

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLAN AND PROFILE OF
ROUTE 79
(BRIDGE NO. F-02-087)

IN THE CITY OF
FALL RIVER
BRISTOL COUNTY

FEDERAL AID PROJECT NO. NHP(IM)/TAP/HIP(BR)/STP-003S(191)

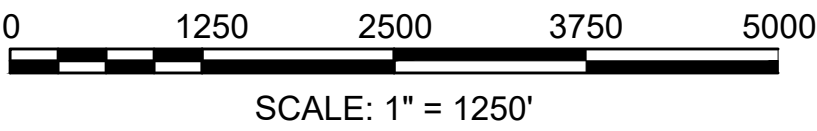
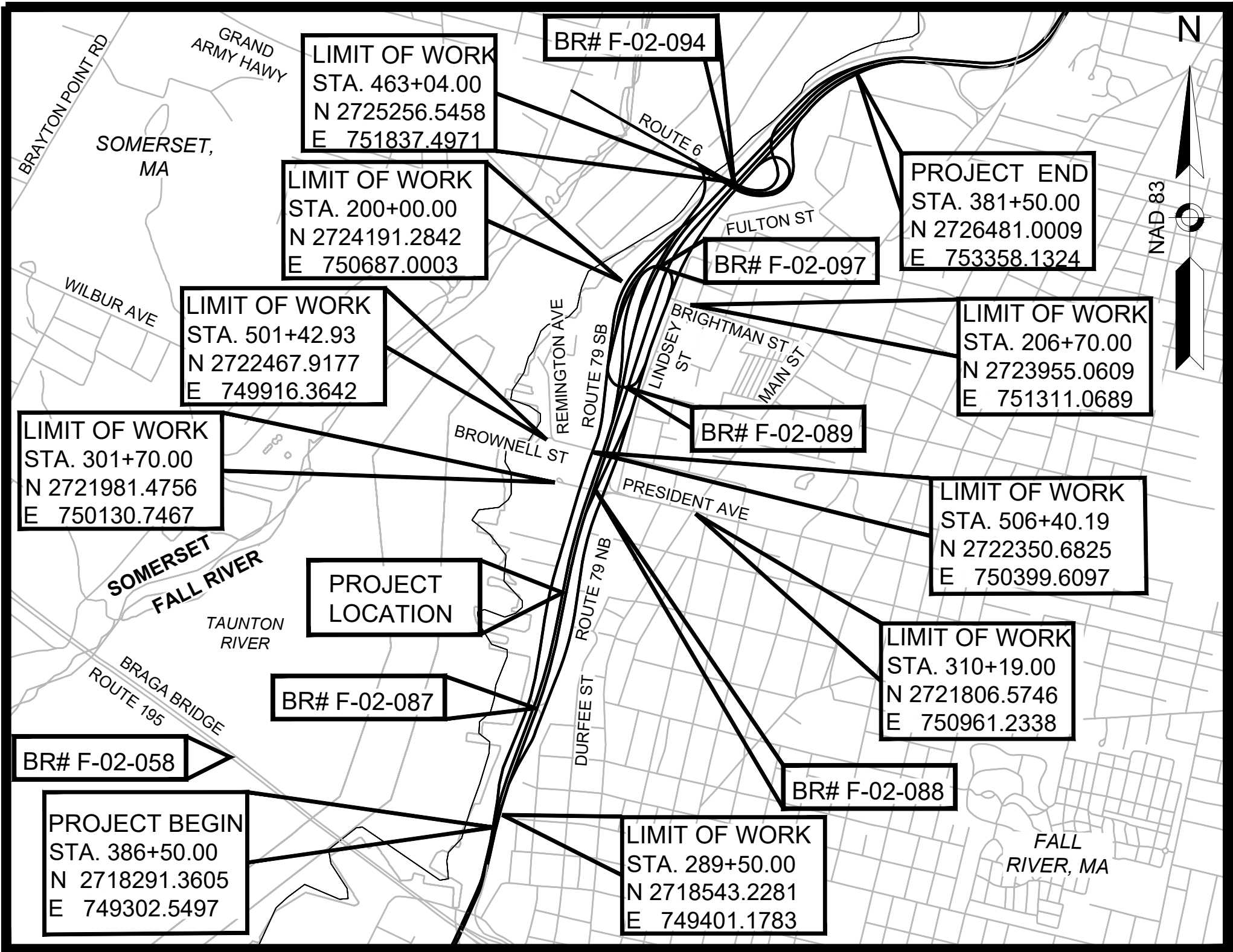
VOLUME 5:
ISSUED FOR CONSTRUCTION

NOTE:
SEE SHEET NO. 2 FOR INDEX.

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1	1094
PROJECT FILE NO.		608049	

TITLE SHEET

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

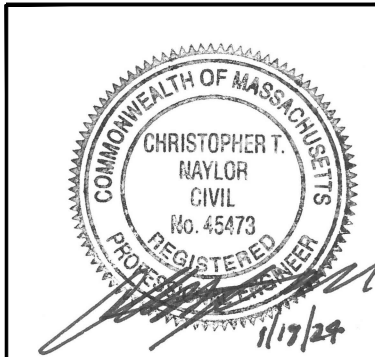


LENGTH OF PROJECT (ROUTE 79 NB) = 9200.00 FEET = 1.742 MILES
LENGTH OF PROJECT (ROUTE 79 SB) = 7654.00 FEET = 1.449 MILES
LENGTH OF PROJECT (DAVOL ST) = 1686.73 FEET = 0.319 MILES
LENGTH OF PROJECT (PRESIDENT AVE) = 849.00 FEET = 0.161 MILES
LENGTH OF PROJECT (BRIGHTMAN ST) = 670.00 FEET = 0.127 MILES
LENGTH OF PROJECT (BROWNELL ST) = 640.19 FEET = 0.121 MILES
LENGTH OF PROJECT (LINDSEY ST) = 453.00 FEET = 0.086 MILES
LENGTH OF PROJECT (LINDSEY ST NORTH) = 230.00 FEET = 0.044 MILES

DESIGN DESIGNATION

	(ROUTE 79 SB)	(ROUTE 79 NB)	(PRESIDENT AVE)	(BRIGHTMAN ST)
DESIGN SPEED	40 MPH	40 MPH	35 MPH	30 MPH
ADT (2016)	8000	8600	17600	2900
ADT (2025)	13100	14800	13700	5800
ADT (2040)	14100	14800	13800	8500
K	0.10	0.10	0.10	0.10
D	100%	100%	60%	59%
T (PEAK HOUR)	10%	5%	2%	2%
T (AVERAGE DAY)	9%	4%	2%	2%
DHV	1410	1480	1380	850
DDHV	1410	1480	824	499
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL	URBAN PRINCIPAL ARTERIAL	URBAN PRINCIPAL ARTERIAL	URBAN MINOR ARTERIAL

	(DAVOL STREET)	(TURNER STREET)	(HATHAWAY STREET)
DESIGN SPEED	35 MPH	30 MPH	30 MPH
ADT (2016)	3100	2600	200
ADT (2025)	100	4600	1300
ADT (2040)	100	4800	1600
K	0.10	0.10	0.10
D	100%	54%	56%
T (PEAK HOUR)	10%	2%	2%
T (AVERAGE DAY)	9%	2%	2%
DHV	10	480	160
DDHV	10	260	90
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL	URBAN MINOR ARTERIAL	LOCAL



HNTB
31 ST. JAMES AVE.
SUITE 300
BOSTON, MASSACHUSETTS 02116

03/25/2025	LANDSCAPE IFC, DCN/IFDC/RFI UPDATES. SEE INDEX.	1
01/19/2024	ISSUED FOR CONSTRUCTION	0
DATE	DESCRIPTION	REV #
 Massachusetts Department of Transportation Highway Division		
APPROVED		
_____ CHIEF ENGINEER		_____ DATE

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX
3	LEGEND & ABBREVIATIONS
4	GENERAL NOTES
5	KEY PLAN
6 - 11	TYPICAL SECTIONS - ROUTE 79 NB
12 - 15	TYPICAL SECTIONS - ROUTE 79 SB
16 - 20	TYPICAL SECTIONS - SIDE STREETS
21 - 30	CONSTRUCTION BASELINE TIE PLANS
31 - 32	CONSTRUCTION BASELINE DATA
33 - 61	CONSTRUCTION PLANS
62 - 79	PROFILES - ROUTE 79 NB
80 - 93	PROFILES - ROUTE 79 SB
94 - 118	PROFILES - SIDE STREETS
119 - 147	CURB TIE AND GRADING PLANS
148 - 155	INFIELD GRADING PLANS
156 - 184	UTILITY AND DRAINAGE DEMO PLANS
185 - 213	DRAINAGE PLANS
214 - 218	DRAINAGE STRUCTURE TABLES
219 - 226	DRAINAGE DETAILS
227 - 256	SIGNING AND PAVEMENT MARKING PLANS
257 - 260	TRAFFIC SIGN SUMMARY
261 - 265	GUIDE SIGN SECTIONS
266 - 278	TRAFFIC SIGNAL PLANS
279 - 281	TRAFFIC DETAILS
282 - 310	UTILITY PLANS
311 - 329	UTILITY AND DRAIN PROFILES
330	SANITARY DETAILS
331 - 332	WATER SYSTEM DETAILS
333	SANITARY STRUCTURE TABLE
334 - 335	UTILITY STRUCTURE DETAILS
336	LIGHTING NOTES
337 - 361	LIGHTING PLANS
362 - 376	LIGHTING DETAILS
377 - 385	TREE PROTECTION PLANS & DETAILS
386 - 415	LANDSCAPE PLANS
416 - 423	LANDSCAPE DETAILS
424 - 427	CONSTRUCTION DETAILS
428 - 438	INTERSECTION PCR DETAILS
439 - 444	CURB RAMPS AND DRIVEWAY DETAILS
445 - 450	INTENTIONALLY LEFT BLANK

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX
3	LEGEND & ABBREVIATIONS
4	GENERAL NOTES
451	KEY PLAN
452 - 462	TTCP OVERVIEW SHEETS
463 - 465	STAGE 1 TYPICAL STAGING SECTIONS
466 - 471	TTCP TYPICAL SECTIONS
472 - 478	STAGE 1 GENERAL PLANS
479 - 499	STAGE 2A GENERAL PLANS
500 - 516	STAGE 2B GENERAL PLANS
517 - 518	STAGE 2B GENERAL PLANS (SUBSTAGES)
519 - 520	PROFILE-STAGE 1 VMB RAMP TO ROUTE 79 SB TEMP
521 - 527	STAGE 1 GRADING PLANS
528 - 533	STAGE 2A INTERIM GRADING PLANS
534 - 547	STAGE 2B GRADING PLANS
548 - 549	STAGE 2B GRADING PLANS (SUBSTAGES)
550 - 553	STAGE 3 ENABLING WORK GRADING PLANS
554 - 555	TEMPORARY TRAFFIC CONTROL NOTES
556 - 559	TEMPORARY TRAFFIC CONTROL DETAILS
560	STAGE 1 ADVANCE SIGNAGE
561 - 571	STAGE 1 TEMPORARY TRAFFIC CONTROL PLANS
572	STAGE 1 DETOUR PLANS
573	STAGE 2A-4 ADVANCE SIGNAGE
574 - 582	STAGE 2A TEMPORARY TRAFFIC CONTROL PLANS
583 - 584	STAGE 2A TEMPORARY SIGNAL PLANS
585 - 587	STAGE 2A CLOSURE PLANS
588 - 592	STAGE 2A DETOUR PLANS
593 - 601	STAGE 2B TEMPORARY TRAFFIC CONTROL PLANS
602 - 611	STAGE 2B SUBSTAGE PLANS
612 - 613	STAGE 2B TEMPORARY SIGNAL PLANS
614 - 617	STAGE 2B SUBSTAGES TEMPORARY SIGNAL PLAN
618 - 626	STAGE 3 TEMPORARY TRAFFIC CONTROL PLAN
627 - 628	STAGE 3 SUBSTAGE PLANS
629 - 631	STAGE 3 TEMPORARY SIGNAL PLANS
632	STAGE 3 CLOSURE PLANS
633 - 634	STAGE 3 DETOUR PLANS
635 - 643	STAGE 4 TEMPORARY TRAFFIC CONTROL PLANS
644 - 647	TEMPORARY TRAFFIC SIGN SUMMARY
648 - 731	TEMPORARY CROSS SECTIONS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX
3	LEGEND & ABBEVIATIONS
732 - 734	CROSS SECTION KEY PLAN
735 - 818	CROSS SECTIONS - ROUTE 79 NB
819 - 895	CROSS SECTIONS - ROUTE 79 SB
896 - 963	CROSS SECTIONS - SIDE STREETS
964 - 984	CROSS SECTIONS - SHARED USE PATH
985 - 1010	CROSS SECTIONS - INFIELD
1011	INTENTIONALLY LEFT BLANK

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX
1012 - 1044	BRIDGE DESIGN PLANS
1045 - 1055	RETAINING WALL PLANS
1056 - 1061	BOARDWALK MISCELLANEOUS
1062	SIGN BASE DETAILS
1063 - 1067	INTENTIONALLY LEFT BLANK

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX
3	LEGEND AND ABBREVIATIONS
4	GENERAL NOTES
1068	KEY PLAN
1069-1077	CULVERT AND UTILITY PLANS
1078 - 1083	CULVERT PROFILE
1084 - 1085	CULVERT SECTION DETAILS
1086 - 1089	CULVERT STRUCTURE DETAILS
1090 - 1093	CULVERT BEND DETAILS
1094	OUTFALL DETAILS

		SHEETS 33, 52, 53, 61, 60, 119, 120, 121, 138, 139, 147, 153, 156, 157, 164, 185, 186, 202, 213, 214, 215, 216, 217, 218, 226, 282, 283, 299, 310, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 362, 363, 364, 365, 366, 375, 376, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 438, 821, 822, 823, 824, 825, 940, 941, 951, 952, 1027, 1031, 1039, 1040, 1056, 1057, 1058, 1059 REVISED
1	03/25/2025	SHEETS 226A, 585A, 602A, 626A ADDED
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		WELL
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W/ 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT
		LAND SUBJECT TO COASTAL STORM FLOWAGE
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT
		DETECTABLE WARNING PANEL
		SCORED CONCRETE
		CULVERT

EXISTING	PROPOSED	DESCRIPTION	
STATE HIGHWAY LAYOUT DISCONTINUANCE			
TRAFFIC SIGNALS SYMBOLS			
EXISTING (REM)	EXISTING (RET)	PROPOSED	DESCRIPTION
			CONTROLLER PHASE ACTUATED
			TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
			WIRE LOOP DETECTOR
			VIDEO DETECTION ZONE
			360 DEGREE VIDEO DETECTION CAMERA
			VIDEO/RADAR DETECTION CAMERA
			PEDESTRIAN PUSH BUTTON, SIGN, AND SADDLE
			EMERGENCY PREEMPTION CONFIRMATION STROBE
			VEHICULAR SIGNAL HEAD
			VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
			PEDESTRIAN SIGNAL HEAD
			SIGNAL POST AND BASE
			MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
			SPAN POLE
			SIGN AND POST
			SIGN AND POST (2 POSTS)
			OPTICAL PRE-EMPTION DETECTOR
			CONTROL CABINET, GROUND MOUNTED
			PULL BOX 12"x12" (OR AS NOTED)
			ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
			TRAFFIC SIGNAL CONDUIT
			WIRELESS BROADBAND ANTENNA
PAVEMENT MARKINGS SYMBOLS			
EXISTING	PROPOSED	DESCRIPTION	
		12" STOP LINE	
		CROSSWALK	
		6" SOLID WHITE LINE	
		12" SOLID WHITE LINE	
		6" SOLID YELLOW LINE	
		6" BROKEN WHITE LINE (10' MARK, 30' SKIP)	
		6" DOTTED WHITE LINE (3' MARK, 9' SKIP)	
		4" DASHED YELLOW LINE (1' MARK, 3' SKIP)	
		6" DOTTED WHITE LINE EXTENSION (2' MARK, 6' SKIP)	
		6" DOUBLE YELLOW LINE	
		12" YIELD LINE	
TRAFFIC SIGNAL ABBREVIATIONS			
CAB	CABINET		
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT		
DW	STEADY UPRAISED HAND		
FDW	FLASHING UPRAISED HAND		
FR	FLASHING CIRCULAR RED		
FRL	FLASHING RED LEFT ARROW		
FRR	FLASHING RED RIGHT ARROW		
FY	FLASHING CIRCULAR YELLOW		
FYL	FLASHING YELLOW LEFT ARROW		
FYR	FLASHING YELLOW RIGHT ARROW		
G	STEADY CIRCULAR GREEN		
GL	STEADY GREEN LEFT ARROW		
GR	STEADY GREEN RIGHT ARROW		
GSL	STEADY GREEN SLASH LEFT ARROW		
GSR	STEADY GREEN SLASH RIGHT ARROW		
GV	STEADY GREEN VERTICAL ARROW		
OL	OVERLAP		
PED	PEDESTRIAN		
PTZ	PAN, TILT, ZOOM		
R	STEADY CIRCULAR RED		
RL	STEADY RED LEFT ARROW		
RR	STEADY RED RIGHT ARROW		

GENERAL		FALL RIVER ROUTE 79			
AADT	ANNUAL AVERAGE DAILY TRAFFIC	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
ABAN	ABANDON				
ADJ	ADJUST				
APPROX.	APPROXIMATE	MA	NHP(M)/TAP/HP(BR)/STP-003S(191)	3	1094
A.C.	ASPHALT CONCRETE	PROJECT FILE NO. 608049			
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE	LEGEND & ABBREVIATIONS			
BIT.	BITUMINOUS	ABBREVIATIONS (cont.)			
BC	BOTTOM OF CURB	GENERAL			
BD.	BOUND	NB	NORTHBOUND		
BL or B	BASELINE	NIC	NOT IN CONTRACT		
BLDG	BUILDING	NO.	NUMBER		
BM	BENCHMARK	NTS	NOT TO SCALE		
BO	BY OTHERS	OHW	OVERHEAD WIRE		
BOS	BOTTOM OF SLOPE	PC	POINT OF CURVATURE		
BR.	BRIDGE	PCC	POINT OF COMPOUND CURVATURE		
BTB	BACK TO BACK	P.G.L.	PROFILE GRADE LINE		
CB	CATCH BASIN	PI	POINT OF INTERSECTION		
CBCI	CATCH BASIN WITH CURB INLET	POC	POINT ON CURVE		
CC	CEMENT CONCRETE	POT	POINT ON TANGENT		
CCM	CEMENT CONCRETE MASONRY	PRC	POINT OF REVERSE CURVATURE		
CEM	CEMENT	PROJ	PROJECT		
CI	CURB INLET	PROP	PROPOSED		
CIP	CAST IRON PIPE	PSB	PLANTABLE SOIL BORROW		
CIT	CHANGE IN TYPE	PT	POINT OF TANGENCY		
CLF	CHAIN LINK FENCE	PVC	POINT OF VERTICAL CURVATURE		
CL	CENTERLINE	PVI	POINT OF VERTICAL INTERSECTION		
CMP	CORRUGATED METAL PIPE	PVT	POINT OF VERTICAL TANGENCY		
CSP	CORRUGATED STEEL PIPE	PVMT	PAVEMENT		
CO.	COUNTY	PWW	PAVED WATER WAY		
CONC	CONCRETE	R	RADIUS OF CURVATURE		
CONT	CONTINUOUS	R&D	REMOVE AND DISPOSE		
CONST	CONSTRUCTION	RCP	REINFORCED CONCRETE PIPE		
CR GR	CROWN GRADE	RD	ROAD		
DBC	DOUBLE CATCH BASIN	RDWY	ROADWAY		
DHV	DESIGN HOURLY VOLUME	REHAB	REHABILITATE		
DI	DROP INLET	REM	REMOVE		
DIA	DIAMETER	RET	RETAIN		
DMH	DRAIN MANHOLE	RET WALL	RETAINING WALL		
DIP	DUCTILE IRON PIPE	RMD	REMODEL		
DW	STEADY DON'T WALK - PORTLAND ORANGE	ROW	RIGHT OF WAY		
DWY	DRIVEWAY	RR	RAILROAD		
ELEV (or EL.)	ELEVATION	R&R	REMOVE AND RESET		
EC	EDGE OF CONCRETE	R&S	REMOVE AND STACK		
EMB	EMBANKMENT	RT	RIGHT		
EOP	EDGE OF PAVEMENT	SB	SOUTH BOUND		
ESAL	EQUIVALENT SINGLE AXLE LOAD	SB	STONE BOUND		
ETW	EDGE OF TRAVEL WAY	SBE	SLOPED BERM EDGING		
EXIST (or EX)	EXISTING	SC	SURFACE COURSE		
EXC	EXCAVATION	SGE	SLOPED GRANITE EDGING		
EXP	EXPANSION	SHLD	SHOULDER		
F&C	FRAME AND COVER	SMH	SEWER MANHOLE		
F&G	FRAME AND GRATE	SSD	STOPPING SIGHT DISTANCE		
FDN.	FOUNDATION	ST	STREET		
FLDSTN	FIELDSTONE	STA	STATION		
GAR	GARAGE	STL	STEEL		
GD	GROUND	SHLO	STATE HIGHWAY LAYOUT LINE		
GG	GAS GATE	SUP	SHARED USE PATH		
GI	GUTTER INLET	SW	SIDEWALK		
GIP	GALVANIZED IRON PIPE	T	TANGENT DISTANCE OF CURVE/TRUCK %		
GRAN	GRANITE	TAN	TANGENT		
GRAV	GRAVEL	TEMP	TEMPORARY		
GRD	GUARD	TC	TOP OF CURB		
GTD	GRADE TO DRAIN	TOS			

GENERAL NOTES:

1. THIS PLAN WAS PREPARED FROM A COMBINATION OF AERIAL SURVEY HAVING PHOTOGRAPHY DATES OF DECEMBER 11, 2016 AND DECEMBER 21, 2017 AND AN ON-THE-GROUND FIELD SURVEY CONDUCTED BY WSP FROM DECEMBER 23, 2016 TO MARCH 14, 2017 AND FROM OCTOBER 31, 2017 TO JANUARY 26, 2018. SUPPLEMENTAL SURVEY WAS COMPLETED BY GIA IN MARCH 2023.
2. THE AERIAL SURVEY DATA SET WAS TESTED TO MEET ASPRS POSITIONAL ACCURACY STANDARDS FOR DIGITAL GEOSPATIAL DATA (2014) FOR A 4.9 CM RMSEX/RMSEY HORIZONTAL ACCURACY CLASS. ACTUAL POSITIONAL ACCURACY WAS FOUND TO BE RMSEX = 1.4 CM AND RMSEY = 1.2 CM WHICH EQUATES TO POSITIONAL HORIZONTAL ACCURACY = +/- 3.2 CM AT 95% CONFIDENCE LEVEL. THE AERIAL SURVEY DATA SET WAS TESTED TO MEET ASPRS POSITIONAL ACCURACY STANDARDS FOR DIGITAL GEOSPATIAL DATA (2014) FOR A 2.4 CM RMSEZ VERTICAL ACCURACY CLASS. ACTUAL NVA ACCURACY WAS FOUND TO BE RMSEZ = 1.8 CM, EQUATING TO +/- 3.5 CM AT 95% CONFIDENCE LEVEL.
3. THE HORIZONTAL DATUM SHOWN HEREON REFERENCES THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, MAINLAND ZONE, NAD83 (1996), EPOCH 2010.00 AND IS BASED ON COORDINATE SYSTEM MassDOT PROJECT NO. 605223 ("ROUTE 79 VIADUCT" PROJECT). TRAVERSE POINTS FROM PROJECT 605223 HELD IN MAIN TRAVERSE ADJUSTMENT:
MTRV 90 (= MTRV 1 IN THIS PROJECT)
MTRV 91 (= MTRV 2 IN THIS PROJECT)
4. THE VERTICAL DATUM SHOWN HEREON REFERENCES NAVD88 AND IS BASED ON THE DATUM OF MASSDOT PROJECT NO. 605223 ("ROUTE 79 VIADUCT" PROJECT). TRAVERSE POINT HELD AS BENCHMARK:
MTRV 90 ... ELEV=19.677'
ELEVATIONS OF ALL OTHER TRAVERSE POINTS WERE DETERMINED BY DIFFERENTIAL LEVELING.
5. THE AVERAGE COMBINED SCALE FACTOR IN THE MIDDLE OF THE PROJECT IS 1.000002.
6. THE ROTATION FROM MASS HIGHWAY LAYOUT BEARING SYSTEM TO THE BEARING SYSTEM OF THIS BASEPLAN IS -0°00'10" (COUNTERCLOCKWISE).
7. THE JURISDICTIONAL WETLAND LINES AND ELEVATIONS:
THE LOCATIONS OF WETLAND FLAGS AND JURISDICTIONAL LINE ELEVATIONS SHOWN ON THE SURVEY WERE RECEIVED FROM MASSDOT ENVIRONMENTAL SECTION. THE ELEVATIONS REFERENCE NAVD88 VERTICAL DATUM.
MEAN HIGHER HIGH WATER (MHW) = 2.29'
MEAN HIGH WATER (MHW) = 2.013'
MEAN LOW WATER (MLW) = -2.349'
MEAN LOWER LOW WATER (MLLW) = -2.49'
8. WITHIN THESE PLANS, THE TERM DESIGN BUILDER SHALL REFER TO THE CONTRACTOR, THE TERM ENGINEER OF RECORD SHALL REFER TO THE DESIGNER, THE TERM TERM ENGINEER SHALL REFER TO THE RESIDENT ENGINEER.
9. BOUNDARIES OF ABUTTING PARCELS WERE COMPILED FROM AVAILABLE DEEDS AND PLANS OR TAKEN FROM MASSGIS AND ARE APPROXIMATE ONLY. THE OWNER NAMES, ADDRESSES AND DEED REFERENCES SHOWN ON THE SURVEY ARE PER THE MOST CURRENT DEED OR, WHEN NOT AVAILABLE, PER THE CITY OF FALL RIVER ASSESSORS DATABASE.
10. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
11. ALL LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 0.01 FOOT PER FOOT (0.005 MINIMUM) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
12. AS DESCRIBED IN MASSDOT ENGINEERING DIRECTIVE E-16-003 (DATED 5/18/16), BOLT-DOWN MANHOLE COVERS SHALL BE INSTALLED ON ALL MANHOLES WITHIN MASSDOT ROADWAYS WITH POSTED SPEEDS OVER 45 MPH. ALL CATCH BASINS SHALL HAVE HOOK LOCK GRATES AS DESCRIBED IN MASSDOT ENGINEERING DIRECTIVE E-09-003, DATED JUNE 18, 2009. CATCH BASIN GRATES ON MASSDOT PROPERTY SHALL BE CASCADE GRATES SOUTH OF BRIGHTMAN STREET AND BAR-TYPE GRATES NORTH OF BRIGHTMAN STREET.
13. EXISTING CATCH BASINS TO BE ADJUSTED SHALL HAVE THEIR EXISTING FRAME AND GRATE REPLACED WITH HOOK LOCK CASCADE GRATES SOUTH OF BRIGHTMAN STREET AND BAR-TYPE GRATES NORTH OF BRIGHTMAN STREET.
14. THE CROSS SLOPE OF THE PROPOSED SIDEWALK SHALL BE 1.5% ±0.5%. THE MINIMUM CLEAR WIDTH OF THE PROPOSED SIDEWALK SHALL BE 3 FEET AT A POINT OF OBSTRUCTION, EXCLUDING THE WIDTH OF THE CURB. DESIGN BUILDER TO MAKE GOOD FAITH EFFORT TO PROVIDE A MINIMUM 4 FOOT WIDTH AT A POINT OF OBSTRUCTION.
15. ALL DRAINAGE CASTINGS WITHIN DESIGNATED BICYCLES AND SHOULDERS LESS THAN 5' IN WIDTH SHALL BE SET FLUSH TO FINISHED GRADE.
16. LOCATION OF ALL EXISTING UTILITIES AND SUBSURFACE STRUCTURES ARE FROM SURVEY AND RECORDS OF THE CITY OR PRIVATE UTILITY COMPANIES AND ARE CONSIDERED APPROXIMATE BOTH AS TO SIZE AND LOCATION.
17. PEDESTRIAN AND VEHICLE ACCESS TO ABUTTING PREMISES WILL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE RESIDENT ENGINEER.

18. EXISTING PAVEMENTS AND/OR SIDEWALKS WILL BE SAWCUT WHERE THEY MEET PROPOSED SURFACE TREATMENTS. SAWCUTS WILL BE SMOOTH AND STRAIGHT. WHERE NEW BITUMINOUS CONCRETE MEETS EXISTING BITUMINOUS CONCRETE SURFACES, SAWCUT EDGES ARE TO BE SEALED WITH BITUMEN AND BACKSANDS AREAS OUTSIDE THE LIMITS OF WORK DISTURBED BY THE DESIGN BUILDER DURING CONSTRUCTION WILL BE RESTORED TO THEIR ORIGINAL CONDITION.
19. ALL CITY OR STATE OWNED UTILITY STRUCTURES INCLUDING MANHOLES, CATCH BASINS, AND GATE BOXES WILL BE ADJUSTED OR REMODELED TO FINISHED GRADE BY THE DESIGN BUILDER. ALL PRIVATELY OWNED UTILITY STRUCTURES WILL BE ADJUSTED OR REMODELED BY THE OWNER.
20. WHERE AGREED BY THE ENGINEER AND THE DESIGN BUILDER AND IN COMPLIANCE WITH PROJECT PERMITS, LIMITS OF WORK MAY BE EXTENDED OR REDUCED TO MEET FIELD CONDITIONS.
21. THE DESIGN BUILDER WILL FIELD CHECK ALL DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH NEW WORK. TEST PITS WILL BE PERFORMED TO VERIFY PERTINENT DRAINAGE INVERTS AND POTENTIAL UTILITY CONFLICTS. DISCREPANCIES OR CONFLICTS WILL BE REPORTED TO THE ENGINEER IMMEDIATELY.
22. WHERE REQUIRED, EXISTING SURFACES, i.e. CEMENT CONCRETE, BITUMINOUS CONCRETE PAVEMENT, BRICK, ETC., WILL BE COMPLETELY REMOVED FROM AREAS OF PROPOSED WORK, INCLUDING PROPOSED PLANTING AREAS, AS SHOWN ON PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
23. THE DESIGN BUILDER WILL COORDINATE AND MAINTAIN ALL SAFETY SIGNING, BARRIERS AND TEMPORARY PAVEMENT MARKINGS NECESSARY TO PROVIDE A SMOOTH AND PROPER TRANSITION FOR TRAFFIC FLOW AS SHOWN ON THE PLANS.
24. IF REQUIRED BY THE DESIGN BUILDER, OVERHEAD LINES WILL BE RELOCATED BY THE UTILITY COMPANY.
25. THE DESIGN BUILDER WILL NOTIFY MASSACHUSETTS DIG SAFE AND PROCURE A DIG SAFE NUMBER FOR EACH LOCATION PRIOR TO DISTURBING EXISTING GROUND IN ANY WAY AT LEAST 72 HOURS PRIOR TO BEGINNING WORK. TELEPHONE NUMBER OF THE DIG SAFE CENTER IS 811. UTILITY OWNERS, PUBLIC AND PRIVATE, MUST BE NOTIFIED INCLUDING CITY OF FALL RIVER AND MASSDOT WITHIN WHOSE JURISDICTION THE WORK IS TO BE PERFORMED.
26. DISTURBED UNPAVED SURFACES WITHIN THE PROJECT LIMITS WILL BE RESTORED TO THE EXISTING CONDITION, UNLESS OTHERWISE NOTED ON PLANS AS DIRECTED BY THE ENGINEER.
27. THE DESIGN BUILDER WILL MAINTAIN EXISTING UTILITY SERVICES TO ABUTTING PROPERTIES DURING CONSTRUCTION.
28. EQUIPMENT AND MATERIAL ON ROUTE 79 WILL BE STORED AT LEAST 4 FEET BEHIND GUARDRAIL OR AT LEAST 30 FEET FROM THE EDGE OF TRAVEL WAY, OR IN STORAGE AREAS AS APPROVED BY MASSDOT OR APPROPRIATE AUTHORITIES.
29. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS, OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE & RESET" (R&R).
30. ALL EXISTING DRAINAGE STRUCTURES WITHIN PROJECT LIMITS WILL BE CLEANED AND/OR FLUSHED PRIOR TO ACCEPTANCE.
31. THE DESIGN BUILDER WILL COORDINATE ALL ACTIVITIES WITH OTHER CONTRACTORS PERFORMING WORK WITHIN AND AT THE PROJECT LIMITS.
32. SHOP DRAWINGS OF ALL CASTINGS, PRECAST CONCRETE STRUCTURES AND OTHER MANUFACTURED ITEMS WILL BE SUBMITTED FOR APPROVAL BY THE ENGINEER, IN CONFORMANCE WITH CONTRACT SPECIFICATIONS, AND SAID APPROVAL WILL BE REQUIRED PRIOR TO INITIATING PROCUREMENT OF MATERIALS.
33. WHERE FEASIBLE, PROPOSED CATCH BASINS WILL HAVE 4' DEEP SUMPS.
34. FINAL LOCATION OF TRAFFIC SIGNS AND SUPPORTS AS SHOWN IN THE PLANS WILL BE FIELD-CONFIRMED BY THE ENGINEER PRIOR TO INSTALLATION.
35. THE MINIMUM MOUNTING HEIGHT OF POST-MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB OR TO THE ELEVATION OF THE NEAR EDGE OF THE TRAVELED WAY, WILL BE 7 FEET UNLESS OTHERWISE SPECIFIED ON THE PLANS.
36. THE DESIGN BUILDER SHALL MAINTAIN POSITIVE DRAINAGE IN ALL LOCATIONS OF TEMPORARY PAVEMENT. EXISTING CATCH BASINS SHALL BE ADJUSTED AS SHOWN ON THE PLANS.
37. TEMPORARY PAVED AREAS NOT OPEN TO LIVE TRAFFIC SHALL BE DELINEATED WITH PAVEMENT MARKS OR PHYSICAL BARRIER FROM THE ACTIVE TRAVEL LANES.
38. ALL MANHOLES, STORM DRAINS, OR OTHER STRUCTURES EXPOSED TO LIVE TRAFFIC ARE TO BE SUFFICIENTLY RATED FOR TRAFFIC LOADING AND RESTRAINED FROM DISLODGMET.

39. EXISTING CONDUIT PREVIOUSLY NOT UNDER TRAVELED WAY THAT ARE TO REMAIN SHALL BE CONCRETE ENCASED WITHIN 2 FEET OF FINISHED GRADE.
40. WHEN AGREED TO BY THE DESIGN BUILDER AND THE ENGINEER, THE DESIGN BUILDER MAY SUBMIT TO THE CITY OF FALL RIVER PLANS FOR SHORT TERM TEMPORARY CLOSURES OF LANES AND OR CROSS STREETS. ADDITIONAL DETOURS BEYOND WHAT IS PROVIDED IN THESE PLANS SHALL BE PREPARED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER AND THE CITY. THE CONTRACTOR WILL BE REQUIRED TO RETURN THE ROADWAY TO ITS PREVIOUS TRAFFIC PATTERN SHOULD THE ENGINEER DETERMINE THAT TRAFFIC CONDITIONS POSE A SAFETY CONCERN.
41. EXISTING CURB AND EDGING REMOVED AND STACKED MAY BE RELOCATED AND RESET AS DIRECTED BY THE ENGINEER. CONTRACTOR TO PROVIDE A MARKED PLAN OF CURBLINES FOR APPROVAL BY THE ENGINEER TO CONFIRM CONSISTENCY AND CONTINUITY IN REUSE.

GENERAL PAVEMENT NOTES:

1. ALL PERMANENT HOT MIX ASPHALT PAVEMENTS WILL BE CONSTRUCTED IN ACCORDANCE WITH SUBSECTION 450 HOT MIX ASPHALT PAVEMENT.
2. ASPHALT EMULSION FOR TACK COAT WILL BE SPRAY APPLIED FOR UNIFORM COVERAGE (RS-1h).
3. EXISTING SUBBASE MATERIAL MEETING MATERIAL SPECIFICATION M1.03.0 GRAVEL BORROW, TYPE b WILL BE RETAINED. EXISTING SUBBASE NOT CONFORMING TO THE MATERIAL SPECIFICATION M1.03.0 GRAVEL BORROW, TYPE b WILL BE REMOVED TO THE REQUIRED DEPTH AND REPLACED WITH GRAVEL BORROW, TYPE b.
4. HMA FOR PATCHING, ASPHALT EMULSION FOR TACK COAT AND HMA JOINT ADHESIVE WILL BE PER SUBSECTION 450.
5. SURFACE COURSE WILL NOT BE PLACED UNTIL THE FULL WIDTH AND THE FULL LENGTH CAN BE PLACED. SEE STANDARD SPECIFICATIONS.
6. SUPERPAVE LEVELING COURSE APPLIED IN LOCATIONS WHERE REQUIRED CROSS SLOPES CANNOT BE ACHIEVED WITH MICROMILLING, AND AS WITH APPROVAL BY ENGINEER. MAXIMUM DEPTH OF SUPERPAVE LEVELING COURSE SHALL NOT EXCEED TWO TIMES THE DEPTH OF SURFACE COURSE IN PAVEMENT STRUCTURE.
7. THE DESIGN BUILDER WILL COORDINATE AND MAINTAIN THE TEMPORARY PAVEMENTS SO AS TO PROVIDE A SAFE AND SMOOTH DRIVING SURFACE.
8. IN AREAS REQUIRING PROPOSED SUBBASE AND SPECIAL BORROW, CONTRACTOR MAY USE RECLAIMED EARTH AND PAVMEENT MATERIALS FROM THE PROEJCT SITE IN PLACE OF BORROW, AS APPROVED BY THE EINGEER.
9. CONTRACTOR SHALL MILL AND OVERLAY 2" DEPTH ROUTE 79 NB FROM STATION 289+50 TO 295+50, LINDSEY STREET AND BROWNELL STREET TO PROVIDE A FUNCTIONAL PAVEMENT OVERLAY, AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL MAINTAIN EXISTING GUARDRAIL ELEVATIONS FROM TOP OF EOP TO BOTTOM OF W OR THRIE BEAM FACE AND NOTIFY ENGINEER IF GRADES CANNOT BE MAINTAINED.
10. THE CONTRACTOR SHALL REMOVE THE EXISTING PAVEMENT BOX, INCLUDING GRAVEL SUBBASE, WHERE IT CONFLICTS DIRECTLY WITH THE PROPOSED LOAM BORROW OR PROPOSED PAVEMENT STRUCTURE. APPROXIMATE LIMITS OF THE EXISTING PAVEMENT AND GRAVEL SUBBASE ARE SHOWN IN VOLUME 3: CROSS SECTIONS.

ENVIRONMENTAL NOTES:

1. DESIGN BUILDER WILL PROVIDE EROSION AND SEDIMENTATION CONTROLS, INCLUDING CATCH BASIN PROTECTION, TO CONTAIN SEDIMENT FROM THE WORK ZONE AS SHOWN ON THE PLANS, CONSISTENT WITH PROJECT ENVIRONMENTAL PERMITS, AND AS REQUIRED BY THE ENGINEER. EROSION CONTROL AND CONTAINMENT OF SEDIMENTS MAY REQUIRE TEMPORARY (AND PERMANENT) MEASURES TO STABILIZE SLOPES/BARE SOIL.
2. WETLAND RESOURCES WILL BE PROTECTED FROM SILTATION THROUGHOUT THE PROJECT.
3. THE DESIGN BUILDER WILL PROVIDE EROSION PROTECTION AND SILTATION BARRIERS TO PROTECT ALL WORK IN RIVERFRONT AREAS, WETLANDS, AND WETLAND BUFFER ZONES AS APPLICABLE.
4. THE DESIGN BUILDER SHALL INSTALL TREE PROTECTION PER THE TREE PROTECTION PLANS AS SHOWN AND SHALL NOT REMOVE ANY TREE NOT EXPLICITLY MARKED FOR REMOVAL ON PLANS.
5. THE DESIGN BUILDER SHALL TAKE EXTRA PRECAUTION NOT TO COMPACT SUBSOIL DURING CONSTRUCTION OR EXCAVATION OF THE INFILTRATION AREAS. WHERE POSSIBLE, EXCAVATION SHALL BE PERFORMED FROM OUTSIDE THE FOOTPRINT OF THE INFILTRATION AREAS. WHEN ACCESS ACROSS AN INFILTRATION AREA IS UNAVOIDABLE DURING CONSTRUCTION OR EXCAVATION OF MATERIAL, LOW GROUND PRESSURE TYPE EQUIPMENT SHALL BE USED TO COMPLETE THE WORK.

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHPI(M)/TAPHI(BR)/STP-003S(191)	4	1094
PROJECT FILE NO.		608049	

GENERAL NOTES

UTILITY NOTES:

1. ALL UNDERGROUND UTILITIES AS SHOWN WERE COMPILED USING FIELD SURVEY INFORMATION, AVAILABLE RECORD INFORMATION, AND SUBSURFACE UTILITY ENGINEERING QUALITY LEVEL "B".
2. RECORD UTILITY INFORMATION FROM THE VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES ARE APPROXIMATE ONLY AND ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD.
3. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN, (SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS) PRIOR TO DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORING OR REPAVING.
4. A SUBSURFACE UTILITY ENGINEERING INVESTIGATION (SUE) WAS PERFORMED BY OVERLAND ENGINEERING, LLC AND COMPLETED ON 6/03/2022 FOR THIS PROJECT. THE EXISTING UNDERGROUND FACILITIES SHOW AT THE INTERSECTION OF TURNER STREET AND DAVOL STREET NORTHBOUND, ON DAVOL SOUTHBOUND FROM THE PROJECT LIMIT TO THE BROWNELL STREET INTERSECTION, AND PRESIDENT AVE. THESE UTILITIES ARE DEPICTED ON THESE PLANS IN ACCORDANCE WITH THEIR ACHIEVED "QUALITY LEVELS" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEERING'S DOCUMENT ASCE 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA
5. ALL OTHER SUBSURFACE UTILITY LOCATIONS HAVE BEEN PLOTTED TO MEET UTILITY QUALITY LEVEL "C" AS DESCRIBED IN ASCE STANDARD 38-02 AND SUMMARIZED BELOW. THE UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS BASED ON ABOVE-GROUND FIELD OBSERVATION AND EXISTING RECORD INFORMATION RECEIVED FROM UTILITY STAKE-HOLDERS.
6. SUBSURFACE UTILITY LOCATIONS FOR GAS AND TELECOM HAVE BEEN PLOTTED TO MEET UTILITY QUALITY LEVEL "B".
7. INVERTS SHOWN ON PLAN ARE NOT GUARANTEED TO BE ACCURATE. DUE TO THE LIMITATIONS OF FIELD OBSERVATION AND SURVEY TECHNIQUES THE INVERTS ARE SHOWN AS APPROXIMATE ONLY AND SHALL NOT BE WARRANTED TO BE CORRECT. ADDITIONAL FIELD INVESTIGATION IS NECESSARY WHERE ACCURATE MEASUREMENTS ARE REQUIRED FOR DESIGN OF CRITICAL AREAS.
8. THE EXISTING CONDITIONS PLAN IS TO BE USED FOR THE SPECIFIED PROJECT ONLY AND IS NOT WARRANTED TO BE COMPLETE FOR ANY OTHER FUTURE PROJECTS.
9. DEPTHS OF EXISTING UTILITIES AS SHOWN ON PROFILES AND CROSS SECTIONS ARE ASSUMED. NO TEST PITS WERE COMPLETED TO CONFIRM ACTUAL DEPTHS OF UTILITY INFRASTRUCTURE.
10. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE DESIGN BUILDER, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
11. THE DESIGN BUILDER SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES, AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK CONFORMING TO M4.05.2.
12. THE DESIGN BUILDER WILL COORDINATE WITH UTILITY OWNERS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES. ALL UTILITY COVERS SHALL BE BICYCLE-COMPATIBLE.

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



NAD 83

N

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BR/STP-003S(191)	1068	1094
PROJECT FILE NO.		608049	

KEY PLAN

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

20 SCALE

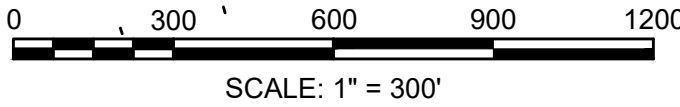
SHEET NUMBER

	①	②	③	④	⑤	⑥	⑦	⑧	⑨
VOLUME 5 CULVERT PLANS	1069	1070	1071	1072	1073	1074	1075	1076	1077

30 SCALE

SHEET NUMBER

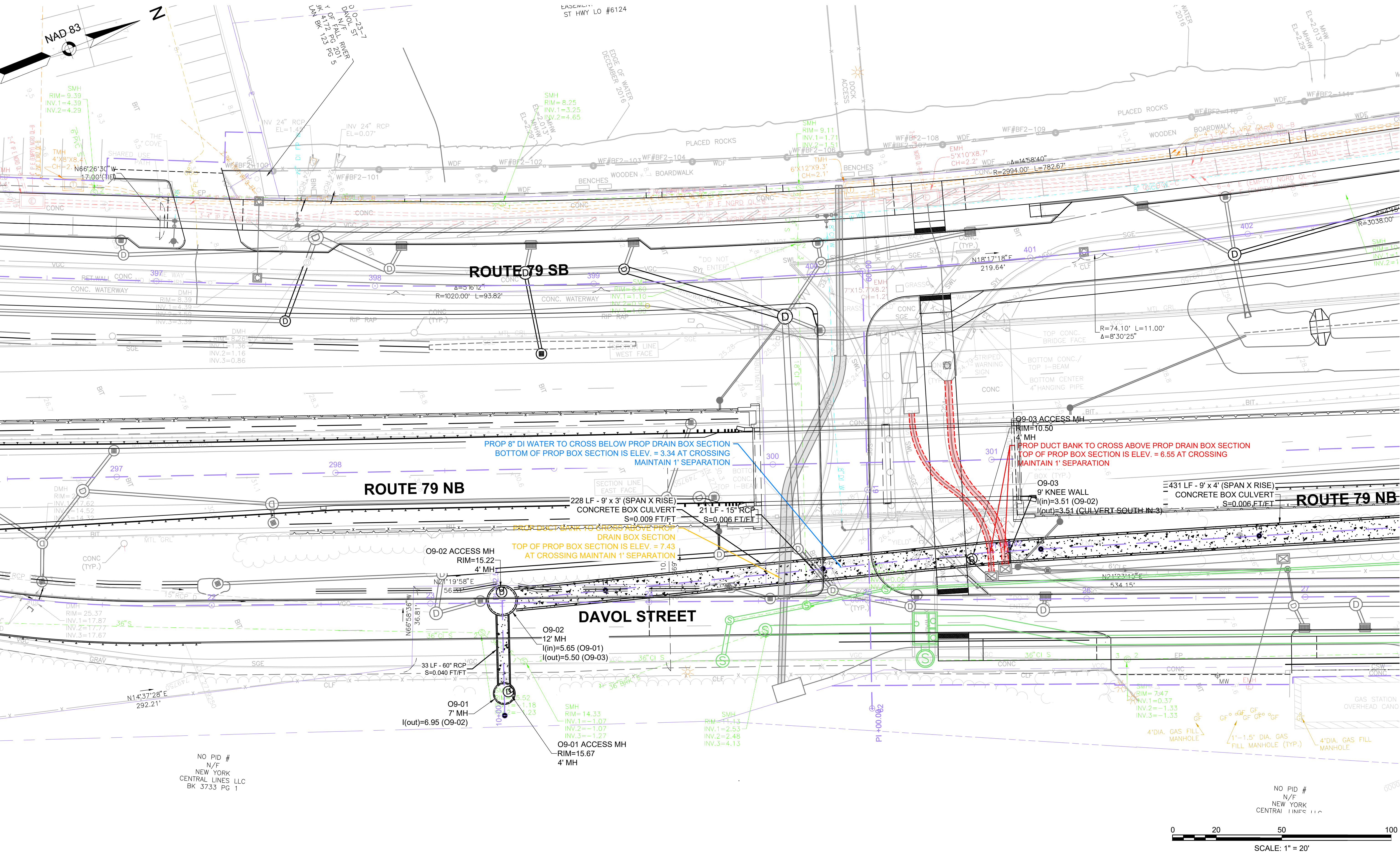
	①	②	③	④	⑤	⑥
PROFILE PLAN VIEW	1078	1079	1080	1081	1082	1083



0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

*SEE SHEET 3 FOR DRAINAGE & UTILITY NOTES

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BRJ(STP-003S(191	1069	1094
PROJECT FILE NO.		608049	
CULVERT AND UTILITY PLANS CULVERT PLAN - 1 OF 9			

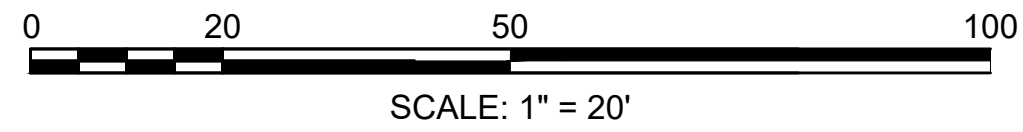
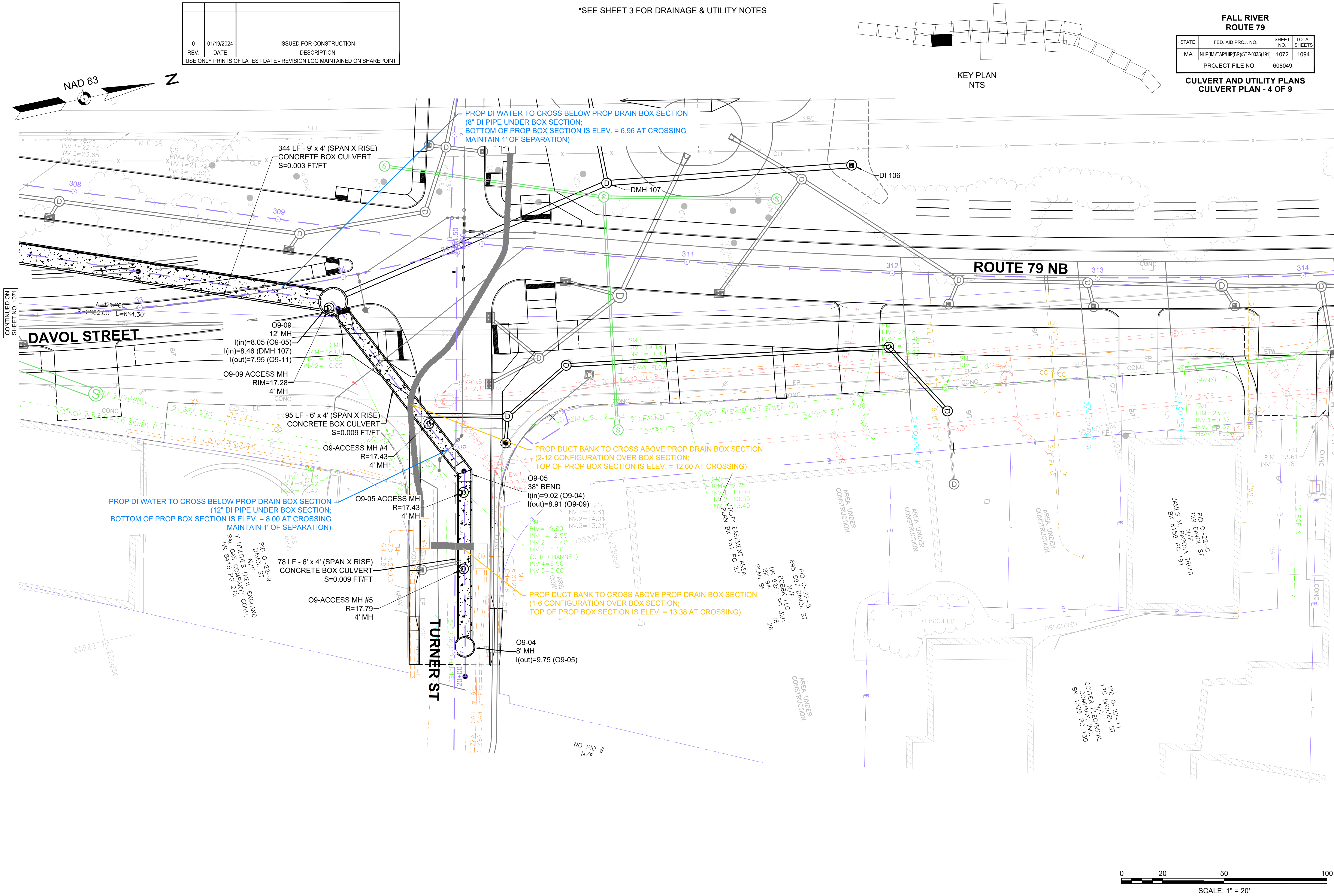


CONTINUED ON
SHEET NO. 1070

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

*SEE SHEET 3 FOR DRAINAGE & UTILITY NOTES

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BR/STP-003S(191)	1072	1094
PROJECT FILE NO.		608049	
CULVERT AND UTILITY PLANS CULVERT PLAN - 4 OF 9			

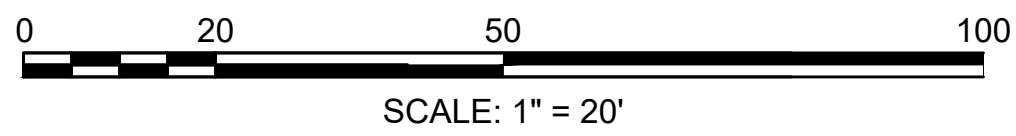
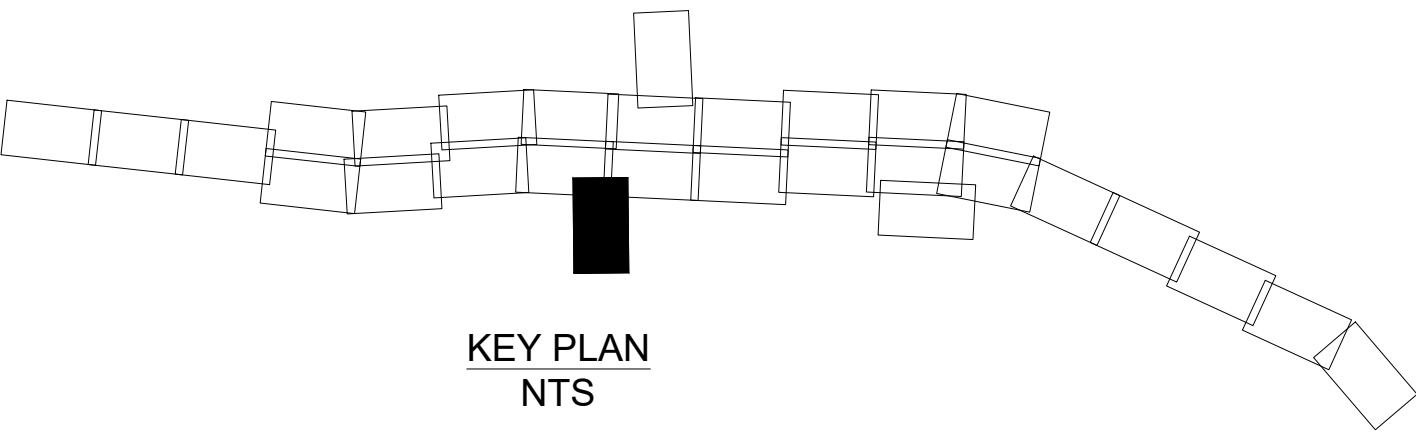
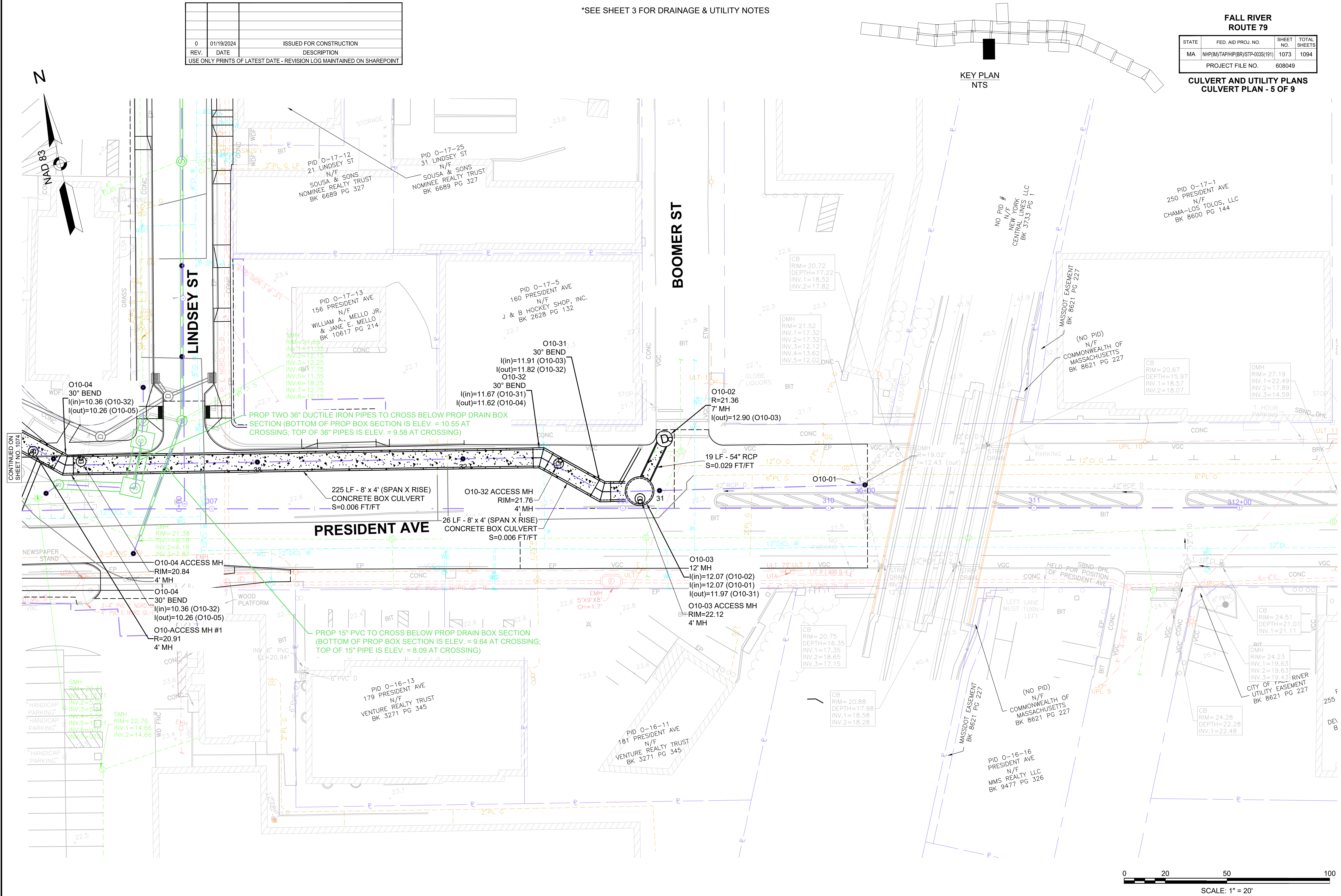


0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

*SEE SHEET 3 FOR DRAINAGE & UTILITY NOTES

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BR(STP-003S(191)	1073	1094
PROJECT FILE NO.		608049	

CULVERT AND UTILITY PLANS
CULVERT PLAN - 5 OF 9



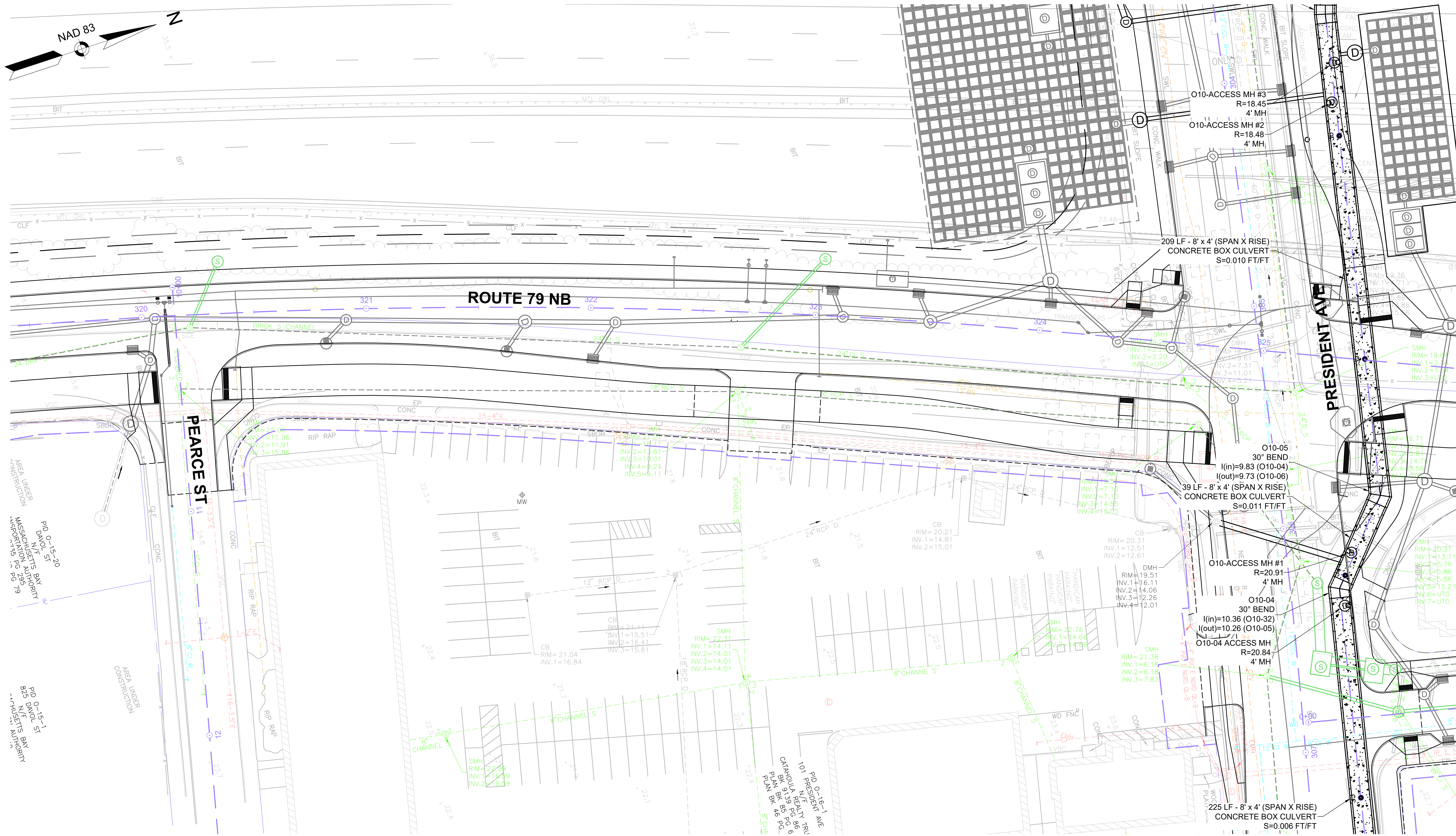
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

*SEE SHEET 3 FOR DRAINAGE & UTILITY NOTES

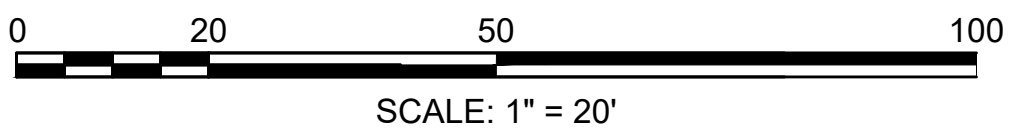
CONTINUED ON
SHEET NO. 1075

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BR/STP-003S(181)	1074	1094
PROJECT FILE NO.		608049	

CULVERT AND UTILITY PLANS
CULVERT PLAN - 6 OF 9



CONTINUED ON
SHEET NO. 1073

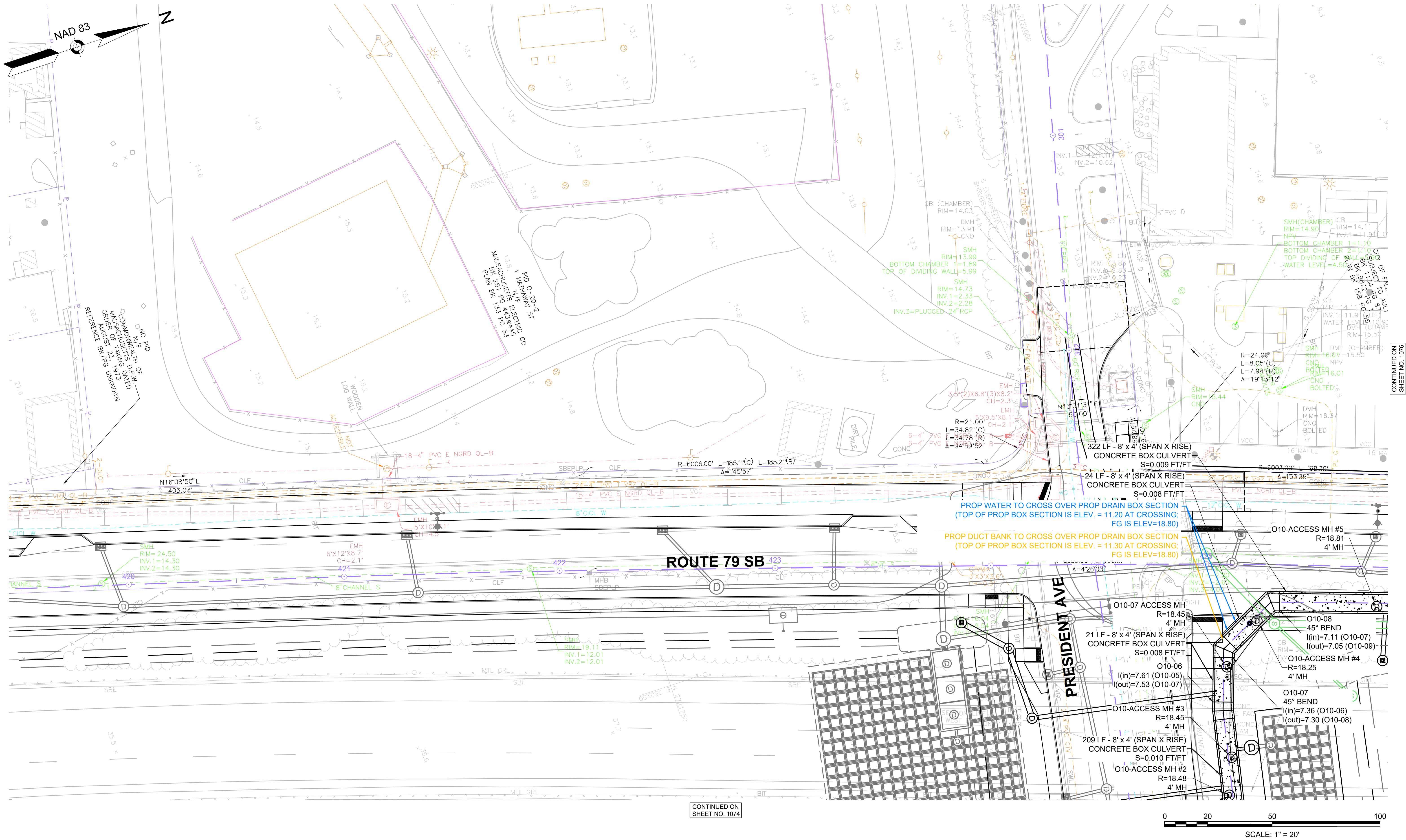


0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

*SEE SHEET 3 FOR DRAINAGE & UTILITY NOTES

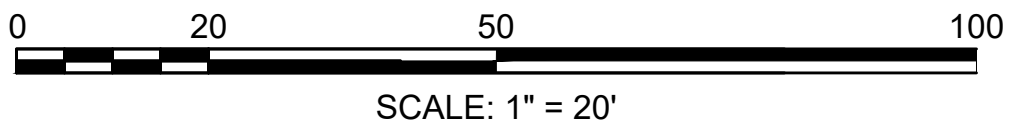
FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BR(STP-003S(191)	1075	1094
PROJECT FILE NO.		608049	

CULVERT AND UTILITY PLANS
CULVERT PLAN - 7 OF 9



CONTINUED ON
SHEET NO. 1074

CONTINUED ON
SHEET NO. 1076



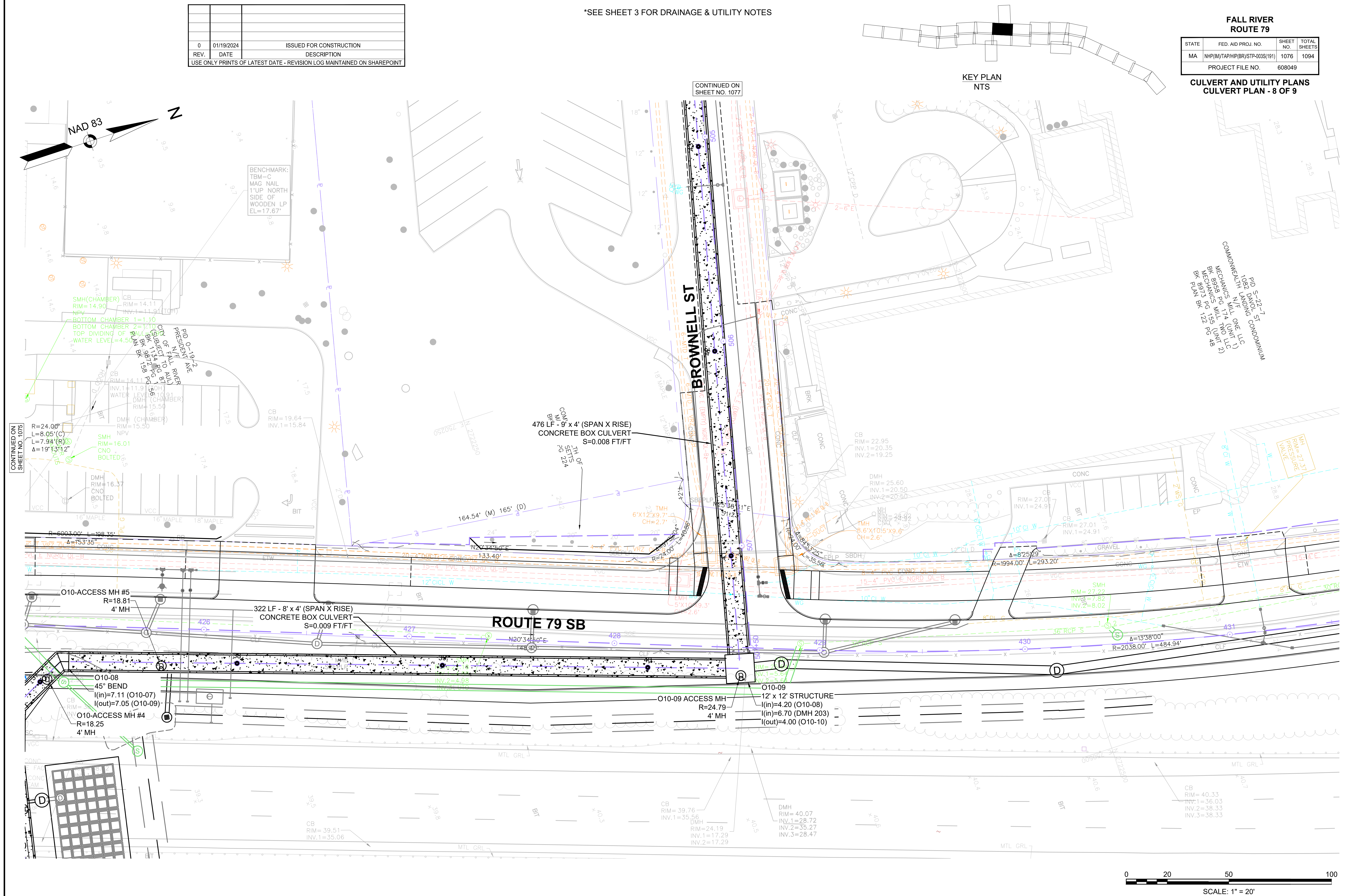
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

*SEE SHEET 3 FOR DRAINAGE & UTILITY NOTES

**FALL RIVER
ROUTE 79**

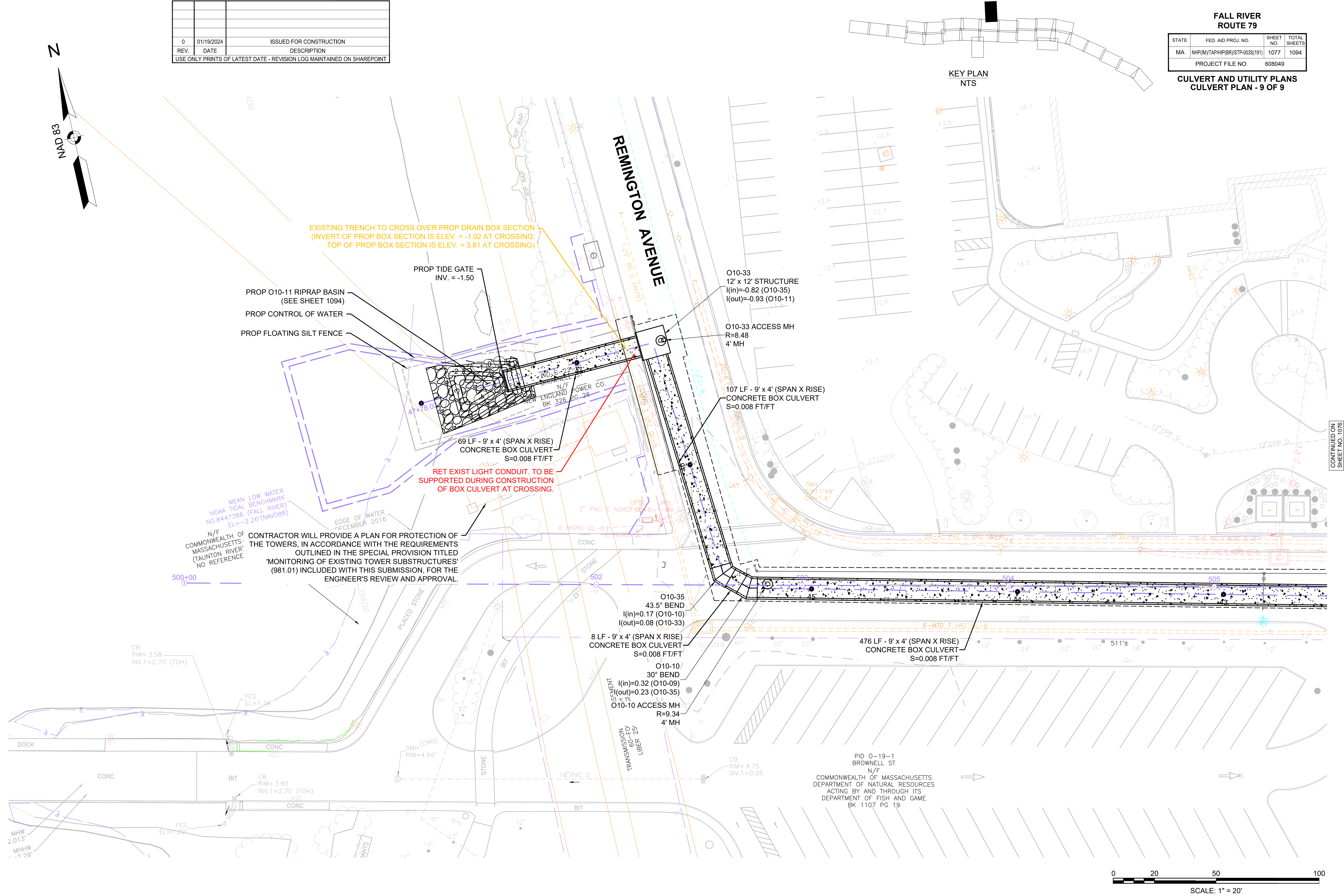
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1076	1094
PROJECT FILE NO.		608049	

CULVERT AND UTILITY PLANS
CULVERT PLAN - 8 OF 9



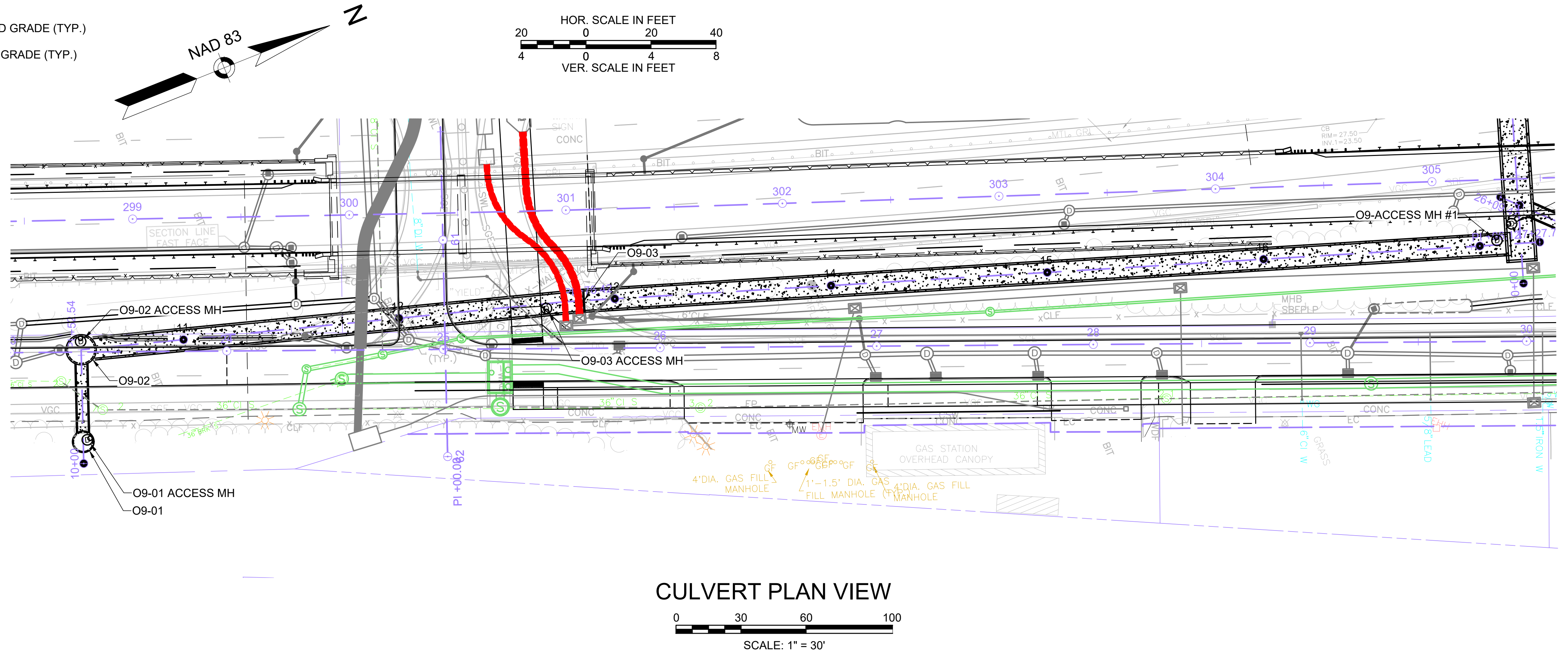
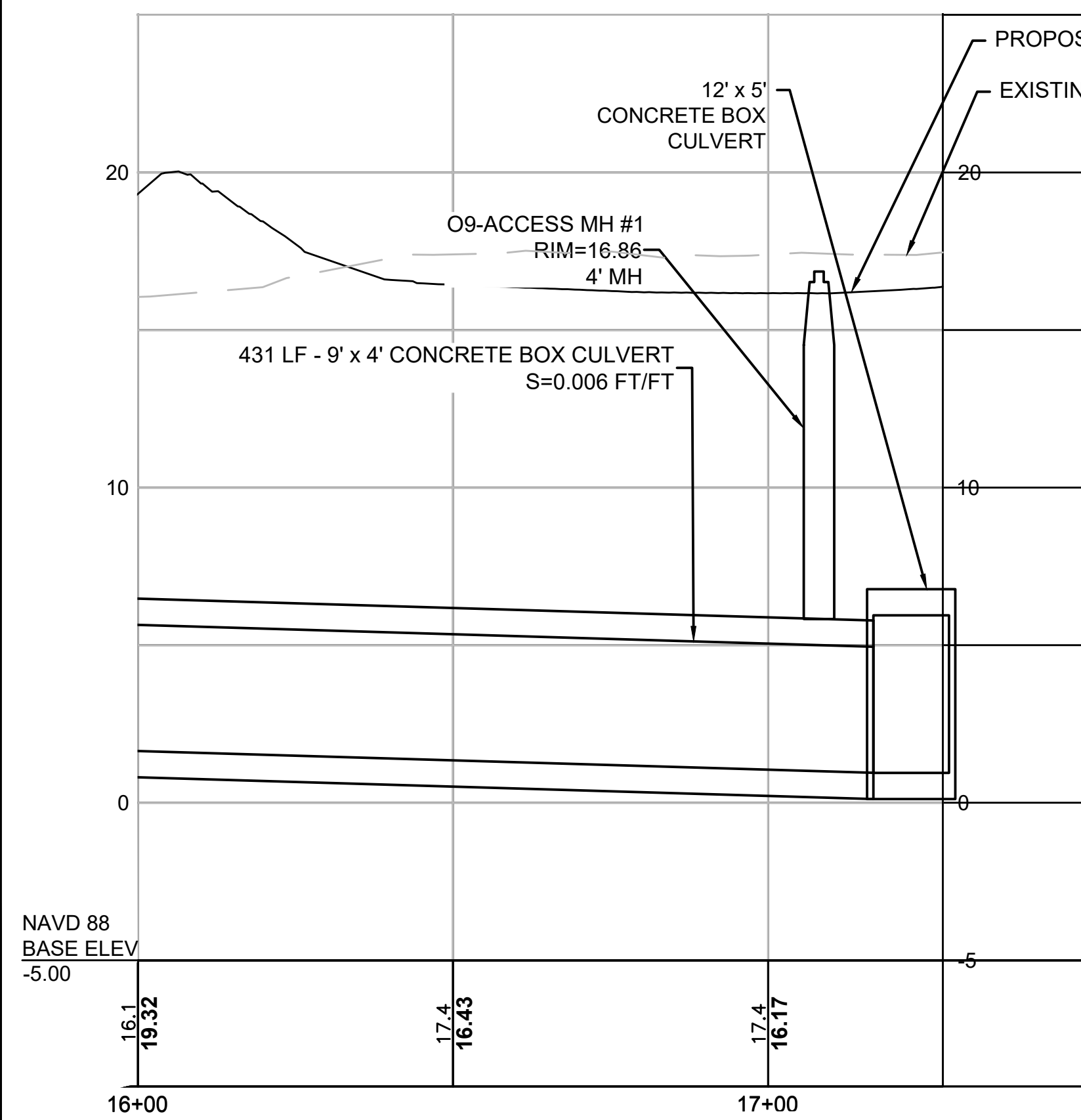
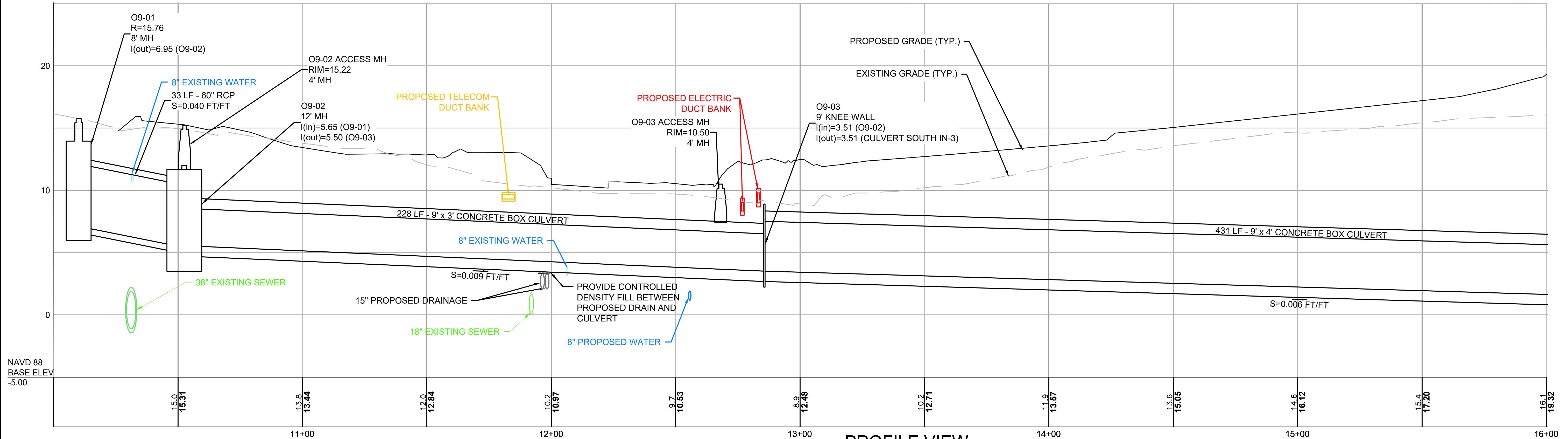
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP(HI)/BR(STP-003S(191)	1077	1094
PROJECT FILE NO.		608049	
CULVERT AND UTILITY PLANS CULVERT PLAN - 9 OF 9			



0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BR(STP-003S(191)	1078	1094
PROJECT FILE NO.		608049	
CULVERT PROFILE CULVERT PROFILE 1 OF 6			



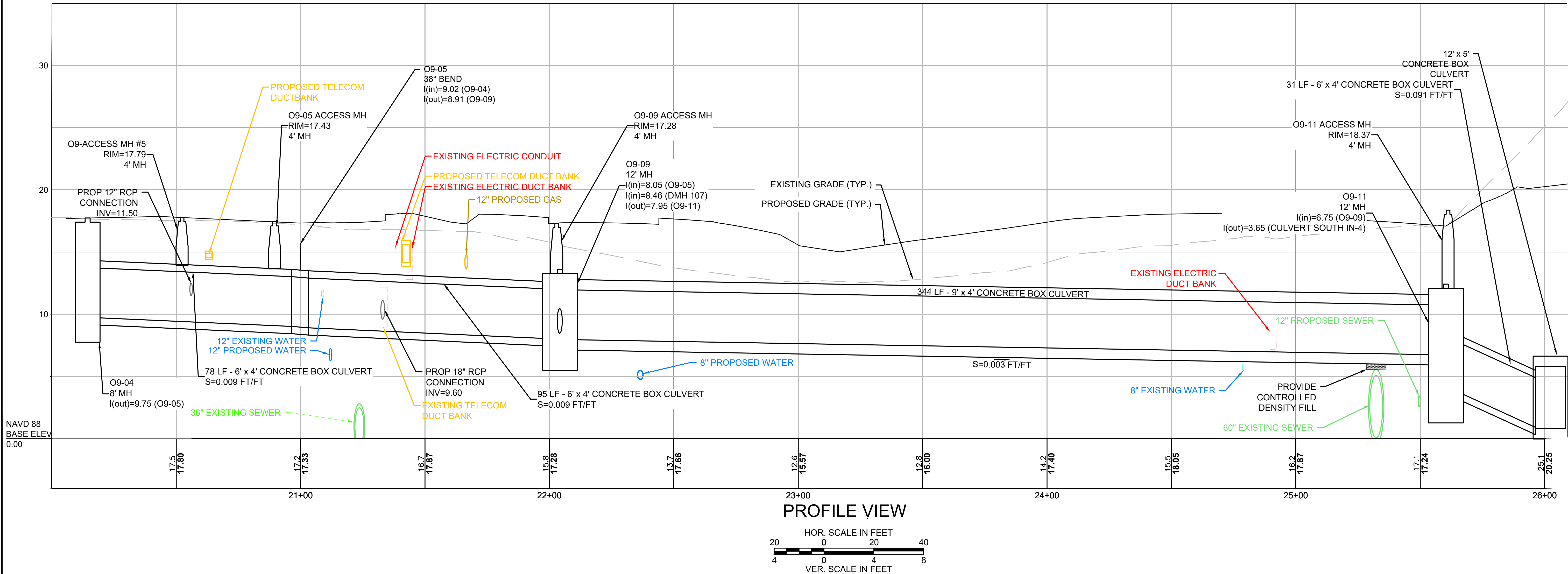
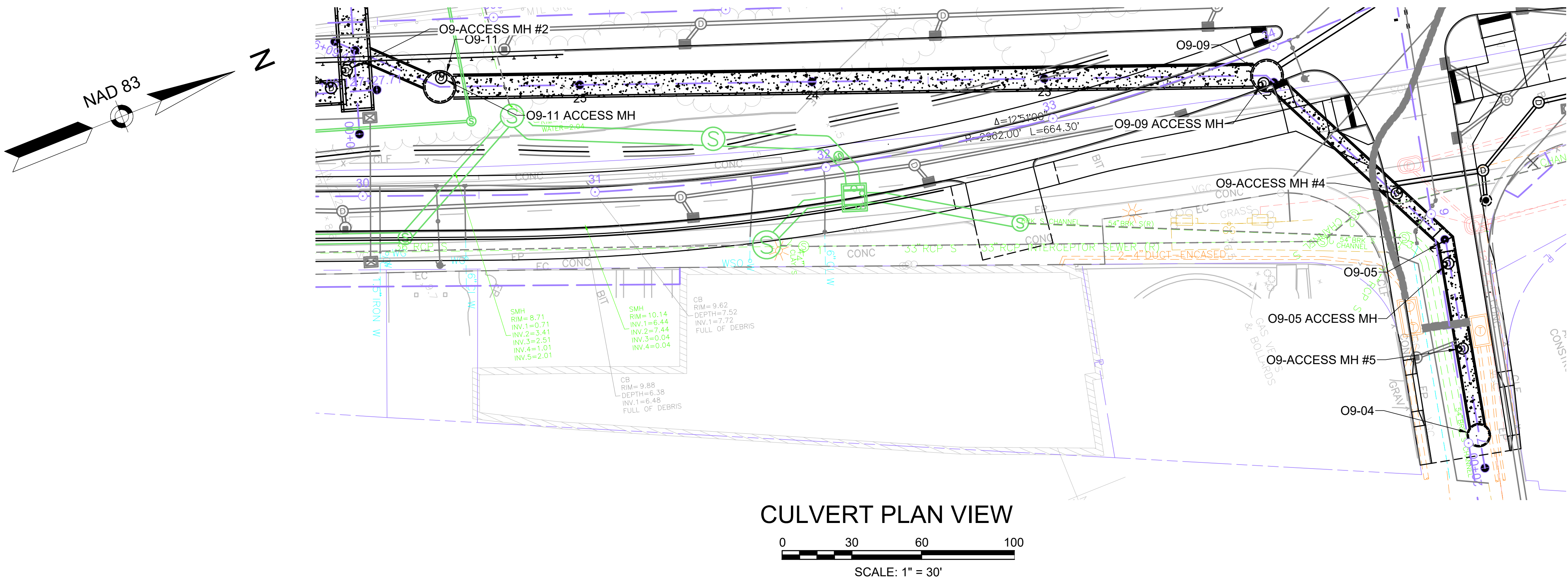
FALL RIVER

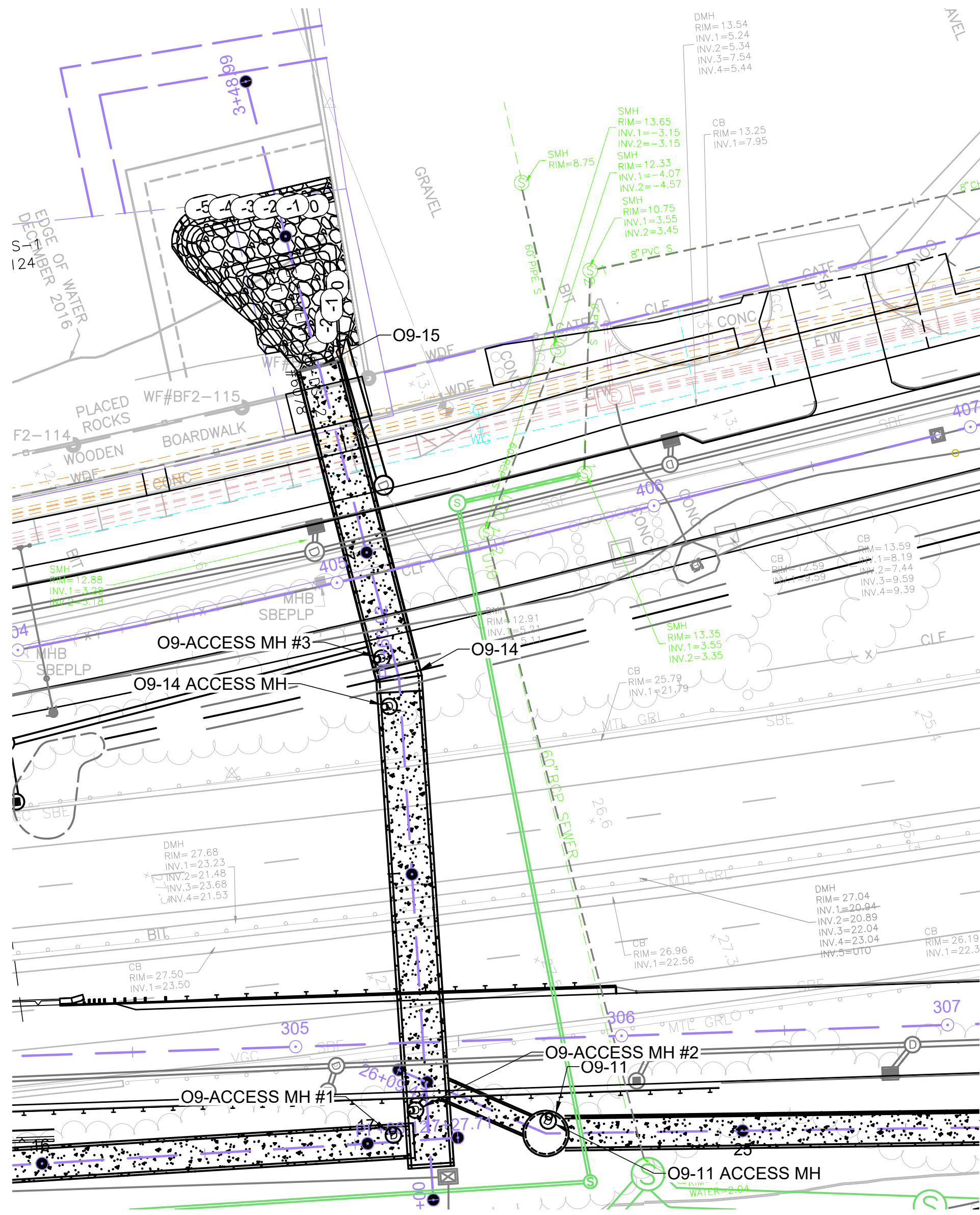
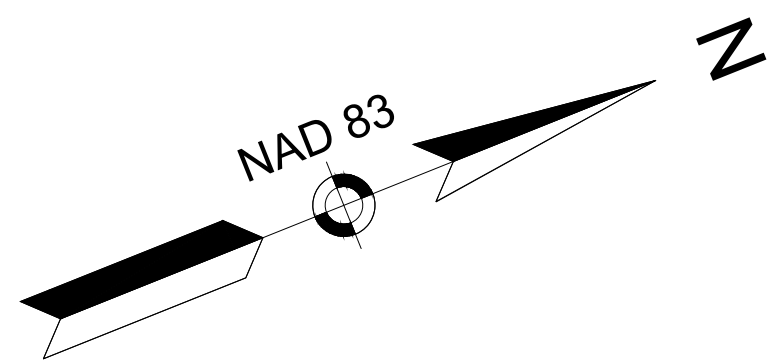
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BRJ(STP-003S(191)	1079	1094
PROJECT FILE NO.		608049	

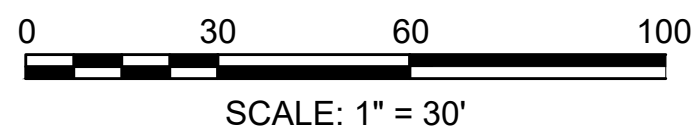
CULVERT PROFILE
CULVERT PROFILE 2 OF 6

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

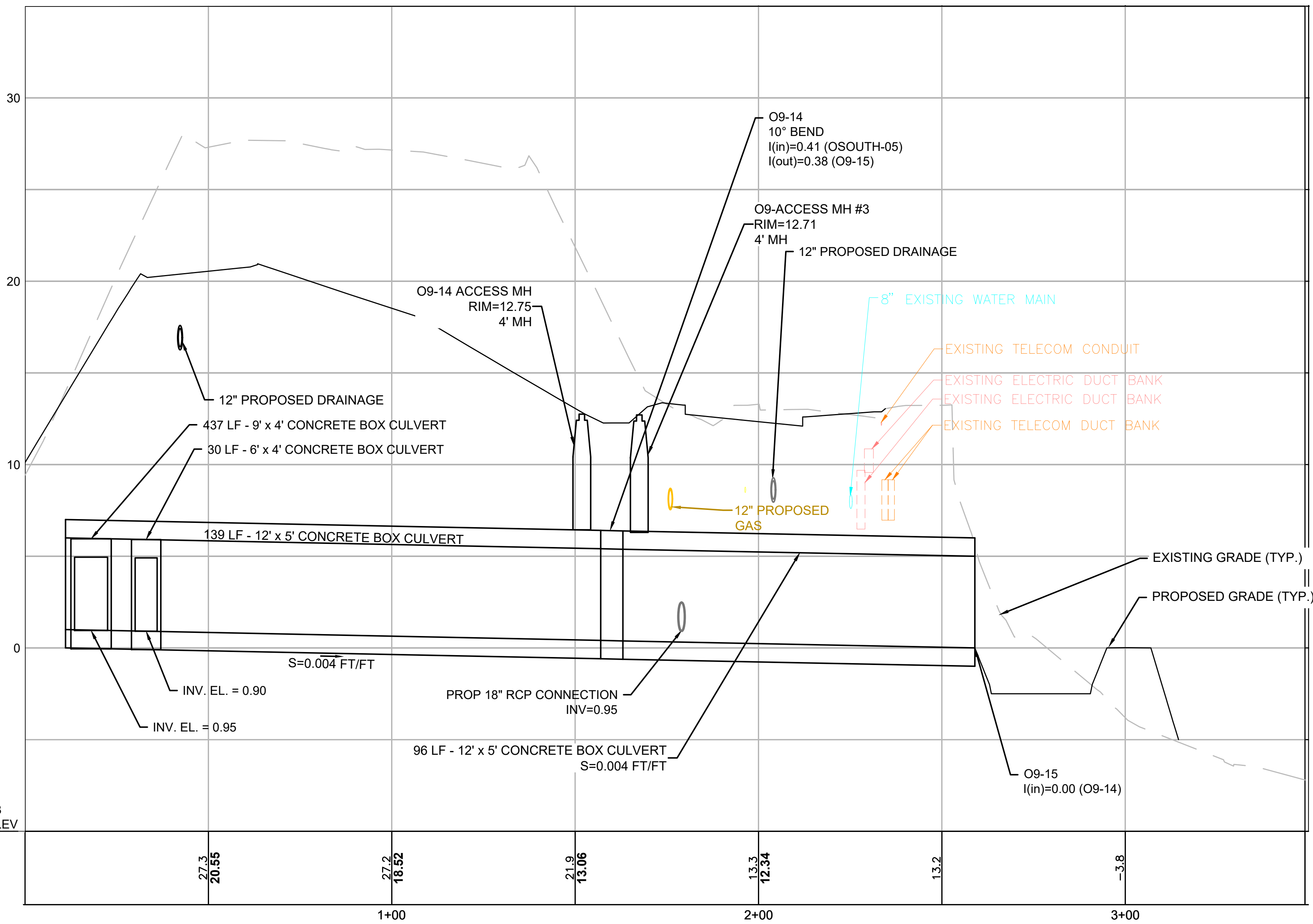




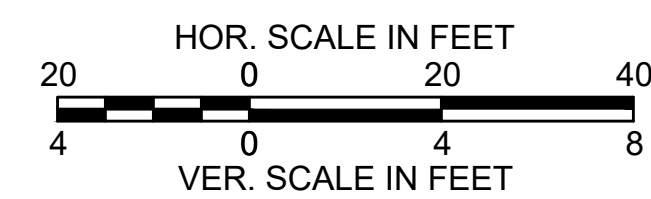
CULVERT PLAN VIEW



NAVD 88
BASE ELEV
-10.00



PROFILE VIEW



FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BRJ(STP-003S(181)	1080	1094
PROJECT FILE NO.		608049	

CULVERT PROFILE
CULVERT PROFILE 3 OF 6

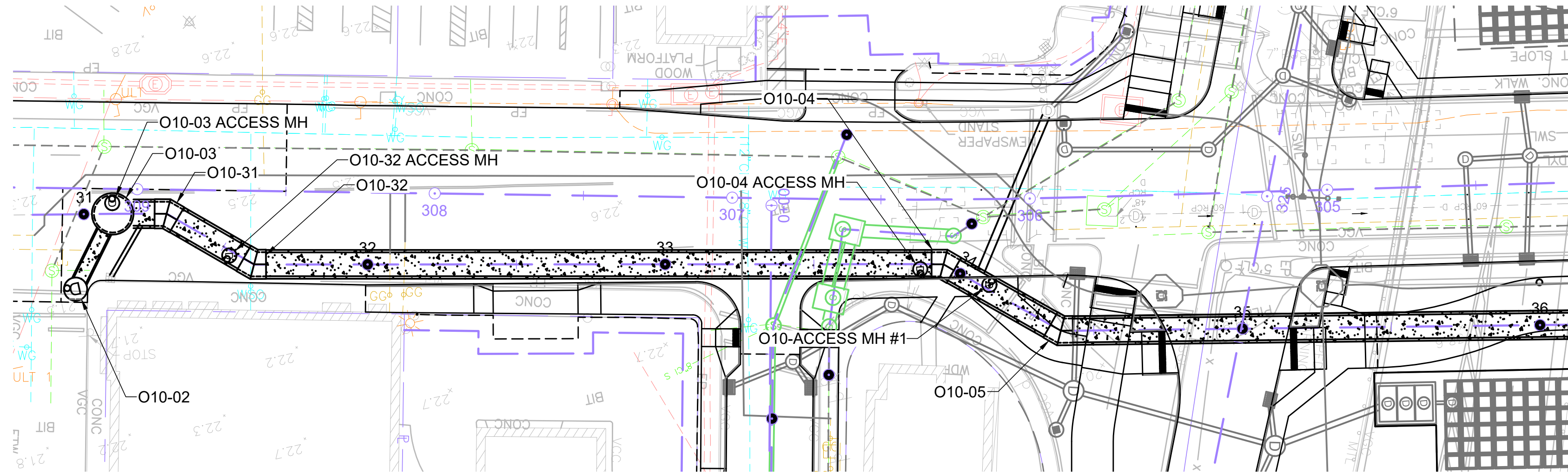
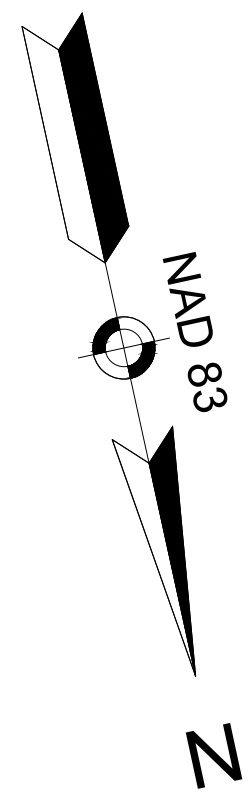
REV.	DATE	DESCRIPTION
0	01/19/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BRJ(STP-003S(181)	1081	1094
PROJECT FILE NO.			608049

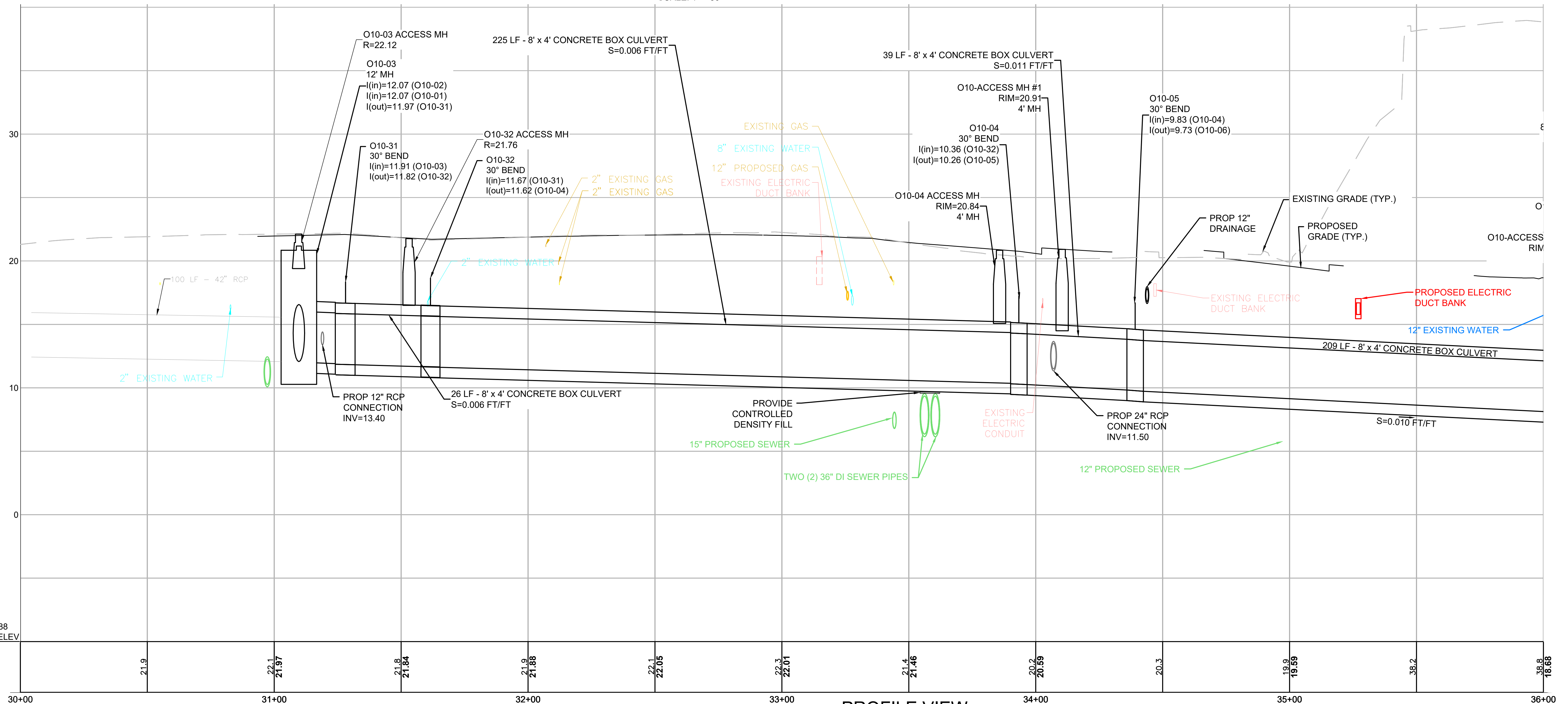
CULVERT PROFILE
CULVERT PROFILE 4 OF 6

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



CULVERT PLAN VIEW

0 30 60 100
SCALE: 1" = 30'



PROFILE VIEW

HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

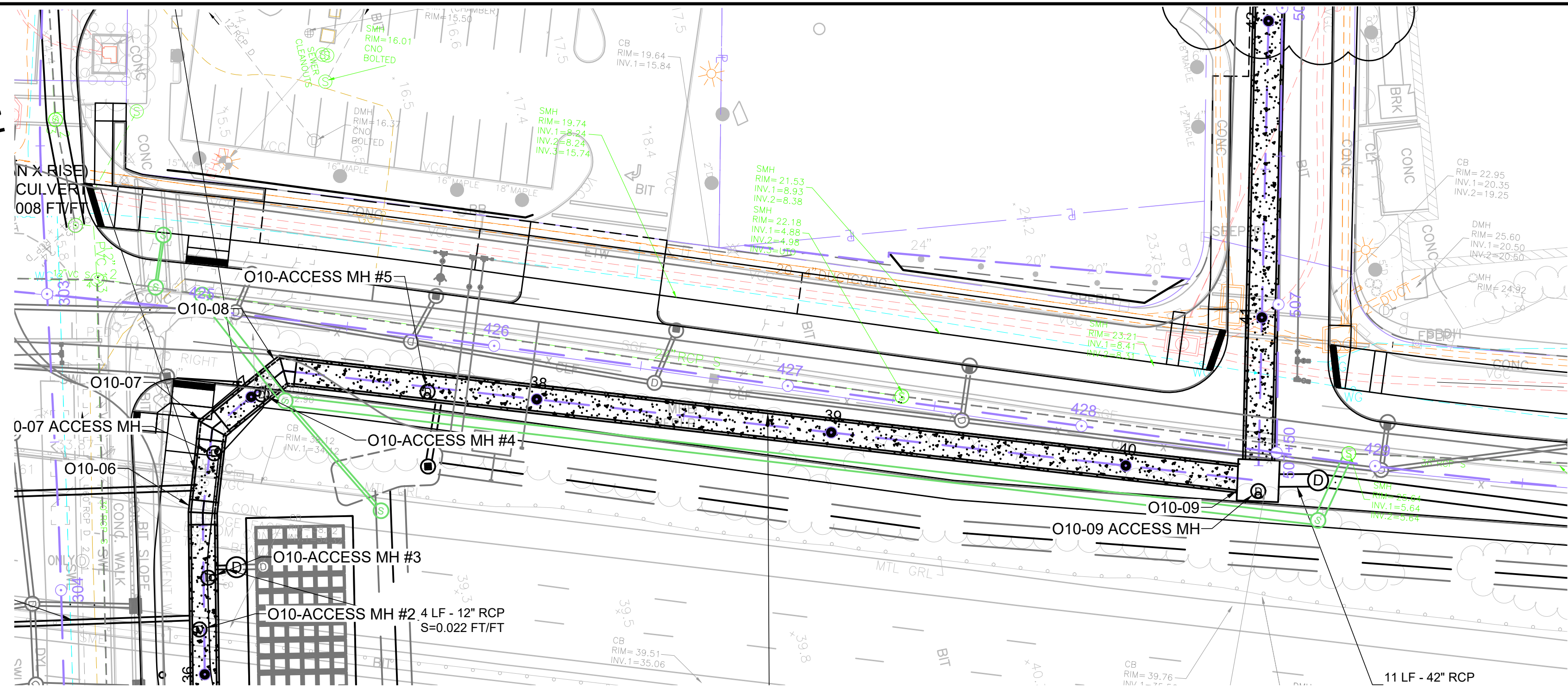
NAVD 88
BASE ELEV
-10.00

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BR/STP-003S(191)	1082	1094
PROJECT FILE NO.		608049	

CULVERT PROFILE
CULVERT PROFILE 5 OF 6

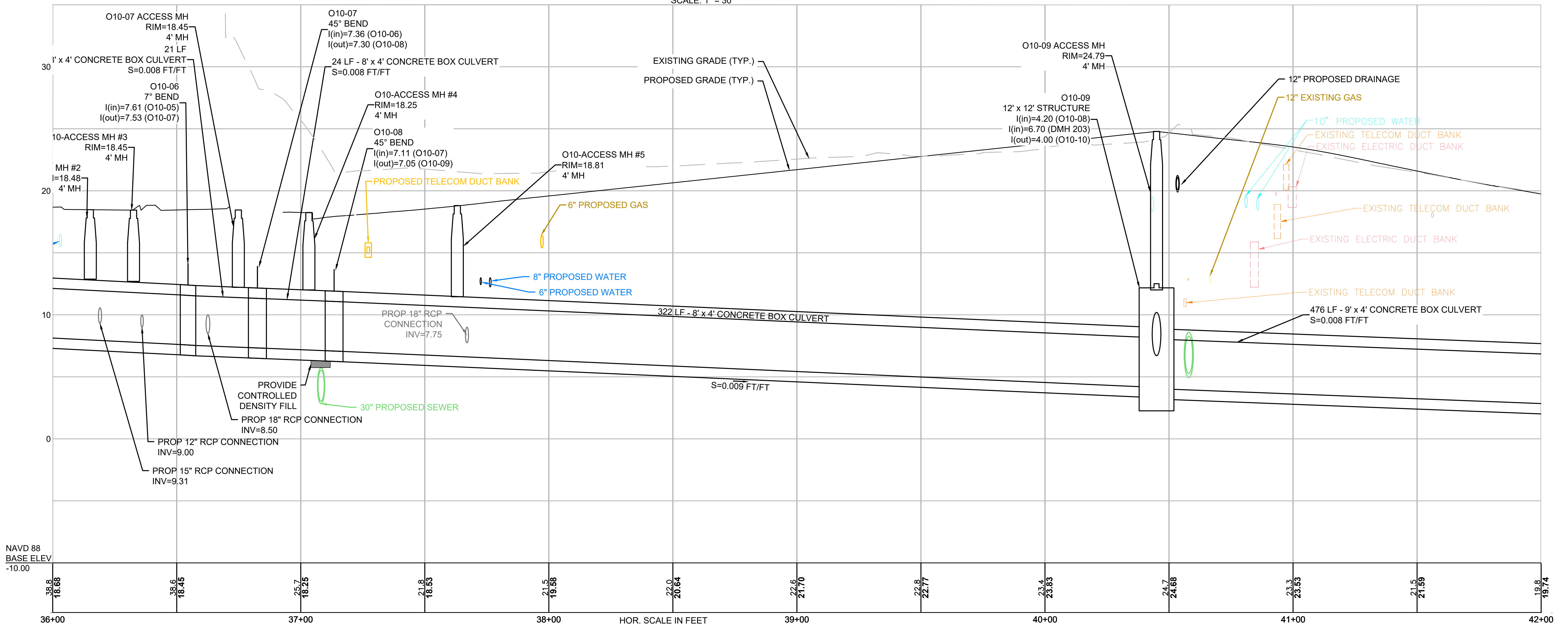
REV.	DATE	DESCRIPTION
0	01/19/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



CULVERT PLAN VIEW

0 30 60 100

SCALE: 1" = 30'



PROFILE VIEW

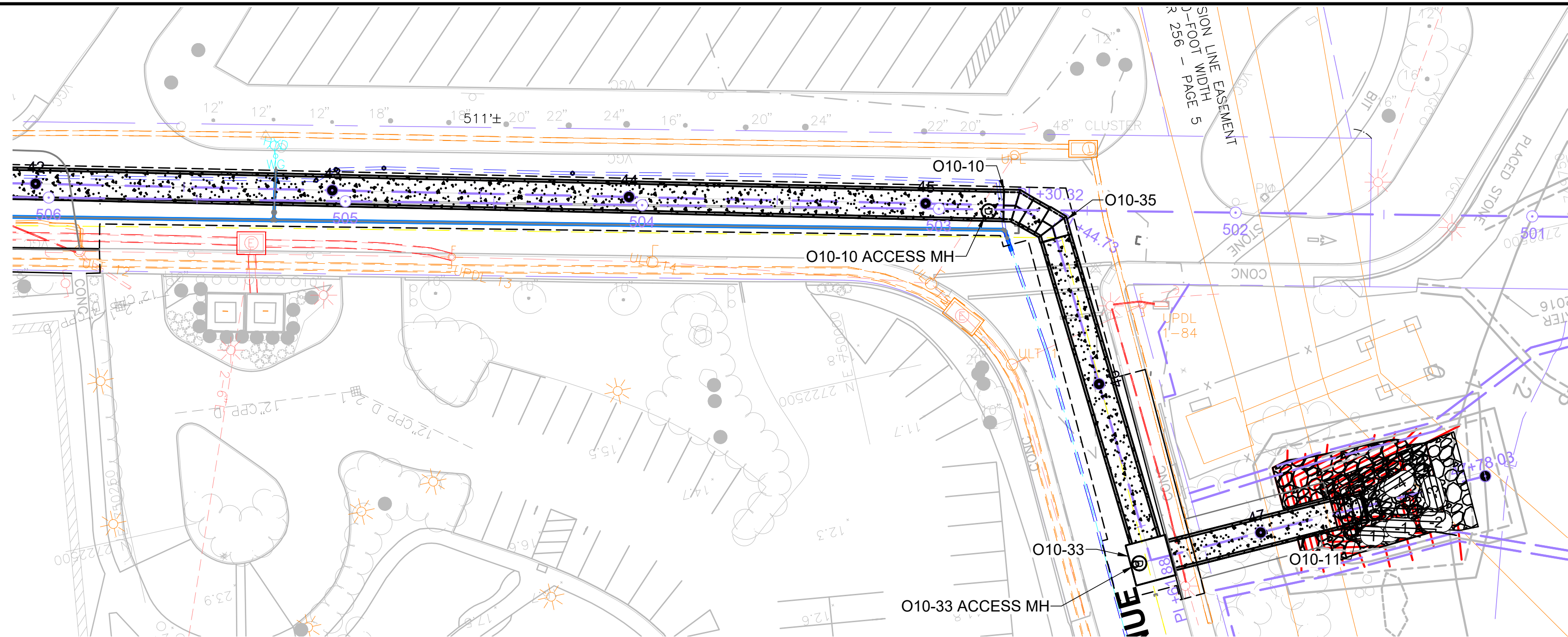
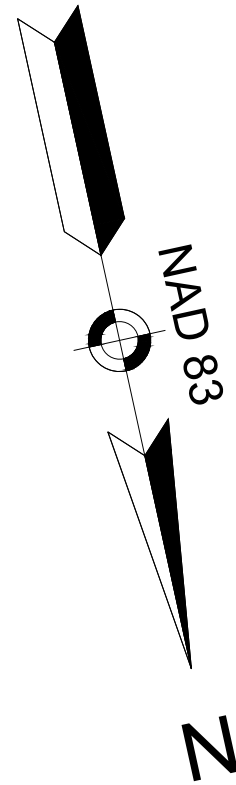
HOR. SCALE IN FEET
0 20 40
VER. SCALE IN FEET
0 4 8

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)/BRJ(STP-003S(181)	1083	1094
PROJECT FILE NO.		608049	

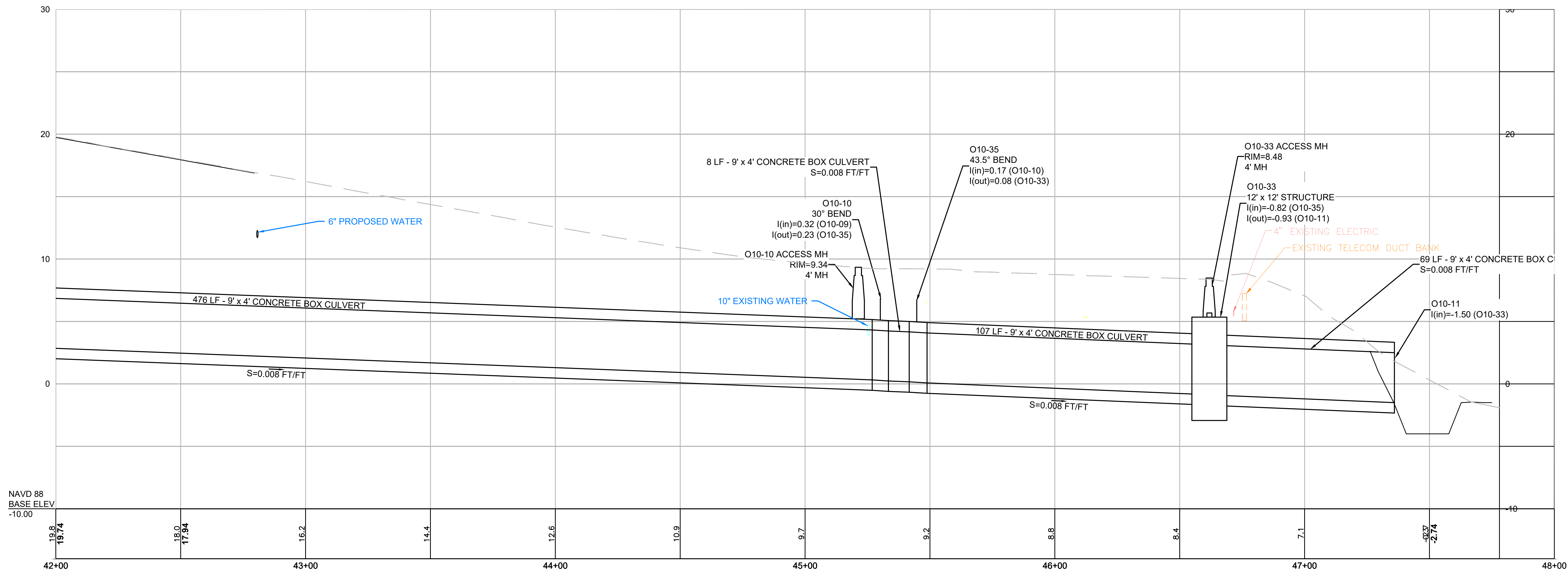
CULVERT PROFILE
CULVERT PROFILE 6 OF 6

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



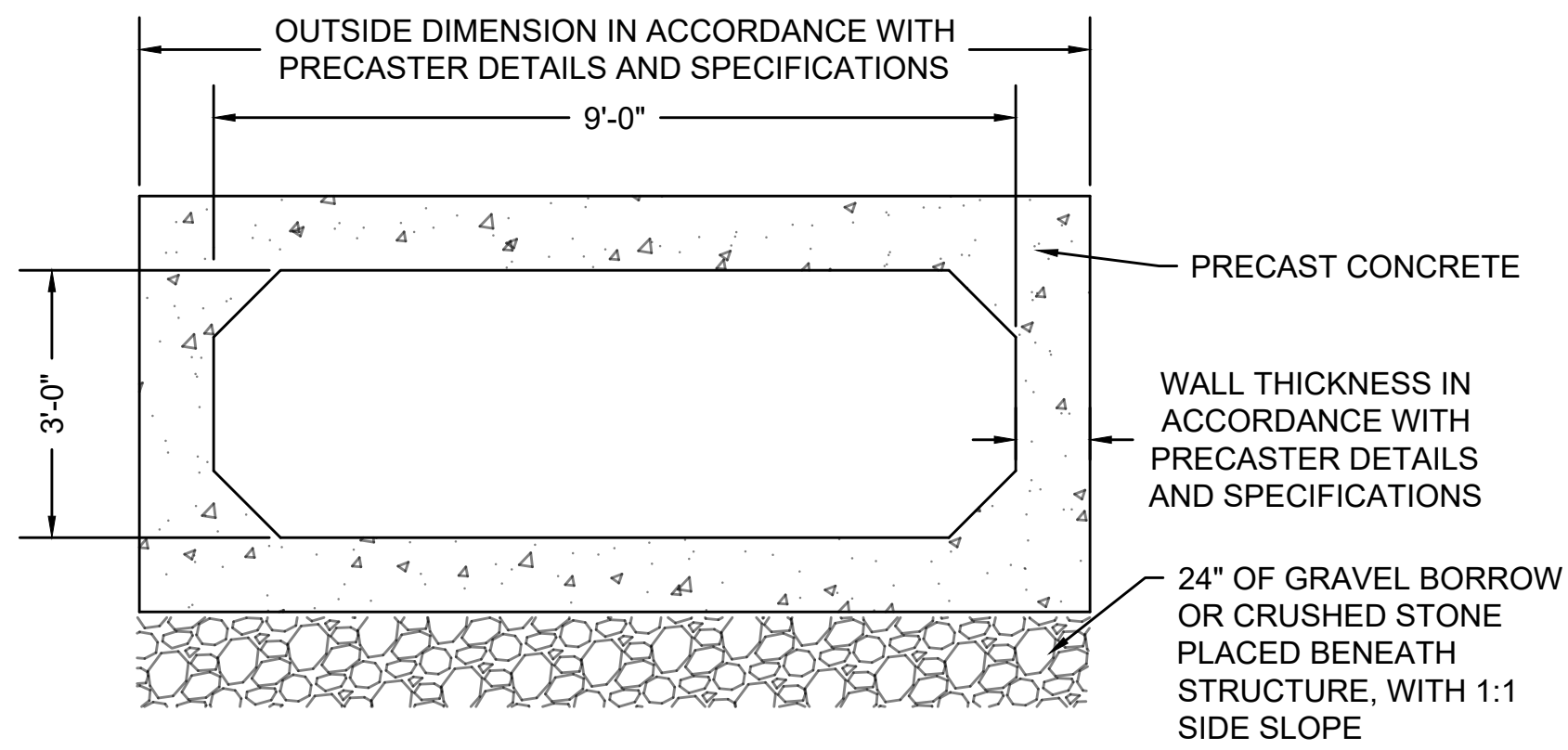
CULVERT PLAN VIEW

0 30 60 100
SCALE: 1" = 30'



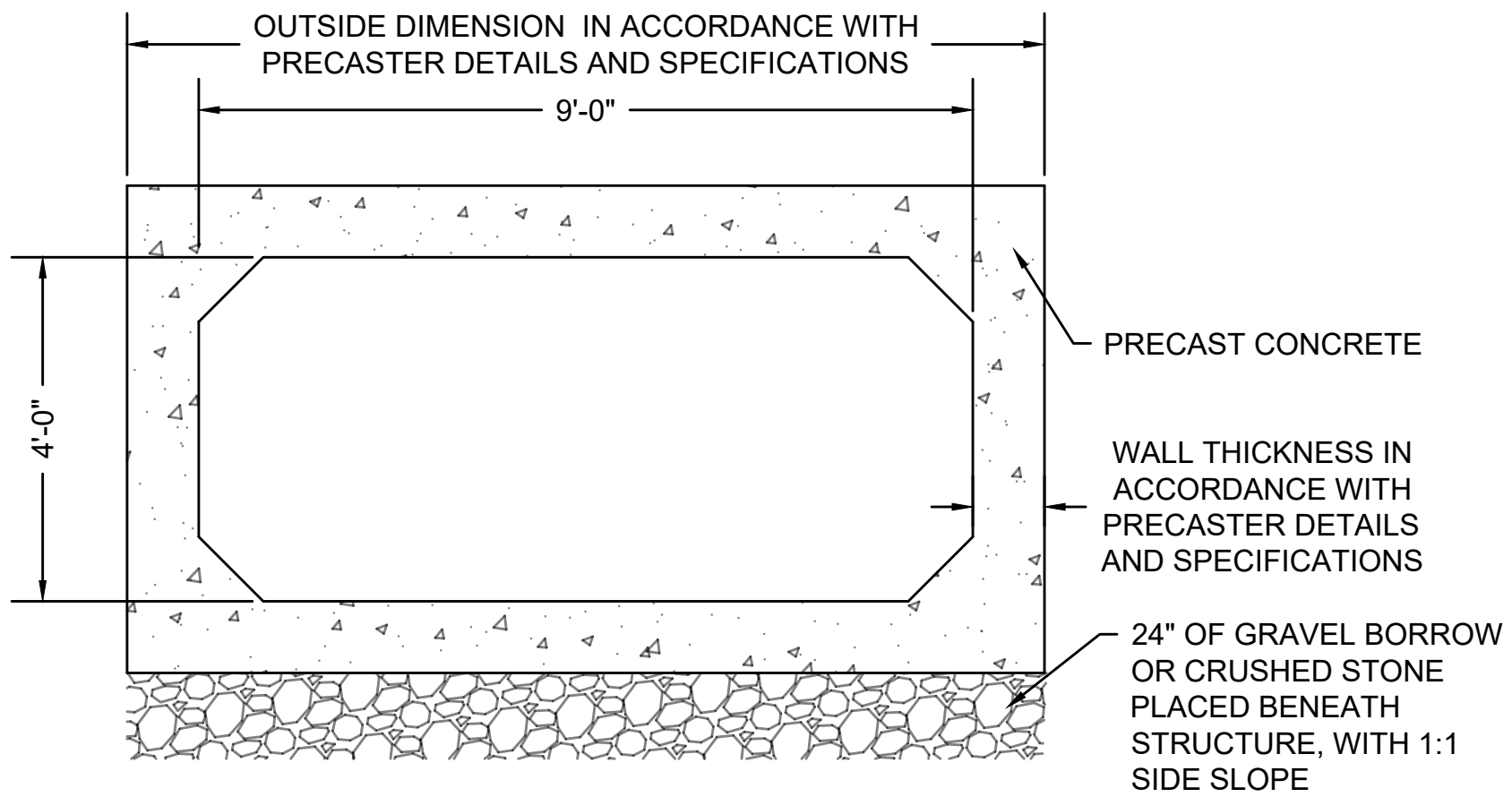
PROFILE VIEW

HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

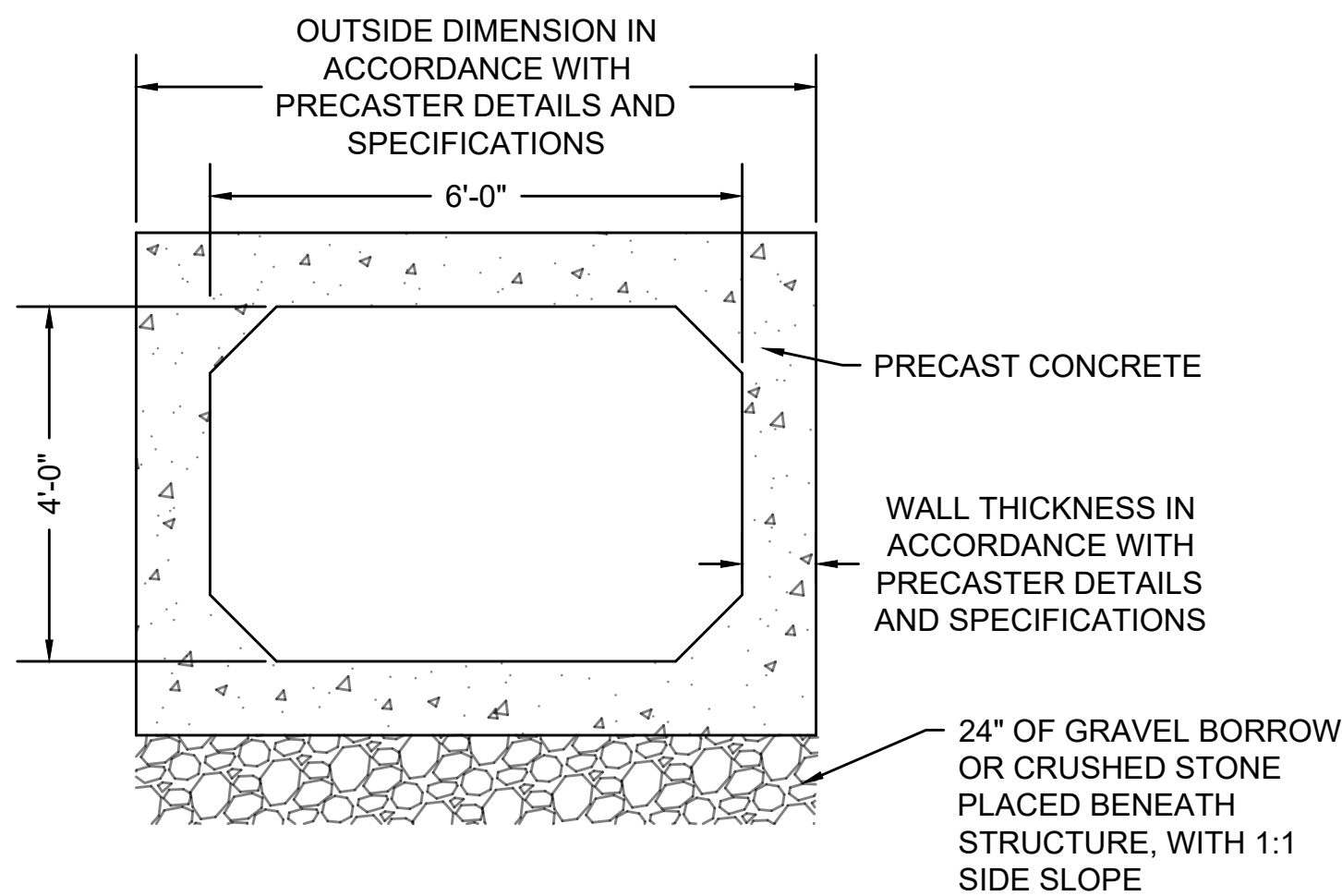


9 X 3 (SPAN X RISE) CONCRETE BOX SECTION

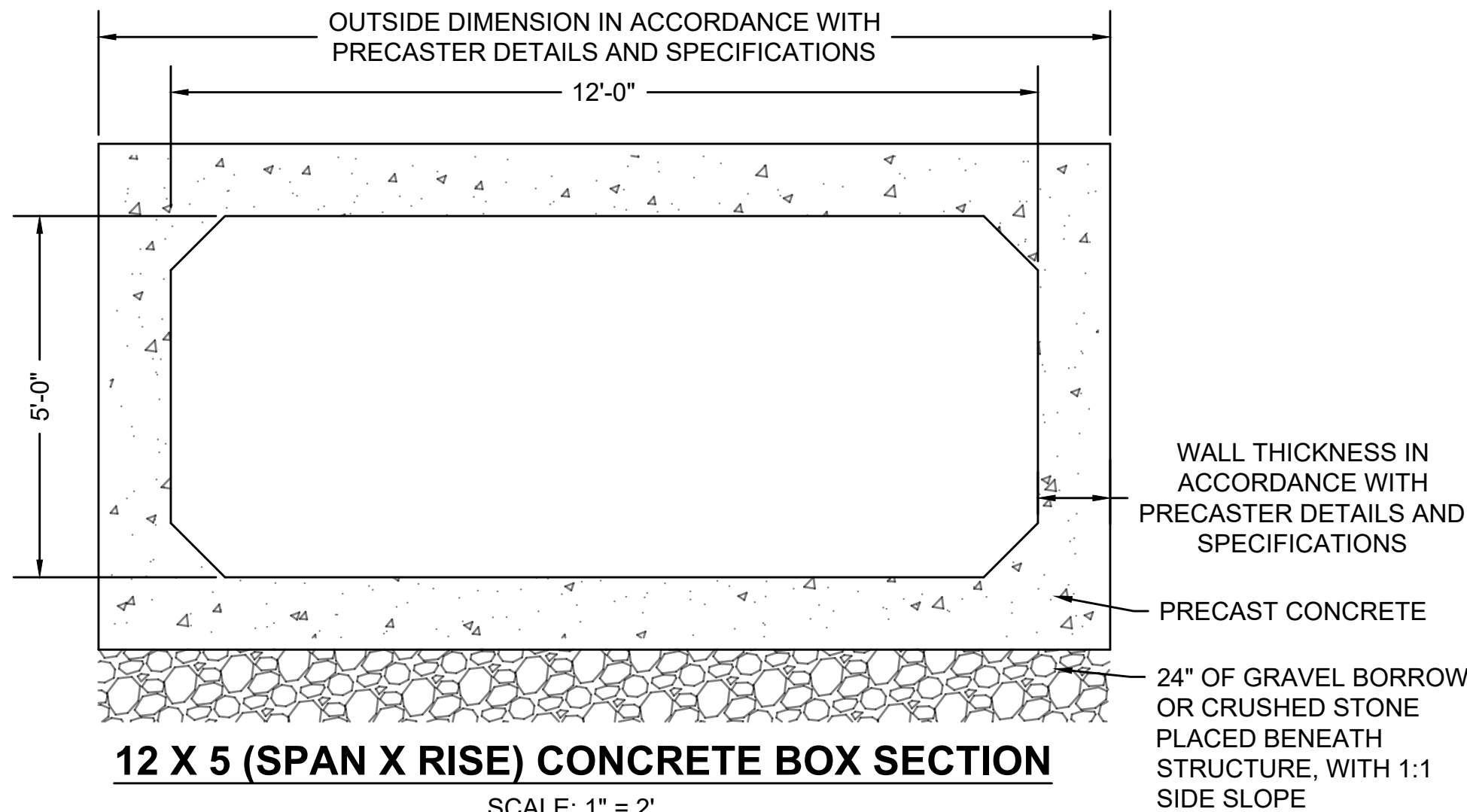
SCALE: 1" = 2'



9 X 4 (SPAN X RISE) CONCRETE BOX SECTION

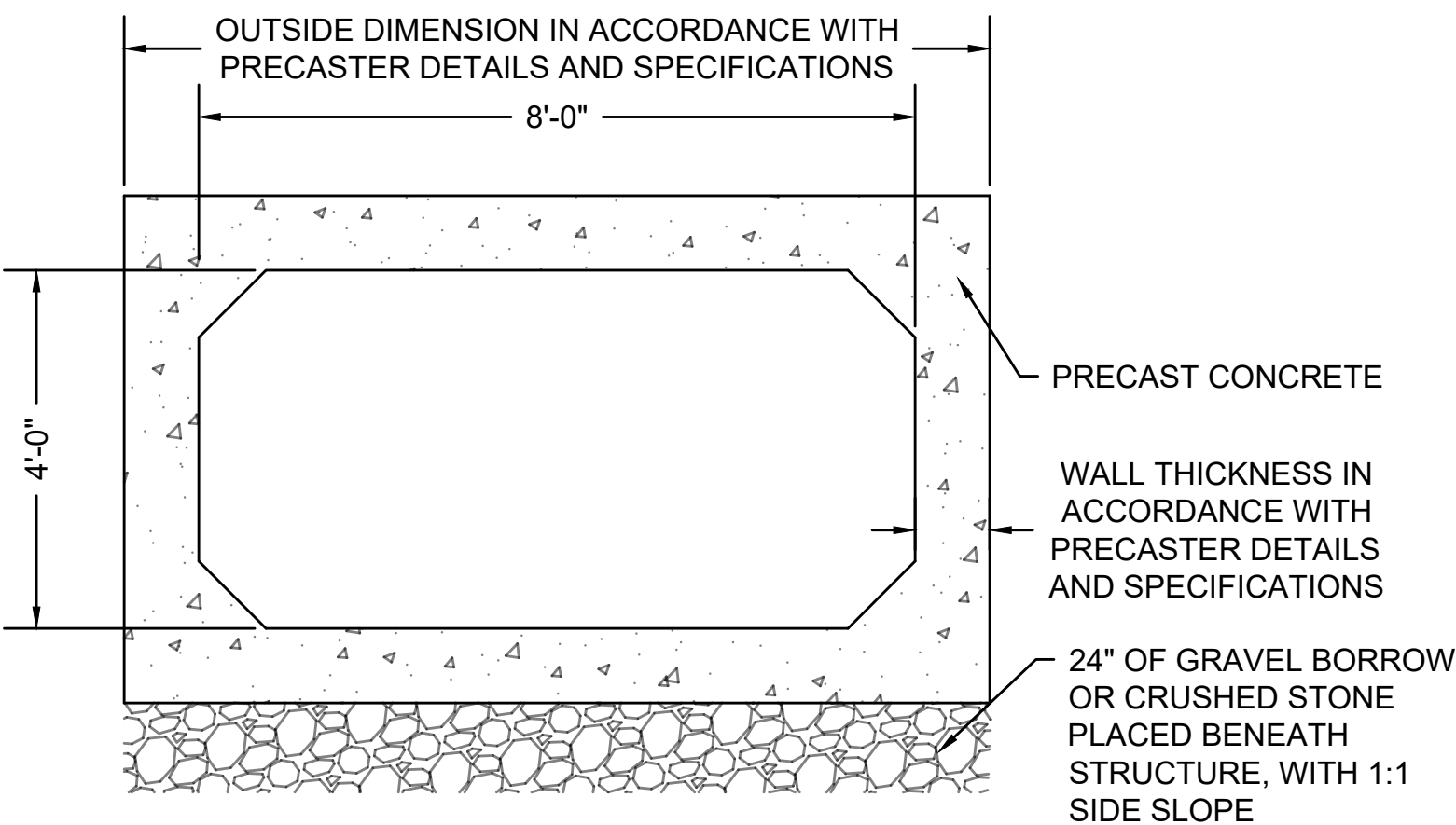


6 X 4 (SPAN X RISE) CONCRETE BOX SECTION

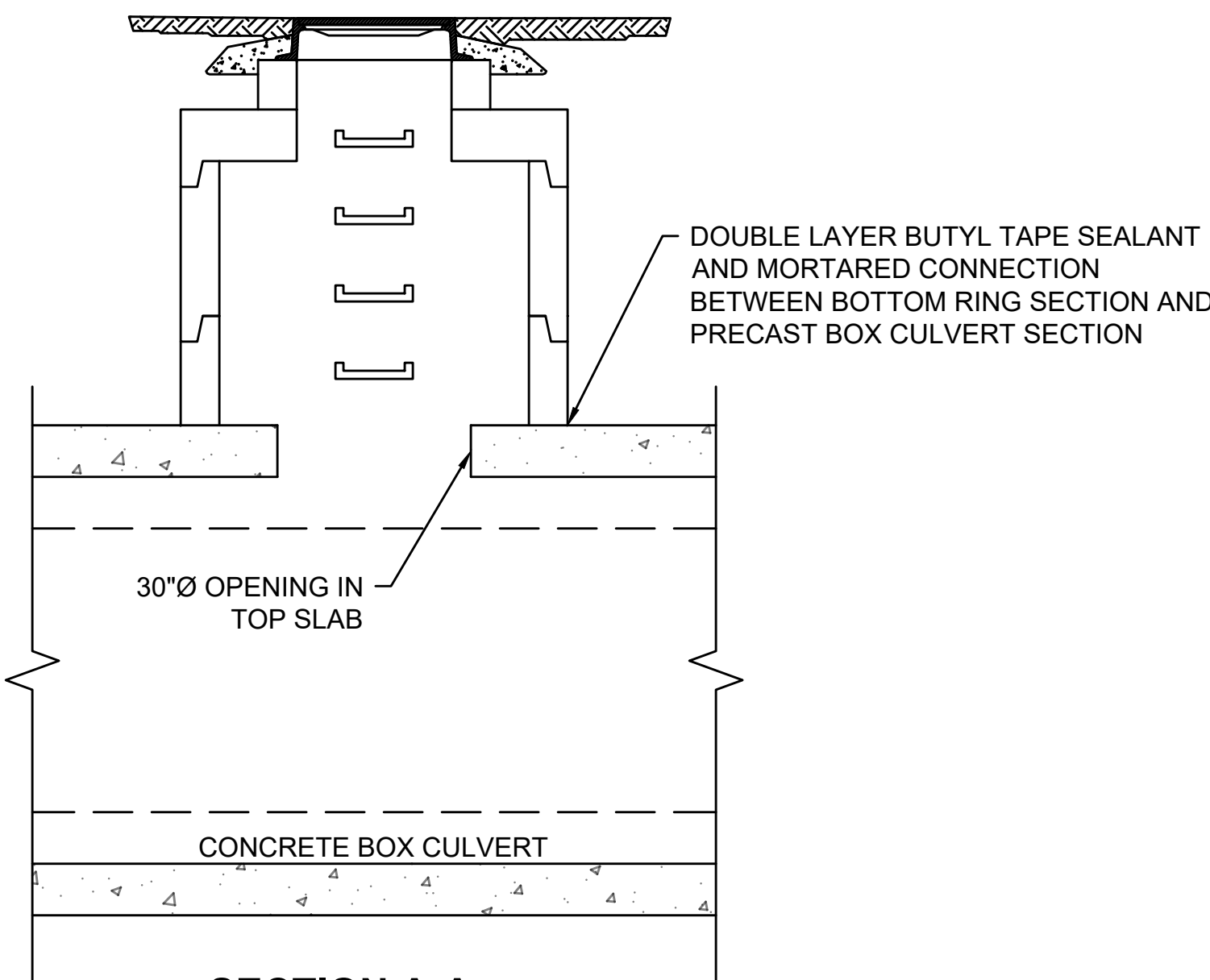


12 X 5 (SPAN X RISE) CONCRETE BOX SECTION

SCALE: 1" = 2'



8 X 4 (SPAN X RISE) CONCRETE BOX SECTION



SECTION A-A

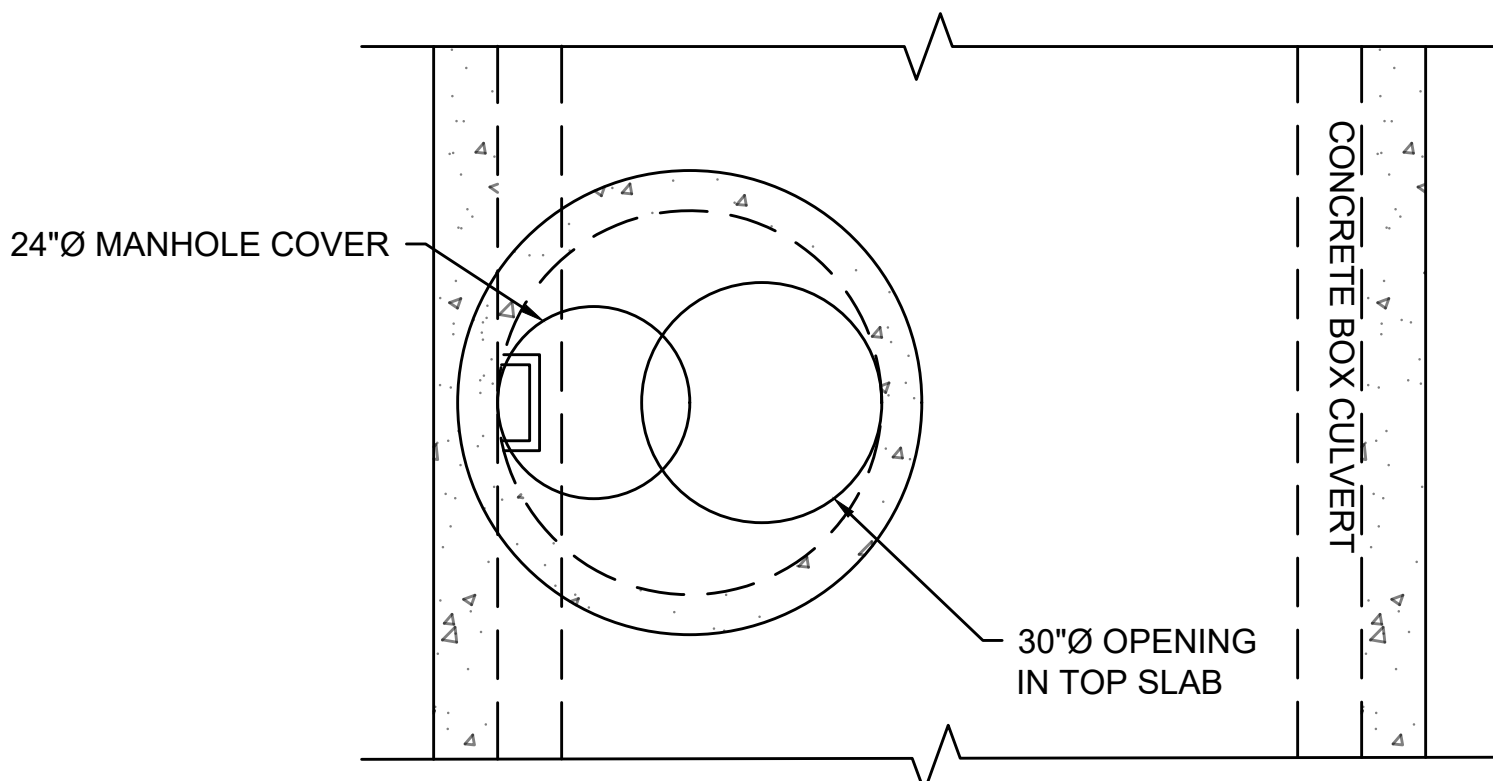
CONCRETE BOX SECTION NOTES:

1. STEEL REINFORCEMENT IS REQUIRED FOR ALL CONCRETE BOX SECTIONS. STEEL REINFORCEMENT NOT SHOWN ON DETAILS FOR CLARITY. REINFORCEMENT TO BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS AND REQUIREMENTS.
2. THE REINFORCEMENT AND STRUCTURAL DESIGN OF CONCRETE BOX SECTIONS SHALL BE FOR ALL APPLICABLE LOADS, INCLUDING HL-93 LIVE LOADING.
3. BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS

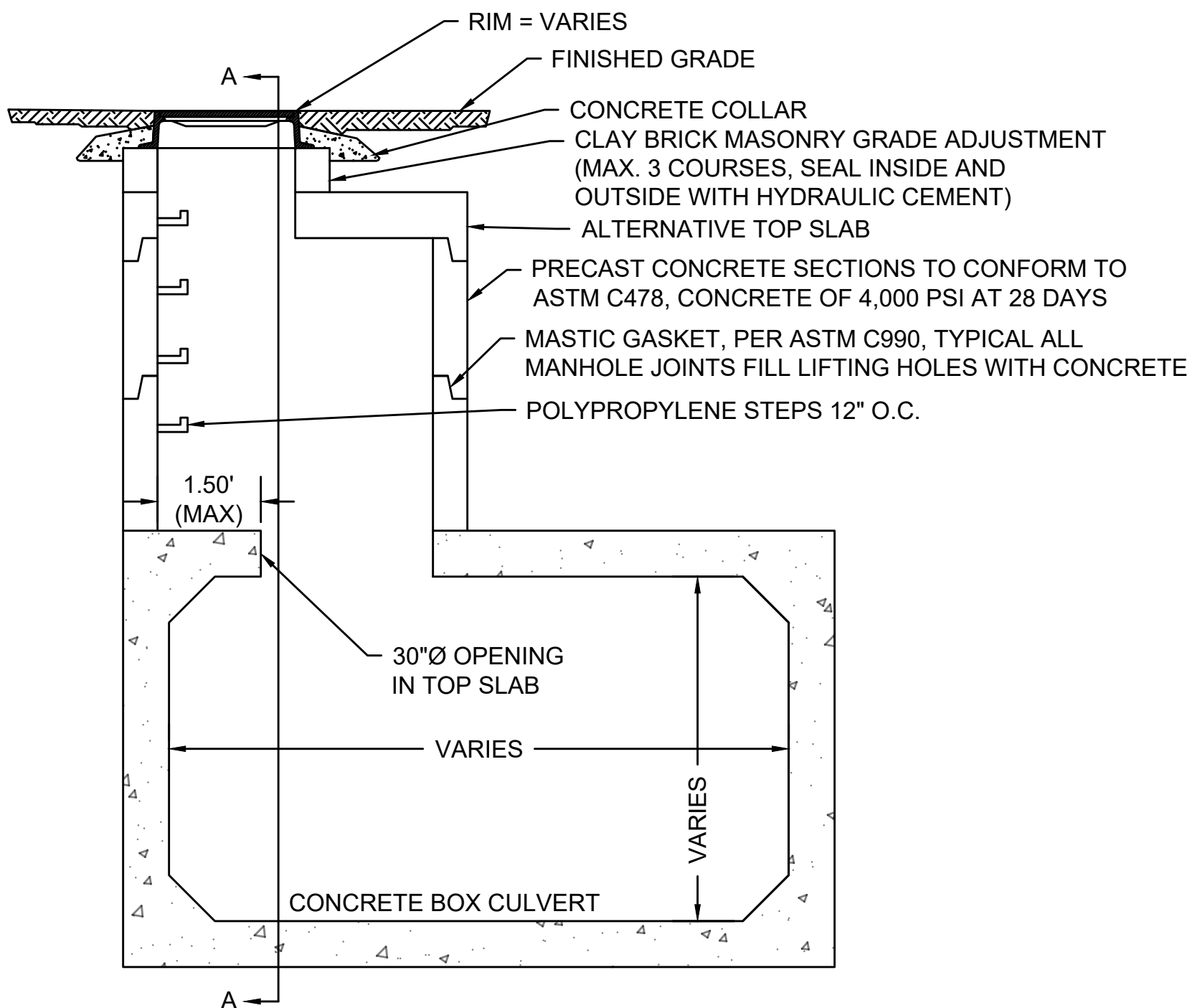
FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-0035(191)	1084	1094
PROJECT FILE NO.		608049	

CULVERT BEND DETAILS
SHEET 1 OF 2

REV.	DATE	DESCRIPTION
0	01/19/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



PLAN VIEW



ACCESS MANHOLE TYPICAL DETAIL

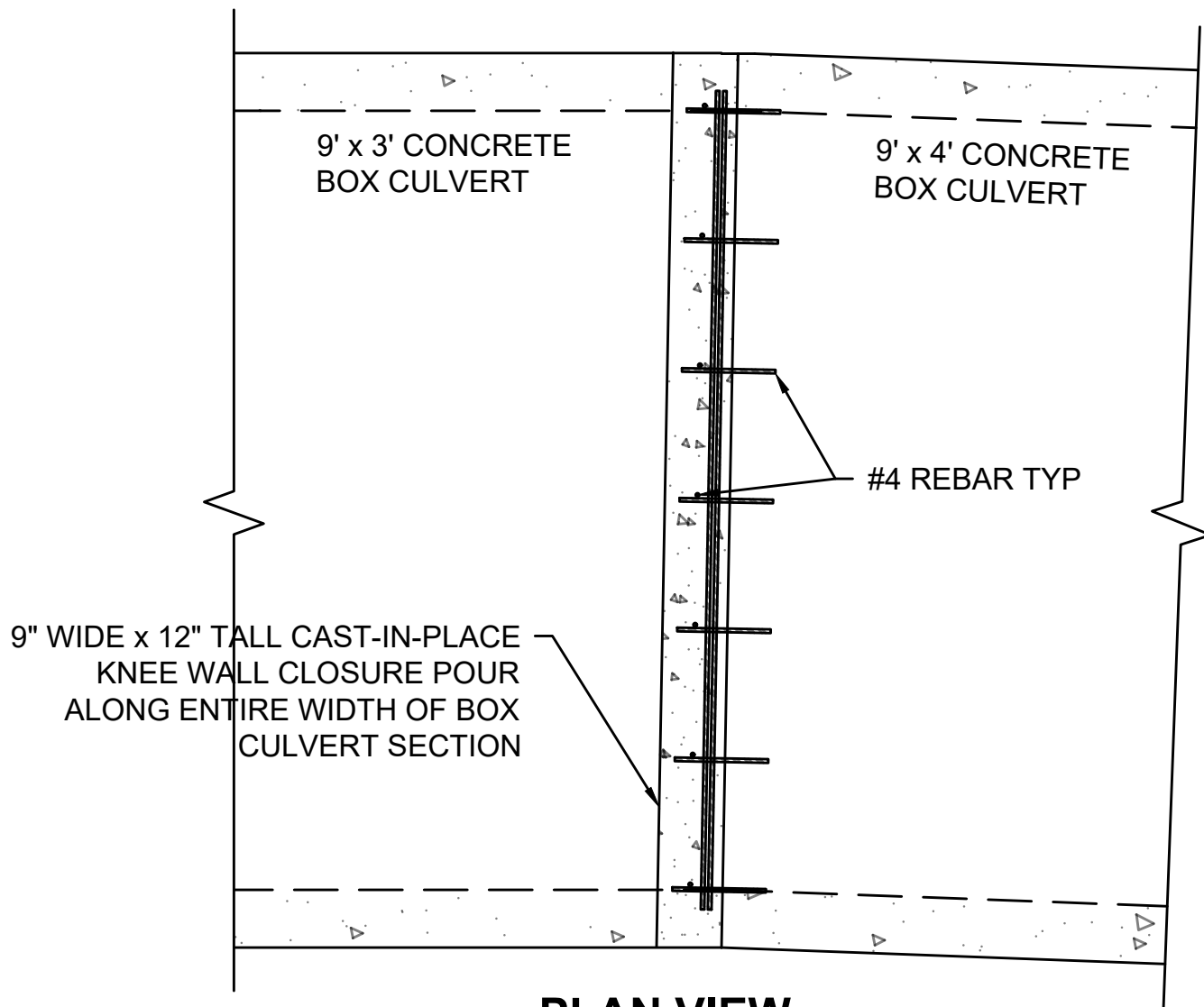
SCALE: 1" = 2'

FALL RIVER
ROUTE 79

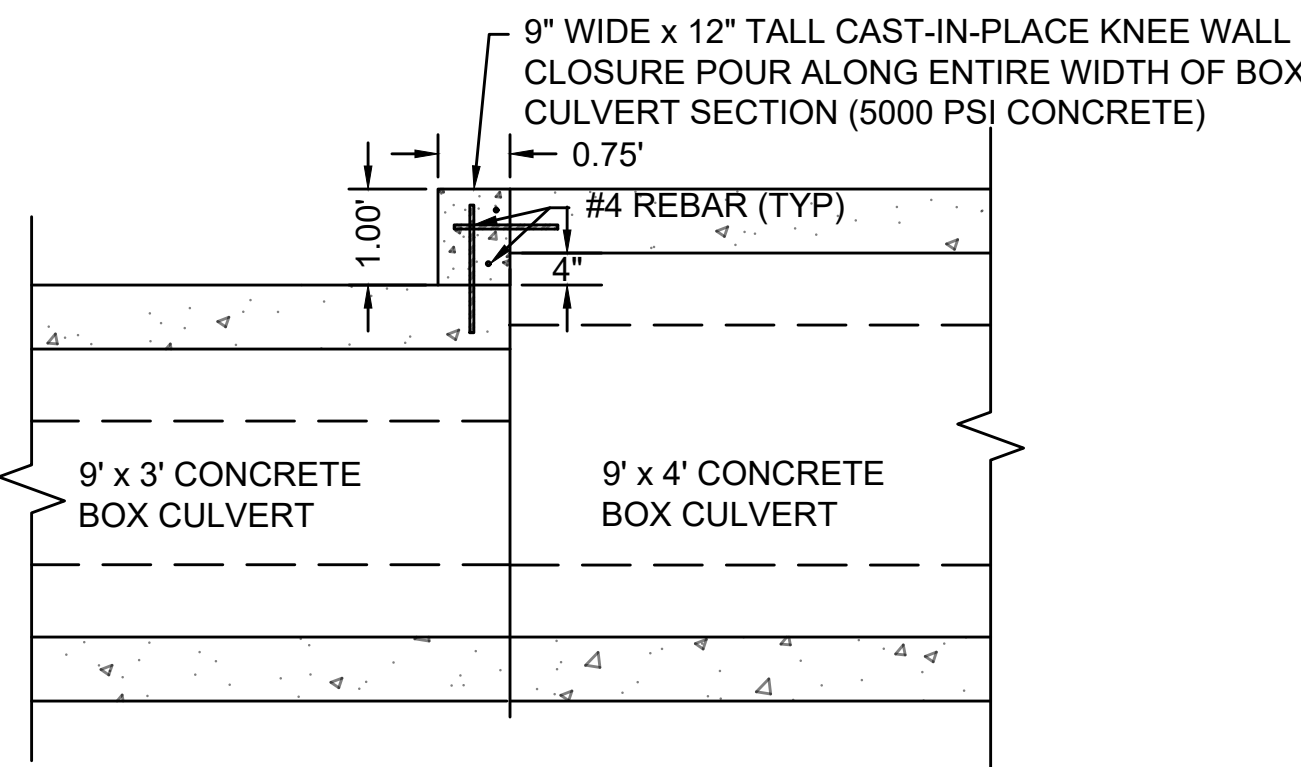
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HIP(BR)/STP-0035(191)	1085	1094
PROJECT FILE NO.		608049	

CULVERT SECTION DETAILS
SHEET 2 OF 2

REV.	DATE	DESCRIPTION
0	01/19/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

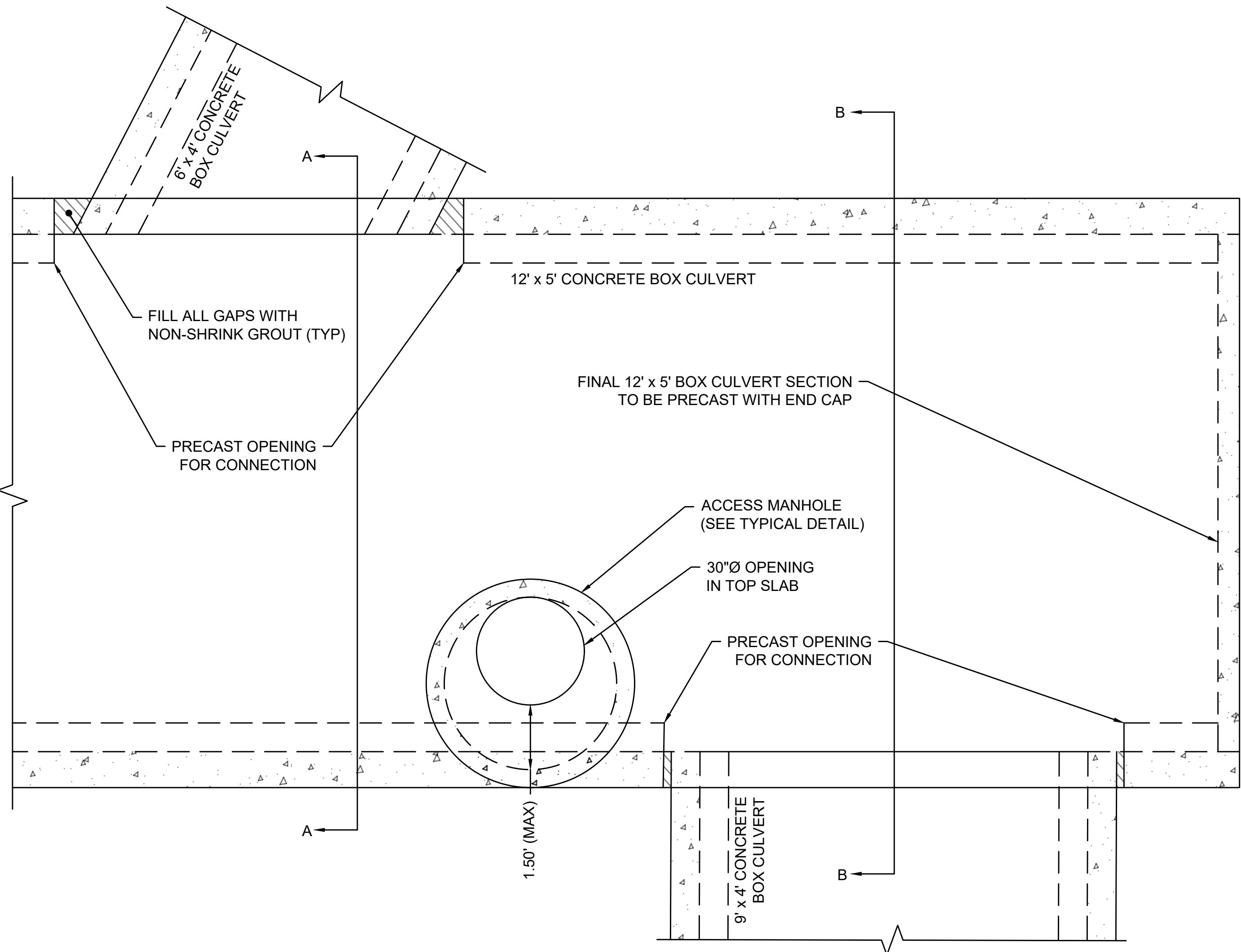


PLAN VIEW

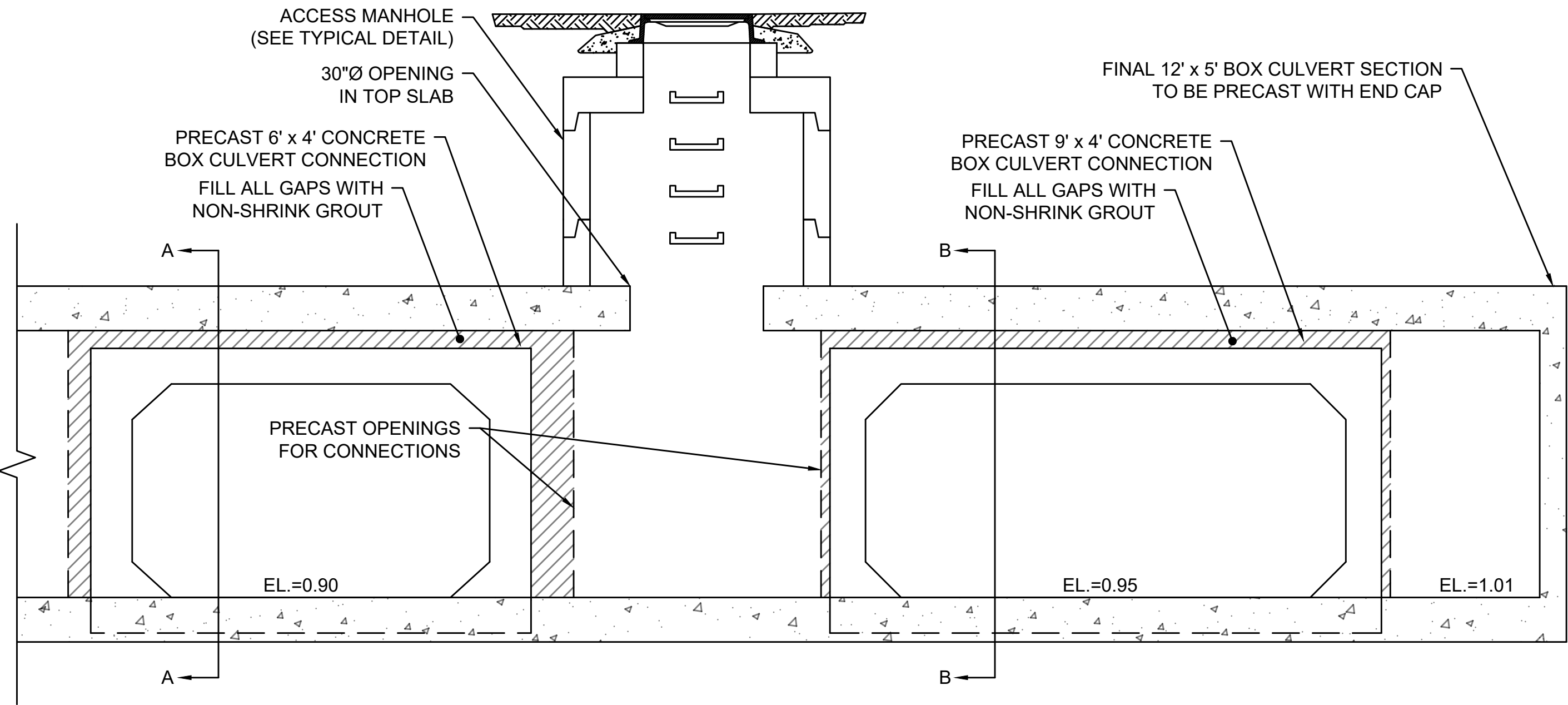


09-03 KNEE WALL CLOSURE POUR JOINT DETAIL

SCALE: 1" = 2'

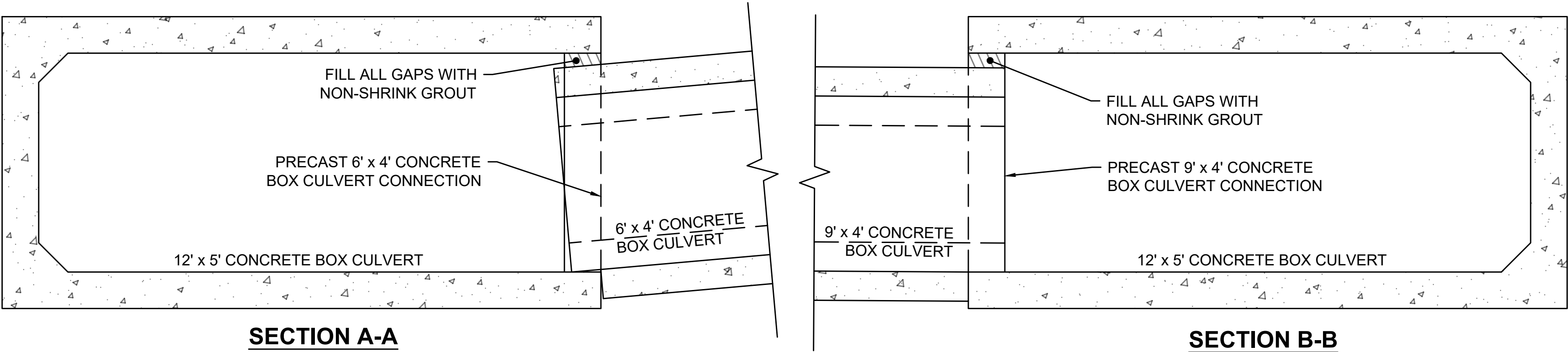


PLAN VIEW



12' x 5' CONCRETE BOX CULVERT END CAP

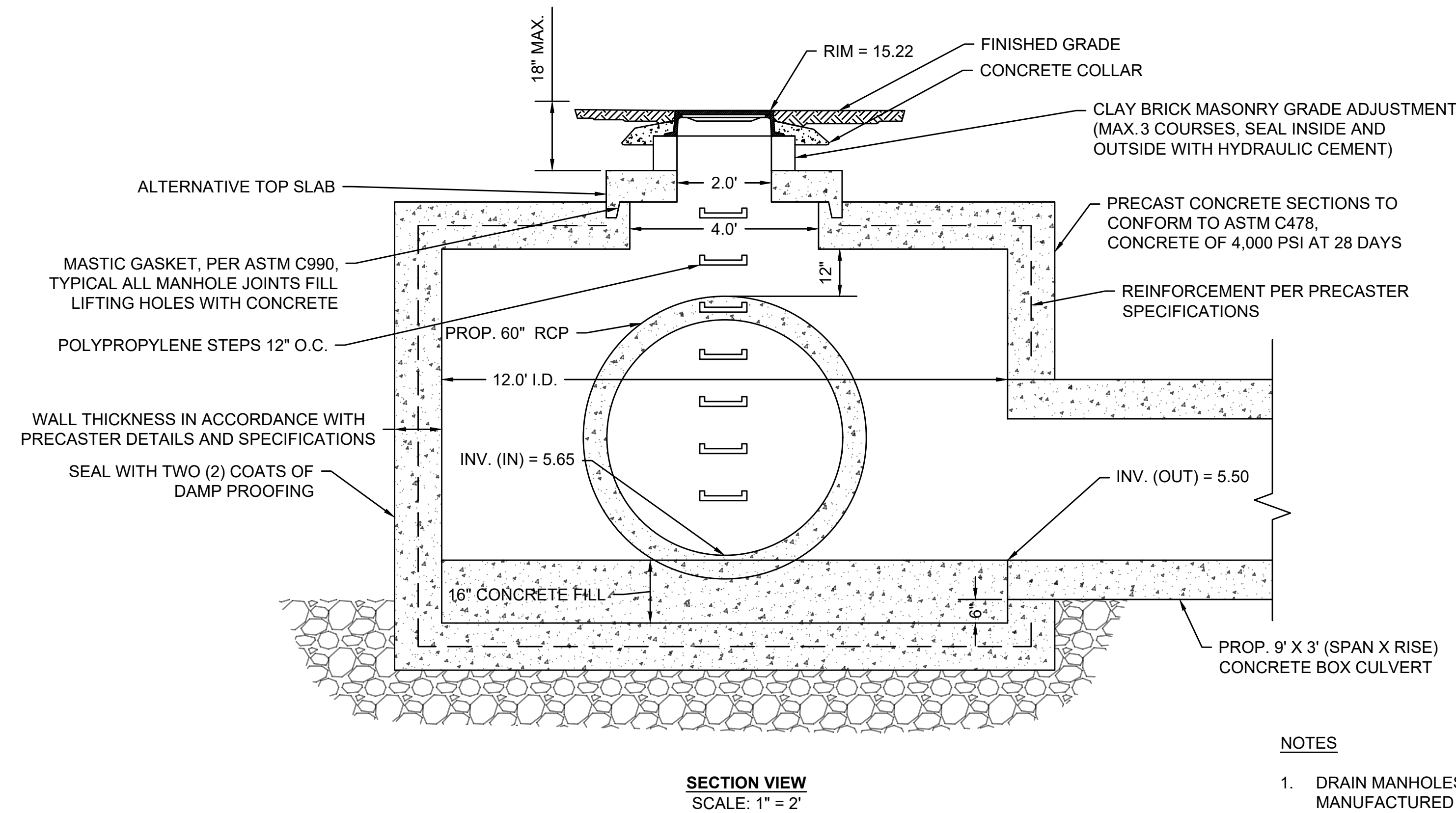
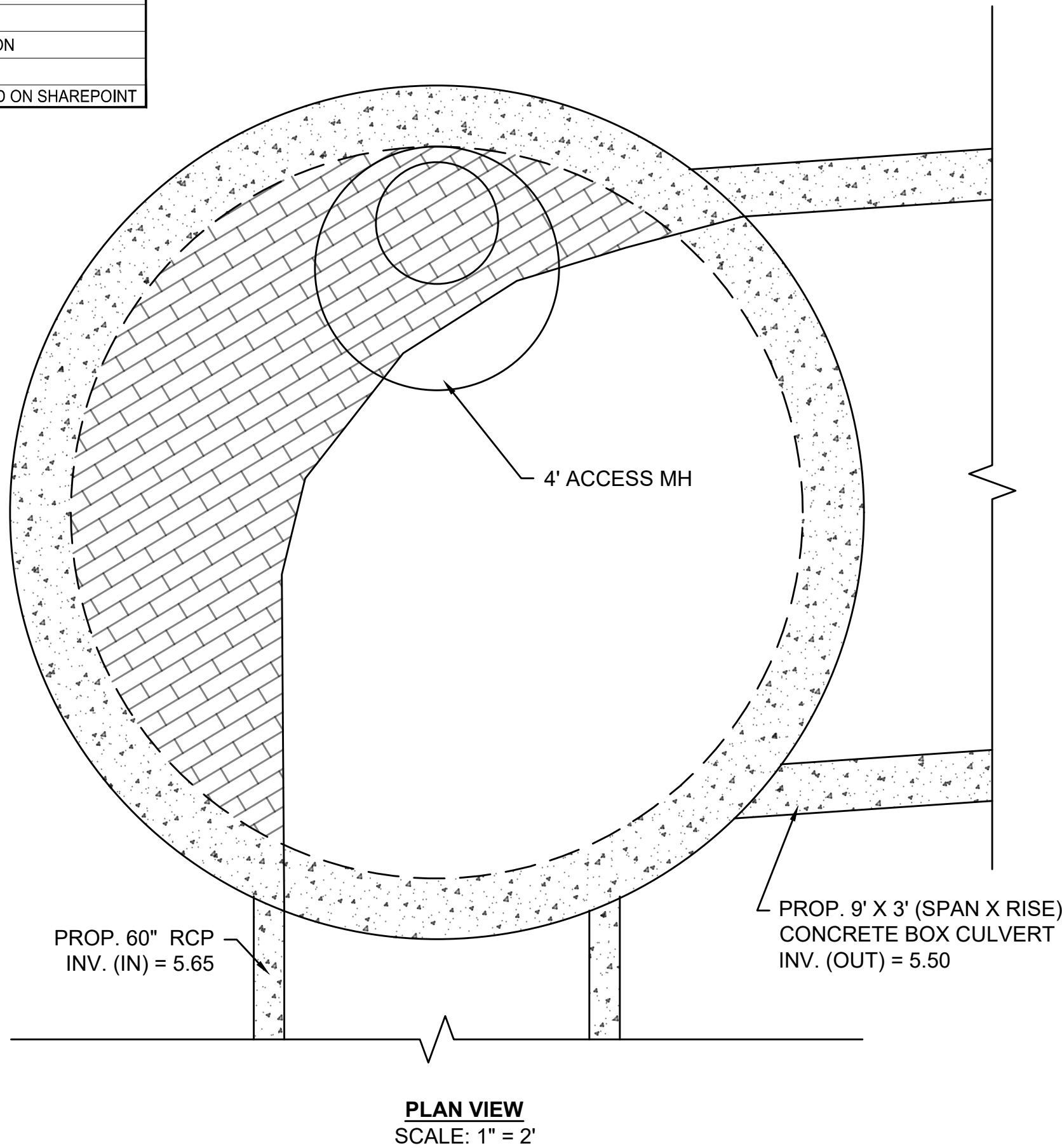
SCALE: 1" = 2'



SECTION A-A

SECTION B-B

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

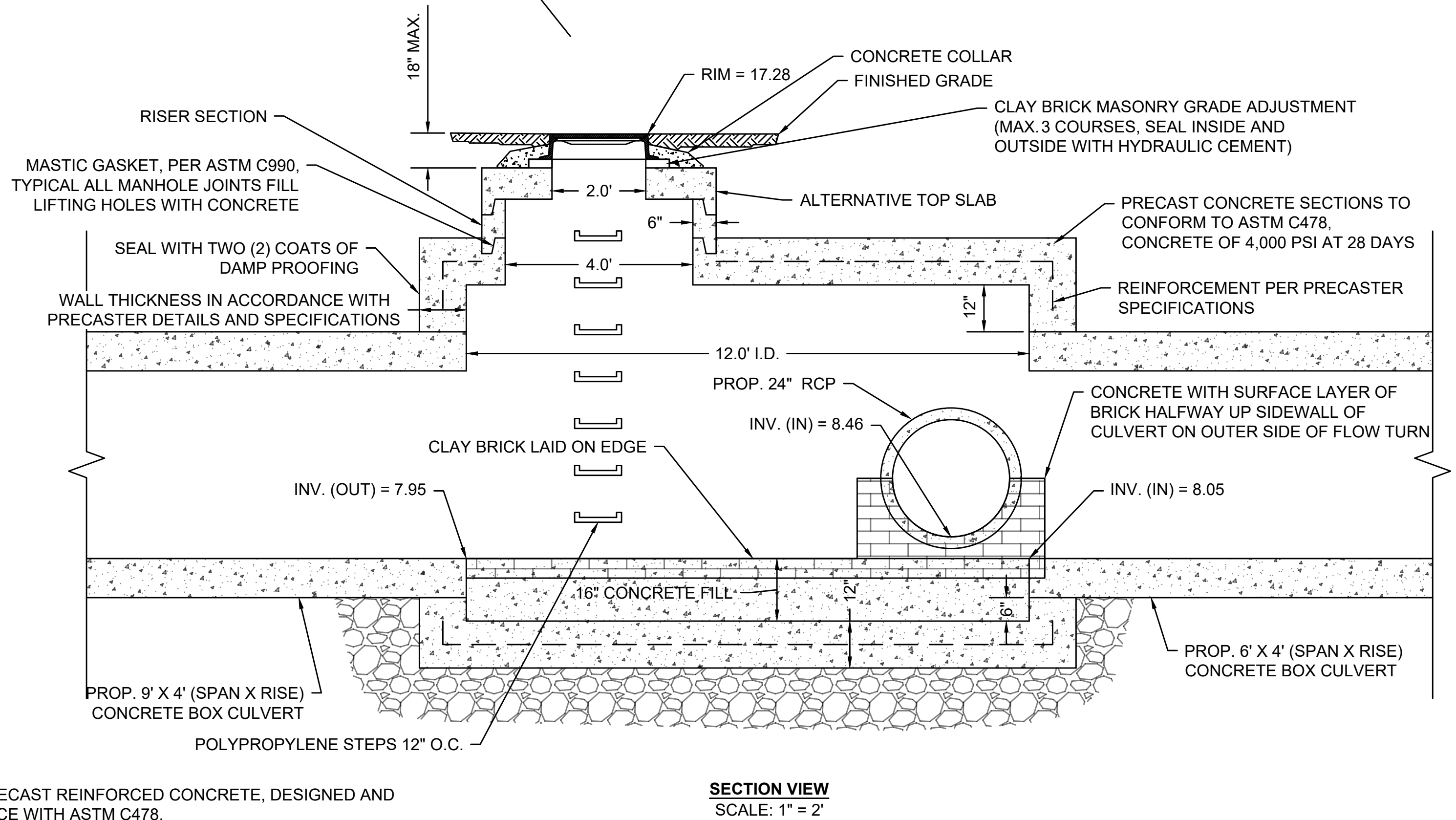
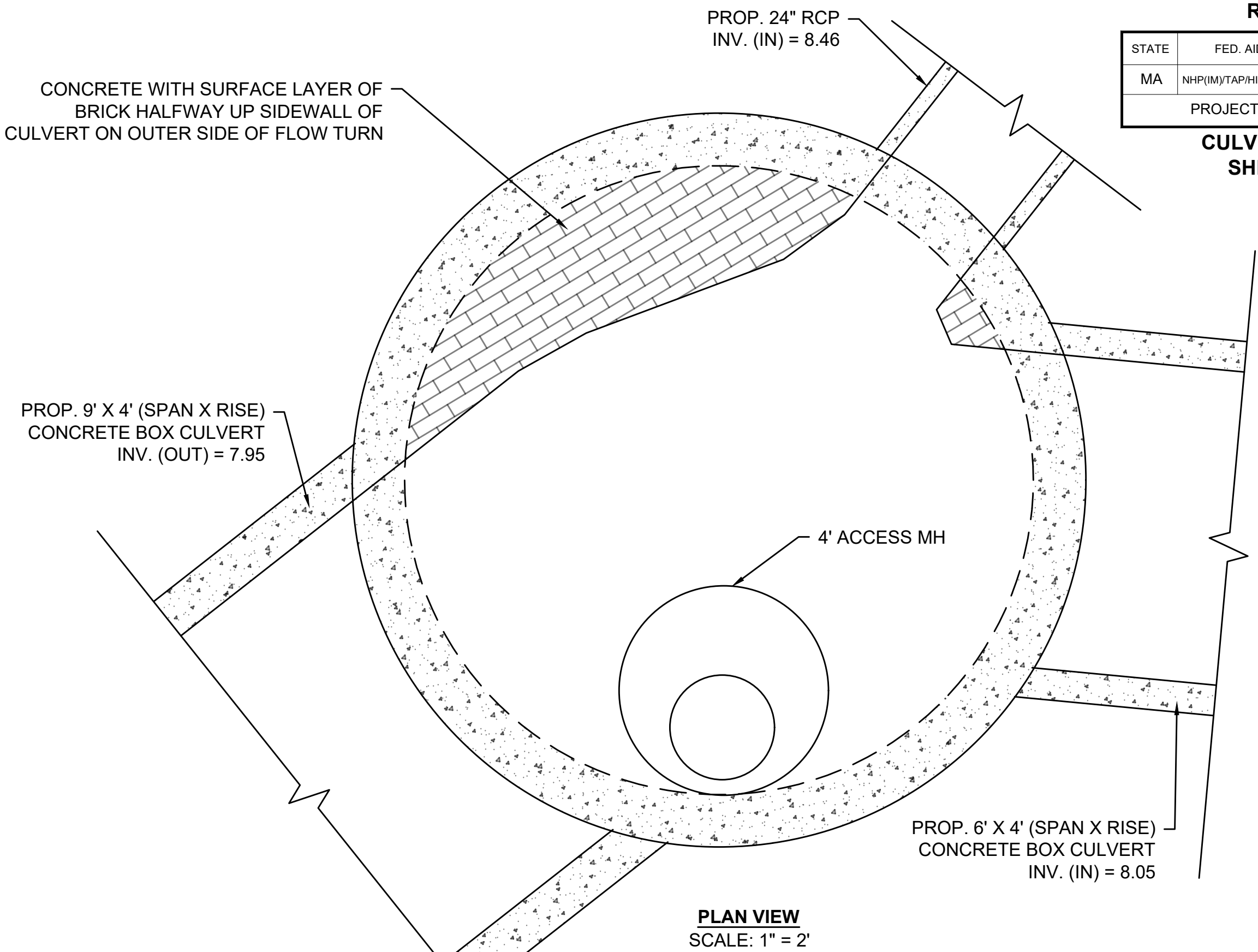


09-02 (12' CIRCULAR DMH)

NOTES

- DRAIN MANHOLES SHALL BE PRECAST REINFORCED CONCRETE, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C478.
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI, USING 1/2" MAXIMUM SIZE AGGREGATE.
- USE 4'-0" MAXIMUM LENGTHS OF PIPE STUBS AT ALL MANHOLES.
- PIPE TO STRUCTURE CONNECTIONS ARE INSTALLED IN "V" OPENINGS THAT ARE 2" GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE AND SEALED WITH MORTAR.
- CULVERT TO MANHOLE CONNECTIONS SHALL BE MORTARED IN PLACE.
- BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-003S(191)	1086	1094
PROJECT FILE NO.		608049	
CULVERT DETAILS SHEET 1 OF 4			



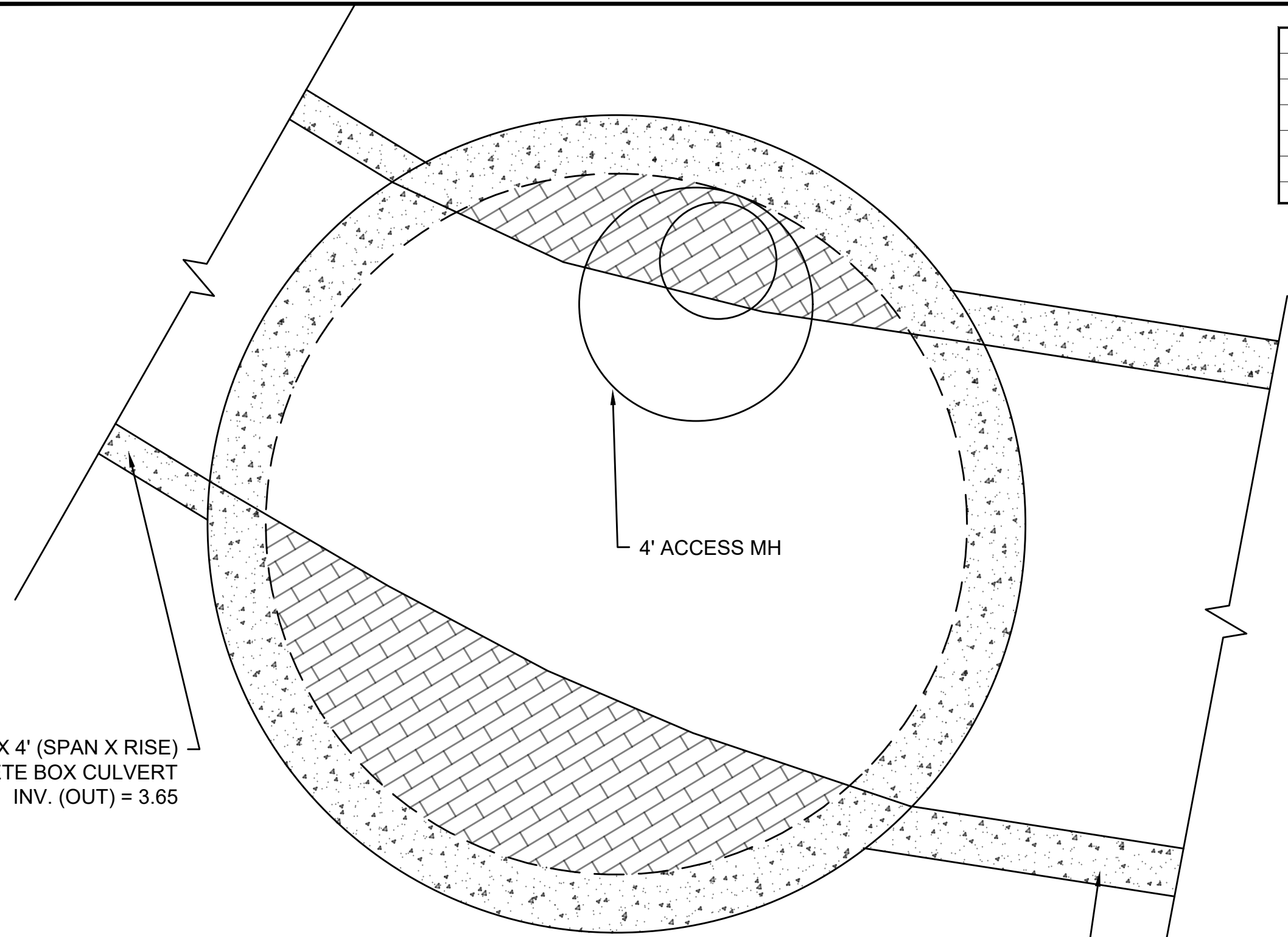
09-09 (12' CIRCULAR DMH)

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(MJ/TAP/HP/BR)/STP-0035(191)	1087	1094
PROJECT FILE NO.		608049	

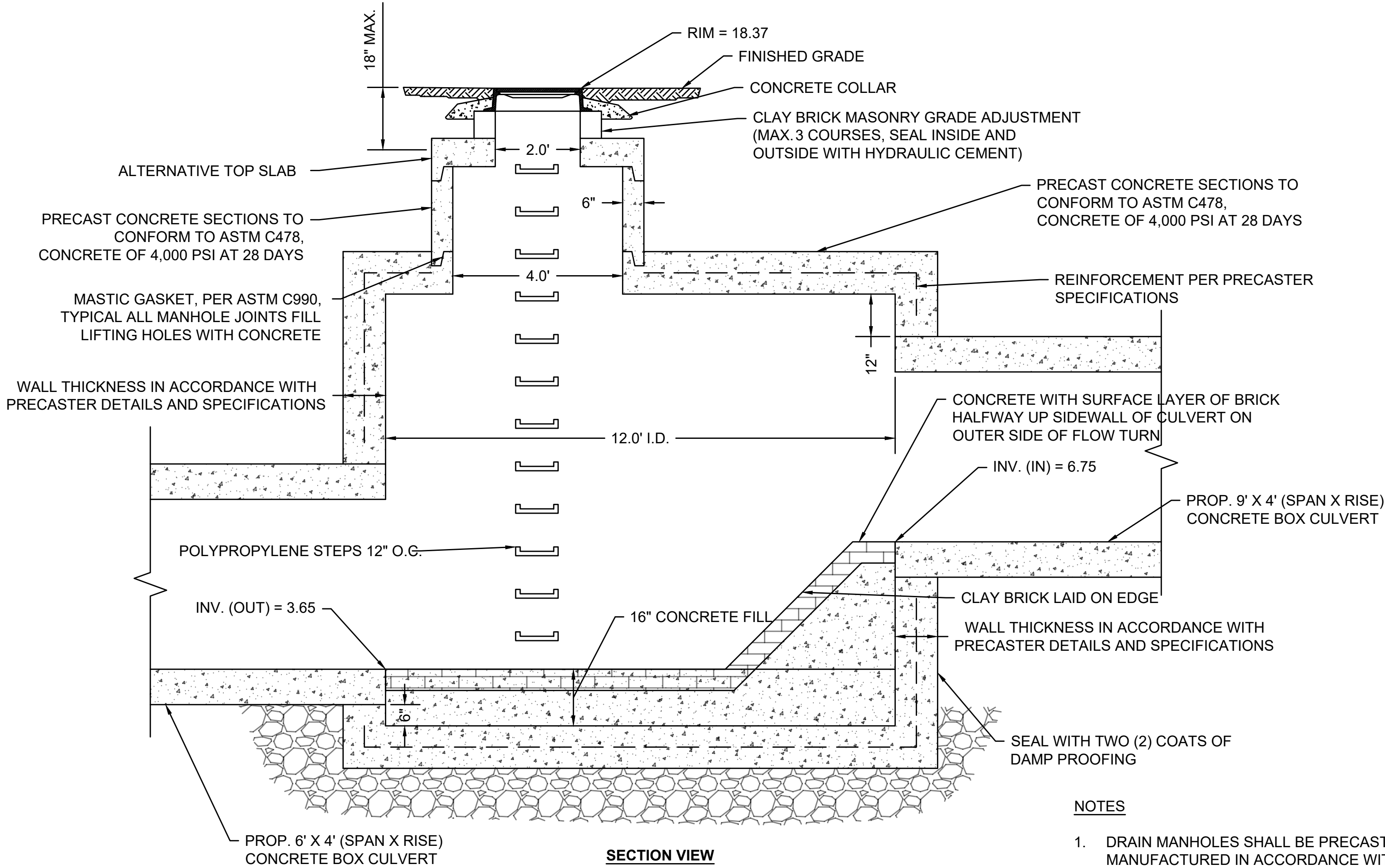
CULVERT DETAILS
SHEET 2 OF 4

PROP. 6' X 4' (SPAN X RISE)
CONCRETE BOX CULVERT
INV. (OUT) = 3.65



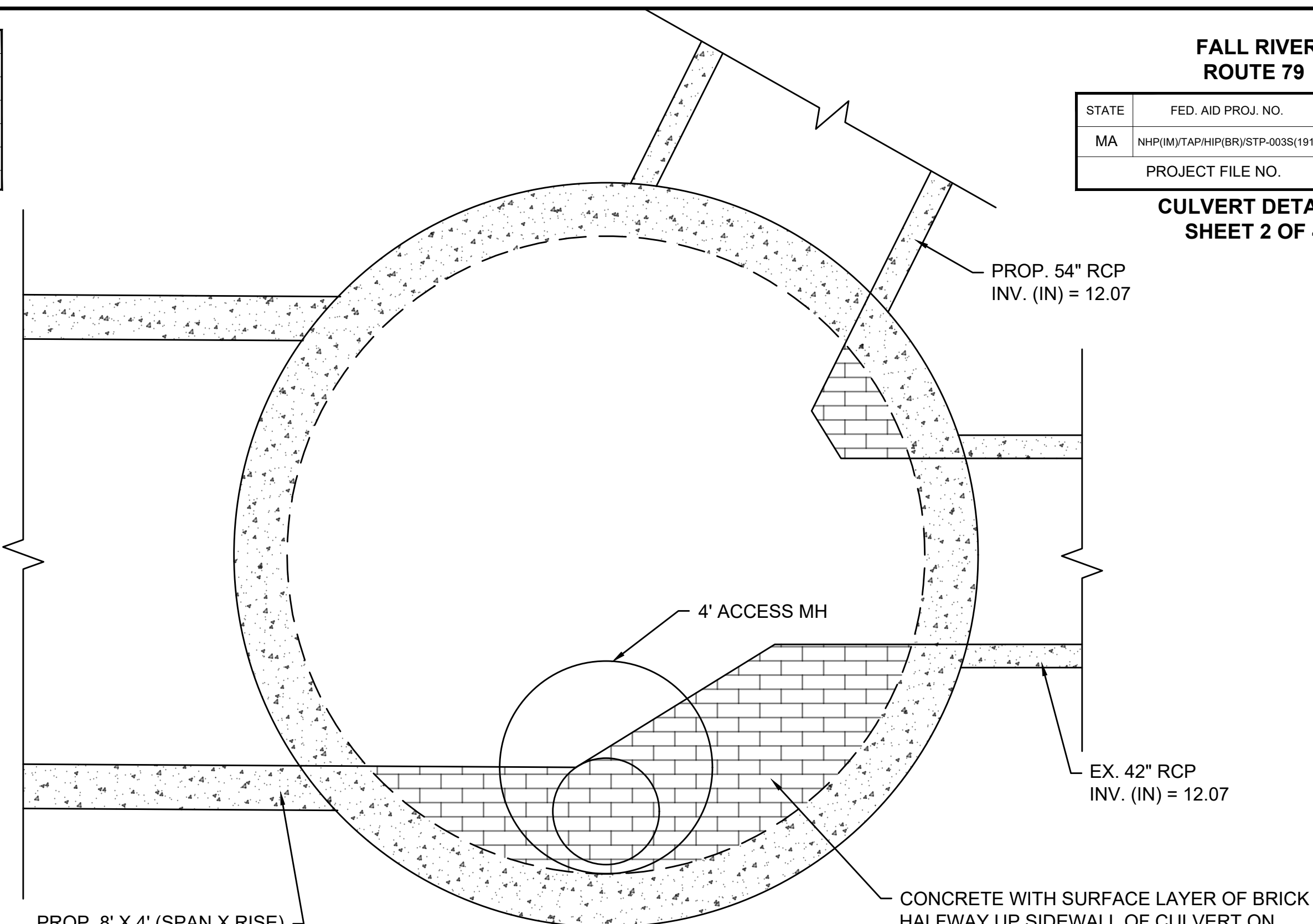
PLAN VIEW
SCALE: 1" = 2'

PROP. 9' X 4' (SPAN X RISE)
CONCRETE BOX CULVERT
INV. (IN) = 6.75

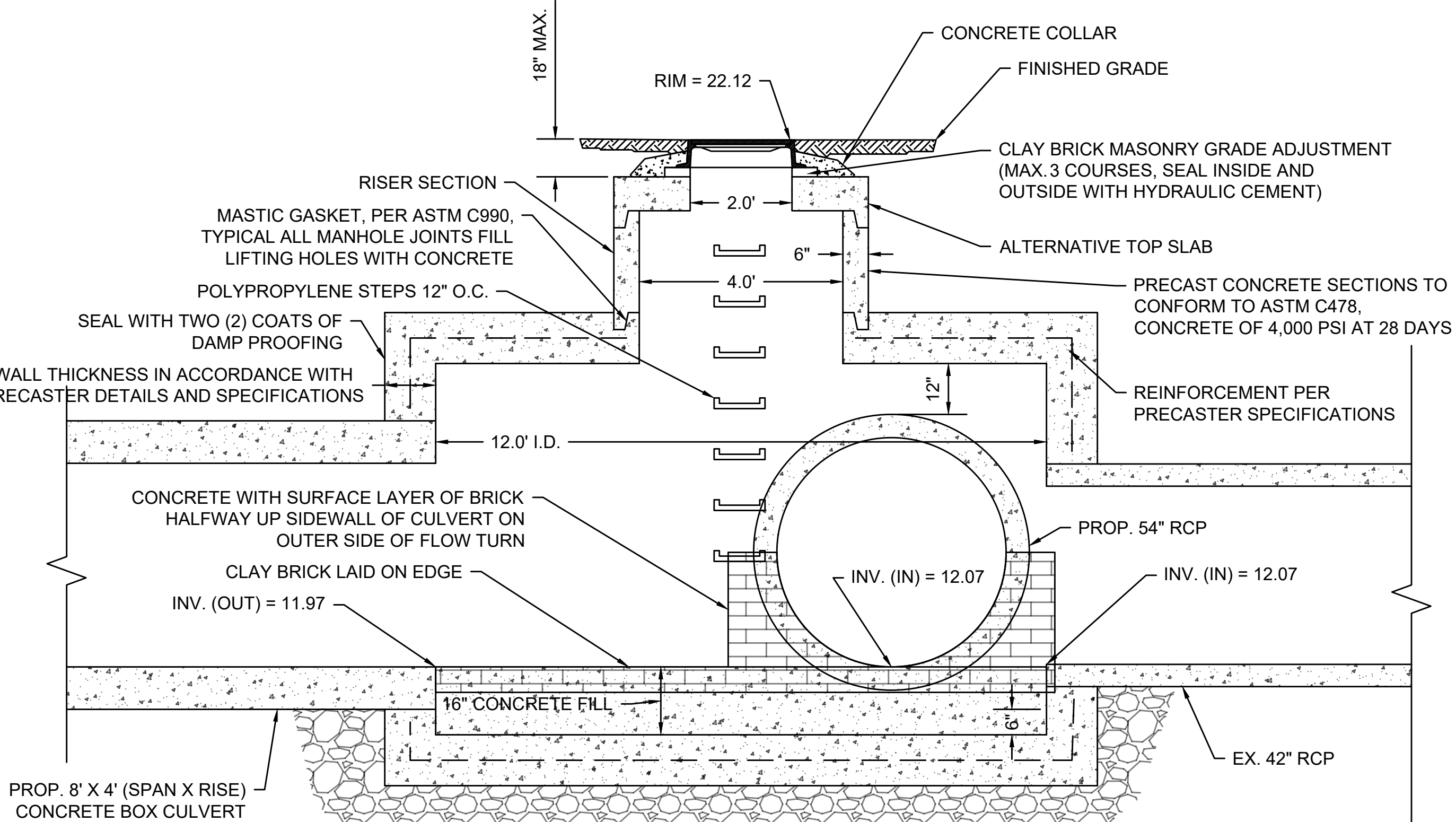


SECTION VIEW
SCALE: 1" = 2'

O9-11 (12' CIRCULAR DMH)



PLAN VIEW
SCALE: 1" = 2'



SECTION VIEW
SCALE: 1" = 2'

O10-03 (12' CIRCULAR DMH)

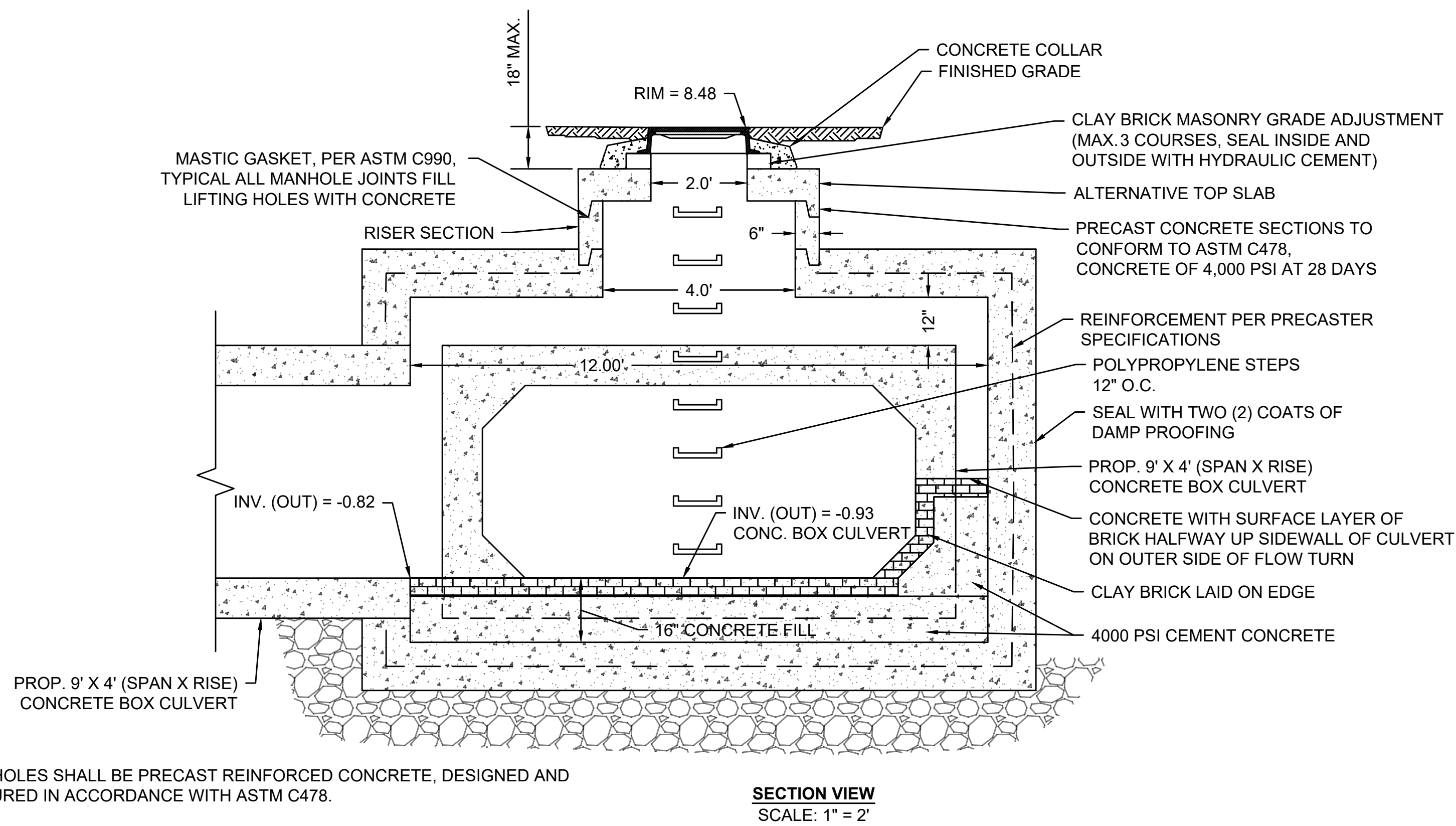
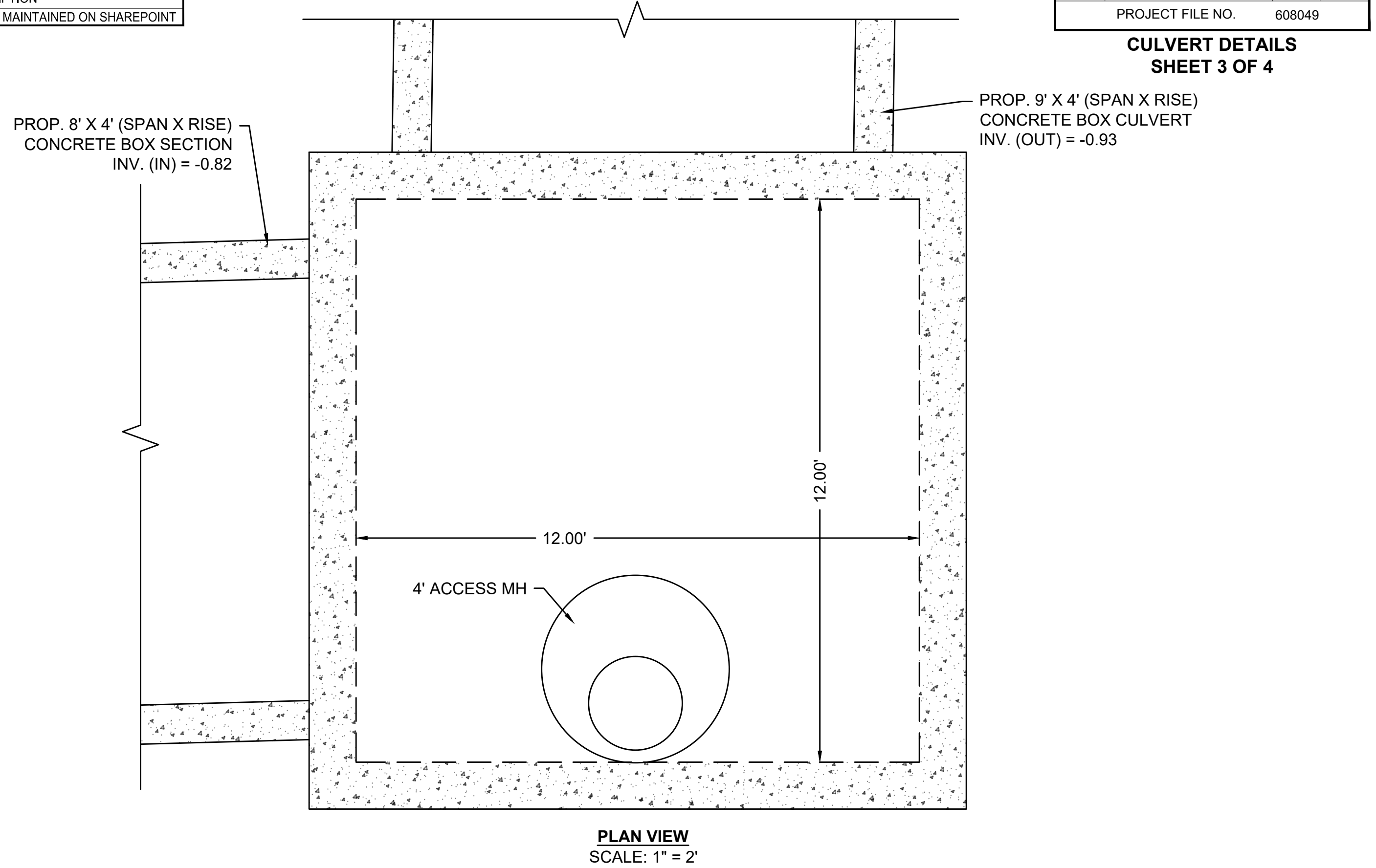
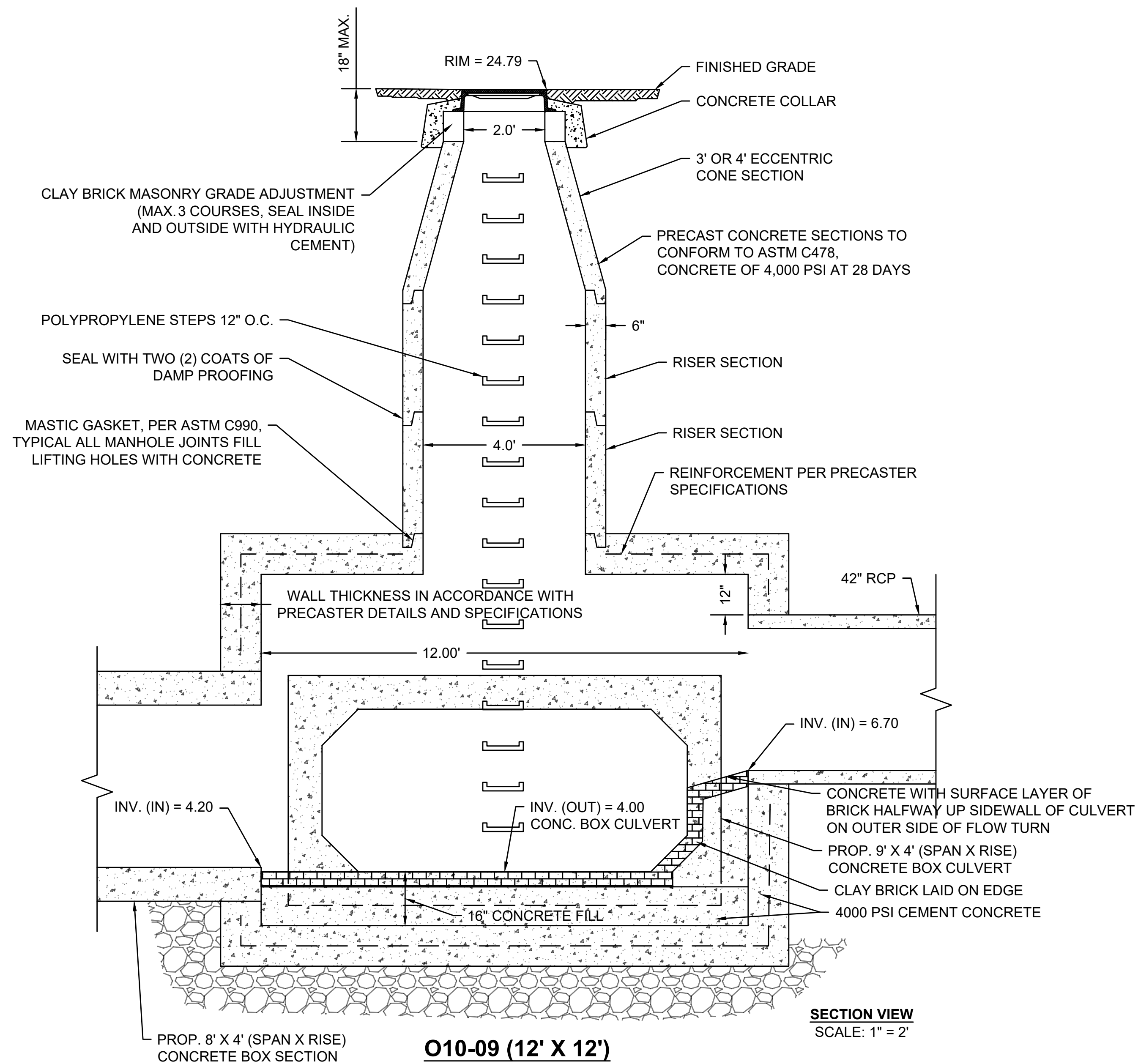
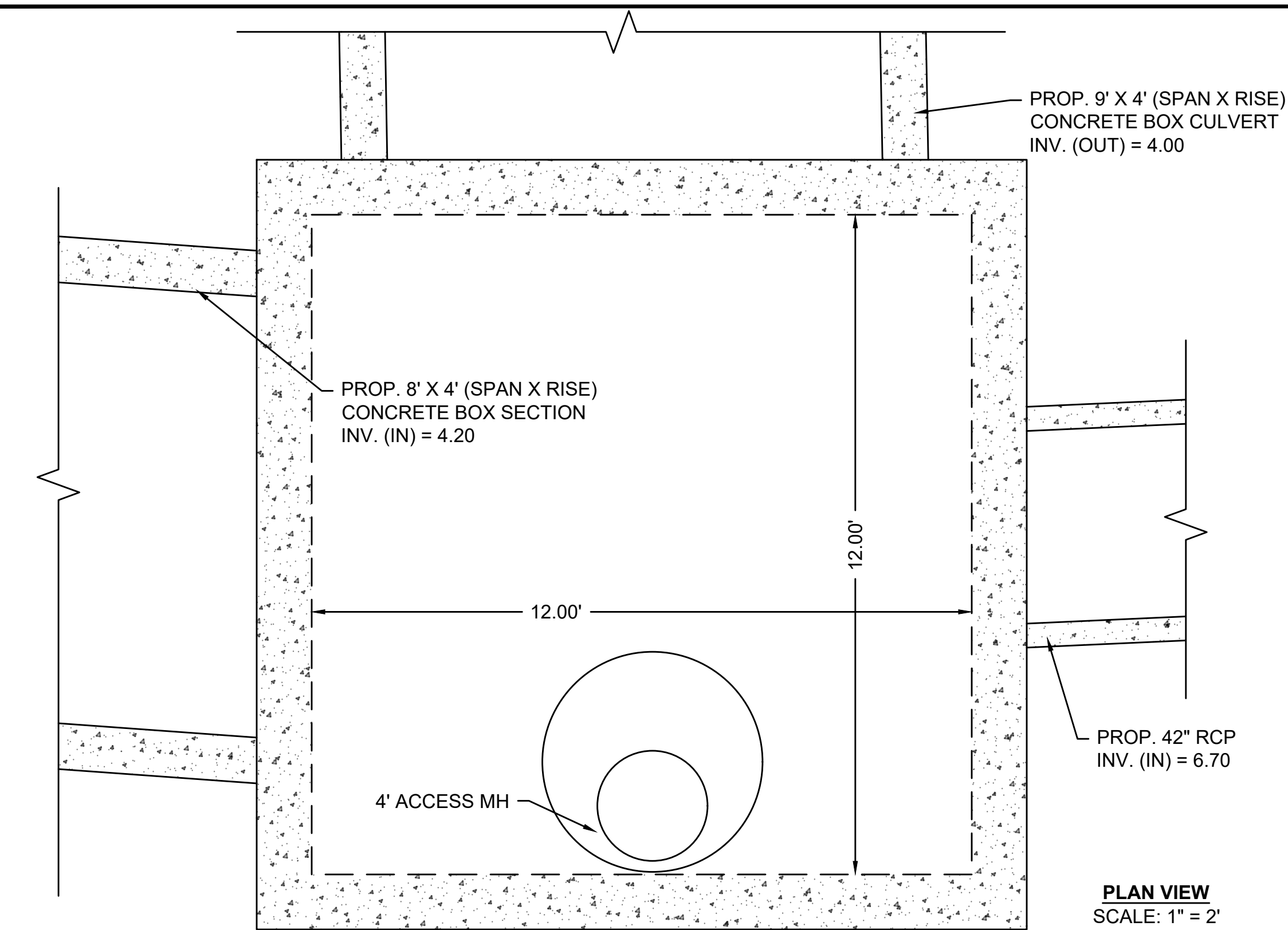
NOTES

- DRAIN MANHOLES SHALL BE PRECAST REINFORCED CONCRETE, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C478.
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI, USING 1/2" MAXIMUM SIZE AGGREGATE.
- USE 4'-0" MAXIMUM LENGTHS OF PIPE STUBS AT ALL MANHOLES.
- PIPE TO STRUCTURE CONNECTIONS ARE INSTALLED IN "V" OPENINGS THAT ARE 2" GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE AND SEALED WITH MORTAR.
- CULVERT TO MANHOLE CONNECTIONS SHALL BE MORTARED IN PLACE.
- BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-0035(191)	1088	1094
PROJECT FILE NO.		608049	

CULVERT DETAILS
SHEET 3 OF 4



NOTES

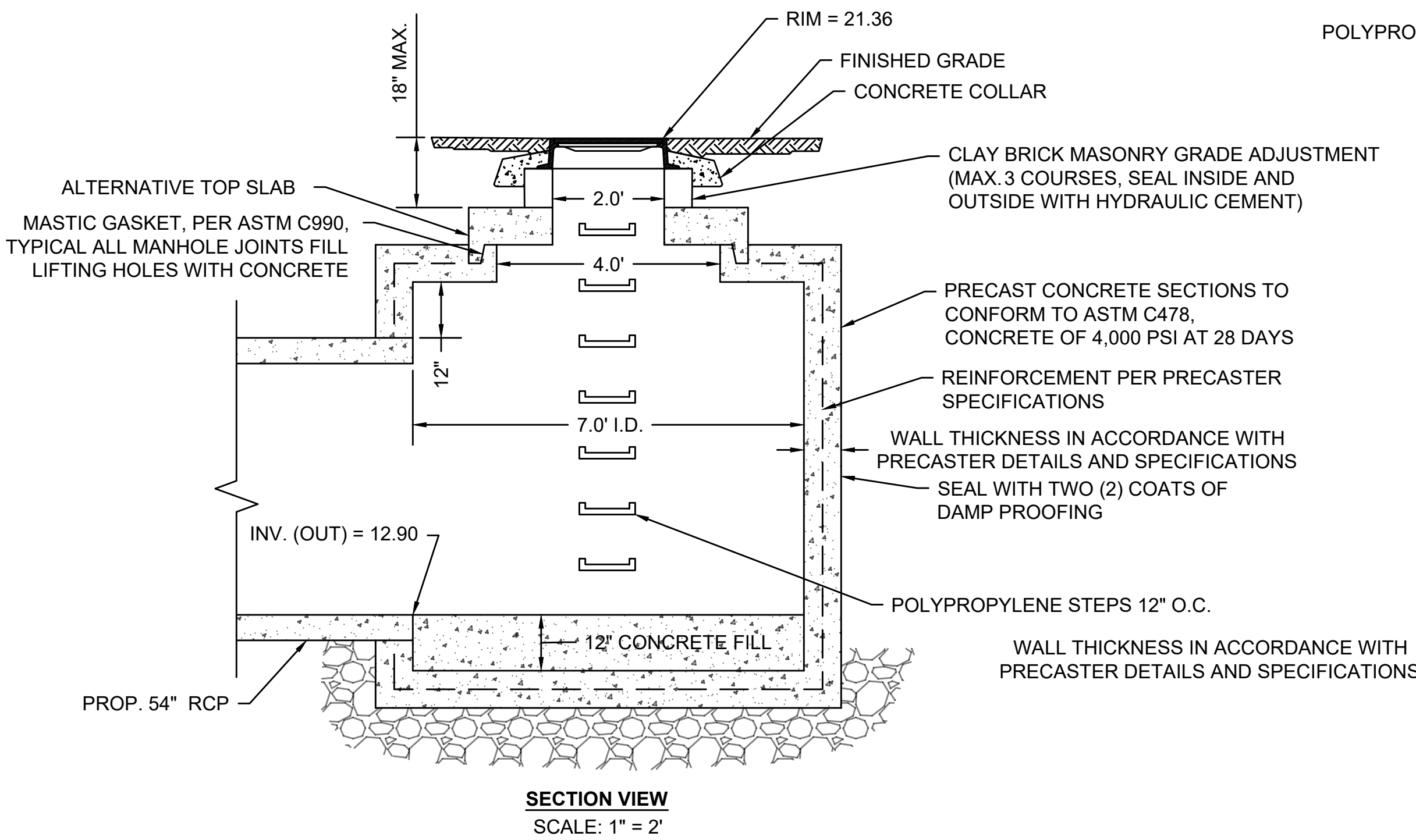
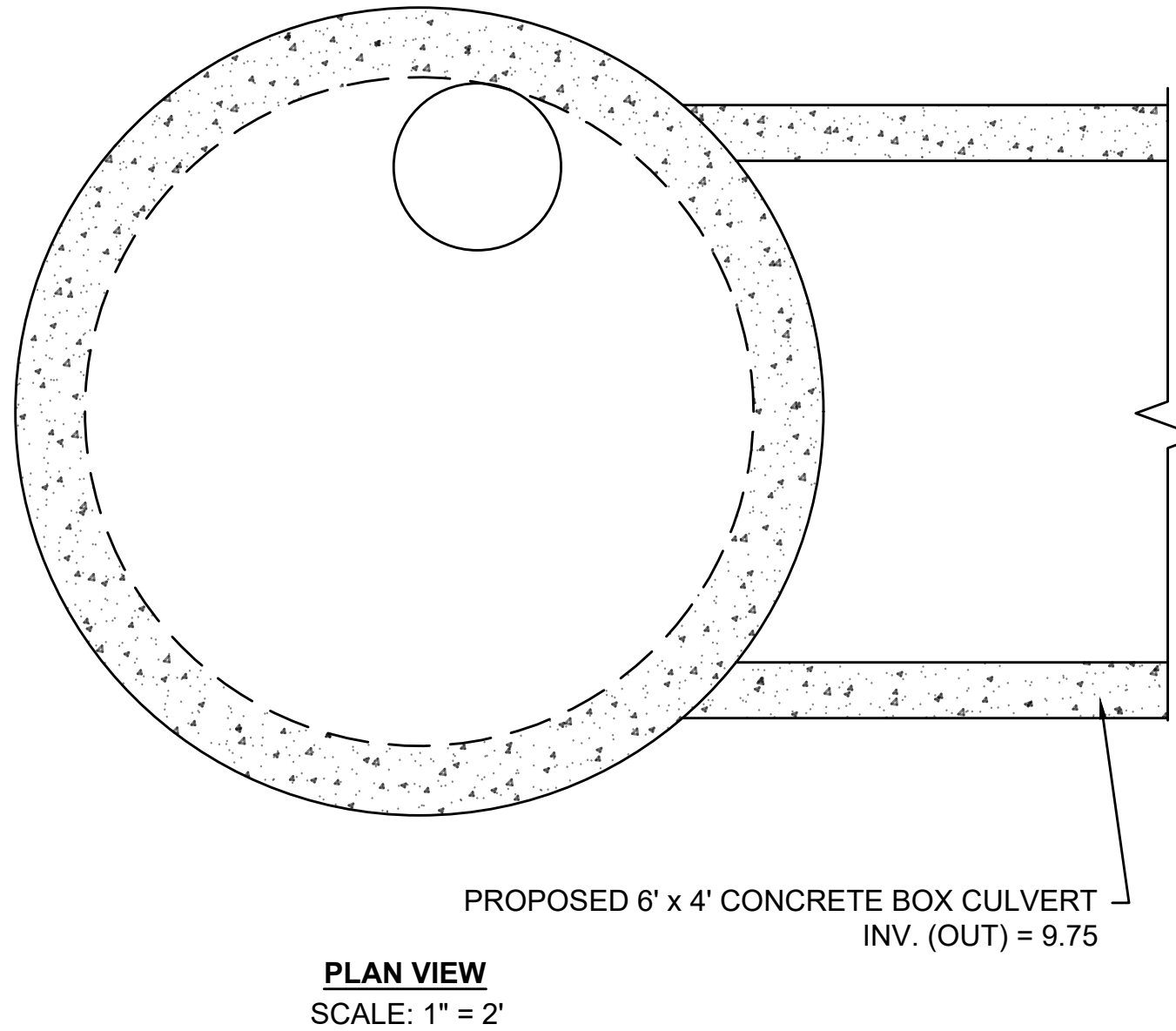
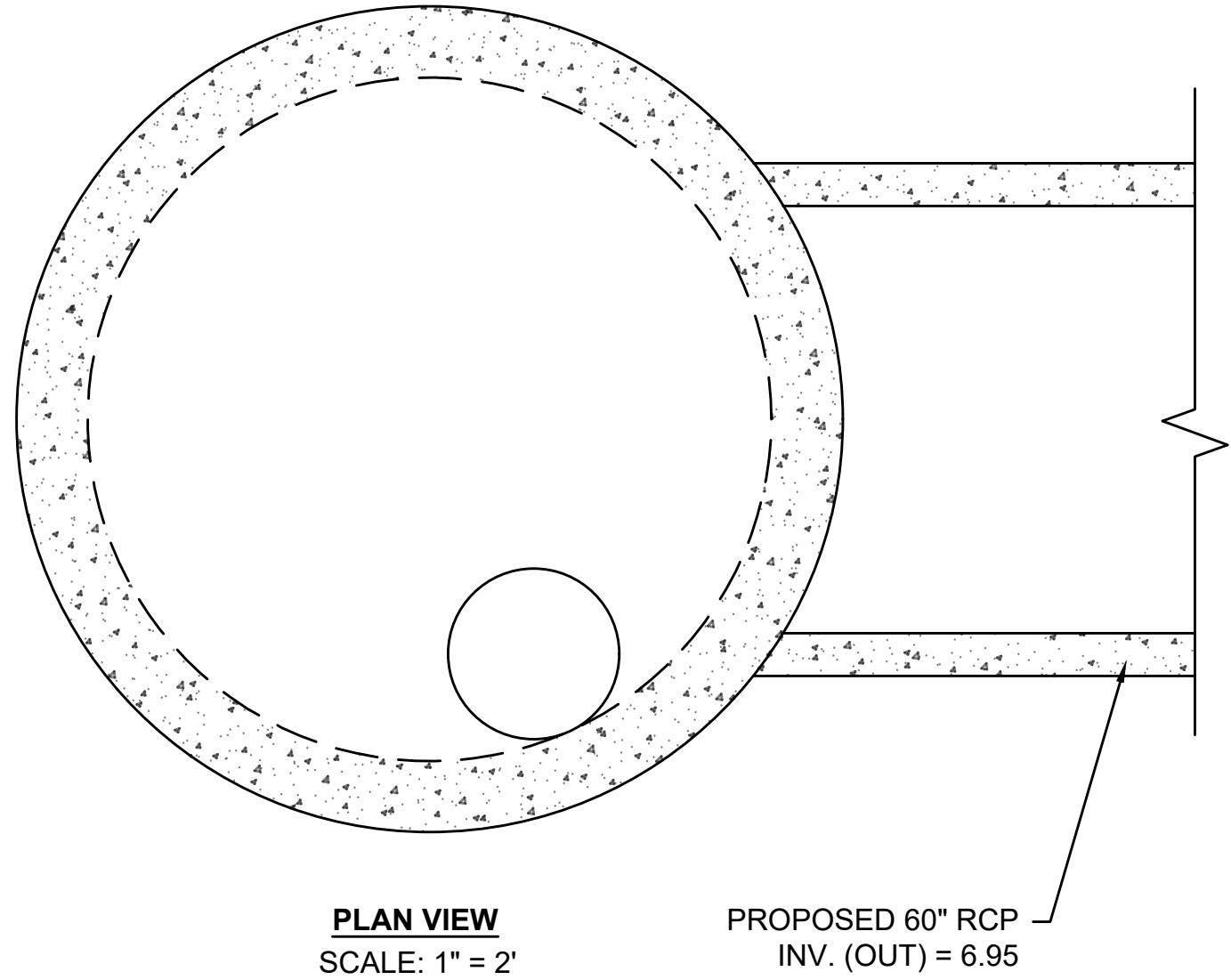
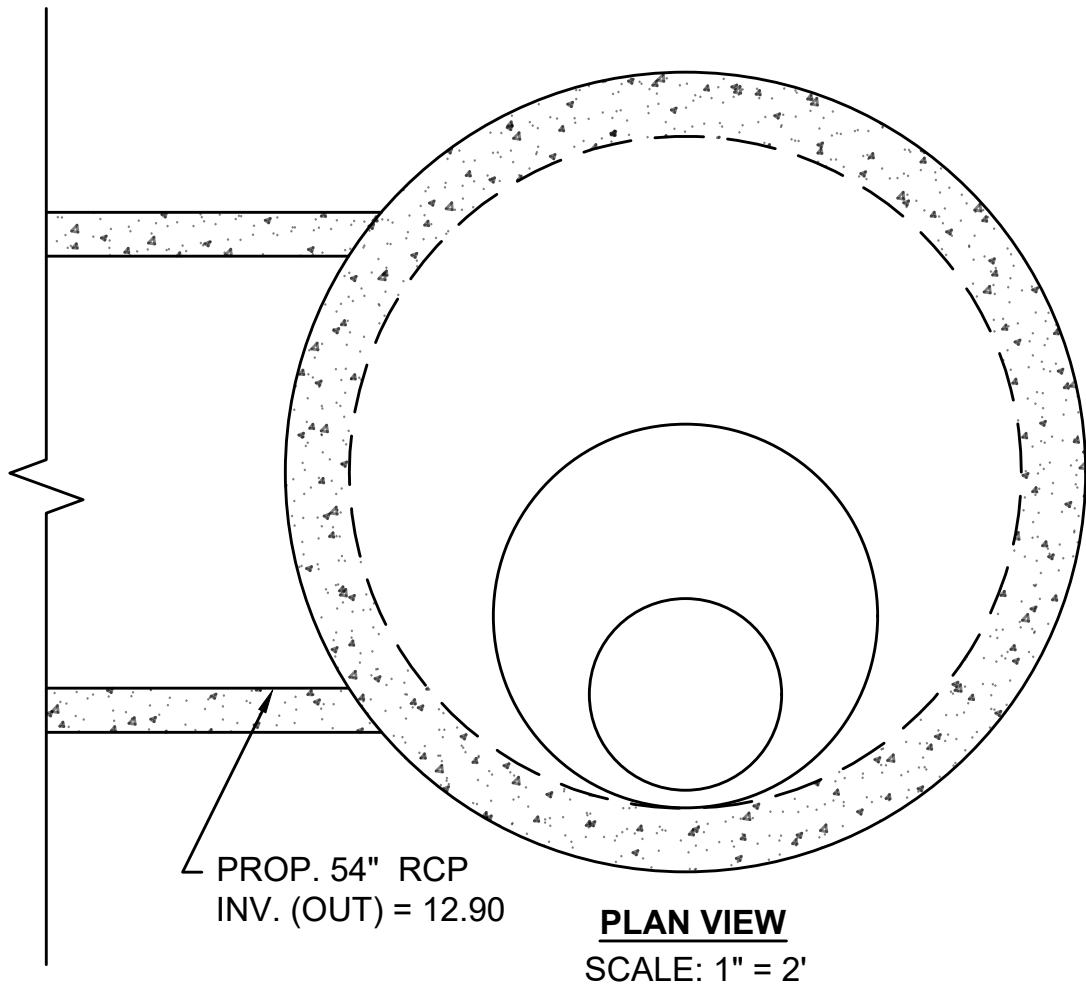
- DRAIN MANHOLES SHALL BE PRECAST REINFORCED CONCRETE, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C478.
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI, USING 1/2" MAXIMUM SIZE AGGREGATE.
- USE 4'-0" MAXIMUM LENGTHS OF PIPE STUBS AT ALL MANHOLES.
- PIPE TO STRUCTURE CONNECTIONS ARE INSTALLED IN "V" OPENINGS THAT ARE 2" GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE AND SEALED WITH MORTAR.
- CULVERT TO MANHOLE CONNECTIONS SHALL BE MORTARED IN PLACE.
- BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS

SECTION VIEW
SCALE: 1" = 2'
O10-33 (12' X 12')

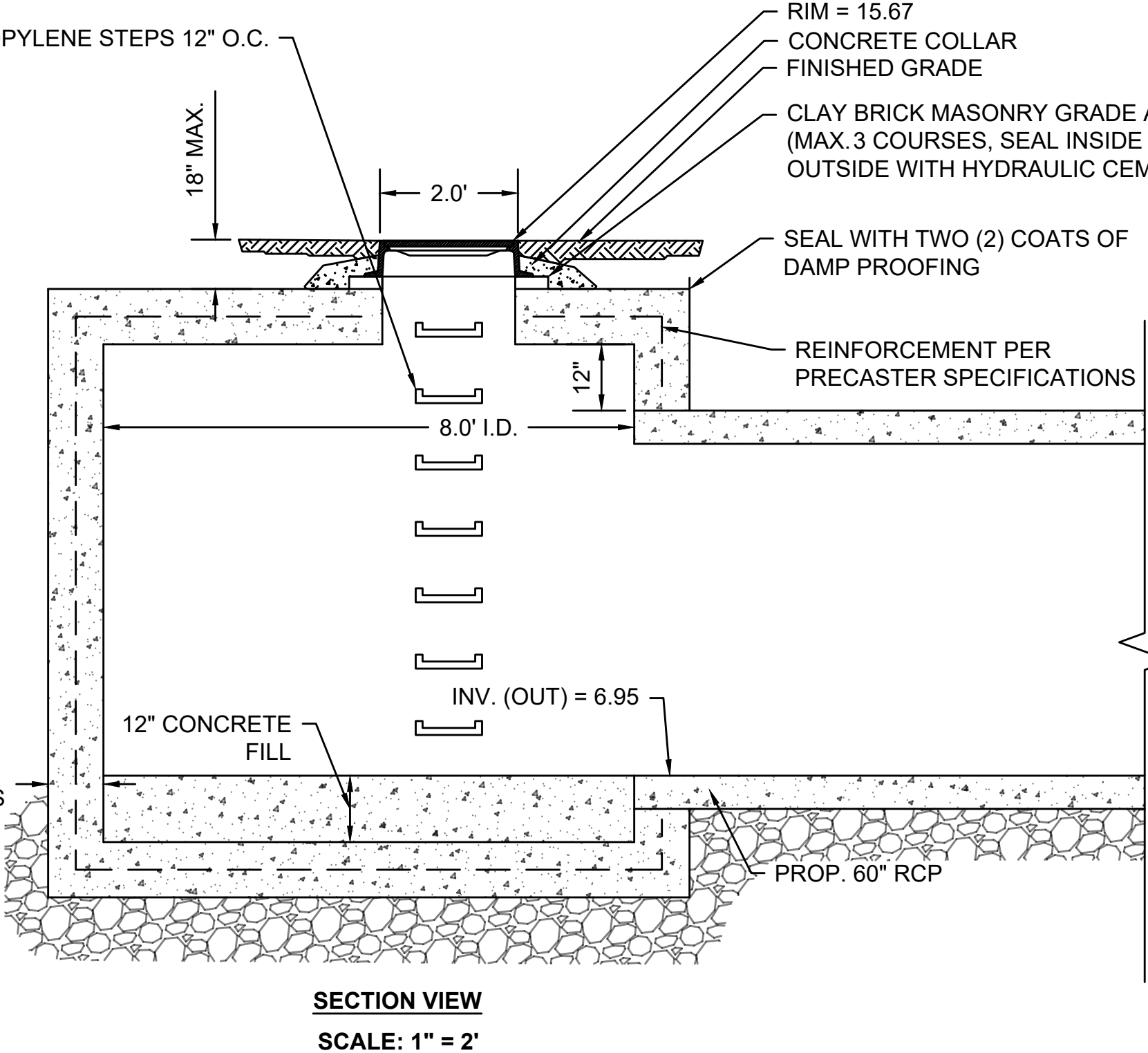
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-0035(191)	1089	1094
PROJECT FILE NO.		608049	

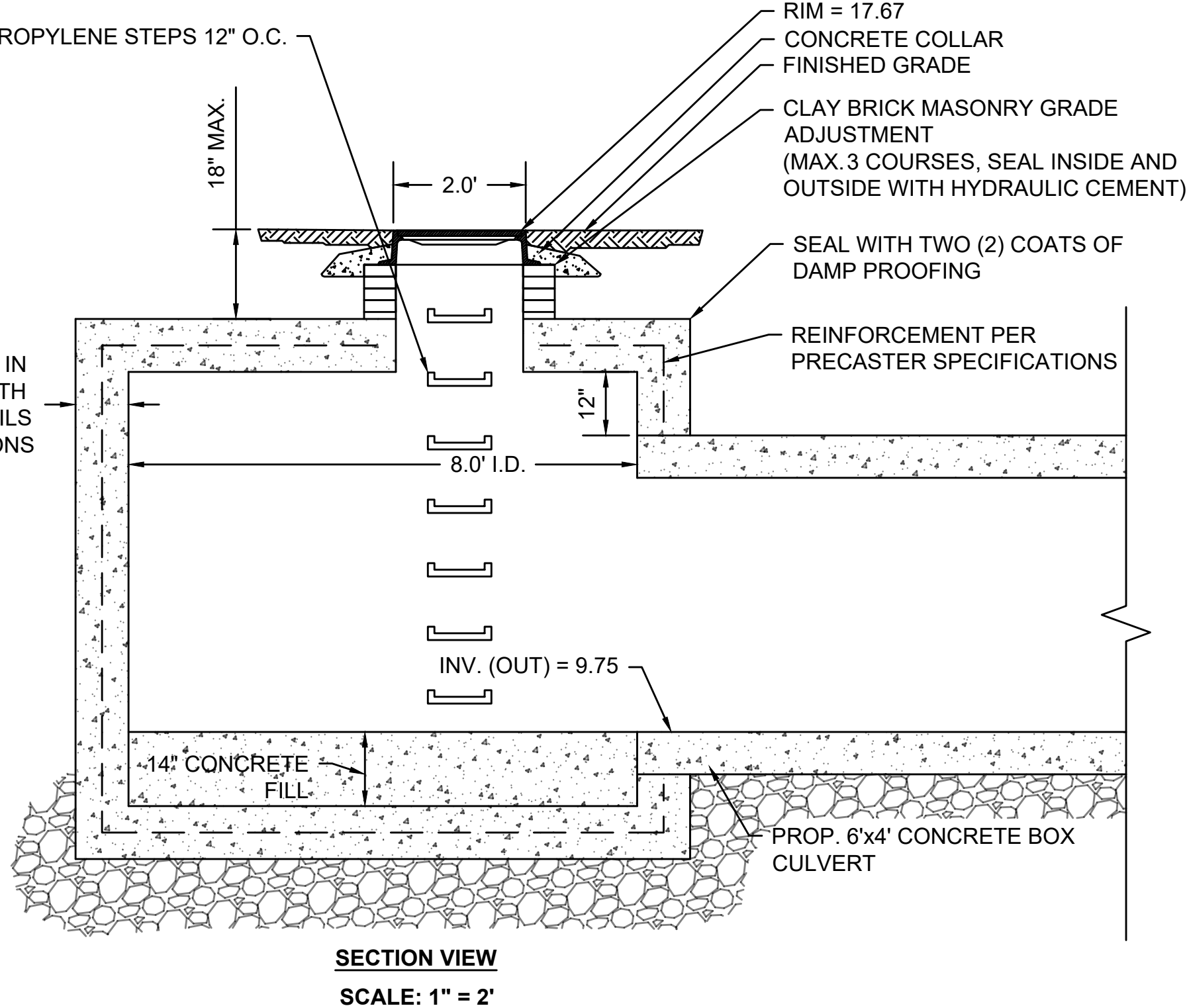
CULVERT DETAILS
SHEET 4 OF 4



O10-02 (7' CIRCULAR DMH)



O9-01 (8' CIRCULAR DMH)



O9-04 (8' CIRCULAR DMH)

NOTES

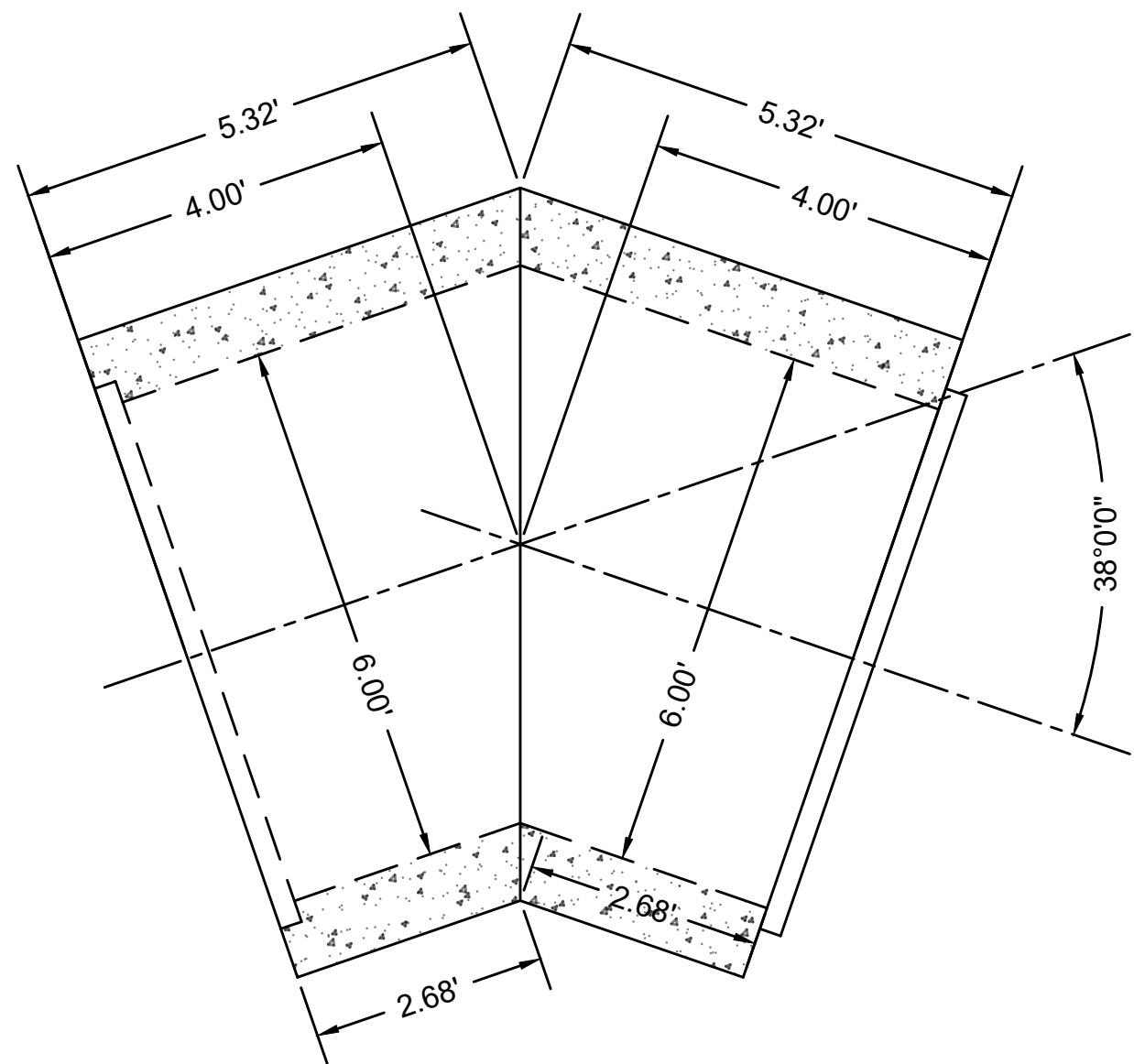
- DRAIN MANHOLES SHALL BE PRECAST REINFORCED CONCRETE, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C478.
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI, USING 1/2" MAXIMUM SIZE AGGREGATE.
- USE 4'-0" MAXIMUM LENGTHS OF PIPE STUBS AT ALL MANHOLES.
- PIPE TO STRUCTURE CONNECTIONS ARE INSTALLED IN "V" OPENINGS THAT ARE 2" GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE AND SEALED WITH MORTAR.
- CULVERT TO MANHOLE CONNECTIONS SHALL BE MORTARED IN PLACE.
- BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS.

FALL RIVER
ROUTE 79

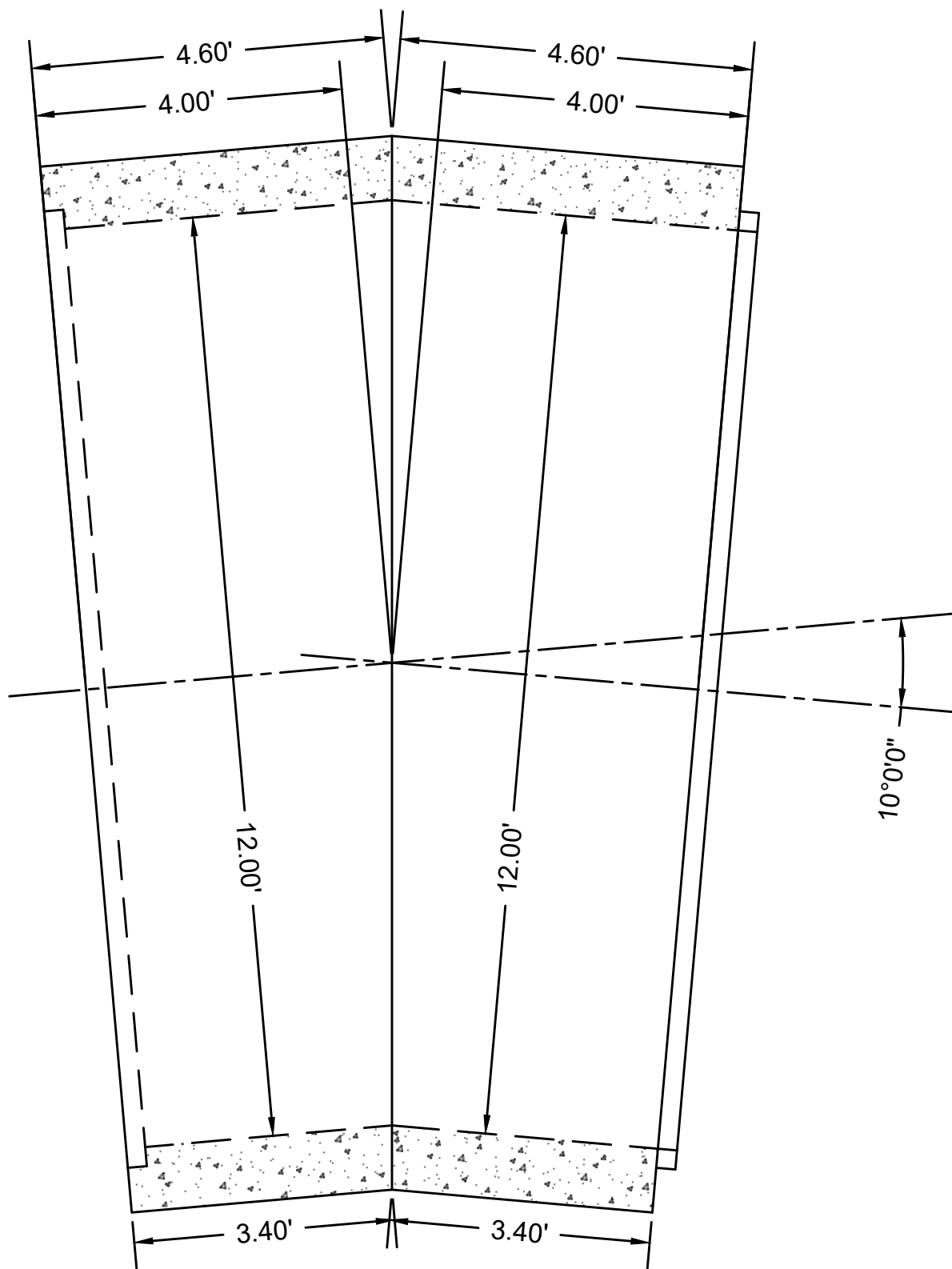
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-0035(191)	1090	1094
PROJECT FILE NO.		608049	

CULVERT BEND DETAILS
SHEET 1 OF 4

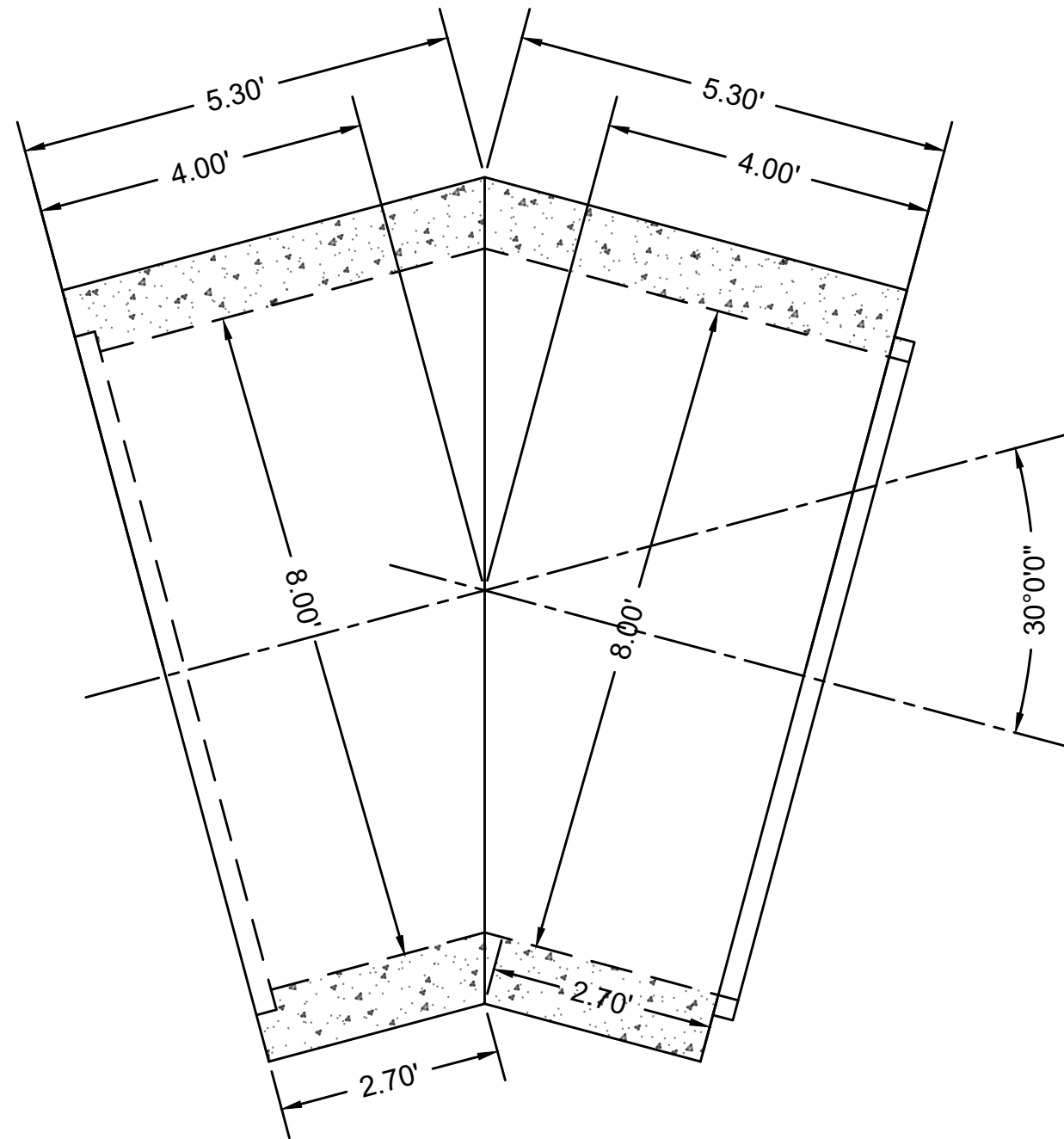
REV.	DATE	DESCRIPTION
0	01/19/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



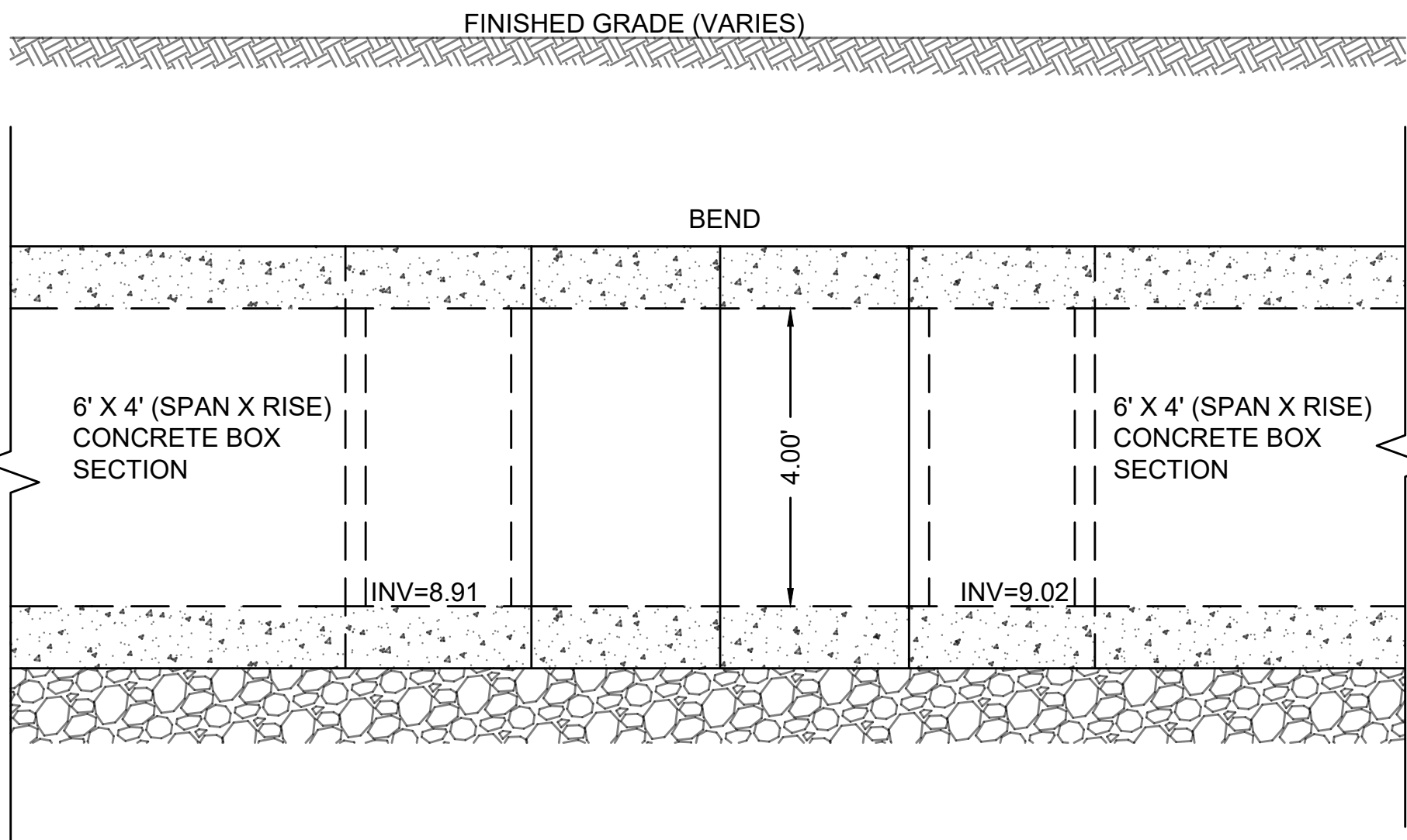
PLAN VIEW
SCALE: 1" = 2'



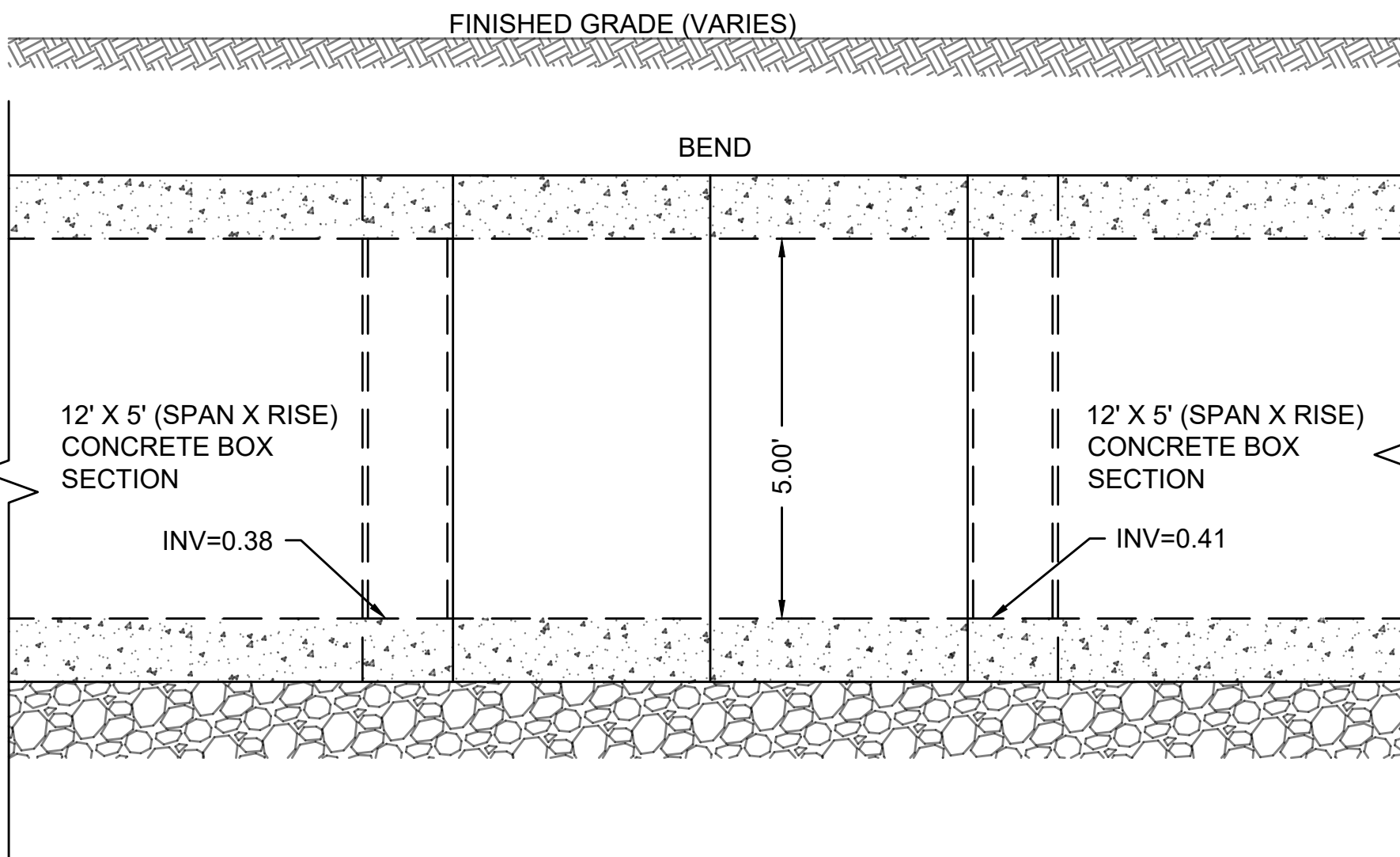
PLAN VIEW
SCALE: 1" = 2'



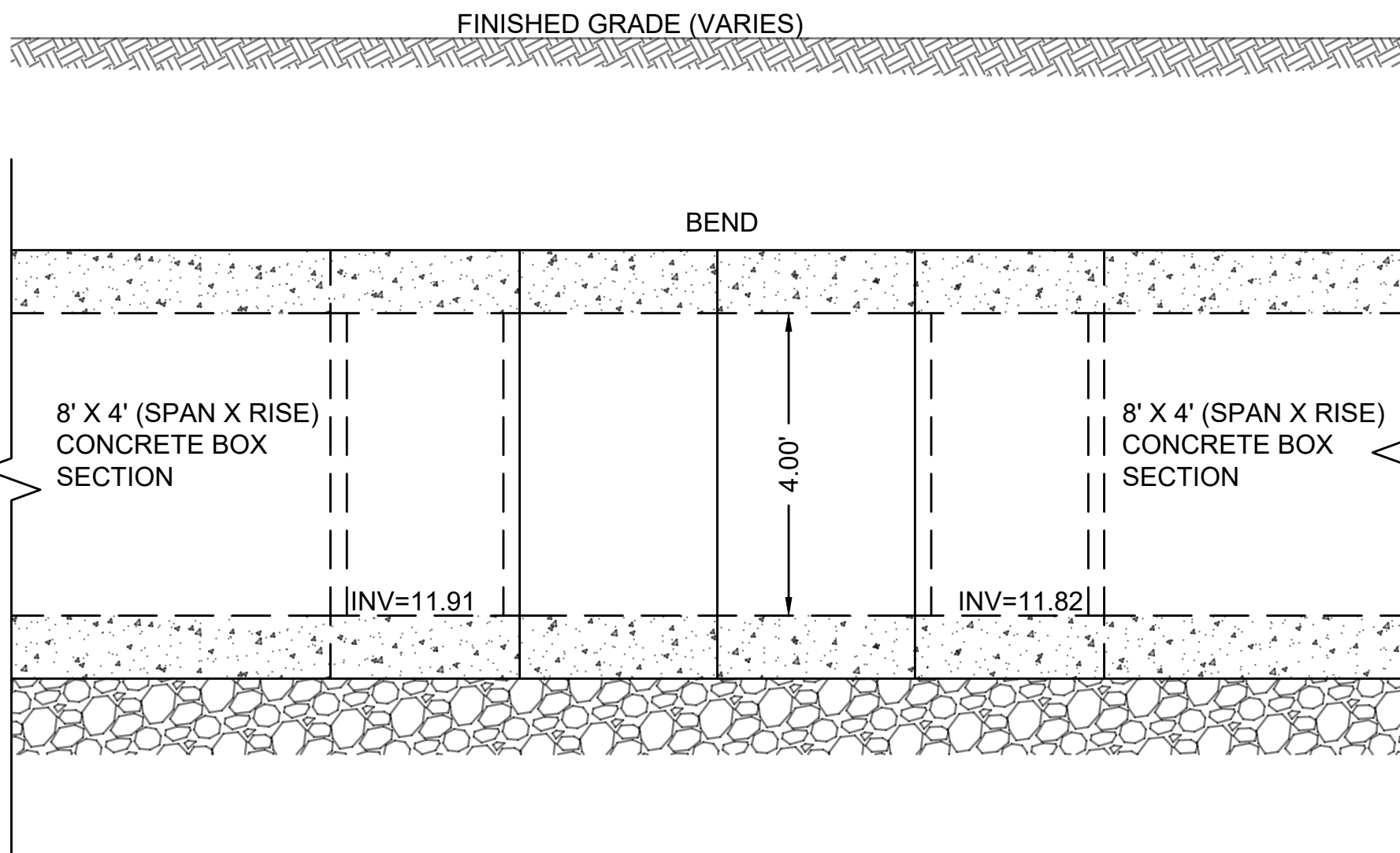
PLAN VIEW
SCALE: 1" = 2'



SECTION VIEW
SCALE: 1" = 2'
O09-05 (38° BEND)



SECTION VIEW
SCALE: 1" = 2'
O09-14 (10° BEND)



SECTION VIEW
SCALE: 1" = 2'
O10-31 (30° BEND)

NOTES:

- BEND STRUCTURES SHALL BE PRECAST REINFORCED CONCRETE, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C478
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI, USING 1/2" MAXIMUM SIZE AGGREGATE.
- CULVERT TO BEND CONNECTIONS SHALL BE MORTARED IN PLACE.
- REINFORCEMENT AND STRUCTURAL DESIGN OF BEND SECTIONS SHALL BE DESIGNED FOR ALL APPLICABLE LOADS, INCLUDING HL-93.
- BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS.

FALL RIVER
ROUTE 79

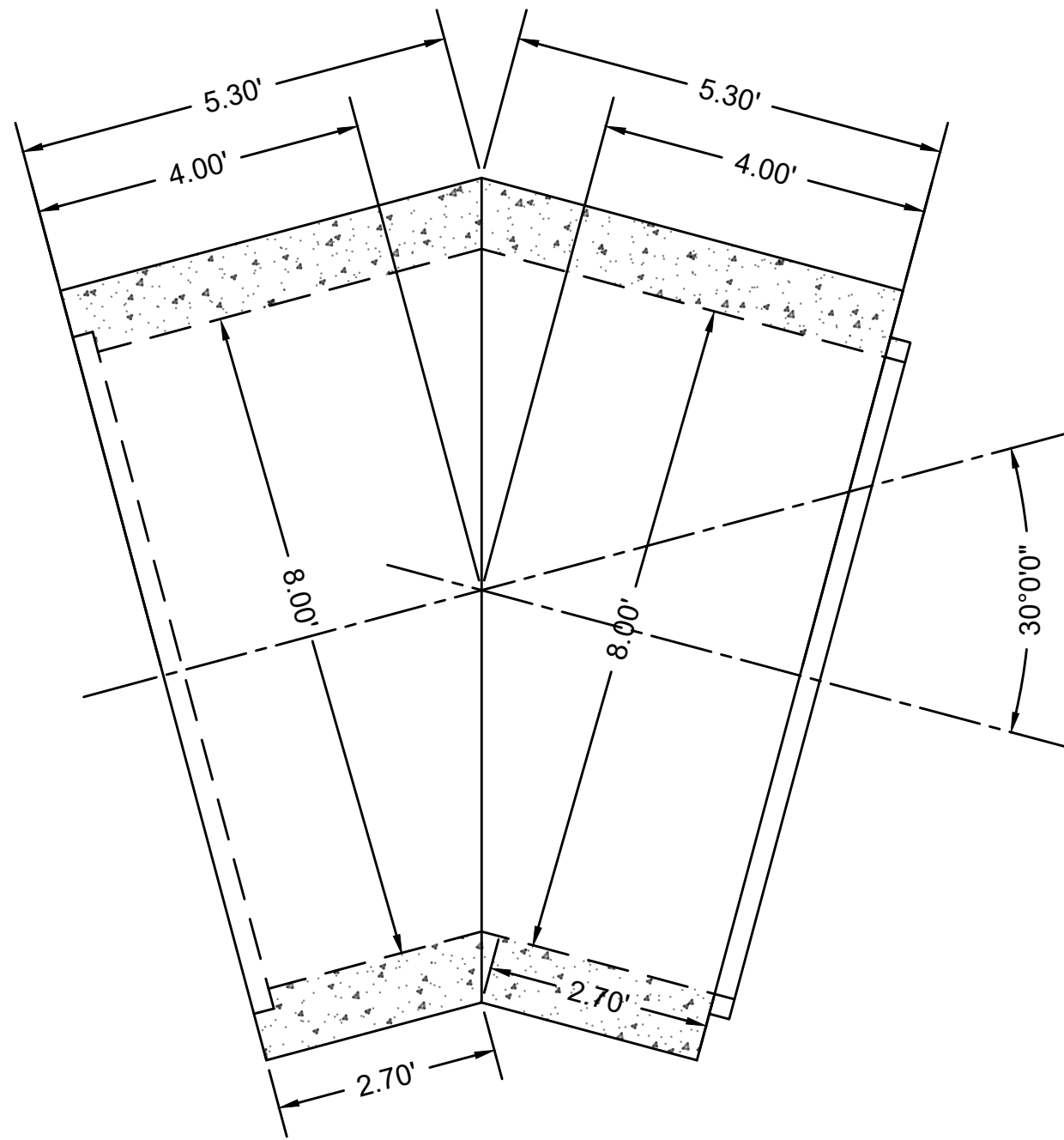
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-0035(191)	1091	1094
PROJECT FILE NO.		608049	

CULVERT BEND DETAILS
SHEET 2 OF 4

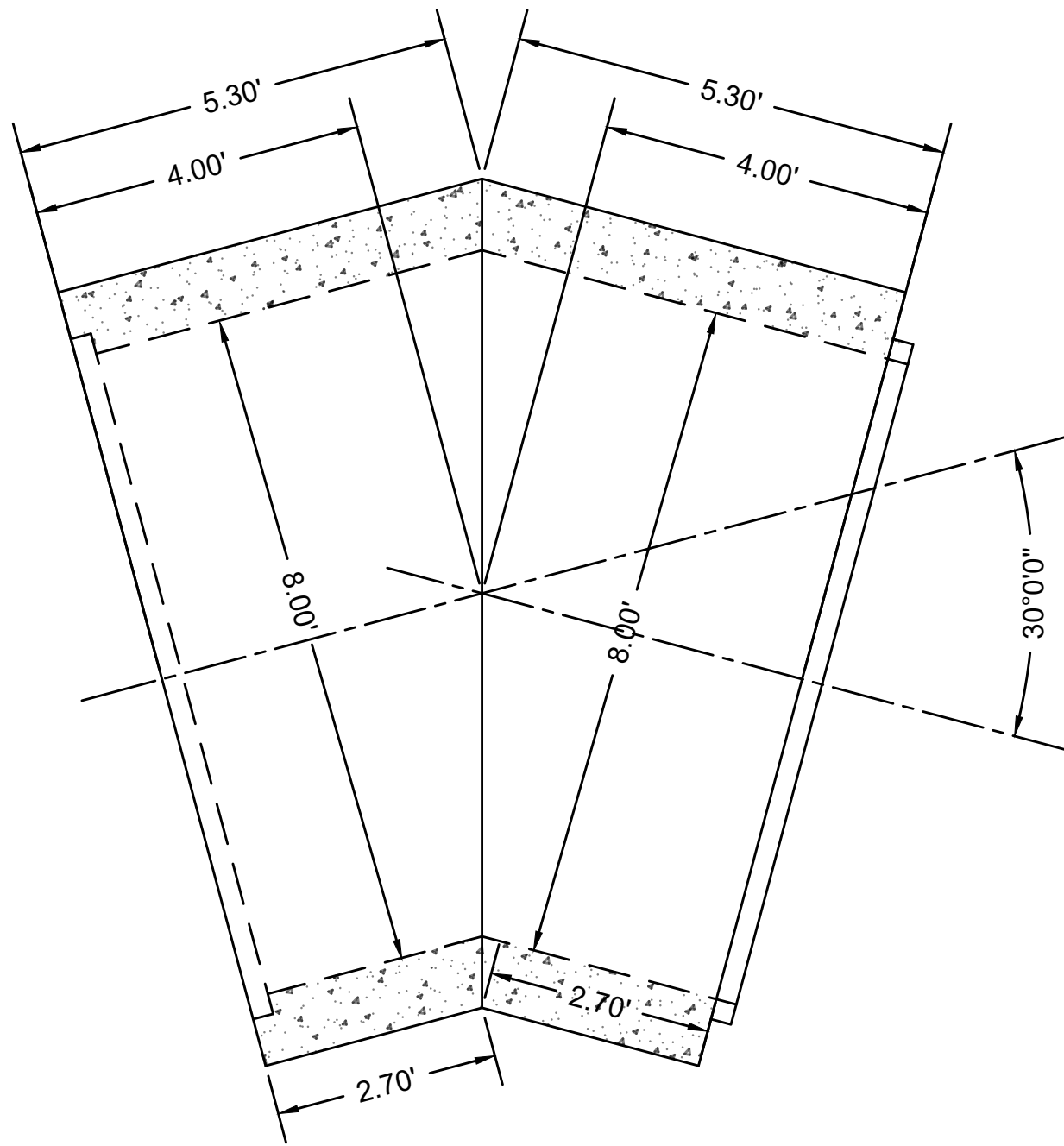
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

NOTES:

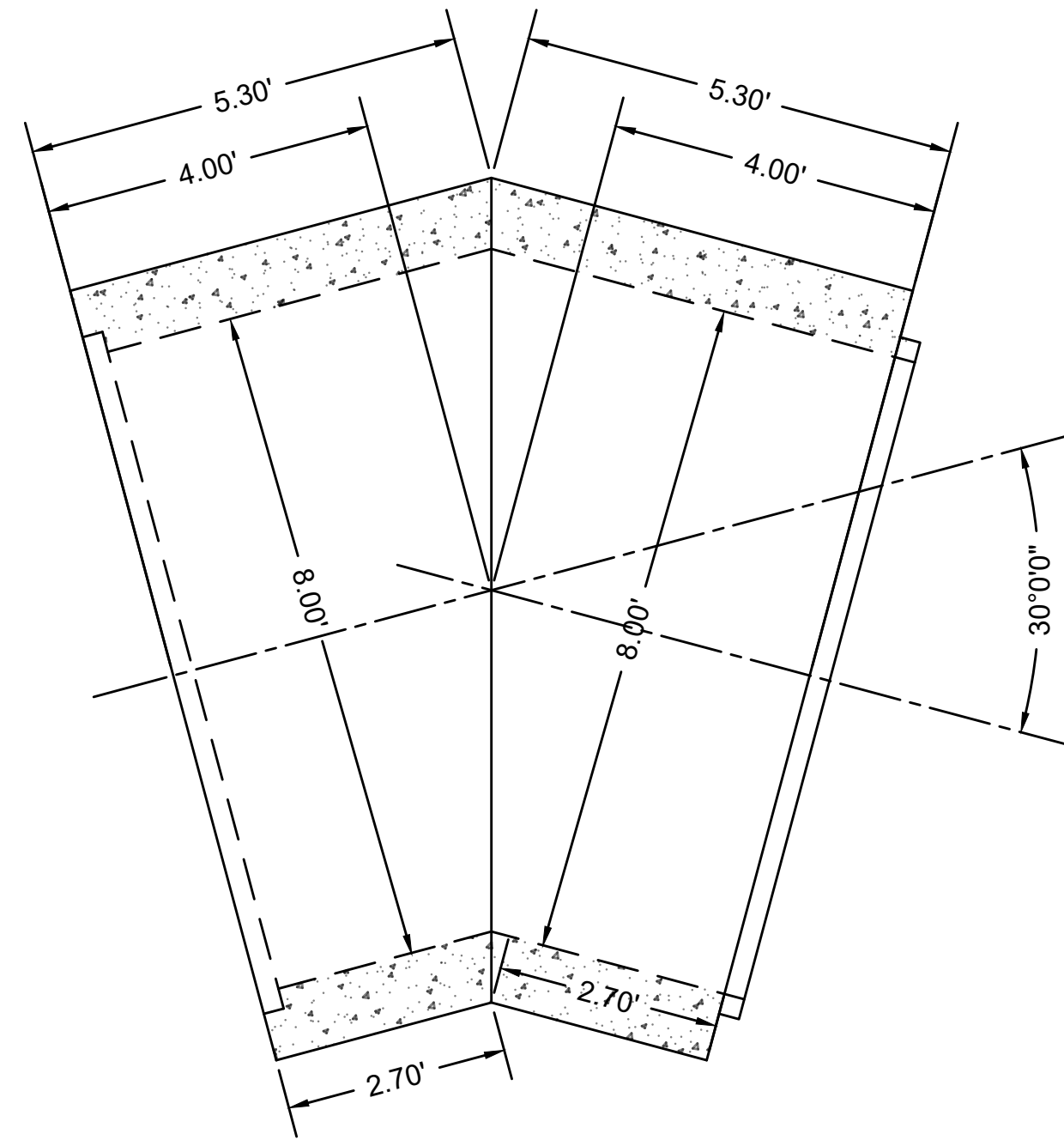
- BEND STRUCTURES SHALL BE PRECAST REINFORCED CONCRETE, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C478
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI, USING 1/2" MAXIMUM SIZE AGGREGATE.
- CULVERT TO BEND CONNECTIONS SHALL BE MORTARED IN PLACE.
- REINFORCEMENT AND STRUCTURAL DESIGN OF BEND SECTIONS SHALL BE DESIGNED FOR ALL APPLICABLE LOADS, INCLUDING HL-93.
- BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS.



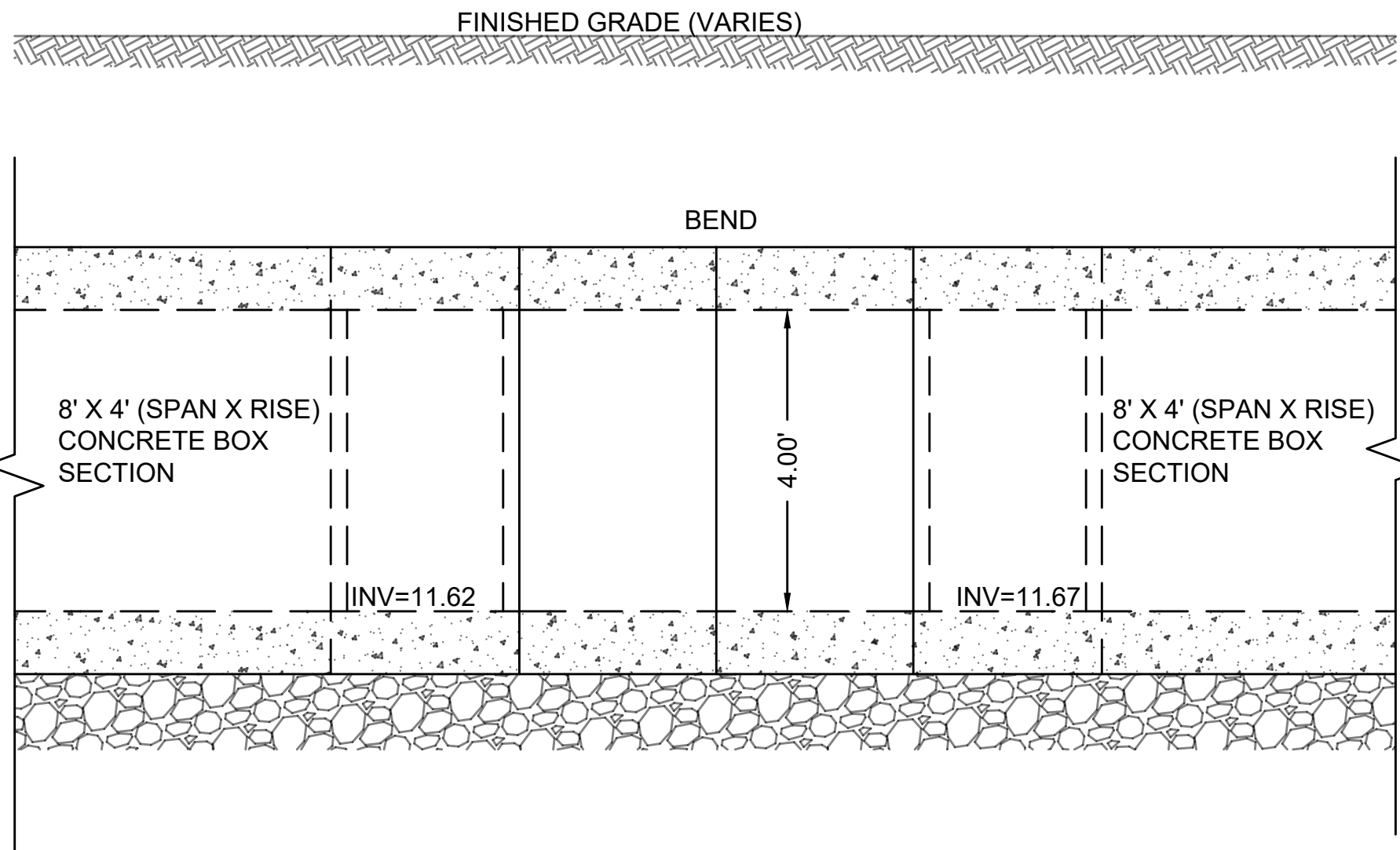
PLAN VIEW
SCALE: 1" = 2'



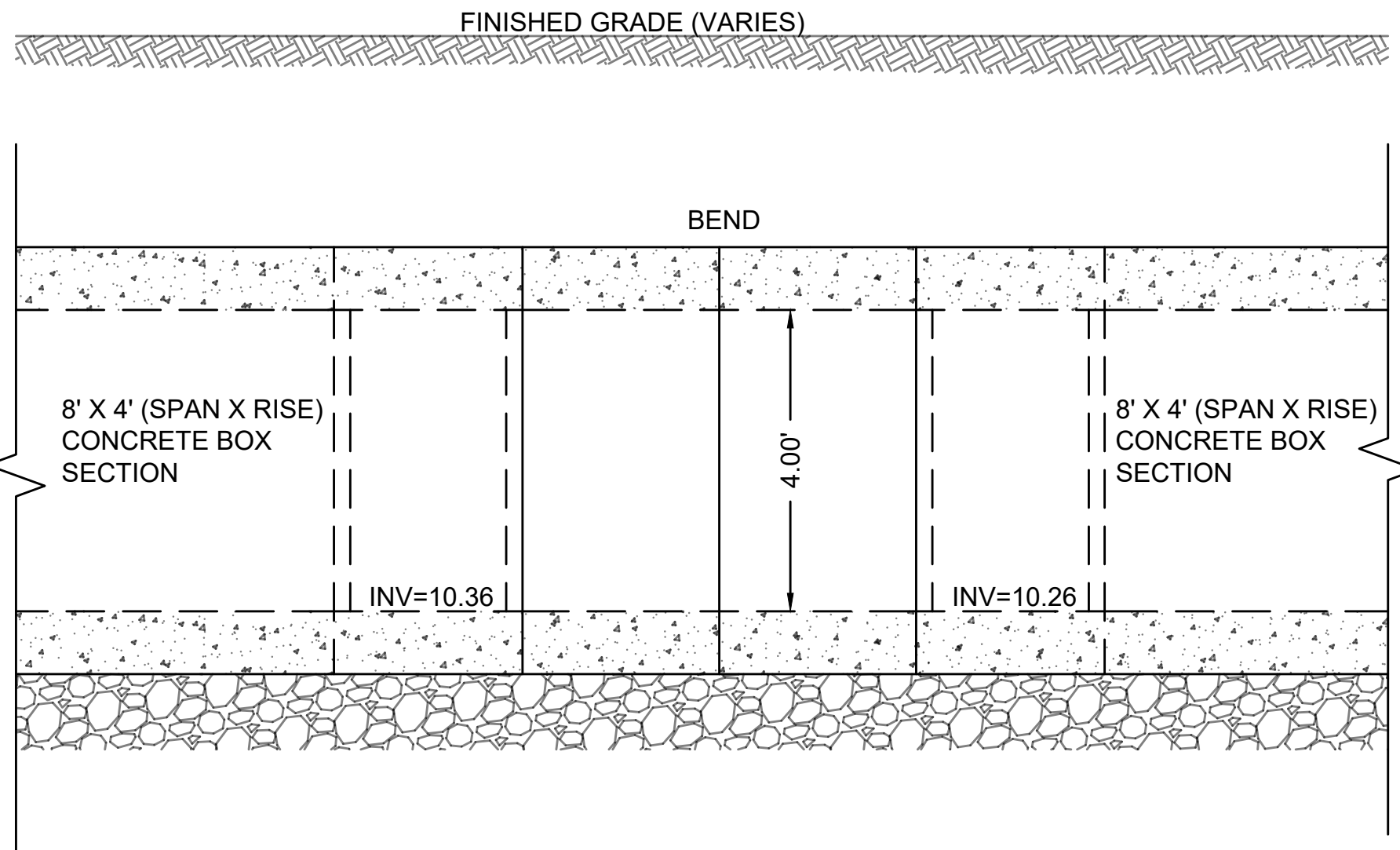
PLAN VIEW
SCALE: 1" = 2'



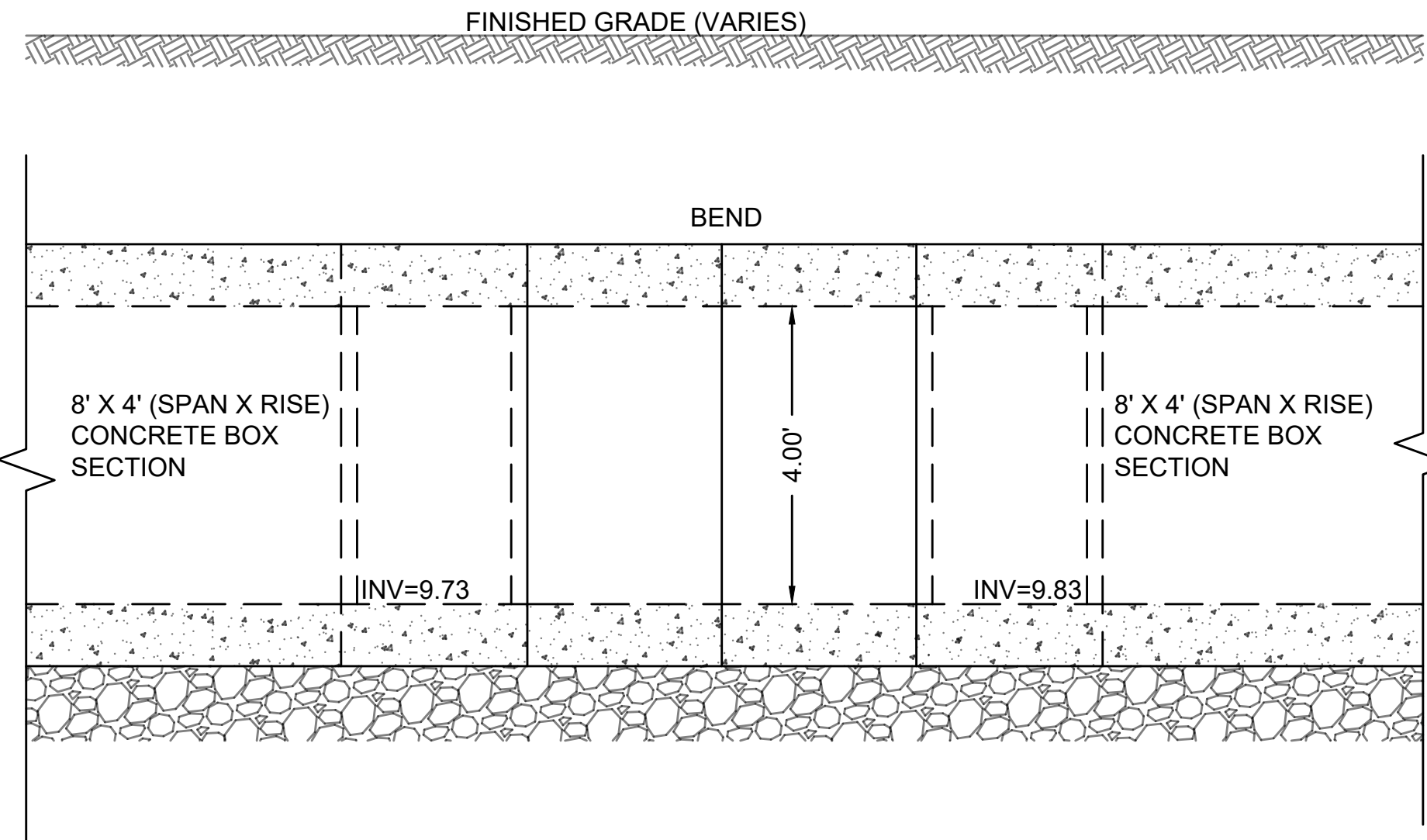
PLAN VIEW
SCALE: 1" = 2'



SECTION VIEW
SCALE: 1" = 2'
O10-32 (30° BEND)



SECTION VIEW
SCALE: 1" = 2'
O10-04 (30° BEND)



SECTION VIEW
SCALE: 1" = 2'
O10-05 (30° BEND)

FALL RIVER
ROUTE 79

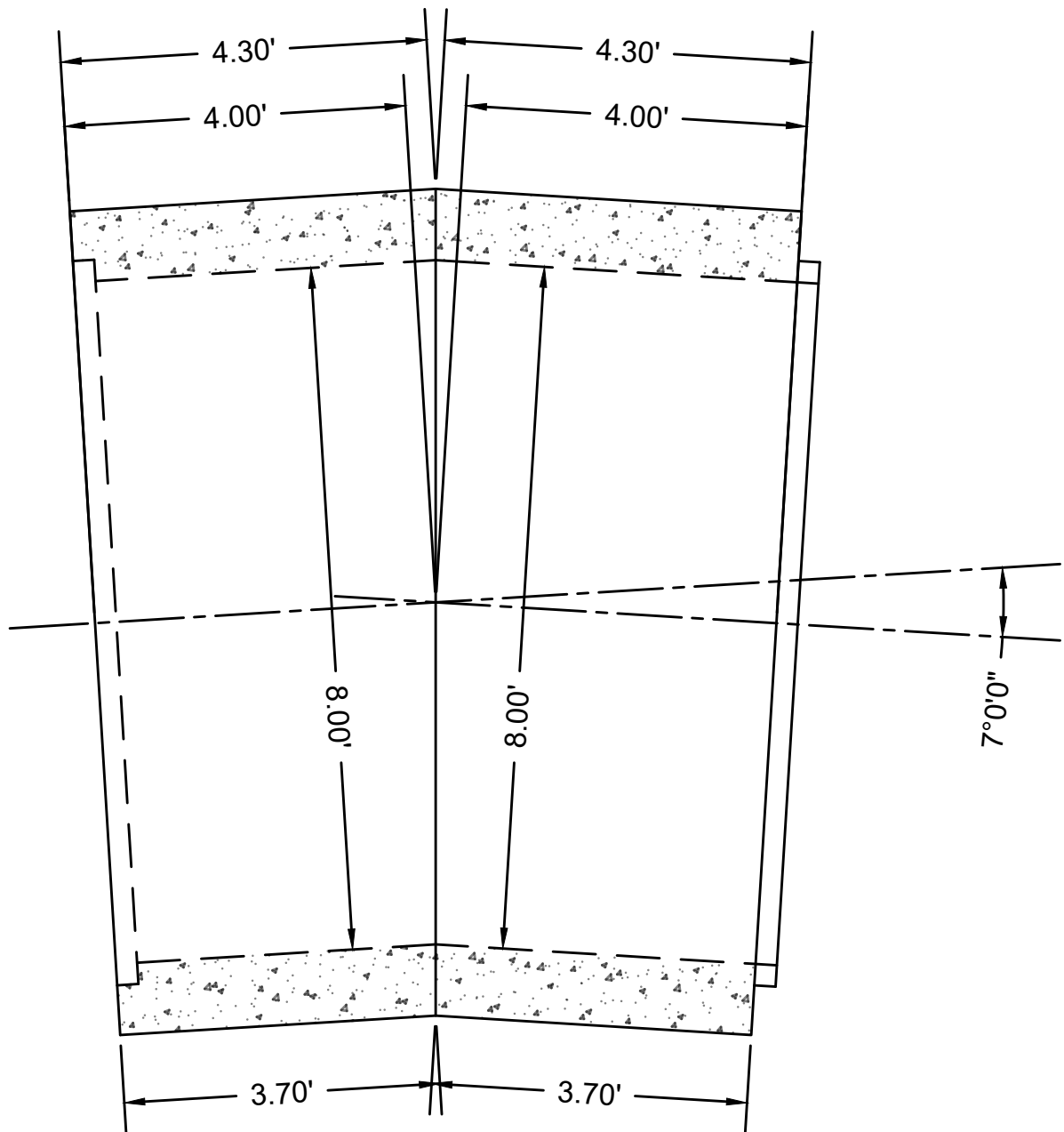
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-0035(191)	1092	1094
PROJECT FILE NO.		608049	

CULVERT BEND DETAILS
SHEET 3 OF 4

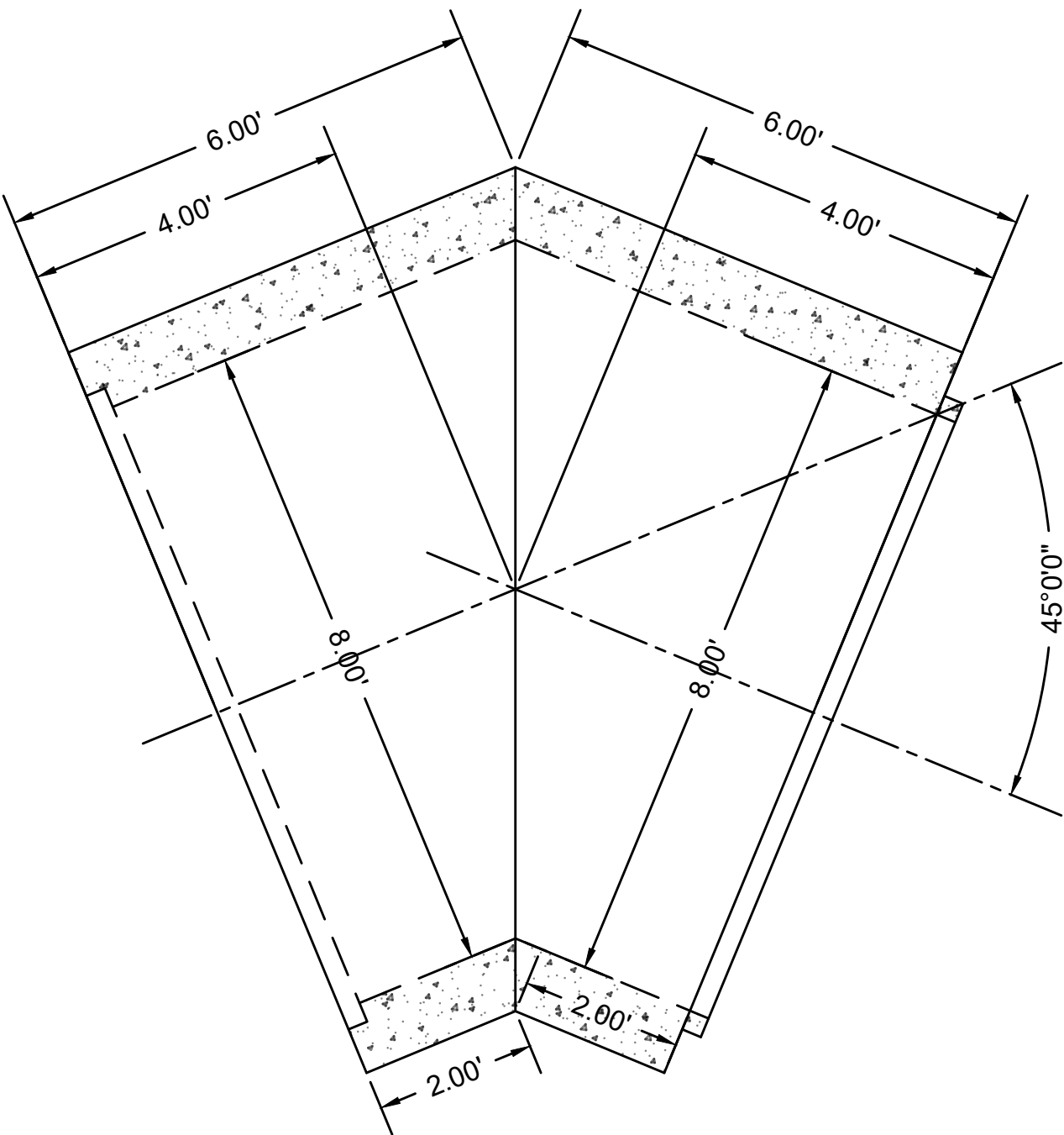
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

NOTES:

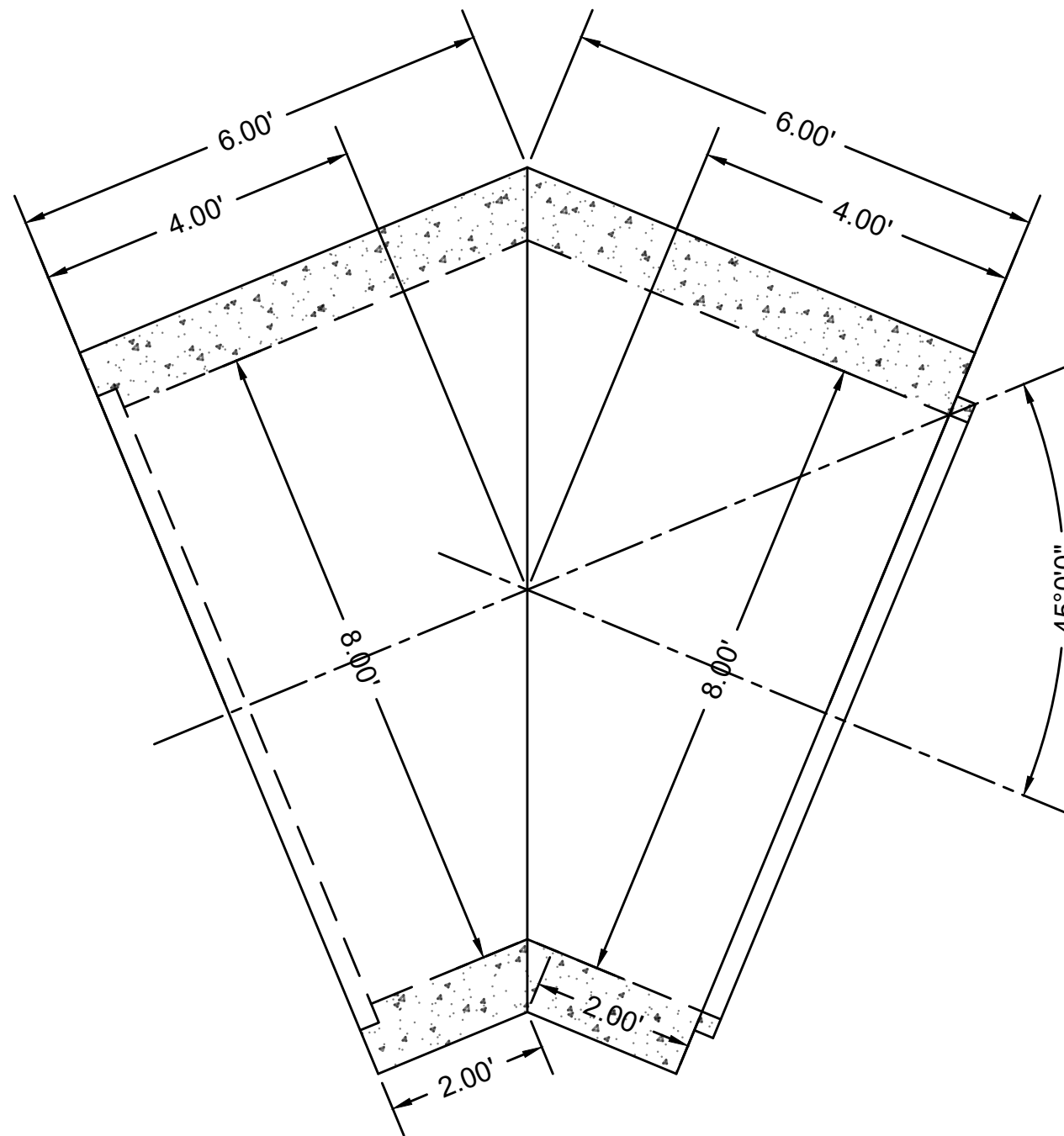
- BEND STRUCTURES SHALL BE PRECAST REINFORCED CONCRETE, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C478
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI, USING 1/2" MAXIMUM SIZE AGGREGATE.
- CULVERT TO BEND CONNECTIONS SHALL BE MORTARED IN PLACE.
- REINFORCEMENT AND STRUCTURAL DESIGN OF BEND SECTIONS SHALL BE DESIGNED FOR ALL APPLICABLE LOADS, INCLUDING HL-93.
- BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS.



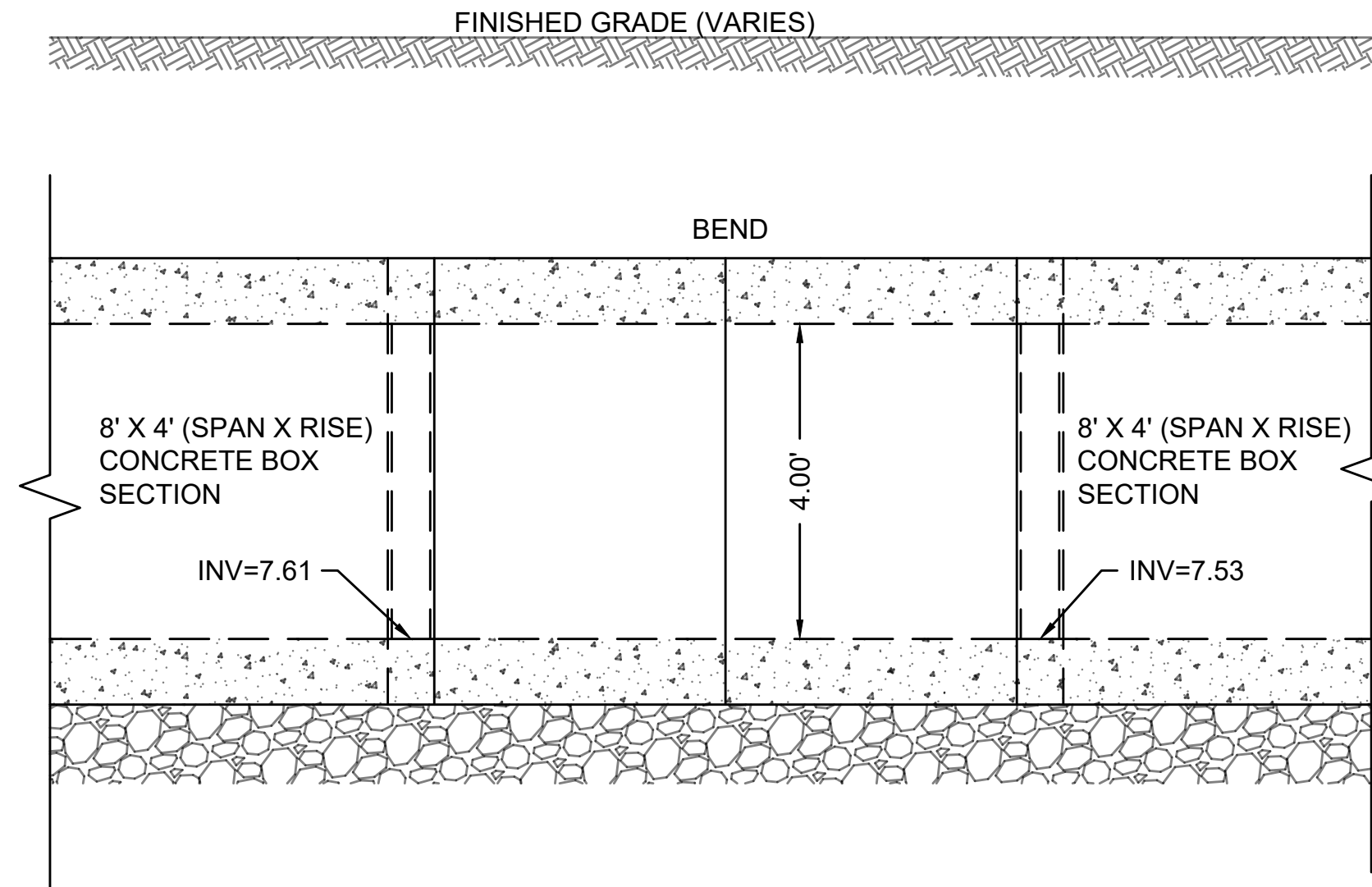
PLAN VIEW
SCALE: 1" = 2'



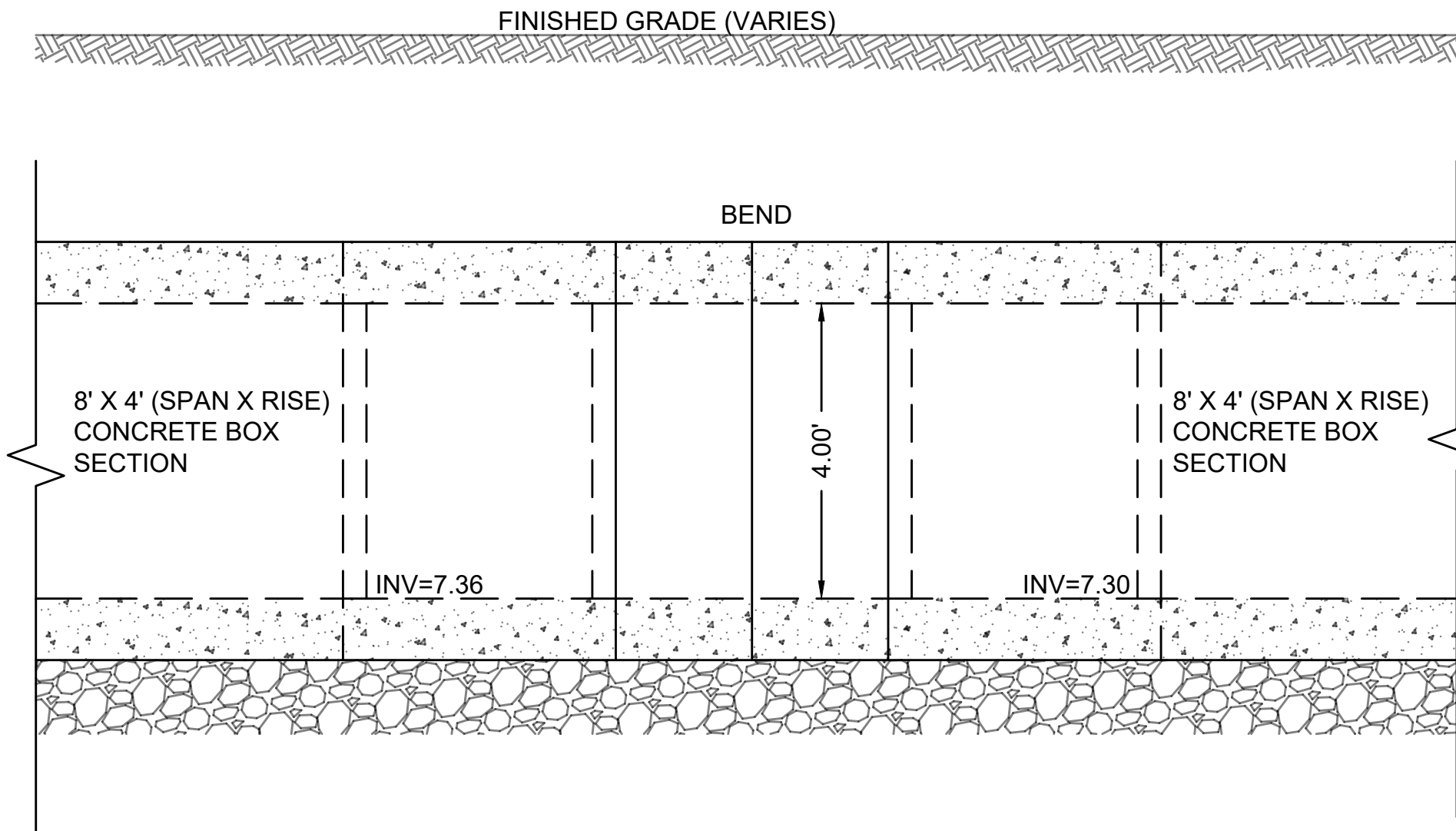
PLAN VIEW
SCALE: 1" = 2'



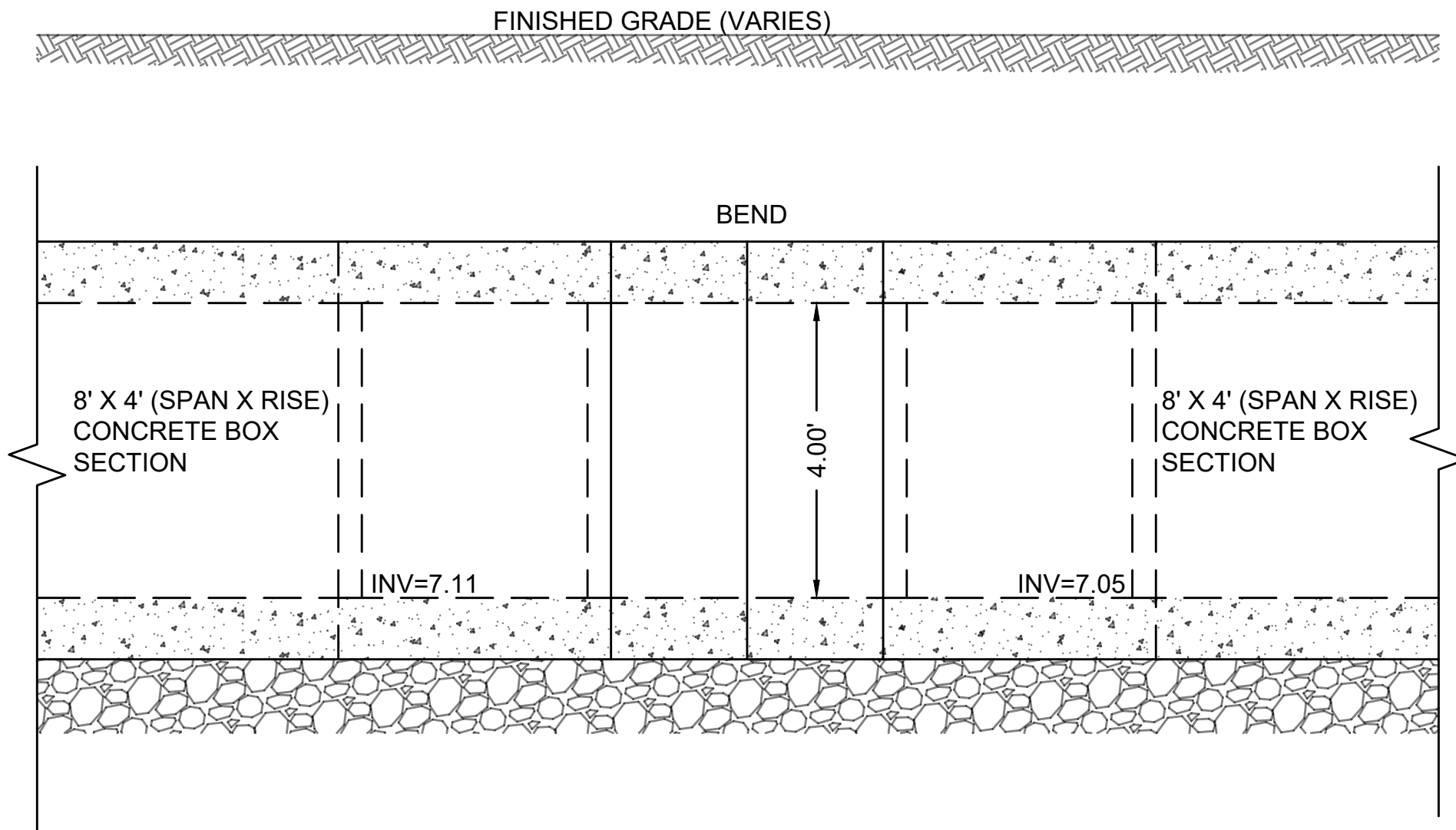
PLAN VIEW
SCALE: 1" = 2'



SECTION VIEW
SCALE: 1" = 2'
O10-06 (7° BEND)



SECTION VIEW
SCALE: 1" = 2'
O10-07 (45° BEND)



SECTION VIEW
SCALE: 1" = 2'
O10-08 (45° BEND)

FALL RIVER
ROUTE 79

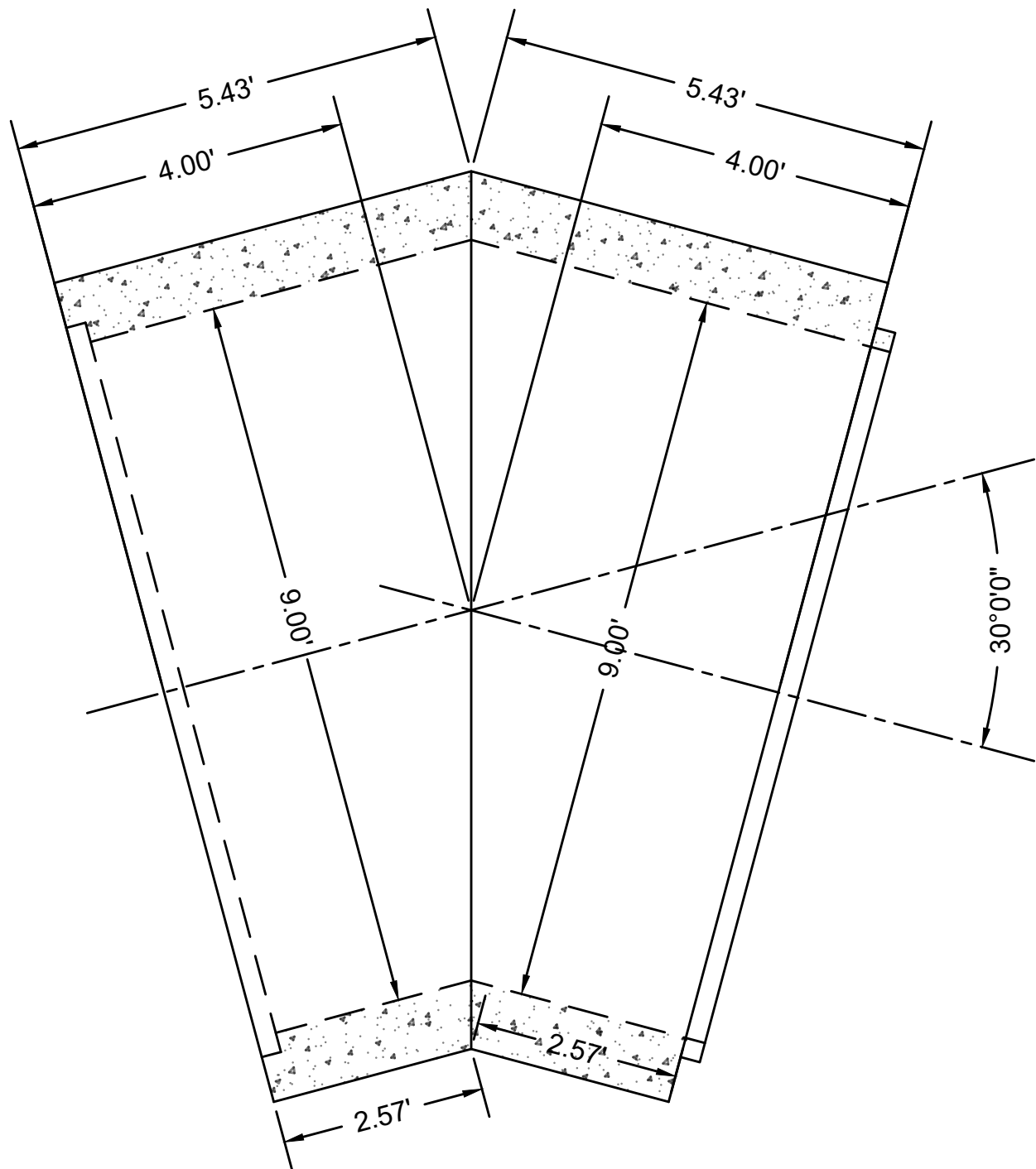
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-0035(191)	1093	1094
PROJECT FILE NO.		608049	

CULVERT BEND DETAILS
SHEET 4 OF 4

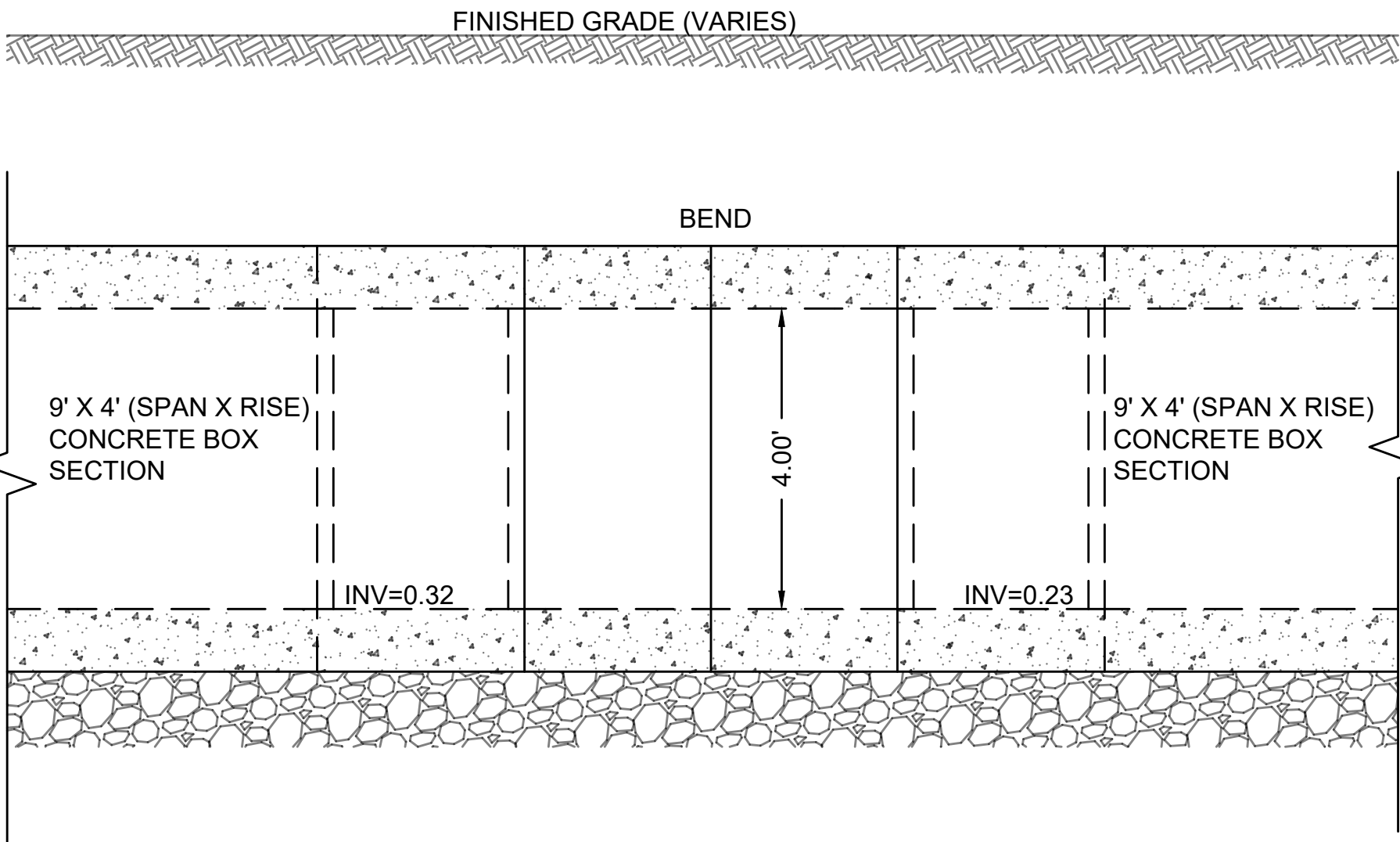
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

NOTES:

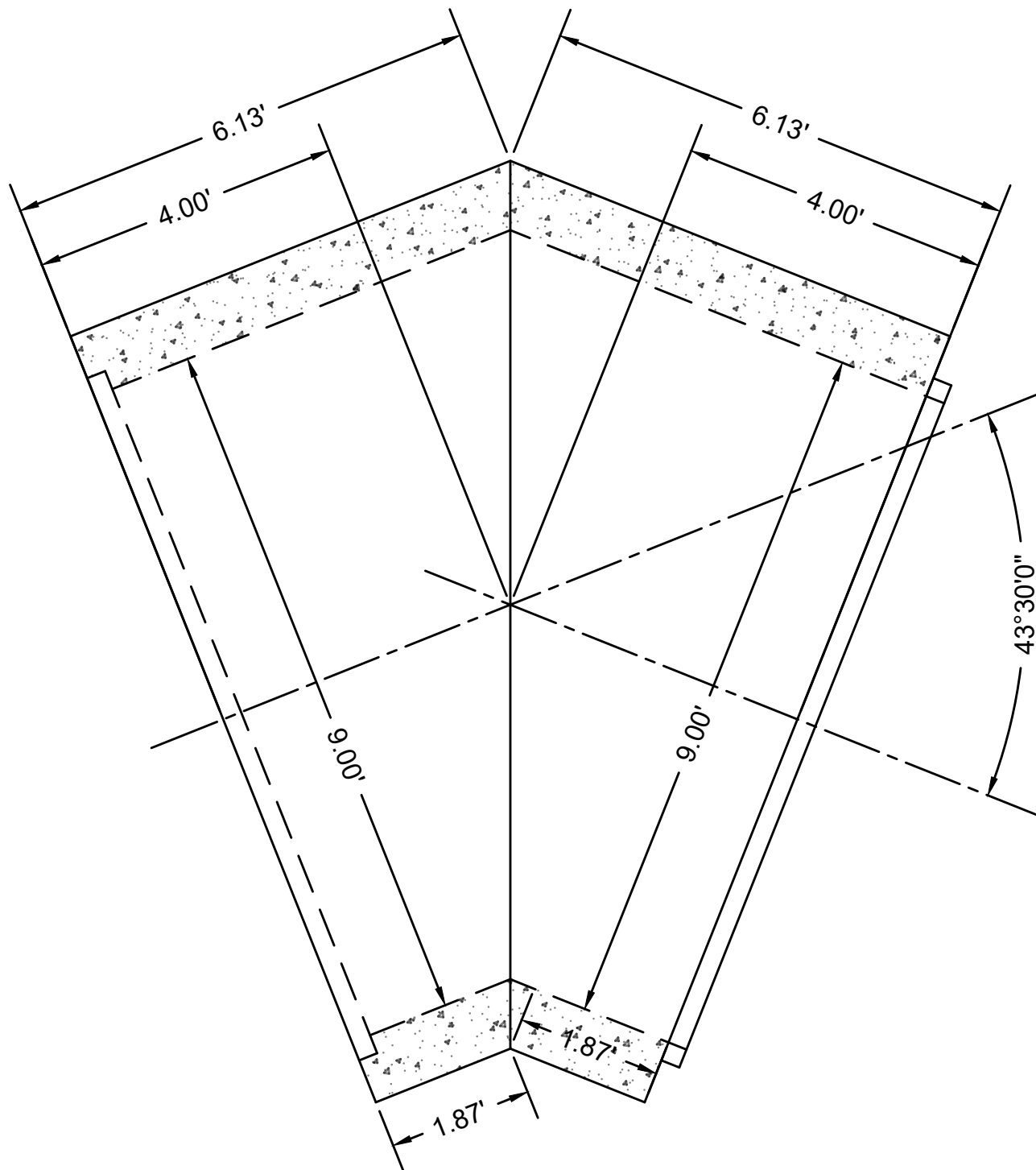
- BEND STRUCTURES SHALL BE PRECAST REINFORCED CONCRETE, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C478
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI, USING 1/2" MAXIMUM SIZE AGGREGATE.
- CULVERT TO BEND CONNECTIONS SHALL BE MORTARED IN PLACE.
- REINFORCEMENT AND STRUCTURAL DESIGN OF BEND SECTIONS SHALL BE DESIGNED FOR ALL APPLICABLE LOADS, INCLUDING HL-93.
- BASE AND WALL THICKNESS FOR ALL STRUCTURES AND CULVERT SECTIONS TO BE PER MANUFACTURER SPECIFICATIONS AND DETAILS.



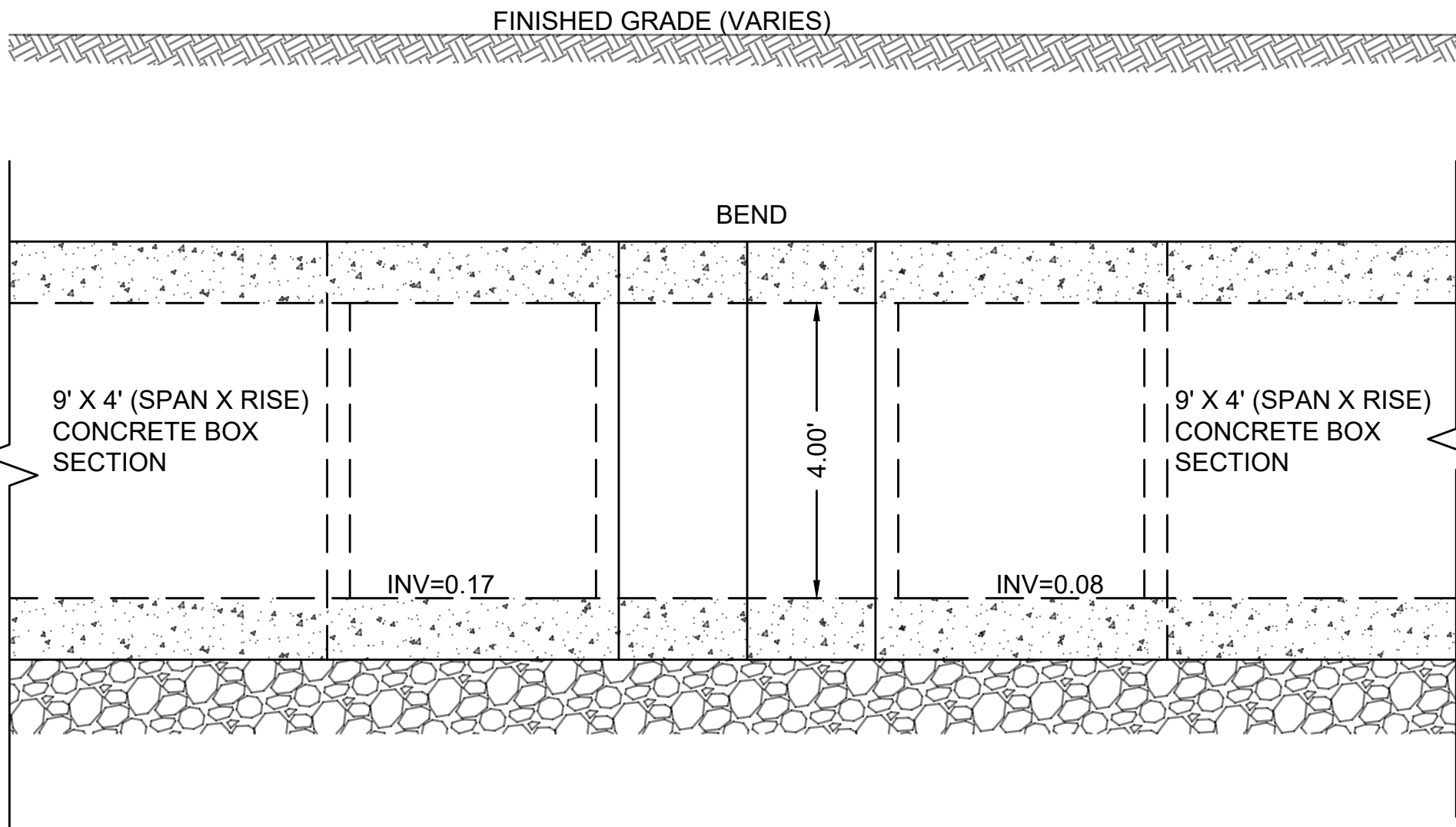
PLAN VIEW
SCALE: 1" = 2'



SECTION VIEW
SCALE: 1" = 2'
O10-10 (30° BEND)



PLAN VIEW
SCALE: 1" = 2'



SECTION VIEW
SCALE: 1" = 2'
O10-35 (43.5° BEND)

RESOURCE AREA IMPACT LEGEND	CITY PIER (09-15)	REMINGTON (010-11)	TOTAL
--- LIMIT OF COASTAL BANK			
--- LIMIT OF COASTAL BEACH			
--- MEAN HIGH WATER LINE (MHW)			
--- MEAN LOW WATER LINE (MLW)			
 PERMANENT COASTAL BEACH IMPACT	913 SF	1,010 SF	1,923 SF
 TEMPORARY COASTAL BEACH IMPACT	532 SF	956 SF	1,488 SF
 PERMANENT LAND UNDER OCEAN IMPACT	1,150 SF	0 SF	1,150 SF
 TEMPORARY LAND UNDER OCEAN IMPACT	1,360 SF	107 SF	1,360 SF
--- PERMANENT COASTAL BANK IMPACT	14 FT	0 FT	14 FT
--- TEMPORARY COASTAL BANK IMPACT	32 FT	34 FT	66 FT
 DREDGING	176 CY	202 CY	378 CY

GENERAL OUTFALL NOTES:

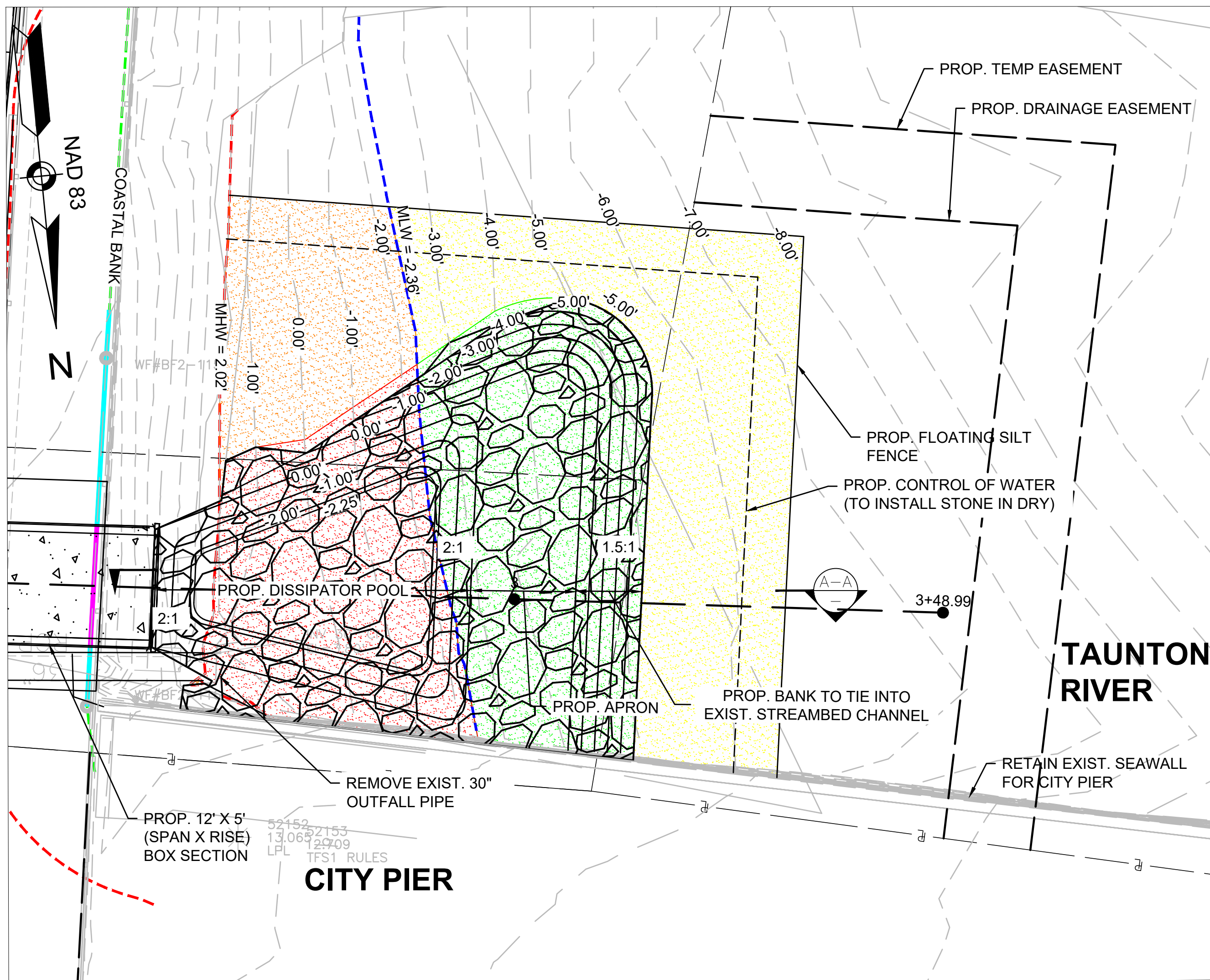
- ALL DREDGING AND INSTALLATION OF PROPOSED STONE (DUMPED RIPRAP, GRAVEL BORROW FOR RIPRAP, GEOTEXTILE FABRIC) SHALL BE INSTALLED IN THE DRY.
- STONE TO BE INSTALLED ON SIDES OF CONCRETE BOX SECTION TO TOP OF BOX SECTION.
- FOR CITY PIER LOCATION: LAND CONTAINING SHELLFISH EXISTS BELOW THE MHW (1,368 SF TEMPORARY; 1,087 SF PERMANENT).
- FOR REMINGTON OUTFALL LOCATION: LAND CONTAINING SHELLFISH EXISTS BELOW THE MHW ELEVATION (107 SF TEMPORARY; 0 SF PERMANENT).
- THE TOP ELEVATION OF THE CONTROL OF WATER AND FLOATING SILT FENCE DEVICES TO BE NOT LESS THAN ELEVATION 4.0 AT BOTH CITY PIER AND REMINGTON AVE. OUTFALL LOCATIONS.

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAPH(BR)/STP-003S(191)	1094	1094
PROJECT FILE NO.		608049	

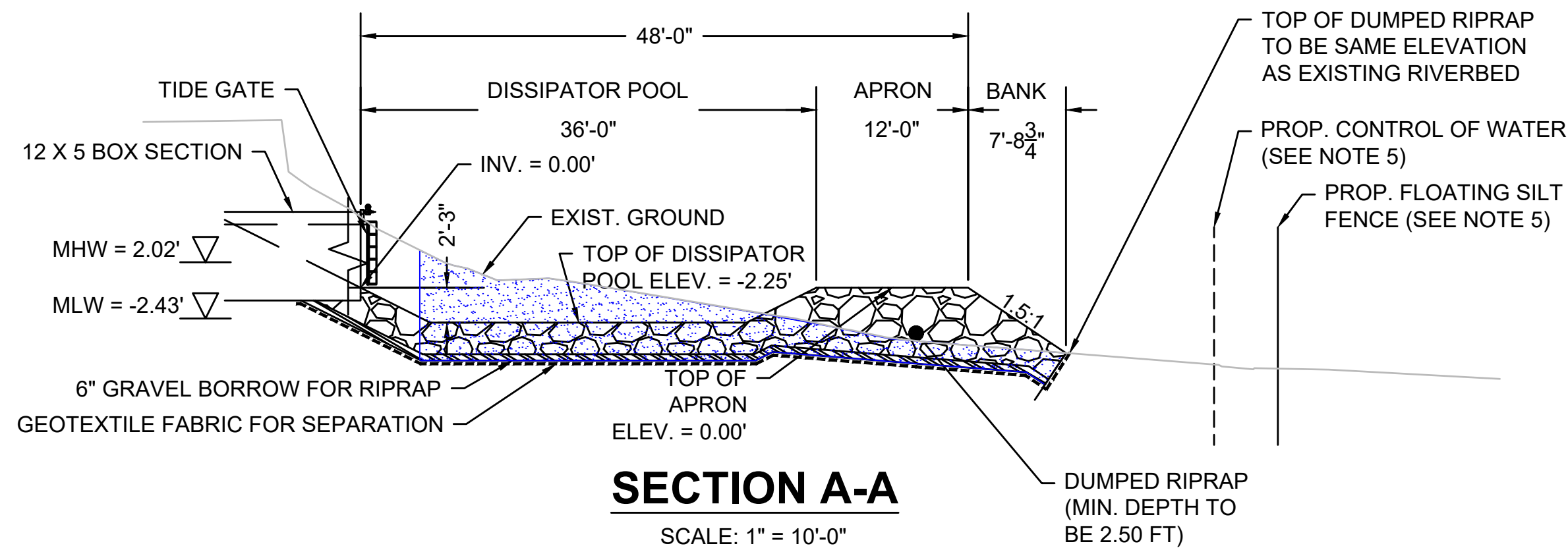
OUTFALL DETAILS

0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



PLAN VIEW

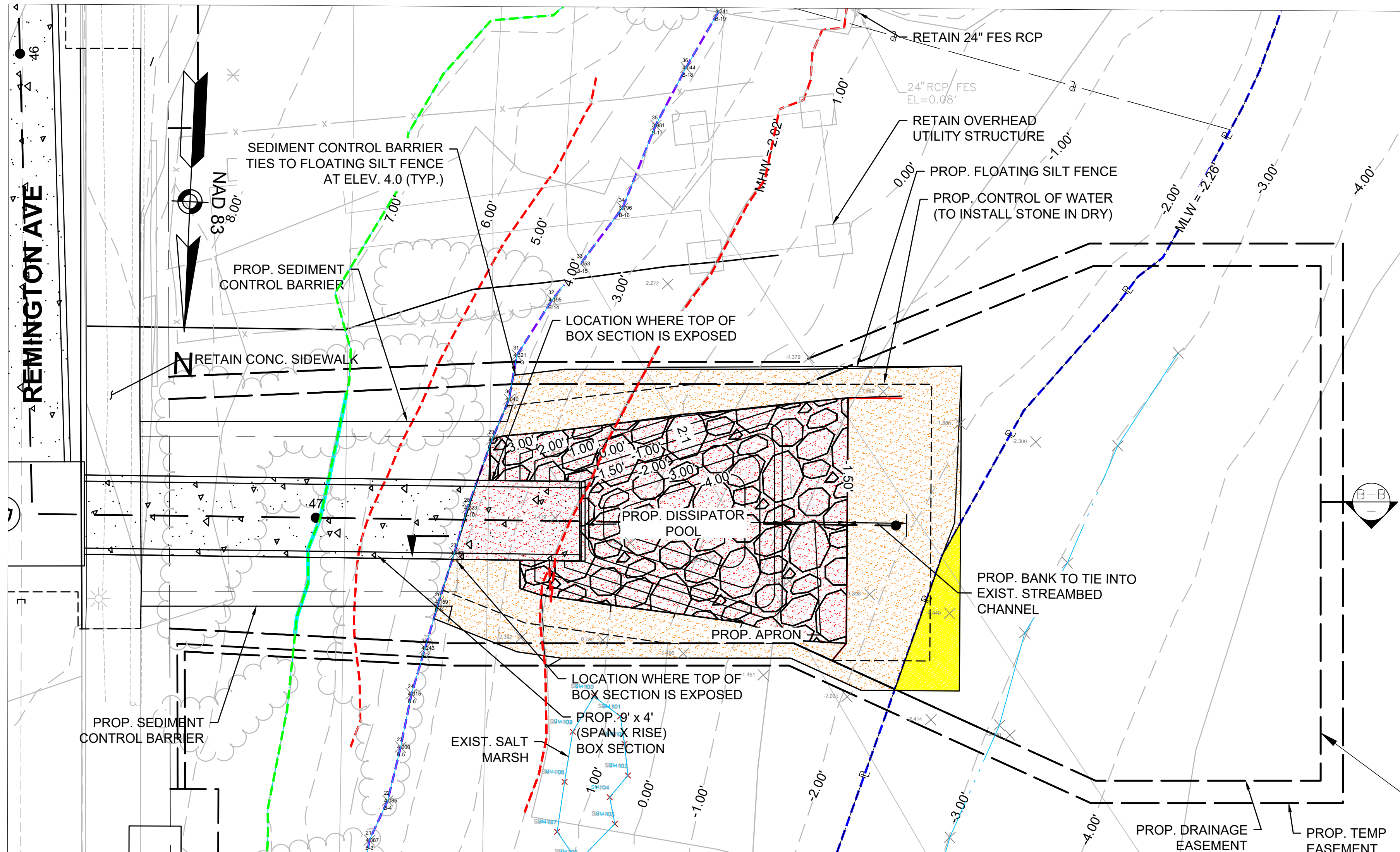
SCALE: 1" = 10'-0"



SECTION A-A

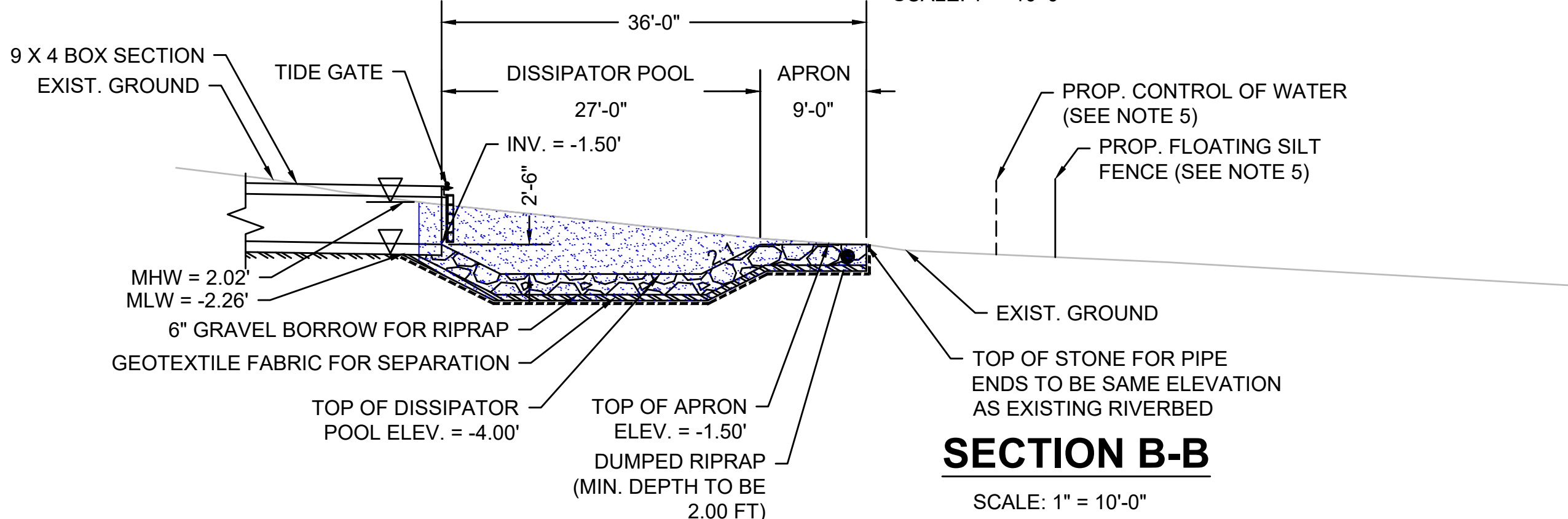
SCALE: 1" = 10'-0"

09-15 RIPRAP BASIN



PLAN VIEW

SCALE: 1" = 10'-0"



SECTION B-B

SCALE: 1" = 10'-0"

O10-11 RIPRAP BASIN PLAN