

ATTLEBORO WATER DEPARTMENT
ATTLEBORO, MASSACHUSETTS

WADING RIVER WATER TREATMENT PLANT

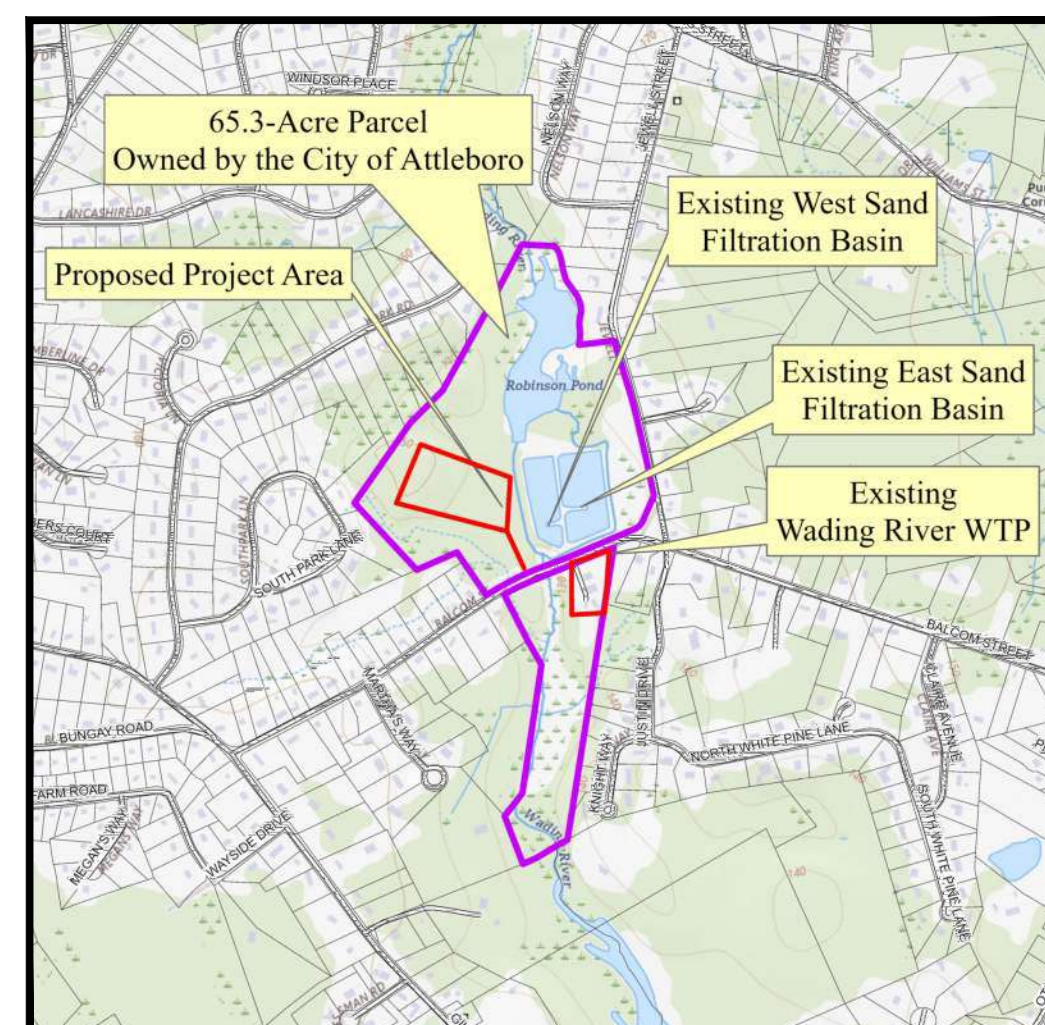
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MAYOR

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WATER DEPARTMENT

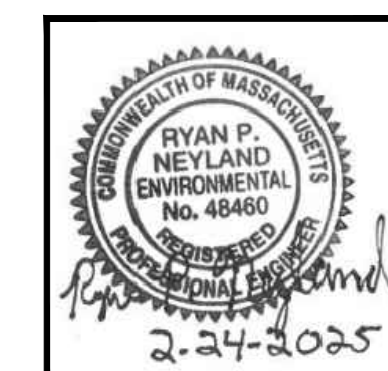
MATTHEW CROTTY, ACTING WATER SUPERINTENDENT



LOCUS MAP
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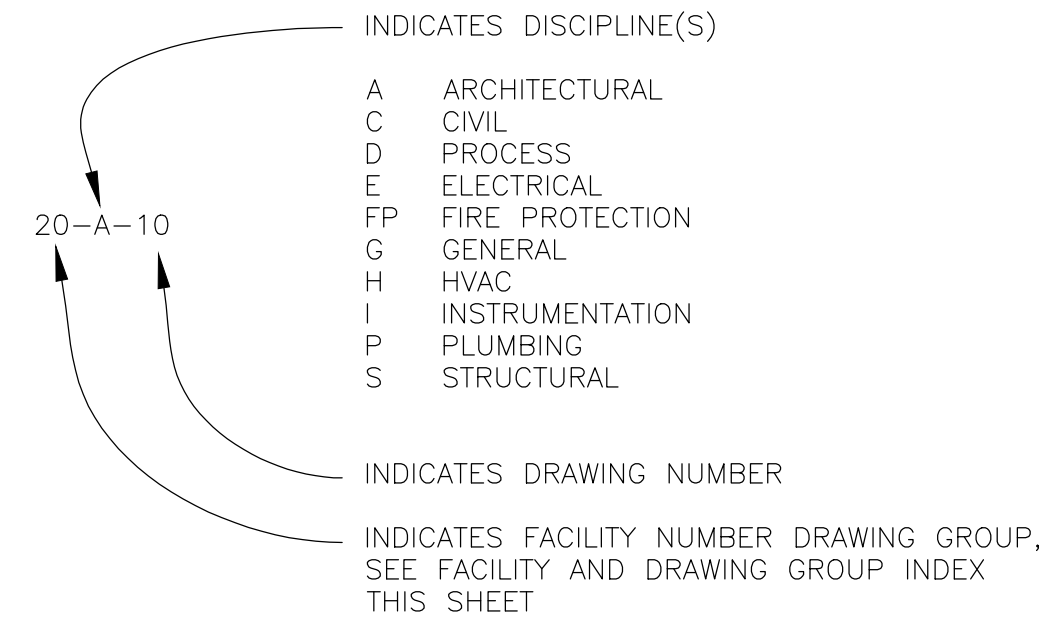
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SHEET NUMBER DESIGNATION



FACILITY/DRAWING GROUP NUMBER

- 01
- 02
- 04
- 10
- 20
- 99

FACILITY/DRAWING GROUP NUMBER

- GENERAL
- CIVIL/SITE
- INSTRUMENTATION
- EXISTING WATER TREATMENT PLANT
- PROPOSED WATER TREATMENT PLANT
- STANDARD DETAILS

ATTLEBORO WATER DEPT.
 ATTLEBORO, MA
 WADING RIVER
 WATER TREATMENT PLANT

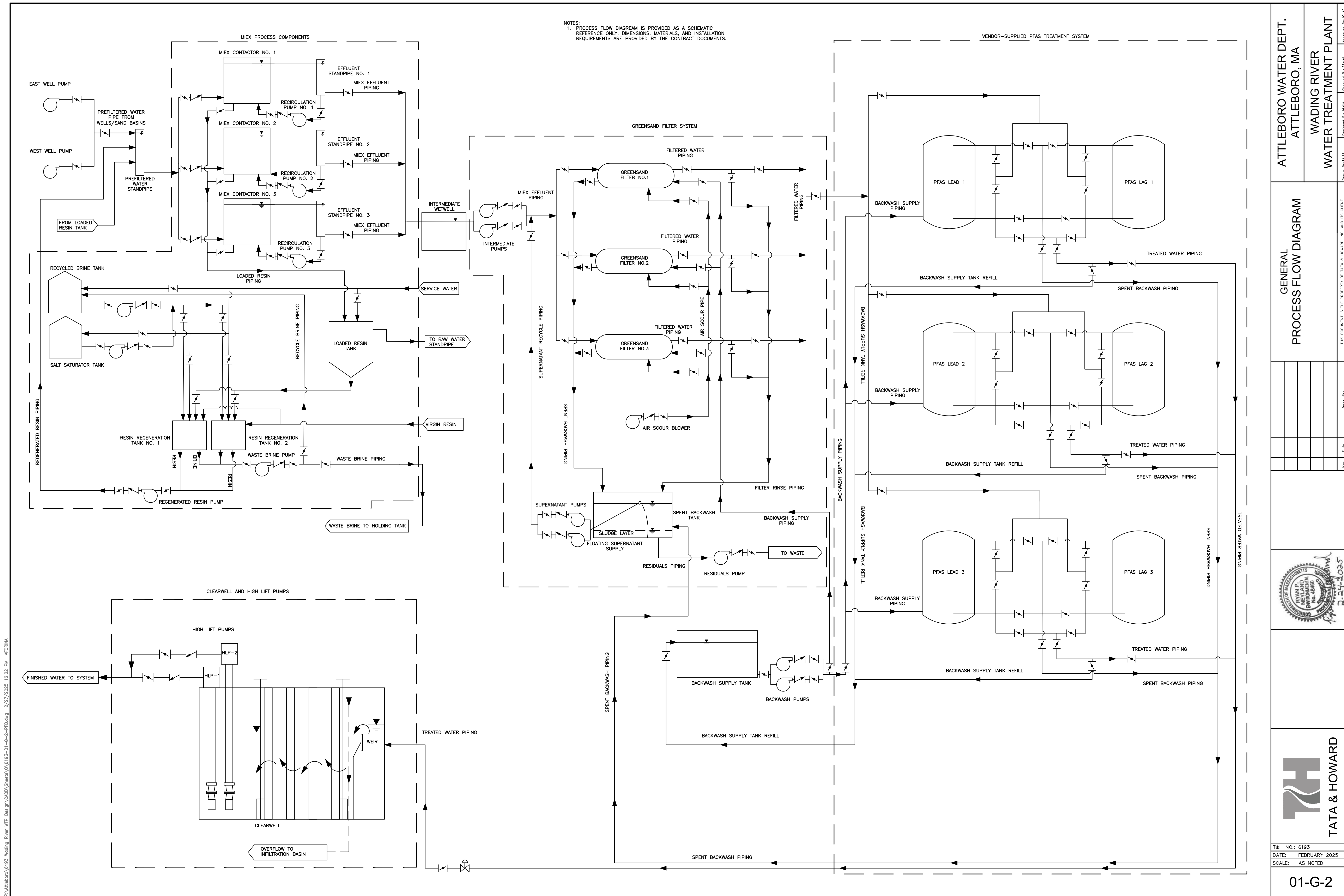
GENERAL SHEET INDEX

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01-G-1

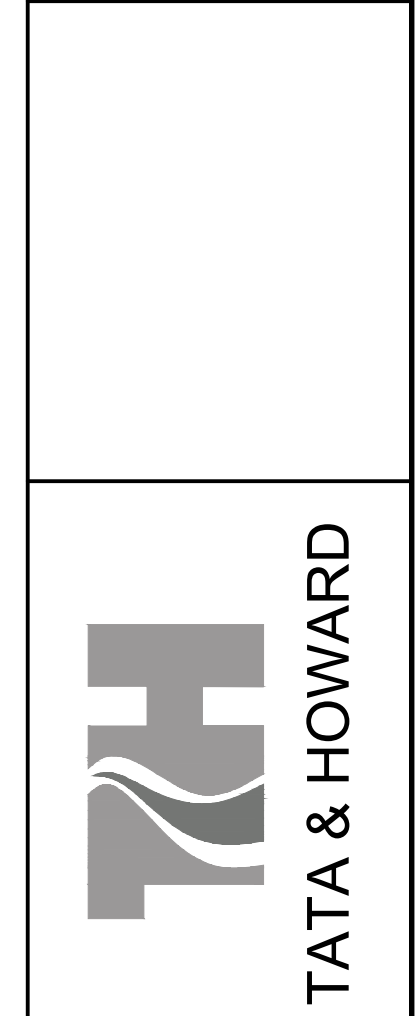
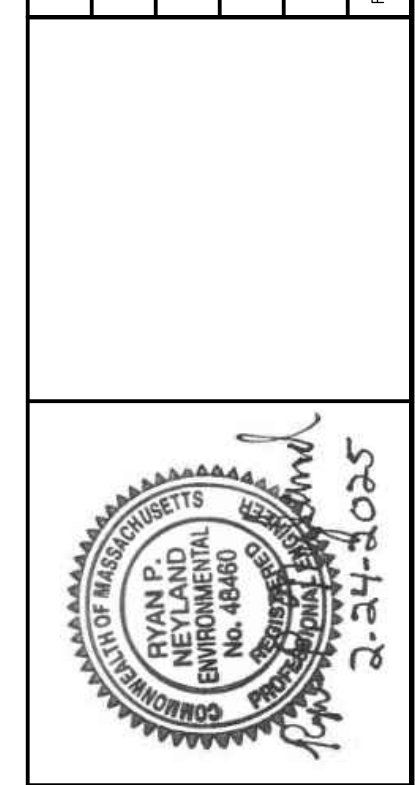


NOTES:
 1. PROCESS FLOW DIAGRAM IS PROVIDED AS A SCHEMATIC REFERENCE ONLY. DIMENSIONS, MATERIALS, AND INSTALLATION REQUIREMENTS ARE PROVIDED BY THE CONTRACT DOCUMENTS.

ATTLEBORO WATER DEPT.
 ATTLEBORO, MA
 WADING RIVER
 WATER TREATMENT PLANT

GENERAL
 PROCESS FLOW DIAGRAM

Rev.	Date	Description



T&H NO.: 6193
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01-G-2

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Designed By: RSP
 Drawn By: MJT
 Checked By: MVM
 Approved By: KLG

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF ATTLEBORO. ALL EXCAVATION AND RESTORATION SHALL MEET CITY SPECIFICATIONS.
- THE ENGINEER MAY DIRECT THE CONTRACTOR TO VARY THE PROPOSED WORK DURING CONSTRUCTION TO MEET EXISTING CONDITIONS.
- THE CONTRACTOR SHALL ESTABLISH A STAGING AREA OUTSIDE OF THE 100-FOOT WETLANDS BUFFER ZONE AND 200-FOOT RIVERFRONT, FOR THE OVERNIGHT STORAGE OF EQUIPMENT AND STOCKPILING OF MATERIALS. NO STORAGE OF GASOLINE, OIL OR OTHER FUEL OR HAZARDOUS MATERIALS IS PERMITTED WITHIN 100- FEET OF THE WETLANDS BUFFER ZONE. STAGING AREA LOCATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER.
- STOCKPILES SHALL BE LOCATED AS NEEDED, WITHIN THE LIMIT OF WORK, IN AREAS OF MINIMAL IMPACT.
- IF SEASON OR ADVERSE WEATHER CONDITIONS DO NOT ALLOW THE ESTABLISHMENT OF VEGETATION, TEMPORARY MULCHING WITH HAY, TACKIFIELD WOOD CHIPS OR OTHER METHODS SHALL BE PROVIDED.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES AND SHALL PROVIDE ALL NECESSARY CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE AND STRENGTH TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH WORK DAY.
- THE CONTRACTOR AT HIS EXPENSE SHALL BRACE UTILITY POLES IF REQUIRED, AND REPAIR ANY DAMAGE TO EXISTING SIDEWALKS, CURBS, PAVING, SHRUBS, TREES, STONE WALLS, LAWNS, ETC. ALL EXCAVATED MATERIALS SHALL BE RETURNED TO EQUAL OR BETTER THAN PRIOR CONDITION BY THE CONTRACTOR.
- ALL EXISTING CONCRETE AND ASPHALT PAVEMENT SHALL BE SAW-CUT PRIOR TO EXCAVATION IN ORDER TO PROVIDE UNIFORM ASPHALT REPLACEMENT.
- PIPE PENETRATIONS THROUGH THE WALL/FLOORS OF A NEW CONCRETE UTILITY STRUCTURE SHALL UTILIZE A MECHANICAL JOINT END-PLAIN END WALL PIPE, UNLESS OTHERWISE NOTED, WITH AN INTEGRALLY CAST COLLAR, CAST INTO THE NEW CONCRETE UTILITY STRUCTURE.
- PLUMBING CONTRACTOR SHALL PROVIDE ALL SANITARY WASTE, LP GAS, AND OTHER PIPING AS SHOWN ON THE PLUMBING DRAWINGS WITHIN TEN (10) FEET OF THE BUILDING UNLESS OTHERWISE NOTED. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL PIPING TO EXTEND PLUMBING TO ITS TERMINATION POINT. DIVISION OF RESPONSIBILITY BETWEEN THE GENERAL CONTRACTOR AND PLUMBING CONTRACTOR SHALL BE AS NOTED ON THE PLUMBING DRAWINGS AND CIVIL DRAWINGS.
- CLEAR AND GRUB THE AREA DIRECTLY WITHIN THE BUILDING FOOTPRINT AND WITHIN THE PATH OF THE WATER MAIN TRENCH. REMOVE ADDITIONAL TREES AS SHOWN ON THE PLANS AND LOAM AND SEED TO RESTORE THESE AREAS. ALL OTHER TREES SHALL BE PROTECTED.

SURVEY NOTES

- BASE PLANS AND PROPERTY LINE DETERMINATIONS WERE PREPARED BY GUERRIERE & HALNON (55 WEST CENTRAL STREET, FRANKLIN, MA 02038) USING AN ON-GROUND SURVEY.
- DELINEATION OF BORDERING VEGETATED WETLANDS, EDGE OF BANK MEAN ANNUAL HIGH WATER, AND RIVERFRONT AREA WERE DETERMINED BY ECOTEC, INC. (102 GROVE STREET, WORCESTER, MA 01605)
- THE LOCATION OF THE EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE INTENDED TO ADVISE THE CONTRACTOR OF THEIR PRESENCE. CALL "DIG SAFE" (1-888-344-7233) FOR FIELD LOCATIONS OF ALL EXISTING UTILITIES.
- BENCHMARKS HAVE BEEN ESTABLISHED BY THE SURVEYOR PRIOR TO THE START OF CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL BENCHMARKS THROUGHOUT CONSTRUCTION. ANY COST TO RE-ESTABLISH ITEMS THAT ARE DAMAGED, MOVED, OR OTHERWISE AFFECTED BY CONSTRUCTION WILL BE AT NO COST TO THE OWNER.

EROSION & SEDIMENT CONTROL NOTES

- THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ALL EROSION CONTROL DEVICES ON-SITE INCLUDING SILT FENCE INSTALLED UNDER THIS CONTRACT, REGARDLESS OF WHETHER THE MEASURES ARE SPECIFIED. ALL EROSION CONTROL DEVICES SHALL BE REGULARLY INSPECTED. ANY SEDIMENTS REMOVED FROM THE CONTROL DEVICES SHALL BE DISPOSED OF ON THE UPLAND SIDE OF THE EROSION CONTROL LINE.
- IN THE STAGING AREA, THE CONTRACTOR SHALL HAVE A STOCKPILE OF MATERIALS REQUIRED TO CONTROL EROSION ON-SITE TO BE USED TO SUPPLEMENT OR REPAIR EROSION CONTROL DEVICES. THESE MATERIALS SHALL INCLUDE, BUT ARE NOT LIMITED TO, STRAW BALES, SILT FENCE AND CRUSHED STONE.
- ALL EXISTING TOPSOIL FOR AREAS TO BE DISTURBED SHALL BE STOCKPILED ON SITE AND SHALL BE SURROUNDED WITH SILT FENCE OR SHALL BE COVERED WITH A SOLID WOVEN FABRIC OR TARP TO PREVENT EROSION OR LOSS OF USABLE TOP SOIL MATERIALS. THE REMOVAL OF TOPSOIL FROM THE SITE IS PROHIBITED.
- IF A STOCKPILE IS LOCATED ON A SLOPE, THE RUNOFF SHALL BE DIRECTED AWAY FROM THE PILE. STOCKPILES SHALL BE CONTAINED WITHIN STRAW DIKES.
- PRIOR TO CONSTRUCTION, AN EROSION CONTROL BARRIER (SILT FENCE, HAY BALE DIKE, OR SILTATION BARRIER) SHALL BE INSTALLED UPGRADIENT OF THE DRAINAGE SWALE AS SHOWN ON THE SITE PLAN. THESE BARRIERS SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY SURFACES HAVE BEEN FULLY STABILIZED. THE EROSION CONTROL BARRIERS ARE THE MINIMUM REQUIRED TO PROTECT THE SENSITIVE AREAS.
- AT NO TIME SHALL SILT-LADEN WATER BE ALLOWED TO ENTER SENSITIVE AREAS (WETLANDS, RIVERS, OFF-SITE AREA AND DRAINAGE SYSTEMS). ANY RUNOFF FROM DISTURBED SURFACES SHALL BE DIRECTED THROUGH SETTLING BASINS AND EROSION CONTROL BARRIERS PRIOR TO ENTERING ANY SENSITIVE AREAS.
- NO MATERIALS SHALL BE DISPOSED OF INTO ANY WETLANDS, RIVERS, OR EXISTING OR PROPOSED DRAINAGE SYSTEMS.
- CONTRACTOR SHALL UTILIZE A VARIETY OF SLOPE STABILIZATION METHODS AND MATERIALS, WHICH SHALL BE ADJUSTED TO THE SITE CONDITIONS. EROSION CONTROL BLANKETS OR MIRAFI MIRAMAT (OR SIMILAR PRODUCTS) SHALL BE AVAILABLE ON SITE.
- WATER SHALL NOT BE ALLOWED TO ENTER PIPES FROM UNSTABILIZED SURFACES.
- THE DRAINAGE SYSTEM SHALL BE INSTALLED FROM THE DOWNSTREAM END UP. SEDIMENT SHALL NOT BE ALLOWED TO ENTER THE SYSTEM.
- RIP RAP SHALL BE INSTALLED AT THE PIPE INLETS AND OUTLETS IMMEDIATELY UPON THE PLACEMENT OF THE PIPE. SILT FENCES SHALL BE INSTALLED AT THE OUTFALLS OF THE DETENTION BASIN. THEY SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY AREAS ARE STABILIZED.
- IF INTENSE RAINFALL IS ANTICIPATED, THE INSTALLATION OF SUPPLEMENTAL STRAW DIKES, SILT FENCES, OR ARMORED DIKES SHALL BE UTILIZED. ADDITIONAL TEMPORARY SETTLING BASINS ARE REQUIRED TO BE LOCATED WITHIN THE DISTURBED AREA TO MINIMIZE IMPACTS TO THE TRIBUTARY AREAS.

WATER MAIN NOTES

- THE CONTRACTOR SHALL MAKE EVERY EFFORT NOT TO DISTURB THE EXISTING WATER SYSTEM. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DAMAGE CREATED FOR THE CONVENIENCE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING & GRUBBING TREES WHERE THEY CONFLICT WITH THE PROPOSED WATER MAIN INSTALLATION.
- UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER, THE NEW WATER MAIN SHALL PASS UNDER EXISTING UTILITIES.
- ALL WATER MAINS ARE TO BE LAID WITH A MINIMUM OF 5'-0" COVER.
- ALL BENDS, TEE, CAPS AND HYDRANTS SHALL BE BACKED WITH CONCRETE THRUST BLOCKS AS INDICATED ON THE CONTRACT DRAWINGS. ALL BENDS, TEE, CAPS, VALVES AND MISCELLANEOUS FITTINGS SHALL BE RESTRAINED AS SPECIFIED.
- CONTRACTOR SHALL USE A WATER TIGHT PLUG DURING THE WATER MAIN INSTALLATION. PLUG SHALL REMAIN IN PLACE AT ALL TIMES.
- THE CONTRACTOR SHALL NOT CONNECT NEW WATER MAIN TO THE EXISTING WATER MAIN UNTIL IT HAS BEEN PRESSURE TESTED AND CHLORINATED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PROVIDE ADDITIONAL TAPS IF REQUIRED FOR CHLORINATING AND HYDROSTATIC TESTING AT ITS EXPENSE. TAPS SHALL BE REMOVED AND THE WATER MAIN PLUGGED AFTER TESTING IS COMPLETE.

GEOTECHNICAL NOTES

- BORING AND TEST PIT LOCATIONS ARE SHOWN ON THE PLANS AND BORING AND TEST PIT LOGS ARE IN THE GEOTECHNICAL DATA REPORT BOUND IN APPENDIX A OF THE SPECIFICATIONS.
- FOR EARTH EXCAVATION, BACKFILL, FILL AND GRADING, SEE SPECIFICATION 02200.
- FOR DEWATERING SEE SPECIFICATION 02140.
- FOR TEMPORARY EXCAVATION SUPPORT SYSTEM SEE SPECIFICATION 02160.

LEGEND

EXISTING	DESCRIPTION	PROPOSED
FW	FINISHED WATER	FW
PFW	PREFILTERED WATER	PFW
OF	OVERFLOW PIPE	OF
X	GATE VALVE	X
v	BUTTERFLY VALVE	v
	REDUCER	▼
	SOLID SLEEVE	□
	TRANSITION COUPLING	
	PIPE FITTINGS	┌┐└└┘┘
	CAP	┌┐└└┘┘
	FIRE HYDRANT	┌┐└└┘┘
	CATCH BASIN	┌┐└└┘┘
UGE	ELEC. UNDERGROUND	UGE
Ⓢ	ELEC. HANDHOLE	Ⓢ
OHE	ELEC. OH. WIRE	OHE
	STORMWATER FLOW DIRECTION	→
Ⓢ	DRAIN MANHOLE	Ⓢ
Ⓢ	CATCH BASIN	Ⓢ
	LEACHING CATCH BASIN	○
SD	STORM DRAIN	SD
D	DRAIN LINE	D
	SEPTIC/SANITARY PIPING	S
	RESIDUALS DRAIN	RD
	CLEANOUT	Ⓢ
	RIP RAP	Ⓢ
○	UTILITY POLE	○
*	LIGHT	*
*	GUY WIRE	*
	TREE LINE	
☀	TREE	
☀	SHRUB	
Ⓢ	ROCK	
	WETLANDS	
	FEMA REGULATORY FLOODWAY	
25'B	25-FT WETLAND NO-DISTURB ZONE	
100'B	100-FT WETLAND BUFFER ZONE	
	200-FT RIVERFRONT AREA	
	WELLHEAD PROTECTION AREA	
	100-YEAR FEMA FLOOD ZONE	
	WETLAND FLAG	
100	5' CONTOUR	100
102	1' CONTOUR	102
10.0x	SPOT ELEVATION	10.0x
Ⓢ	BENCH MARK	Ⓢ
○	CHAIN LINK FENCE	○
△	SIGN POST	△
	BITUMINOUS CONCRETE	▒
	GRAVEL AREA	▒
	CONCRETE BUILDING	▒
	PROPERTY LINE	---
	RIGHT OF WAY	---
○	BOLLARD	○
Ⓢ-1	BORING/PROBE	Ⓢ-1
	TEST PIT	Ⓢ
	LIMIT OF WORK	●●●●
	EROSION CONTROL SOCK	▒

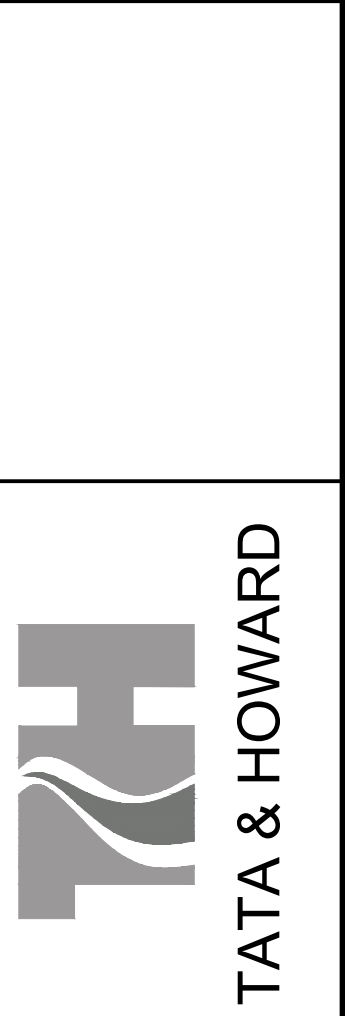
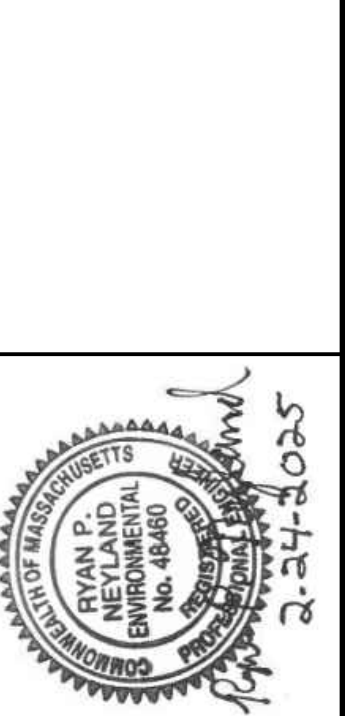
ABBREVIATIONS

APPROX.	APPROXIMATE
ABS	ACRYLONITRILE BUTADIENE STYRENE
BC	BITUMINOUS CURB
BFV	BUTTERFLY VALVE
BMK	BENCHMARK
BOW	BOTTOM OF WALL
CB	CATCH BASIN
CI	CAST IRON
CONC.	CONCRETE
CMP	CORRUGATED METAL PIPE
CNM	COULD NOT MEASURE
CNO	COULD NOT OPEN
CPP	CORRUGATED PLASTIC PIPE
DI	DUCTILE IRON
DIA.	DIAMETER
DMH	DRAIN MANHOLE
DWGS	DRAWINGS
DYL	DOUBLE YELLOW LINE
EOC	EDGE OF CONCRETE
EOG	EDGE OF GRAVEL
ELEV.	ELEVATION
FFE	FINISHED FLOOR ELEVATION
FM	FORCE MAIN
FW	FINISHED WATER
GV	GATE VALVE
HDD	HORIZONTAL DIRECTIONAL DRILLING
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
INV.	INVERT
LR	LONG RADIUS
MAX.	MAXIMUM
MIEX	MAGNETIC ION EXCHANGE SYSTEMS
MIN.	MINIMUM
MJ	MECHANICAL JOINT
PE	POLYETHYLENE
PFW	SLOW SAND PREFILTERED WATER MAIN
PP	POLYPROPYLENE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
(R)	RECORD INFORMATION
RD	RESIDUALS DRAIN
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
SMH	SEWER MANHOLE
SWL	SOLID WHITE LINE
TOW	TOP OF WALL
TYP.	TYPICAL
VERT.	VERTICAL

ATTLEBORO WATER DEPT.
ATTLEBORO, MA
WADING RIVER
WATER TREATMENT PLANT

CIVIL
LEGEND, ABBREVIATIONS
AND GENERAL NOTES

Description	Date	Rev.



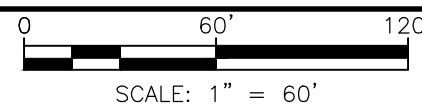
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02-C-1

P:\Attleboro\6193_Wading River WTP Design\CADD\Sheets\02-C-2-Existing Conditions Site Plan.dwg 2/27/2025 12:19 PM MTB/BRETT/S



EXISTING CONDITIONS SITE PLAN



ATTLEBORO WATER DEPT.
ATTLEBORO, MA
WADING RIVER
WATER TREATMENT PLANT

**CIVIL
EXISTING CONDITIONS
SITE PLAN**

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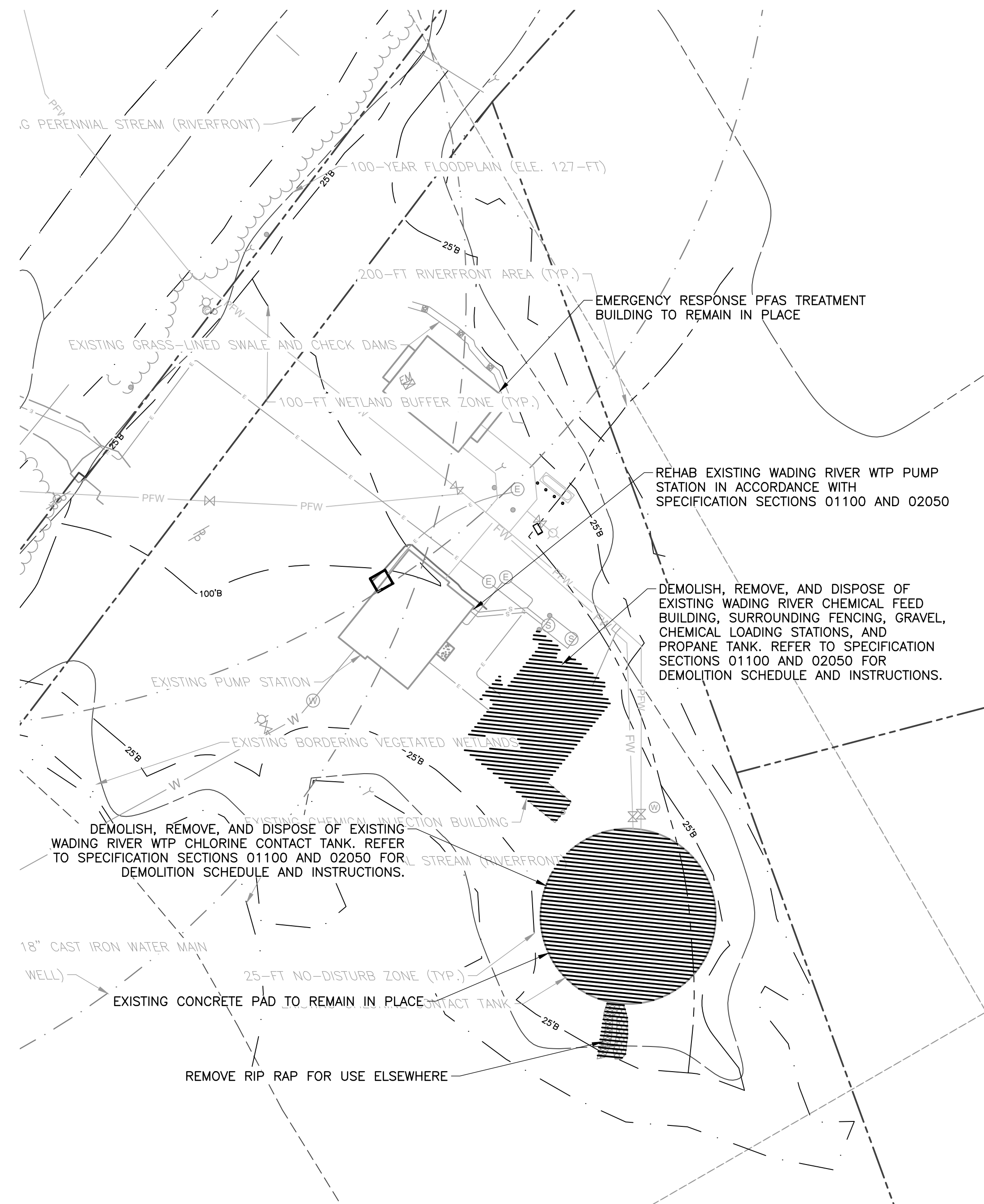
Rev.	Date	Description



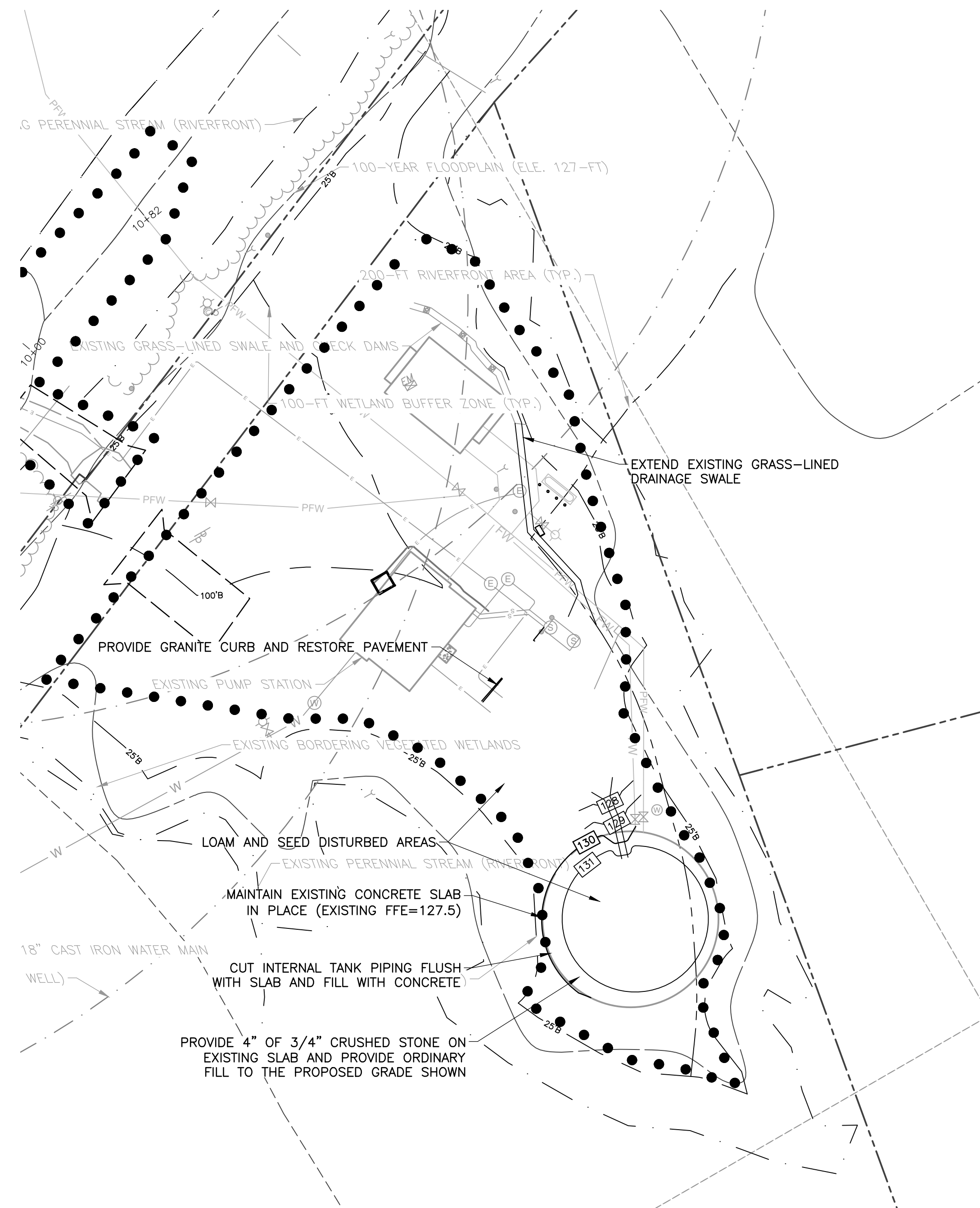
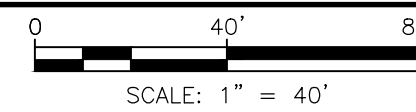
T&H NO.: 6193
DATE: FEBRUARY 2025
SCALE: AS NOTED

02-C-2

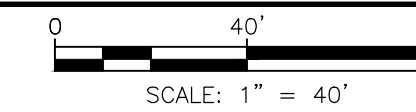
Drawn By: M/J/M/O
Designed By: M/SB
Checked By: M/M
Approved By: K/LG



**PROPOSED DEMOLITION SITE PLAN
(ADDITIVE ALTERNATE A)**



**PROPOSED GRADING AND SITE IMPROVEMENTS
(ADDITIVE ALTERNATE A)**



P:\Attleboro\6193_Wading_River_WTP_Design\CADD\Sheets\02-C-3-Proposed_Demolition_Site_Plan.dwg, 2/27/2025, 12:19 PM, MBARRY

ATTLEBORO WATER DEPT.
ATTLEBORO, MA
WADING RIVER
WATER TREATMENT PLANT

CIVIL
PROPOSED DEMOLITION AND
SITE IMPROVEMENTS PLAN
(ADDITIVE ALTERNATE A)

Rev.	Date	Description

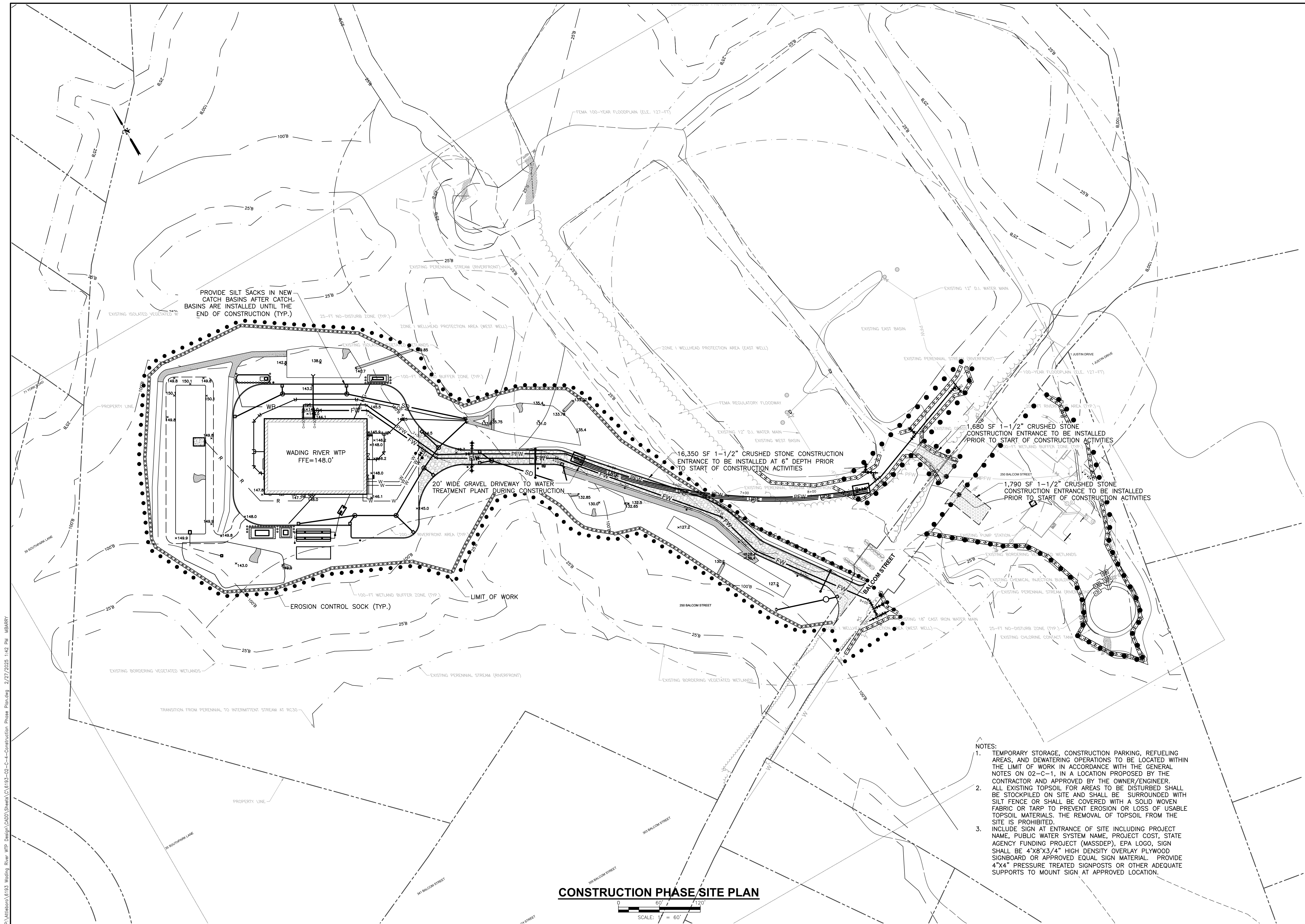


T&H NO.: 6193
DATE: FEBRUARY 2025
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02-C-3

Approved By: KLG
Designed By: MSB
Drawn By: MJT/MLD

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CONSTRUCTION PHASE SITE PLAN

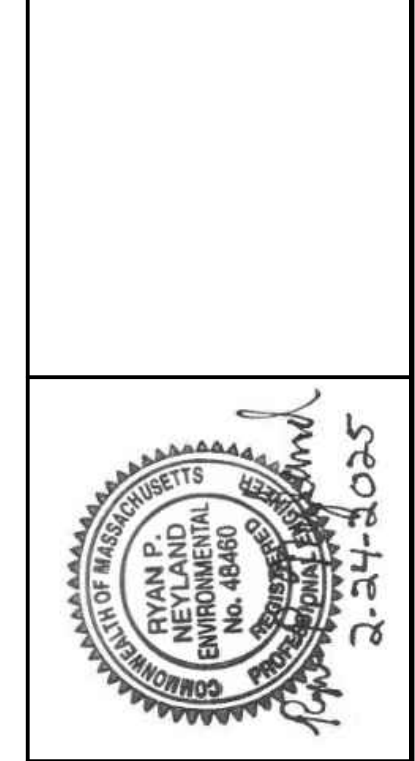


- NOTES:
- TEMPORARY STORAGE, CONSTRUCTION PARKING, REFUELING AREAS, AND DEWATERING OPERATIONS TO BE LOCATED WITHIN THE LIMIT OF WORK IN ACCORDANCE WITH THE GENERAL NOTES ON 02-C-1, IN A LOCATION PROPOSED BY THE CONTRACTOR AND APPROVED BY THE OWNER/ENGINEER.
 - ALL EXISTING TOPSOIL FOR AREAS TO BE DISTURBED SHALL BE STOCKPILED ON SITE AND SHALL BE SURROUNDED WITH SILT FENCE OR SHALL BE COVERED WITH A SOLID WOVEN FABRIC OR TARP TO PREVENT EROSION OR LOSS OF USABLE TOPSOIL MATERIALS. THE REMOVAL OF TOPSOIL FROM THE SITE IS PROHIBITED.
 - INCLUDE SIGN AT ENTRANCE OF SITE INCLUDING PROJECT NAME, PUBLIC WATER SYSTEM NAME, PROJECT COST, STATE AGENCY FUNDING PROJECT (MASSDEP), EPA LOGO, SIGN SHALL BE 4'X8'X3/4" HIGH DENSITY OVERLAY PLYWOOD SIGNBOARD OR APPROVED EQUAL SIGN MATERIAL. PROVIDE 4"X4" PRESSURE TREATED SIGNPOSTS OR OTHER ADEQUATE SUPPORTS TO MOUNT SIGN AT APPROVED LOCATION.

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ATTLEBORO, MA
WADING RIVER
WATER TREATMENT PLANT

CIVIL
CONSTRUCTION PHASE
SITE PLAN

Rev.	Date	Description



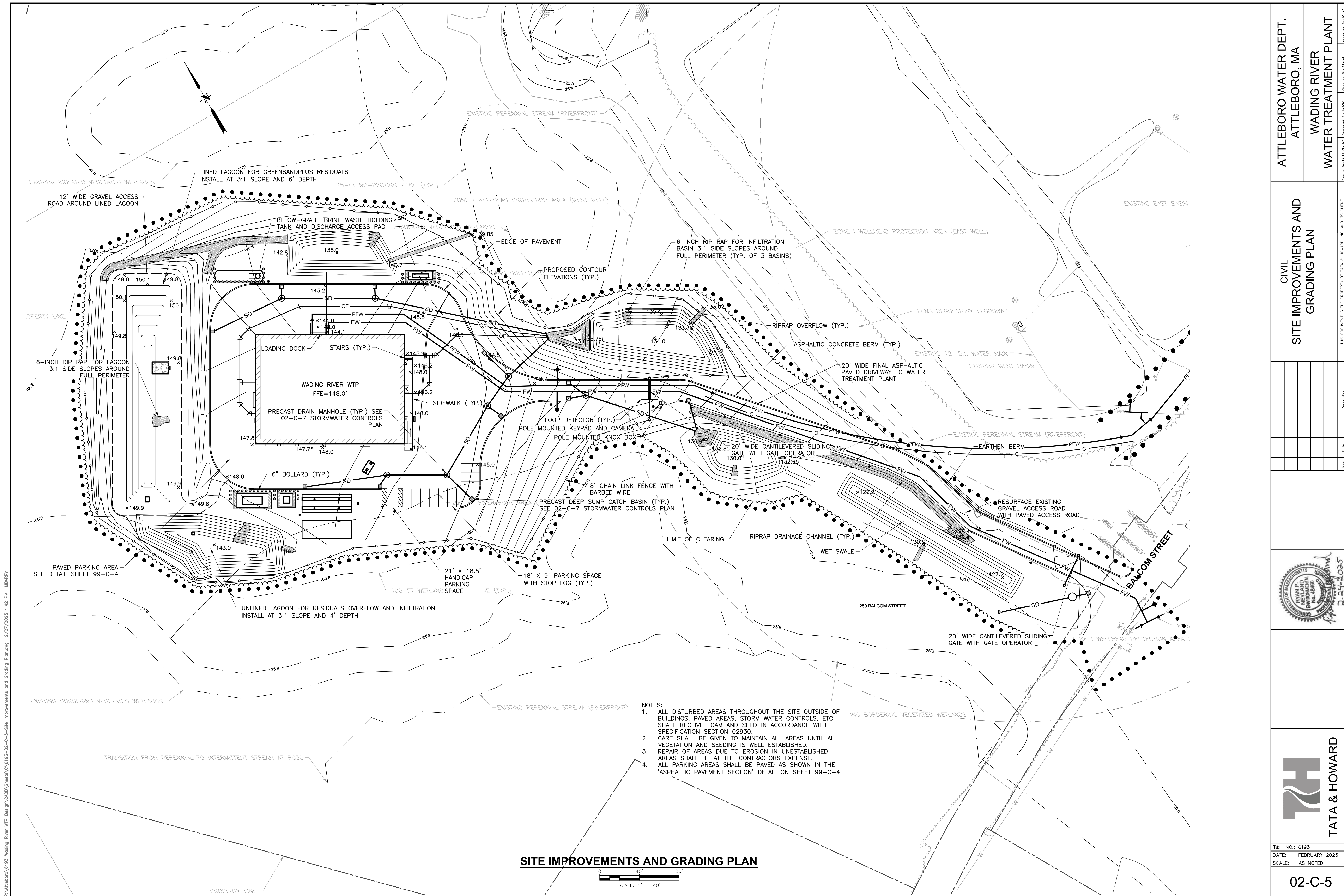
TATA & HOWARD

T&H NO.: 6193
DATE: FEBRUARY 2025
SCALE: AS NOTED

02-C-4

Designed By: MSB
Drawn By: MJT/MLO
Checked By: MVM
Approved By: KLG

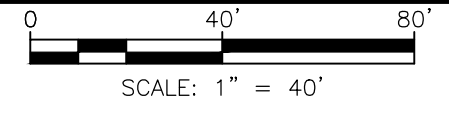
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- NOTES:**
1. ALL DISTURBED AREAS THROUGHOUT THE SITE OUTSIDE OF BUILDINGS, PAVED AREAS, STORM WATER CONTROLS, ETC. SHALL RECEIVE LOAM AND SEED IN ACCORDANCE WITH SPECIFICATION SECTION 02930.
 2. CARE SHALL BE GIVEN TO MAINTAIN ALL AREAS UNTIL ALL VEGETATION AND SEEDING IS WELL ESTABLISHED.
 3. REPAIR OF AREAS DUE TO EROSION IN UNESTABLISHED AREAS SHALL BE AT THE CONTRACTORS EXPENSE.
 4. ALL PARKING AREAS SHALL BE PAVED AS SHOWN IN THE 'ASPHALTIC PAVEMENT SECTION' DETAIL ON SHEET 99-C-4.

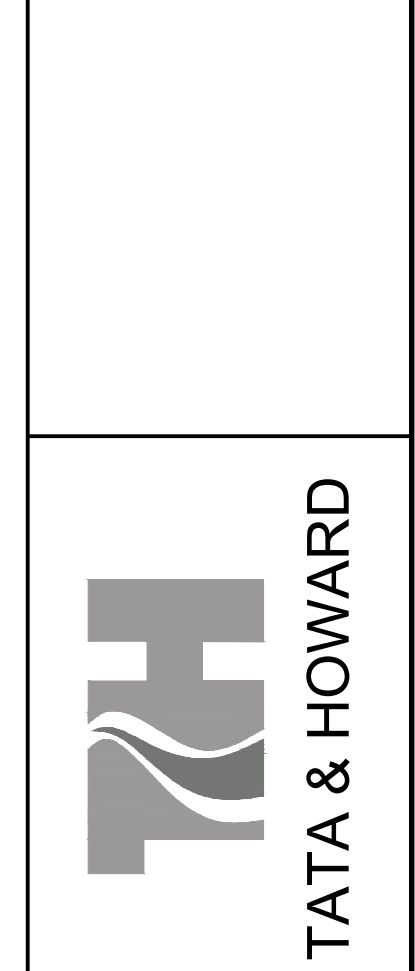
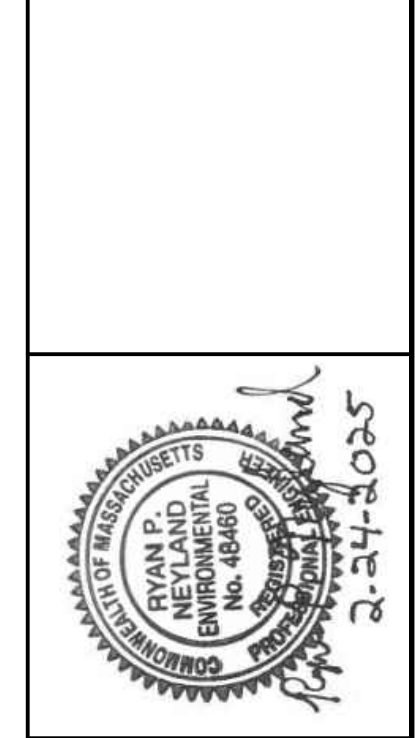
SITE IMPROVEMENTS AND GRADING PLAN



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WADING RIVER
WATER TREATMENT PLANT

CIVIL
SITE IMPROVEMENTS AND
GRADING PLAN

Rev.	Date	Description

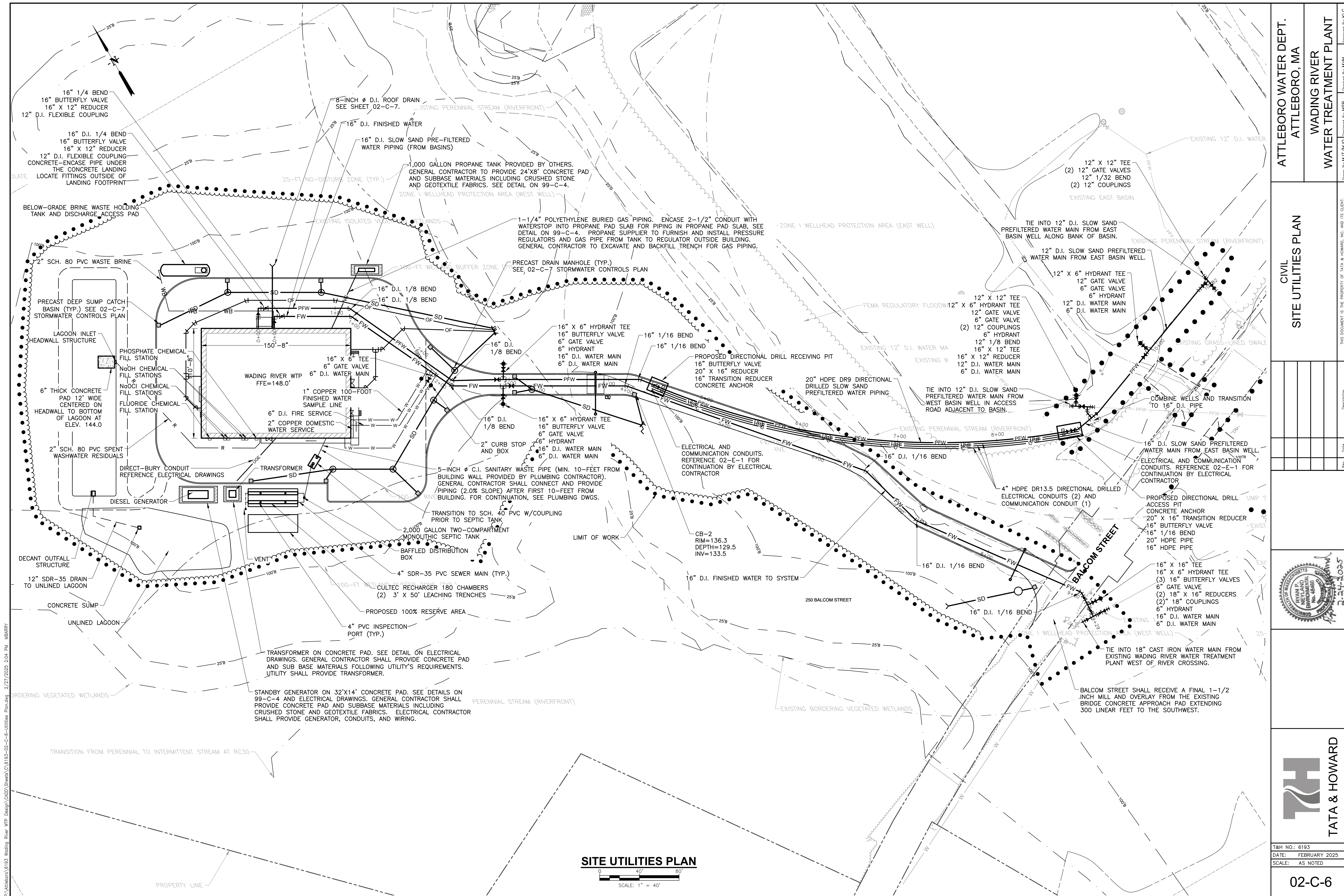


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DATE: FEBRUARY 2025
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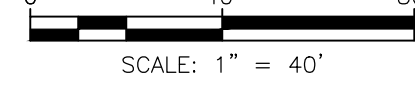
02-C-5

Designed By: MMB
Checked By: MMB

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SITE UTILITIES PLAN

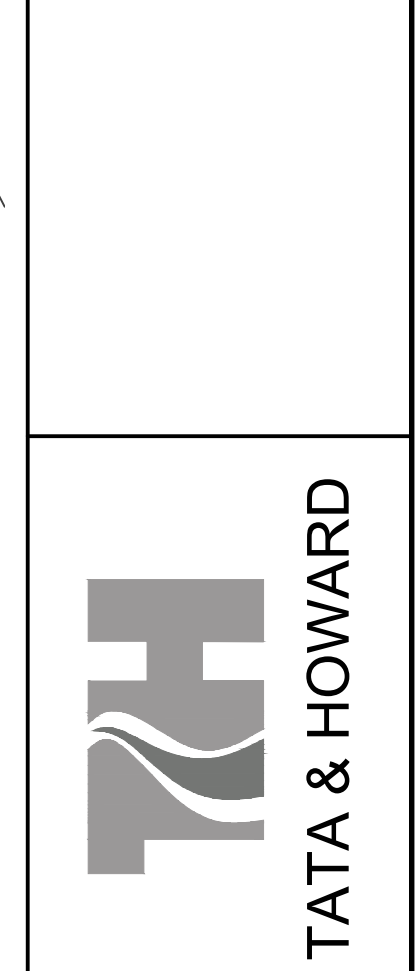
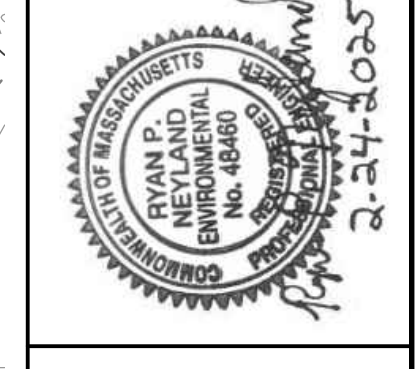


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ATTLEBORO, MA
WADING RIVER
WATER TREATMENT PLANT

CIVIL
SITE UTILITIES PLAN

Rev.	Date	Description

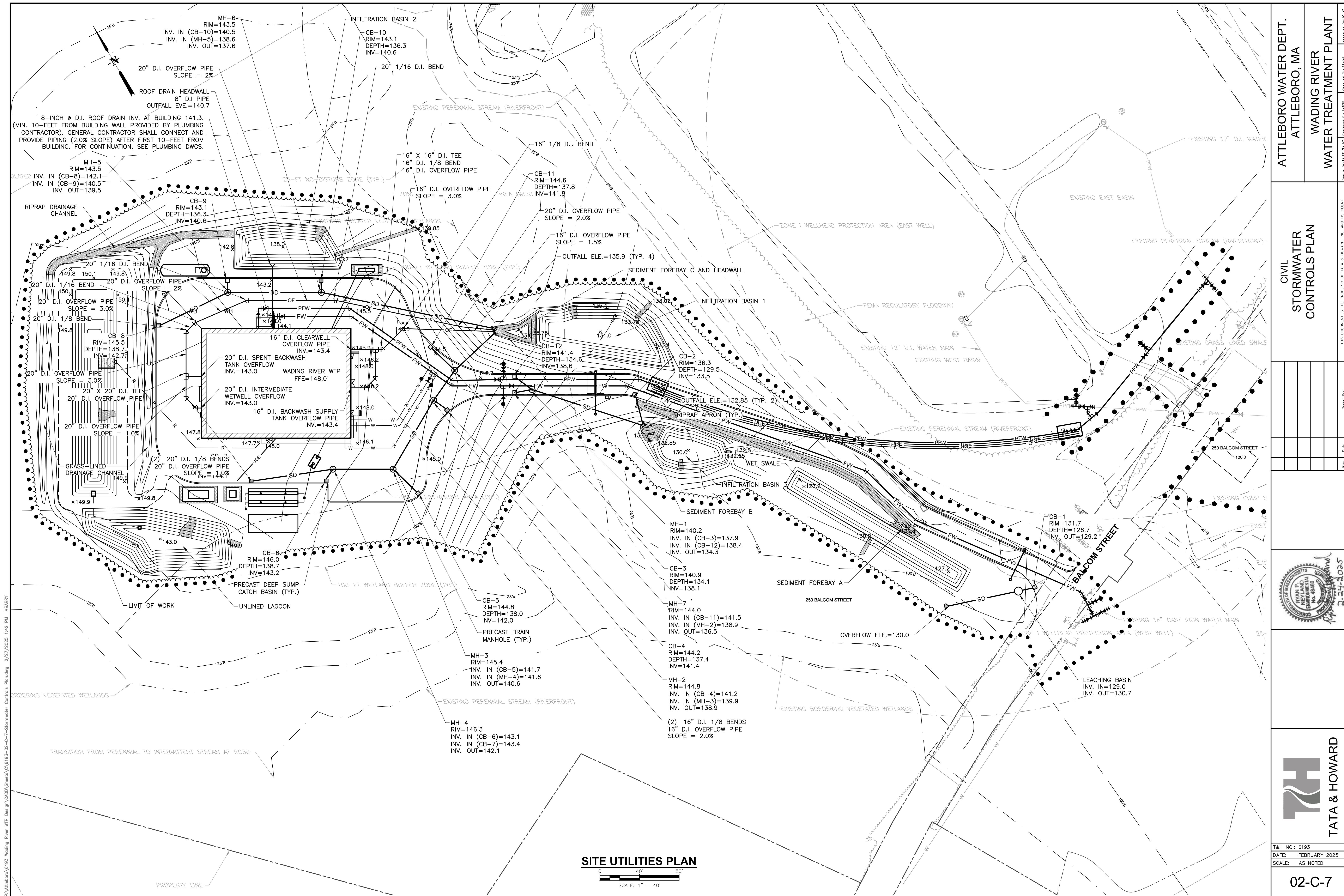
DESIGNED BY: MMB
CHECKED BY: MMB
DATE: 2-27-2025



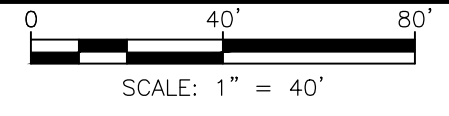
T&H NO.: 6193
DATE: FEBRUARY 2025
SCALE: AS NOTED

02-C-6

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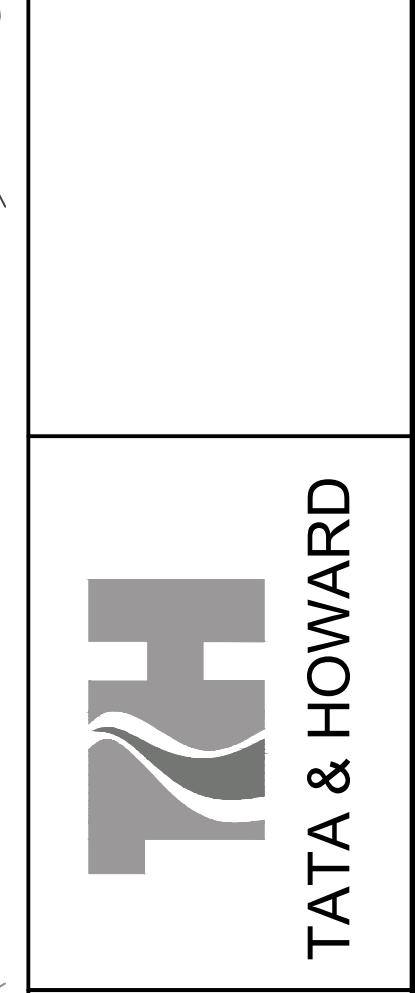
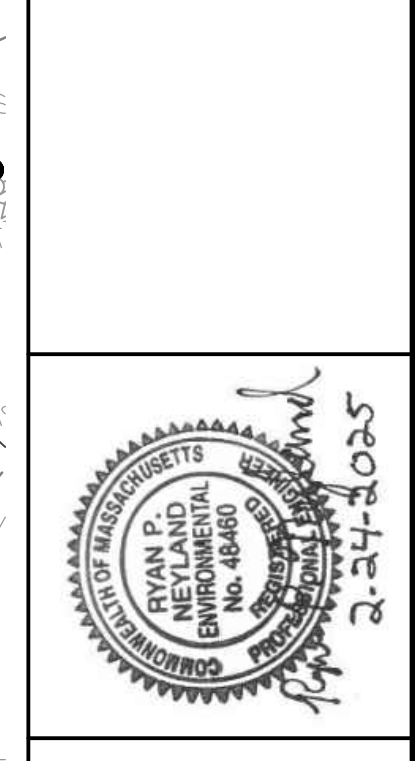
SITE UTILITIES PLAN



ATTLEBORO WATER DEPT.
ATTLEBORO, MA
WADING RIVER
WATER TREATMENT PLANT

CIVIL
STORMWATER
CONTROLS PLAN

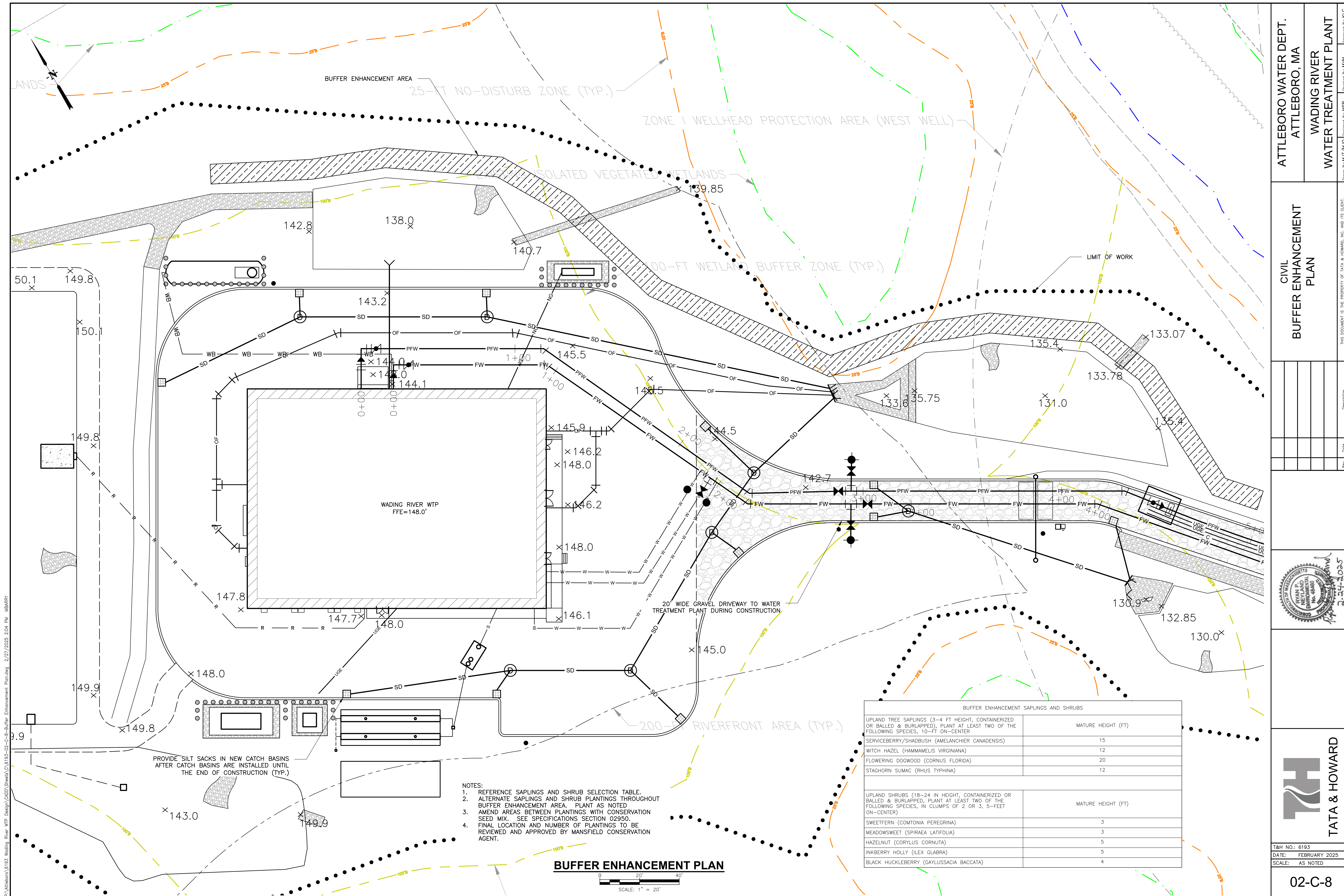
Rev.	Date	Description



T&H NO.: 6193
DATE: FEBRUARY 2025
SCALE: AS NOTED

02-C-7

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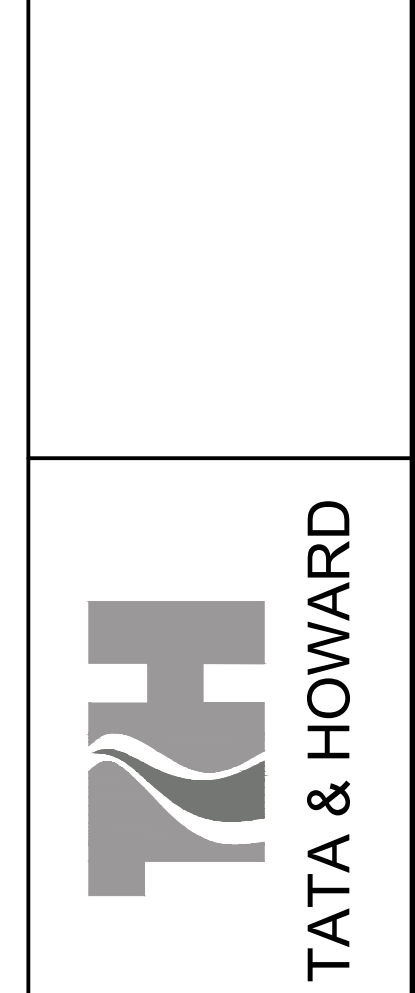
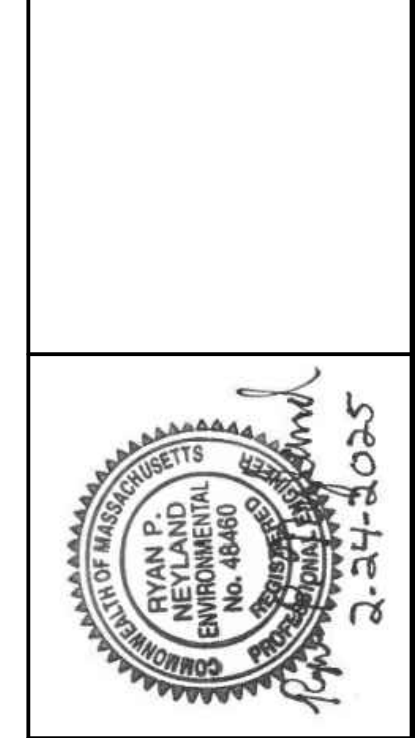
BUFFER ENHANCEMENT SAPLINGS AND SHRUBS	
UPLAND TREE SAPLINGS (3-4 FT HEIGHT, CONTAINERIZED OR BALLED & BURLAPPED), PLANT AT LEAST TWO OF THE FOLLOWING SPECIES, 10-FT ON-CENTER SERVICEBERRY/SHADBUSH (AMELANCHIER CANADENSIS) WITCH HAZEL (HAMMAMELIS VIRGINIANA) FLOWERING DOGWOOD (CORNUS FLORIDA) STAGHORN SUMAC (RHUS TYPHINA)	MATURE HEIGHT (FT) 15 12 20 12
UPLAND SHRUBS (18-24 IN HEIGHT, CONTAINERIZED OR BALLED & BURLAPPED), PLANT AT LEAST TWO OF THE FOLLOWING SPECIES, IN CLUMPS OF 2 OR 3, 5-FEET ON-CENTER) SWEETFERN (COMTONIA PEREGRINA) MEADOWSWEET (SPIRAEA LATIFOLIA) HAZELNUT (CORYLUS CORNUTA) INKBERRY HOLLY (ILEX GLABRA) BLACK HUCKLEBERRY (GAYLUSSACIA BACCATA)	MATURE HEIGHT (FT) 3 3 5 5 4

ATTLBORO WATER DEPT.
ATTLBORO, MA
WADING RIVER
WATER TREATMENT PLANT

Designed By: MMB
Drawn By: MJT/MLO
Approved By: KLG

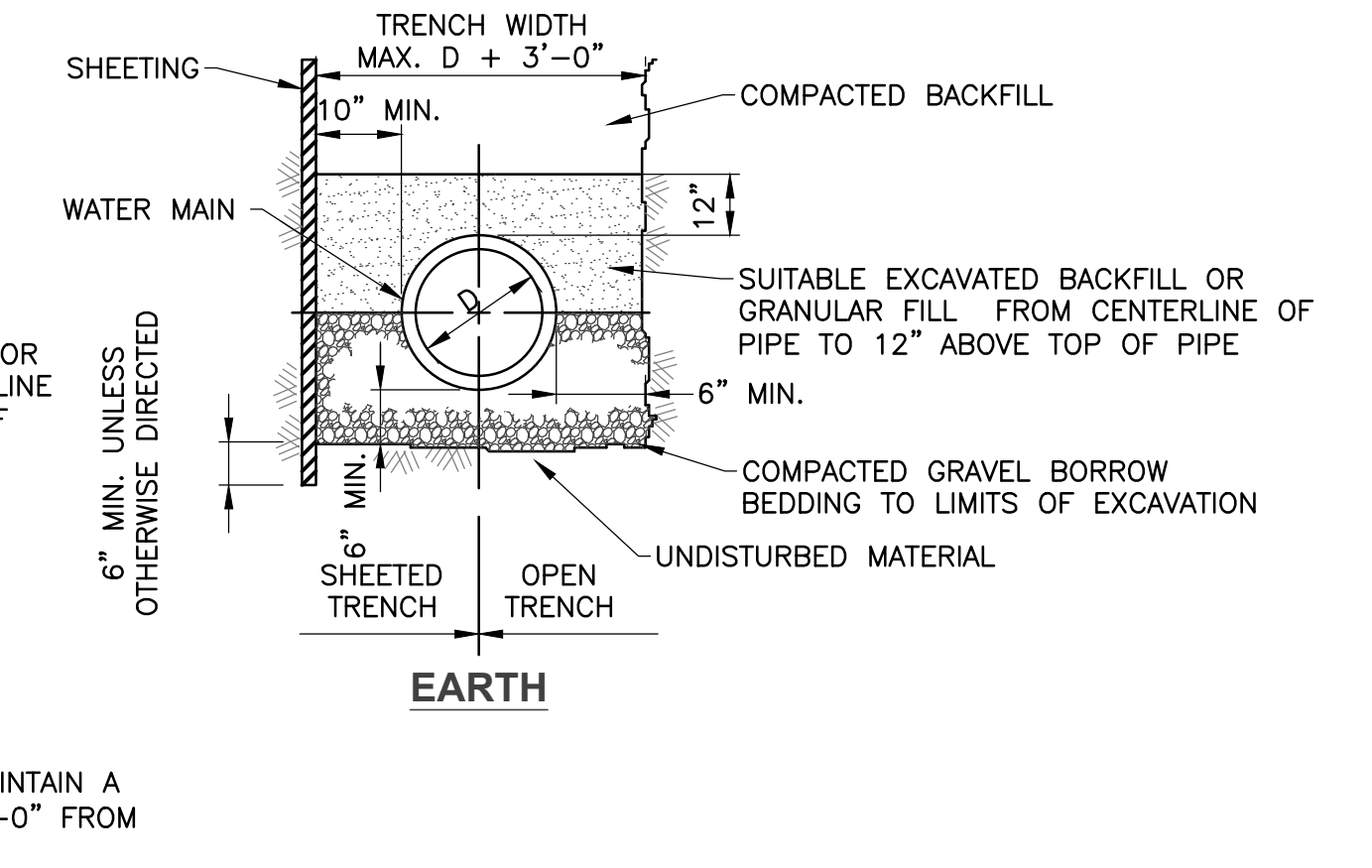
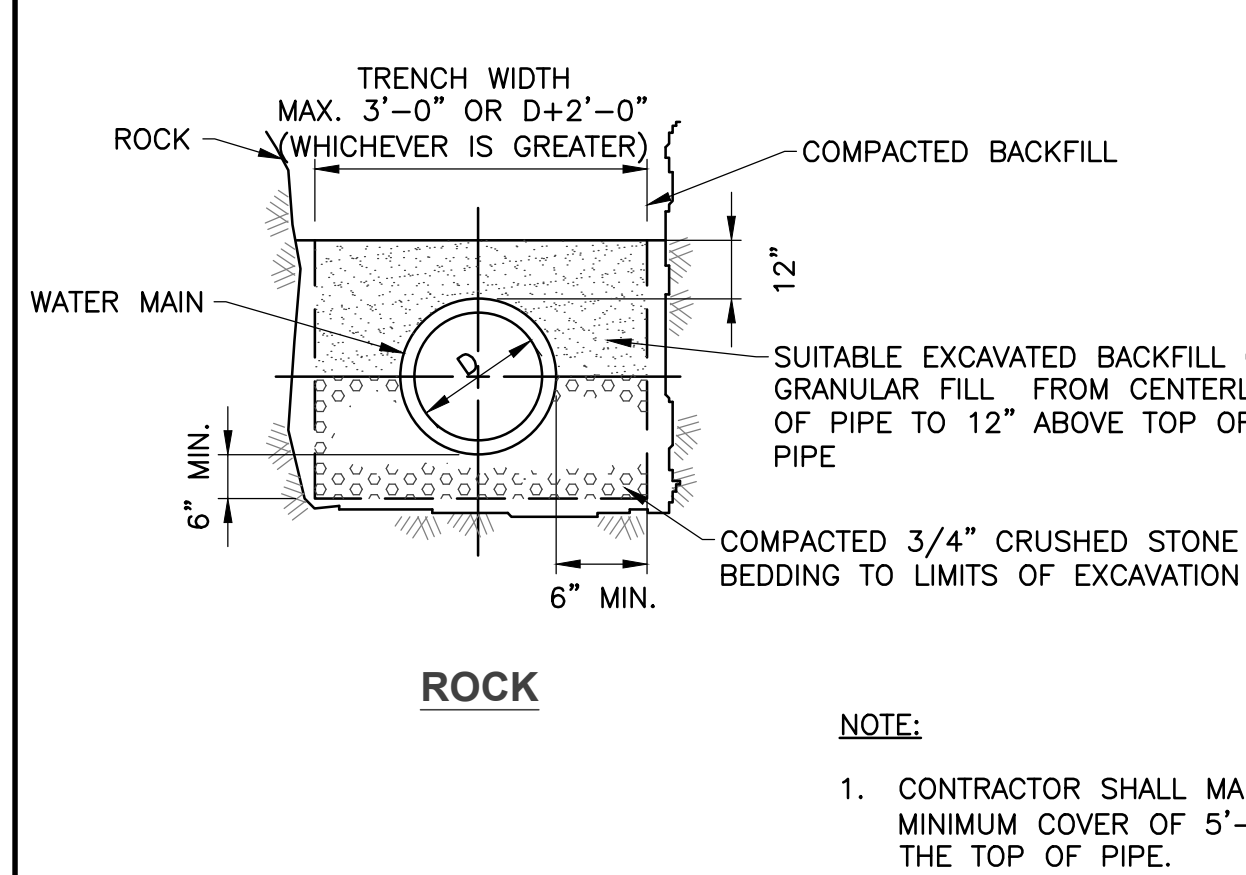
CIVIL
BUFFER ENHANCEMENT
PLAN

Rev.	Date	Description



T&H NO.: 6193
DATE: FEBRUARY 2025
SCALE: AS NOTED
02-C-8

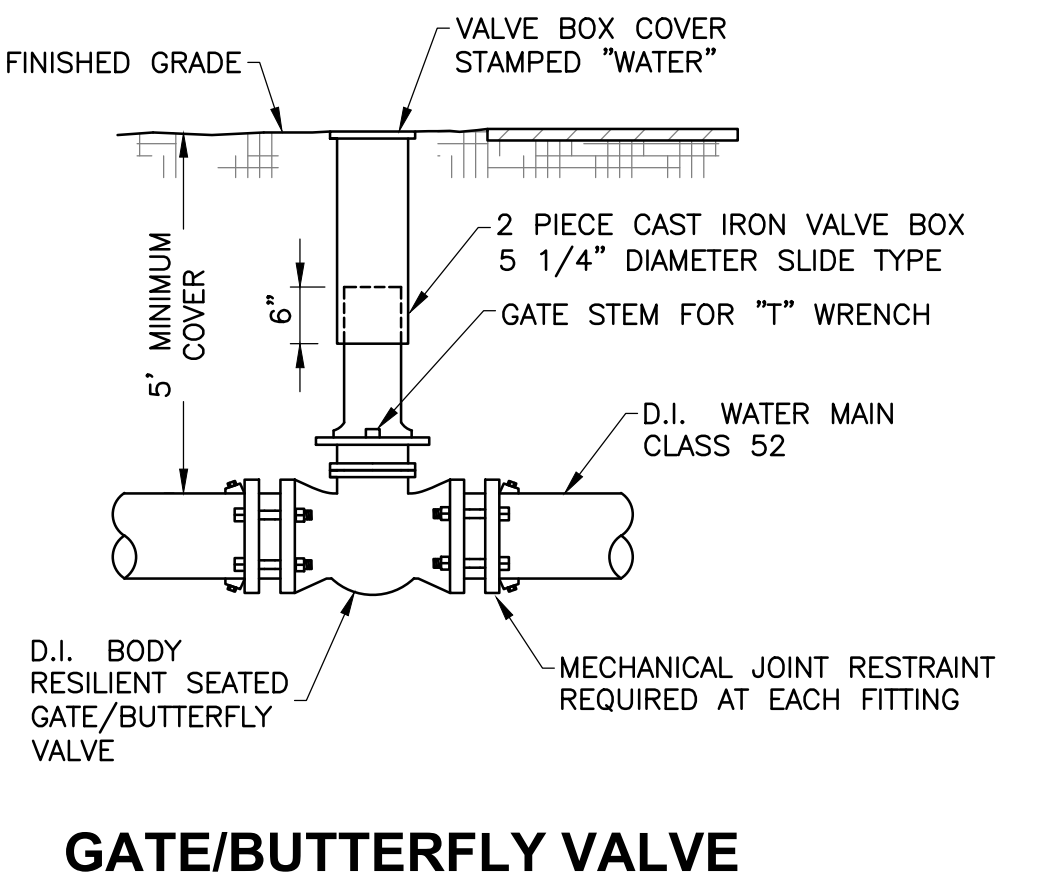
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TYPICAL WATER MAIN TRENCH SECTIONS

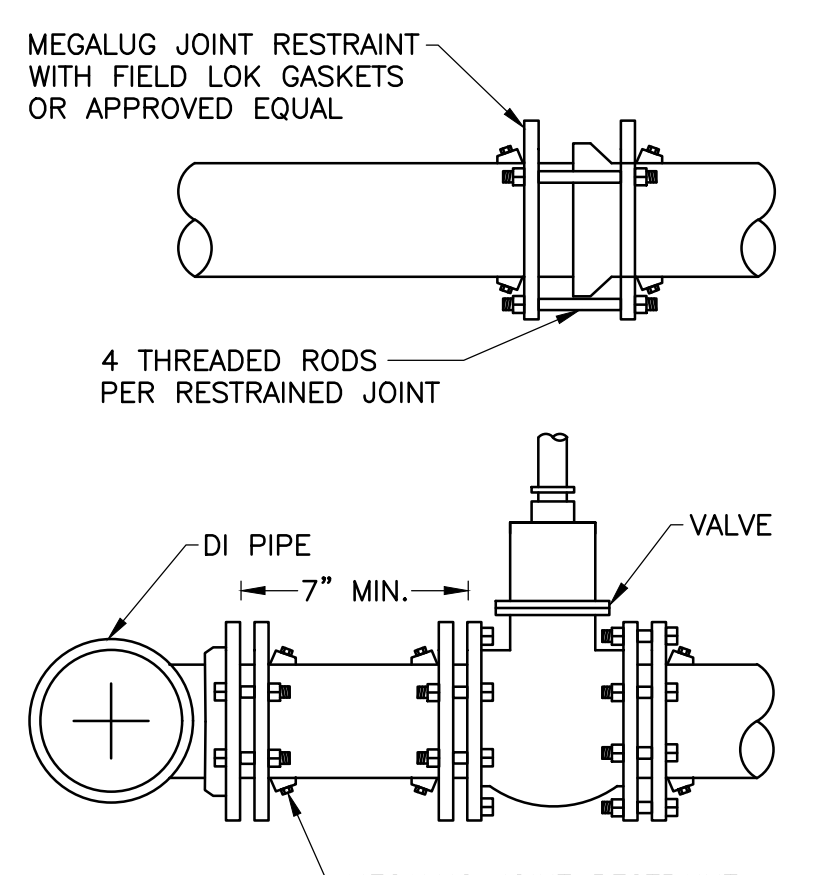
- NOTE:**
- CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 5'-0" FROM THE TOP OF PIPE.

SCALE: NONE



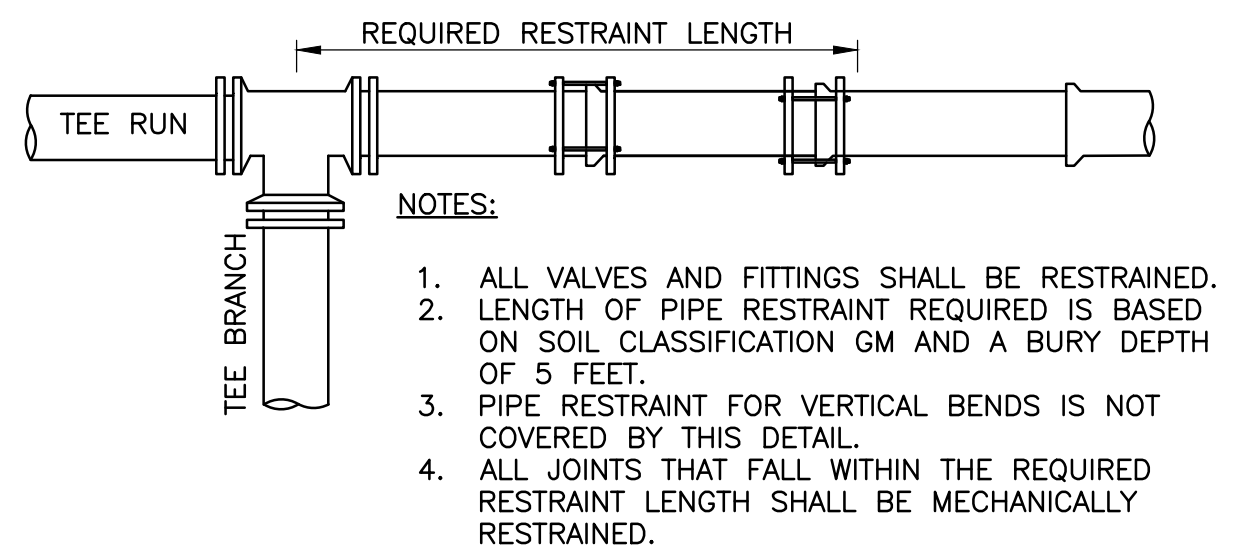
GATE/BUTTERFLY VALVE

SCALE: NONE



MECHANICAL JOINT RESTRAINT

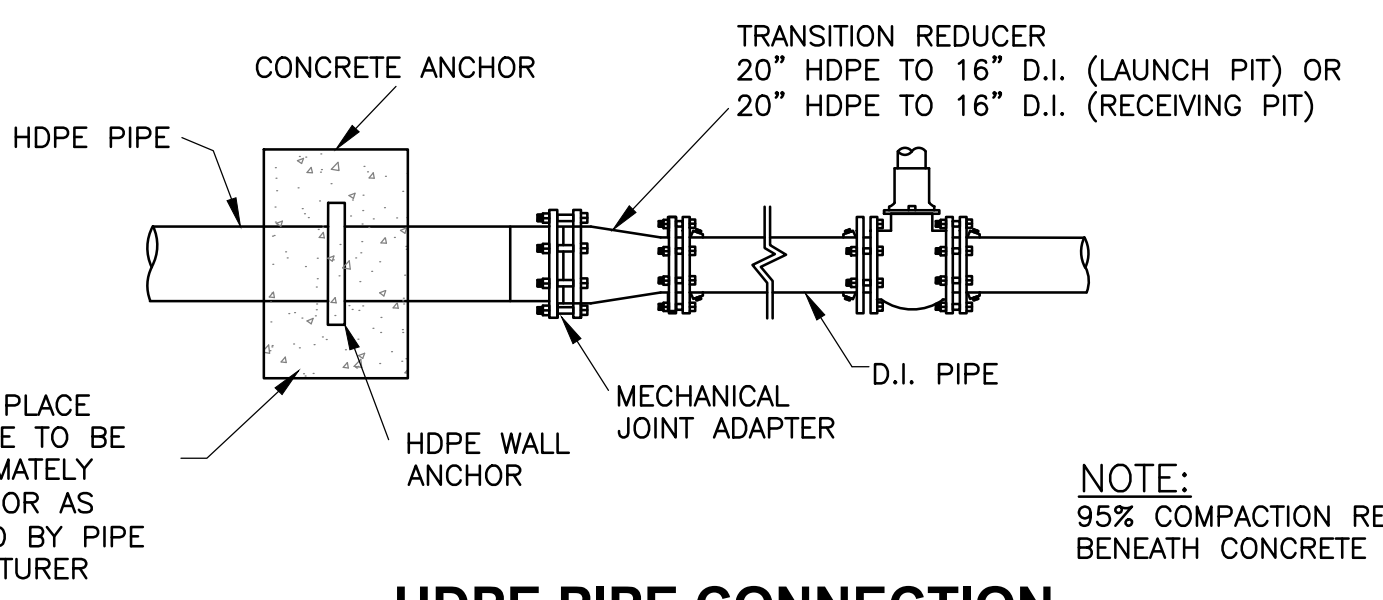
SCALE: NONE



MINIMUM LENGTH OF PIPE TO BE RESTRAINED (IN FEET)

PIPE SIZE (IN)	1/4 BEND (90°)	1/8 BEND (45°)	1/16 BEND (22°)	PLUG/ CAP	TEE* (2')	TEE* (5')	TEE* (10')	TEE* (15')	TEE* (20')
6"	12	5	3	21	18	10	1	1	1
8"	16	7	4	28	24	16	4	1	1
12"	22	10	5	40	37	28	16	4	1
16"	29	12	6	51	48	39	27	15	3
20"	37	16	8	87	78	66	45	25	4
24"	43	18	9	102	93	81	60	39	18
36"	59	25	12	144	136	123	101	79	58

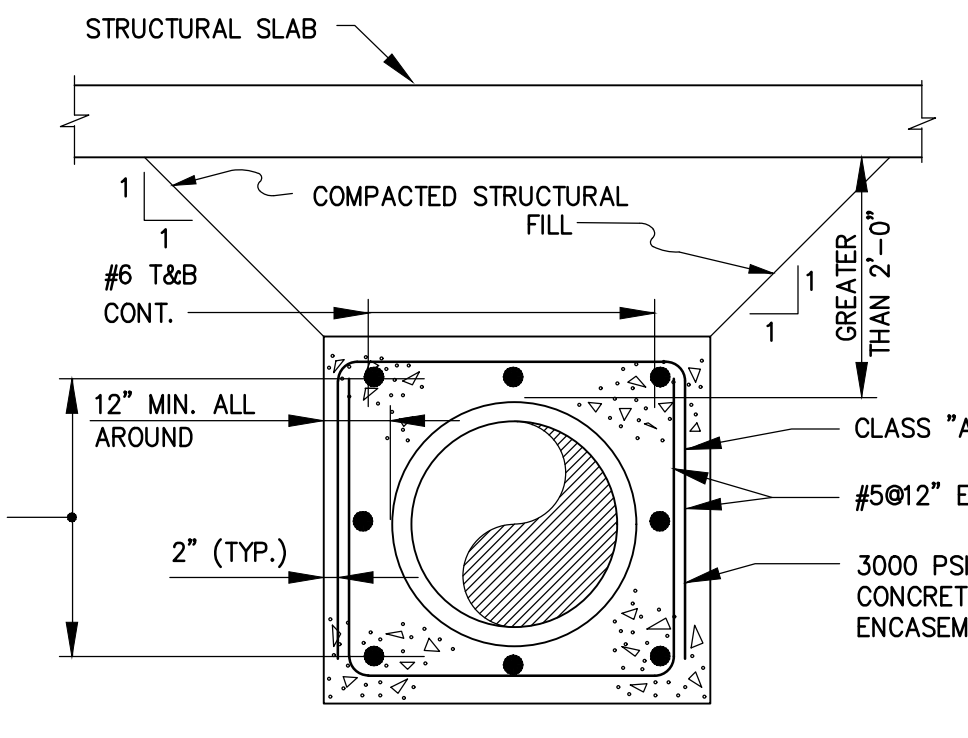
*The values in parenthesis (X) indicate the required restraint length for each side of the Tee Run.
The values in the column are the required restraint length for the Tee Branch.



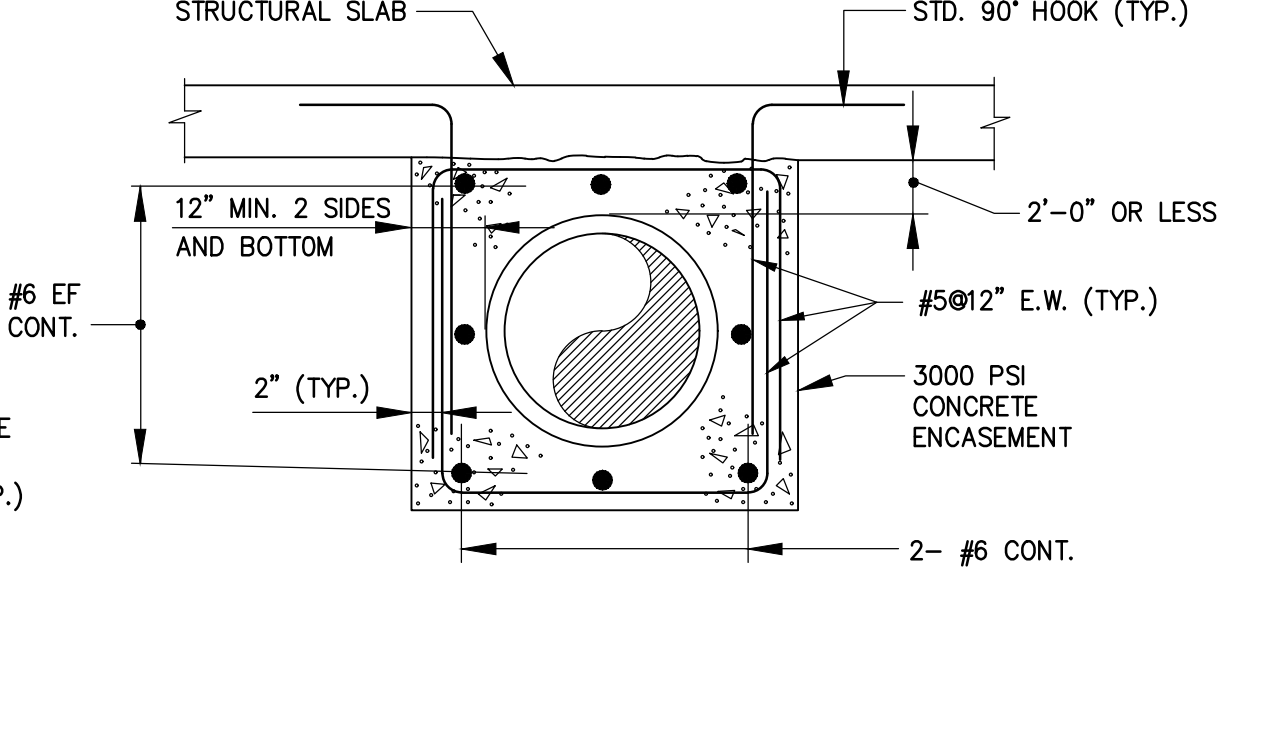
HDPE PIPE CONNECTION

SCALE: NONE

- NOTE:**
- 95% COMPACTION REQUIRED BENEATH CONCRETE ANCHORS.



ENCASEMENT FOR PIPES DEEPER THAN 2'-0" BELOW SLAB



ENCASEMENT FOR PIPE 2'-0" OR LESS BELOW SLAB

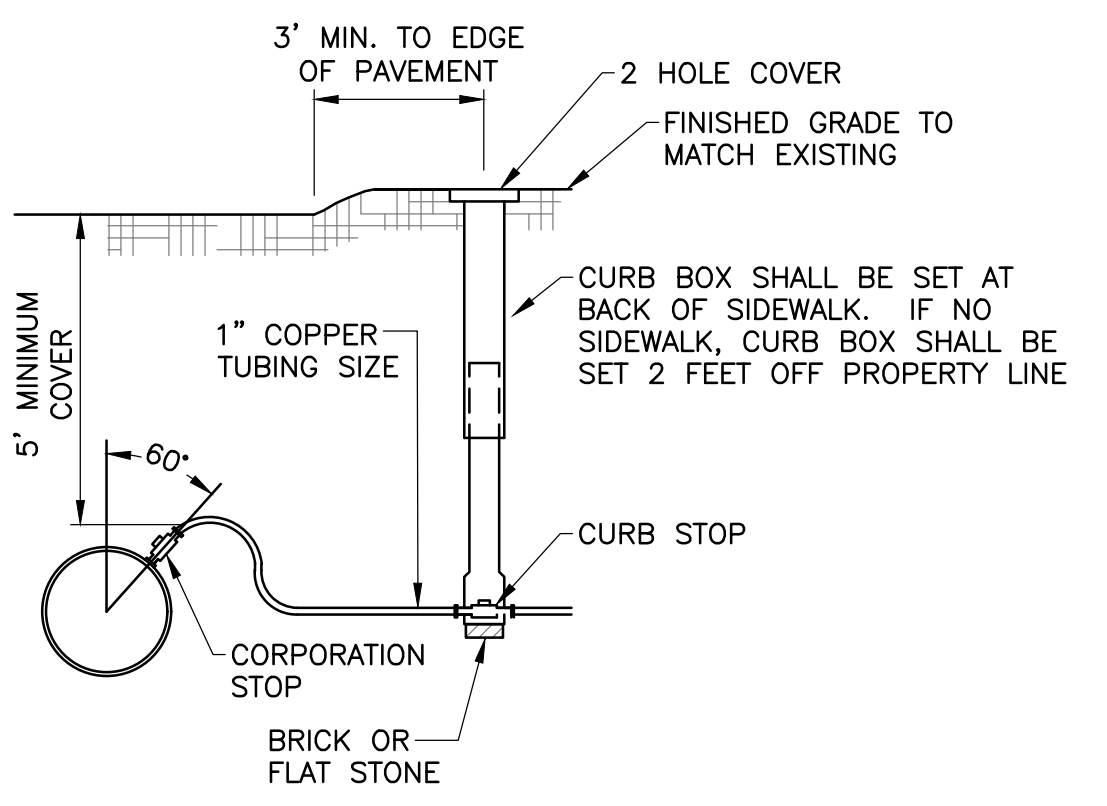
CONCRETE PIPE ENCASEMENT DETAILS

SCALE: NONE

MINIMUM BEARING FACE AREA (SQ. FT.)

PIPE SIZE (IN)	1/4 BEND (90°)	1/8 BEND (45°)	1/16 BEND (22°)	PLUG/ TEE
6"	6.0	3.0	2.5	4.5
8"	9.0	5.0	2.5	6.5
12"	13.3	6.7	3.7	9.6
16"	24.0	11.8	3.7	17.0
20"	26.2	14.2	7.2	18.5
24"	35.0	16.0	10.0	25.0
36"	85.0	46.0	23.4	60.7

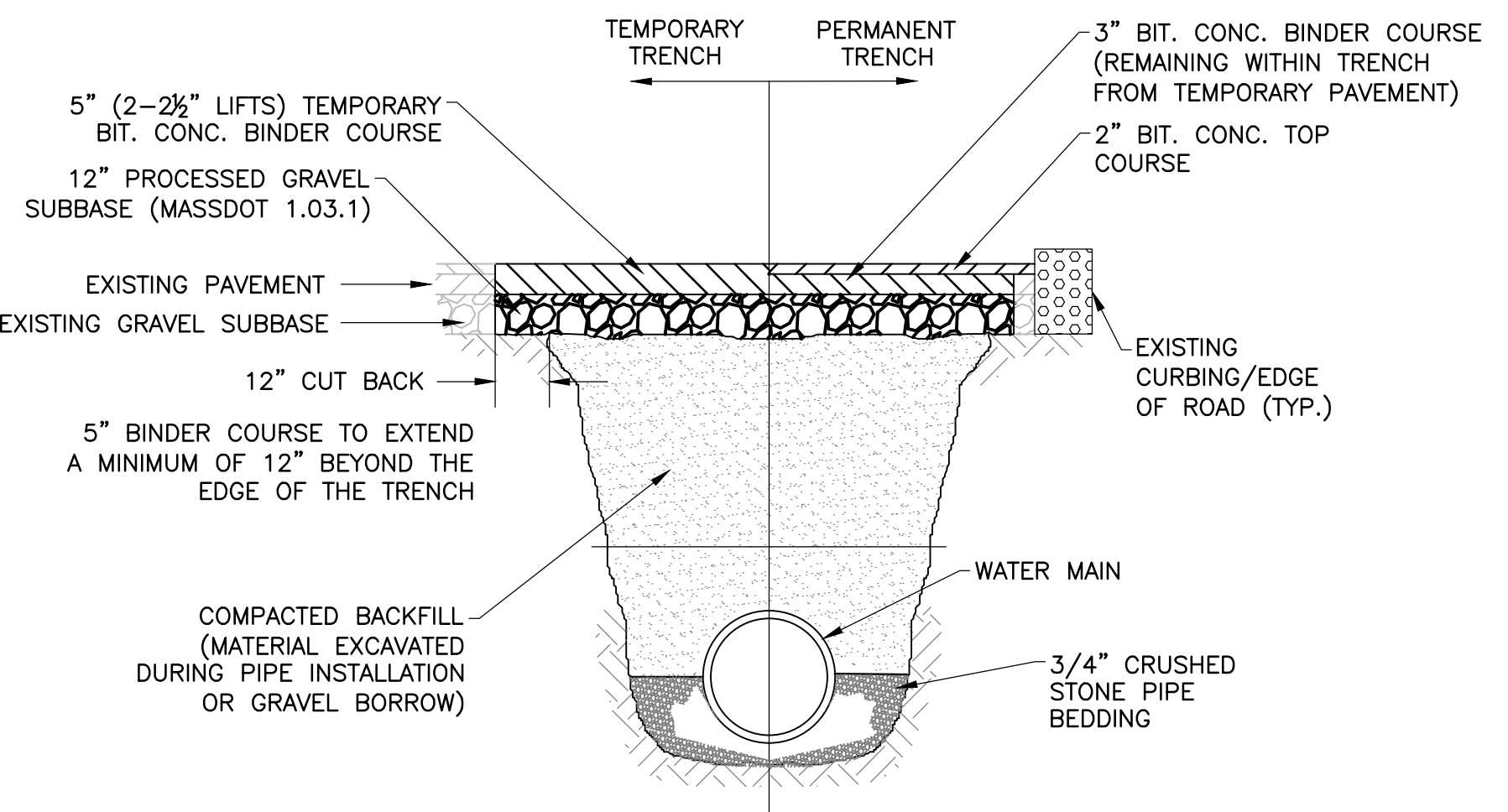
- NOTES:**
- CONCRETE SHALL BE 3,000 PSI MINIMUM AT 28 DAYS.
 - THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED MATERIAL WHENEVER POSSIBLE.
 - ALL FITTINGS SHALL BE SUPPORTED IN CONCRETE.
 - POURED CONCRETE NOT TO COME WITHIN 6" OF MECHANICAL JOINTS.
 - BEARING FACE AREA CALCULATED ASSUMING 250 PSI AND 1.5 TON/S.F. ALLOWABLE SOIL BEARING CAPACITY.



SERVICE CONNECTION (COPPER)

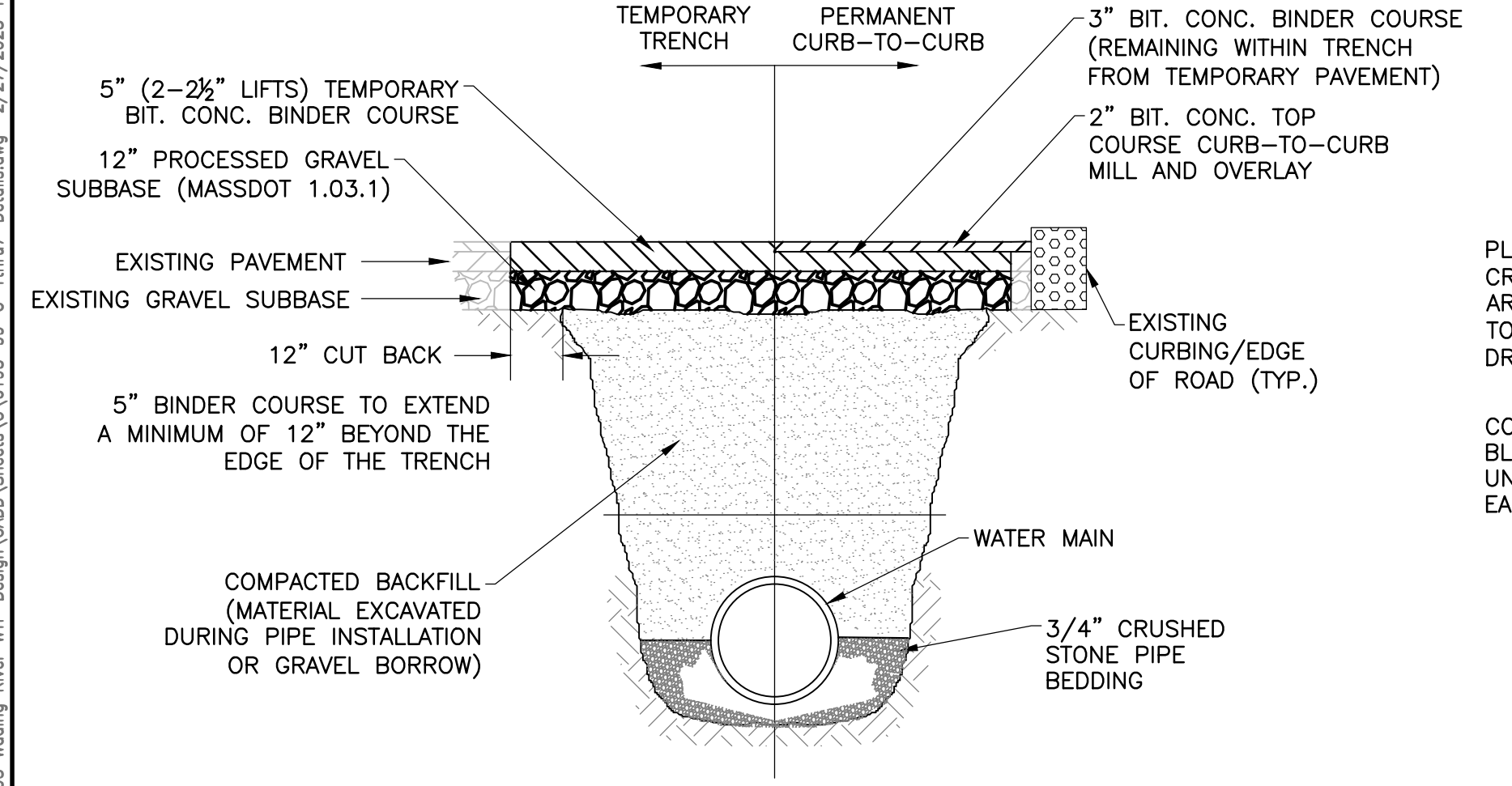
SCALE: NONE

- NOTES:**
- SERVICES 1-INCH AND GREATER IN D.I. MAINS WITH A DIAMETER OF 12-INCHES OR GREATER SHALL BE DIRECT TAP.



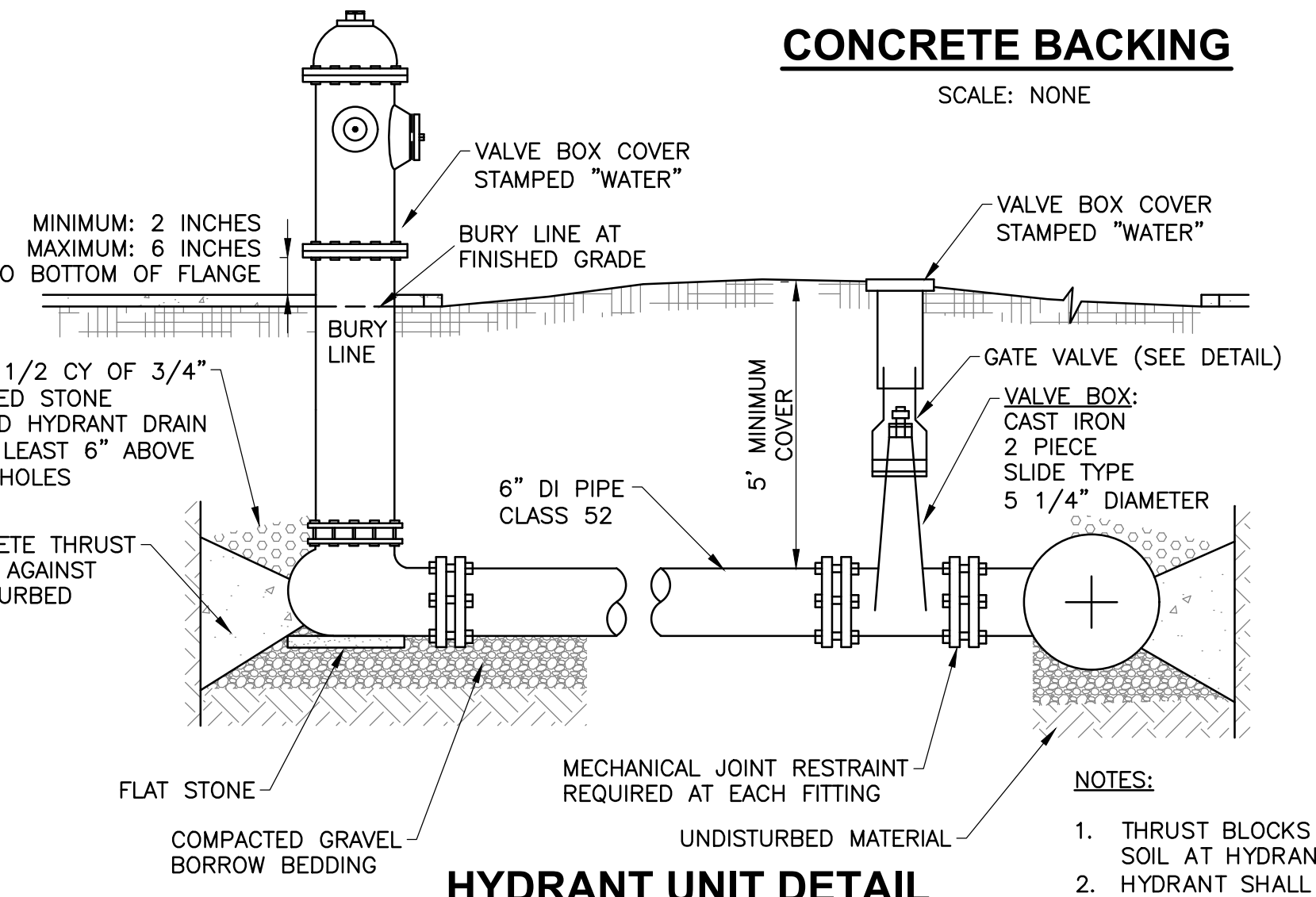
TRENCH PAVEMENT

SCALE: NONE



CURB TO CURB MILL AND OVERLAY

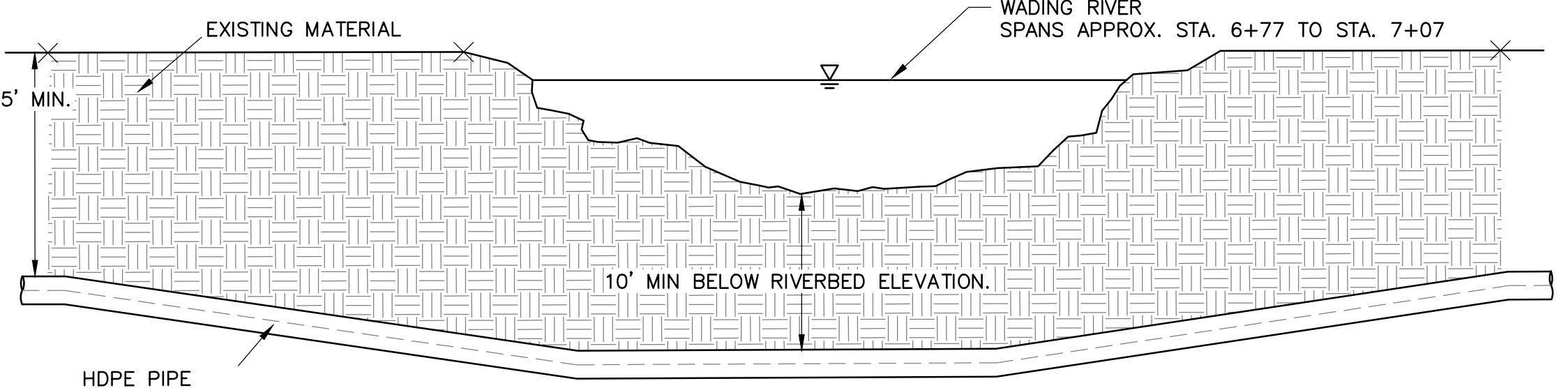
SCALE: NONE



HYDRANT UNIT DETAIL

SCALE: NONE

- NOTES:**
- THRUST BLOCKS BACKED AGAINST UNDISTURBED SOIL AT HYDRANT & ANCHOR TEE.
 - HYDRANT SHALL BE A MINIMUM OF 5'-0" FROM EDGE OF TRAVELED WAY (WHERE POSSIBLE).
 - ALL HYDRANTS SHALL HAVE RETAINER GLANDS.
 - ALL COMPACTION SHALL BE BY MECHANICAL MEANS.



DIRECTIONAL DRILL WATER MAIN AND CONDUITS BENEATH WADING RIVER

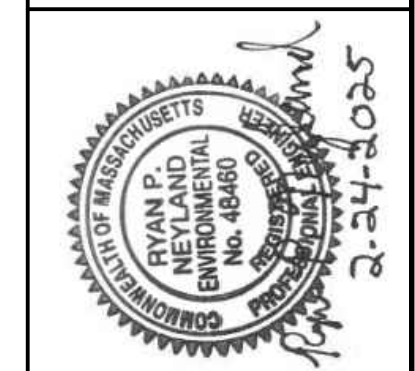
SCALE: NONE

- NOTES:**
- REFERENCE PLAN VIEW ON 02-C-6 UTILITIES PLAN.
 - TOP OF PIPE SHALL BE AT LEAST 10'-0" BELOW THE BOTTOM RIVERBED ELEVATION.
 - OUTSIDE OF THE RIVERBED, THE TOP OF PIPE SHALL BE AT LEAST 5'-0" BELOW THE FINISHED GRADE.
 - DRILL FROM APPROX. STA 8+83 TO 4+42.

ATTLEBORO WATER DEPT.
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WATER TREATMENT PLANT

CIVIL
WATER MAIN DETAILS

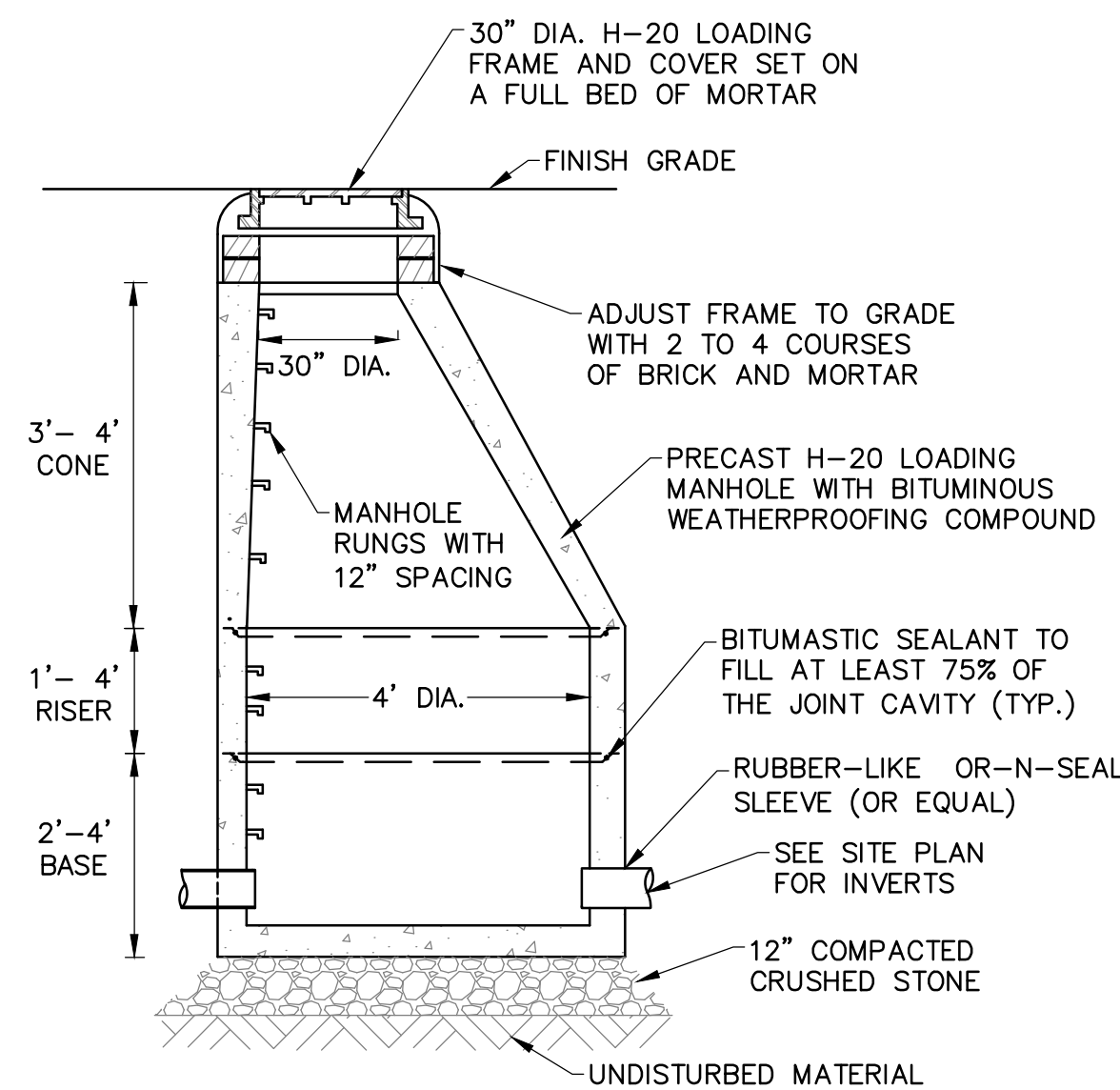
Rev.	Date	Description



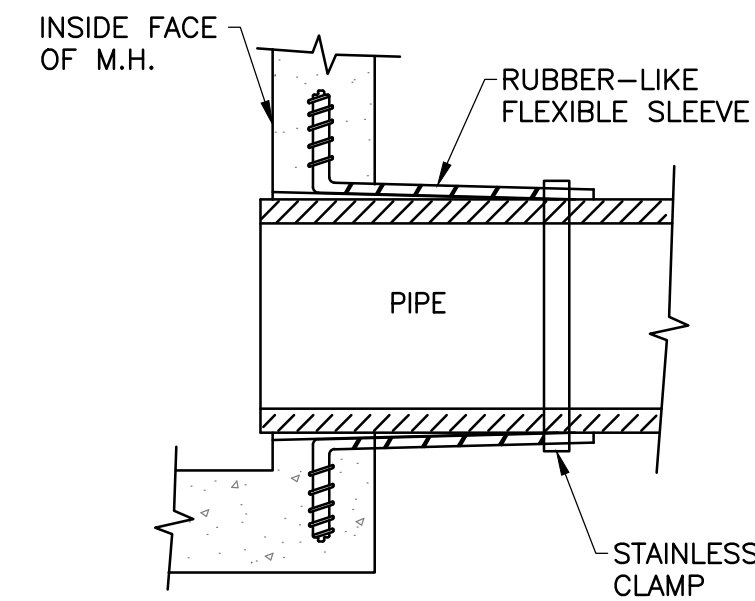
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DATE: FEBRUARY 2025
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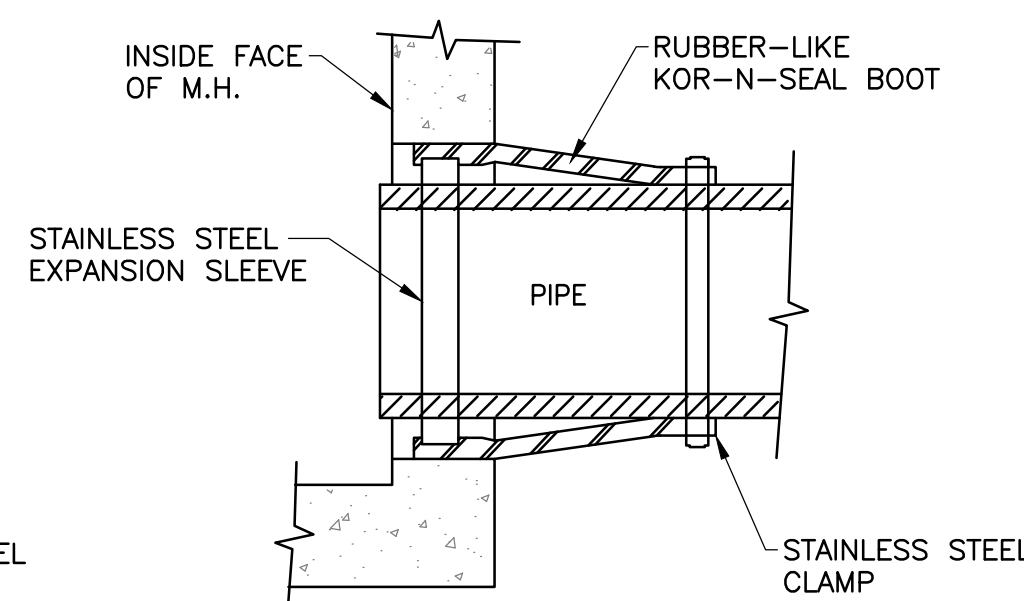
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PRECAST DRAIN MANHOLE
SCALE: NONE

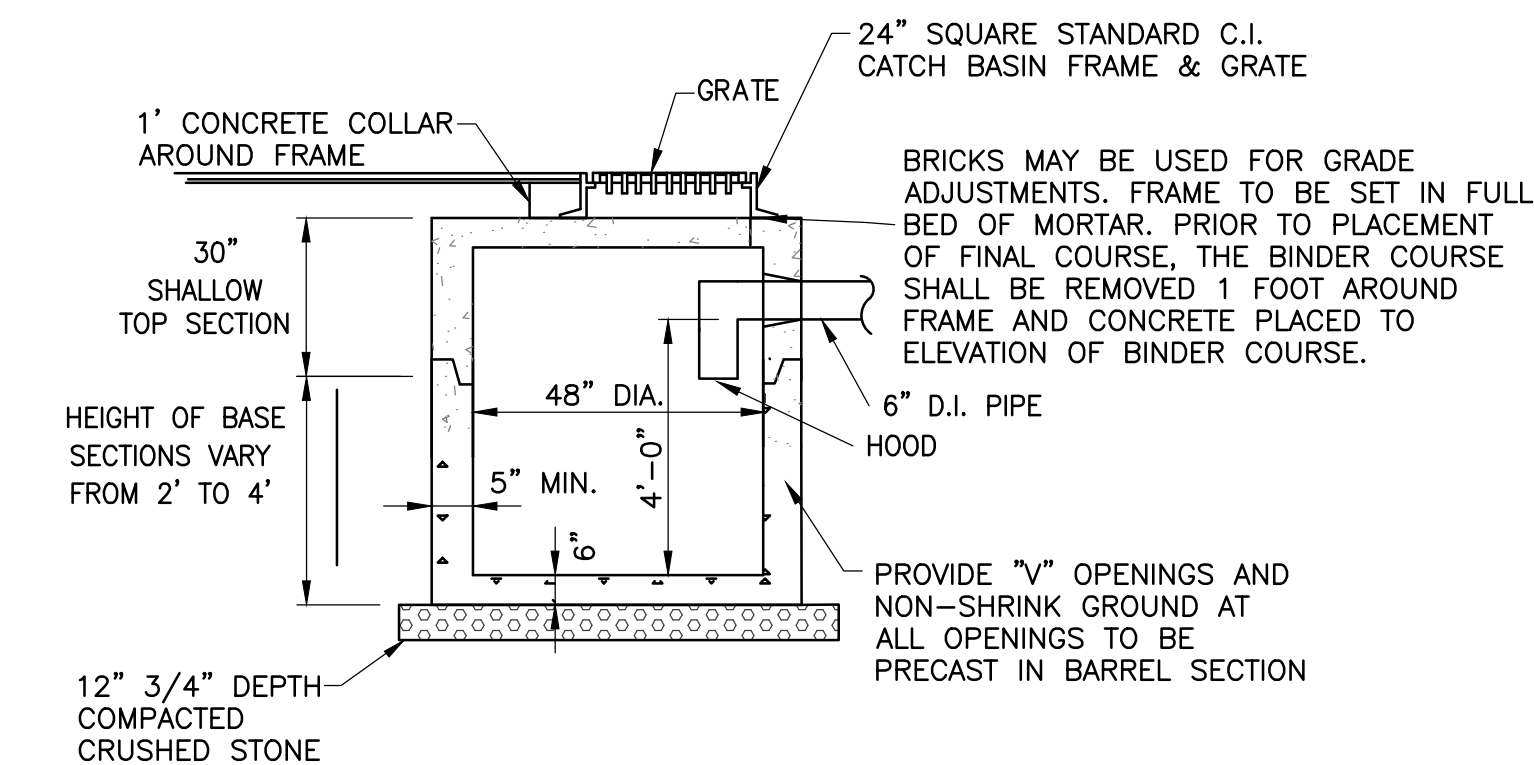


LOCK-JOINT FLEXIBLE M.H. SLEEVE
(OR EQUAL)



KOR-N-SEAL SLEEVE
(OR EQUAL)

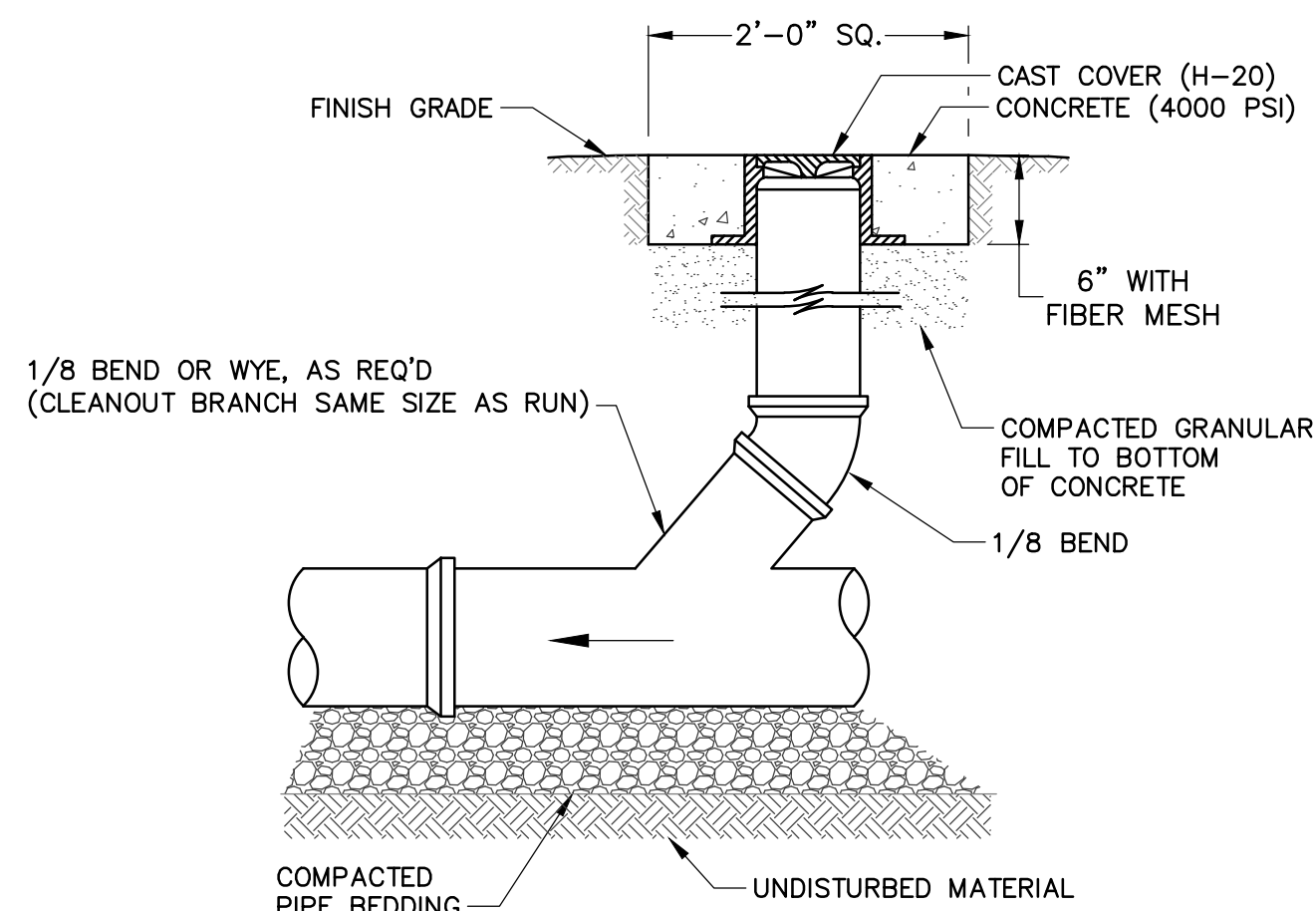
SLEEVE FOR MANHOLE WALL PENETRATION
SCALE: NONE



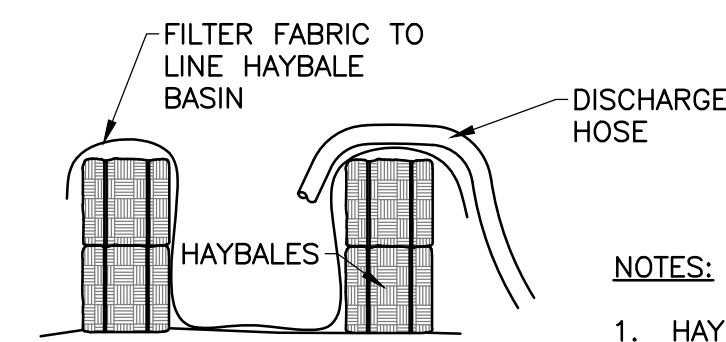
GRATE INLET DEEP SUMP CATCH BASIN
SCALE: NONE

NOTES:

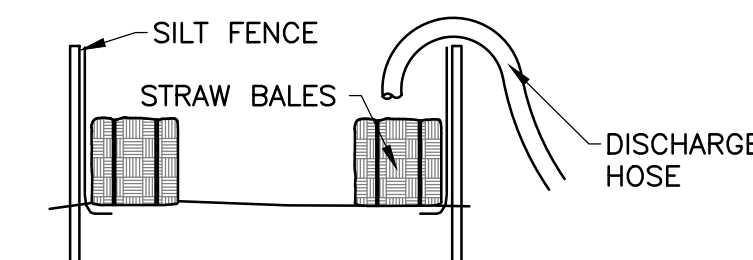
1. MANHOLE DESIGN TO CONFORM TO ASTM C478 LATEST REVISION.
2. CONCRETE SHALL BE WET CAST 4,000 P.S.I. @ 28 DAYS.
3. USE FLAT TOP HS25 LOAD SLAB.
4. FILL OUTSIDE FACE OF ALL MANHOLE JOINTS WITH NON-SHRINK MORTAR.
5. BASE SECTION TO BE MONOLITHIC.



CLEANOUT DETAIL
NOT TO SCALE

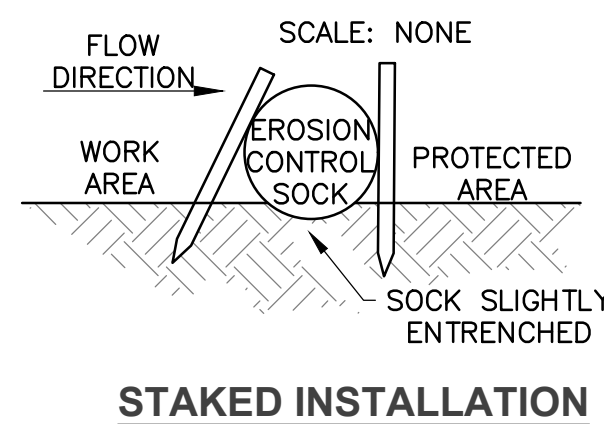


LOW SILT DISCHARGE



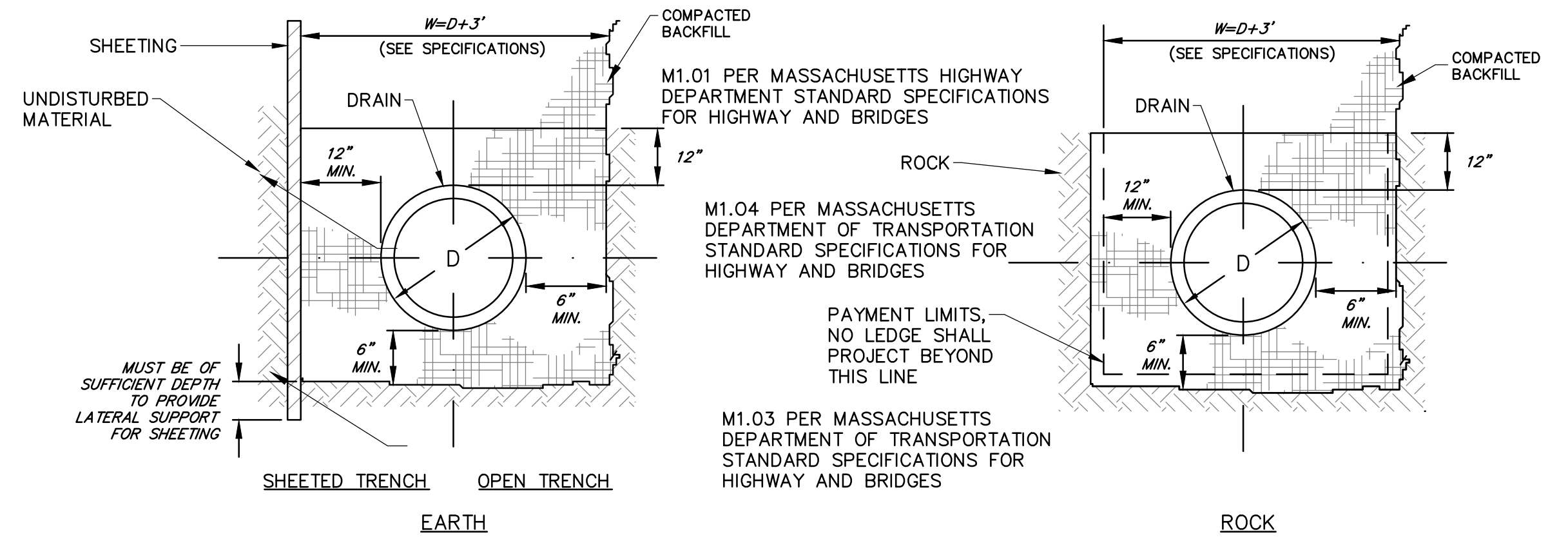
HIGH SILT DISCHARGE

SEDIMENTATION DISCHARGE CONTROL BASIN
SCALE: NONE

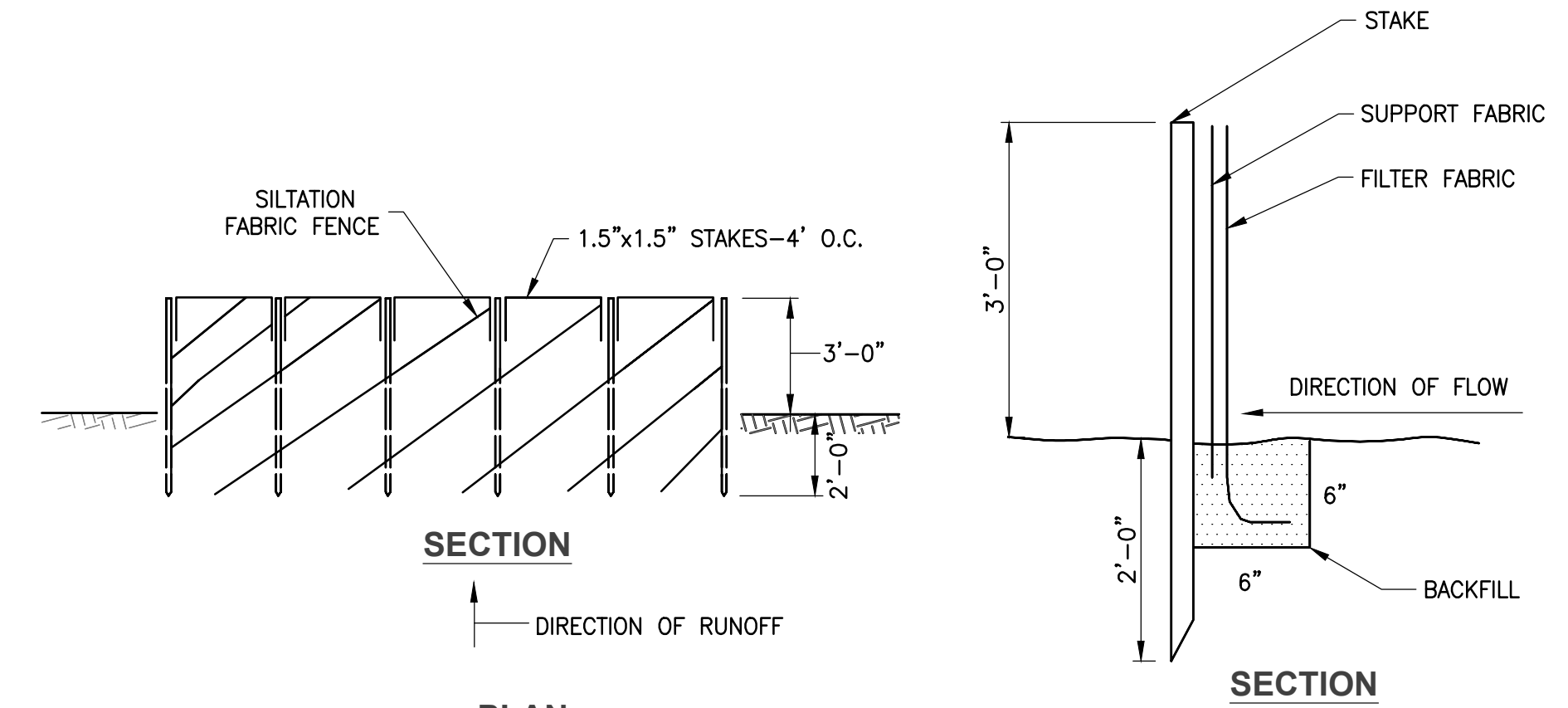


- NOTES:**
1. FINAL INSTALLATION TECHNIQUES SHALL BE AS RECOMMENDED BY THE MANUFACTURER AND AS DIRECTED BY THE ENGINEER.

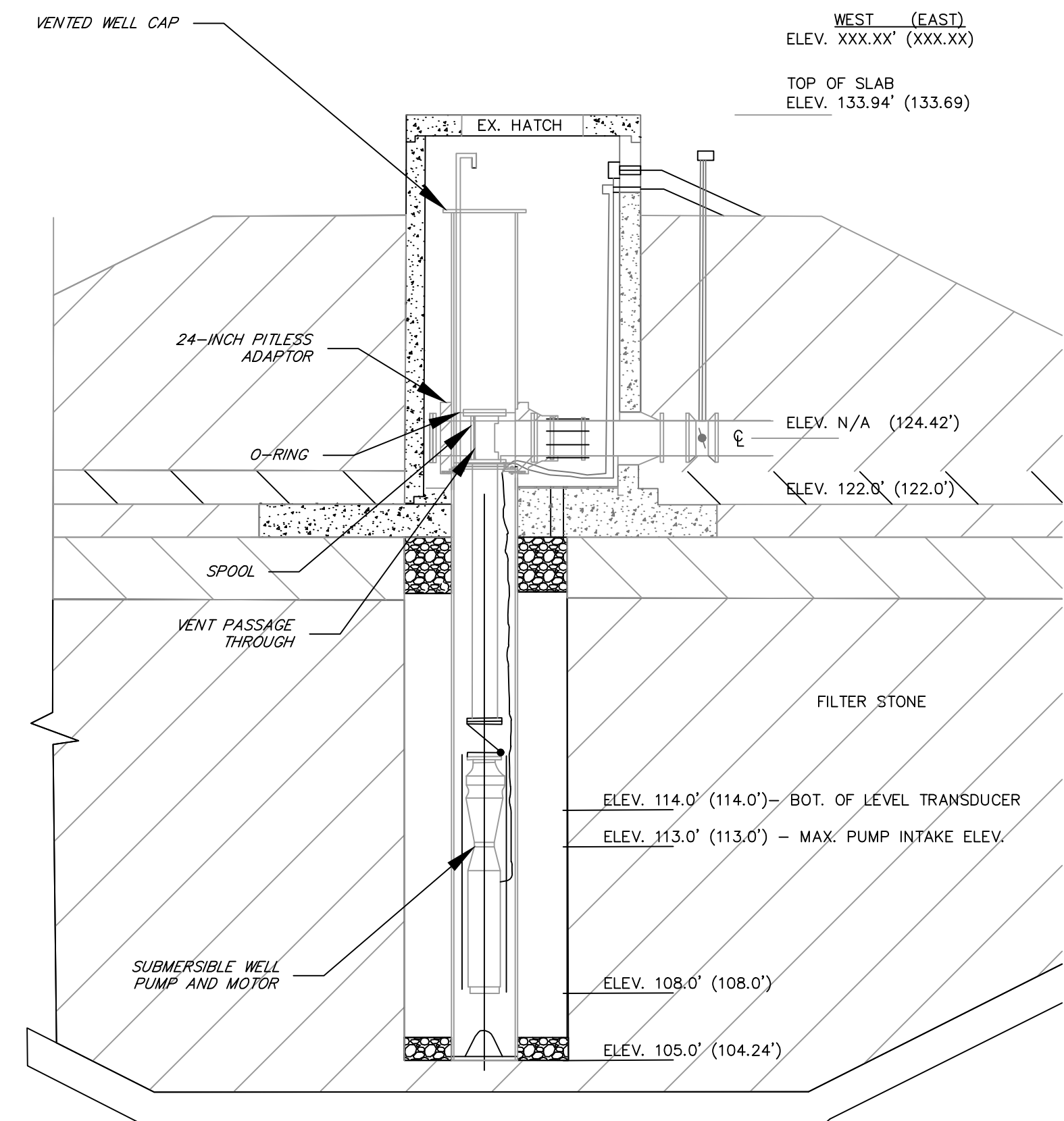
EROSION CONTROL SOCK
SCALE: NONE



CORR. HDPE DRAINAGE LINE TRENCH SECTIONS
NOT TO SCALE



SILT FENCE EROSION CONTROL

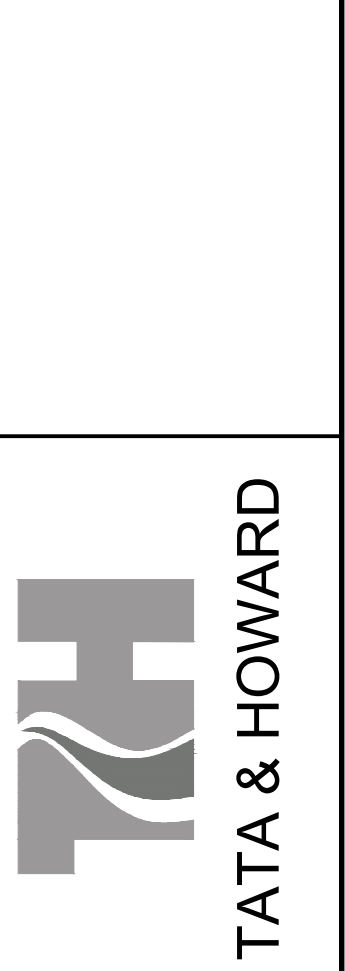
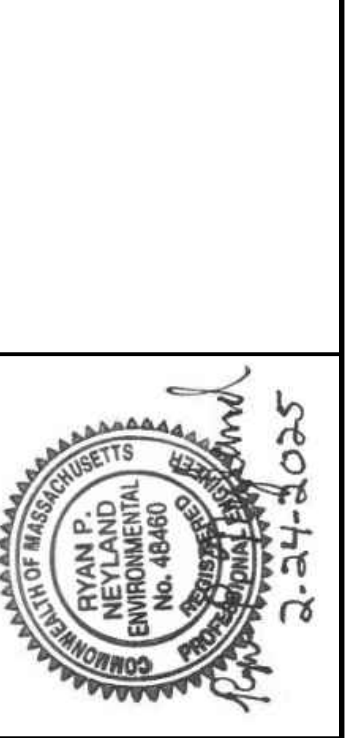


WEST BASIN WELL EXISTING CONDITION ELEVATION
SCALE: NONE

ATTLEBORO WATER DEPT.
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WADING RIVER
WATER TREATMENT PLANT

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STORMWATER AND
ENVIRONMENTAL CONTROLS
DETAILS SHEET 1

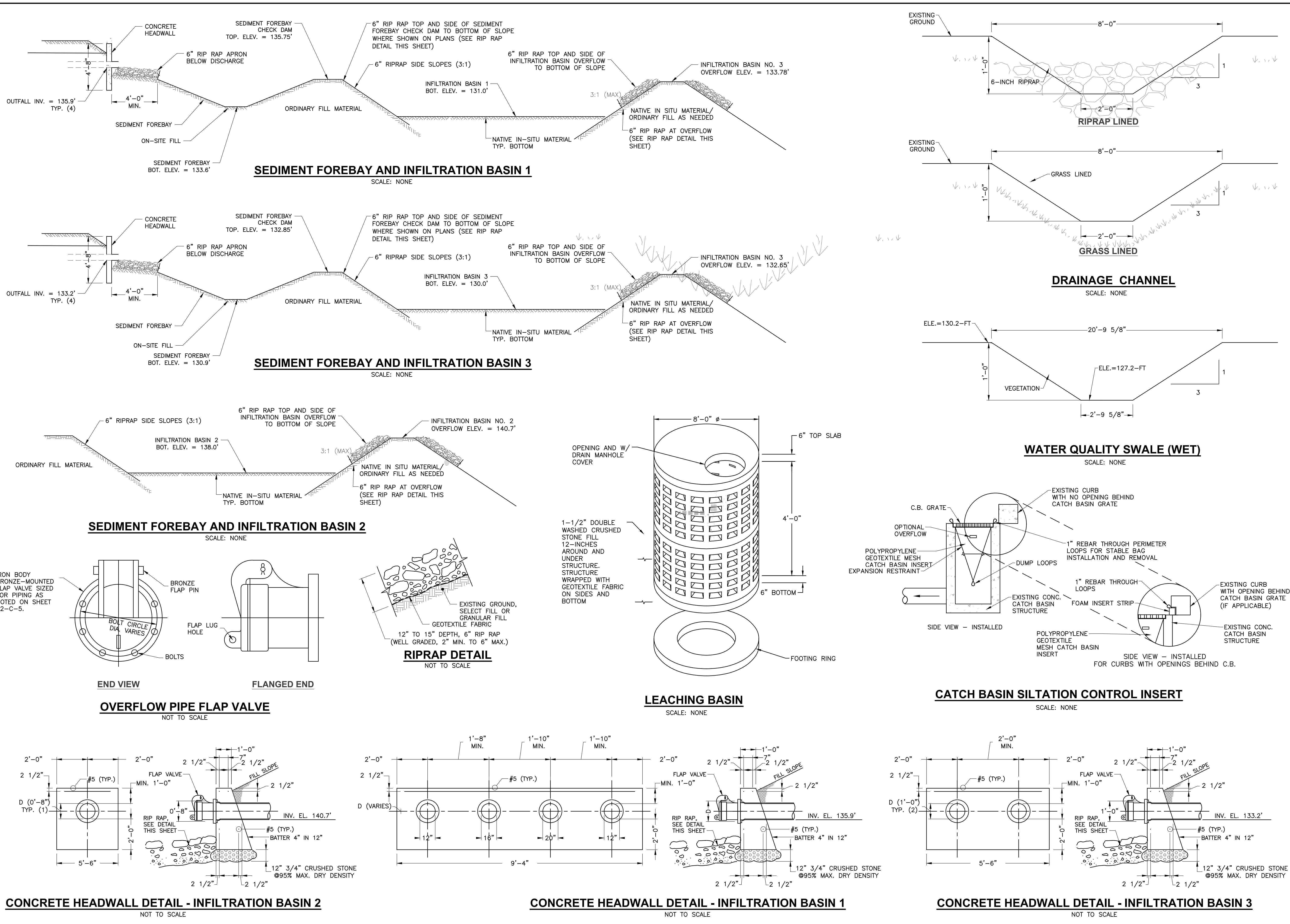
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ATTLEBORO WATER DEPT.
ATTLEBORO, MA

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STORMWATER AND
ENVIRONMENTAL CONTROLS
DETAILS SHEET 2

WADING RIVER
WATER TREATMENT PLANT

Designed By: MMB
Drawn By: MUM/ALO
Checked By: MMB

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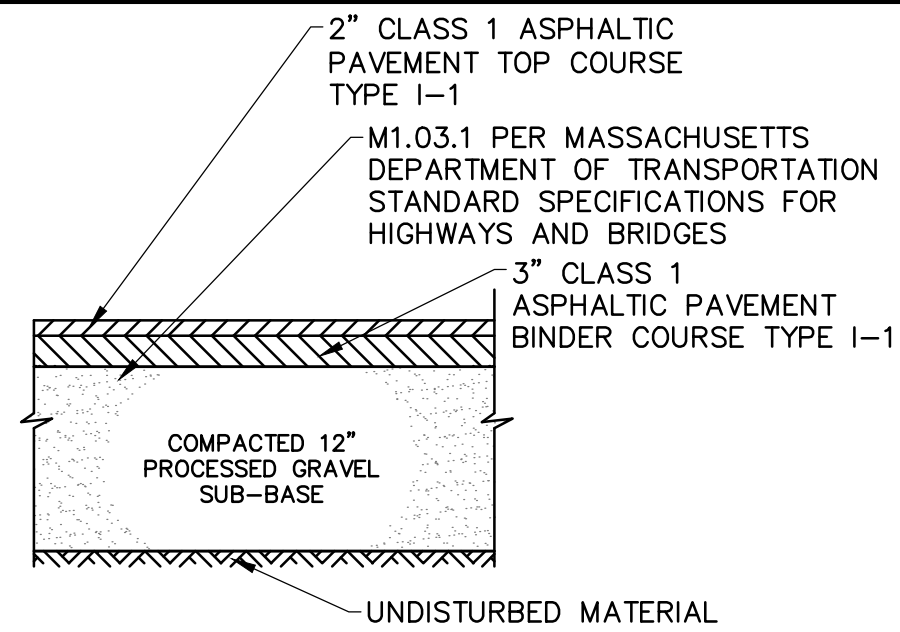
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STATE OF MASSACHUSETTS
SEAL OF THE BOARD OF REGISTRATION
REGISTERED PROFESSIONAL ENGINEER
No. 48860
TATA & HOWARD

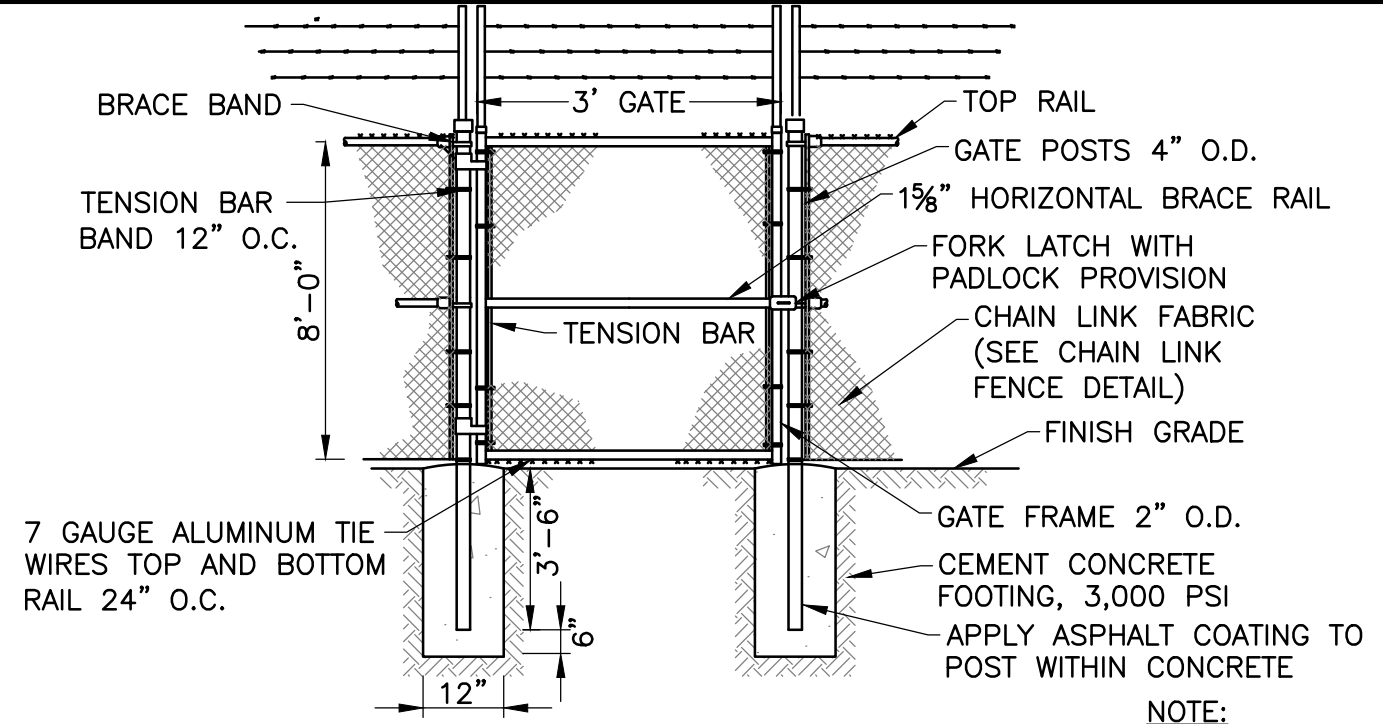
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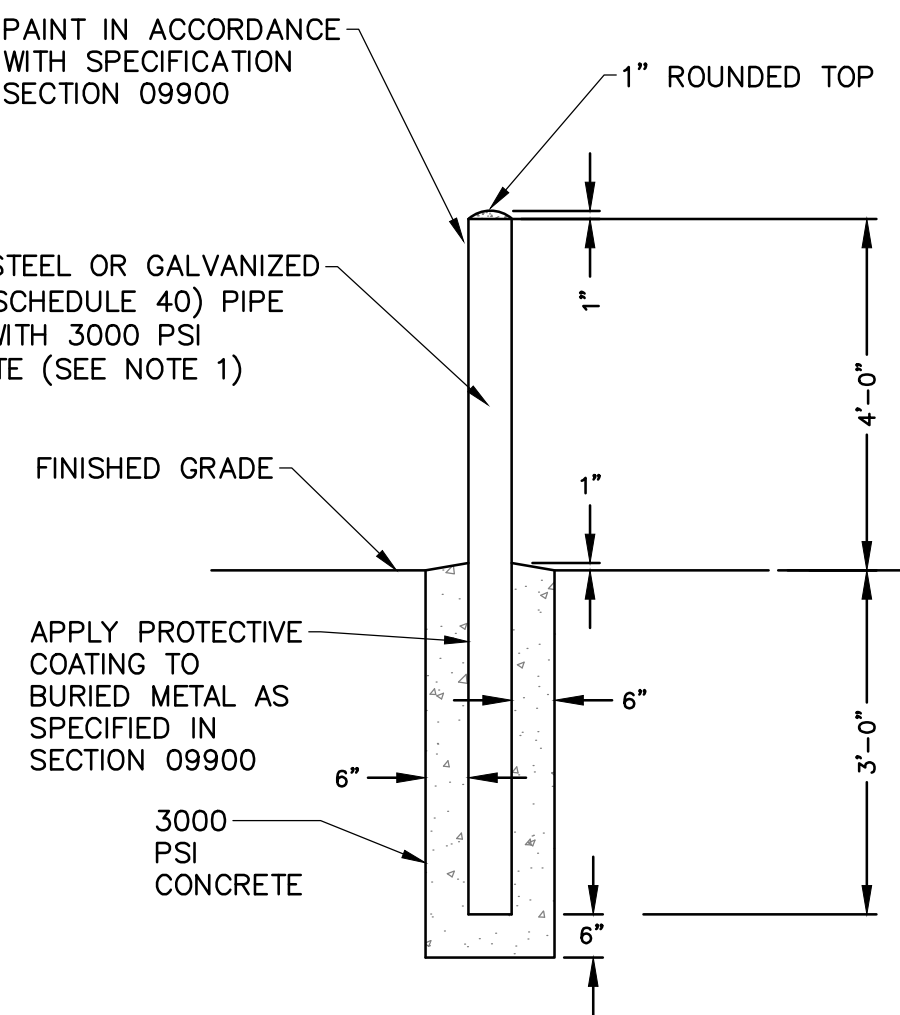
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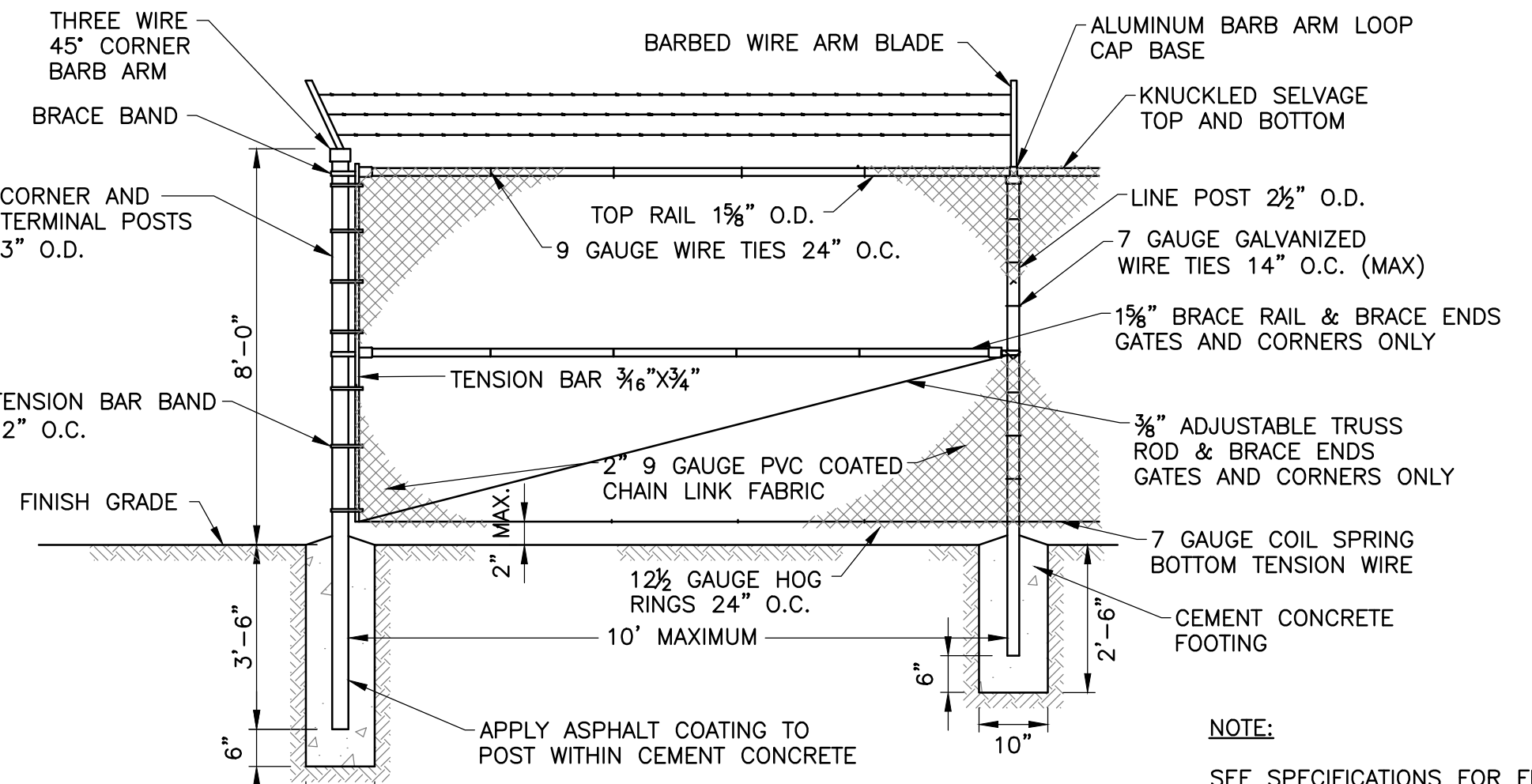
ASPHALTIC PAVEMENT SECTION



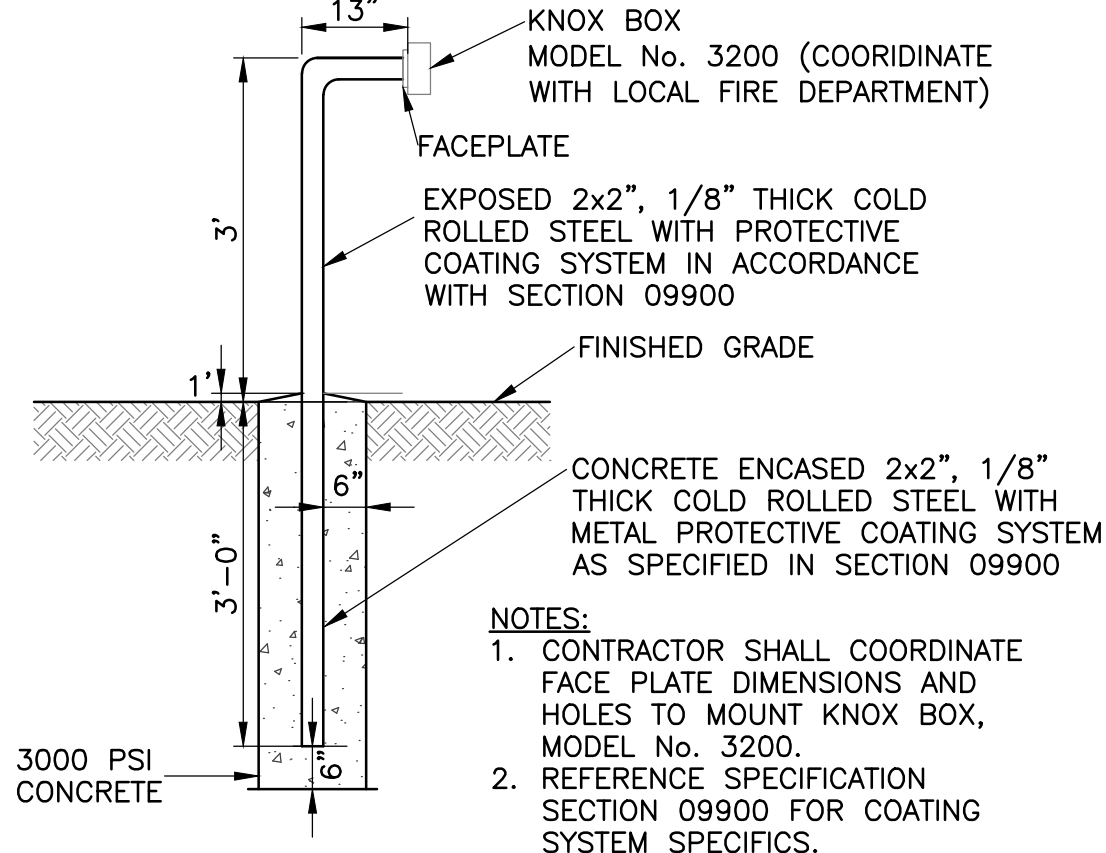
SINGLE GATE WITH BARBED WIRE



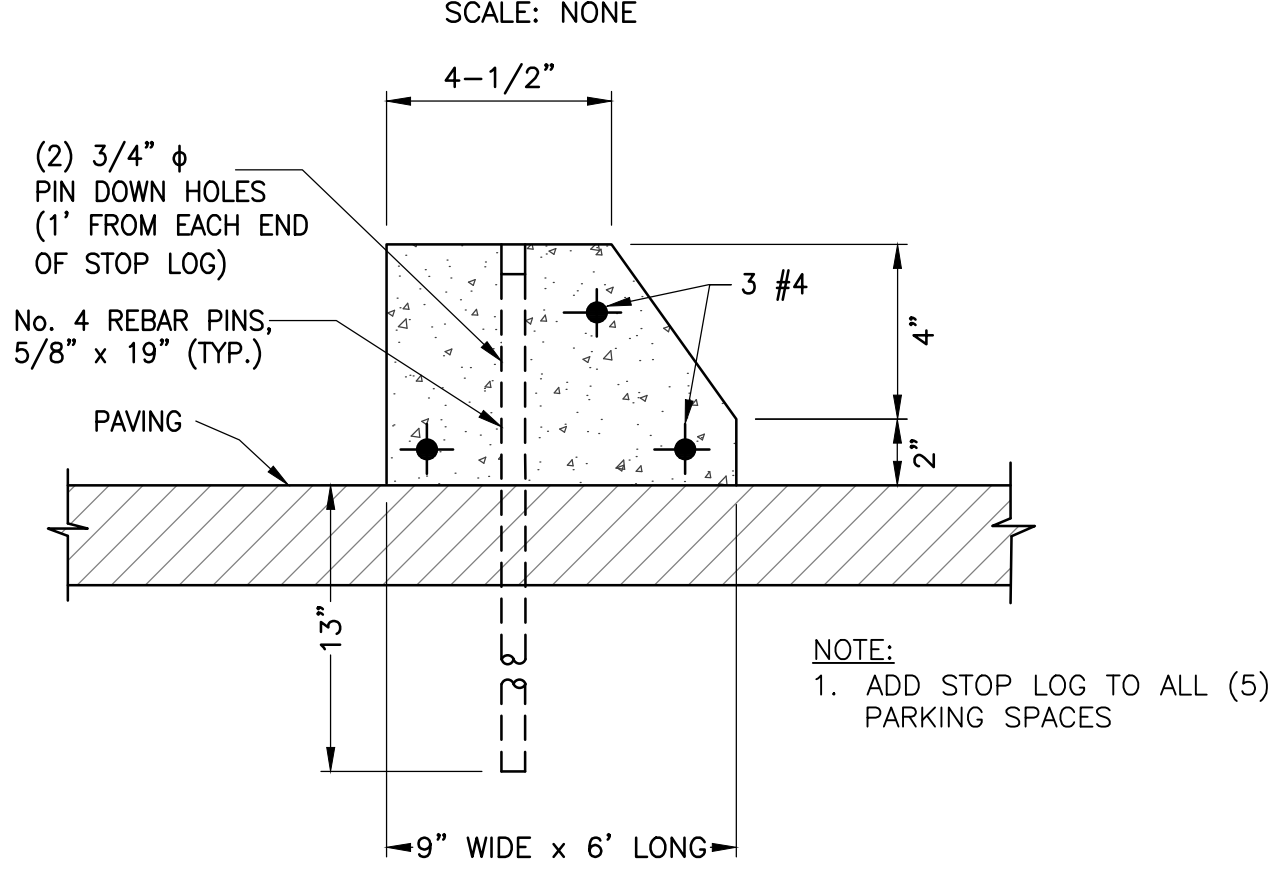
BOLLARD DETAIL



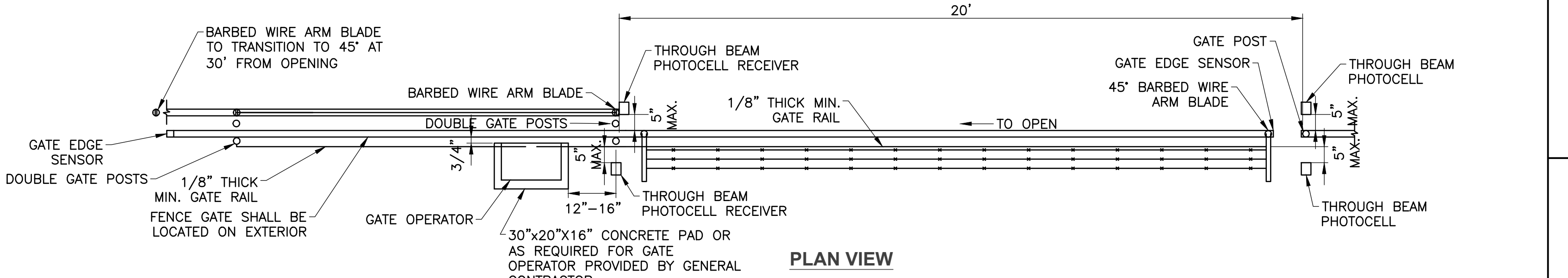
CHAIN LINK FENCE WITH BARBED WIRE



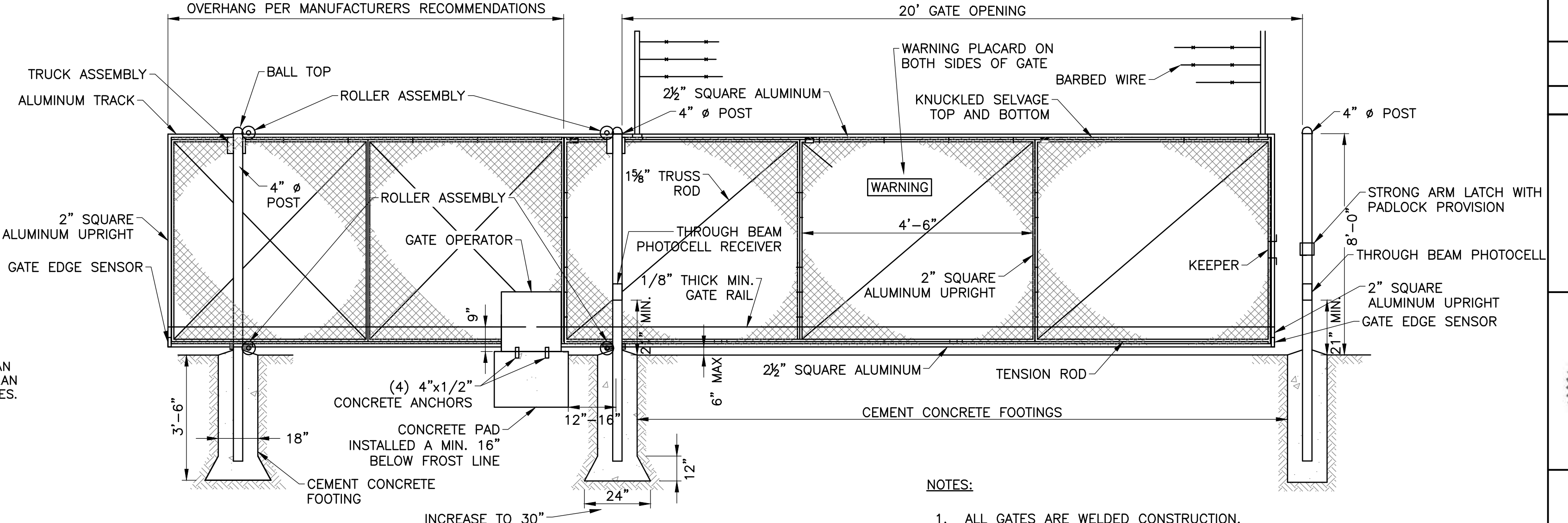
KNOX BOX POLE-MOUNT



CONCRETE STOP LOG

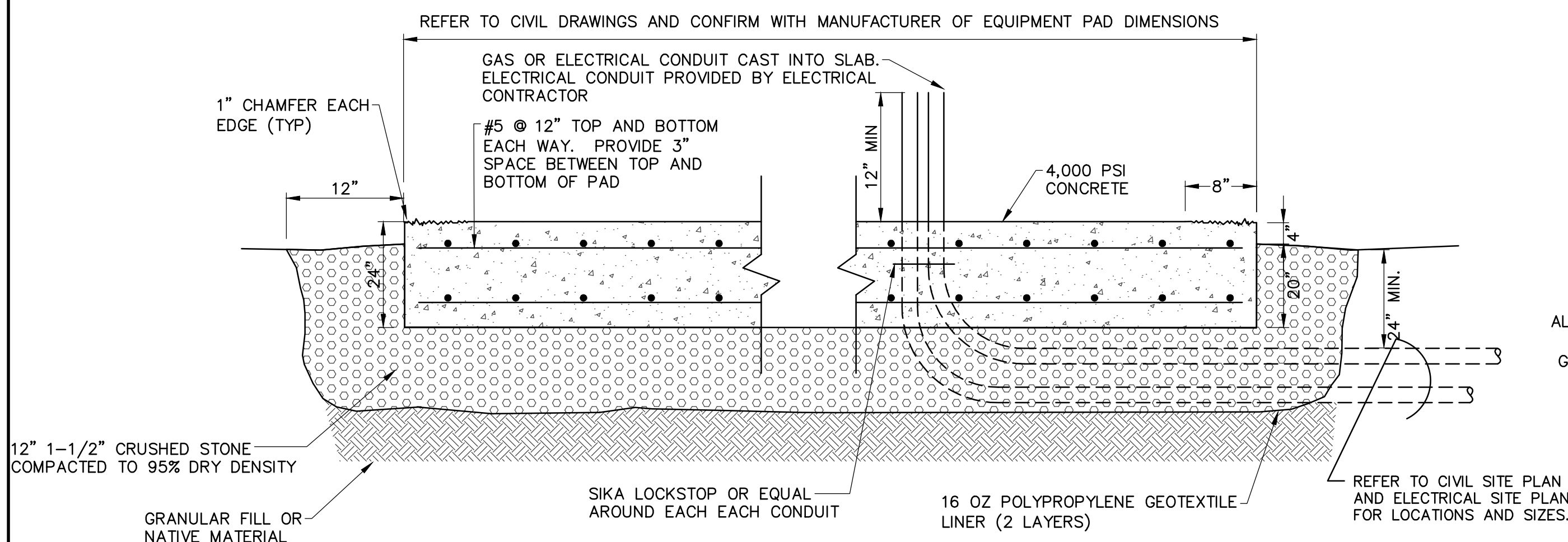


PLAN VIEW

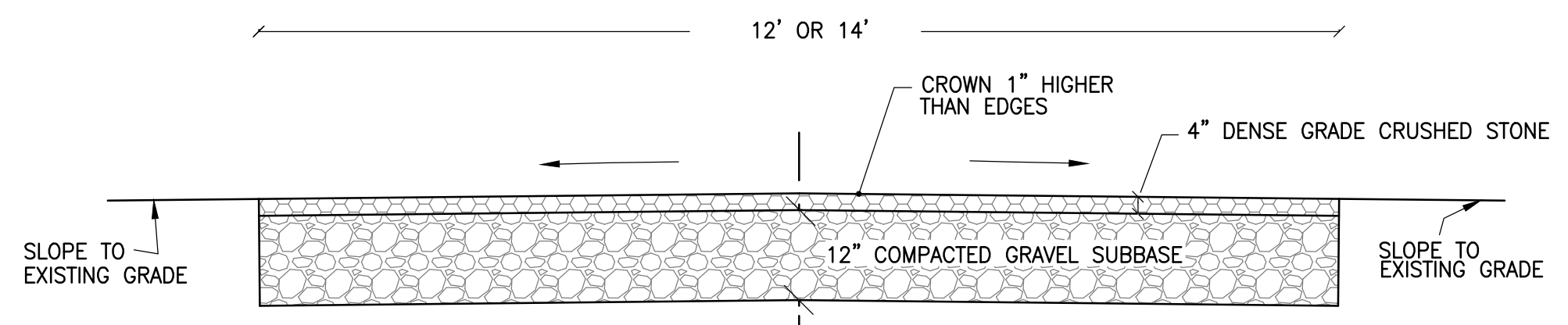


ELEVATION VIEW

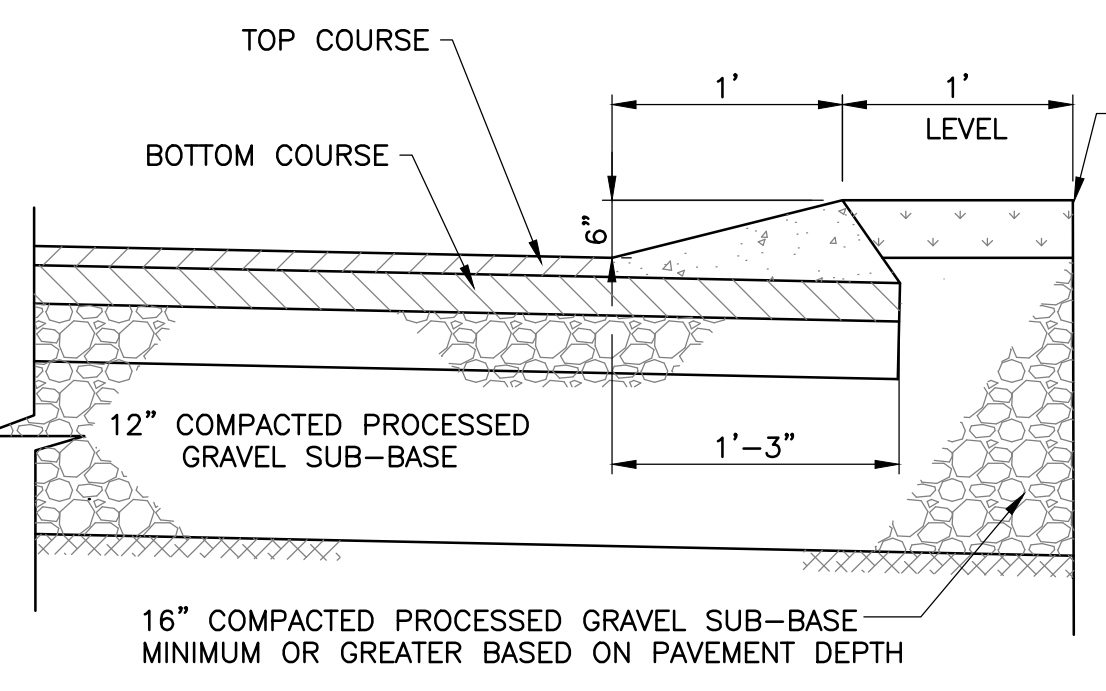
CANTILEVERED SLIDING GATE WITH GATE OPERATOR



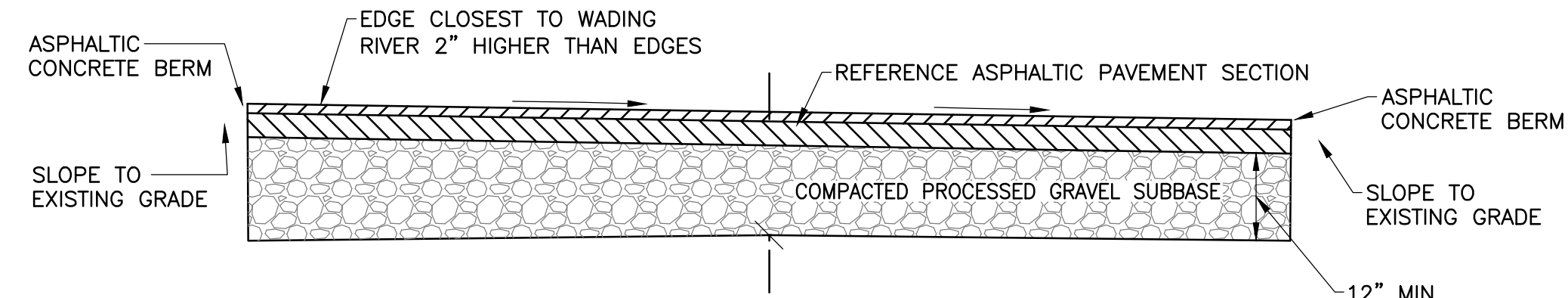
CONCRETE UTILITY PAD DETAIL (GENERATOR AND PROPANE TANK)



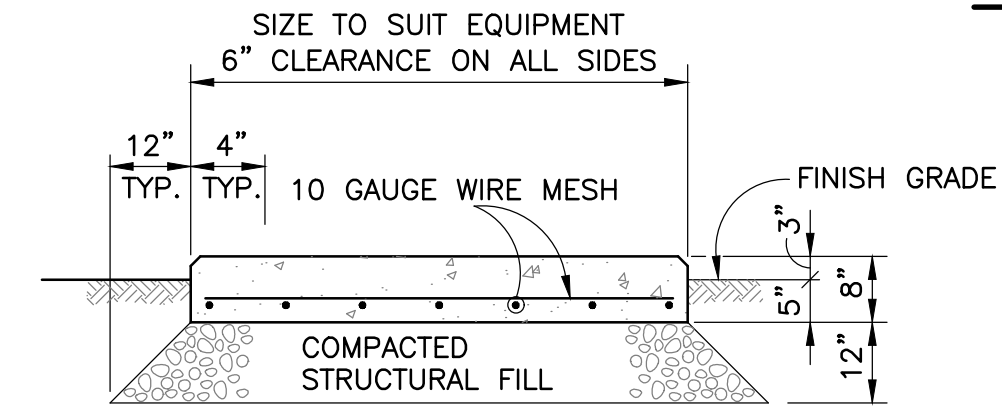
TYPICAL GRAVEL ACCESS ROADWAY SECTION



ASPHALTIC CONCRETE BERM



TYPICAL ASPHALTIC ACCESS ROADWAY SECTION



EXTERIOR CONCRETE EQUIPMENT PAD DETAIL

ATTLEBORO WATER DEPT.
ATTLEBORO, MA
WADING RIVER
WATER TREATMENT PLANT

CIVIL
SITE DETAILS

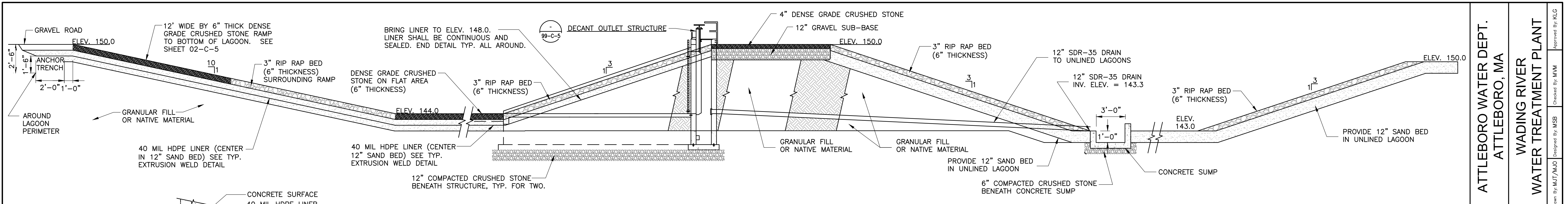
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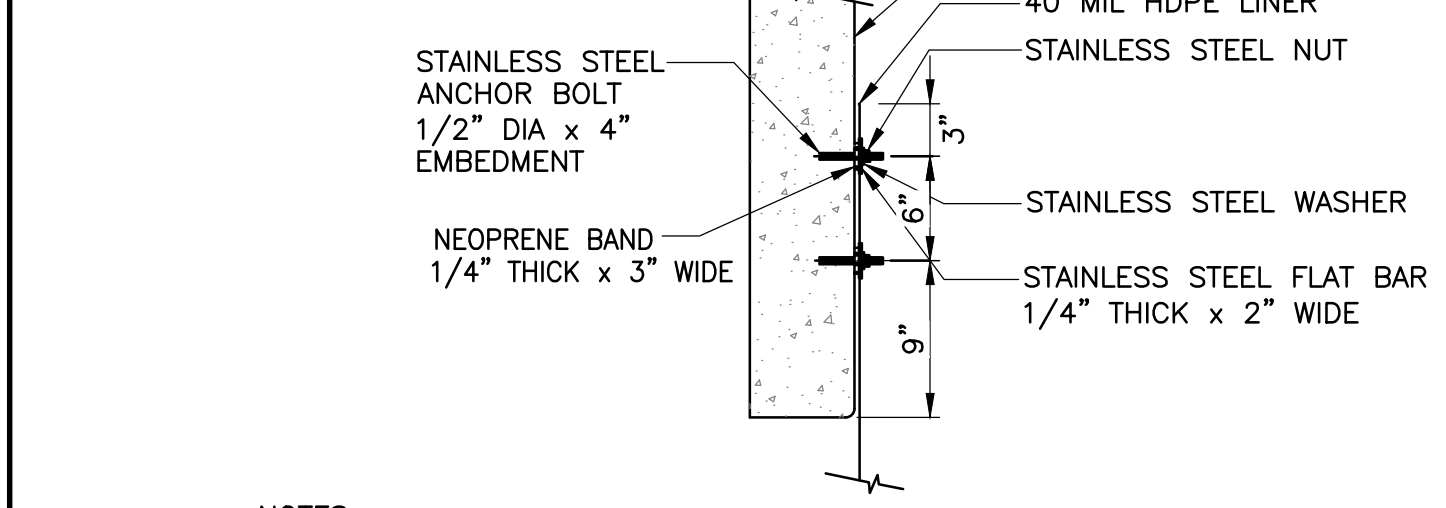
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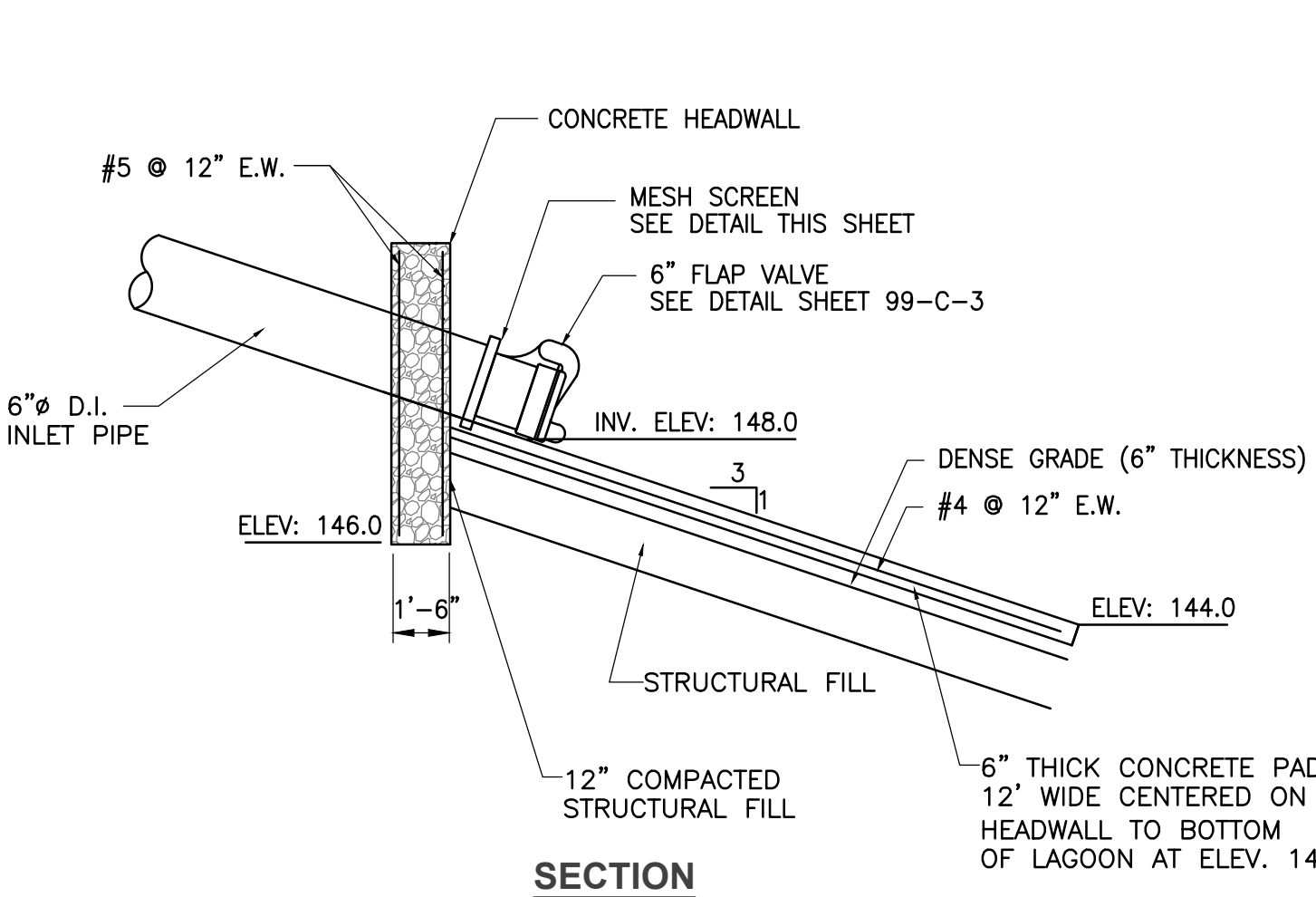


LAGOON PROFILE THROUGH HEADWALL AND WEIR

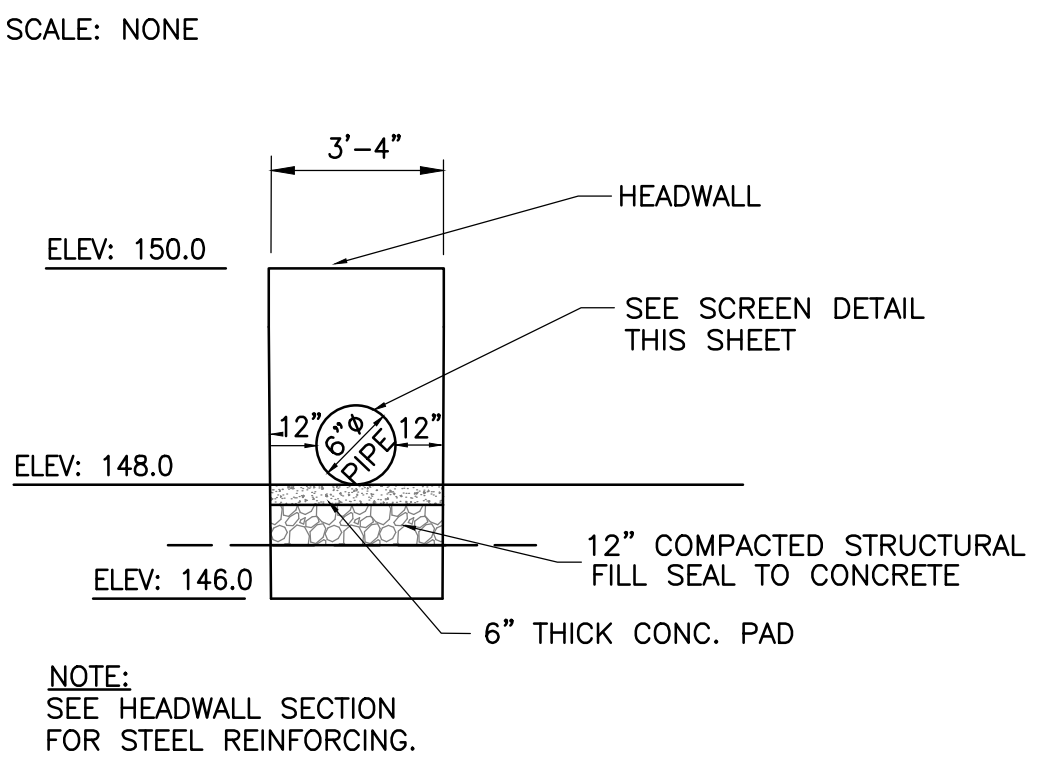


- NOTES:**
1. THE NEOPRENE BAND AND STAINLESS STEEL FLAT BAR WILL BE CONTINUOUS AROUND THE CONCRETE STRUCTURE.
 2. PROVIDE 6" OVERLAP FOR NEOPRENE BAND. NO OVERLAP REQUIRED FOR STAINLESS STEEL FLAT BAR.
 3. CONCRETE EDGES AND CORNERS TO BE SMOOTH AND ROUNDED TO PREVENT LINER DAMAGE.
 4. BOLTS WILL BE INSTALLED AT A SPACING OF 6" ALONG THE LENGTH OF THE CONCRETE STRUCTURE.
 5. BOLTS TO BE INSTALLED 4" BACK FROM CORNERS OF THE CONCRETE.
 6. PROVIDE WATERTIGHT CONNECTION OF HDPE WITH CONCRETE.
 7. ALL STAINLESS STEEL TO BE TYPE 316.

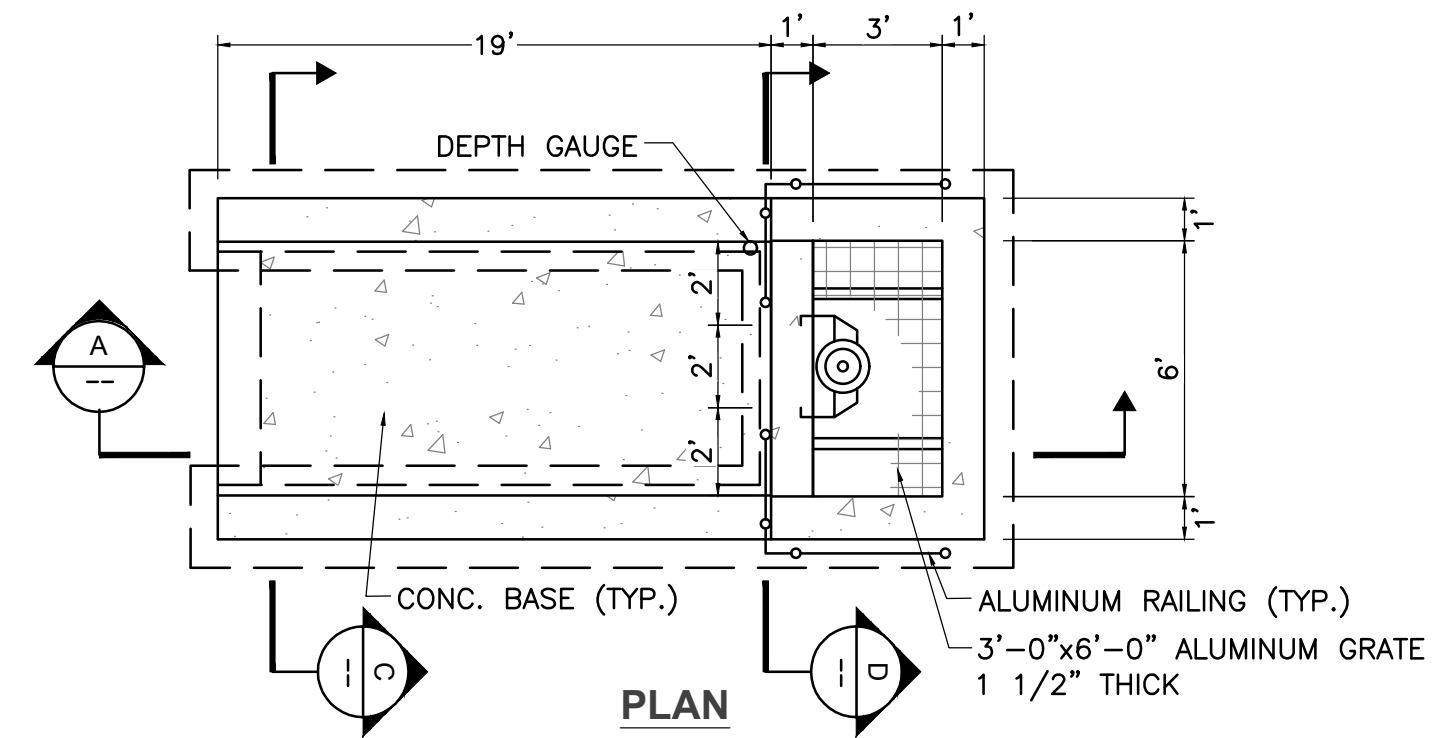
TYPICAL CONNECTION OF HDPE LINER WITH CONCRETE



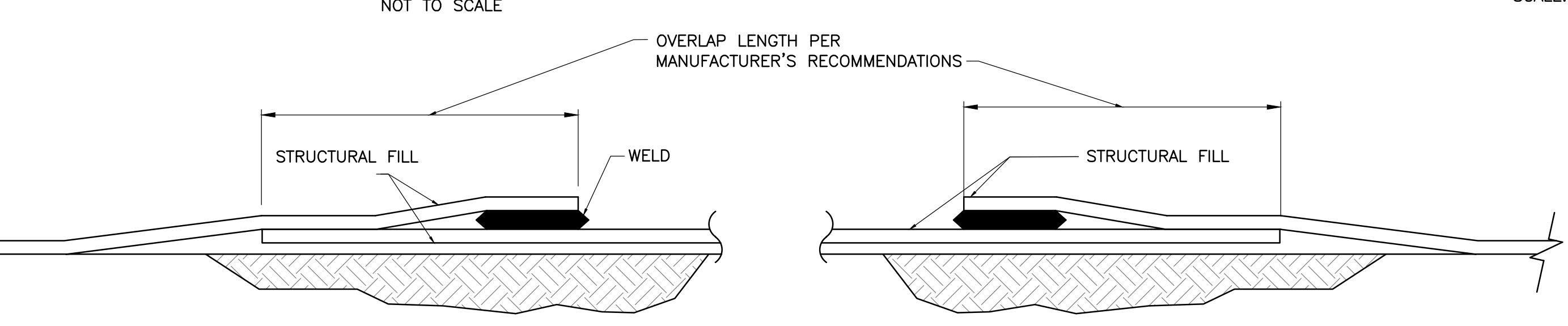
LAGOON INLET HEADWALL



ELEVATION

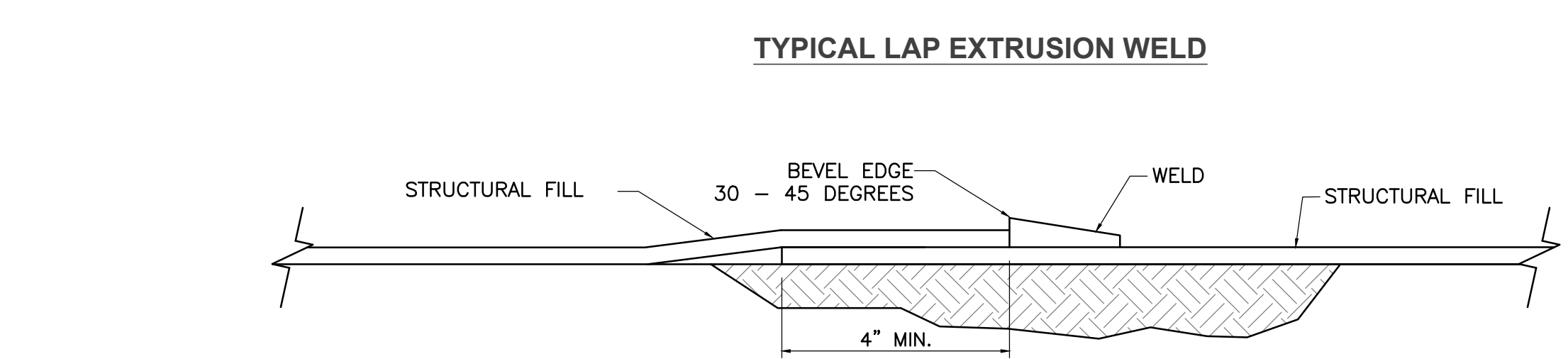


LAGOON DECANT OUTFALL STRUCTURE



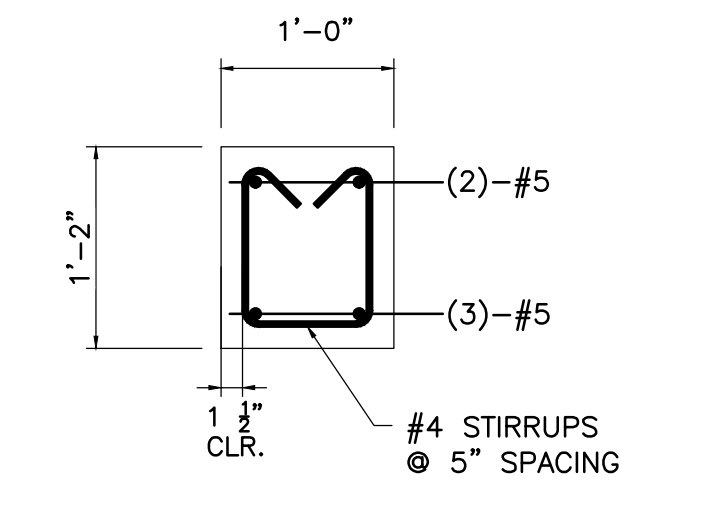
TYPICAL LAP EXTRUSION WELD

TYPICAL FILLET EXTRUSION WELD

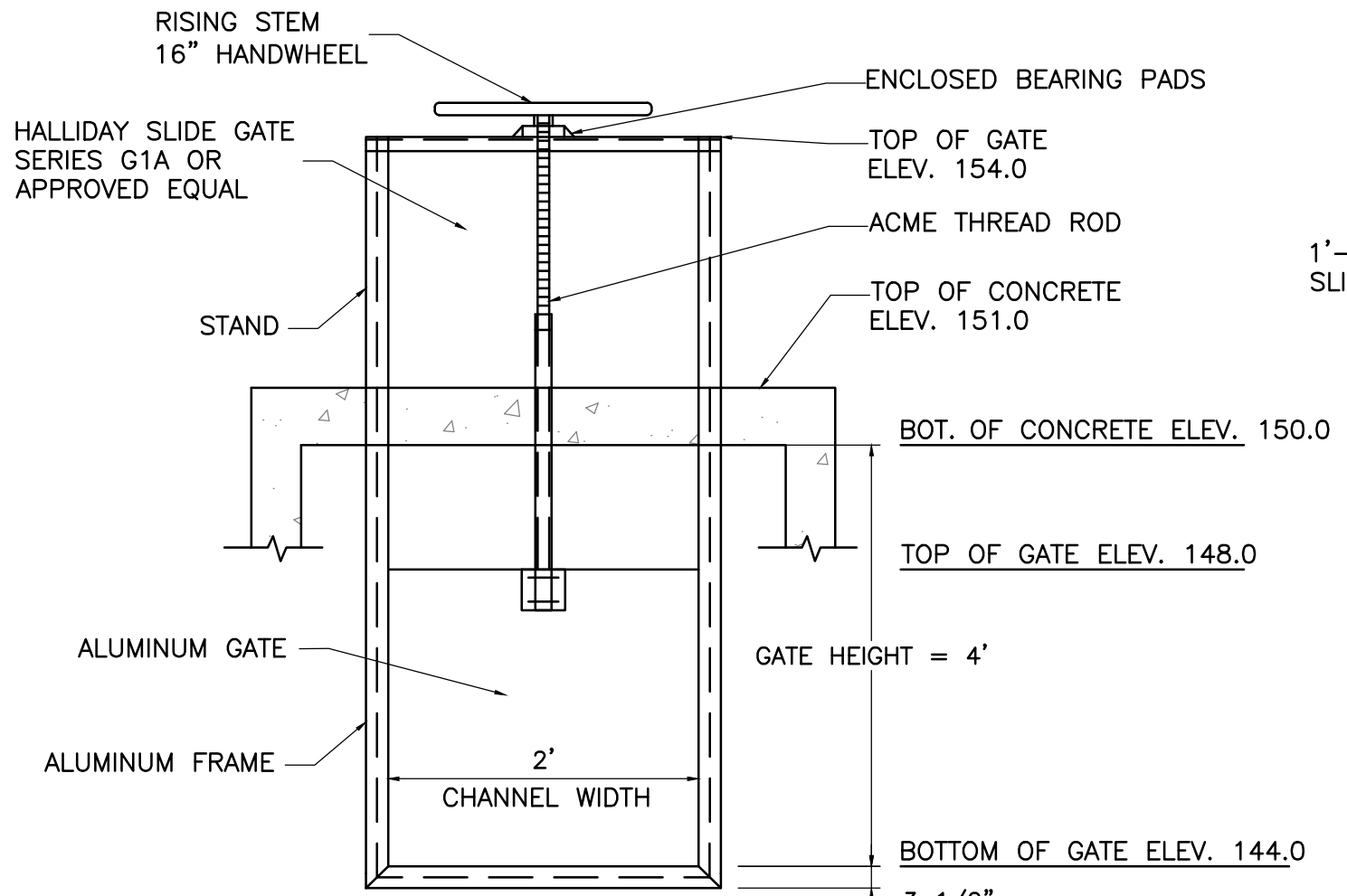


MESH SCREEN DETAIL

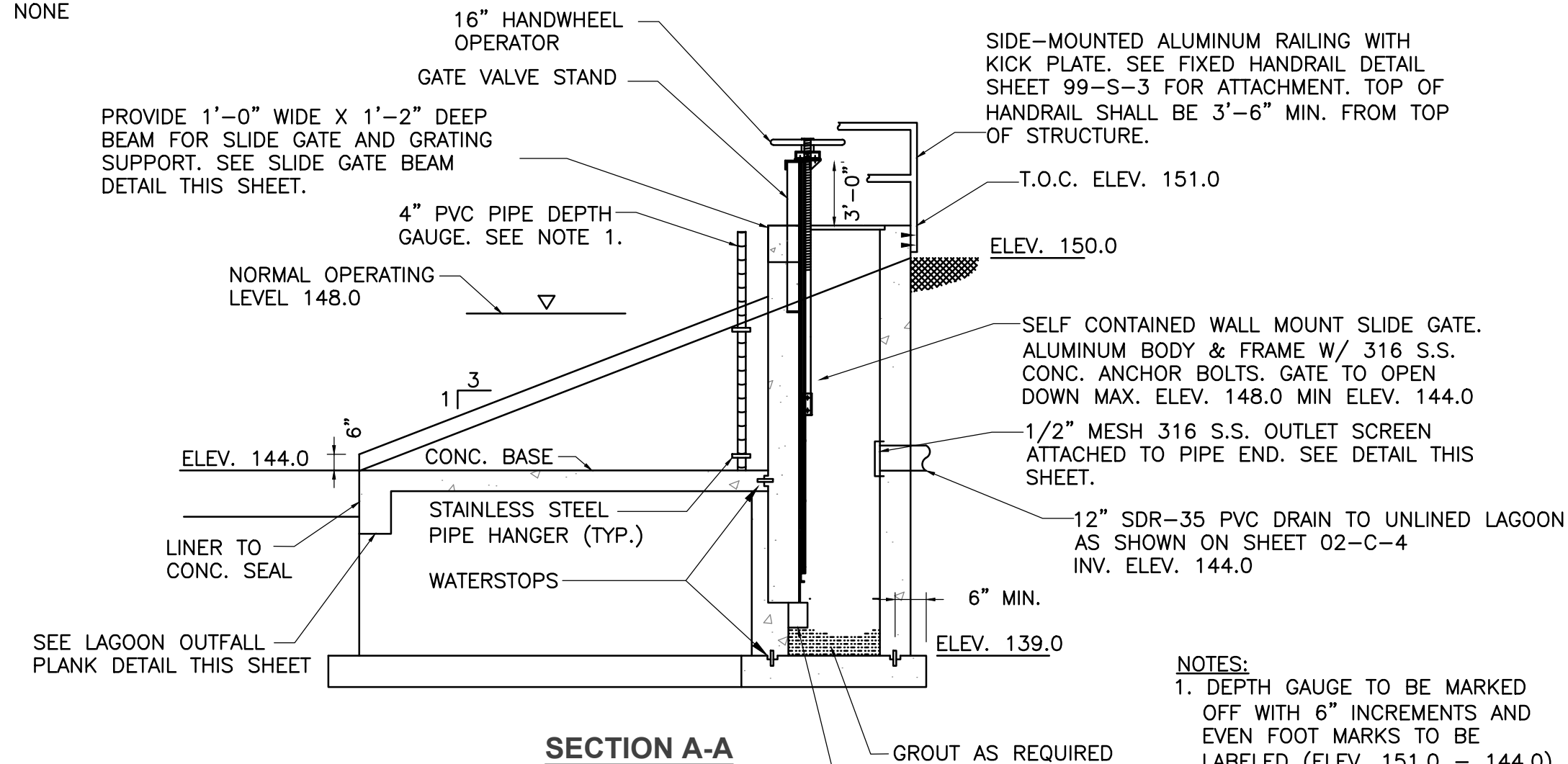
TYPICAL EXTRUSION WELD DETAILS



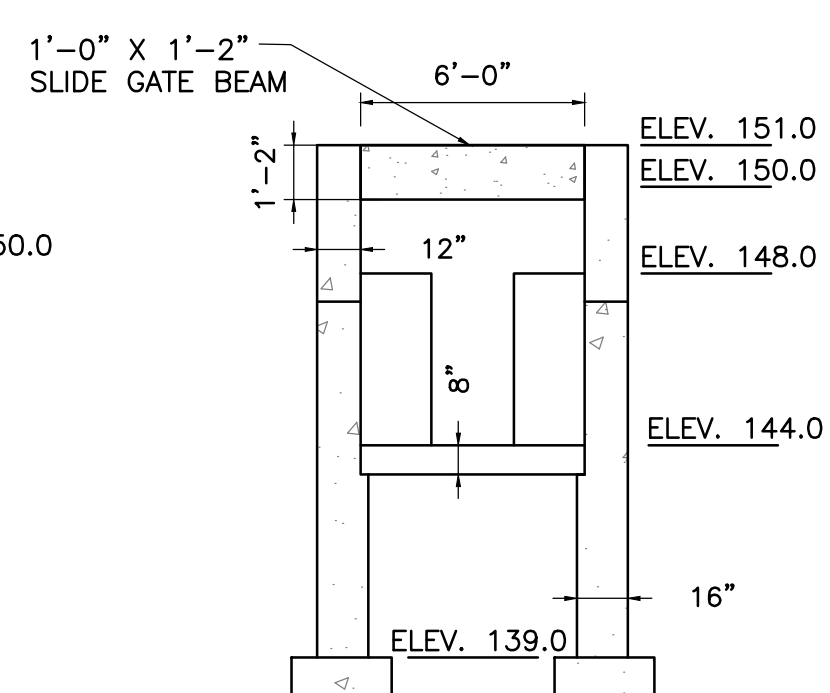
SLIDE GATE BEAM DETAIL



SLIDE GATE DETAIL

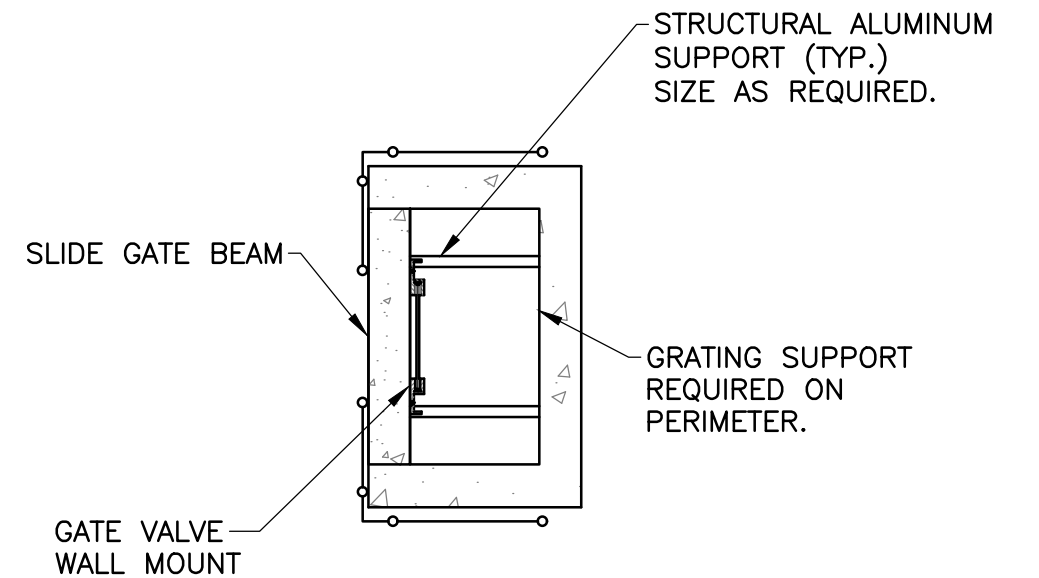


SECTION A-A



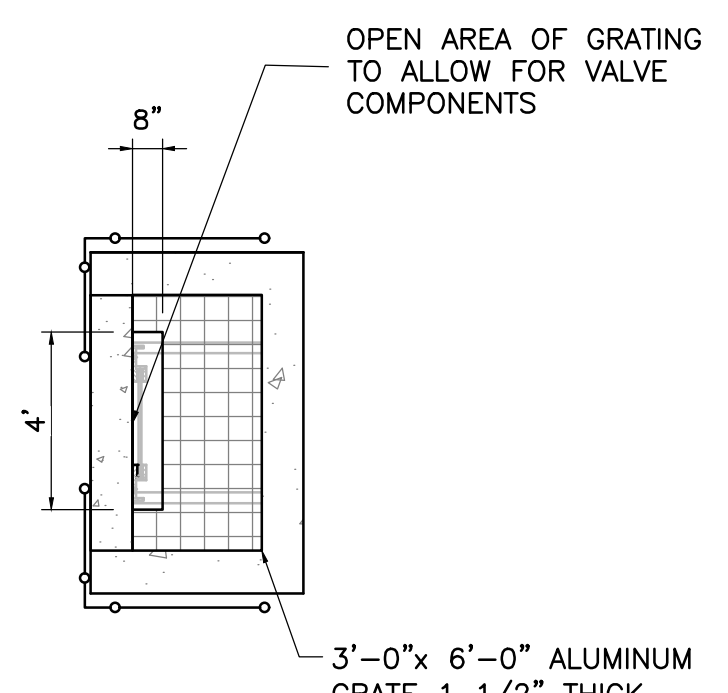
SECTION C-C

- NOTES:**
1. DEPTH GAUGE TO BE MARKED OFF WITH 6" INCREMENTS AND EVEN FOOT MARKS TO BE LABELED (ELEV. 151.0 - 144.0)
 2. ALL REINFORCING IN CONCRETE FOOTINGS, SLABS AND WALLS TO BE #5 @ 12" E.W. E.F.



SECTION D-D

- NOTES:**
1. CONTRACTOR TO COORDINATE SLIDE GATE ATTACHMENT AND BASE REQUIREMENTS WITH SLIDE GATE MANUFACTURER RECOMMENDATION.
 2. PROVIDE EMBEDDED ANGLE AT TOP OF WALL FOR GRATING SUPPORT.



LAGOON OUTFALL PLANK DETAIL

ATTLEBORO WATER DEPT.
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LAGOON DETAILS

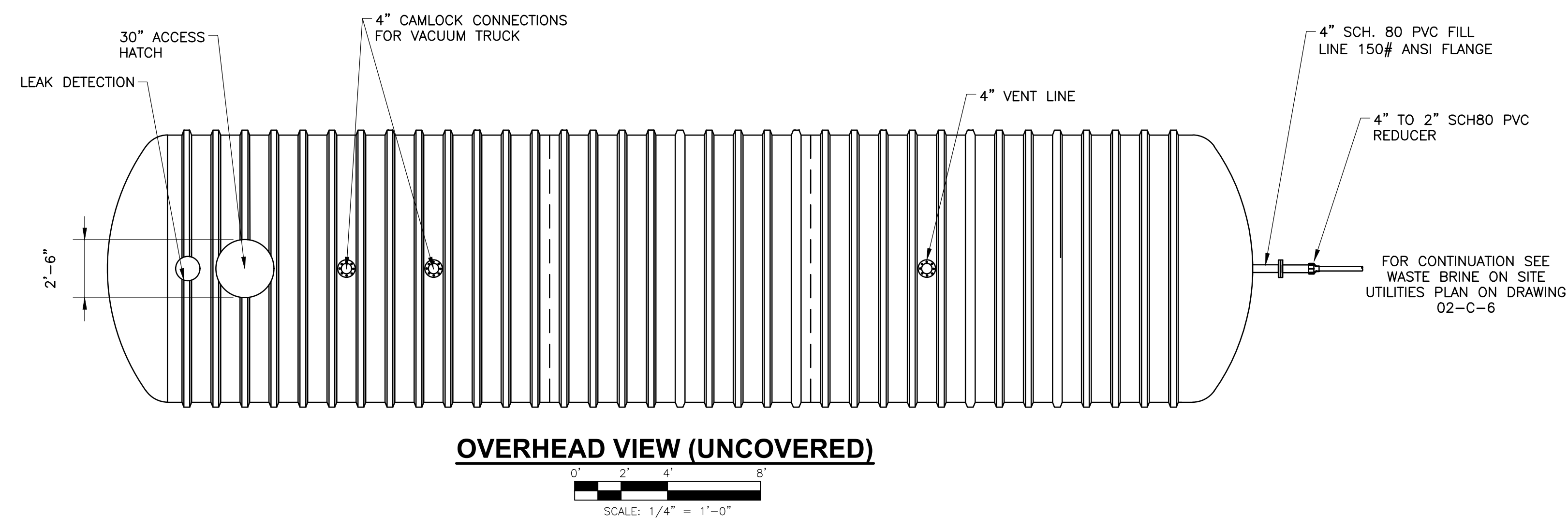
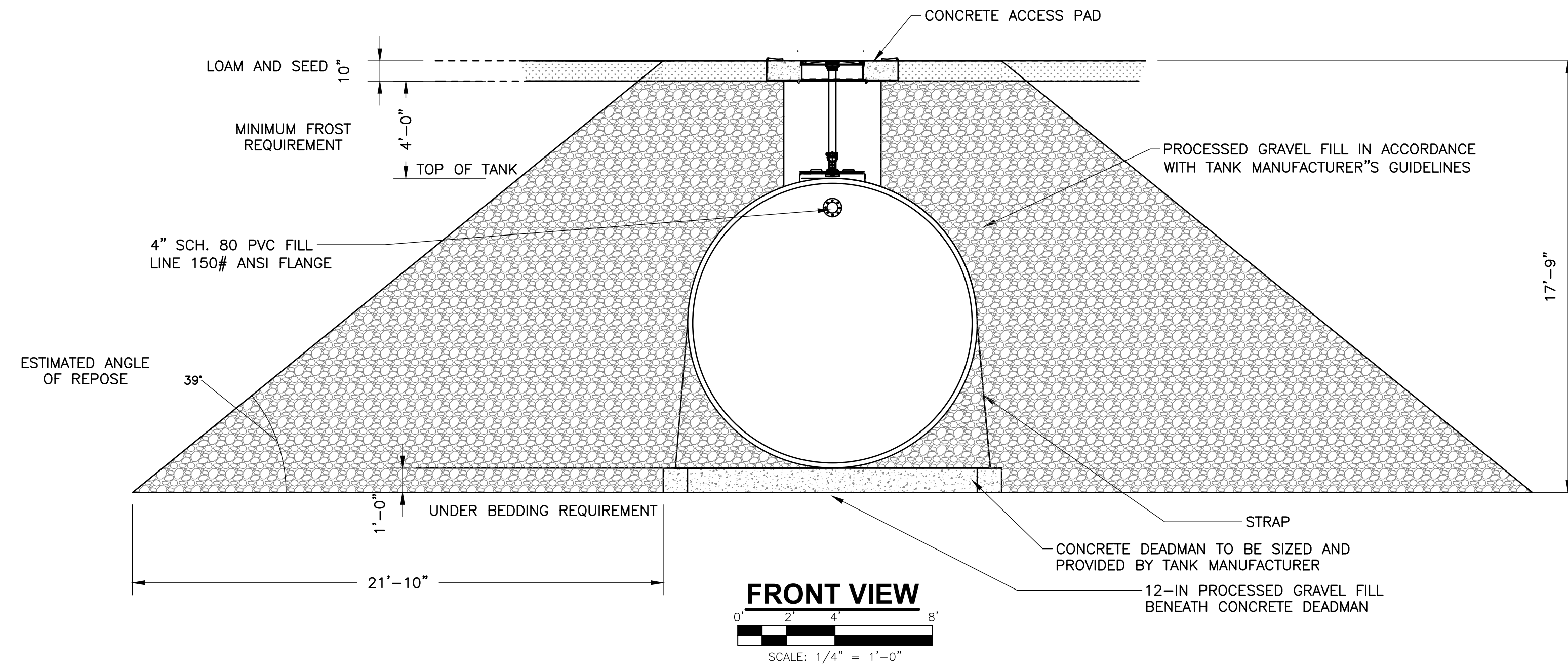
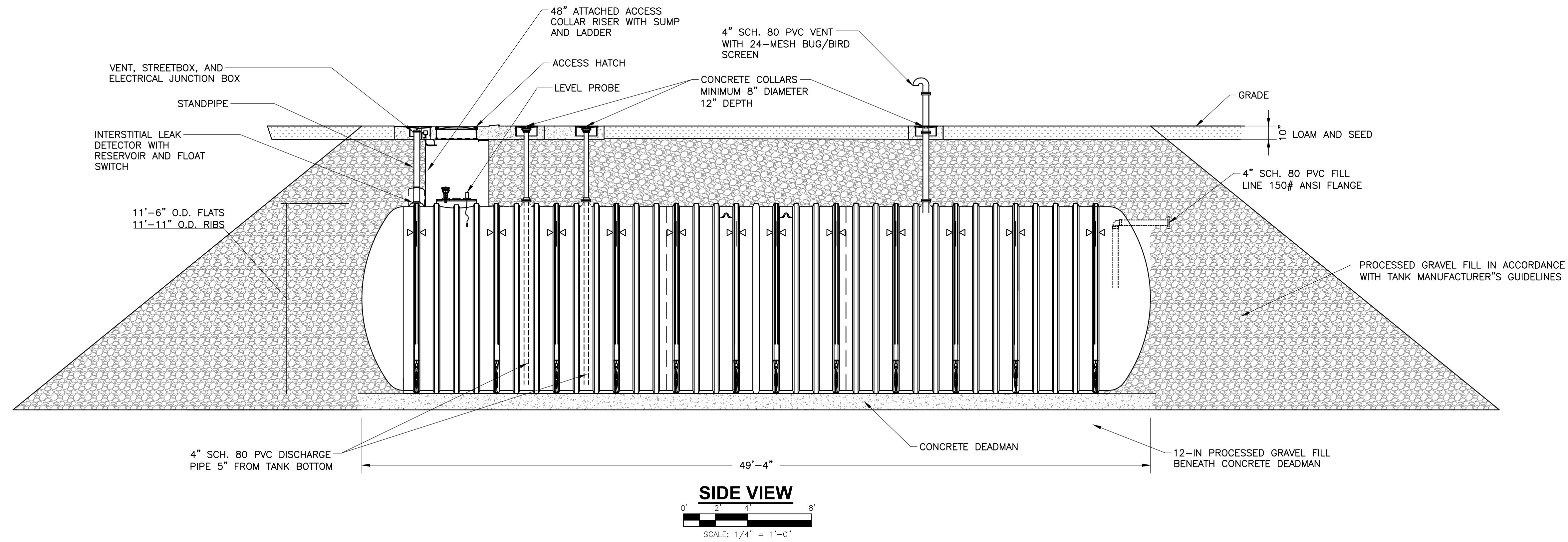
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NOTES:

1. TANK MANUFACTURER TO CONFIRM DEADMEN SIZE BASED ON REVIEW OF SITE CONDITIONS.
2. STRAPS TO BE FURNISHED FROM TANK MANUFACTURER.
3. IF SHORING EXCAVATION, TANK MANUFACTURER TO CONFORM EXCAVATION DEPTH, WIDTH, AND CLEARANCES.
4. ALL BACKFILL THAT IS TO BE COMPACTED MUST BE COMPACTED WITH A HAND GUIDED VIBRATING-PLATE, MECHANICAL COMPACTOR FOLLOWING TANK MANUFACTURER'S INSTALLATION GUIDELINES.
5. SEE SPECIFICATION SECTION 11612 FOR TANK SPECIFICATIONS.

ATTLEBORO WATER DEPT.
ATTLEBORO, MA
WADING RIVER
WATER TREATMENT PLANT

CIVIL
BRINE WASTE HOLDING
UNDERGROUND FRP
TANK DETAILS

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