



DEPARTMENT OF PUBLIC WORKS AND PARKS
CITY OF WORCESTER, MA

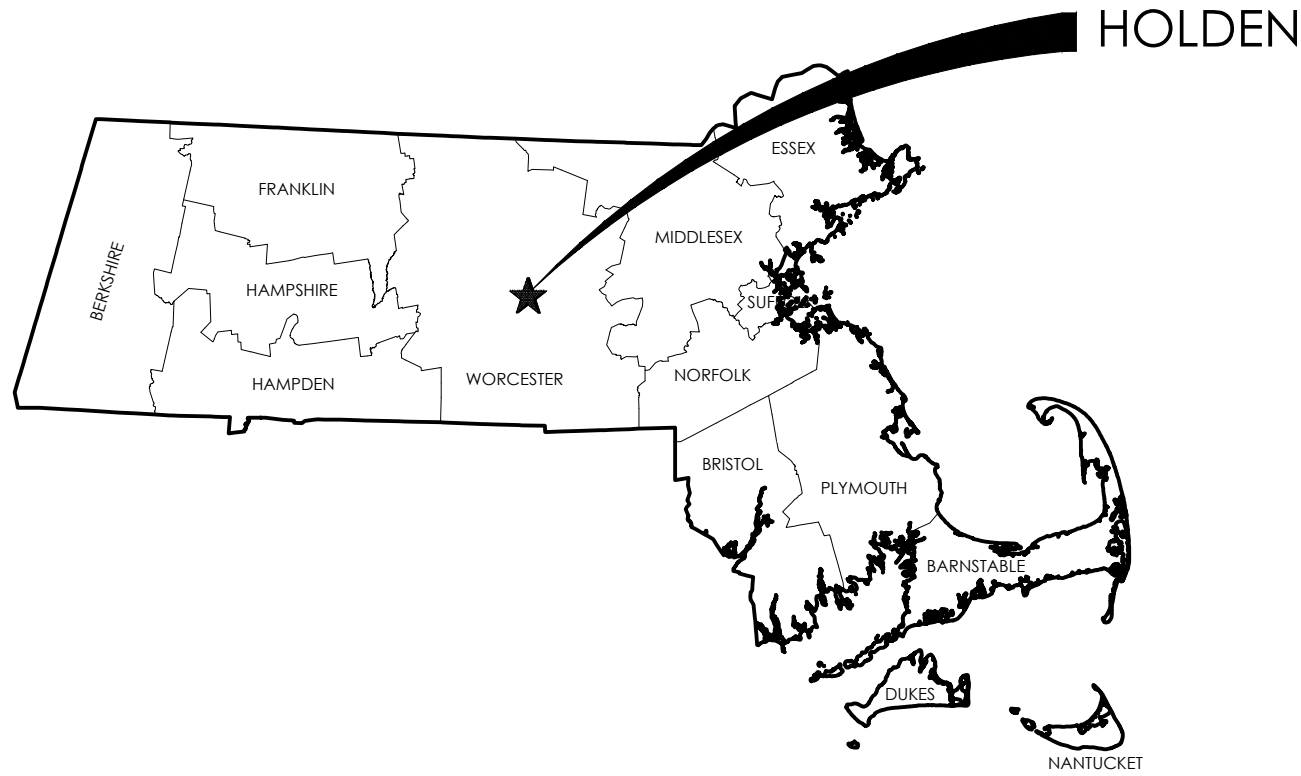


QUINAPOXET
TRANSFER PIPELINE
CONTRACT 2

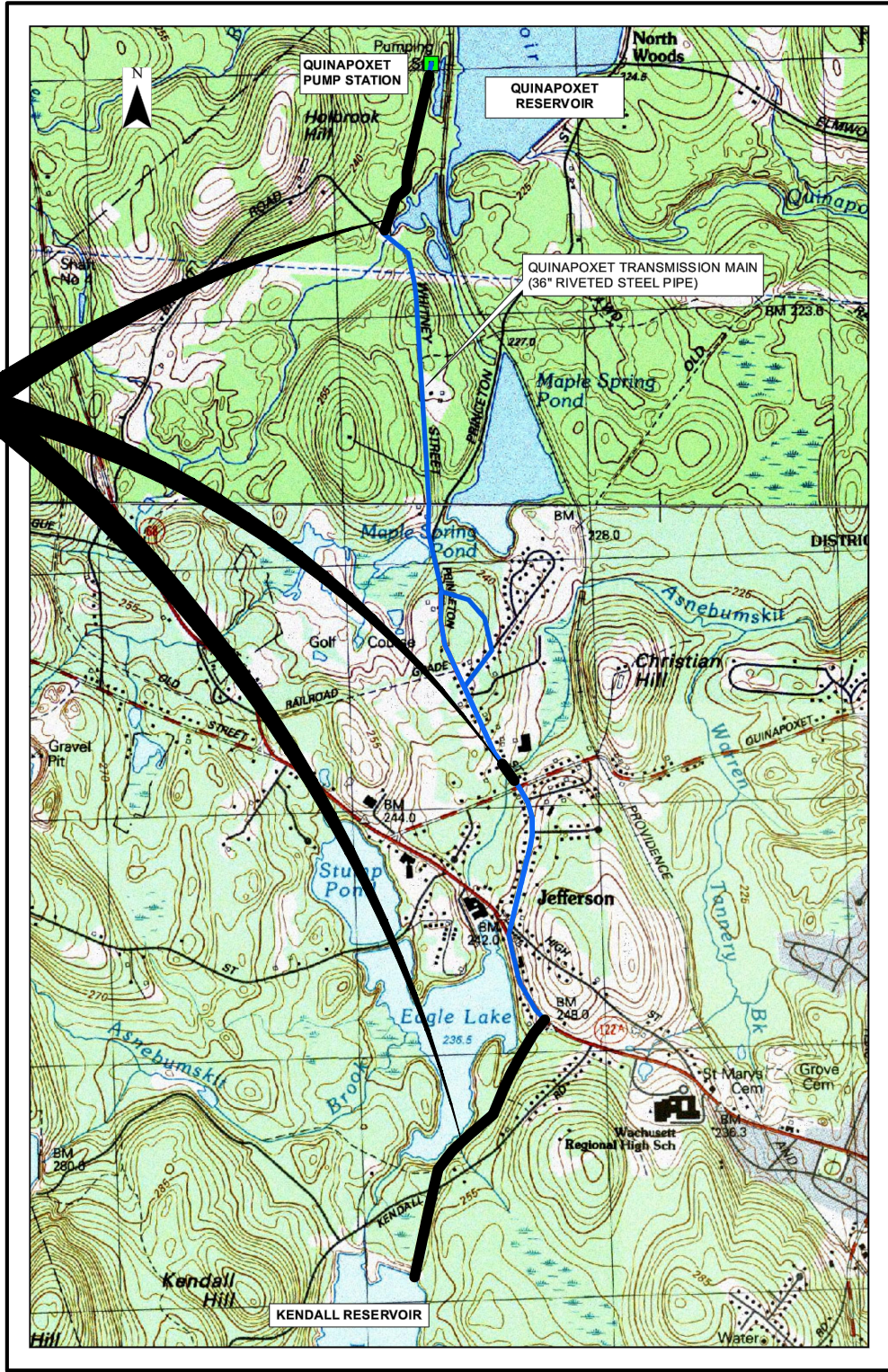


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LOCATION MAP



VICINITY MAP
NOT TO SCALE

MAYOR
JOSEPH M. PETTY
ACTING CITY MANAGER
ERIC BATISTA
COMMISSIONER OF PUBLIC WORKS
JAY J. FINK
WATER/SEWER OPERATIONS DIRECTOR
PHILIP D. GUERIN

BID DOCUMENTS

JUNE 2022

Project Number: 195150275

GENERAL NOTES:

1. SURVEY PLAN WAS PREPARED FROM THE COMBINATION OF AN AERIAL SURVEY HAVING A PHOTOGRAPH DATE OF MARCH 19, 2016 AND AN ACTUAL ON THE GROUND FIELD SURVEY CONDUCTED BY WSP BETWEEN APRIL 14, 2016 THRU MAY 17, 2016.
2. THE HORIZONTAL DATUM SHOWN HEREON REFERENCES THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD1983. THE VERTICAL DATUM REFERENCES NAVD88.
3. PROPERTY LINES SHOWN ARE BASED ON LIMITED REVIEW OF PLANS, DEEDS AND FIELD MONUMENTATION AND ARE NOT THE RESULT OF A PROPERTY LINE SURVEY.
4. LOCATIONS OF UTILITIES SHOWN HEREON ARE THE RESULT OF SURFACE EVIDENCE AS LOCATED BY FIELD SURVEY, PLANS OF RECORD, AND OTHER AVAILABLE SOURCES.
5. THE EXISTING UTILITIES AND ALL OTHER STRUCTURES SHOWN ON THESE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE AND MAY NOT BE IN THE EXACT LOCATION SHOWN OR MAY NOT BE SHOWN AT ALL. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR THE COMPLETE FIELD INVESTIGATION, PERSONALLY, OF ALL EXISTING UTILITIES TO HIS COMPLETE SATISFACTION PRIOR TO SUBMITTING A FORMAL BID.
6. THE CONTRACTOR SHOULD VERIFY THE EXISTING CONDITIONS TO HIS SATISFACTION PRIOR TO BEGINNING ANY EXCAVATION. "DIG SAFE" 1-888-344-7233 SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO BEGINNING ANY WORK. DEPTH OF EXISTING UTILITIES SHOULD BE VERIFIED BY TEST EXCAVATION WHENEVER POSSIBLE PRIOR TO INSTALLATION OF PROPOSED WORK.
7. CONSTRUCTION DETAILS ARE INCLUDED IN THE CONTRACT DRAWINGS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ALL UTILITIES DAMAGED DURING THE CONSTRUCTION AT NO COST TO THE OWNER.
9. THE LOCATION OF EXISTING SUBSURFACE ROCK AND GROUNDWATER IS NOT KNOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN DETERMINATION AS TO THE LOCATION OF SUBSURFACE ROCK AND GROUNDWATER.
10. ANY AREA DISTURBED BY THE CONTRACTOR OUTSIDE THE LIMIT OF WORK SHALL BE RESTORED TO ORIGINAL CONDITION AT NO COST TO THE OWNER.
11. THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING GRADE.
12. EXISTING VALVES, MANHOLE FRAMES AND COVERS REMOVED FROM THE WORK SHALL REMAIN THE PROPERTY OF THE CITY OF WORCESTER, DEPARTMENT OF PUBLIC WORKS AND PARKS (WDPW). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DELIVERING ALL SALVAGED MATERIALS PER THE DIRECTION OF THE WDPW.
13. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES WHICH HOLD WATER IN THE SYSTEM. THE WDPW WILL, UPON 24 HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES REQUIRED FOR DRAINING OR ADMITTING WATER TO VARIOUS SECTIONS OF THE MAINS.
14. ANY WATER THAT IS PUMPED AND DISCHARGED FROM THE TRENCH AND/OR EXCAVATION AS PART OF THE CONTRACTOR'S WATER HANDLING SHALL BE FILTERED BY AN APPROVED METHOD PRIOR TO ITS DISCHARGE INTO A RECEIVING WATER OR DRAINING SYSTEM.
15. THE PUMPED WATER SHALL BE FILTERED THROUGH BALED HAY, A VEGETATIVE FILTER STRIP OR A VEGETATED CHANNEL TO TRAP SEDIMENT OCCURRING AS A RESULT OF THE CONSTRUCTION OPERATIONS. THE VEGETATED CHANNEL SHALL BE CONSTRUCTED SUCH THAT DISCHARGE FLOW RATE SHALL NOT EXCEED A VELOCITY OF MORE THAN 1 FPS. THE SEDIMENT SHALL BE CLEARED FROM THE CHANNEL PERIODICALLY.
16. WORK OCCURS WITHIN SENSITIVE DRINKING WATER SUPPLY AREAS FOR THE CITY OF WORCESTER AND THE MWRA. REFER TO SPECIFICATION SECTIONS 01060, 01100, 01567, TO DRAWINGS C-502, C-503, C-504, AND THE PERMITS IN THE APPENDIX.
17. FOR WETLANDS PROXIMATE TO THE ON-ROAD SECTIONS OF THE PIPELINES, WETLAND LOCATIONS REFLECT A COMBINATION OF MAPPED WETLAND RESOURCE AREAS, AS DEPICTED ON MASSGIS WETLANDS AND HYDROGRAPHY DATA LAYERS, AND FIELD SKETCHES. ON APRIL 6, 2016 AN ON-SITE INSPECTION OF THESE WETLAND AREAS PROXIMATE TO THE ON-ROAD SECTIONS WAS PERFORMED TO GROUND-TRUTH THE MASSGIS WETLAND AND HYDROGRAPHY DATA LAYERS AND WHERE NECESSARY, ADJUSTMENTS TO THE WETLAND BOUNDARY ON THE PLAN WERE MADE.
18. WHERE EARTH DISTURBING ACTIVITIES ARE PROPOSED WITHIN THE 100-FOOT BUFFER TO WETLAND RESOURCE AREAS, COMPOST FILTER TUBES SHALL BE INSTALLED ALONG THE DOWNGRAIDENT LIMIT OF WORK TO PROTECT ADJACENT RESOURCE AREAS FROM SEDIMENTATION.
19. WHERE EARTH DISTURBING ACTIVITIES ARE PROPOSED PROXIMATE TO EXISTING CATCH BASINS, SILT SACKS SHALL BE INSTALLED TO PREVENT SEDIMENTS FROM ENTERING INTO THE DRAINAGE SYSTEM.
20. WHERE CONSTRUCTION ACCESS IS PROPOSED ACROSS WETLAND RESOURCE AREAS, THE CONTRACTOR SHALL MEET THE US ARMY CORPS OF ENGINEERS' (COE) MASSACHUSETTS GENERAL PERMIT (GP) FOR SELF-VERIFICATION UNDER GP 14 FOR TEMPORARY CONSTRUCTION, ACCESS, AND DEWATERING, AND FOLLOW THE CONSTRUCTION MAT BEST MANAGEMENT PRACTICES (BMPS) DOCUMENT FOR INSTALLATION, MAINTENANCE, REMOVAL, AND RESTORATION OF DISTURBED AREAS.
21. IN PLACES WHERE OPEN CUT EXCAVATION IS CALLED FOR TO ADD/REPLACE OR REMOVE AN APPURTENANCE, CONTRACTOR MAY SUIPLINE THROUGH THE EXISTING FITTING AND COME BACK AND OPEN CUT THE PIPE TO INSTALL THE FITTING. THIS MAY BE DONE FOR THE CONTRACTOR'S CONVENIENCE AND AT NO ADDITIONAL COST TO THE OWNER.
22. SELECTED CONTRACTOR WILL BE PROVIDED WITH A COPY OF TELEVISION REPORT AND VIDEO FOR STATIONS 71+84 TO 75+15.
23. OPEN EXCAVATION IN WETLAND RESOURCES REQUIRES SEPARATING WETLAND SOILS FROM THE EXCAVATION AND STOCKPILING. RETURN WETLAND SOILS TO TRENCH AFTER PIPE IS INSTALLED AND BEDDED AS INDICATED IN THE DRAWINGS. RESTORE WETLANDS IN ACCORDANCE WITH SECTIONS 01567 AND 02930.
24. CRUSHED STONE DRIVEWAY WITHIN DCR EASEMENT IS TO BE INSTALLED AFTER ALL CONSTRUCTION IS COMPLETE. CRUSHED STONE ACCESS SHALL NOT USED IN LIEU OF SWAMP MATS.
25. REPLACEMENT GATE SHALL BE INSTALLED AFTER ALL CONSTRUCTION IS COMPLETE.
26. TRENCH SPOILS SHALL BE PLACED ON UPHILL SIDE OF TRENCH ONLY. SPOILS THAT CANNOT BE PLACED UPHILL SHALL BE TRUCKED OUT OF THE WORK AREA. SPOILS SHALL NOT BE PLACED AGAINST EROSION CONTROL.
27. SWAMP MATS SHALL BE USED WITHIN THE DCR EASEMENT AND ANNA MARIA ACCESS AT ALL TIMES FOR ALL TRAVEL.
28. ACCESS TO THE WORCESTER EASEMENT BETWEEN KENDALL ROAD AND MAIN STREET SHALL BE AS FOLLOWS: ALL WORK BETWEEN APPROXIMATE STATIONS 11+50 TO 18+60 SHALL BE ACCESSED VIA 189 KENDALL ROAD; ALL WORK BETWEEN APPROXIMATE STATIONS 19+00 TO 37+00 SHALL BE ACCESSED VIA DCR EASEMENT AT KENDALL ROAD NEAR MAIN STREET (APPROXIMATE STATION 200+00); ALL WORK BETWEEN STATIONS 37+00 TO STATION 40+00 SHALL BE ACCESSED VIA DCR EASEMENT AT KENDALL ROAD (NEAR MAIN ST (APPROXIMATE STA 200+00); HOWEVER, ALL WORK IN THIS AREA SHALL BE COORDINATED WITH THE CITY OF WORCESTER REPRESENTATIVE 2 WEEKS PRIOR TO ANY WORK OR TRAFFIC IN THIS AREA.
29. NO DEWATERING SHALL OCCUR UNTIL A DEWATERING PLAN HAS BEEN APPROVED IN ACCORDANCE WITH SECTION 02240. APPROVED DEWATERING PLAN SHALL BE ON-SITE AT ALL TIMES DURING DEWATERING ACTIVITIES. REFER TO SECTION 01000, PARAGRAPH 1.04T.

PROPOSED LEGEND

	PROPOSED BENCHMARK		PROPOSED CABLE TV
	PROPOSED BORING		PROPOSED DEMOLITION WORK
	PROPOSED BOUND		PROPOSED DITCH/SWALE
	PROPOSED CATCH BASIN (ROUND)		PROPOSED EASEMENT
	PROPOSED CATCH BASIN (SQUARE)		PROPOSED EDGE OF RIVER
	PROPOSED COMMUNICATION MANHOLE		PROPOSED EDGE OF POND
	PROPOSED CONIFEROUS TREE		PROPOSED EDGE OF WETLAND
	PROPOSED CURB INLET		PROPOSED FENCE (BARBED WIRE)
	PROPOSED DECIDUOUS TREE		PROPOSED FENCE (CHAIN LINK)
	PROPOSED DOUBLE POLE SIGN		PROPOSED FENCE (WOODEN)
	PROPOSED DRAINAGE FLOW		PROPOSED FIRE PROTECTION
	PROPOSED DRAIN MANHOLE (DMH)		PROPOSED FOOTING UNDERDRAIN
	PROPOSED DRAIN HOLE		PROPOSED FUEL GAS
	PROPOSED ELECTRICAL MANHOLE		PROPOSED GUARD RAIL
	PROPOSED FLOOD LIGHT		PROPOSED LIMITS OF CONSTRUCTION
	PROPOSED GUY POLE		PROPOSED NATURAL GAS
	PROPOSED HYDRANT		PROPOSED MAJOR CONTOUR
	PROPOSED IRON PIN		PROPOSED MINOR CONTOUR
	PROPOSED LIGHT POST		PROPOSED PRESSURE STEAM
	PROPOSED NATURAL GAS MANHOLE		PROPOSED PROPERTY LINE
	PROPOSED SANITARY SEWER MANHOLE (SMH)		PROPOSED OPEN CUT
	PROPOSED SINGLE POLE SIGN		PROPOSED OVERHEAD POWER
	PROPOSED SPOT ELEVATION		PROPOSED OVERHEAD TELEPHONE
	PROPOSED SURVEY POINT		PROPOSED SANITARY SEWER
	PROPOSED TELEPHONE MANHOLE		PROPOSED SANITARY SEWER (FORCE MAIN)
	PROPOSED TEST PIT		PROPOSED SIPP LINING
	PROPOSED UTILITY POLE		PROPOSED RETAINING WALL
	PROPOSED WATER SHUTOFF		PROPOSED RIGHT OF WAY
	PROPOSED WELL		PROPOSED ROOF DRAIN
			PROPOSED STORM DRAIN
			PROPOSED STRAW BALES/COMPOST FILTER TUBES
			PROPOSED UNDERGROUND POWER
			PROPOSED UNDERGROUND TELEPHONE
			PROPOSED WATER MAIN

EXISTING LEGEND

	EXISTING BOUND		EXISTING MAJOR CONTOUR
	EXISTING BENCHMARK		EXISTING MINOR CONTOUR
	EXISTING SURVEY POINT		EXISTING DITCH/SWALE
	EXISTING CATCH BASIN (SQUARE)		EXISTING RAILROAD TRACKS
	EXISTING CATCH BASIN (ROUND)		EXISTING EDGE OF WATER
	EXISTING COMMUNICATION MANHOLE		EXISTING WETLAND BOUNDARY
	EXISTING CURB INLET		EXISTING EASEMENT
	EXISTING DRAIN MANHOLE (DMH)		EXISTING PROPERTY LINE
	EXISTING ELECTRICAL MANHOLE		EXISTING RIGHT-OF-WAY
	EXISTING GUY POLE		EXISTING SPOT ELEVATION
	EXISTING HYDRANT		EXISTING FUEL GAS
	EXISTING IRON PIN		EXISTING NATURAL GAS
	EXISTING NATURAL GAS MANHOLE		EXISTING OVERHEAD POWER
	EXISTING SEWER MANHOLE (SMH)		EXISTING UNDERGROUND POWER
	EXISTING SINGLE POLE SIGN		EXISTING SANITARY SEWER
	EXISTING DOUBLE POLE SIGN		EXISTING SANITARY SEWER (FORCE MAIN)
	EXISTING FLOOD LIGHT		EXISTING STORM DRAIN
	EXISTING LIGHT POST		EXISTING PRESSURE STEAM
	EXISTING MAILBOX		EXISTING WATER MAIN
	EXISTING DRAINAGE FLOW		EXISTING CABLE TV
	EXISTING TEST PIT		EXISTING OVERHEAD TELEPHONE
	EXISTING BORING		EXISTING UNDERGROUND TELEPHONE
	EXISTING STUMP		EXISTING GUARD RAIL
	EXISTING CONIFEROUS TREE		EXISTING FENCE
	EXISTING DECIDUOUS TREE		EXISTING CHAINLINK FENCE
	EXISTING WETLAND		EXISTING WOODEN FENCE
	EXISTING TELEPHONE MANHOLE		EXISTING RETAINING WALL
	EXISTING UTILITY POLE		EXISTING HAYBALES
	EXISTING WATER SHUTOFF		EXISTING STONE WALL
	EXISTING GATE VALVE		EXISTING TREE/SHRUB LINE
	EXISTING WELL		EXISTING FEMA FLOOD ZONE A
			BORDERING LAND SUBJECT TO FLOODING

LIST OF ABBREVIATIONS

ABAN	ABANDON	INV EL	INVERT ELEVATION
ABC	ASPHALT BASE COURSE	INV	INVERT
AC	ASPHALT CONCRETE	IP	IRON PIPE
ADJ	ADJUSTABLE	IPS	IRON PIPE SIZE
APPROX	APPROXIMATE	JT	JOINT
ARV	AIR RELEASE/VACUUM VALVE	LF	LINEAR FOOT (FEET)
ASPH	ASPHALT	LN	LANE
AVE	AVENUE	MAX	MAXIMUM
B	BASE	MDC	METROPOLITAN DISTRICT COMMISSION
BE	BURIED ELECTRIC	MH	MANHOLE
BFV	BUTTERFLY VALVE	MIN	MINIMUM; MINUTE
BIT	BITUMINOUS	MISC	MISCELLANEOUS
BK SWK	BACK OF SIDEWALK	MJ	MECHANICAL JOINT
BL	BASELINE	N	NORTH; NEWTON
BLVD	BOULEVARD	NAD	NORTH AMERICAN DATUM (1927 AND 1983)
BM	BENCHMARK	NAVD	NORTH AMERICAN VERTICAL DATUM OF 1988
BNDRY	BOUNDARY	NTS	NOT TO SCALE
BO	BLOW OFF	OD	OUTSIDE DIAMETER; OUTSIDE DIMENSION
BOC	BACK OF CURB	OE	OVERHEAD ELECTRIC
BOT	BOTTOM	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
BR	BRIDGE; BRANCH	PAVT	PAVEMENT
BT	BURIED TELEPHONE CABLE	PC	POINT OF CURVATURE; POLYCARBONATE; PORTLAND CEMENT
BDT	BURIED TELEPHONE DUCT	PCULV	PIPE CULVERT
CATV	CABLE TELEVISION	PE	POLYETHYLENE
CB	CATCH BASIN	PERP	PERPETUAL EASEMENT
CBC	CONCRETE BOX CULVERT	PERP ESMT	PERPETUAL EASEMENT
CCW	COUNTERCLOCKWISE	PIV	POSITIVE INDICATOR VALVE; PIVOTED
CF	CURB FACE; CUBIC FEET	PKN&D	PK NAIL AND DISK
CG	CURB AND GUTTER	POB	POINT OF BEGINNING
CI	CURB INLET; CAST IRON	POC	POINT ON CURVE; POINT OF COMMENCEMENT
CIP	CAST-IN-PLACE; CAST IRON PIPE	POL	POINT ON LINE
CL	CENTER LINE	POTW	POTABLE WATER
CLF	CHAIN LINK FENCE	PPM	PARTS PER MILLION
CM	CONCRETE MONUMENT; CORRUGATED METAL	PRCST	PRECAST
CMON	CAST MONUMENT	PROP	PROPERTY; PROPOSED
CMP	CORRUGATED METAL PIPE	PRV	PRESSURE REDUCING VALVE; PRESSURE RELIEF VALVE; PRESSURE REGULATOR VALVE
CNO	COULD NOT OPEN	PS	PUMP STATION
CONC	CONCRETE	PSF	POUNDS PER SQUARE FOOT
CORP	CORPORATION	PSI	POUNDS PER SQUARE INCH
CP	CONCRETE PIPE; CONTROL PANEL	PTRV	PRESSURE TEMPERATURE RELIEF VALVE
CPLG	COUPLING	PVC	POLYVINYL CHLORIDE (PLASTIC)
CTR	CENTER	PW	POTABLE WATER; PRESSURE WATER
CTRL	CONTROL	RC	REINFORCED CONCRETE
CU	COPPER	RCCP	REINFORCED CONCRETE CULVERT PIPE
CY	CUBIC YARD	RCP	REINFORCED CONCRETE PIPE
D	DIAMETER	RD	ROAD
DAT	DATUM	REBAR	REINFORCING STEEL BAR
DEG	DEGREE	RED	REDUCER
DI	DUCTILE IRON	REQD	REQUIRED
DIA	DIAMETER	ROW	RIGHT OF WAY
DIP	DUCTILE IRON PIPE	SBC	SUPERPAVE BASE COURSE
DMH	DROP MANHOLE; DRAIN MANHOLE	SIC	SUPERPAVE INTERMEDIATE COURSE
DR	DIMENSION RATION	SIPP	SPRAY-IN-PLACE PIPE
EG	EXISTING GRADE	SMH	SANITARY MANHOLE
EL, ELEV	ELEVATION	SS	STORM SEWER; SANITARY SEWER
EOP	EDGE OF PAVEMENT	SSC	SUPERPAVE SURFACE COURSE
ESMT	EASEMENT	SST	STAINLESS STEEL
EXIST	EXISTING	STA	STATION
FG	FINISHED GRADE	STD	STANDARD
FH	FIRE HYDRANT	STL	STEEL
FLEX	FLEXIBLE	TBM	TEMPORARY BENCHMARK
FLG	FLANGE	TCE	TEMPORARY CONSTRUCTION EASEMENT
FLRD	FLARED	TCP	TRAFFIC CONTROL PLAN
FM	FORCEMAIN	TCZ	TRAFFIC CONTROL ZONE
FN	FENCE	TEMP	TEMPORARY; TEMPERATURE
FND	FOUND	THK	THICK; THICKNESS
FOC	FACE OF CURB/CONCRETE; FIBER OPTIC CABLE	TMP	TEMPORARY
FT	FOOT; FEET	TOP	TOP OF PAVEMENT
G	GATE; GAS	TOT	TOTAL
GA	Gauge	TP	TEST PIT
GALLON	GALLON	TRANS	TRANSITION;
GALV	GALVANIZED	TYP	TYPICAL
GALV STL	GALVANIZED STEEL	VAL	VALVE; VALLEY
GAS	GAS LINE	VB	VALVE BOX
GC	GRADE CHANGE; GENERAL CONTRACTOR	VC	VERTICAL CURVE
GM	GAS MAIN	W	WIDTH; WIDE; WEST; WATER; WATT
GR	GRADE; GRATE; GUARDRAIL	W/	WITH
GV	GATE VALVE; GAS VALVE	W/O	WITHOUT
GVC	GAS VALVE COVER	WDPW	CITY OF WORCESTER DEPARTMENT OF PUBLIC WORKS AND PARKS
HMA	HOT MIX ASPHALT	WF	WETLAND FLAG
HORIZ	HORIZONTAL	WM	WATER MAIN; WATER METER; WIRE MESH
HYD	HYDRANT; HYDRAULIC	WMH	WATER MANHOLE
ID	INSIDE DIAMETER; IDENTIFICATION	WV	WATER VALVE
IN	INCH; INLET		
INS	INSULATING		

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Client/Project

CITY OF WORCESTER
DEPARTMENT OF PUBLIC WORKS AND PARKS

QUINAPOXET TRANSFER PIPELINE
CONTRACT 2

HOLDEN, MASSACHUSETTS

Title

GENERAL NOTES, LEGENDS AND
ABBREVIATIONS

Project No.

195150275

Scale

NOT TO SCALE

Drawing No.

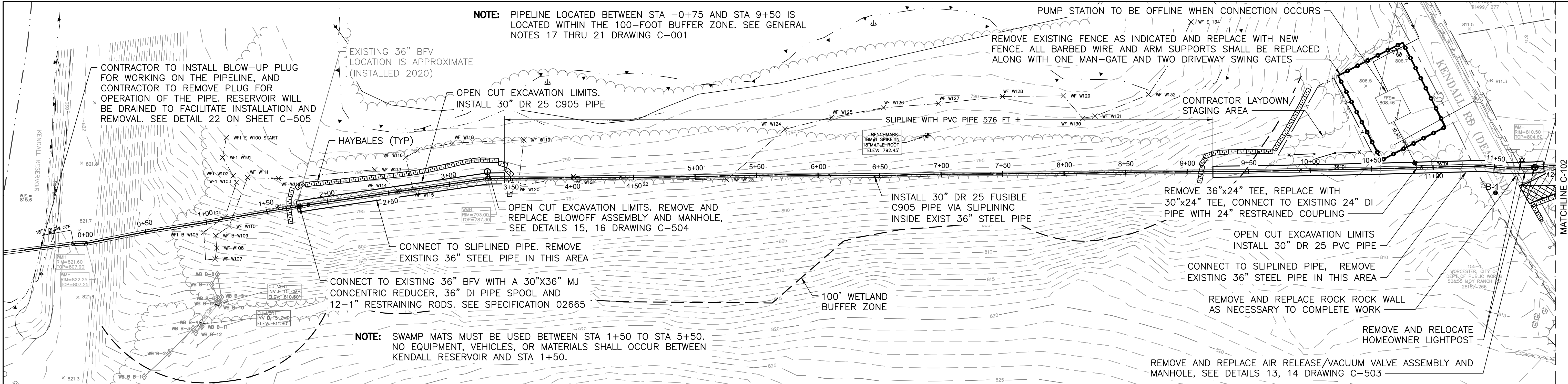
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Revision

C-001

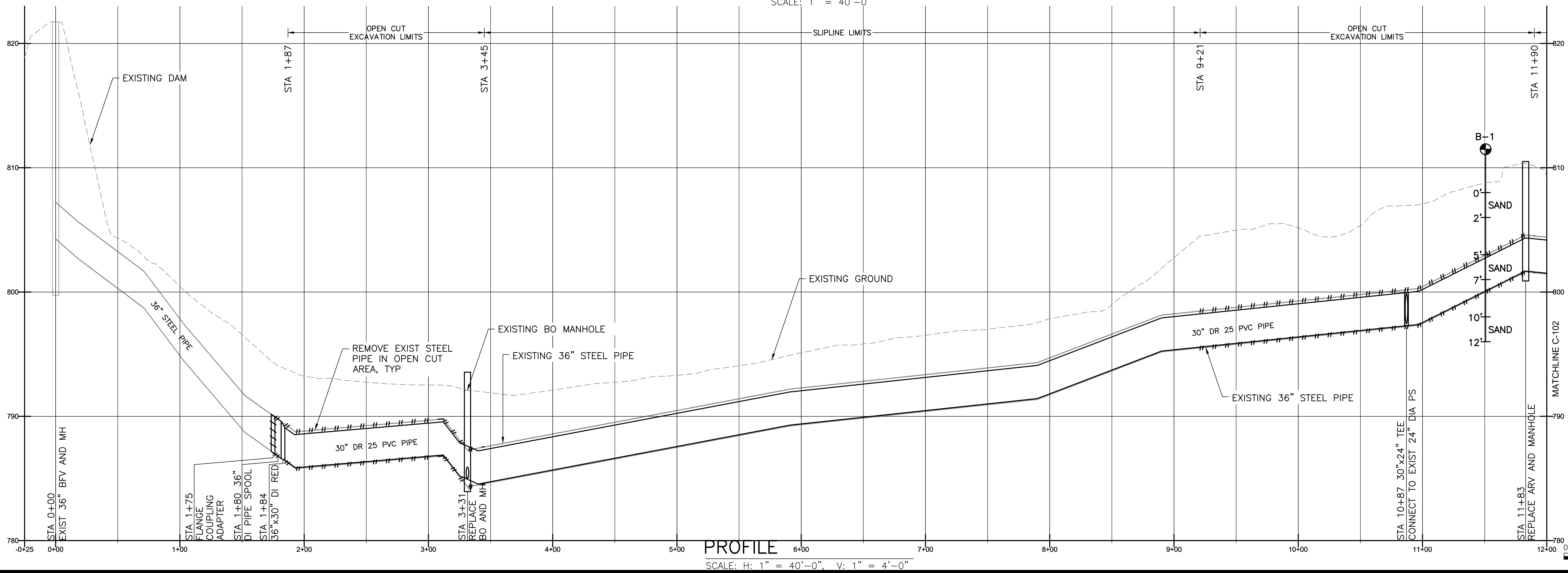
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NOTE: PIPELINE LOCATED BETWEEN STA -0+75 AND STA 9+50 IS LOCATED WITHIN THE 100-FOOT BUFFER ZONE. SEE GENERAL NOTES 17 THRU 21 DRAWING C-001



PLAN

SCALE: 1" = 40'-0"



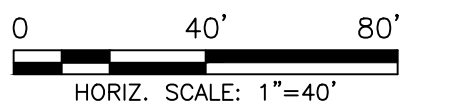
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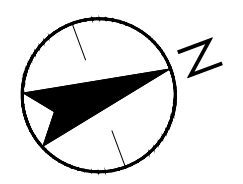
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																						CITY OF WORCESTER DEPARTMENT OF PUBLIC WORKS AND PARKS QUINAPOXET TRANSFER PIPELINE CONTRACT 2 HOLDEN, MASSACHUSETTS		PLAN AND PROFILE - PART 1	
																						Project No. 195150275		Scale AS SHOWN	
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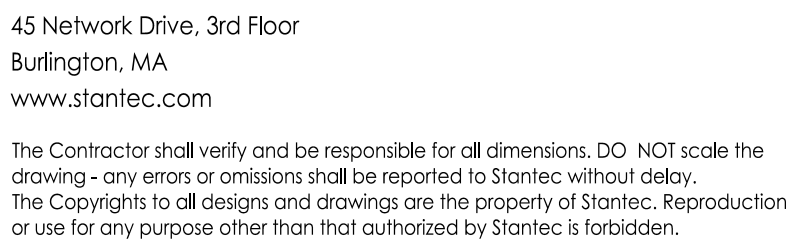
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ORIGINAL SHEET - ARCH D

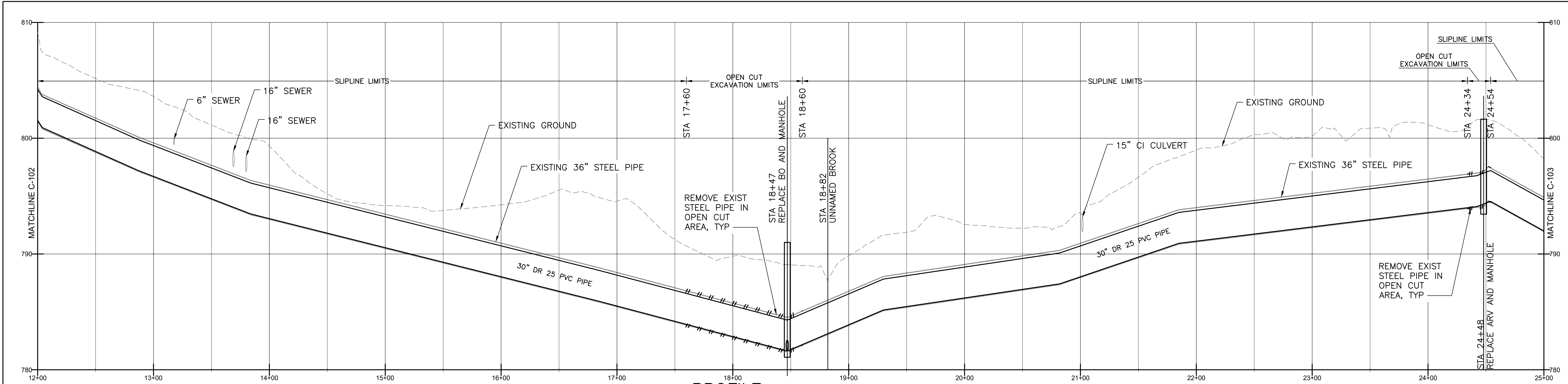




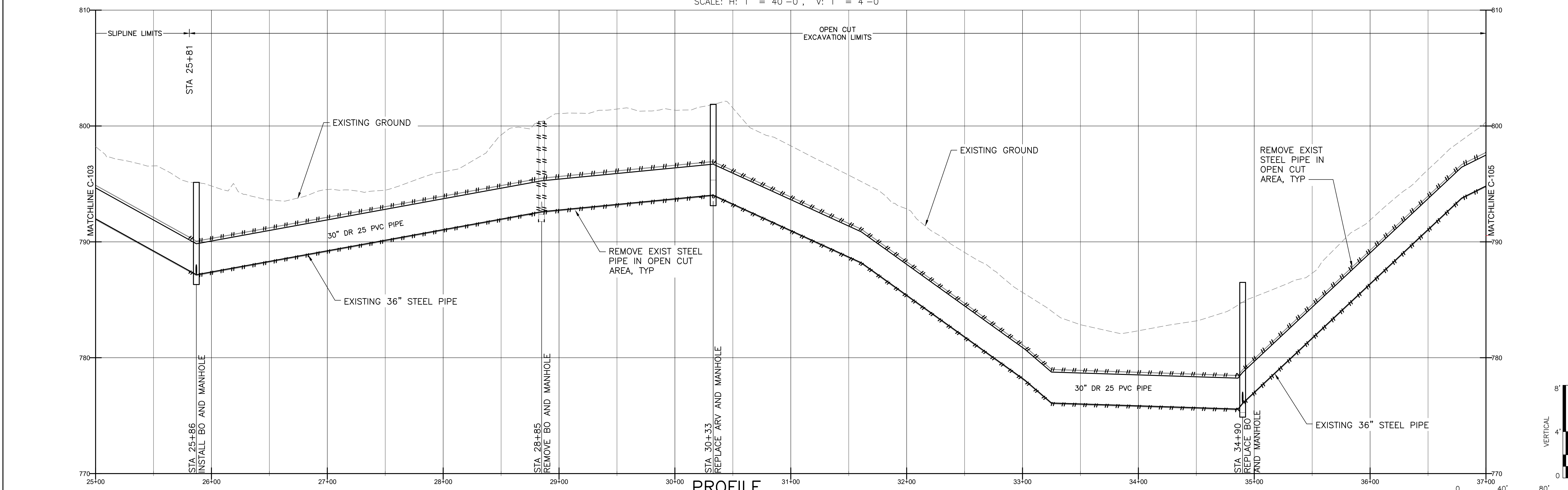
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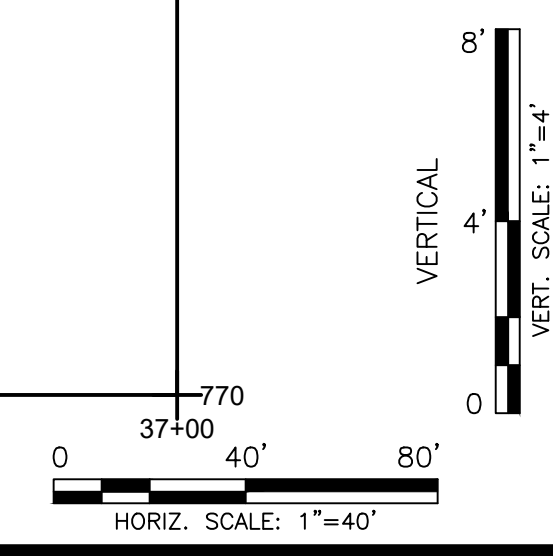
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PROFILE
SCALE: H: 1" = 40'-0", V: 1" = 4'-0"



PROFILE
SCALE: H: 1" = 40'-0", V: 1" = 4'-0"



Revision	By	Appd.	YY.MM.DD

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DEPARTMENT OF PUBLIC WORKS AND PARKS
QUINAPOXET TRANSFER PIPELINE
CONTRACT 2
HOLDEN, MASSACHUSETTS

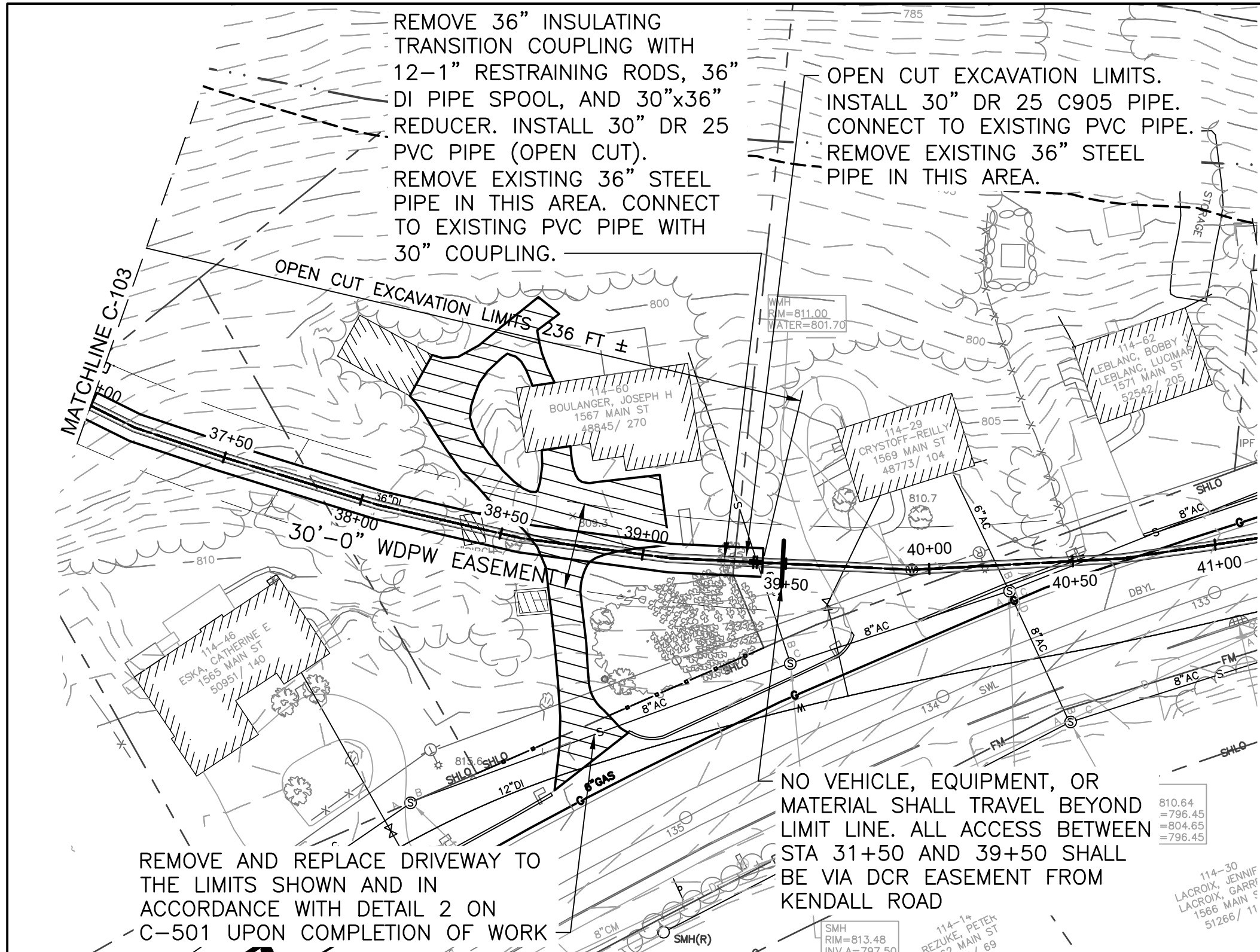
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Title
PROFILE - PART 2 AND PART 3

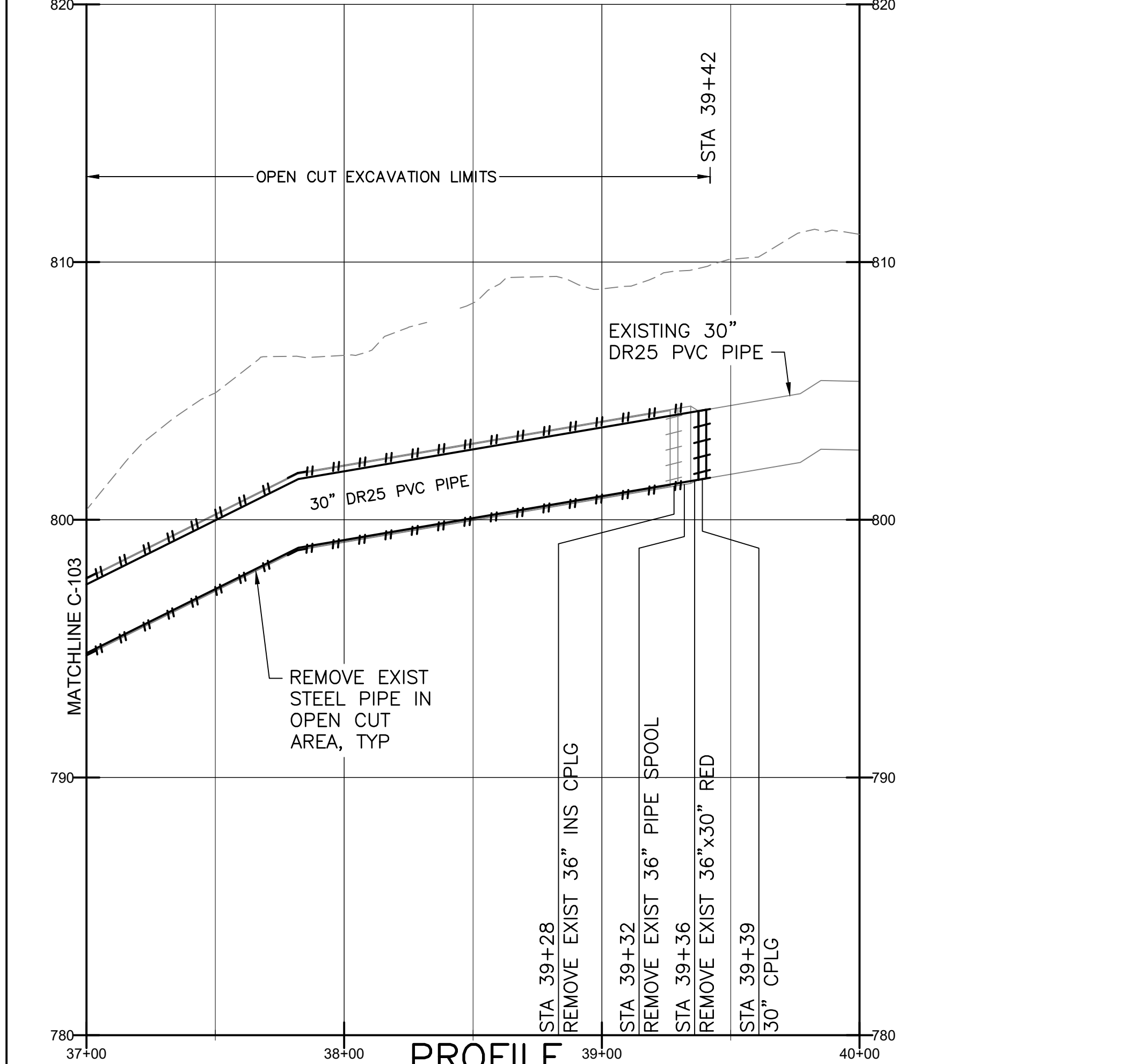
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Drawing No. C-104

Scale AS NOTED
Sheet 6 of 18

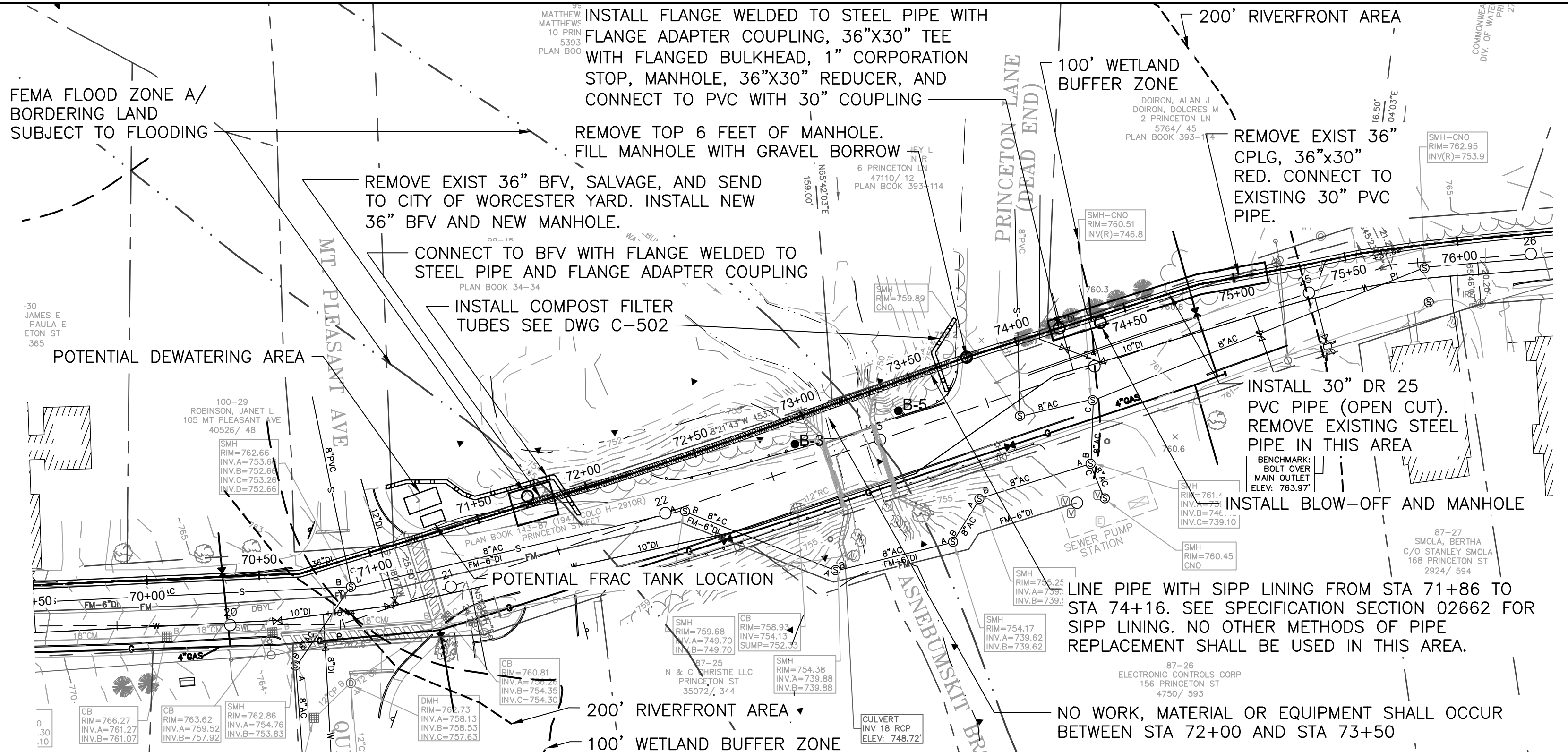
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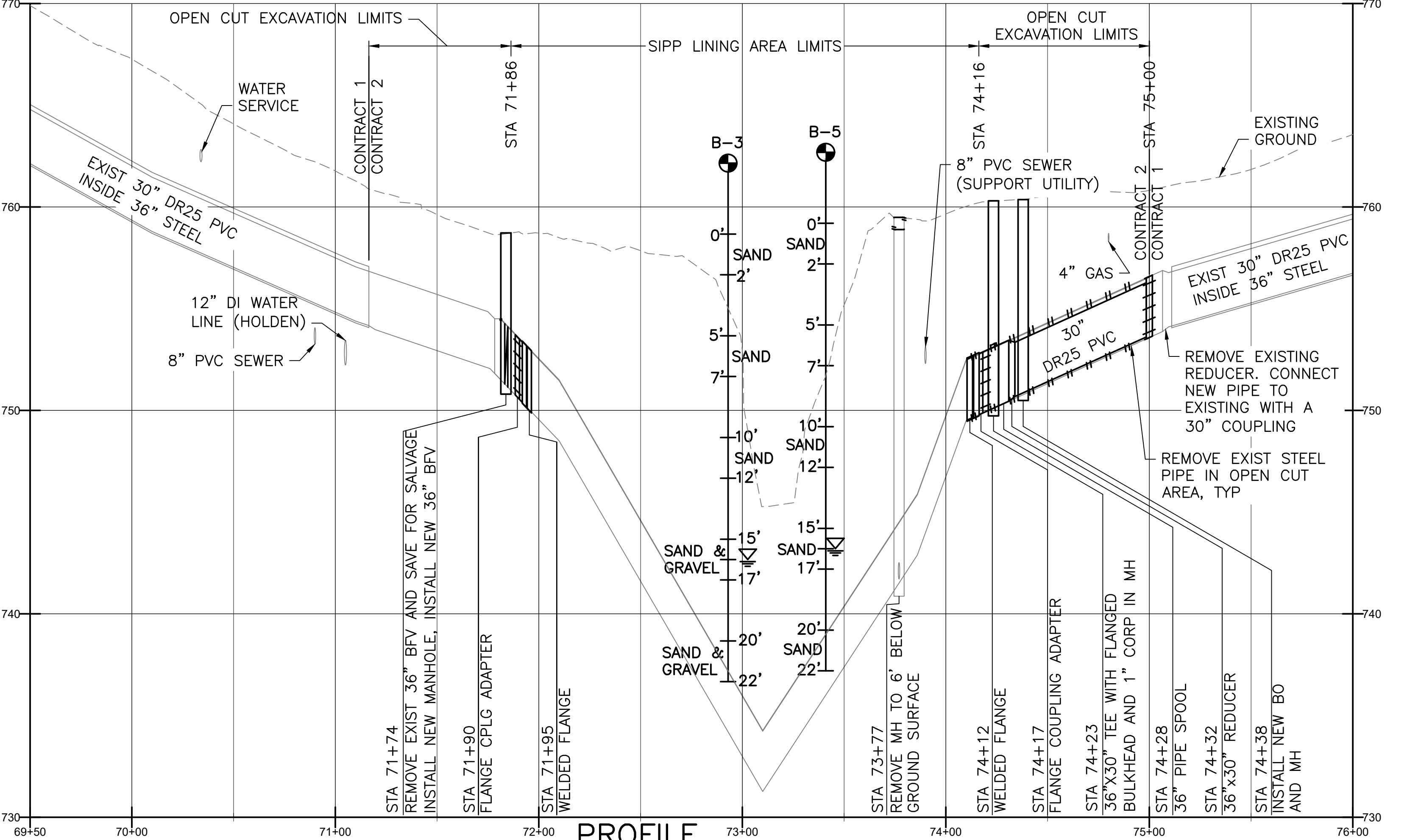
PLAN
SCALE: 1" = 40'-0"



PROFILE
SCALE: H: 1" = 40'-0", V: 1" = 4'-0"



PLAN
SCALE: 1" = 40'-0"



PROFILE
SCALE: H: 1" = 40'-0", V: 1" = 4'-0"

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Client/Project

CITY OF WORCESTER
DEPARTMENT OF PUBLIC WORKS AND PARKS

QUINAPOXET TRANSFER PIPELINE
CONTRACT 2

HOLDEN, MASSACHUSETTS

Title

PLAN AND PROFILE - PART 4

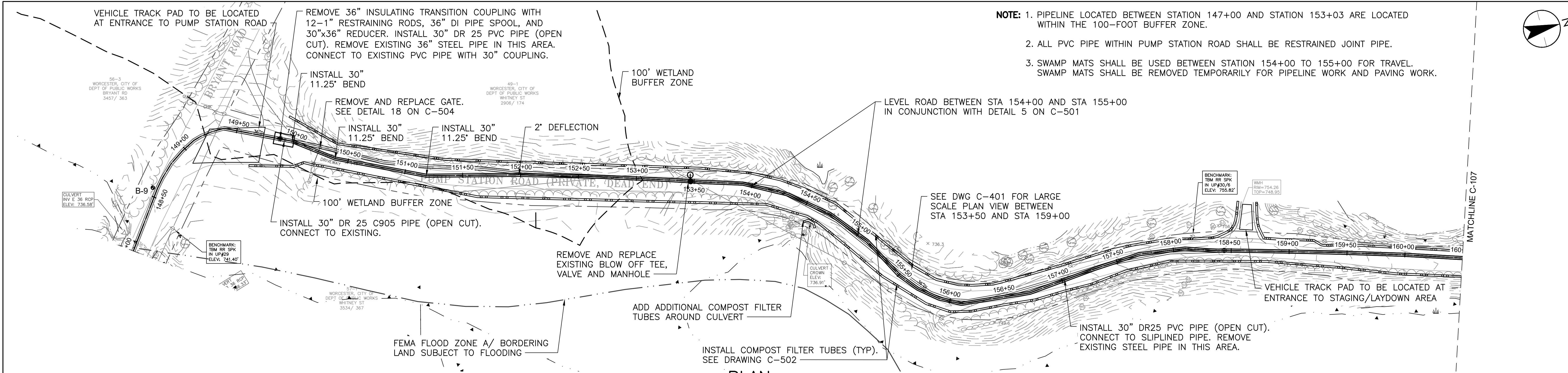
Project No.
195150275

Scale
AS SHOWN

Drawing No.
C-105

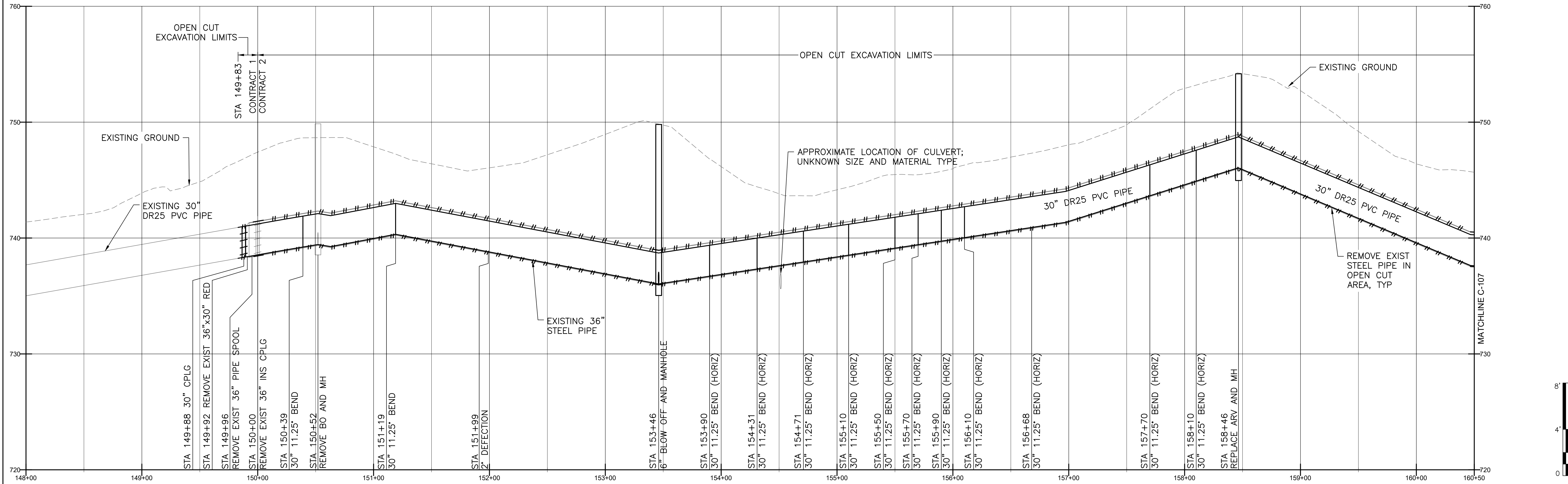
Sheet
7 of 18

Revision



PLAN

SCALE: 1" = 40'-0"



PROFILE

SCALE: H: 1" = 40'-0", V: 1" = 4'-0"

Revision	By	Appd.	YY.MM.DD	Issued	By	Appd.	YY.MM.DD

Permit-Seal

Consultants

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Burlington, MA
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Client/Project

CITY OF WORCESTER
DEPARTMENT OF PUBLIC WORKS AND PARKS

QUINAPOXET TRANSFER PIPELINE
CONTRACT 2

HOLDEN, MASSACHUSETTS

File Name: 195150275-C-101.DWG

ED	JJA	ED	22.06.01
Dwn.	Chkd.	Dgrr.	YY.MM.DD

Title

PLAN AND PROFILE - PART 5

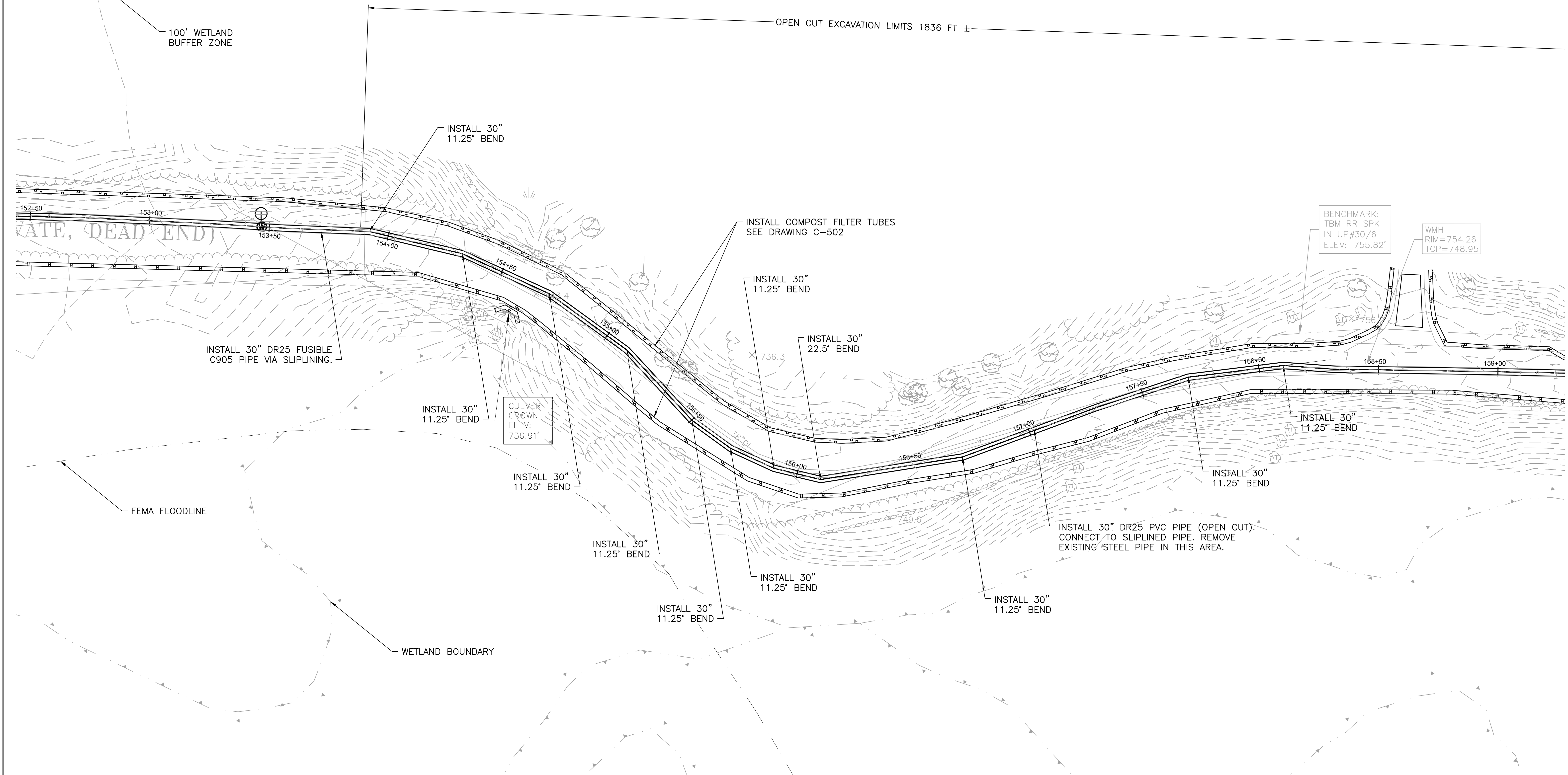
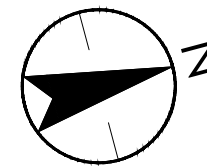
Project No.
195150275

Scale
AS SHOWN

Drawing No.
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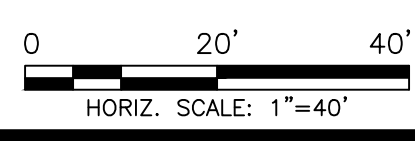
Sheet
8 of 18

Revision



PLAN

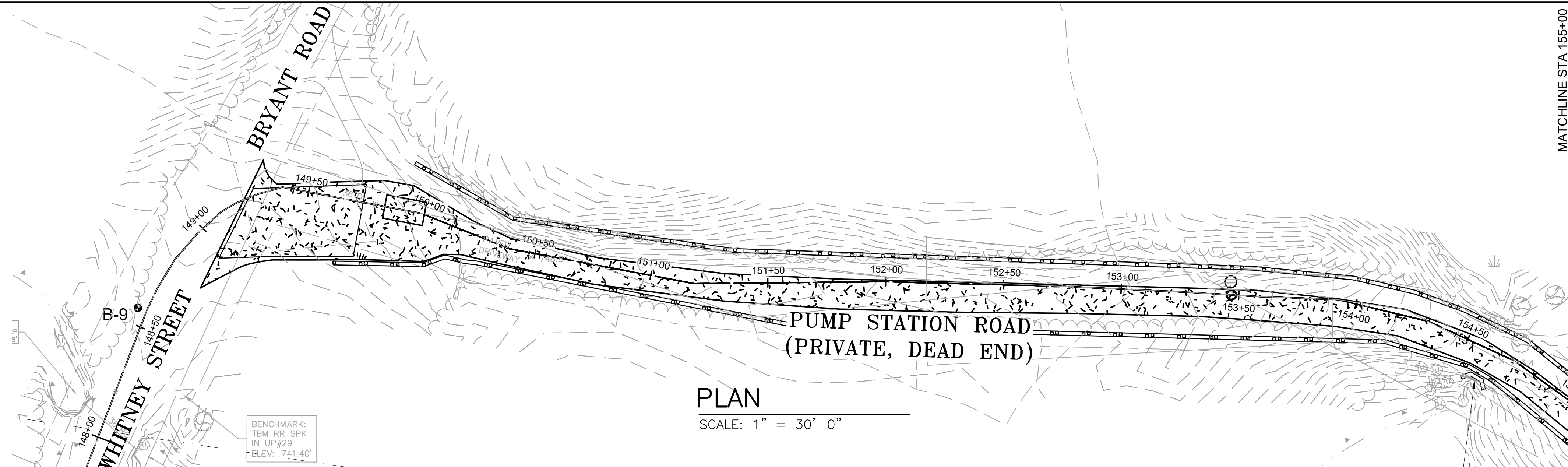
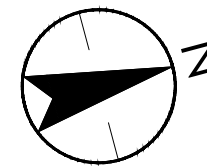
SCALE: 1" = 20'-0"



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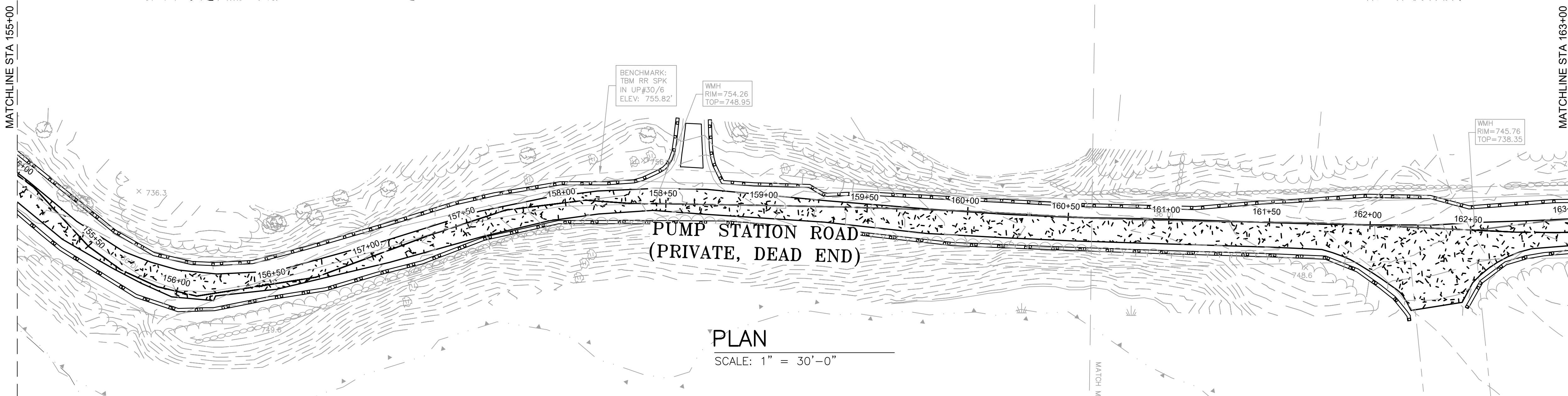
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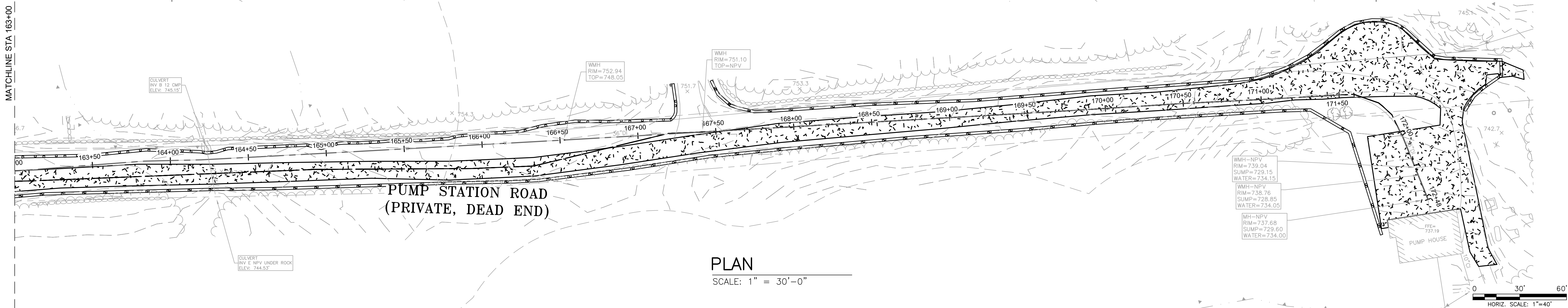
PLAN

SCALE: 1" = 30'-0"



PLAN

SCALE: 1" = 30'-0"



PLAN

SCALE: 1" = 30'-0"

Permit-Seal



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Client/Project

CITY OF WORCESTER
DEPARTMENT OF PUBLIC WORKS AND PARKS
QUINAPOXET TRANSFER PIPELINE
CONTRACT 2

HOLDEN, MASSACHUSETTS

Title

PUMP STATION RD PAVING LIMITS

Project No.

195150275

Drawing No.

C-402

Scale

AS NOTED

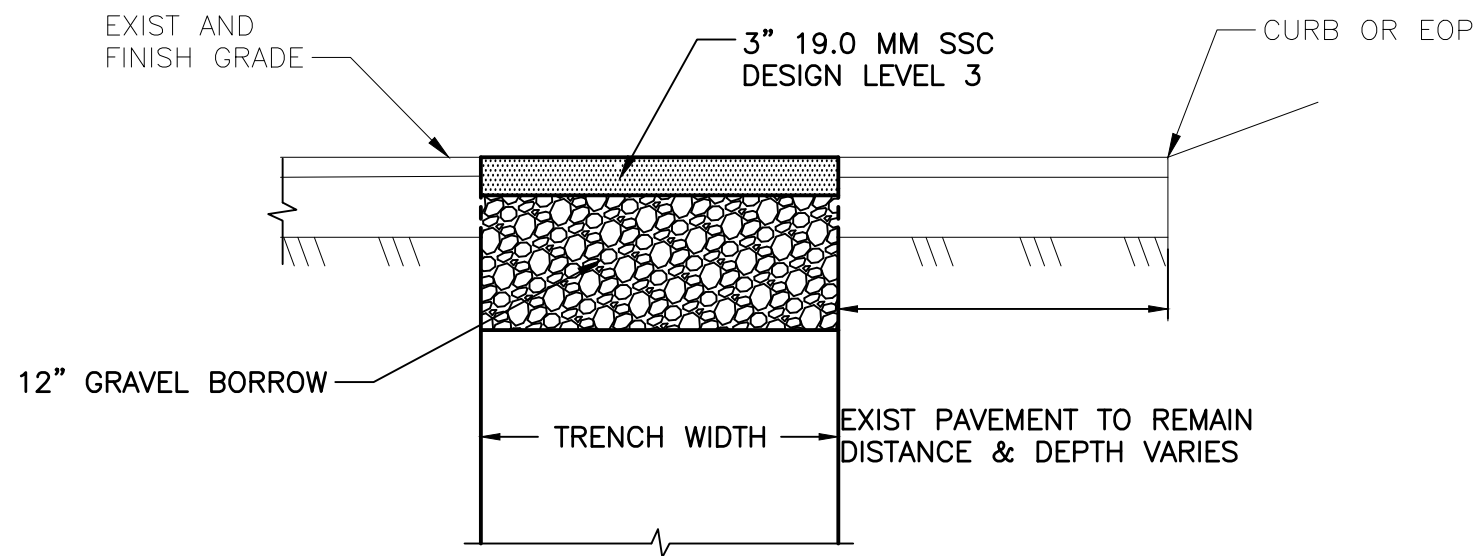
Sheet

11 of 18

Revision

Revision	By	Appd.	YY.MM.DD	Issued	By	Appd.	YY.MM.DD

U:\195150275\CAD\CONTRACT 2\2 CH\195150275-C-401.dwg



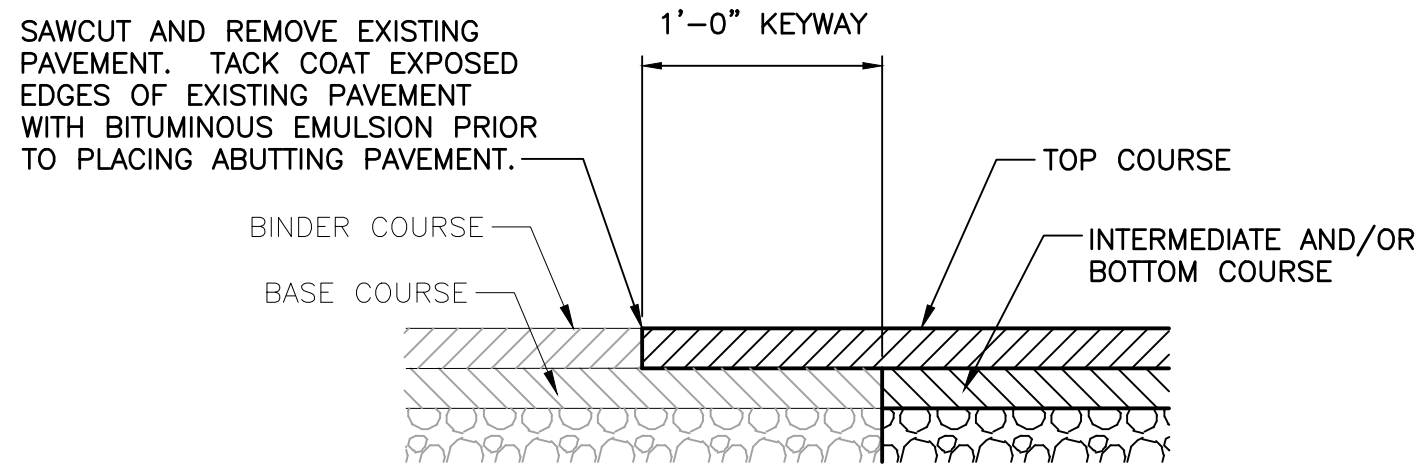
NOTE:

1. TACK COAT ALL VERTICAL SURFACES OF EXISTING PAVEMENT.
2. 3" 19.0 MM SSC DESIGN LEVEL 3 MAY BE SUBSTITUTED WITH DESIGN LEVEL 2 FOR ALL STREETS, EXCEPT MAIN STREET (RTE 122A).

TEMPORARY TRENCH PAVEMENT

SCALE: NOT TO SCALE

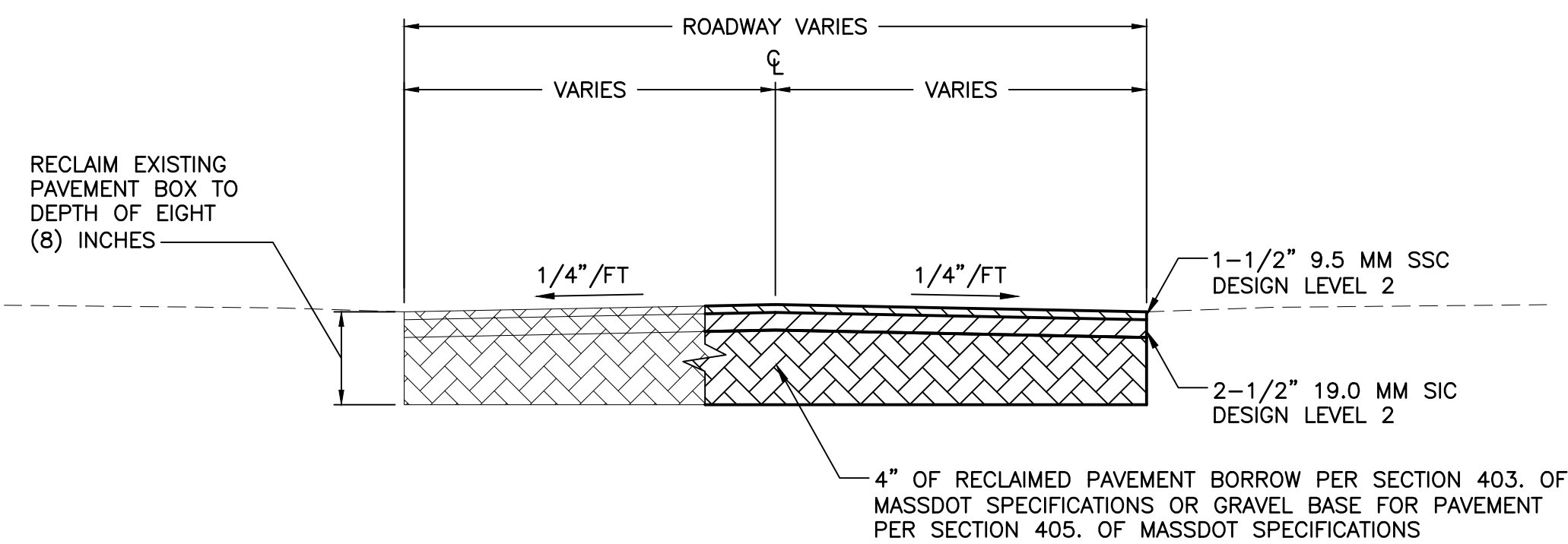
1



TRANSVERSE KEYWAY DETAIL FOR CONNECTION TO EXISTING PAVEMENT

SCALE: NOT TO SCALE

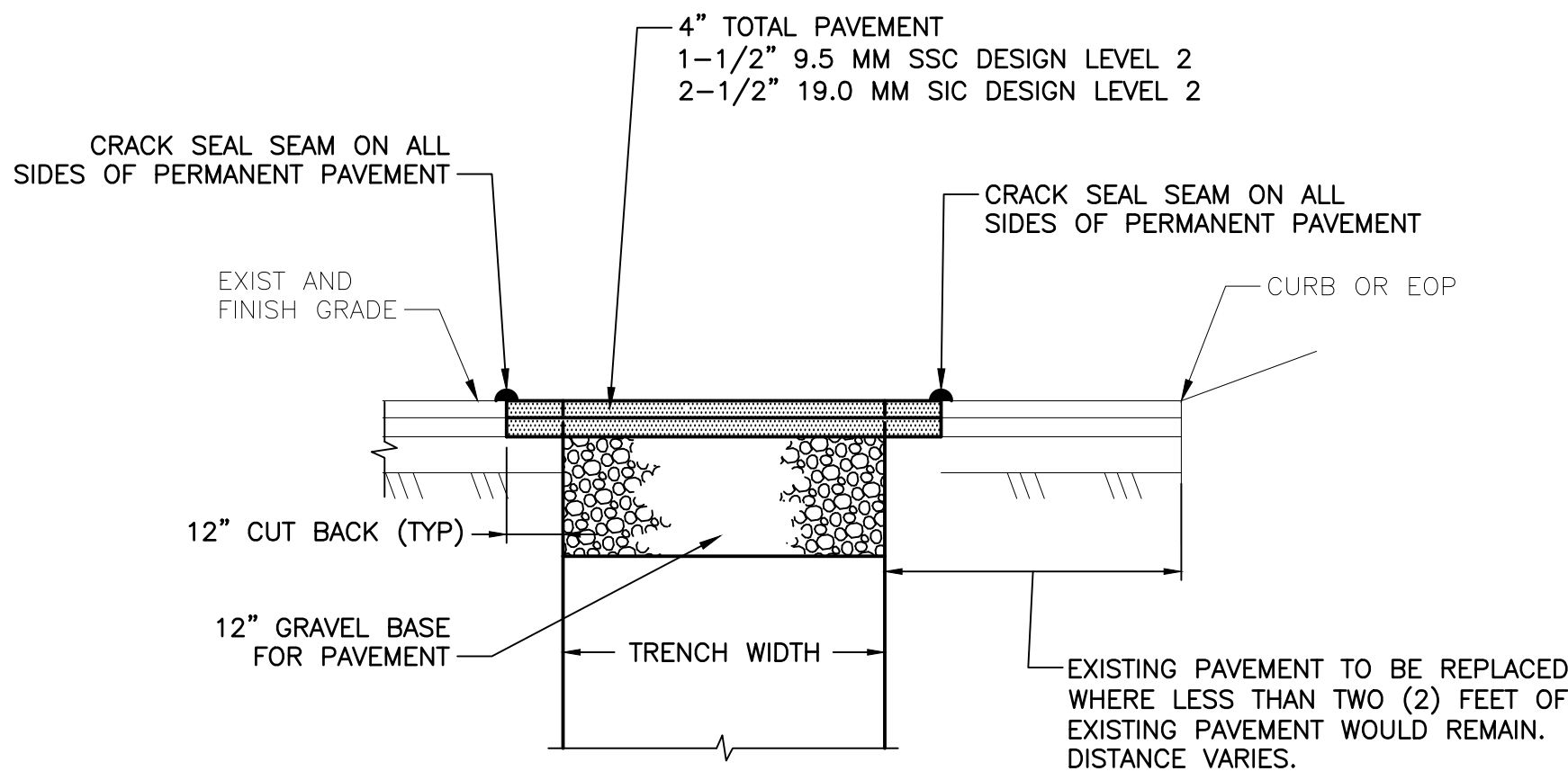
4



8-INCH RECLAMATION PAVEMENT RESTORATION (PUMP STATION ROAD)

SCALE: NOT TO SCALE

5



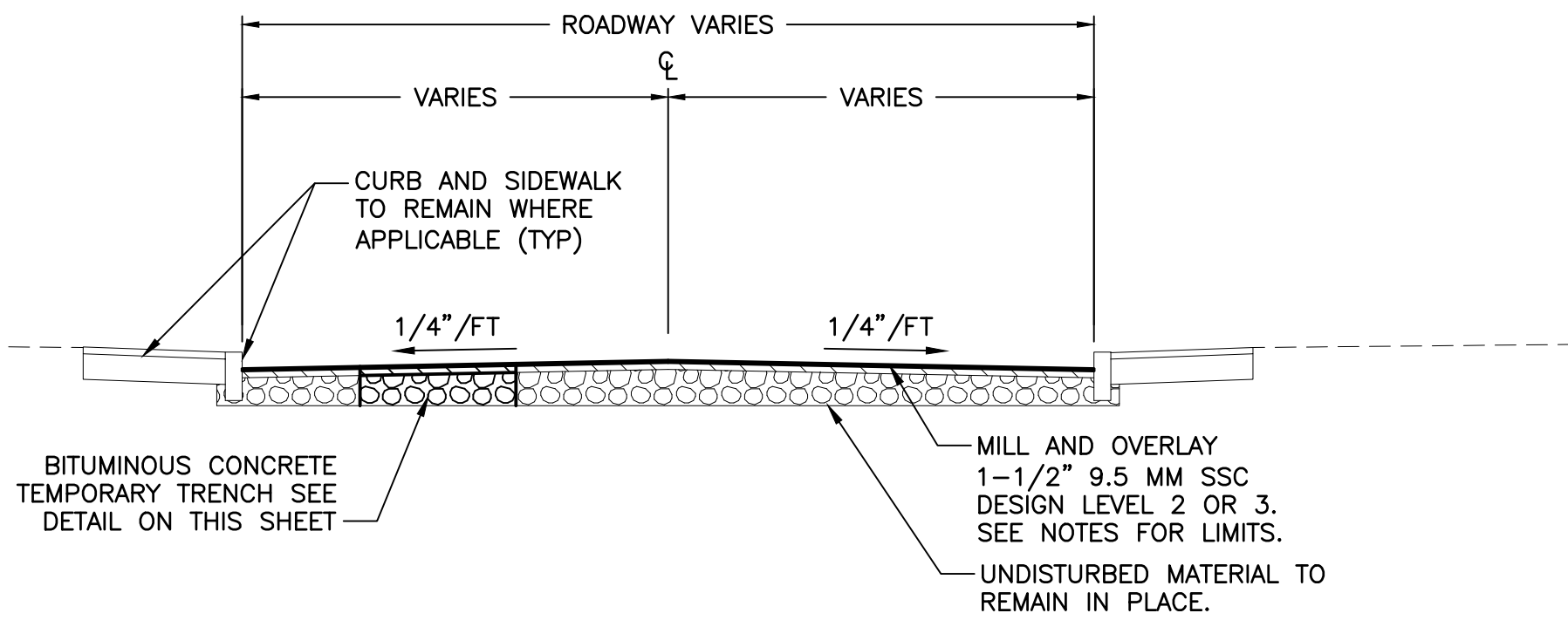
NOTES:

1. TACK COAT ALL VERTICAL SURFACES OF EXISTING PAVEMENT.
2. SURFACE COURSE SHALL BE SUPERPAVE 9.5 MM DESIGN LEVEL 2 MIX.
3. INTERMEDIATE COURSE SHALL BE SUPERPAVE 19.0 MM DESIGN LEVEL 2 MIX.
4. SURFACE COURSE AND INTERMEDIATE COURSE SHALL COMPLY WITH THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
5. GRAVEL SUB-BASE AND SAND ARE SPECIFIED IN SECTION 02200.

PERMANENT TRENCH PAVEMENT (HOLDEN)

SCALE: NOT TO SCALE

2

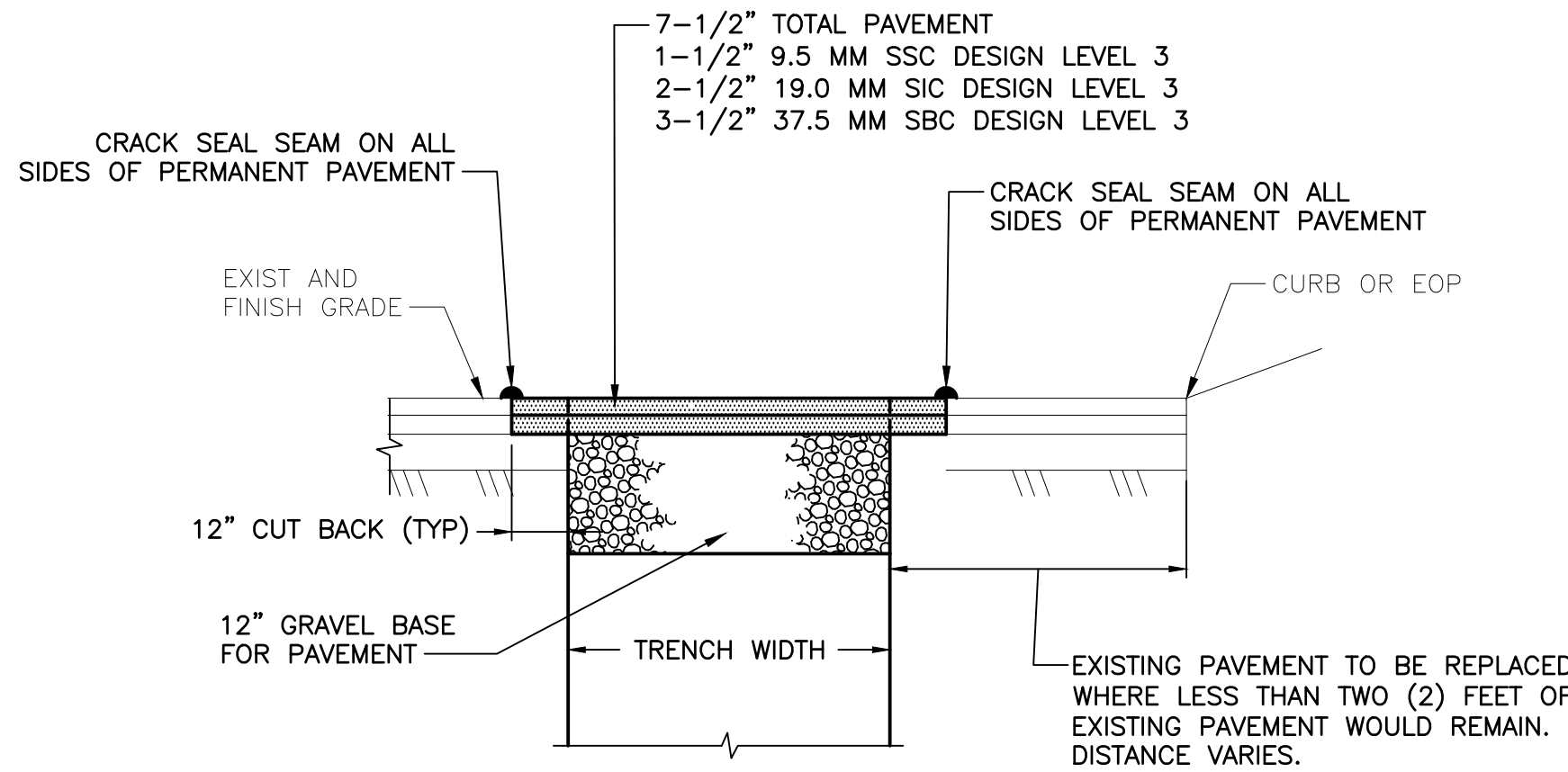


PAVEMENT MILL AND OVERLAY (PRINCETON STREET)

SCALE: NOT TO SCALE

6

PAVING REQUIRMENTS			
STATION FROM	STATION TO	STREET NAME	USE PAVING DETAILS
11+33	11+63	KENDALL ROAD	1, 2, 4
40+50	51+20	MAIN STREET (ROUTE 122A)	1, 3, 4
51+74	52+50	HIGH STREET	1, 2, 4
71+30	71+88	PRINCETON STREET	1, 2, 4
75+50	107+00	PRINCETON STREET	1, 6
107+00	149+50	WHITNEY STREET	1, 2, 4
149+50	171+70	PUMP STATION ROAD	5



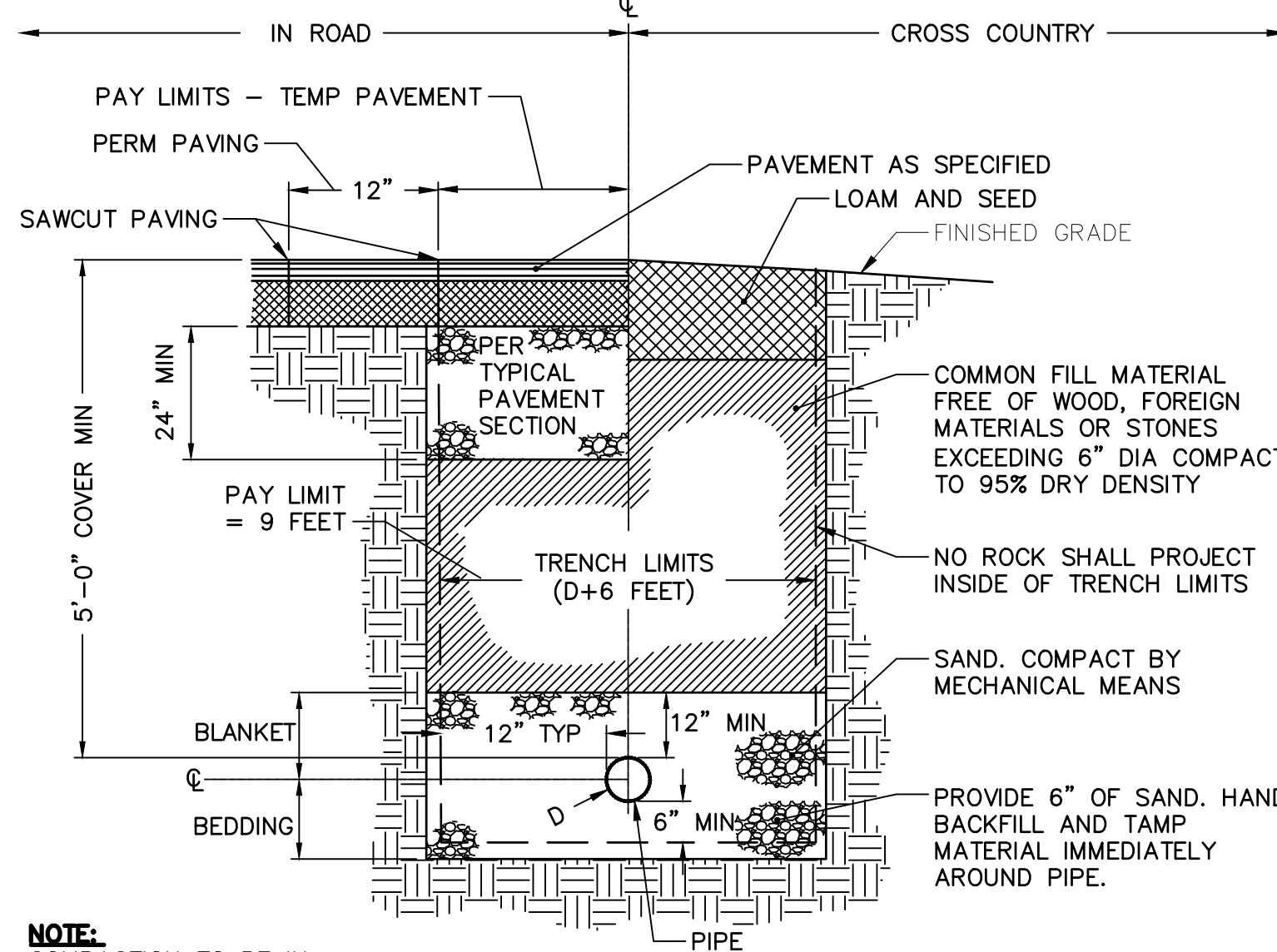
NOTES:

1. TACK COAT ALL VERTICAL SURFACES OF EXISTING PAVEMENT.
2. SURFACE COURSE SHALL BE SUPERPAVE 9.5 MM DESIGN LEVEL 3 MIX.
3. INTERMEDIATE COURSE SHALL BE SUPERPAVE 19.0 MM DESIGN LEVEL 3 MIX.
4. BASE COURSE SHALL BE SUPERPAVE 37.5 MM DESIGN LEVEL 3 MIX.
5. SURFACE COURSE AND INTERMEDIATE COURSE SHALL COMPLY WITH THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
6. GRAVEL SUB-BASE AND SAND ARE SPECIFIED IN SECTION 02200.

PERMANENT TRENCH PAVEMENT (MASSDOT)

SCALE: NOT TO SCALE

3



NOTE:

COMPACTION TO BE IN ACCORDANCE WITH SPECIFICATION SECTION 02200

PVC TRENCH DETAIL

SCALE: NOT TO SCALE

7

EROSION CONTROL NOTES:

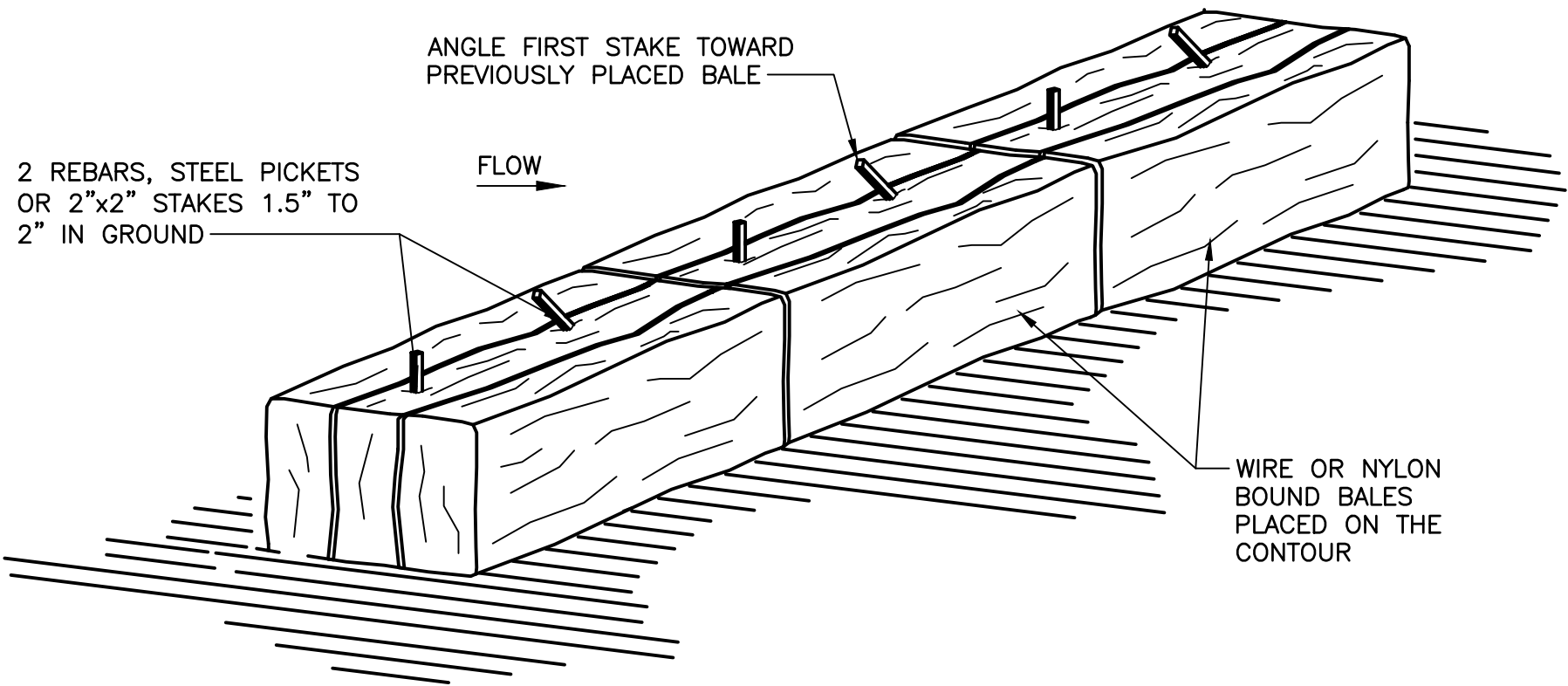
GENERAL:

IT IS THE INTENT OF THE CONTRACT PLANS AND DETAILS TO CONTROL EROSION AND SEDIMENTATION IN ALL PORTIONS OF THE SITE. THE CONTRACTOR IS ALERTED THAT CONTROL OF EROSION AND SEDIMENTATION IS CONSIDERED TO BE ESPECIALLY IMPORTANT IN AND AROUND THE AREAS SHOWN ON THE PLANS AND DELINEATED AS WETLANDS. THE CONTRACTOR IS TO IMPLEMENT THE EROSION AND SEDIMENTATION CONTROLS INDICATED ON THE PLANS, IN ACCORDANCE WITH THE FOLLOWING NOTES, BUT IS ALERTED TO THE FACT THAT ADDITIONAL MEASURES MAY BE REQUIRED TO COMPLY WITH THIS INTENT, AS FIELD CONDITIONS MAY WARRANT. SHOULD SUCH MEASURES BE DETERMINED TO BE REQUIRED OR ORDERED BY THE ENGINEER, THEY ARE TO BE IMPLEMENTED IMMEDIATELY.

- ALL WORK SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE PROVISIONS OF ALL APPLICABLE PERMITS AND APPROVALS ISSUED BY LOCAL, STATE & FEDERAL REGULATION FOR ACTIVITIES INVOLVING WETLANDS, WATERCOURSES AND/OR EROSION CONTROLS. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, MARCH 1997 AND THE U.S.D.A. SCS'S EROSION AND SEDIMENT CONTROL IN SITE DEVELOPMENT, MASSACHUSETTS CONSERVATION GUIDE, SEPTEMBER 1983.
- TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITEWORK, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITEWORK IS COMPLETED AND GROUND COVER IS ESTABLISHED (AT LEAST 75% UNIFORM COVERAGE BY NEW SEEDLINGS).
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROLS DAILY AND CLEAN ACCUMULATED MATERIALS FROM BEHIND THEM, AS NECESSARY. ALL EROSION AND SEDIMENTATION CONTROL MEASURES FOUND TO BE IN NEED OF REPAIR OR REPLACEMENT SHALL BE IMMEDIATELY CORRECTED, SO AS TO MAINTAIN THE INTEGRITY OF THE EROSION AND SEDIMENTATION CONTROL SYSTEM.
- SEDIMENT REMOVED FROM CONTROL STRUCTURES SHALL BE DISPOSED IN A MANNER DESCRIBED IN THE MAINTENANCE PLAN FILED WITH THE CONSERVATION COMMISSION. NO EQUIPMENT OR MATERIAL OF ANY KIND SHALL BE STOCKPILED OR DEPOSITED IN ANY REGULATED AREA, UNLESS SPECIFICALLY SHOWN ON THE CONTRACT PLANS OR AUTHORIZED BY PROJECT PERMITS/APPROVALS.
- STOCKPILED SOIL SHALL BE SURROUNDED WITH SILTATION FENCES TO PREVENT AND CONTROL SILTATION AND EROSION. STOCKPILES THAT WILL REMAIN EXPOSED FOR MORE THAN 30 DAYS, SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER.
- ALL DISTURBED AREAS THAT WILL REMAIN EXPOSED OR UNDISTURBED SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER WITHIN SEVEN (7) DAYS OF THE END OF ACTIVITY OR BEFORE RAINFALL, WHICHEVER IS SOONER.
- CULVERT/PIPE INLETS AND OUTFALLS SHALL BE STABILIZED WITH STONE FOR PIPE ENDS OR OTHER APPROVED PERMANENT EROSION CONTROL MEASURES, IMMEDIATELY FOLLOWING PIPE INSTALLATION.
- THERE SHALL BE NO DIRECT DISCHARGE FROM ANY REQUIRED DEWATERING OPERATIONS INTO ANY WETLAND, WATERCOURSE, OR DRAINAGE SYSTEM AND THEN ONLY AS ALLOWED BY REGULATORY PERMITS. ANY DEWATERING DISCHARGE CONTAINING SETTLEABLE SOLIDS (SEDIMENTS) SHALL BE PASSED THROUGH A SEDIMENTATION CONTROL BASIN OR SIMILAR TREATMENT, APPROVED BY THE ENGINEER, TO REMOVE THESE SOLIDS. CONTRACTOR SHALL MAINTAIN SAID SEDIMENT CONTROL DEVICE THROUGHOUT THE ENTIRE DEWATERING OPERATION AND SHALL CEASE DEWATERING, IF DEFICIENCIES ARE NOTED, UNTIL THE DEFICIENCIES ARE CORRECTED.
- EARTHWORK ACTIVITY SHALL BE PERFORMED IN A MANNER SUCH THAT RUNOFF IS DIRECTED TO THE TEMPORARY DRAINAGE SWALES AND SEDIMENTATION BASINS. IN NO CASE SHALL RUNOFF FROM ROADWAYS OR OTHER AREAS, UPGRADIENT FROM EMBANKMENTS, BE ALLOWED TO RUN DOWN ANY CUT OR FILL SLOPE, WITHOUT THE APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL INSPECT ALL PORTIONS OF THE SITE IN ANTICIPATION OF RAINFALL EVENTS TO DETERMINE IF SITE GRADING IS SUFFICIENT TO PREVENT EROSION OF SLOPES AND/OR THE TRANSPORTATION OF SEDIMENTS TO WETLANDS OR WATERCOURSES, WITHIN THE PROJECT LIMITS. SHOULD ADDITIONAL MEASURES BE REQUIRED, THEY ARE TO BE IMPLEMENTED IMMEDIATELY. IN NO CASE SHALL THE INSTALLATION OF ADDITIONAL MEASURES, NECESSARY TO PROTECT SLOPES WITHIN THE PROJECT LIMITS, BE DELAYED BEYOND THE COMMENCEMENT OF PRECIPITATION.
- ALL DISTURBED EARTH SLOPES SHALL BE STABILIZED WITH PERMANENT VEGETATIVE COVER AS SOON AS POSSIBLE. DISTURBED AREAS, WHICH ARE NOT SUBJECT TO CONSTRUCTION TRAFFIC, SHALL RECEIVE A PERMANENT OR TEMPORARY VEGETATIVE COVER AS SOON AS FINAL CONTOURS ARE ESTABLISHED. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A VEGETATIVE COVER, DISTURBED AREAS SHALL BE THOROUGHLY MULCHED. MULCHED AREAS SHALL BE SEEDED AS SOON AS WEATHER CONDITIONS ALLOW.
- ALL SLOPES STEEPER THAN 2H:1V SHALL BE COVERED WITH MODIFIED ROCKFILL AND AN APPROVED EROSION CONTROL MATTING. SEE SLOPE EROSION CONTROL DETAIL FOR SLOPES STEEPER THAN 2H:1V.
- A STOCKPILE OF EXTRA SILTATION FENCE AND CRUSHED STONE SHALL BE KEPT ON SITE THROUGHOUT THE CONSTRUCTION WORK. THIS MATERIAL SHALL BE INSTALLED TO MITIGATE ANY EROSION/SEDIMENTATION CONDITIONS WHICH MAY ARISE.
- FOR LOCATION OF PROPOSED EROSION CONTROL MEASURES, SEE PLANS. AREAS DISTURBED BY EROSION BARRIERS, SHALL BE LOAMED AND SEEDED, OR OTHERWISE RESTORED TO ORIGINAL CONDITIONS.
- CONTRACTOR SHALL REMOVE ALL SEDIMENTATION CONTROL SYSTEMS, REMOVE ALL ACCUMULATED SEDIMENTS, AND SEED THE DISTURBED AREAS, WHEN THE CONTROL SYSTEMS ARE NO LONGER REQUIRED. CONTRACTOR SHALL REQUEST AND RECEIVE PERMISSION FROM THE ENGINEER PRIOR TO REMOVING ANY CONTROL SYSTEM.
- REFER TO SECTION 02240, SECTION 01000 PARAGRAPH 1.04T, AND GENERAL NOTE #29 ON C-001.

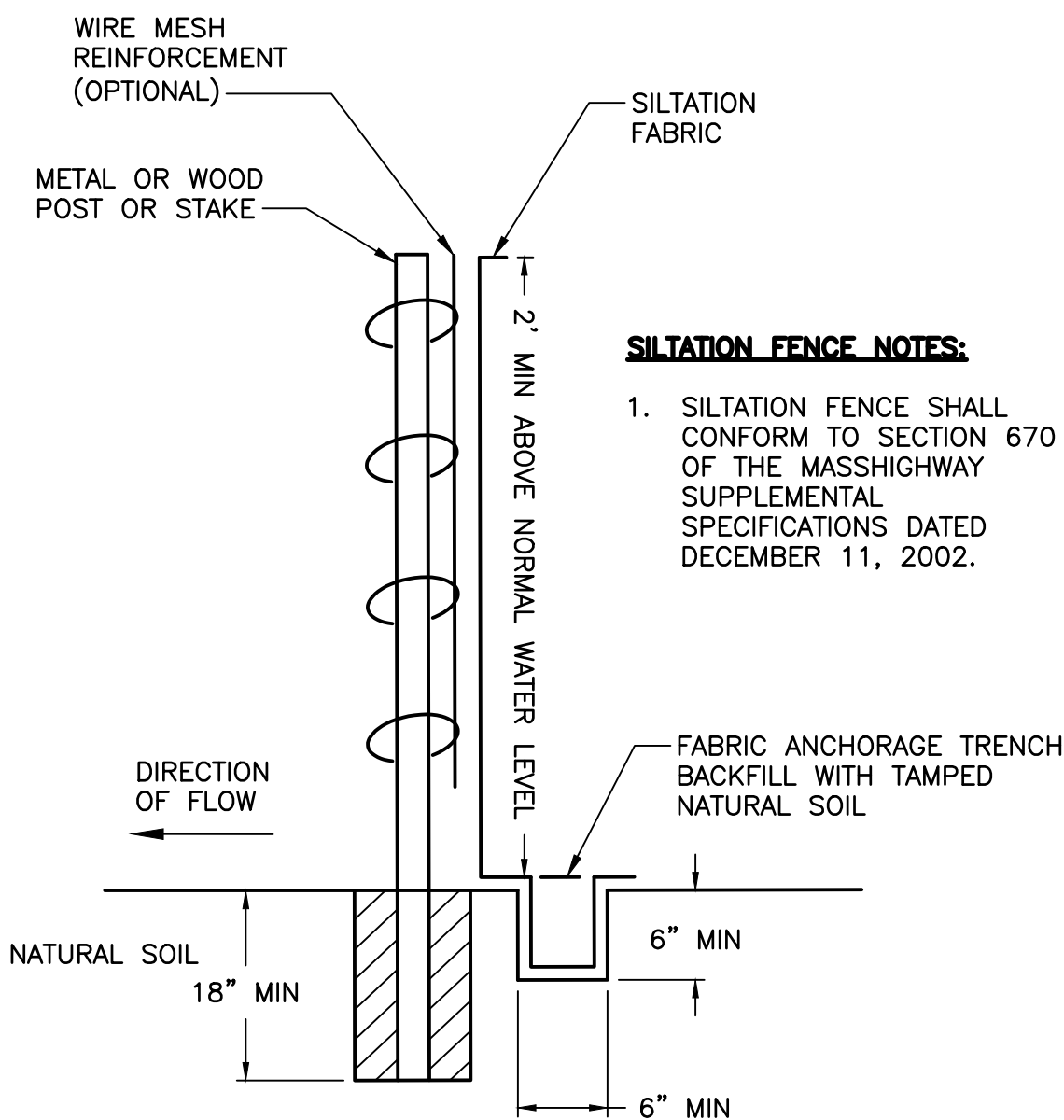
CONSTRUCTION SPECIFICATIONS ON SILTATION AND EROSION CONTROL:

- EROSION CONTROL MEASURE SHALL BE INCORPORATED IN THE SEQUENCE OF CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER FROM LEAVING THE SITE.
- AREAS SUBJECT TO EROSION SHALL BE MINIMIZED IN TERMS OF TIME AND AREA.
- IN GENERAL, WORK REQUIRING EROSION CONTROL INCLUDED EXCAVATIONS, FILLS, DRAINAGE, SWALES AND DITCHES, ROUGH AND FINISH GRADING, AND STOCKPILING OF EARTH.
- DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT OF SILT FENCE ACTIVITIES.
- THE CONTRACTOR SHALL REMOVE TEMPORARY SILT FENCE AND STRAW BALE DIKES AND ALL ACCUMULATED SILT AND DEBRIS AFTER COMPLETION OF CONSTRUCTION OPERATIONS. HAYBALE DIKES SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL SILT AND DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS FROM EACH DRAINAGE STRUCTURE UPON COMPLETION OF THE PROJECT.
- OBJECTS AND/OR AREAS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND ELEVATION.
- THE CONTRACTOR SHALL REPLACE ANY SECTION OF STRAW BALES OR SILT FENCES DAMAGED DURING ANY PHASE OF CONSTRUCTION.



STAKED STRAW BALES

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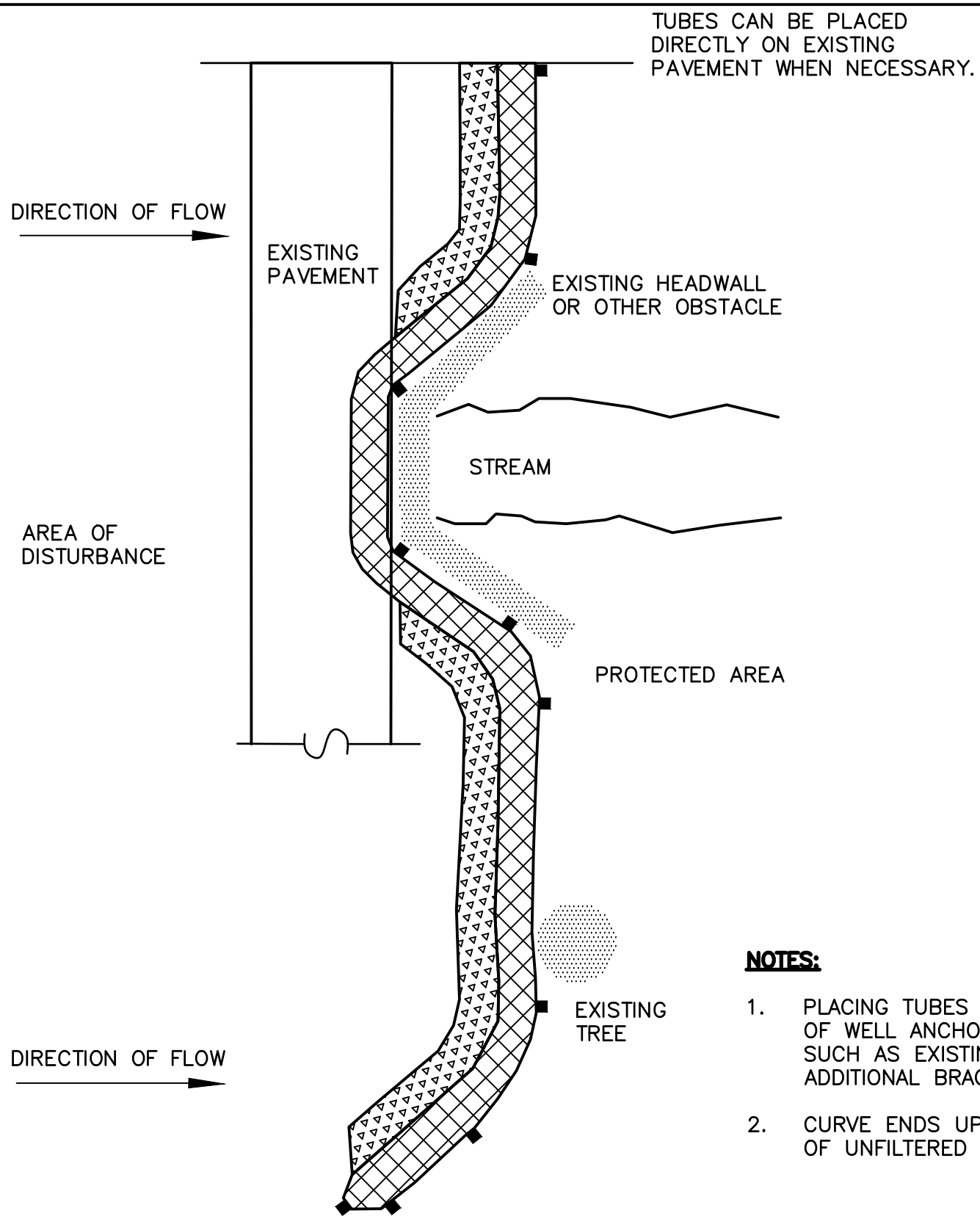


SILTATION FENCE DETAIL

SCALE: NOT TO SCALE

CONSTRUCTION SPECIFICATIONS FOR STAKED STRAW BALES:

- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3". BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY PLACED BALE TO FORCE THE BALES TOGETHER. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS DIRECTED BY THE ENGINEER. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



PLAN VIEW

NOTES:

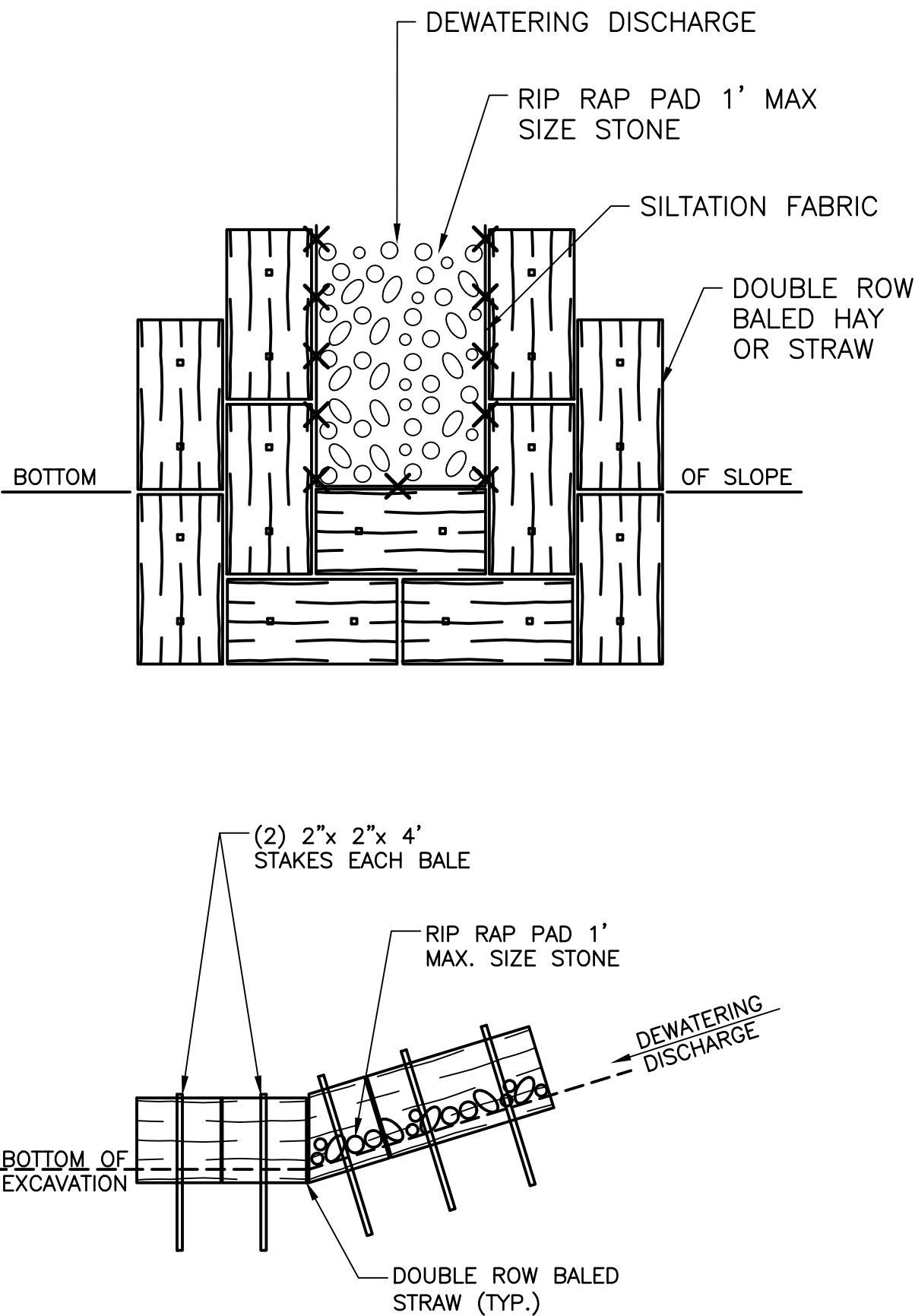
- PLACING TUBES AGAINST THE UPHILL SIDE OF WELL ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.
- CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.

GENERAL NOTES FOR COMPOST FILTER TUBE:

- PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
- INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
- DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
- CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.

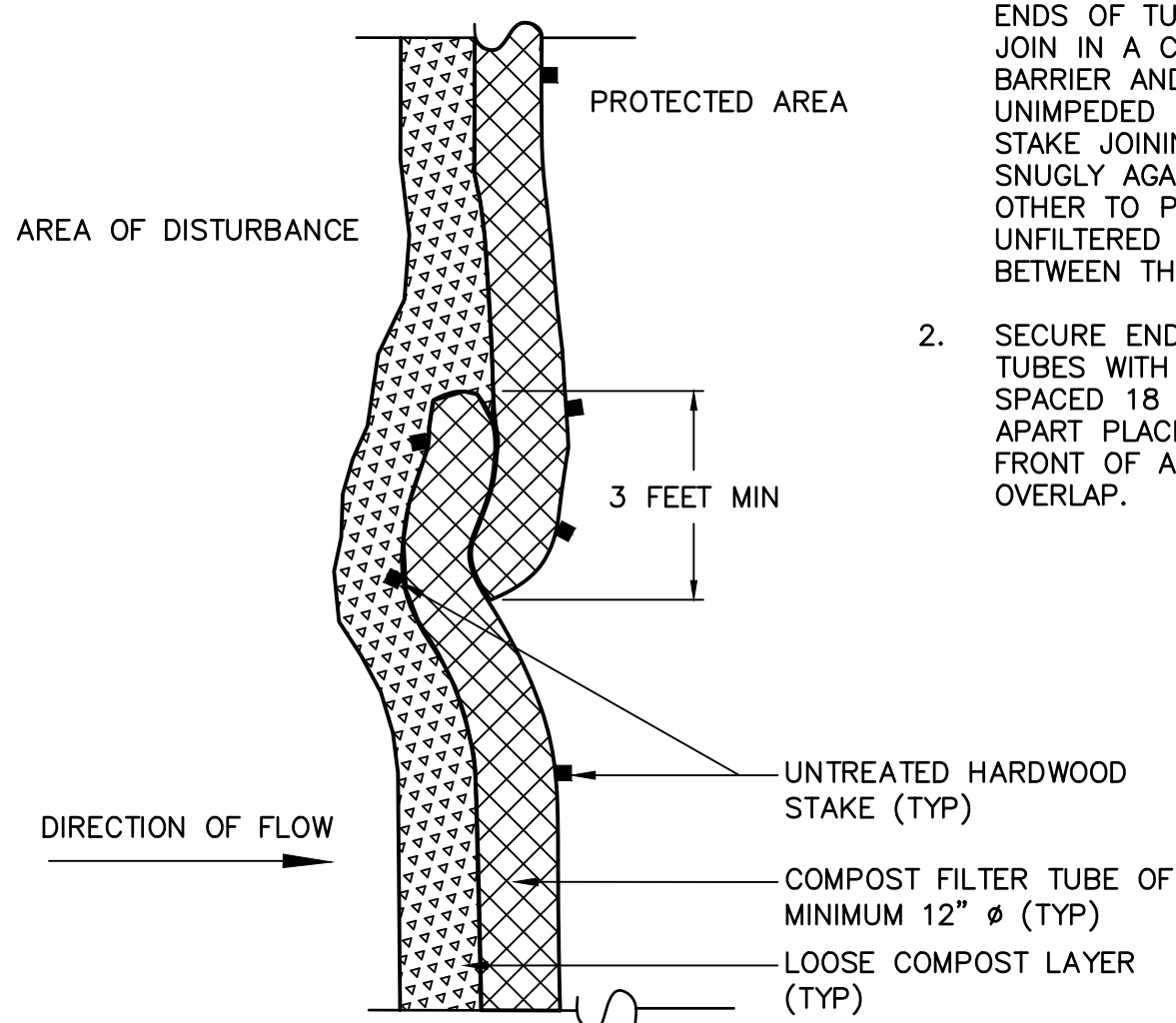
COMPOST FILTER TUBE DETAILS

SCALE: NOT TO SCALE



TEMPORARY SEDIMENT TRAP PLAN

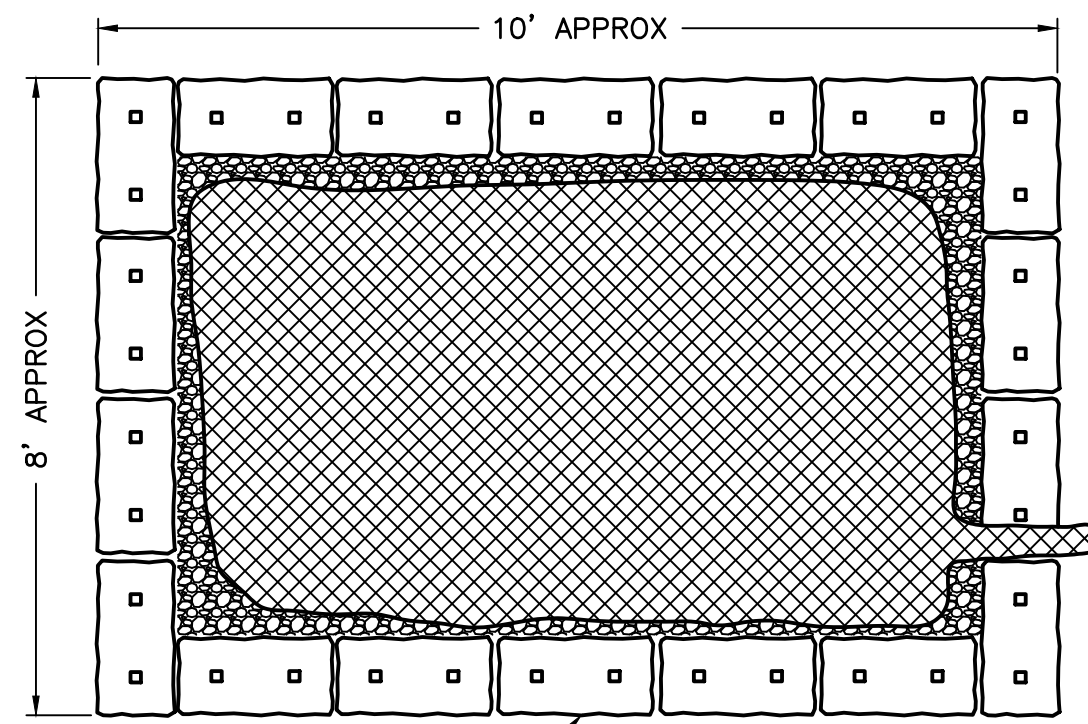
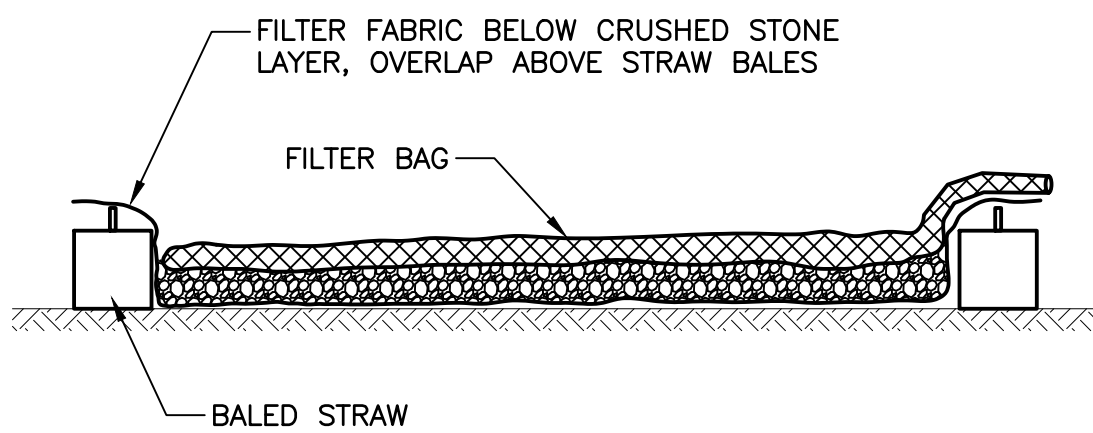
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PLAN VIEW -- JOIN DETAIL

NOTES:

- PROVIDE A 3 FEET MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
- SECURE ENDS OF TUBES WITH STAKES SPACED 18 INCHES APART PLACED IN FRONT OF AND BEHIND OVERLAP.



SEDIMENTATION CONTROL BASIN DETAIL

SCALE: NOT TO SCALE

SEDIMENTATION CONTROL BASIN NOTES:

- SEDIMENTATION CONTROL BASINS SHALL BE SIZED AND INSTALLED TO HANDLE ALL OF THE DEWATERING NECESSARY DURING CONSTRUCTION. CONTRACTOR TO INSTALL AND MAINTAIN MULTIPLE SEDIMENTATION BASINS AS NECESSARY TO HANDLE ALL TRENCH DEWATERING DISCHARGE AND MEET THE REQUIREMENT OF ALL PERMITS.
- SEDIMENTATION BASINS TO BE LOCATED ADJACENT TO THE ROADWAY GUTTER LINE, WITHIN THE TOWN RIGHT-OF-WAY.
- DISCHARGE SHALL NOT EXCEED A TURBIDITY STANDARD OF 5 NTU IN THE WATERSHED OF AN OUTSTANDING RESOURCE WATER (ORW).

Revision	By	Appd.	YY.MM.DD	Issued	By	Appd.	YY.MM.DD

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Client/Project

CITY OF WORCESTER
DEPARTMENT OF PUBLIC WORKS AND PARKS

QUINAPOXET TRANSFER PIPELINE
CONTRACT 2

HOLDEN, MASSACHUSETTS

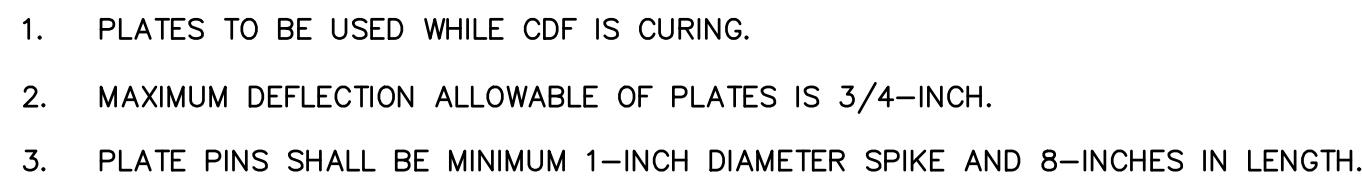
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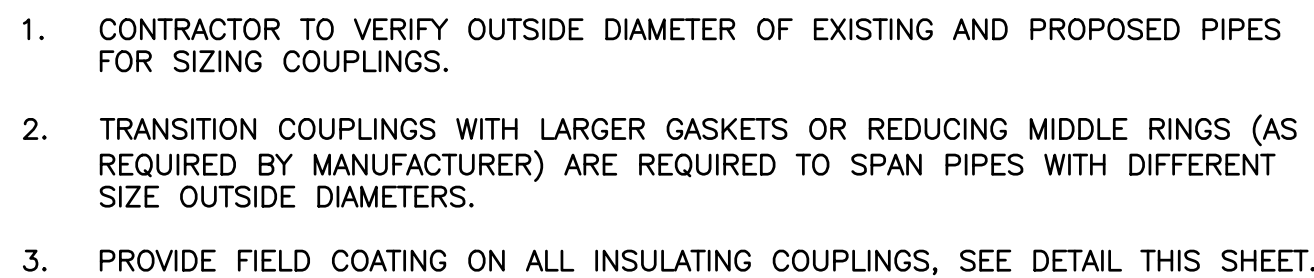
EROSION CONTROL NOTES AND DETAILS

Project No. 195150275	Scale NOT TO SCALE
Drawing No.	Sheet 13 of 18

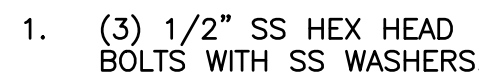
C-502



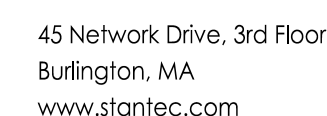
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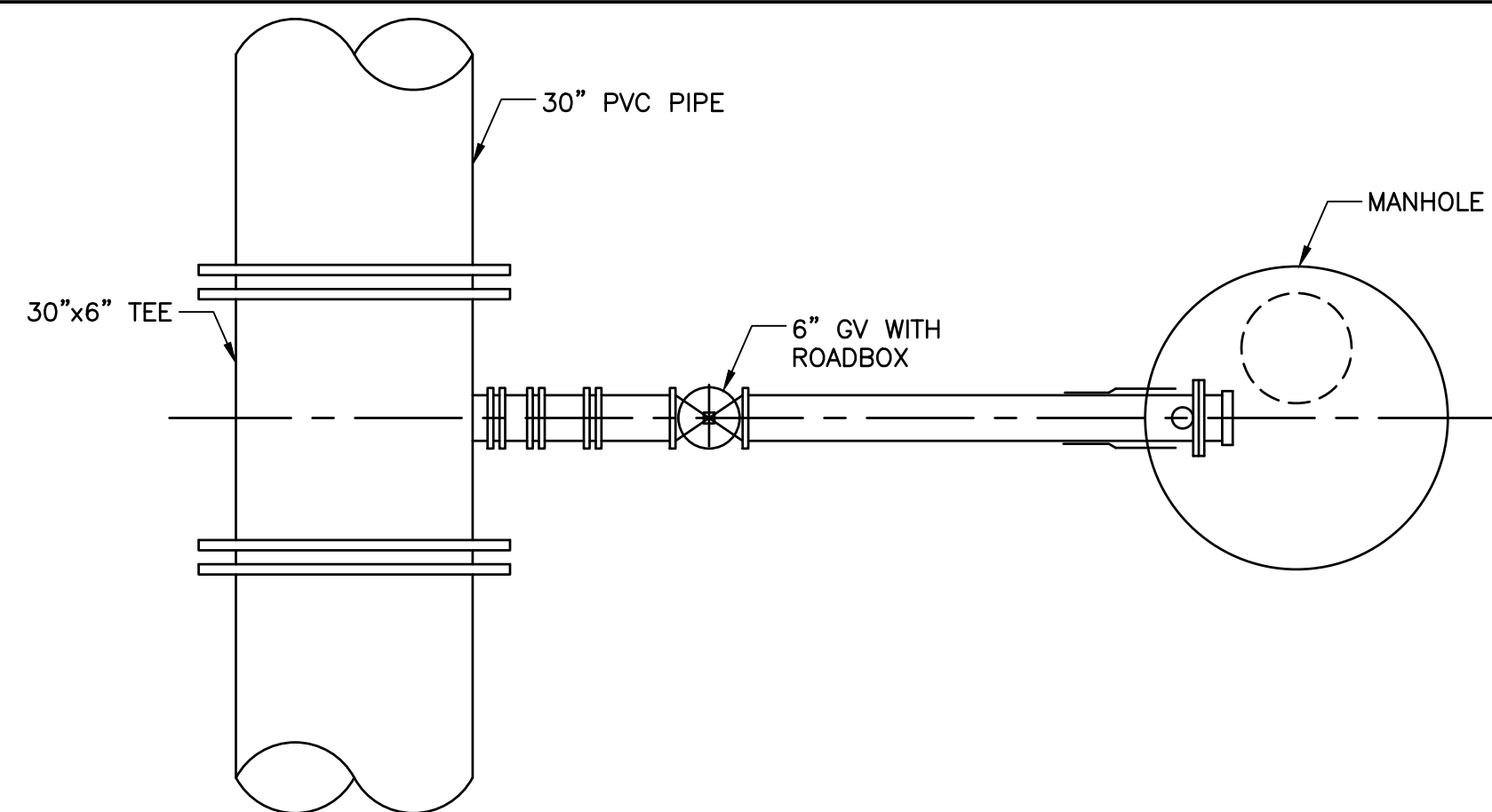


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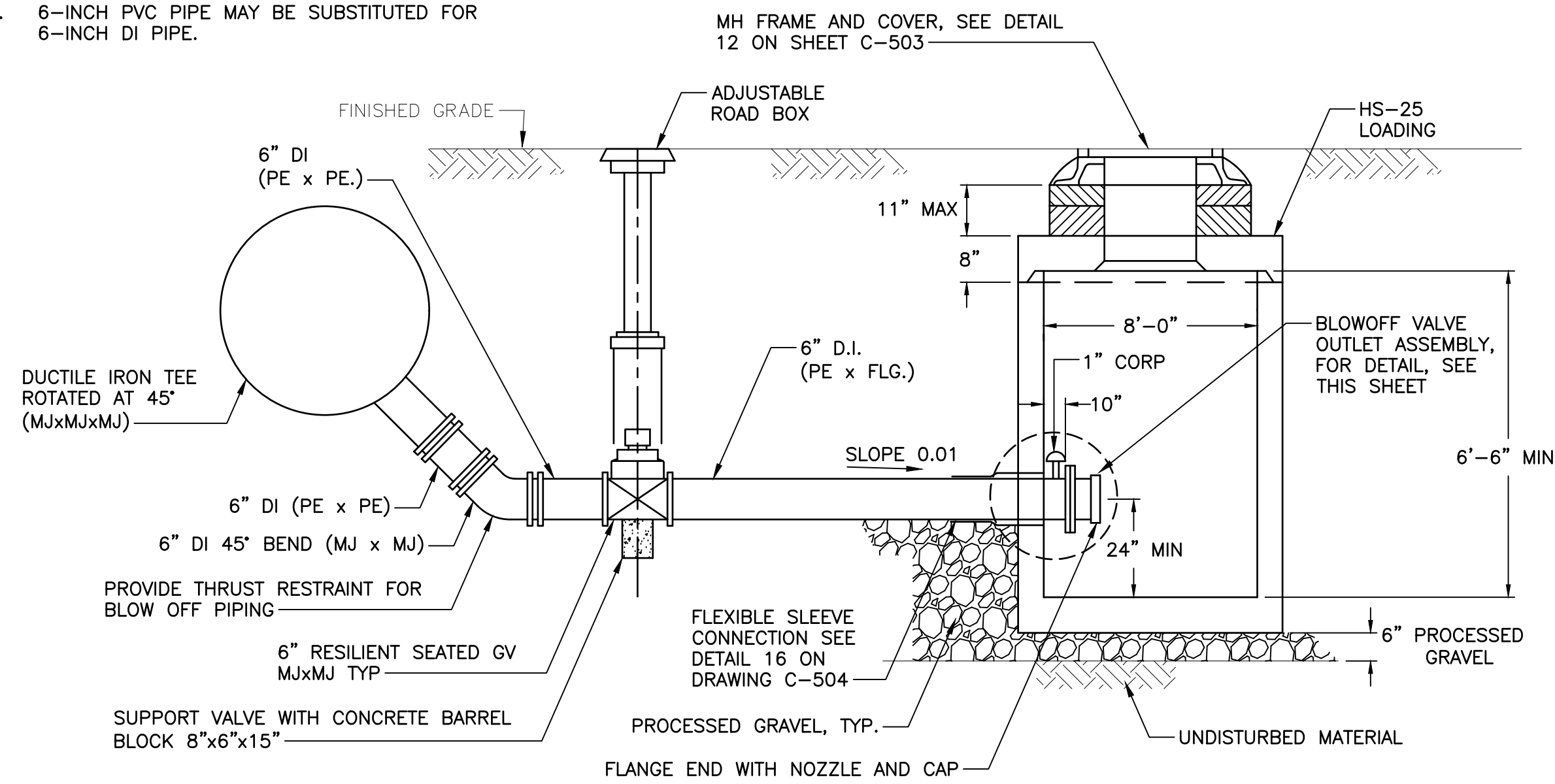


PLAN VIEW

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NOTE:

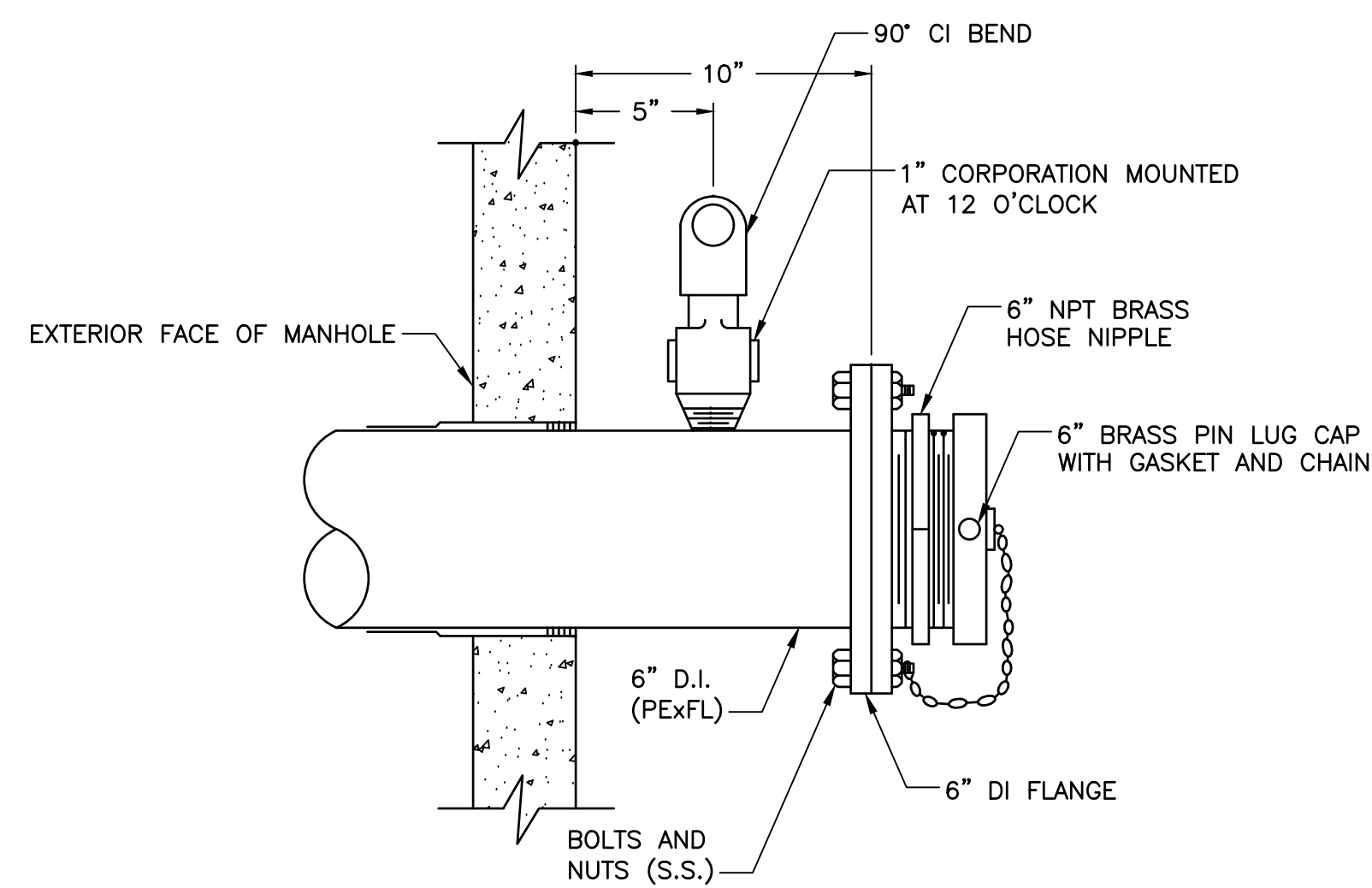
- 6-INCH PVC PIPE MAY BE SUBSTITUTED FOR 6-INCH DI PIPE.



BLOWOFF MANHOLE VALVE AND ASSEMBLY

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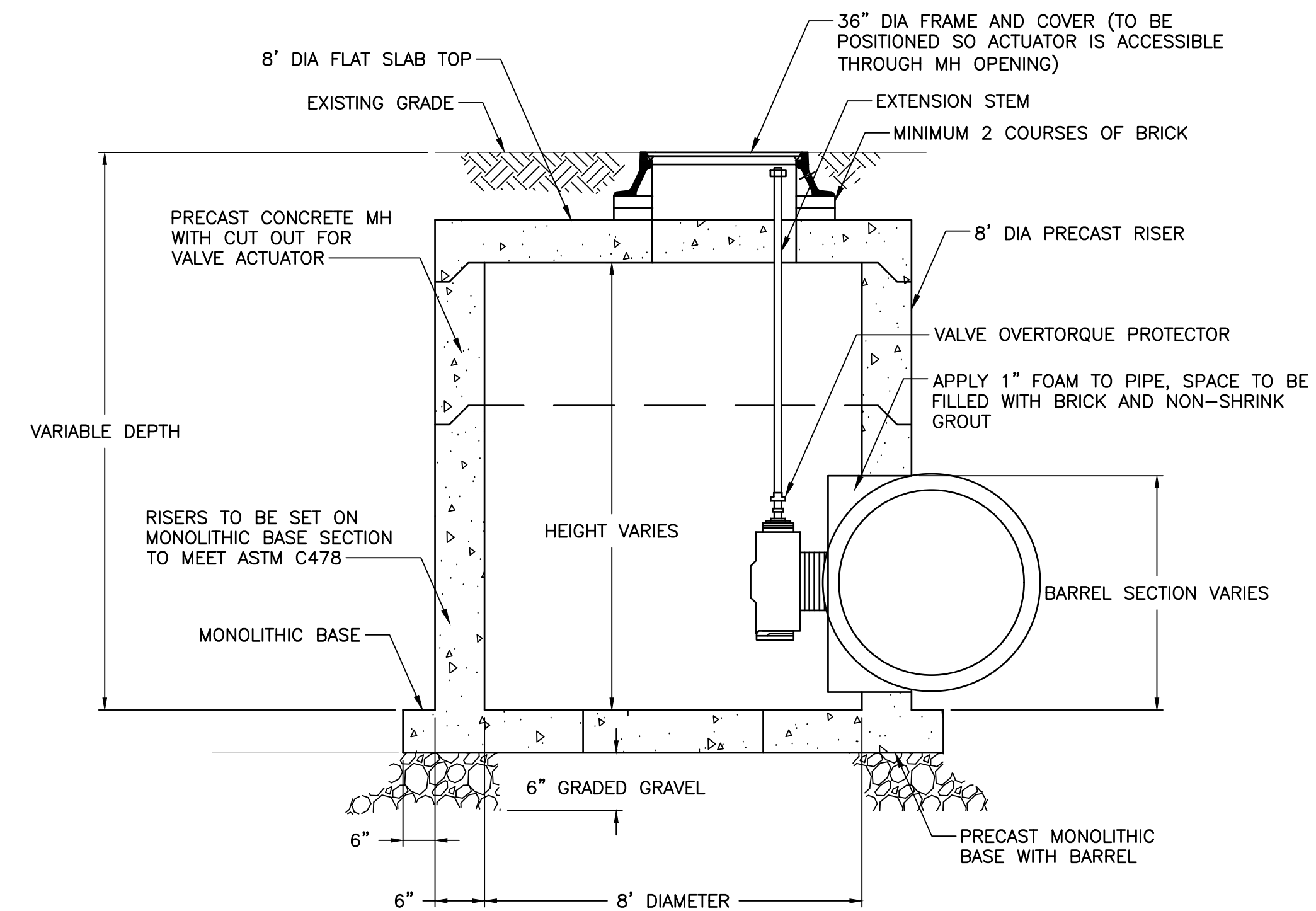
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BLOWOFF VALVE OUTLET ASSEMBLY

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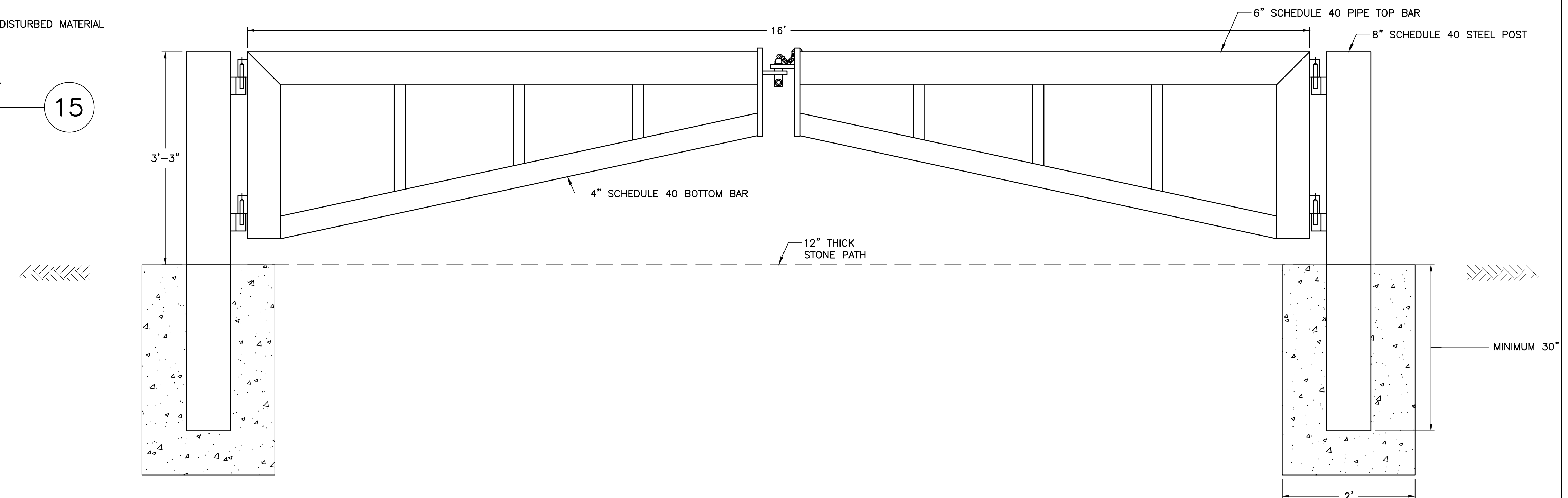
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BUTTERFLY VALVE MANHOLE SECTION

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TRIANGLE PIPE GATE

SCALE: NOT TO SCALE

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QUINAPOXET TRANSFER PIPELINE
CONTRACT 2

HOLDEN, MASSACHUSETTS

File Name: 19150275-C-503.DWG

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Title

MISCELLANEOUS DETAILS - PART 2

Project No. 19150275

Drawing No. C-504

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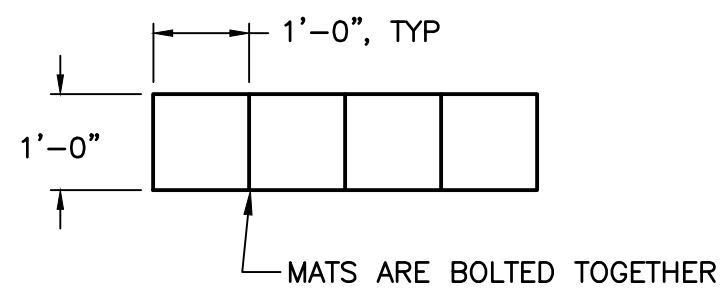
Sheet 15 of 18

Revision

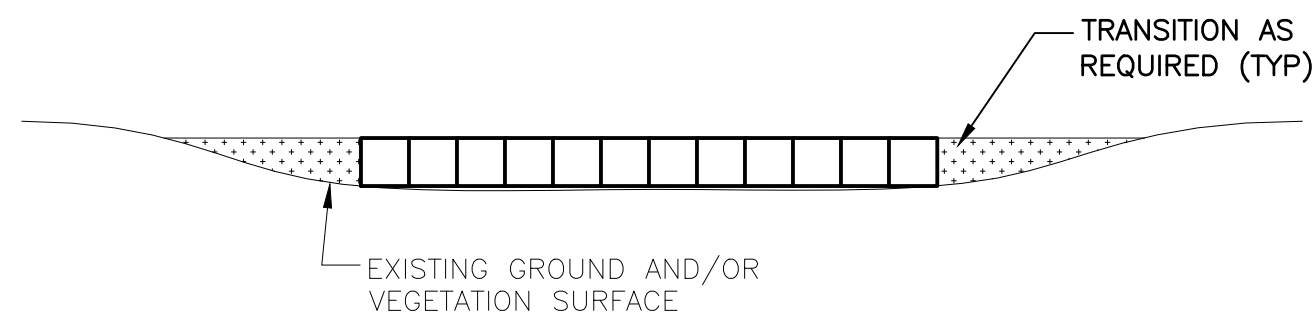
INSTALLATION NOTES:

-
- 12"x12" TIMBERS (TYP)
- 4'-0"
- 16'-0" (APPROX)
- 12'-0"± ROADWAY

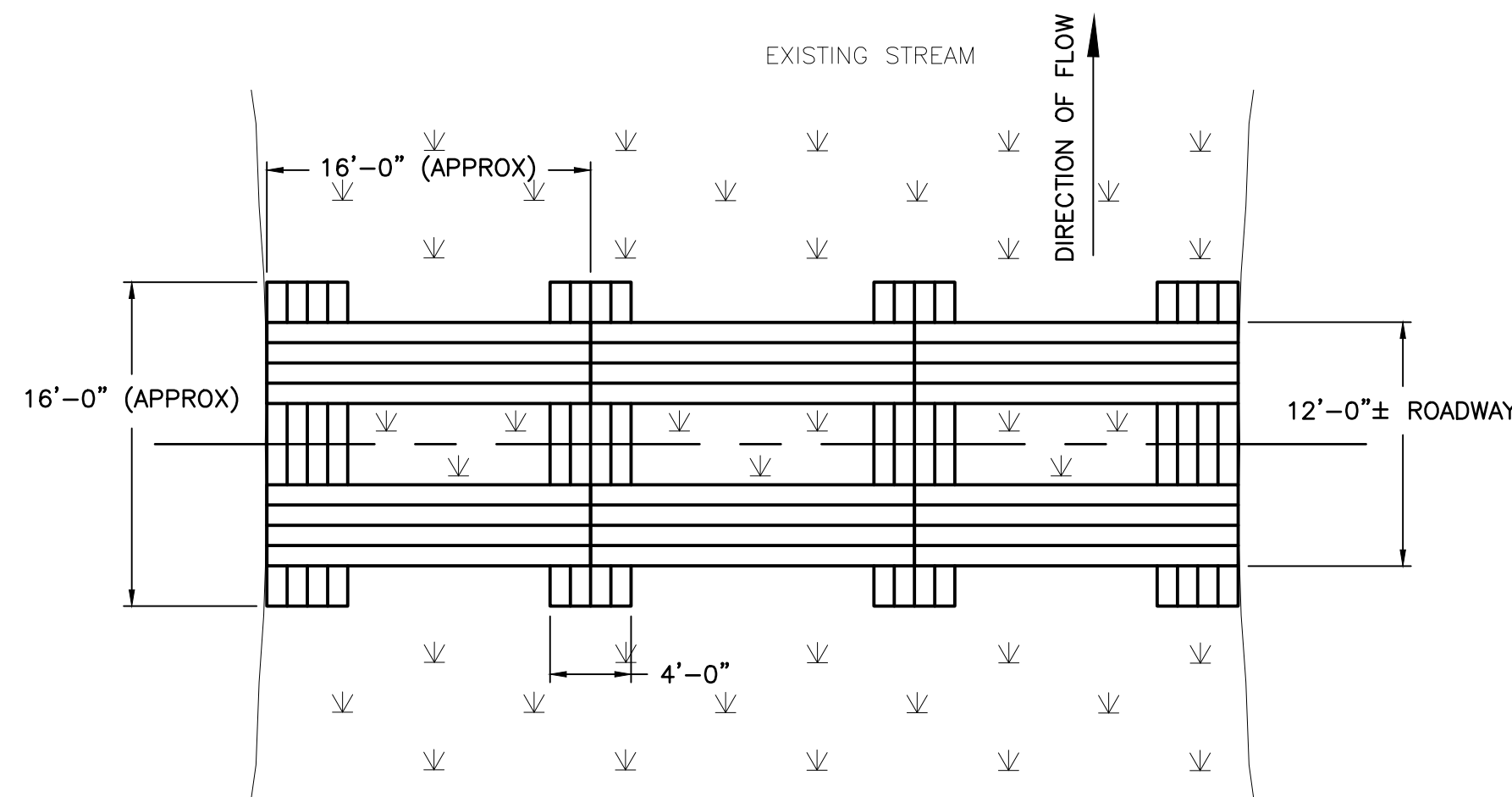
TYPICAL PLAN VIEW



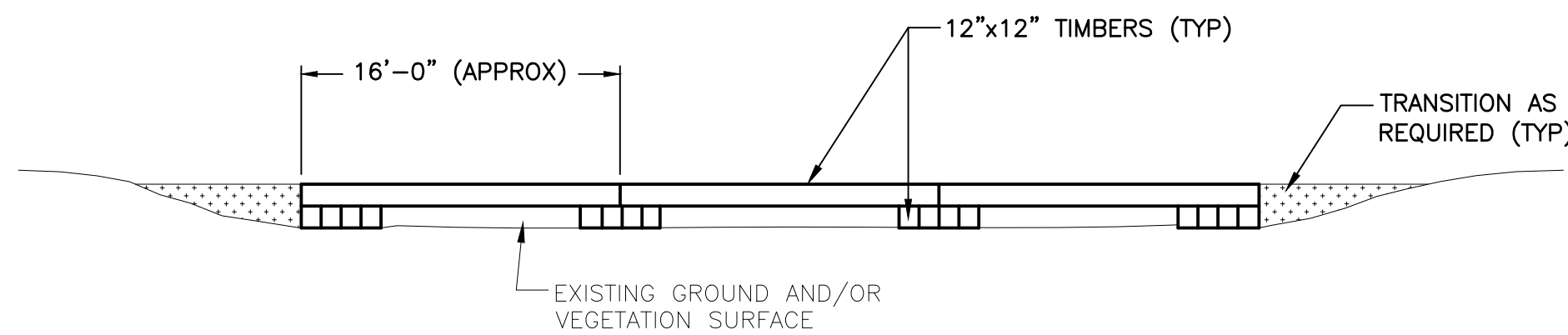
TYPICAL TIMBER MAT SECTION



TYPICAL ELEVATION



TYPICAL PLAN VIEW



TYPICAL ELEVATION

1. AT "DRY" CROSSINGS WHERE NO FLOW IS PRESENT OR ANTICIPATED DURING PROJECT CONSTRUCTION, THE MATS MAY BE PLACED DIRECTLY ONTO THE GROUND IN ORDER TO PREVENT EXCESSIVE RUTTING, PROVIDED STREAM BANKS AND BOTTOMS ARE NOT ADVERSELY ALTERED.

- NOTES:**

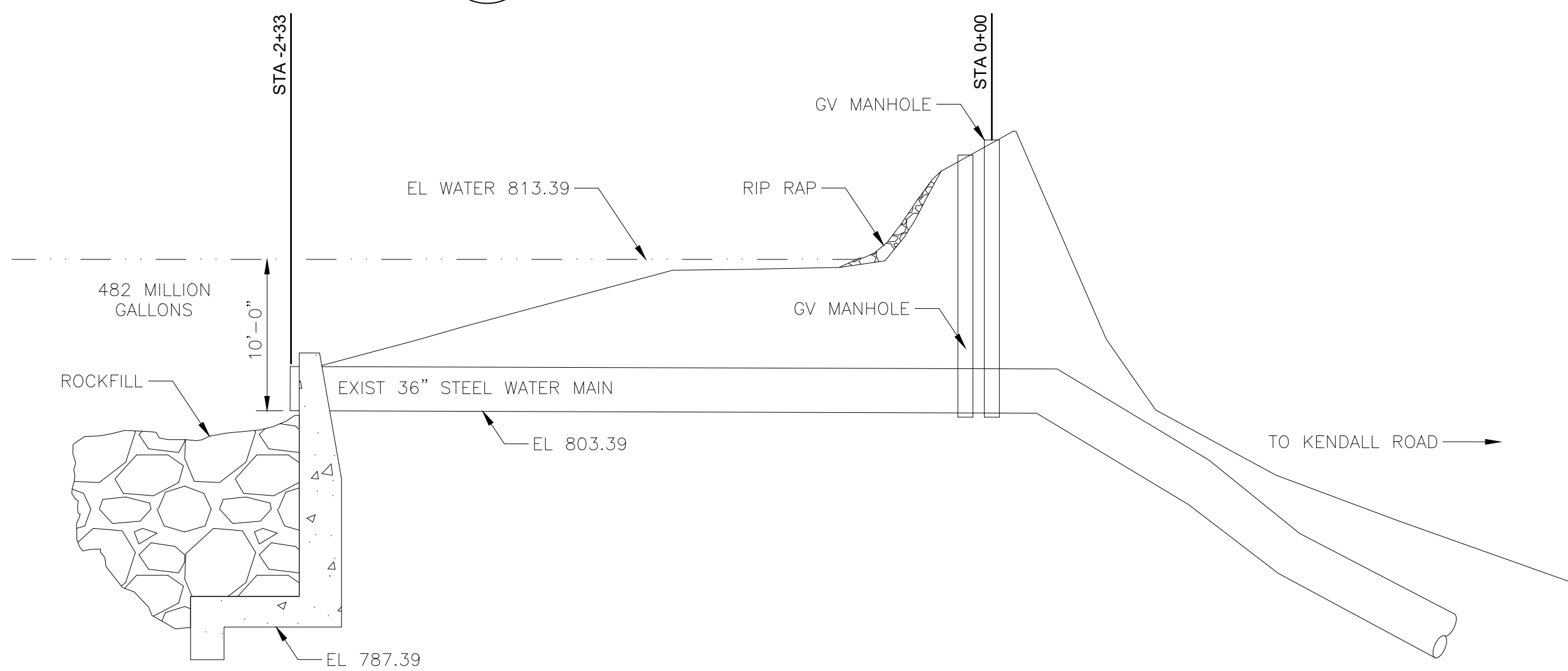
1. MATS DEPICTED ARE TIMBER MATS. OTHER MAT MATERIALS MAY BE ACCEPTABLE. DIMENSIONS SHOWN ARE TYPICAL TO TIMBER MATS, AND SOME TIMBER MATS ARE DIMENSIONALLY DIFFERENT THAN THOSE SHOWN.
2. DEPENDENT ON SITE CONDITIONS, MULTIPLE LAYERS OF MATS MAY BE REQUIRED.
3. SUBMIT MAT DETAILS IN ACCORDANCE WITH SECTION 01300. SUBMITTAL SHALL INCLUDE MAT DIMENSIONS, MATERIALS AND LAYOUT FOR EACH AREA INDICATED ON THE PLANS.

1. MATTED WETLAND CROSSINGS SHOULD BE MONITORED TO ASSURE CORRECT FUNCTIONING OF THE MATS. INSPECT MATS AFTER USE. LOOK FOR ANY DEFECTS OR STRUCTURAL PROBLEMS. MATS WHICH BECOME COVERED WITH SOILS OR CONSTRUCTION DEBRIS SHOULD BE CLEANED AND THE MATERIALS REMOVED AND DISPOSED OF IN AN UPLAND LOCATION. THE MATERIAL SHOULD NOT BE SCRAPED AND/OR SHOVELED INTO THE RESOURCE AREA. MATS WHICH BECOME IMBEDDED MUST BE RESET OR LAYERED TO PREVENT MUD FROM COVERING THEM OR WATER PASSING OVER THEM.

2. MATTING SHOULD BE REMOVED BY "BACKING" OUT OF THE SITE, REMOVING MATS ONE AT A TIME. ANY RUTTING OR SIGNIFICANT INDENTATIONS IDENTIFIED DURING MAT REMOVAL SHOULD BE RE-GRADED IMMEDIATELY, TAKING CARE NOT TO COMPACT SOILS.
3. MATS SHOULD BE CLEANED BEFORE TRANSPORT TO ANOTHER WETLAND LOCATION TO REMOVE SOIL AND ANY INVASIVE PLANT SPECIES SEED STOCK OR PLANT MATERIAL.
4. CLEANING METHODS MAY INCLUDE BUT ARE NOT LIMITED TO SHAKING OR DROPPING MATS IN A CONTROLLED MANNER WITH A PIECE OF MACHINERY TO KNOCK OFF ATTACHED SOIL AND DEBRIS, SPRAYING WITH WATER OR AIR, AND SWEEPING.
5. CROSSINGS SHOULD BE INSPECTED FOLLOWING MAT REMOVAL TO DETERMINE THE LEVEL OF RESTORATION REQUIRED.
6. SPECIAL PRECAUTIONS SHOULD BE TAKEN TO PROMPTLY STABILIZE AREAS OF DISTURBED SOIL LOCATED NEAR WETLANDS AND STREAMS. MATTED AREAS WITHIN WETLANDS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND ELEVATION. THIS MAY INVOLVE NATURAL REVEGETATION FROM EXISTING ROOT AND SEED STOCK OF NATIVE PLANT SPECIES. CONDITIONS MAY WARRANT PLANTING AND THE BROADCAST OF A WETLAND SEED MIX OVER THE MATTED AREA TO SUPPLEMENT THE EXISTING SEED AND ROOTSTOCK. SEED MIXES AND VEGETATION SHALL CONTAIN ONLY PLANT SPECIES NATIVE TO NEW ENGLAND. THE USE OF MULCH IN WETLANDS SHALL CONSIST OF WEED-FREE MULCH TO MITIGATE THE RISK OF THE SPREAD OF INVASIVE PLANT SPECIES.

NOT TO SCALE

19



NOT TO SCALE

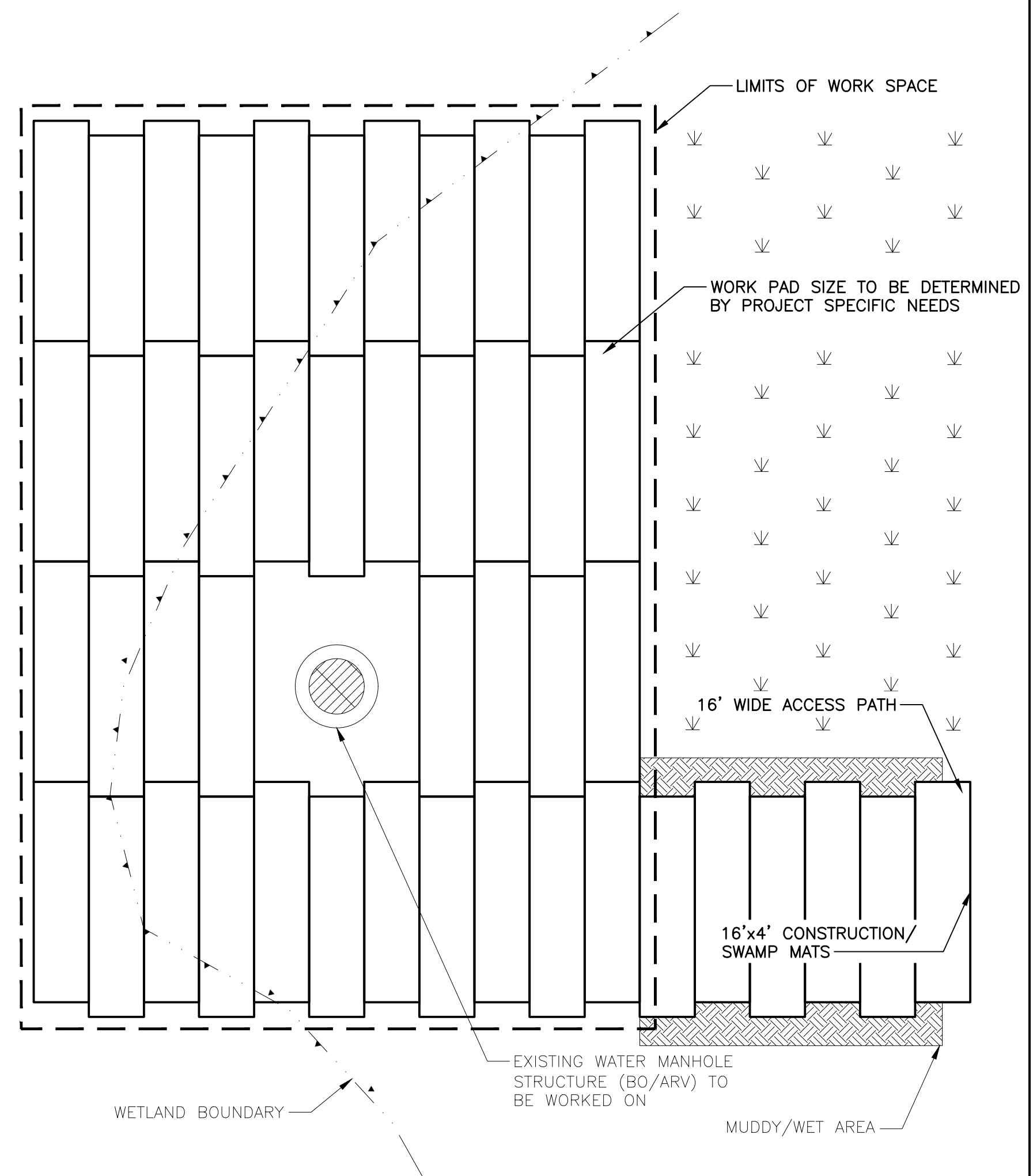
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NOT TO SCALE

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- NOTES:**

1. MATS DEPICTED ARE TIMBER MATS. OTHER MAT MATERIALS MAY BE ACCEPTABLE. DIMENSIONS SHOWN ARE TYPICAL TO TIMBER MATS, AND SOME TIMBER MATS ARE DIMENSIONALLY DIFFERENT THAN THOSE SHOWN.
2. SUBMIT MAT DETAILS IN ACCORDANCE WITH SECTION 01300. SUBMITTAL SHALL INCLUDE MAT DIMENSIONS, MATERIALS AND LAYOUT FOR EACH AREA INDICATED ON THE PLANS.



NOTES:

1. PLACE MATS SO PLANKS ARE PERPENDICULAR TO DIRECTION OF TRAFFIC FOR ACCESS PATH.
2. REMOVE SEDIMENT DEPOSITS ALONG EDGES OF MATS ON A REGULAR BASIS.
3. MATS DEPICTED ARE TIMBER MATS. OTHER MAT MATERIALS MAY BE ACCEPTABLE. DIMENSIONS SHOWN ARE TYPICAL TO TIMBER MATS, AND SOME TIMBER MATS ARE DIMENSIONALLY DIFFERENT THAN THOSE SHOWN.
4. SUBMIT MAT DETAILS IN ACCORDANCE WITH SECTION 01300. SUBMITTAL SHALL INCLUDE MAT DIMENSIONS, MATERIALS AND LAYOUT FOR EACH AREA INDICATED ON THE PLANS.

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NOTES:

- 1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
- 2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
- 3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- 4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- 5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- 6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
- 7. THE FIRST FIVE PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE A LIGHTS.
- 8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
- 9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- 10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
- 11. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- 12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE

P/F

 POLICE/FLAGGER DETAIL

TYPE III BARRICADE

CHANGEABLE MESSAGE SIGN

ARROW BOARD
- WORK ZONE

DIRECTION OF TRAFFIC

IMPACT ATTENUATOR

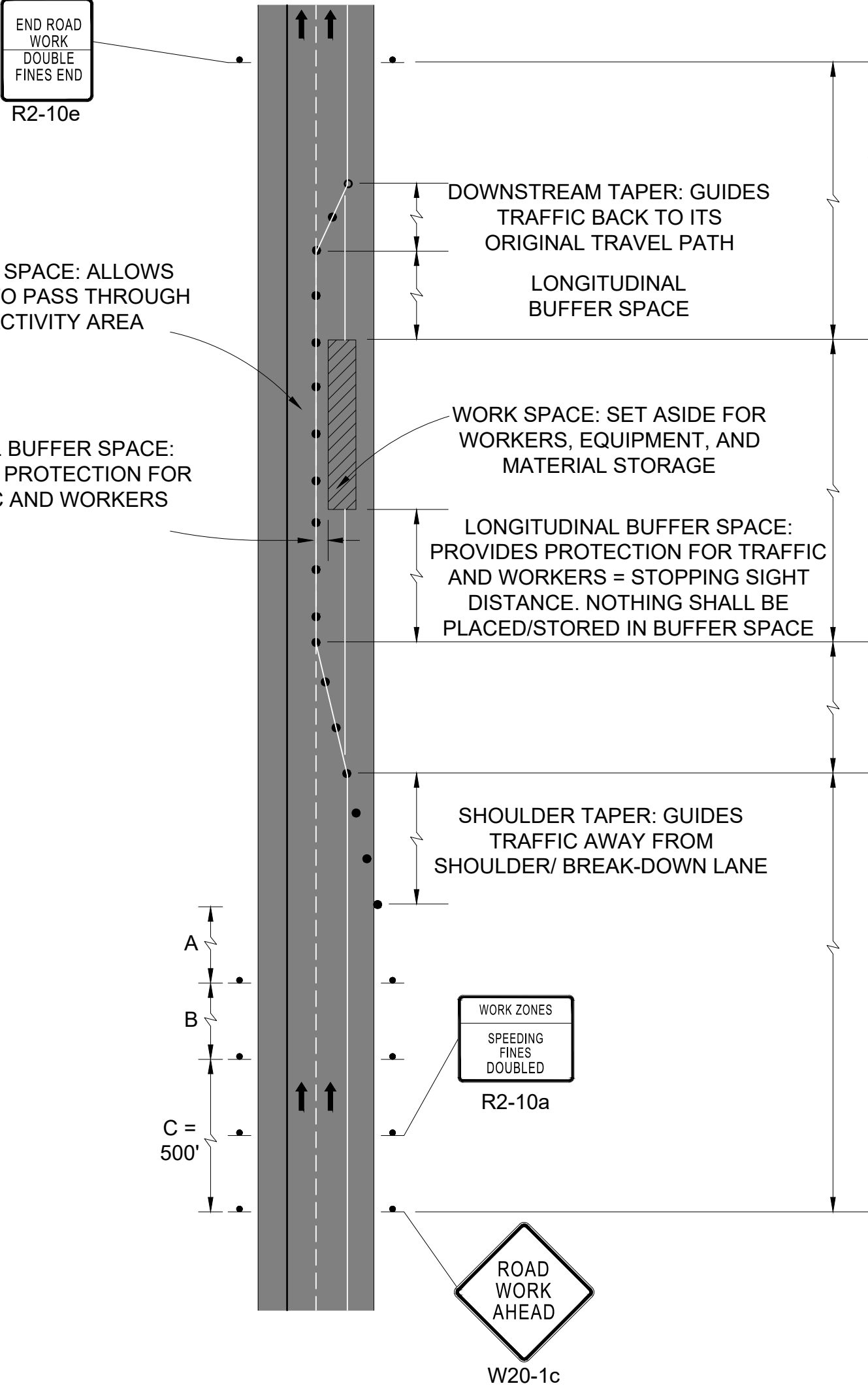
MEDIAN BARRIER

MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE

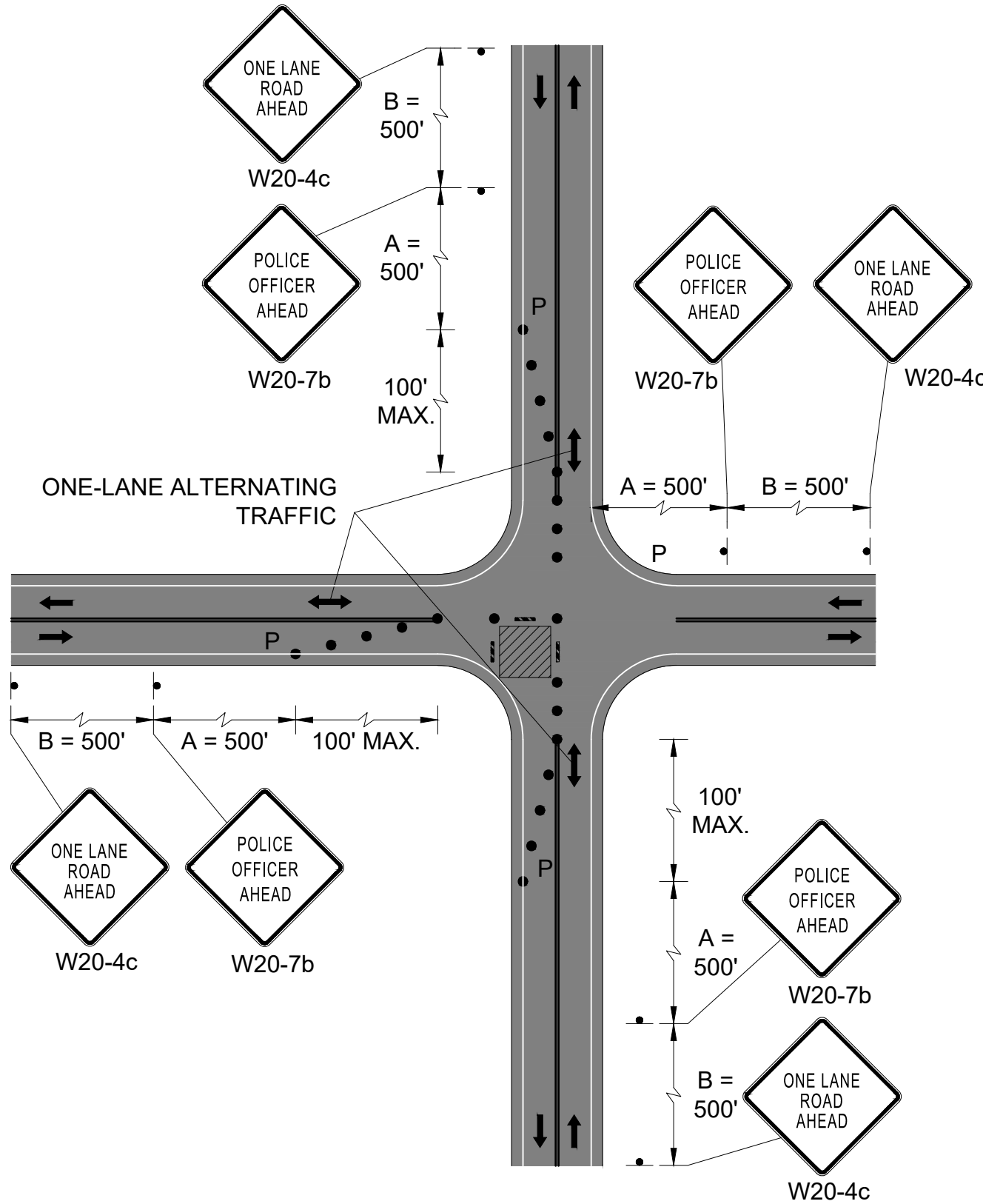
TRUCK MOUNTED ATTENUATOR

TRAFFIC OR PEDESTRIAN SIGNAL

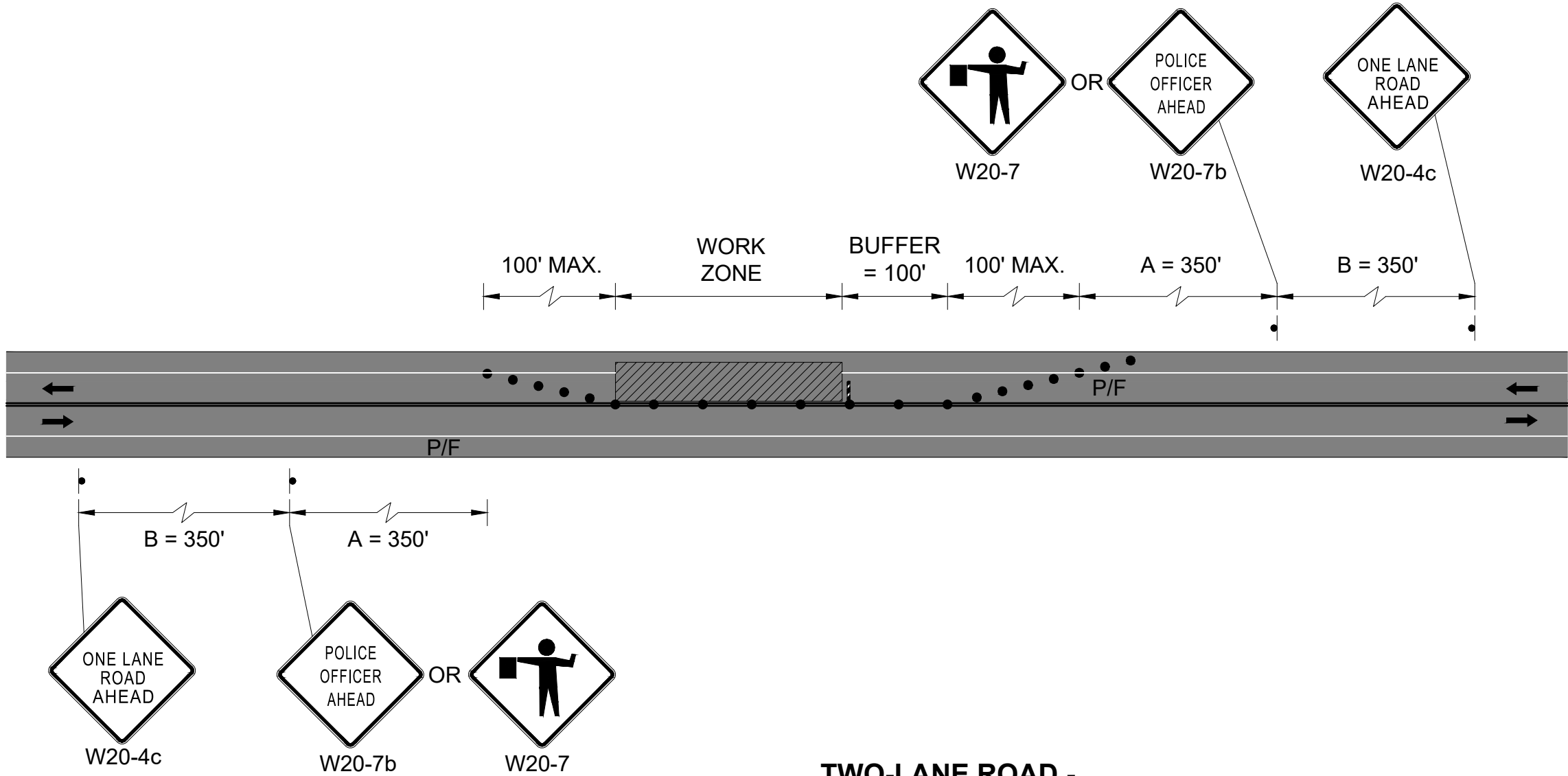
SIGN



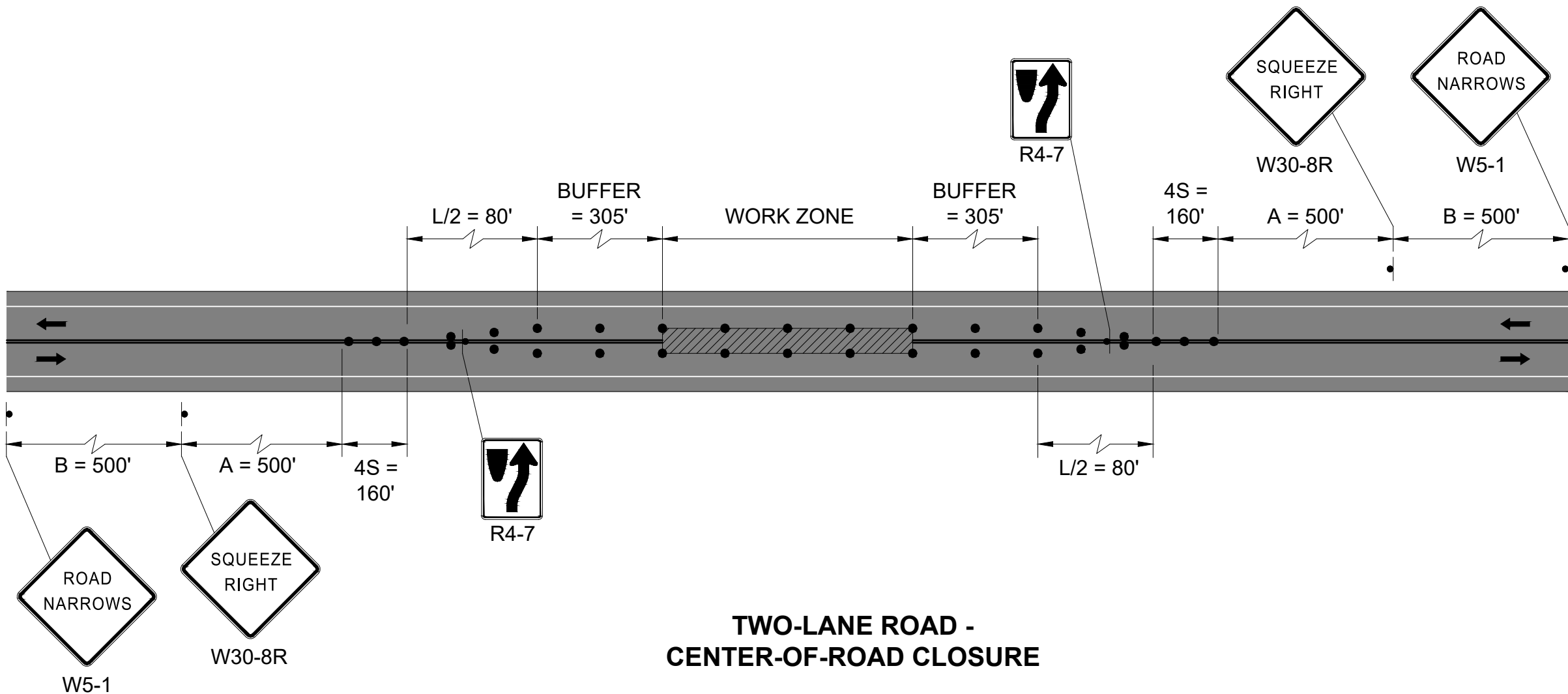
COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL (TTC) ZONE



SINGLE-LANE APPROACH - ONE-QUADRANT CLOSURE



TWO-LANE ROAD - ONE LANE ALTERNATING TRAFFIC



TWO-LANE ROAD - CENTER-OF-ROAD CLOSURE

Permit-Seal



Consultants



45 Network Drive, 3rd Floor
Burlington, MA
www.stantec.com

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Client/Project

CITY OF WORCESTER
DEPARTMENT OF PUBLIC WORKS AND PARKS
QUINAPOXET TRANSFER PIPELINE
CONTRACT 2

HOLDEN, MASSACHUSETTS

Title

TEMPORARY TRAFFIC CONTROL DETAILS

Project No.

195150275

Drawing No.

T-101

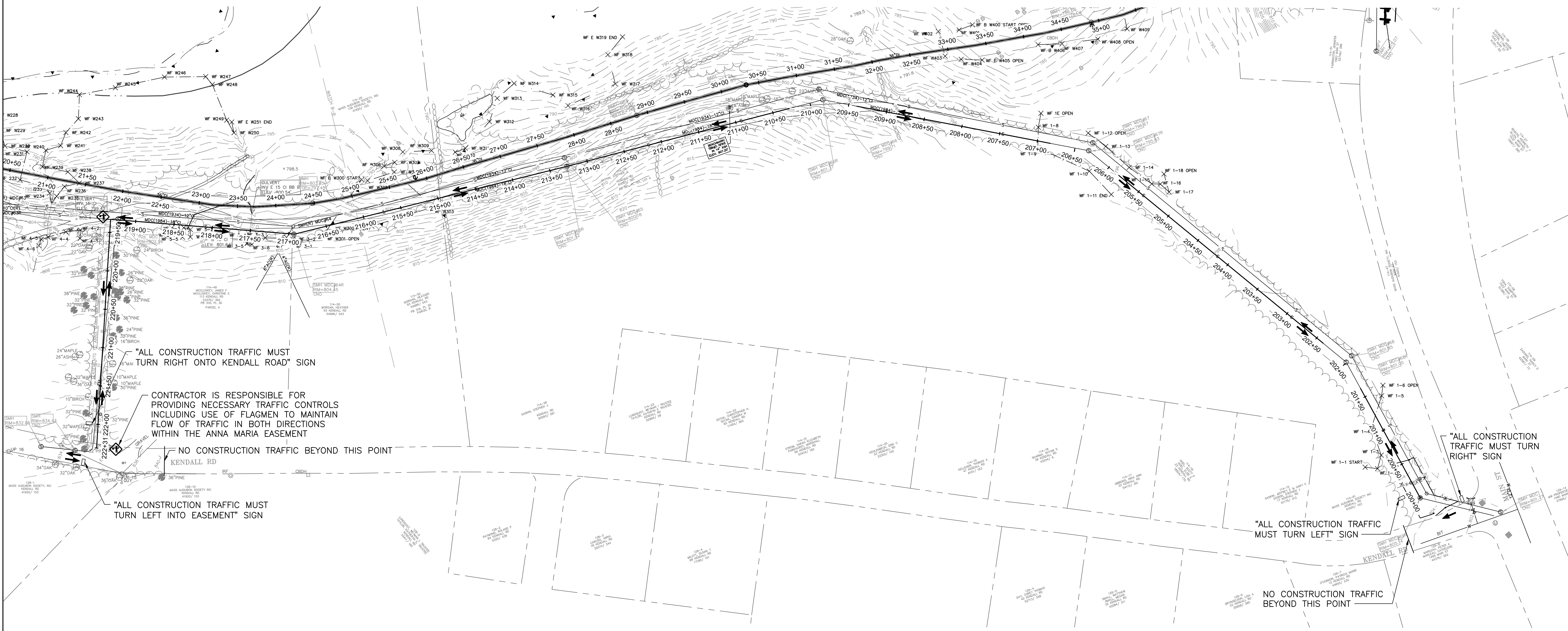
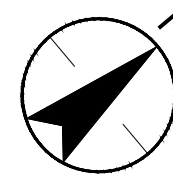
Scale

NOT TO SCALE

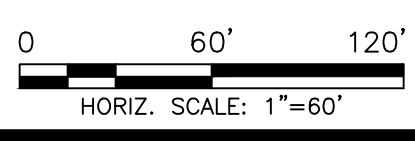
Sheet

17 of 18

Revision



PLAN
SCALE: 1" = 60'-0"



Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

Permit-Seal

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CITY OF WORCESTER
DEPARTMENT OF PUBLIC WORKS AND PARKS
QUINAPOXET TRANSFER PIPELINE
CONTRACT 2
HOLDEN, MASSACHUSETTS

File Name: 195150275-T-102.DWG	VA	ED	ED	22.06.01
	Dwn.	Chkd.	Dgn.	YY.MM.DD

Title
KENDALL ROAD TRAFFIC PLAN

Project No. 195150275	Scale AS SHOWN
Drawing No. T-102	Sheet 18 of 18

U:\195150275\CAD\CONTRACT 2\T-102.DWG