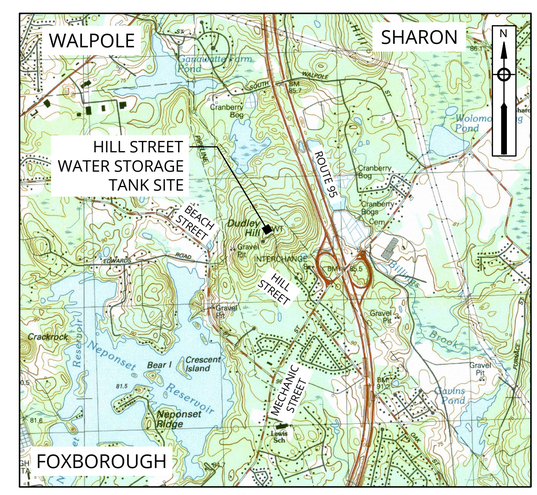
CHRIS GALLAGHER, P.E. - DIRECTOR

TOWN ENGINEER

LANCE DELPRIORE, P.E., MCPPO

WATER & SEWER DEPARTMENT SUPERINTENDENT

ROBERT WORTHLEY



VICINITY MAP
1"= 2000'

ENVIRONMENTAL PARTNERS

GENERAL NOTES:

1. BASE MAP INFORMATION IS TAKEN FROM SURVEY PERFORMED BY MERRILL ENGINEERS AND LAND SURVEYORS ON AUGUST 7, 2020 AND AUGUST 10, 2020, AND INFORMATION PROVIDED BY THE TOWN OF FOXBOROUGH. ELEVATIONS ARE BASED ON NAVD 88 DATUM. IT IS NOTED THAT ADDITIONAL UTILITY PIPES AND STRUCTURES MAY EXIST.
2. IN AREAS WHERE CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO OCCUR ADJACENT TO PRIVATE PROPERTY, PROPERTY LINE LOCATIONS ARE TO BE REVIEWED WITH THE TOWN OF FOXBOROUGH PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. PROPERTY LINES SHOULD BE DETERMINED IN THE FIELD.
3. NORTH DIRECTION SHOWN IS APPROXIMATE.
4. ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY DIG SAFE AT LEAST 72 HOURS IN ADVANCE, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO ANY EXCAVATION.
5. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSION AND STATIONING SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
6. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
7. THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. ALL EXISTING UTILITY LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. THE CONTRACTOR, AT NO ADDITIONAL COST TO THE TOWN, SHALL REPAIR ANY EXISTING SEWERS, STORM DRAIN LINES, CULVERTS, OR OTHER UNDERGROUND UTILITIES DAMAGED DURING CONSTRUCTION.
9. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE RESPECTIVE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
10. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION, OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY AND THE TOWN.
11. THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE AT NO COST TO OWNER, ALL DAMAGED ITEMS.
12. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE TOWN OF FOXBOROUGH AND ENGINEER.
13. ANY TRAFFIC SIGNAL EQUIPMENT (LIGHTS, CONDUITS, LOOP DETECTORS) DISTURBED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AS DIRECTED BY THE TOWN AT THE CONTRACTOR'S EXPENSE.
14. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES AS NECESSARY AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
15. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND MAINTAIN A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
16. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE TOWN OF FOXBOROUGH. THE CONTRACTOR SHALL LIMIT HIS ACTIVITIES TO THESE AREAS.
17. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR WORK IN ROADWAYS AND FOR BLASTING. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL PERMITS AS AN INTEGRAL PART OF HIS WORK.
18. THE CONTRACTOR SHALL HANDLE GROUNDWATER, WHERE ENCOUNTERED, IN AN APPROVED MANNER. DURING ANY DEWATERING, THE CONTRACTOR SHALL USE STONE AROUND THE SUCTION END TO MINIMIZE DISCHARGE OF TRENCH MATERIALS. THE DISCHARGED WATER SHALL PASS THROUGH FILTER FABRIC.
19. PROVIDE TEMPORARY BERMS AND SWALES TO DIVERT SURFACE WATER AWAY FROM THE AREAS THAT WILL BE EXPOSED BY CONSTRUCTION ACTIVITY TO MINIMIZE THE AMOUNT OF SURFACE WATER COMING INTO CONTACT WITH EXPOSED SOILS. PROVIDE STABLE OUTLETS FOR THESE DEVICES, AND LINE OR VEGETATE THESE DIVERSIONS TO PROVIDE FOR THEIR STABILITY DURING CONSTRUCTION.
20. WHEN EARTHWORK CONSTRUCTION ACTIVITY IN AN AREA IS COMPLETE, IMMEDIATELY STABILIZE THE AREA WITH A SUITABLE SURFACE AS DESCRIBED HEREIN. ALL DISTURBED AREAS SHALL BE GRADED, LOAMED, AND SEEDED WITH VEGETATION PRIOR TO NOVEMBER 1ST TO PREVENT EROSION.
21. EXISTING PAVED ROADWAYS ADJACENT TO THE SITE WILL BE SWEPT MANUALLY OR BY MOTORIZED STREET SWEEPER AS NEEDED TO REMOVE LOSE SOIL MATERIALS ACCUMULATED ON PAVED SURFACES FROM CONSTRUCTION ACTIVITIES. IN ADDITION TO THESE PRACTICES, THE CONTRACTOR SHALL FOLLOW THE SPECIAL PRACTICES DESCRIBED BELOW. COMPLY WITH THE DIRECTIONS OF THE ENGINEER TO ADDRESS EROSION AND SEDIMENTATION CONDITIONS THAT MAY ARISE ON A CASE-BY-CASE BASIS DURING CONSTRUCTION.
22. DURING THE PERIOD OF CONSTRUCTION:
    - A. TEMPORARY DEWATERING SEDIMENTATION BASINS, IF REQUIRED, WILL BE CHECKED AFTER EACH SIGNIFICANT RAINFALL AND CLEANED AS NEEDED TO RETAIN STORAGE CAPACITY.
    - B. TEMPORARY DRAINAGE SWALES, IF REQUIRED, WILL BE CHECKED DAILY AND REPAIRED WHEN NECESSARY.
    - C. THE FILTER SOCK AND OTHER EROSION AND SEDIMENT CONTROL MEASURES/DEVICES SHALL BE INSPECTED, CLEANED, REPLACED, AND/OR REPAIRED AS NECESSARY, WEEKLY, AND AFTER EACH SIGNIFICANT RAINFALL
    - D. INSTALL FILTER SOCK PRIOR TO COMMENCEMENT OF THE EARTHWORK OPERATIONS. INSPECT EROSION CONTROLS IMMEDIATELY AFTER EACH STORM AND REMOVE ACCUMULATED SEDIMENT AS REQUIRED. REPLACE DAMAGED EROSION CONTROLS AS REQUIRED.

WATER MAIN NOTES:

1. ALL HYDRANT BRANCHES SHALL HAVE VALVES AS SHOWN ON THE HYDRANT DETAIL.
2. THE CONTRACTOR SHALL STAKE OUT ALL HYDRANT LOCATIONS AT LEAST 3 DAYS IN ADVANCE OF INSTALLATION. LOCATION OF ALL HYDRANTS SHALL BE VERIFIED BY THE FOXBOROUGH FIRE DEPARTMENT, ENGINEER, AND OWNER PRIOR TO DIGGING FOR INSTALLATION.
3. NEW WATER MAINS AND SERVICES SHALL BE INSTALLED AT THE MINIMUM DEPTH FROM FINISH GRADE TO TOP OF PIPE AS SHOWN ON THE DRAWINGS. WHERE NECESSARY, NEW WATER MAINS SHALL BE INSTALLED AT A GREATER DEPTH TO CLEAR OBSTACLES SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. MINIMUM CLEARANCES TO UTILITIES, AS SHOWN ON THE DRAWINGS SHALL BE MAINTAINED.
4. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER TO DETERMINE WHETHER TO RAISE OR LOWER THE PROPOSED WATER MAIN TO CLEAR EXISTING UTILITIES OR MEET EXISTING WATER MAINS.
5. EXISTING SERVICES SHALL NOT BE CONNECTED TO THE PROPOSED WATER MAIN UNTIL SATISFACTORY PRESSURE TEST AND DISINFECTION RESULTS HAVE BEEN RECEIVED AND ACCEPTED BY THE OWNER AND ENGINEER.
6. EXISTING WATER MAINS OR SERVICES SHALL NOT BE ABANDONED WITHOUT THE APPROVAL OF THE OWNER.
7. WATER SERVICE SHALL NOT BE INTERRUPTED MORE THAN 4 HOURS WITHOUT PRIOR APPROVAL OF THE OWNER.
8. MINIMUM COVER OVER THE PROPOSED WATER MAIN AND APPURTENANCES SHALL BE 5'-0" UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER.
9. ANY HYDRANT WHICH IS NOT IN SERVICE SHALL BE COVERED WITH A SECURELY FASTENED BURLAP BAG (OR EQUAL).
10. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES OR HYDRANTS WHICH HOLD WATER IN THE SYSTEM. THE OWNER WILL, ON 24 HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES OR HYDRANTS REQUIRED FOR DRAINING OR ADMITTING WATER TO THE VARIOUS SECTIONS OF THE WATER MAINS.
11. SOME WATER SERVICE CONNECTIONS MAY NOT BE SHOWN ON THE DRAWINGS. THE OWNER WILL MARK THE LOCATION OF SUCH CONNECTIONS, PROVIDED THE CONTRACTOR GIVES THE OWNER AT LEAST ONE WEEK ADVANCE NOTICE.
12. OPEN TRENCHES MUST BE BACKFILLED AT THE END OF THE WORKDAY OR COVERED AND SECURED WITH STEEL PLATES, RAMPED AS APPROVED BY THE ENGINEER AND TOWN.
13. THE CONTRACTOR IS REQUIRED TO NOTIFY AND COORDINATE WITH THE RESIDENTS ALL WATER MAIN SHUT DOWNS 24 HOURS IN ADVANCE.
14. ALL EXISTING WATER SERVICES SHALL BE CONNECTED TO THE PROPOSED WATER MAIN. NEW SERVICES TO RUN FROM MAIN TO LOCATION OF EXISTING CURB STOPS (AT MINIMUM). REPLACE EXISTING CURB STOPS AND CONNECT TO EXISTING WATER SERVICES ON OWNER'S SIDE.
15. CONCRETE THRUST BLOCKS AND "MEGA-LUG" (OR APPROVED EQUAL) MECHANICAL RESTRAINTS ARE REQUIRED AT ALL TEES, BENDS, PLUGS, AND HYDRANTS.
16. WATER SERVICES SHALL BE INSULATED IN AREAS WHERE CONNECTION TO EXISTING WATER SERVICE IS LESS THAN 4 FEET DEEP.
17. VALVE DECOMMISSIONING - CLOSE VALVE, REMOVE AND LEGALLY DISPOSE OF GATE BOX, FILL HOLE, AND PAVE ACCORDING TO TYPICAL TRENCH DETAIL.
18. HYDRANT DECOMMISSIONING - CUT AND CAP HYDRANT LATERAL, REMOVE AND LEGALLY DISPOSE OF EXISTING HYDRANT ASSEMBLY, FILL HOLE AND PAVE ACCORDING TO TYPICAL TRENCH DETAIL OR RESTORE LANDSCAPING TO MATCH ADJACENT AREAS AT NO EXPENSE TO THE OWNER.
19. SLEEVES, NIPPLES, AND ACCESSORIES NECESSARY FOR CONNECTIONS BETWEEN EXISTING AND NEW PIPES MAY NOT BE SHOWN IN DETAIL. FURNISH AND INSTALL ITEMS NECESSARY FOR CONNECTING TO EXISTING MAINS AND AS INDICATED ON THE CONTRACT DOCUMENTS.
20. CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL MATERIAL REMOVED FROM TRENCH DURING CUTTING AND CAPPING OF EXISTING WATER MAINS.
21. EXCEPT WHERE OTHERWISE DIRECTED, 12" MINIMUM CLEARANCE SHALL BE PROVIDED BETWEEN THE NEW MAIN AND OTHER UTILITIES WHERE THEY CROSS. WHERE NEW MAIN PASSES UNDER UTILITIES, IT SHALL CROSS WITHOUT THE USE OF BENDS UNLESS OTHERWISE NOTED ON THE PLANS.
22. ALL HYDRANT LATERALS SHALL CROSS UNDER EXISTING UTILITIES AND WATER MAINS. HYDRANT EXTENSIONS SHALL BE INSTALLED, AS NECESSARY, AT NO ADDITIONAL COST TO THE OWNER.
23. PRIOR TO DEMOBILIZATION THE CONTRACTOR SHALL INSPECT EVERY VALVE, HYDRANT, AND CURB STOP WITH THE RESIDENT ENGINEER PRESENT TO INSURE PROPER OPERATION.

LEGEND

EXISTING

- EDGE OF PAVEMENT
- DI WATER MAIN
- DRAIN LINE
- 100 CONTOUR LINE AND ELEVATION
- CHAIN LINK FENCE
- TREE LINE
- OVERHEAD ELECTRIC
- UNDERGROUD ELECTRIC
- PROPERTY LINE
- GAS LINE
- HYDRANT
- WATER VALVE
- UTILITY POLE
- GUY WIRE/GUY POLE
- B-# BORING
- CATCH BASIN
- EXISTING TEXT

PROPOSED

- DI WATER MAIN
- ELECTRICAL/INSTRUMENTATION CONDUIT
- 100 CONTOUR LINE AND ELEVATION
- LIMIT OF CLEARING
- CHAIN LINK FENCE
- GRAVEL
- RIP RAP
- HYDRANT
- VALVE
- COUPLING
- PROPOSED TEXT

ABBREVIATIONS

BIT	BITUMINOUS
CI	CAST IRON
CONC	CONCRETE
DI	DUCTILE IRON
D	DRAIN
ELEV	ELEVATION
MJ	MECHANICAL JOINT
W	WATER
VCC	VERTICLE GRANITE CURB
CB	CATCH BASIN
GW	GUY WIRE
EP	EDGE OF PAVEMENT
UP	UTILITY POLE
BLDRS	BOULDERS
SB	STONE BOUND
EM	ELECTRIC METER
TYP	TYPICAL
CCB	CAPE COD BERM

FOXBOROUGH INCORPORATED 1778

ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	DECEMBER 2020
Job No.	325-2002
Designed by	BJM
Drawn by	MNJ
Checked by	RJA/BJM
Approved by	RJA

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

GENERAL NOTES AND LEGEND

PRELIMINARY DESIGN

Sheet No.

G-1

Drawing file: C:\Users\ehy.EPG\appdata\local\temp\AcPublish_22988\General Notes & Details.dwg Plot Date: Dec 10,2020-12:07pm

PLAN
SCALE: 1"=40'

			Scale	AS NOTED
			Date	DECEMBER 2020
			Job No.	325-2002
			Designed by	BJM
			Drawn by	MNJ
			Checked by	RJA/BJM
MARK	DATE	DESCRIPTION	Approved by	RJA

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ENVIRONMENTAL PARTNERS

FOXBOROUGH INCORPORATED 1776

1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

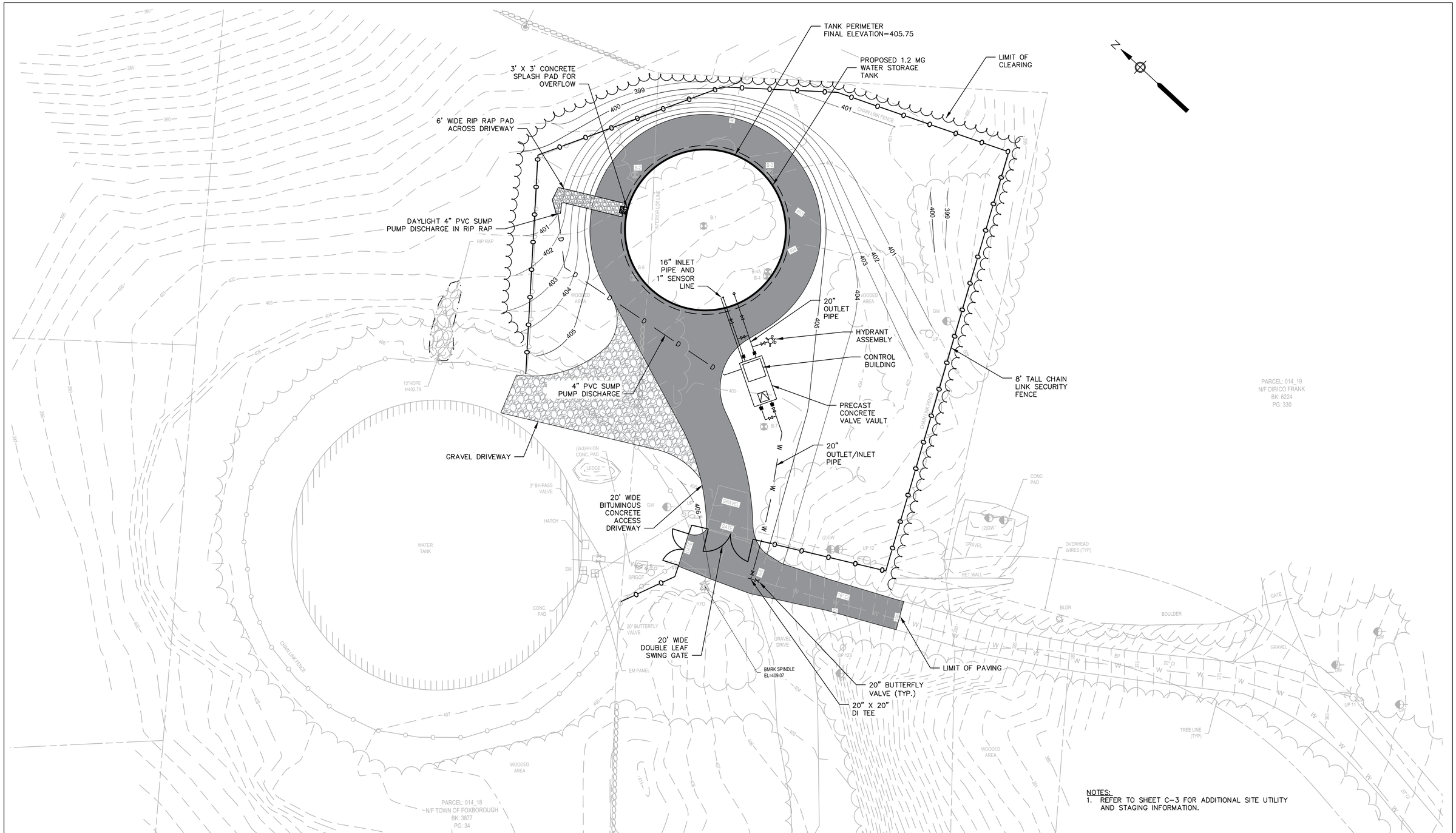
EXISTING CONDITIONS PLAN

PRELIMINARY DESIGN

Sheet No.

C-1

Drawing file: C:\Users\ethy.EPS\appdata\local\temp\AcPublish_22968\Existing Conditions.dwg Plot Date: Dec 10,2020-12:08pm



NOTES:
1. REFER TO SHEET C-3 FOR ADDITIONAL SITE UTILITY AND STAGING INFORMATION.

SITE LAYOUT PLAN

SCALE: 1" = 20'

ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	DECEMBER 2020
Job No.	325-2002
Designed by	BJM
Drawn by	MNJ
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1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

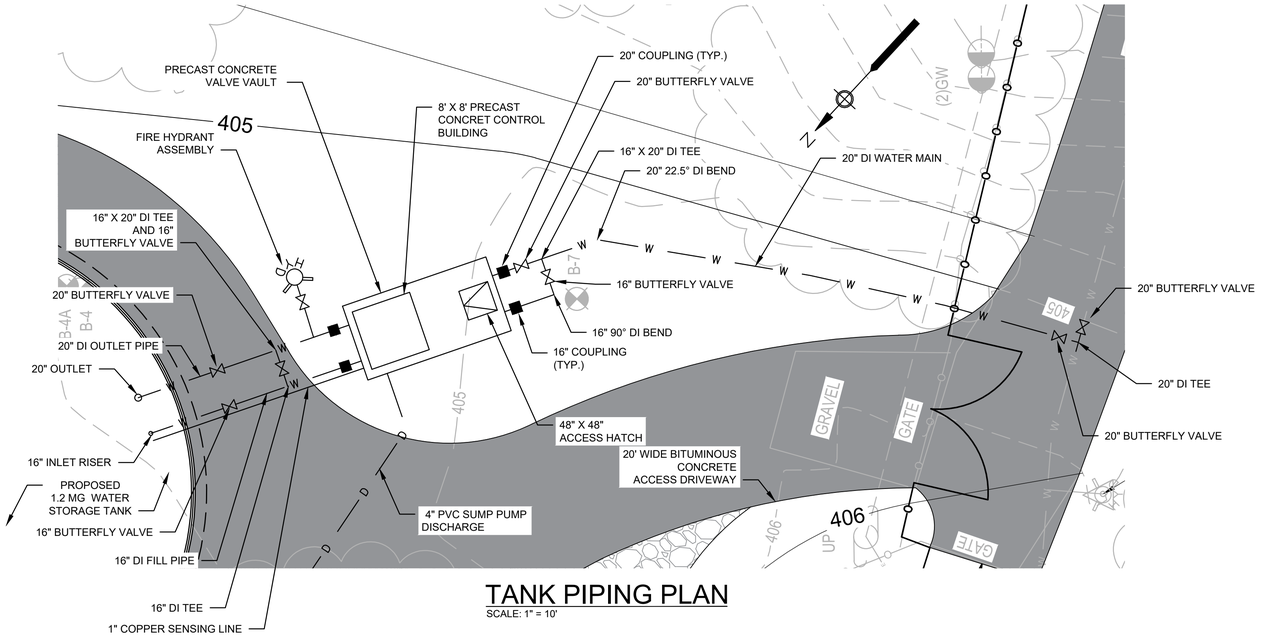
SITE LAYOUT PLAN

PRELIMINARY DESIGN

Sheet No.

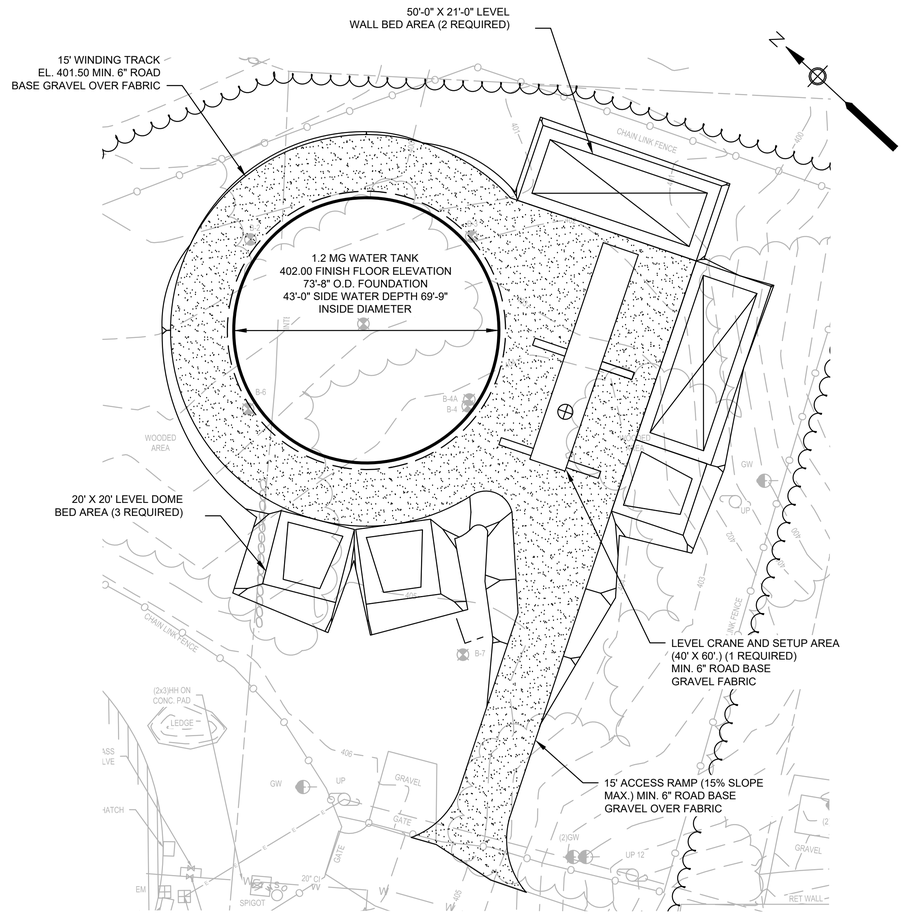
C-2

Drawing file: I:\Foxborough.325\325-2002 New Water Storage Tank\01 Design\02 Drawings\03 CAD\Proposed Site Layout and Staging_Rev2.dwg Plot Date: Dec 10,2020-6:07pm



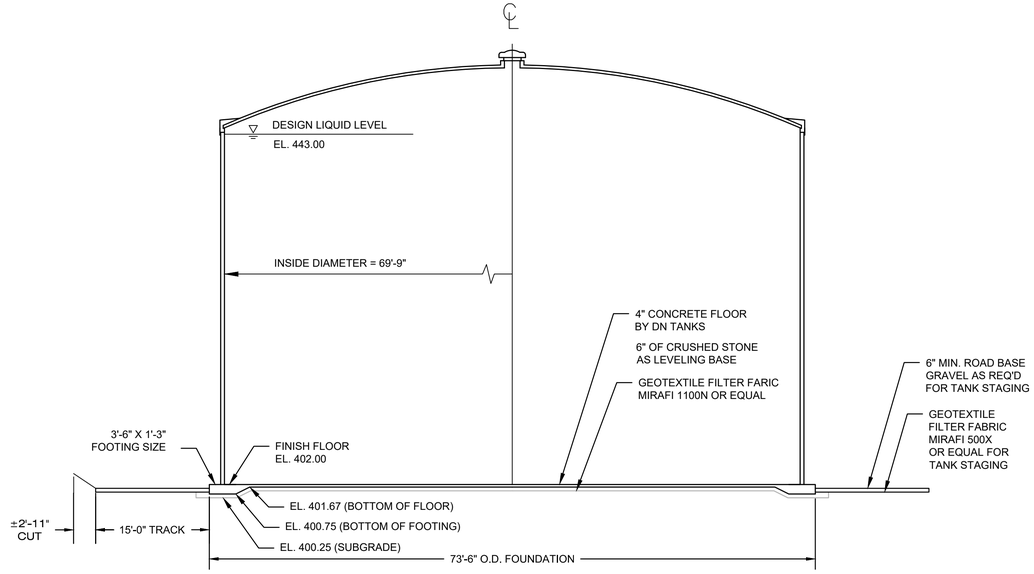
TANK PIPING PLAN

SCALE: 1" = 10'



TANK STAGING PLAN

SCALE: 1" = 20'



TANK SECTION VIEW

SCALE: N.T.S.

ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

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Date	DECEMBER 2020
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1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

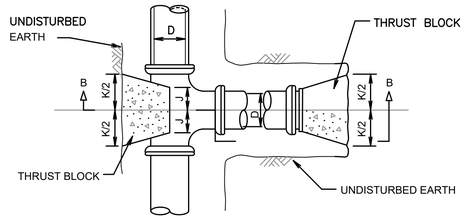
STAGING AND UTILITY PLAN

PRELIMINARY DESIGN

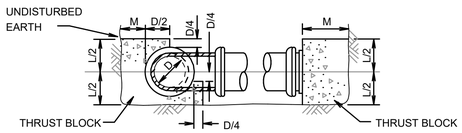
Sheet No.

C-3

Drawing file: I:\Foxborough_325\325-2002 New Water Storage Tank\01 Design\02 Drawings\03 CAD\Proposed Site Layout and Staging_Rev2.dwg Plot Date: Dec 10,2020-6:20pm



PLAN



SECTION B-B

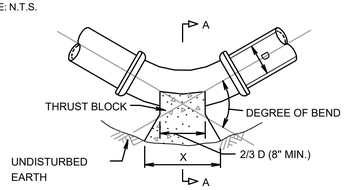
NOTES :

1. ALL CONCRETE SHALL BE 3000 PSI @ 28 DAYS (CLASS 'A' CONCRETE).
2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 1500 PSF AND TOTAL PRESSURE OF 250 PSI. TOTAL PRESSURE IS WORKING PRESSURE PLUS SURGE PRESSURE.
3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

TABLE OF DIMENSIONS						
D (in)	4	6	8	10	12	14
J (in)	6	6	7	9	10	12
K (in)	16	16	20	26	32	36
L (in)	16	16	21	24	29	34
M (in)	11	11	14	16	19	22

CONCRETE THRUST BLOCK DETAIL AT TEE / PLUG / CAP

SCALE: N.T.S.



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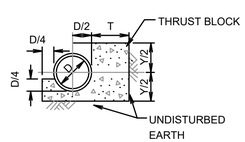


SECTION A-A

NOTES:

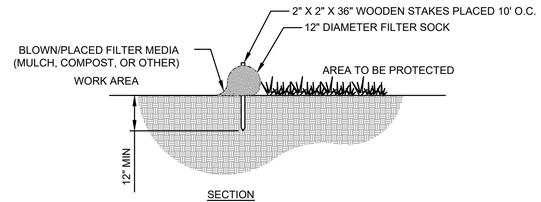
1. ALL CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS (CLASS "A" CONCRETE)
2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 1500 P.S.F. AND TOTAL PRESSURE OF 250 P.S.I. TOTAL PRESSURE IS WORKING PRESSURE PLUS SURGE PRESSURE.
3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

TABLE OF DIMENSIONS

DIMENSION	90° BEND						45° BEND						22 1/2° BEND						11 1/4° BEND					
D (in.)	4	6	8	10	12	14	4	6	8	10	12	14	4	6	8	10	12	14	4	6	8	10	12	14
X (in.)	35	35	50	56	72	80	24	24	35	45	51	60	28	28	30	32	37	42	12	12	19	21	27	33
Y (in.)	20	20	24	32	35	40	16	16	19	21	27	33	13	13	13	16	19	22	8	8	9	12	13	16
T (in.)	11	11	14	16	19	22	11	11	14	16	19	22	11	11	13	16	19	22	11	11	13	16	19	22

CONCRETE THRUST BLOCK DETAIL AT BEND

SCALE: N.T.S.



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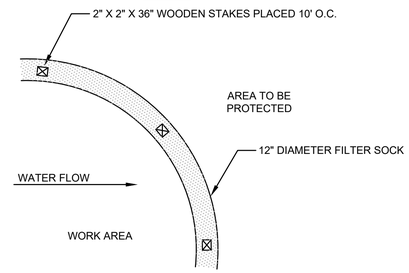
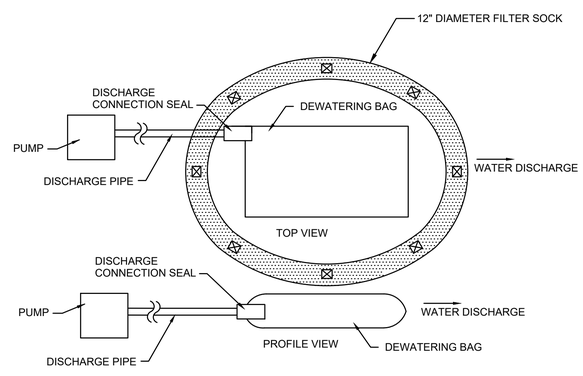


PLAN

12" DIAMETER FILTER SOCK

SCALE: N.T.S.

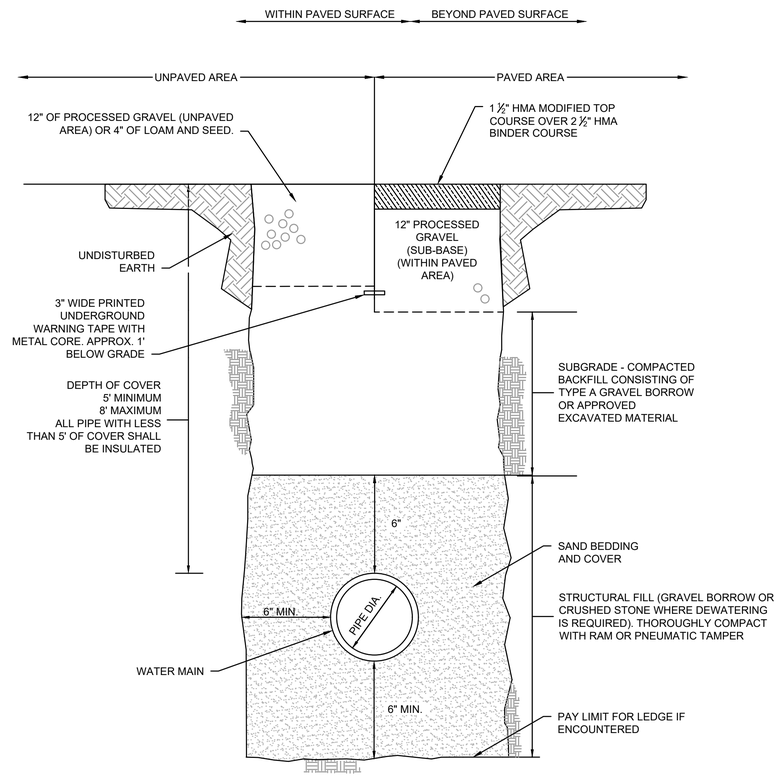


NOTES:

1. DEWATERING BAG SIZE AND QUANTITY SHALL BE AS NEEDED TO ADEQUATELY FILTER ALL PUMP EFFLUENT FROM DEWATERING ACTIVITIES. CONTRACTOR SHALL PROVIDE A REDUNDANT BAG ON SITE AT ALL TIMES.
2. EACH BAG SHALL HANDLE A 2", 3", OR 4" DISCHARGE HOSE.
3. DISCHARGE HOSES CAN BE PLACED ALONG ANY EDGE BY MAKING A SMALL INCISION INTO THE FABRIC, INSERTING THE HOSE, AND THEN CLAMPING THE FABRIC TO THE HOSE VIA WIRE, TIES, CLAMP, ROPE OR SIMILAR TO CREATE A GOOD SEAL.
4. CONTRACTOR SHALL AVOID DISCHARGING MULTIPLE PIPES INTO ONE BAG.

DEWATERING BAGS

SCALE: N.T.S.



TYPICAL WATER TRENCH DETAIL

SCALE: N.T.S.

ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	DECEMBER 2020
Job No.	325-2002
Designed by	BJM
Drawn by	MNJ
Checked by	RJA/BJM
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THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

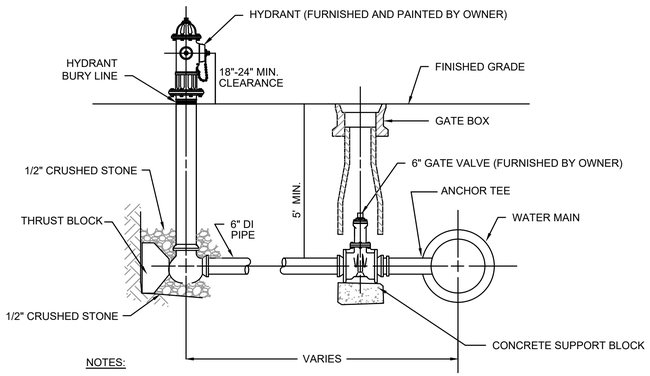
CONSTRUCTION DETAILS I

PRELIMINARY DESIGN

Sheet No.

CD-1

Drawing file: C:\Users\ehy EPS\appdata\local\temp\AcPublish_22968\General Notes & Details.dwg Plot Date: Dec 10,2020-12:08pm

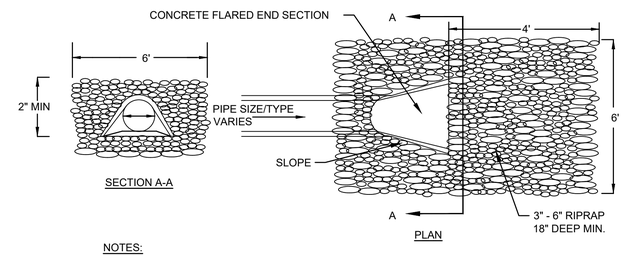


NOTES:

1. ALL HYDRANT, VALVE AND TEE JOINTS TO BE RESTRAINED MECHANICAL JOINTS.
2. DEPTH OF HYDRANT BURY SHALL SUIT INSTALLED DEPTH OF COVER OVER WATER MAIN
3. INSTALL RISERS AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
4. HYDRANT AND GATE VALVE (ONLY) SHALL BE FURNISHED BY THE OWNER AND INSTALLED BY THE CONTRACTOR. HYDRANT SHALL BE PAINTED BY THE OWNER.

FIRE HYDRANT ASSEMBLY DETAIL

SCALE: N.T.S.

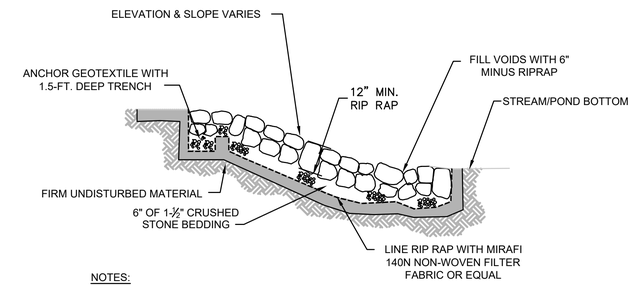


NOTES:

1. FURNISH AND INSTALL 24 MESH STAINLESS STEEL SCREEN AT OVERFLOW OUTLET - SECURED AND VANDAL PROOF.

RIPRAP AT PIPE END

SCALE: N.T.S.

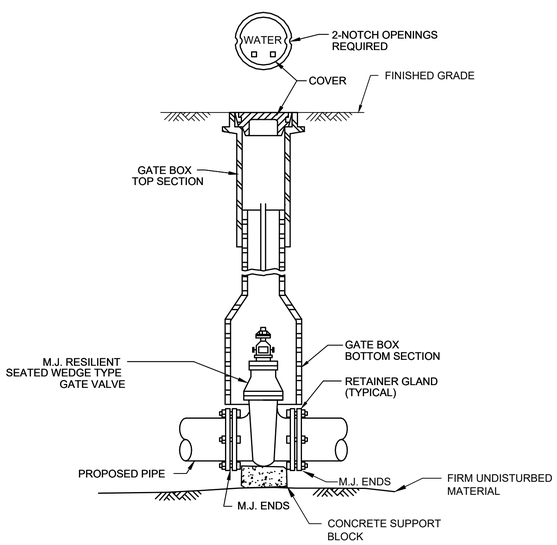


NOTES:

1. RIPRAP SHALL CONFORM TO MASS DOT STANDARD SPECIFICATION M2.02.3.

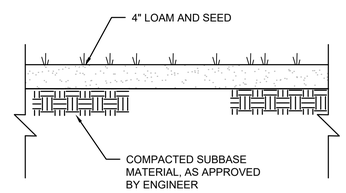
RIP-RAP DETAIL

SCALE: N.T.S.



GATE VALVE AND VALVE BOX DETAIL

SCALE: N.T.S.

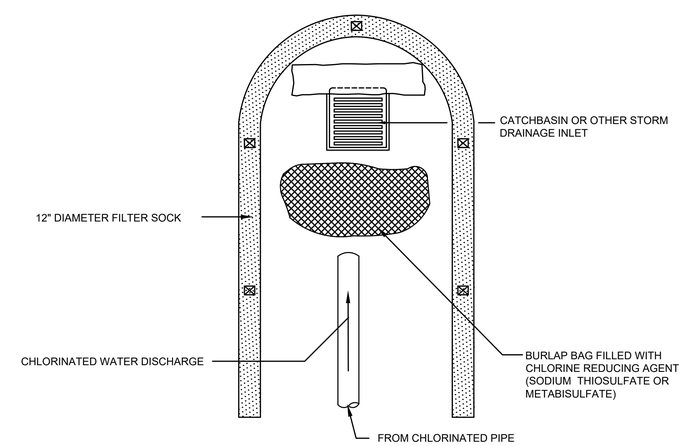


NOTE:

INSTALL CURLEX CL EROSION CONTROL BLANKET AS MANUFACTURED BY AMERICAN EXCELSIOR COMPANY (OR APPROVED EQUAL) ON ALL LOAM AND SEEDED SLOPES 3:1 OR STEEPER.

LOAM AND SEED (DISTURBED AREAS)

SCALE: N.T.S.



DECHLORINATION DETAIL

SCALE: N.T.S.

ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	DECEMBER 2020
Job No.	325-2002
Designed by	BJM
Drawn by	MNJ
Checked by	RJA/BJM
Approved by	RJA

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

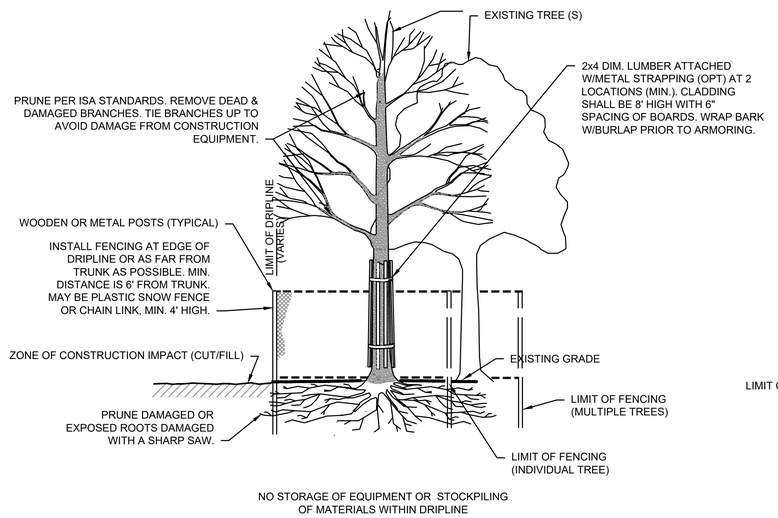
CONSTRUCTION DETAILS II

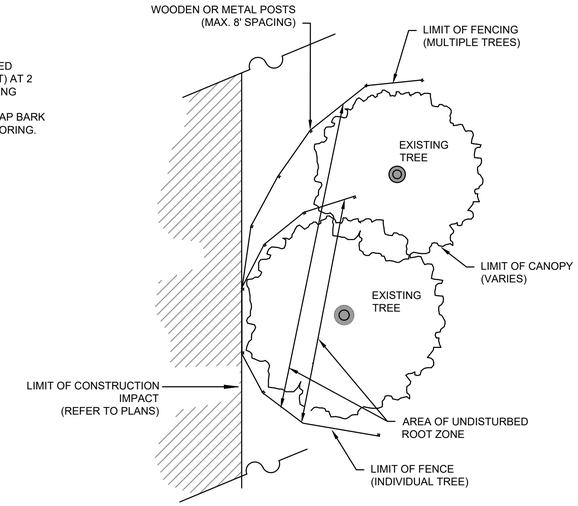
PRELIMINARY DESIGN

Sheet No.

CD-2

Drawing file: C:\Users\ethy.EPS\appdata\local\temp\AcPublish_22968\General Notes & Details.dwg Plot Date: Dec 10,2020-12:08pm

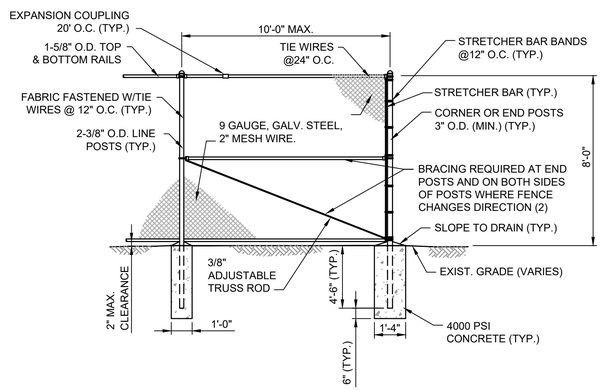




PLAN VIEW

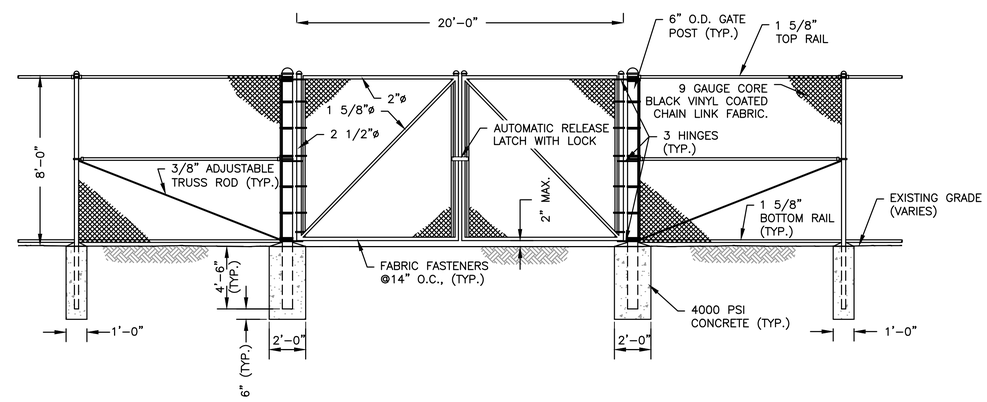
TREE PROTECTION DETAIL

SCALE: N.T.S.



8-FOOT HIGH FENCE DETAIL

SCALE: N.T.S.



20-FT WIDE DOUBLE GATE DETAIL

SCALE: N.T.S.

NOTES:

1. GATE POSTS TO BE 4" O.D.
2. FABRIC TO BE 9 GA. 2" MESH GALV. STEEL BLACK VINYL COATED.
3. ALL CHAIN LINK FENCE FABRIC TO BE KNUCLKED (TOP AND BOTTOM).
4. ALL CHAIN LINK FENCE POSTS, FABRIC, TIES AND MATERIALS SHALL BE BLACK VINYL COATED.
5. ALL SECTIONS INCLUDE BOTTOM RAIL.

ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	DECEMBER 2020
Job No.	325-2002
Designed by	BJM
Drawn by	MNJ
Checked by	RJA/BJM
Approved by	RJA

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1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

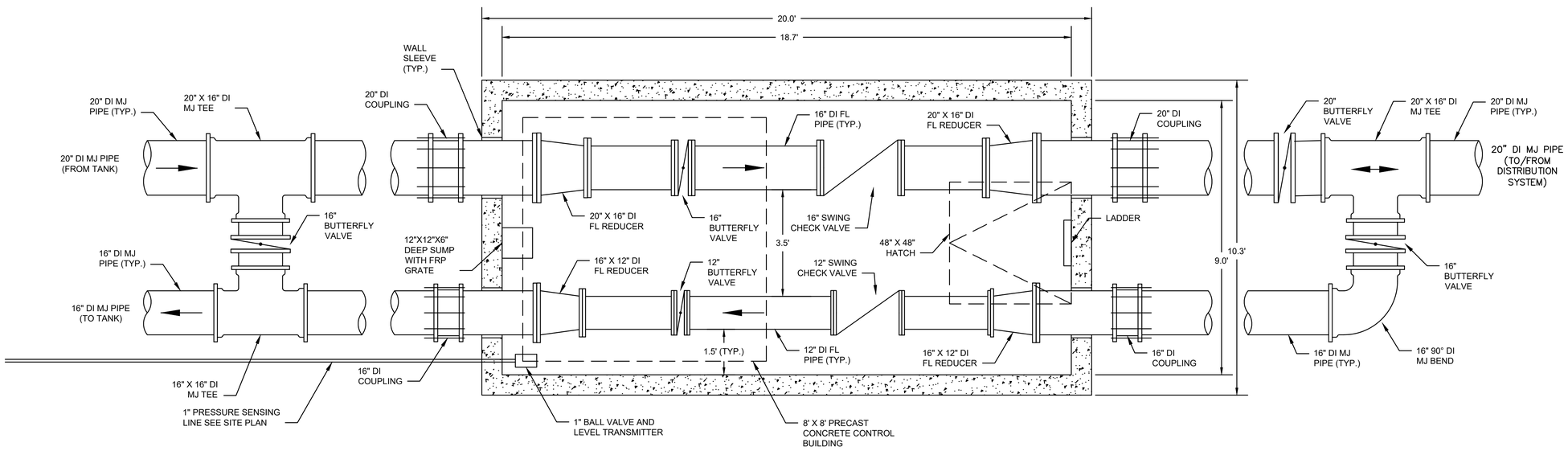
CONSTRUCTION DETAILS IV

PRELIMINARY DESIGN

Sheet No.

CD-3

Drawing file: C:\Users\rhy.EPG\appdata\local\temp\AcPublish_22868\General Notes & Details.dwg Plot Date: Dec 10,2020-12:08pm



VAULT FLOOR PLAN

SCALE: 1" = 4'

ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	DECEMBER 2020
Job No.	325-2002
Designed by	BJM
Drawn by	MNJ
Checked by	RJA/BJM
Approved by	RJA

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1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

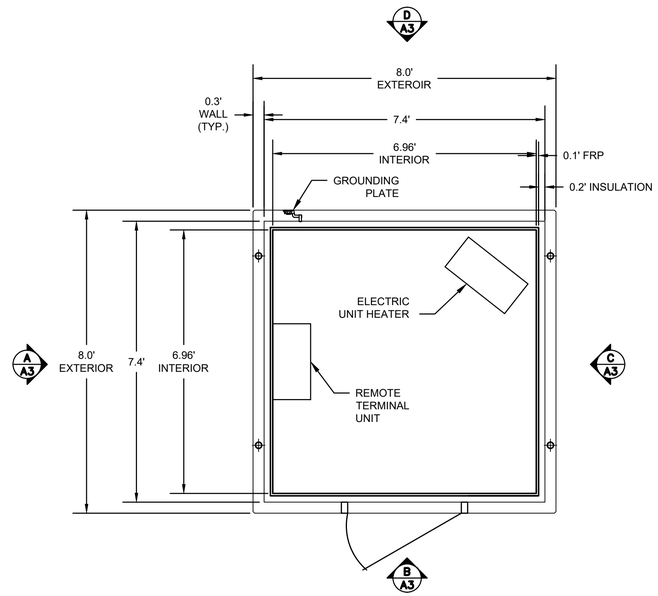
VALVE VAULT DETAIL

PRELIMINARY DESIGN

Sheet No.

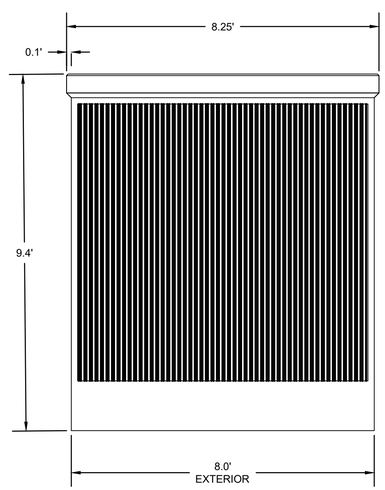
CD-4

Drawing file: C:\Users\ehy.EPG\appdata\local\temp\AcPublish_23988\General Notes & Details.dwg Plot Date: Dec 10,2020-12:08pm



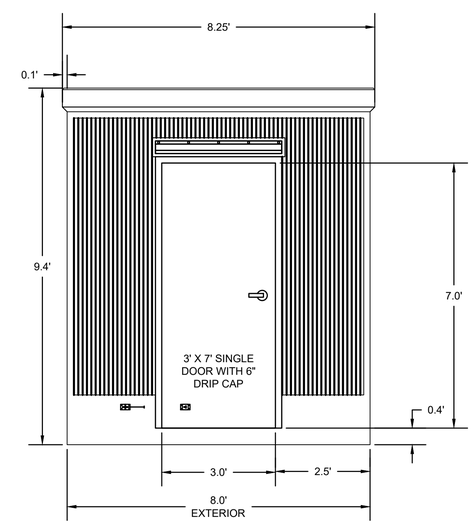
PLAN VIEW

SCALE: 1" = 2'



SECTION A, C, AND D - EXTERIOR WALL

SCALE: 1" = 2'



SECTION B - EXTERIOR WALL

SCALE: 1" = 2'

ENVIRONMENTAL PARTNERS

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	DECEMBER 2020
Job No.	325-2002
Designed by	BJM
Drawn by	MNJ
Checked by	RJA/BJM
Approved by	RJA

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1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

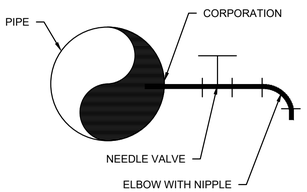
CONTROL BUILDING DETAIL

PRELIMINARY DESIGN

Sheet No.

CD-5

Drawing file: C:\Users\ehy.EPG\appdata\local\temp\AcPublish_22968\General Notes & Details.dwg Plot Date: Dec 10,2020-12:08pm

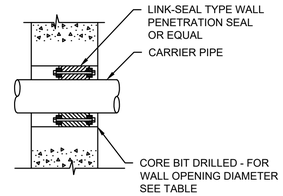


NOTES:

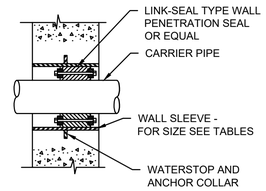
1. ALL SAMPLE TAPS SHALL BE A SMOOTH-NOSE STYLE. NO THREADS SHALL BE ON ANY SAMPLE TAP.

SAMPLE TAP DETAIL

SCALE: N.T.S.



EXISTING CONCRETE WALL
SCALE: NTS



NEW CONCRETE WALL
SCALE: NTS

DUCTILE IRON CARRIER PIPE NOMINAL SIZE	DUCTILE IRON CARRIER PIPE O.D.	WALL SLEEVE SIZE	CORE DRILLED I.D.
2"	2.50"	4"	4"
4"	4.80"	8"	8"
6"	6.90"	10"	10"
8"	9.05"	12"	12"
10"	11.10"	14"	14"
12"	13.20"	16"	16"
16"	17.40"	20"	20"
18"	19.50"	24"	24"
24"	25.80"	30"	29"

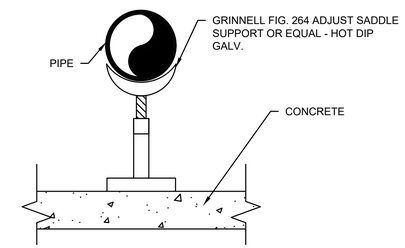
COPPER TUBING NOMINAL SIZE	COPPER TUBING PIPE O.D.	WALL SLEEVE SIZE	CORE DRILLED I.D.
1/2"	0.625"	2"	2"
3/4"	0.875"	2"	2"
1"	1.13"	3"	3"
1-1/4"	1.38"	3"	3"
1-1/2"	1.63"	3"	3"
2"	2.13"	4"	4"

NOTES:

1. SIZES SHOWN ARE FOR DUCTILE IRON PIPE AND COPPER TUBING, FOR OTHER MATERIALS AND PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS.
2. SOME APPLICATIONS MAY REQUIRE STANDARD WALL CASTINGS.
3. PROVIDE NON-SHRINK GROUT ON BOTH SIDES OF LINK-SEAL TYPE WALL PENETRATION.
4. LINK SEAL COMPONENTS SHALL BE STAINLESS STEEL.
5. GROUT SHALL MATCH INTERIOR AND EXTERIOR WALL COLOR. COORDINATE WITH ENGINEER/OWNER PRIOR TO WORK.

TYPICAL WALL PENETRATION

SCALE: NTS



NOTES:

1. FOR PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS. REFER TO SECTION 11200 FOR ADDITIONAL REQUIREMENTS.
2. PIPE SUPPORT CALCULATIONS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 11200.
3. ALL COMPONENTS OF PIPE SUPPORT SYSTEM (EXCEPT EXPANSION BOLTS) SHALL BE HOT-DIPPED GALVANIZED STEEL.

STANDARD PIPE SUPPORT

SCALE: N.T.S.

ENVIRONMENTAL PARTNERS

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1.2 MG HILL STREET WATER STORAGE TANK
FOXBOROUGH, MASSACHUSETTS

PROCESS MECHANICAL DETAILS

PRELIMINARY DESIGN

Sheet No.

M-1

Drawing file: C:\Users\ehy.EPG\appdata\local\temp\AcPublish_23988\General Notes & Details.dwg Plot Date: Dec 10,2020-12:06pm