

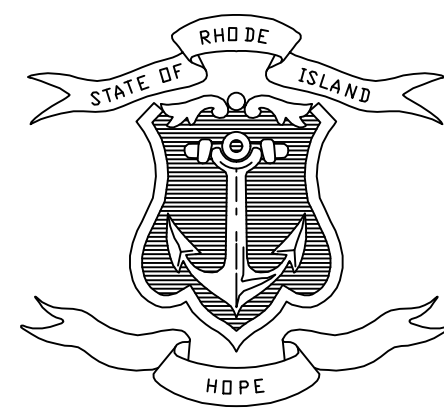
NARRAGANSETT BAY COMMISSION

PHASE III COMBINED SEWER OVERFLOW PROGRAM

OF-210/213/214 FACILITIES

CONTRACT NO. 308.04C

90% DESIGN
NOVEMBER 2021



STATE OF RHODE ISLAND

DANIEL J. MCKEE _____ GOVERNOR



RHODE ISLAND
INFRASTRUCTURE BANK

VAHID OWNJAZAYERI _____ CHAIRMAN

JEFFREY R. DIEHL _____ EXECUTIVE DIRECTOR
AND CEO



VINCENT J. MESOLELLA JR. _____ CHAIRMAN

LAURIE HORRIDGE _____ EXECUTIVE DIRECTOR

KATHRYN KELLY, P.E. _____ CSO PROGRAM MANAGER

DAVID C. BOWEN, P.E. _____ ENGINEERING
MANAGER

PROGRAM MANAGEMENT TEAM



DESIGN TEAM



BY: JAMIE PAYNE
DWG FILE: J:\6412 NBC CSD Consolidation\Drawings\Civil\Sheet Set\PAWT_IIIa-4_IIIa-5_LIST_OF_DRAWINGS.dwg PLOT DATE: Friday, November 12, 2021 3:27:44 PM

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- M-2 GATE & SCREENING STRUCTURE - CONTROL BUILDING - PLAN AND SECTIONS

HVAC

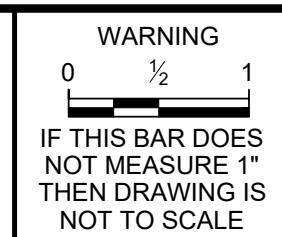
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REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	NO SCALE
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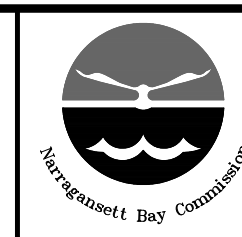


DESIGNED	C. CRONIN
DRAWN	J. PAYNE
CHECKED	J. D'ALELIO

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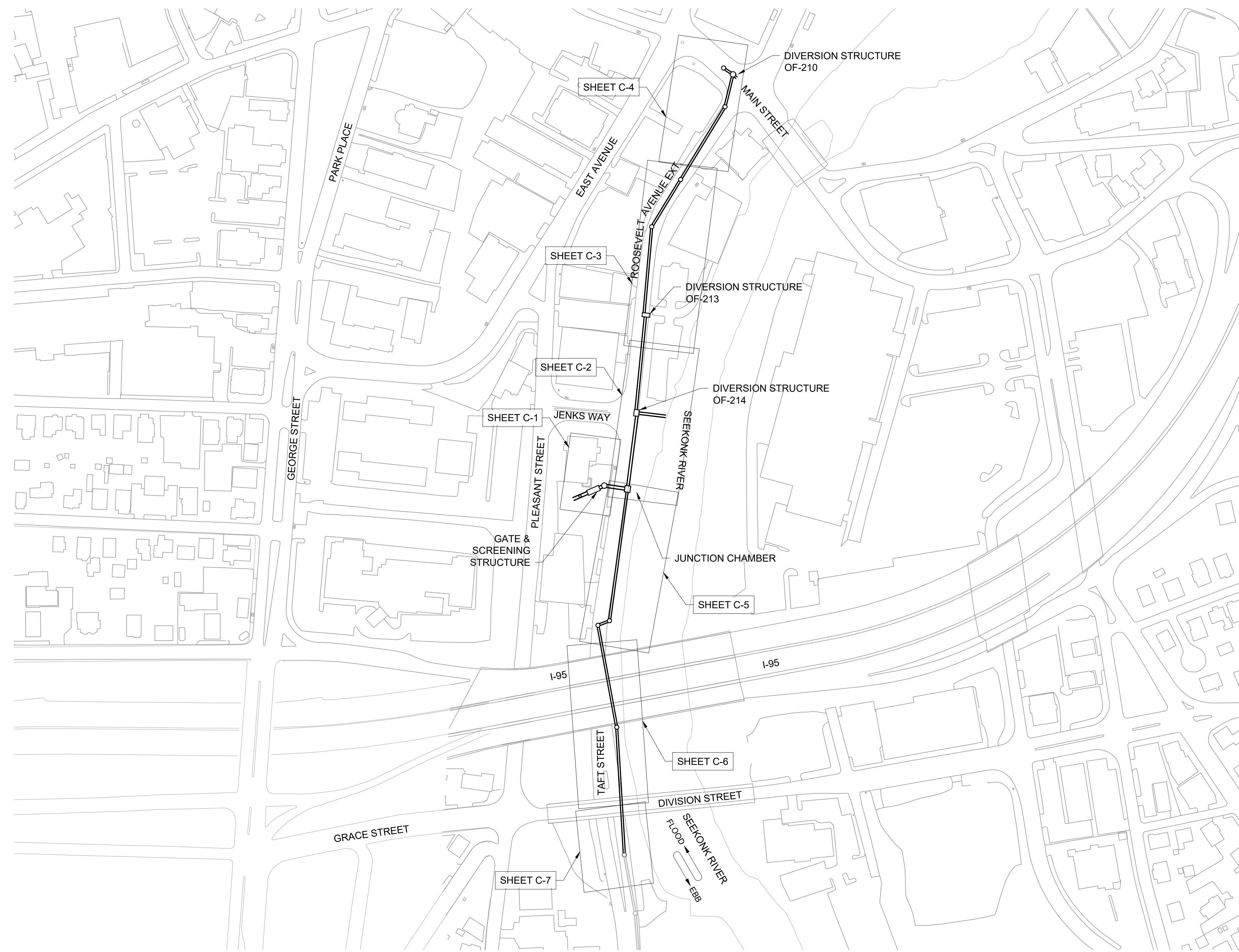


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
GENERAL
OF-210/213/214 FACILITIES
LIST OF DRAWINGS

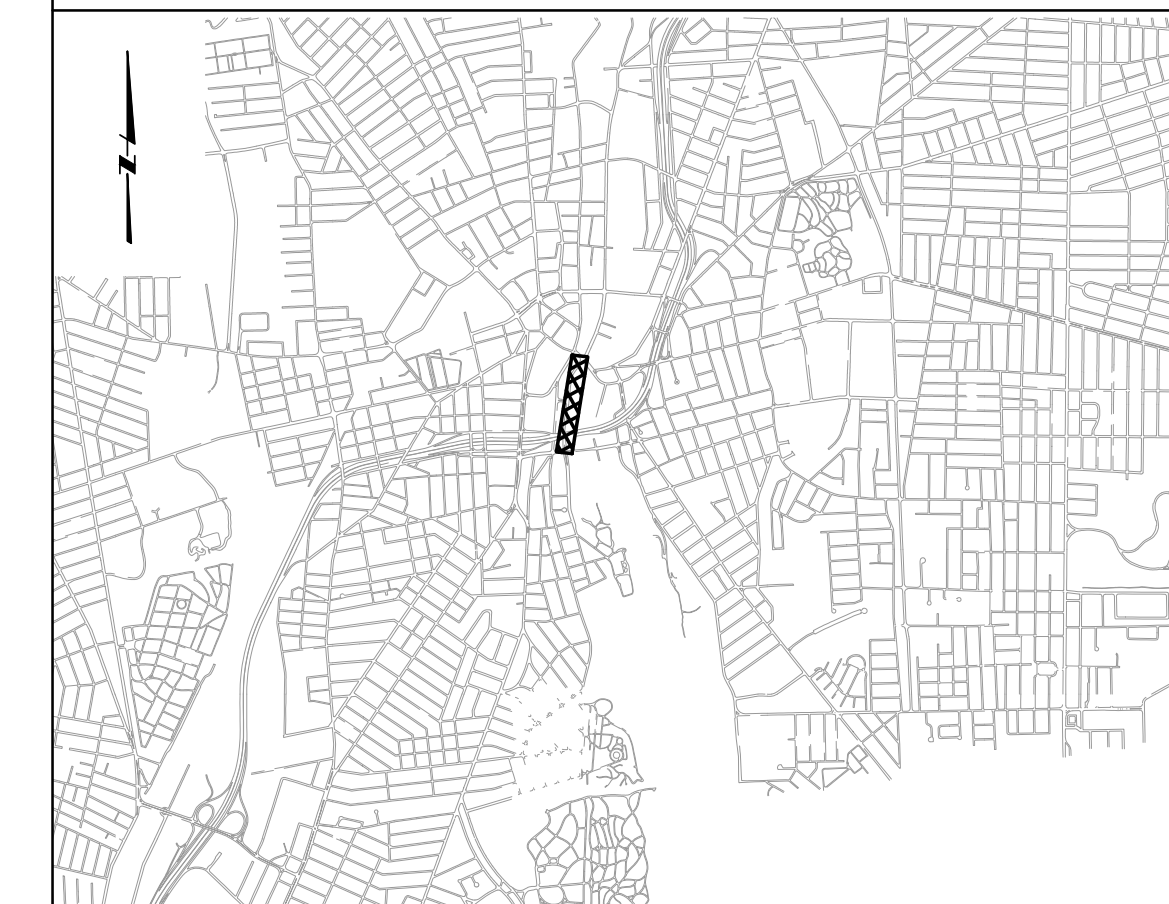
SHEET
G-1
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LOCATION MAP

KEY PLAN



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1	5/13/20	JP	STANTEC COMMENTS

SCALE
NO SCALE

WARNING
0 1/2 1
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DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALELIO

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PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
GENERAL
OF 210/213/214 FACILITIES
LOCATION AND VICINITY MAP

SHEET
G-2
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GENERAL SYMBOLOGY	
	NEW CONSTRUCTION
	EXISTING (SCREENED)
	FUTURE (PHANTOM)
	EXISTING TO BE REMOVED OR DEMOLISHED

MATERIAL SYMBOLOGY	
	CONCRETE (PLAN AND SECTION)
	GROUT OR SAND (PLAN AND SECTION)
	BRICK (PLAN AND SECTION)
	CMU (PLAN AND SECTION)
	STEEL/METAL/FRP (SMALL SCALE SECTION)
	CHECKER PLATE OR SOLID FRP GRATING (PLAN)
	CHECKER PLATE (SECTION)
	GRATING (PLAN)
	GRATING OR SOLID FRP GRATING (SECTION)
	SAFETY GRATING (PLAN)
	SAFETY GRATING (SECTION)
	RAILING (PLAN)
	WOOD (PLAN OR ELEVATION)
	LUMBER/FRAMING - NOMINAL
	LUMBER - TRIMMED (BLOCKING OR SHIMS)
	PLYWOOD (SMALL SCALE)
	FINISHED GRADE
	GRAVEL/DRAINROCK/AGGREGATE BASE

VALVE AND GATE ACTUATORS	
	D = DIGITAL E/H = ELECTROHYDRAULIC P = PNEUMATIC S = SOLENOID T = TEMPERATURE
	HAND / MANUAL OPERATOR (ALSO SHOWN AS NO OPERATOR)
	MOTOR OPERATOR
	PRESSURE BALANCED DIAPHRAGM ACTUATOR
	PRESSURE REGULATOR WITH EXTERIOR TAP
	PRESSURE REGULATOR (SELF CONTAINED)
	PRESSURE RELIEF OR SAFETY ACTUATOR
	WEIGHT BALANCED OPERATOR

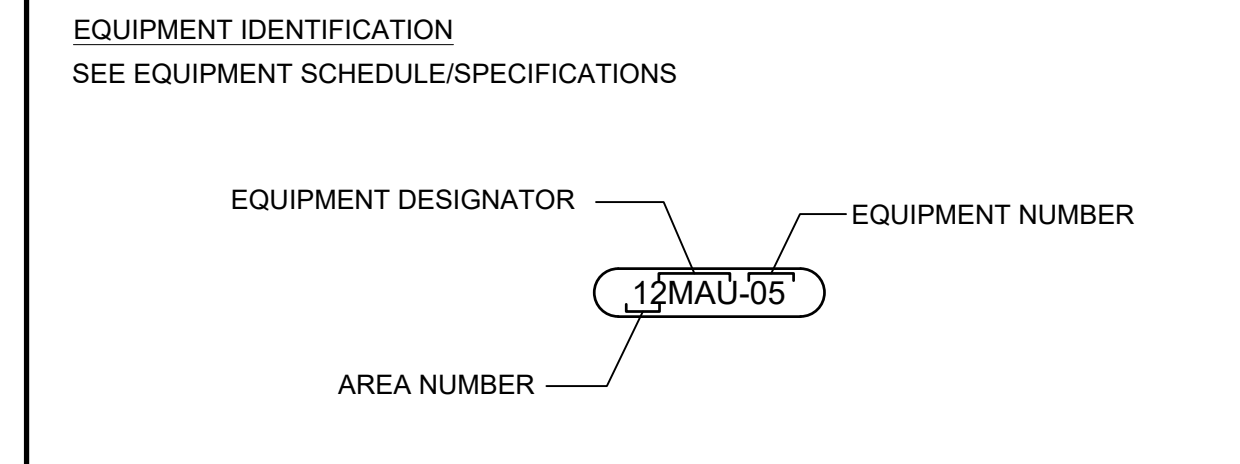
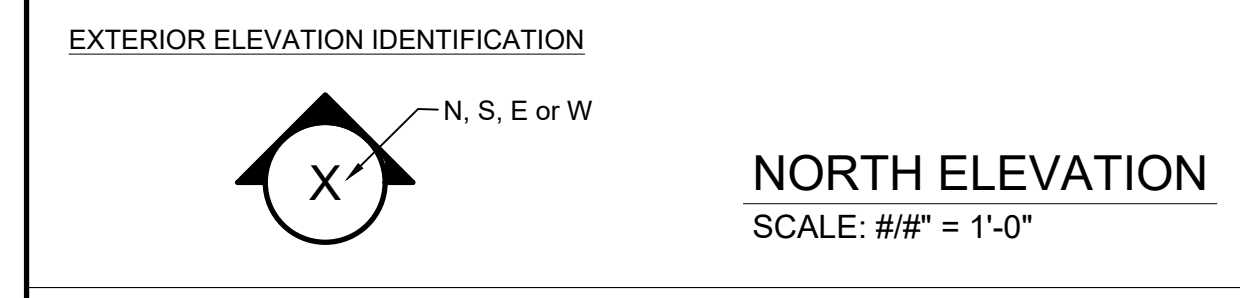
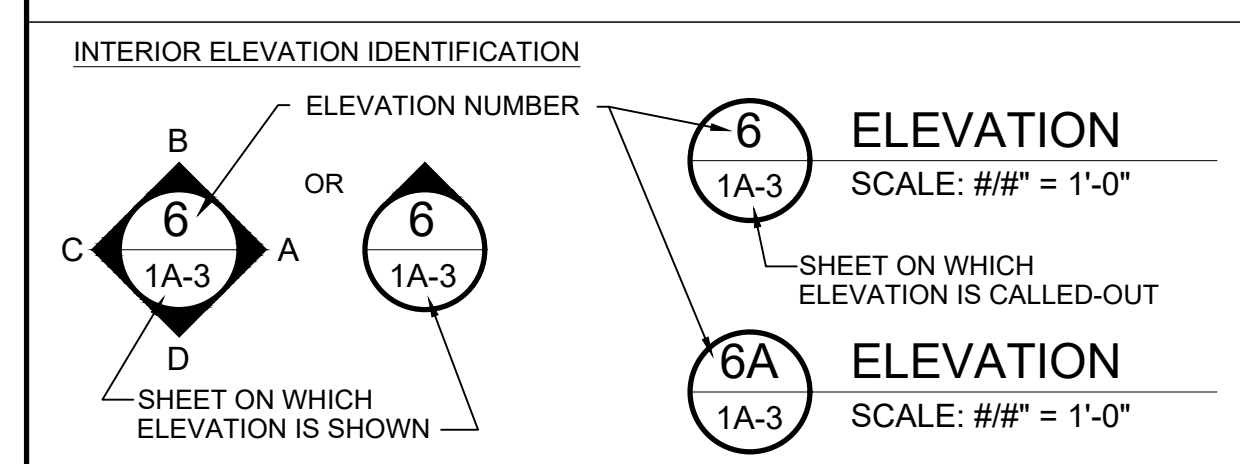
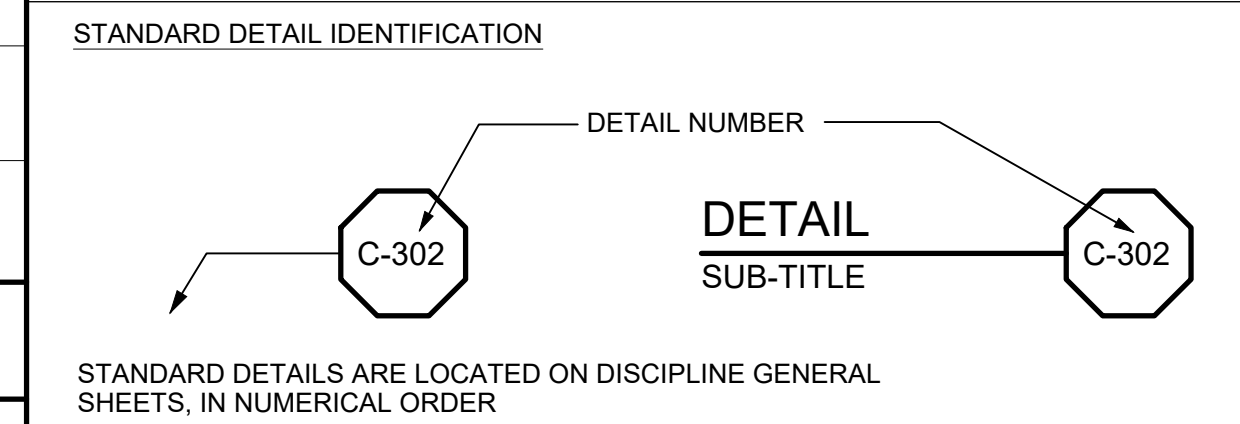
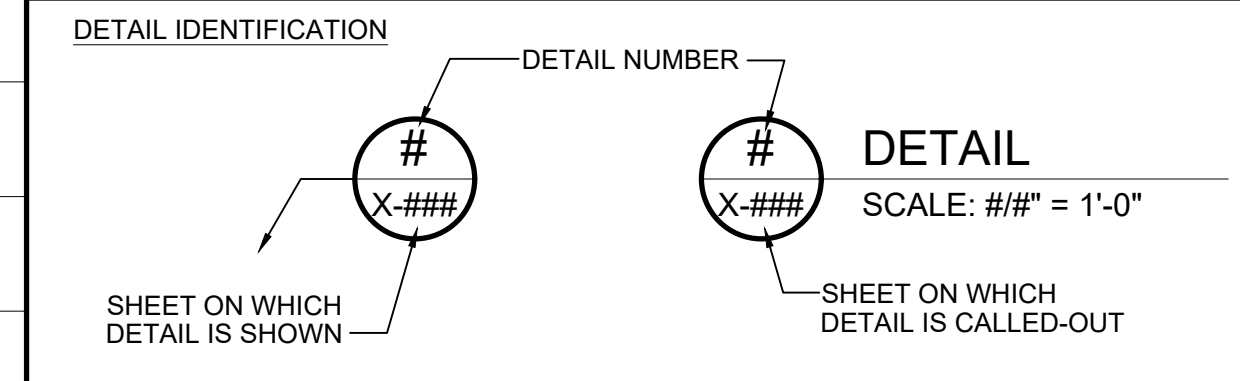
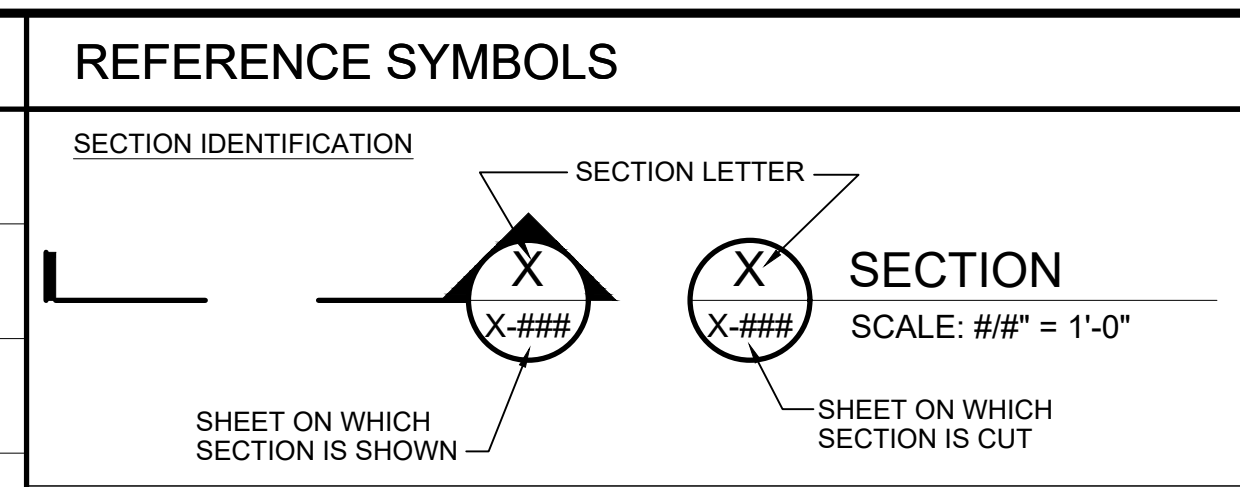
VALVES	
	3 WAY MULTI-PORT VALVE
	4 WAY MULTI-PORT VALVE
	AIR VACUUM, AIR RELEASE, OR AIR VACUUM AND AIR RELEASE ASSEMBLY
	ANGLE VALVE
	BACK-PRESSURE VALVE
	BACKFLOW PREVENTER VALVE
	BACKWATER VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	CHECK VALVE - ANGLE
	CHECK VALVE - BALL
	CHECK VALVE - SILENT
	CHECK VALVE - STOP
	GATE VALVE
	HOSE BIBB VALVE FROM TOP, FRONT AND SIDE VIEW
	PRESSURE REGULATING VALVE
	PRESSURE RELIEF VALVE

GATES	
	SLIDE GATE (CAST IRON, ALUMINUM OR STAINLESS STEEL)

PUMPS & COMPRESSORS	
	AIR DRIVEN DIAPHRAGM PUMP

PIPING ENDS (SINGLE-LINE)	
	BLIND FLANGE
	PIPE MATERIAL CHANGE
	PUSH-ON JOINT - BELL AND SPIGOT
	PUSH-ON JOINT - RESTRAINED
	SLEEVE TYPE COUPLING
	SLEEVE TYPE COUPLING - RESTRAINED
	UNION
	WELDED

PIPING ACCESSORIES	
	PIPE SUPPORT (PLAN)



MISCELLANEOUS

	2-16 DOOR NUMBER		### COORDINATE POINT
	1-8 WINDOW NUMBER		Ø ROUND OR DIAMETER
	13 ACCESSORY NUMBER		@ AT
	4 WALL TYPE NUMBER		∠ ANGLE
	A SHEET KEY NOTES		℄ CENTERLINE

DISCIPLINE SPECIFIC SYMBOLS ARE SHOWN ON THE DISCIPLINE GENERAL DRAWINGS.
FOR WELDING SYMBOLS USE AMERICAN WELDING SOCIETY STANDARD SYMBOLS.

REV 012216

HVAC	
	AIR CONDITIONING UNIT
	AIR FILTER
	AIR HANDLING UNIT
	CEILING RETURN OR EXHAUST AIR GRILLE OR REGISTER (SIZE IN INCHES, WIDTH X HEIGHT)
	CEILING SUPPLY DIFFUSER (SIZE IN INCHES)
	DAMPER
	DAMPER - FIRE DAMPER WITH ACCESS DOOR
	DAMPER - MANUAL VOLUME
	DAMPER - MOTORIZED
	DUCT (FIRST DIMENSION, DUCT SIDE SHOWN; SECOND DIMENSION, DUCT SIDE NOT SHOWN)
	DUCT WITH ACOUSTICAL LINING
	DUCT SMOKE DETECTOR
	EXHAUST OR RETURN AIR DUCT (FIRST DIMENSION, DUCT WIDTH)
	EXHAUST OR RETURN AIR GRILLE OR REGISTER (SIZE IN INCHES, WIDTH X HEIGHT)
	HEATER
	HVAC FAN
	HVAC LOUVER
	THERMOSTAT
	SUPPLY GRILLE OR REGISTER (SIZE IN INCHES, WIDTH X HEIGHT)
	SUPPLY OR OUTSIDE AIR DUCT (FIRST DIMENSION, DUCT WIDTH)
	UNIT HEATER

MISCELLANEOUS	
	MISCELLANEOUS EQUIPMENT
	MOTOR SYMBOL
	PRESSURE GAUGE
	PRESSURE GAUGE WITH DIAPHRAGM SEAL
	PRESSURE SWITCH
	PRESSURE SWITCH WITH DIAPHRAGM SEAL
	WATER LEVEL

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

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DRAWN	J. PAYNE
CHECKED	J. D'ALESSIO

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
GENERAL
OF 210/213/214 FACILITIES
SYMBOLS

SHEET
G-3
195130227

A A/C A/R AASHTO AB ABAN ABND ABBR ABS AC ACI ACOUS ACP ADD ADH ADJ AFF AISC ALT ALUM AMB ANSI API APFD APPROX APPURTS ARCH ASME ASPH ASTM AT ATM AVIAR AVE AWPA AWS AWWA B&S B/W BC BCR BD BDRY BF BFP BFV BHP BLDG BLK BLKG BLVD BM BO BOD BOP BOT BPV BRK BSMT BT BTU BV BVC BWW C C&G CAB CAP CATS CATV CB CC CD CEM CF CFH CFM CFS CHEM CHG CHKD CI CIP CIPP CJ CL CL2 CLF CLG CLOS CLR CMB CMC CNL CML&C CMP CMU CO COL COMM COMP CNC COND CONN CONST CONT CONTR COORD COR COTG CPLG CPVC CS CSP CSTS CT CTR CTS CTSK CU CULV CV CY CYL d DAD DAFT DB DBL DC DEG DETO DF DG DH DI DIA DIAG DIAPH DIFF DIP DIR DISCH DISP DL DMH DN DO DR DS DT DWG DWLS DWY E E/O EA EB EC ECC ECR EF EFF EG EGL EL ELEC EN ENCL ENG ENGR ENT EP EPT EQ EQUIP ESMT ETB ETC EVAP EVC EW EX EXC EXH EX-HY EXIST EXP EXT EXTR F F TO F F&C F&I F&B FAI FB FCO FD FDR FE FEM FM FG FH FIG FIN FIX FL FLEX FLG FLGD FLOCC FLR FLSG FM FMH FMU FND FOC FOM FOS FOW FPC FPM FPS FPTS FR FRP FS FT FTG FUR FUT FV FWD G GA GAL GALV GANC GB GEN GFA GI GIP GL GLB GLD GM GP GPD GPH GPM GR GRV GRTG GSP GV GYP H H&V H/B HC HDR HDW HDWL HEX Hg HGL HGR HM HORZ HP HPG HR HSL HSS HTG HTR HV HVAC HW HWD HWL HWO HYD I/O I&O IBC ID IF IJTS IN INCL INFL INSL INSP INST INT INV IP IPS IRRG JAN JC JCT JS JSTS JT k K kg km kv kVA kW kWh L LAB LAM LAT LAV LB LCP LCS LD LDG LEV LF LG LH LLH LLV LOC LOL LONG LP LPG LT LTS LW LWL LWR m M mA MACH MAG MAINT MAN MAS MATERIAL MAXIMUM MAIL BOX / MACHINE BOLT MOTOR CONTROL CENTER MIDDLE OF CURB RETURN MEAS MECHANICAL MEDIUM MEMBER MANUFACTURER MANUFACTURED MILLION GALLONS PER DAY MEASURE / MAINTENANCE HOLE MEAN HIGH TIDE MEAN HIGH WATER MALLEABLE IRON / MILE 1/1,000,000 METER MILITARY / 1/1,000TH INCH MINIMUM / MINUTE MIRROR MISC MARK MEAN LOW WATER MILLIMETER MOTOR OPERATED / MASONRY OPENING MODEL MONUMENT MORTAR MOP SINK MEAN SEA LEVEL MECHANICAL-TYPE COUPLING MOUNTED MOUNTING METAL MOTOR N NaOCl NaOH NCH NEMA NF NFPA NG NIC NO NOM NPS NPT NRCPP NRS NS NTS OBJ OC OD OE OF OFD OFF OH OHV OPER OPNG OPP ORIG OS&Y OSA OSHA OWG OZ P P/S PA PART PAVMT PB PC PCC PCOTG PCVC PE PG pH PI PK PL PLAS PLT PLWD PM PNEU PNL POB POC POT PP PPD PPH PPM PR PRC PRECAST PREFAB PRESSURE PROF PRV PRVC PS PSF PSI PSIA PSIG PT PTFE PV POLYVINYL CHLORIDE POLYVINYLIDENE FLUORIDE (KYNAR) POTABLE WATER QUARRY TILE QUADRANGLE / QUADRANT R R&O R/W RAC RAG RAP RAS RC RCP RD RED REF REG REINF REQD RESIL RETAIN REV REW RF RFG RGE RH RM RMT RPM RR RS RSL RT RTP RTU RW RWL S S/O SAM SAN SBR SC SCOP SCRED SCFM SCH SD SDR SEC SER SETT SF SH SHELV SHT SHTG SIM SL SLDG SLG SOG SOLN SP SPEC SPK SQ SS SSB SSPWC SSU ST STA STC STD STK STL STM STR SU SUCTION SV SW SWD SWGR SWR SY SYM SYS T T&B T&G TAN TB TBE TBM TC TCV TEL TEMP TF TH THK THR THR'D TK TL TOC TOE TOLET TOM TOP TOPO THERMOSTAT / TREAD OF STAIR / TANGENT TOP AND BOTTOM TONGUE AND GROOVE TANGENT TACK BOARD THREAD BOTH ENDS TEMPORARY BENCH MARK TOP OF CURB TEMPERATURE CONTROL VALVE TELEPHONE TEMPERATURE / TEMPORARY TOP OF FOOTING TEST HOLE THICK / THICKNESS THRESHOLD THREADED TANK / TACK TRAVERSE LINE TOP OF CONCRETE THREAD ONE END TOILET TOP OF MASONRY TOP OF PIPE TOPOGRAPHIC TOS TOW TR TRACT TRANS TS TSB TSC TV TW TYW UB UBC UC UG UGC UH UL UNID UNO UOI UPS UR USA USGS UV UW V VAC VAR VB VC VCP VERT VOL VPI VSL VNT VTR VWC VWM W W/ W/O WC WCO WD WDW WH WI WM WOG WP WPJ WS WSTP WT WWF WWP XCONN XS XSEC XXS YD YR Z ZN # & @ POUND AND AT FOR ADDITIONAL ABBREVIATIONS SEE: ELECTRICAL - GENERAL ELECTRICAL SHEETS OTHER ABBREVIATIONS CONFORM TO ANSI STANDARD ABBREVIATIONS Z32.2.3
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DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAVMT_III-A-4_GENERAL.dwg PLOT DATE: Friday, November 12, 2021 3:28:20 PM BY: JAIMIE PAYNE		SCALE: NO SCALE WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DESIGNED: C. CRONIN DRAWN: J. PAYNE CHECKED: J. D'ALELIO	90% DESIGN PHASE - NOVEMBER 2021 NOT FOR CONSTRUCTION This document is an interim document and not suitable for construction. As an interim document, it may contain data that is potentially inaccurate or incomplete and is not to be relied upon without the express written consent of the preparer.	 www.BETA-Inc.com	 NARRAGANSETT BAY COMMISSION PHASE III COMBINED SEWER OVERFLOW PROGRAM	NBC CONTRACT NO 308.04C GENERAL OF 210/213/214 FACILITIES ABBREVIATIONS	SHEET G-4 195130227
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 PLOT DATE: Friday, November 12, 2021 3:28:21 PM
 BY: JAIMIE PAYNE

CIVIL GENERAL NOTES

GENERAL

- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE FROM DAMAGE. ALL IMPROVEMENTS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
- THE CONTRACTOR SHALL DISPOSE OF ALL DEBRIS FROM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.
- ALL BUILDING COORDINATES ARE TO OUTSIDE CORNER OF COLUMN OR BUILDING.
- THE CONTRACTOR SHALL DISPOSE OF ALL NON-ORGANIC WASTES SUCH AS OLD GUNITE, PIPING, ROCK RUBBLE ETC... AT AN APPROVED LANDFILL OR OTHER SUITABLE DISPOSAL SITE IN ACCORDANCE WITH SPECIFICATION SECTION 02200 AND 02075.
- CONTRACTOR SHALL RESTORE ALL SURVEY MONUMENTS THAT ARE DAMAGED OR DESTROYED DURING CONSTRUCTION.

UTILITIES

- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT DIGSAFE TO LOCATE EXISTING UTILITIES IN AND AROUND THE AREAS OF NEW CONSTRUCTION. THE CONTRACTOR SHALL POT HOLE FOR EXISTING UTILITIES IN THE LOCATIONS IDENTIFIED ON THE DRAWINGS AND FOR POINTS OF CONNECTION, PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
- THE CONTRACTOR SHALL PROTECT ALL REMAINING EXISTING UTILITIES.
- LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS WERE OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS AND ELEVATIONS AND SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT UTILITY LINES WHETHER SHOWN OR NOT SHOWN.
- PRIOR TO ANY CONNECTION TO AN EXISTING UTILITY, THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER.
- PRIOR TO ANY EXCAVATION IN THE VICINITY OF ANY EXISTING UNDERGROUND FACILITIES, INCLUDING ALL WATER, SEWER, STORM DRAIN, GAS, PETROLEUM PRODUCTS, OR OTHER PIPELINES; ALL BURIED ELECTRIC POWER, COMMUNICATIONS, OR TELEVISION CABLES; ALL TRAFFIC SIGNAL AND STREET LIGHTING FACILITIES; AND ALL ROADWAY, STATE HIGHWAY, AND RAILROAD RIGHTS-OF-WAY, THE CONTRACTOR SHALL NOTIFY THE RESPECTIVE AUTHORITIES REPRESENTING THE OWNERS OR AGENCIES RESPONSIBLE FOR SUCH FACILITIES NOT LESS THAN 3 DAYS NOR MORE THAN 7 DAYS PRIOR TO EXCAVATION SO THAT A REPRESENTATIVE OF SAID OWNERS OR AGENCIES CAN BE PRESENT DURING SUCH WORK IF THEY SO DESIRE. IN THE CASE OF THE UNDERGROUND UTILITY SERVICE ALERT CENTER, THIS NOTICE WILL GIVE THEM TIME TO MARK THE LOCATION OF THE UTILITIES. THE CONTRACTOR SHALL ALSO NOTIFY THE REGIONAL OR LOCAL UNDERGROUND SERVICE ALERT COMPANY AT LEAST 3 DAYS, BUT NO MORE THAN 7 DAYS, PRIOR TO SUCH EXCAVATION.

PIPING

- THE CONTRACTOR SHALL COMPLY WITH THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT POLICY CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS.
- THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 36 INCHES OF COVER ON ALL PIPELINES UNLESS OTHERWISE SHOWN OR DIRECTED.
- STRAIGHT SLOPES SHALL BE MAINTAINED BETWEEN INVERT ELEVATIONS SHOWN OR SPECIFIED.
- THE CONTRACTOR SHALL ADJUST ALL VALVE BOXES, PULL BOXES AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR SPECIFIED. MANHOLES IN OPEN FIELDS SHALL BE SET ONE FOOT ABOVE GRADE. APPROXIMATE RIM ELEVATIONS ARE SHOWN ON DRAWINGS.
- ALL PIPE TRENCHING AND BACKFILL SHALL BE IN ACCORDANCE WITH DETAIL C-101. THE WATER PIPING SHOWN ON THESE PLANS SHALL BE RESTRAINED JOINT DESIGN AT ALL SLEEVE TYPE COUPLINGS.

EROSION CONTROL

- THE EROSION CONTROL PLAN IS INCLUDED IN APPENDIX X. THE CONTRACTOR SHALL UPDATE THE PLAN AND SUBMIT THE UPDATED PLAN IN ACCORDANCE WITH SECTION 01300 PRIOR TO THE START OF CONSTRUCTION.
 - ALL SLOPES SHALL BE PROTECTED FROM EROSION DURING ROUGH GRADING OPERATIONS AND THEREAFTER.
 - ALL SLOPE PROTECTION SWALES SHALL BE CONSTRUCTED AT THE SAME TIME AS BANKS ARE GRADED.
 - THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL MEASURES CONTAINED WITHIN THE CONTRACT SPECIFICATIONS OR AS REQUIRED BY CRMC, RIDEM, OR OTHER REGULATORY AUTHORITY. THE CONTRACTOR SHALL ALSO PROVIDE ANY ADDITIONAL EROSION CONTROL MEASURES (E.G. HYDROSEEDING, MULCHING OF STRAW, SAND BAGGING, DIVERSION DITCHES, ETC.) DICTATED BY FIELD CONDITIONS TO PREVENT EROSION OR THE INTRODUCTION OF DIRT, MUD, OR DEBRIS INTO EXISTING PUBLIC STREETS, WATERWAYS, OR ONTO ADJACENT PROPERTIES DURING ANY PHASE OF CONSTRUCTION OPERATIONS.

SURVEY AND CONTROL

SURVEY INFORMATION PROVIDED BY BRYANT AND ASSOCIATES INC. NOV 2019. VERTICAL DATUM IS NGVD29 AND HORIZONTAL DATUM IS RI STATE PLANE COORDINATE SYSTEM NAD 83.

APPROXIMATE PROPERTY LINE INFORMATION PROVIDED BY THE CITY OF PAWTUCKET.

CIVIL GENERAL NOTES - CONTINUED

BENCHMARKS / CONTROL POINTS

POINT #	POINT DESCRIPTION	EASTING	NORTHING	ELEVATION
58	CONTROL POINT	359882.95	289468.51	38.06
59	DH SET	359813.36	289172.39	33.06
60	DH SET	359584.63	288961.99	24.31
61	DH SET	359554.63	288759.67	23.65
62	DH SET	359538.45	288626.49	24.52
63	DH SET	359519.32	288450.47	27.21
64	MN SET	359439.99	288229.12	21.28
65	DH SET	359449.71	287898.10	14.51
66	MN FND	359462.93	287548.38	12.30
67	DH SET	359521.61	287348.34	14.49
68	DH SET	359476.83	287125.65	33.42
69	CONTROL POINT	359483.28	286859.80	39.24
79	DH SET	359493.91	286667.59	37.98
70	SPIKE SET	359605.16	286687.46	35.22
71	SPIKE SET	359633.91	286616.36	34.22
72	SPIKE SET	359809.23	286476.37	22.04
73	SPIKE SET	359987.59	286149.73	25.92
74	SPIKE SET	360221.11	286003.10	12.63
75	MN SET	360294.94	286132.76	9.96
76	MN SET	360476.20	286165.27	10.04

DRAINAGE SYMBOLS

- RIPRAP
- HAY BALE
- SILT FENCE

GENERAL CIVIL SYMBOLS

- NEW
- EXISTING
- FUTURE
- CIPP LINING
- EXISTING TO BE REMOVED OR DEMOLISHED
- CENTERLINE
- EARTH (IN SECTION)
- COMPACTED EARTH (IN SECTION)
- SLOPE ON PAVED SURFACE (S=0.0123)
- BERM SLOPE (HORZ TO VERT) (3:1)

TOPOGRAPHY AND MAPPING SYMBOLS

- MAJOR CONTOURS (125)
- MINOR CONTOURS
- TOP OF SLOPE
- TOE OF SLOPE
- PROPERTY LINE (P/L)
- RIGHT-OF-WAY LINE (R/W)
- EASEMENT LINE
- TEMPORARY EASEMENT LINE (TEMP ESMT)
- TRAIL OR DIRT ROAD
- FLOW LINE
- FLOOD HAZARD AREA
- EDGE OF WETLANDS
- GUARDRAIL (PERMANENT)
- GUARDRAIL (REMOVABLE)
- VEGETATION
- WELL

GEOTECHNICAL SYMBOLS

- SOIL BORING LOCATION (B-X)
- TEST PIT LOCATION
- OBSERVATION HOLE (XX)
- MONITORING WELL (MW)

PIPING AND UTILITIES

UTILITIES (SINGLE LINE) SEE PIPE SCHEDULE FOR ADDITIONAL PIPING INFO

- UNDERGROUND (G)
- NATURAL GAS LINE (G)
- WATER (W)
- POTABLE WATER (PW)
- FIRE SUPPLY WATER LINE (FIRE)
- STORM DRAIN (SDR)
- SANITARY SEWER (SS)
- TELEPHONE (TEL)
- COMMUNICATIONS LINE (COMM)
- FIBER OPTIC CABLE (FOC)
- CABLE TV (CATV)
- POWER (E)
- UNIDENTIFIED UTILITY (UNID)
- ABANDONED UTILITY (ABND)

- POWER POLE (PP)
- BURIED ACCESS MANHOLE (IN PLAN) LOCATE ON SIDE SHOWN
- BURIED ACCESS MANHOLE (IN PROFILE)
- BLOWOFF (IN PROFILE) LOCATE ON SIDE SHOWN
- BLOWOFF (IN PLAN)
- BLOWOFF (IN PROFILE)
- FIRE HYDRANT (IN PLAN) (FH)
- FIRE HYDRANT (IN PROFILE) (FH)
- MANHOLE (IN PLAN) (MH)
- MANHOLE (IN PROFILE) (MH)
- CLEANOUT TO GRADE OR PRESSURE (COTG)
- CLEANOUT TO GRADE OR PRESSURE (IN PLAN) (PCOTG)
- CLEANOUT TO GRADE OR PRESSURE (IN PROFILE) (COTG PCOTG)
- GATE VALVE
- BUTTERFLY VALVE
- ECCENTRIC PLUG VALVE
- LUBRICATED PLUG VALVE

ROAD AND PAVING SYMBOLS

- ASPHALT CEMENT PAVING
- CONCRETE PAVING (HEAVY DUTY)
- GRAVEL PAVING
- CONCRETE PAVING (LIGHT DUTY) SIDEWALKS ETC...
- CONCRETE CURB
- CONCRETE CURB AND GUTTER
- DROP INLET CATCH BASIN
- CURBSIDE DROP INLET CATCH BASIN WITH LOCAL DEPRESSION
- SIDE INLET CATCH BASIN WITH LOCAL DEPRESSION
- CONCRETE WALK
- DRIVEWAY/ACCESS RAMP

CONTROL SYMBOLS

- BENCH MARK (BM-XX)
- SITE COORDINATES (SEE TABLE ON DRAWINGS) (###)
- SITE COORDINATES (N XXXXXXXX, E XXXXXXXX)
- MONUMENT (EL XXXX.XX)
- HORIZONTAL CONTROL POINT (triangle)
- VERTICAL CONTROL POINT (circle)
- HORZ AND VERT CONTROL POINT (triangle in circle)
- FINISHED ELEVATION (XXX.XX)
- EXISTING ELEVATION ((XXX.XX))
- DELTA (delta)

STRUCTURES

- SITE OR RETAINING WALL
- FENCE (CHAINLINK) (x-x)
- FENCE (WOOD)
- STRUCTURE
- STRUCTURE (BELOW GRADE)
- CATCH BASIN (CB)

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE: NO SCALE

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED: C. CRONIN
DRAWN: J. PAYNE
CHECKED: J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
GENERAL CIVIL

OF 210/213/214 FACILITIES
NOTES & SYMBOLS

REV 050215

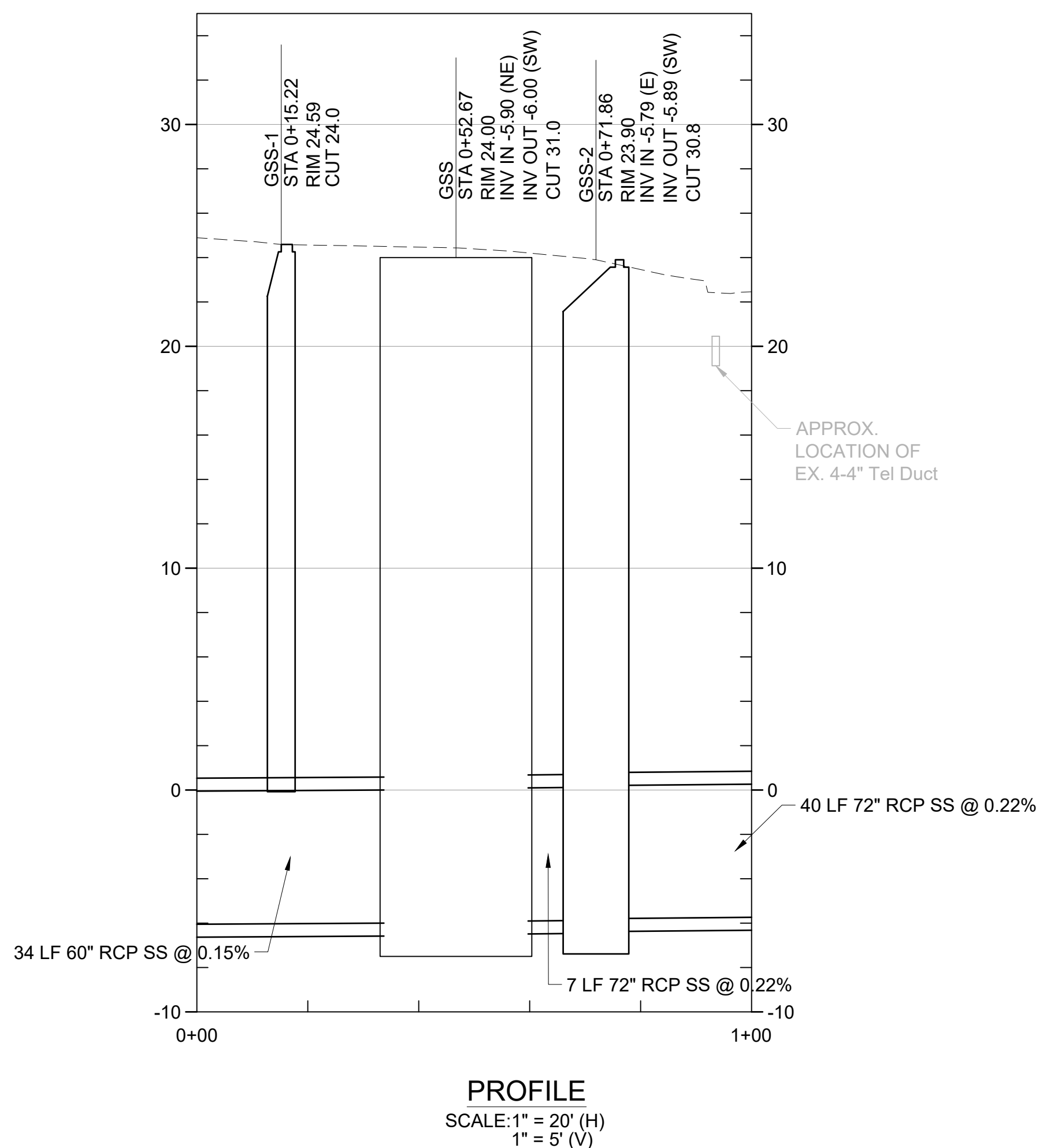
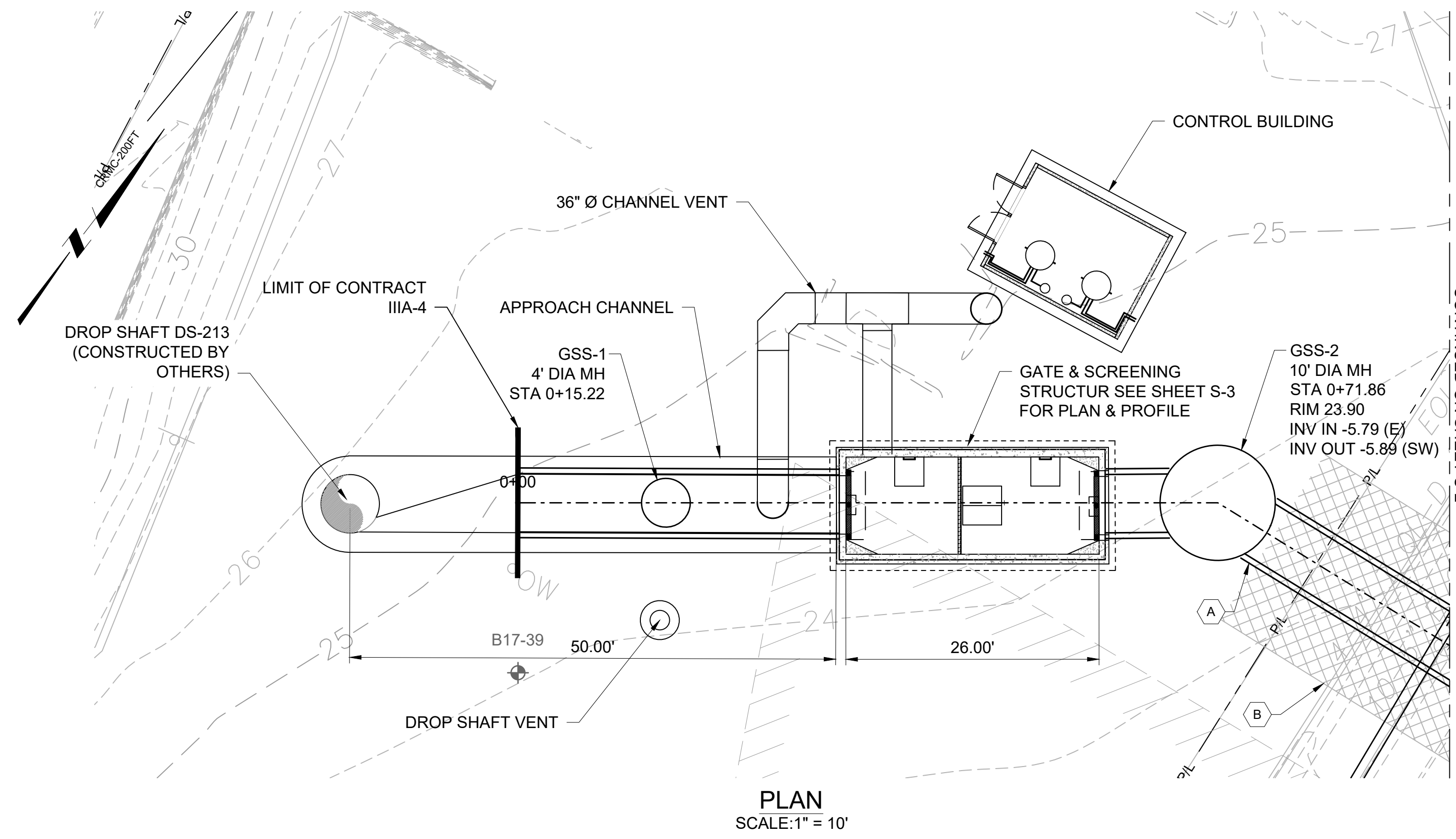
SHEET GC-1

195130227

BY: JAIMIE PAYNE

PLOT DATE: Friday, November 12, 2021 3:29:15 PM

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAWT_SITE_PLAN_&_PROFILE_III-A-4.dwg



KEY PLAN



GENERAL SHEET NOTES

- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC. SEWER AND DRAIN INFORMATION PROVIDED BY BRYANT AND ASSOCIATES.
- FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8'
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8'
- APPROXIMATE FOOTPRINT OF FORMER BUILDING SITE IS DEPICTED. CONCRETE, PRESUMED TO BE FORMER BUILDING FOUNDATION MATERIALS, WAS ENCOUNTERED DURING THE ADVANCEMENT OF BORING B-4, A-C, AT A DEPTH OF 8-10 FEET. MANAGEMENT, REMOVAL AND DISPOSAL OF FOUNDATION MATERIALS WILL BE REQUIRED FOR THE INSTALLATION OF THE CONSOLIDATION CONDUIT.
- VERTICAL DATUM FOR PROJECT IS NGVD29.

SHEET KEYNOTES

- A. PIPE JACKING: STATION 0+72 TO STATION 1+22
- B. AREA TO RECEIVE GROUND IMPROVEMENT - CHEMICAL INJECTION

REV	DATE	BY	DESCRIPTION
1			

SCALE AS SHOWN

WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

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NBC CONTRACT NO 308.04C
CIVIL

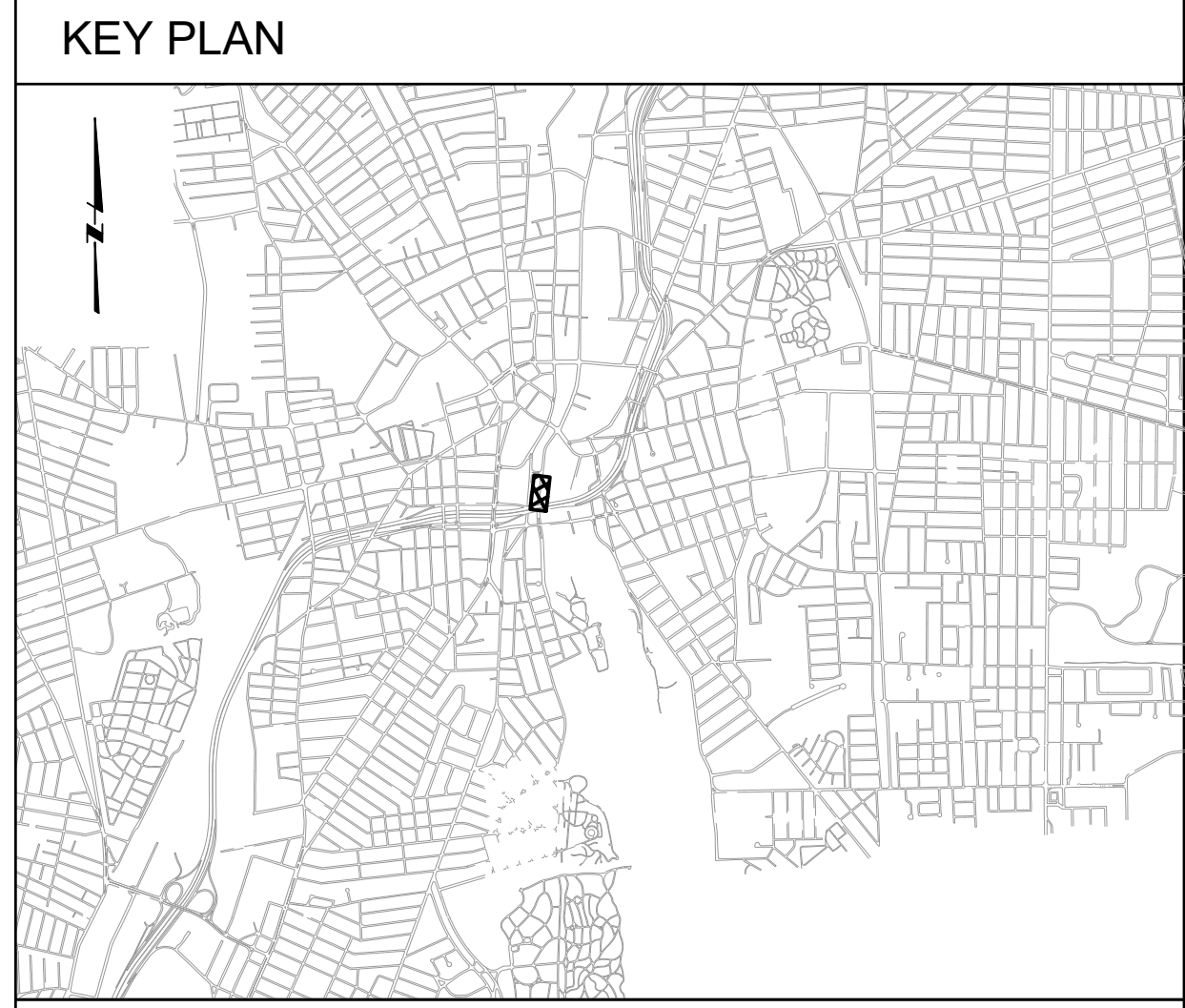
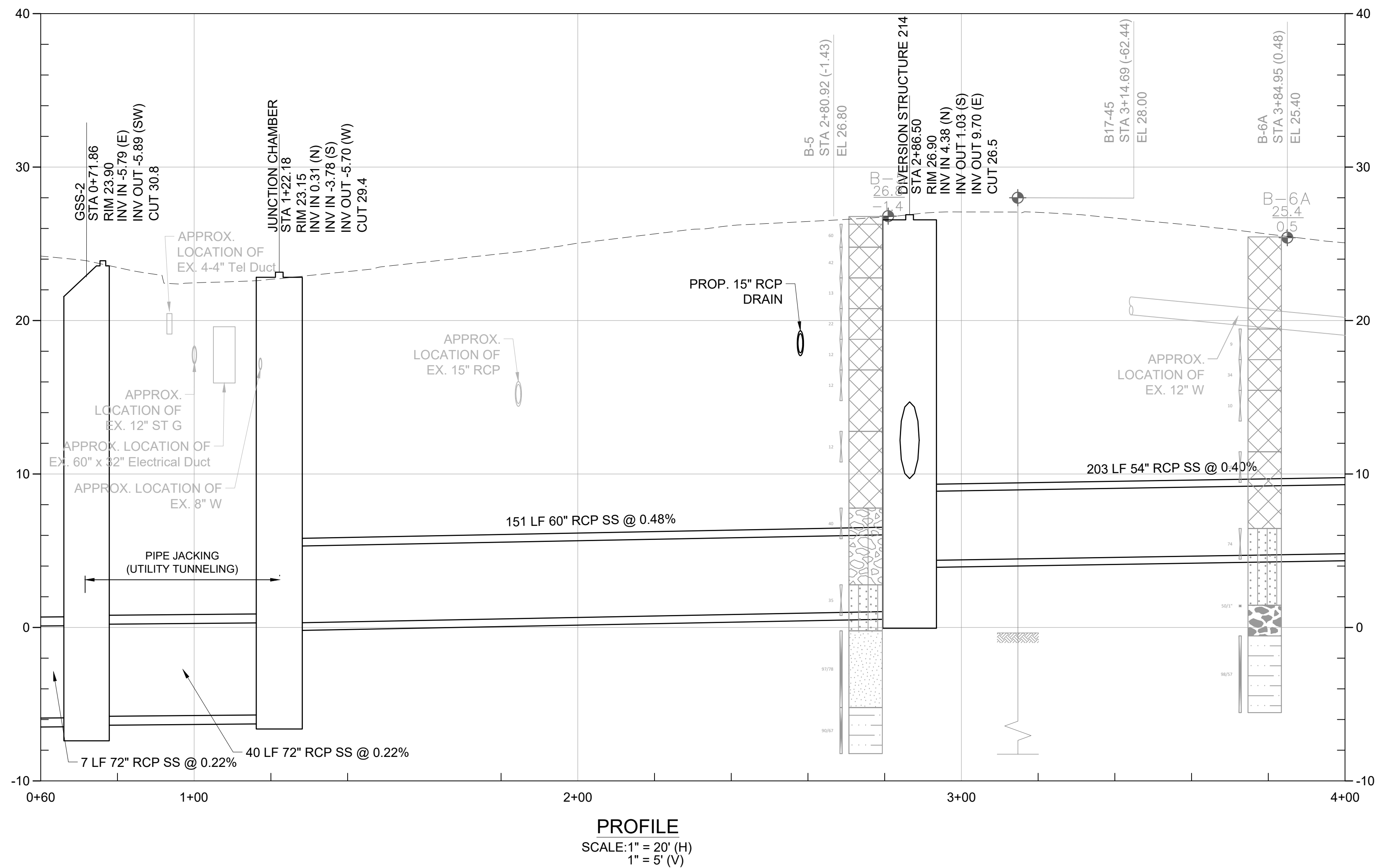
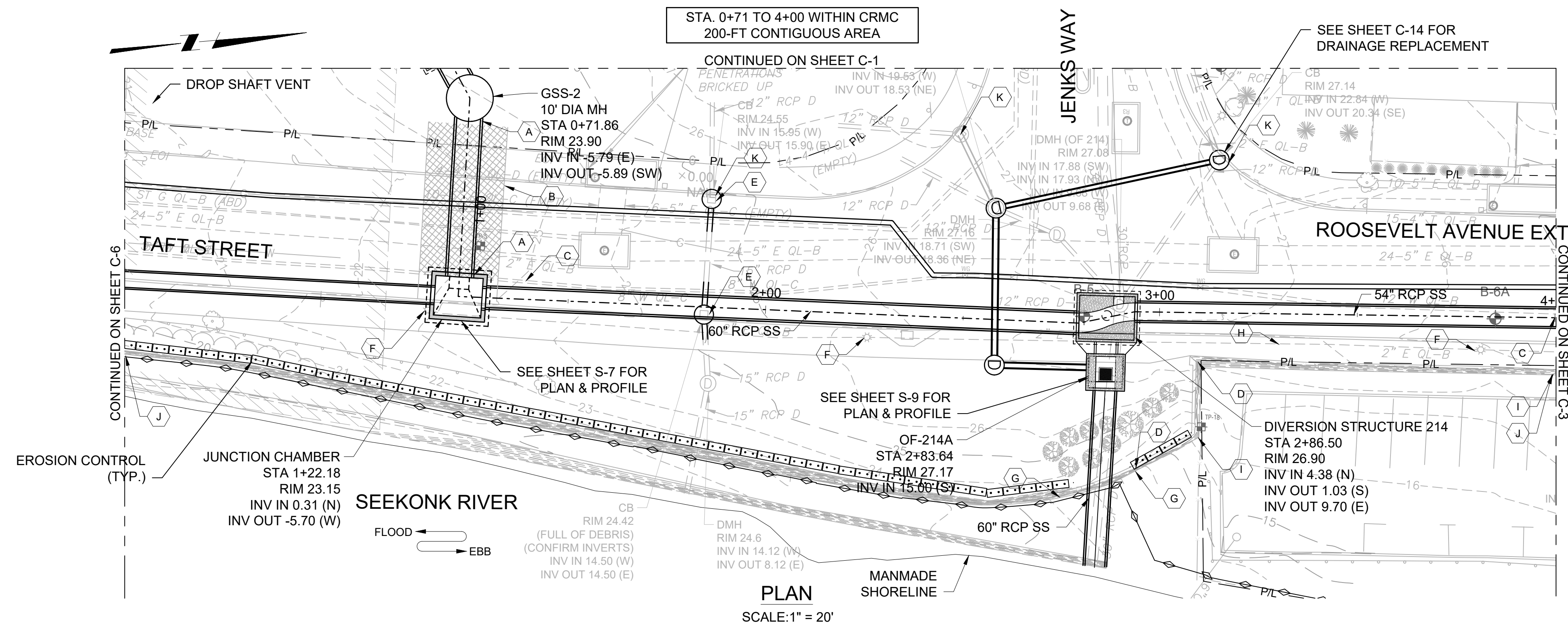
OF 210/213/214 FACILITIES
PLAN AND PROFILE I: STA 0+00 - 0+72

SHEET
C-1
195130227

BY: JAIMIE PAYNE

PLOT DATE: Friday, November 12, 2021 3:30:54 PM

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- ### GENERAL SHEET NOTES
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 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
 - APPROXIMATE FOOTPRINT OF FORMER BUILDING SITE IS DEPICTED. CONCRETE, PRESUMED TO BE FORMER BUILDING FOUNDATION MATERIALS, WAS ENCOUNTERED DURING THE ADVANCEMENT OF BORING B-4, A-C, AT A DEPTH OF 8-10 FEET. MANAGEMENT, REMOVAL AND DISPOSAL OF FOUNDATION MATERIALS WILL BE REQUIRED FOR THE INSTALLATION OF THE CONSOLIDATION CONDUIT.
 - VERTICAL DATUM FOR PROJECT IS NGVD29.
 - REFER TO INSTRUMENTATION PLAN FOR INSTRUMENTATION AND MONITORING RELATED INFORMATION TO PROTECT THE EXISTING STONE MASONRY GRAVITY WALL DURING THE WORK.

- ### SHEET KEYNOTES
- A. PIPE JACKING: STATION 0+72 TO STATION 1+22
 - B. AREA TO RECEIVE GROUND IMPROVEMENT - CHEMICAL INJECTION
 - C. REMOVE AND REPLACE WATER MAIN: STATION 1+22 TO STATION 4+00. SEE SHEETS C-9 THRU C-13 FOR WATER MAIN REPLACEMENT.
 - D. COMPLETE INJECTION GROUTING BEHIND WALL PRIOR TO OUTFALL REPLACEMENT: STATION 2+95 TO STATION 3+10
 - E. REMOVE AND REPLACE DRAIN AND CATCH BASIN FOR INSTALLATION OF CONSOLIDATION CONDUIT: STATION 1+85
 - F. COORDINATE WITH CITY AND NATIONAL GRID TO ISOLATE, REMOVE/REPLACE ELECTRICAL LIGHT POLE: STATION 1+22
 - G. REMOVE AND REPLACE RETAINING WALL AT OUTFALL PIPE
 - H. REMOVE AND REPLACE ELECTRICAL CONDUIT & WIRING FOR STREET LIGHTING
 - I. REPOINT RETAINING WALL AND REPAIR CRACKS TO MAXIMIZE INTEGRITY PRIOR TO CONSTRUCTION: STATION 3+10 TO 4+00
 - J. SEE STONE MASONRY GRAVITY WALL NOTES ON SHEET S-1.
 - K. TYPICAL CATCH BASIN EROSION CONTROL

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	C. CRONIN
DRAWN	J. PAYNE
CHECKED	J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

NOT FOR CONSTRUCTION

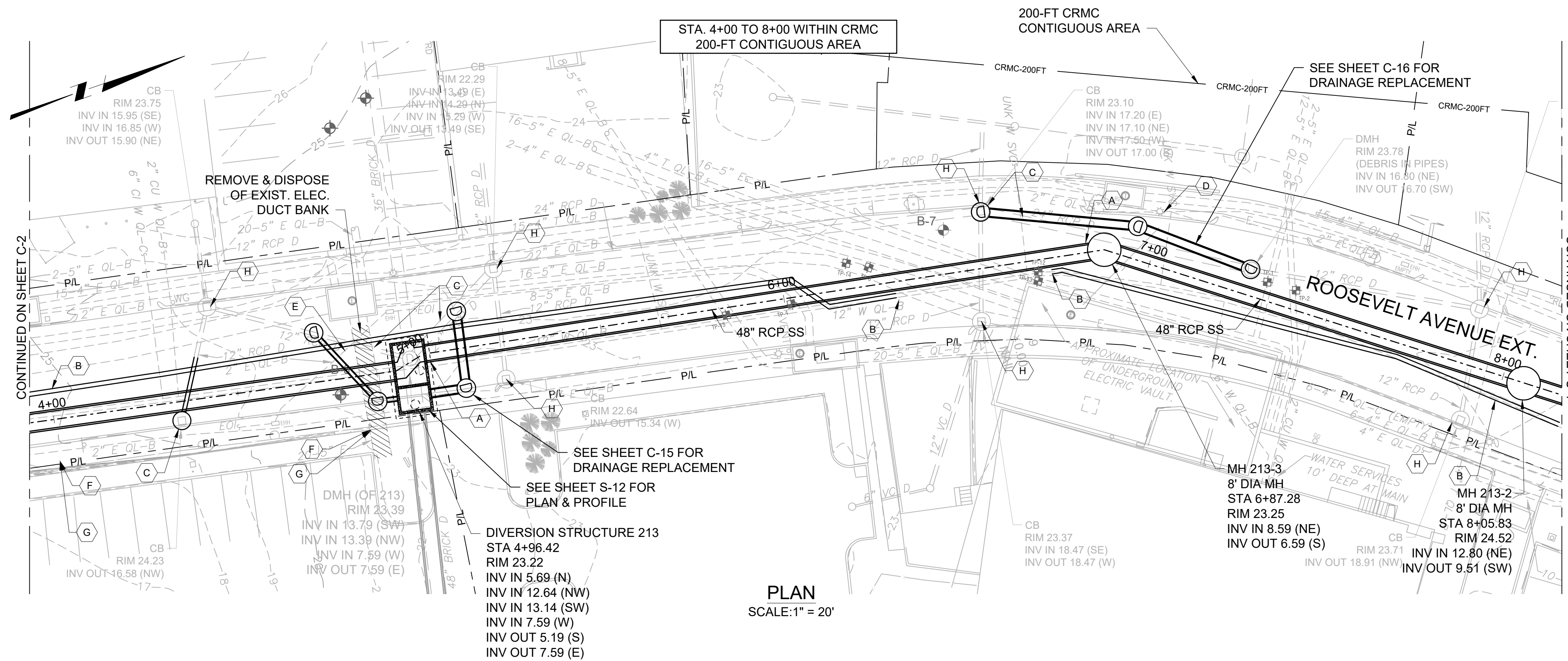
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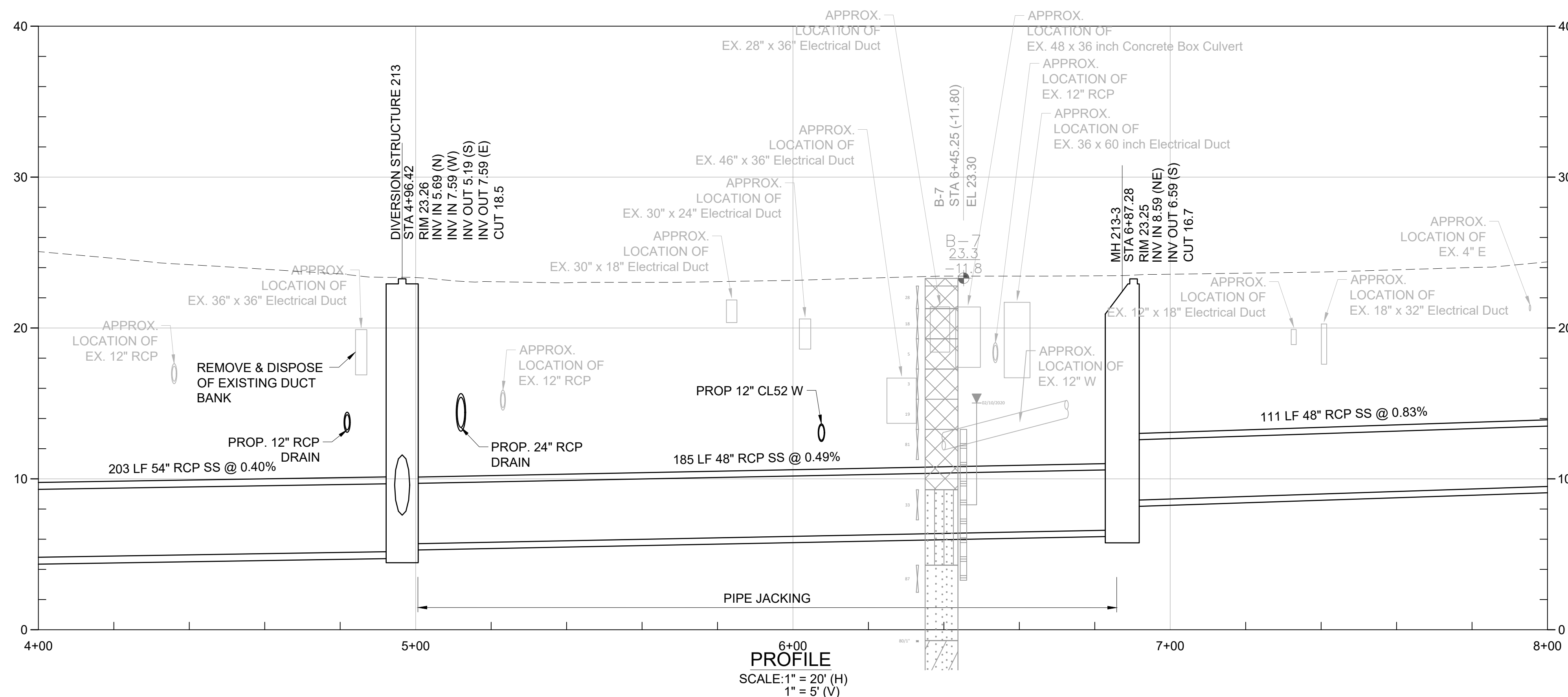
BY: JAIMIE PAYNE

PLOT DATE: Friday, November 12, 2021 3:30:02 PM

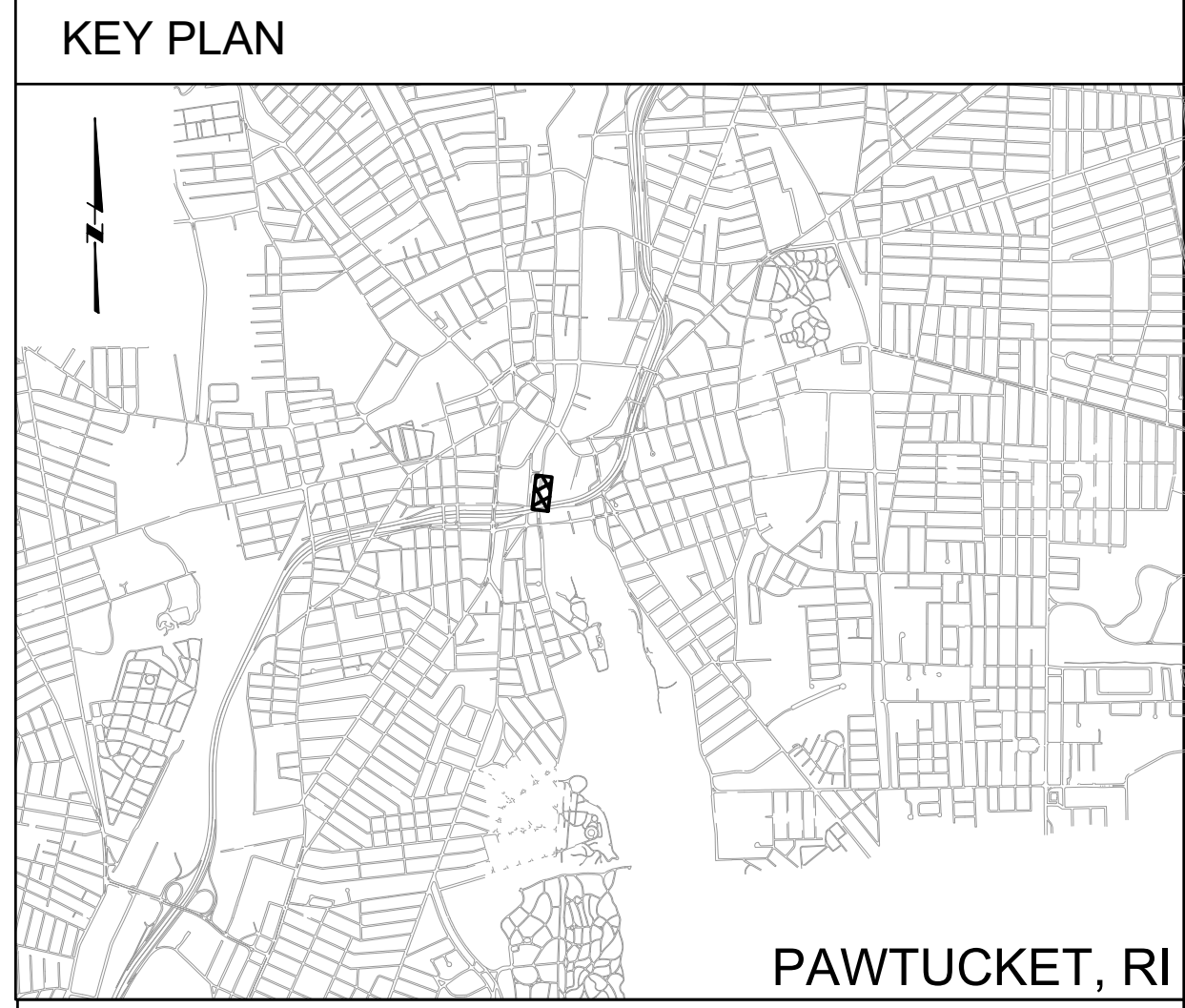
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PLAN
SCALE: 1" = 20'



6+00 PROFILE
SCALE: 1" = 20' (H)
1" = 5' (V)



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 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
 - VERTICAL DATUM FOR PROJECT IS NGVD29.
 - REFER TO THE INSTRUMENTATION PLAN FOR INSTRUMENTATION AND MONITORING RELATED INFORMATION TO PROTECT EXISTING STONE MASONRY GRAVITY WALL DURING WORK

- SHEET KEYNOTES**
- A. PIPE JACKING: STATION 4+96 TO STATION 6+87
 - B. REMOVE AND RELOCATE WATER MAIN: STATION 4+00 TO STATION 6+25, STATION 6+75 TO STATION 8+00. SEE SHEETS C-9 THRU C-13 FOR WATER MAIN REPLACEMENT.
 - C. REMOVE AND REPLACE DRAIN AND CATCH BASIN FOR INSTALLATION OF CONSOLIDATION CONDUIT: STATION 4+37, STATION 4+75 TO 5+15, STATION 6+50 TO STATION 7+90
 - D. COORDINATE WITH CITY AND NATIONAL GRID TO ISOLATE AND REMOVE ELECTRIC LIGHT POLE: STATION 7+00
 - E. REMOVE AND REPLACE ELECTRICAL CONDUIT & WIRING FOR STREET LIGHTING
 - F. REPOINT RETAINING WALL AND REPAIR CRACKS TO MAXIMIZE INTEGRITY PRIOR TO CONSTRUCTION: STATION 4+00 TO 4+90
 - G. SEE STONE MASONRY GRAVITY WALL NOTES ON SHEET S-1.
 - H. TYPICAL CATCH BASIN EROSION CONTROL

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

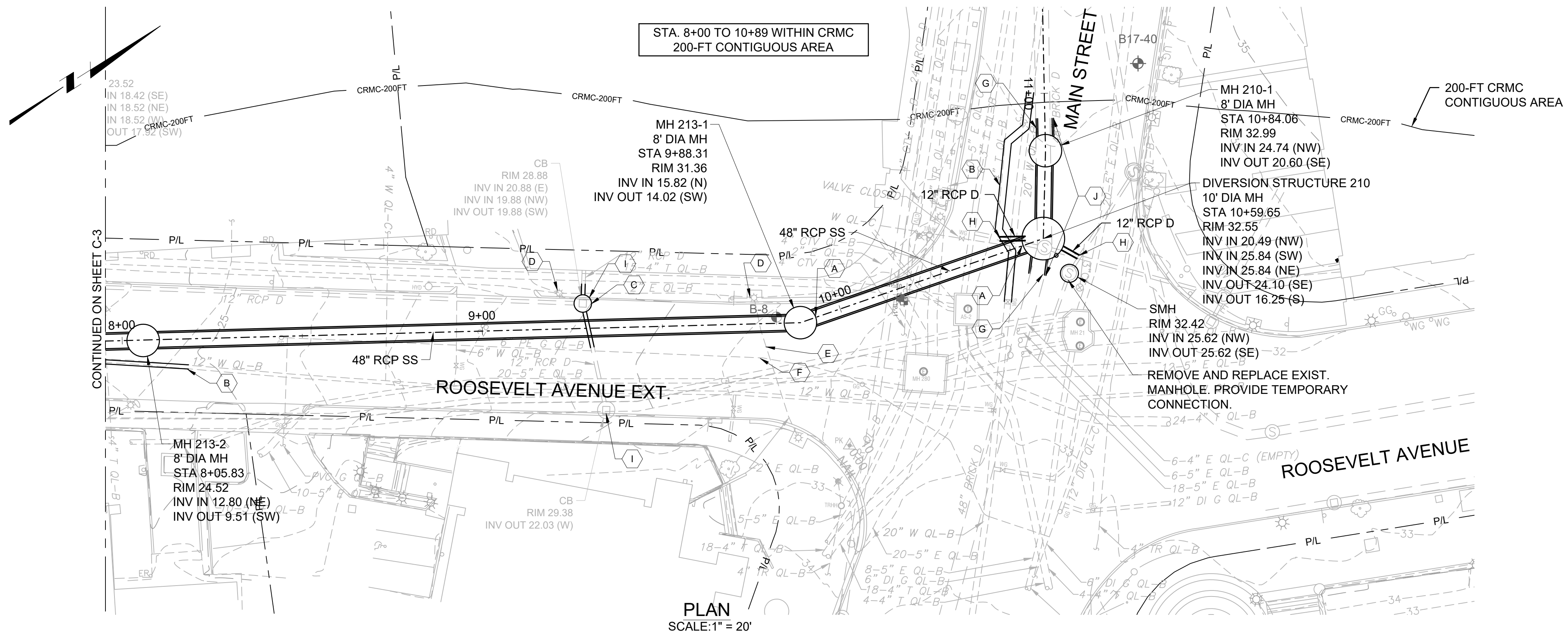
DESIGNED	C. CRONIN
DRAWN	J. PAYNE
CHECKED	J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

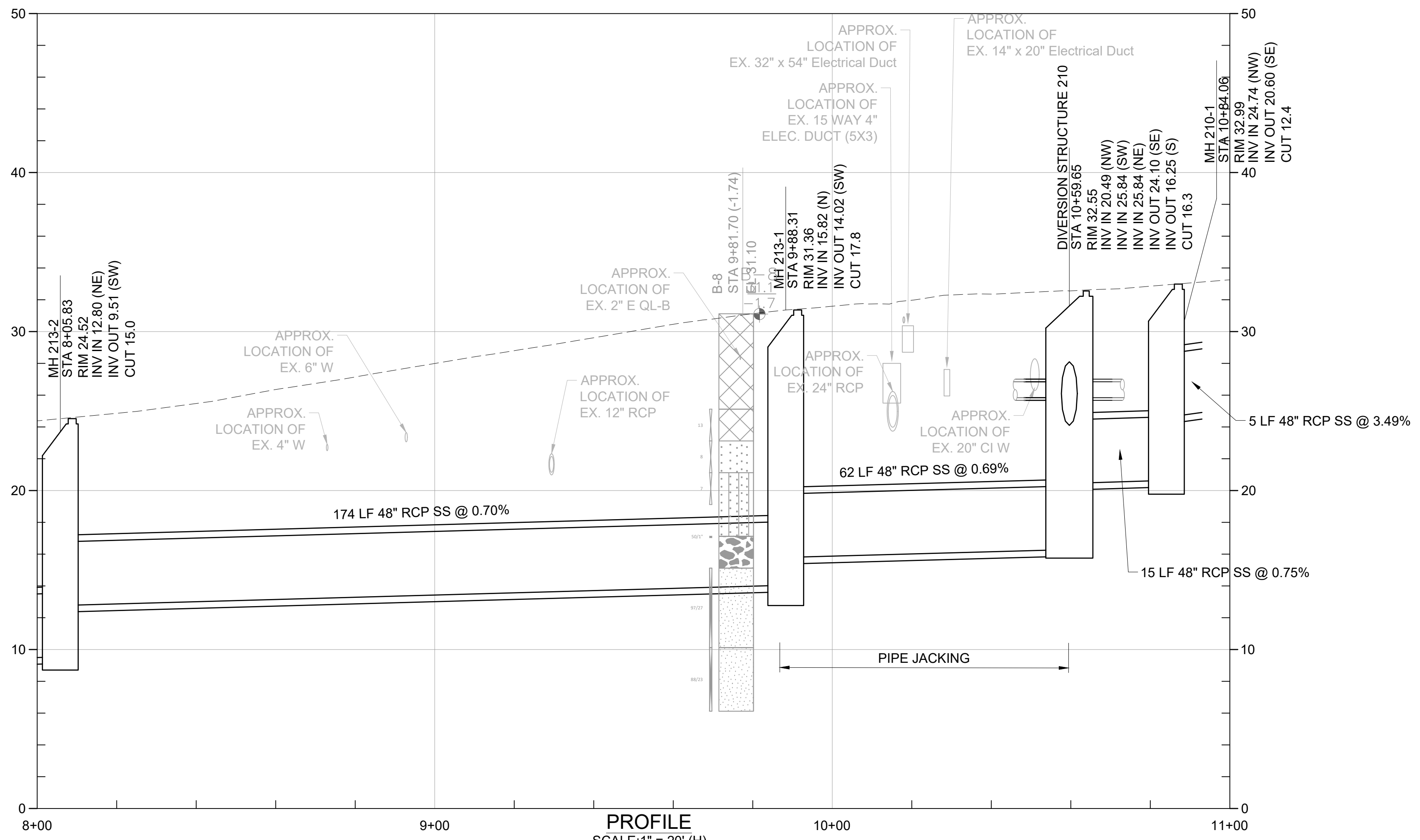
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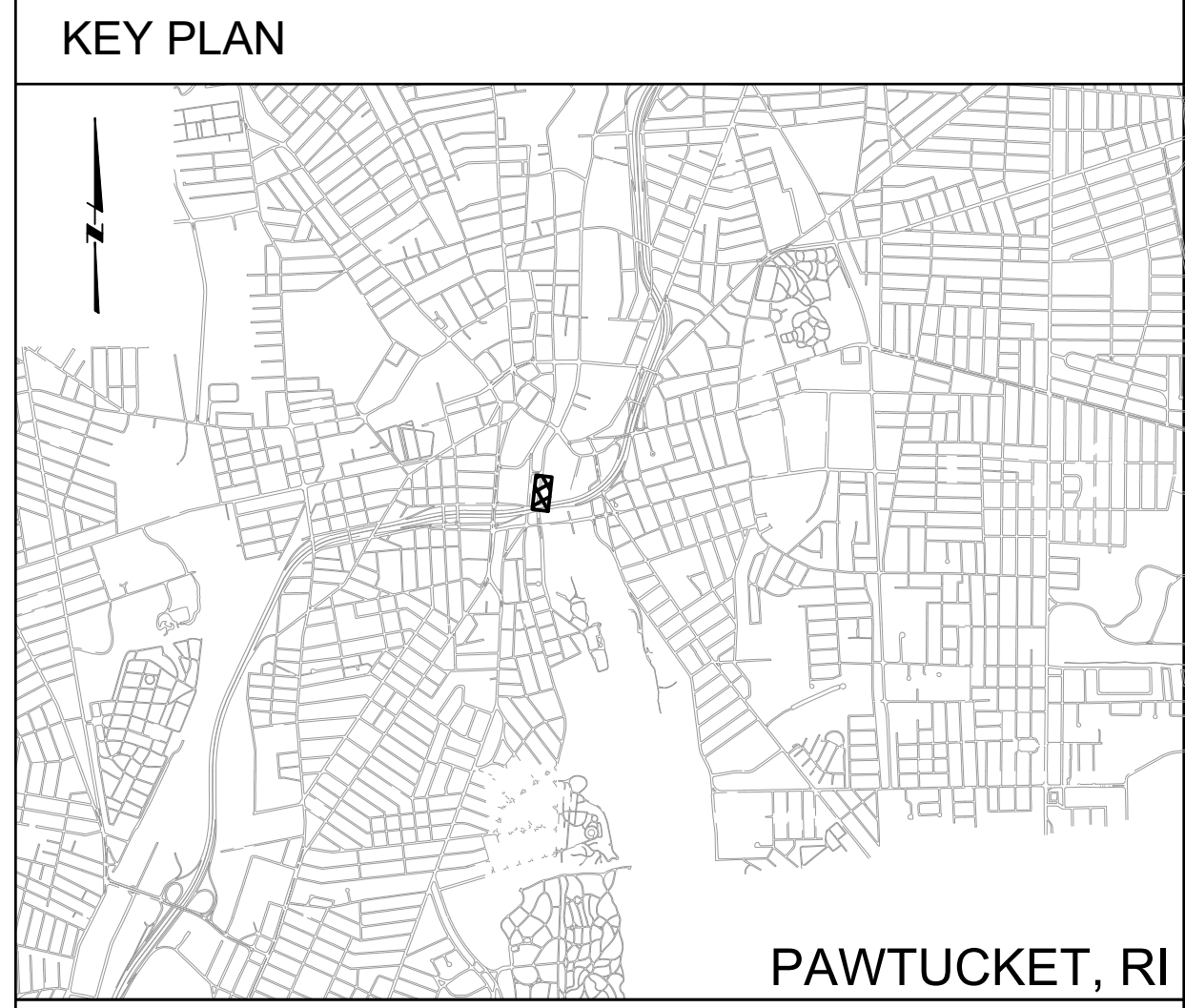




PLAN
SCALE: 1" = 20'



PROFILE
SCALE: 1" = 20' (H)
1" = 5' (V)



GENERAL SHEET NOTES

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 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
- VERTICAL DATUM FOR PROJECT IS NGVD29.

SHEET KEYNOTES

- A. PIPE JACKING: STATION 9+88 TO STATION 10+58
- B. REMOVE AND REPLACE WATER MAIN: STATION 8+00 TO 8+20, STATION 10+50. SEE SHEETS C-9 THRU C-13 FOR WATER MAIN REPLACEMENT.
- C. REMOVE AND REPLACE DRAIN AND CATCH BASIN FOR INSTALLATION OF CONSOLIDATION CONDUIT: STATION 9+25
- D. COORDINATE WITH CITY AND NATIONAL GRID TO ISOLATE AND REMOVE ELECTRICAL LIGHT POLE: STATION 9+20, STATION 9+75
- E. REMOVE AND REPLACE ELECTRICAL CONDUIT & WIRING FOR STREET LIGHTING
- F. RELOCATE/PROTECT GAS MAIN
- G. REMOVE AND REPLACE EXISTING 48" BRICK PIPE WITH 5 LF OF 48" RCP PIPE. CONNECT NEW 48" PIPE TO EXISTING 48" BRICK PIPE AS SHOWN IN DETAIL C-904.
- H. CONNECT TO EXISTING PIPE AS SHOWN IN DETAIL C-918.
- I. TYPICAL CATCH BASIN EROSION CONTROL
- J. THE FULL INNER CIRCUMFERENCE OF THE EXISTING 48" SEWER SHALL BE SPRAY COATED WITH A MONOLITHIC GEOPOLYMER STRUCTURAL LINING TO A DISTANCE OF 20 LF FROM THE INTERIOR FACE OF THE PROPOSED STRUCTURE.

BY: JAMIE PAYNE

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAWT_SITe_PLAN_&_PROFILE_JIA-4.dwg PLOT DATE: Friday, November 12, 2021 3:31:44 PM

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE AS SHOWN

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DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL

OF 210/213/214 FACILITIES
PLAN AND PROFILE IV: STA 8+00 - 11+00

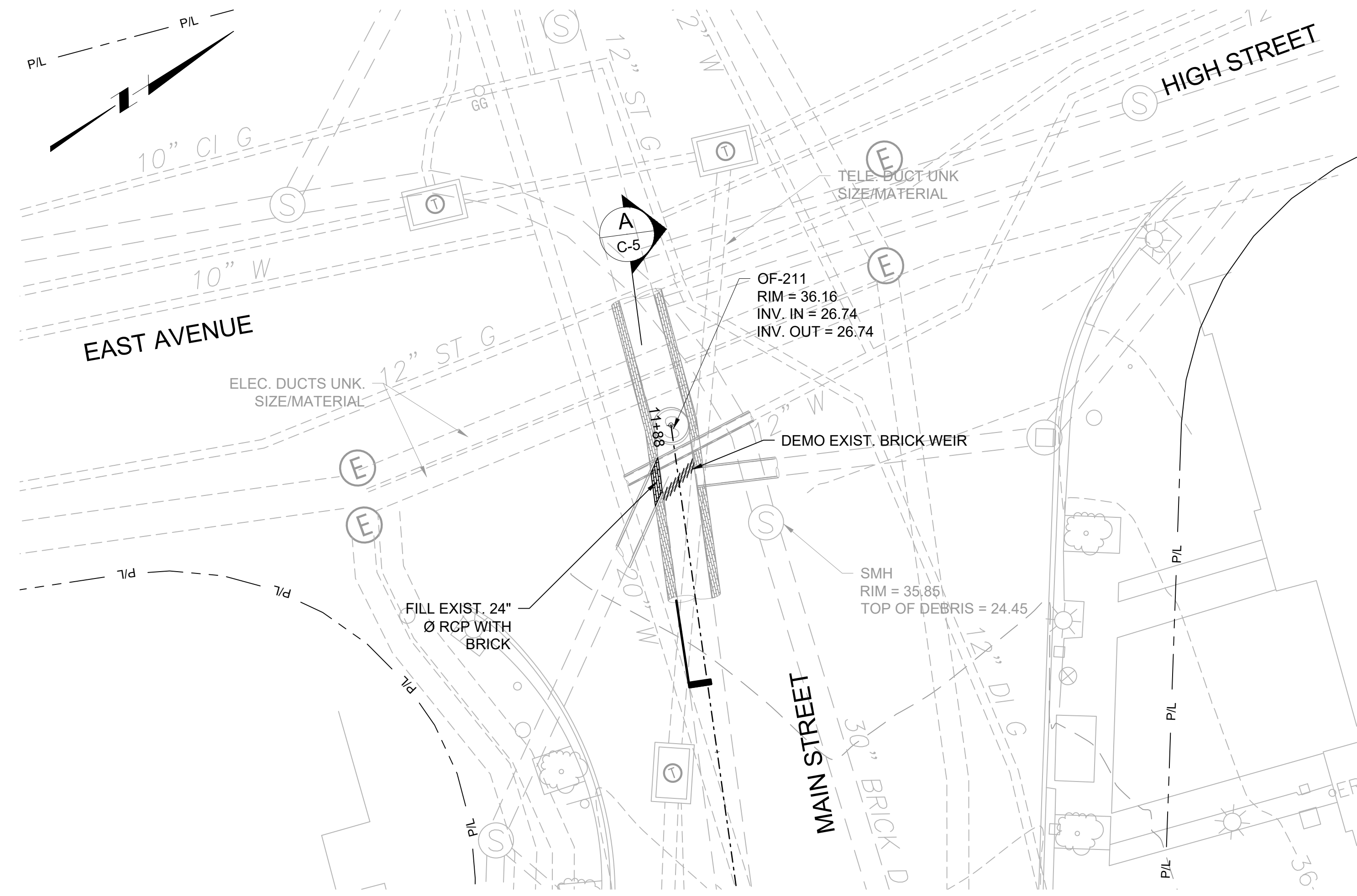
SHEET C-4
195130227

BY: JAMIE PAYNE

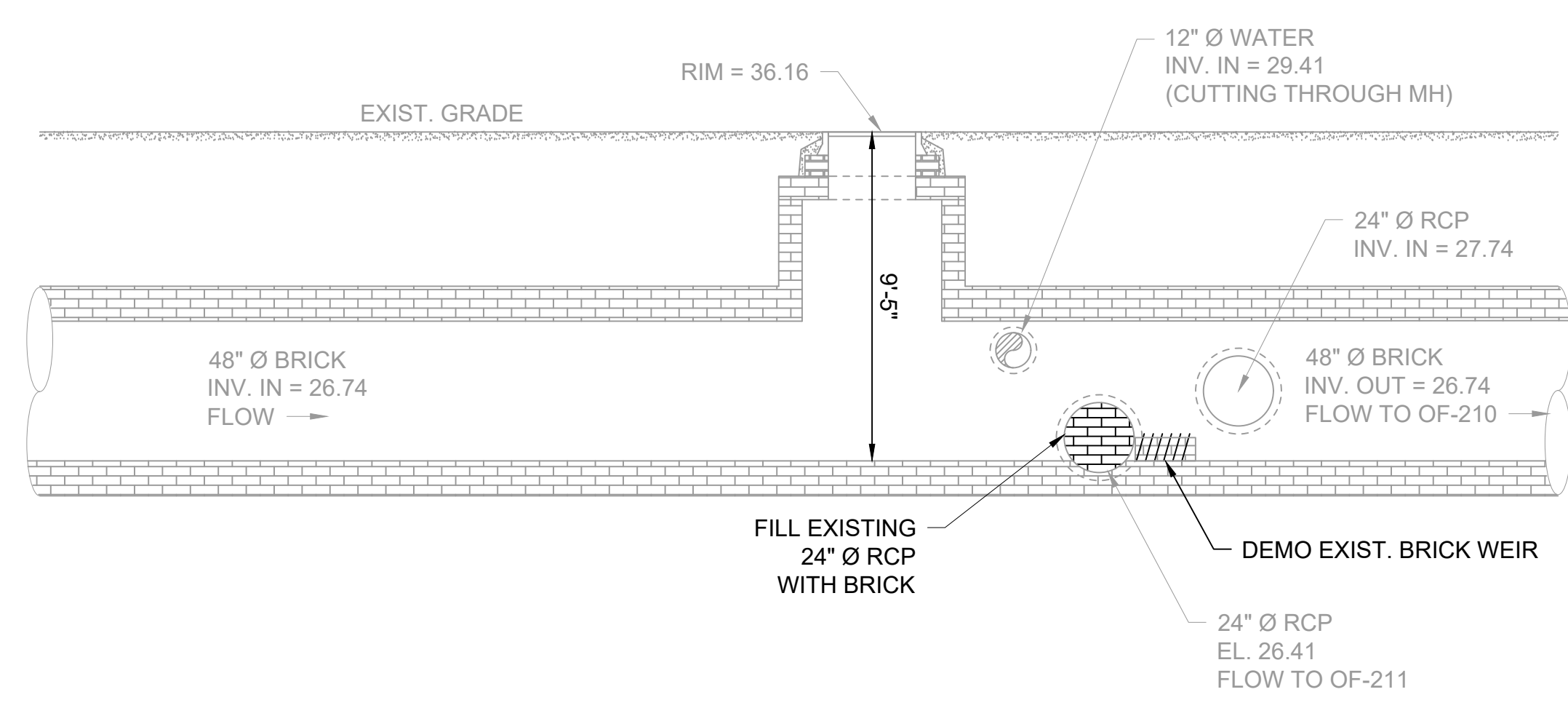
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GENERAL SHEET NOTES

1. VERTICAL DATUM FOR PROJECT IS NGVD29.



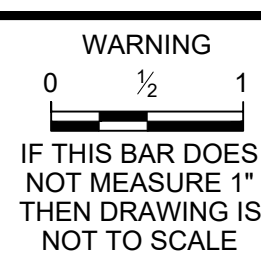
SITE PLAN VIEW
SCALE: 1" = 10'



A SECTION
S-7 SCALE: 1/4" = 1'-0"

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
AS SHOWN

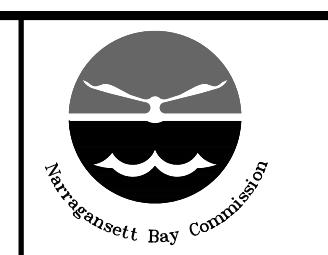


DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

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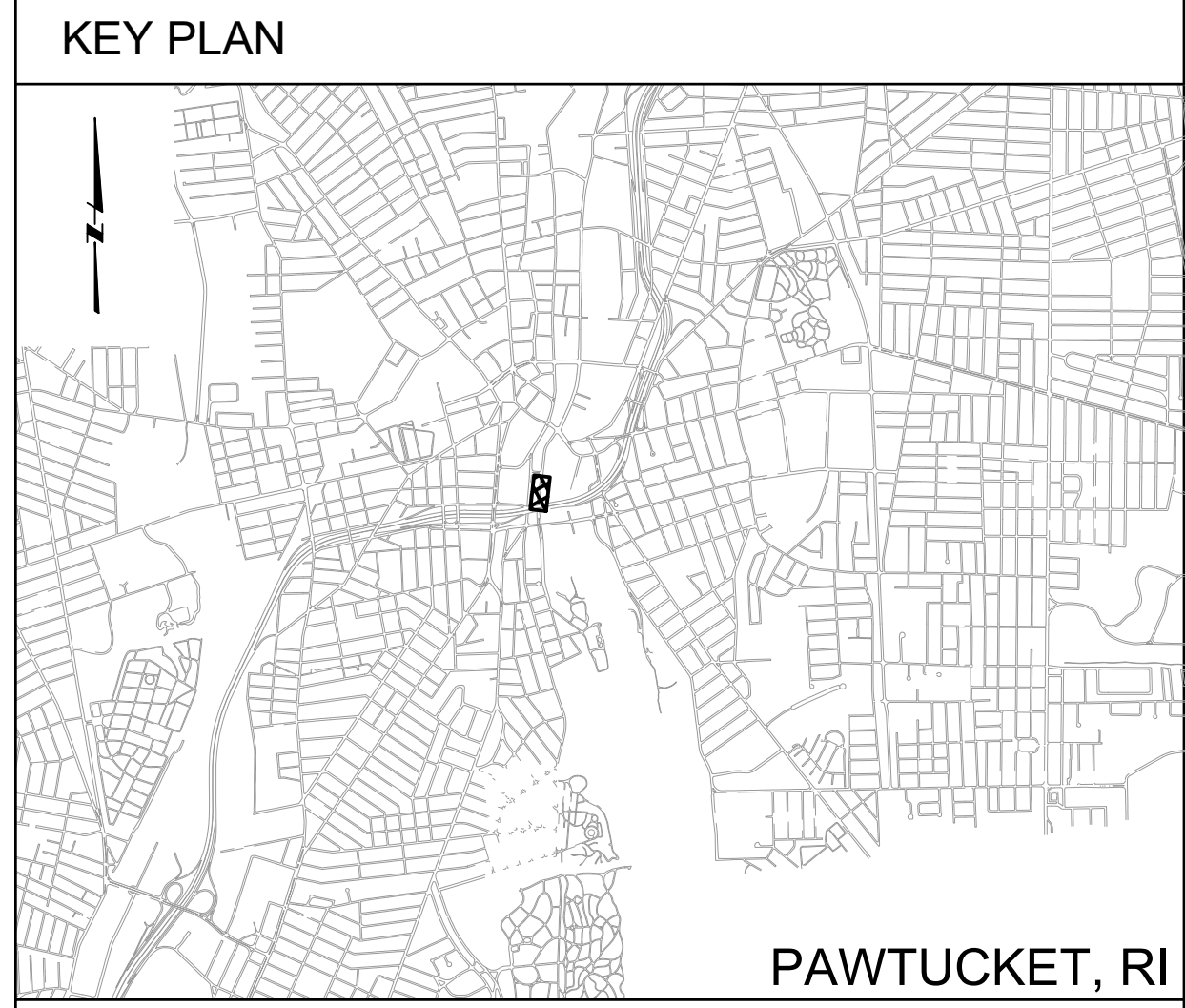
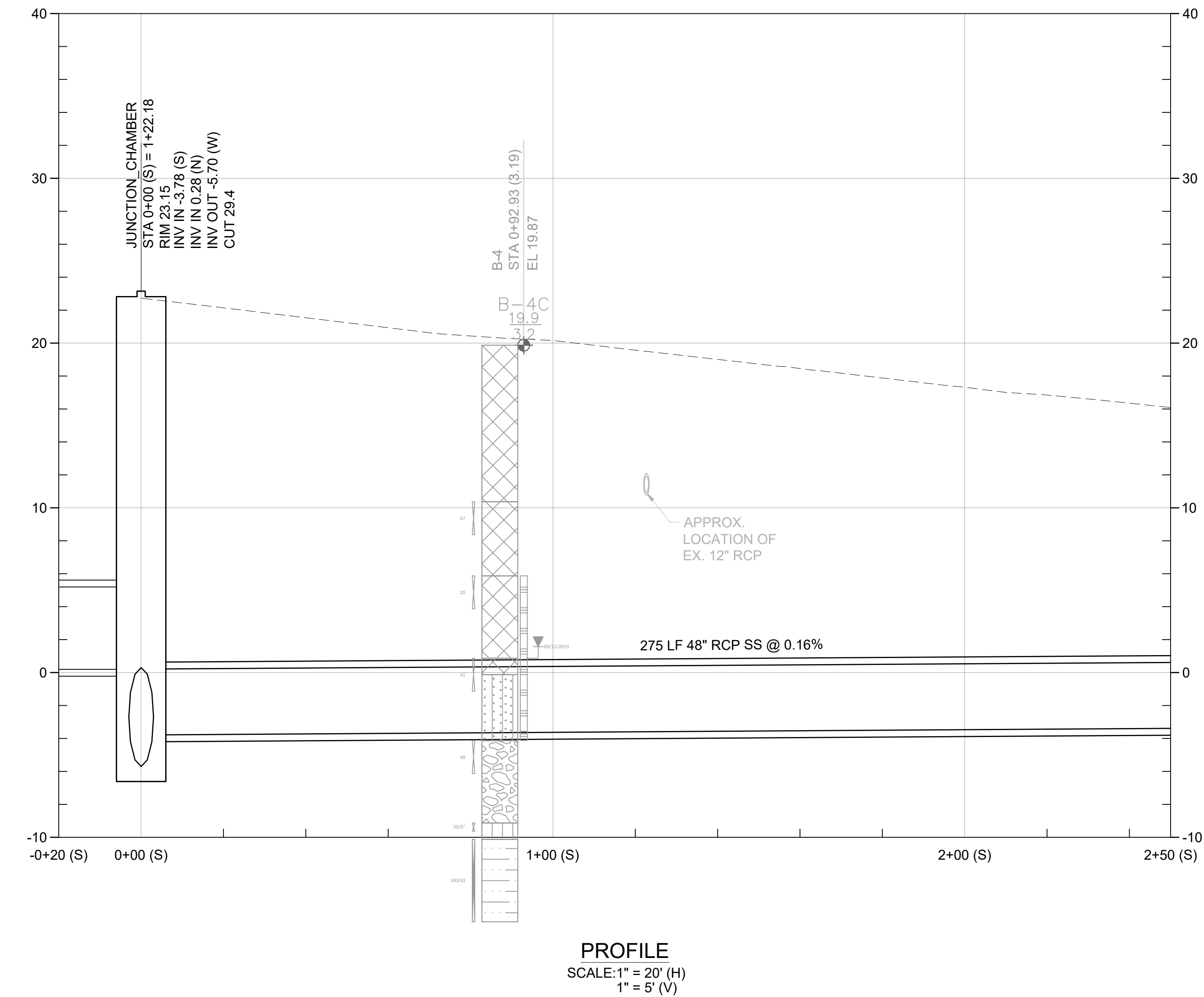
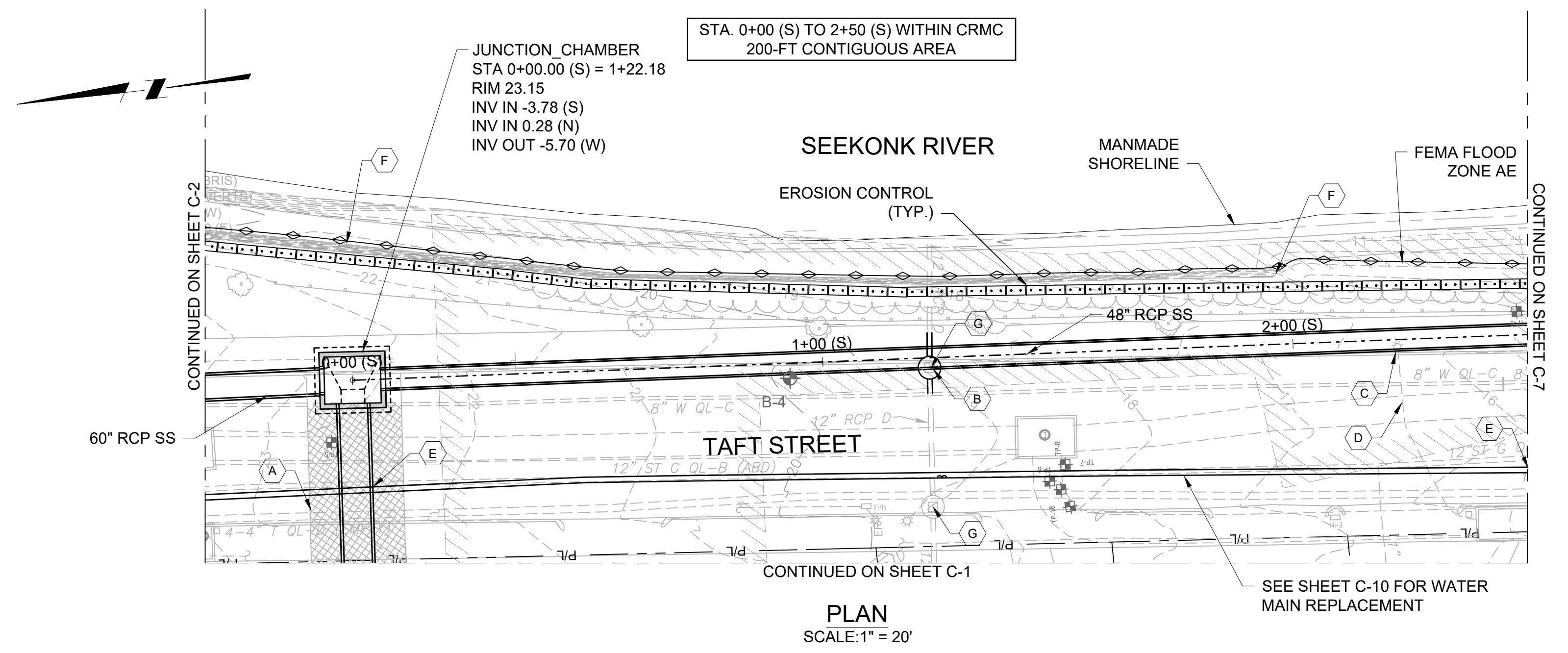


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL
OF 210/213/214 FACILITIES
OF-211 REGULATOR MODIFICATION
PLAN AND SECTION

SHEET
C-5
195130227

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAWT_Site_Plan_Profile_III-A-4.dwg PLOT DATE: Friday, November 12, 2021 3:34:44 PM BY: JAIMIE PAYNE



- GENERAL SHEET NOTES
- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
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 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
 - APPROXIMATE FOOTPRINT OF FORMER BUILDING SITE IS DEPICTED. CONCRETE, PRESUMED TO BE FORMER BUILDING FOUNDATION MATERIALS, WAS ENCOUNTERED DURING THE ADVANCEMENT OF BORING B-4, A-C, AT A DEPTH OF 8-10 FEET. MANAGEMENT, REMOVAL AND DISPOSAL OF FOUNDATION MATERIALS WILL BE REQUIRED FOR THE INSTALLATION OF THE CONSOLIDATION CONDUIT.
 - VERTICAL DATUM FOR PROJECT IS NGVD29.
 - REFER TO INSTRUMENTATION PLAN FOR INSTRUMENTATION AND MONITORING RELATED INFORMATION TO PROTECT THE EXISTING STONE MASONRY GRAVITY WALL DURING THE WORK.

- SHEET KEYNOTES
- A. AREA TO RECEIVE GROUND IMPROVEMENT - CHEMICAL INJECTION
 - B. REMOVE AND REPLACE DRAIN AND CATCH BASIN FOR INSTALLATION OF CONSOLIDATION CONDUIT: STATION 1+25 (S)
 - C. COORDINATE WITH CITY AND NATIONAL GRID TO ISOLATE AND REMOVE ELECTRIC LIGHT POLE: STATION 2+22 (S)
 - D. REMOVE AND REPLACE ELECTRICAL CONDUIT & WIRING FOR STREET LIGHTING
 - E. REMOVE AND DISPOSE OF ABANDONED GAS MAIN: STATION 0+00 TO 2+50
 - F. SEE STONE MASONRY GRAVITY WALL NOTES ON SHEET S-1.
 - G. TYPICAL CATCH BASIN EROSION CONTROL

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE AS SHOWN

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DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALESSIO

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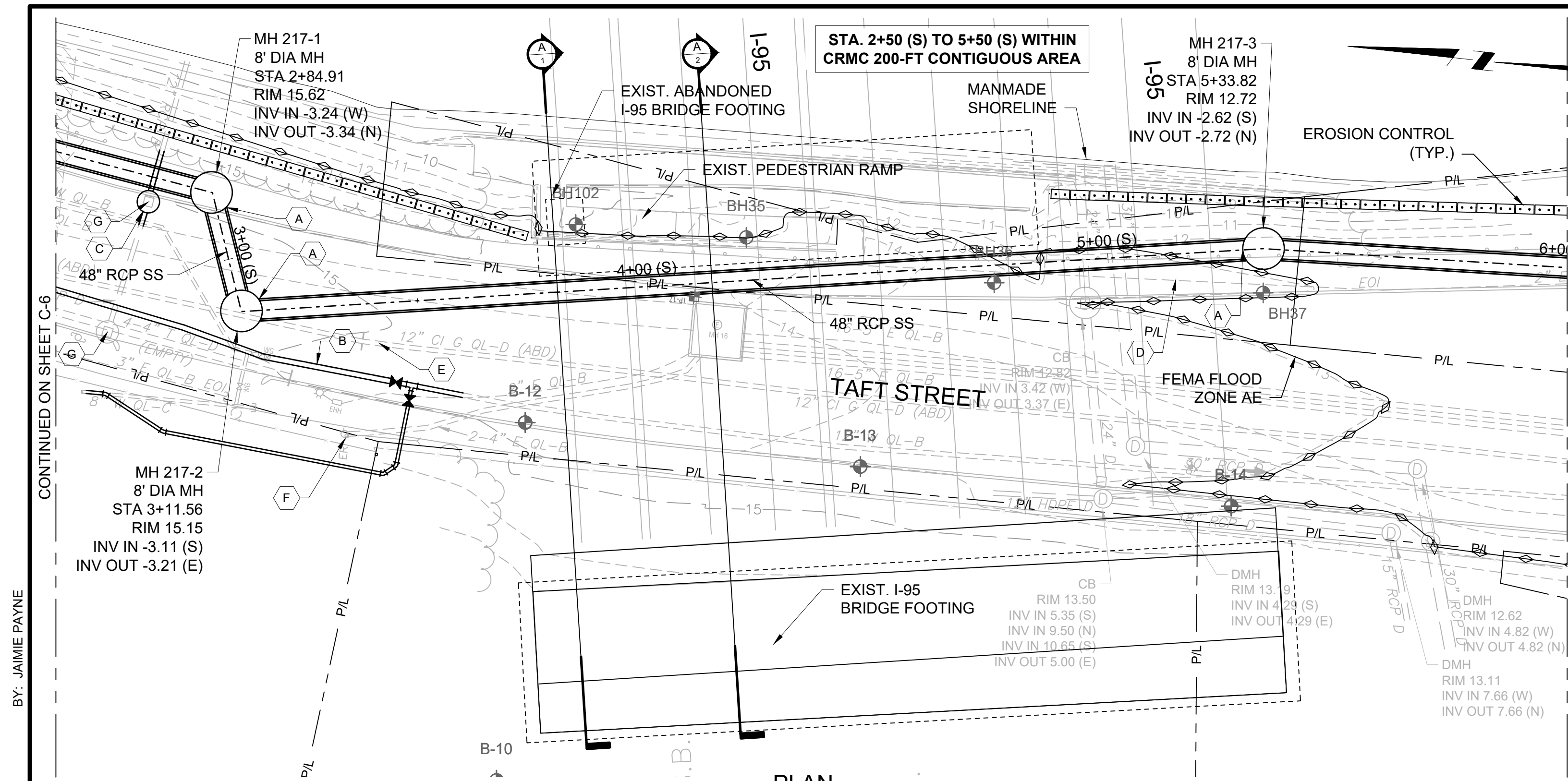


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

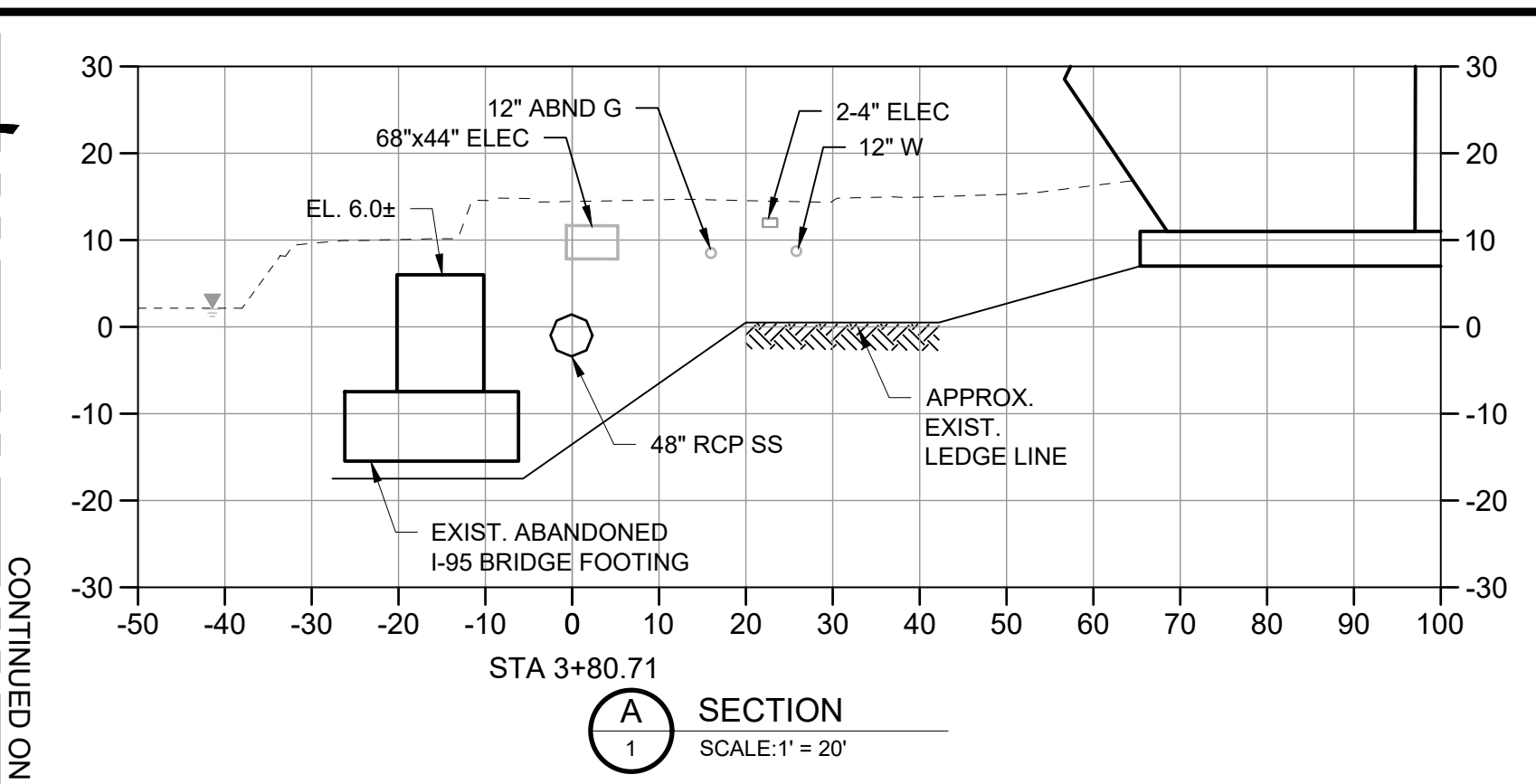
NBC CONTRACT NO 308.04C
CIVIL

OF 210/213/214 FACILITIES
PLAN AND PROFILE V: STA 0+00 (S) - 2+50 (S)

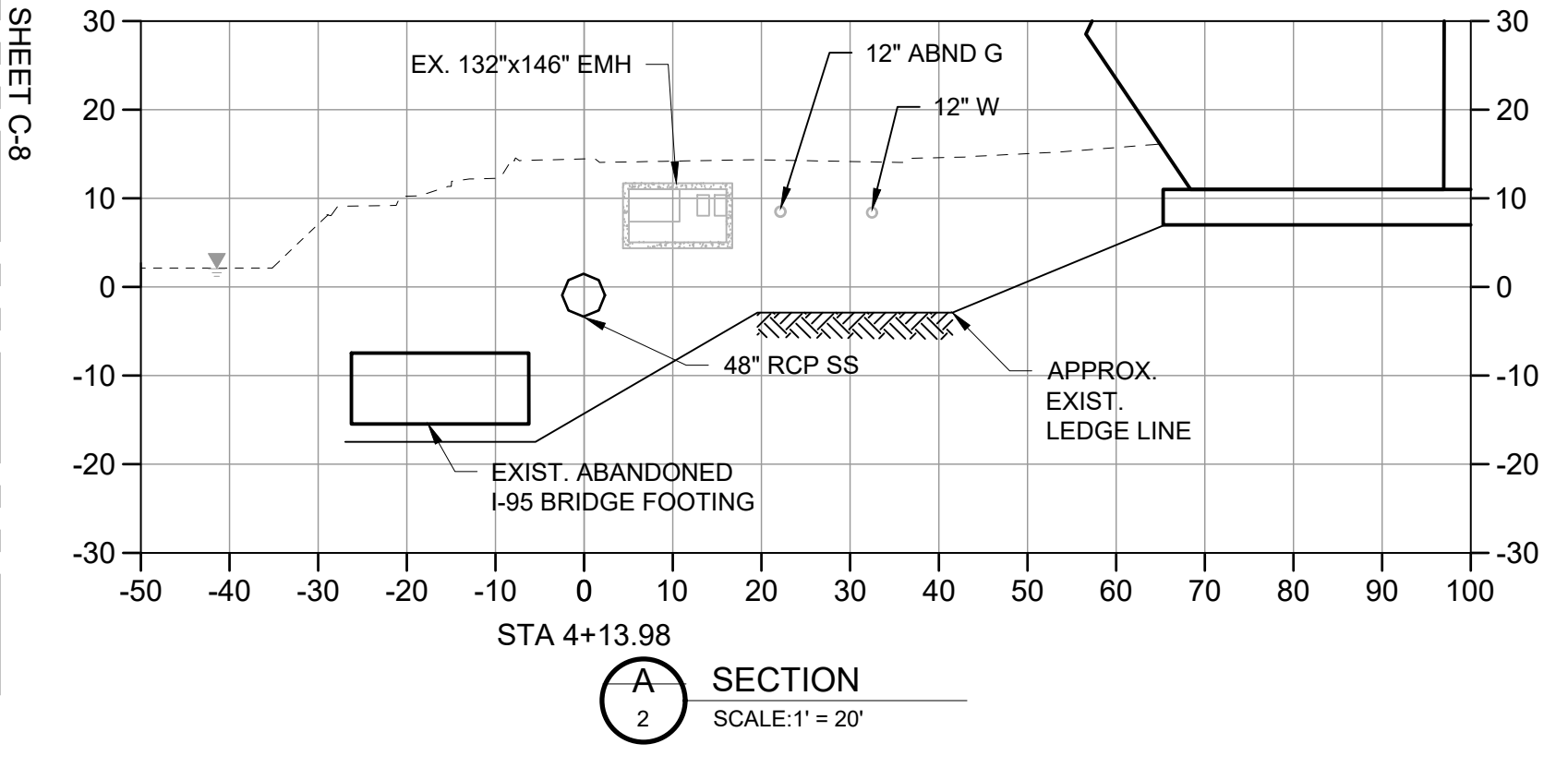
SHEET C-6
195130227



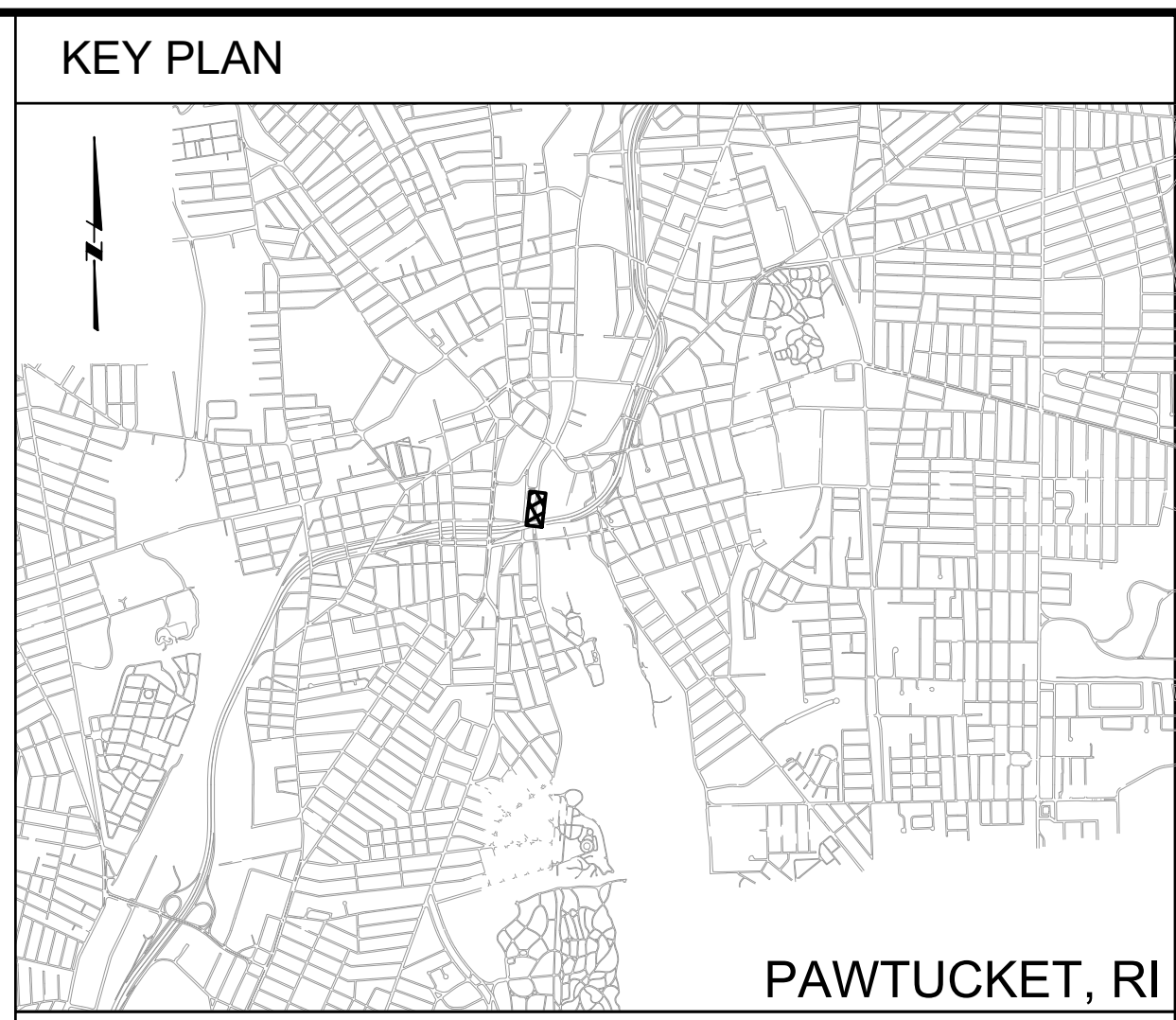
PLAN
SCALE: 1" = 20'



SECTION
A-1
SCALE: 1" = 20'



SECTION
A-2
SCALE: 1" = 20'

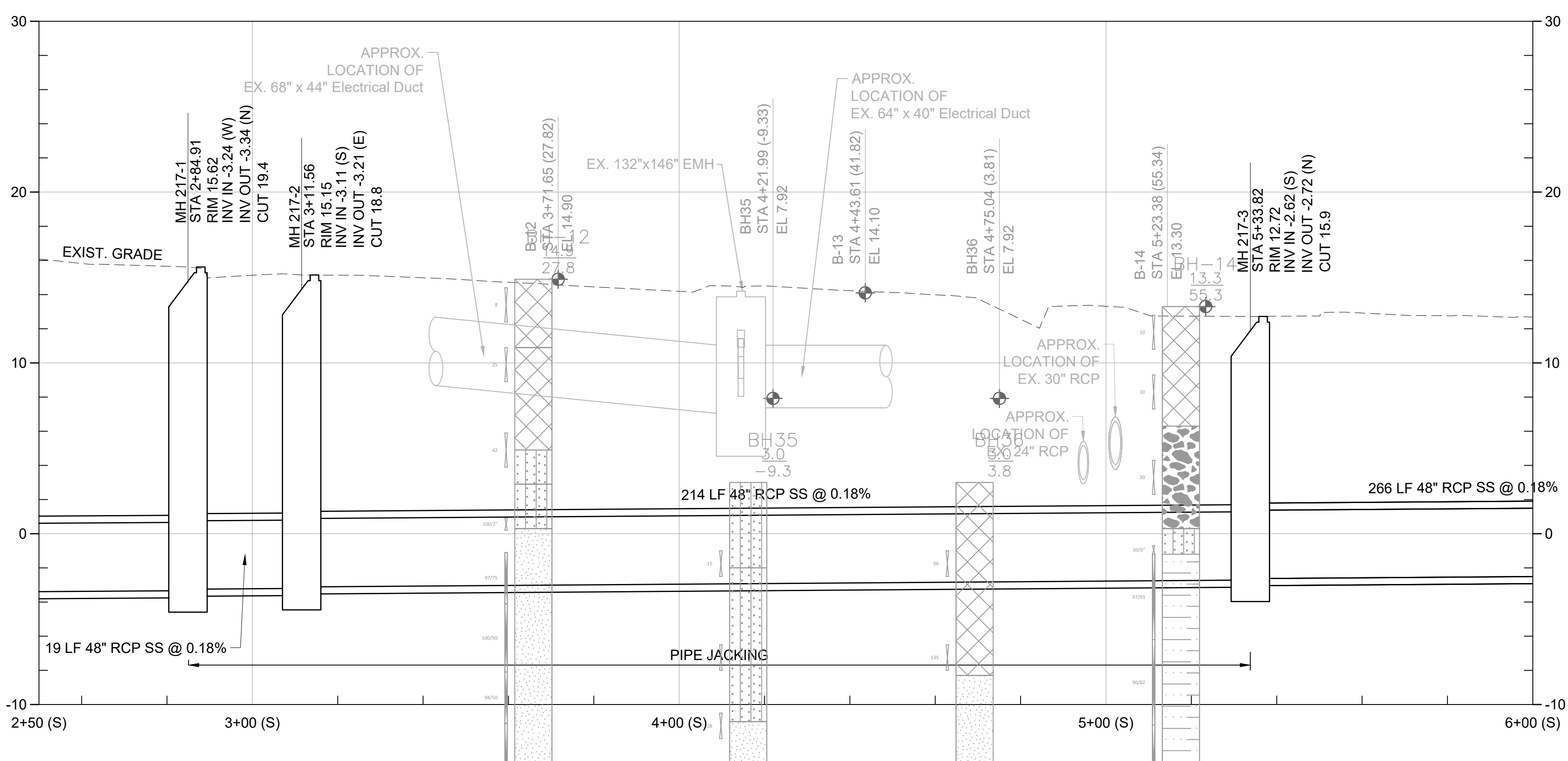


GENERAL SHEET NOTES

- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
- FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
- VERTICAL DATUM FOR PROJECT IS NGVD29.

SHEET KEYNOTES

- A. PIPE JACKING: STATION 2+84 (S) TO STATION 5+33 (S)
- B. RELOCATE WATER MAIN: STATION 2+50 (S) TO STATION 3+60 (S). SEE SHEETS C-9 THRU C-13 FOR WATER MAIN REPLACEMENT.
- C. REMOVE AND REPLACE DRAIN AND CATCH BASIN FOR INSTALLATION OF CONSOLIDATION CONDUIT: STATION 3+75 (S)
- D. REMOVE AND REPLACE ELECTRICAL CONDUIT & WIRING FOR STREET LIGHTING
- E. REMOVE AND DISPOSE ABANDONED GAS MAIN: STATION 2+50 (S) TO STATION 3+60 (S)
- F. COORDINATE WITH NATIONAL GRID FOR INSTALLATION OF TEMPORARY POLE & REROUTING OF OVERHEAD WIRE.
- G. TYPICAL CATCH BASIN EROSION CONTROL



PROFILE
SCALE: 1" = 20' (H)
1" = 5' (V)

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REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	C. CRONIN
DRAWN	J. PAYNE
CHECKED	J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

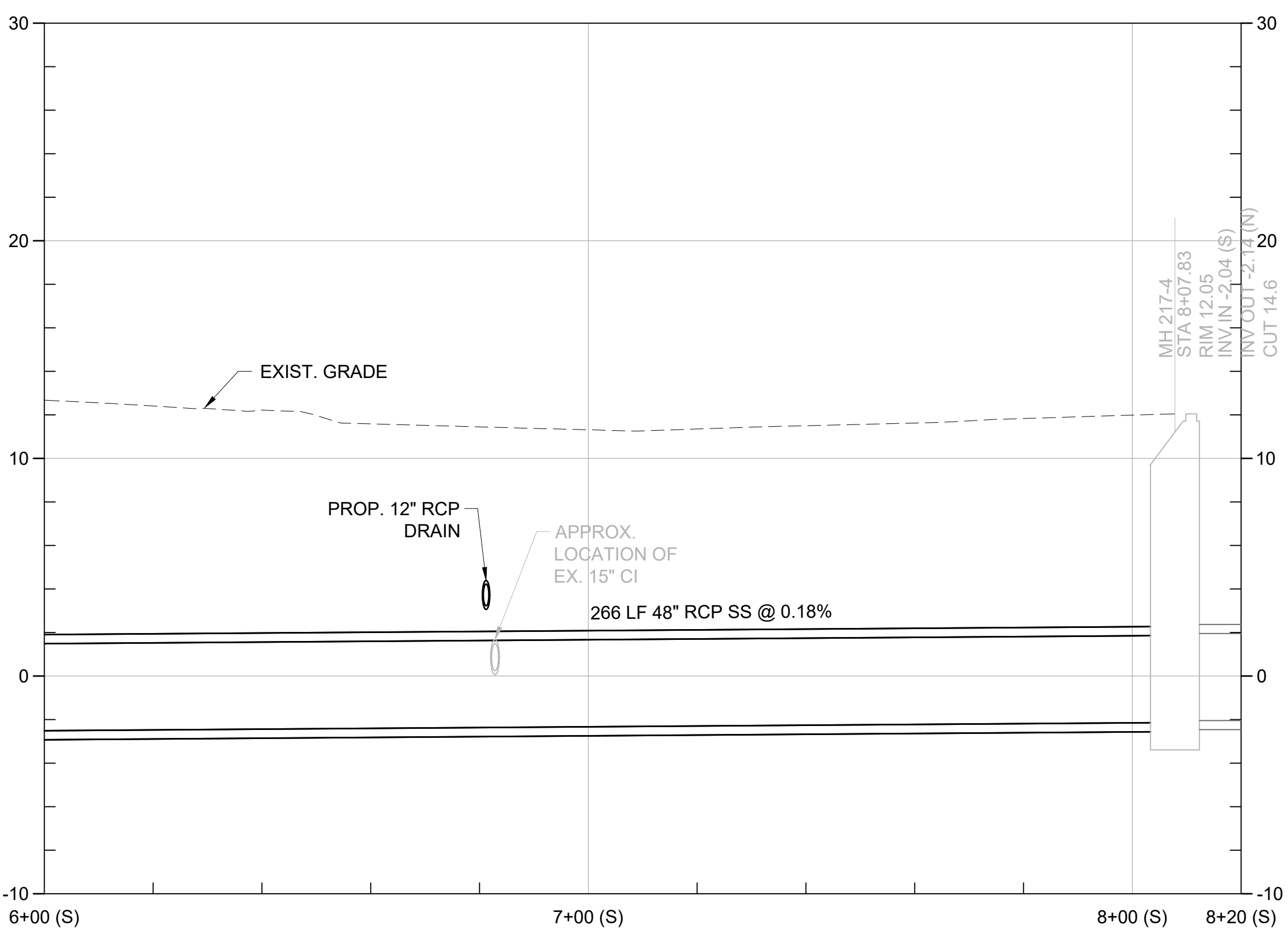
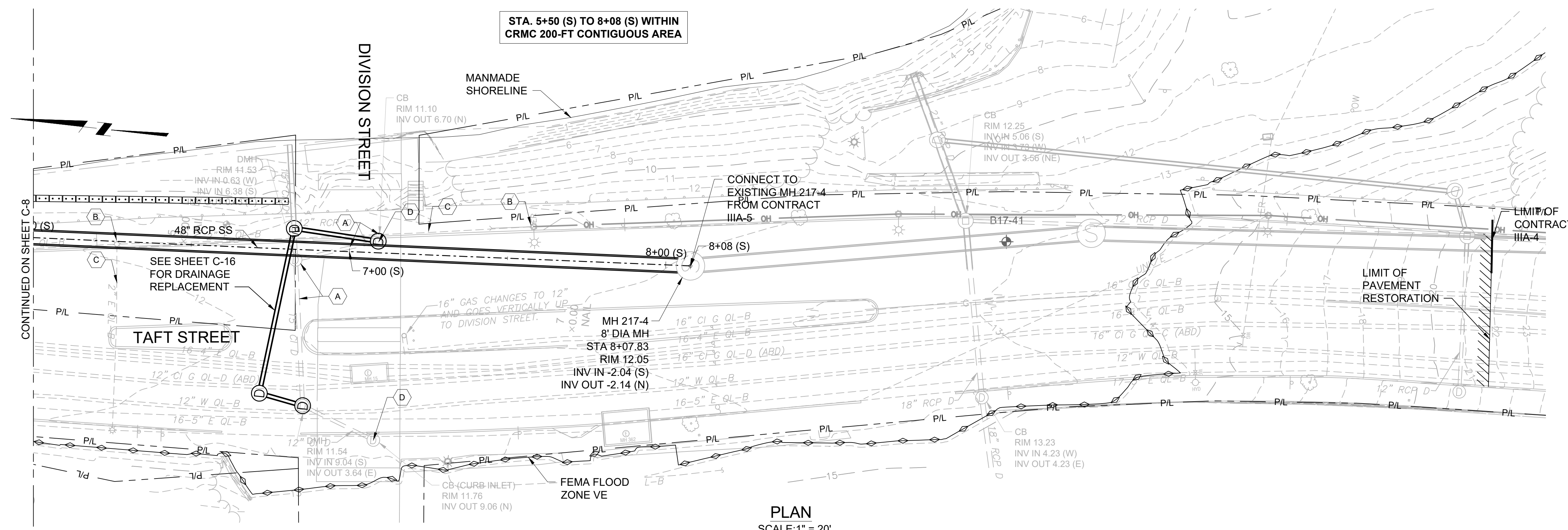
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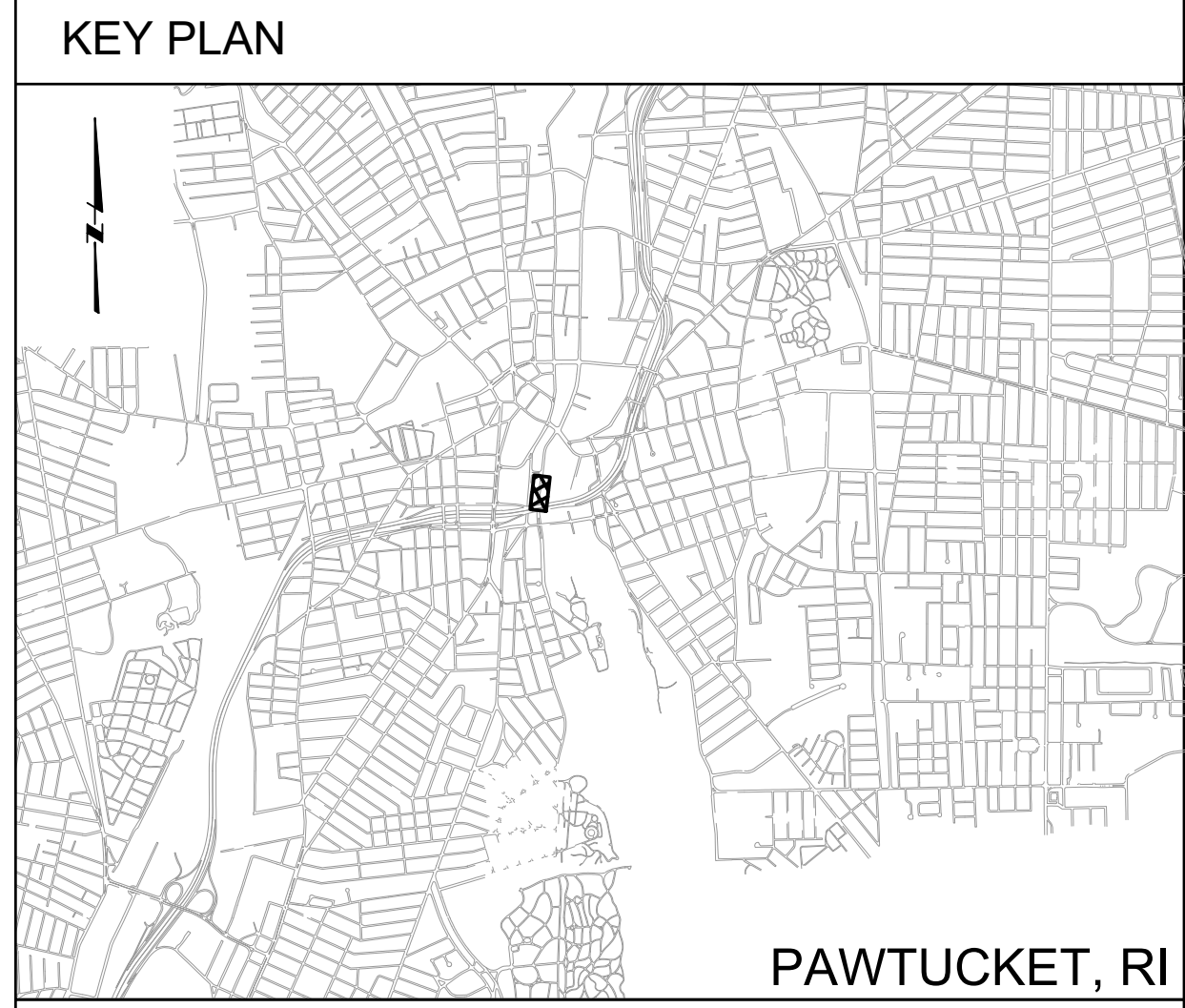


BY: JAIMIE PAYNE

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAVW SITE_PLAN & PROFILE_III-A-4.dwg PLOT DATE: Friday, November 12, 2021 3:36:37 PM



PROFILE
SCALE: 1" = 20" (H)
1" = 5" (V)



- GENERAL SHEET NOTES**
- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
 - FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
 - VERTICAL DATUM FOR PROJECT IS NGVD29.

- SHEET KEYNOTES**
- REMOVE AND REPLACE DRAIN AND CATCH BASIN FOR INSTALLATION OF CONSOLIDATION CONDUIT: STATION 6+80 (S) TO STATION 7+10 (S).
 - COORDINATE WITH CITY AND NATIONAL GRID TO ISOLATE AND REMOVE ELECTRIC LIGHT POLE: STATION 6+30 (S), STATION 7+55 (S)
 - REMOVE AND REPLACE ELECTRICAL CONDUIT & WIRING FOR STREET LIGHTING
 - TYPICAL CATCH BASIN EROSION CONTROL

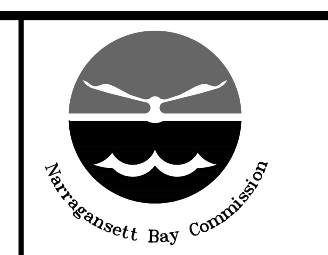
REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
AS SHOWN

WARNING
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DESIGNED: C. CRONIN
DRAWN: J. PAYNE
CHECKED: J. D'ALESSIO

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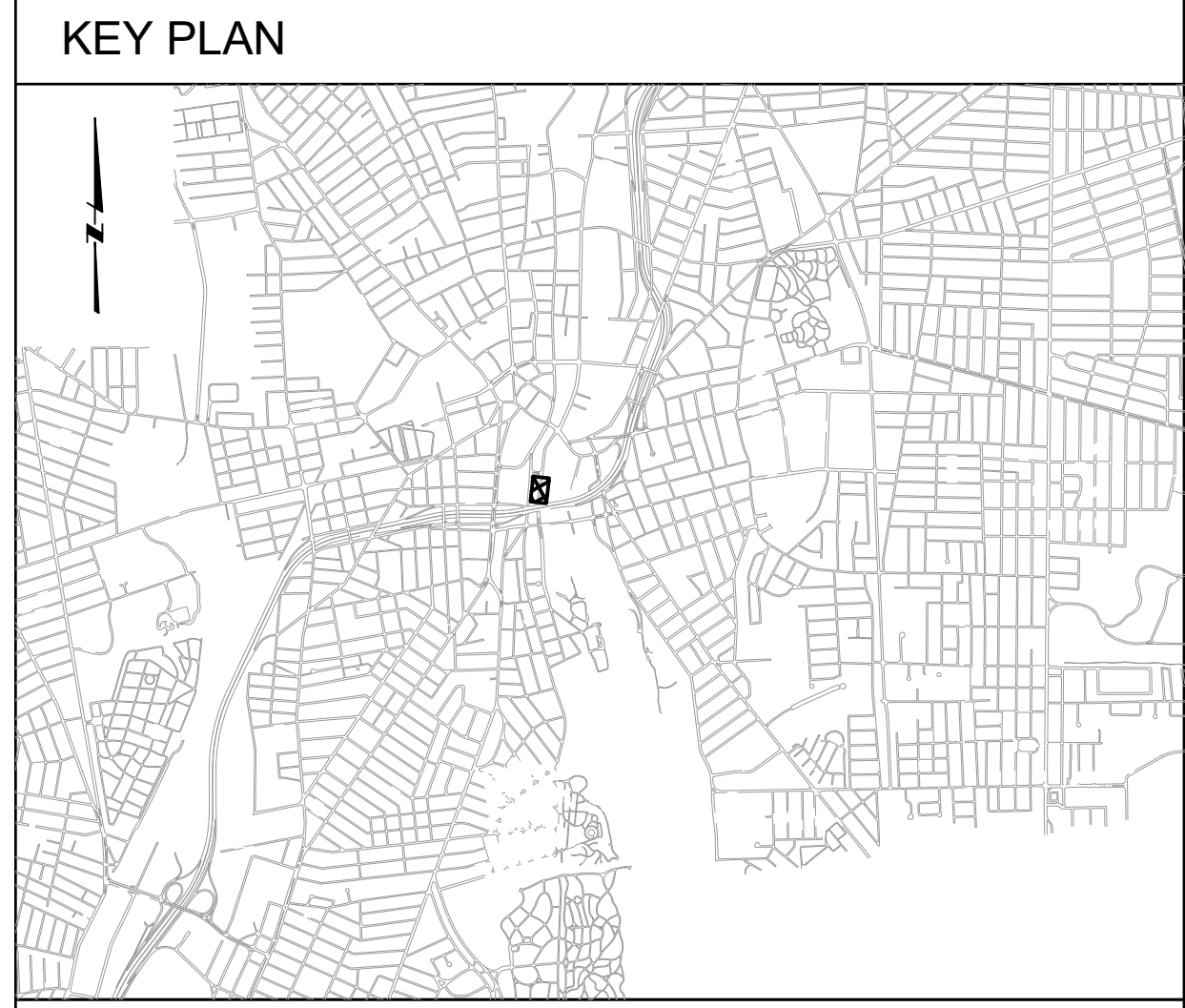
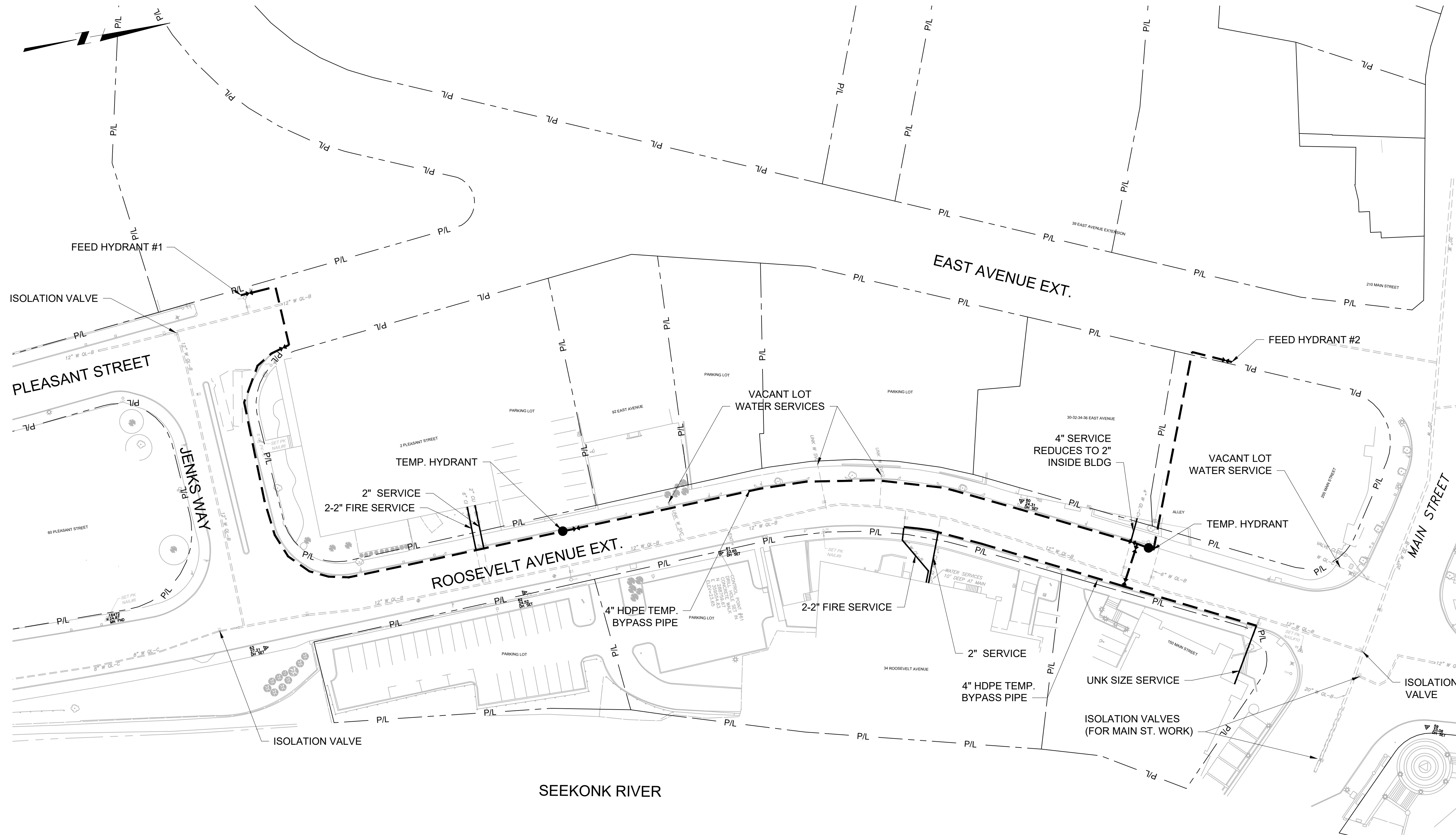


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL
OF 210/213/214 FACILITIES
PLAN AND PROFILE VII: STA 6+00 (S) - 8+08(S)

SHEET
C-8
195130227

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAVNT_SITE_WATER_BYPASS_PLAN.dwg PLOT DATE: Friday, November 12, 2021 3:37:38 PM

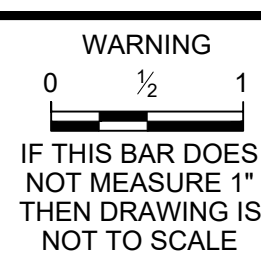


- GENERAL SHEET NOTES**
- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
 - HDPE TEMPORARY BYPASS PIPING SHALL BE INSTALLED IN THE GUTTER AND SHALL BE TRENCHED, BURIED AND PAVED AT EVERY ROAD CROSSING, SIDEWALK CROSSING AND DRIVEWAY CROSSING
 - TEMPORARY HYDRANTS SHALL BE INSTALLED WITHIN 10 FEET OF WHERE EXISTING HYDRANTS ARE BEING TAKEN OUT OF SERVICE
 - VALVES SHALL BE INSTALLED ON BYPASS ON EACH SIDE OF ROAD CROSSINGS, AT EACH TEMPORARY HYDRANT AND EVERY 400 FEET ALONG BYPASS. EXISTING OUT-OF-SERVICE HYDRANTS SHALL BE BAGGED.
 - TEST EXISTING WATER MAIN VALVES PRIOR TO CONSTRUCTION TO ENSURE PROPER SHUTDOWN OF WATER DURING CONSTRUCTION. TO BE PERFORMED BY PWSB PERSONNEL.
 - TEST EXISTING HYDRANTS TO BE USED FOR TEMPORARY BYPASS TO ENSURE PROPER FUNCTION. TO BE PERFORMED BY PWSB PERSONNEL.
 - UPON ACTIVATION OF TEMP. BYPASS SYSTEM. COORDINATE WITH PAWTUCKET FIRE DEPARTMENT TO DEMONSTRATE TEMP. HYDRANT FUNCTIONALITY AND PROVIDE TOOLS TO OPERATE.
 - ALL FEEDS TO BYPASS REQUIRE A RPZ BACKFLOW PREVENTION DEVICE.
 - PRIOR TO ACTIVATION OF THE TEMP. BYPASS SYSTEM CHLORINATION, FLUSHING, AND BACTERIAL TESTING MUST BE COMPLETED.

SHEET KEYNOTES

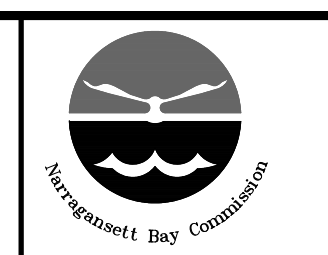
REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
1"=40'



DESIGNED R.GREENWAY
DRAWN R.GREENWAY
CHECKED C.CRONIN

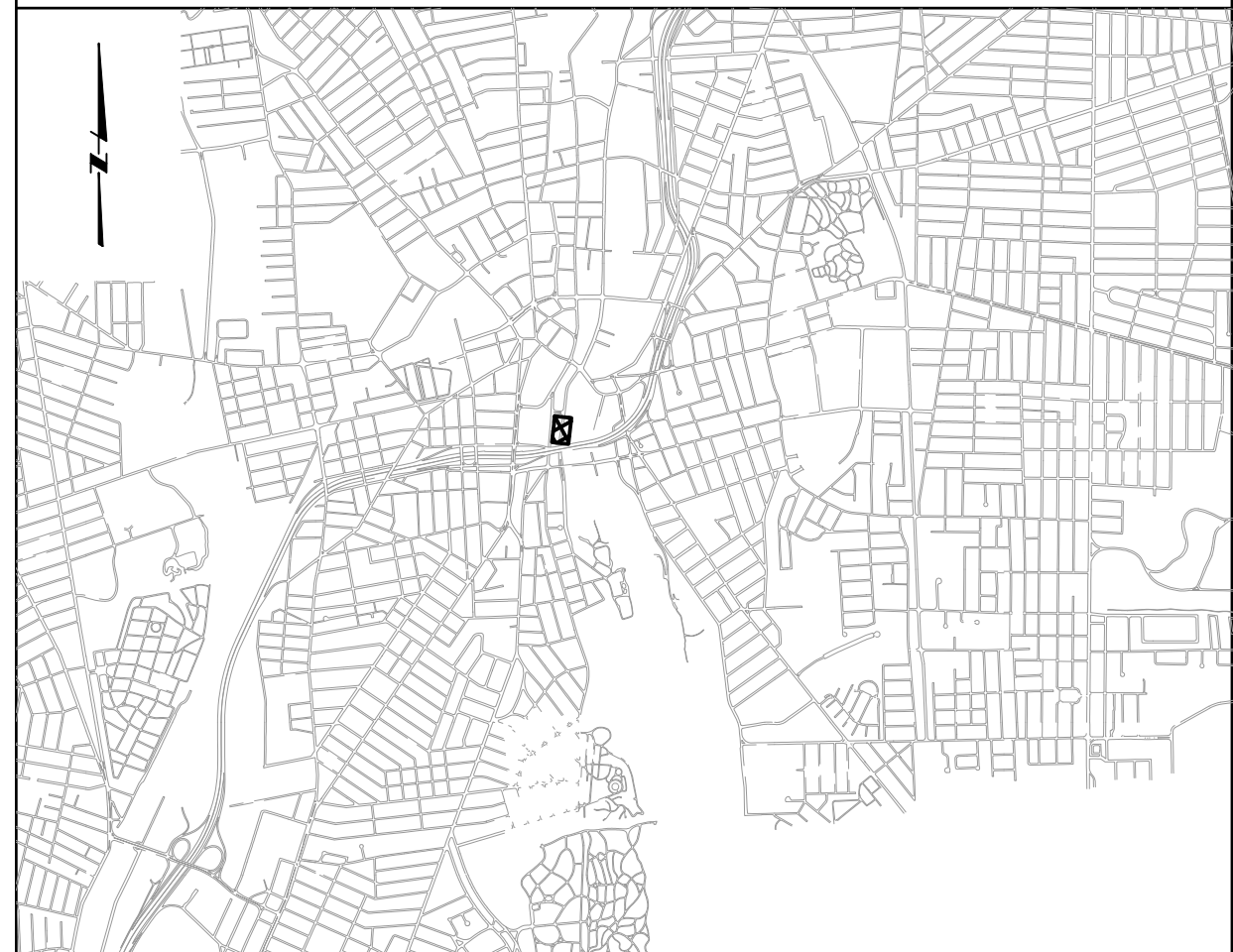
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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
Stantec logo

NBC CONTRACT NO 308.05C
CIVIL
OF 210/213/214 FACILITIES
TEMPORARY WATER BYPASS PLAN
SHEET C-9
195130227

KEY PLAN

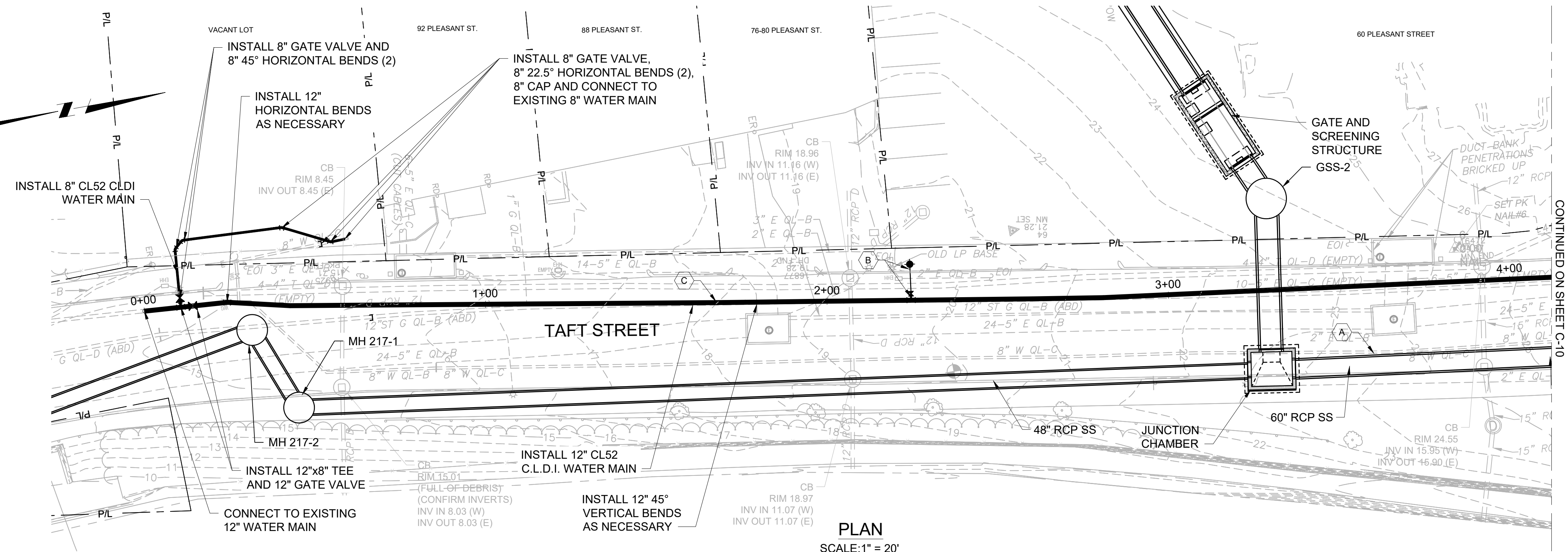


GENERAL SHEET NOTES

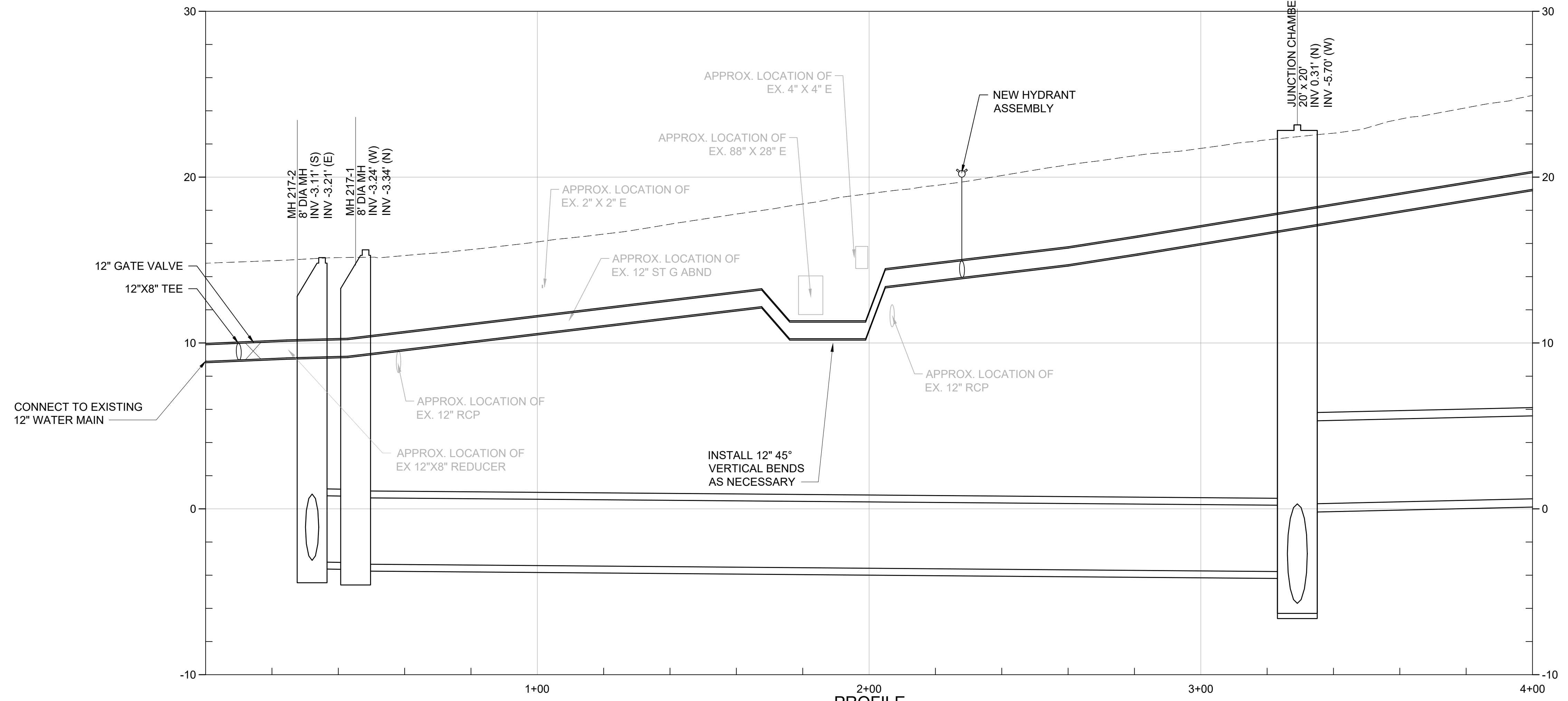
- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
- FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
- THE CONTRACTOR SHALL NOTE THAT THE PROPERTIES #76-92 ARE SERVICED OFF THE EXISTING TAFT STREET WATER MAIN. THE CONTRACTOR SHALL BE REQUIRED TO CONNECT THIS PROPERTY TO THE 12" WATER MAIN PRIOR TO SHUTTING DOWN THE EXISTING 8"/12" WATER MAIN FROM THIS LOCATION NORTH TO JENKS WAY FOR SEWER CONSTRUCTION.
- THE CONTRACTOR SHALL BE REQUIRED TO DISINFECT ALL NEW WATER MAINS AS WELL AS ALL EXISTING WATER MAINS THAT ARE SHUT DOWN FOR AN EXTENDED PERIOD, AS DETERMINED BY THE ENGINEER. ALL MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH PWSB STANDARD PROCEDURES. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT FOR APPROVAL BY THE ENGINEER AND PWSB, A DISINFECTION PLAN THAT ADDRESSES THE DISINFECTION OF NEW AND EXISTING WATER MAINS.

SHEET KEYNOTES

- A. REMOVE AND DISPOSE OF EXISTING 12" WATER MAIN DURING CONSOLIDATION CONDUIT INSTALLATION
- B. INSTALL HYDRANT ASSEMBLY: STATION 2+15
- C. REMOVE AND DISPOSE OF EXISTING 12" ABANDONED GAS MAIN DURING WATER MAIN INSTALLATION, CUT & CAP PIPE ENDS: STATION 0+45 TO 2+50, AS NECESSARY.



PLAN
SCALE: 1" = 20'



2+00
PROFILE
SCALE: 1" = 20' (H)
1" = 5' (V)

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAWT_SITE_PLAN_&_PROFILE_WATER.dwg PLOT DATE: Friday, November 12, 2021 3:39:40 PM

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	R. GREENWAY
DRAWN	R. GREENWAY
CHECKED	J. D'ALELIO

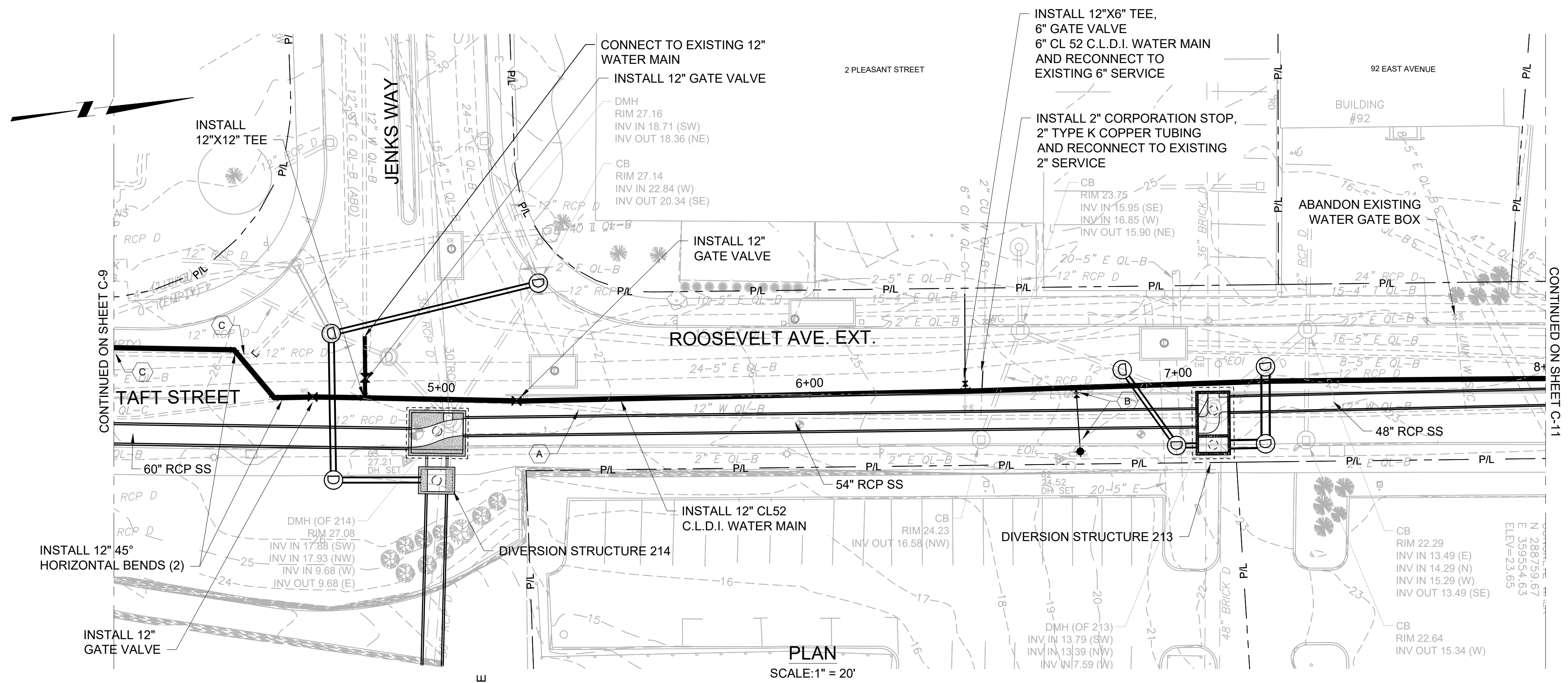
90% DESIGN PHASE - NOVEMBER 2021

NOT FOR CONSTRUCTION

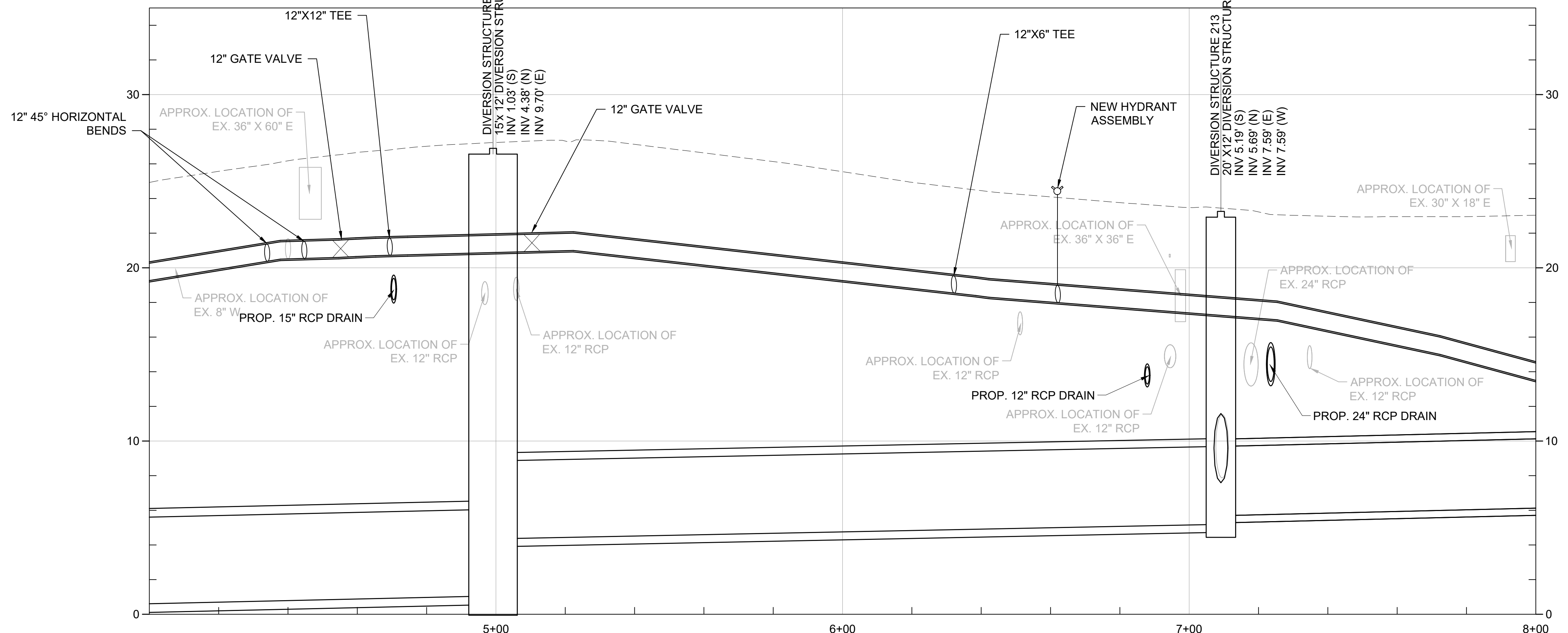
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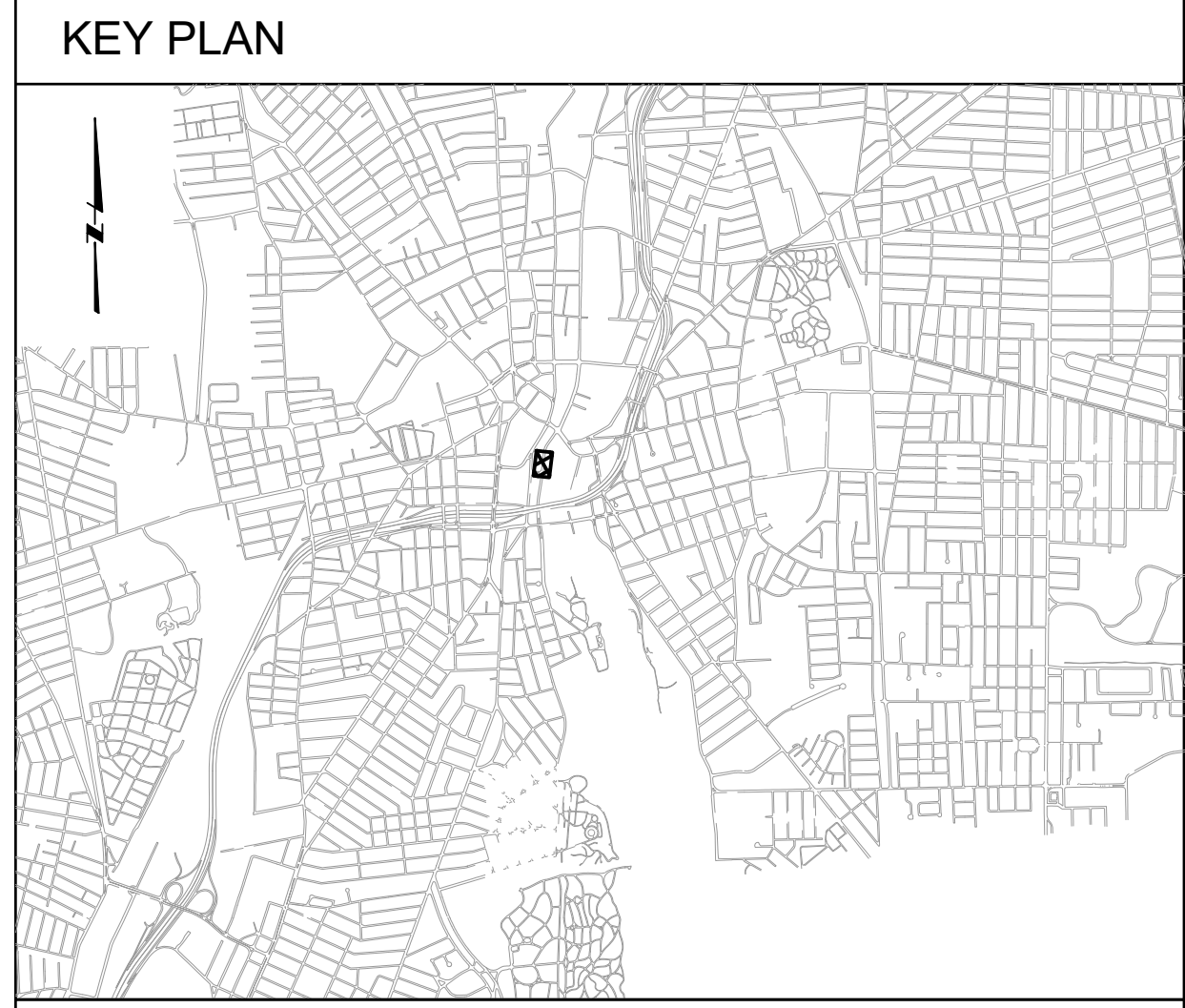
NARRAGANSETT BAY COMMISSION PHASE III COMBINED SEWER OVERFLOW PROGRAM	NBC CONTRACT NO 308.04C CIVIL OF 210/213/214 FACILITIES WATER MAIN REPLACEMENT PLAN & PROFILE I: STA 0+00 - 4+00	SHEET C-10 195130227
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PLAN
SCALE: 1" = 20'



PROFILE
SCALE: 1" = 20' (H)
1" = 5' (V)



- GENERAL SHEET NOTES**
- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
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 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
 - THE CONTRACTOR SHALL BE REQUIRED TO DISINFECT ALL NEW WATER MAINS AS WELL AS ALL EXISTING WATER MAINS THAT ARE SHUT DOWN FOR AN EXTENDED PERIOD, AS DETERMINED BY THE ENGINEER. ALL MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH PWSB STANDARD PROCEDURES. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT FOR APPROVAL BY THE ENGINEER AND PWSB, A DISINFECTION PLAN THAT ADDRESSES THE DISINFECTION OF NEW AND EXISTING WATER MAINS.

- SHEET KEYNOTES**
- A. REMOVE AND DISPOSE OF EXISTING 12" WATER MAIN DURING CONSOLIDATION CONDUIT INSTALLATION
 - B. INSTALL HYDRANT ASSEMBLY: STATION 6+75
 - C. REMOVE AND DISPOSE OF EXISTING 12" ABANDONED GAS MAIN DURING WATER MAIN INSTALLATION, CUT & CAP PIPE ENDS:

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAWT_SITE_PLAN_&_PROFILE_WATER.dwg PLOT DATE: Friday, November 12, 2021 3:41:05 PM

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE: AS SHOWN

WARNING
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DESIGNED: R. GREENWAY
DRAWN: R. GREENWAY
CHECKED: J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

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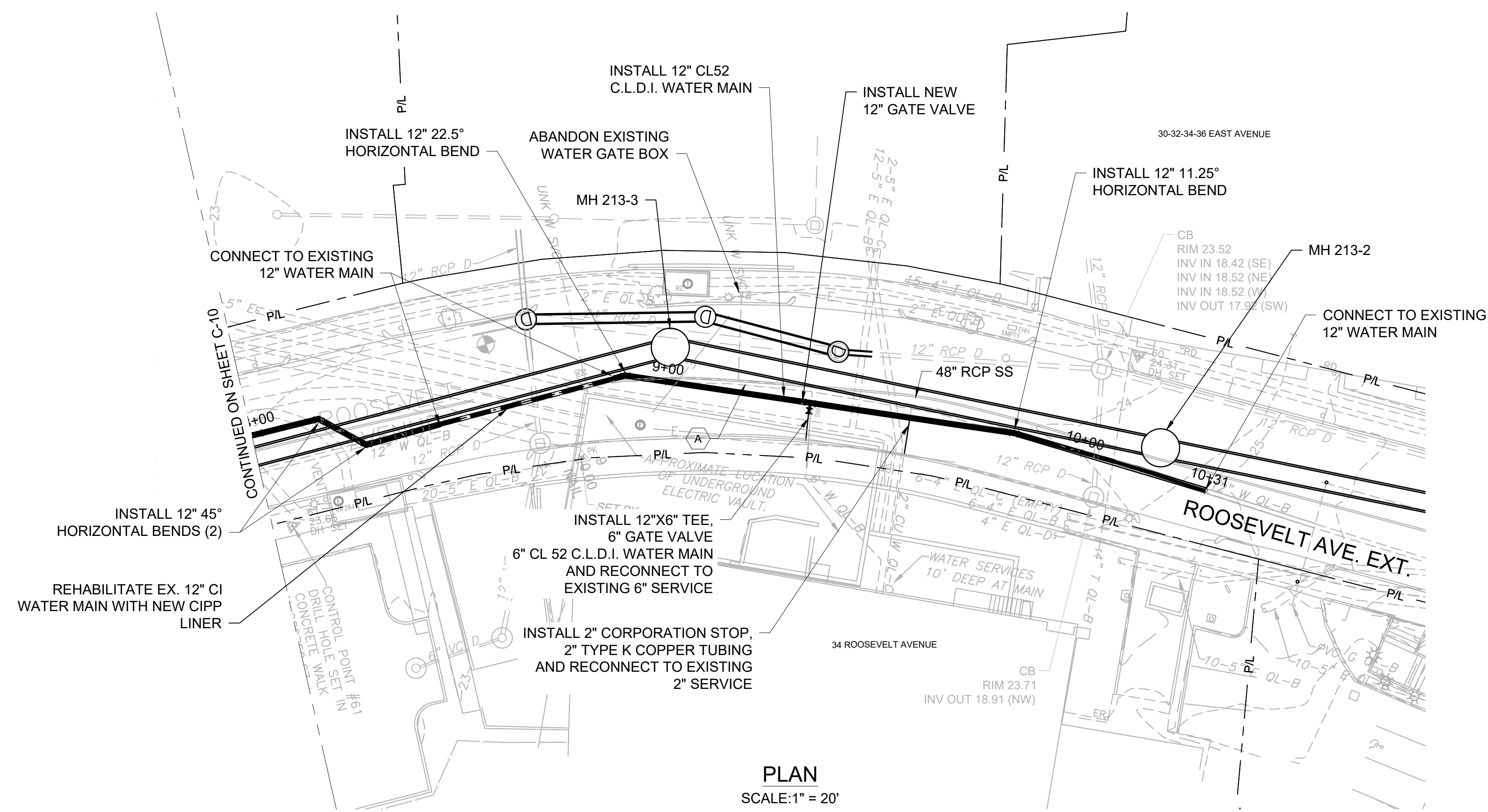


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER OVERFLOW PROGRAM

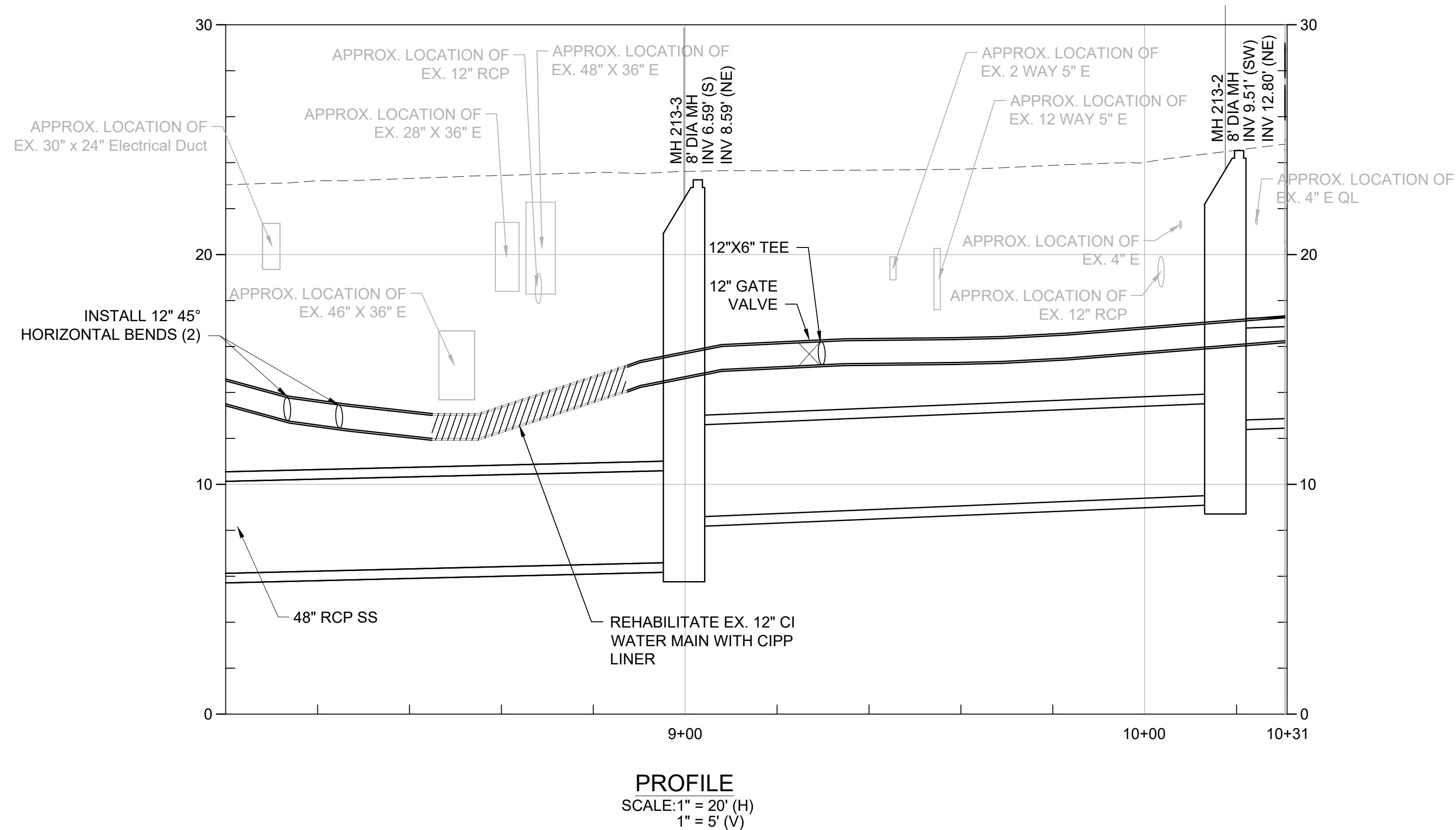
NBC CONTRACT NO 308.04C
CIVIL
OF 210/213/214 FACILITIES
WATER MAIN REPLACEMENT
PLAN & PROFILE II: STA 4+00 - 8+00

SHEET
C-11
195130227

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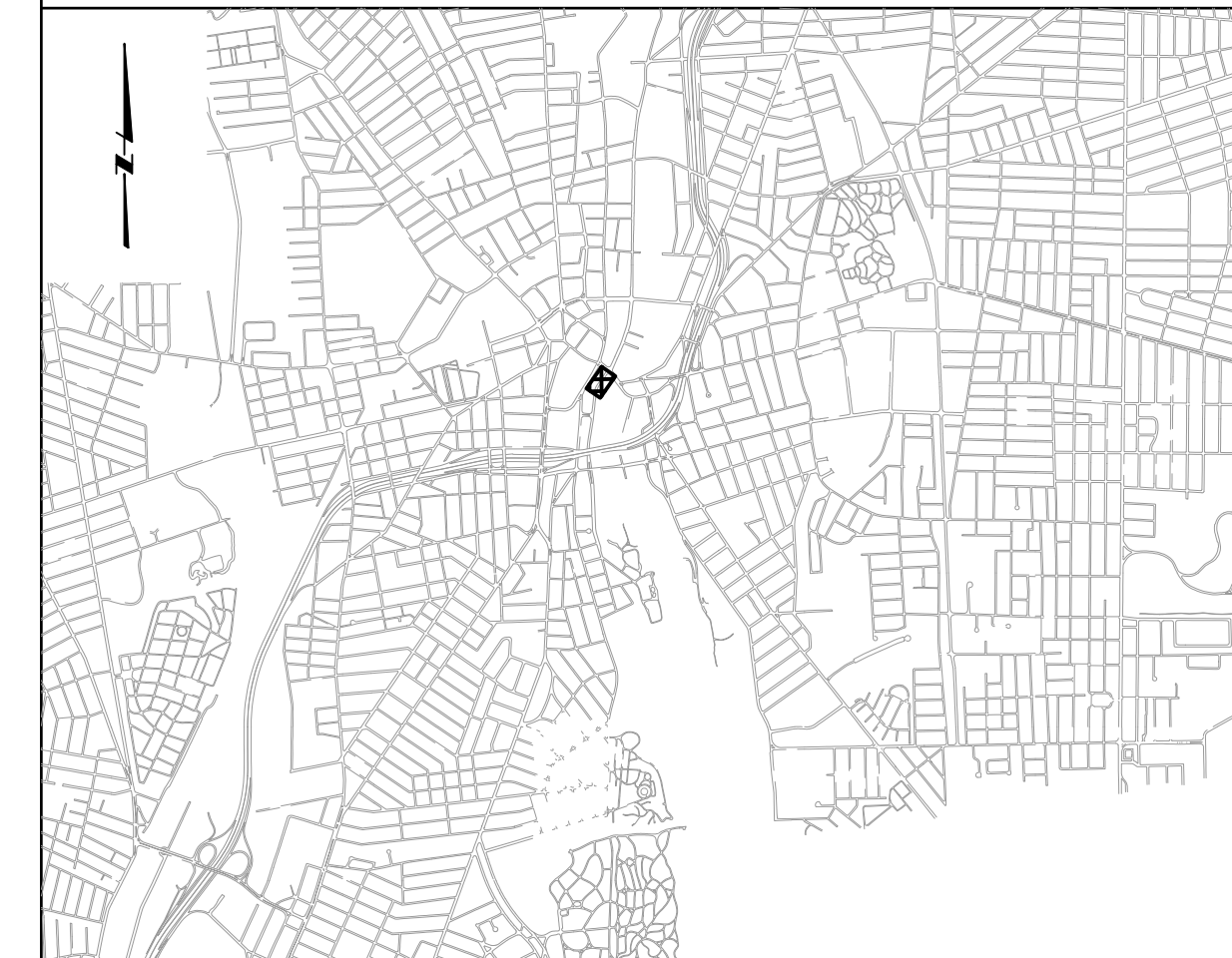


PLAN
SCALE: 1" = 20'



PROFILE
SCALE: 1" = 20' (H)
1" = 5' (V)

KEY PLAN



GENERAL SHEET NOTES

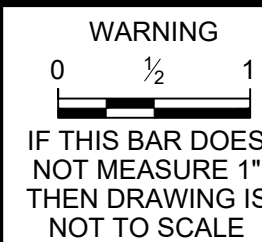
1. UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
2. FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
3. THE CONTRACTOR SHALL BE REQUIRED TO DISINFECT ALL NEW WATER MAINS AS WELL AS ALL EXISTING WATER MAINS THAT ARE SHUT DOWN FOR AN EXTENDED PERIOD, AS DETERMINED BY THE ENGINEER. ALL MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH PWSB STANDARD PROCEDURES. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT FOR APPROVAL BY THE ENGINEER AND PWSB, A DISINFECTION PLAN THAT ADDRESSES THE DISINFECTION OF NEW AND EXISTING WATER MAINS.

SHEET KEYNOTES

- A. REMOVE AND DISPOSE OF EXISTING 12" WATER MAIN DURING SEWER MAIN INSTALLATION

REV	DATE	BY	DESCRIPTION
1	5/13/20	1	STANTEC COMMENTS

SCALE
1"=20'



DESIGNED R. GREENWAY
DRAWN R. GREENWAY
CHECKED J. D'ALELIO

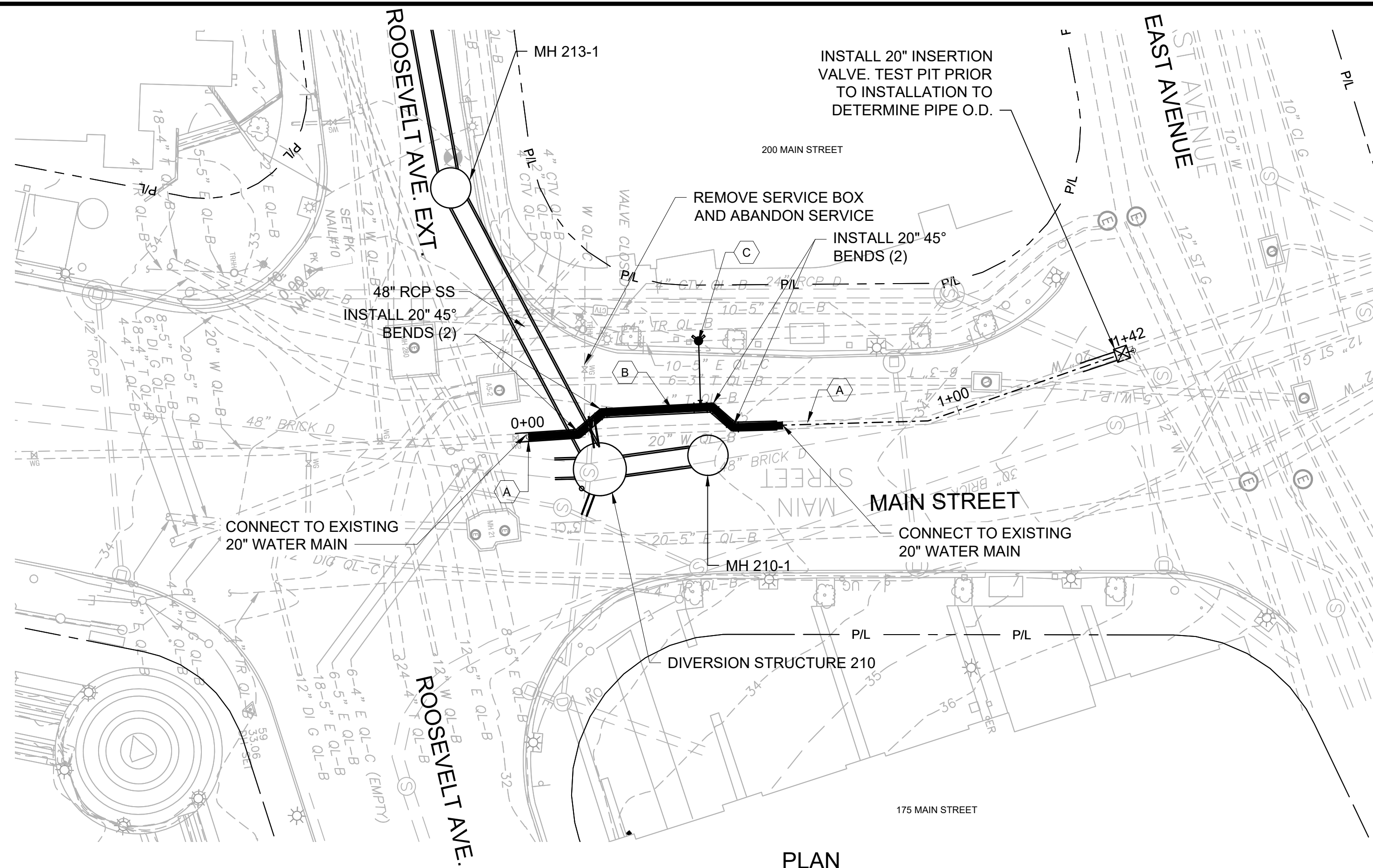
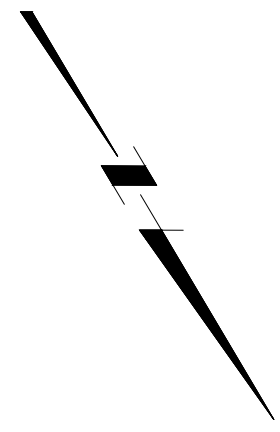
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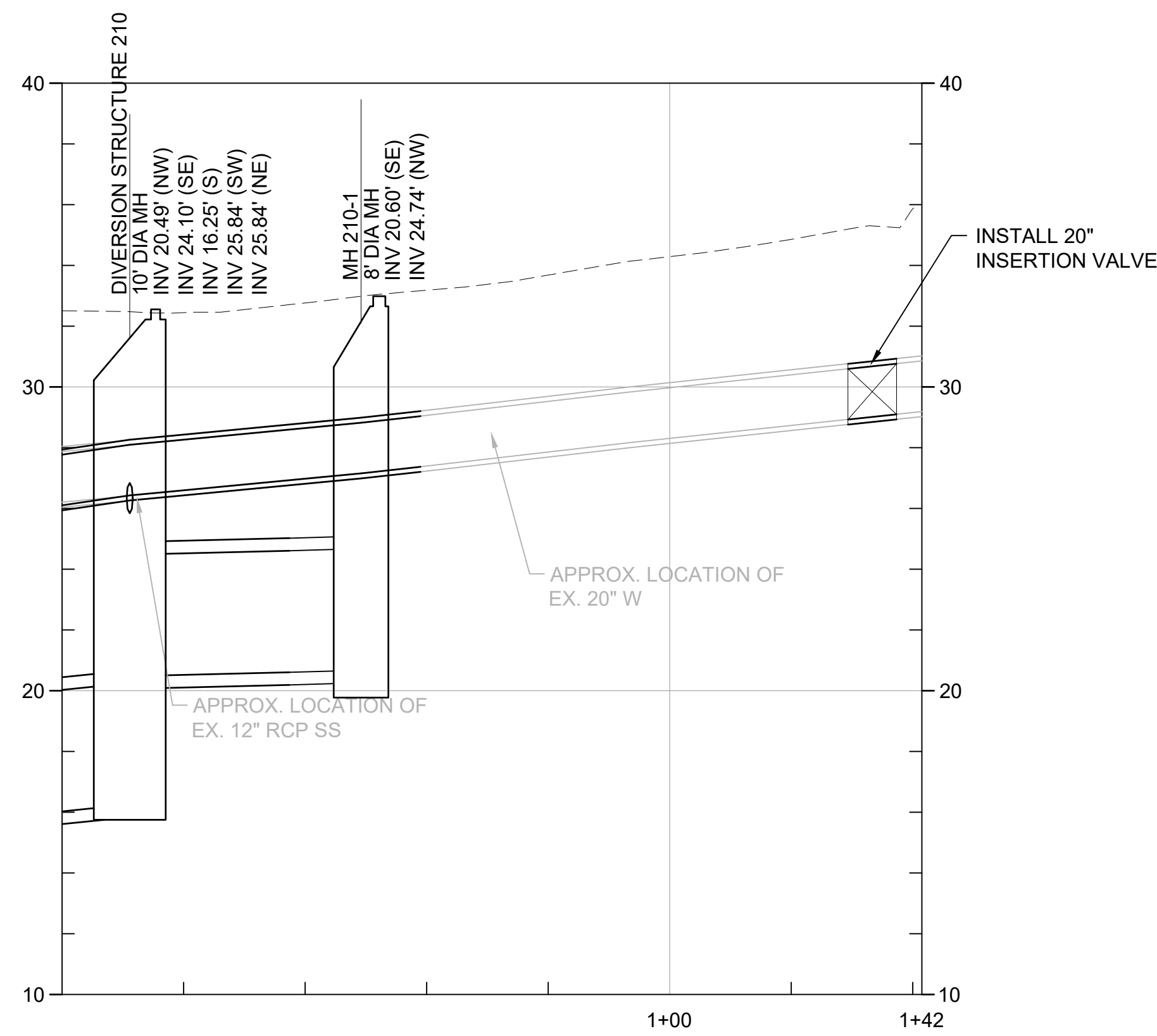
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
Stantec

NBC CONTRACT NO 308.04C
CIVIL
OF 210/213/214 FACILITIES
ROOSEVELT AVENUE EXT. WATER MAIN REPLACEMENT
PLAN & PROFILE 3: STA 8+00 - 10+20

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAWT_SITE_PLAN_&_PROFILE_WATER.dwg PLOT DATE: Friday, November 12, 2021 3:43:48 PM BY: JAMIE PAYNE

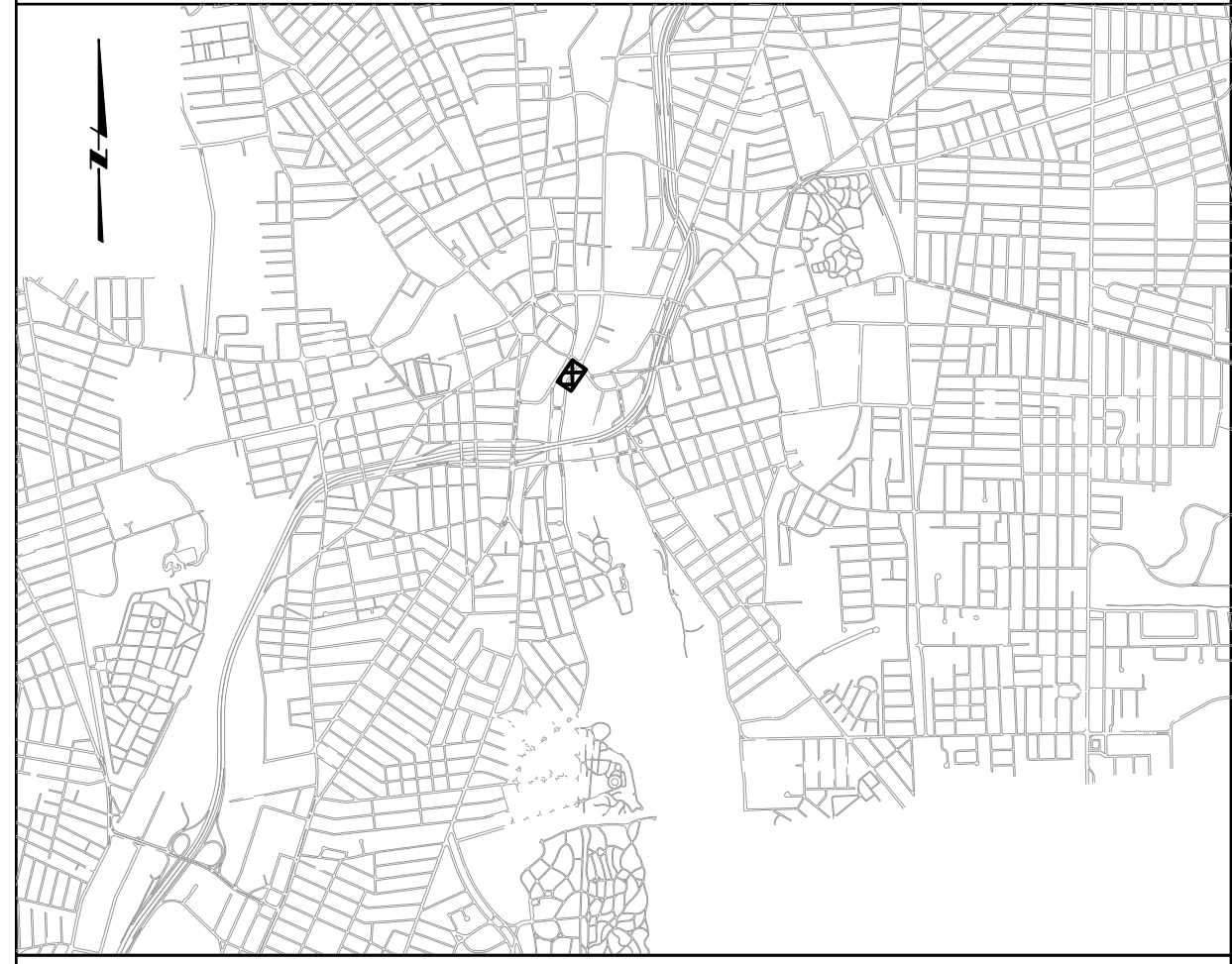


PLAN
SCALE: 1" = 20'



PROFILE
SCALE: 1" = 20' (H)
1" = 5' (V)

KEY PLAN



GENERAL SHEET NOTES

- SURVEY INFORMATION PROVIDED BY BRYANT AND ASSOCIATES, INC. NOVEMBER 2019, VERTICAL DATUM NGVD 1929, HORIZONTAL DATUM, STATE PLAN COORDINATE SYSTEM.
- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC. QL-B.
- FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
- THE CONTRACTOR SHALL BE REQUIRED TO RESTRAIN ALL JOINTS ON THE EXISTING 20" MAIN BETWEEN THE PROPOSED LINE STOP AND BUTTERFLY VALVE. THE MAIN MUST BE RESTRAINED PRIOR TO INSTALLATION OF THE LINE STOP AND VALVE. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT FOR APPROVAL BY THE ENGINEER, THE INTENDED METHOD OF JOINT RESTRAINT.
- THE CONTRACTOR SHALL BE REQUIRED TO DISINFECT ALL NEW WATER MAINS AS WELL AS ALL EXISTING WATER MAINS THAT ARE SHUT DOWN FOR AN EXTENDED PERIOD, AS DETERMINED BY THE ENGINEER. ALL MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH PWSB STANDARD PROCEDURES. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT FOR APPROVAL BY THE ENGINEER AND PWSB, A DISINFECTION PLAN THAT ADDRESSES THE DISINFECTION OF NEW AND EXISTING WATER MAINS.
- SUGGESTED SEQUENCE OF CONSTRUCTION:
 - INSTALL 20" LINESTOP & BUTTERFLY VALVE AT STATION 1+40
 - REMOVE & DISPOSE OF EXISTING 20" WATER MAIN WITHIN LIMITS OF DIVERSION STRUCTURE 210
 - INSTALL MH 210-1 AND NEW 48" CONSOLIDATION CONDUIT
 - INSTALL NEW 20" CL52 CLDI WATER MAIN AND CONNECT TO EXISTING 20" WATER MAIN

SHEET KEYNOTES

- A. REMOVE AND DISPOSE OF EXISTING WATER MAIN DURING SEWER MAIN INSTALLATION
- B. RELOCATE EXISTING TELECOM CONDUIT DURING WATER MAIN INSTALLATION AS NECESSARY.
- C. INSTALL NEW HYDRANT ASSEMBLY

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE: 1"=20'

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED R. GREENWAY
DRAWN R. GREENWAY
CHECKED J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

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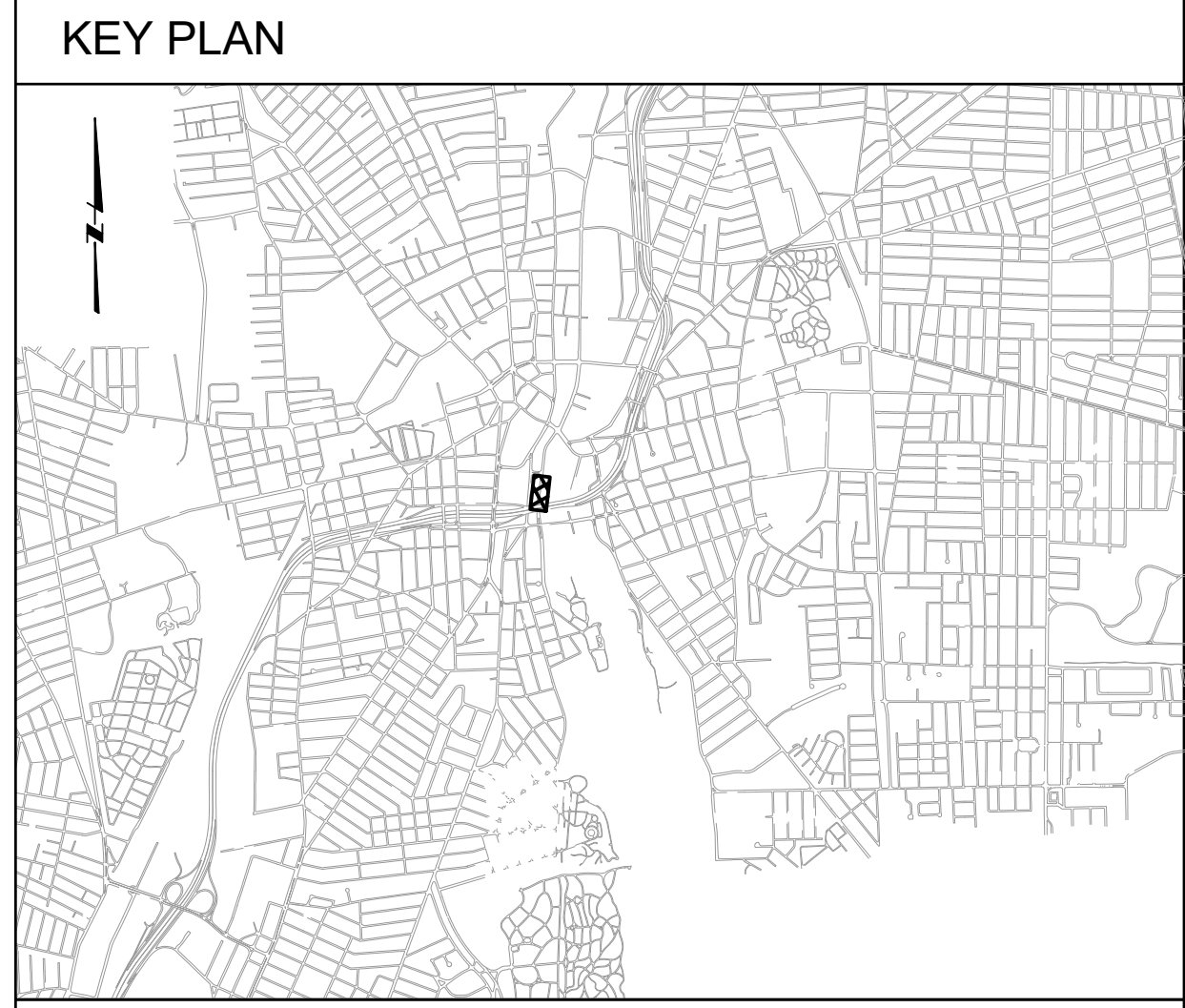
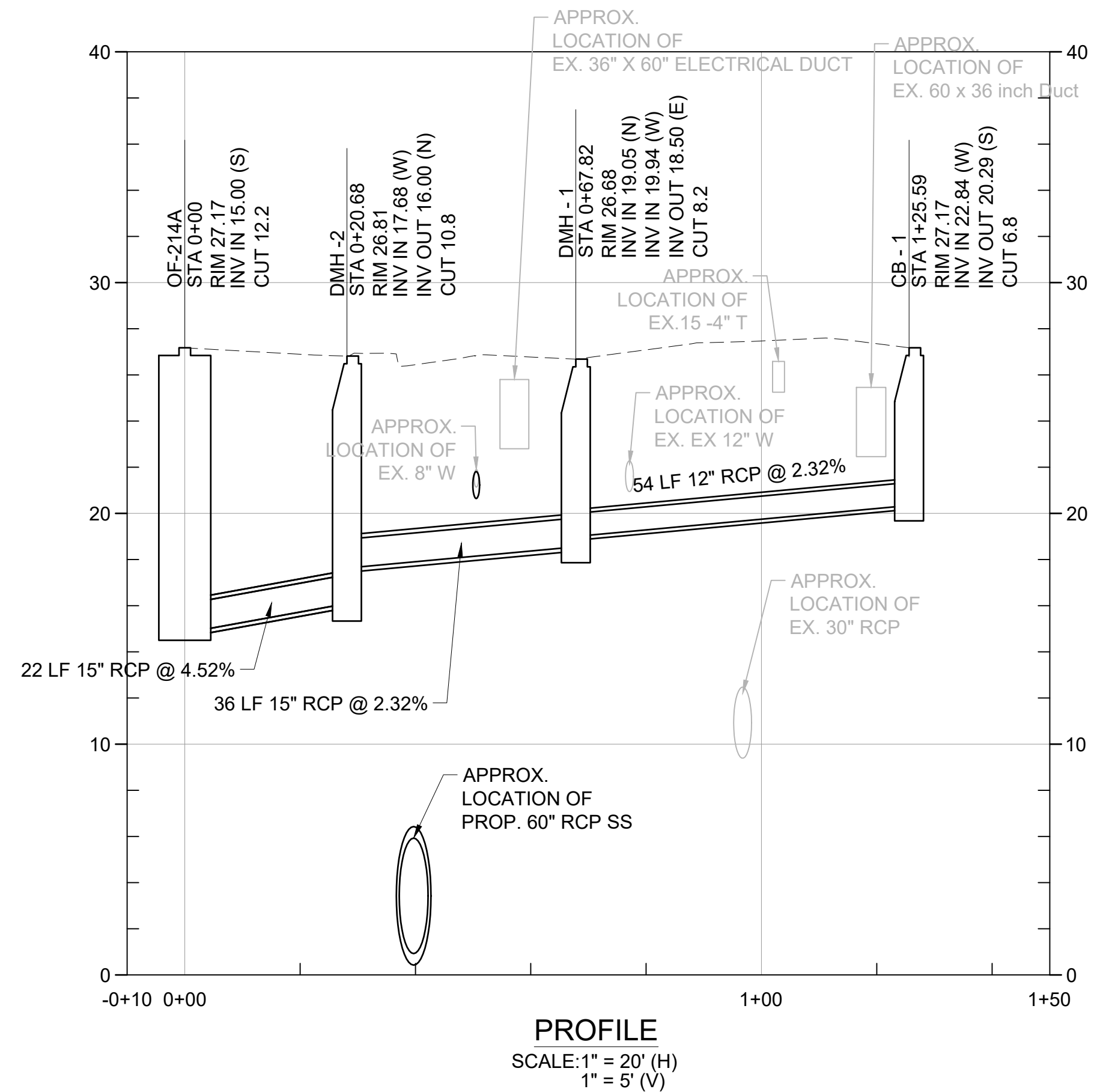
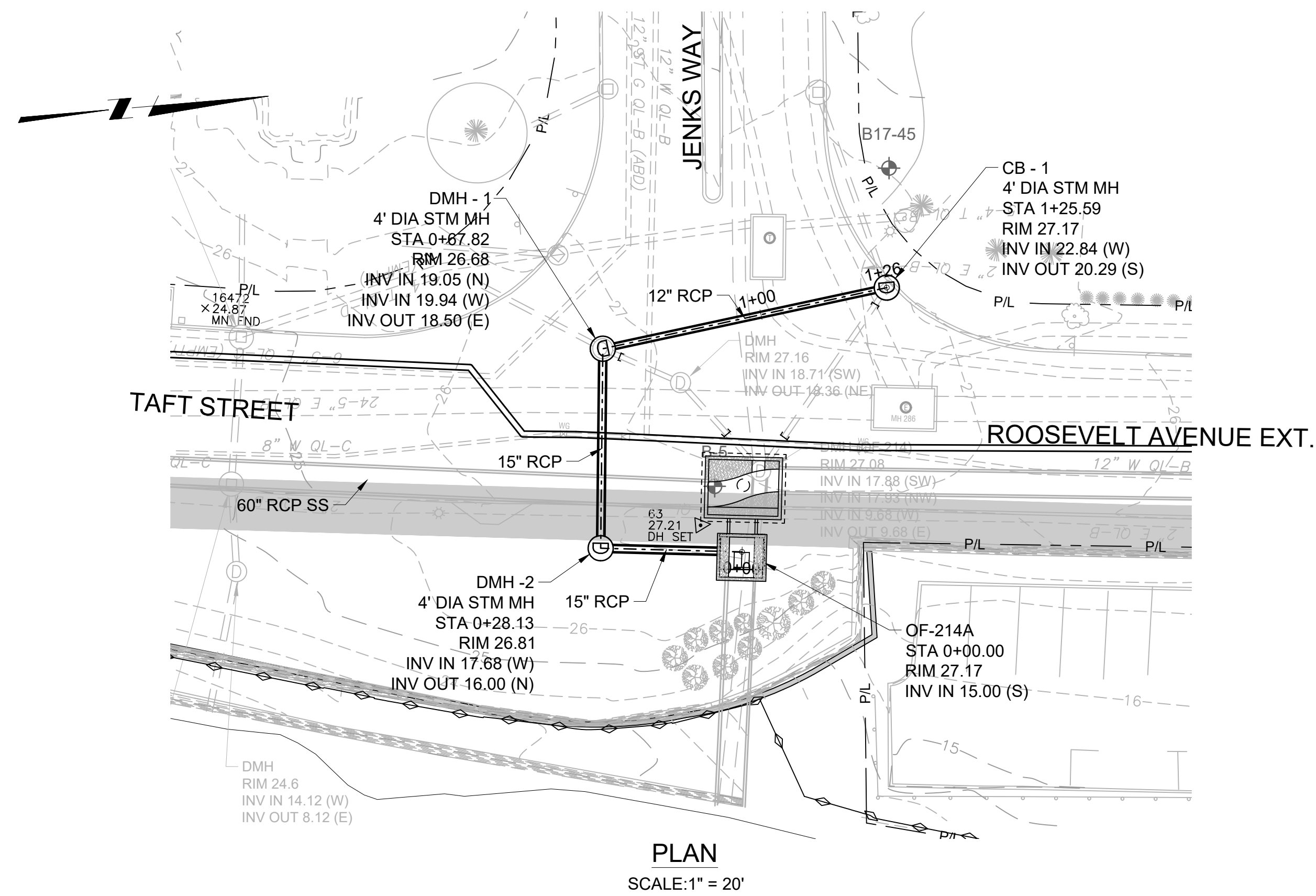
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL
OF 210/213/214 FACILITIES
MAIN STREET WATER MAIN REPLACEMENT
PLAN & PROFILE 4: STA 0+00 - 1+42

SHEET
C-13
195130227

BY: JAIMIE PAYNE

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAWT_SITE_DRAINAGE_PLAN_ & PROFILE_IPLO0300.dwg Friday, November 12, 2021 4:11:31 PM



- GENERAL SHEET NOTES**
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 - FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
 - CITY PROPOSED BIKE PATH PROJECT DEPICTED IN GRAY SHADING FOR COORDINATION.
 - VERTICAL DATUM FOR PROJECT IS NGVD29.

SHEET KEYNOTES

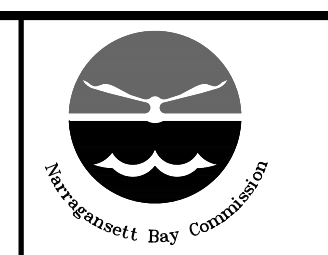
REV	DATE	BY	DESCRIPTION

SCALE
AS SHOWN

WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021
NOT FOR CONSTRUCTION
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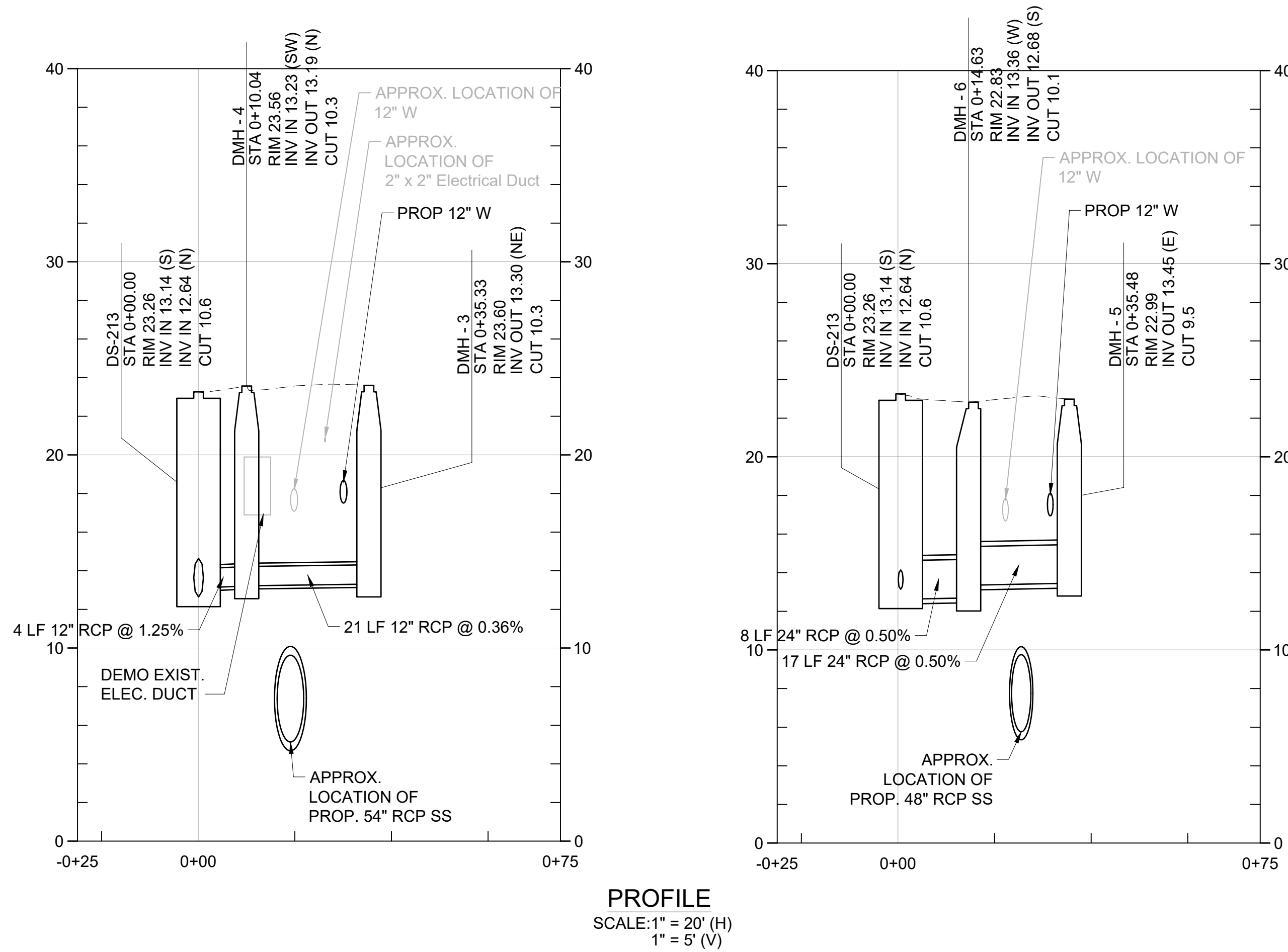
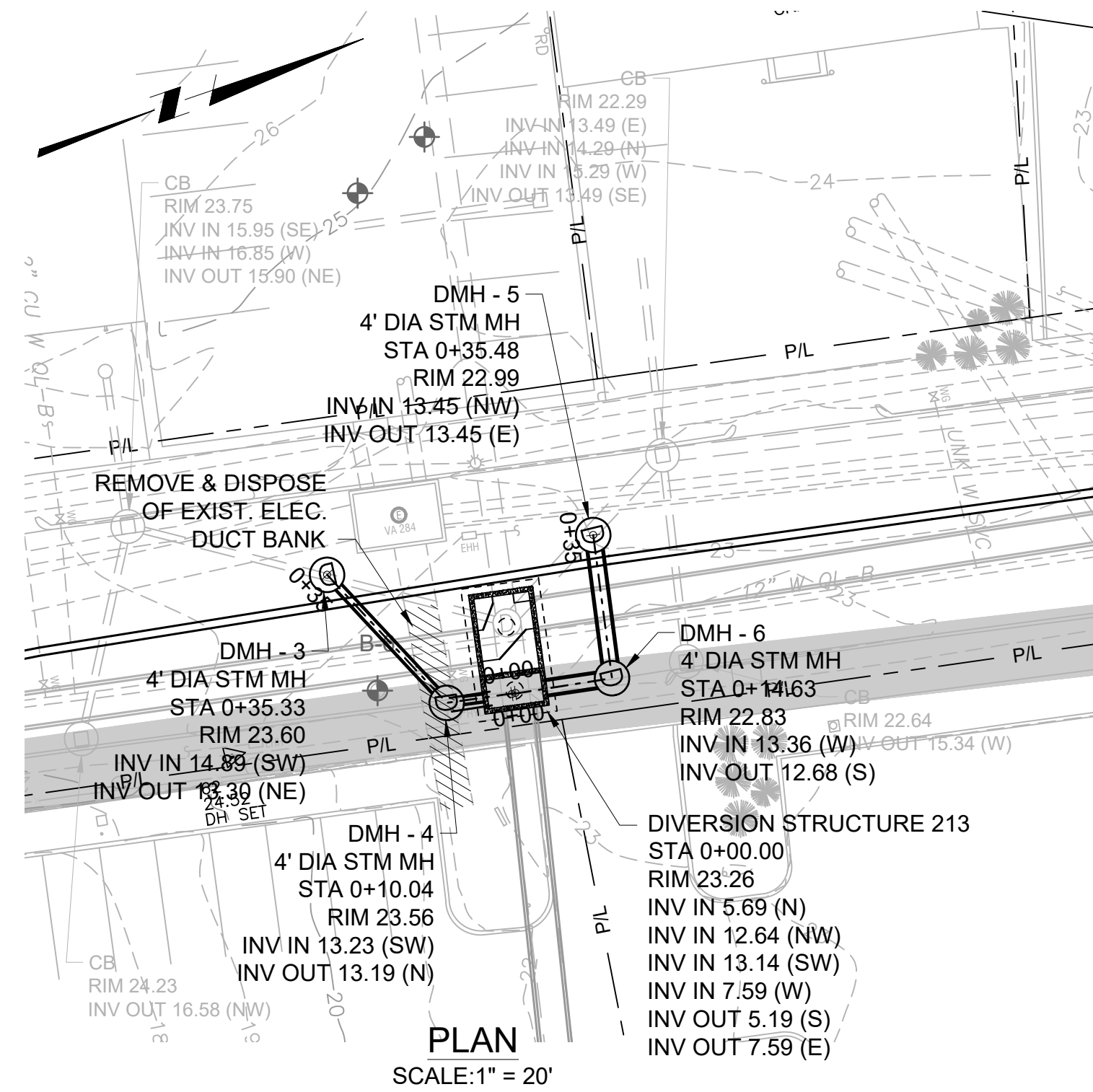
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL
OF 210/213/214 FACILITIES
DRAINAGE REPLACEMENT
PLAN AND PROFILE I: STA 0+00 - 1+26

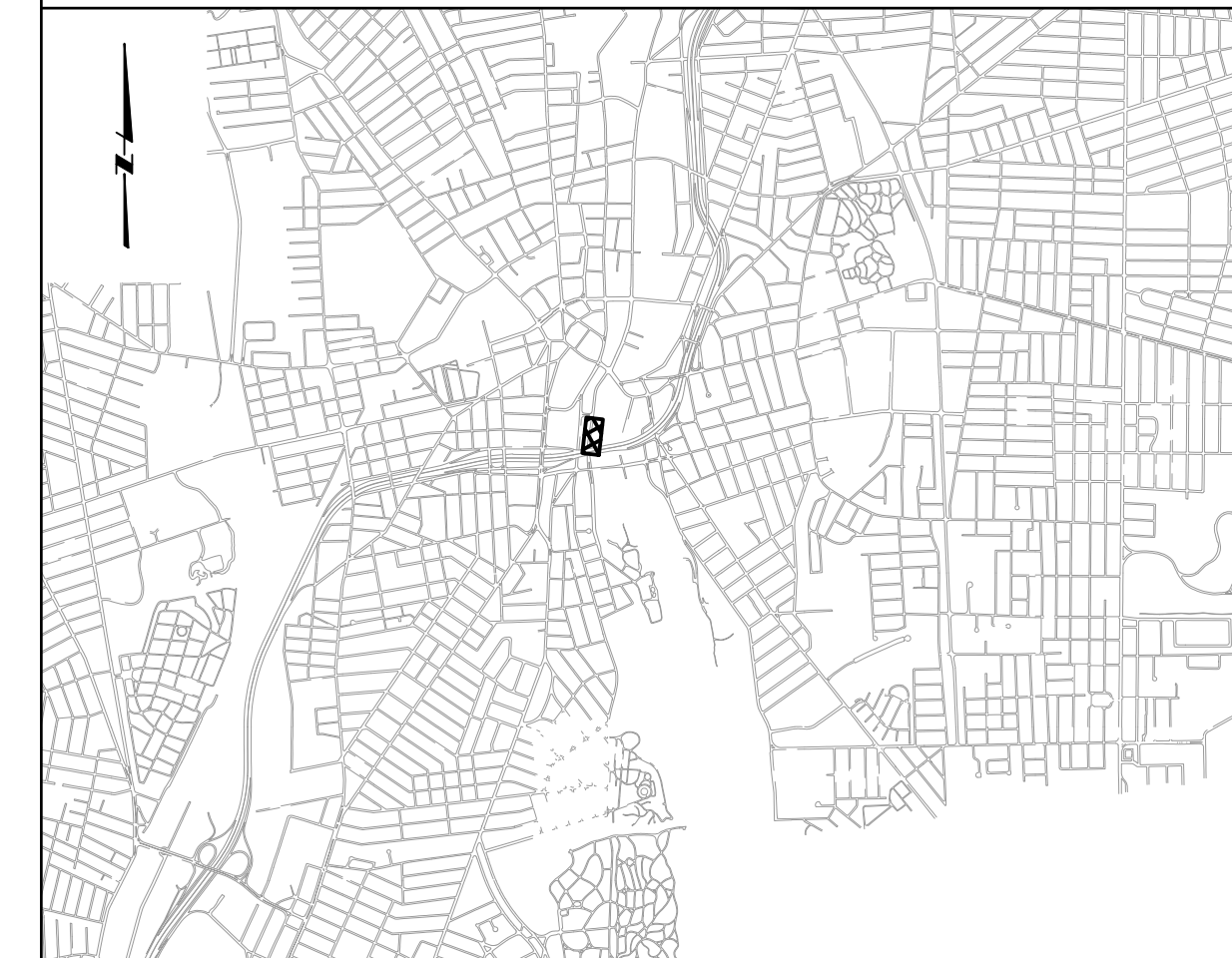
SHEET
C-14
195130227

BY: JAIMIE PAYNE

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KEY PLAN



GENERAL SHEET NOTES

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SHEET KEYNOTES

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE AS SHOWN

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED: C. CRONIN
 DRAWN: J. PAYNE
 CHECKED: J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

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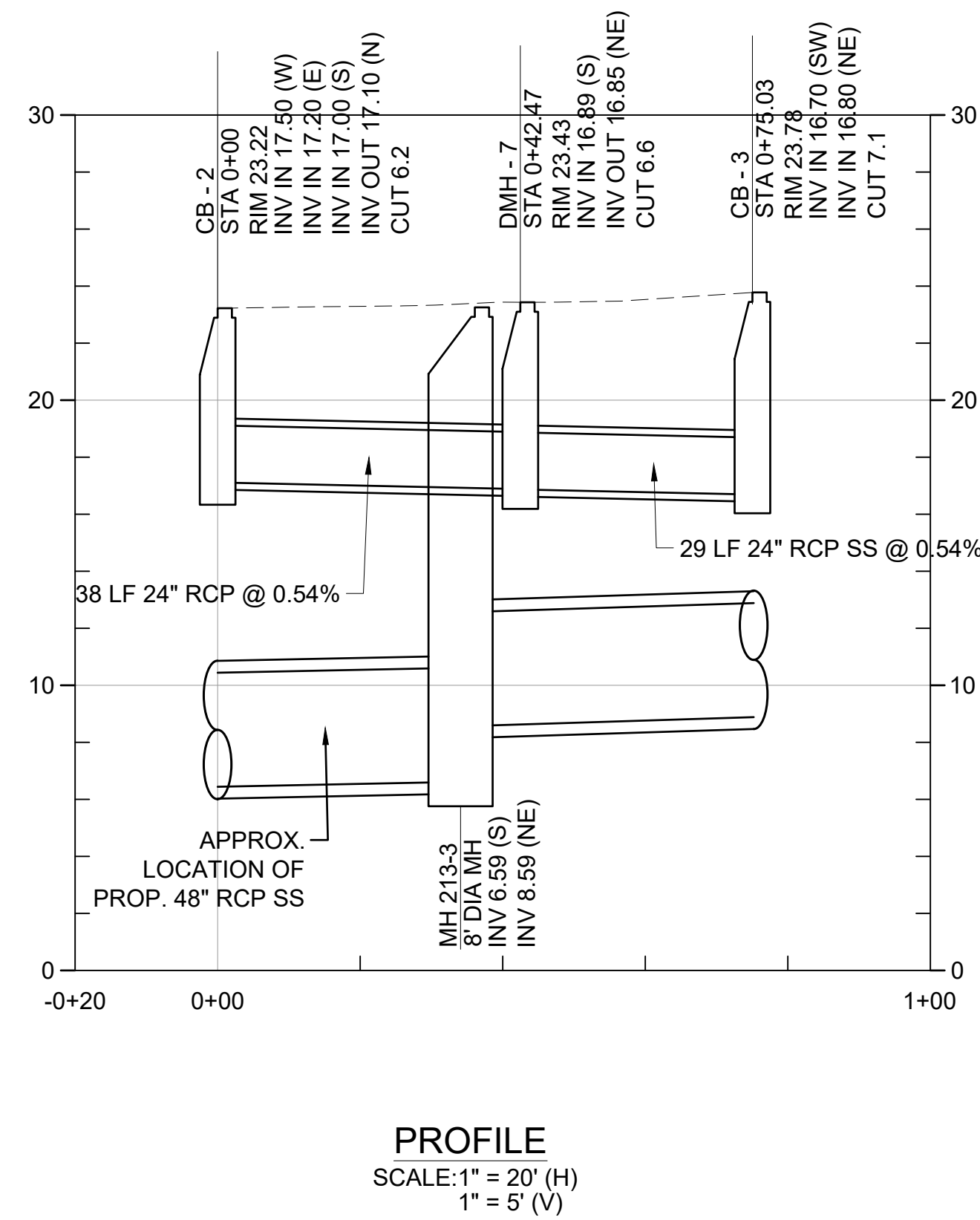
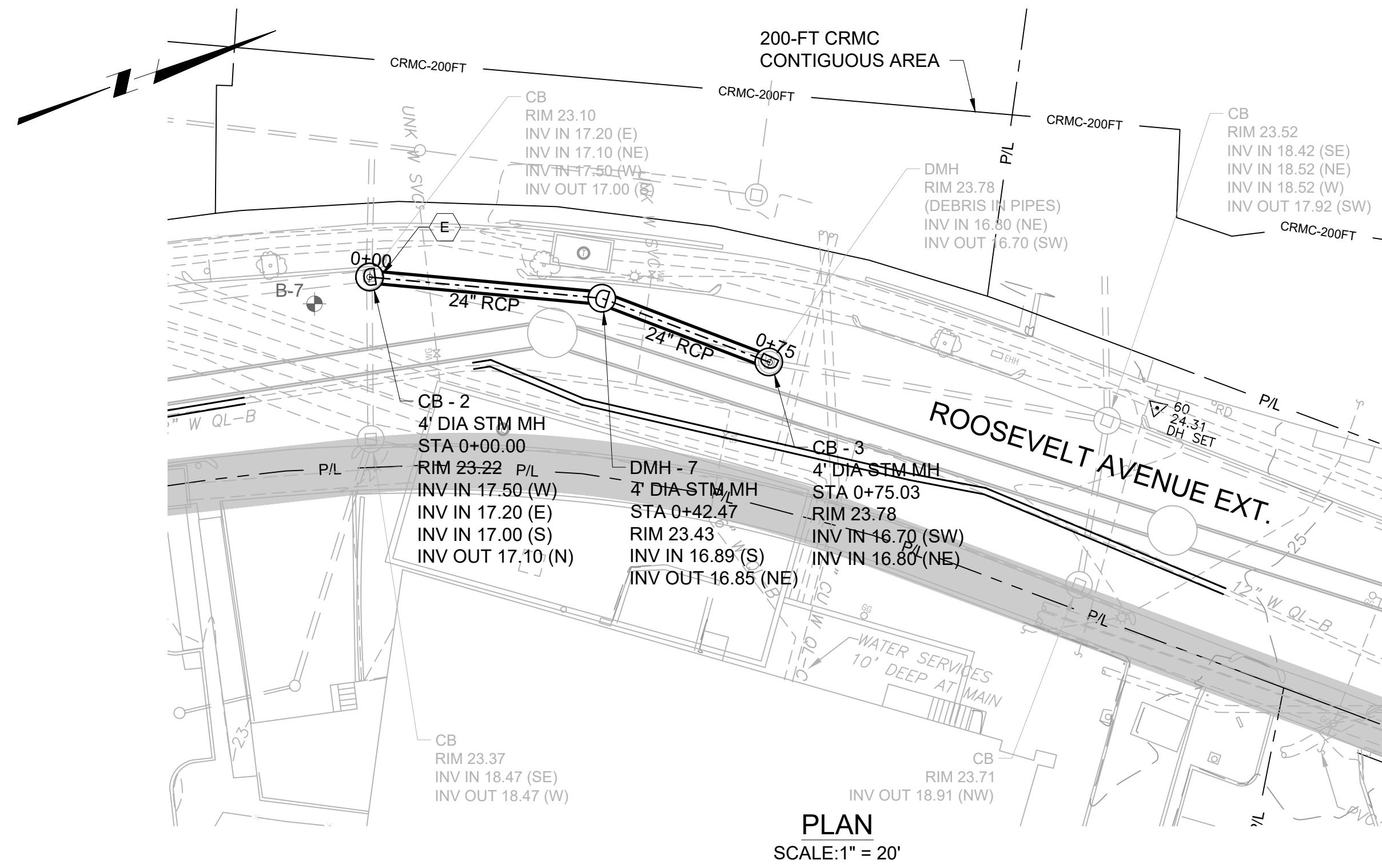


NARRAGANSETT BAY COMMISSION
 PHASE III COMBINED SEWER
 OVERFLOW PROGRAM

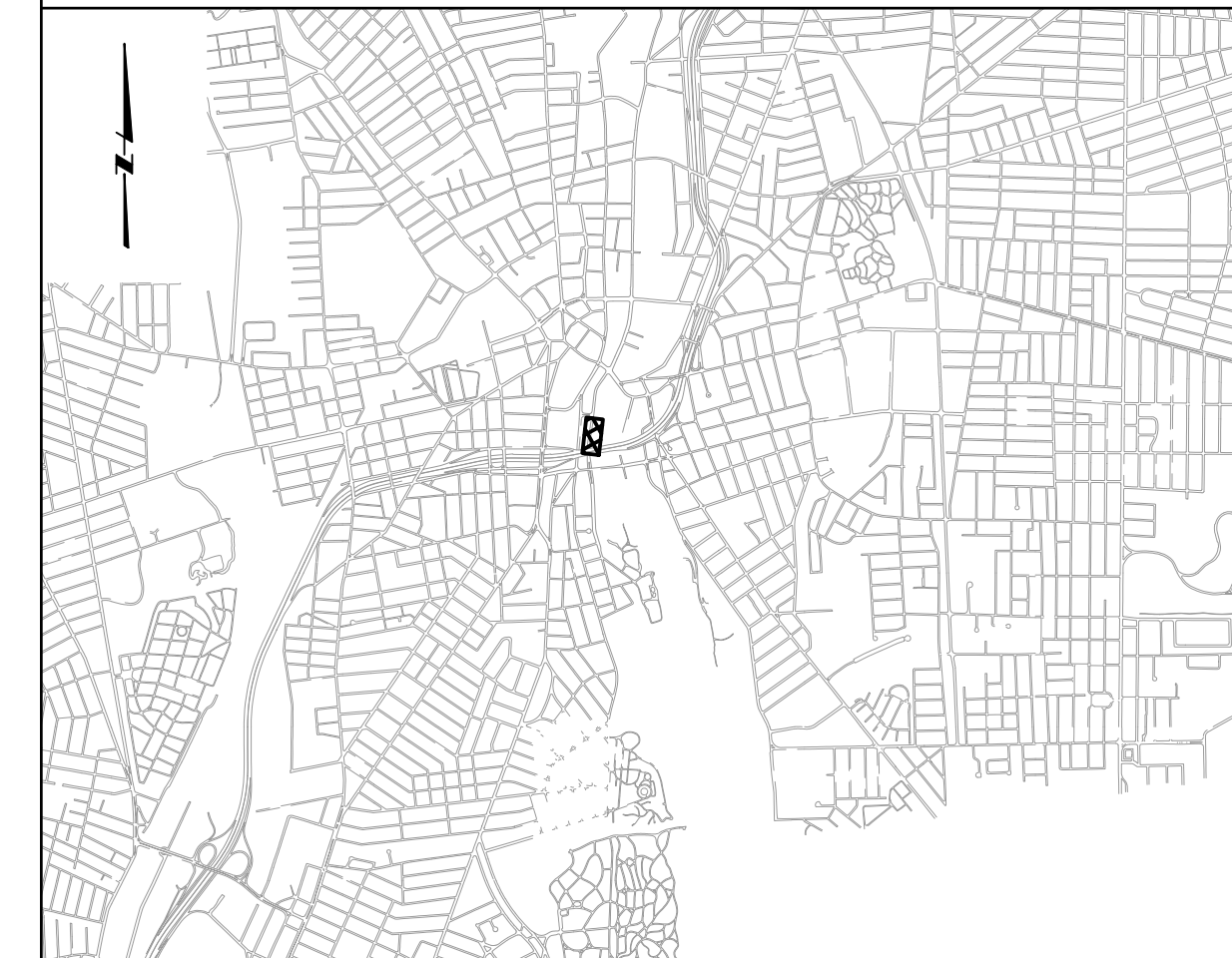
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 CIVIL
 OF 210/213/214 FACILITIES
 DRAINAGE REPLACEMENT
 PLAN AND PROFILE II: STA 0+00 - 0+35

BY: JAIMIE PAYNE

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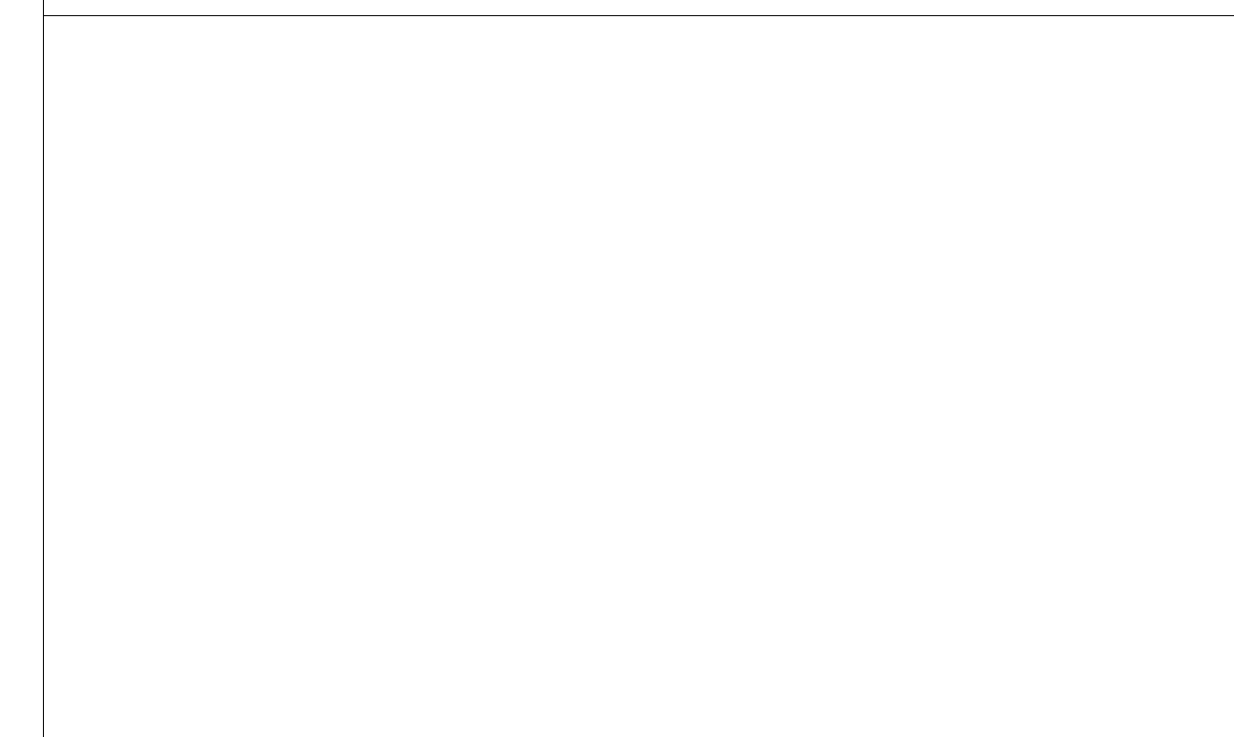
KEY PLAN



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SHEET KEYNOTES



REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	AS SHOWN
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DESIGNED	C. CRONIN
DRAWN	J. PAYNE
CHECKED	J. D'ALELIO

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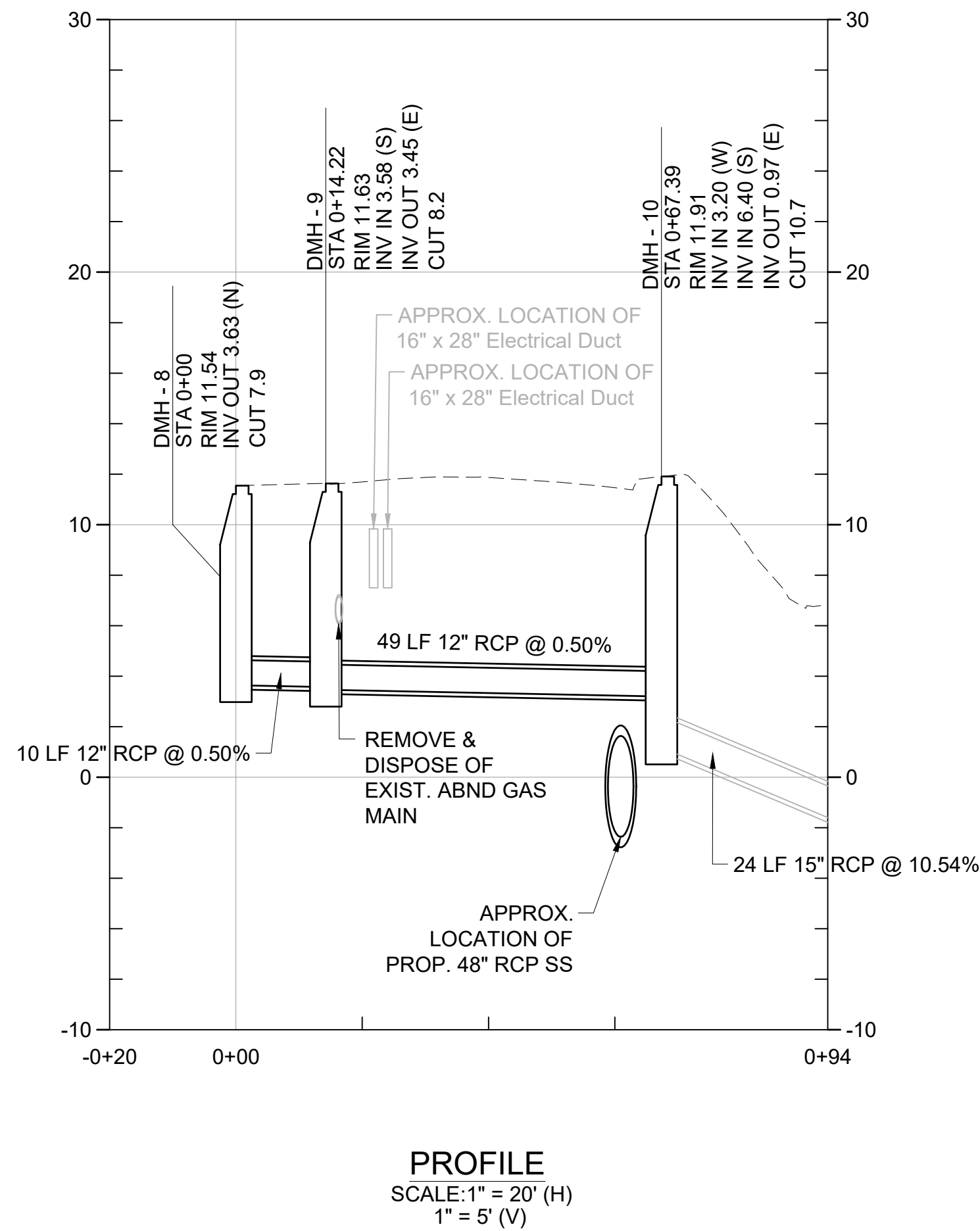
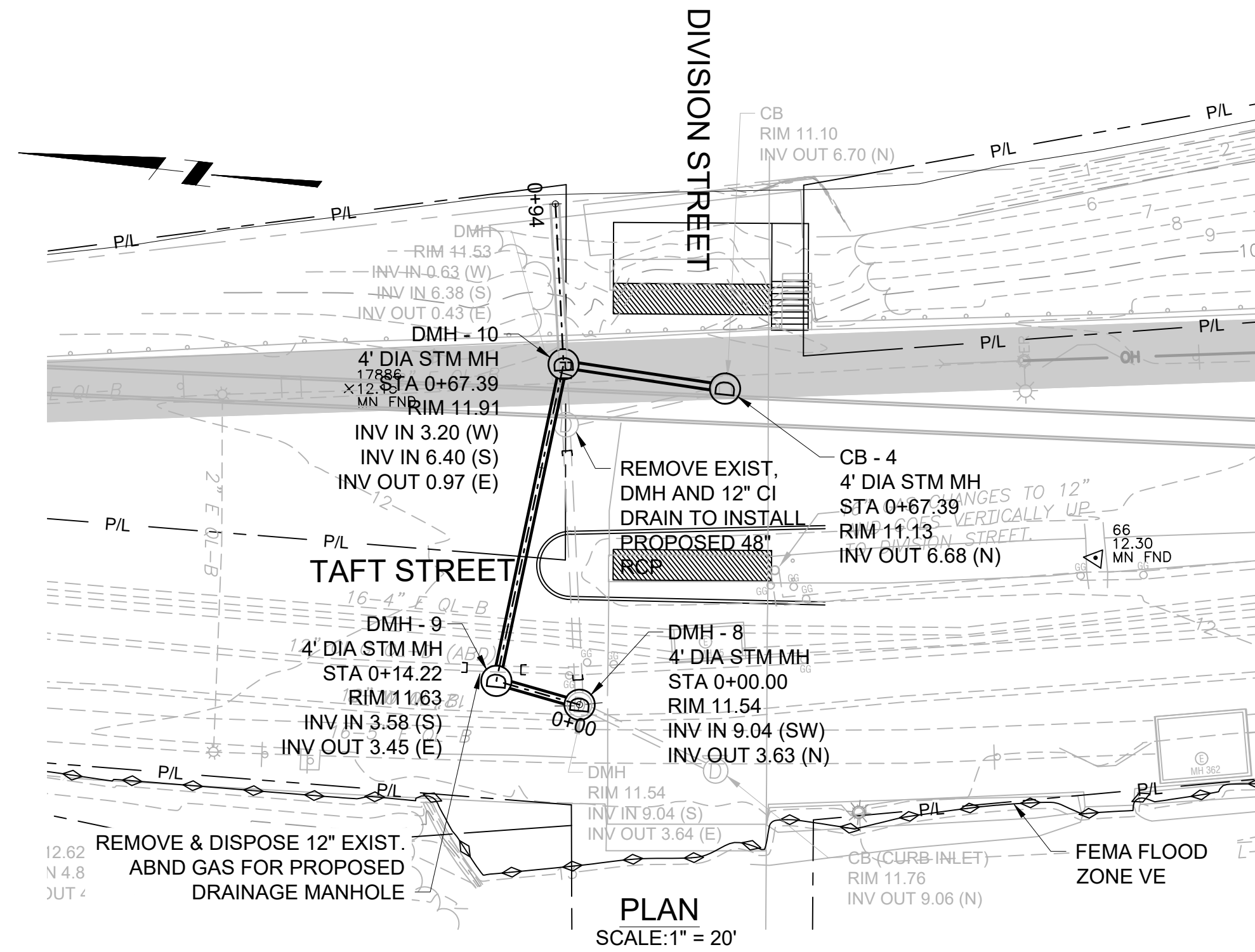


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

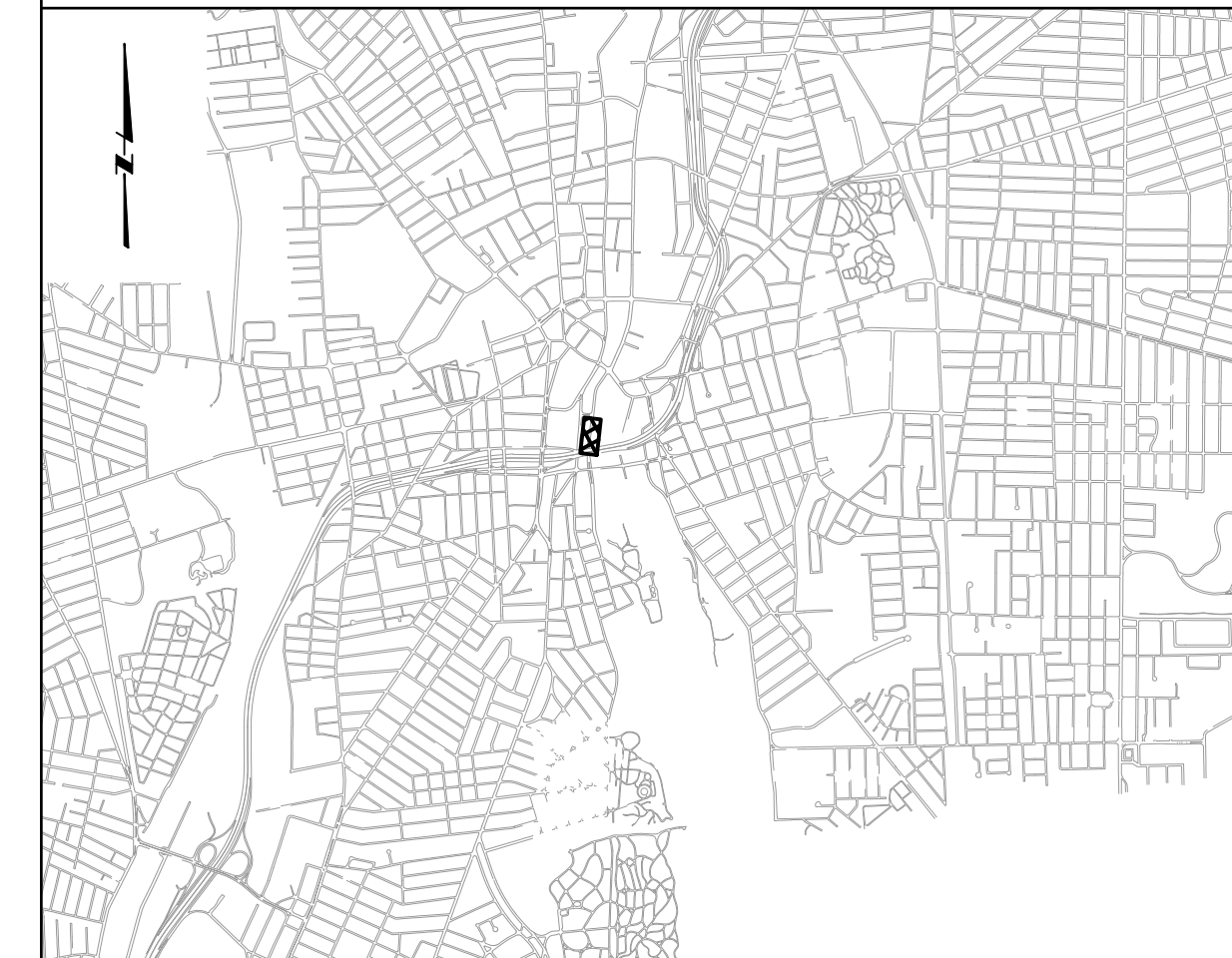
NBC CONTRACT NO 308.04C
CIVIL
OF 210/213/214 FACILITIES
DRAINAGE REPLACEMENT
PLAN AND PROFILE III: STA 0+00 - 1+38

BY: JAIMIE PAYNE

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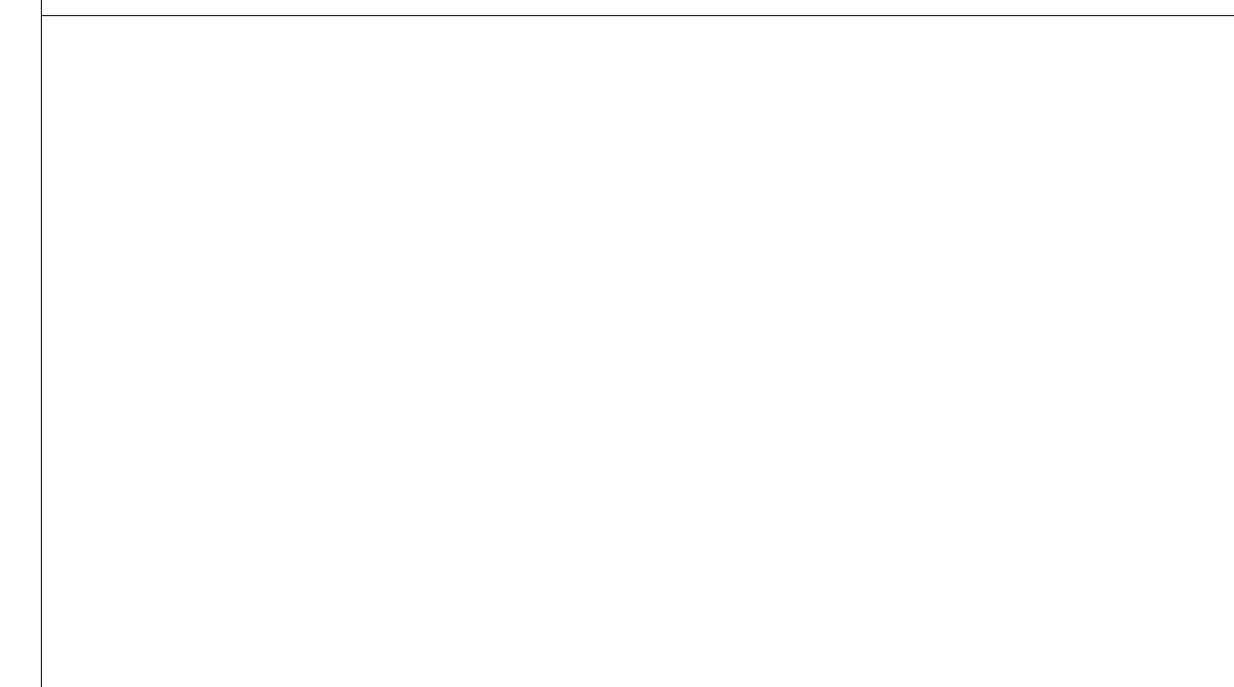
KEY PLAN



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SHEET KEYNOTES



REV	DATE	BY	DESCRIPTION

SCALE AS SHOWN	WARNING IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
-------------------	---

DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALESSIO

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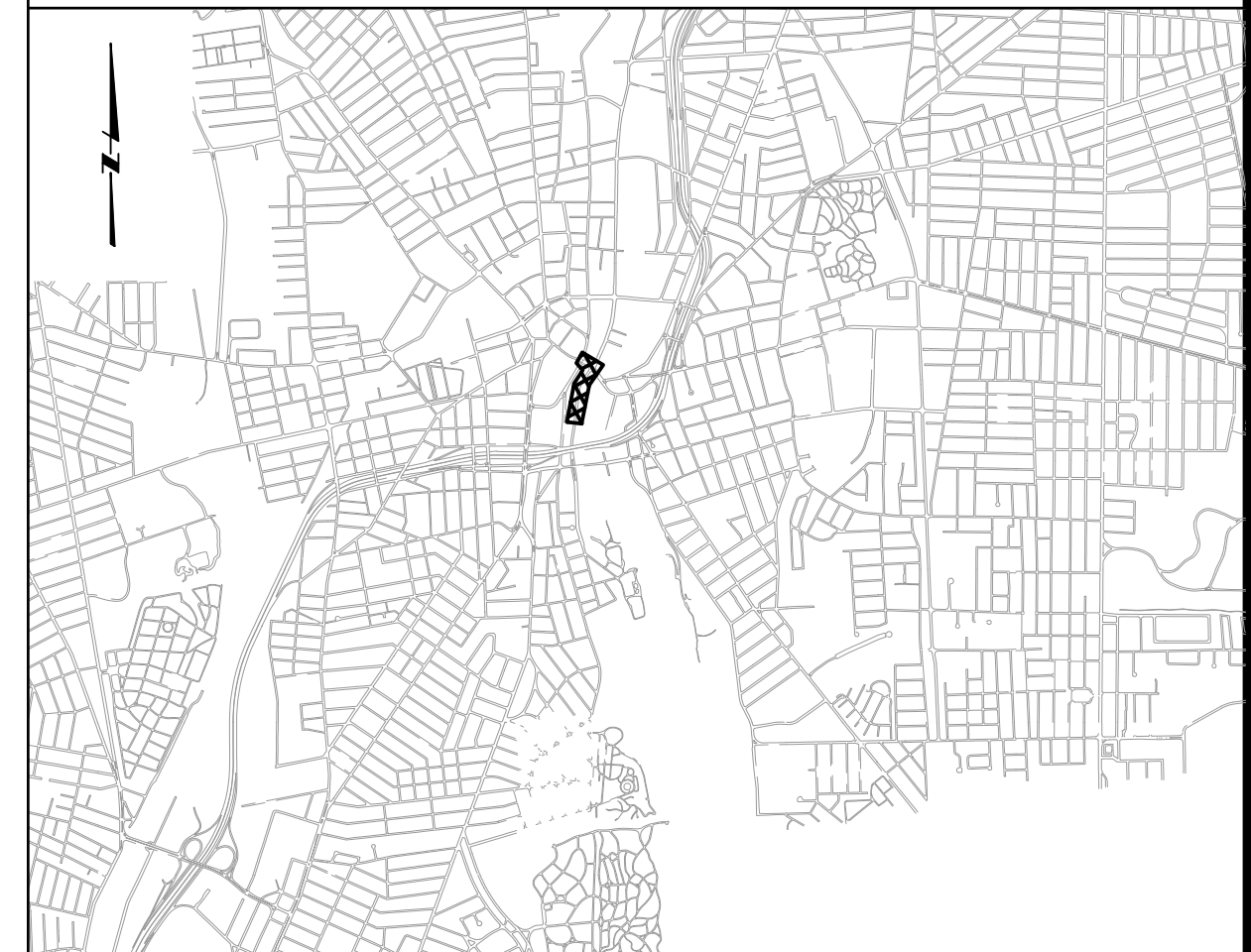
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL
OF 210/213/214 FACILITIES
DRAINAGE REPLACEMENT
PLAN AND PROFILE IV: STA 0+00 TO 0+94

SHEET
C-17
195130227

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 BY: JAIMIE PAYNE

KEY PLAN

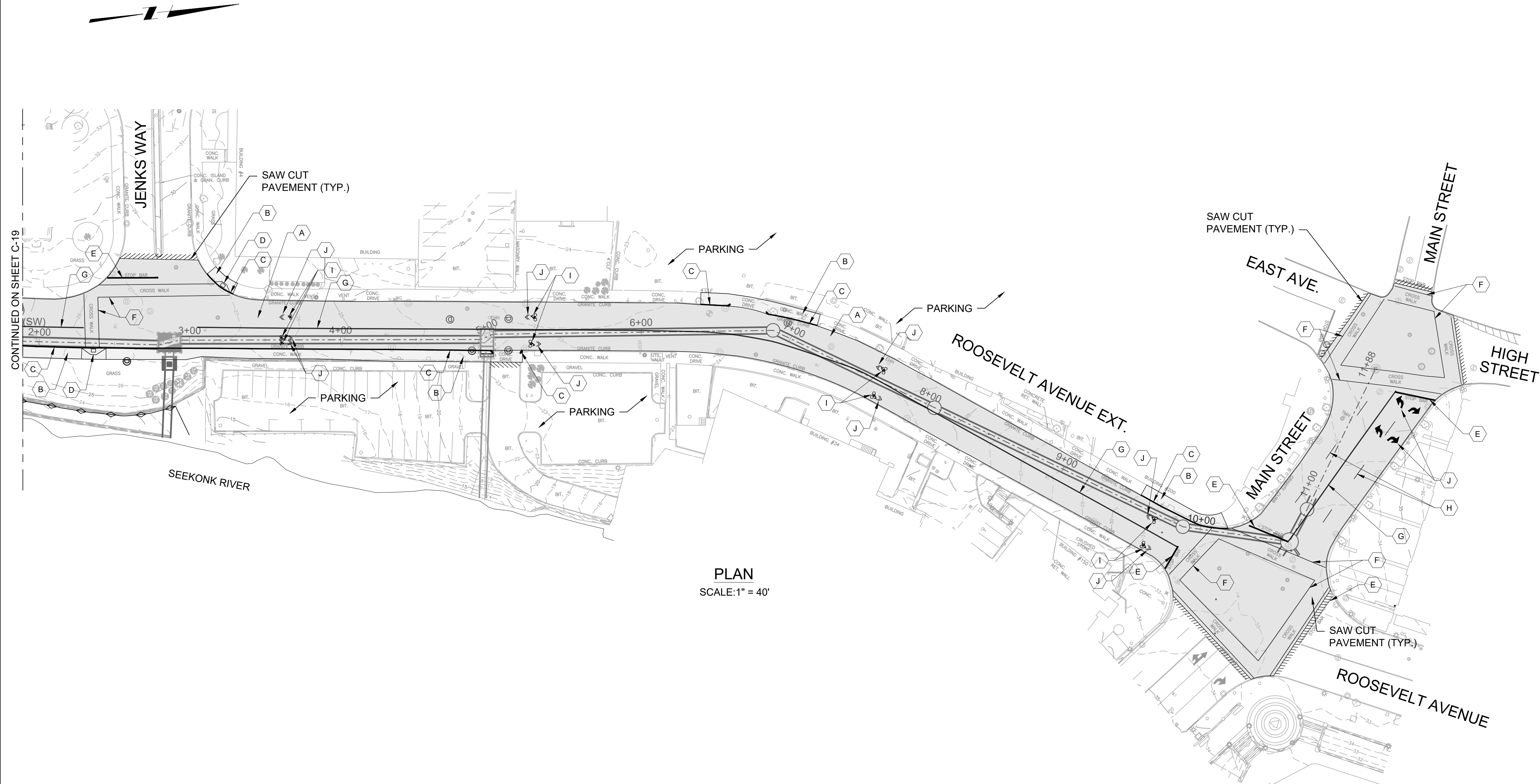


GENERAL SHEET NOTES

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 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8
3. CONTACTOR TO MATCH EXISTING LANE WIDTHS, SHOULDER WIDTHS, BIKE LANE WIDTHS AND PARKING LANE WIDTHS

SHEET KEYNOTES

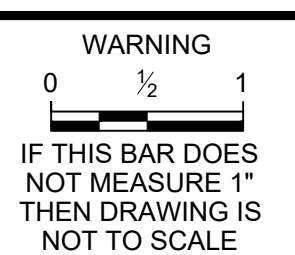
- A. PAVEMENT MILLING AND OVERLAY
- B. REMOVE AND REPLACE SIDEWALK, MATCH EXISTING WIDTH (5' MIN)
- C. REMOVE AND REPLACE CURB
- D. REMOVE AND REPLACE WHEELCHAIR RAMP
- E. PAVEMENT STRIPING - STOP BAR, SEE DETAIL C-912
- F. PAVEMENT STRIPING - 8' (MIN.) CROSSWALK, SEE DETAIL C-912
- G. PAVEMENT STRIPING - 6" DOUBLE YELLOW
- H. PAVEMENT STRIPING - 6" WHITE
- I. PAVEMENT STRIPING - BIKE LANE SYMBOL
- J. PAVEMENT STRIPING - DIRECTION SYMBOL



PLAN
SCALE: 1" = 40'

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	AS SHOWN
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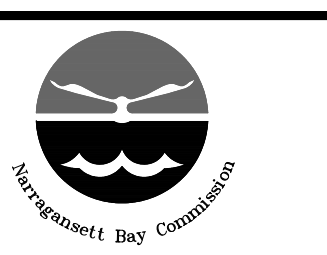


DESIGNED	C. CRONIN
DRAWN	B. MARINI
CHECKED	J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL

OF 210/213/214 FACILITIES
PAVEMENT RESTORATION - MAIN STREET TO JENKS WAY

SHEET
C-18
195130227

BY: JAIMIE PAYNE

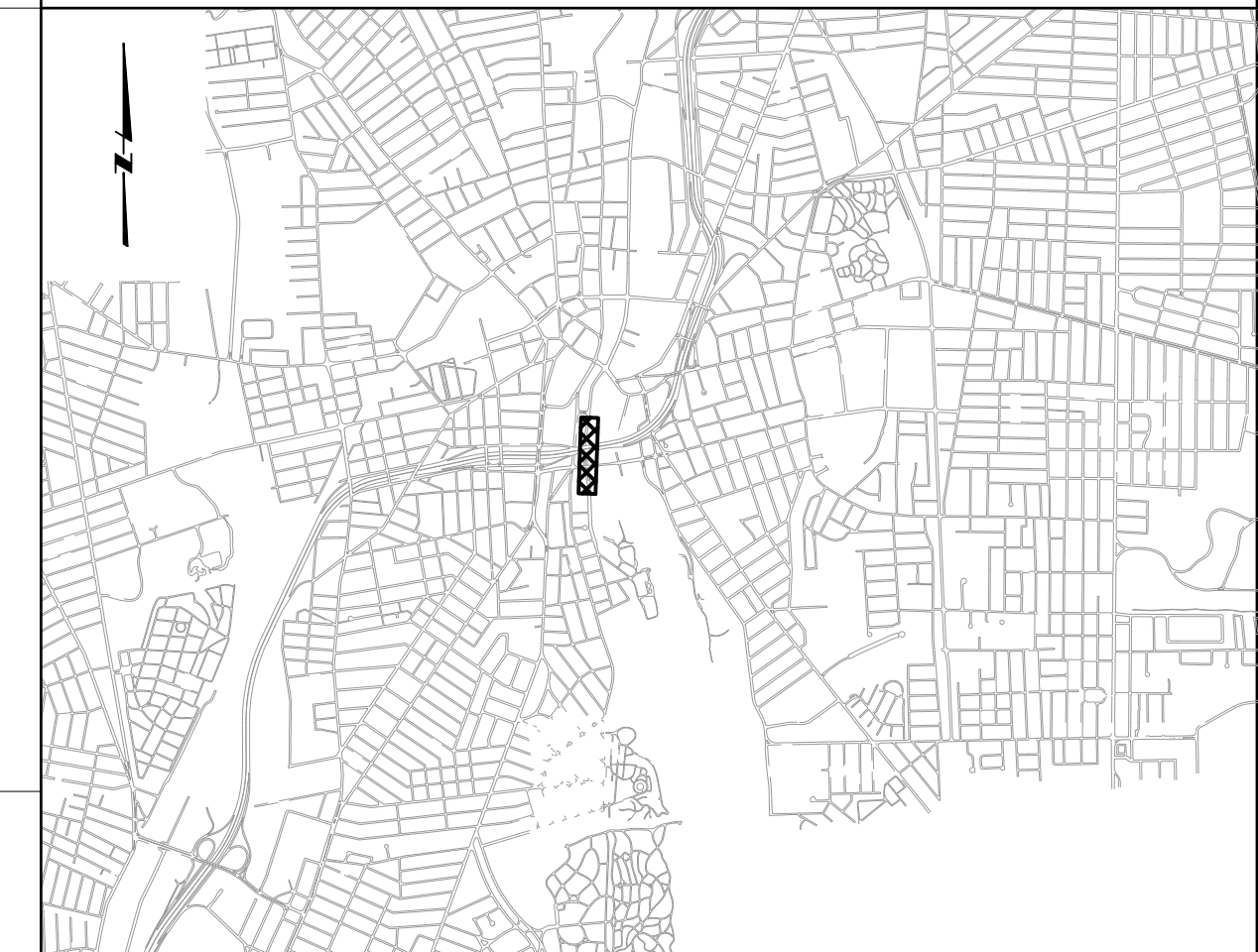
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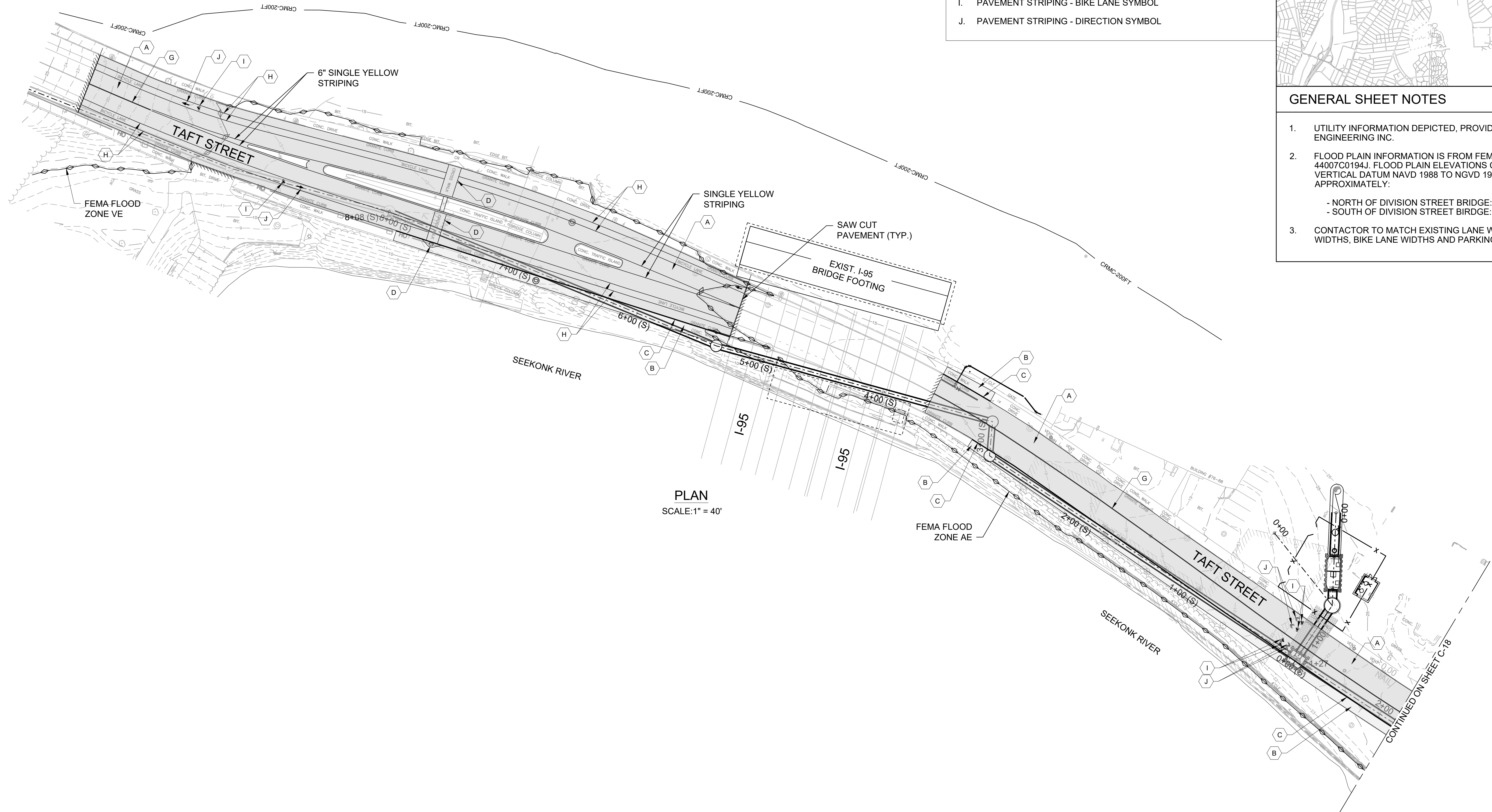
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- B. REMOVE AND REPLACE SIDEWALK, MATCH EXISTING WIDTH (5' MIN)
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- D. REMOVE AND REPLACE WHEELCHAIR RAMP
- E. PAVEMENT STRIPING - STOP BAR, SEE DETAIL C-912
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- I. PAVEMENT STRIPING - BIKE LANE SYMBOL
- J. PAVEMENT STRIPING - DIRECTION SYMBOL

KEY PLAN



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PLAN
SCALE: 1" = 40'

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	C. CRONIN
DRAWN	B. MARINI
CHECKED	J. D'ALELIO

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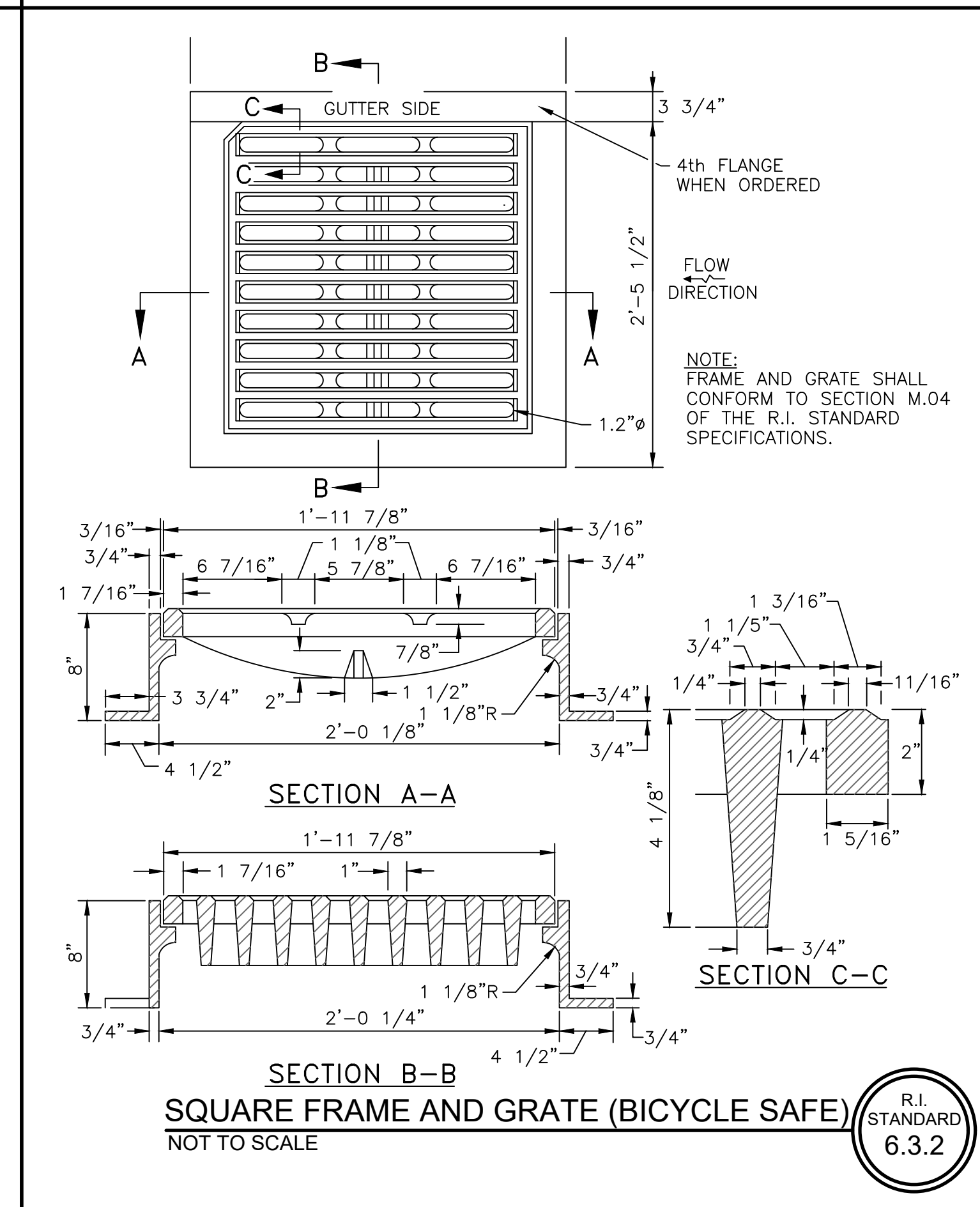
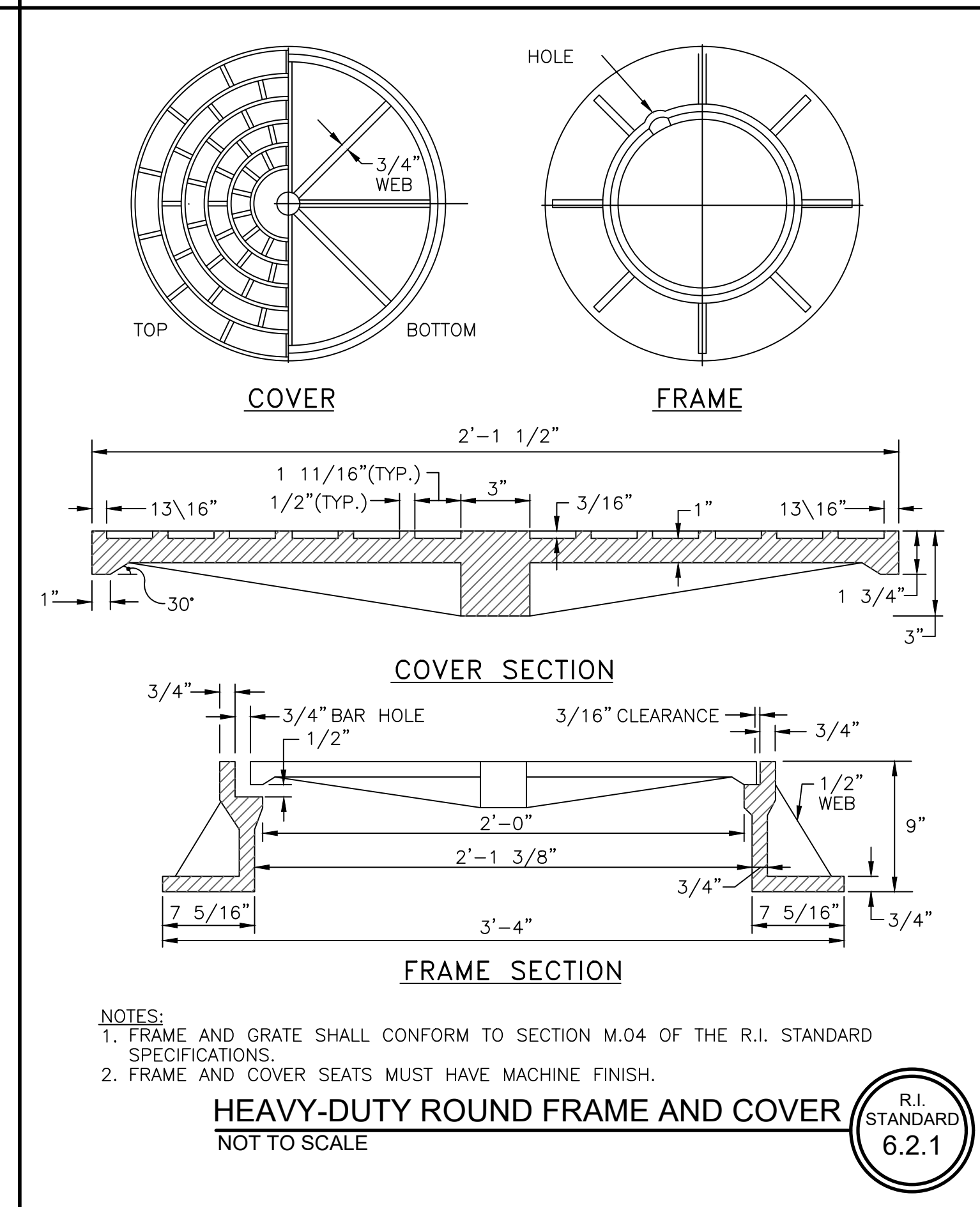
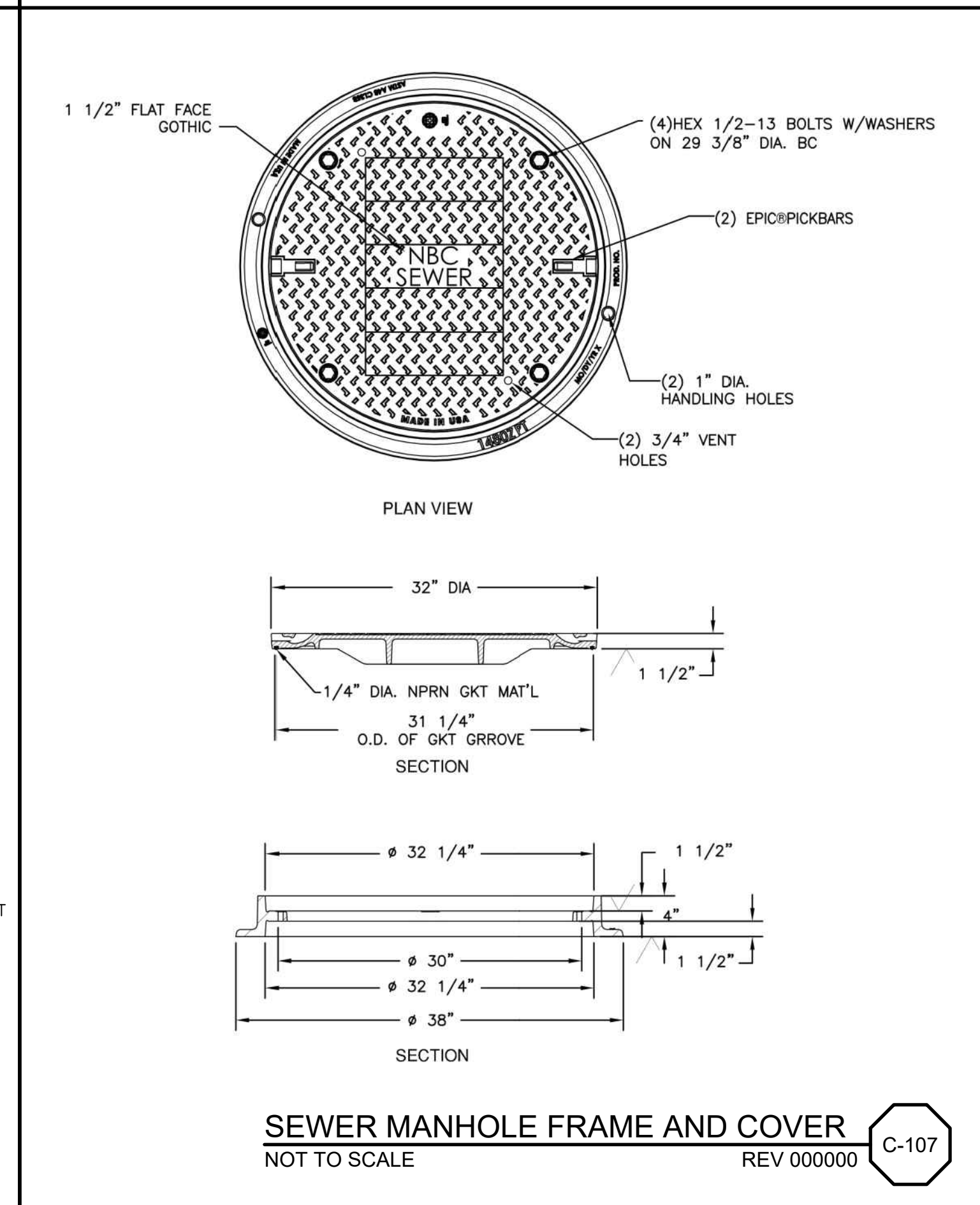
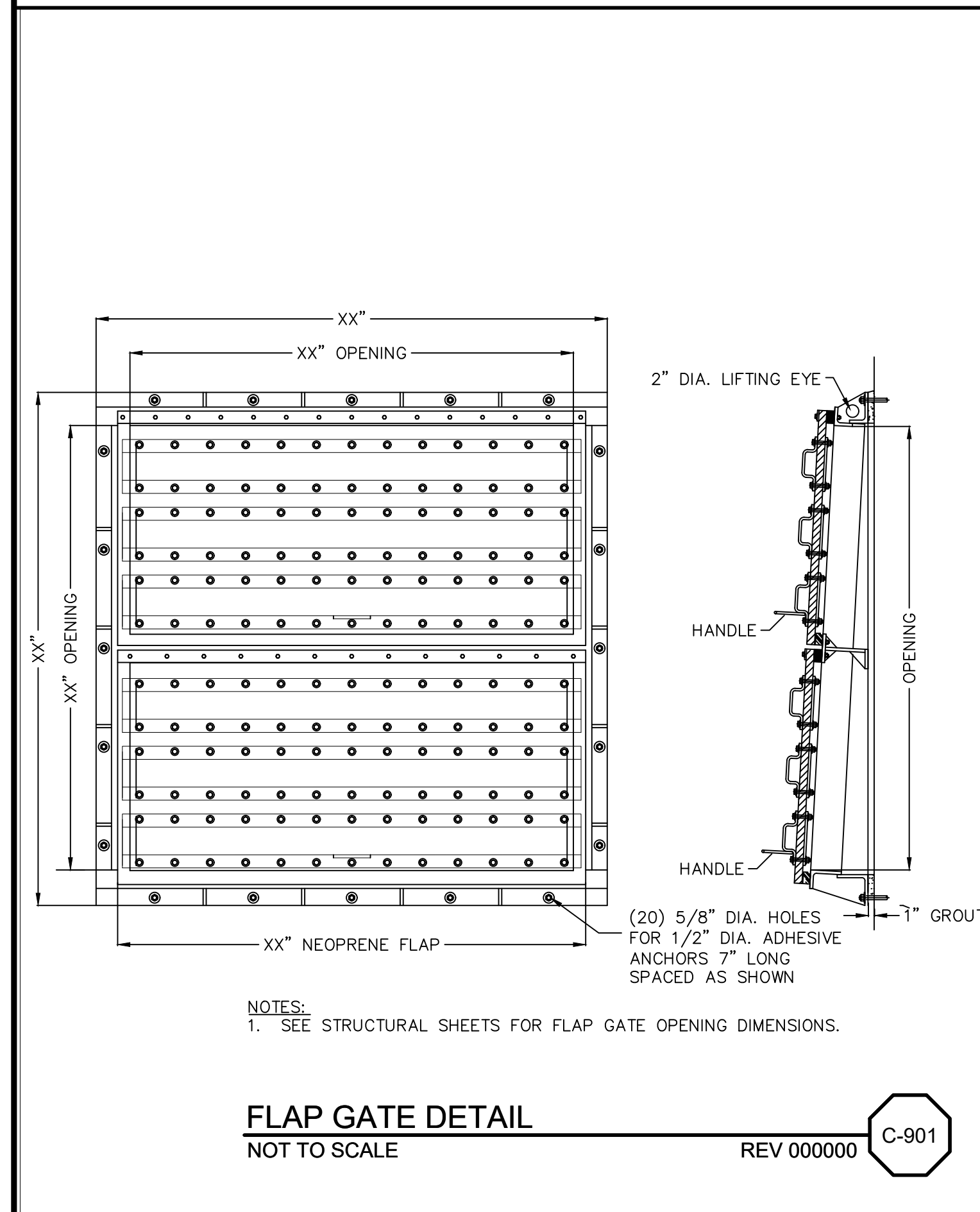
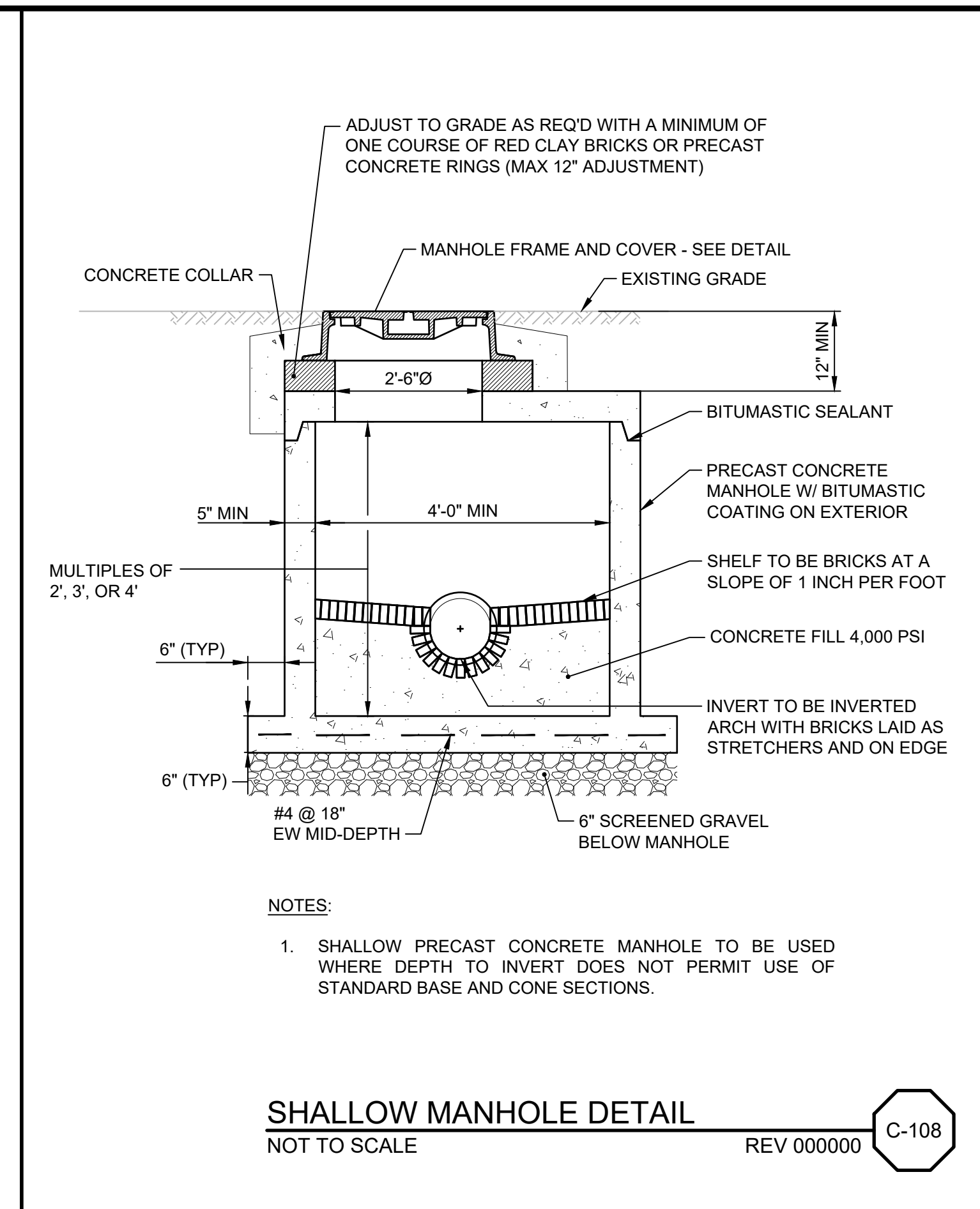
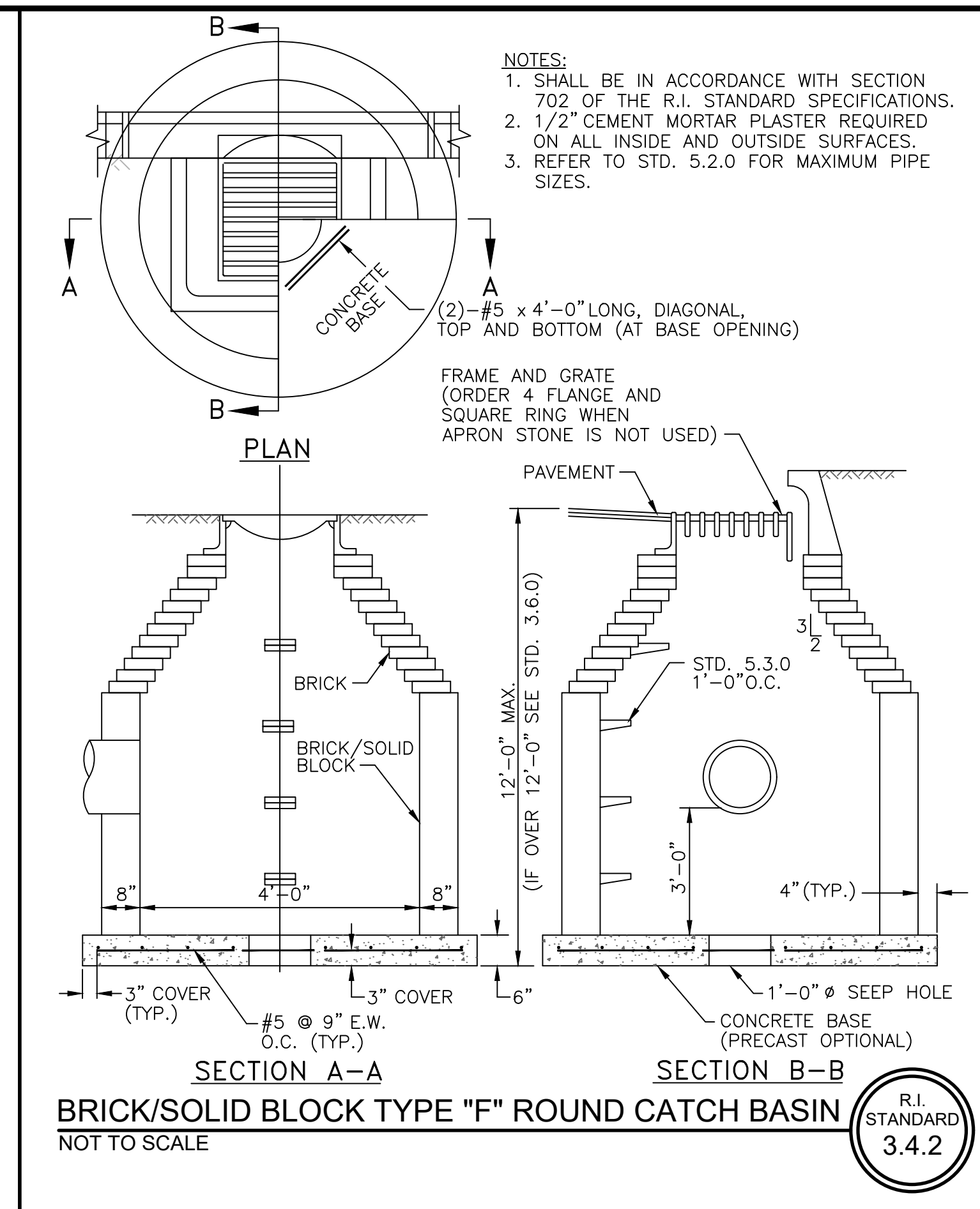
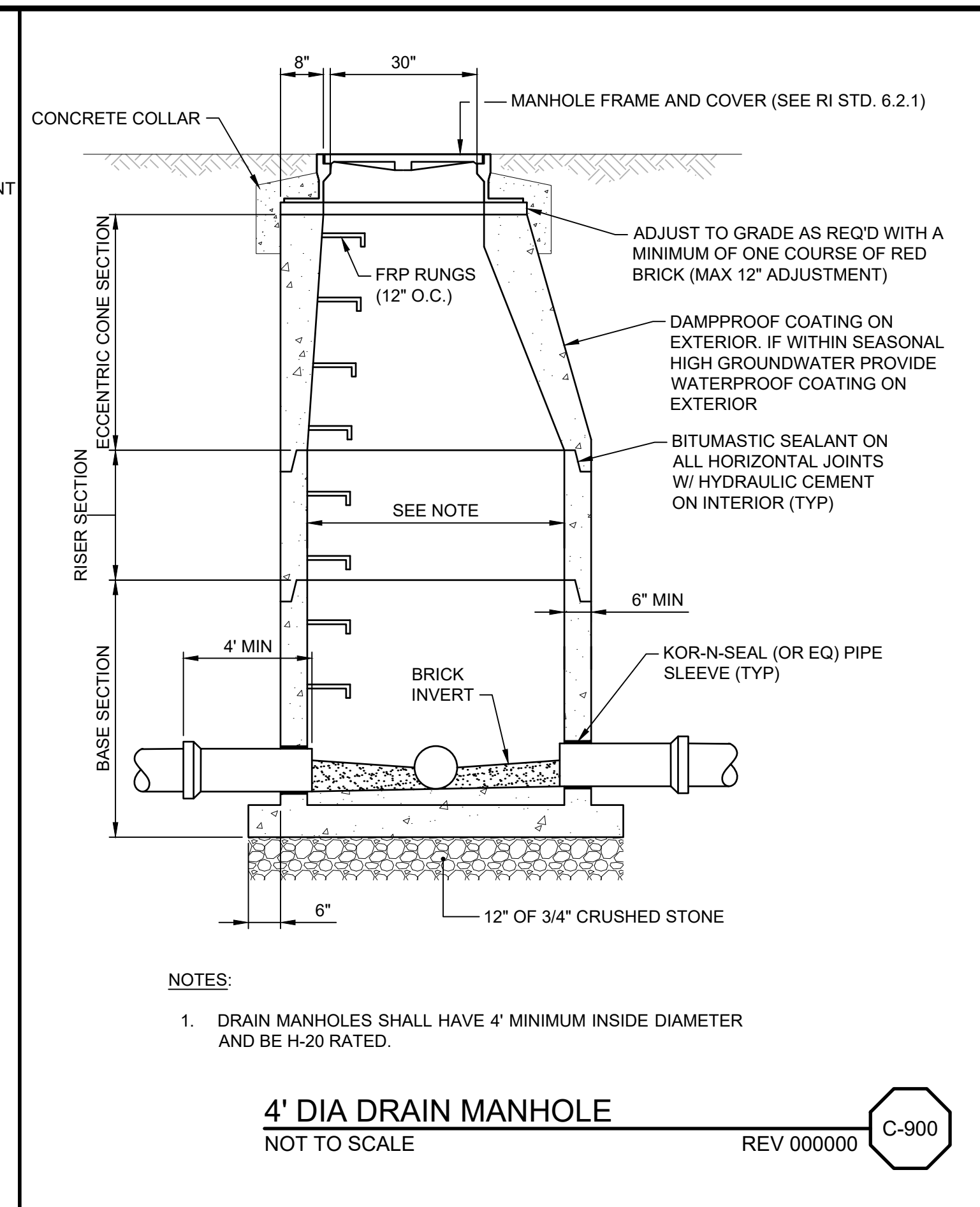
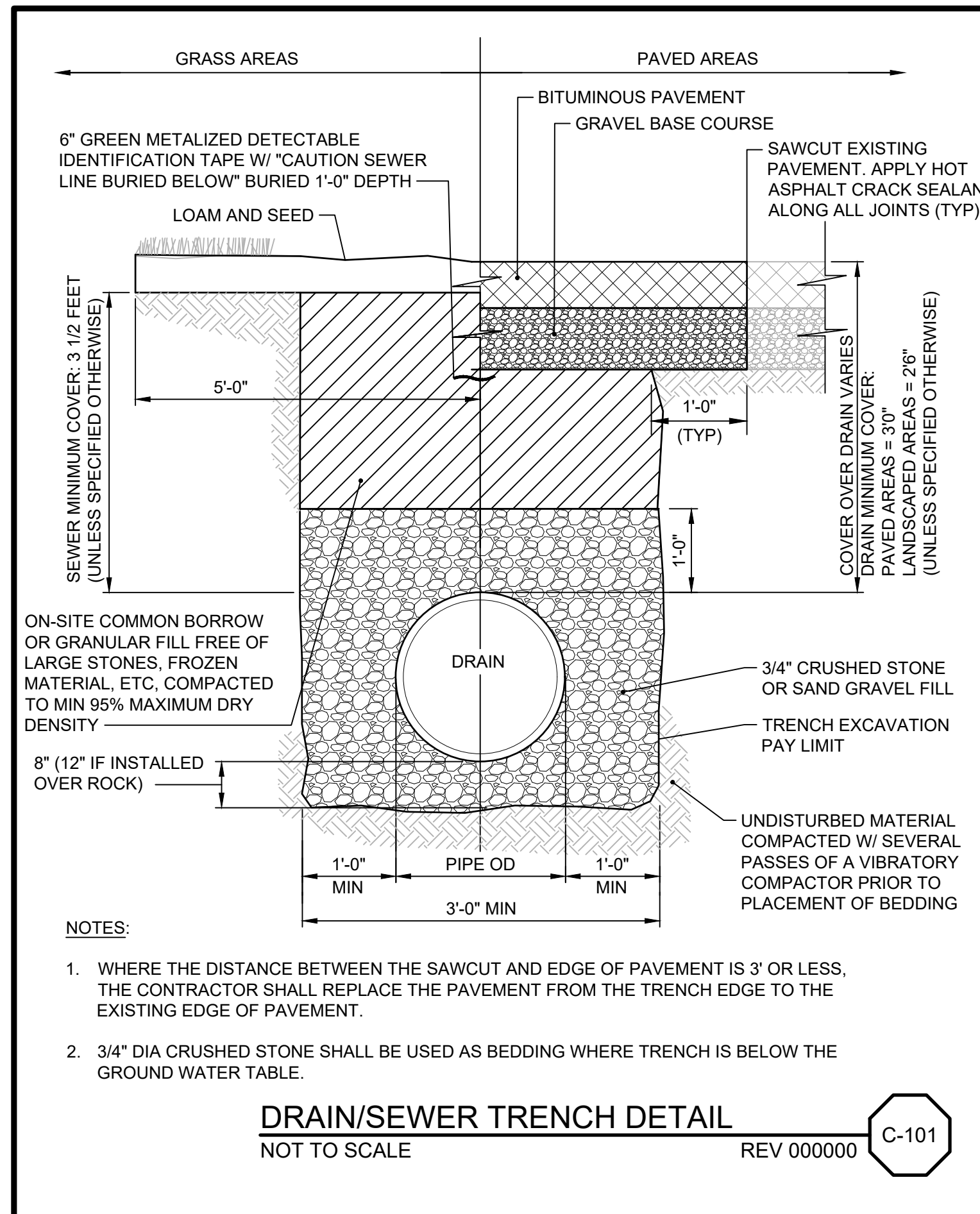


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL

OF 210/213/214 FACILITIES
PAVEMENT RESTORATION - TAFT STREET TO JENKS WAY

SHEET
C-19
195130227



SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
DESIGNED	C. CRONIN
DRAWN	C. MARSHALL
CHECKED	J. D'ALESSIO

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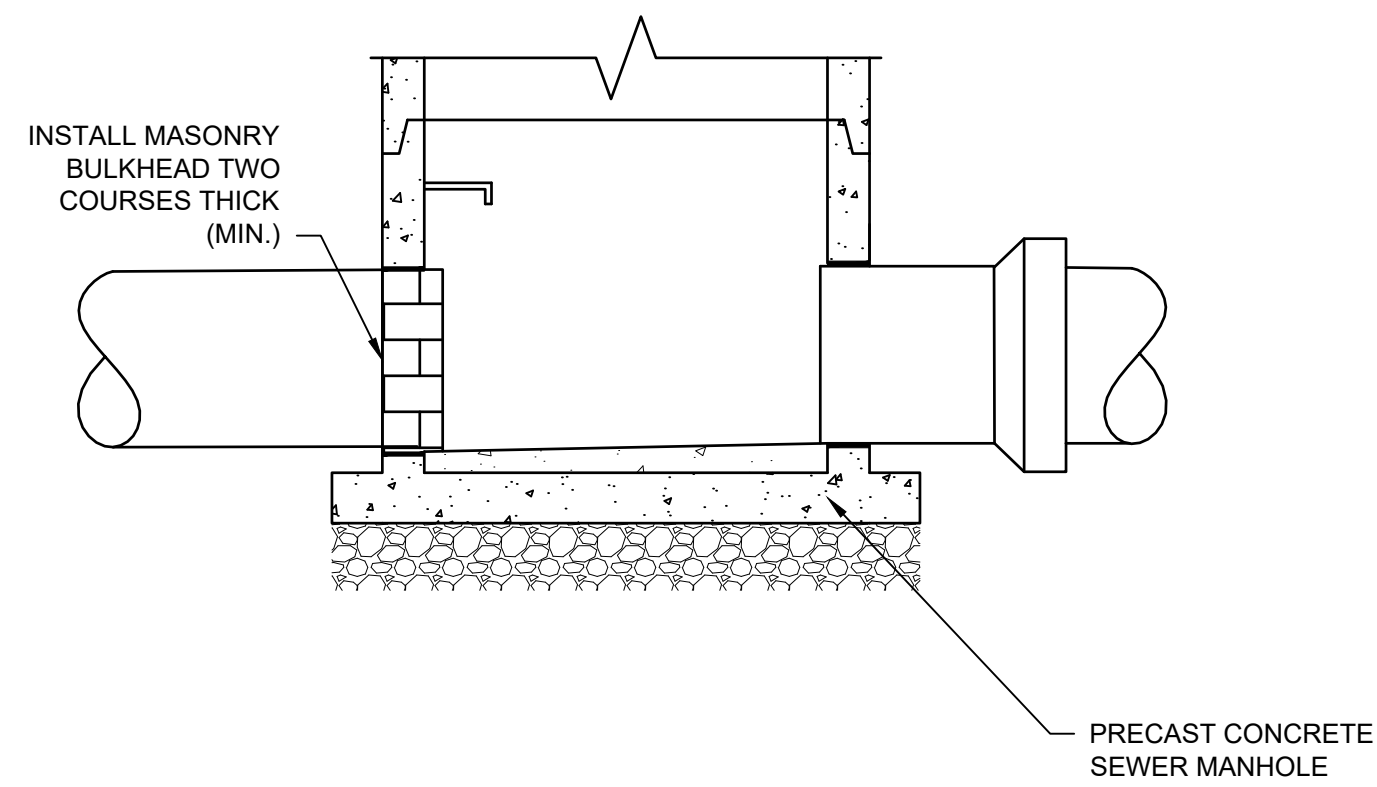
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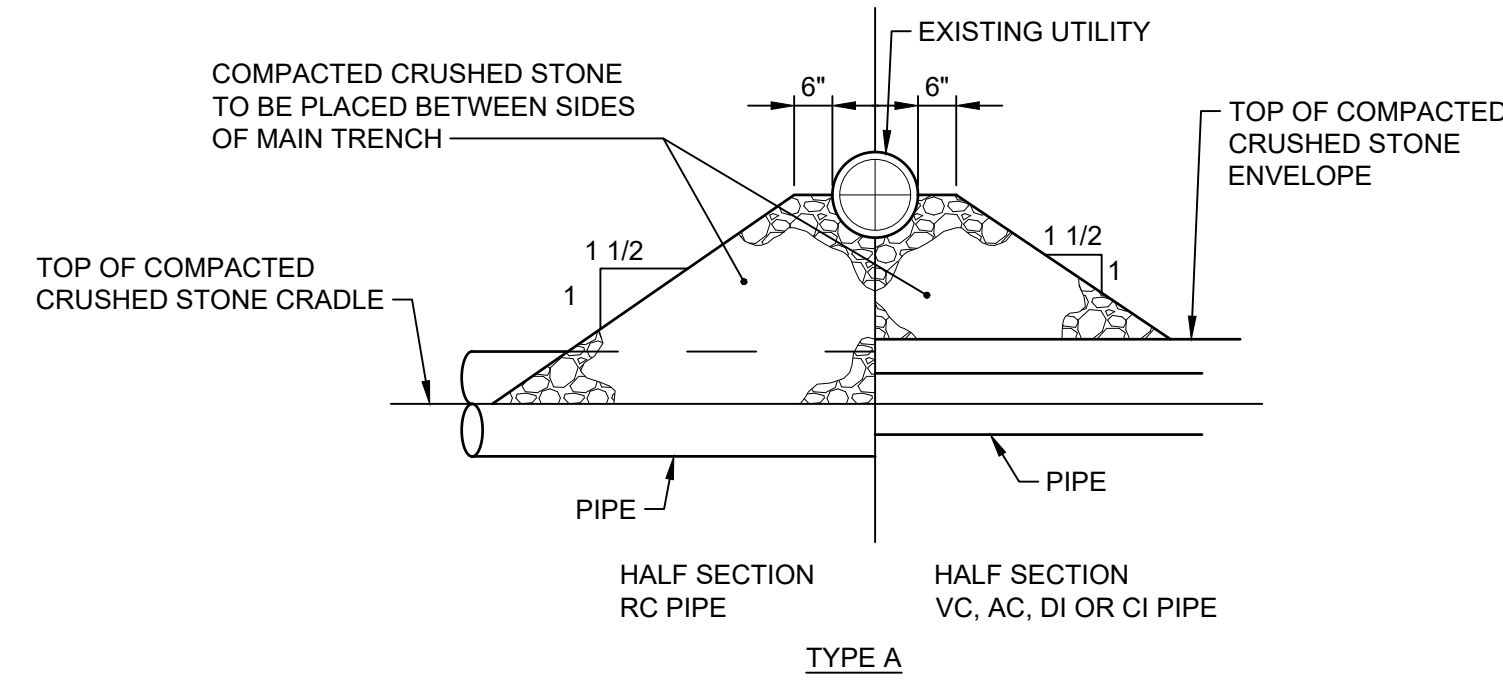
BETA **Stantec** **PARC**

www.BETA-Inc.com

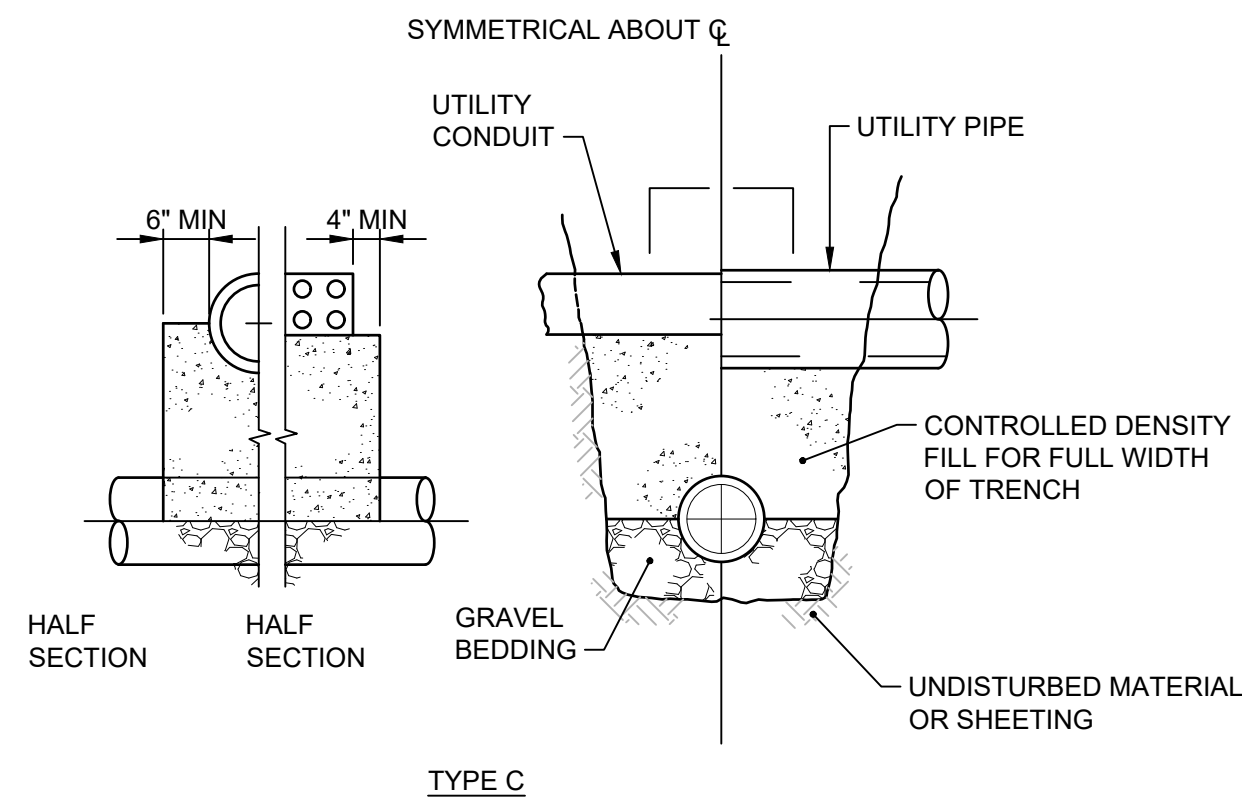
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM



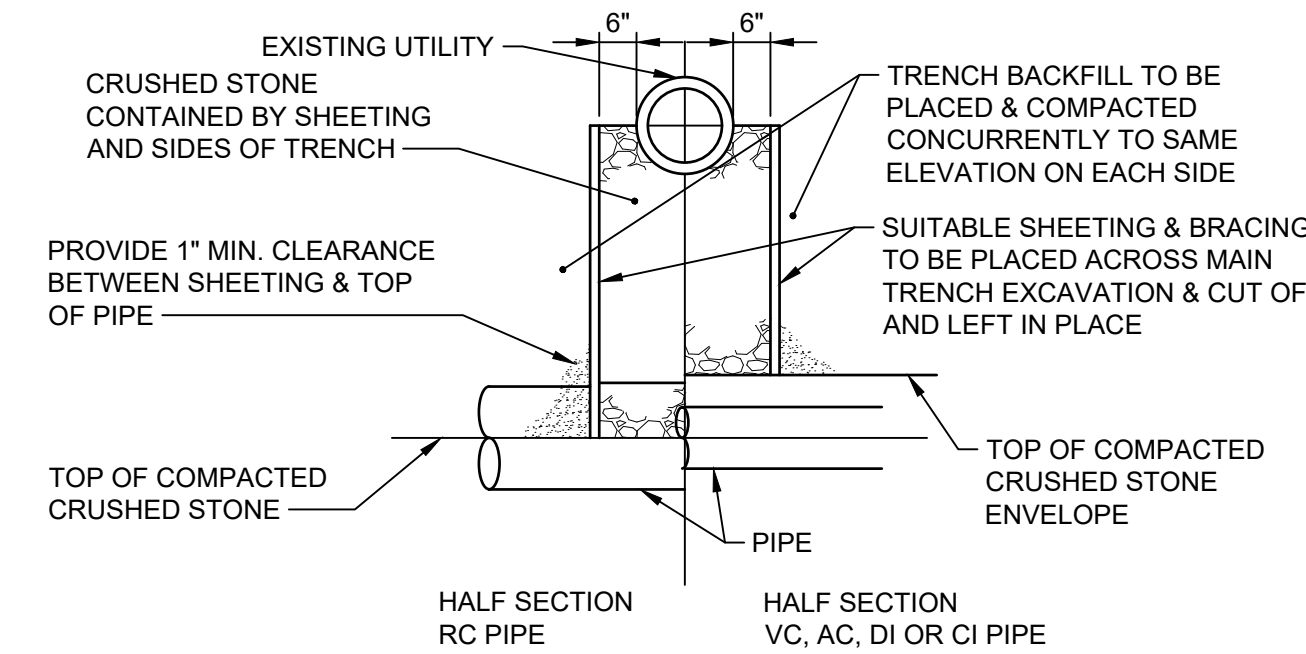
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NOT TO SCALE REV 000000 C-902



TYPE A



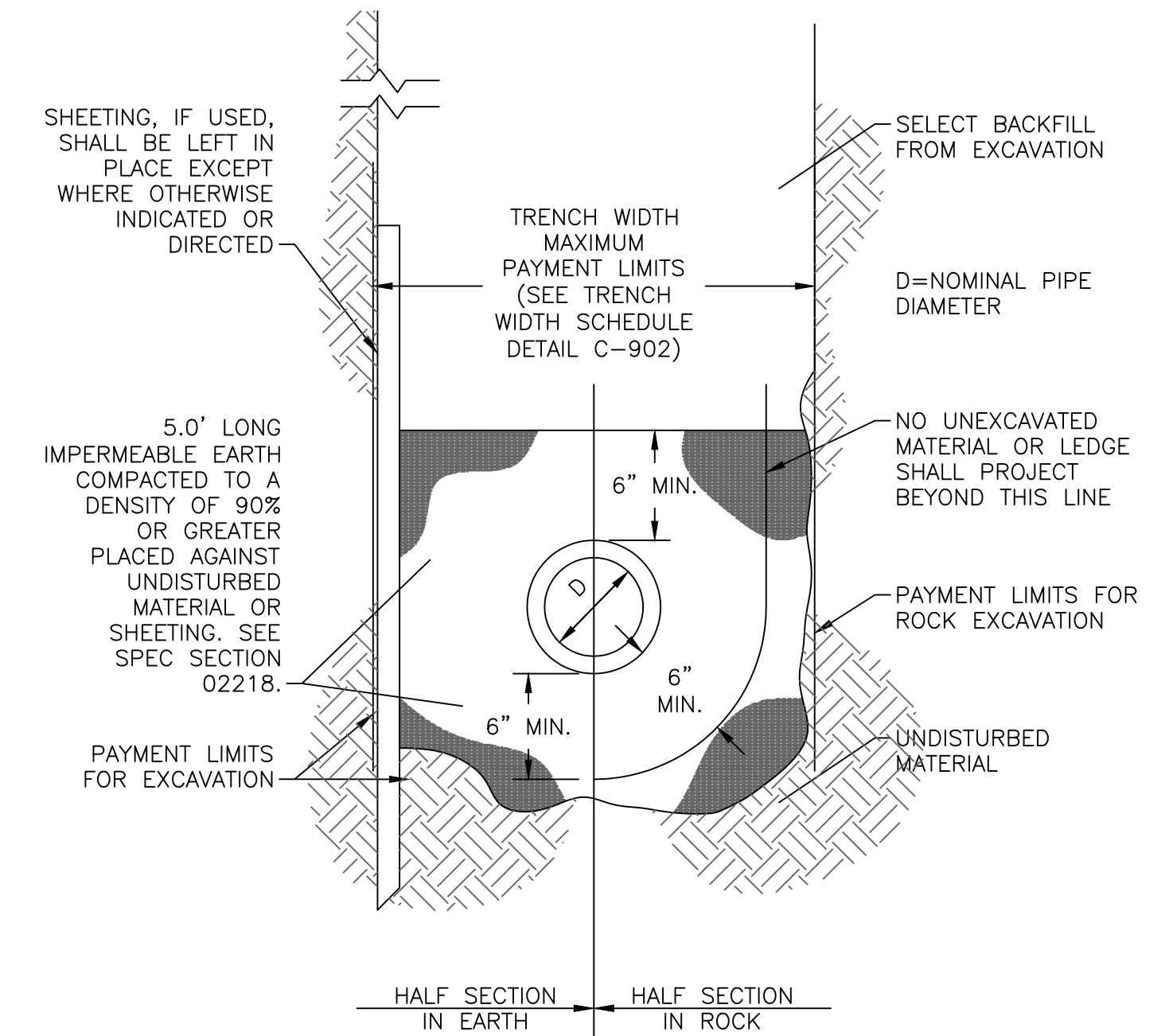
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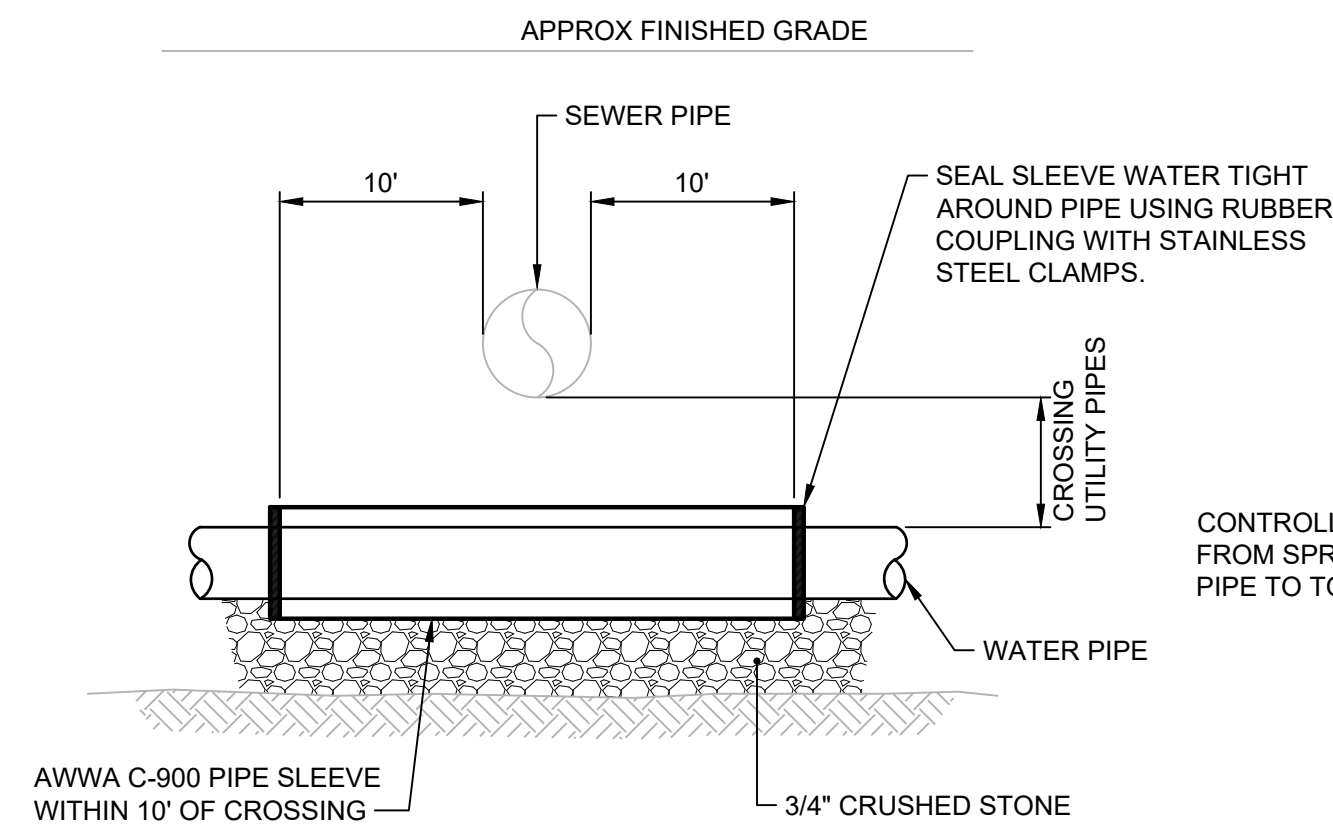
TYPE B

NOTES:
1. TYPE C SUPPORT TO BE PROVIDED WHERE DIRECTED

TYPICAL SUPPORTS FOR UTILITIES
NOT TO SCALE REV 000000 C-113

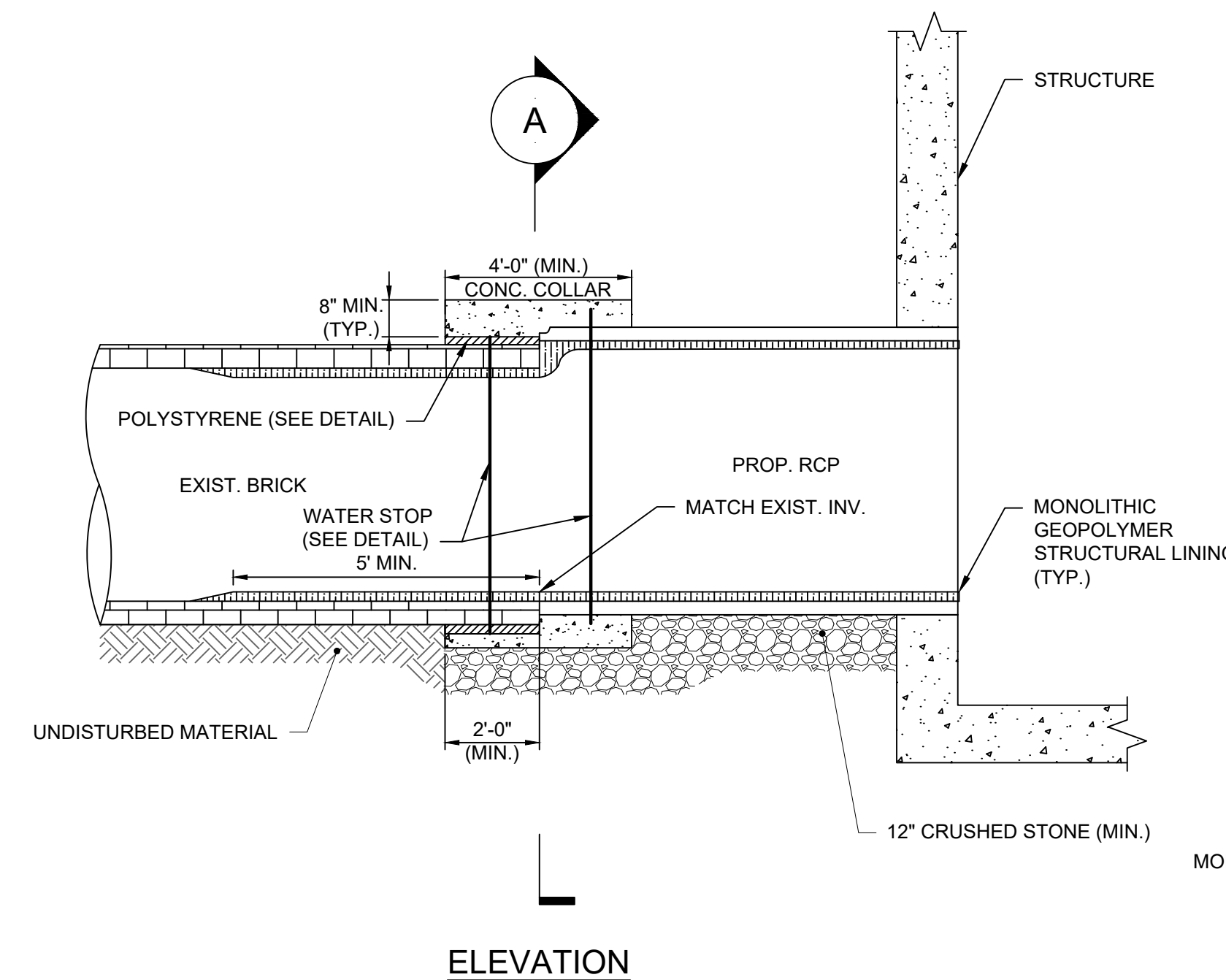
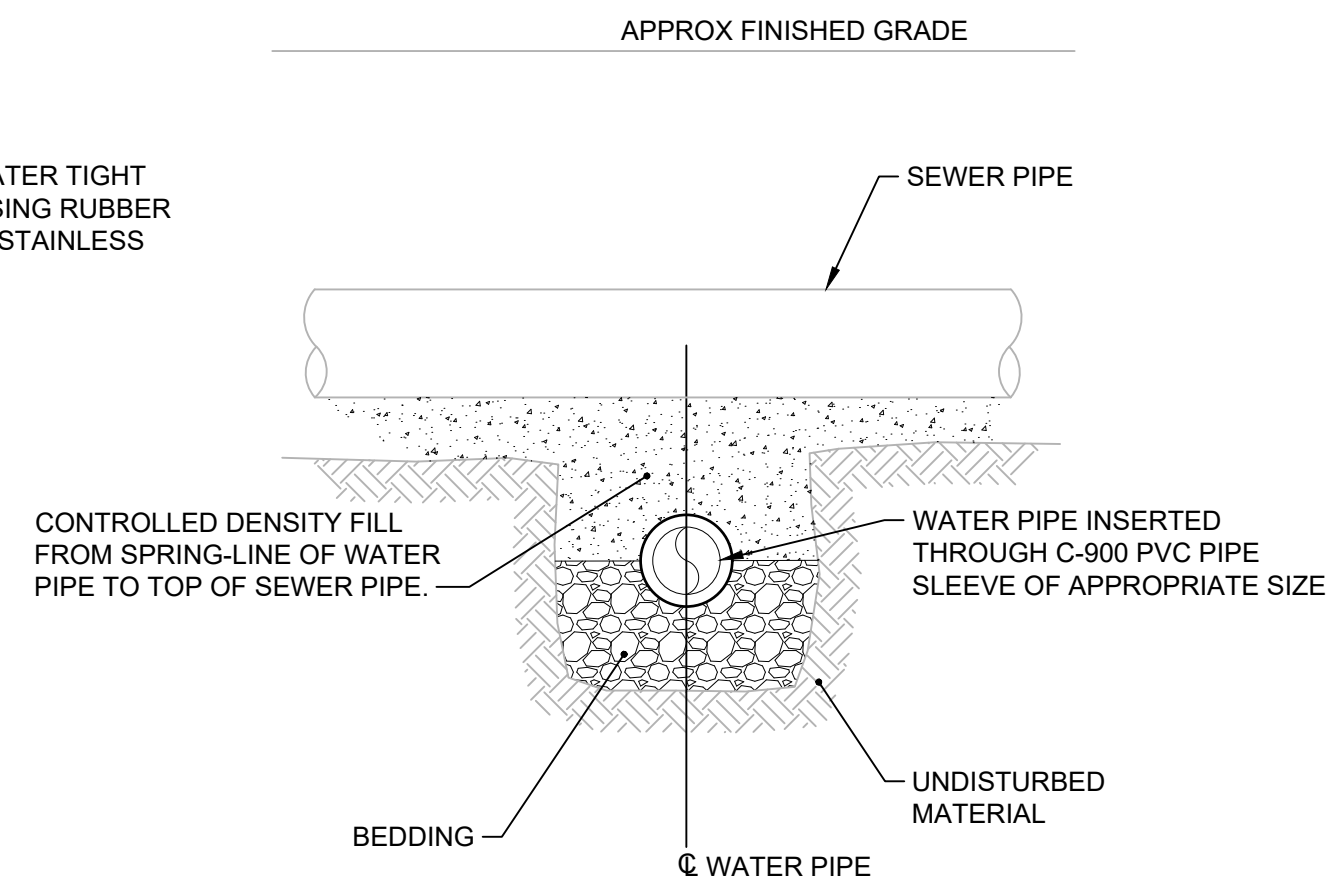


TRENCH SECTION FOR IMPERMEABLE EARTH WATER STOP
NOT TO SCALE REV 000000 C-903

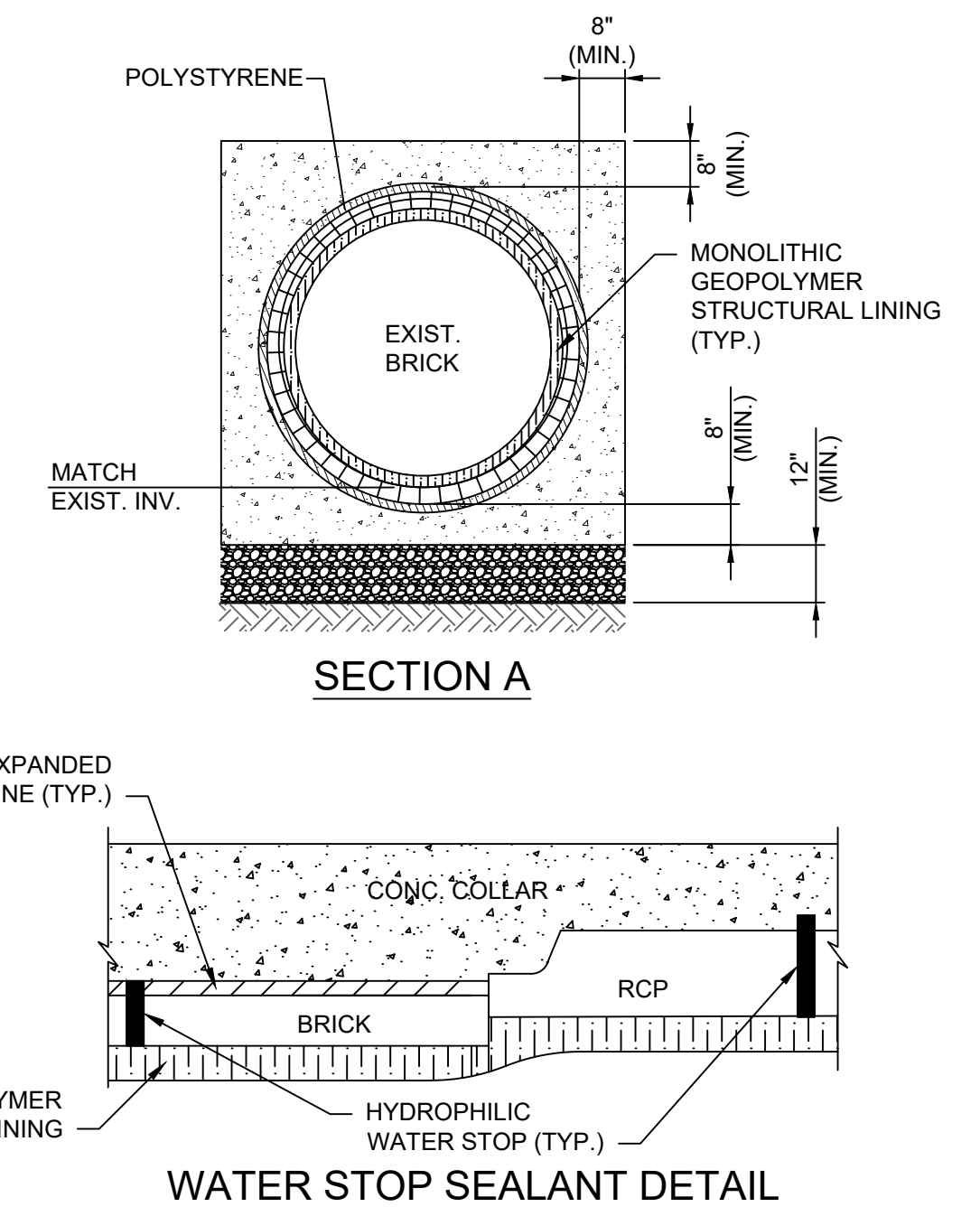


NOTES:
1. WHERE SEWER CANNOT BE INSTALLED 18" BENEATH WATER, OR WHERE SEWER AND WATER PIPING ARE WITHIN 10 FEET OF EACH OTHER, PROPOSED WATER OR SEWER PIPE SHALL BE SLEEVED INSIDE AN AWWA C-900 PVC PIPE OF APPROPRIATE DIAMETER WITHIN 10 FEET OF THE CROSSING.
2. CONTRACTOR MAY ELECT TO ENCASE PIPE WITHIN CONCRETE INSTEAD OF USING PIPE SLEEVES, AT NO ADDITIONAL EXPENSE TO THE OWNER. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AFTER 28 DAYS. CONCRETE ENCASEMENT SHALL EXTEND A MINIMUM OF 6" AROUND THE PIPE IN ALL DIRECTIONS.

WATER/SEWER CROSSING DETAIL
NOT TO SCALE REV 000000 C-112



C-904 CONCRETE COLLAR DETAIL
NOT TO SCALE



WATER STOP SEALANT DETAIL

REV	DATE	BY	DESCRIPTION

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	C. CRONIN
DRAWN	C. MARSHALL
CHECKED	J. D'ALELIO

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
NBC CONTRACT NO 308.04C
CIVIL
OF-210/213/214 FACILITIES
CIVIL DETAILS II

SHEET
C-21
195130227

DIAMETER OF PIPE D IN INCHES	MAXIMUM PAYMENT LIMITS					
	TRENCH WIDTH IN FEET		TEMPORARY TRENCH PAVEMENT WIDTH IN FEET		PERMANENT TRENCH PAVEMENT WIDTH IN FEET*	
	TRENCH DEPTH	TRENCH DEPTH	TRENCH DEPTH	TRENCH DEPTH	TRENCH DEPTH	TRENCH DEPTH
	< OR = 10'	> 10' TO 20'	< OR = 10'	> 10' TO 20'	< OR = 10'	> 10' TO 20'
12 AND SMALLER	5.00	6.00	7.00	8.00	9.00	10.00
15	5.25	6.25	7.25	8.25	9.25	10.25
18	5.50	6.50	7.50	8.50	9.50	10.50
21	5.75	6.75	7.75	8.75	9.75	10.75
24	6.00	7.00	8.00	9.00	10.00	11.00
27	6.25	7.25	8.25	9.25	10.25	11.25
30	6.50	7.50	8.50	9.50	10.50	11.50
36	7.00	8.00	9.00	10.00	11.00	12.00
42	7.50	8.50	9.50	10.50	11.50	12.50
48	8.00	9.00	10.00	11.00	12.00	13.00
54	8.50	9.50	10.50	11.50	12.50	13.50
60	9.00	10.00	11.00	12.00	13.00	14.00
66	9.50	10.50	11.50	12.50	13.50	14.50
72	10.00	11.00	12.00	13.00	14.00	15.00

TRENCH WIDTH SCHEDULE

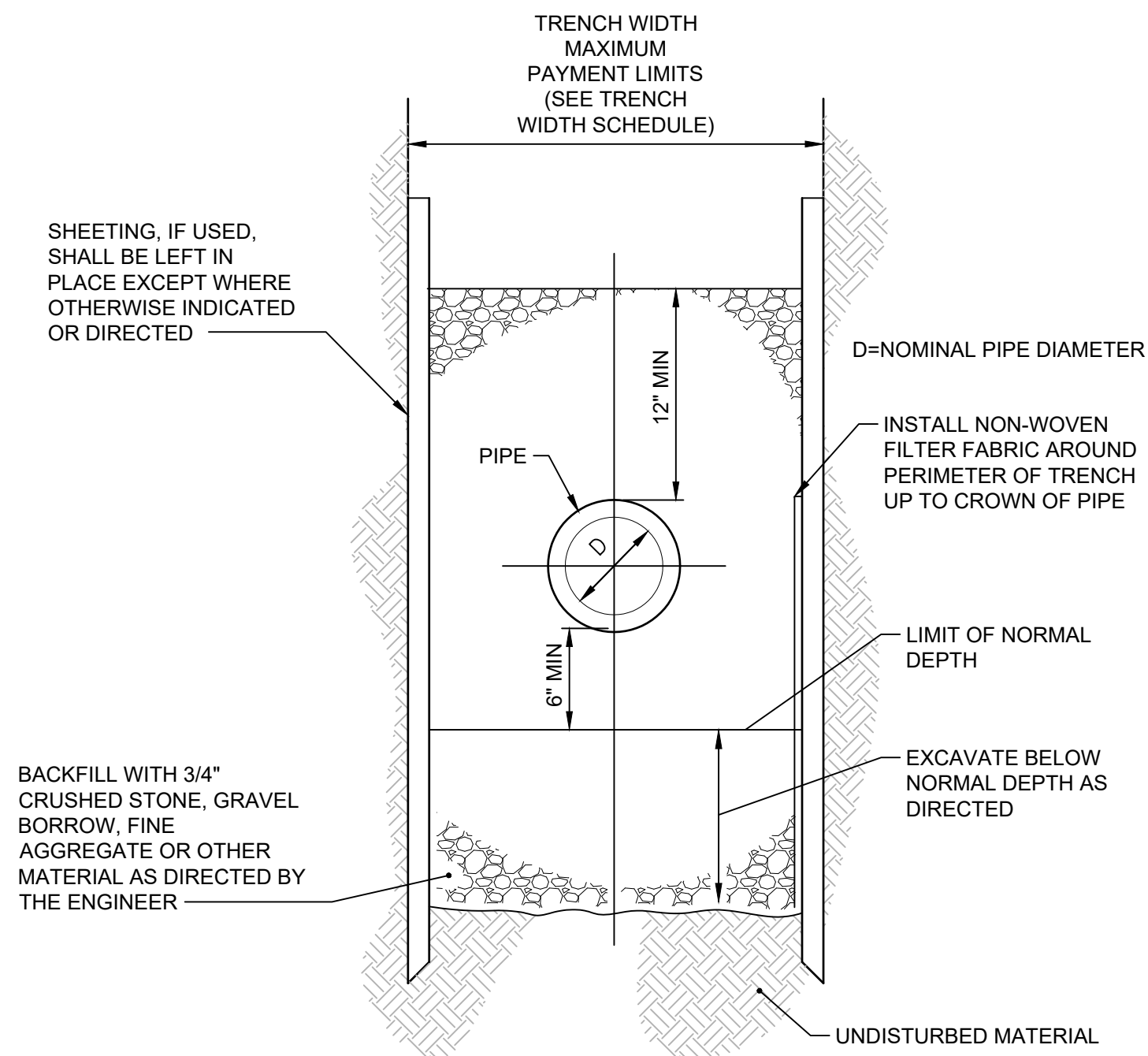
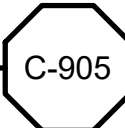
NOTES:

- PERMANENT TRENCH PAVEMENT INCLUDES 1' CUT BACK OF TEMPORARY PAVEMENT ALONG EACH SIDE OF THE TRENCH.
- TRENCH DEPTH MEASURED FROM THE EXISTING GROUND SURFACE TO 6" BELOW THE BOTTOM OF THE CONSTRUCTED PIPE.
- QUANTITIES FOR PAYMENT SHALL BE IN ACCORDANCE WITH THE ABOVE LIMITS OR THE ACTUAL WIDTHS, WHICHEVER IS LESS.

TRENCH WIDTH SCHEDULE

NOT TO SCALE

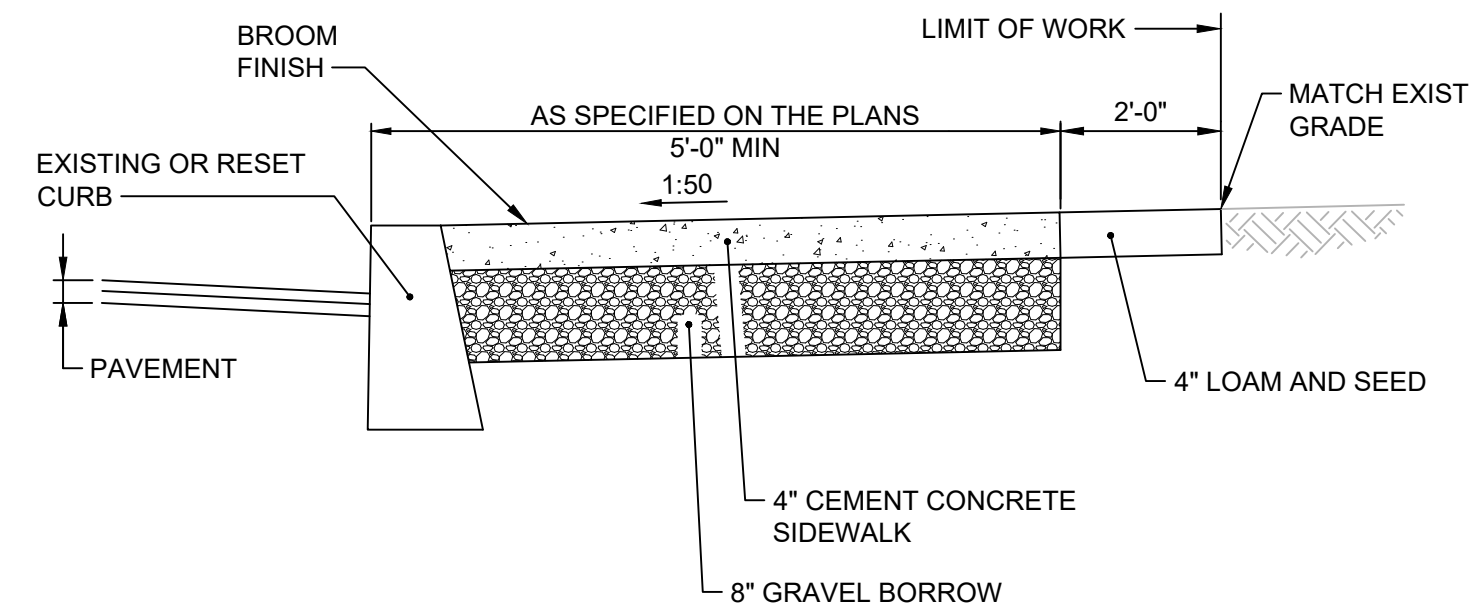
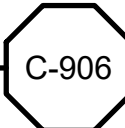
REV 000000



TRENCH SECTION (TO BE USED WHERE UNSUITABLE FOUNDATION MATERIAL EXISTS BELOW NORMAL DEPTH)

NOT TO SCALE

REV 000000

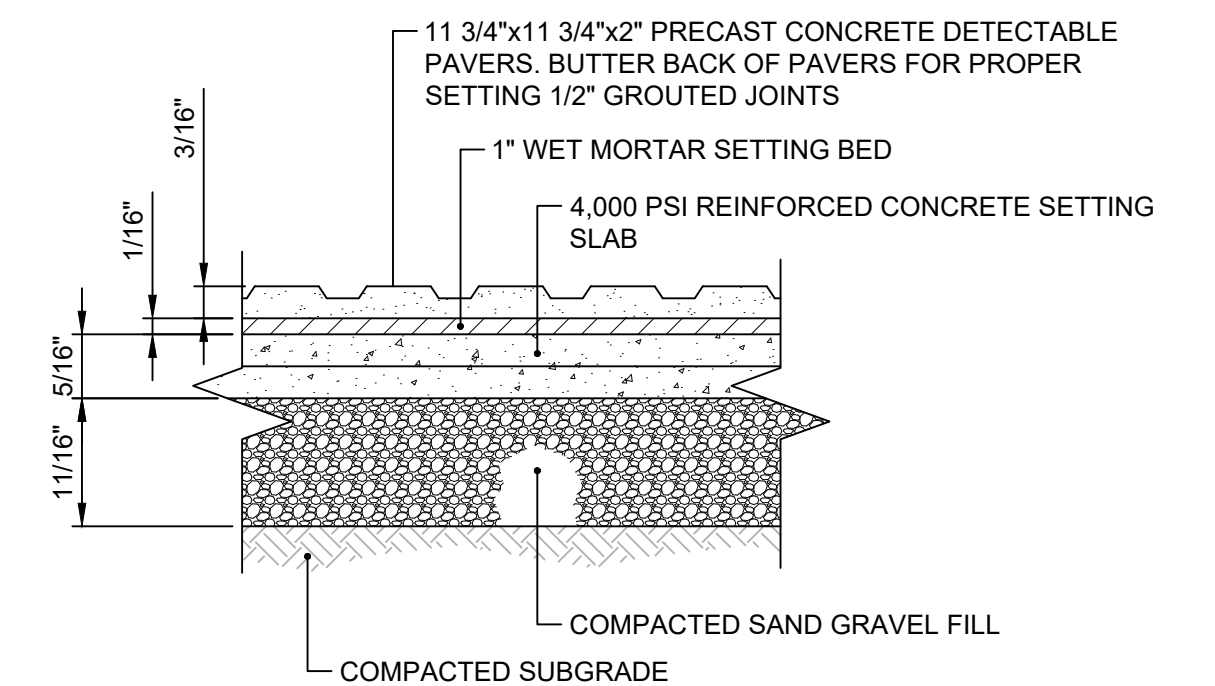
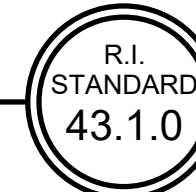


NOTES:

- SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
- FOR CURB SETTING DETAIL REFERENCE STD 7.6.0.
- ON CITY STREETS, CURBING SHALL CONFORM TO PAWTUCKET STANDARDS.

CEMENT CONCRETE SIDEWALK

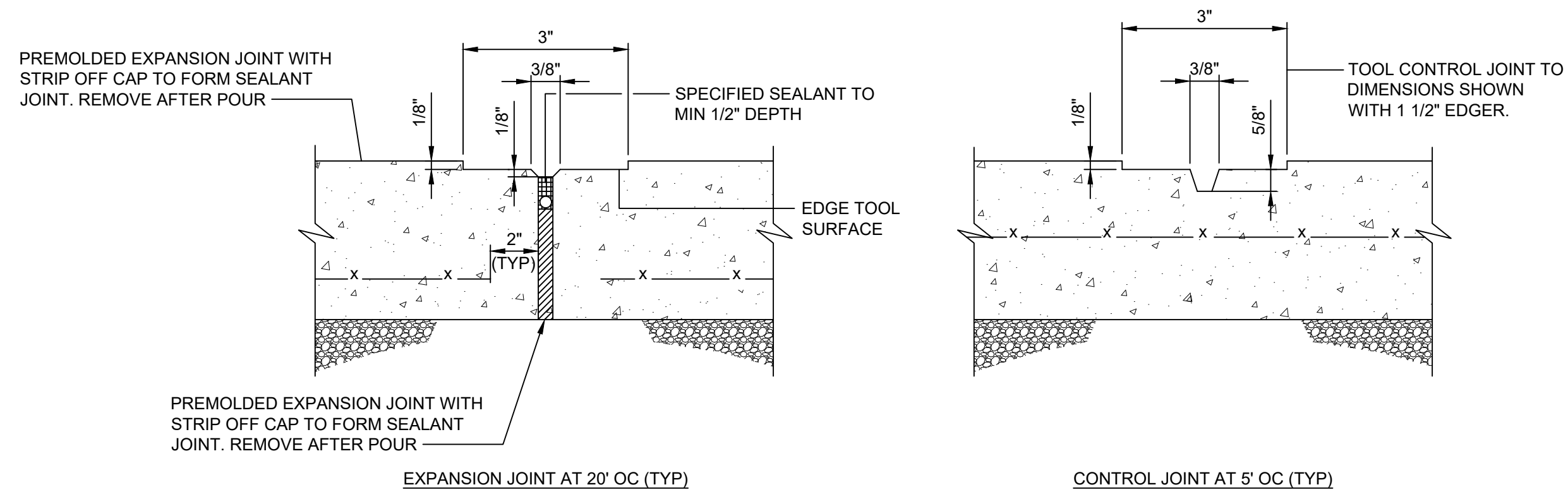
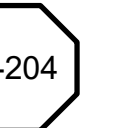
NOT TO SCALE



DETECTABLE WARNING PAVER

NOT TO SCALE

REV 000000



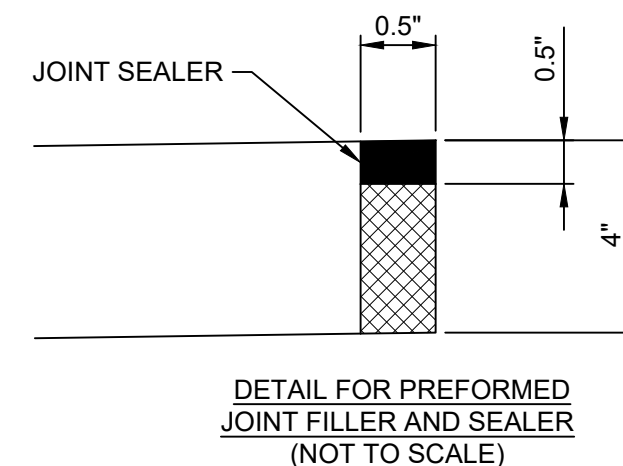
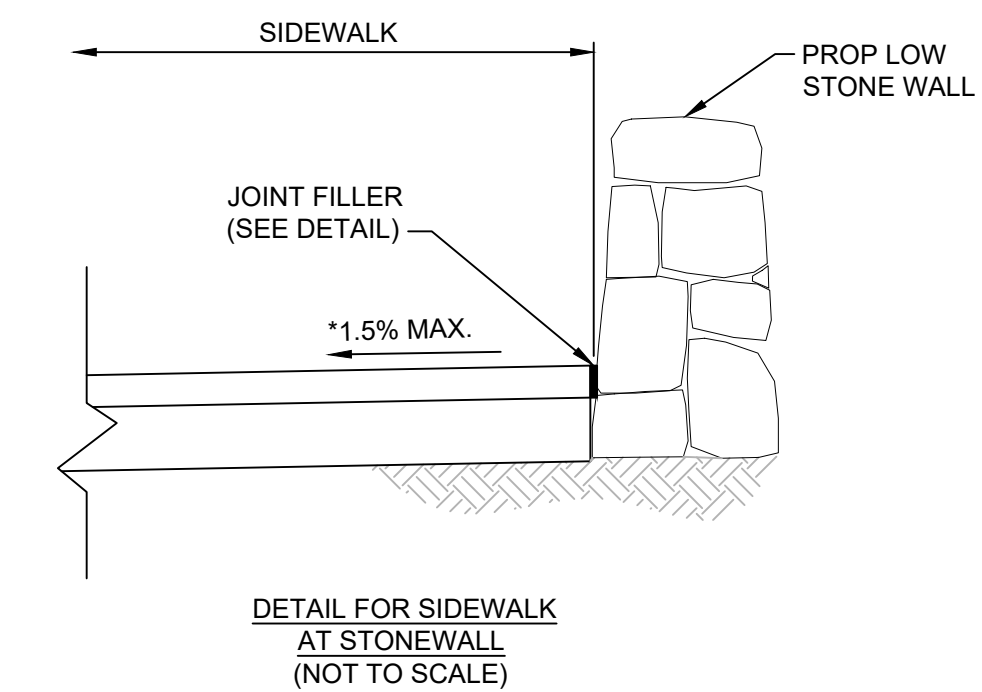
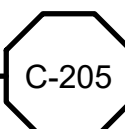
NOTES:

- EXPANSION JOINTS (EJ) 20 FEET OC UNLESS OTHERWISE NOTED.
- CONTROL JOINTS (CJ) 5 FEET OC UNLESS OTHERWISE NOTED.
- WHERE EXISTING AND NEW CONCRETE SIDEWALKS MEET, SAWCUT EXISTING WALK AND INSTALL EXPANSION JOINT AND DOWELS AS SHOWN. DRILL EXISTING CONCRETE WALK EDGE TO RECEIVE STEEL DOWELS AT EXPANSION JOINT.

EXPANSION AND CONTROL JOINTS FOR SIDEWALK PAVING

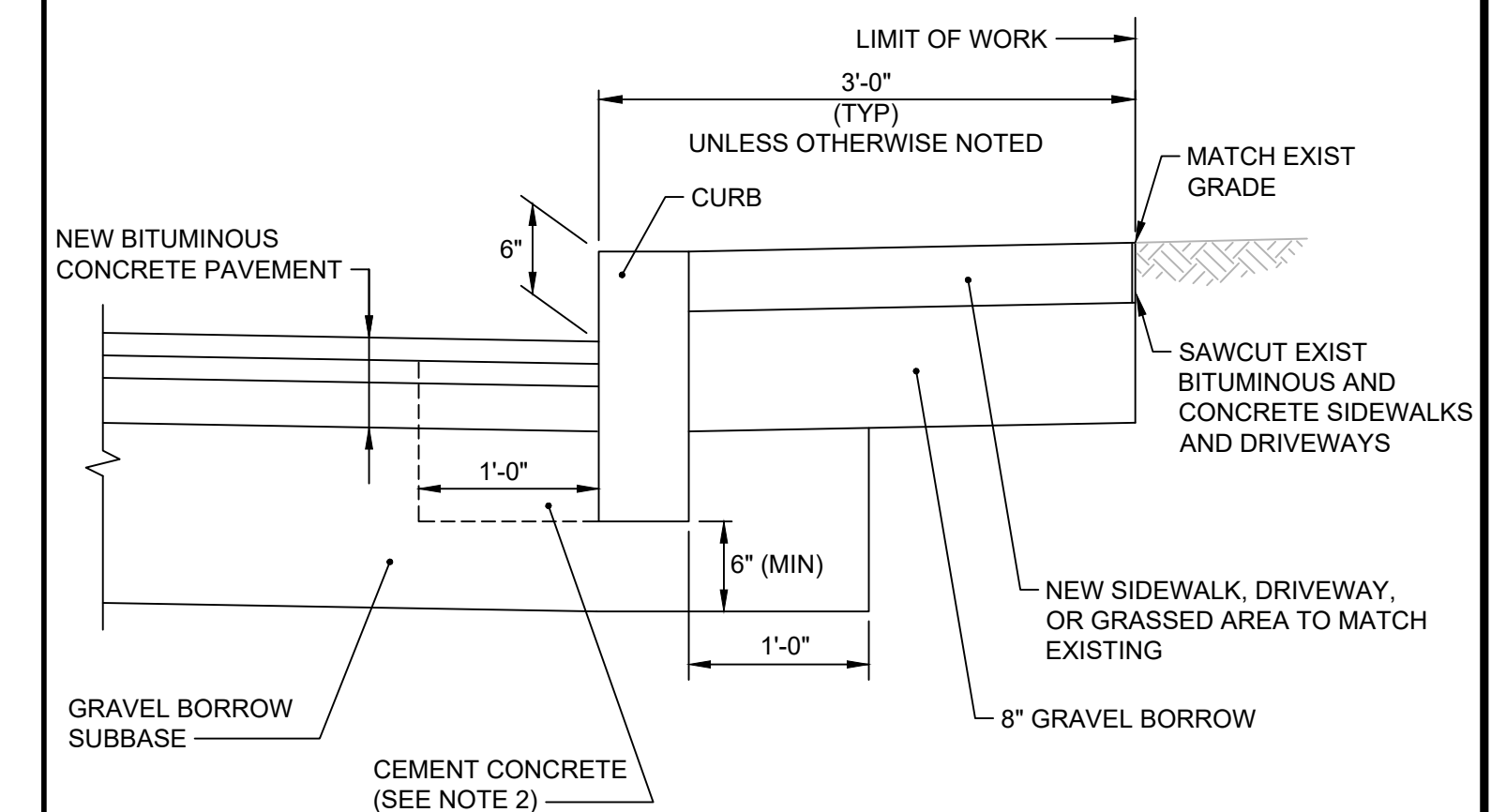
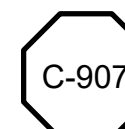
NOT TO SCALE

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DETAIL FOR SIDEWALK AT STONE WALL

NOT TO SCALE



NOTES:

- SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE RI STANDARD SPECIFICATIONS.
- CEMENT CONCRETE SHALL BE USED ONLY WHEN THE CURB IS SET AFTER THE BASE AND/OR BINDER COURSES ARE IN PLACE, OTHERWISE THE CEMENT CONCRETE WILL BE ELIMINATED AND THE GRAVEL BROUGHT UP TO BOTTOM OF THE BASE COURSE.
- ON CITY STREETS, CURBING SHALL CONFORM TO PAWTUCKET STANDARDS.

CURB SETTING DETAIL

NOT TO SCALE



REV	DATE	BY	DESCRIPTION

SCALE AS SHOWN

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

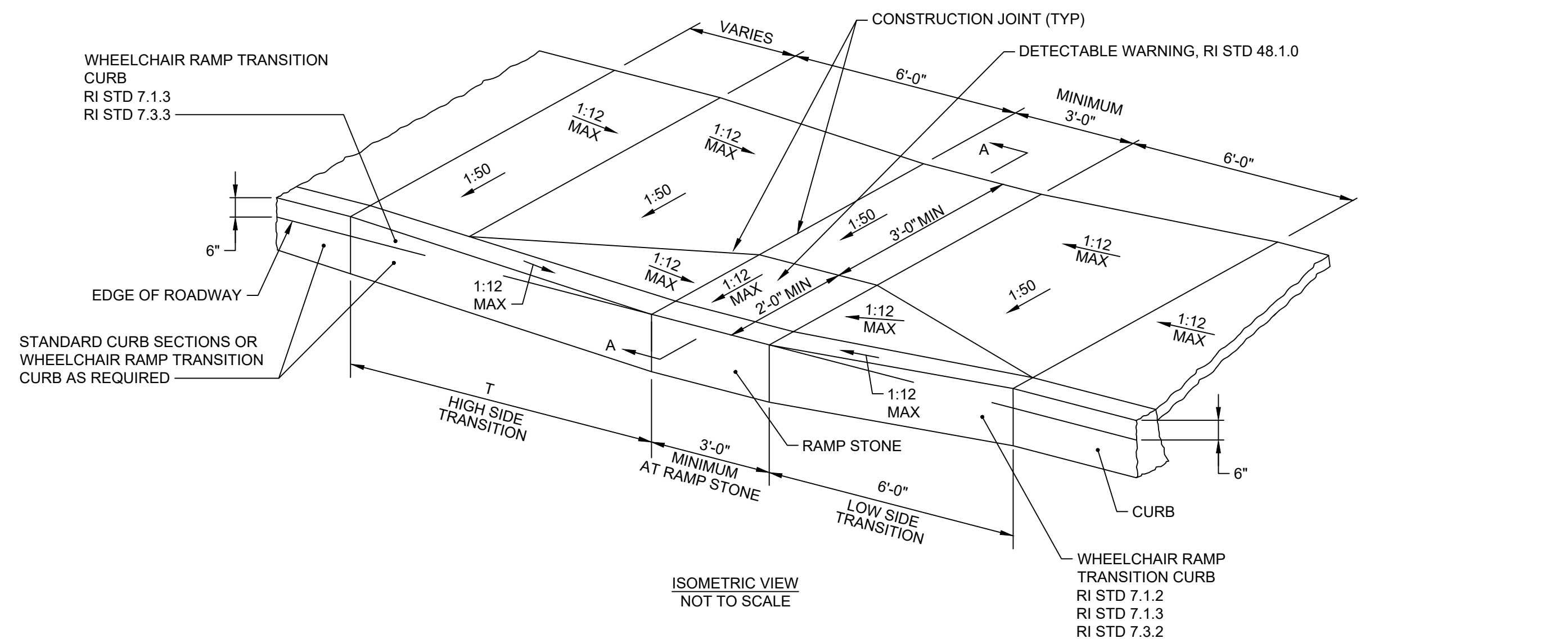
DESIGNED C. CRONIN
DRAWN C. MARSHALL
CHECKED J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

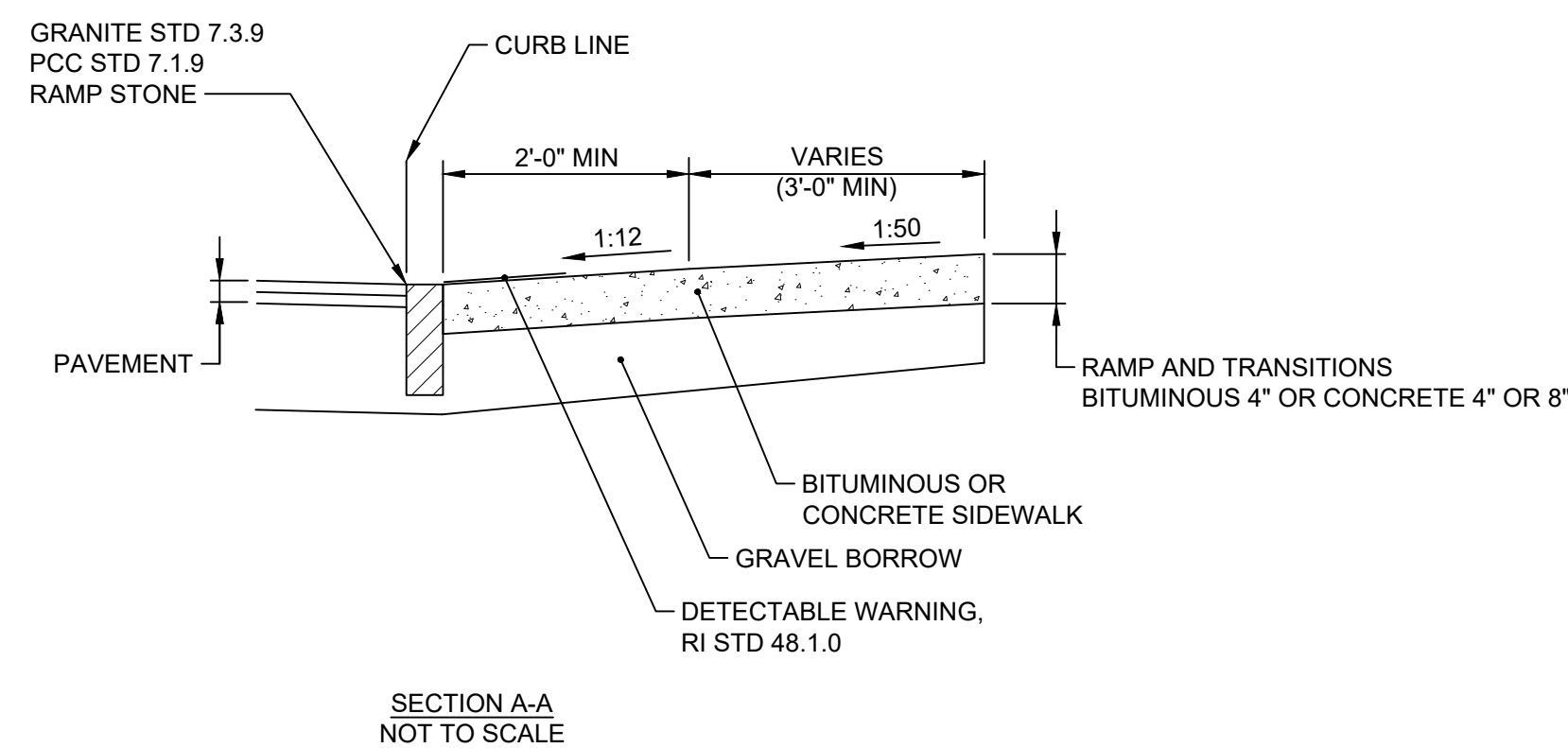
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ROADWAY PROFILE GRADE	T (FT)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0

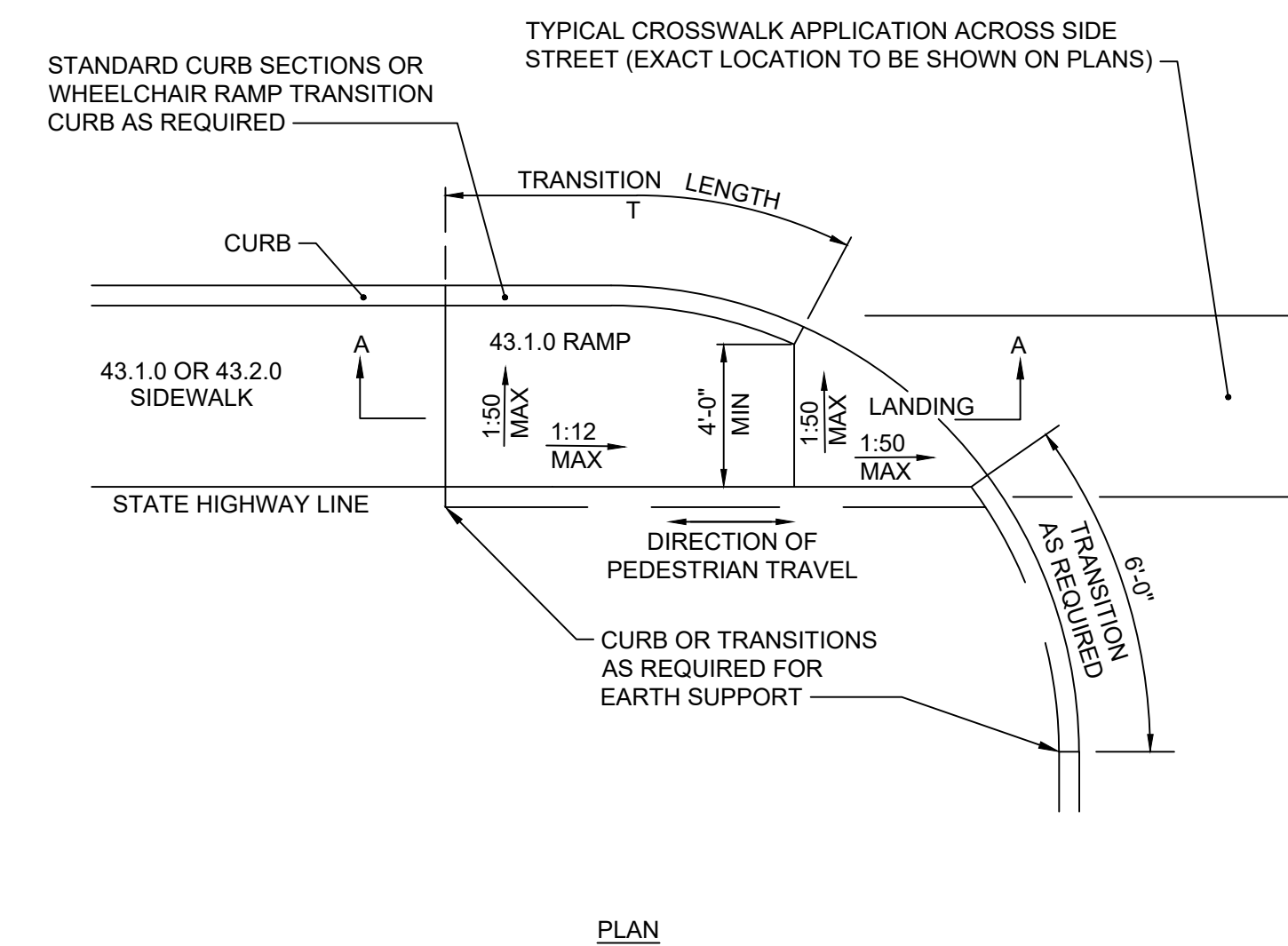


NOTES:

- SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
- WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, THE WHEELCHAIR RAMP WILL BE PLACED SUCH THAT THE OBSTRUCTION FALLS OUTSIDE OF THE RAMP.
- AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
- DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
- LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
- IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1:50 EXCEPT WITHIN THE RAMP AREA.
- AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'-0" SHALL BE MAINTAINED.
- THE WHEELCHAIR RAMP SLOPE AND SIDE SLOPES (TRANSITIONS), MUST NOT EXCEED 1:12. HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WHEN WARRANTED BY SURROUNDING CONDITIONS.
- WHERE THE ROAD PROFILE EXCEEDS 5% THE HIGH SIDE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
- IN NO CASE, WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED BEHIND THE STOP LINE.
- THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
- THE WHEELCHAIR RAMP SHALL BE CENTERED RADIALLY, OPPOSITE THE RADIUS POINT WHEN POSSIBLE.
- MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
- 8" CONCRETE DEPTH FOR RADIUS WHEELCHAIR RAMPS ONLY. USE 4" DEPTH FOR TANGENT (MID-BLOCK) LOCATIONS

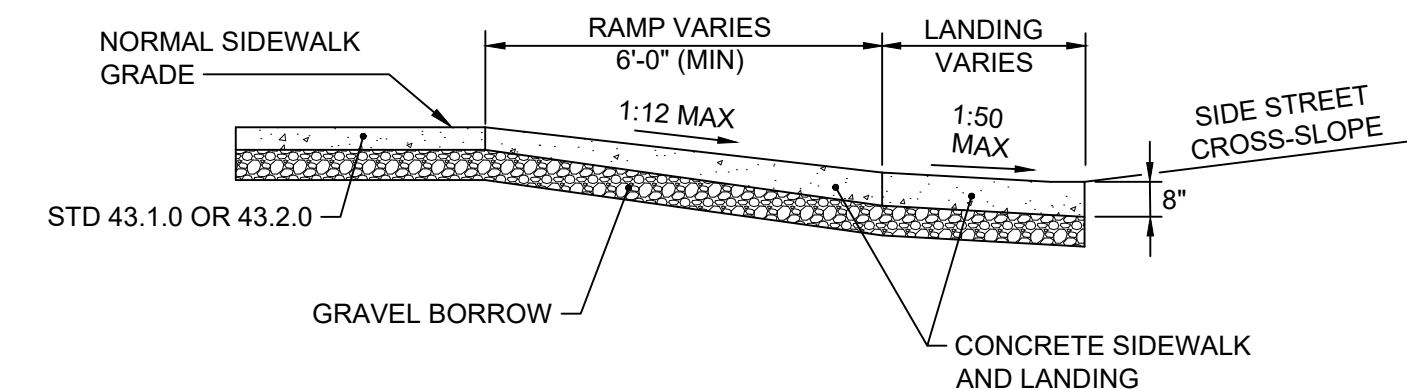
WHEELCHAIR RAMP
NOT TO SCALE

R.I. STANDARD
43.3.0



PLAN

ROADWAY GRADE	T
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0



SECTION A-A

NOTES:

- SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
- THIS DETAIL IS TO BE USED ONLY WHEN STATE RIGHT-OF-WAY IS LIMITED TO BACK OF SIDEWALK, AND SIDEWALK IS NARROW WITH NO PEDESTRIAN TRAFFIC FROM SIDE STREET.
- WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, IF POSSIBLE, THE OBSTRUCTION SHALL BE PLACED SUCH THAT IT FALLS OUTSIDE OF THE RAMP.
- AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
- DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
- LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
- ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
- WHERE THE ROAD PROFILE EXCEEDS 5% THE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
- THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
- MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
- AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.

WHEELCHAIR RAMP FOR LIMITED RIGHT-OF-WAY AREAS
NOT TO SCALE

R.I. STANDARD
43.3.1

REV	DATE	BY	DESCRIPTION

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED C. CRONIN
DRAWN C. MARSHALL
CHECKED J. D'ALELIO

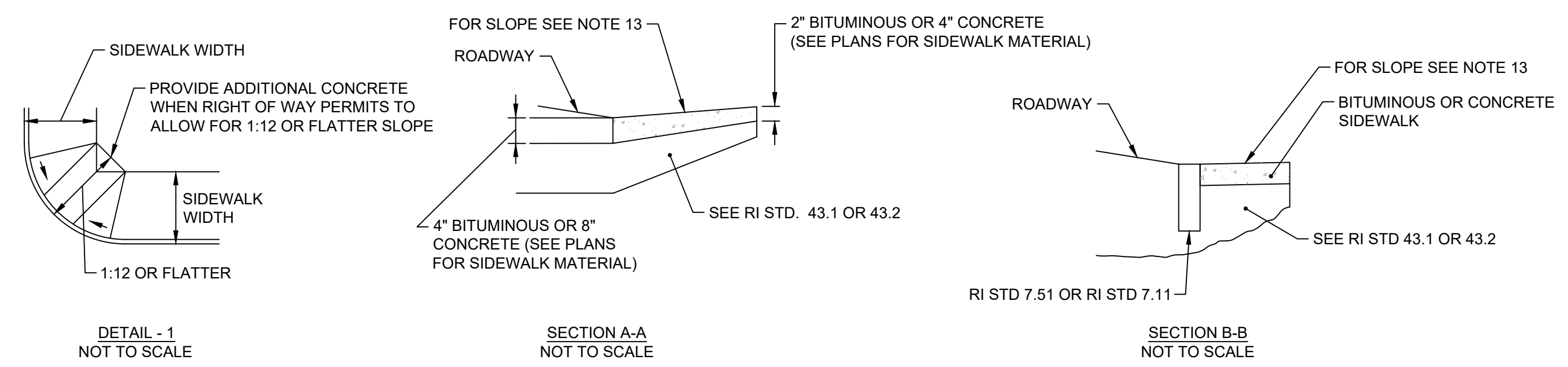
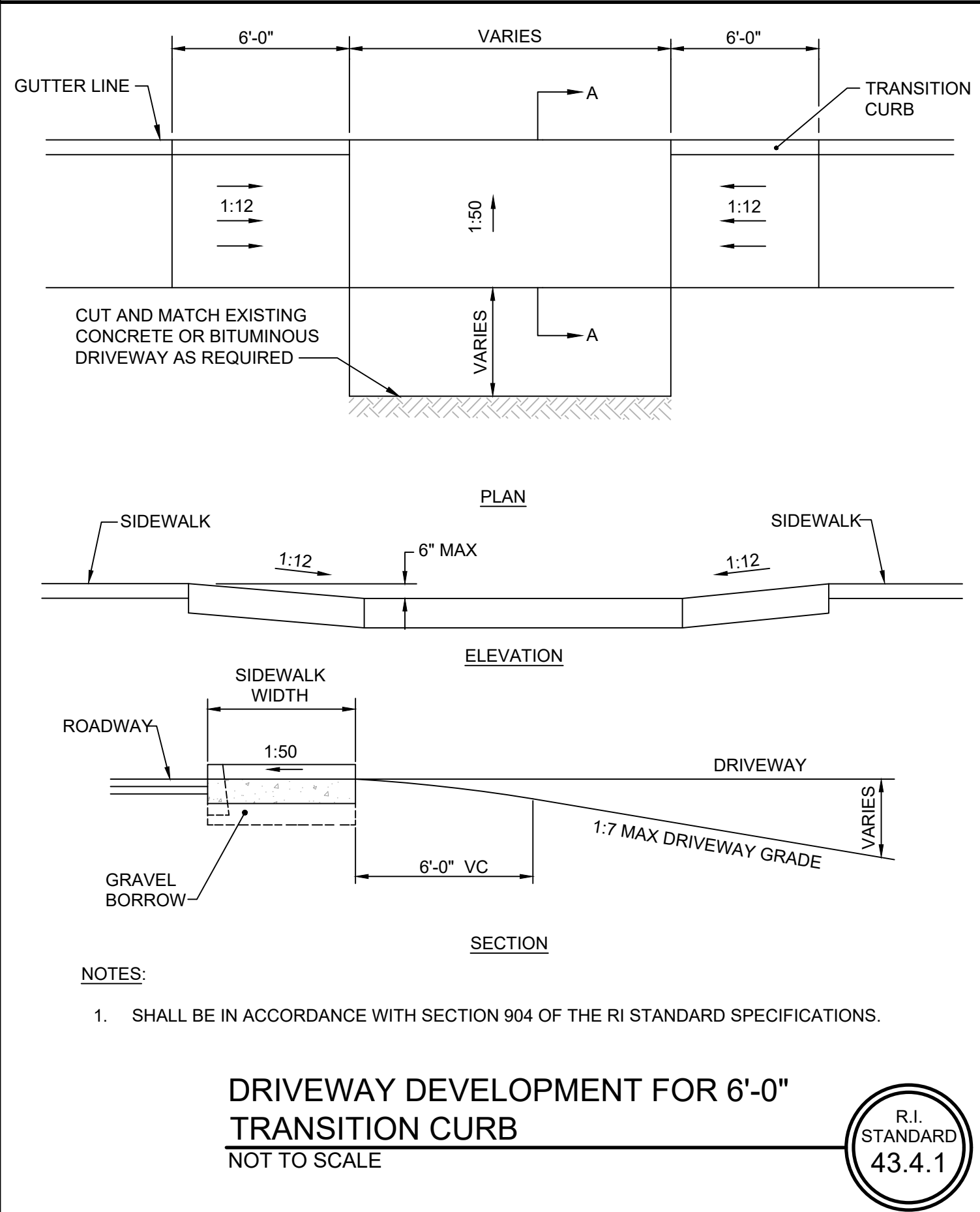
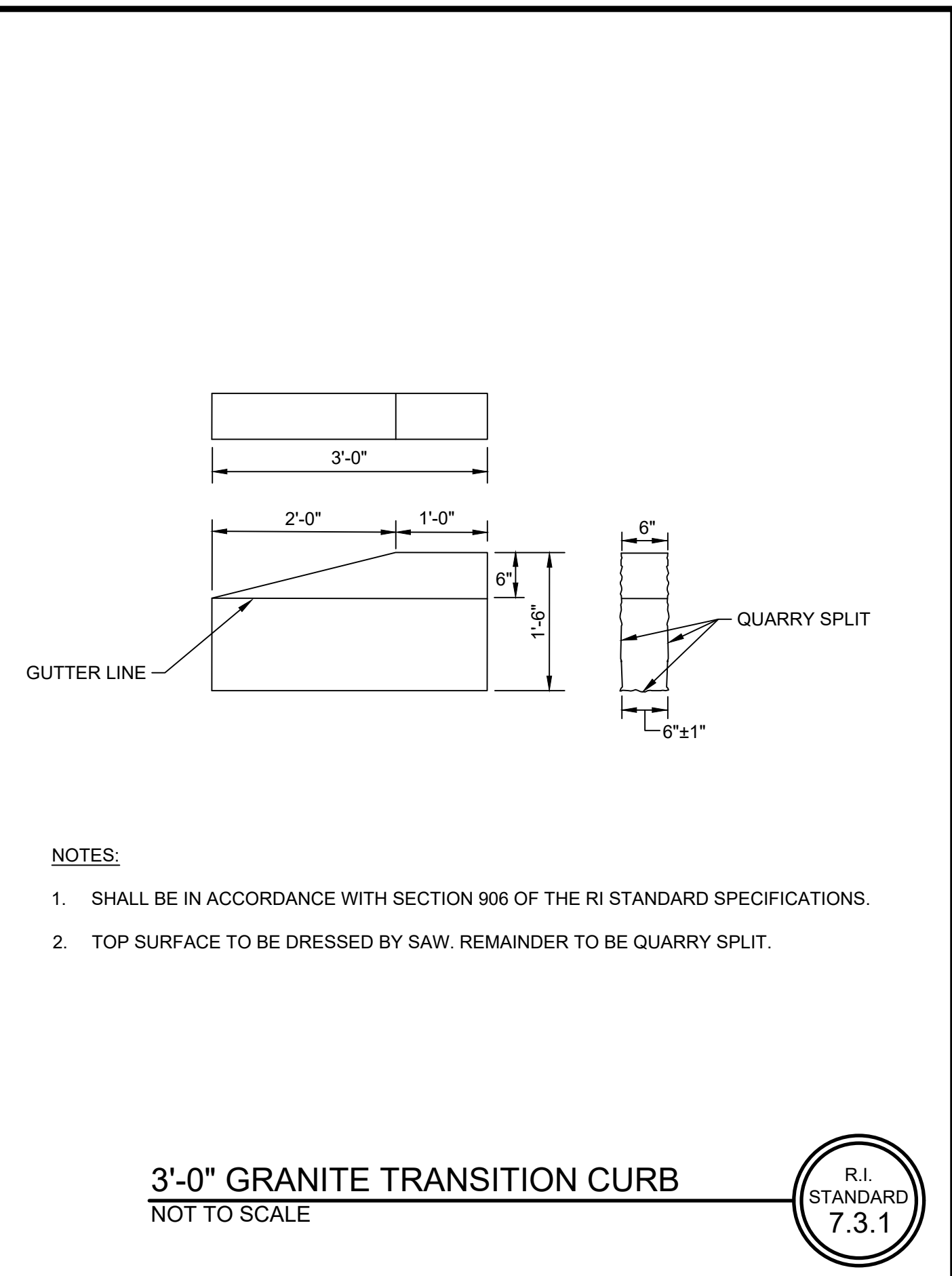
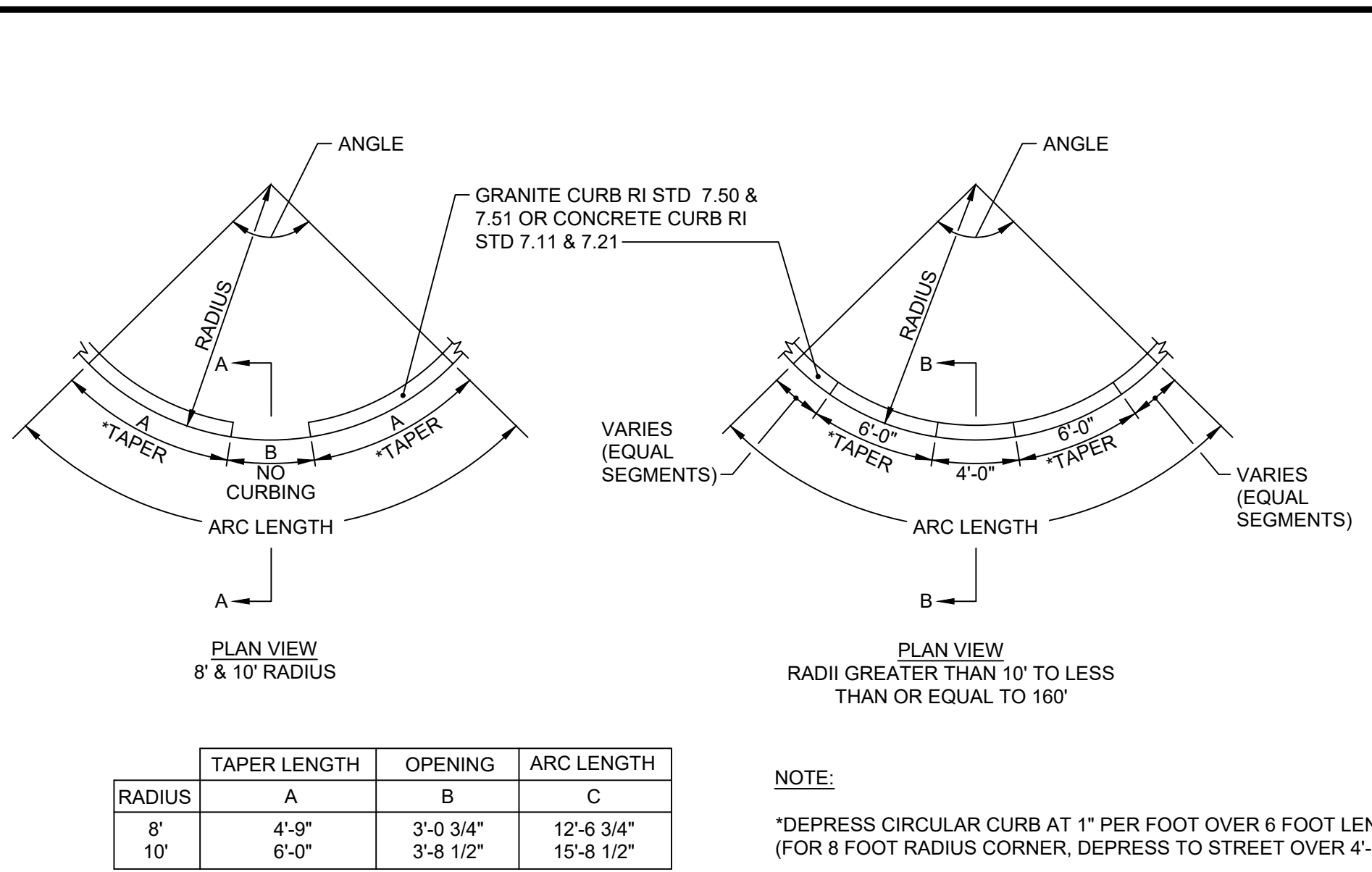
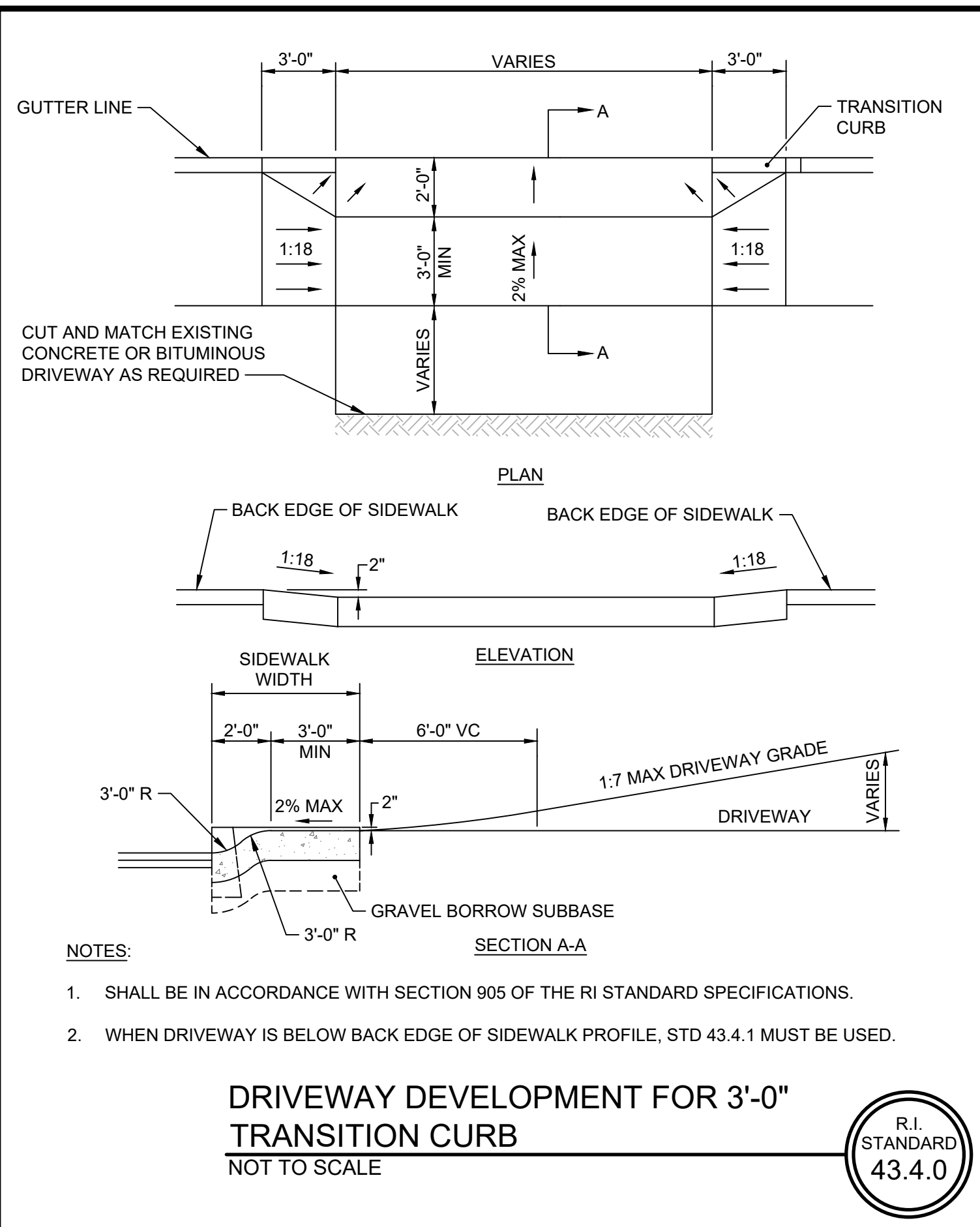
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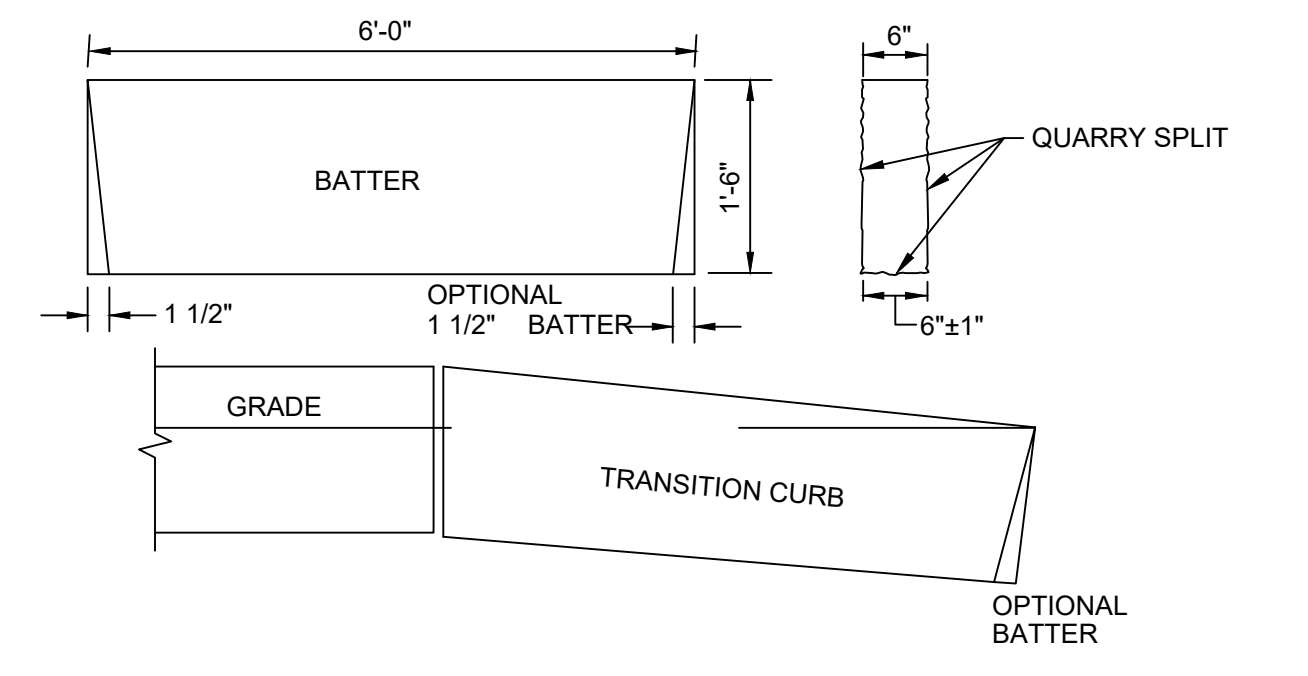
NBC CONTRACT NO 308.04C
CIVIL
OF-210/213/214 FACILITIES
CIVIL DETAILS IV

SHEET
C-23
195130227



- NOTES:**
- RAMP SHALL BE CENTERED RADIALLY OPPOSITE THE RADIUS POINT WHEN POSSIBLE.
 - AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK.
 - ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB PER LINEAR FOOT (IF REQUIRED).
 - MINIMUM LENGTH OF CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
 - WHEN ANY OBSTRUCTION IN THE SIDEWALK AREA FALLS WITHIN A CROSSWALK AREA, THE OBSTRUCTION WILL BE PLACED SUCH THAT IT FALLS OUTSIDE OF THE RAMP.
 - DRAINAGE FACILITIES ARE TO BE LOCATED UPGRADE OF WHEELCHAIR RAMP.
 - LOCATION OF WHEELCHAIR RAMP IS AS SHOWN ON CONTRACT PLANS OR CONTRACT DOCUMENTS.
 - ALL GRANITE TAPERED SECTIONS TO HAVE BATTERED ENDS WITH 1:12 SLOPE, EXCEPT 8' RADIUS SHALL HAVE 1:9.5 OR FLATTER.
 - ALL GRANITE CURB SHALL BE RI STD 7.50 OR 7.51.
 - ALL CONCRETE CURB SHALL BE RI STD 7.11 AND 7.21.
 - DO NOT USE RADIUS WHEELCHAIR RAMPS (RI STD 43.31) FOR RADII LESS THAN 8'.
 - FOR RADII GRATER THAN 160', USE TANGENT SECTION WHEELCHAIR RAMP.
 - SIDEWALK WIDTH (CURB TO BACK OF SIDEWALK)

3'-6" SIDEWALK	WITH CURB OR WITHOUT CURB	SEE DETAIL -1
4'-0" SIDEWALK	WITH CURB OR WITHOUT CURB	SEE DETAIL -1
4'-6" SIDEWALK	WITH CURB OR WITHOUT CURB	SEE DETAIL -1
5'-0" SIDEWALK	WITH CURB OR WITHOUT CURB	1:10
5'-6" SIDEWALK	WITH CURB OR WITHOUT CURB	1:11
6'-0" SIDEWALK OR WIDER	WITH CURB OR WITHOUT CURB	1:12
 - REFER TO TABLE 601.



- NOTES:**
- SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
 - THE CONTRACTOR MAY CUT EXISTING CURB SECTIONS AS REQUIRED TO MEET THIS DETAIL AND THE RI STANDARD SPECIFICATIONS, WHERE OLD CURBING IS BEING REUSED.
 - TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.

REV	DATE	BY	DESCRIPTION

SCALE: AS SHOWN

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED: C. CRONIN
DRAWN: C. MARSHALL
CHECKED: J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

NOT FOR CONSTRUCTION

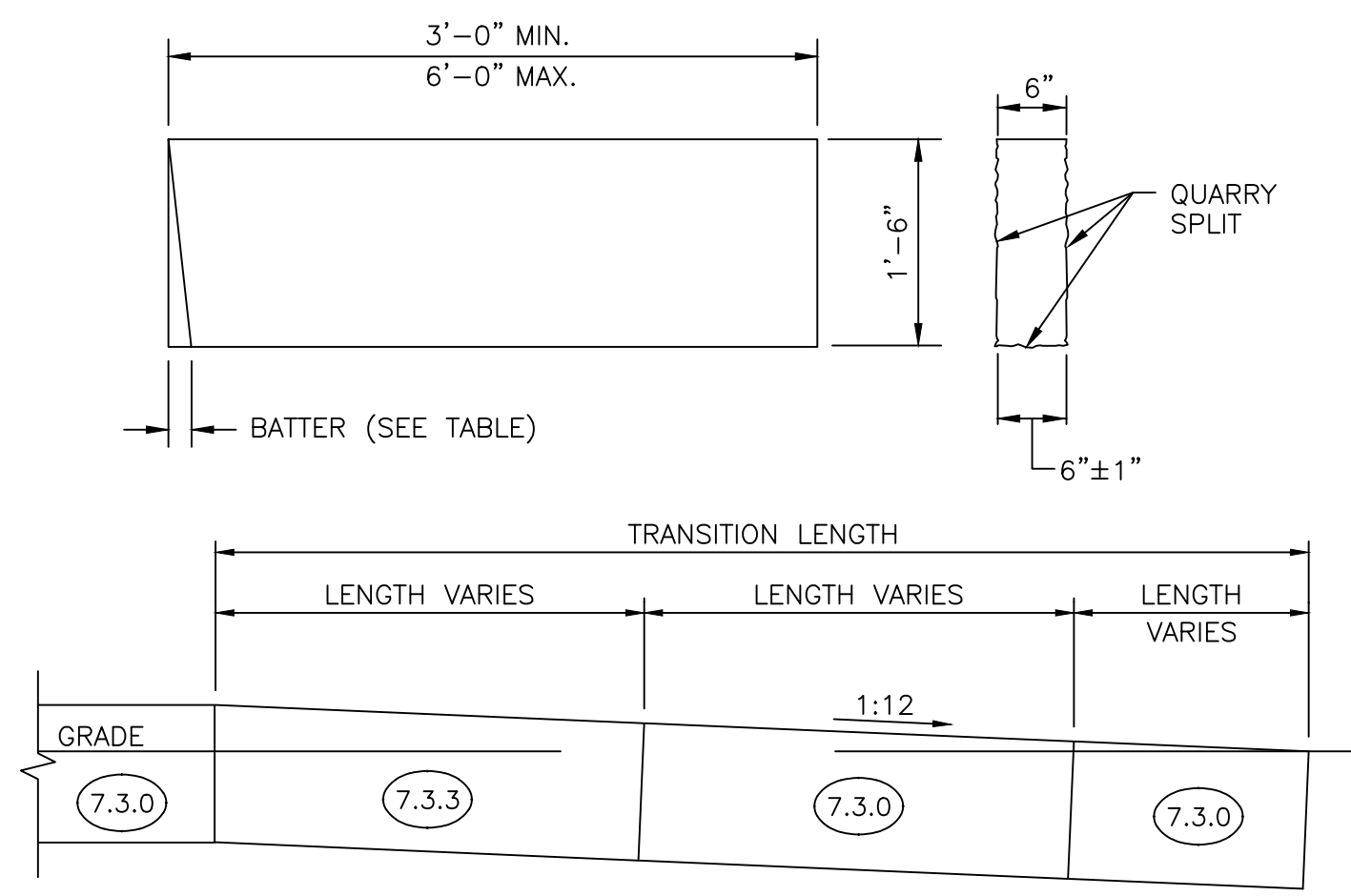
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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL
OF-210/213/214 FACILITIES
CIVIL DETAILS V

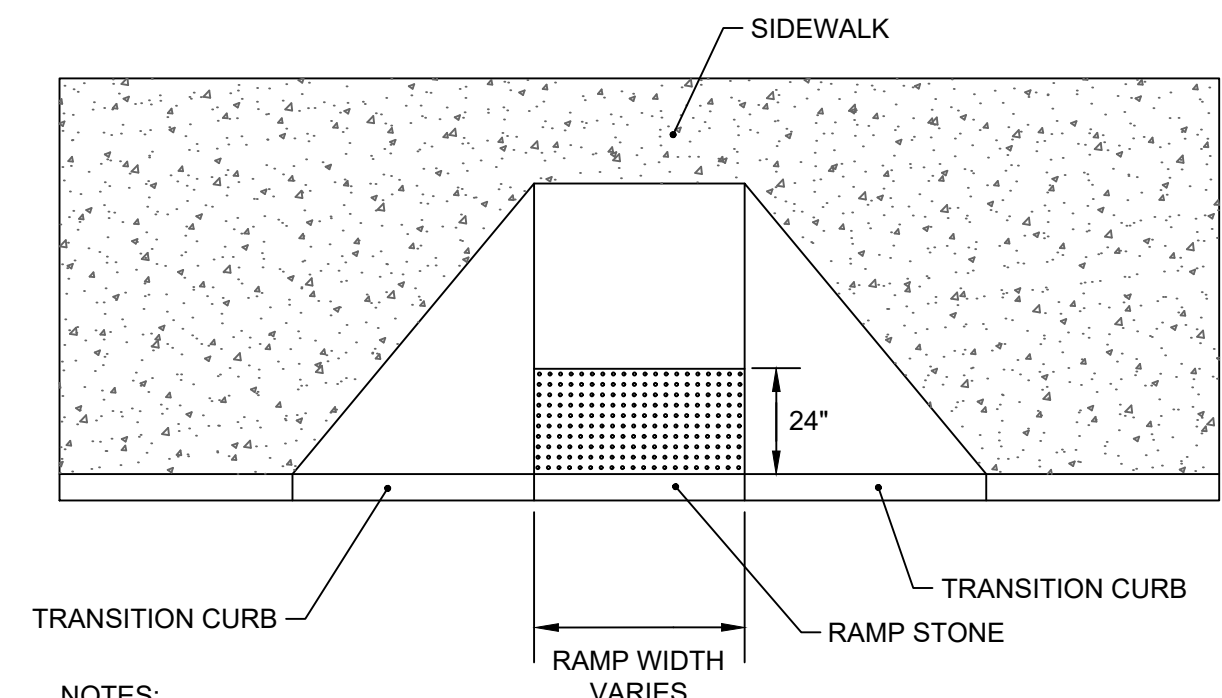
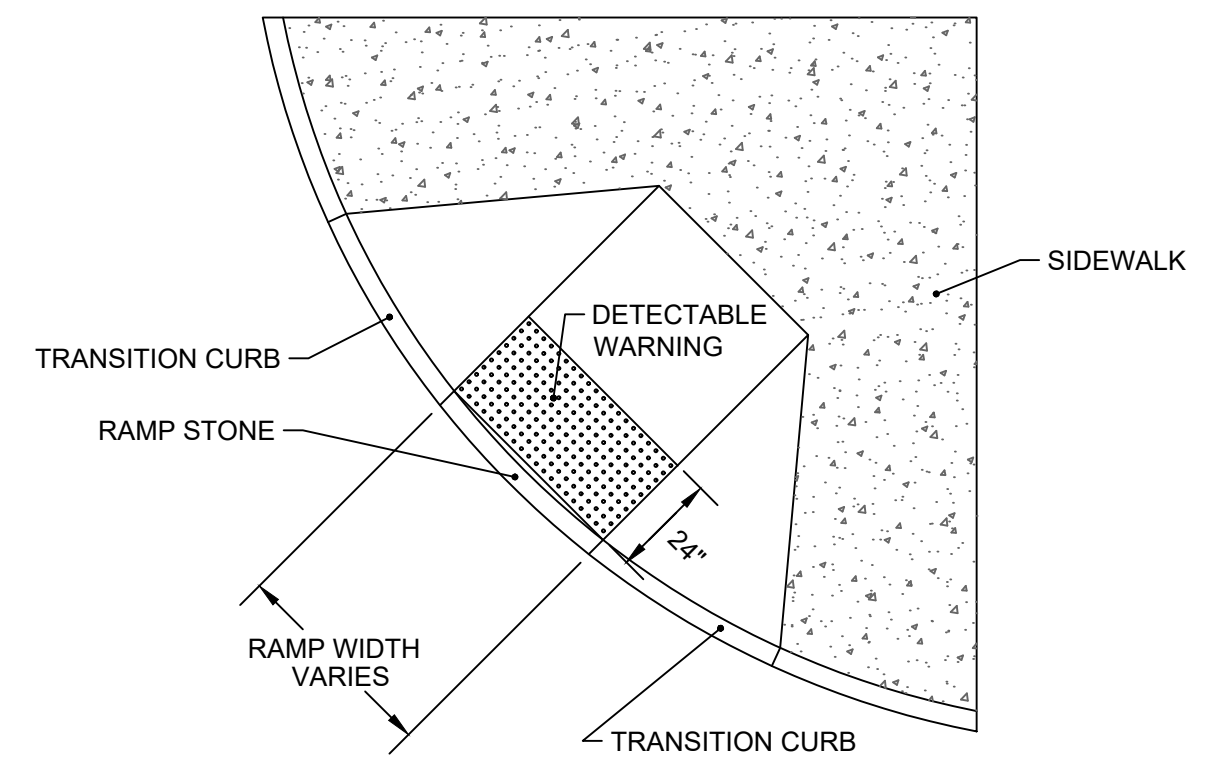
SHEET C-24
195130227



TRANSITION LENGTH (FT.)	BATTER (IN.)
6.0	1.5
7.0	1.3
8.0	1.2
9.5	1.0
11.5	0.8
15.0	0.6
18.0	0.5

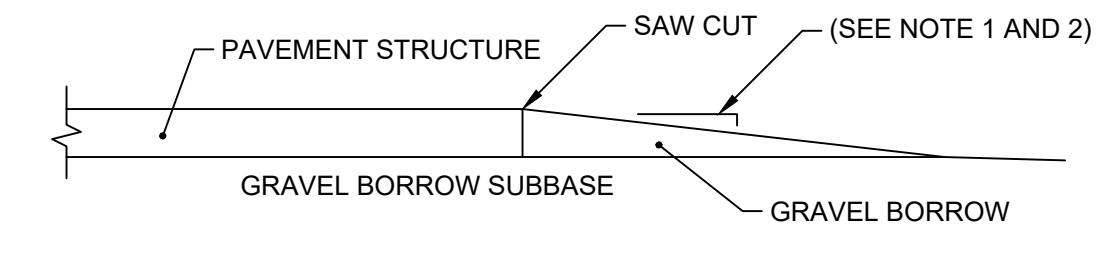
- NOTES:
- SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
 - THE CONTRACTOR MAY CUT EXISTING CURB SECTIONS AS REQUIRED TO MEET THIS DETAIL AND THE R.I. STANDARD SPECIFICATIONS, WHERE OLD CURBING IS BEING REUSED.
 - MINIMUM LENGTH OF STRAIGHT OR CIRCULAR CURB FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
 - TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.

GRANITE WHEELCHAIR RAMP TRANSITION CURB
NOT TO SCALE



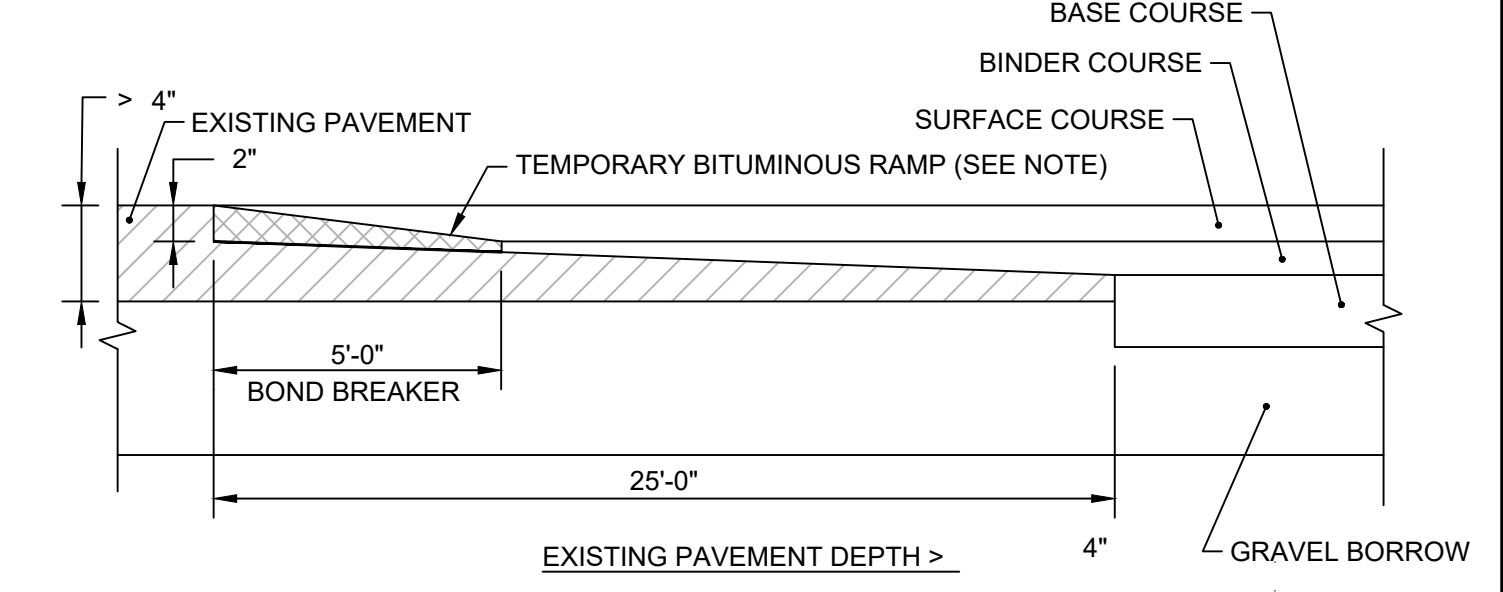
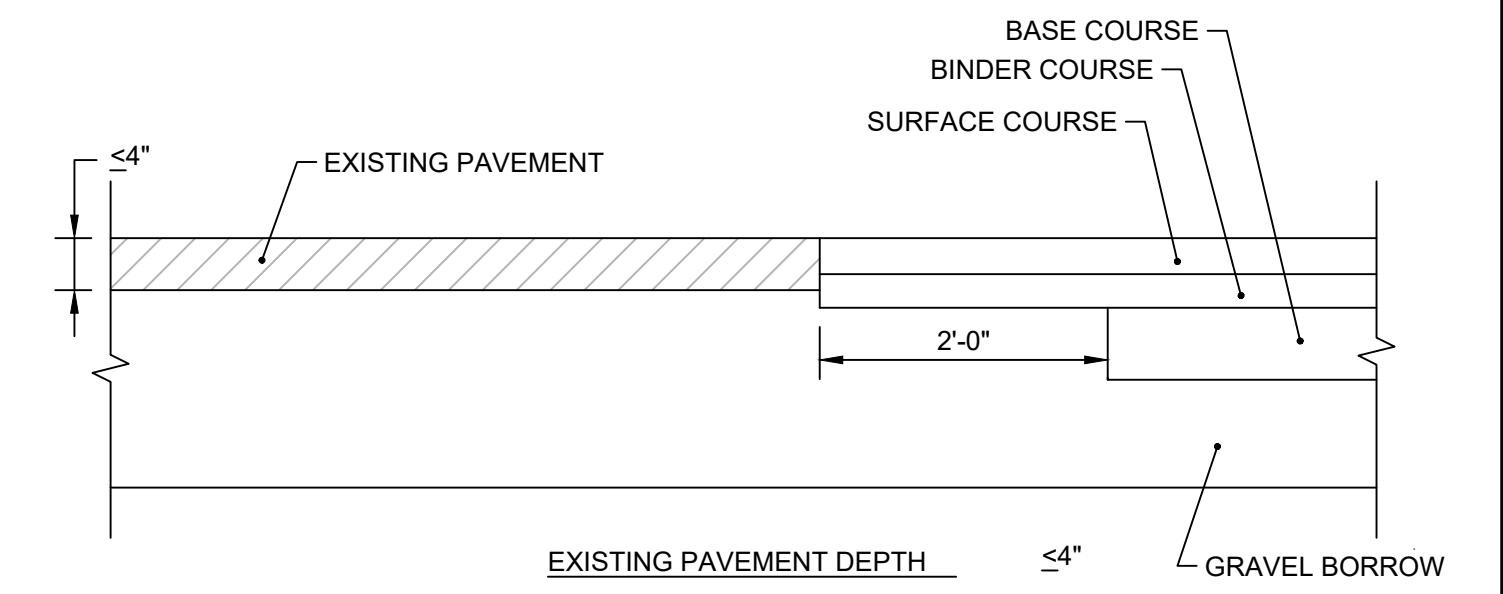
- NOTES:
- DETECTOR WARNING SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 942 OF THE RI STANDARD SPECIFICATIONS.

DETECTABLE WARNING SYSTEM
NOT TO SCALE



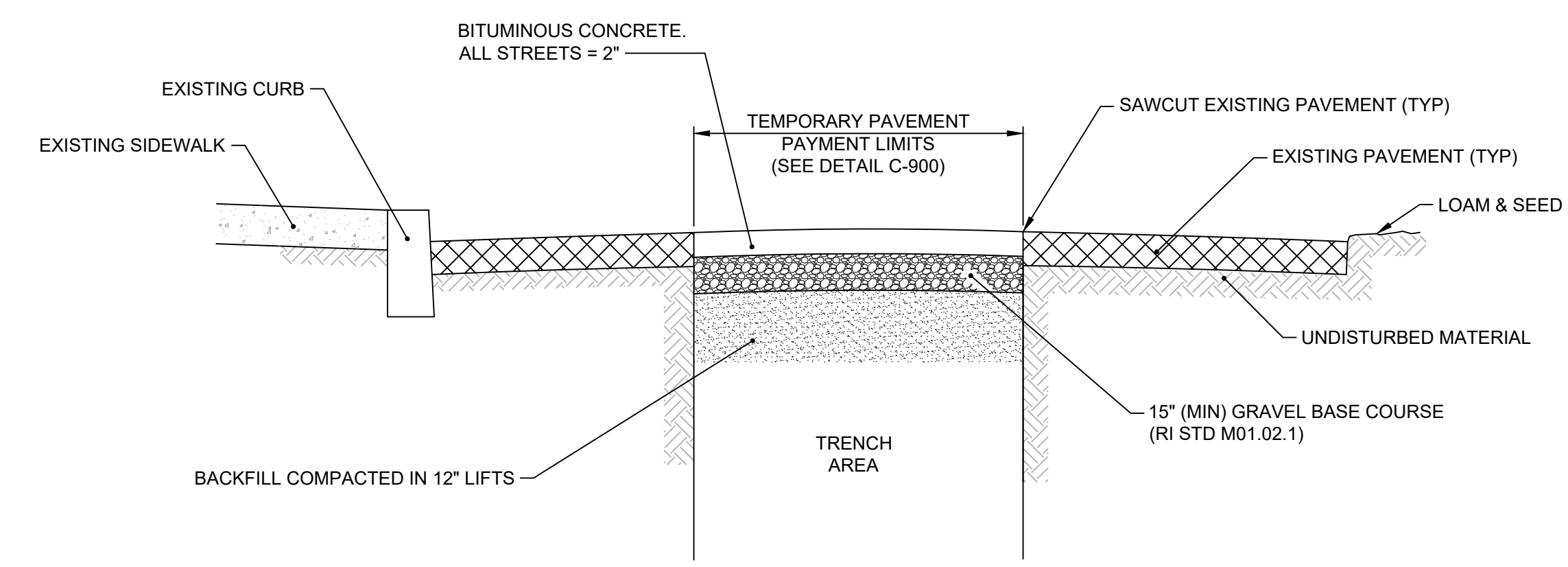
- NOTES:
- TRANSVERSE DROP-OFF:
POSTED SPEED < 35 MPH: 5 FEET HORIZONTALLY TO 1 INCH VERTICALLY
POSTED SPEED > 35 MPH: 10 FEET HORIZONTALLY TO 1 INCH VERTICALLY
 - LONGITUDINAL DROP-OFF (OUTSIDE EDGES OF PAVEMENT):
POSTED SPEED < 35 MPH: DROP-OFFS > 3" BUT < 5" SHALL BE TAPERED TO A 1:1 OR FLATTER SLOPE TO EXISTING GROUND ALL DROP-OFFS > 5" SHALL BE TAPERED TO A 4:1 OR FLATTER SLOPE TO EXISTING GROUND.
POSTED SPEED > 35 MPH: LONGITUDINAL DROP-OFFS WILL NOT BE PERMITTED WITHIN 2'-0" OF A TRAVEL LANE. THIS AREA MUST BE AT GRADE WITH THE TRAVEL LANE. HOWEVER, SHOULD THE CONTRACTOR'S APPROVED SEQUENCE OF OPERATIONS RESULT IN OVERNIGHT DROP-OFFS GREATER THAN THREE INCHES OCCURRING BETWEEN 2'-0" TO 6'-0" FROM A TRAVEL LANE, THEN THE DROP-OFFS SHALL BE TAPERED TO A 4:1 OR FLATTER SLOPE TO EXISTING GROUND.

PAVEMENT REMOVAL DROP-OFF DETAIL
NOT TO SCALE



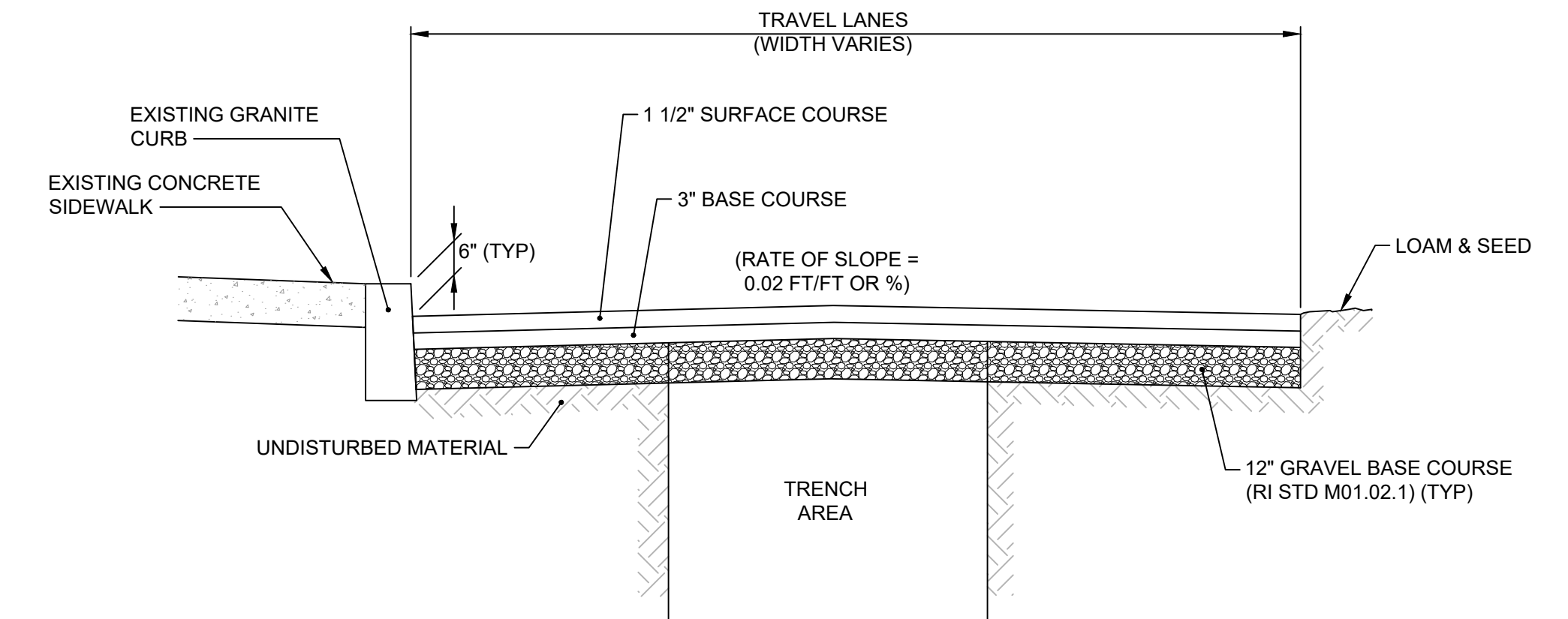
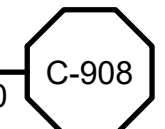
- NOTES:
- A BOND BREAKER (TAPERED OR EQUIVALENT) WILL BE PLACED 5'-0" FROM THE JOINT AND COVERED WITH THE BINDER COURSE AS THE TEMPORARY RAMP. PRIOR TO PLACING THE SURFACE COURSE, THE BINDER COURSE AND BOND BREAKER WILL BE REMOVED.

TRANSVERSE PAVEMENT CUT AND MATCH
NOT TO SCALE



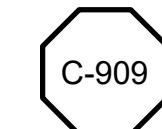
- NOTES:
- CONTRACTOR TO VARY PAVEMENT THICKNESS TO MAINTAIN A MINIMUM CROSS SECTIONAL SLOPE EQUALING 0.02 FT/FT OR %.

TEMPORARY PAVEMENT, ALL ROADS
NOT TO SCALE



- NOTES:
- REMOVE AND DISPOSE EXISTING PAVEMENT TO SUBGRADE, INSTALL GRAVEL BASE COURSE, TRIM, FINE GRADE AND COMPACT GRAVEL BASE COURSE PRIOR TO PLACEMENT OF NEW BITUMINOUS CONCRETE PAVEMENT.
 - PAVEMENT TO BE PLACED OVER MINIMUM 12 INCHES OF GRAVEL BORROW BASE COURSE.
 - MINIMUM PAVEMENT THICKNESS TO BE 1 1/2 INCHES. MAXIMUM PAVEMENT THICKNESS PER COURSE NOT TO EXCEED 3 INCHES. CONTRACTOR TO VARY PAVEMENT THICKNESS TO MAINTAIN A MINIMUM CROSS SECTIONAL SLOPE EQUALING 0.02 FT/FT.
 - ALL CURBING AND SIDEWALK TO REMAIN UNLESS OTHERWISE INDICATED ON THE PLANS.

PERMANENT PAVEMENT FULL WIDTH RESTORATION
NOT TO SCALE

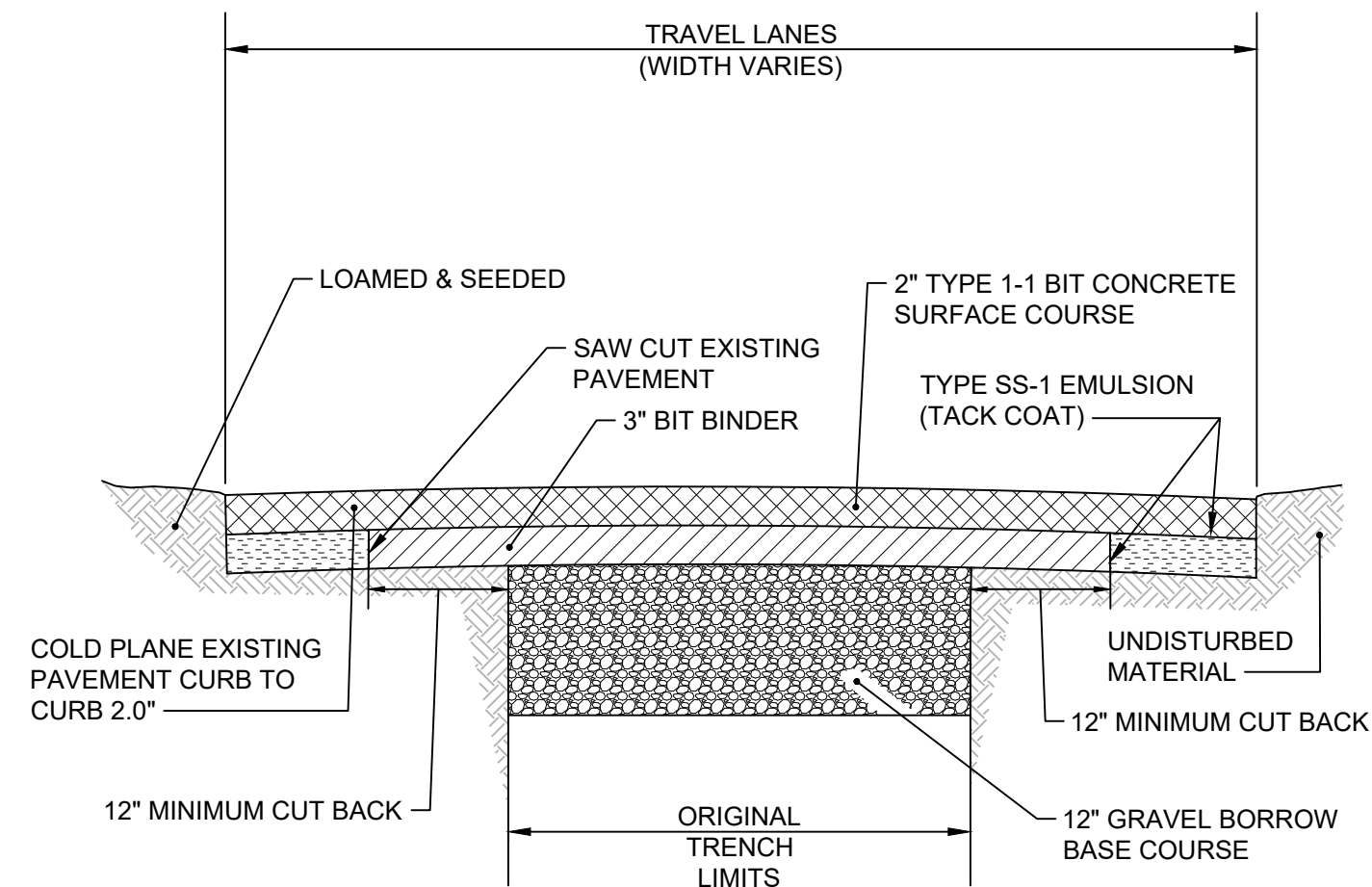


REV	DATE	BY	DESCRIPTION

SCALE AS SHOWN	WARNING IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DESIGNED C. CRONIN DRAWN C. MARSHALL CHECKED J. D'ALESSIO
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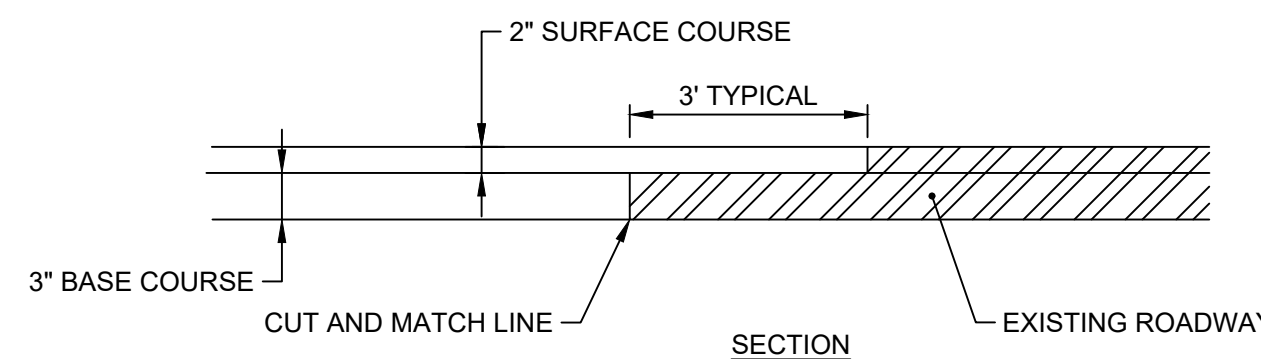
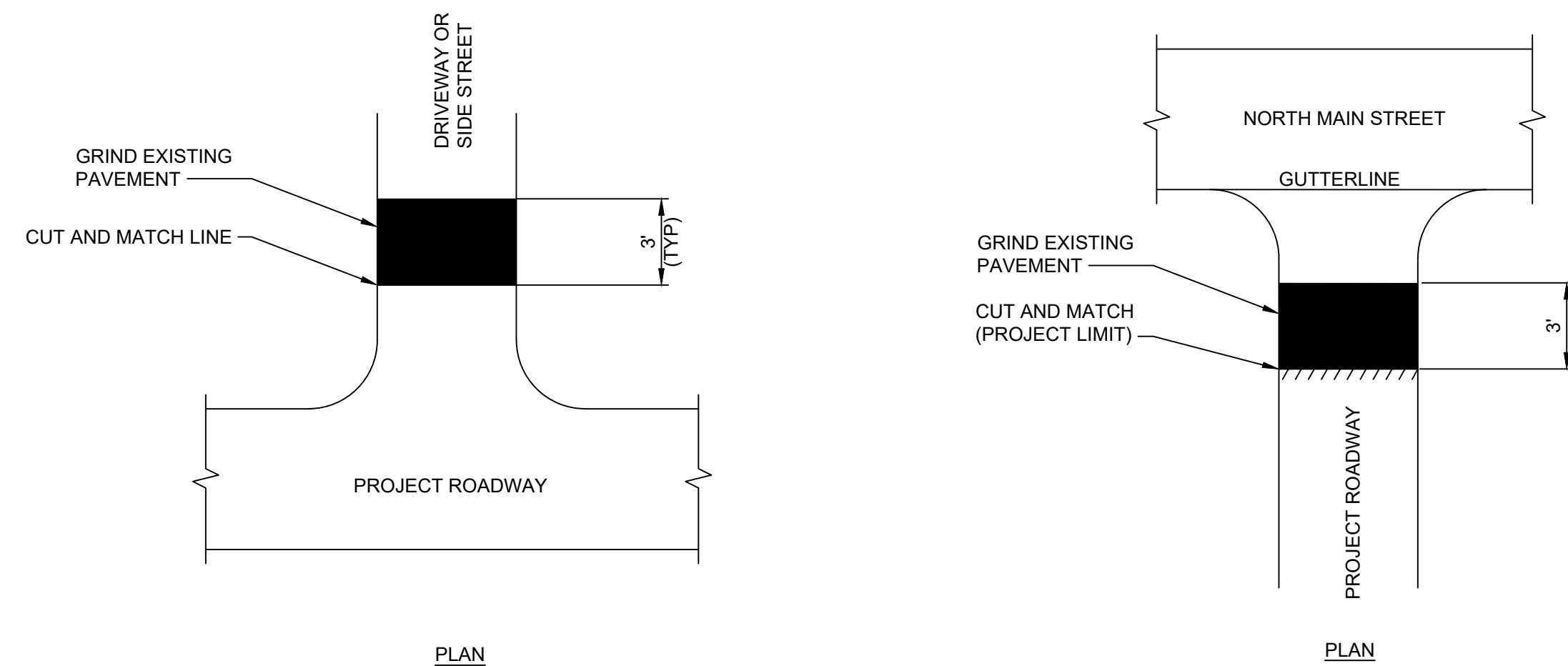
90% DESIGN PHASE - NOVEMBER 2021
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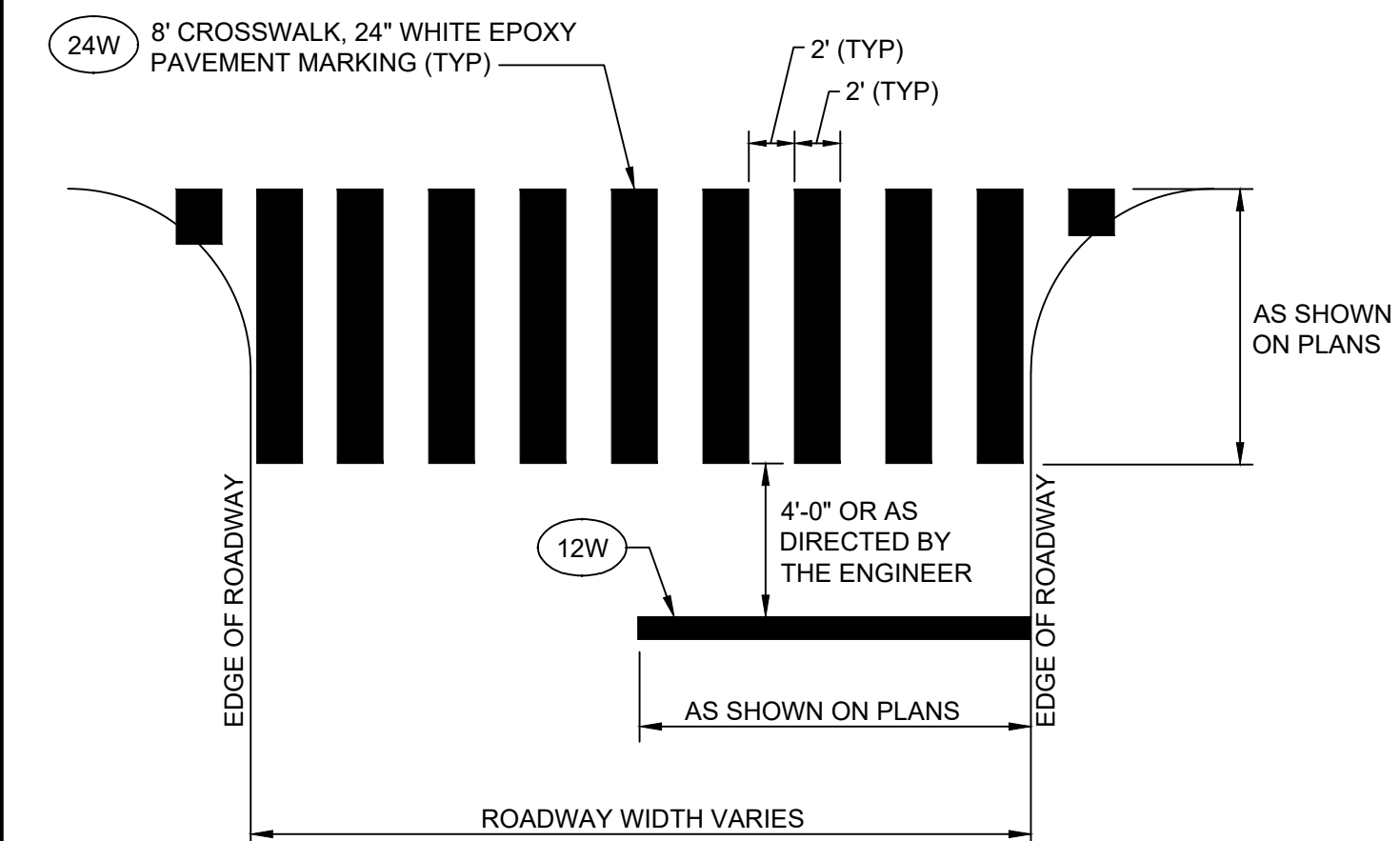
- NOTES:**
1. MINIMUM PAVEMENT THICKNESS TO BE 2". CONTRACTOR TO VARY PAVEMENT THICKNESS TO MAINTAIN A MINIMUM CROSS SECTIONAL SLOPE EQUALING 0.02 FT/FT.
 2. CUT BACK DISTANCES SHALL BE AS DIRECTED BY THE ENGINEER. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THEY BE LESS THAN THE MINIMUM INDICATED.
 3. REFER TO SPECIFICATION 02500 FOR COLD PLANING REQUIREMENTS.

CURB TO CURB PAVEMENT RESTORATION
NOT TO SCALE REV 000000 C-910



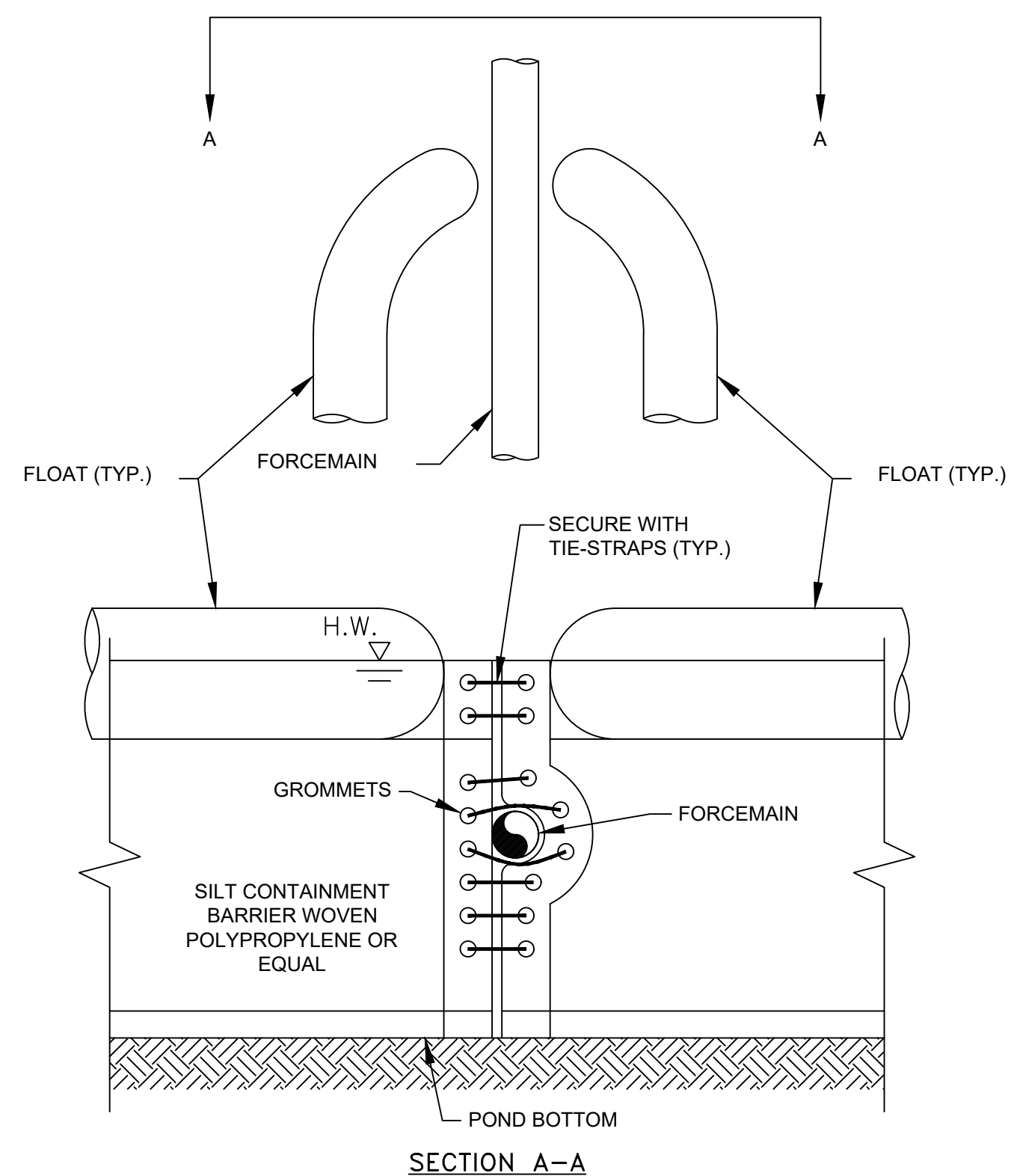
- NOTES:**
1. ACTUAL LOCATIONS OF CUT AND MATCH LINES TO BE DETERMINED IN THE FIELD.

PROJECT LIMITS CUT AND MATCH DETAIL
NOT TO SCALE REV 000000 C-911

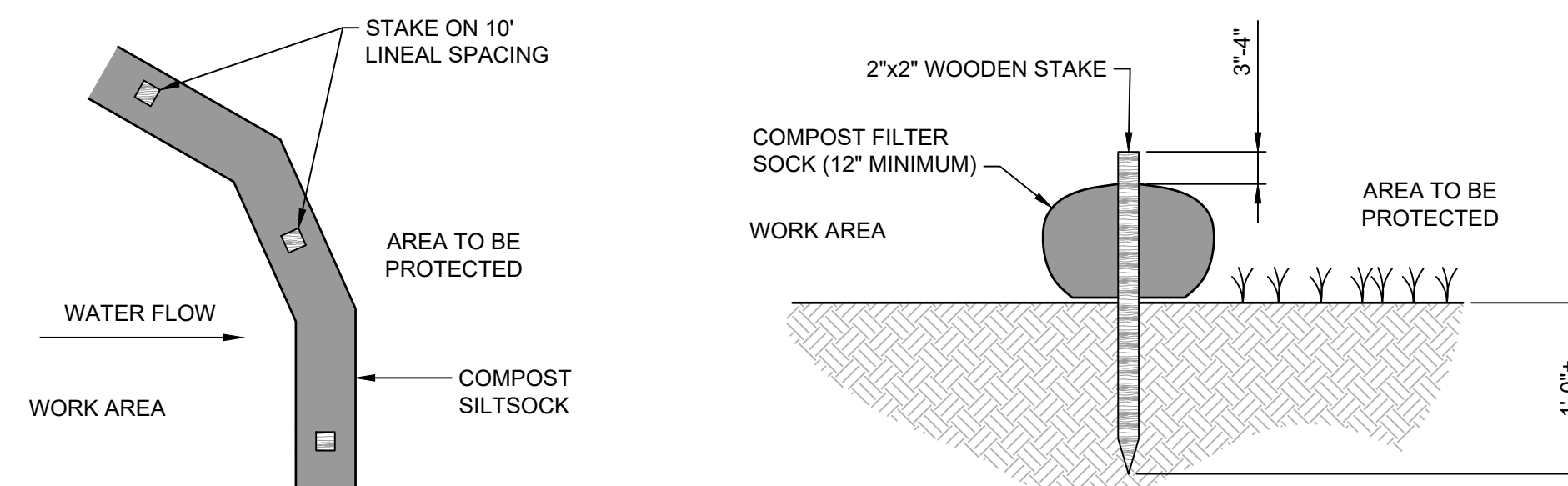


- CONTRACTOR TO MATCH EXISTING STRIPING AT THE FOLLOWING LOCATIONS:
- LOCATIONS:**
- INTERSECTION OF MAIN STREET (65 FT WIDE) AND ROOSEVELT AVENUE EXT (34 FT WIDE)
 - 4 CROSSWALKS AND 4 STOPLINES
 - INTERSECTION OF JENKS WAY (44 FT WIDE) AND ROOSEVELT AVENUE EXT (31 FT WIDE)
 - 2 CROSSWALKS AND 1 STOPLINE
 - TAFT STREET (62 FT WIDE) AT APPROXIMATELY 650 FT NORTH OF SPENCER STREET
 - 1 CROSSWALK
 - INTERSECTION OF TOWER STREET (25 FT WIDE) AND TAFT STREET (48 FT WIDE)
 - 2 CROSSWALKS AND 2 STOPLINE
 - INTERSECTION OF TIDEWATER STREET (32 FT WIDE) AND TAFT STREET (30 FT WIDE)
 - 2 CROSSWALKS AND 2 STOPLINES

CROSSWALK AND STOPLINE DETAIL - TYPE 1
NOT TO SCALE REV 000000 C-912

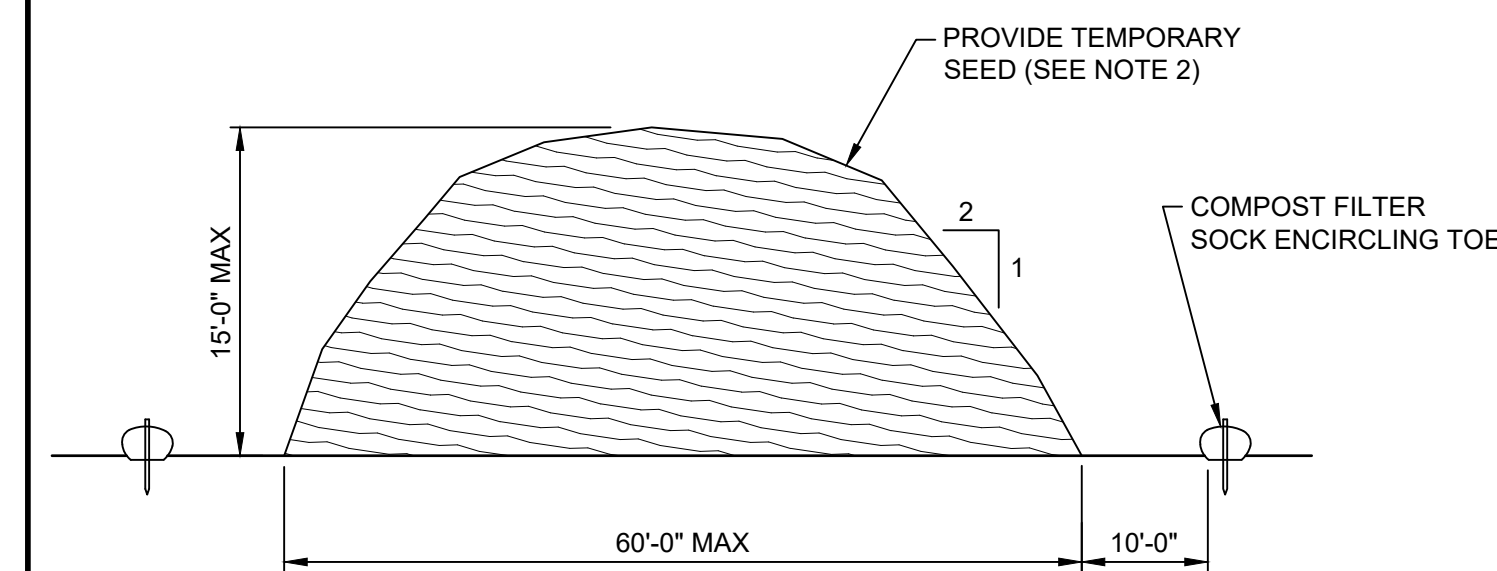


TURBIDITY CURTAIN TRANSITION
NOT TO SCALE REV 000000 C-913



- NOTES:**
1. COMPOST/ SOIL/ ROCK/ SEED FILL TO MEET APPLICATION REQUIREMENTS.
 2. COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE AS DETERMINED BY ENGINEER.
 3. IF SOCK NETTING MUST BE JOINED, FIT BEGINNING OF NEW SOCK OVER END OF OLD SOCK, OVERLAPPING BY 2 FEET AND STACK OVERLAP. IF SOCK NETTING IS NOT JOINED, OVERLAP OLD SOCK WITH NEW ONE BY MINIMUM OF 2 FEET.

COMPOST FILTER SOCK
NOT TO SCALE C-401



- NOTES:**
1. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.
 2. STOCKPILED ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEED IMMEDIATELY FOLLOWING PLACEMENT. USE RIDOT STD M.18.10.5 SEED MIX.

ERODIBLE MATERIAL STOCKPILE
NOT TO SCALE REV 000000 C-402

REV	DATE	BY	DESCRIPTION

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1\"/>

DESIGNED	C. CRONIN
DRAWN	C. MARSHALL
CHECKED	J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

NOT FOR CONSTRUCTION

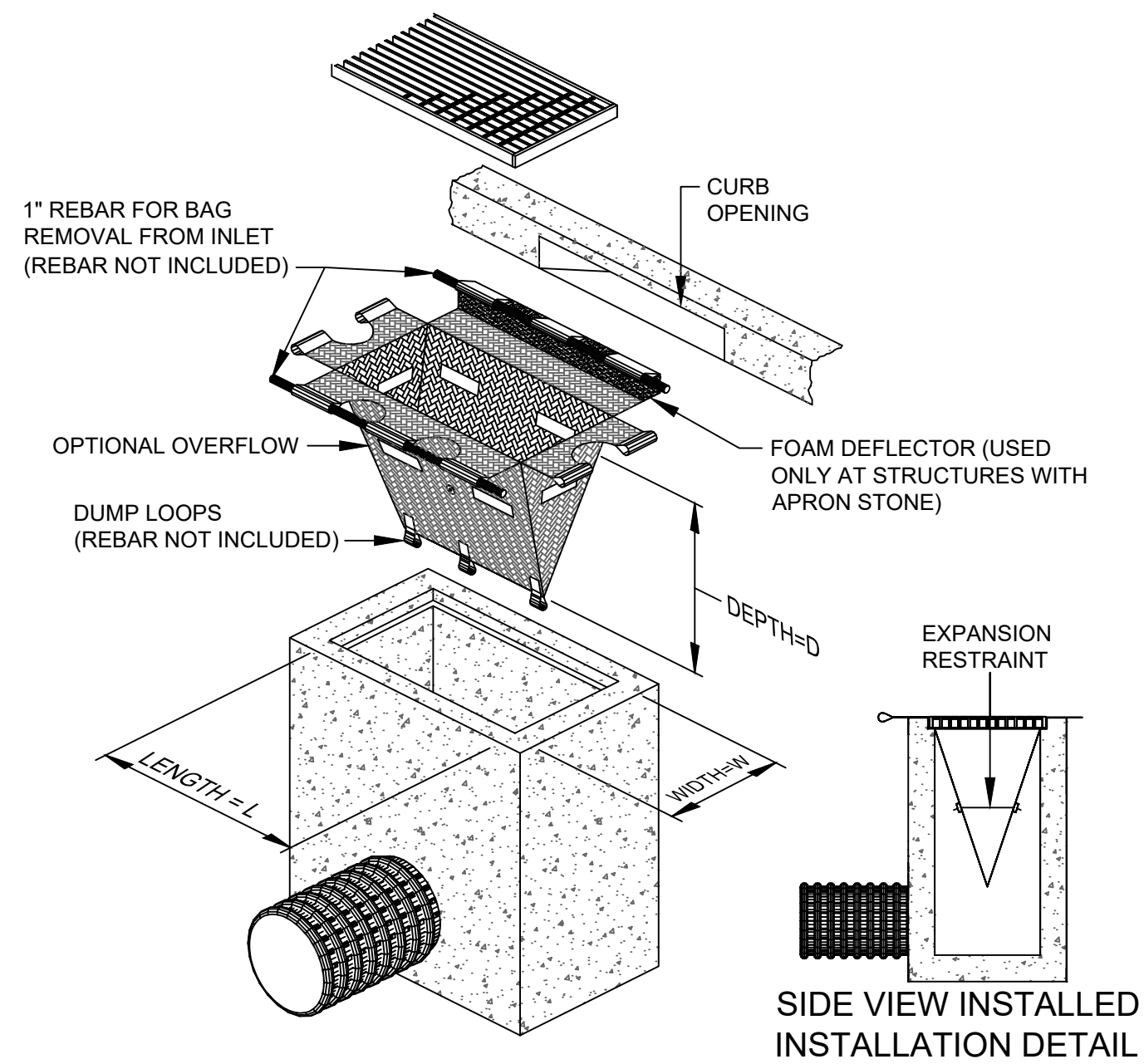
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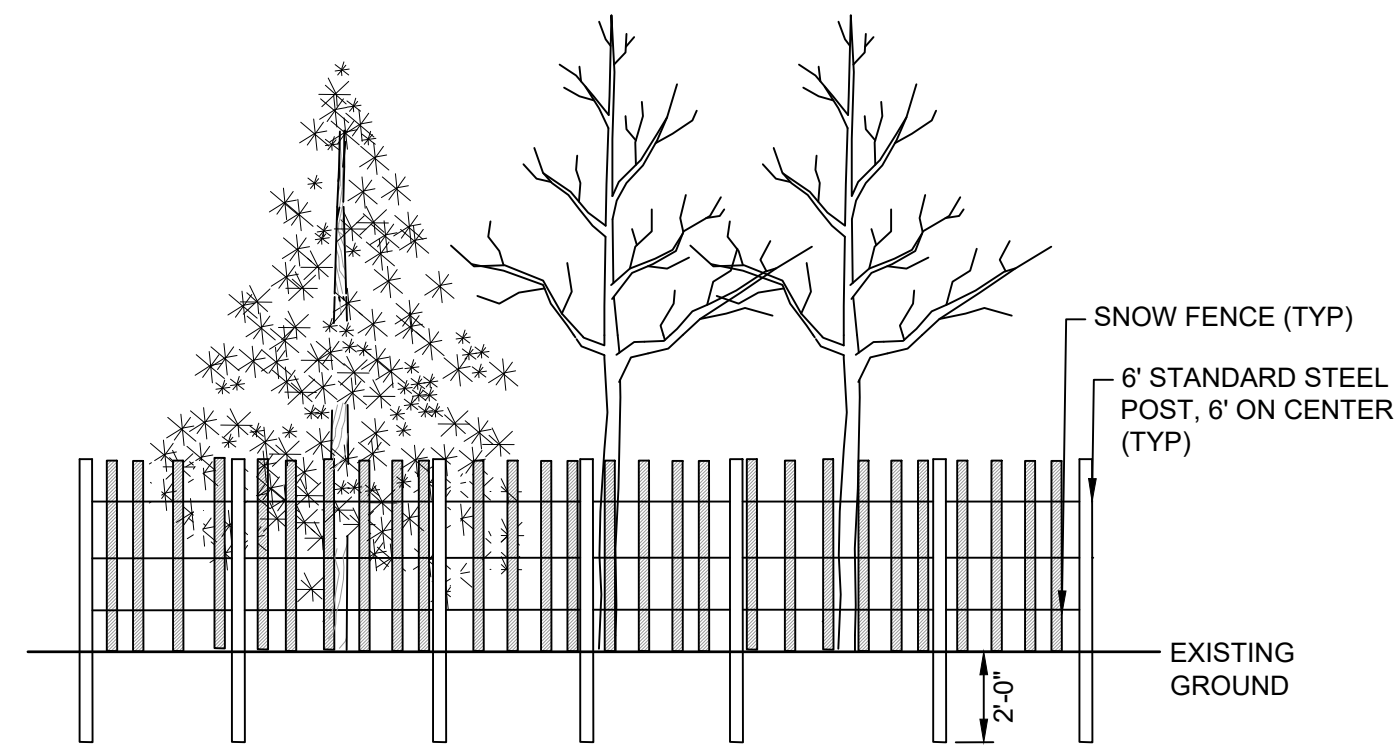
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL
OF-210/213/214 FACILITIES
CIVIL DETAILS VII

SHEET
C-26
195130227

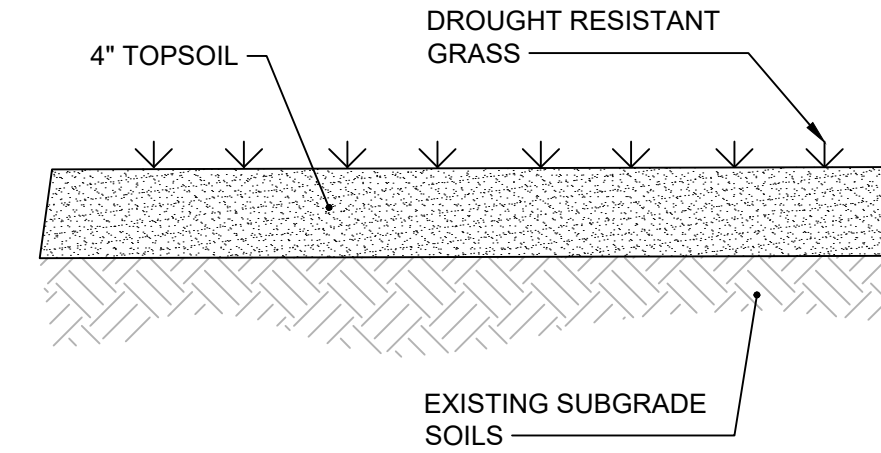


CATCH BASIN SEDIMENT CONTROL DEVICE (WITH OPTIONAL CURB DEFLECTOR)
NOT TO SCALE REV 000000 C-403

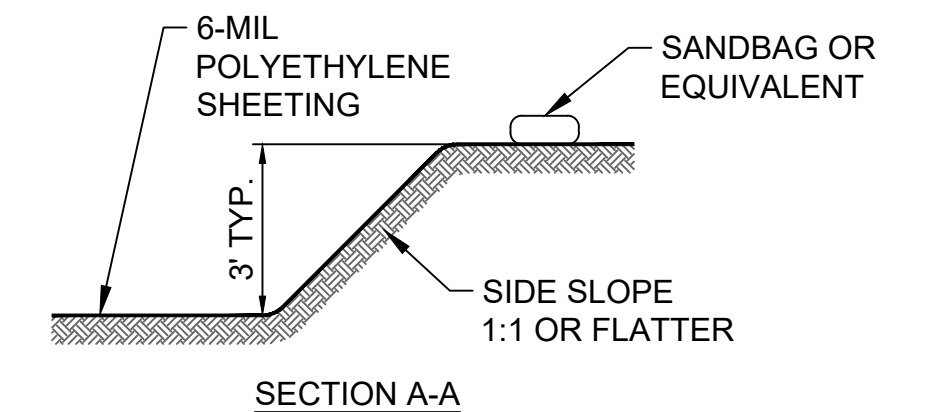
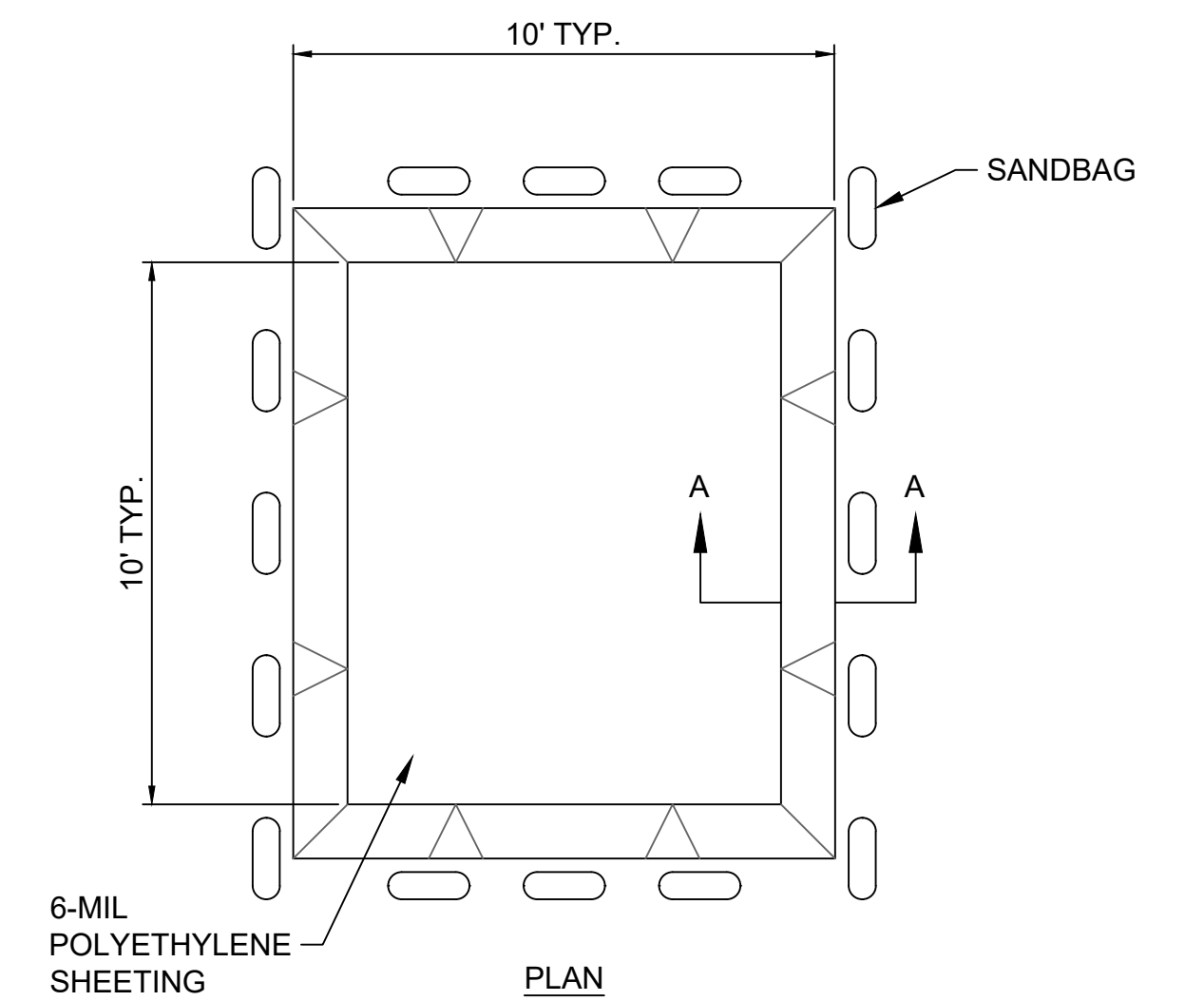


NOTES:
1. TREE GROUP PROTECTION SHALL BE INSTALLED AT THE DRIP LINE OF THE TREES TO BE PROTECTED.

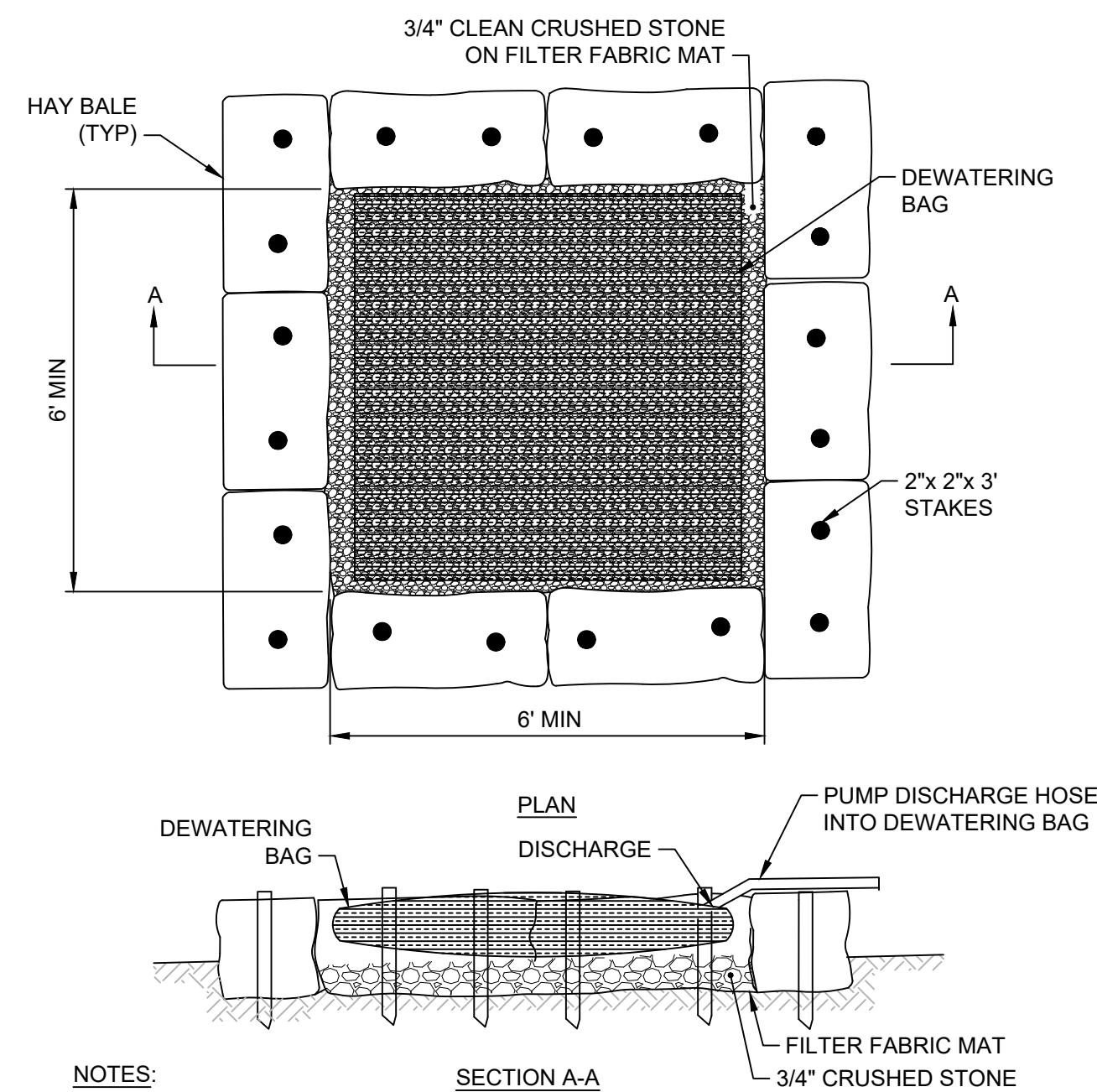
TREE GROUP PROTECTION DETAIL
NOT TO SCALE REV 000000 C-404



GROUND COVER DETAIL
NOT TO SCALE REV 000000 C-914

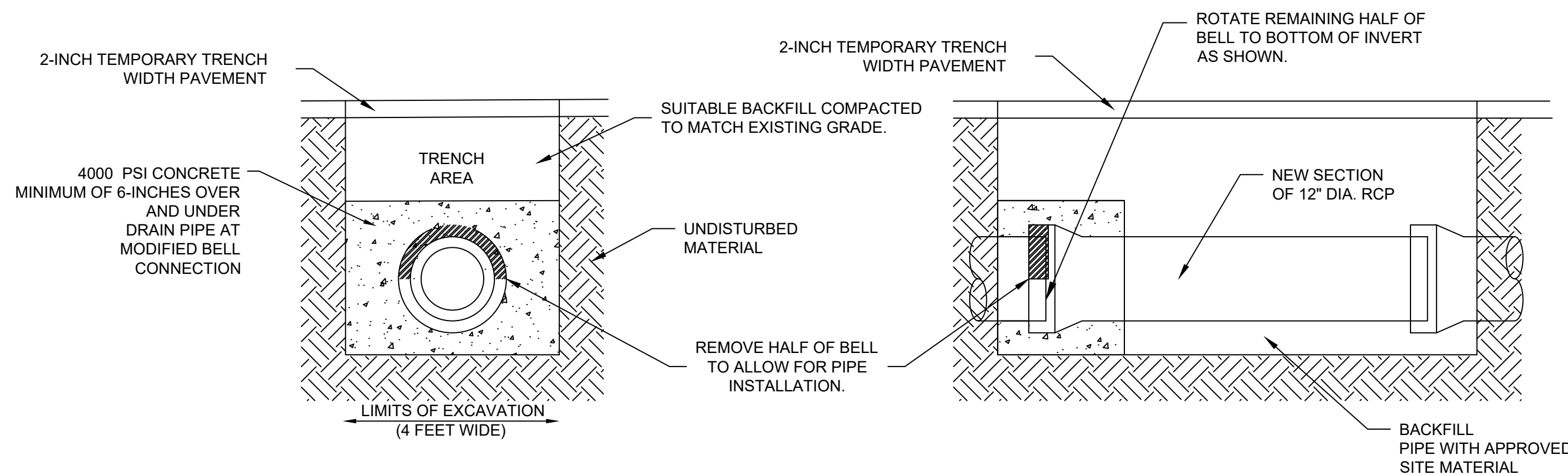


CONCRETE WASHOUT AREA DETAIL
NOT TO SCALE REV 000000 C-915



NOTES:
1. ALL DEWATERING DISCHARGES SHALL BE THROUGH DEWATERING BAG, CONTRACTOR SHALL MAINTAIN AND CLEAN AS REQUIRED.
2. CONTRACTOR SHALL SUBMIT DEWATERING PLANS TO THE ENGINEER/OWNER FOR APPROVAL.
3. SIZING OF DEWATERING BAG SHALL BE BASED ON BUT NOT LIMITED TO THE FOLLOWING:
3a. PUMP FLOW RATE
3b. QUALITY AND TYPE OF SEDIMENT
3c. VOLUME OF MATERIALS NEEDING CONTAINMENT

SEDIMENT CONTROL TRAP WITH DEWATERING BAG
NOT TO SCALE REV 000000 C-916



NOTES:
1. THE PIPE SHALL BE PROPERLY SECURED TO PREVENT DISPLACEMENT DURING THE INSTALLATION OF CONCRETE.
2. CONCRETE SHALL EXTEND ALONG THE LENGTH OF THE PIPE IN BOTH DIRECTIONS A MINIMUM OF ONE FOOT BEYOND THE LIMITS OF THE MODIFIED BELL.

RCP TO RCP CONNECTION DETAIL
NOT TO SCALE C-917

REV	DATE	BY	DESCRIPTION

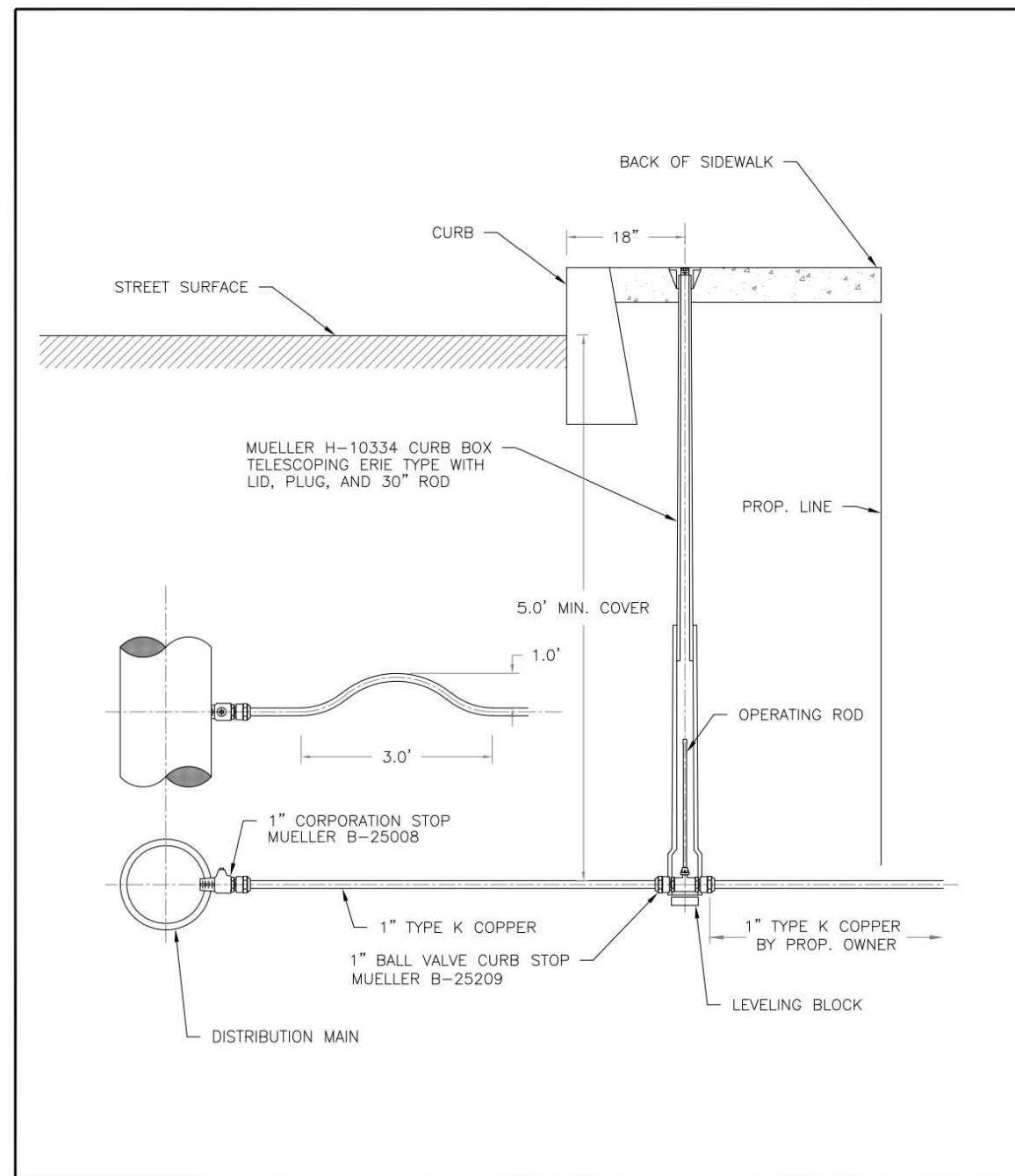
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WARNING	IF THIS BAR DOES NOT MEASURE 1\"/>
DESIGNED	C. CRONIN
DRAWN	C. MARSHALL
CHECKED	J. D'ALELIO

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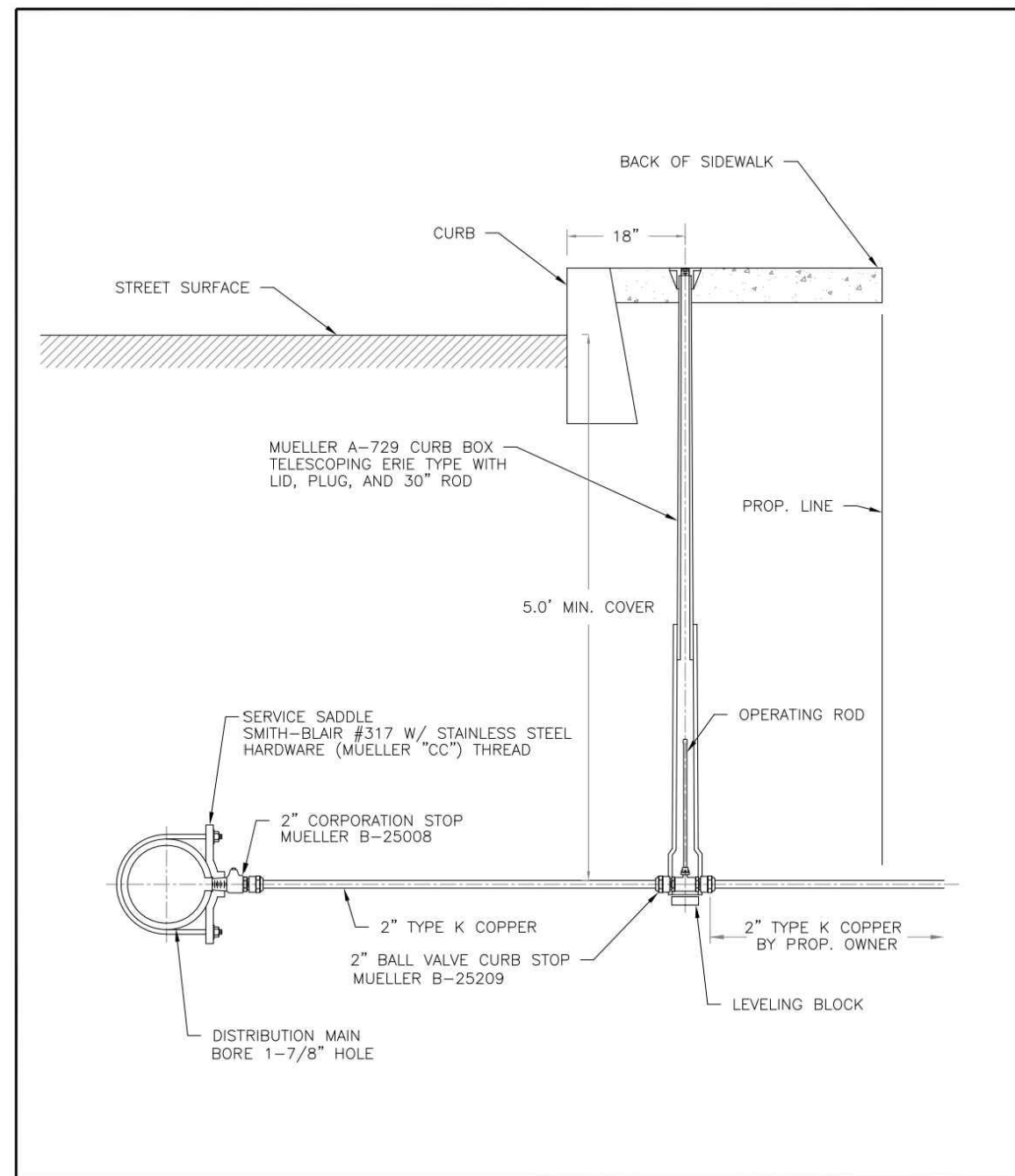
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
NBC CONTRACT NO 308.04C
CIVIL
OF-210/213/214 FACILITIES
CIVIL DETAILS VIII

SHEET
C-27
195130227



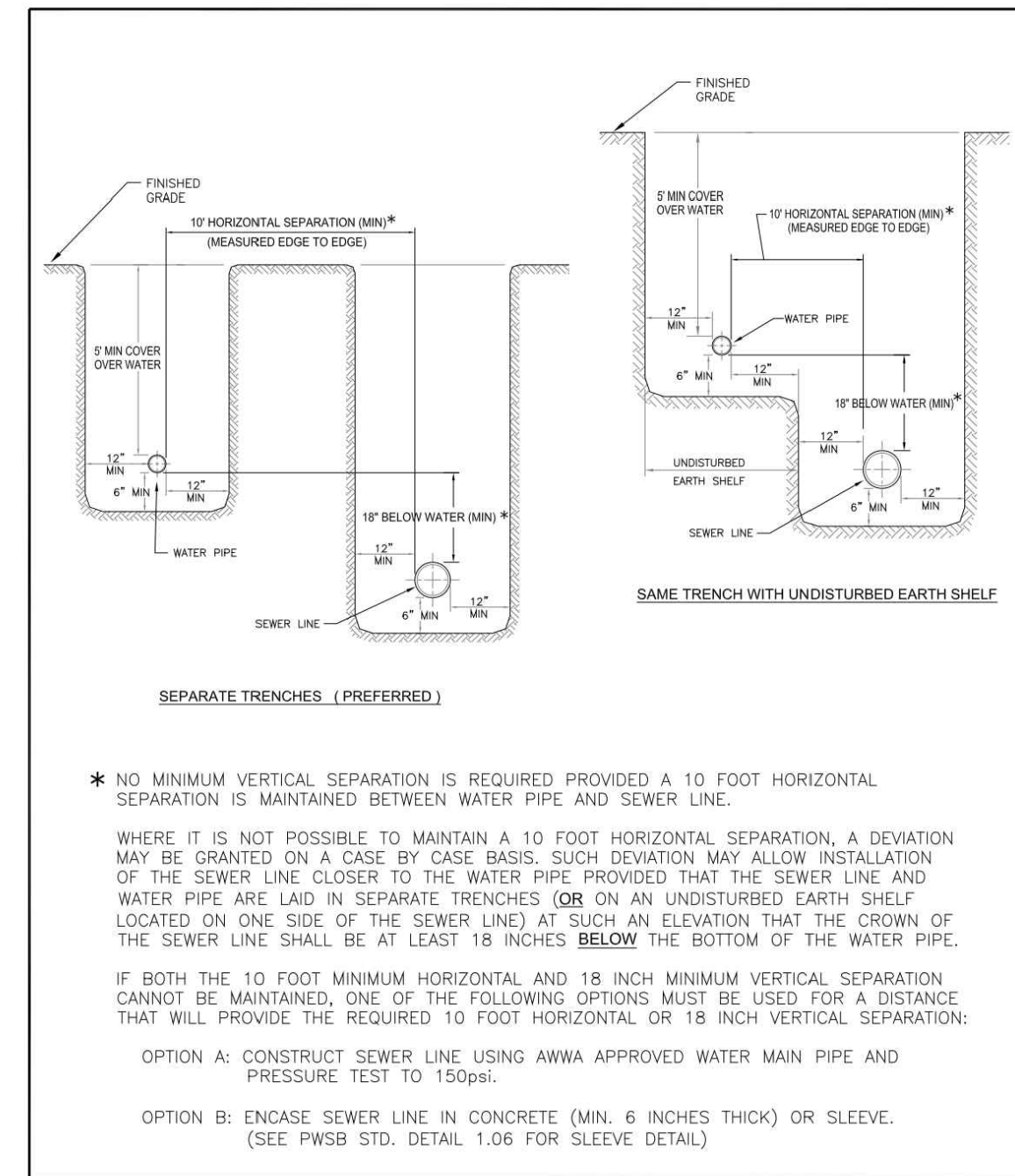
PAWTUCKET WATER SUPPLY BOARD	
NEW 1" SERVICE INSTALLATION	
REVISION DATE: FEB. 2020	STD. NO. 1.01

NEW 1" SERVICE INSTALLATION
NOT TO SCALE REV 000000 W-101



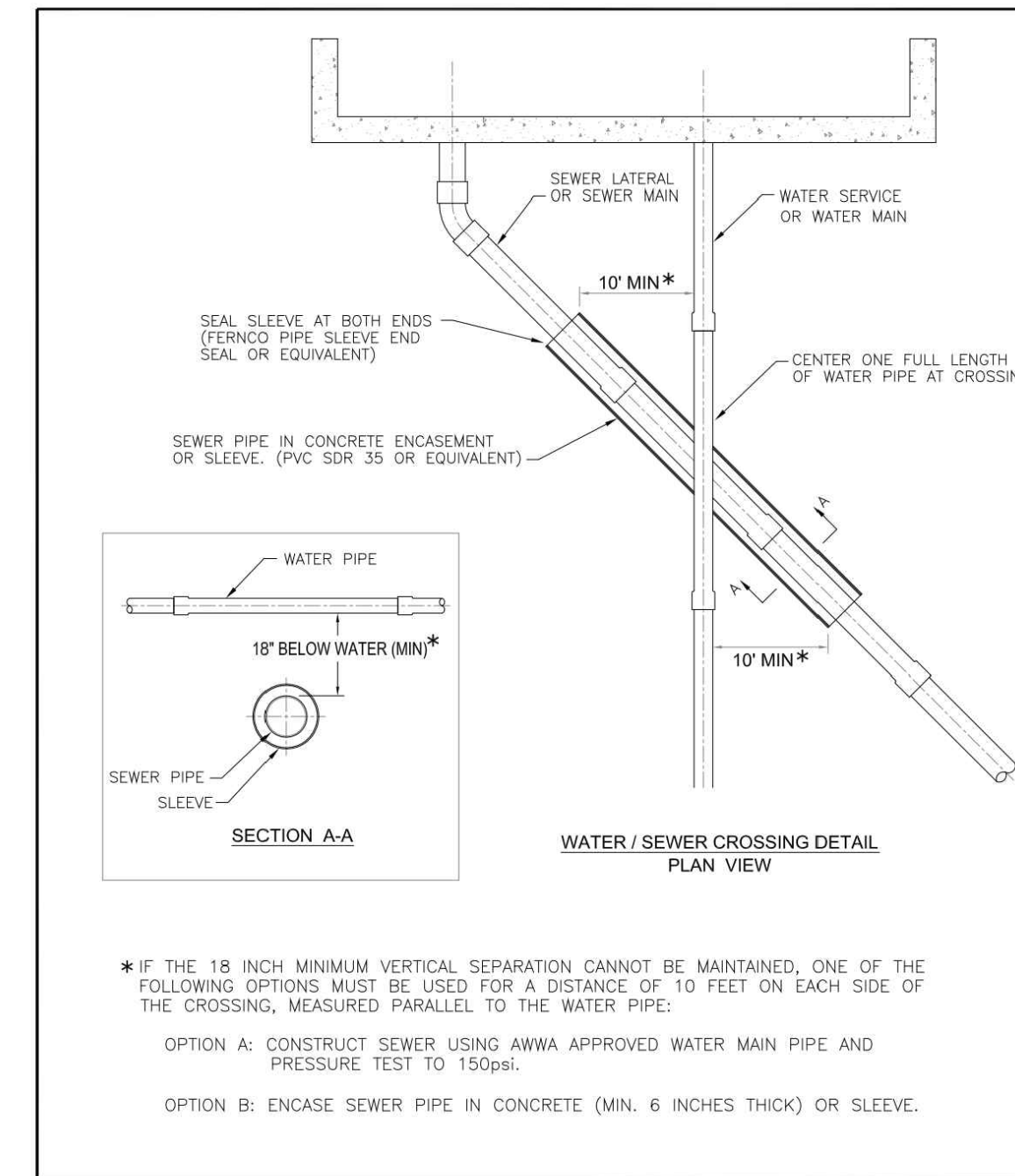
PAWTUCKET WATER SUPPLY BOARD	
NEW 2" SERVICE INSTALLATION	
REVISION DATE: FEB. 2020	STD. NO. 1.03

NEW 2" SERVICE INSTALLATION
SUB-TITLE REV 000000 W-103



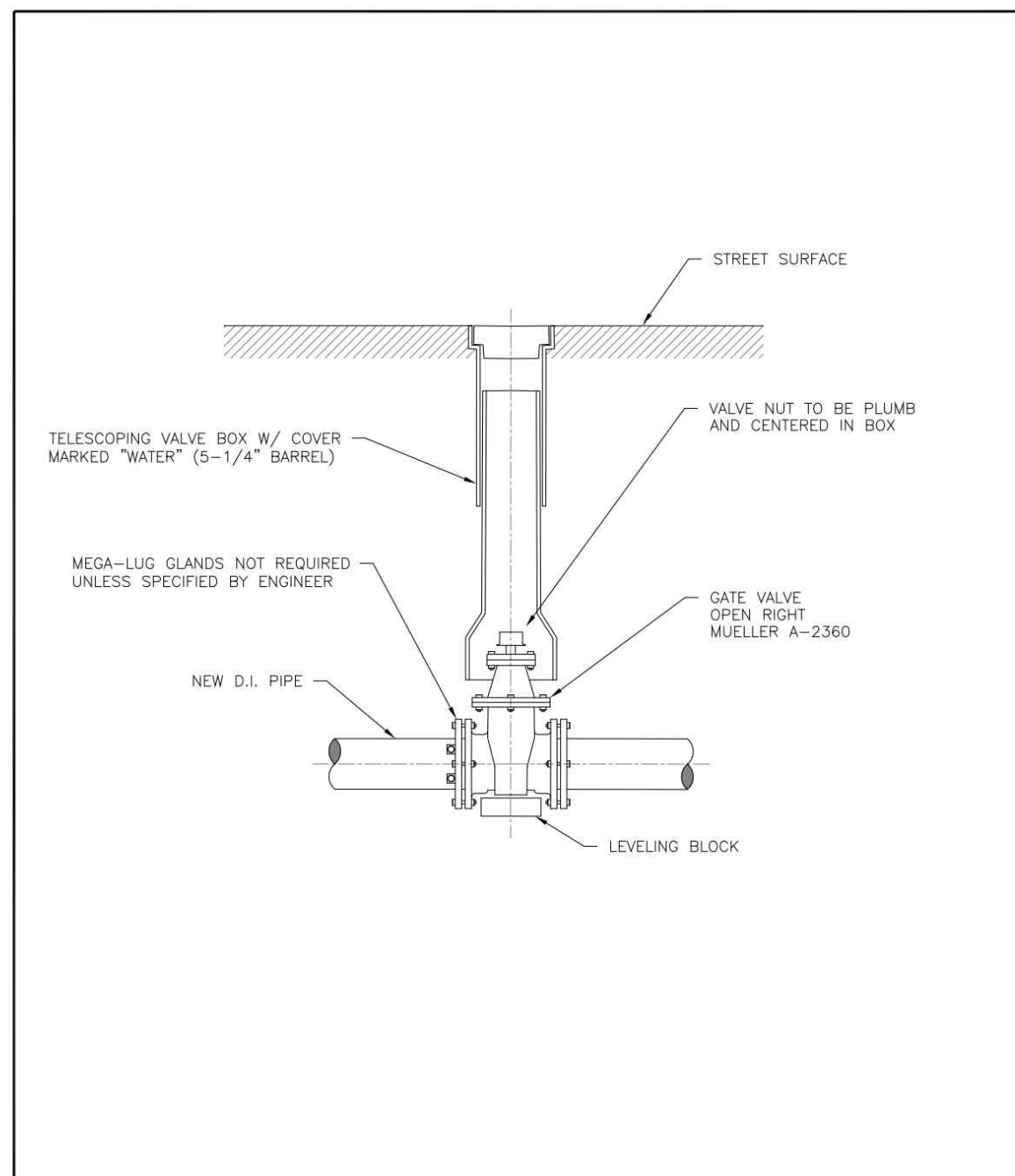
PAWTUCKET WATER SUPPLY BOARD	
WATER AND SEWER SEPARATION DETAIL FOR PARALLEL PLACEMENT	
REVISION DATE: DEC. 2013	STD. NO. 1.05

WATER AND SEWER SEPARATION DETAIL FOR PARALLEL PLACEMENT
REV 000000 W-105



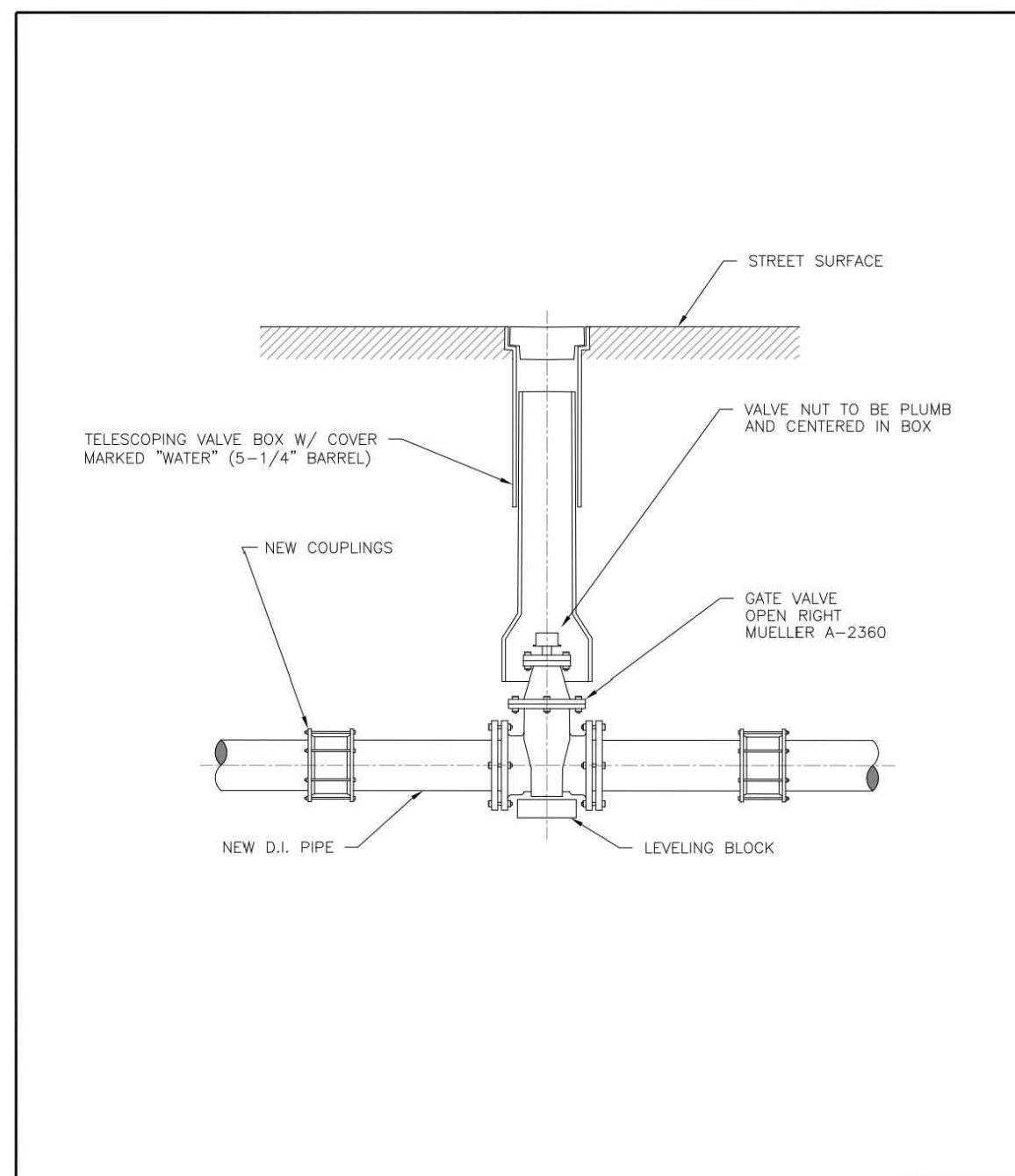
PAWTUCKET WATER SUPPLY BOARD	
WATER AND SEWER SEPARATION DETAIL AT CROSSING	
REVISION DATE: JAN. 2012	STD. NO. 1.06

WATER AND SEWER SEPARATION DETAIL AT CROSSING
REV 000000 W-106



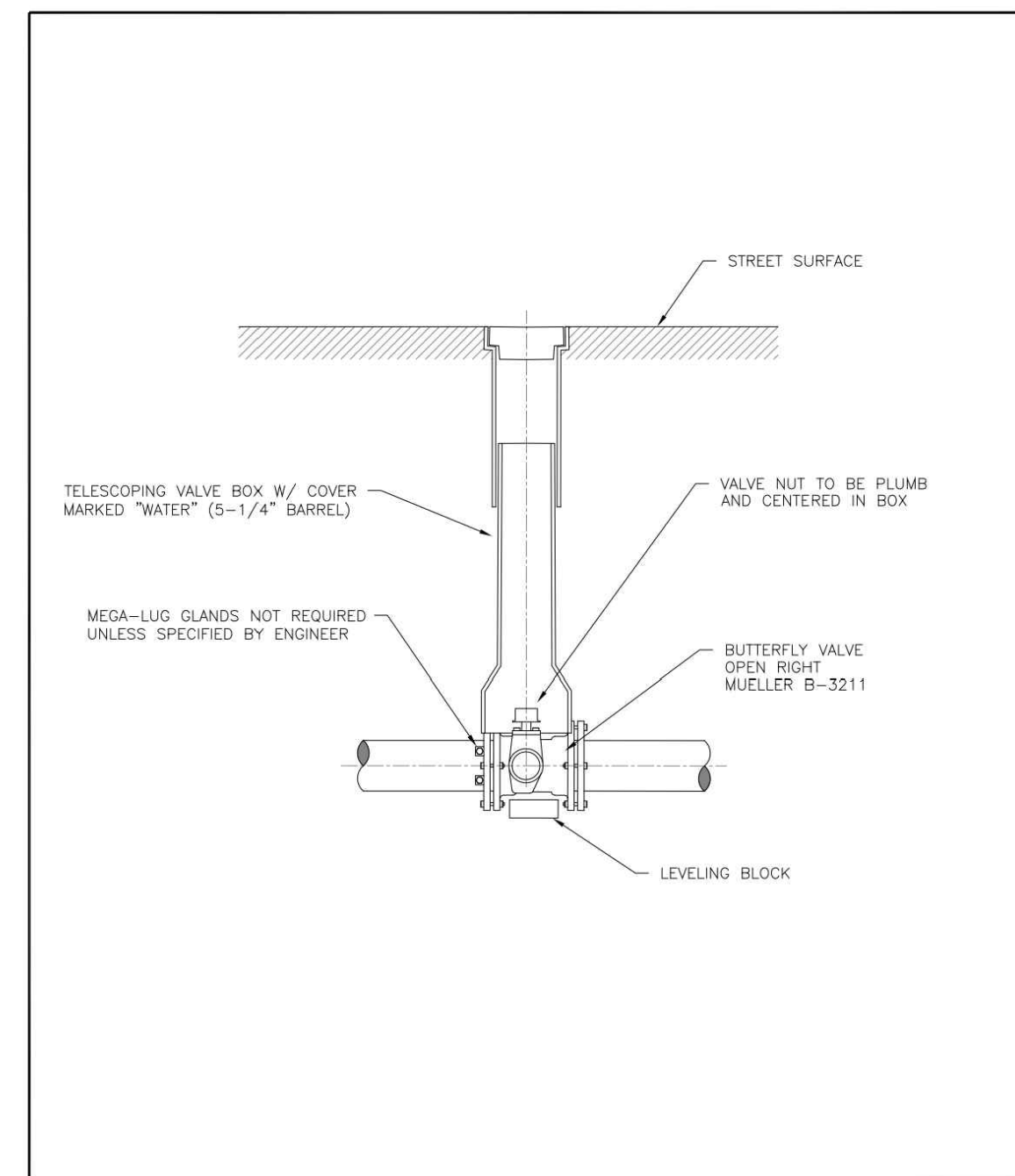
PAWTUCKET WATER SUPPLY BOARD	
GATE VALVE INSTALLATION	
REVISION DATE: FEB. 2006	STD. NO. 3.01

GATE VALVE INSTALLATION
NOT TO SCALE REV 000000 W-301



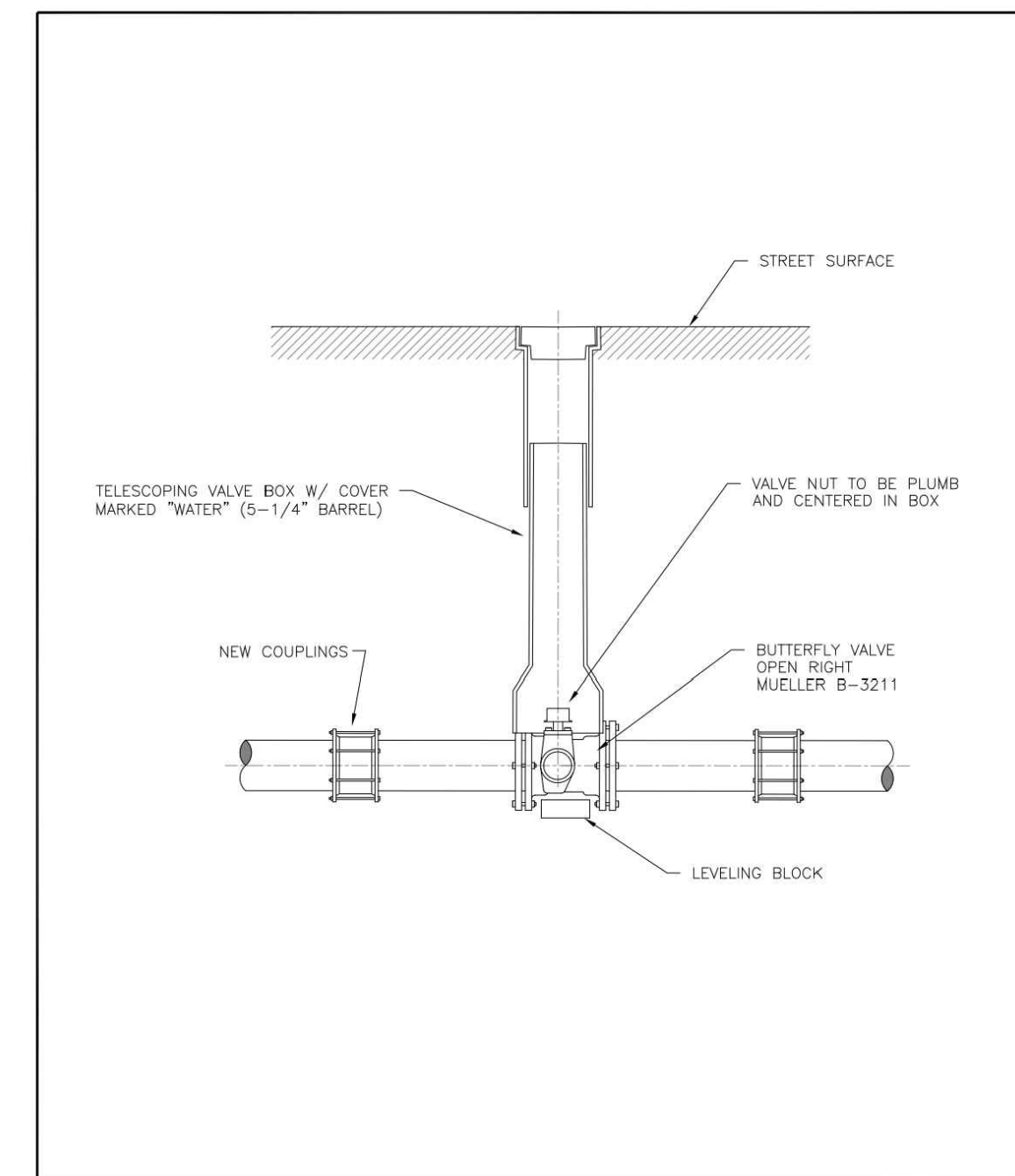
PAWTUCKET WATER SUPPLY BOARD	
GATE VALVE REPLACEMENT	
REVISION DATE: AUG. 2013	STD. NO. 3.02

GATE VALVE REPLACEMENT
NOT TO SCALE REV 000000 W-302



PAWTUCKET WATER SUPPLY BOARD	
BUTTERFLY VALVE INSTALLATION	
REVISION DATE: FEB. 2006	STD. NO. 3.03

BUTTERFLY VALVE INSTALLATION
NOT TO SCALE REV 000000 W-303



PAWTUCKET WATER SUPPLY BOARD	
BUTTERFLY VALVE REPLACEMENT	
REVISION DATE: AUG. 2013	STD. NO. 3.04

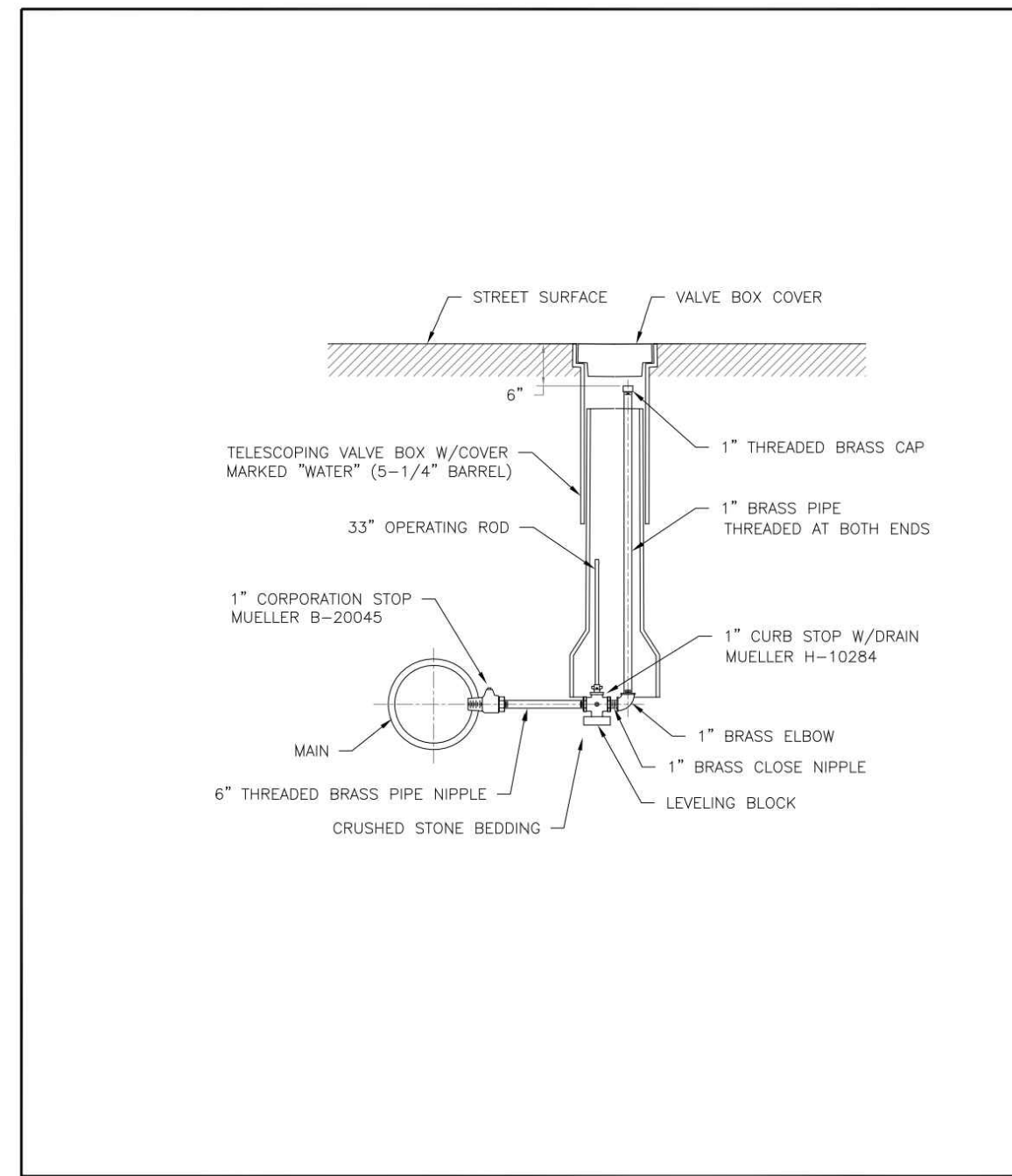
BUTTERFLY VALVE REPLACEMENT
NOT TO SCALE REV 000000 W-304

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
DESIGNED	C. CRONIN
DRAWN	C. MARSHALL
CHECKED	J. D'ALESSIO

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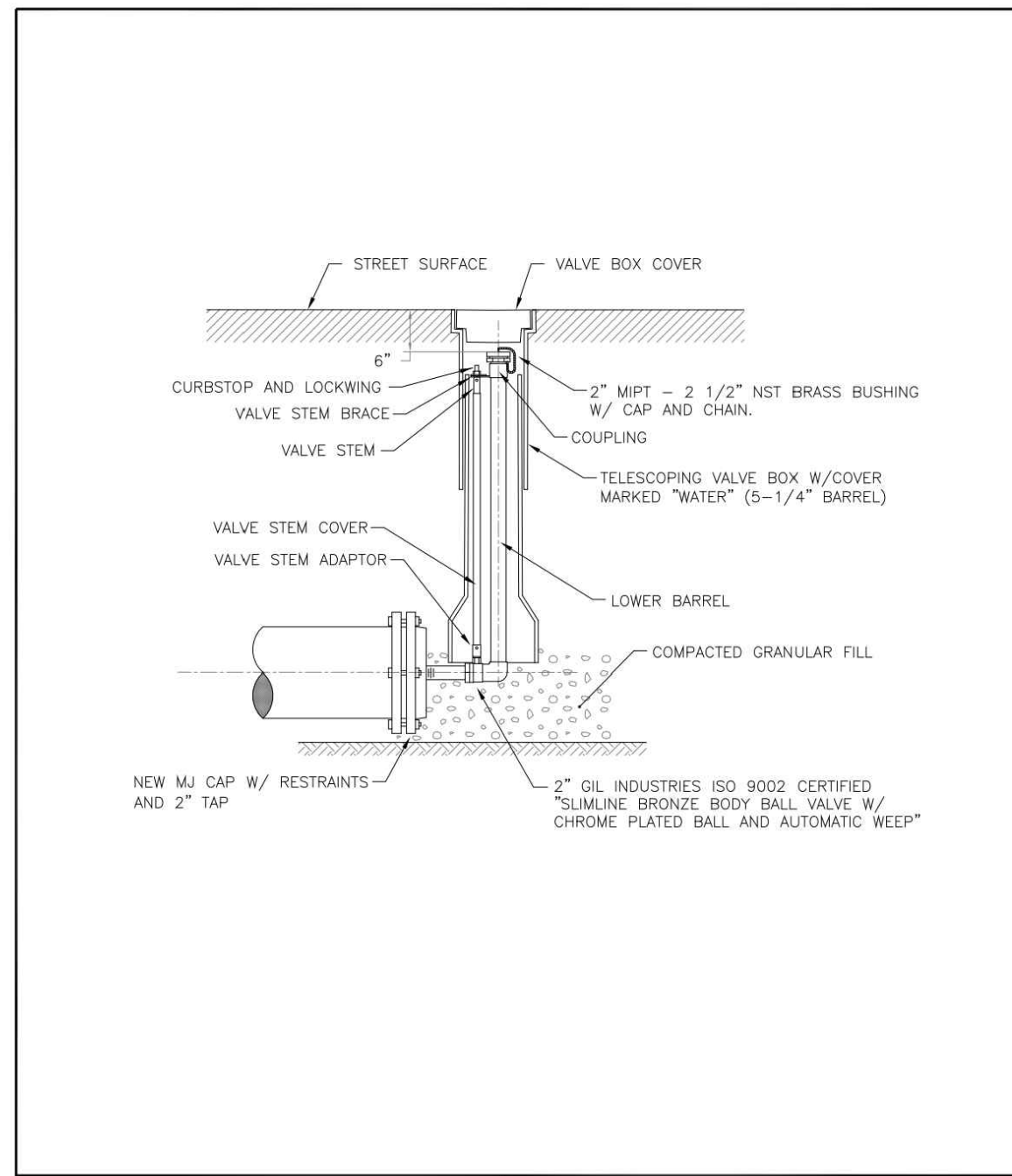


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER OVERFLOW PROGRAM
NBC CONTRACT NO 308.04C
CIVIL
OF-210/213/214 FACILITIES
CIVIL DETAILS - WATER I



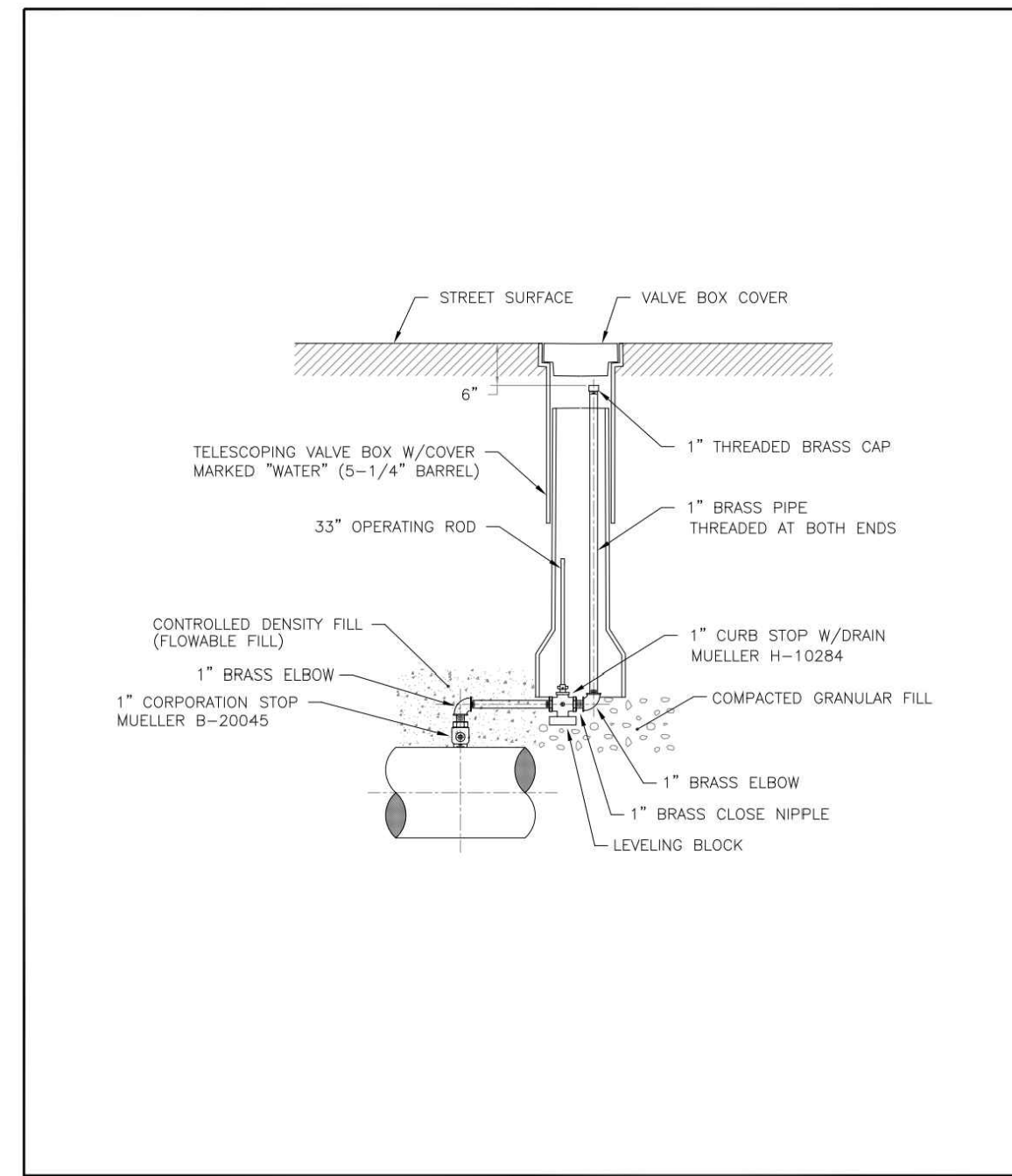
Pawtucket Water Supply Board
1\"/>

1\"/>



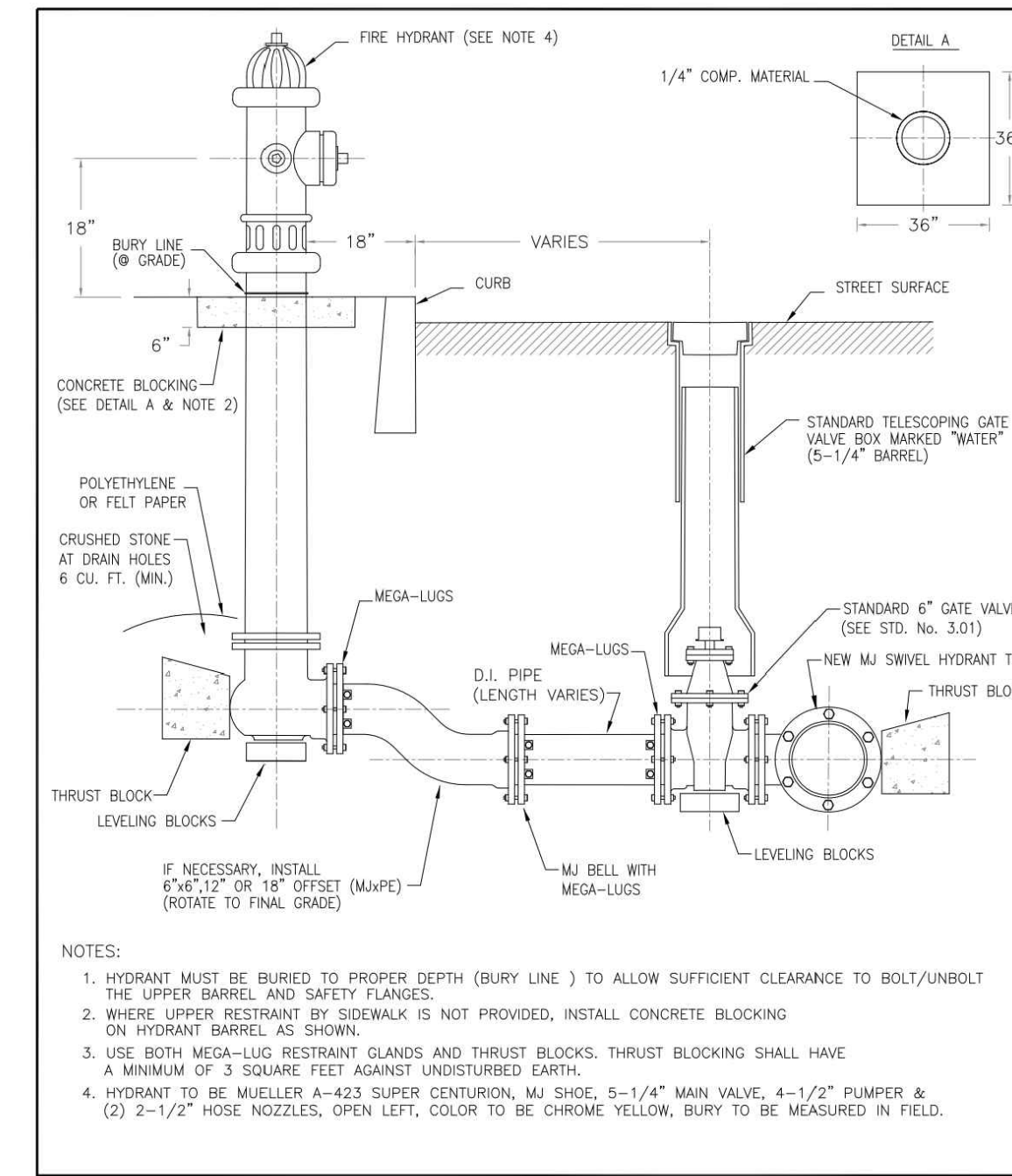
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2\"/>

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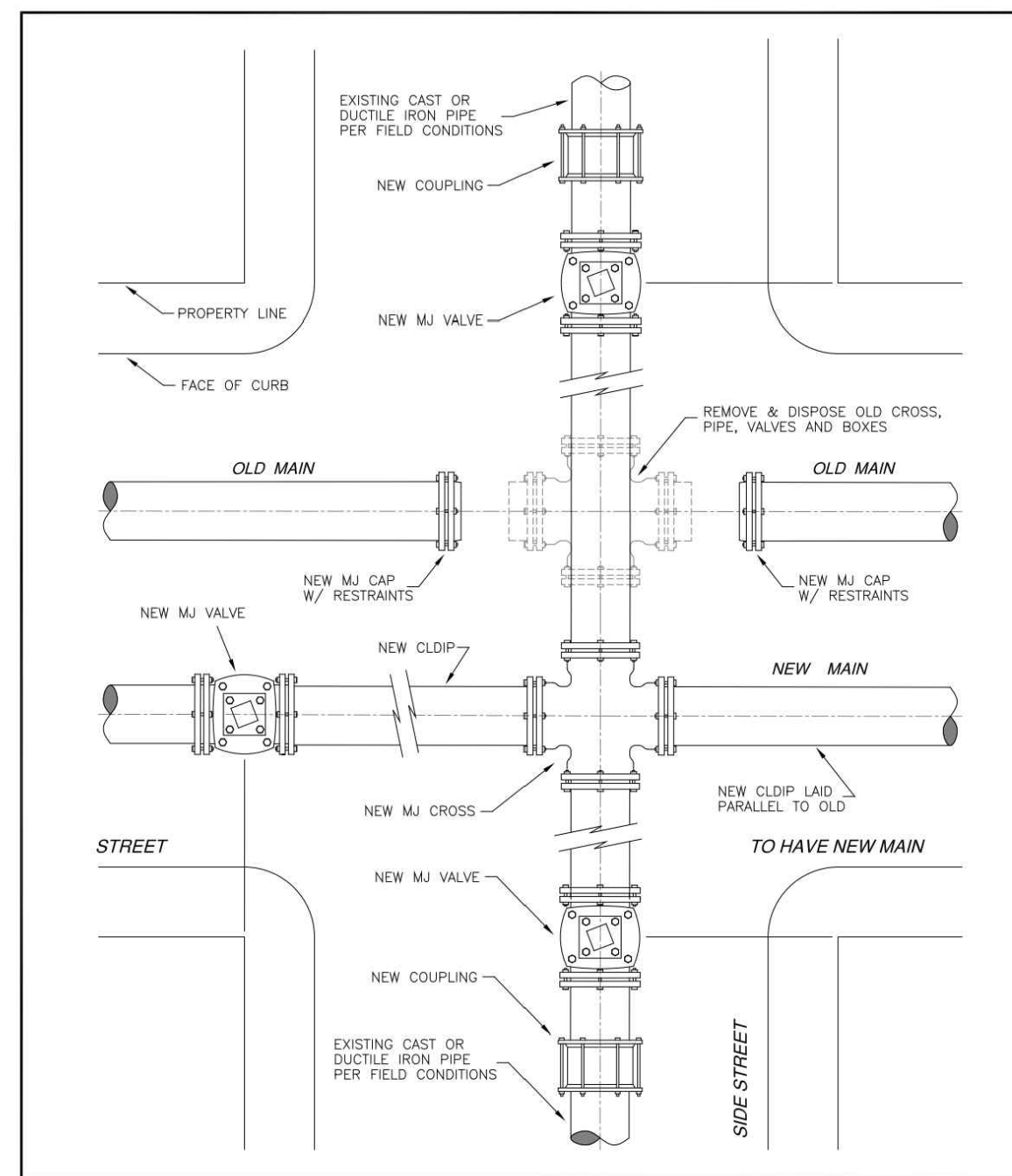
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1\"/>

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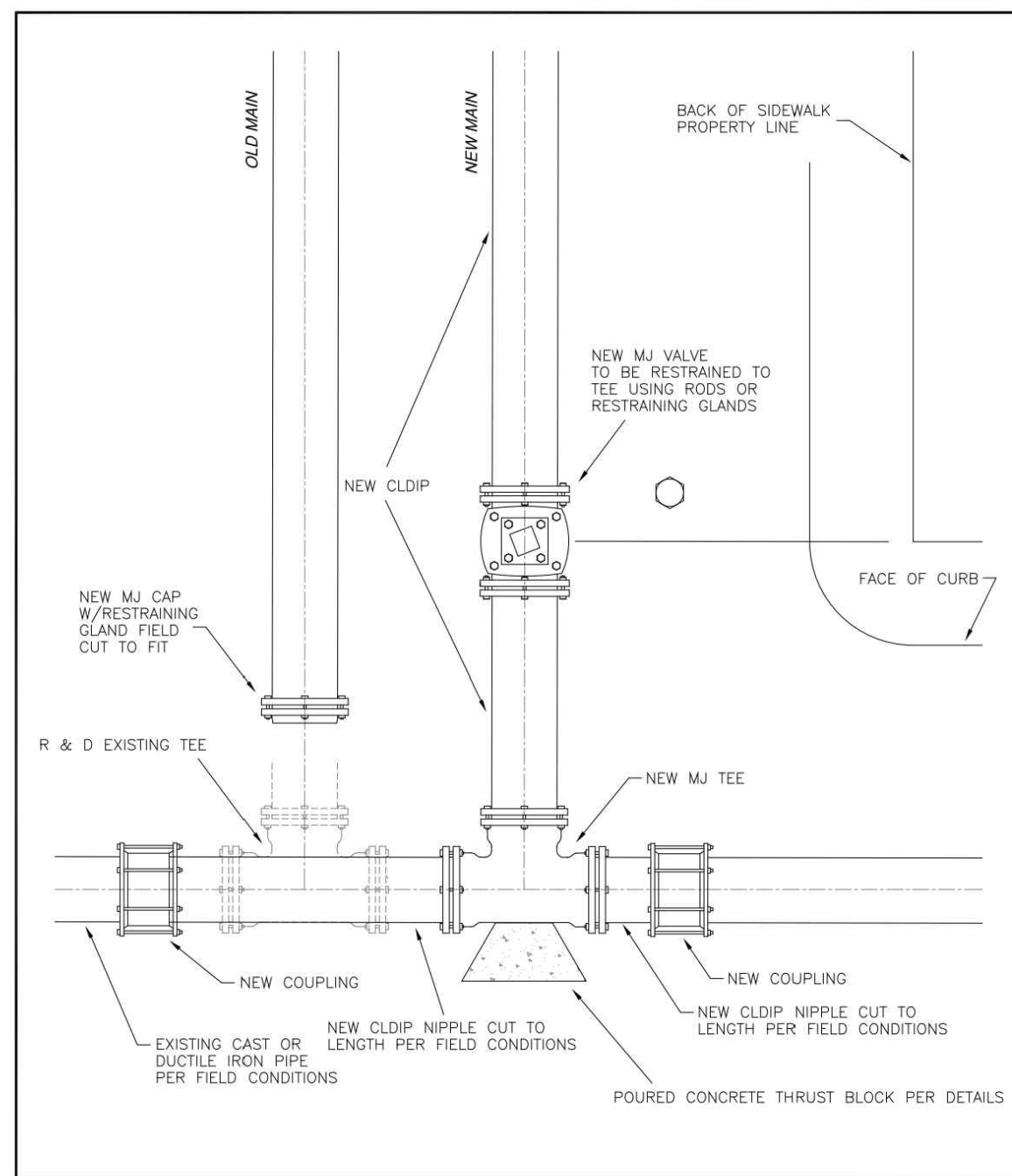
Pawtucket Water Supply Board
NEW FIRE HYDRANT AND RESET FIRE HYDRANT INSTALLATION
 REVISION DATE: AUG. 2013 NOT TO SCALE STD. NO. **4.01**

NEW FIRE HYDRANT AND RESET FIRE HYDRANT INSTALLATION



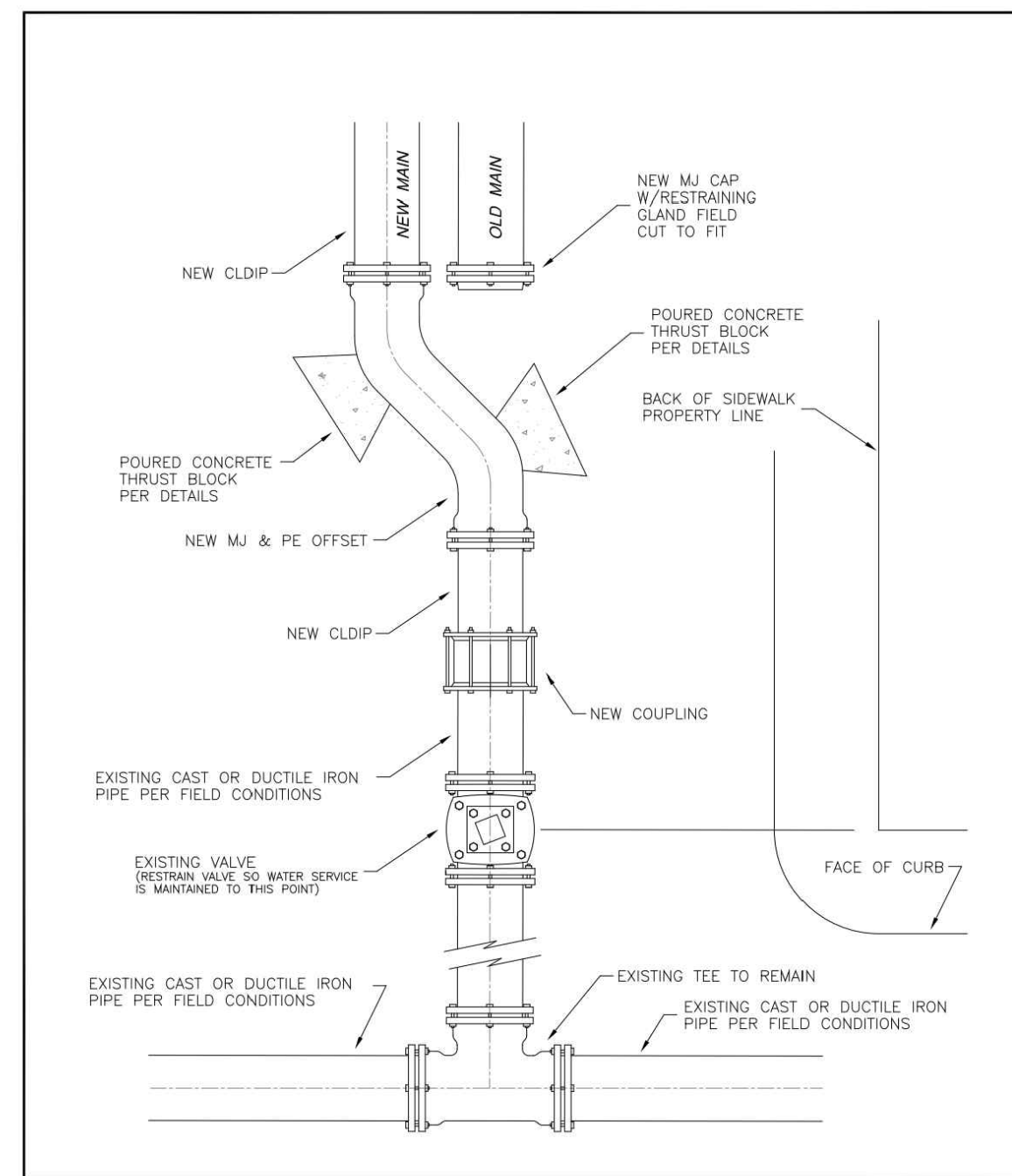
Pawtucket Water Supply Board
MAIN CONNECTION AT INTERSECTION (CROSS)
 REVISION DATE: FEB. 2006 NOT TO SCALE STD. NO. **5.01**

MAIN CONNECTION AT INTERSECTION (CROSS)



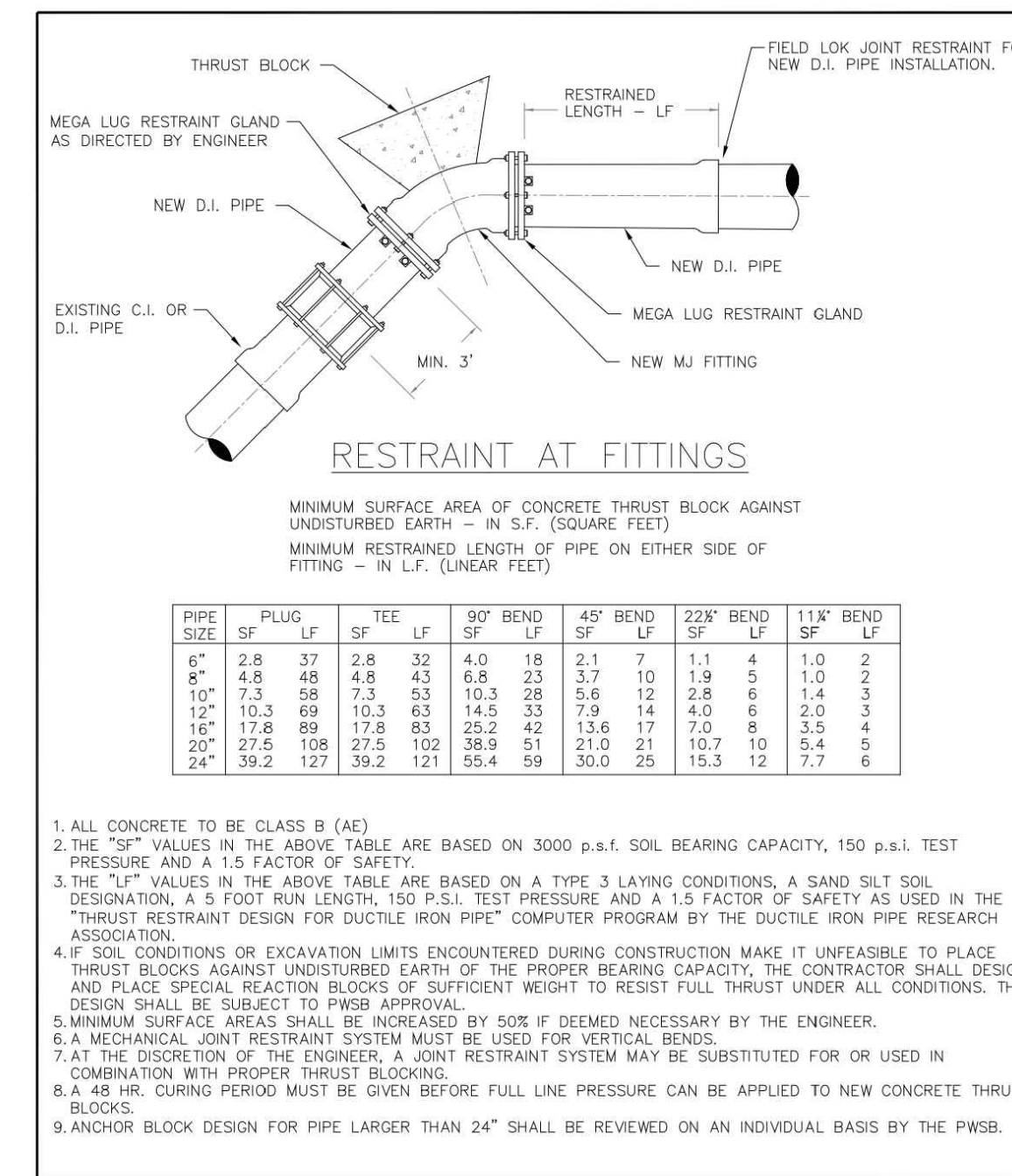
Pawtucket Water Supply Board
MAIN CONNECTION AT INTERSECTION (CUT-IN TEE)
 REVISION DATE: FEB. 2006 NOT TO SCALE STD. NO. **5.02**

MAIN CONNECTION AT INTERSECTION (CUT-IN TEE)



Pawtucket Water Supply Board
MAIN CONNECTION AT INTERSECTION (OFFSET)
 REVISION DATE: FEB. 2006 NOT TO SCALE STD. NO. **5.03**

MAIN CONNECTION AT INTERSECTION (OFFSET)



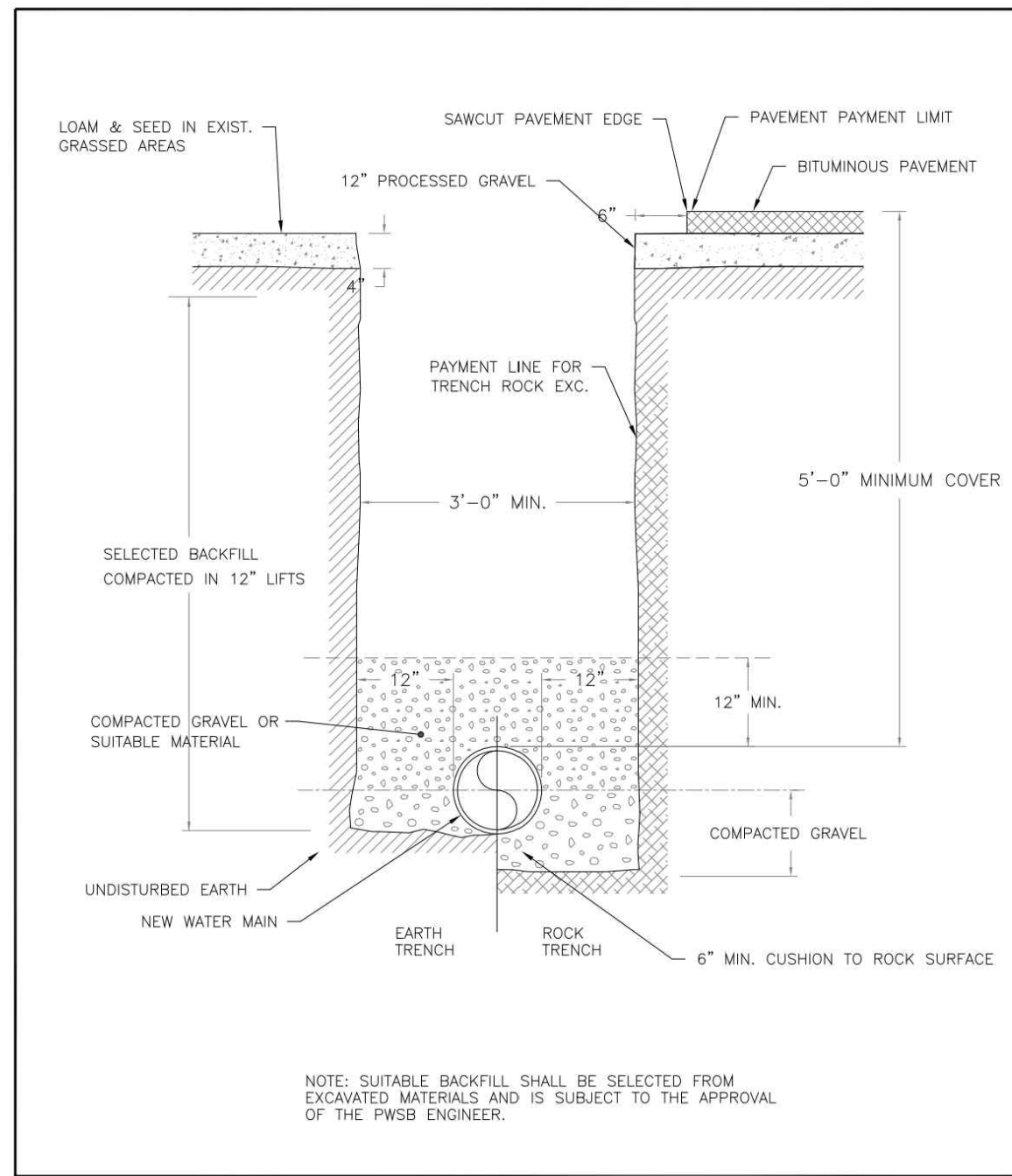
Pawtucket Water Supply Board
RESTRAINT AT FITTINGS
 REVISION DATE: MAY 2006 NOT TO SCALE STD. NO. **5.04**

RESTRAINT AT FITTINGS

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WARNING	IF THIS BAR DOES NOT MEASURE 1\"/>
DESIGNED	C. CRONIN
DRAWN	C. MARSHALL
CHECKED	J. D'ALELIO

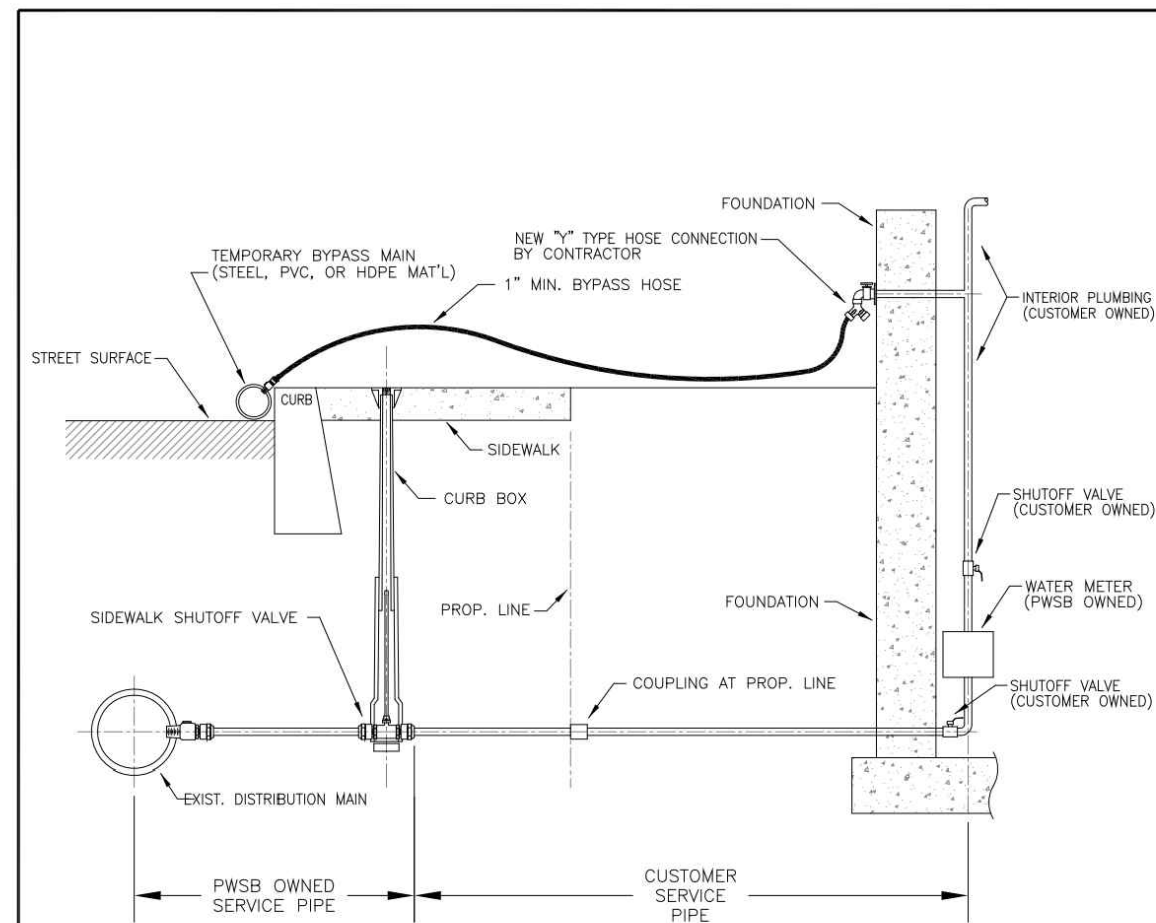
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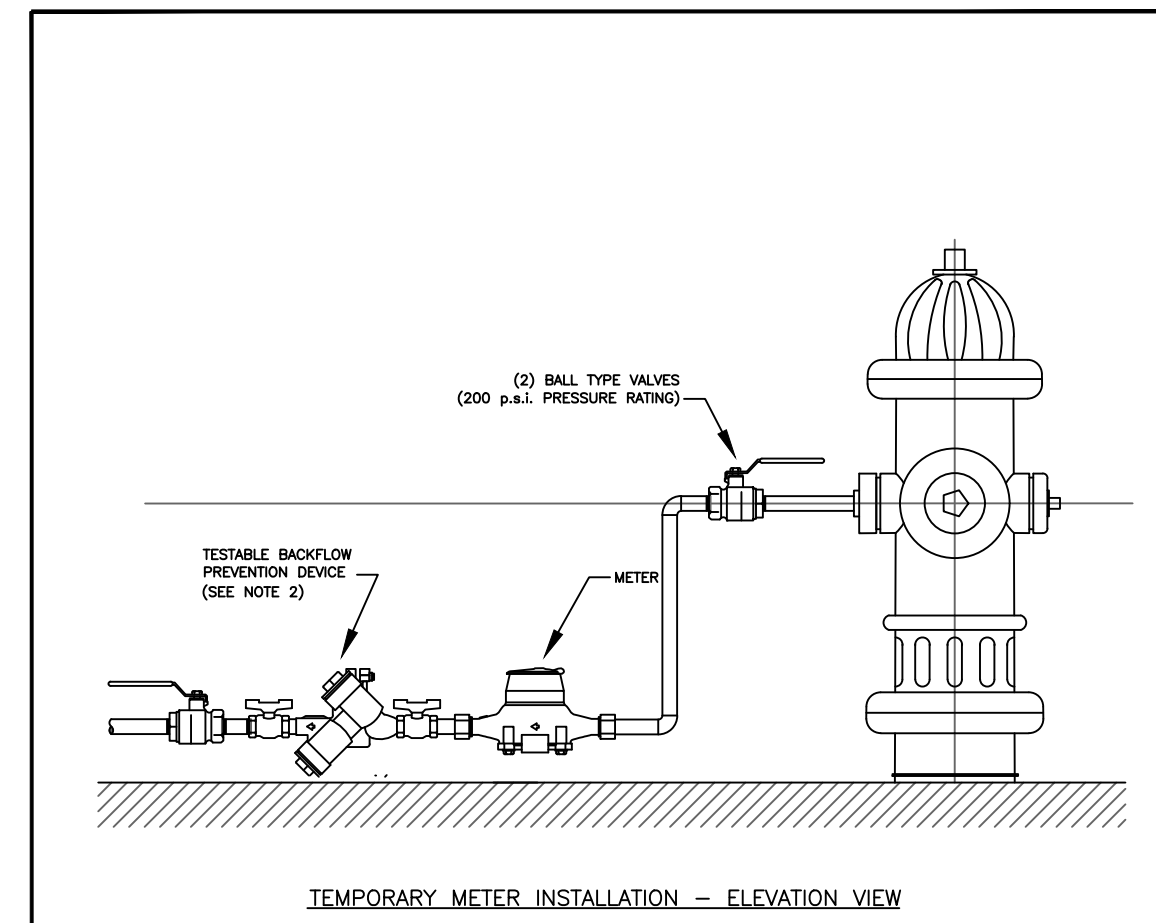
PAWTUCKET WATER SUPPLY BOARD	
TYPICAL TRENCH DETAIL	
REVISION DATE: MAY 2006	STD. NO. 6.01
NOT TO SCALE	

TYPICAL TRENCH DETAIL
NOT TO SCALE REV 000000 W-601



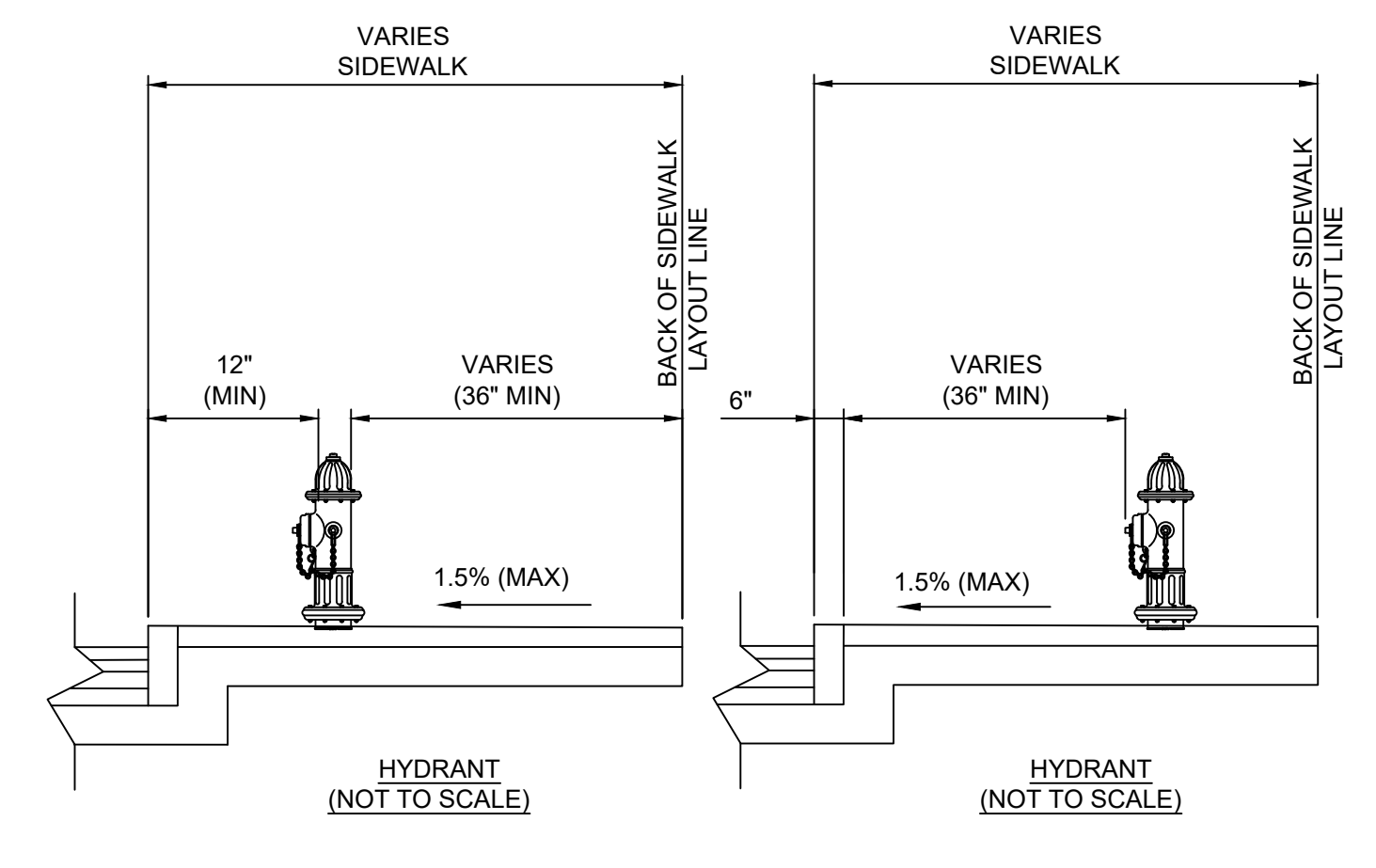
PAWTUCKET WATER SUPPLY BOARD	
TYPICAL "TEMPORARY BYPASS PIPING" INSTALLATION	
REVISION DATE: JAN 2011	STD. NO. 8.01
NOT TO SCALE	

TYPICAL "TEMPORARY BYPASS PIPING" INSTALLATION
NOT TO SCALE REV 000000 W-801



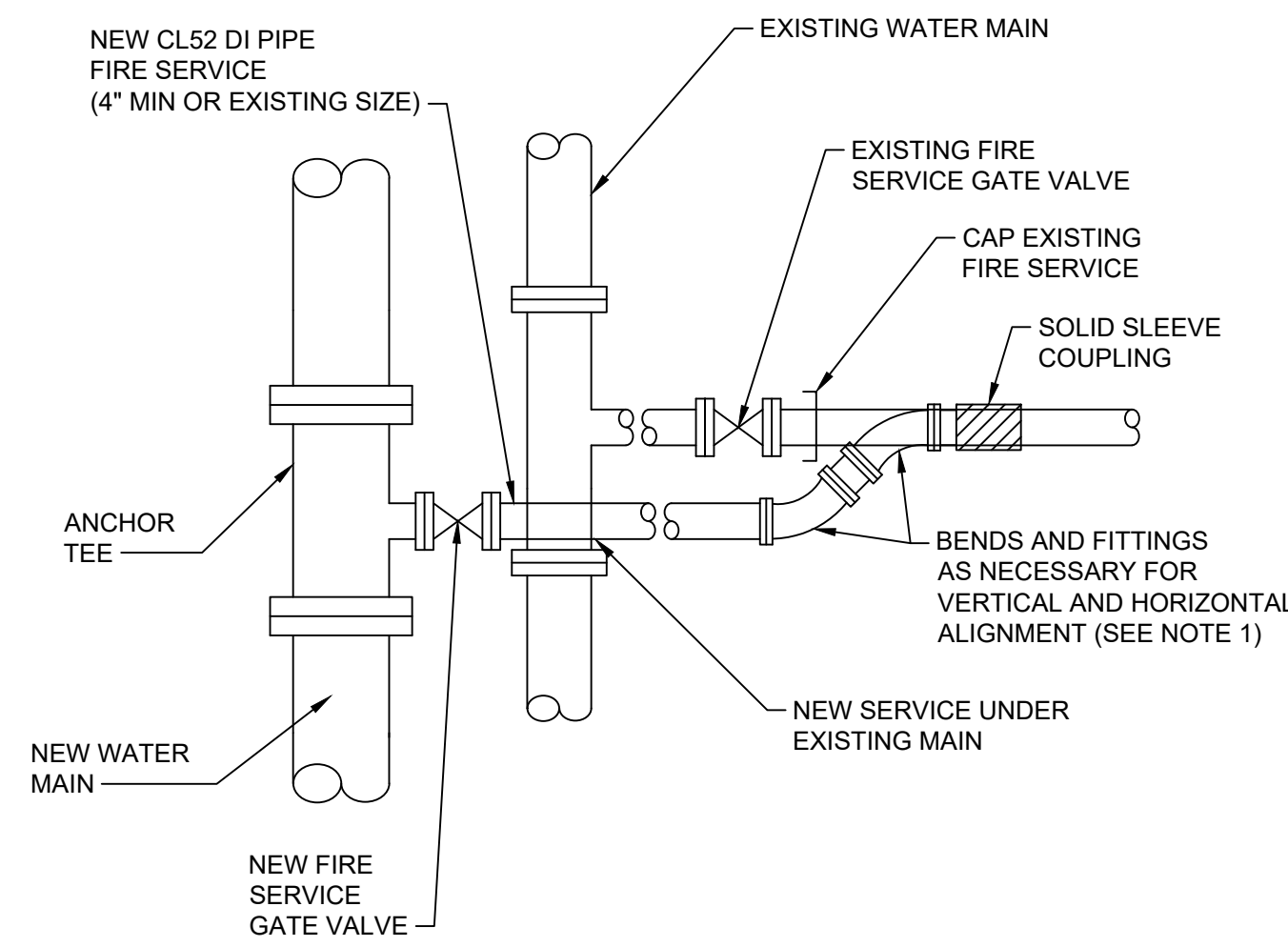
PAWTUCKET WATER SUPPLY BOARD	
TEMPORARY WATER SERVICE CONNECTION AT HYDRANT	
REVISION DATE: JAN 2011	STD. NO. 8.02
NOT TO SCALE	

TEMPORARY WATER SERVICE CONNECTION AT HYDRANT
REV 000000 W-802



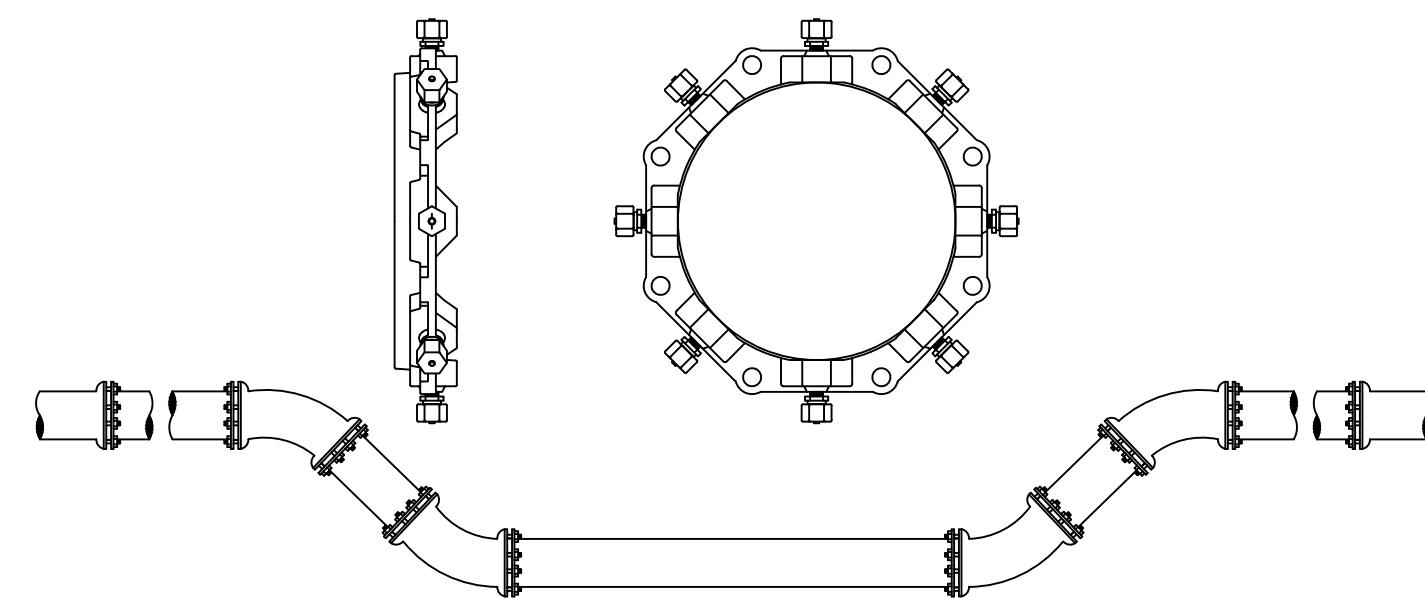
PAWTUCKET WATER SUPPLY BOARD	
HYDRANT / SIDEWALK CLEARANCE DETAILS	
REVISION DATE: JAN 2011	STD. NO. 9.01
NOT TO SCALE	

HYDRANT / SIDEWALK CLEARANCE DETAILS
NOT TO SCALE REV 000000 W-901



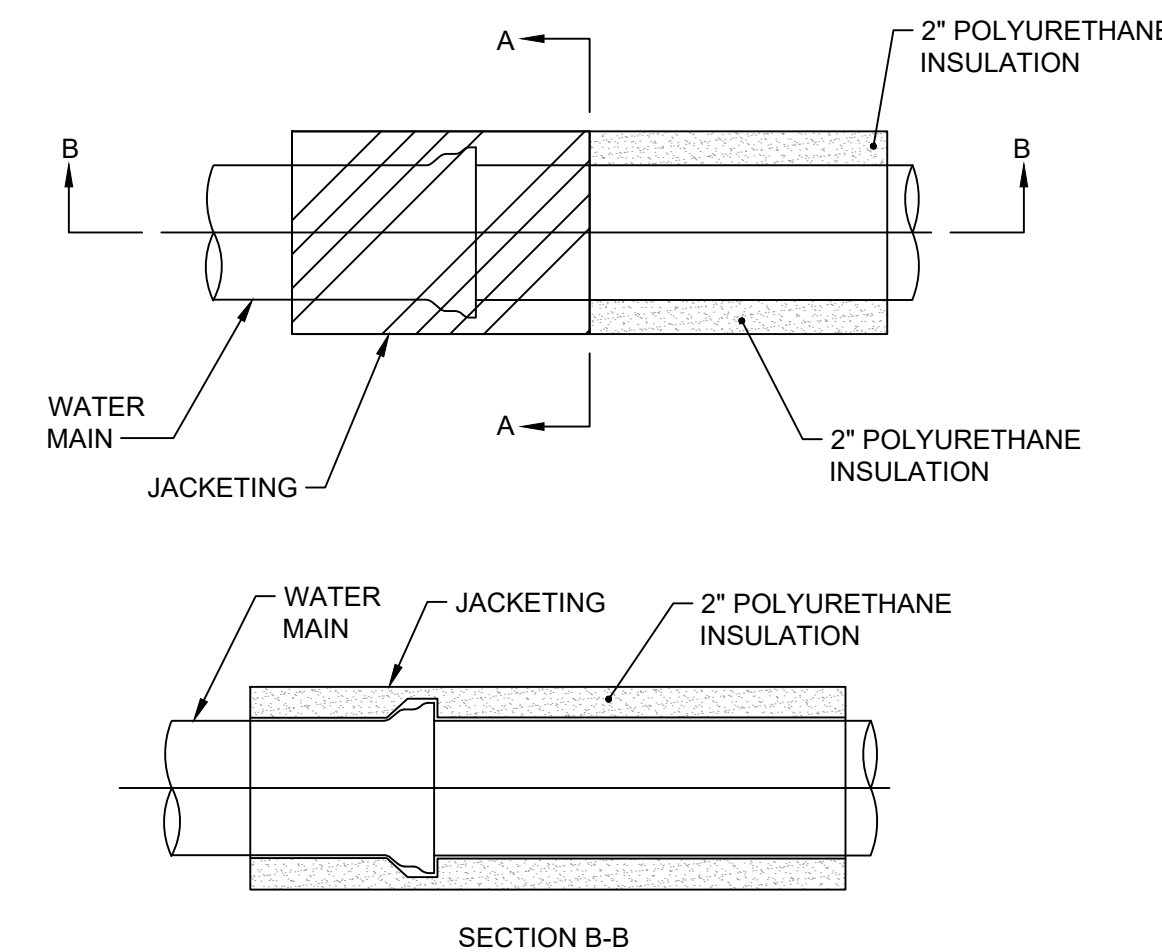
PAWTUCKET WATER SUPPLY BOARD	
TYPICAL FIRE SERVICE CONNECTION	
REVISION DATE: JAN 2011	STD. NO. 9.02
NOT TO SCALE	

TYPICAL FIRE SERVICE CONNECTION
NOT TO SCALE REV 000000 W-902



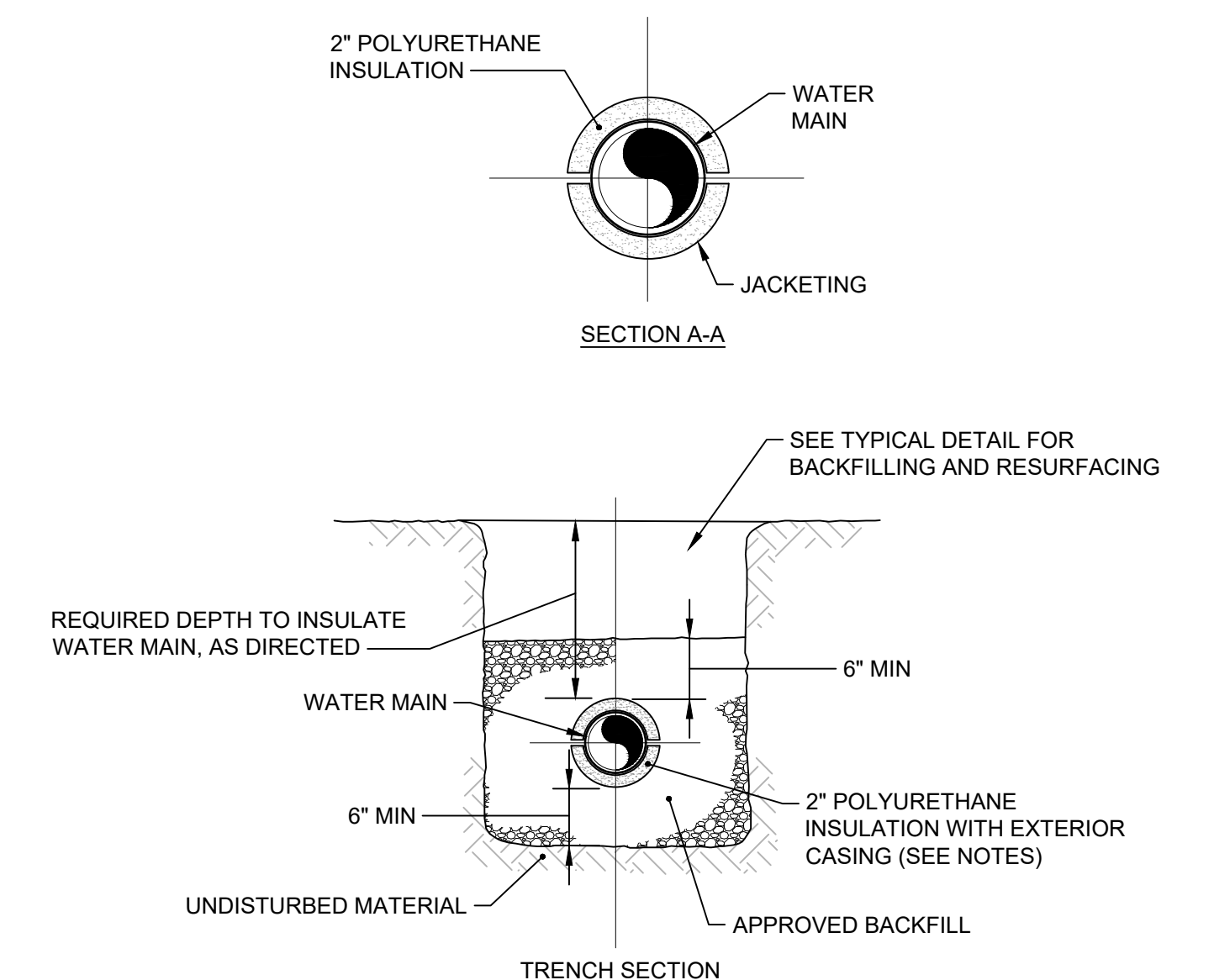
PAWTUCKET WATER SUPPLY BOARD	
TYPICAL THRUST RESTRAINT WEDGE ACTION TYPE JOINTS	
REVISION DATE: JAN 2011	STD. NO. 9.03
NOT TO SCALE	

TYPICAL THRUST RESTRAINT WEDGE ACTION TYPE JOINTS
REV 000000 W-903



PAWTUCKET WATER SUPPLY BOARD	
INSULATED WATER MAIN	
REVISION DATE: JAN 2011	STD. NO. 9.04
NOT TO SCALE	

INSULATED WATER MAIN
NOT TO SCALE W-904



PAWTUCKET WATER SUPPLY BOARD	
TRENCH SECTION	
REVISION DATE: JAN 2011	STD. NO. 9.05
NOT TO SCALE	

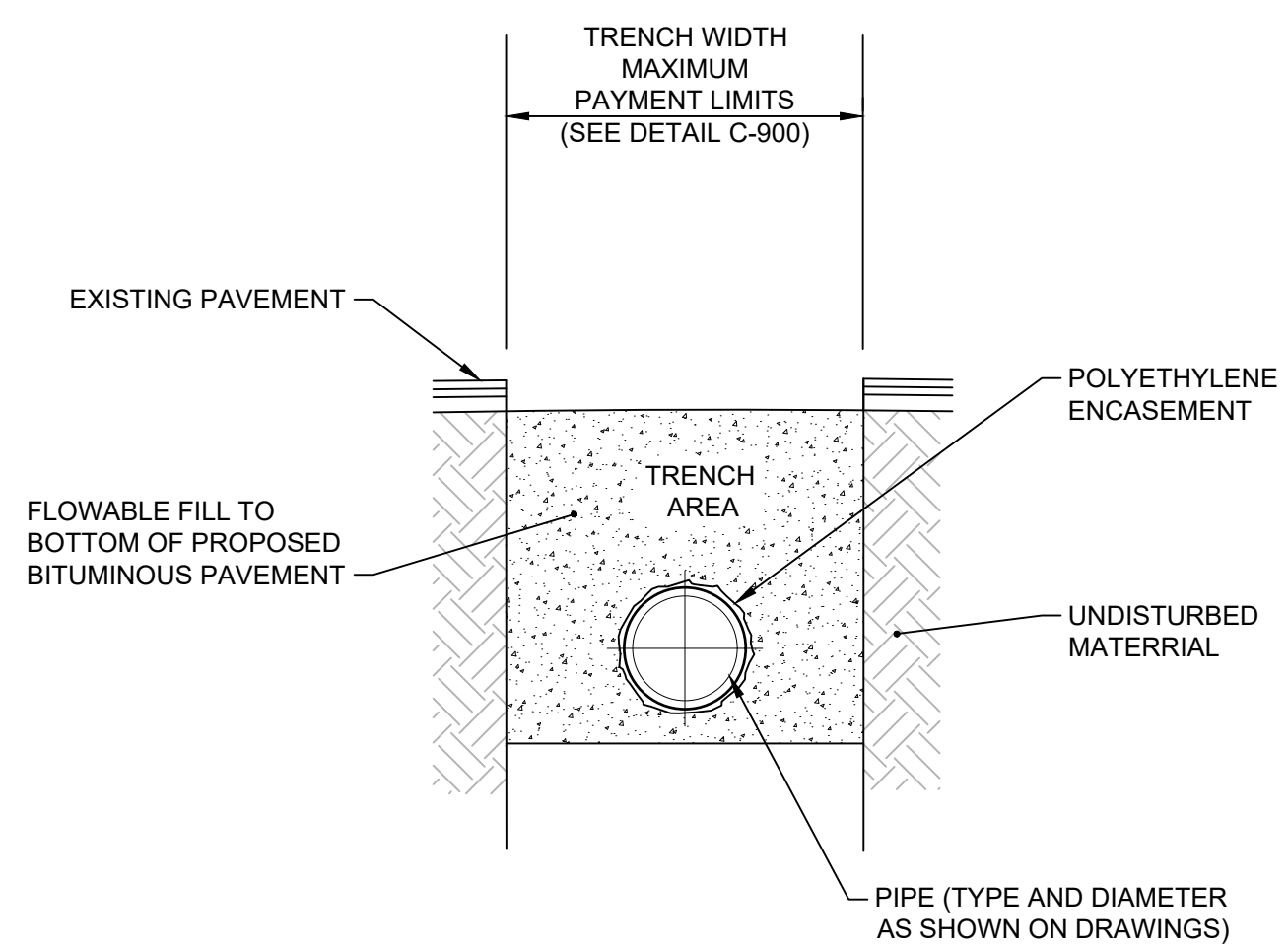
TRENCH SECTION
REV 000000 W-905

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1\"/>
DESIGNED	C. CRONIN
DRAWN	C. MARSHALL
CHECKED	J. D'ALESSIO

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NBC CONTRACT NO 308.04C CIVIL	
OF-210/213/214 FACILITIES CIVIL DETAILS - WATER III	
SHEET	C-30
195130227	



NOTES:

1. ALL DUCTILE IRON WATER PIPE THAT IS BACKFILLED WITH CONTROLLED DENSITY FILL MUST BE ENCASED WITH 4-MIL HDPE OR 8-MIL LLD POLYETHYLENE IN ACCORDANCE WITH AWWA C105/A2.5, METHOD OF INSTALLATION.
2. THE PIPE SHALL BE PROPERLY SECURED AND SUPPORTED TO PREVENT DISPLACEMENT DURING THE POURING OF CONTROLLED DENSITY FILL.

FLOWABLE FILL BACKFILL OF DUCTILE IRON WATER PIPE W-905
REV 000000

REV	DATE	BY	DESCRIPTION

SCALE
AS SHOWN

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DRAWN C. MARSHALL
CHECKED J. D'ALELIO

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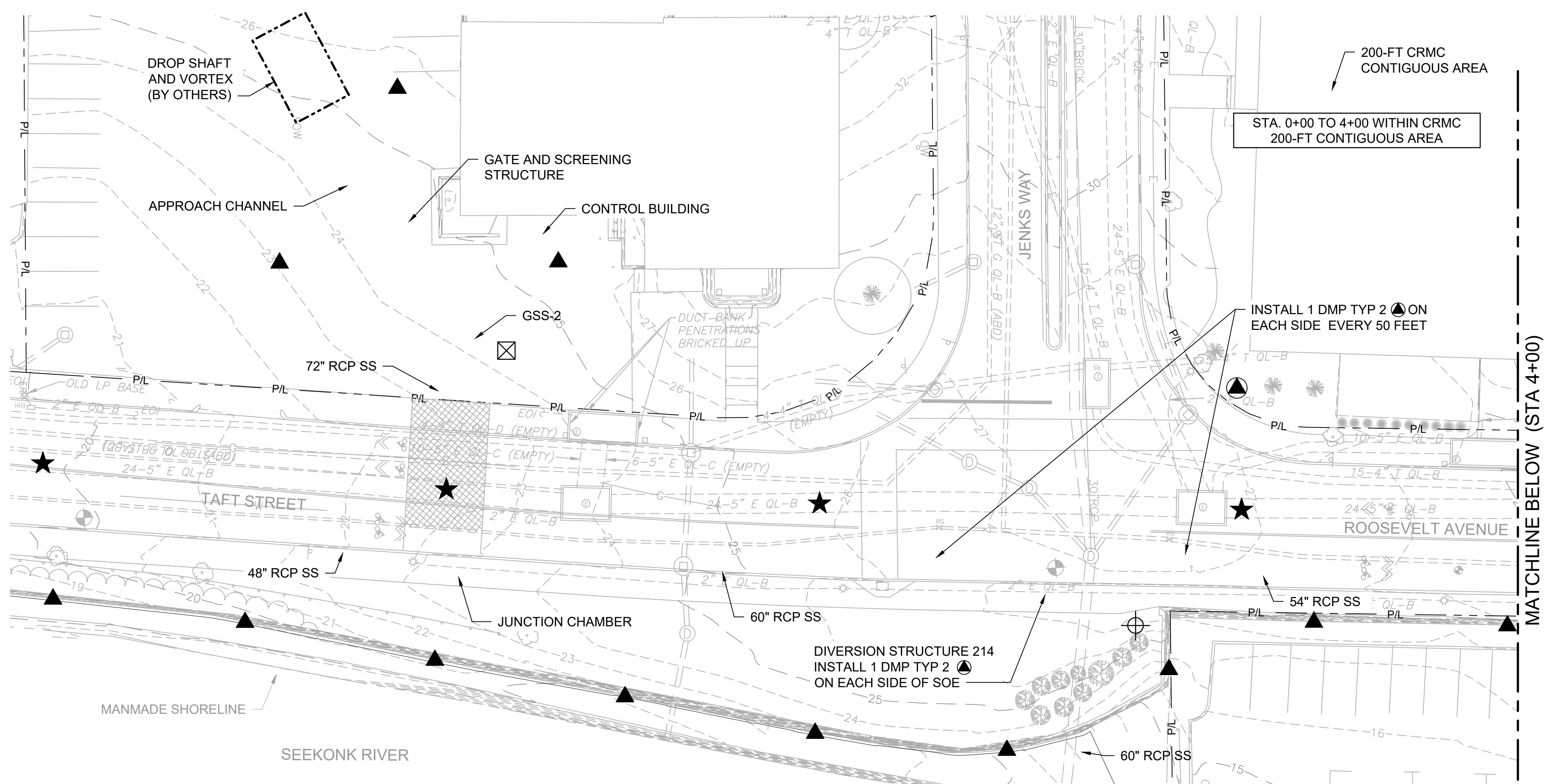


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

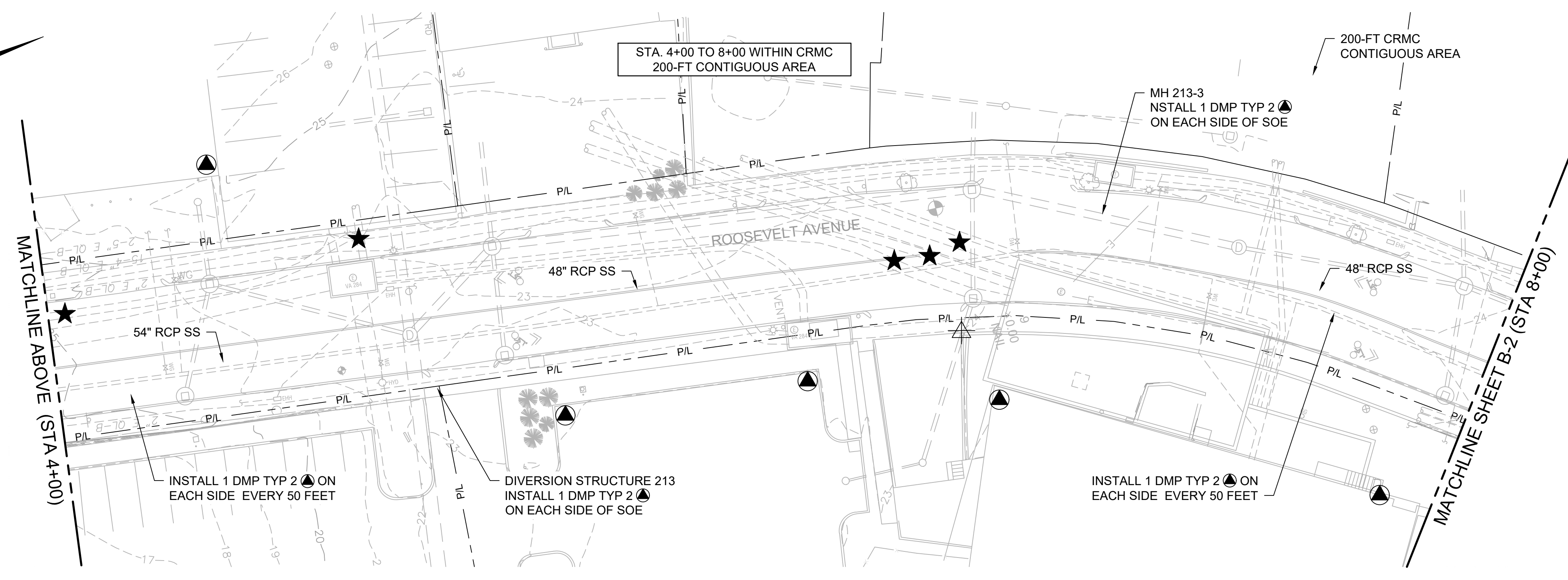
NBC CONTRACT NO 308.04C
CIVIL

OF-210/213/214 FACILITIES
CIVIL DETAILS - WATER IV

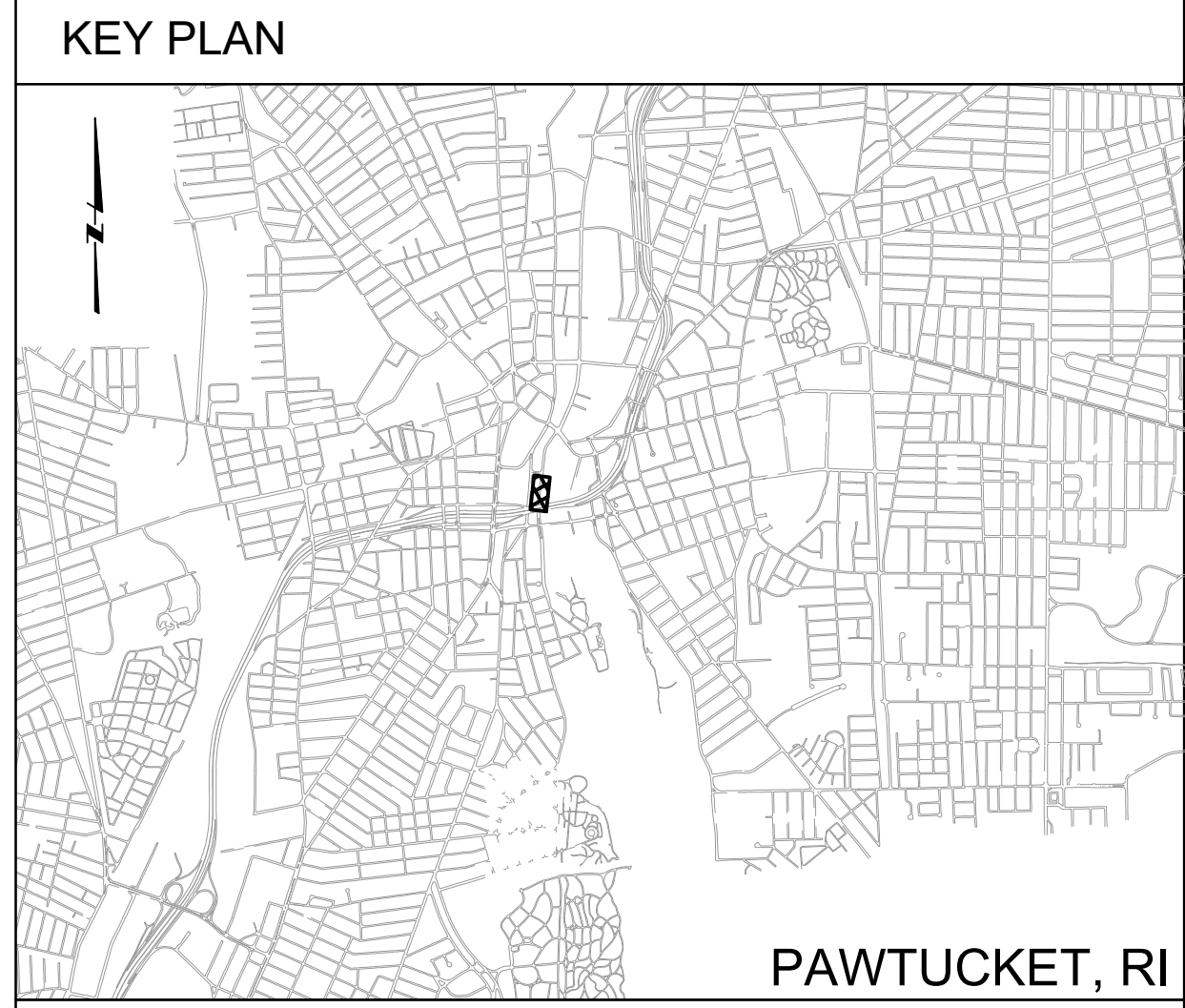
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PLAN
SCALE: 1" = 20'



PLAN
SCALE: 1" = 20'



- GENERAL SHEET NOTES**
- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
 - FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8

INSTRUMENTATION LEGEND	
SYMBOL	INSTRUMENT TYPE
	OBSERVATION WELL (OW)
	DEFORMATION MONITORING POINT (DMP TYPE 1)
	DEFORMATION MONITORING POINT (DMP TYPE 2)
	DEFORMATION MONITORING POINT (DMP TYPE 3)
	INCLINOMETER (INCL)
	UTILITY MONITORING POINT (UMP)
	SEISMOGRAPH

REV	DATE	BY	DESCRIPTION

SCALE AS SHOWN

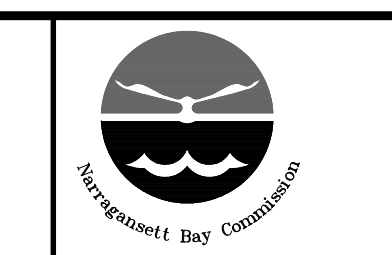
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DESIGNED: K. O'HARA
 DRAWN: W. SARNO
 CHECKED: T. MUNDI

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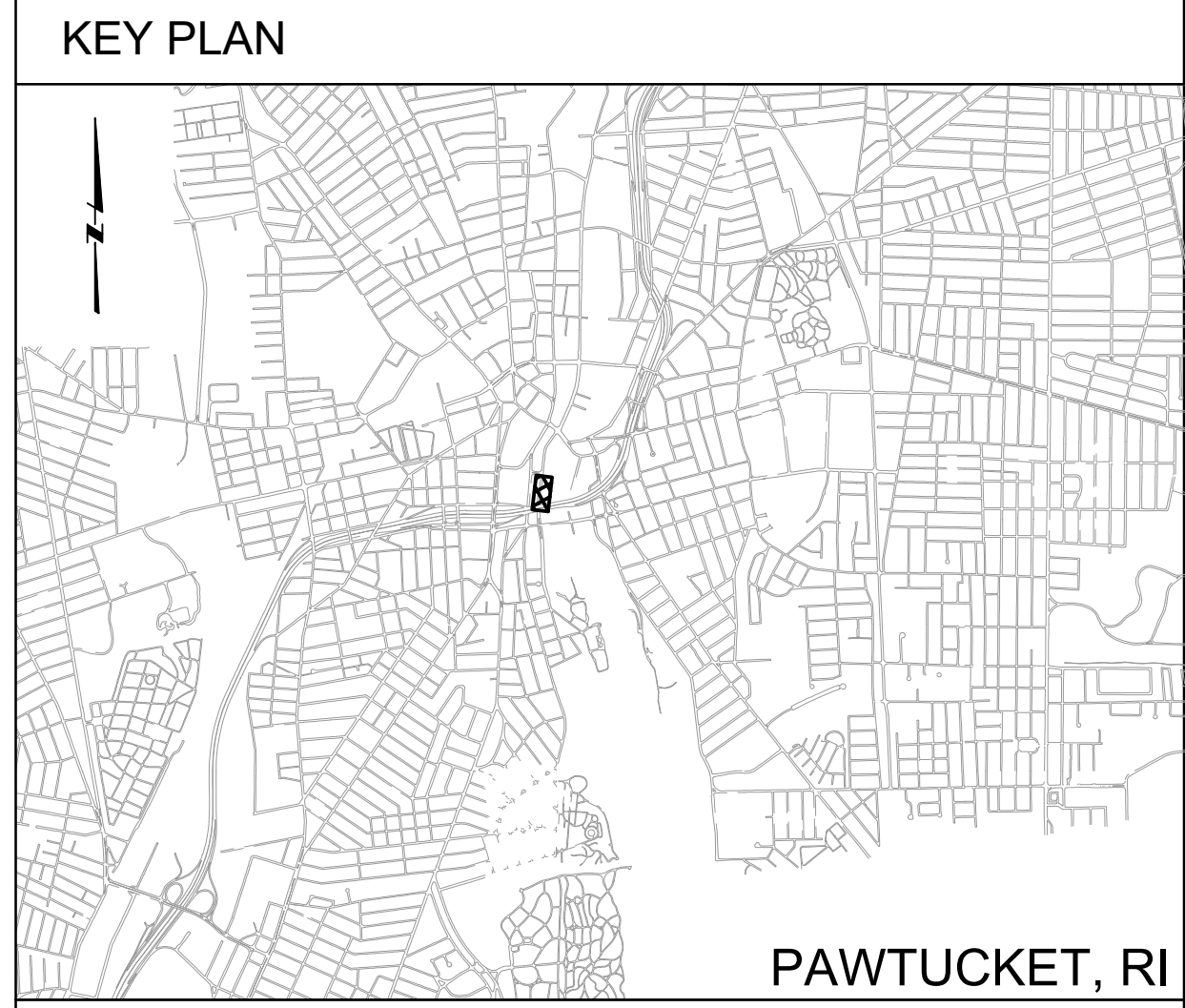
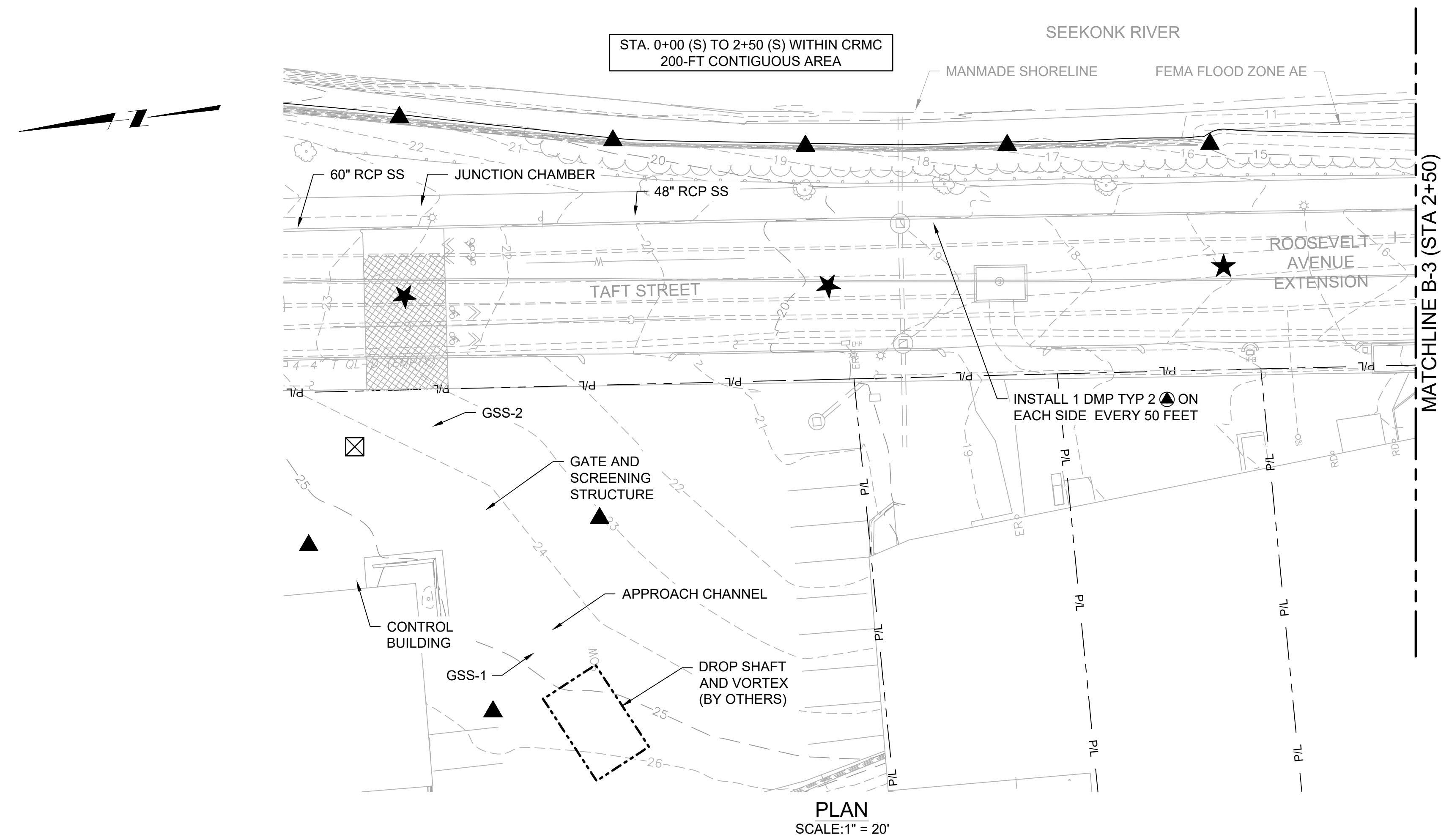
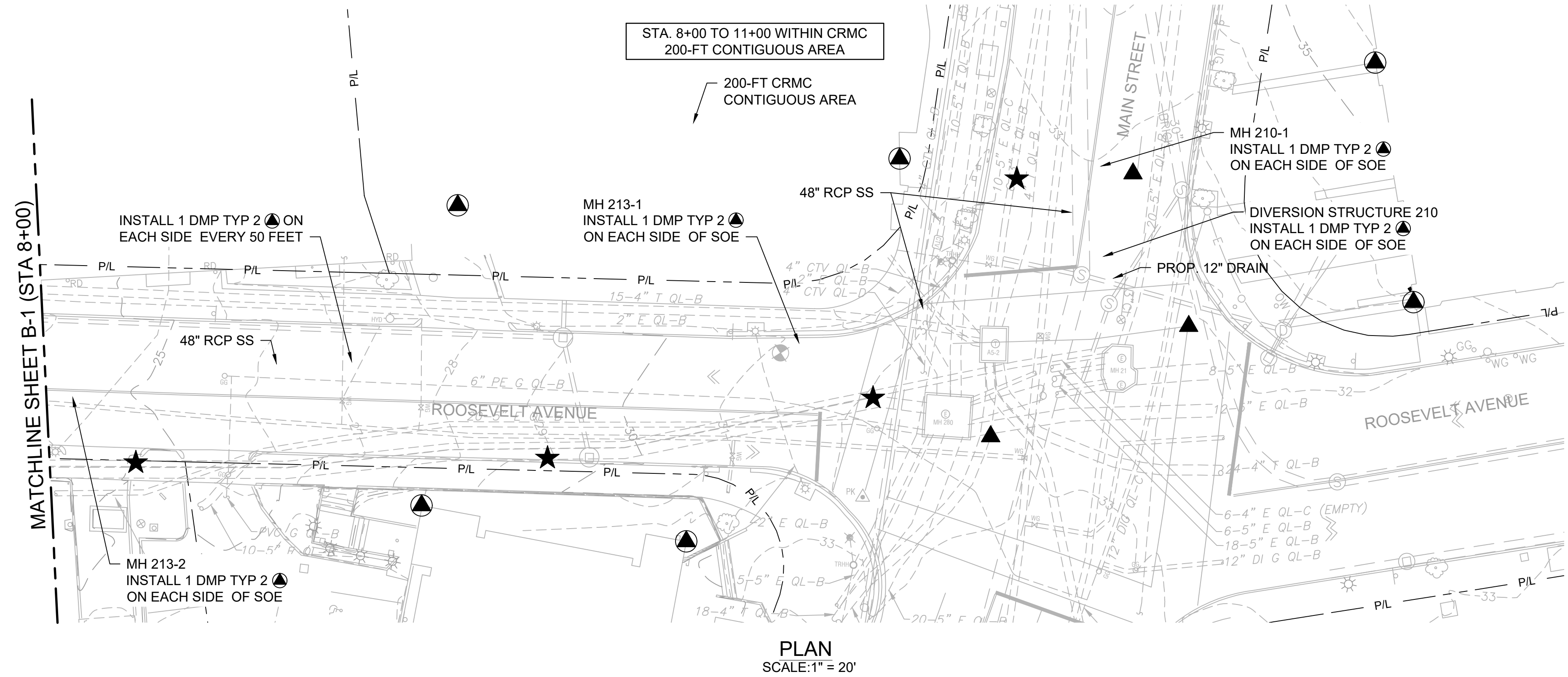
NARRAGANSETT BAY COMMISSION
 PHASE III COMBINED SEWER
 OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
 GEOTECHNICAL
 OF 210/213/214 FACILITIES
 INSTRUMENTATION PLAN
 STA. 0+00 TO STA. 8+00

SHEET
B-1
 195130227

BY: SARNO, WENDY

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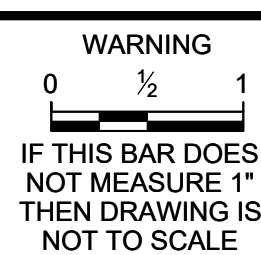


- GENERAL SHEET NOTES**
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 - FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8

INSTRUMENTATION LEGEND	
SYMBOL	INSTRUMENT TYPE
	OBSERVATION WELL (OW)
	DEFORMATION MONITORING POINT (DMP TYPE 1)
	DEFORMATION MONITORING POINT (DMP TYPE 2)
	DEFORMATION MONITORING POINT (DMP TYPE 3)
	INCLINOMETER (INCL)
	UTILITY MONITORING POINT (UMP)
	SEISMOGRAPH

REV	DATE	BY	DESCRIPTION

SCALE
AS SHOWN



DESIGNED K. O'HARA
DRAWN W. SARNO
CHECKED T. MUINDI

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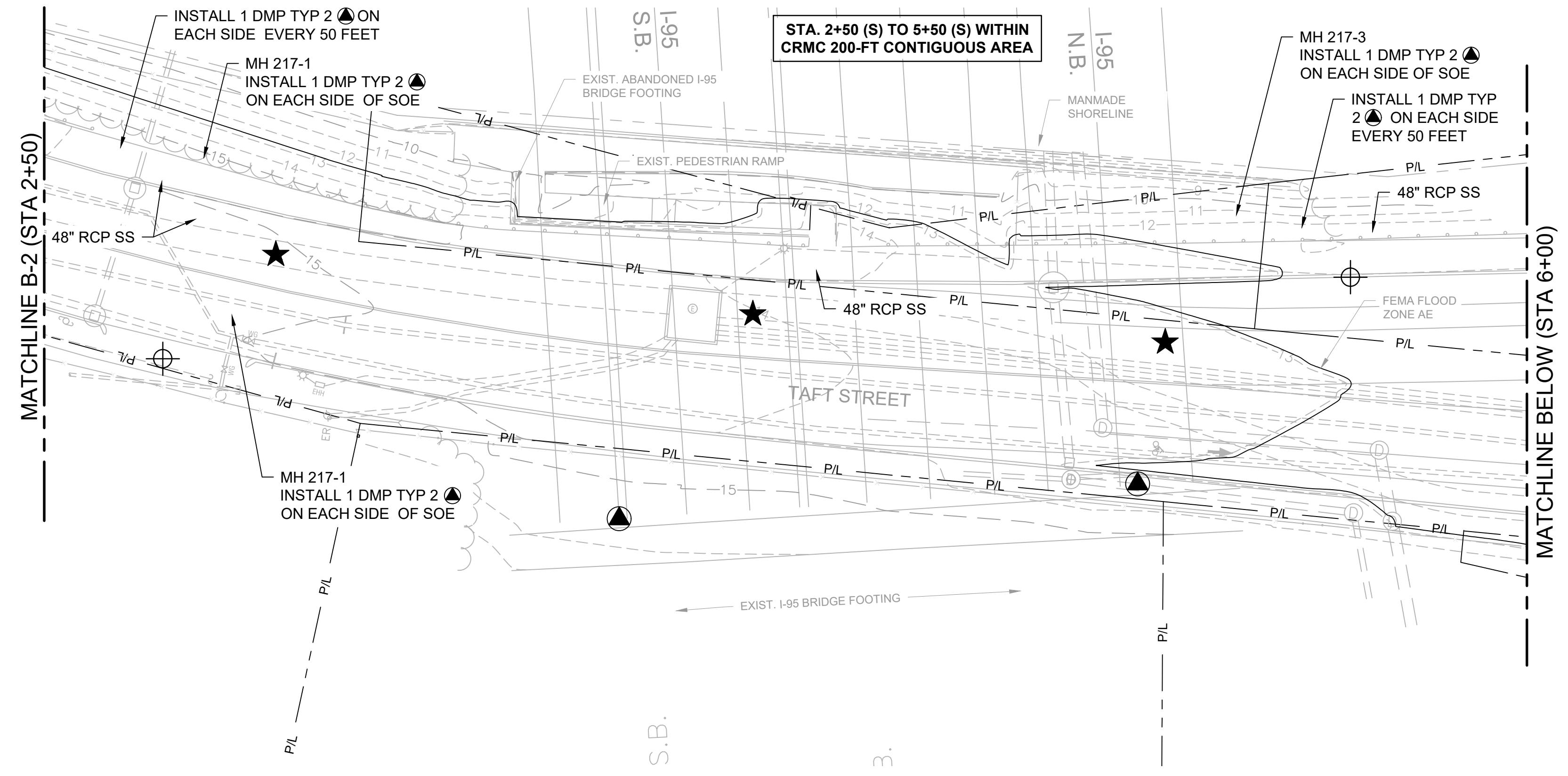
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
GEOTECHNICAL
OF 210/213/214 FACILITIES
INSTRUMENTATION PLAN
STA. 8+00 TO 11+00 AND STA. 0+00 TO 2+50

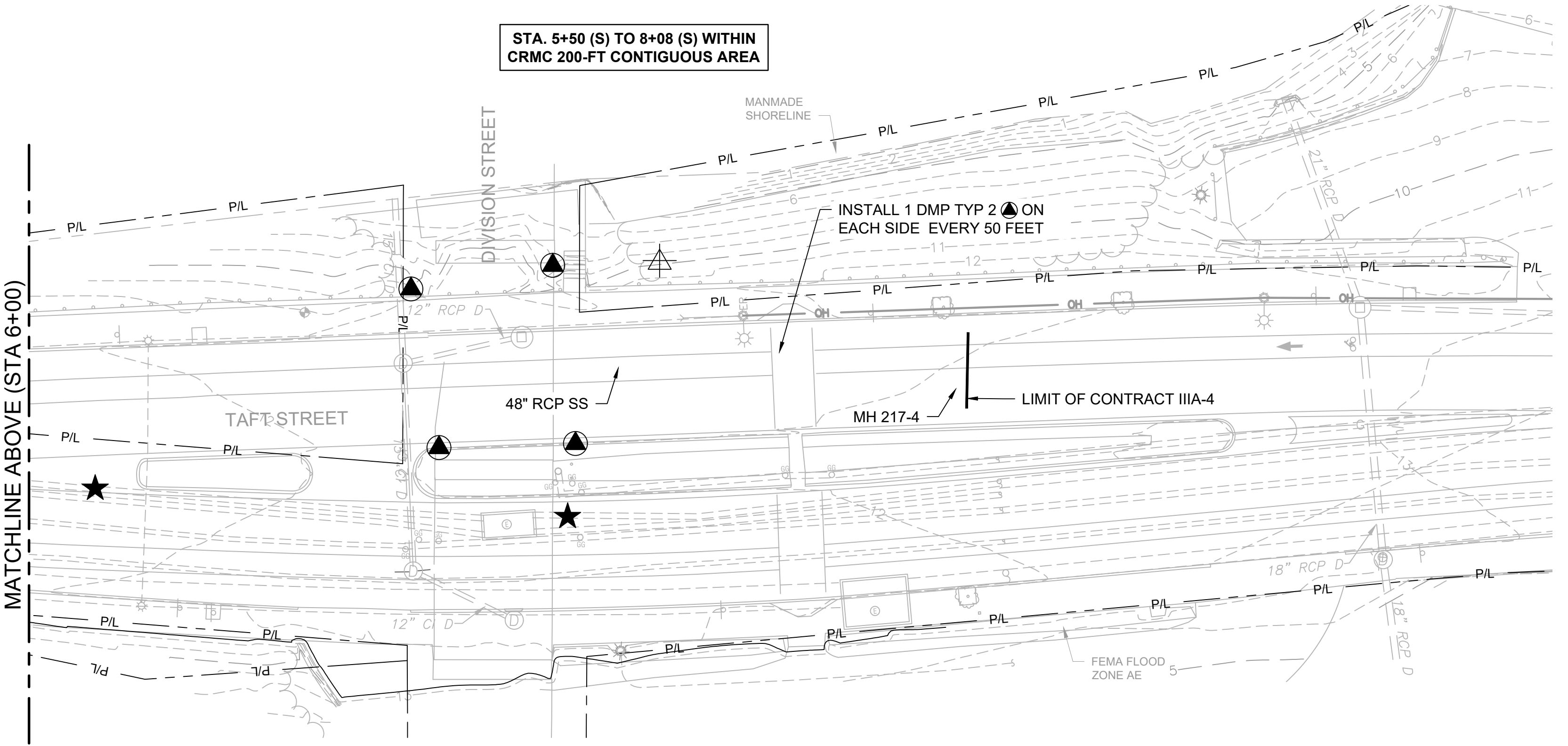
SHEET
B-2
195130227

BY: SARNO, WENDY

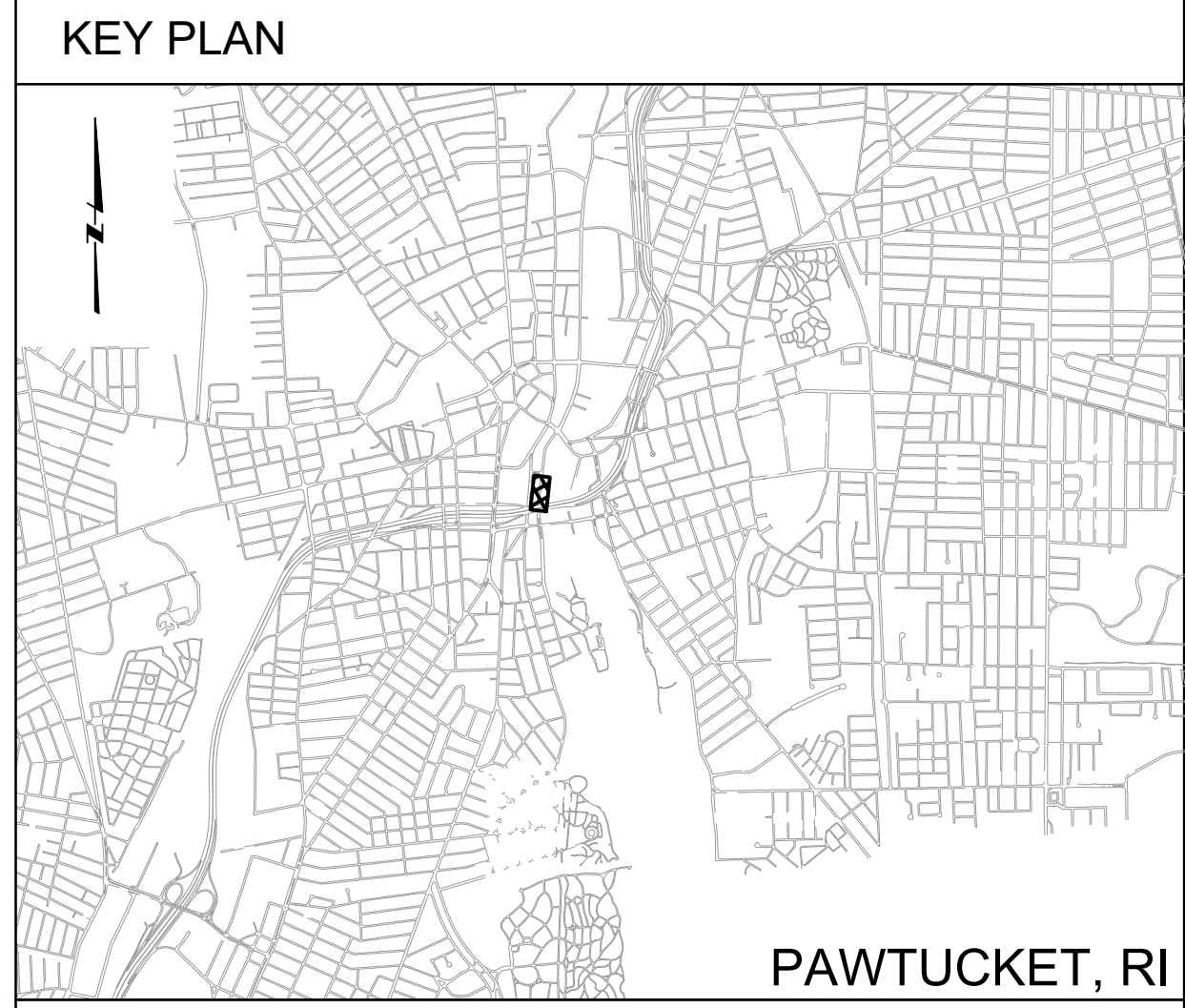
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PLAN
SCALE: 1" = 20'



PLAN
SCALE: 1" = 20'

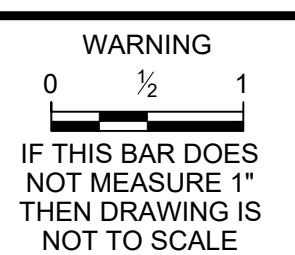


- GENERAL SHEET NOTES**
- UTILITY INFORMATION DEPICTED, PROVIDED BY BSI ENGINEERING INC.
 - FLOOD PLAIN INFORMATION IS FROM FEMA, PANEL NO. 44007C0194J. FLOOD PLAIN ELEVATIONS CONVERTED FROM VERTICAL DATUM NAVD 1988 TO NGVD 1929 AND ARE APPROXIMATELY:
 - NORTH OF DIVISION STREET BRIDGE: AE ELEVATION 12.8
 - SOUTH OF DIVISION STREET BRIDGE: VE ELEVATION 13.8

INSTRUMENTATION LEGEND	
SYMBOL	INSTRUMENT TYPE
	OBSERVATION WELL (OW)
	DEFORMATION MONITORING POINT (DMP TYPE 1)
	DEFORMATION MONITORING POINT (DMP TYPE 2)
	DEFORMATION MONITORING POINT (DMP TYPE 3)
	INCLINOMETER (INCL)
	UTILITY MONITORING POINT (UMP)
	SEISMOGRAPH

REV	DATE	BY	DESCRIPTION

SCALE
AS SHOWN



DESIGNED K. O'HARA
DRAWN W. SARNO
CHECKED T. MUINDI

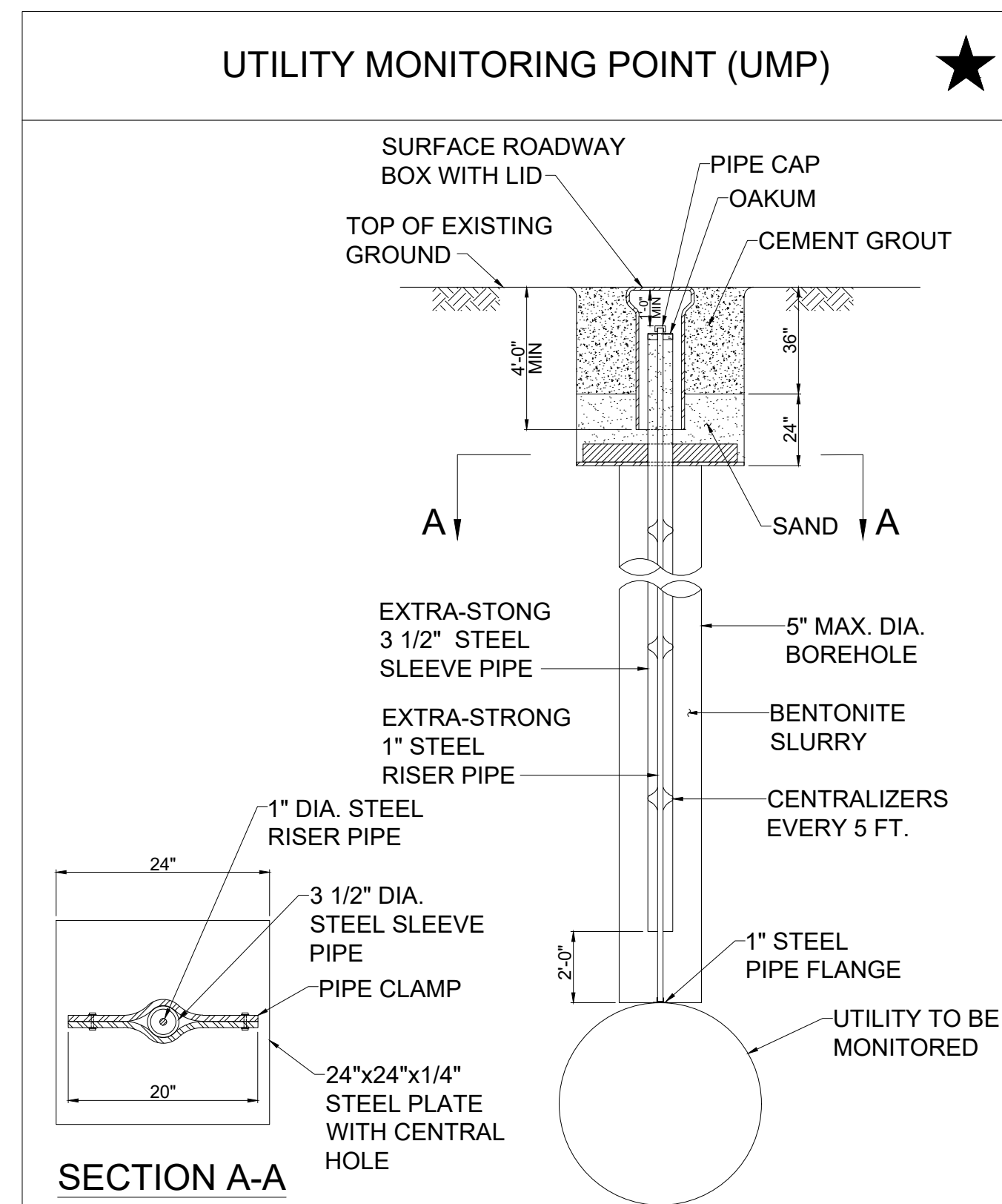
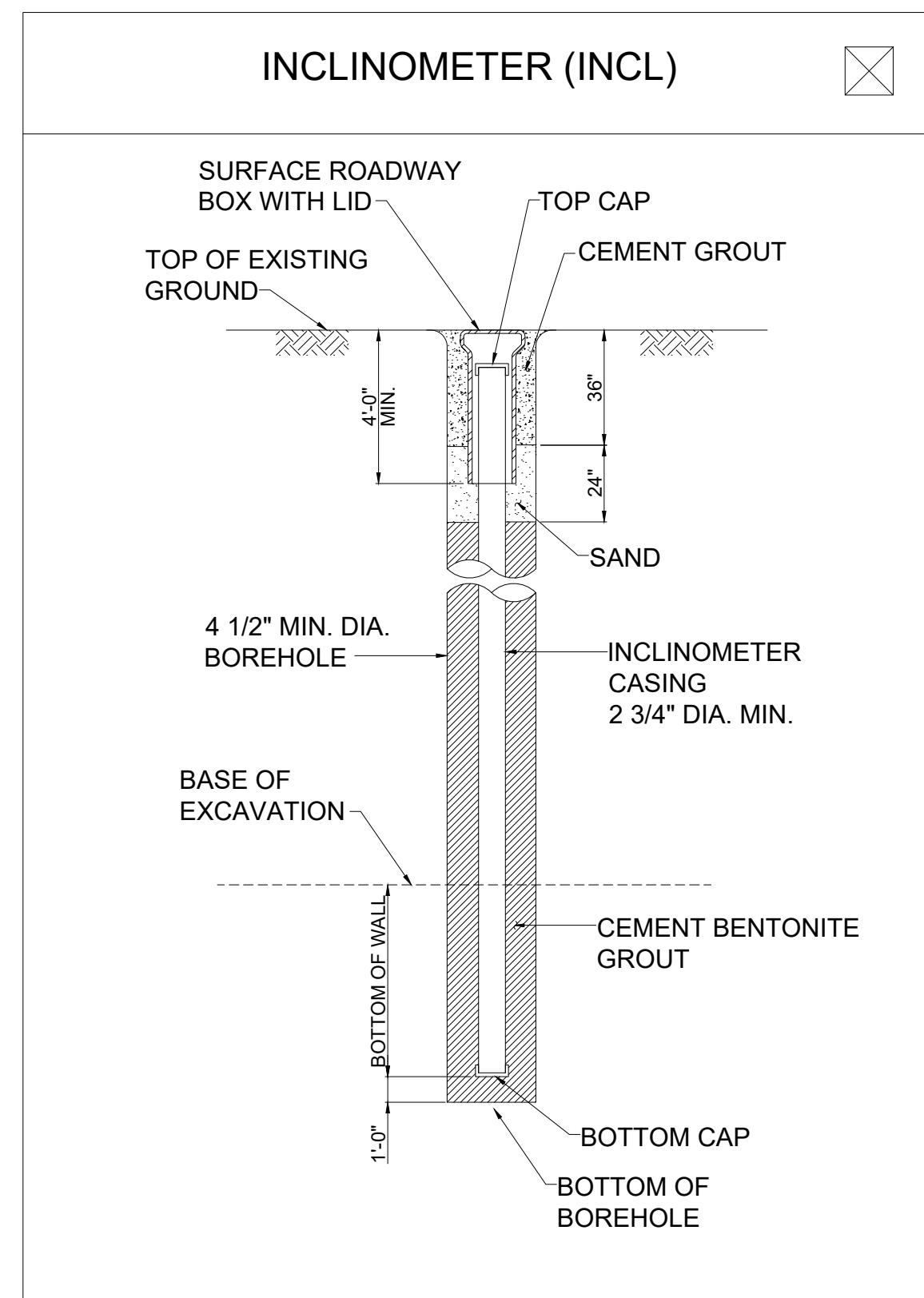
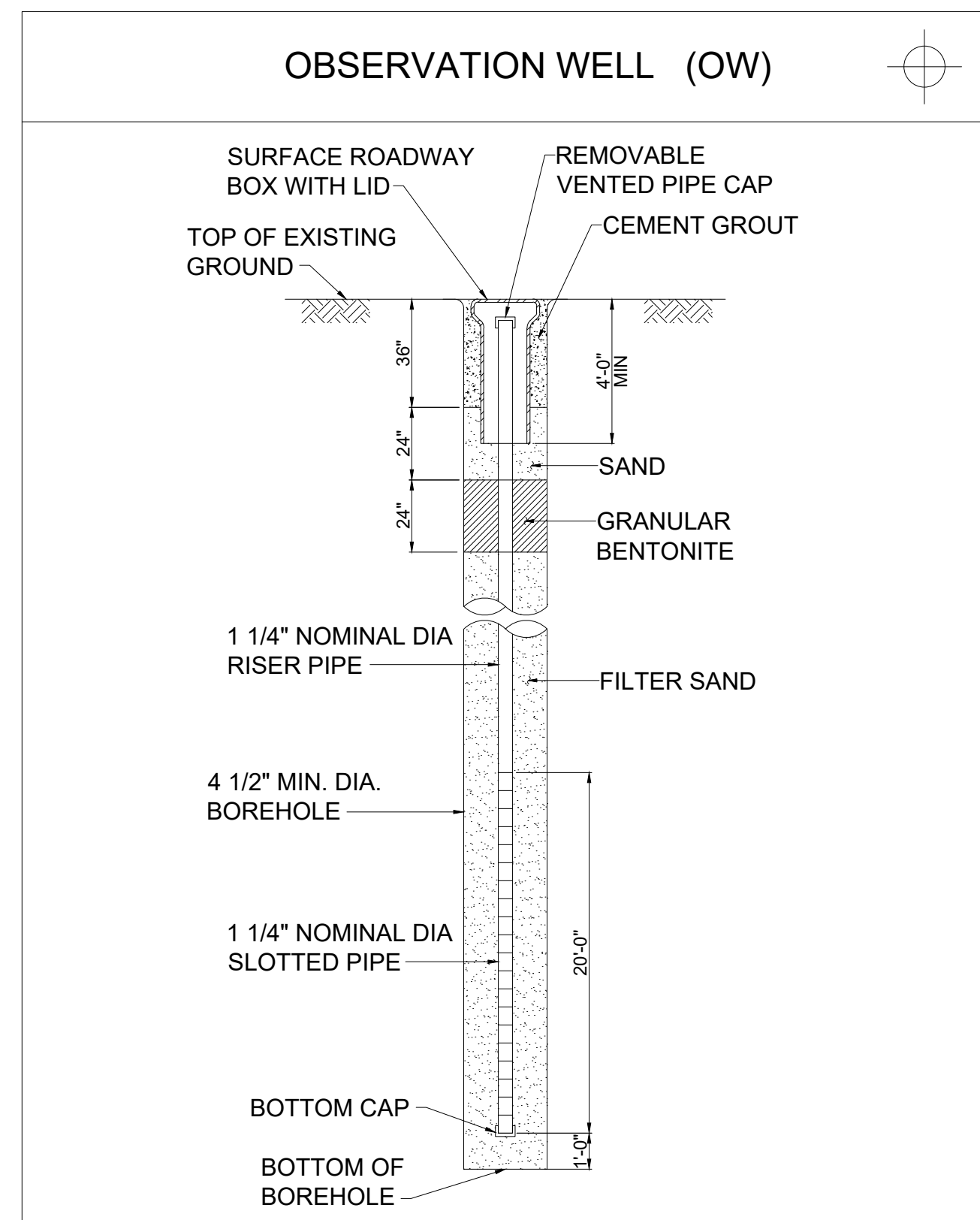
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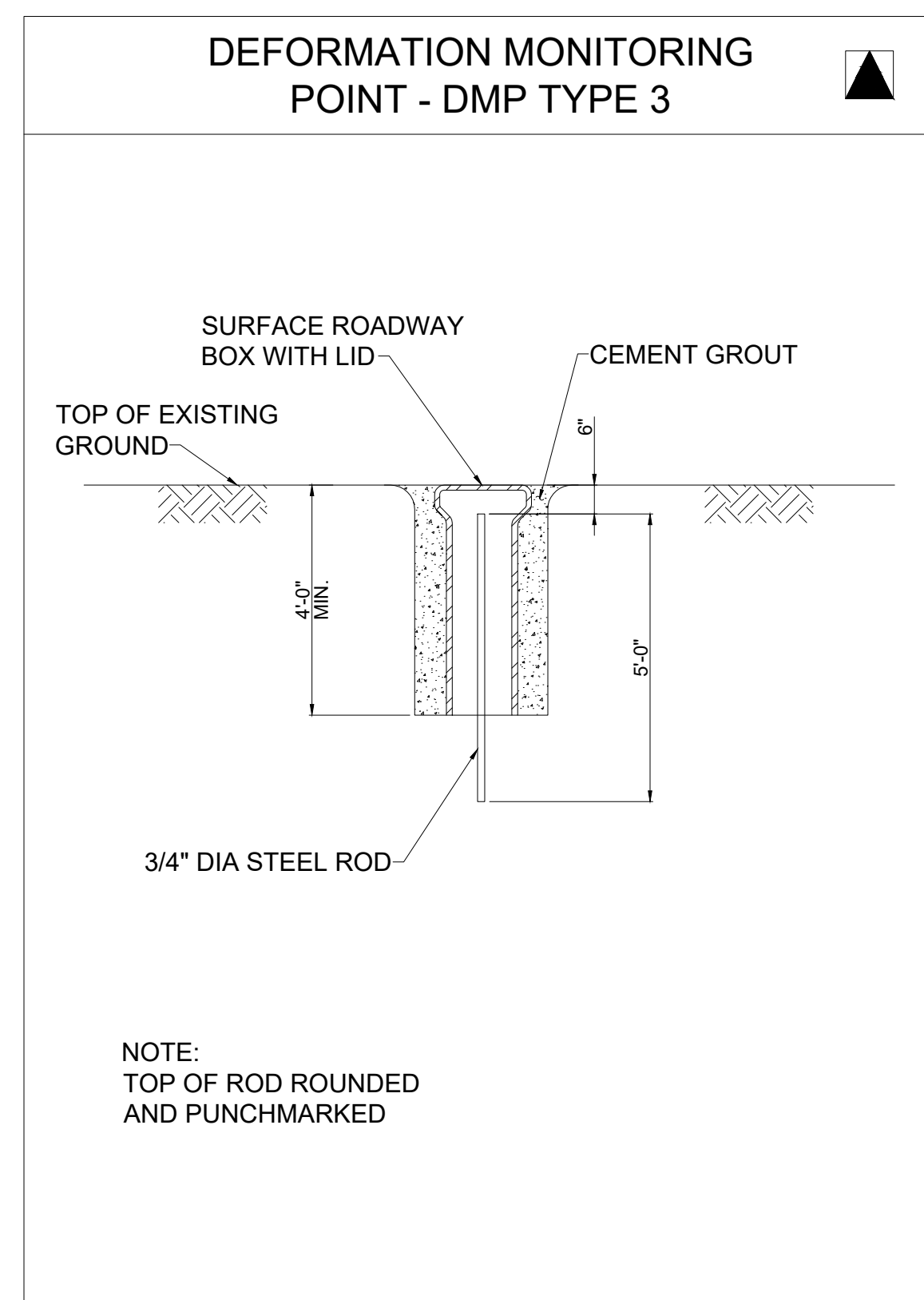
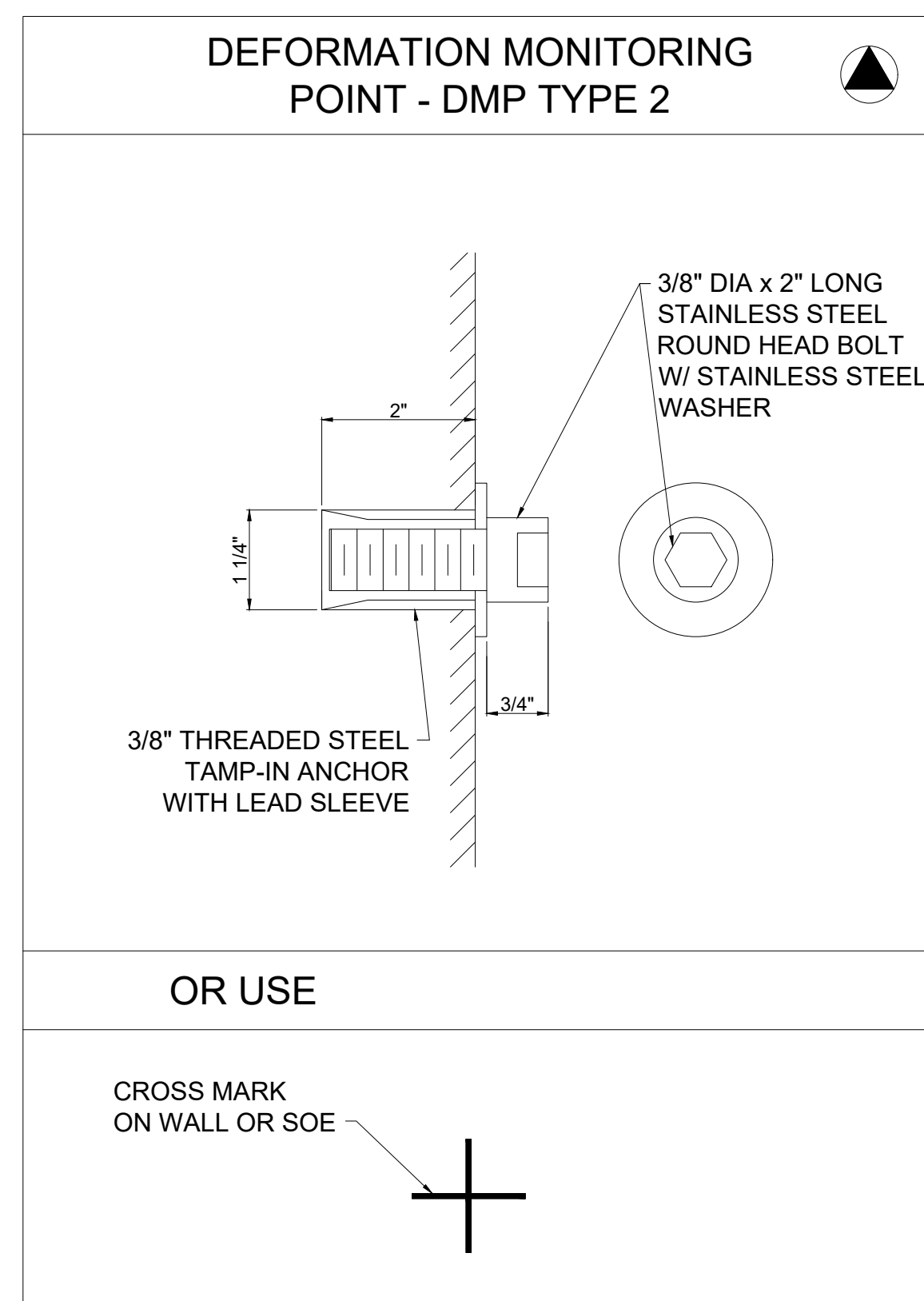
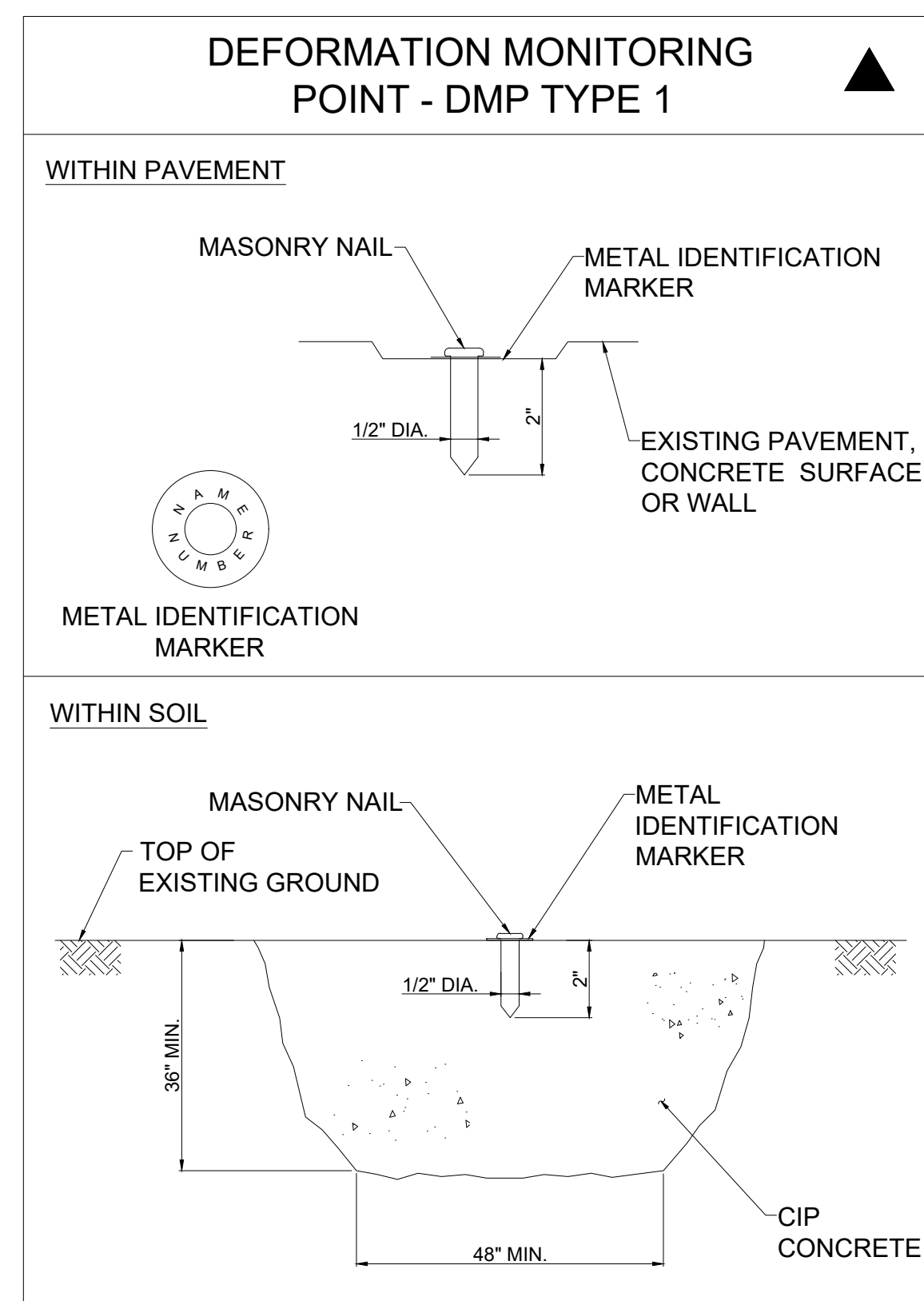
NBC CONTRACT NO 308.04C
GEOTECHNICAL
OF 210/213/214 FACILITIES
INSTRUMENTATION PLAN
STA. 2+50 TO STA. 8+08

SHEET
B-3
195130227



NOTES

1. MATERIAL AND INSTALLATION DETAILS FOR ALL APPLICABLE INSTRUMENTS SHOWN ON THIS DRAWING ARE PROVIDED IN SECTION 02295 OF THE SPECIFICATIONS.
2. INSTRUMENT LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE ADJUSTED TO ACCOMMODATE FIELD CONDITIONS, AS APPROVED BY PM.
3. OBTAIN APPROVAL FROM PROPERTY OWNERS BEFORE INSTALLING ANY INSTRUMENTS ON PRIVATE PROPERTY.
4. OBTAIN PERMITS AND APPROVALS FOR ALL INSTRUMENTATION TO BE INSTALLED IN THE RIGHT-OF-WAY.
5. REMOVE INSTRUMENTS AND RESTORE LOCATIONS IN ACCORDANCE WITH THE SPECIFICATIONS.



REV	DATE	BY	DESCRIPTION

SCALE
NO SCALE

WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED K. OHARA
DRAWN S. WILBUR
CHECKED T. MUJINDI

90% DESIGN PHASE - NOVEMBER 2021

NOT FOR CONSTRUCTION

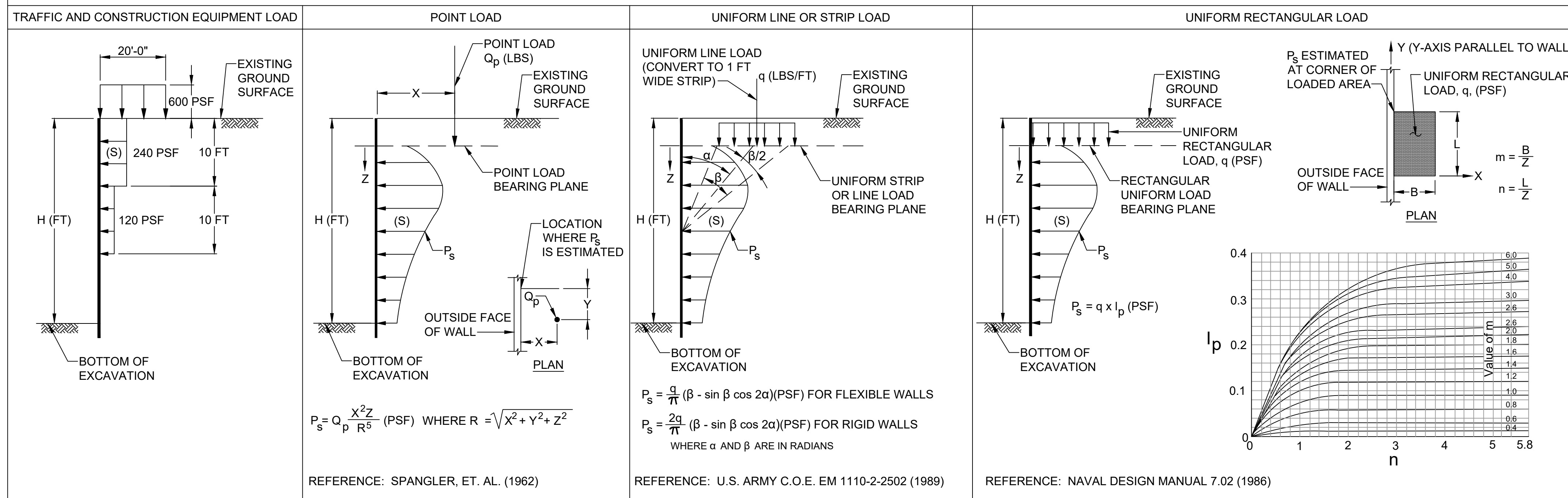
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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
GEOTECHNICAL
OF-210/213/214 FACILITIES
INSTRUMENTATION DETAILS

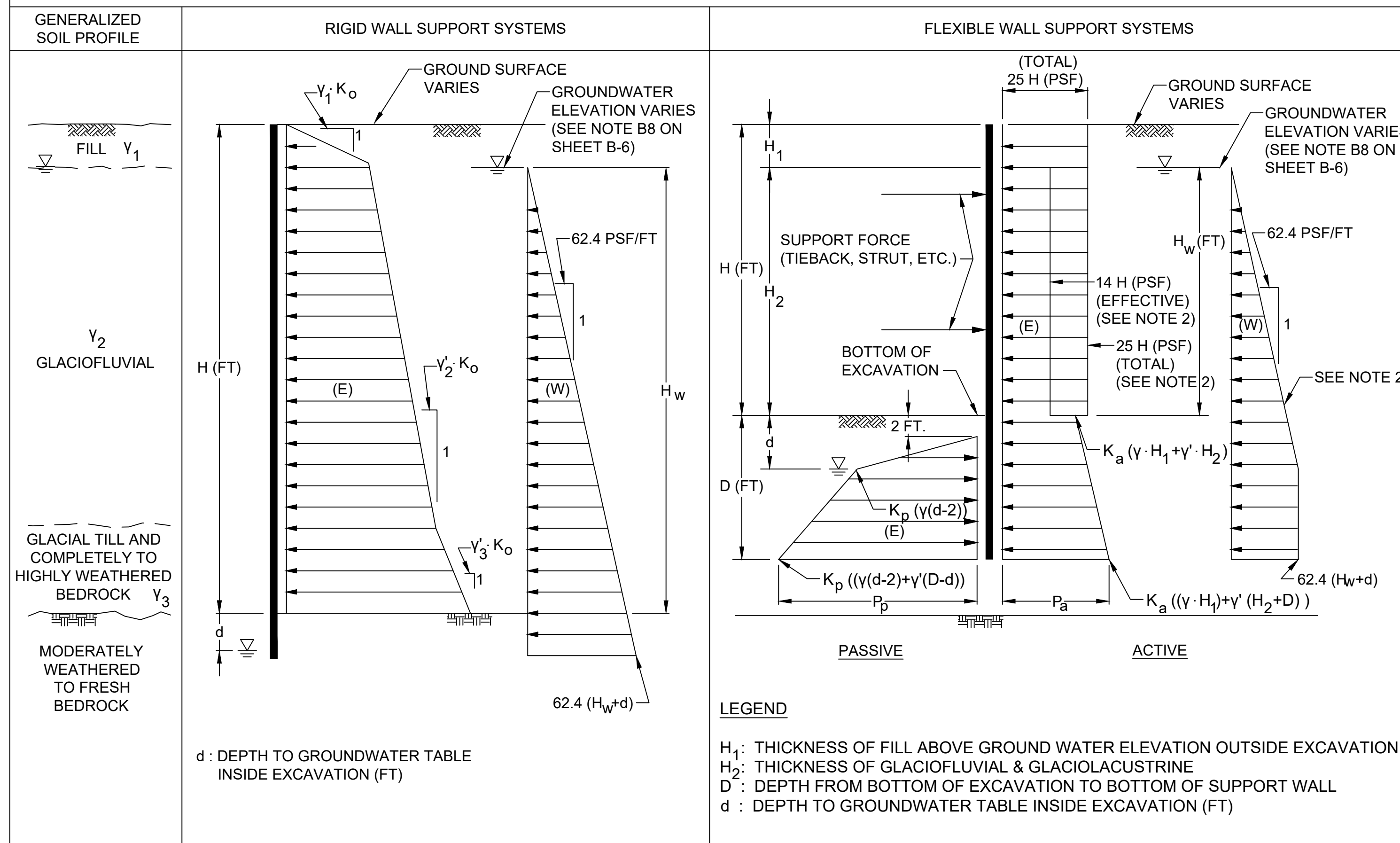
**MINIMUM DESIGN CRITERIA FOR LATERAL EARTH PRESSURES:
SURCHARGE (S)**



NOTES:

- FOR MINIMUM DESIGN CRITERIA FOR EXCAVATION SUPPORT NOTES, SEE SHEET B-6.
- SEE SHEET B-6, NOTE B10 FOR IMPERMEABLE VERSUS PERMEABLE SUPPORT WALL DESIGN CONSIDERATIONS.

**MINIMUM DESIGN CRITERIA FOR LATERAL EARTH PRESSURES:
SOIL (E) AND WATER (W)**



**MINIMUM DESIGN CRITERIA
FOR TEMPORARY EXCAVATION SUPPORT SYSTEM COMPONENTS**

STRUCTURE	VERTICAL LOADS		HORIZONTAL LOADS (E), (S) AND (W)	DESIGN LOADING COMBINATIONS AND ALLOWABLE UNIT STRESSES
	DEAD LOADS (DL)	LIVE LOADS (LL)		
WALL SYSTEM (ELEMENTS IN CONTACT WITH RETAINED EARTH)	WEIGHT OF WALL WEIGHT OF DECKING SYSTEM TO SUPPORT AASHTO AND CONSTRUCTION EQUIPMENT LOADING	REACTIONS FROM ALL LIVE LOADS INCLUDING APPLICABLE CONSTRUCTION EQUIPMENT LOADING, OTHER SURCHARGES, PEDESTRIAN WALKWAY LOADS, AND AASHTO HS20-44 LOADING, SEE NOTES	LOADS FROM LATERAL EARTH AND WATER PRESSURES AND LATERAL SURCHARGE PRESSURES [(E)+(S)+(W)] AXIAL LOADS FROM END WALL BRACING MEMBERS (E)+(S)+(W), WHERE APPLICABLE	100% OF [(DL)+(LL)+(E)+(S)+(W)] CONFORM TO ACI 318 FOR REINFORCED CONCRETE DESIGN
PRIMARY BRACING MEMBERS (MEMBERS CARRYING DIRECT LOADS INCLUDING WALES, STRUTS, CORNER BRACING, AND RAKERS)	WEIGHT OF PRIMARY BRACING MEMBER		LOADS FROM WALL SYSTEM [(E)+(S)+(W)] AXIAL LOADS FROM END WALLS [(E)+(S)+(W)], WHERE APPLICABLE	FOR PRIMARY BRACING MEMBERS: 100% OF [(DL)+(LL)+(E)+(W)+(S)] FOR WALLS: 120% OF ALLOWABLE UNIT STRESSES
SECONDARY BRACING MEMBERS FOR SUPPORT OF INTERNAL BRACING MEMBERS (IF NECESSARY)	WEIGHT OF SECONDARY BRACING MEMBER PLUS WEIGHT OF SUPPORTED PRIMARY BRACING MEMBERS, WHERE APPLICABLE	AXIAL LOAD EQUAL TO 3% OF THE DESIGN AXIAL LOAD IN THE MORE HEAVILY LOADED ADJACENT PRIMARY BRACING MEMBER	AXIAL LOAD EQUAL TO 3% OF THE DESIGN AXIAL LOAD IN THE MORE HEAVILY LOADED ADJACENT PRIMARY BRACING MEMBER	120% OF ALLOWABLE UNIT STRESSES

PROPERTIES OF RETAINED SOIL

MATERIAL	TOTAL UNIT WEIGHT, γ (PCF)	EFFECTIVE UNIT WEIGHT, γ' (PCF)	FRICTION ANGLE	UNDRAINED SHEAR STRENGTH S_u (PSF)	AT-REST PRESSURE COEFFICIENT K_o	ACTIVE PRESSURE COEFFICIENT K_a	PASSIVE PRESSURE COEFFICIENT K_p
FILL	125	63	32°	NA	0.47	0.31	3.26
GLACIOFLUVIAL	125	63	32°	NA	0.47	0.31	3.26
GLACIAL TILL AND COMPLETELY TO HIGHLY WEATHERED BEDROCK	135	73	34°	NA	0.44	0.28	3.54

NOTES FOR ANALYSIS AND DESIGN

A. GENERAL

- A1. DUE TO A VARIETY OF PAST USES IN THE AREA, NUMEROUS OBSTRUCTIONS WILL BE ENCOUNTERED DURING INSTALLATION OF EXCAVATION SUPPORT SYSTEMS. TYPES OF OBSTRUCTIONS ANTICIPATED TO BE ENCOUNTERED INCLUDE: BOULDERS, GRANITE, CONCRETE OR BRICK FOUNDATION WALLS, AND CONCRETE FLOORS FROM PREVIOUS STRUCTURES, ABANDONED WOOD PILES, TANK FOUNDATIONS AND VARIOUS OTHER DEMOLITION AND CONSTRUCTION DEBRIS.
- A2. FLEXIBLE WALL SYSTEMS ARE CONSIDERED TO BE SOLDIER PILE AND LAGGING WALLS AND SIMILAR SUPPORT SYSTEMS. RIGID WALL SYSTEMS ARE CONSIDERED TO BE SECANT PILE WALLS. WALL SYSTEM TO BE USED FOR INSTALLATION OF APPROACH CHANNEL, GATE AND SCREENING STRUCTURE, GSS-2 AND JUNCTION CHAMBER SHALL UTILIZE SECANT PILES TO PROVIDE AN IMPERMEABLE EXCAVATION.
- A3. METHODS OF PERMITTED ANALYSIS INCLUDE:
 - LIMIT EQUILIBRIUM METHOD SHALL BE USED FOR STRENGTH DESIGN .
 - NONLINEAR ANALYSIS USING ELASTO-PLASTIC WINKLER SPRINGS SHALL BE USED FOR DEFORMATION CONTROLLED DESIGN .
- A4. TEMPORARY EXCAVATION SUPPORT SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED BY THE CONTRACTOR IN ACCORDANCE WITH CURRENT ENGINEERING PRACTICE, THE REQUIREMENTS OF THE CONTRACT DRAWINGS, AND APPLICABLE SPECIFICATIONS.
- A5. CONVENTIONAL CONSTRUCTION METHODS SHALL BE USED TO CONSTRUCT THE BELOW-GRADE SPACE. THE TEMPORARY EXCAVATION SUPPORT SYSTEM WALLS SHALL BE RESTRAINED BY TEMPORARY BRACING, AS NECESSARY, AS THE EXCAVATION IS CONDUCTED, AND THE PERMANENT SUBSTRUCTURE AND FOUNDATIONS SHALL BE CONSTRUCTED WITHIN THE TEMPORARY EXCAVATION SUPPORT SYSTEM.
- A6. DRIVING OR VIBRATING IS NOT PERMITTED TO INSTALL EXCAVATION SUPPORT WALL ELEMENTS.
- A7. THE CRITERIA ON SHEET B-5 AND THIS SHEET ARE MINIMUM CRITERIA. THE CONTRACTOR SHALL UTILIZE ADDITIONAL OR MORE CONSERVATIVE CRITERIA AS REQUIRED, TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
- A8. THE CONTRACTOR SHALL REVIEW THE DESIGN CRITERIA INCLUDED ON DRAWING B-5 AND CONDUCT WORK AS NECESSARY TO COMPLETE THE DESIGN. THE CONTRACTOR'S FINAL DESIGN AND ANY PROPOSED MODIFICATIONS WILL BE REVIEWED BY THE PROGRAM MANAGER/CONSTRUCTION MANAGER (PM/CM) IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND APPLICABLE SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT FOR REVIEW BY THE PM/CM, COMPLETE COMPUTATIONS, CROSS-SECTIONS, CONSTRUCTION SCHEDULE AND SEQUENCE, AND WORKING DRAWINGS FOR TEMPORARY EXCAVATION SUPPORT SYSTEMS. THE DESIGN SHALL BE IN ACCORDANCE WITH THE MINIMUM CRITERIA SPECIFIED AND INDICATED ON THIS DRAWING AND GOOD ENGINEERING PRACTICE, AND WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ALL COMPUTATIONS AND DESIGNS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF RHODE ISLAND, RETAINED BY THE CONTRACTOR. THE PM'S/CM'S REVIEW WILL SOLELY BE TO DETERMINE COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- A9. TEMPORARY EXCAVATION SUPPORT SYSTEMS SHALL BE ANALYZED AND DESIGNED FOR ALL CONDITIONS THAT CAN OCCUR DURING THE VARIOUS STAGES OF CONSTRUCTION. THESE CONDITIONS MAY INCLUDE: TEMPORARY OR PERMANENT ALTERATION OF THE SOILS, IN-SITU SOIL PROPERTIES CAUSED BY THE SELECTED METHODS OF CONSTRUCTION, INITIAL CANTILEVER CONDITION, INSTALLATION, RELOCATION, AND REMOVAL OF TEMPORARY BRACING, TIME RELATED EFFECTS, SOIL EXCAVATION BELOW BRACING ALREADY IN PLACE, SHRINKAGE OF CONCRETE, DEWATERING OF EXCAVATION, AND LOAD TRANSFER TO PERMANENT STRUCTURE, VERTICAL LOADING DUE TO SUPPORTING AASHTO OR CONSTRUCTION LOADING.
- A10. ALL LATERAL PRESSURES ARE IN POUNDS PER SQUARE FOOT (PSF).
- A11. MAXIMUM LATERAL DEFORMATION ALONG FULL DEPTH OF THE EXCAVATION SHALL NOT EXCEED $0.0025 \times$ EXCAVATION DEPTH OR 1/2", WHICHEVER IS GREATER.
- A12. IF THE LATERAL LOADING CONDITIONS ON OPPOSITE SIDES OF THE EXCAVATION ARE NOT EQUAL, THE TEMPORARY EXCAVATION SUPPORT SYSTEM DESIGN SHALL ACCOUNT FOR THE UNBALANCED LOADING. UNBALANCED LOADING COULD RESULT FROM UNEQUAL EXCAVATION LEVELS OR DIFFERENT LATERAL PRESSURE DISTRIBUTIONS AT THE PERIMETER OF THE SITE.

- A13. EXCAVATION AND BRACING RESTRICTIONS SHALL BE INCORPORATED INTO THE TEMPORARY EXCAVATION SUPPORT SYSTEM DESIGN AS FOLLOWS:
 - THE MAXIMUM VERTICAL DISTANCE BETWEEN THE LOWEST TEMPORARY BRACE AND THE EXCAVATION SUBGRADE SHALL NOT EXCEED 15 FT.
 - EXCAVATION FOR A LOWER SUBGRADE ELEVATION MAY NOT BEGIN UNTIL THE BRACE LEVEL ABOVE HAS BEEN INSTALLED.
- A14. THE MAXIMUM HEIGHT OF EXCAVATION FACE SHALL NOT EXCEED 4 FEET PRIOR TO INSTALLATION OF TEMPORARY LAGGING OR OTHER SHORING SYSTEM.
- A15. THE CONTRACTOR MAY BE REQUIRED TO ADJUST CONSTRUCTION OPERATIONS IF THE ENGINEER CONSIDERS THAT BASED ON INSTRUMENTATION READINGS, EXCESSIVE SETTLEMENTS, DEFORMATION AND/OR DEFLECTIONS OCCUR.

B. LATERAL DESIGN PRESSURES

- B1. MINIMUM DESIGN LOADING CONDITIONS SHALL BE DETERMINED BY ADDING TOGETHER THE LOADING DIAGRAMS SHOWN ON DRAWING B-5 FOR SOIL (E) AND WATER (W), WHERE APPLICABLE, AND THE COMBINATION OF APPLIED SURCHARGES (S). TRAFFIC AND CONSTRUCTION EQUIPMENT LOAD SHALL BE ASSUMED ON ANY SIDE OF THE WALL THAT IS ACCESSIBLE.
- B2. UNLESS INDICATED OTHERWISE, ALL LOADS FOR A GIVEN CONDITION MUST BE ADDED SO AS TO FORMULATE THE MAXIMUM TOTAL DESIGN LOADING.
- B3. LATERAL PRESSURE DUE TO TRAFFIC AND CONSTRUCTION EQUIPMENT IS BASED ON AN ASSUMED SURFACE SURCHARGE OF 600 PSF ACTING OVER A 20-FT. WIDE INFLUENCE AREA. THE CONTRACTOR SHALL DETERMINE IF THE 600 PSF VERTICAL SURCHARGE LOAD IS SUFFICIENT, AND SHALL MAKE ADDITIONAL ANALYSES FOR MORE CRITICAL CONSTRUCTION EQUIPMENT LOADING CONDITIONS, AND ACCOUNT FOR THESE IN THE DESIGN OF THE TEMPORARY EXCAVATION SUPPORT SYSTEM. THE CONTRACTOR SHALL ACCOUNT FOR CRITICAL SURCHARGE LOADINGS OR OTHER LOADING CONDITIONS NOT DESCRIBED HEREIN IN DESIGN AND CONSTRUCTION, SUBJECT TO THE REVIEW OF THE PM, PRIOR TO THE APPLICATION OF THE LOADING.
- B4. FOR UNIFORM VERTICAL SURCHARGE LOADING, LATERAL PRESSURES ARE DETERMINED AT VARIOUS DEPTHS BELOW THE CORNER OF THE LOADED AREA. WHEN THE RECTANGULAR LOADED AREA IS LOCATED AT A DISTANCE BEHIND THE WALL, THE PRINCIPLE OF LOAD SUPERPOSITION SHALL BE USED TO DETERMINE LATERAL PRESSURES AGAINST THE WALL. REFER TO SOIL MECHANICS, BY LAMBE AND WHITMAN, PAGE 104, FOR AN EXAMPLE OF USING THE PRINCIPLE OF SUPERPOSITION OF LOADS.
- B5. PASSIVE EARTH PRESSURES SHALL BE COMPUTED USING RANKINE EARTH PRESSURE THEORY AND THE SOIL PROPERTIES INDICATED ON DRAWING B-5.
- B6. THE TEMPORARY EXCAVATION SUPPORT SYSTEM SHALL BE CONSIDERED TO BE SUBJECT TO LATERAL SURCHARGE PRESSURES FROM LOADS ASSOCIATED WITH ADJACENT STRUCTURES AND GRADE INCREASES IF LOCATED WITHIN THE INFLUENCE ZONE. THE INFLUENCE ZONE IS DEFINED AS A 1H:1V LINE DRAWN FROM THE BOTTOM OF THE FINAL EXCAVATION LEVEL AT THE OUTSIDE FACE OF THE TEMPORARY EXCAVATION SUPPORT SYSTEM UPWARD AND OUTWARD AWAY FROM THE SITE TOWARD THE ADJACENT STRUCTURE OR GRADE INCREASE.
- B7. VALUES OF P ARE IN POUNDS PER SQUARE FOOT PER LINEAR FOOT OF WALL (PSF/LF).
- B8. THE EXISTING GROUNDWATER LEVEL VARIES AND MUST BE DETERMINED ON A SITE SPECIFIC BASIS FOR EACH TEMPORARY EXCAVATION SUPPORT DESIGN. THE DESIGN MUST ACCOUNT FOR THE MOST CRITICAL LOADING CONDITION, INCLUDING THE MAXIMUM LOWERING OF THE GROUNDWATER TABLE AND THE MAXIMUM WATER INGRESS INTO THE EXCAVATION. REFER TO SPECIFICATIONS FOR GROUNDWATER CONTROL REQUIREMENTS.
- B9. STRESSES DUE TO TEMPERATURE FLUCTUATIONS SHALL BE TAKEN INTO ACCOUNT IN THE DESIGN OF BRACING MEMBERS AND LOADS RESULTING FROM FROZEN SOILS SHALL BE CONSIDERED IF APPROPRIATE.
- B10. IF AN IMPERMEABLE EXCAVATION SUPPORT WALL IS INSTALLED, THEN EFFECTIVE LATERAL EARTH PRESSURES PLUS HYDROSTATIC PRESSURE SHALL BE USED FOR DESIGN. IF A PERMEABLE WALL SYSTEM IS INSTALLED THEN TOTAL LATERAL EARTH PRESSURES MUST BE USED FOR DESIGN.

C. BRACING MEMBERS

- C1. DESIGN OF BRACING MEMBERS SHALL SATISFY THE MOST CRITICAL CONDITIONS ANTICIPATED DURING THE CONSTRUCTION SEQUENCE
- C2. TEMPORARY INTERNAL BRACING MEMBERS (STRUTS, RAKERS, CORNER BRACES, WALES) SHALL BE STRUCTURAL GRADE STEEL, REINFORCED CONCRETE, OR A COMBINATION. NO WOOD SHIMS SHALL BE USED.
- C3. TEMPORARY BRACING MEMBERS SHALL NOT BE EMBEDDED IN PERMANENT STRUCTURES.
- C4. TEMPORARY BRACING MEMBERS SHALL BE REMOVED AT AN APPROPRIATE STAGE OF CONSTRUCTION AND IN SUCH A MANNER AS TO AVOID IMPACT LOADING ON NEW AND EXISTING STRUCTURES AND/OR PIPELINES OR ON OTHER MEMBERS OF THE TEMPORARY EXCAVATION SUPPORT SYSTEM.
- C5. ALL INTERNAL BRACING SHALL BE PRESTRESSED TO AT LEAST 50 PERCENT OF MAXIMUM DESIGN LOADS WHERE PASSIVE SOIL PRESSURE LIMIT PERMITS.

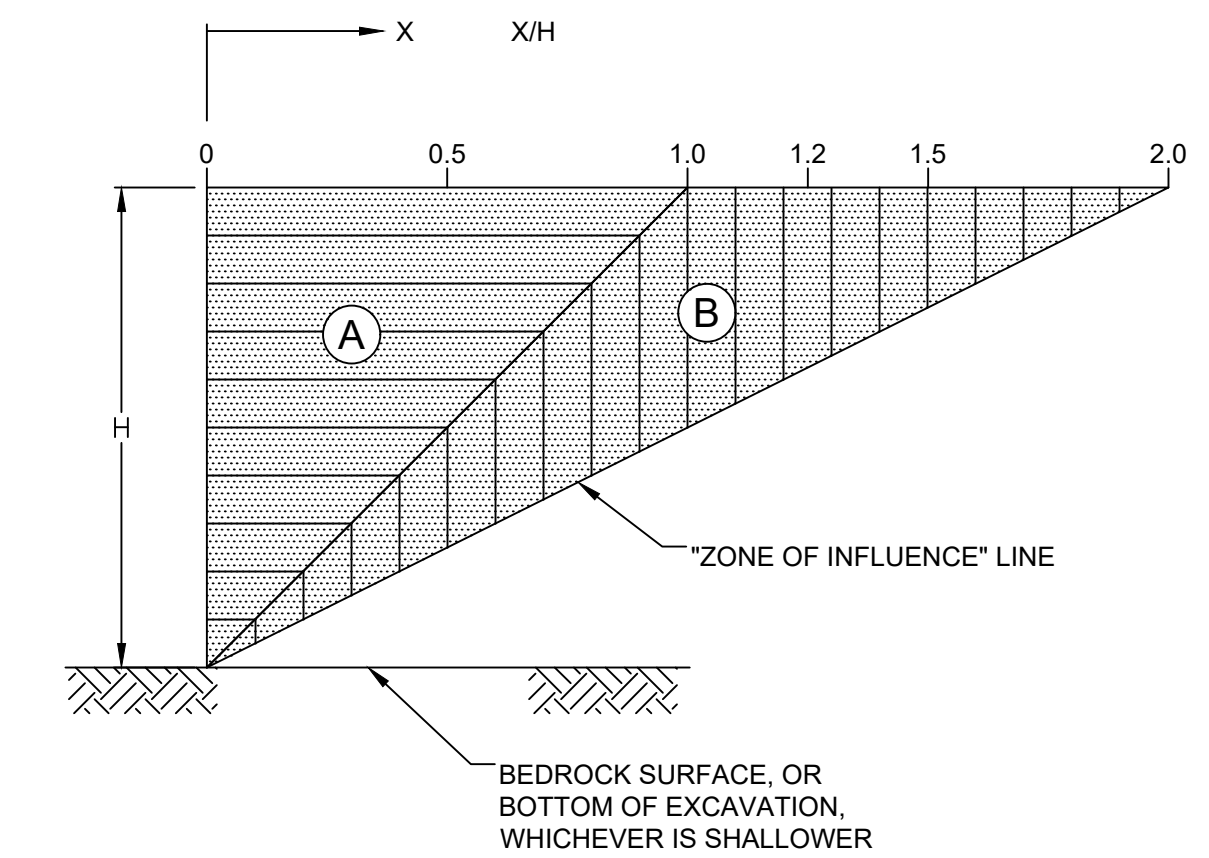
D. TEMPORARY EXCAVATION SUPPORT SYSTEM TOE STABILITY DESIGN

- D1. THE TOE OF THE TEMPORARY EXCAVATION SUPPORT SYSTEM PRIMARY ELEMENTS SHALL EXTEND A SUFFICIENT DISTANCE BELOW THE BOTTOM OF THE EXCAVATION IN ORDER TO LIMIT MOVEMENT AND TO ENSURE BOTTOM STABILITY AND ADEQUATE VERTICAL LOAD CAPACITY.
- D2. THE TOE OF THE TEMPORARY EXCAVATION SUPPORT SYSTEM WALL SHALL EXTEND A SUFFICIENT DISTANCE BELOW THE LOWEST EXCAVATION LEVEL TO PROVIDE VERTICAL LOAD CARRYING CAPACITY AND LIMIT HORIZONTAL MOVEMENT OF THE WALL. LOAD CARRYING CAPACITY OF THE WALL SHALL BE DETERMINED BY CONSIDERING BRACING SYSTEM LOADS. ONLY THE LENGTH OF THE WALL BELOW THE BOTTOM OF THE EXCAVATION SHALL BE CONSIDERED IN SKIN FRICTION AND/OR ADHESION CALCULATIONS.
- D3. EVALUATION OF THE REQUIRED TOE EMBEDMENT BELOW EXCAVATION SUBGRADE SHALL BE BASED ON THE NET RANKINE ACTIVE AND PASSIVE PRESSURES USING THE APPROPRIATE PRESSURE COEFFICIENTS PRESENTED IN THE SOIL PARAMETERS TABLE AND APPLICABLE SURCHARGE LOADING. FOR DETERMINING TOE EMBEDMENT, EITHER A FACTOR OF SAFETY EQUAL TO 1.5 SHALL BE APPLIED TO THE PASSIVE PRESSURE COEFFICIENT OR THE CALCULATED MINIMUM TOE EMBEDMENT SHALL BE INCREASED BY 20%.
- D4. IN SITUATIONS WHERE THE RETAINED SOIL IS NOT DEWATERED, THE DETERMINATION OF TOE PENETRATION MUST CONSIDER THE POTENTIAL FOR SEEPAGE GRADIENTS WHICH COULD CAUSE INSTABILITY AT THE BOTTOM OF THE EXCAVATION AND REDUCE THE STRENGTH OF SOILS AT THE TOE OF THE WALL.

E. CRITERIA FOR PROTECTION OF STRUCTURES

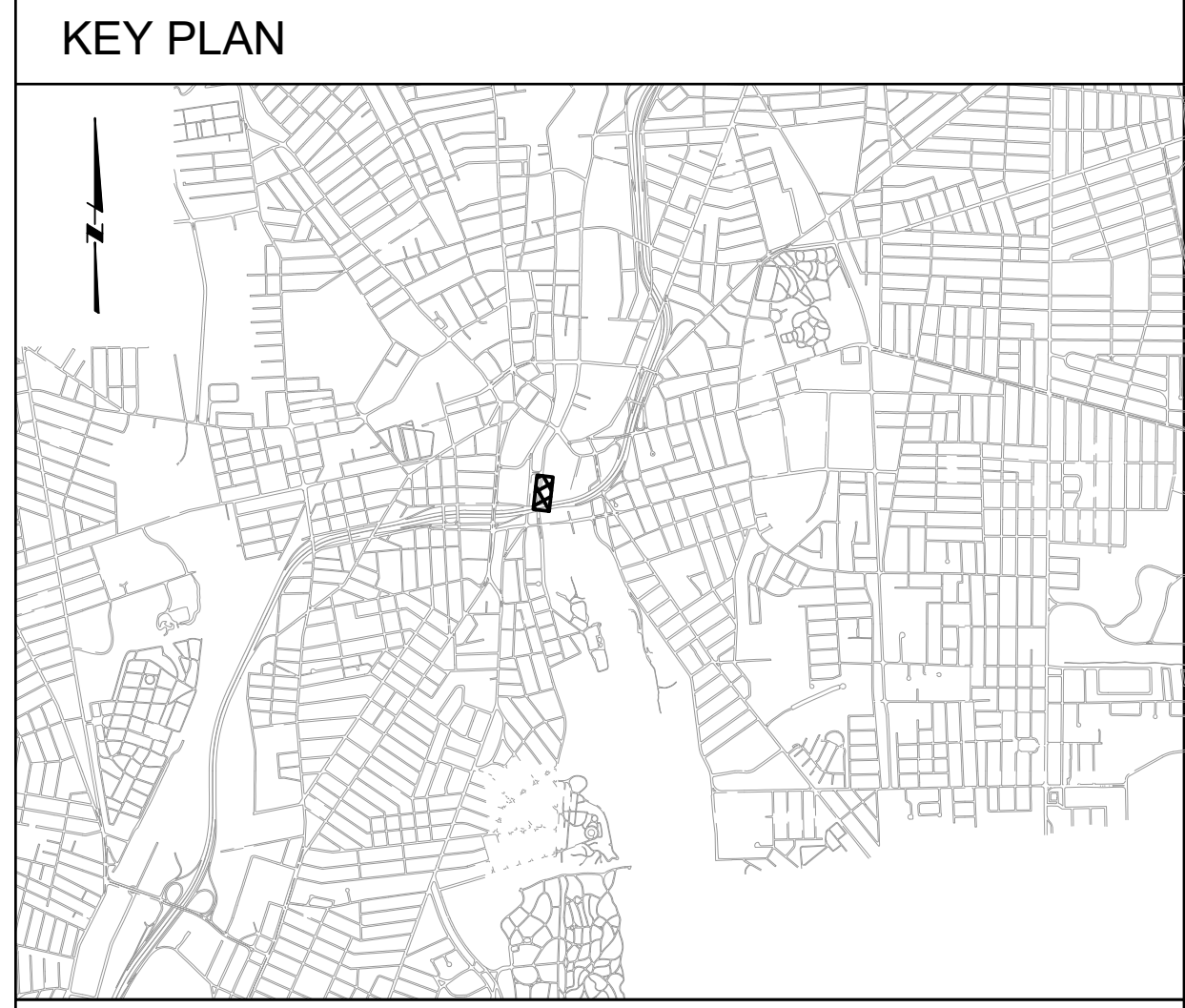
- E1. STRUCTURES INCLUDE EXISTING BUILDINGS, BRIDGES, UTILITIES, PAVEMENTS AND OTHER FACILITIES.
- E2. PROTECTION CRITERIA PRESENTED FOR FLEXIBLE WALL SYSTEMS ASSUME AVERAGE EXCAVATION AND BRACING PROCEDURES ARE UTILIZED.
- E3. EVALUATION OF PROTECTION REQUIREMENTS FOR STRUCTURES IS DEPENDENT ON MANY FACTORS, WHICH INCLUDE IMPLEMENTED CONSTRUCTION PROCEDURES AND DETAILS, MAGNITUDE AND TYPES OF MOVEMENT ANTICIPATED, SUBSURFACE CONDITIONS, AND PROXIMITY OF STRUCTURES TO THE EXCAVATION. AT LOCATIONS WHERE STRUCTURES ARE FOUNDED WITHIN THE ZONE OF INFLUENCE, AN EVALUATION OF PROTECTION REQUIREMENTS SHALL BE CONDUCTED BY THE CONTRACTOR ON A CASE BY CASE BASIS, CONSIDERING ALL RELEVANT FACTORS.
- E4. POSITIVE MEANS OF PROTECTION ARE DEFINED AS MEASURES WHICH MAY BE TAKEN TO CONTROL GROUND MOVEMENTS TO WITHIN ACCEPTABLE LIMITS OR, MEASURES WHICH PROVIDE ADDITIONAL SUPPORT FOR AFFECTED STRUCTURES. EVALUATION OF PROTECTION REQUIREMENTS FOR STRUCTURES GENERALLY BEGINS WITH SELECTING AND IMPLEMENTING EARTH SUPPORT, EXCAVATION AND BRACING TECHNIQUES TO MINIMIZE GROUND MOVEMENTS. IF ANTICIPATED GROUND MOVEMENTS ARE STILL EXPECTED TO EXCEED ACCEPTABLE LIMITS, THEN INDIRECT OR DIRECT STRUCTURE PROTECTION MEASURES SHALL BE IMPLEMENTED BY THE CONTRACTOR ON A CASE BY CASE BASIS. INDIRECT PROTECTION MEASURES INCLUDE SUCH PROCEDURES AS PROVIDING A STIFFER RETAINING SYSTEM, COMPACTION GROUTING OR SLAB/FOOTING JACKING. DIRECT PROTECTION MEASURES INCLUDE SUCH PROCEDURES AS STANDARD UNDERPINNING PITS.
- E5. THE CONTRACTOR SHALL CONSIDER THE EFFECTS OF VIBRATIONS ON ADJACENT STRUCTURES FROM INSTALLATION OF THE TEMPORARY EARTH SUPPORT SYSTEM.
- E6. REFER TO SPECIFICATION SECTION 02295 FOR GEOTECHNICAL INSTRUMENTATION RESPONSE LEVELS AND READING FREQUENCIES.

PROTECTION CRITERIA



LEGEND

- ZONE OF INFLUENCE: DEFINES A ZONE WITHIN WHICH SOIL MOVEMENTS ARE EXPECTED TO OCCUR AS A RESULT OF CONSTRUCTION. PROTECTION OF STRUCTURES FOUNDED OR LOCATED WITHIN THIS ZONE SHALL BE CONSIDERED BY THE CONTRACTOR.
- PROTECTION ZONE A: STRUCTURES WHICH ARE FOUNDED OR LOCATED WITHIN THIS ZONE GENERALLY WILL REQUIRE SOME POSITIVE MEANS OF PROTECTION. REFER TO NOTE E.4 FOR DEFINITION OF POSITIVE MEANS OF PROTECTION.
- PROTECTION ZONE B: STRUCTURES WHICH ARE FOUNDED OR LOCATED WITHIN THIS ZONE GENERALLY WILL NOT REQUIRE PROTECTION, UNLESS THE STRUCTURES ARE PARTICULARLY SENSITIVE TO MOVEMENTS, OR SUBSURFACE SOILS ARE SENSITIVE TO CONSTRUCTION VIBRATION.



GENERAL SHEET NOTES

1. DETOUR ON THIS SHEET SHALL ONLY BE IMPLEMENTED FOR CLOSURE OF TAFT STREET BETWEEN JENKS WAY AND SPENCER STREET AND SHALL ALLOW ACCESS TO LOCAL TRAFFIC.

SHEET KEYNOTES

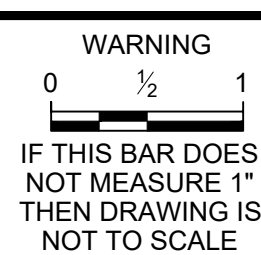
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--- DETOUR ROUTE

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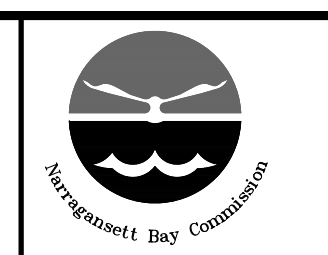


DESIGNED H. PERALTA
 DRAWN T. JOUBERT
 CHECKED J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

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NARRAGANSETT BAY COMMISSION
 PHASE III COMBINED SEWER
 OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
 CIVIL

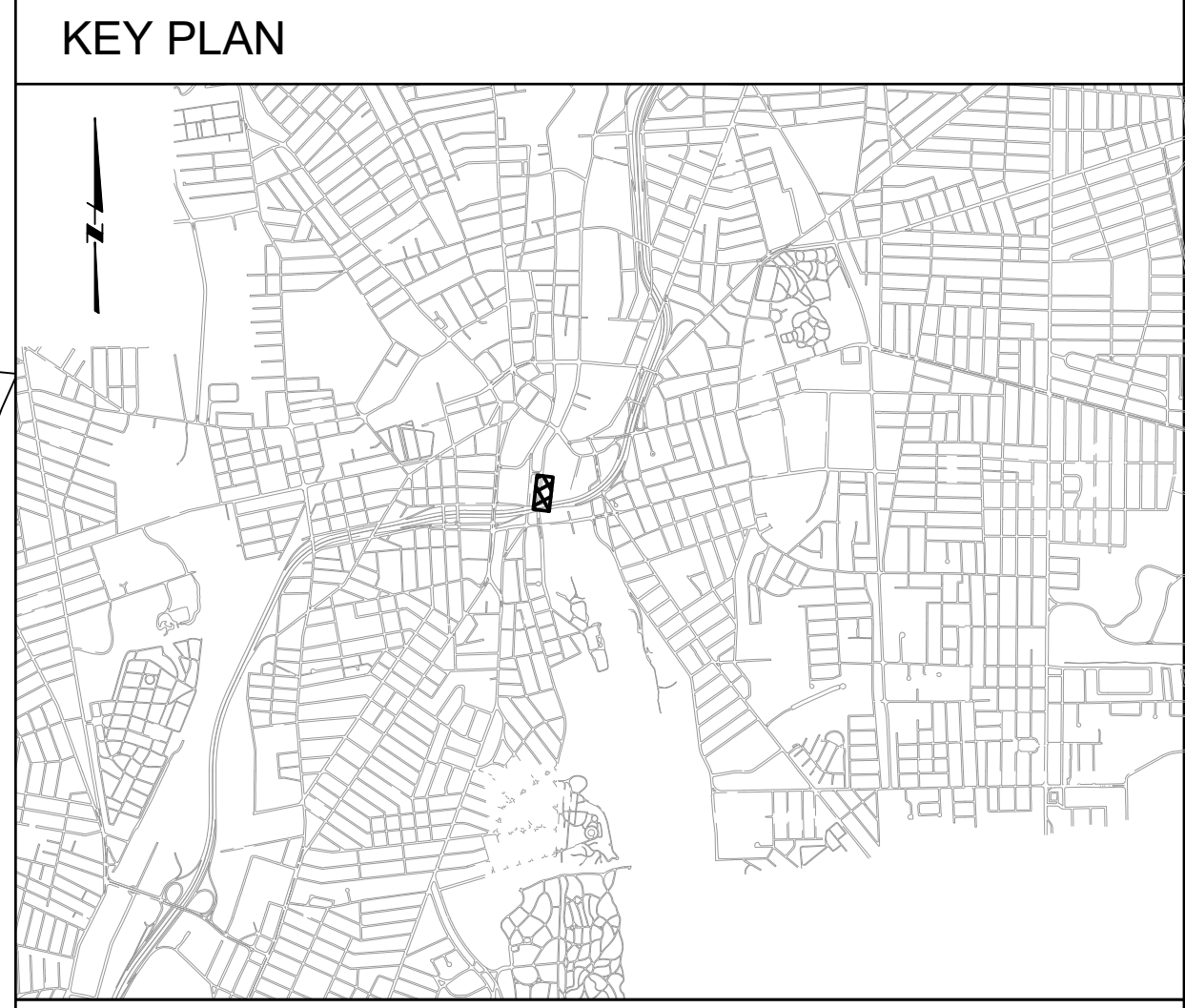
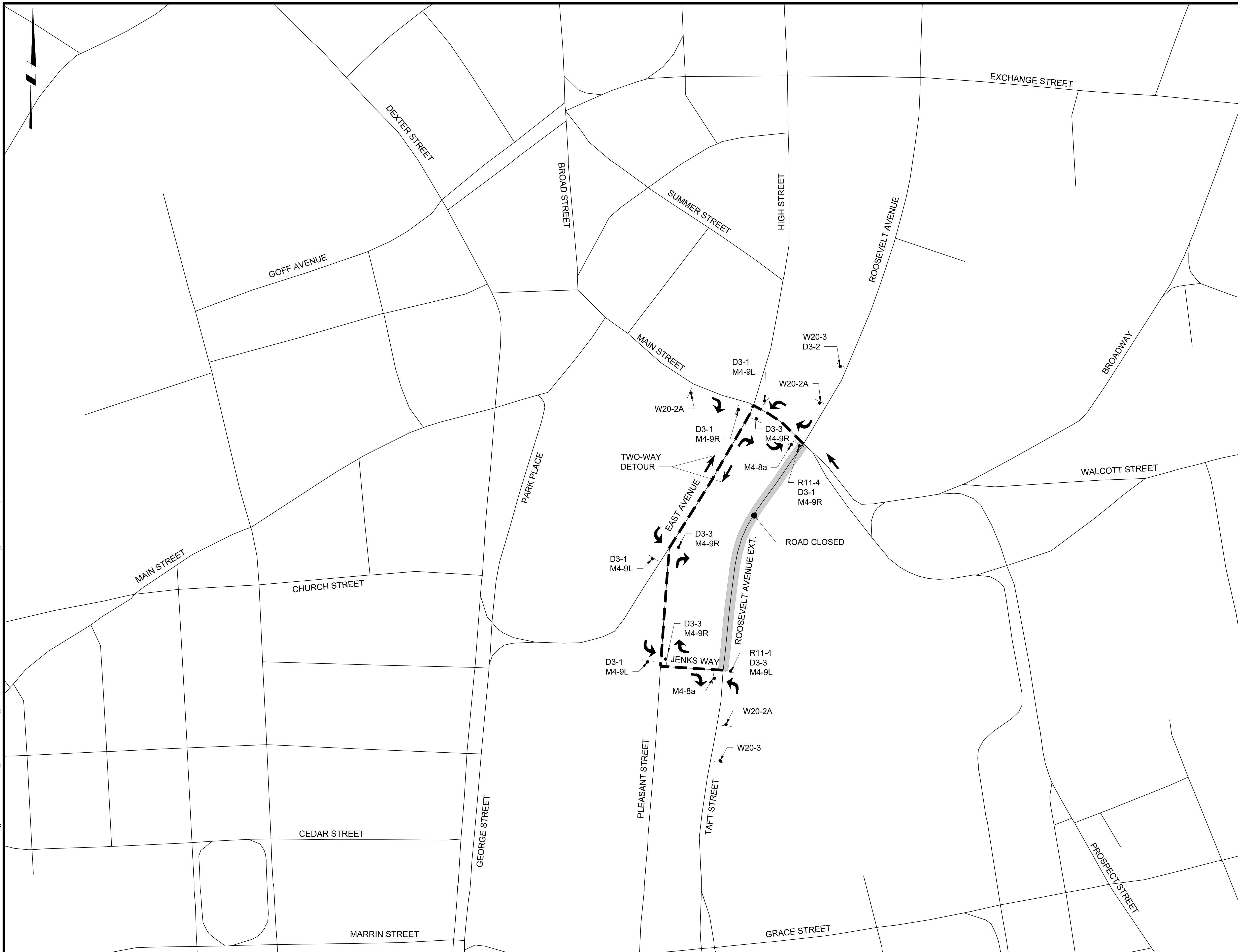
OF 210/213/214 FACILITIES
 TRAFFIC MANAGEMENT PLAN I

SHEET
T-1
195130227

BY: JAIMIE PAYNE

PLOT DATE: Friday, November 12, 2021 3:49:38 PM

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GENERAL SHEET NOTES

- DETOUR ON THIS SHEET SHALL ONLY BE IMPLEMENTED FOR CLOSURE OF ROOSEVELT AVENUE EXTENSION BETWEEN MAIN STREET AND JENKS WAY.

SHEET KEYNOTES

LEGEND

--- DETOUR ROUTE

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
NO SCALE

WARNING
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DESIGNED H. PERALTA
DRAWN T. JOUBERT
CHECKED J. D'ALESSIO

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CIVIL

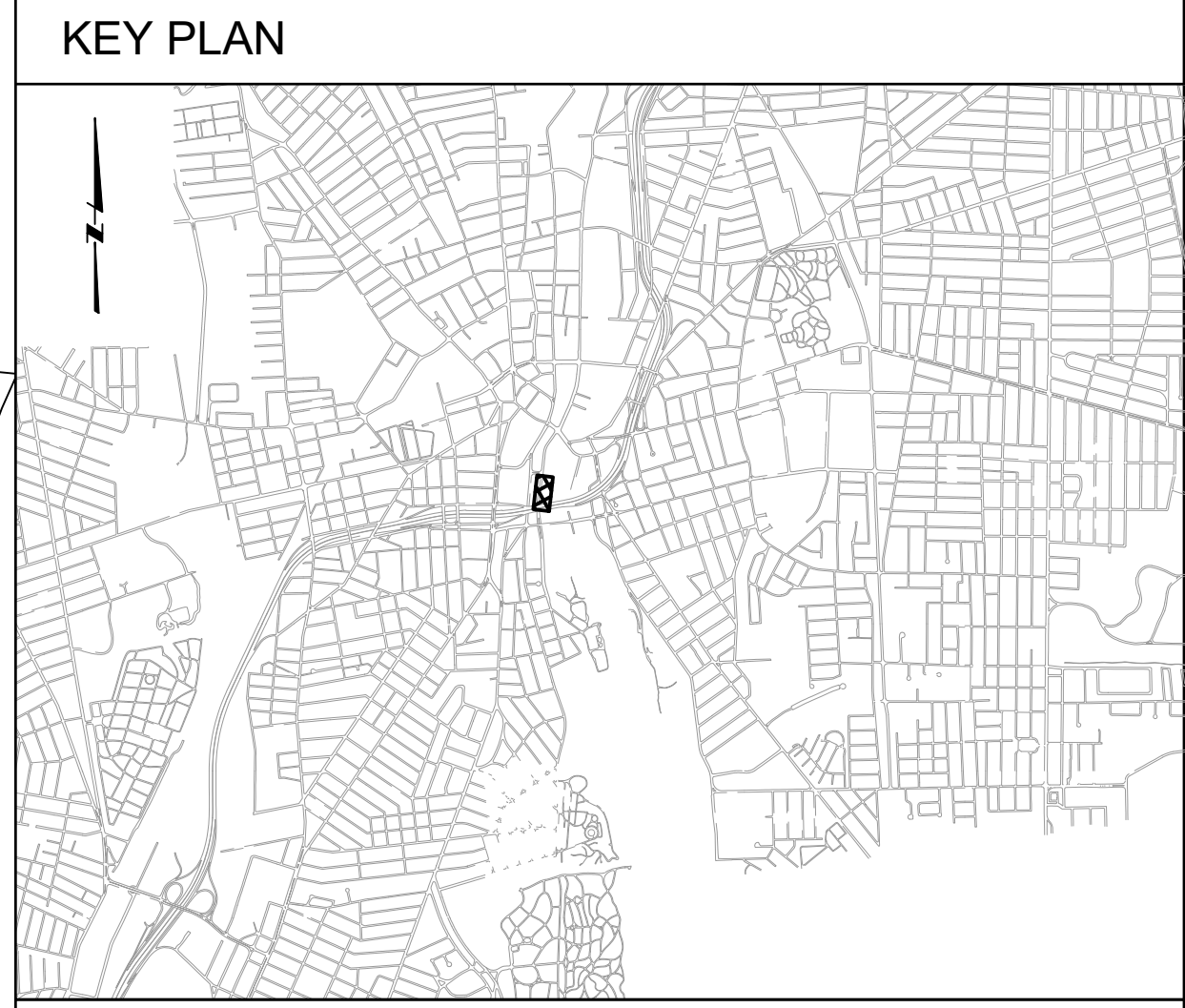
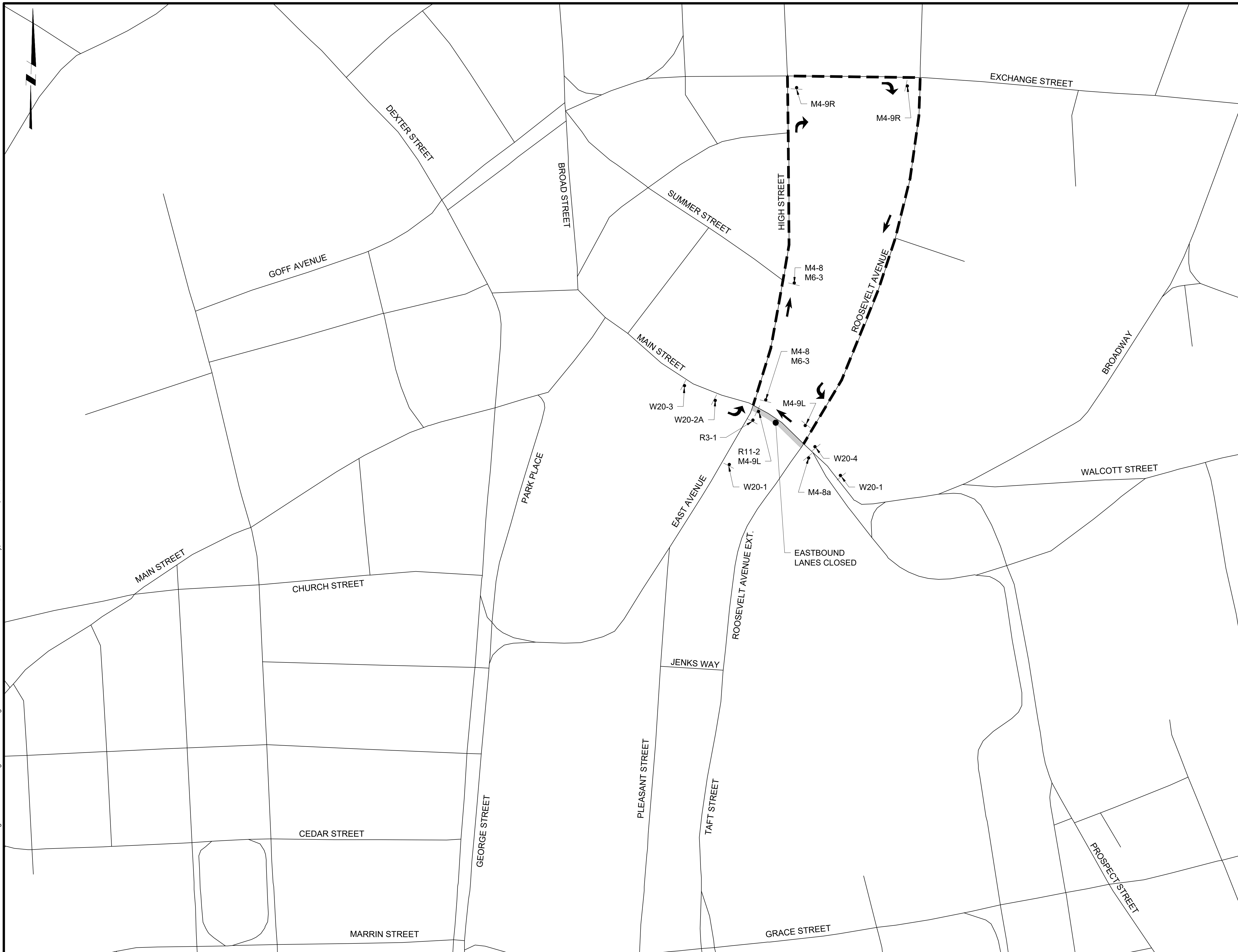
OF 210/213/214 FACILITIES
TRAFFIC MANAGEMENT PLAN II

SHEET
T-2
195130227

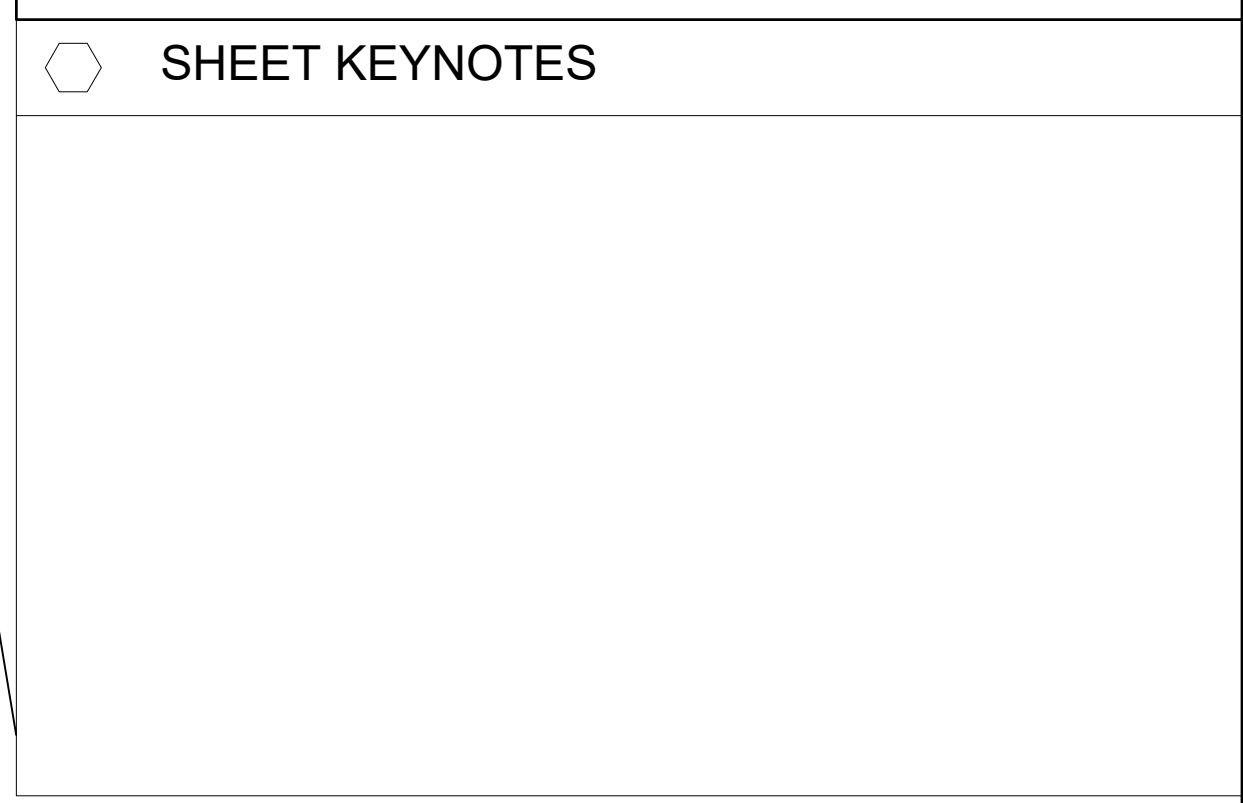
BY: JAIMIE PAYNE

PLOT DATE: Friday, November 12, 2021 3:49:47 PM

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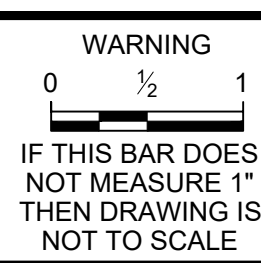


- GENERAL SHEET NOTES**
1. DETOUR ON THIS SHEET SHALL ONLY BE IMPLEMENTED FOR CLOSURE OF THE MAIN STREET EASTBOUND LANE BETWEEN EAST AVENUE AND ROOSEVELT AVENUE WHILE ALLOWING ONE-LANE MAIN STREET WESTBOUND TRAFFIC ALONG THIS SECTION OF MAIN STREET.
 2. THE TRAFFIC SIGNAL AT THE INTERSECTION OF MAIN STREET WITH ROOSEVELT AVENUE SHALL BE MODIFIED TO TEMPORARILY OMIT THE EASTBOUND SIGNAL PHASE DURING THE MAIN STREET EASTBOUND APPROACH CLOSURE.



REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
NO SCALE

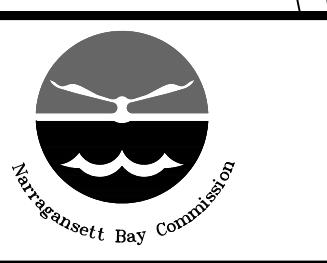


DESIGNED H. PERALTA
DRAWN T. JOUBERT
CHECKED J. D'ALELIO

90% DESIGN PHASE - NOVEMBER 2021

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL

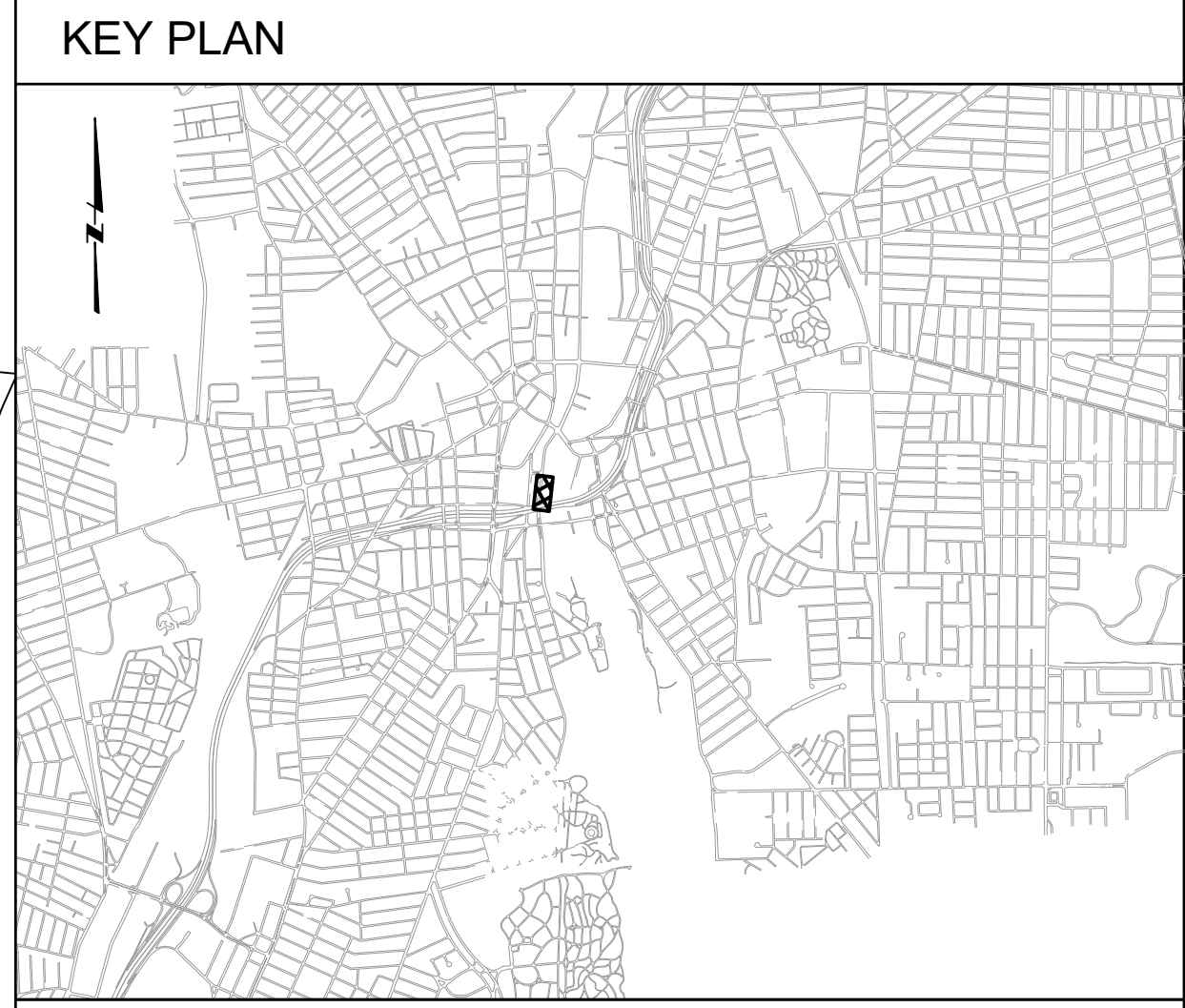
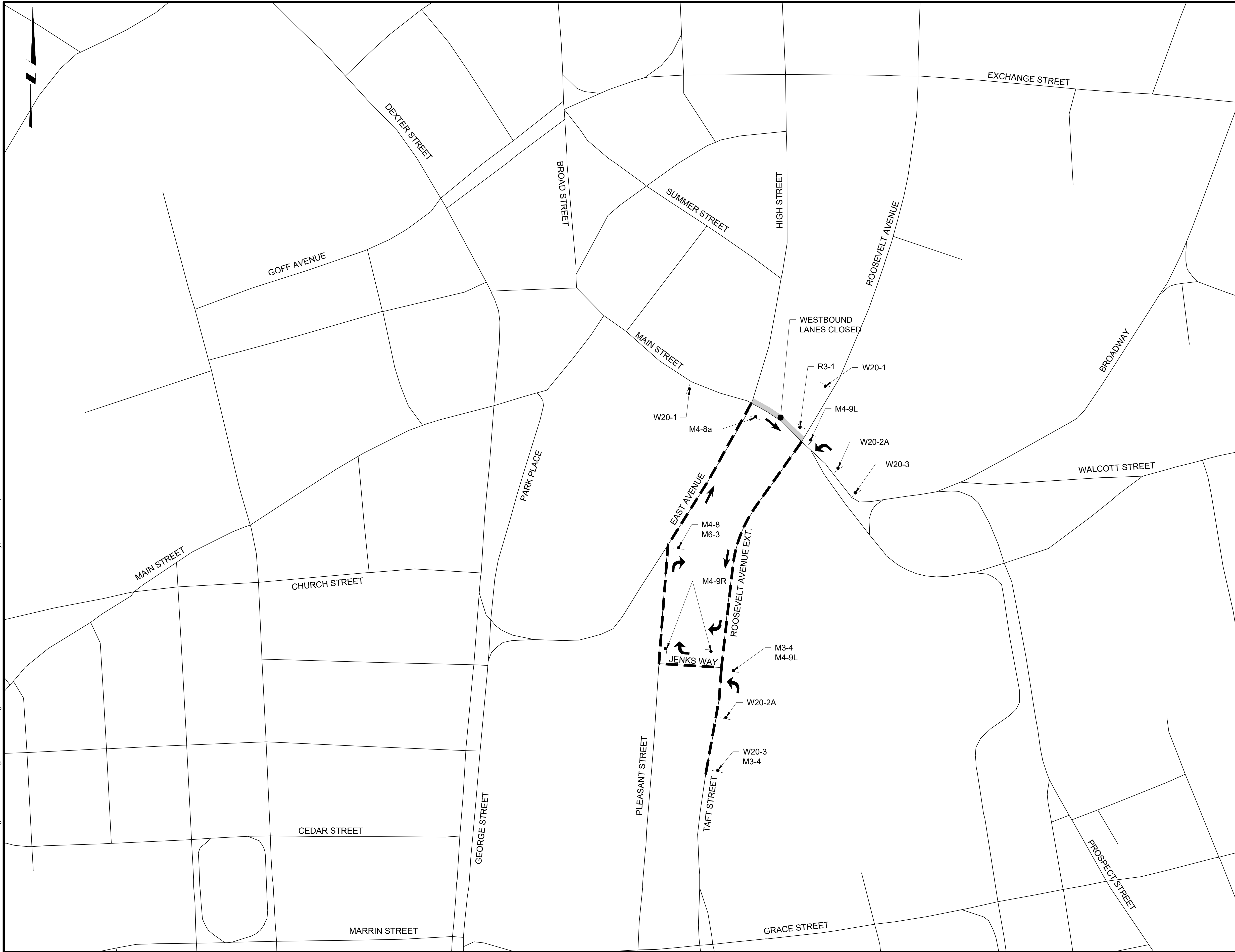
OF 210/213/214 FACILITIES
TRAFFIC MANAGEMENT PLAN III

SHEET
T-3
195130227

BY: JAIMIE PAYNE

PLOT DATE: Friday, November 12, 2021 3:49:52 PM

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Traffic Management\TMP_3.dwg



- GENERAL SHEET NOTES**
1. DETOUR ON THIS SHEET SHALL ONLY BE IMPLEMENTED FOR CLOSURE OF THE MAIN STREET WESTBOUND LANE BETWEEN EAST AVENUE AND ROOSEVELT AVENUE WHILE ALLOWING ONE-LANE MAIN STREET EASTBOUND TRAFFIC ALONG THIS SECTION OF MAIN STREET.
 2. THE TRAFFIC SIGNAL AT THE INTERSECTION OF MAIN STREET WITH ROOSEVELT AVENUE SHALL BE MODIFIED TO TEMPORARILY OMIT THE WESTBOUND SIGNAL PHASE DURING THE MAIN STREET WESTBOUND APPROACH CLOSURE.

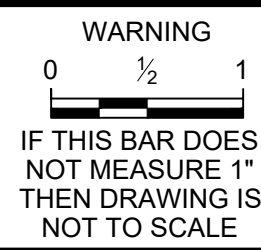
SHEET KEYNOTES

LEGEND

--- DETOUR ROUTE

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
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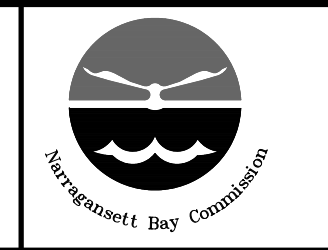


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DRAWN T. JOUBERT
CHECKED J. D'ALELIO

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
CIVIL

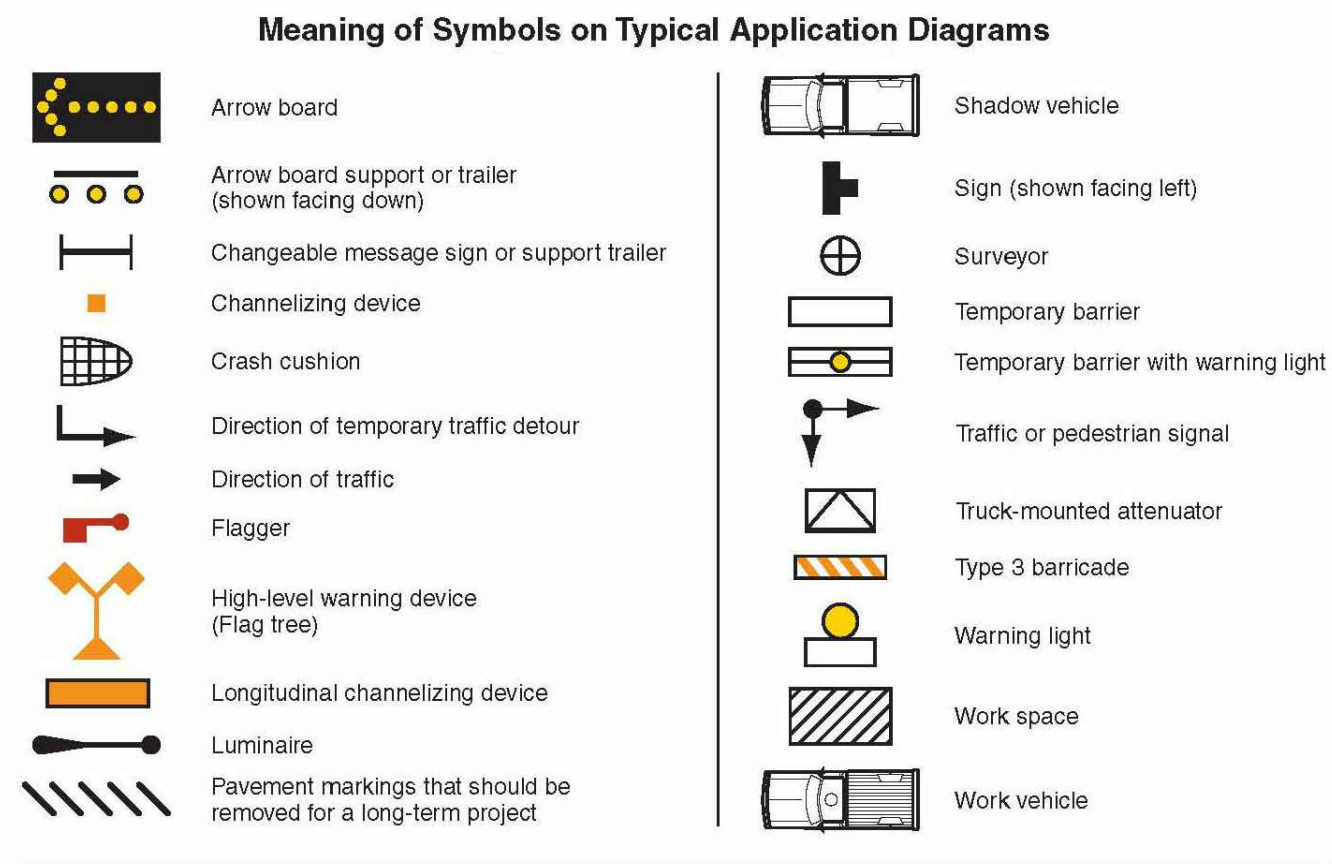
OF 210/213/214 FACILITIES
TRAFFIC MANAGEMENT PLAN IV

SHEET
T-4
195130227

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawings\Traffic Management\TMP DETAILS.dwg PLOT DATE: Friday, November 12, 2021 3:50:02 PM BY: JAIMIE PAYNE

DETOUR SIGN LEGEND

SIGN	DIMENSIONS	QUANTITY	
	D3-1	VARIES x 12 in.	6
	D3-2	VARIES x 12 in.	5
	D3-3	VARIES x 12 in.	5
	M3-4	24 in. x 12 in.	2
	M4-8a	24 in. x 18 in.	2
	M4-8	24 in. x 12 in.	2
	M4-9L	30 in. x 24 in.	5
	M4-9R	30 in. x 24 in.	6
	M6-3	21 in. x 15 in.	2
	R11-2	48 in. x 30 in.	1
	R3-1	24 in. x 24 in.	1
	R11-4	60 in. x 30 in.	3
	W20-1	36 in. x 36 in.	2
	W20-2a	36 in. x 36 in.	3
	W20-3	36 in. x 36 in.	2
	W20-4	36 in. x 36 in.	1

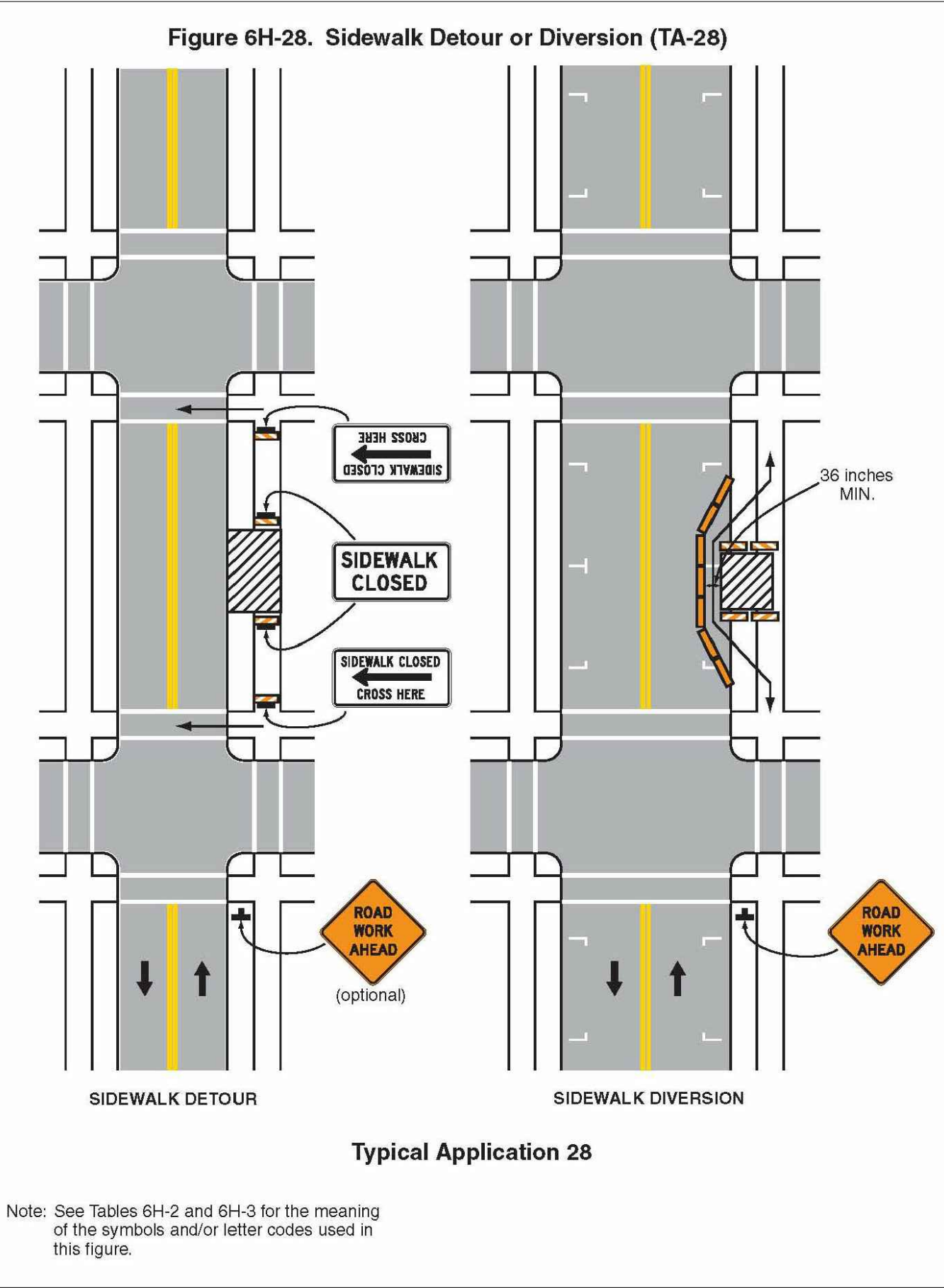
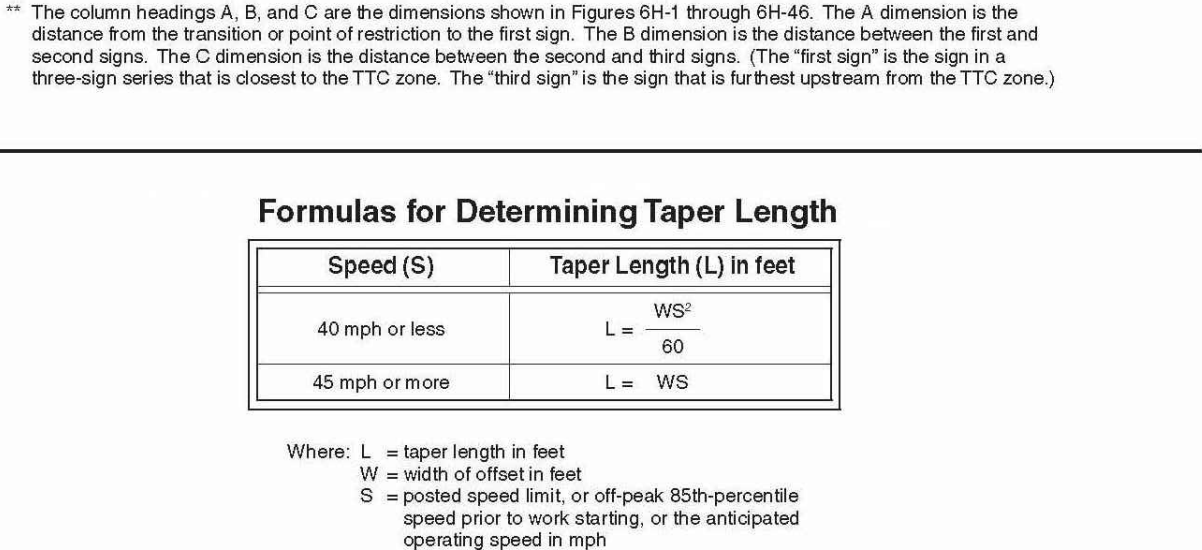


Meaning of Letter Codes on Typical Application Diagrams

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	100 feet	100 feet	100 feet
Urban (high speed)*	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

* Speed category to be determined by highway agency

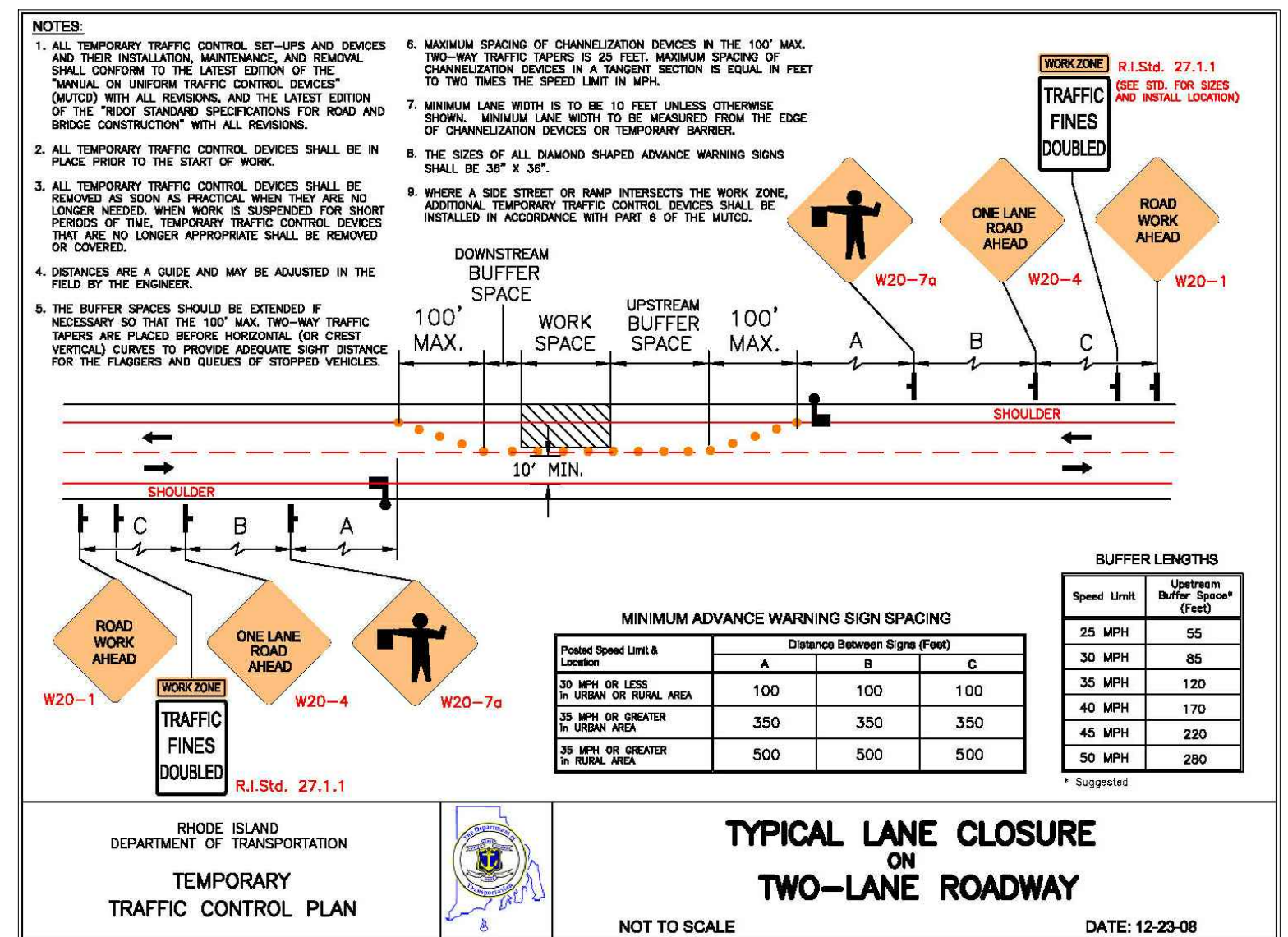
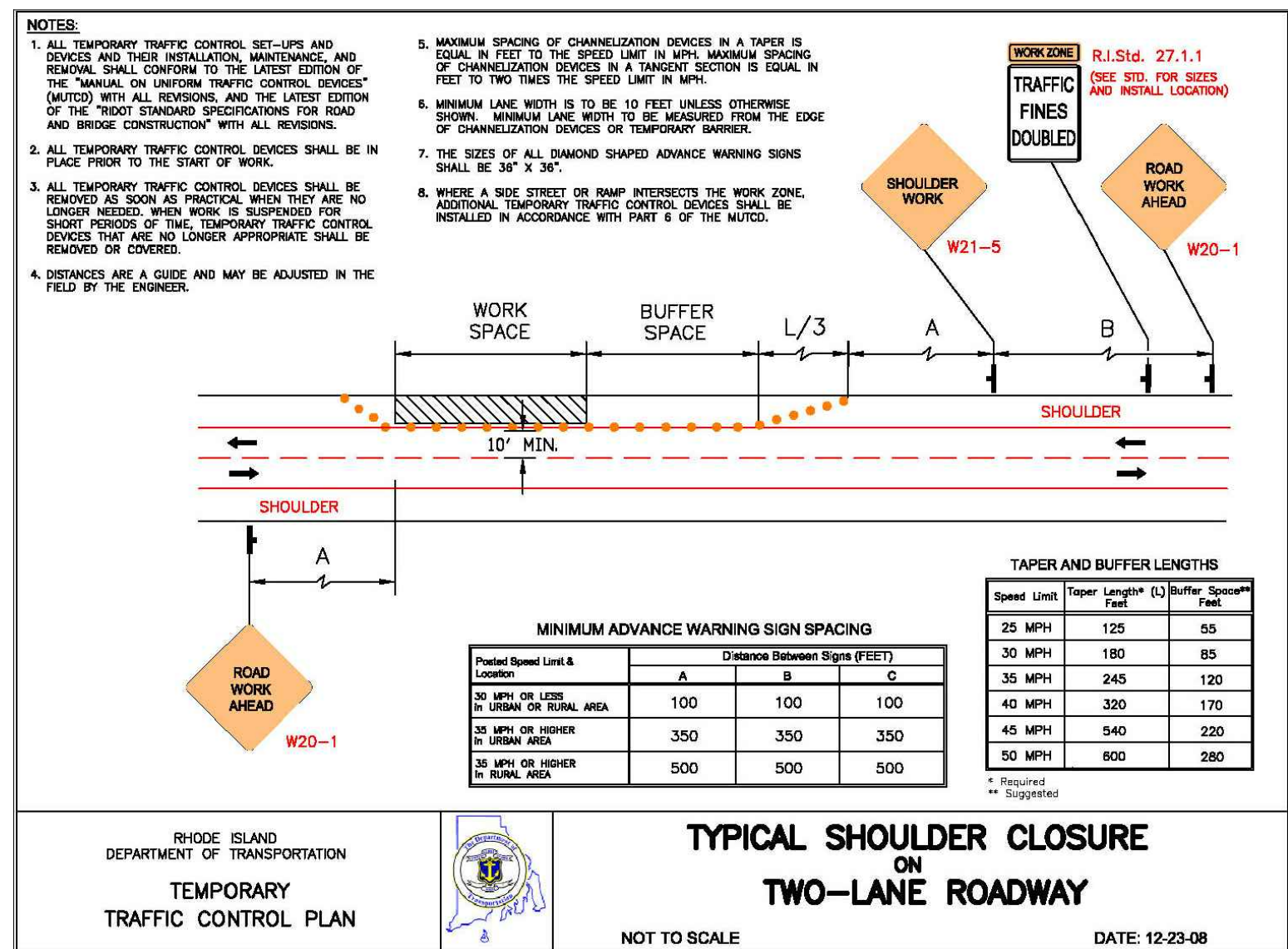
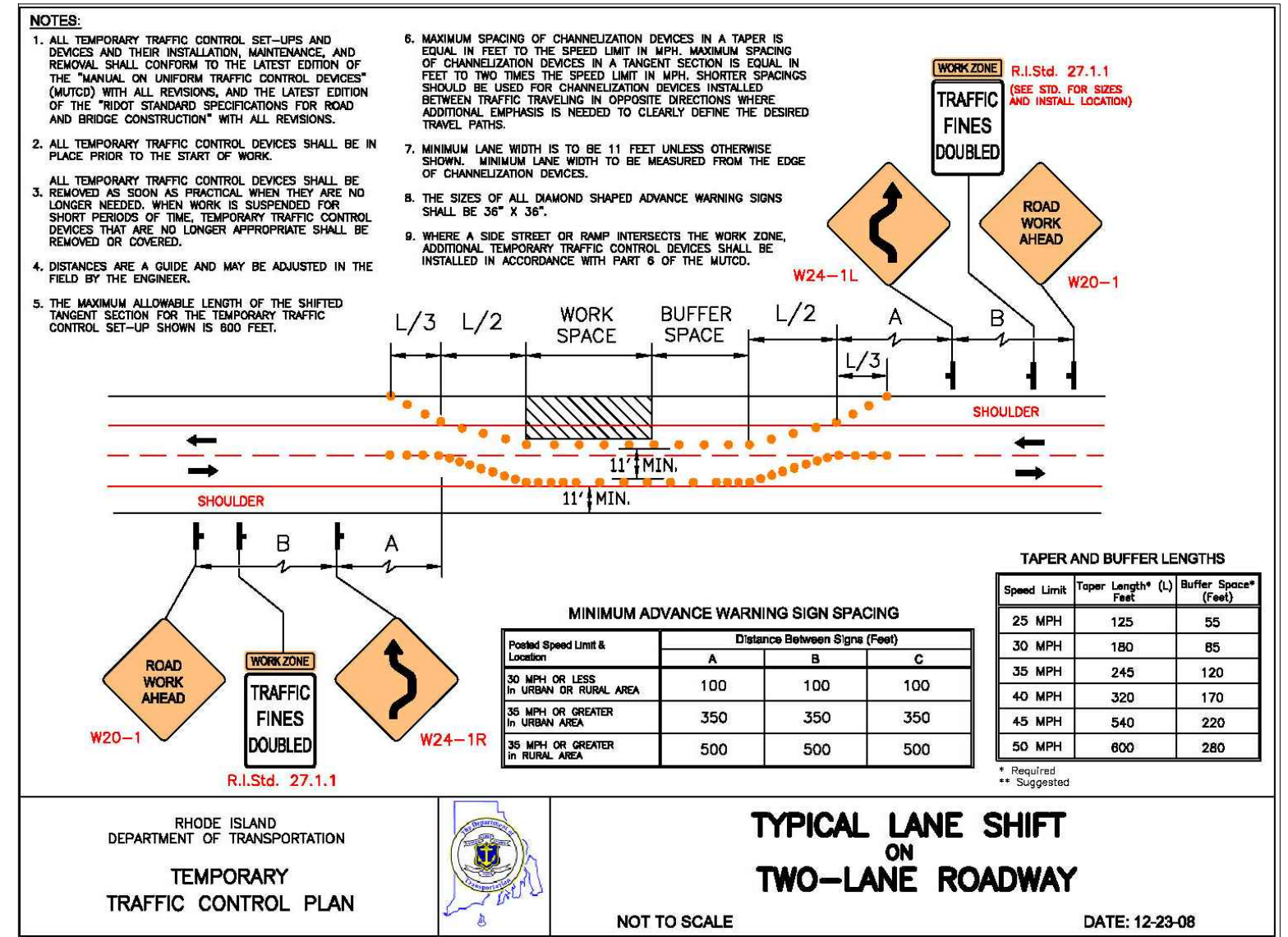
** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)



TEMPORARY TRAFFIC CONTROL GENERAL NOTES:

- ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS, CHANNELIZING DEVICES, ETC., SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
- ALL SIGN MOUNTINGS FOR TEMPORARY AND CONSTRUCTION SIGNS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T STANDARD SPECIFICATIONS, LATEST EDITION.
- THE CONTRACTOR SHALL COVER ALL EXISTING AND/OR TEMPORARY SIGNS THAT ARE NOT RELEVANT TO THE TRAFFIC CONTROL REQUIRED DURING ANY PARTICULAR STAGE OF THE CONTRACT.
- ADVANCE FLAGPERSON SIGNS (W20-7A) SHALL BE USED IN ADVANCE OF ANY POINT AT WHICH A FLAGPERSON OR A POLICE OFFICER HAS BEEN STATIONED TO CONTROL TRAFFIC. WHEN NEEDED, AN APPROPRIATE DISTANCE MESSAGE MAY BE DISPLAYED ON A SUPPLEMENTAL PLAQUE (24"x18") BELOW THE FLAGPERSON SYMBOL SIGN. THE SIGN SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE FLAGPERSON IS NOT AT THE STATION.
- POLICE OFFICERS (AND NOT FLAGPERSONS) SHALL BE UTILIZED WHEN WORK WILL IMPACT SIGNALIZED INTERSECTIONS AND LIMITED ACCESS HIGHWAYS.
- POLYETHYLENE DRUMS SHALL BE UTILIZED AS A CHANNELIZING DEVICE WHEN A TRAFFIC CONTROL SET-UP IS TO REMAIN BEYOND WORKING HOURS WHEN NO WORKERS ARE PRESENT. CONES SHALL BE UTILIZED WHEN A TRAFFIC CONTROL SET-UP IS TO REMAIN ONLY DURING WORKING HOURS AND IS SUBSEQUENTLY BROKEN DOWN AT THE END OF THE WORKDAY.
- ARROW PANELS SHALL BE SET IN THE FLASHING FOUR CORNERS CAUTION MODE UNLESS UTILIZED FOR A MERGING TAPER. ARROW PANELS SET IN THE FLASHING MODE SHALL NOT BE UTILIZED FOR LANE SHIFTS.
- TEMPORARY CONSTRUCTION SIGNS AND OTHER WORKZONE TRAFFIC CONTROL DEVICES THAT ARE DAMAGED OR REQUIRE RELOCATION SHALL BE REPLACED AND/OR RELOCATED UNDER THE APPROPRIATE PAY ITEM.
- THE PRIVATE VEHICLE OF CONSTRUCTION WORKERS SHALL NOT BE PARKED ON THE TRAVEL LANES OR SHOULDERS. THEY MAY BE PARKED WITHIN THE STATE AND/OR CITY RIGHT-OF-WAY ONLY IN AREAS 30' BEYOND THE OUTSIDE EDGE OF THE TRAVEL LANES AND/OR IN AREAS APPROVED BY THE ENGINEER.
- TEMPORARY CONSTRUCTION SIGNS AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC, AND SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER APPROPRIATE.
- THE INTENDED VEHICLE PATHS THROUGH EACH WORK ZONE SHALL BE CLEARLY MARKED AT ALL TIMES. WATERBORNE PAVEMENT MARKINGS SHALL BE INSTALLED BEFORE THE END OF THE WORK SHIFT ON ALL COLD-PLANNED AND NEW ROADWAY SURFACES THAT WILL BE OPENED TO TRAFFIC AT THE END OF THE SHIFT.
- THE CONTRACTOR SHALL NOTIFY EACH ADJUTTER AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE TEMPORARY INTERFERENCE WITH OR CLOSURE OF ACCESS.
- ONE SIDEWALK SHALL REMAIN OPEN AT ALL TIMES ALONG ROOSEVELT AVENUE EXTENSION AND TAFT STREET.

KEY PLAN



REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	WARNING	DESIGNED	90% DESIGN PHASE - NOVEMBER 2021
NO SCALE		H. PERALTA	NOT FOR CONSTRUCTION
	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	T. JOUBERT	This document is an interim document and not suitable for construction. As an interim document, it may contain data that is potentially inaccurate or incomplete and is not to be relied upon without the express written consent of the preparer.
		J. D'ALESEO	

		NARRAGANSETT BAY COMMISSION PHASE III COMBINED SEWER OVERFLOW PROGRAM	NBC CONTRACT NO 308.04C TRAFFIC	SHEET
www.BETA-Inc.com			OF-217 CONSOLIDATION CONDUIT TEMPORARY TRAFFIC CONTROL DETAILS	T-5
				195130227

STRUCTURAL NOTES (NEAR SURFACE STRUCTURES):

FOUNDATIONS

1. PROVIDE AND INSTALL STRUCTURAL FILL, AS SPECIFIED, UNDER ALL SLABS AND FOOTINGS TO UNDISTURBED EARTH WITH A MINIMUM THICKNESS OF 12" UNLESS NOTED OTHERWISE.
2. NO BACKFILL SHALL BE PLACED AGAINST WALLS UNTIL WALLS AND SLABS SUPPORTED THEREON HAVE ATTAINED DESIGN STRENGTH.
3. SEE CIVIL AND ELECTRICAL DRAWINGS FOR REGLECTS, PIPE SLEEVES, CONDUITS, OR OTHER ITEMS TO BE EMBEDDED OR PASSED THROUGH THE CONCRETE.
4. LOADS:

VERTICAL LOADS:
 EARTH PRESSURE: FOR GROUND PROPERTIES, SEE SHEET B-5
 TOP SLAB LIVE LOAD: HS-20 OR 250 PSF

LATERAL LOADS:
 AT-REST EARTH PRESSURE: FOR GROUND PROPERTIES, SEE SHEET B-5
 LIVE LOAD SURCHARGE: SEE NOTE B3 ON SHEET B-6

MAXIMUM CONSIDERED EARTHQUAKE (MCE) GROUND MOTION	VALUE*
SPECTRAL RESPONSE ACCELERATION, SHORT PERIOD - S_s	0.201g
SPECTRAL RESPONSE ACCELERATION AT 1.0 SEC - S_1	0.056g
SITE COEFFICIENT - F_a	1.6
SITE COEFFICIENT - F_v	2.4
SITE-MODIFIED SPECTRAL RESPONSE ACCELERATION, SHORT PERIOD - S_{MS}	0.322g
SITE-MODIFIED SPECTRAL RESPONSE ACCELERATION AT 1.0 SEC - S_{M1}	0.314g
DESIGN EARTHQUAKE GROUND MOTION	
SHORT PERIOD SPECTRAL RESPONSE - S_{DS}	0.214g
ONE SECOND SPECTRAL RESPONSE - S_{D1}	0.089g
SITE-MODIFIED PEAK GROUND ACCELERATION - PGA_M	0.175g
PEAK GROUND VELOCITY AT SURFACE - PGV^{**} (IN/SEC)	5.11
NOTES:	
THESE PARAMETERS ARE ESTIMATED FOR THE SITE CLASS D (STIFF SOIL) IN THE RISK CATEGORY III	
* ESTIMATED BASED ON ASCE/SEI AND NEHRP-2015	
** PGV VALUE IS THE MEAN PLUS ONE STANDARD DEVIATION VALUE AS PER (NHI, 2010)	

CONCRETE - GENERAL

1. ALL REINFORCED CONCRETE DESIGN SHALL COMPLY WITH THE LATEST EDITION OF ACI 350 ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES CODE AND COMMENTARY, UNLESS NOTED OTHERWISE.
2. CONCRETE PROPORTIONING, MIXING, TRANSPORTING, PLACING, AND CURING SHALL BE PER ACI-301, UNLESS NOTED OTHERWISE.
3. UNLESS NOTED OTHERWISE, CONCRETE SURFACES SHALL CONFORM TO TOLERANCE LIMITS PER ACI-117.
4. CONCRETE SHALL HAVE THE FOLLOWING SPECIFIED COMPRESSIVE STRENGTH, f_c , AT 28 DAYS:

BACKFILL CONCRETE AND BACKFILL GROUT	2,000 PSI
CONTROLLED LOW STRENGTH MATERIAL (CLSM)	200 TO 500 PSI
NEAR SURFACE STRUCTURES CAST-IN-PLACE CONCRETE	5,000 PSI
WORKING SLABS AND CONCRETE FILL	4,000 PSI
5. REINFORCING STEEL SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60 AND SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A1094.
6. REINFORCING STEEL FABRICATION SHALL BE IN CONFORMANCE WITH CRSI MANUAL OF STANDARD PRACTICE.

7. SPLICED BARS SHALL HAVE A MINIMUM LAP OF CLASS B TENSION LAP SPLICE UNLESS NOTED OTHERWISE.
8. REINFORCEMENT DETAILS SHALL CONFORM TO THE REQUIREMENTS OF THE ACI DETAILING MANUAL (MNL-66) UNLESS NOTED OTHERWISE. AT LOCATIONS WHERE SPLICES AND EMBEDMENT LENGTHS ARE NOT GIVEN ON THE DRAWINGS, THEY SHALL BE PRESUMED TO BE IN TENSION AND SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF ACI-350.
9. SPACING OF REINFORCING BARS SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF ACI-350.
10. MECHANICAL COUPLERS FOR REINFORCING BARS SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF ACI-350.
11. PROVIDE BAR SUPPORTS, SPACERS, AND ACCESSORIES RECOMMENDED IN THE LATEST EDITION OF THE ACI DETAILING MANUAL (MNL-66). ALL ACCESSORIES IN CONTACT WITH EXPOSED SURFACES SHALL BE PROTECTIVE-COATED.
12. CONSTRUCTION JOINTS AND REINFORCING STEEL SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE DRAWINGS. OPTIONAL HORIZONTAL OR VERTICAL CONSTRUCTION JOINTS MAY BE PROPOSED BY THE CONTRACTOR SUBJECT TO REVIEW AND APPROVAL BY THE PM. ALL REINFORCING SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
13. ALL BENDS SHALL BE 90 DEGREES STANDARD HOOK AS DEFINED IN THE LATEST EDITION OF ACI 350, UNLESS INDICATED OTHERWISE.

CONCRETE - NEAR SURFACE STRUCTURES

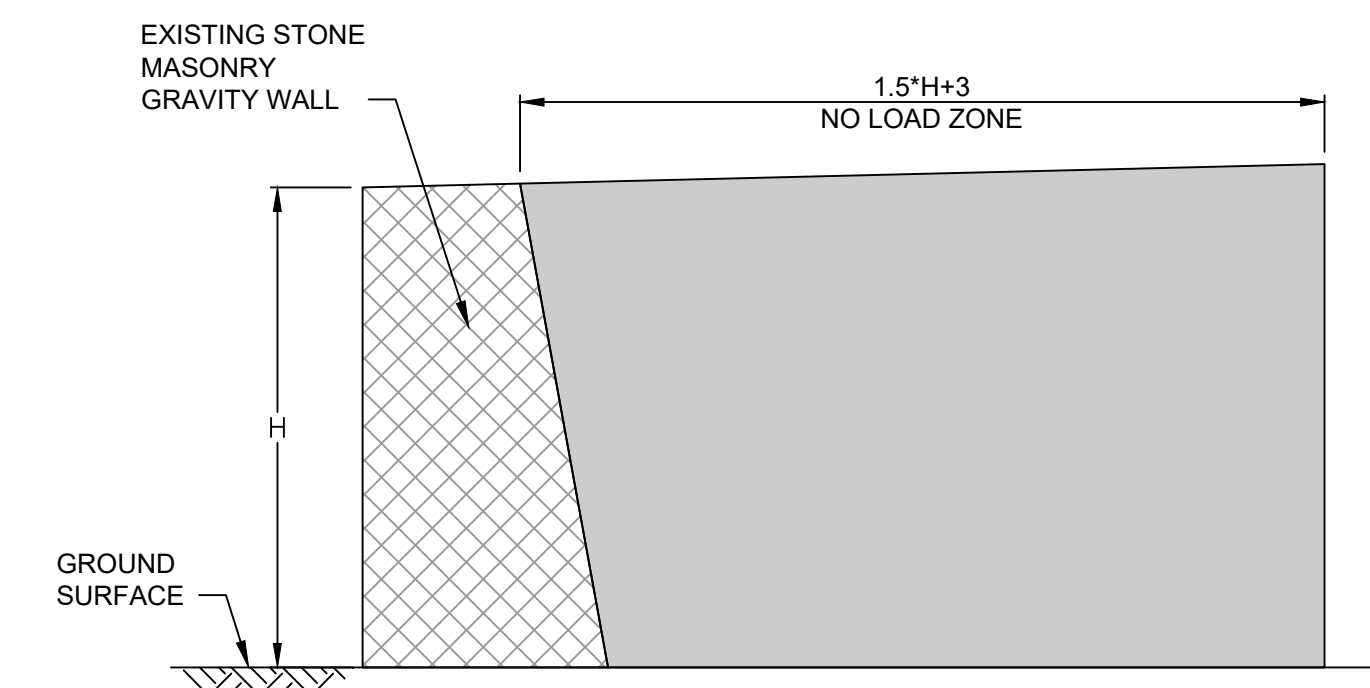
1. ALL LIQUID CONTAINING NEAR SURFACE STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 350.
2. MINIMUM CONCRETE CLEAR COVER FOR REINFORCING STEEL IN FORMED CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
 - CONCRETE CAST AGAINST EARTH OR ROCK: 3"
 - ALL OTHER CONCRETE SURFACES: 2"
3. WHERE REINFORCING STEEL AROUND OPENINGS CANNOT BE EXTENDED TO LENGTHS SHOWN ON THE DRAWINGS, EQUIVALENT HOOKS SHALL BE PROVIDED.
4. FOR CONCRETE FILL, PLACE CONSTRUCTION JOINTS AT THE SAME LOCATIONS AS THE CONSTRUCTION JOINTS IN THE SUPPORTING CONCRETE.
5. AIR-ENTRAIN ALL CONCRETE.
6. SET AND TIE ALL REINFORCEMENT BEFORE PLACING CONCRETE. SETTING DOWELS AND REINFORCEMENT INTO WET CONCRETE IS PROHIBITED.
7. CAST ALTERNATE SECTIONS OF ALL CONCRETE FOUNDATIONS, BASE SLABS, WALLS, FLOORS, AND ROOFS IN ORDER TO MINIMIZE SHRINKAGE. CAST ADJACENT SECTIONS WHEN PREVIOUSLY PLACED SECTIONS HAVE CURED FOR 48 HOURS AFTER THE INITIAL SET.
8. PROVIDE PVC WATERSTOPS IN ALL JOINTS WHERE INDICATED ON THE DRAWINGS. THE WATERSTOPS SHALL BE PLACED CONTINUOUSLY THROUGHOUT THE LENGTH OF CONSTRUCTION JOINTS. LAPPING OF WATERSTOPS SHALL NOT BE PERMITTED. SPLICING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
9. PROVIDE THE FOLLOWING PVC WATERSTOPS:
 - EXPANSION JOINTS:
SIKA 9" RIBBED CENTER BULB PROFILE NO. 735 OR APPROVED EQUAL.
 - CONSTRUCTION JOINTS:
SIKA 6" FLAT RIBBED PROFILE NO. 679 OR APPROVED EQUAL.
10. SECURELY POSITION WATERSTOPS WITH WIRE TIE TO REINFORCING WITHIN FORMS TO PREVENT DEFLECTION OR MISALIGNMENT DURING CONCRETE PLACEMENT.
11. WET STICKING OF WATERSTOPS IS NOT PERMITTED.
12. PROTECT EXISTING WATERSTOPS DURING GREEN CUTTING OF CONSTRUCTION JOINTS.

13. GREEN CUT SURFACE OF CONSTRUCTION JOINTS TO REMOVE LAITANCE AND UNIFORMLY EXPOSE AGGREGATE PRIOR TO PLACEMENT OF SUBSEQUENT CONCRETE.
14. ALL EXPOSED CONCRETE CORNERS SHALL BE FORMED TO PROVIDE 3/4" CHAMFERS UNLESS NOTED OTHERWISE.

WATERPROOFING

1. INSTALL BENTONITE GEOTEXTILE WATERPROOFING TO EXTERIOR OF CAST-IN-PLACE STRUCTURES INCLUDING THE GSS, APPROACH CHANNEL, JUNCTION CHAMBER, OF-213 AND OF-214. USE CETCO VOLTEX DS OR APPROVED ALTERNATE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
2. PROTECT WATERPROOFING FROM DAMAGE WHEN REMOVING SOE WALLS TO DEPTH SPECIFIED BELOW FINAL GRADE.
3. PROTECT WATERPROOFING AT HORIZONTAL SURFACES FROM DAMAGE WHEN PLACING CONCRETE OVER AND BACKFILLING OVER.

STONE MASONRY GRAVITY WALL

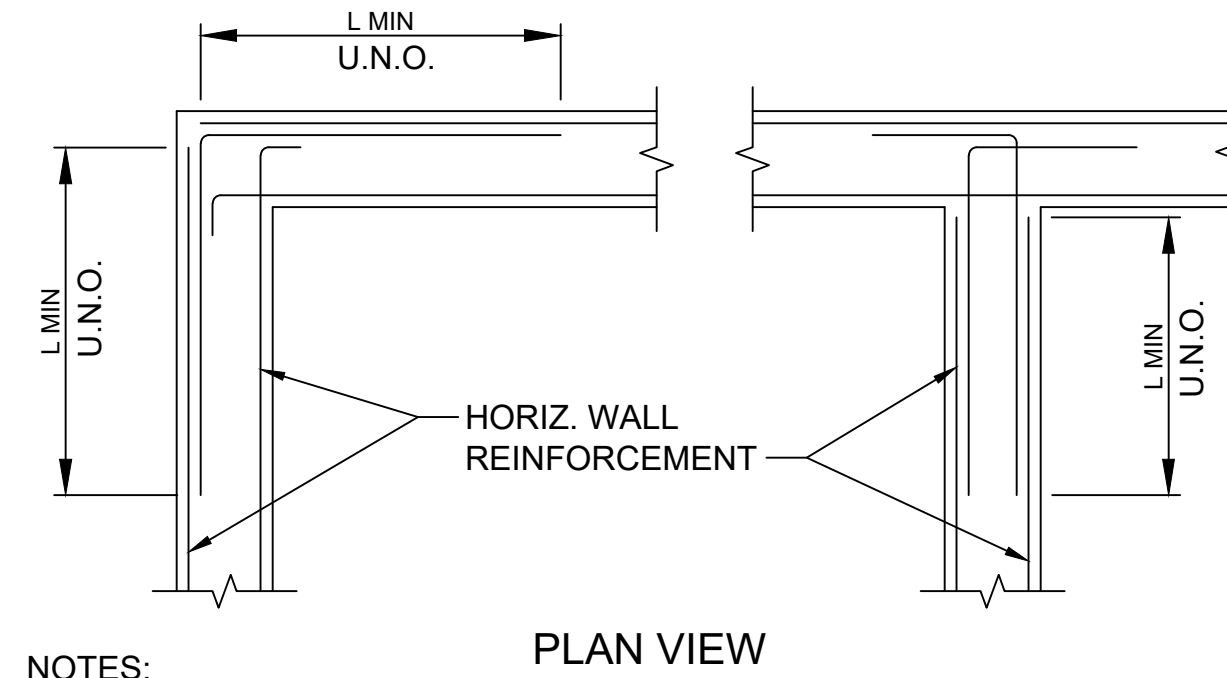


1. THE CONTRACTOR IS PROHIBITED FROM LOADING THE EXISTING STONE MASONRY GRAVITY WALL WITHIN THE NO LOAD ZONE.
2. CONTRACTOR SOE SYSTEM(S) LOCATED WITHIN THE NO LOAD ZONE SHALL BE DESIGNED TO SUPPORT CONSTRUCTION RELATED LOADING SUCH THAT THEY DO NOT EXERT LATERAL PRESSURE ON THE EXISTING STONE MASONRY GRAVITY WALL.
3. CONTRACTOR SOE SYSTEM(S) LOCATED WITHIN THE NO LOAD ZONE SHALL BE DESIGNED WITH DECKING SYSTEMS TO SUPPORT EQUIPMENT AND MATERIALS.
4. THE CONTRACTOR MAY CHOOSE TO INSTALL A RAKER SYSTEM TO PROVIDE ADDITIONAL LATERAL SUPPORT TO THE STONE MASONRY GRAVITY WALL AT THE PARKING LOT BETWEEN PIPE ALIGNMENT STATIONS 3+00 AND 5+00.

REINFORCING BAR DEVELOPMENT AND SPLICE LENGTHS FOR $f'c \geq 5,000$ PSI AND $f_y=60$ KSI					
BAR SIZE	TENSION DEVELOPMENT		CLASS "B" SPLICE		STD. 90 DEG. HOOK
	TOP BAR	OTHER BAR	TOP BAR	OTHER BAR	EMBED.
	Ldt (in.)	Ldo (in.)	Lbt (in.)	Lbo (in.)	Ldh (in.)
#3	17.0	13.0	22.0	17.0	6.0
#4	22.0	17.0	29.0	22.0	8.0
#5	28.0	21.0	36.0	28.0	11.0
#6	33.0	25.0	43.0	33.0	13.0
#7	48.0	37.0	62.0	48.0	15.0
#8	55.0	42.0	72.0	55.0	17.0
#9	62.0	48.0	81.0	62.0	19.0
#10	70.0	54.0	91.0	70.0	22.0
#11	78.0	60.0	101.0	78.0	24.0

NOTES:

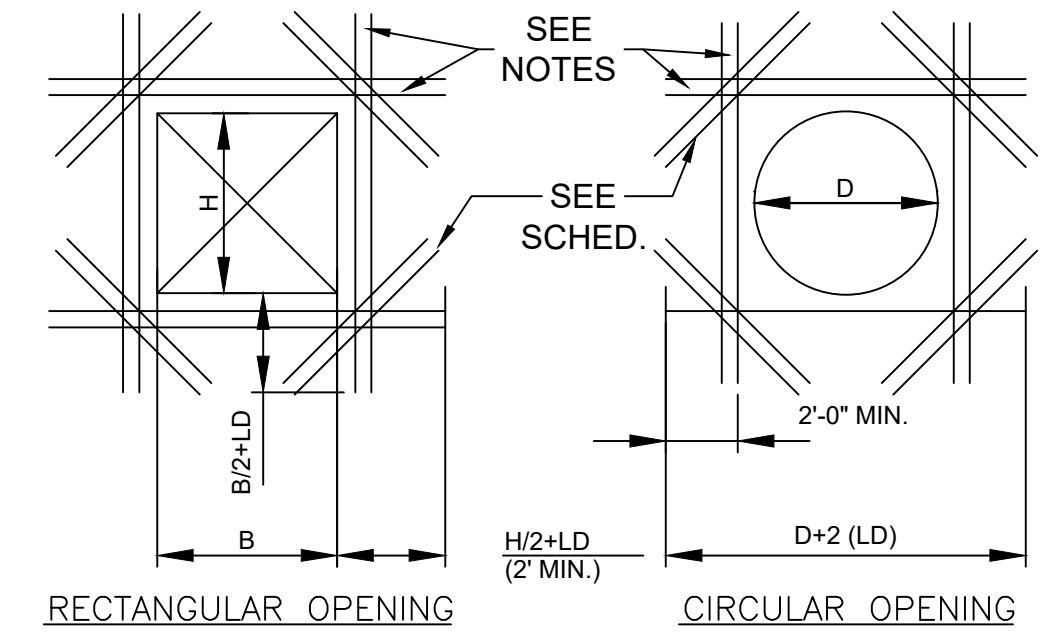
- STRAIGHT DEVELOPMENT AND CLASS "B" SPLICE LENGTHS SHOWN IN ABOVE TABLE ARE BASED ON UNCOATED BARS ASSUMING CENTER-TO-CENTER BAR SPACING $\leq 6"$ WITHOUT TIES OR STIRRUPS AND BAR CLEAR COVER = 3".
- NORMAL WEIGHT CONCRETE WITH NO TRANSVERSE REINFORCING ARE BOTH ASSUMED. NO EXCESS REINFORCING IS ASSUMED.
- STANDARD 90 DEG. HOOK EMBEDMENT LENGTHS ARE BASED ON BAR SIDE COVER = 3" AND BAR END COVER = 3" WITHOUT TIES AROUND HOOK.
- FOR ALL OTHER CASES, REFER TO CODE ACI 318-14.
- A TOP BAR IS A HORIZONTAL BAR WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW IT.



NOTES:

- MINIMUM BEND LENGTH = 12 BAR DIAMETERS.
- CORNER BARS MAY BE AN EXTENSION OF THE WALL REINF AT THE OPTION OF THE CONTRACTOR.
- L = THE LAP LENGTH OF THE SMALLER BAR OR THE DEVELOPMENT LENGTH OF THE LARGER BAR WHICHEVER IS GREATER.
- VERTICAL WALL REINFORCEMENT NOT SHOWN.
- SEE PLANS AND DETAILS FOR HORIZONTAL AND VERTICAL REINFORCEMENT

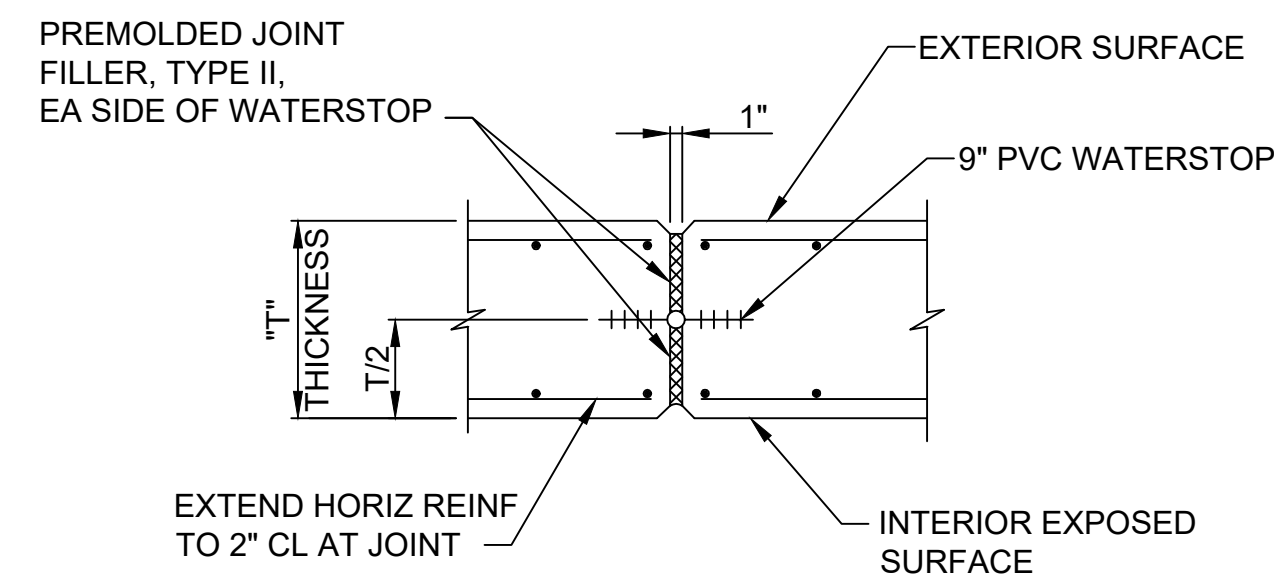
STANDARD HORIZONTAL CORNERS AND "T" WALL REINFORCEMENT DETAILS



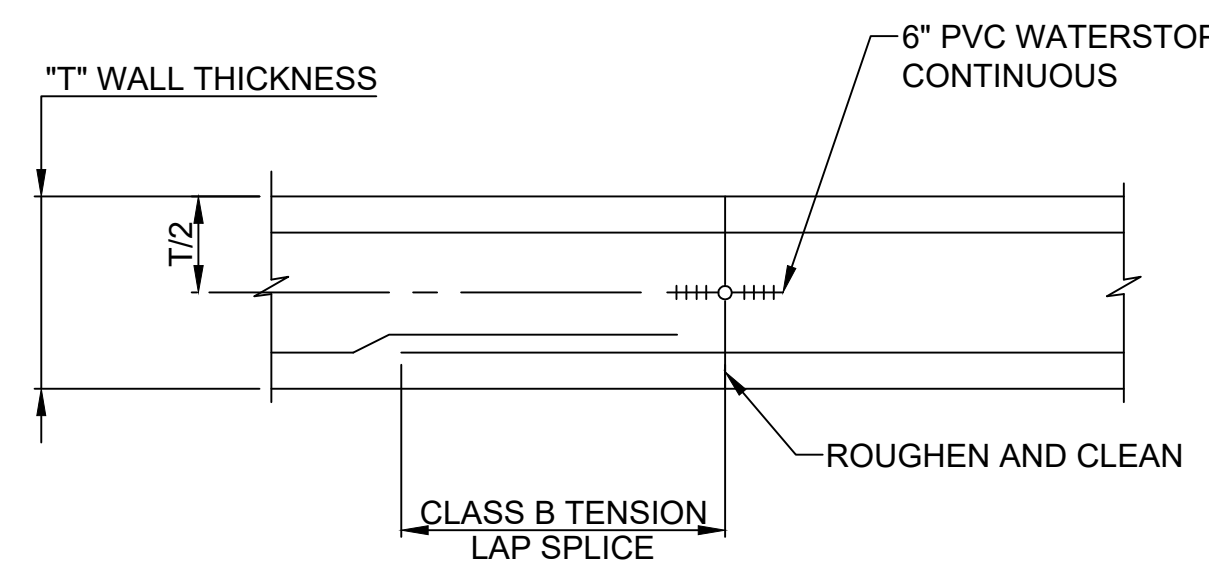
NOTES:

- THESE DETAILS APPLY TO ALL OPENINGS WHERE REINFORCEMENT IS INTERSECTED IN CAST-IN-PLACE CONCRETE WALLS OR SLABS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- THE AREA OF ADDITIONAL REINFORCEMENT REQUIRED IN EACH FACE ON EACH SIDE OF THE OPENING SHALL BE A MINIMUM OF 50% OF THE AREA OF BARS CUT IN EACH FACE IN EACH DIRECTION, RESPECTIVELY.
- LD=DEVELOPMENT LENGTH, REFER TO TABLE THIS SHEET.

REINFORCING AROUND OPENINGS IN CAST-IN-PLACE CONCRETE



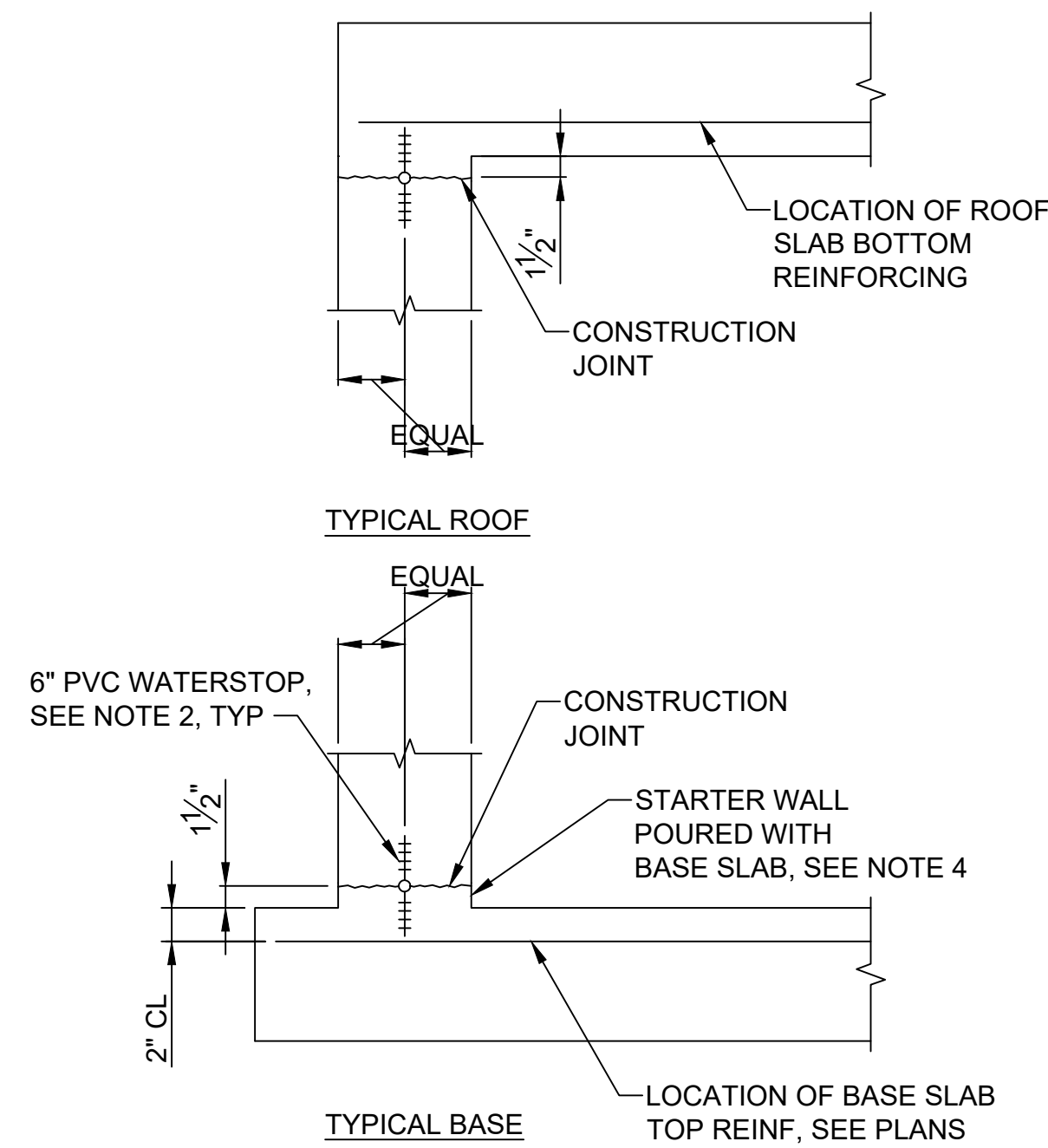
SLAB EXPANSION JOINT DETAIL
NTS



NOTES:

- ALL REINFORCING CONTINUOUS ACROSS JOINT.

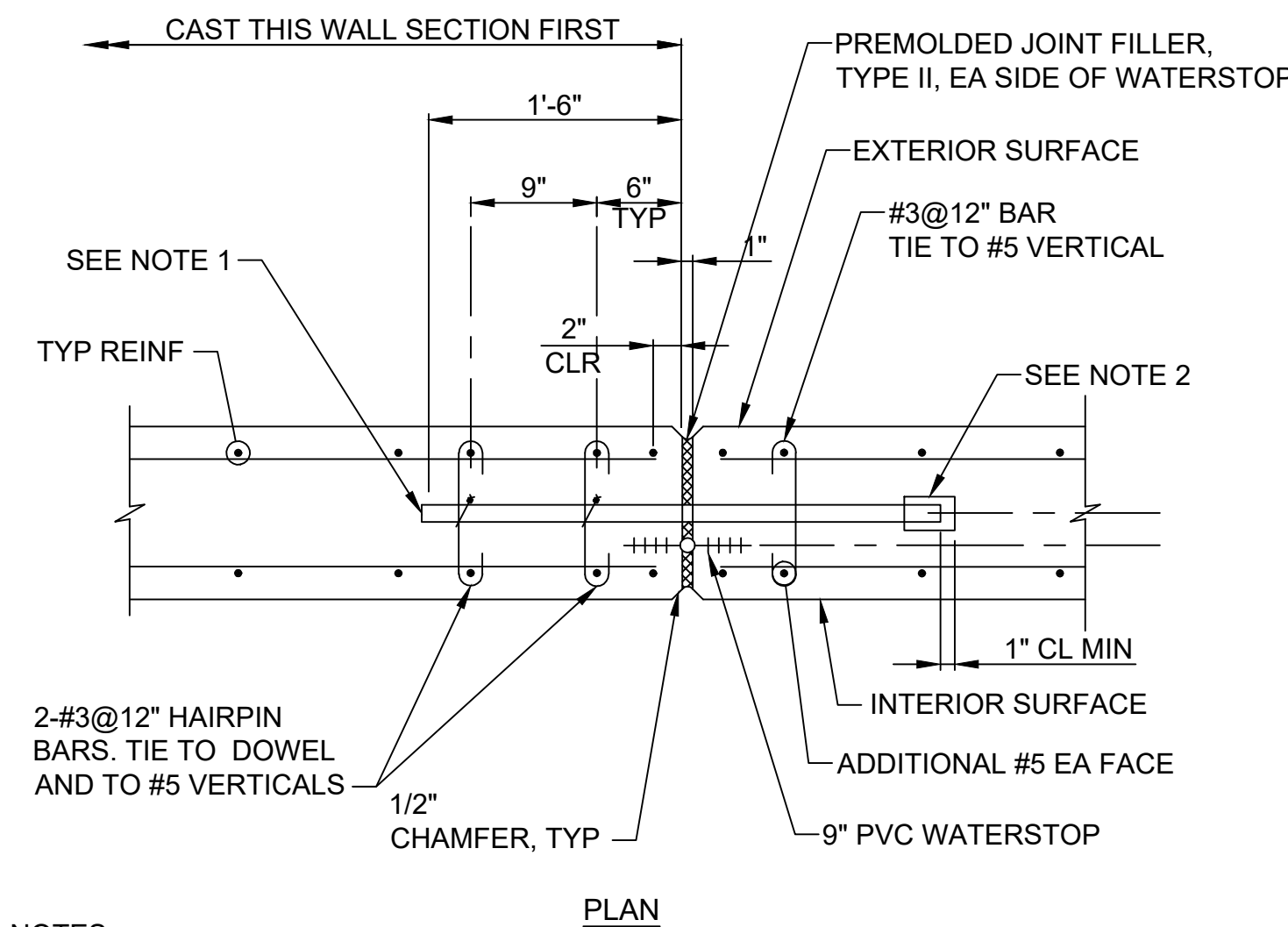
WALL VERTICAL CONSTRUCTION JOINT DETAIL (SLAB CONSTRUCTION SIMILAR)
NTS



NOTES:

- STARTER WALL REQUIRED FOR ALL CONSTRUCTION JOINTS WITH WATERSTOPS, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- FOR WALLS WITH SINGLE MAT OF REINFORCING LOCATE WATERSTOP ON LIQUID FACE, 1" CLEAR OF REINFORCING.
- SECURE WATERSTOP IN-PLACE AS SPECIFIED.

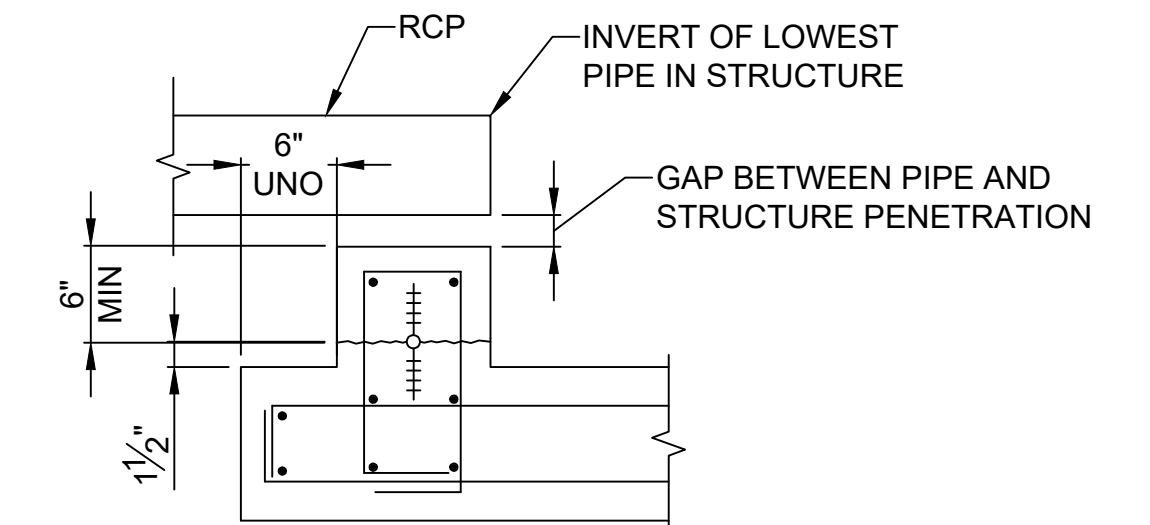
WALL CONSTRUCTION JOINT DETAIL
NTS



NOTES:

- 1" DIA x 3'-0" SMOOTH ASTM A36 STEEL BAR DOWELS AT 2'-0" ON CENTER. LUBRICATE HALF OF DOWEL WHICH EXTENDS INTO SECOND CONCRETE PLACEMENT.
- 1" ID x 5" PLASTIC EXPANSION CAP WITH 1" POLYSTYRENE BETWEEN END OF DOWEL AND END CAP. TAPE TO BAR FOR WATERTIGHT SEAL.

WALL VERTICAL EXPANSION JOINT DETAIL
NTS



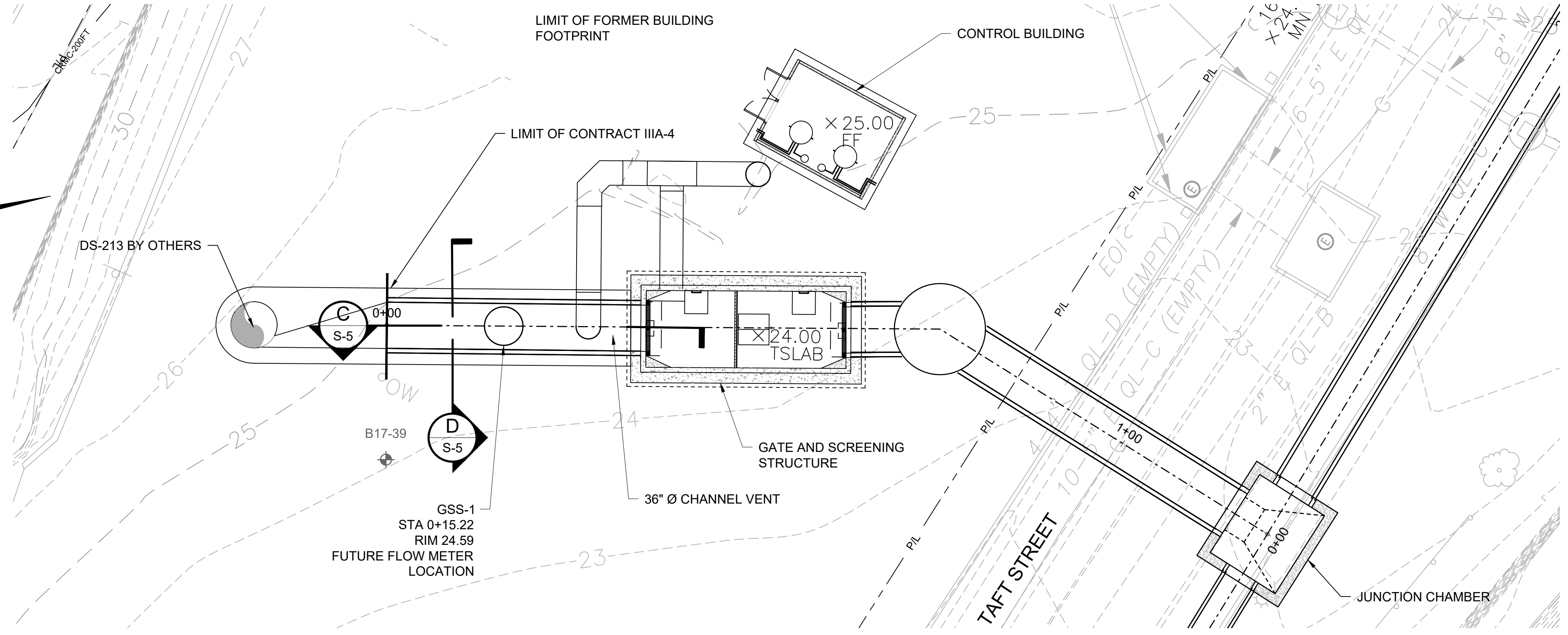
LOWEST PIPE PENETRATION DETAIL
NTS

BY: JAIMIE PAYNE

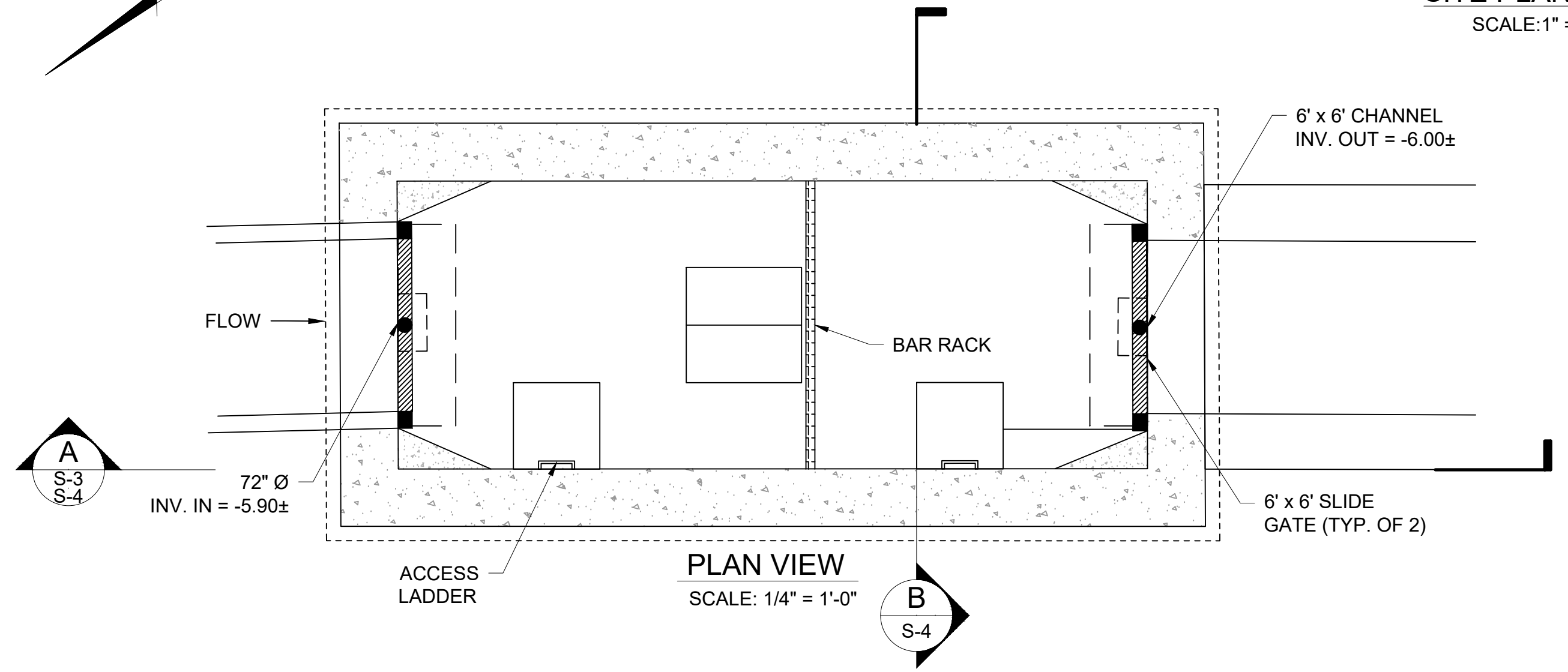
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GENERAL SHEET NOTES

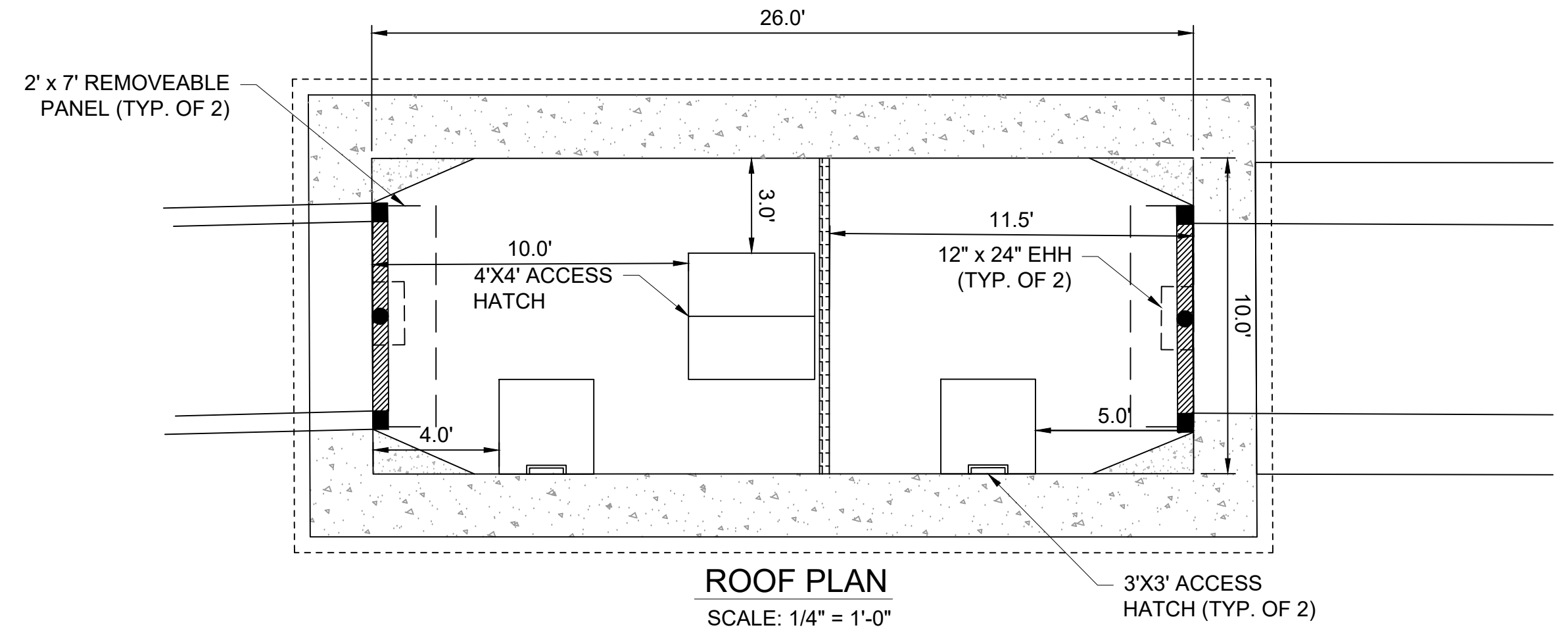
1. VERTICAL DATUM FOR PROJECT IS NGVD29.



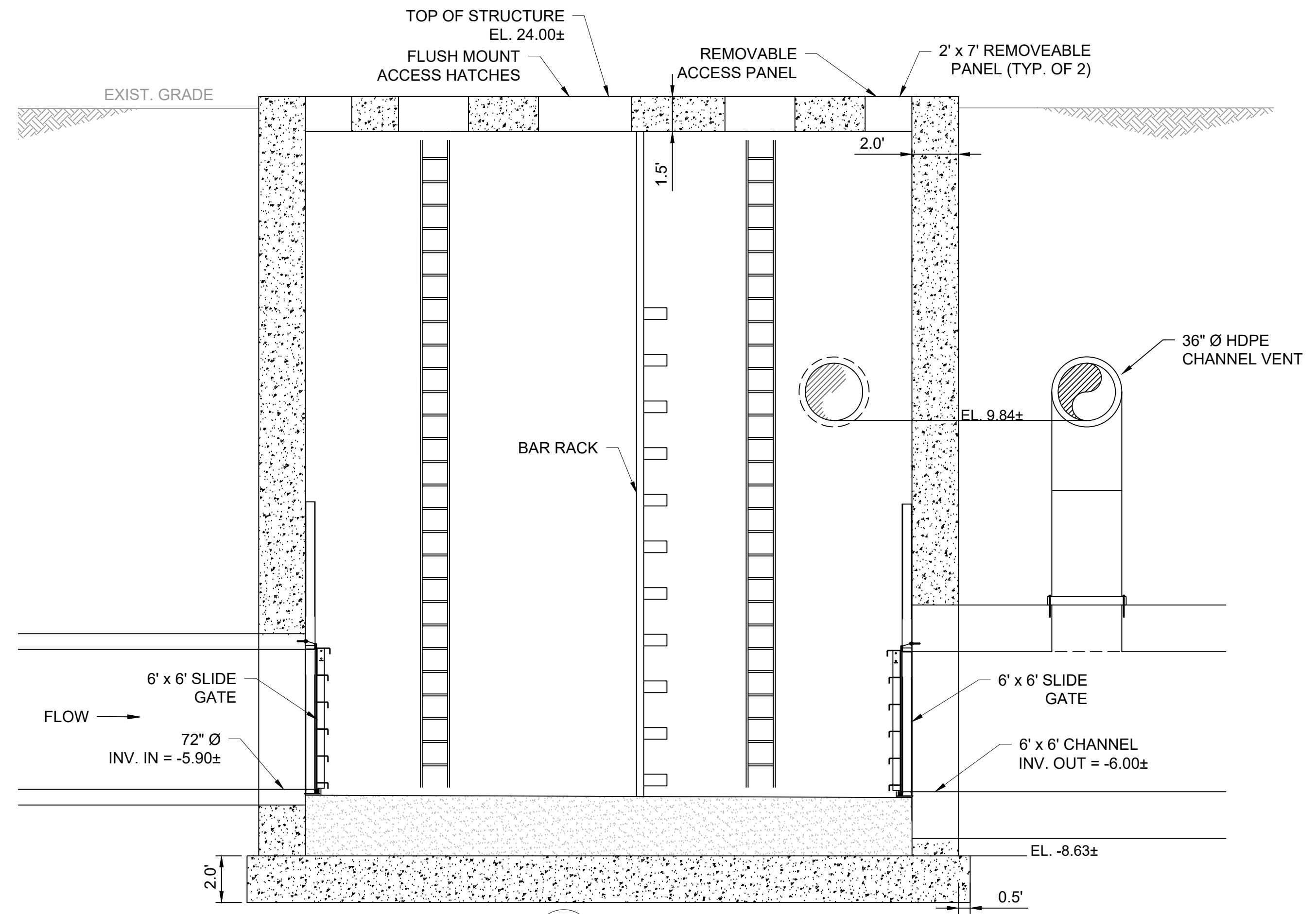
SITE PLAN VIEW
SCALE: 1" = 10'



PLAN VIEW
SCALE: 1/4" = 1'-0"



ROOF PLAN
SCALE: 1/4" = 1'-0"



A SECTION
S-3 SCALE: 1/4" = 1'-0"

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	C. CRONIN
DRAWN	J. PAYNE
CHECKED	J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

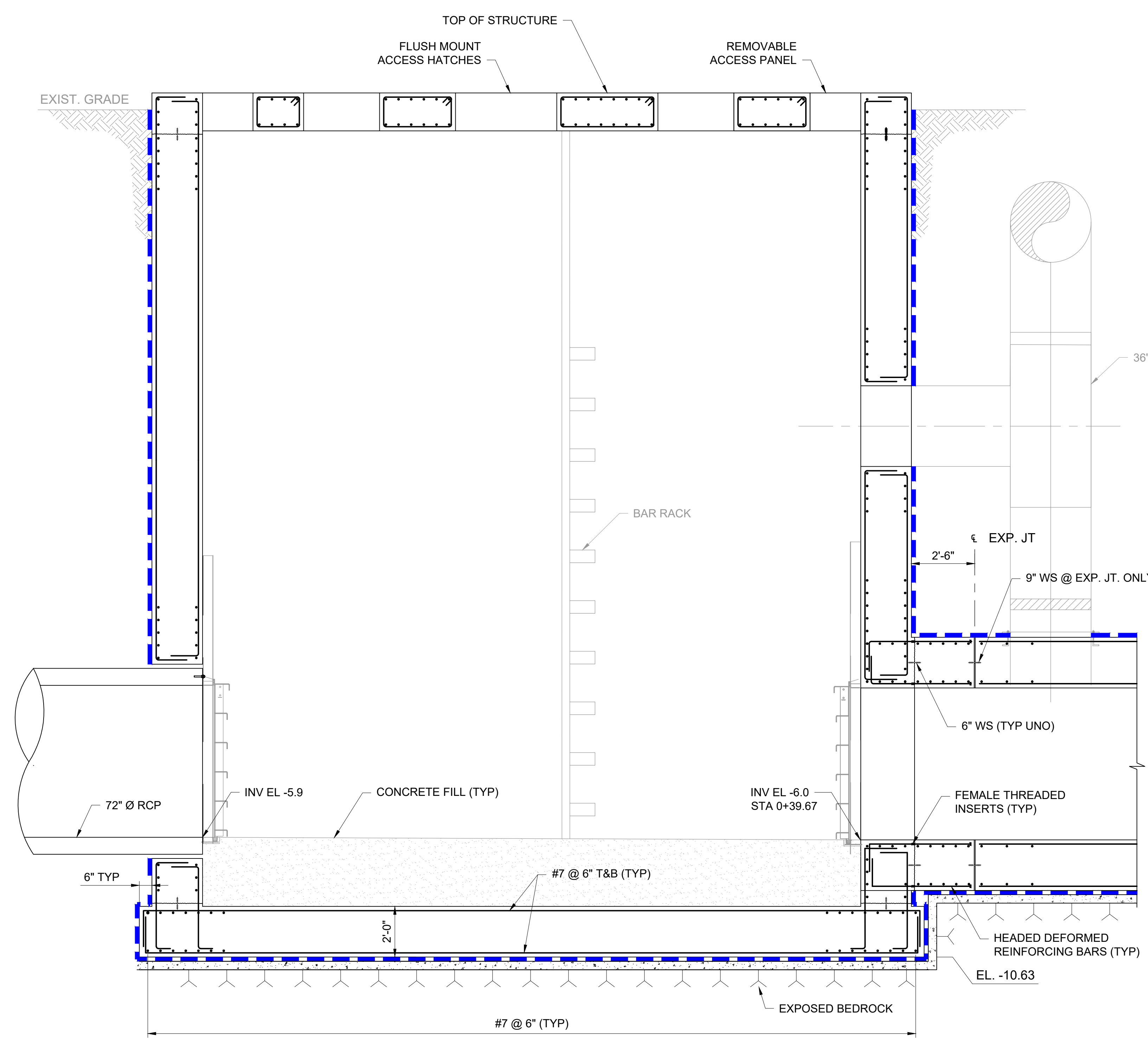
NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
GATE & SCREENING STRUCTURE
PLAN AND SECTION

SHEET
S-3
195130227

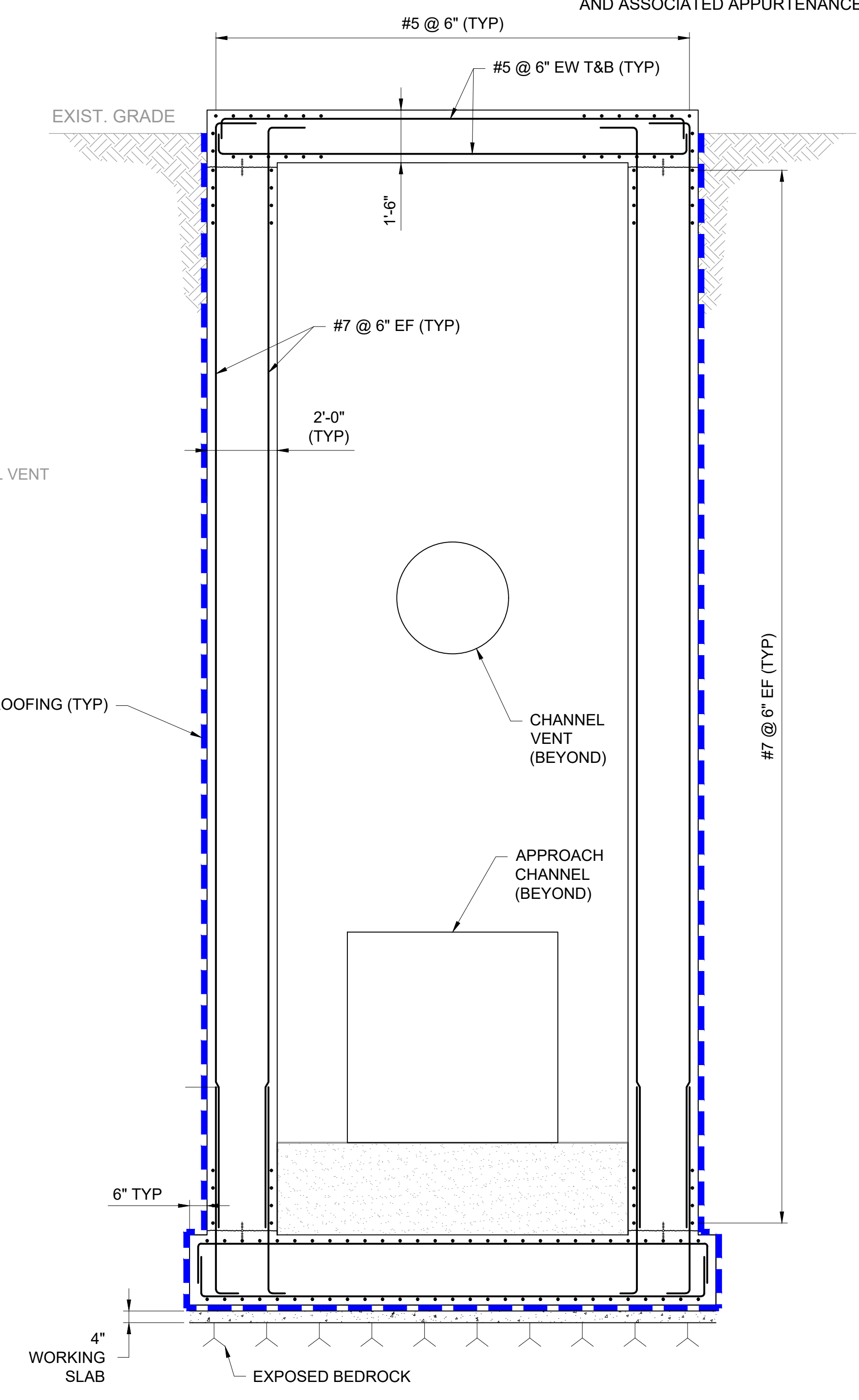
DWG FILE: C:\Users\Sarno\Box\Jobs\5980.0 NBC - CC IIIA-4 And IIIA-5\CADD\Drawings\CONTRACT IIIA-4\Structural\S-004.dwg PLOT DATE: Monday, November 8, 2021 4:01:09 PM BY: SARNO, WENDY

NOTES:

1. REFER TO SHEET S-1 FOR STRUCTURAL NOTES.
2. REFER TO SHEET S-2 FOR TYPICAL DETAILS.
3. REFER TO SHEET S-3 FOR INFORMATION ON THE GATE AND SCREENING STRUCTURE GEOMETRY AND ASSOCIATED APPURTENANCES.



A SECTION
S-3 SCALE: 3/8" = 1'-0"



B SECTION
S-3 SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

SCALE
AS SHOWN

WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED M. MACINNIS
DRAWN W. SARNO
CHECKED D. NOWACK

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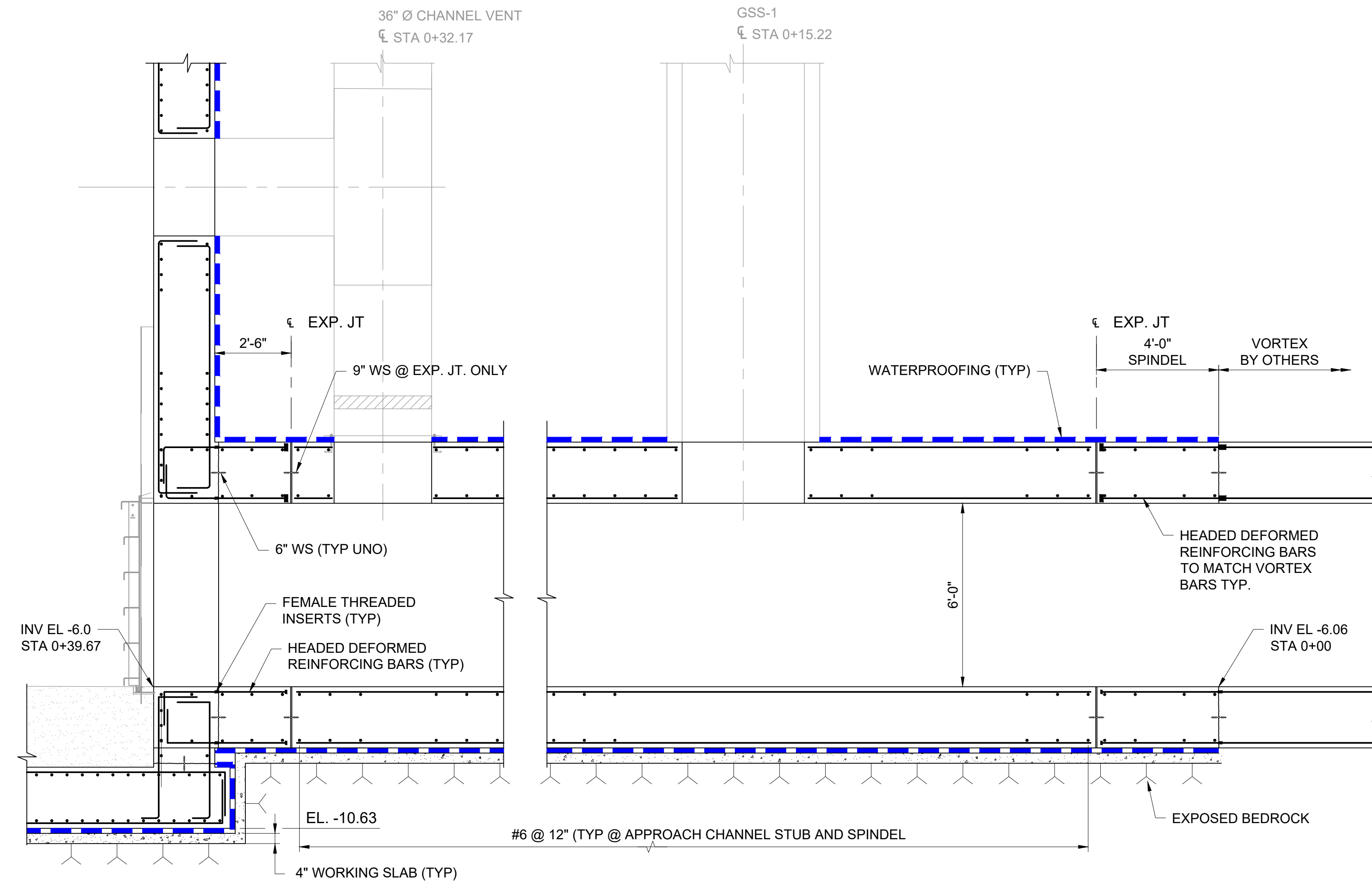
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
Stantec PARE

NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
GATE AND SCREENING STRUCTURE REINFORCEMENT

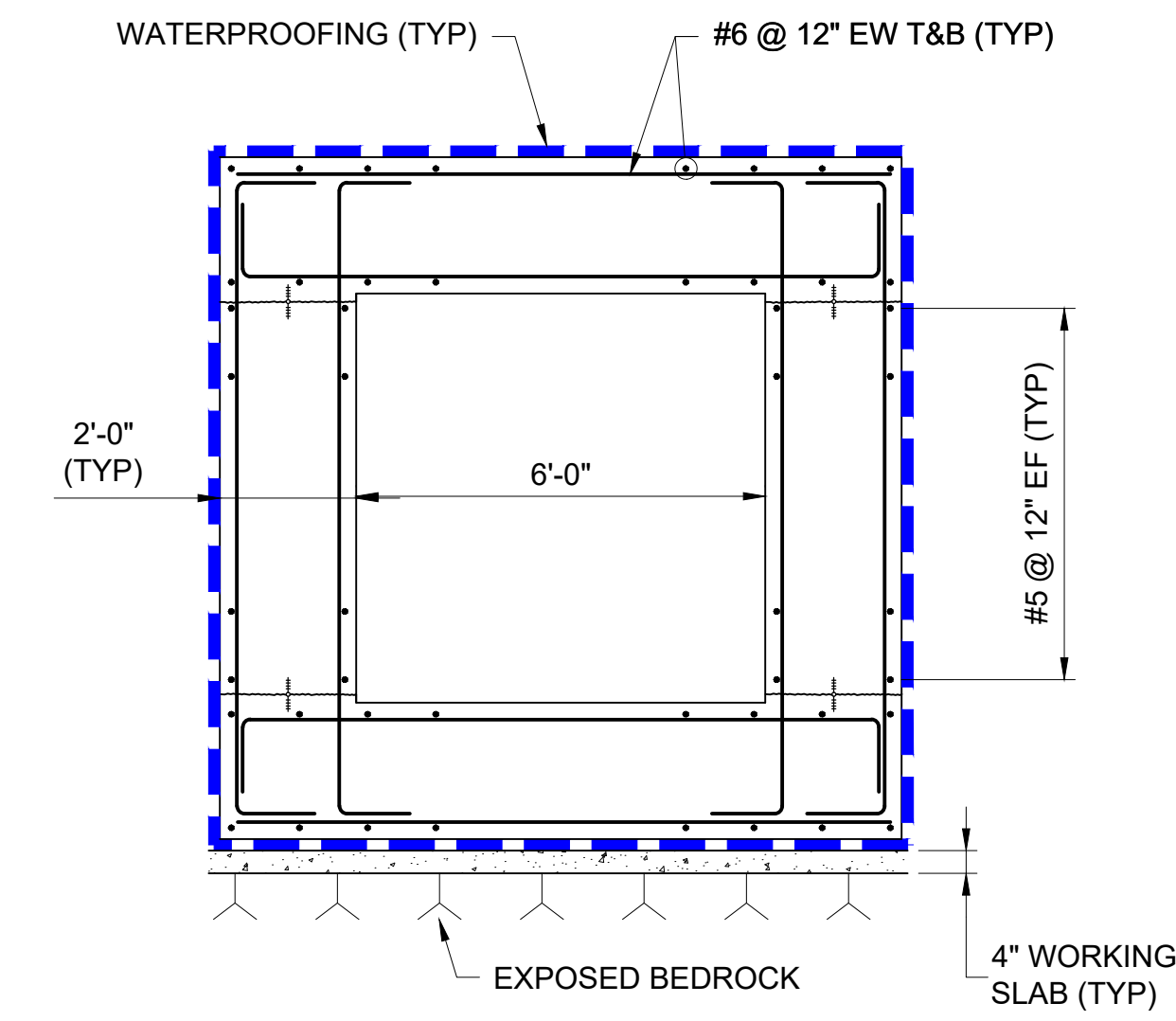
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NOTES:

1. REFER TO SHEET S-1 FOR STRUCTURAL NOTES.
2. REFER TO SHEET S-2 FOR TYPICAL DETAILS.
3. REFER TO SHEET S-3 FOR INFORMATION ON GATE AND SCREENING STRUCTURE GEOMETRY AND ASSOCIATED APPURTENANCES.



C SECTION
 S-3 SCALE: 3/8" = 1'-0"



D SECTION
 S-3 SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

SCALE
 AS SHOWN

WARNING
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED M. MACINNIS
 DRAWN W. SARNO
 CHECKED D. NOWACK

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NOT FOR CONSTRUCTION
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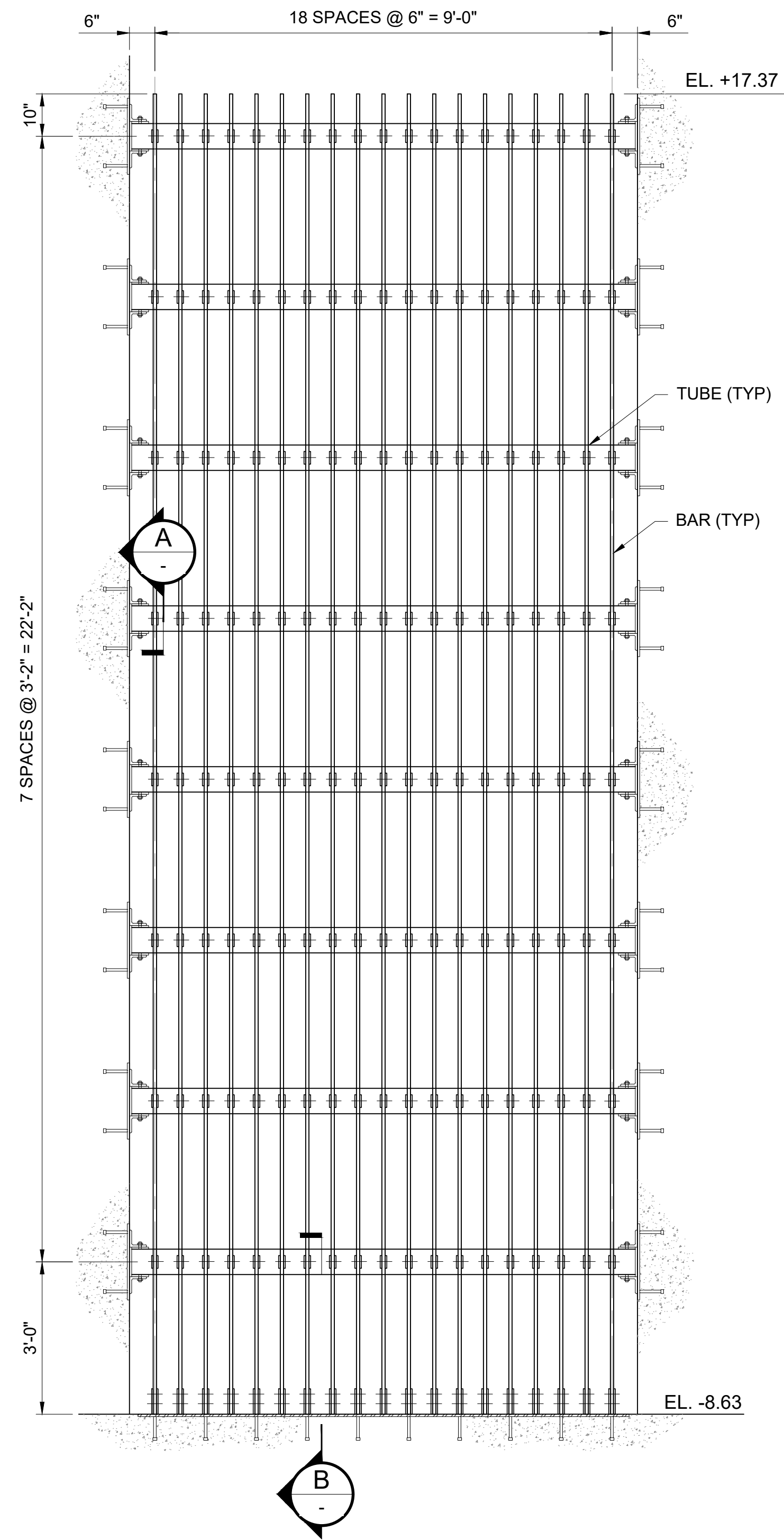


NARRAGANSETT BAY COMMISSION
 PHASE III COMBINED SEWER
 OVERFLOW PROGRAM
Stantec **PARE**

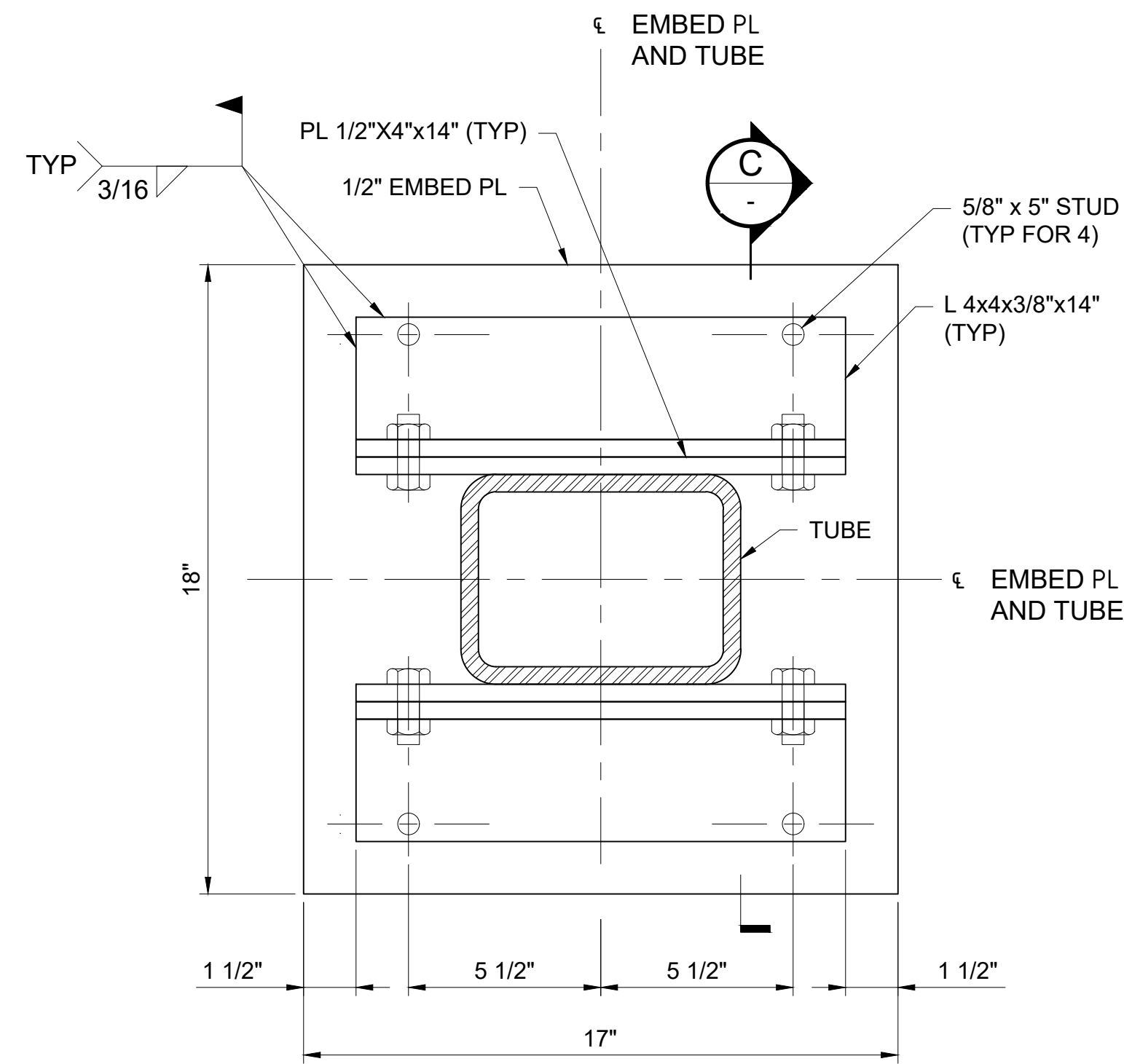
NBC CONTRACT NO 308.04C
 STRUCTURAL
 OF 210/213/214 FACILITIES
 APPROACH CHANNEL REINFORCEMENT

BY: HENNING, THOMAS

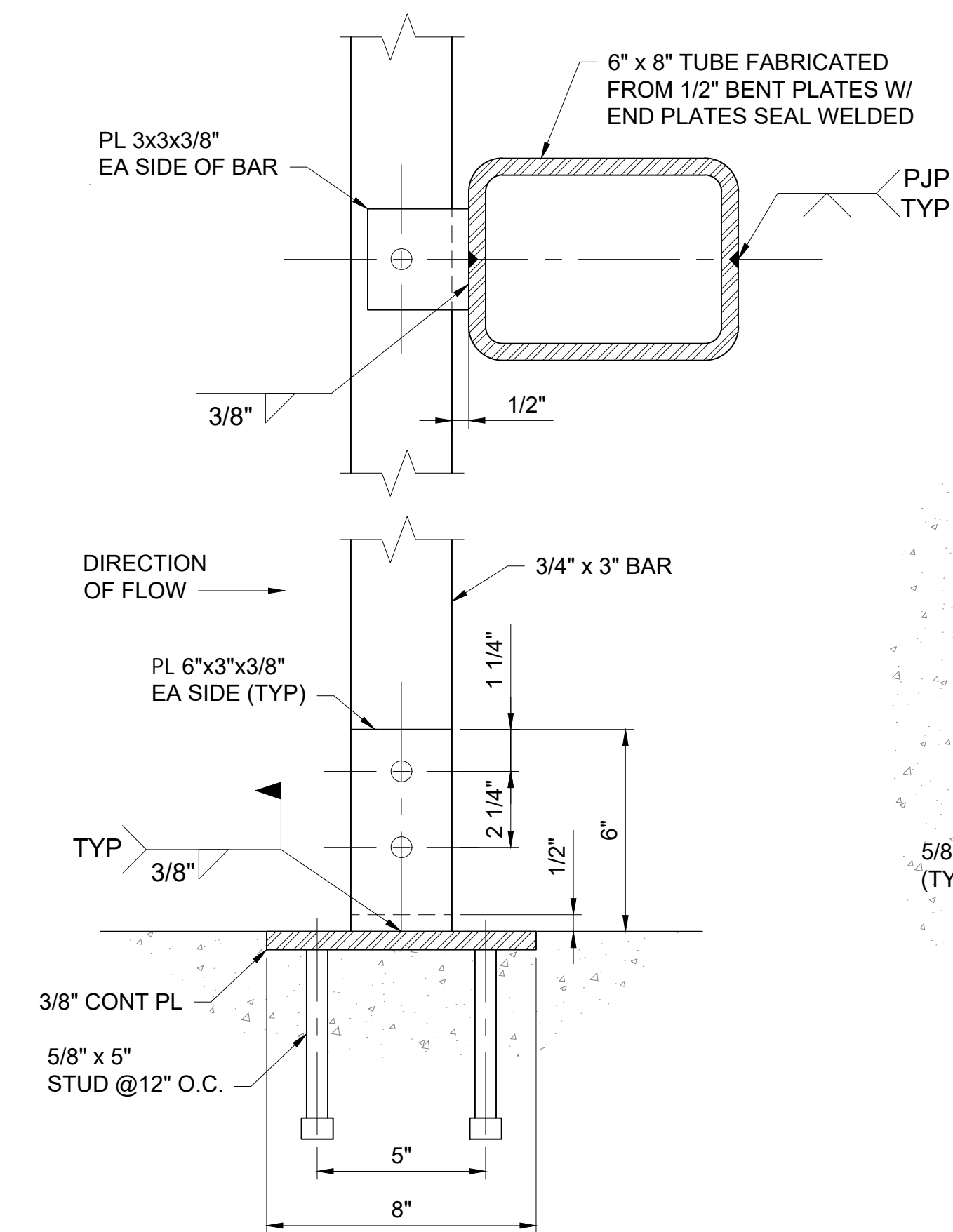
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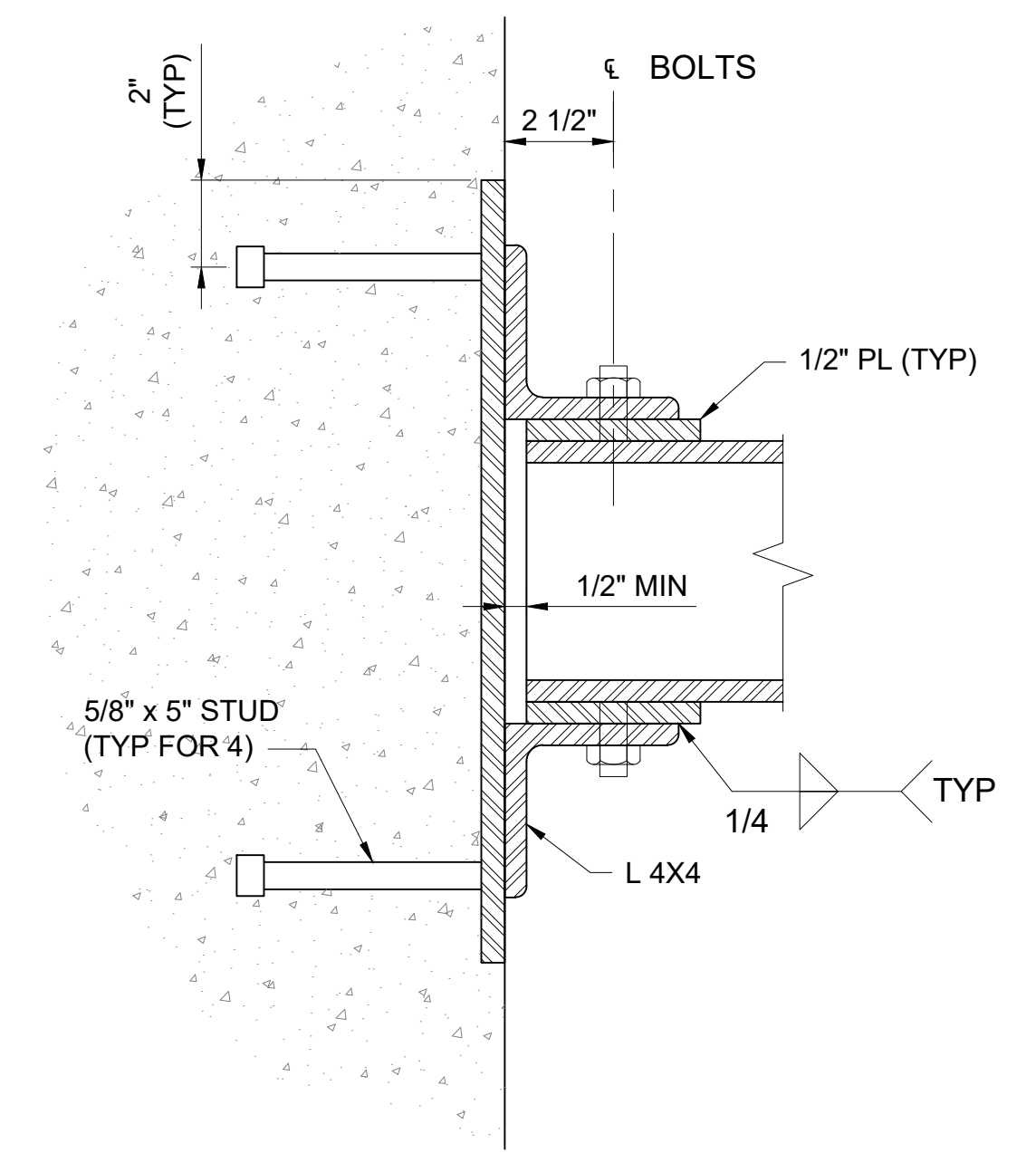
TRASH RACK ELEVATION
SCALE: 1/2" = 1'-0"



A SECTION
S-6 SCALE: 3" = 1'-0"



B SECTION
S-6 SCALE: 3" = 1'-0"



C SECTION
S-6 SCALE: 3" = 1'-0"

NOTES:

1. REFER TO SHEET S-1 FOR STRUCTURAL NOTES.
2. REFER TO SHEET S-2 FOR TYPICAL DETAILS.
3. REFER TO SHEET S-3 FOR INFORMATION ON THE GATE AND SCREENING STRUCTURE GEOMETRY AND ASSOCIATED APPURTENANCES.
4. ALL MATERIALS FOR TRASH RACK TO BE STAINLESS STEEL TYPE 316.
5. FIELD VERIFY STRUCTURE DIMENSIONS PRIOR TO FABRICATION.
6. ALL BOLTS 3/4" DIAMETER WITH OVERSIZED HOLES.

REV	DATE	BY	DESCRIPTION

SCALE	AS SHOWN
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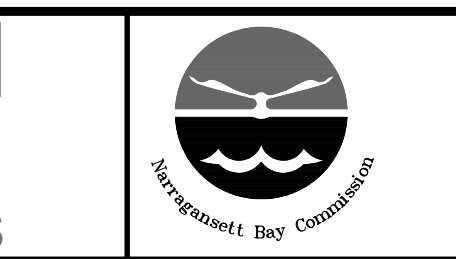
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
---------	--

DESIGNED	M. MACINNIS
DRAWN	W. SARNO
CHECKED	D. NOWACK

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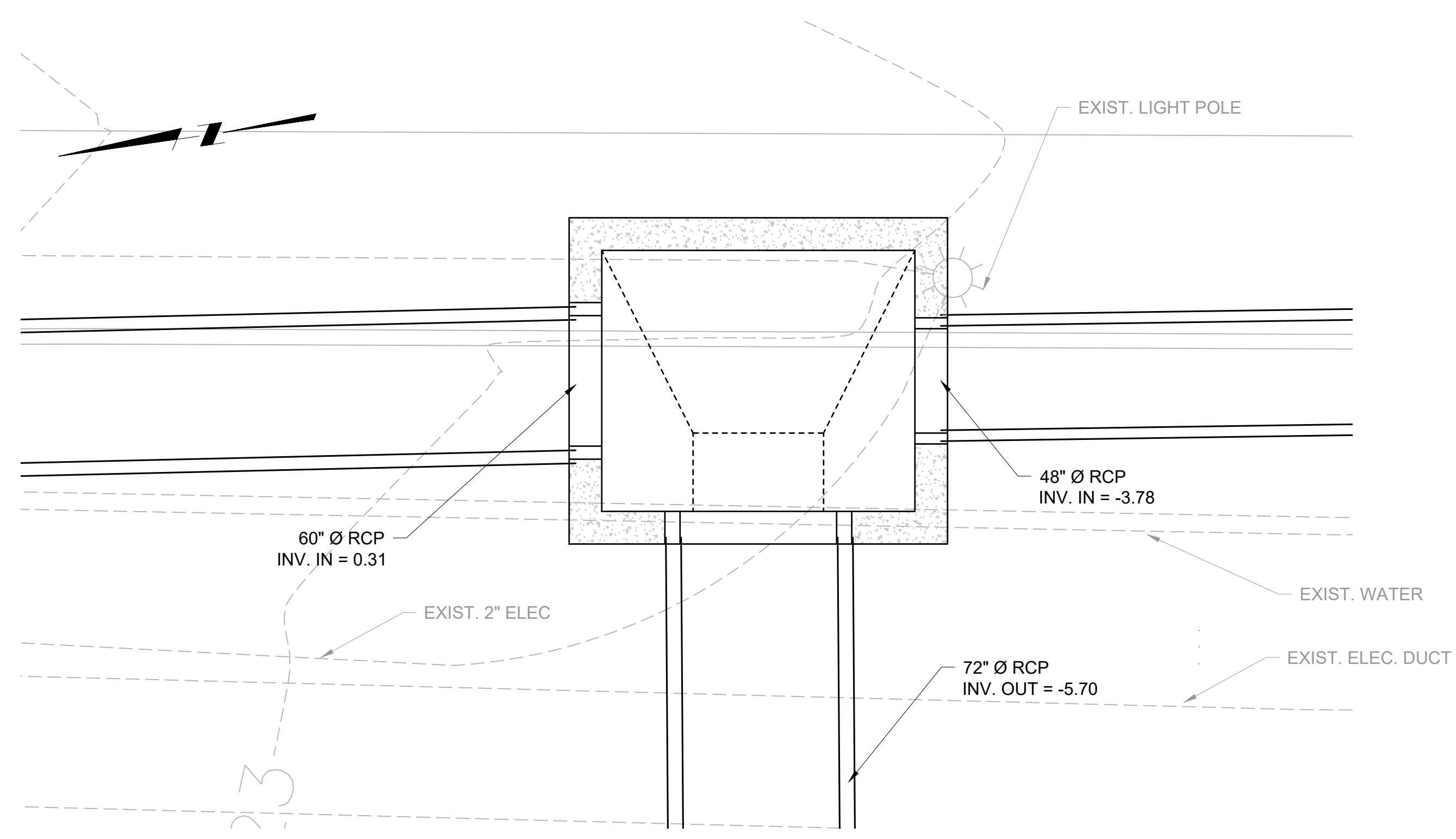


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

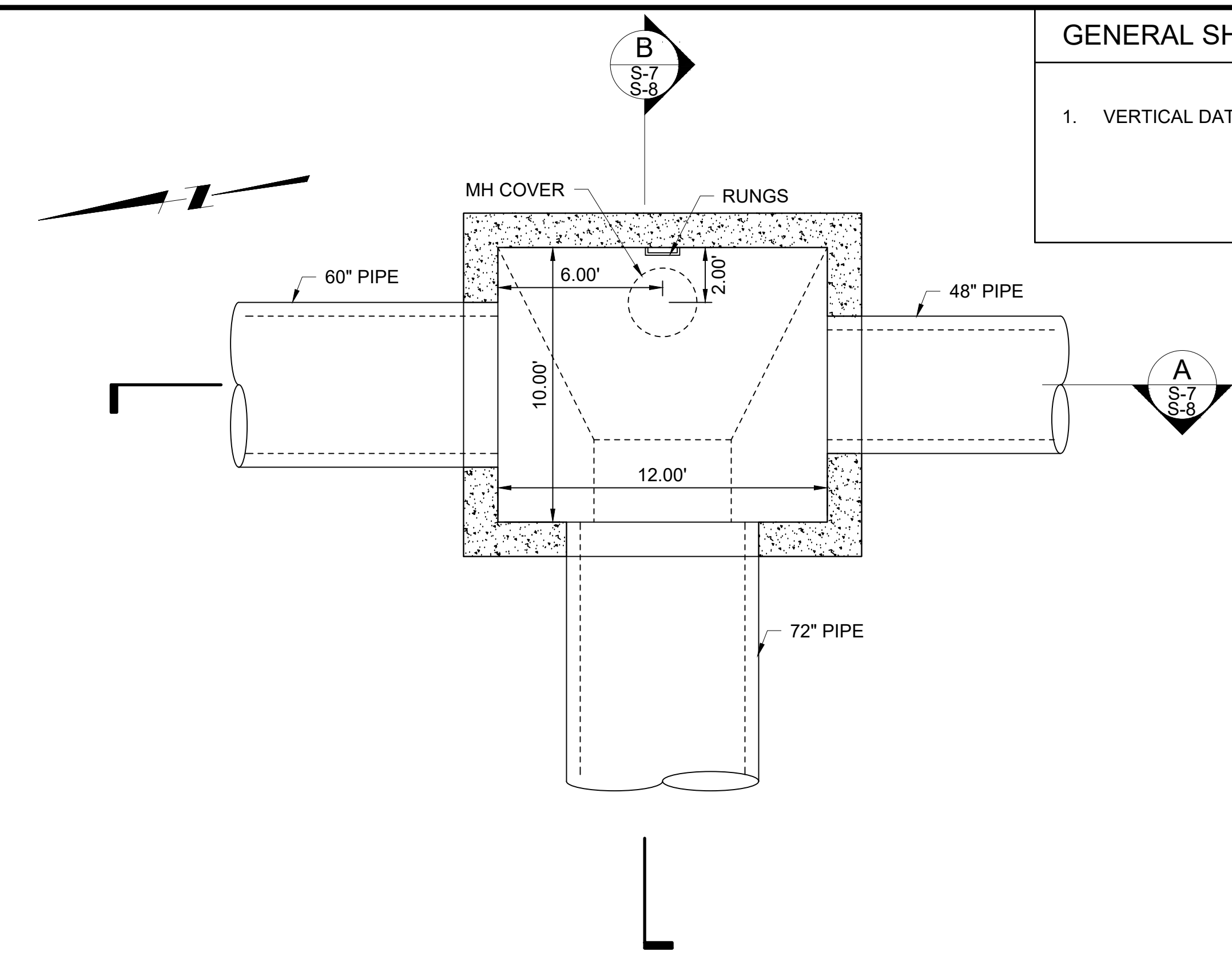
NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
GATE AND SCREENING STRUCTURE
TRASH RACK DETAILS

BY: JAMIE PAYNE

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Sheet Set\PAWT_IIA-4_JUNCTION CHAMBER_PLAN & SECTION.dwg Friday, November 12, 2021 3:53:41 PM



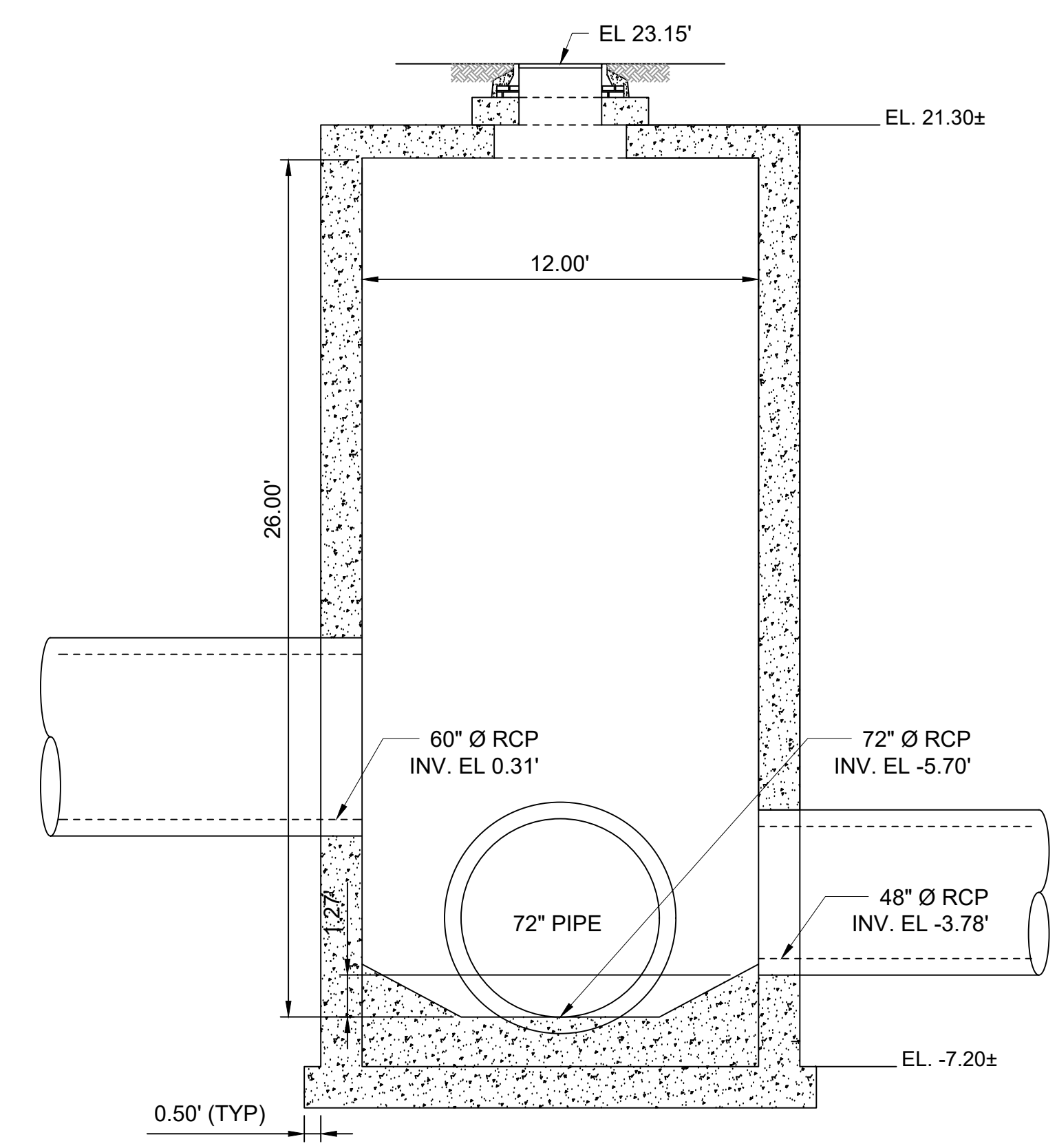
SITE PLAN VIEW
SCALE: 1" = 4'-0"



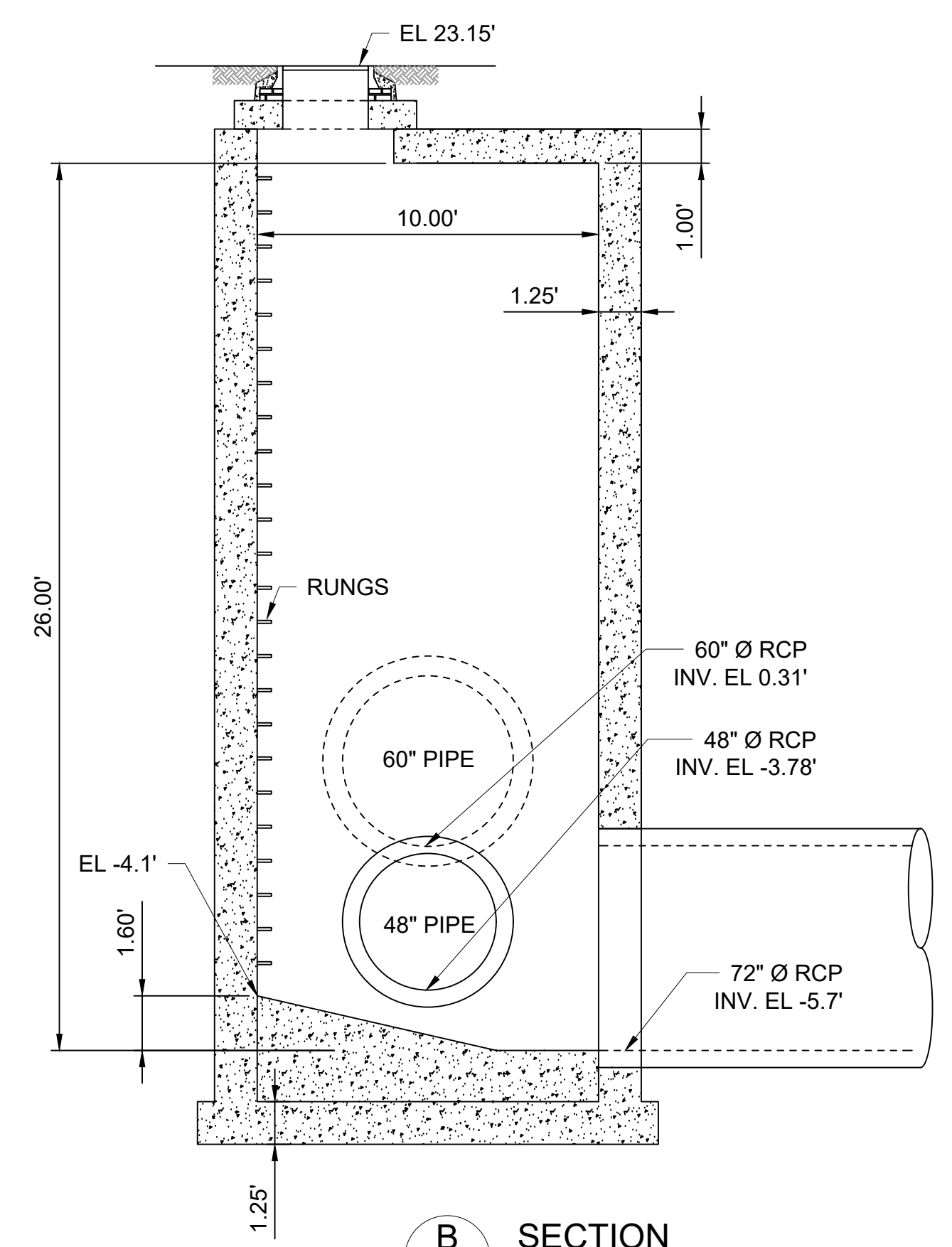
PLAN VIEW
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

1. VERTICAL DATUM FOR PROJECT IS NGVD29.



A SECTION
S-7 SCALE: 1/4" = 1'-0"



B SECTION
S-7 SCALE: 1/4" = 1'-0"

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
1"=20'

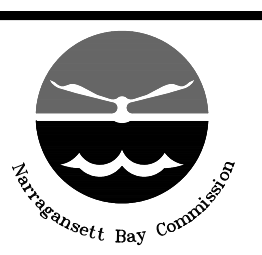
WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALESSIO

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

Stantec logo

NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
JUNCTION CHAMBER
PLAN AND SECTION

SHEET
S-7
195130227

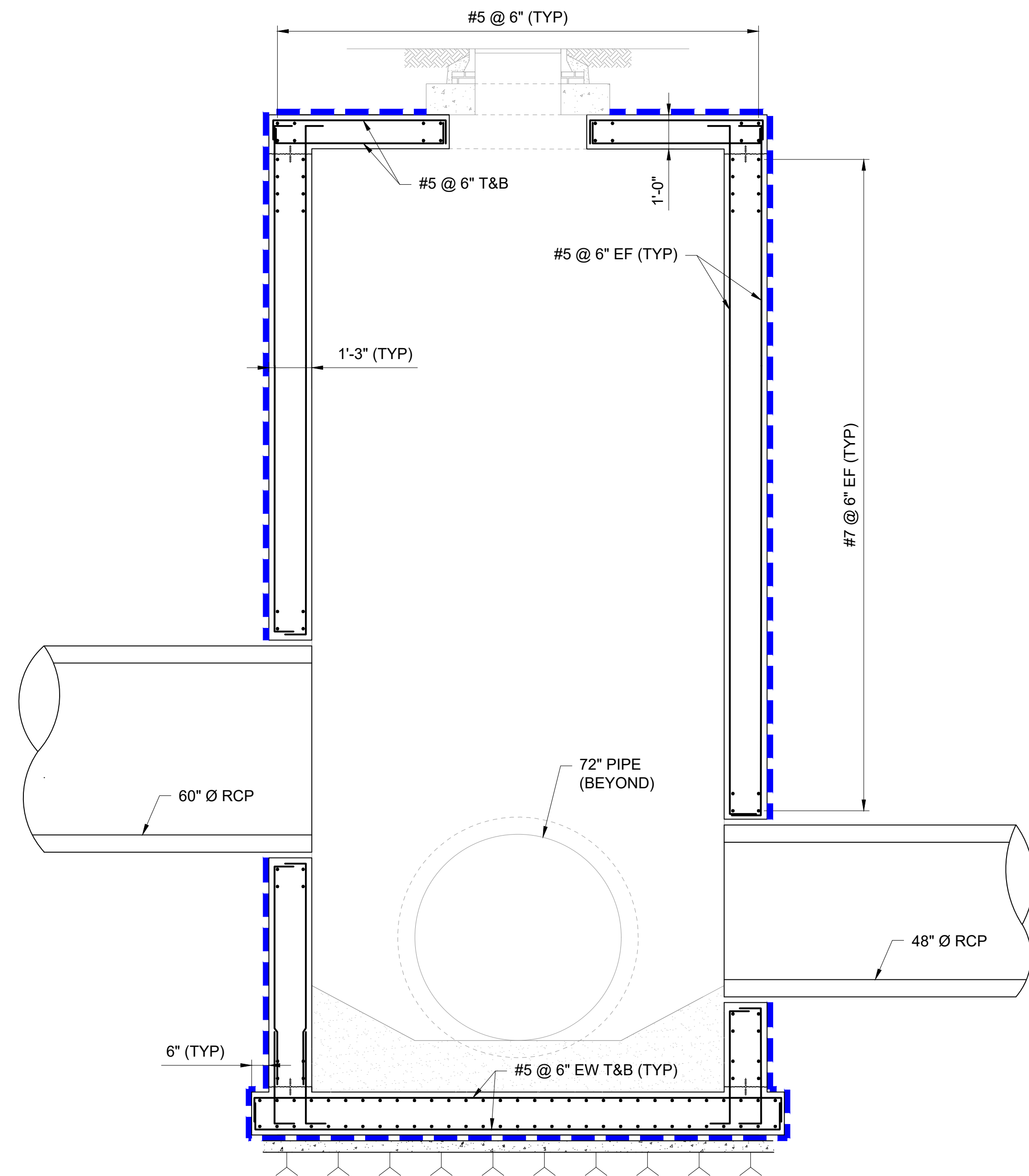
BY: SARNO, WENDY

PLOT DATE: Monday, November 8, 2021 4:03:08 PM

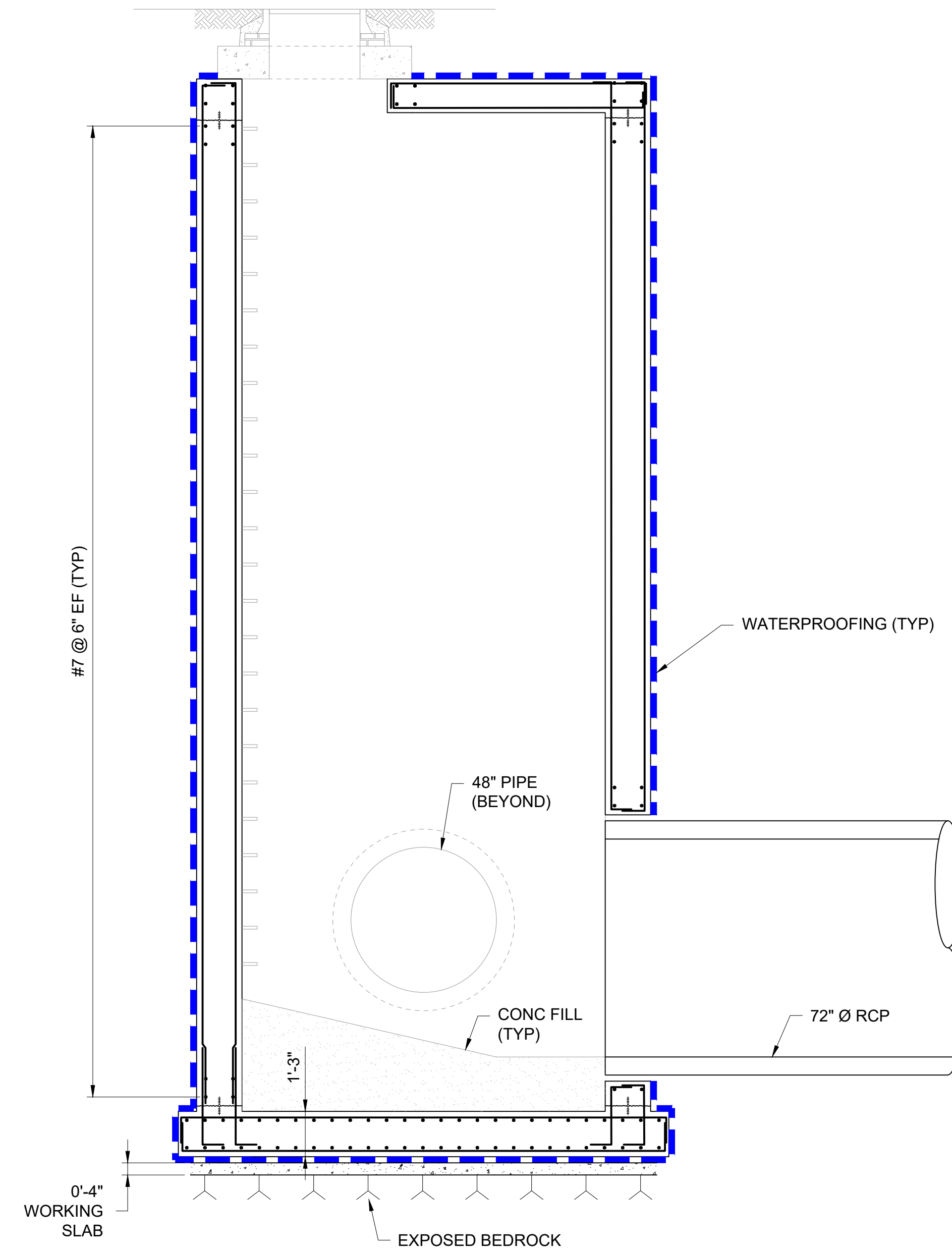
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NOTES:

1. REFER TO SHEET S-1 FOR STRUCTURAL NOTES.
2. REFER TO SHEET S-2 FOR TYPICAL DETAILS.
3. REFER TO SHEET S-7 FOR INFORMATION ON JUNCTION CHAMBER GEOMETRY AND ASSOCIATED APPURTENANCES.



A SECTION
S-7 SCALE: 3/8" = 1'-0"



B SECTION
S-7 SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	M. MACINNIS
DRAWN	W. SARNO
CHECKED	D. NOWACK

90% DESIGN PHASE - NOVEMBER 2021

NOT FOR CONSTRUCTION

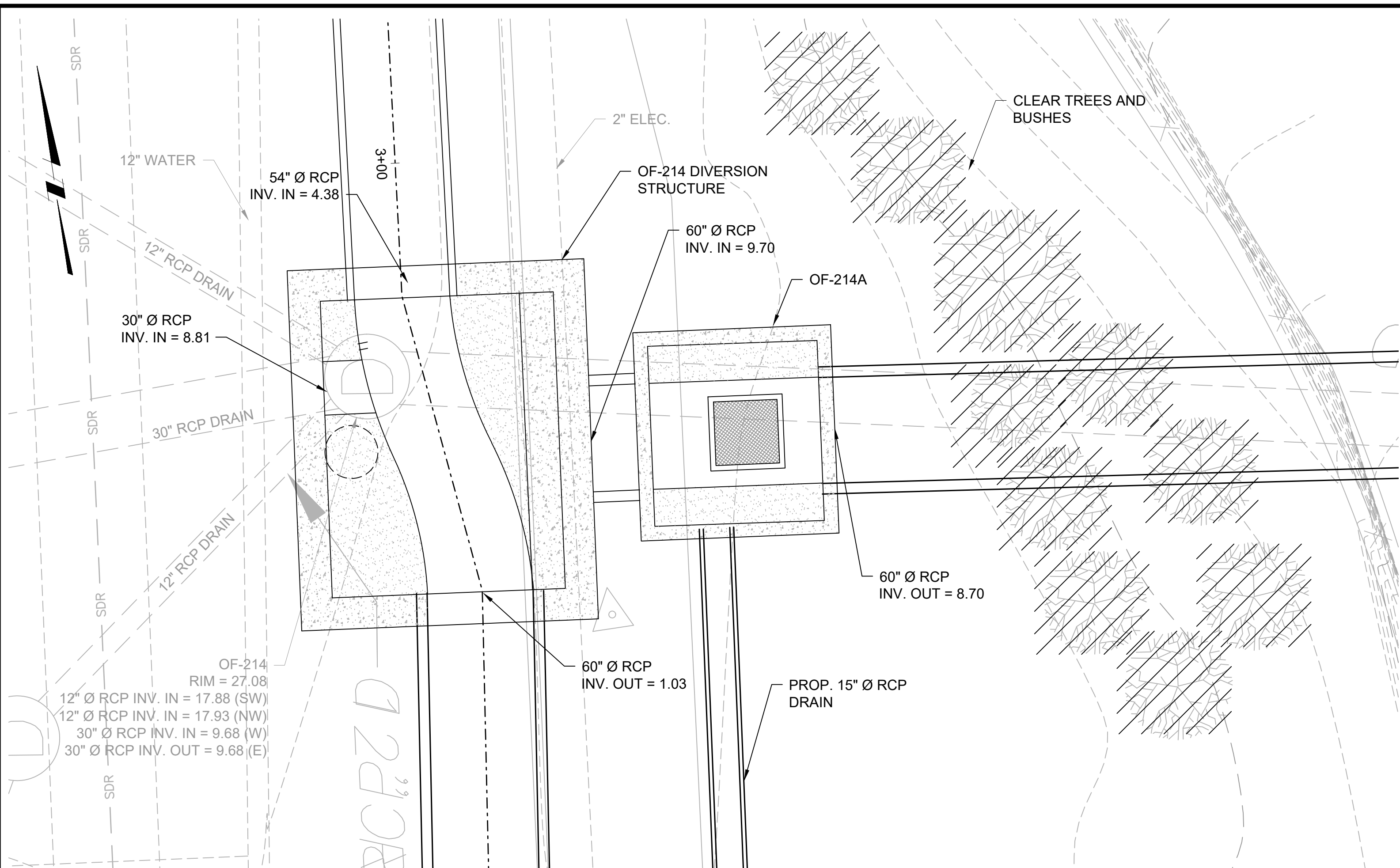
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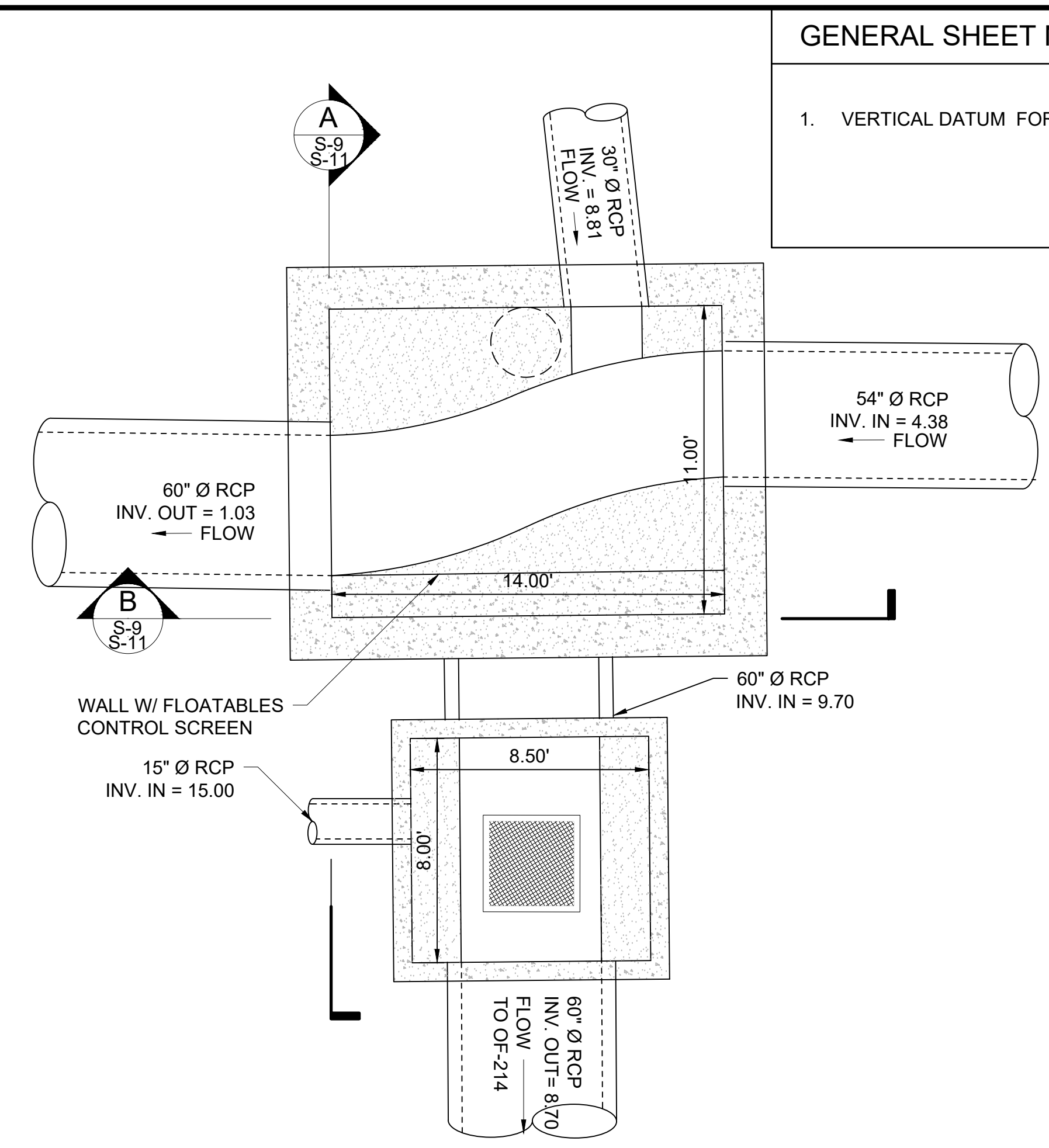
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
JUNCTION CHAMBER REINFORCEMENT

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAVW\IIA-4_DIVERSION_STRUCTURE_PLAN_RCP_SECTION.dwg, November 12, 2021 3:55:22 PM
 BY: JAMIE PAYNE



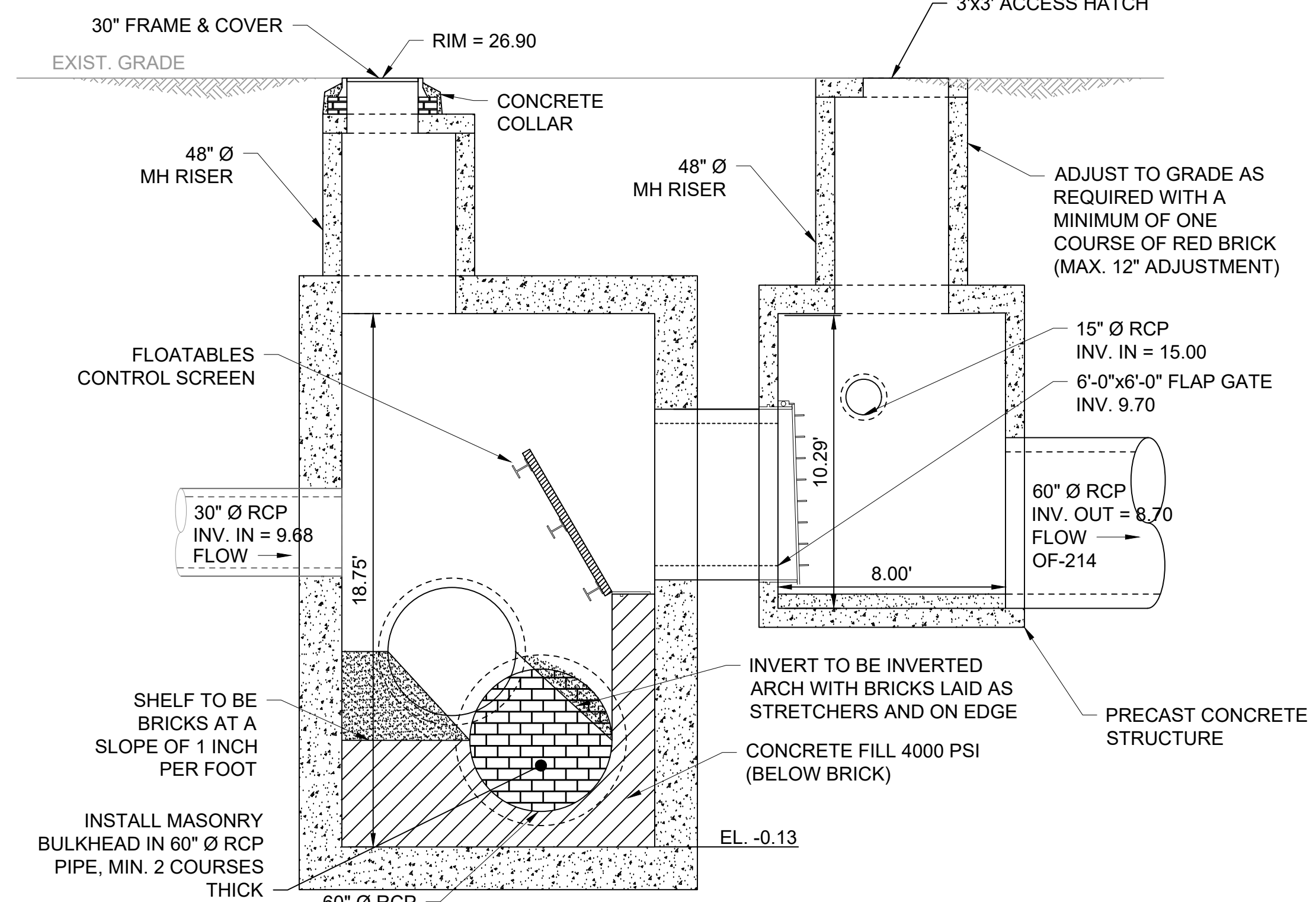
SITE PLAN VIEW
SCALE: 1" = 4'-0"



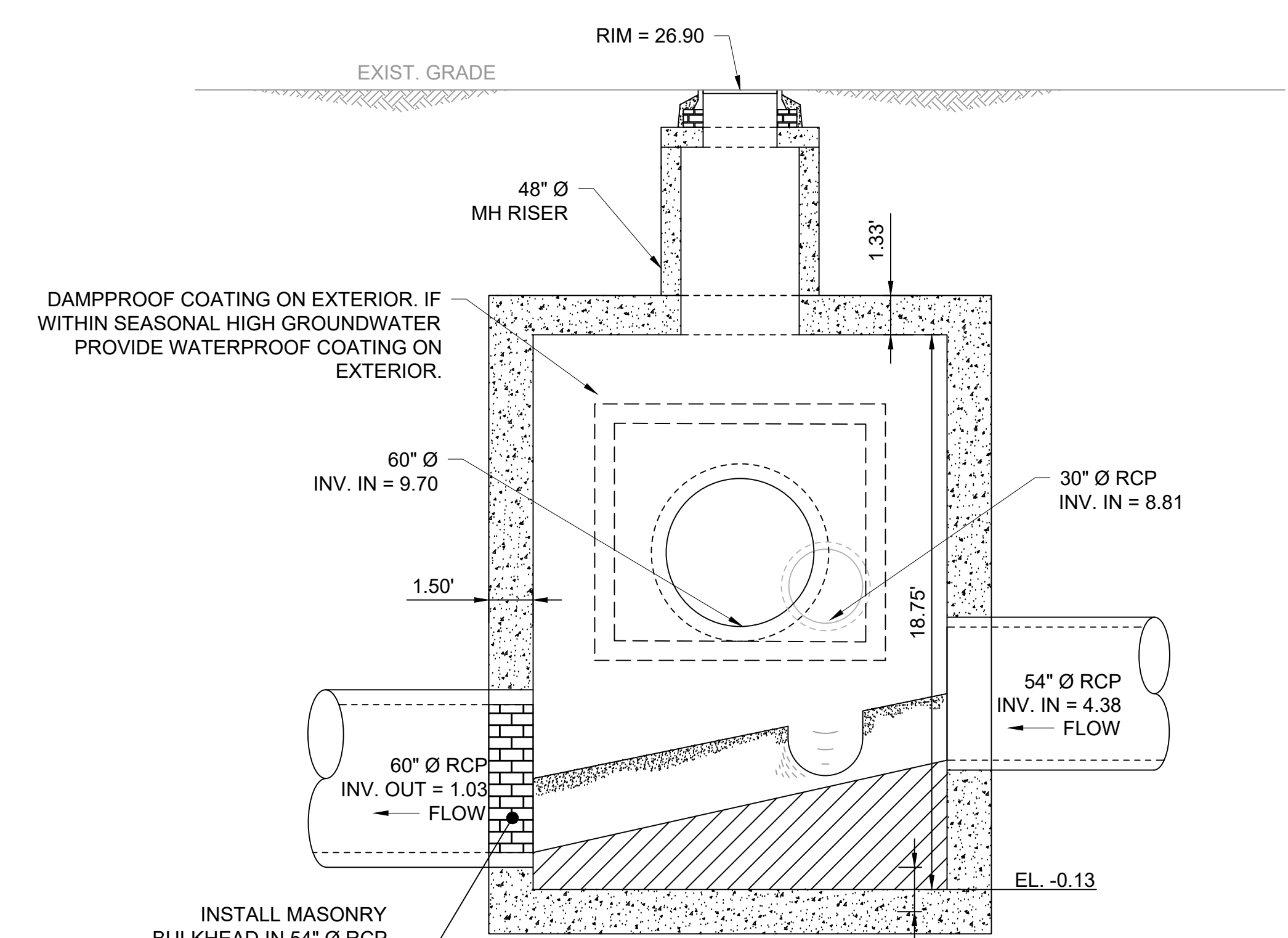
PLAN VIEW
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

1. VERTICAL DATUM FOR PROJECT IS NGVD29.



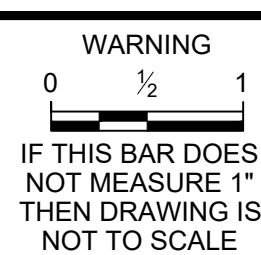
A SECTION
SCALE: 1/4" = 1'-0"



B SECTION
SCALE: 1/4" = 1'-0"

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
AS SHOWN



DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALESSIO

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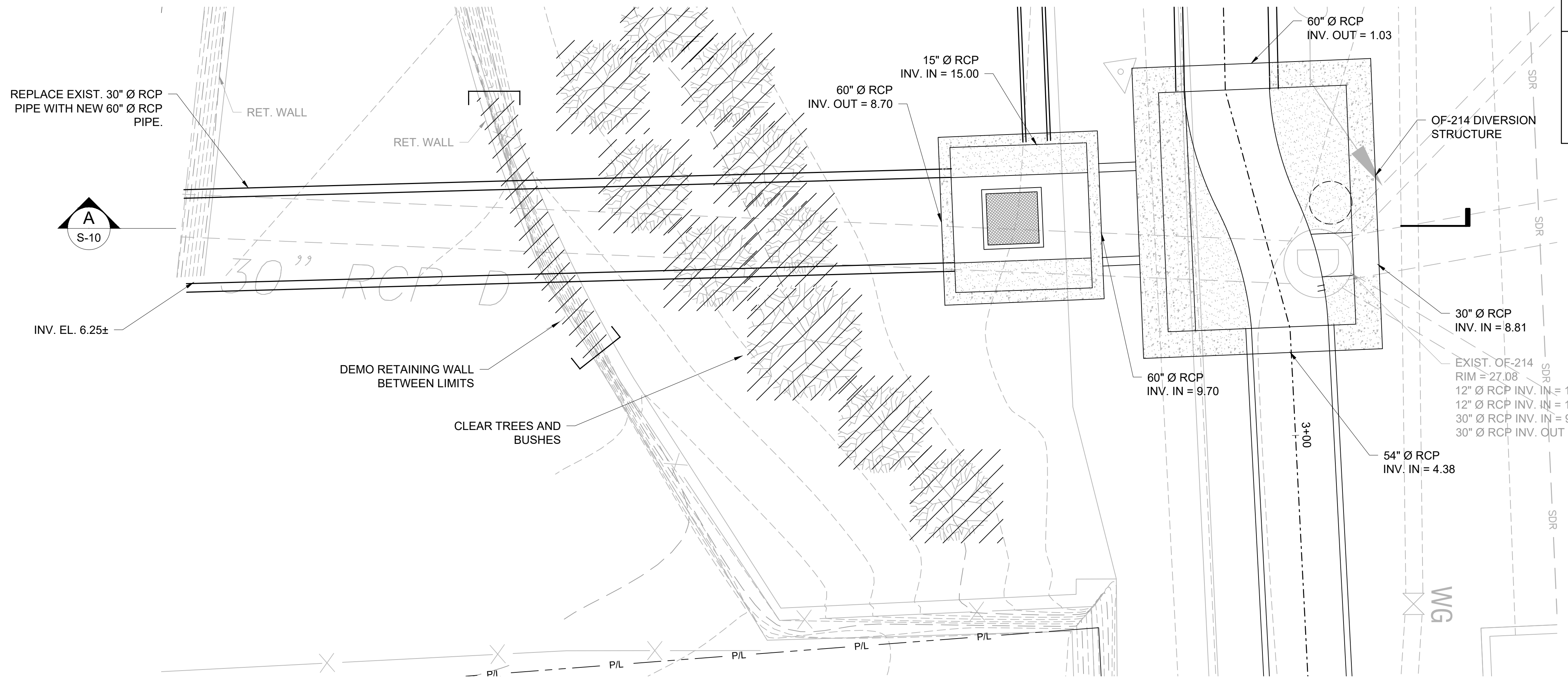


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
OF-214 DIVERSION STRUCTURE
PLAN AND SECTION I

SHEET
S-9
195130227

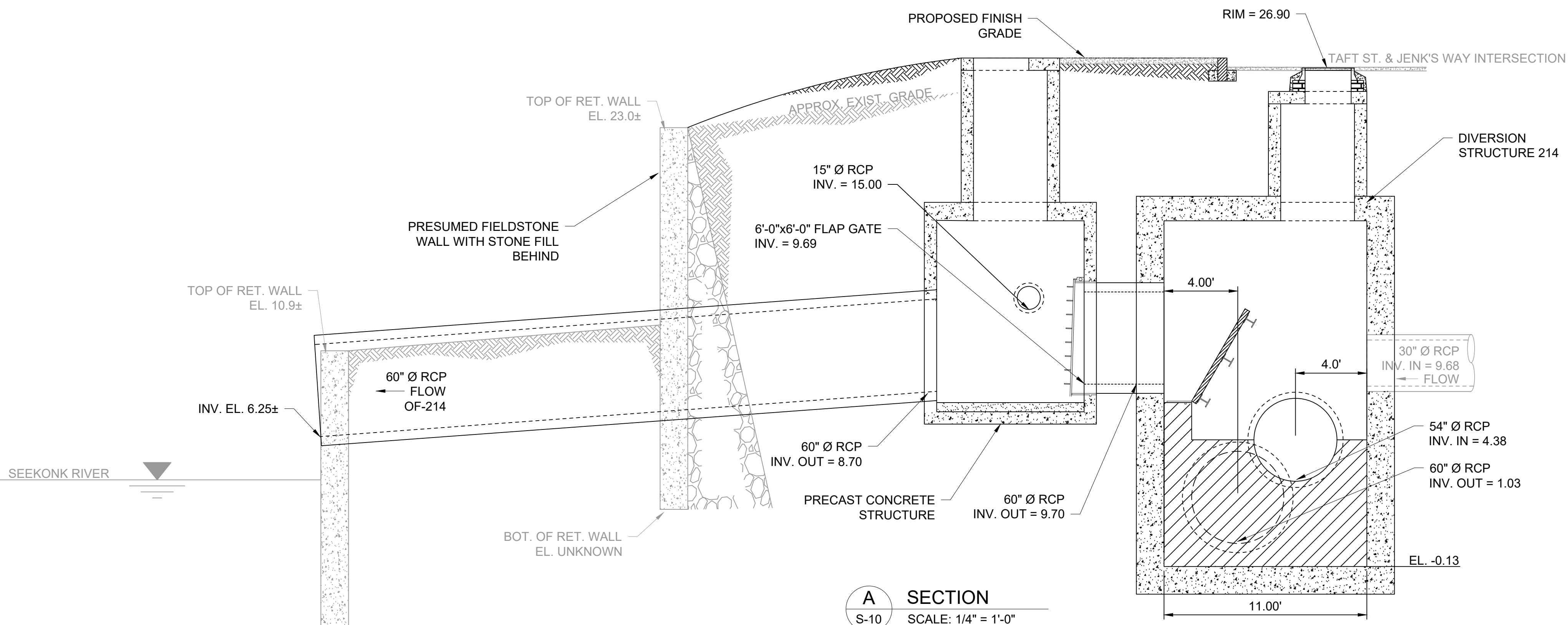
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 BY: JAMIE PAYNE



SITE PLAN VIEW
SCALE: 1" = 4'-0"

GENERAL SHEET NOTES

1. VERTICAL DATUM FOR PROJECT IS NGVD29.



A SECTION
S-10 SCALE: 1/4" = 1'-0"

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
AS SHOWN

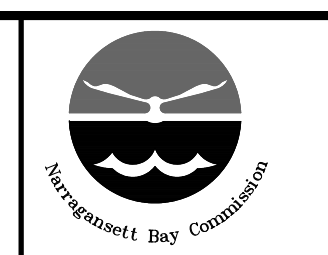
WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALELIO

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

Stantec

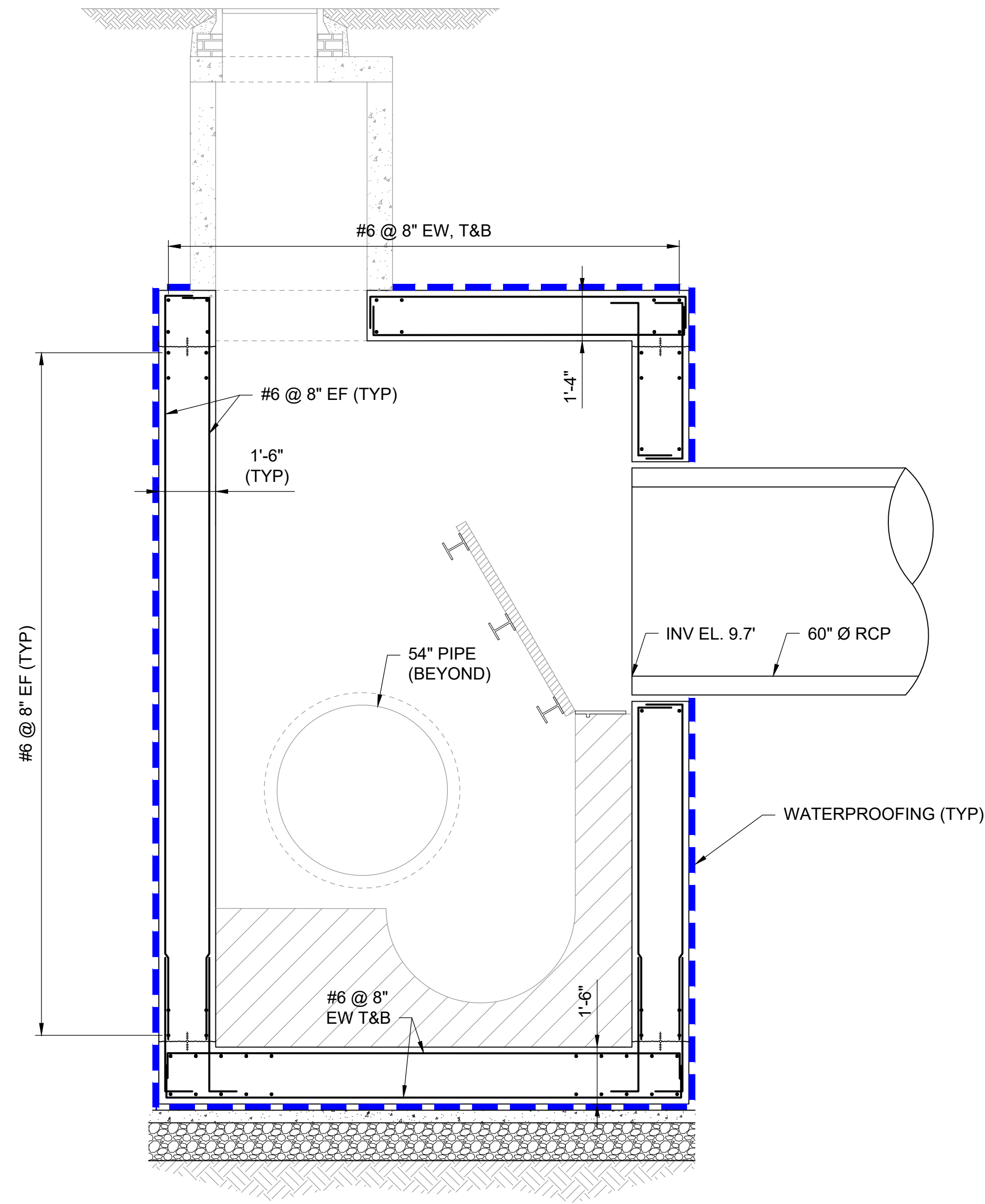
NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
OF-214 DIVERSION STRUCTURE
PLAN AND SECTION II

SHEET
S-10
195130227

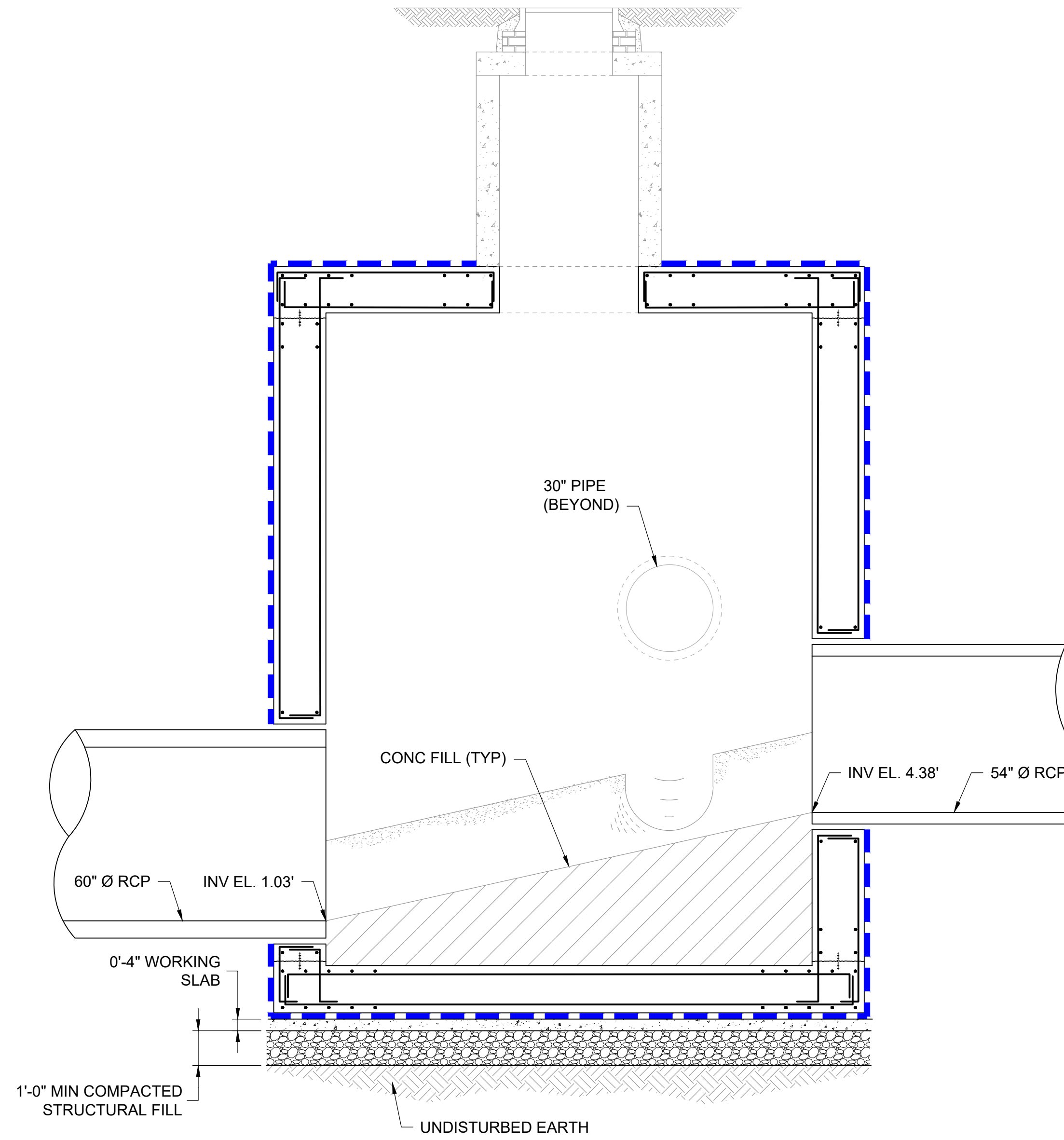
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NOTES:

1. REFER TO SHEET S-1 FOR STRUCTURAL NOTES.
2. REFER TO SHEET S-2 FOR TYPICAL DETAILS.
3. REFER TO SHEET S-9 AND S-10 FOR INFORMATION ON OF-214 GEOMETRY AND ASSOCIATED APPURTENANCES.



A SECTION
S-9 SCALE: 3/8" = 1'-0"



B SECTION
S-9 SCALE: 3/8" = 1'-0"

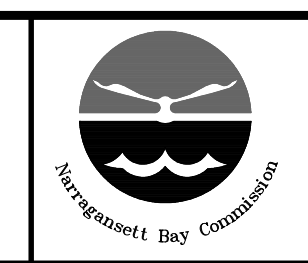
REV	DATE	BY	DESCRIPTION

SCALE
AS SHOWN

WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED D. NOWAK
DRAWN W. SARNO
CHECKED M. MACINNIS

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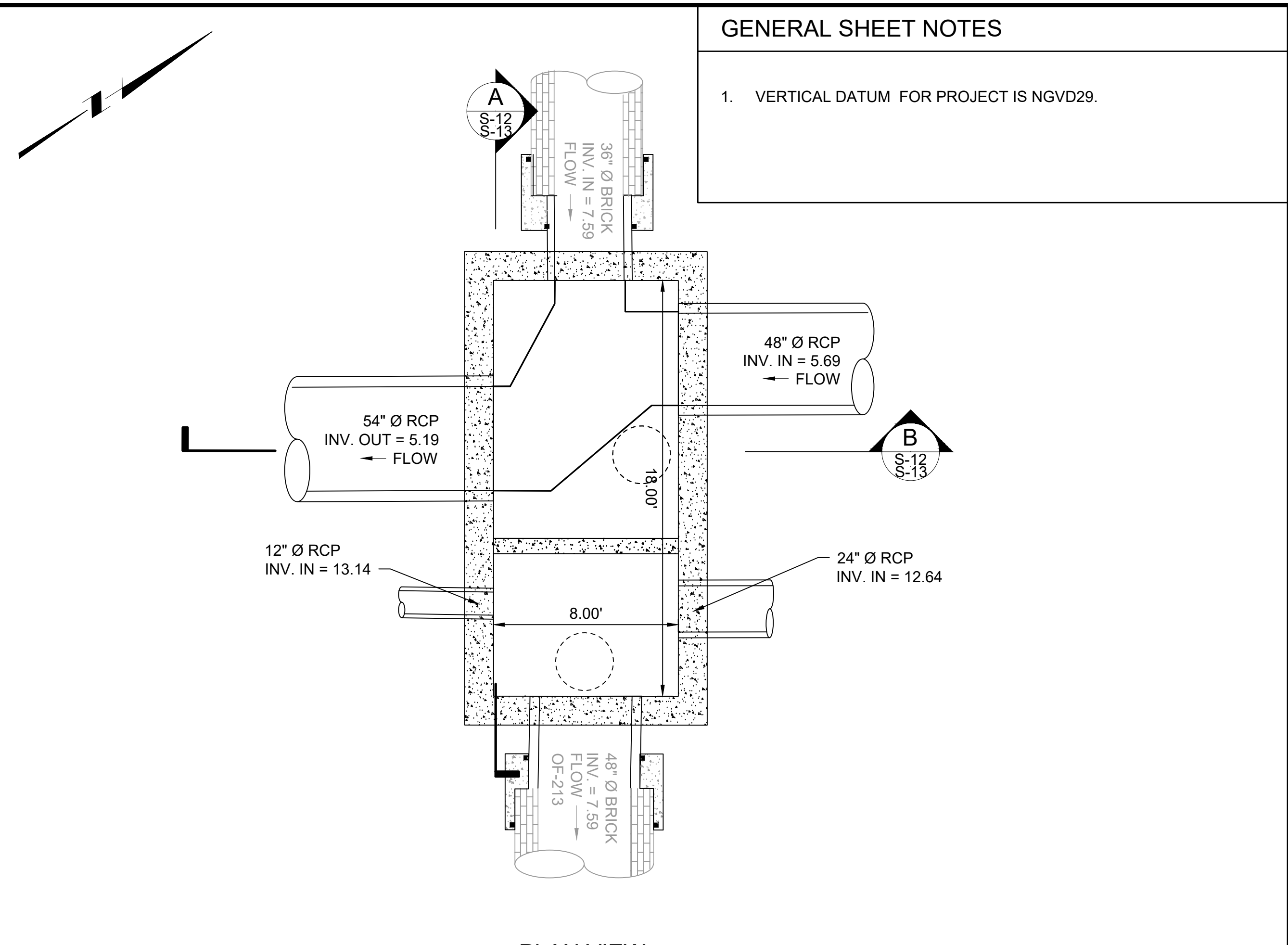
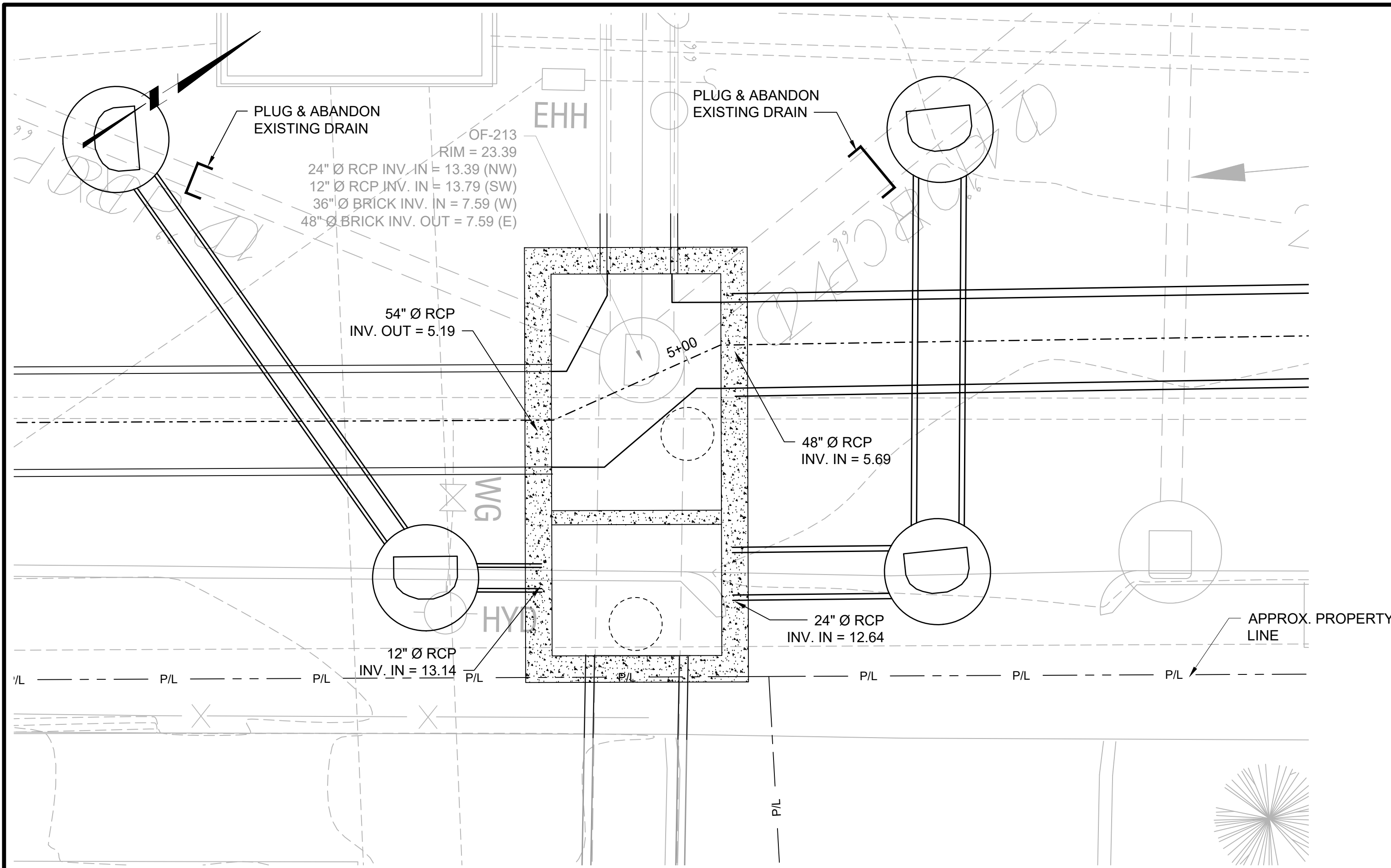
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
Stantec PARE

NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
OF-214 REINFORCEMENT

SHEET
S-11
195130227

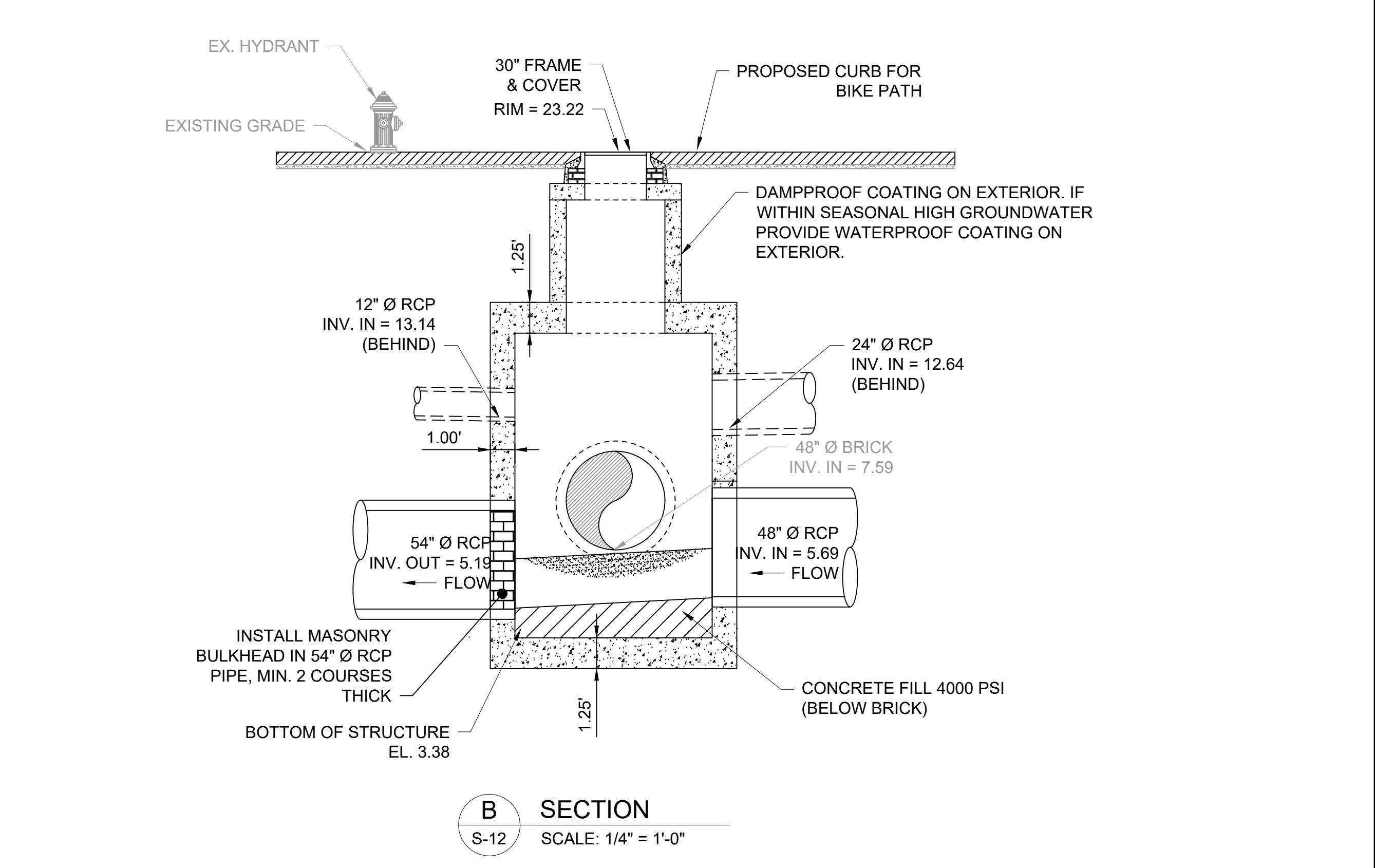
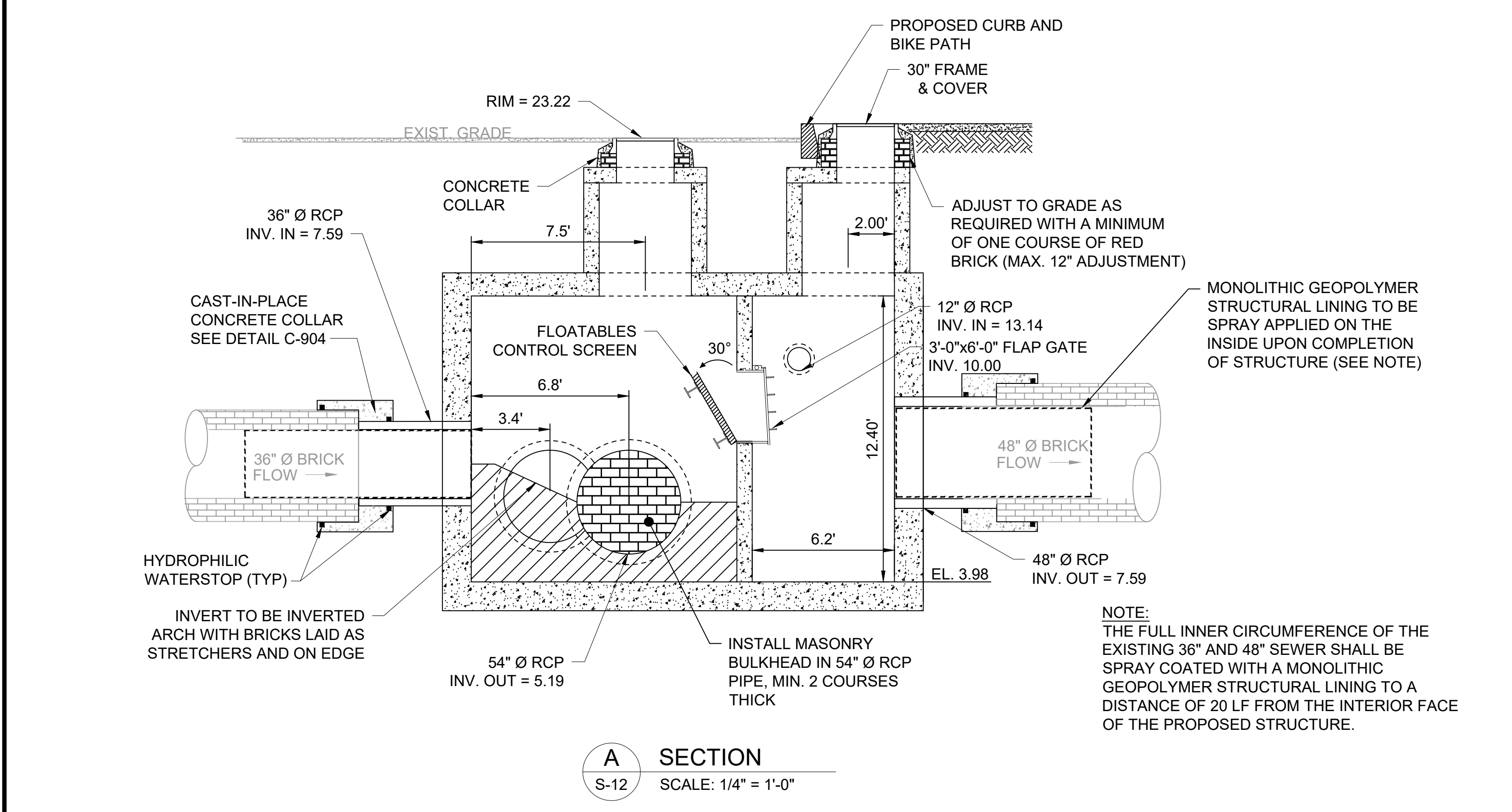
BY: JAMIE PAYNE

DWG FILE: J:\6412 NBC CSO Consolidation Conduits\Drawing Files\Civil\Sheet Set\PAVNT_IIA-4_DIVERSION STRUCTURE_PLAN_RL_SECTION.dwg, November 12, 2021 3:57:03 PM



GENERAL SHEET NOTES

1. VERTICAL DATUM FOR PROJECT IS NGVD29.



REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE
AS SHOWN

WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED C. CRONIN
DRAWN J. PAYNE
CHECKED J. D'ALESSIO

90% DESIGN PHASE - NOVEMBER 2021

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

Stantec

NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
OF-213 DIVERSION STRUCTURE
PLAN AND SECTIONS

SHEET
S-12
195130227

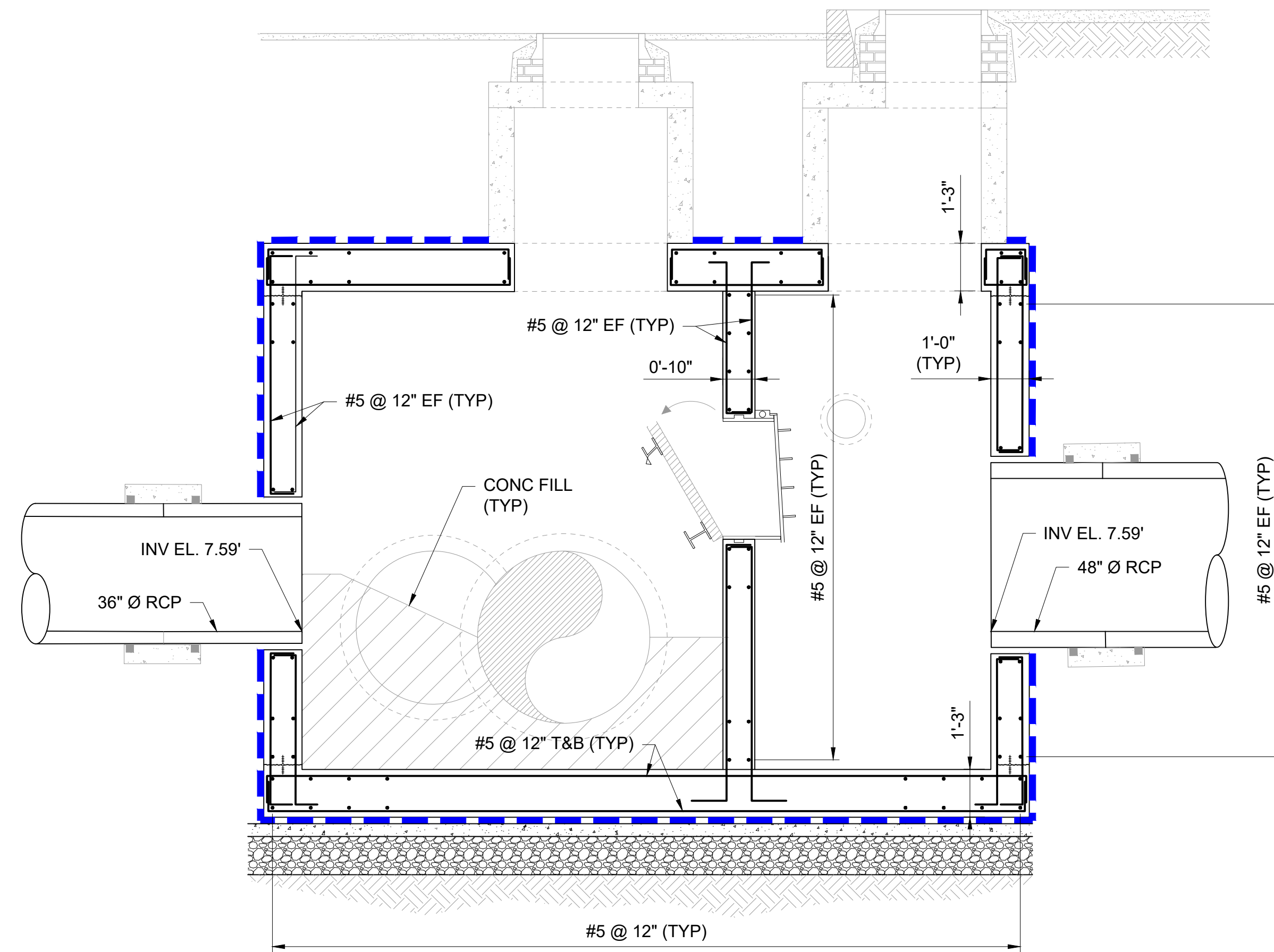
BY: SARNO, WENDY

PLOT DATE: Monday, November 8, 2021 4:04:11 PM

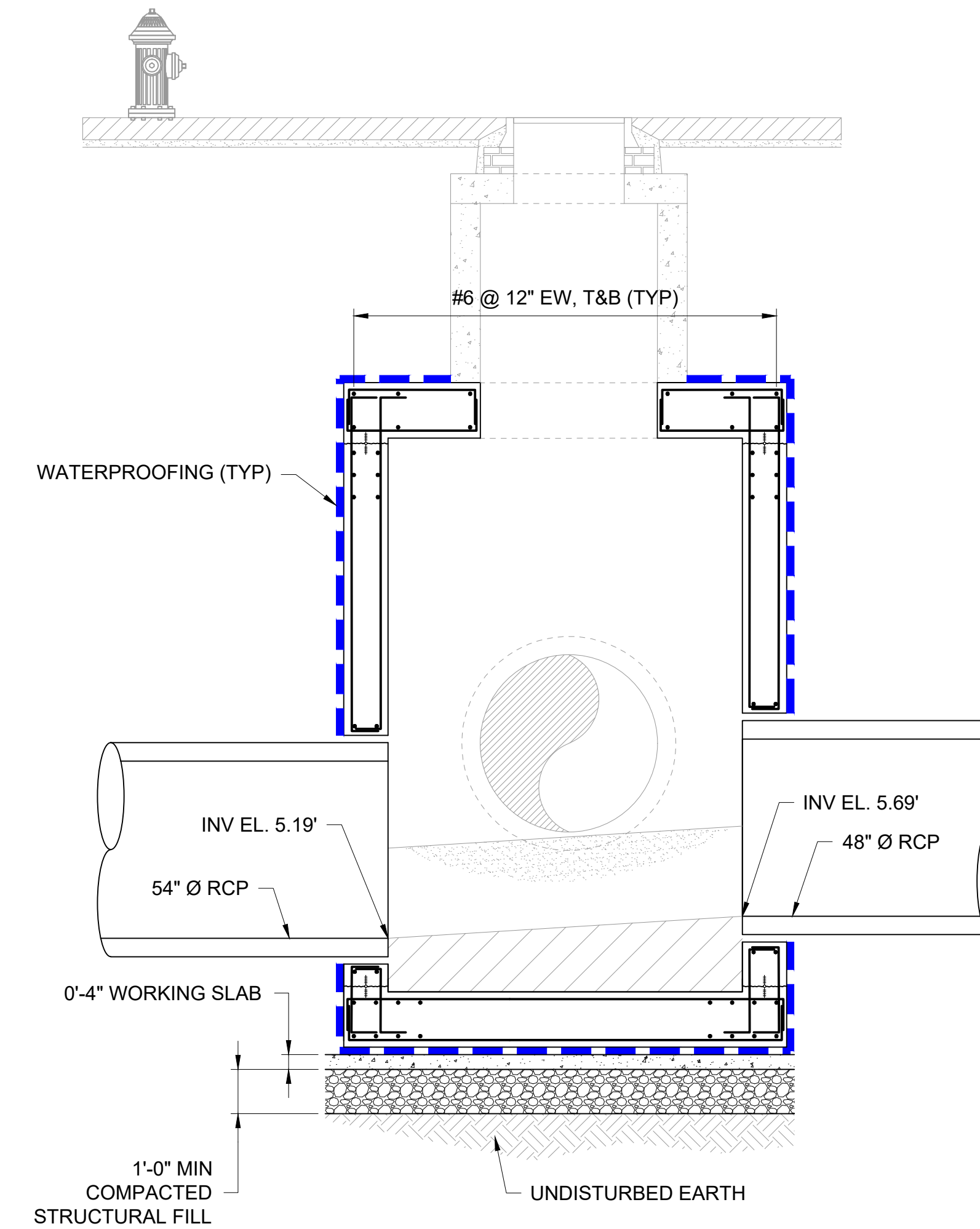
DRG FILE: C:\Users\Sarno\Box\Jobs\5980.0 NBC - CC IIIA-4 And IIIA-5\CADD\Drawings\CONTRACT\IIIA-4\Structural\S-013.dwg

NOTES:

1. REFER TO SHEET S-1 FOR STRUCTURAL NOTES.
2. REFER TO SHEET S-2 FOR TYPICAL DETAILS.
3. REFER TO SHEET S-12 FOR INFORMATION ON OF-213 GEOMETRY AND ASSOCIATED APPURTENANCES.



A SECTION
S-12 SCALE: 3/8" = 1'-0"



B SECTION
S-12 SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

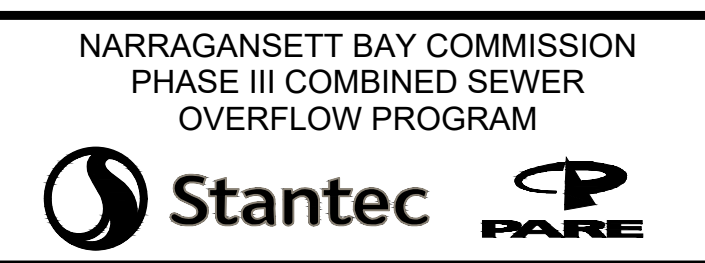
SCALE	AS SHOWN
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	D. NOWAK
DRAWN	W. SARNO
CHECKED	M. MACINNIS

90% DESIGN PHASE - NOVEMBER 2021

NOT FOR CONSTRUCTION

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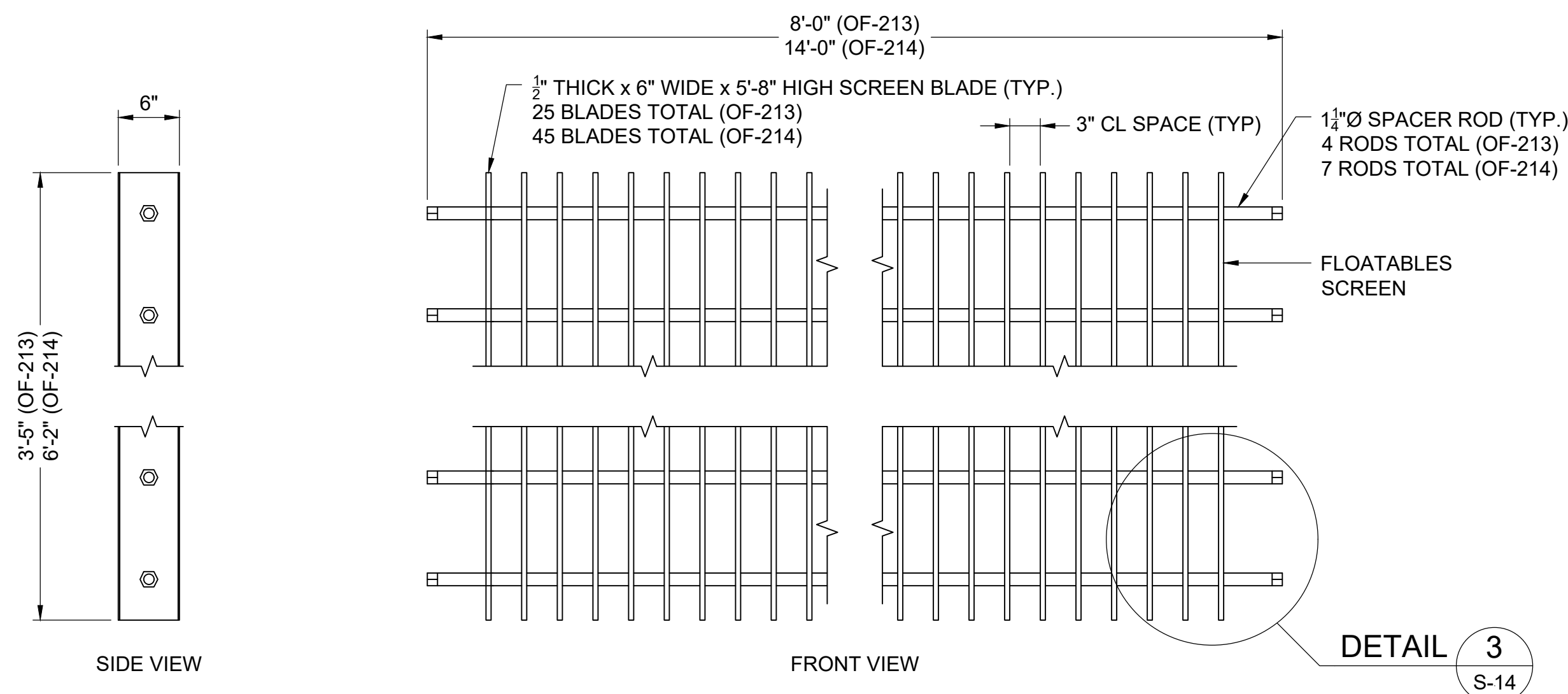


NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

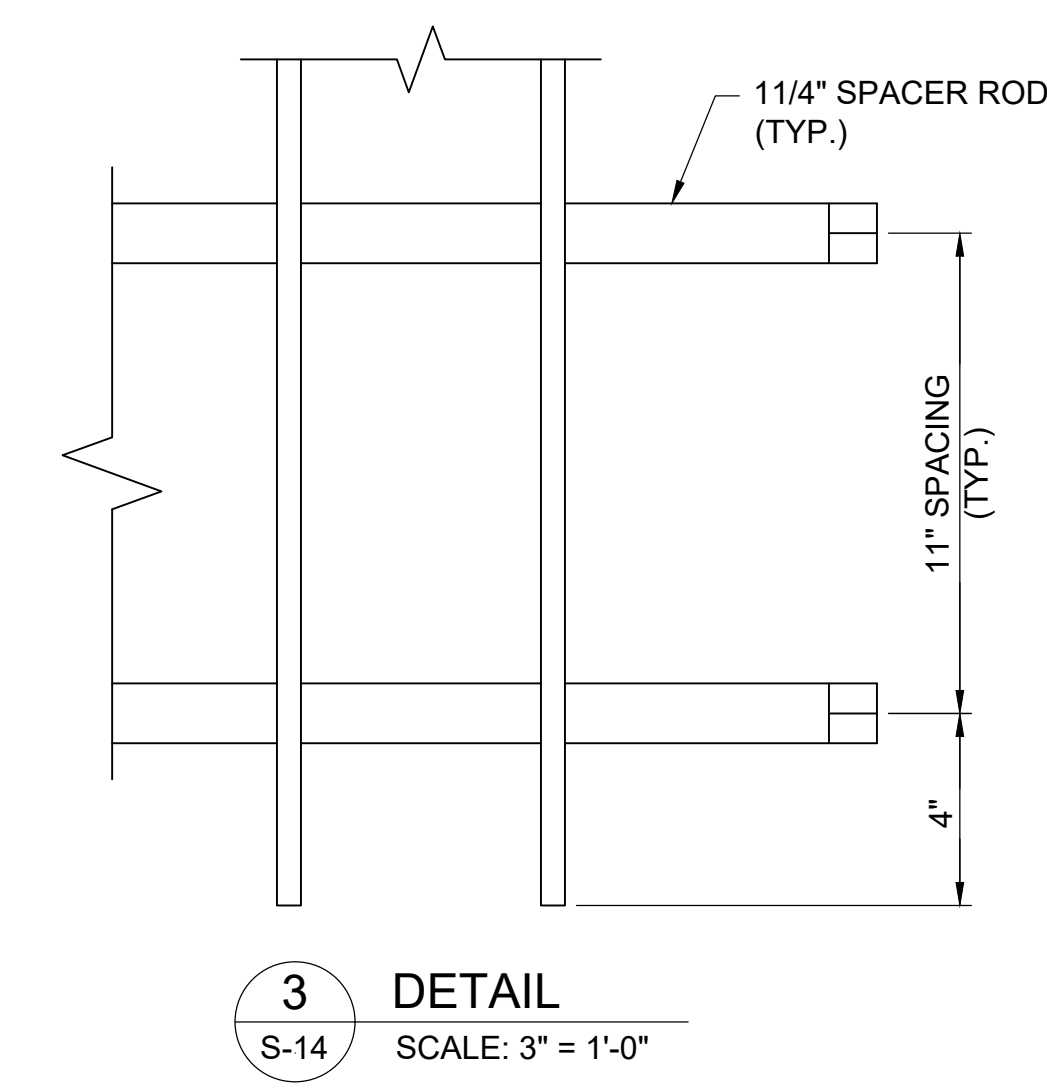
NBC CONTRACT NO 308.04C
STRUCTURAL
OF 210/213/214 FACILITIES
OF-213 REINFORCEMENT

SHEET
S-13
195130227

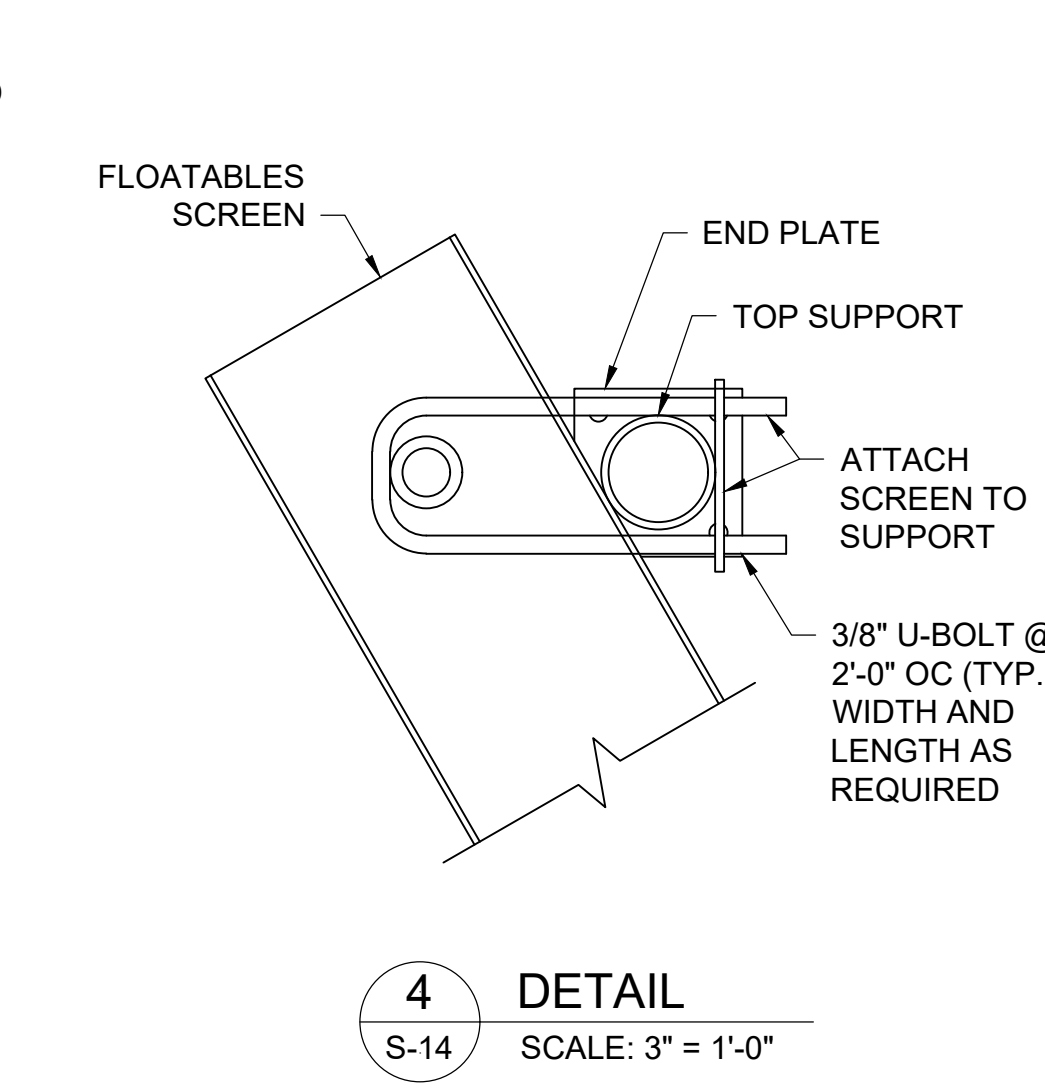
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FLOATABLES SCREEN
SCALE: NTS

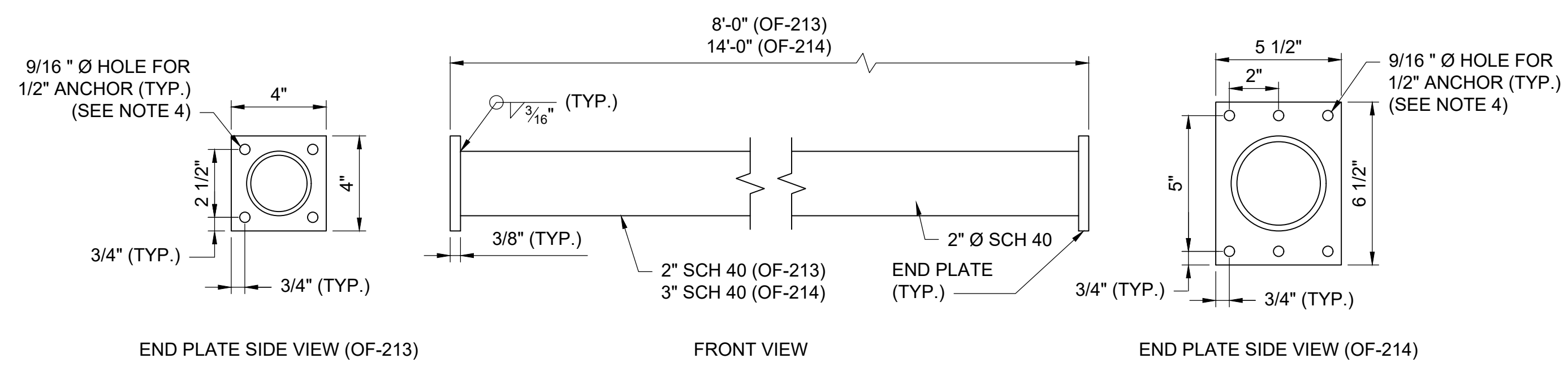


3 DETAIL
S-14 SCALE: 3" = 1'-0"

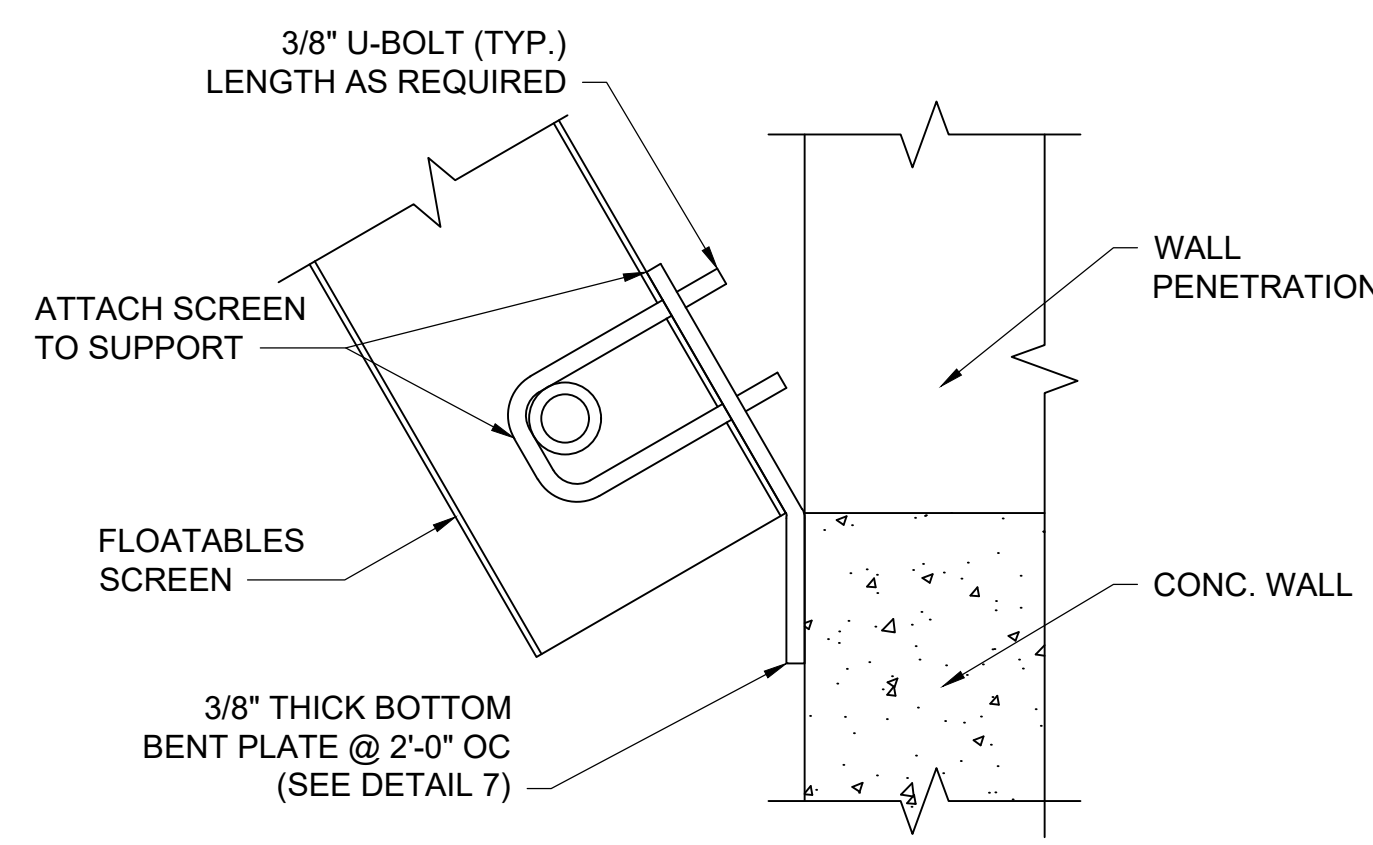


4 DETAIL
S-14 SCALE: 3" = 1'-0"

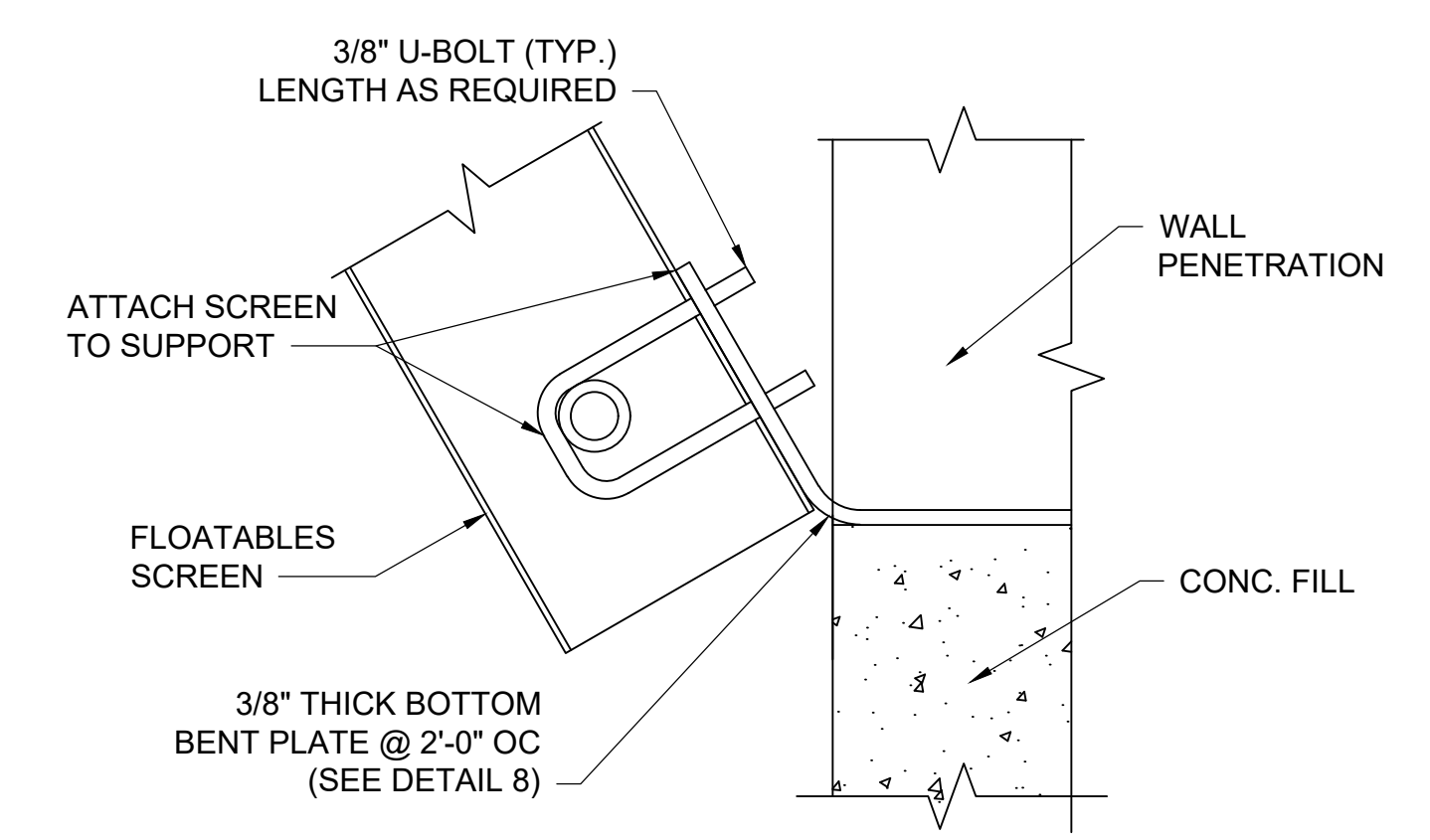
- NOTES:**
1. GENERAL CONFIGURATION PRESENTED, PROVIDE IN ACCORDANCE WITH SECTION 06501.
 2. RACK BLADES AND SPACERS TO BE EXTRA HIGH MOLECULAR WEIGHT HEXEN COPOLYMER (HXM POLYETHYLENE).
 3. HORIZONTAL RODS SHALL BE PULTRUDED FRP.
 4. CONTRACTOR SHALL PROVIDE INSERTS 1/2" ANCHORS (5" MIN. LENGTH) FOR TOP AND BOTTOM SUPPORT INSTALLATION.
 5. SUPPORT FRAMING, FASTENERS AND ANCHORS SHALL BE STAINLESS STEEL AS SPECIFIED.



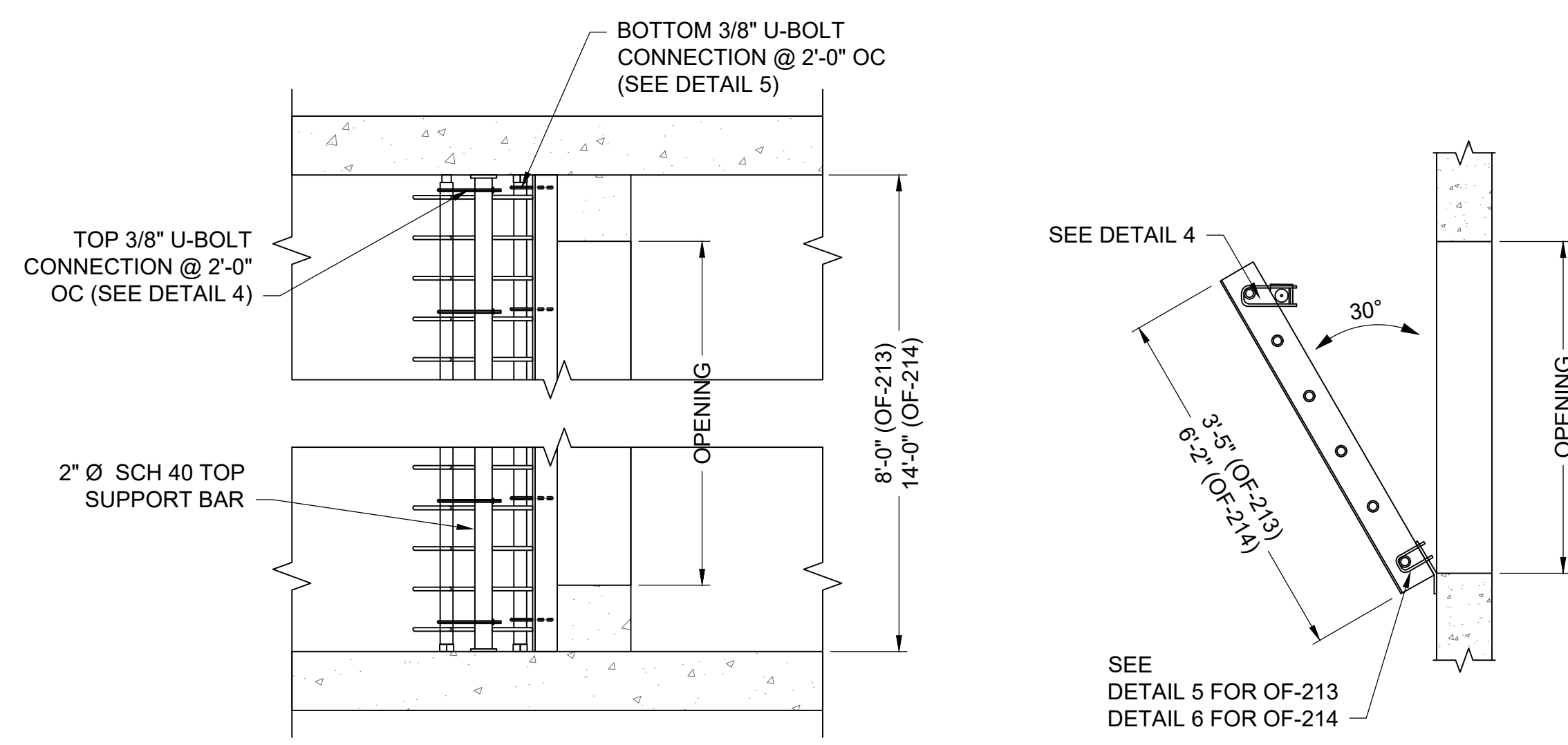
TOP SUPPORT
SCALE: NTS



5 DETAIL (OF-213)
S-14 SCALE: 3" = 1'-0"

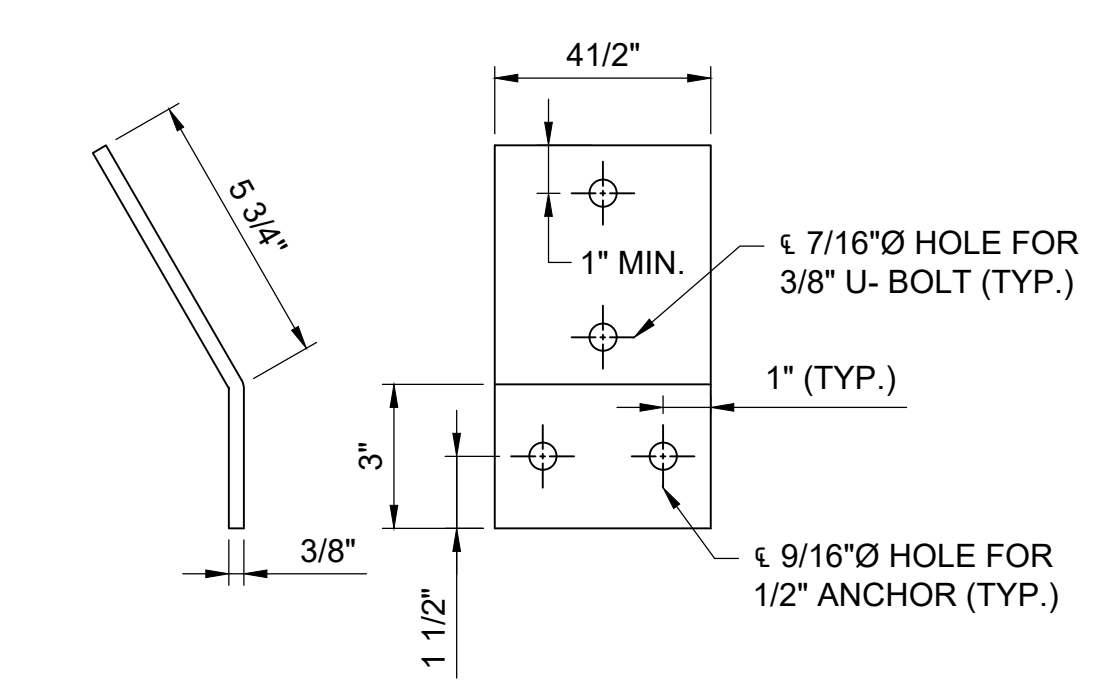


6 DETAIL (OF-214)
S-14 SCALE: 3" = 1'-0"

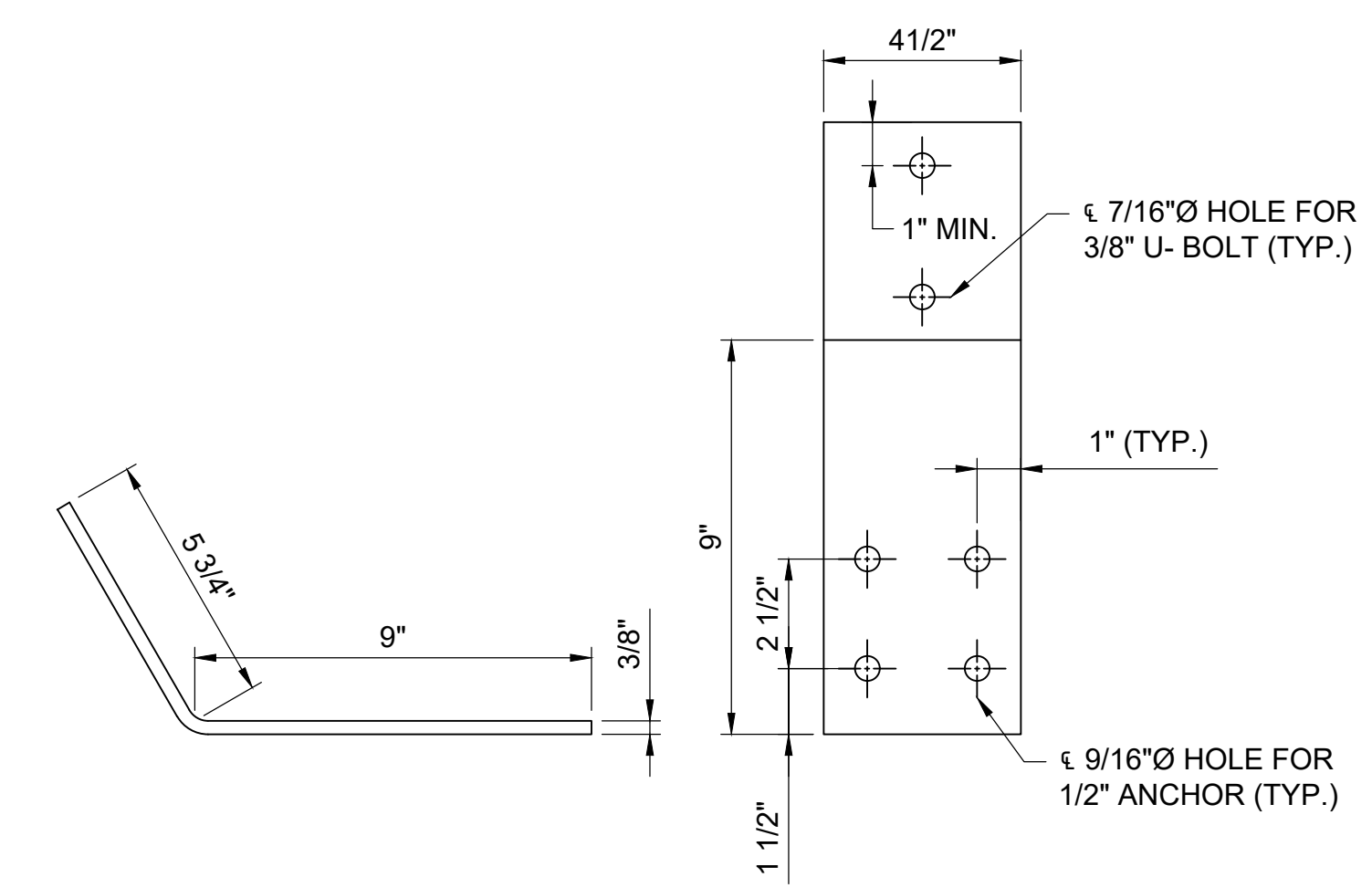


PLAN VIEW
SCALE: NTS

ELEVATION VIEW
SCALE: NTS



7 DETAIL (OF-213)
S-14 SCALE: 3" = 1'-0"



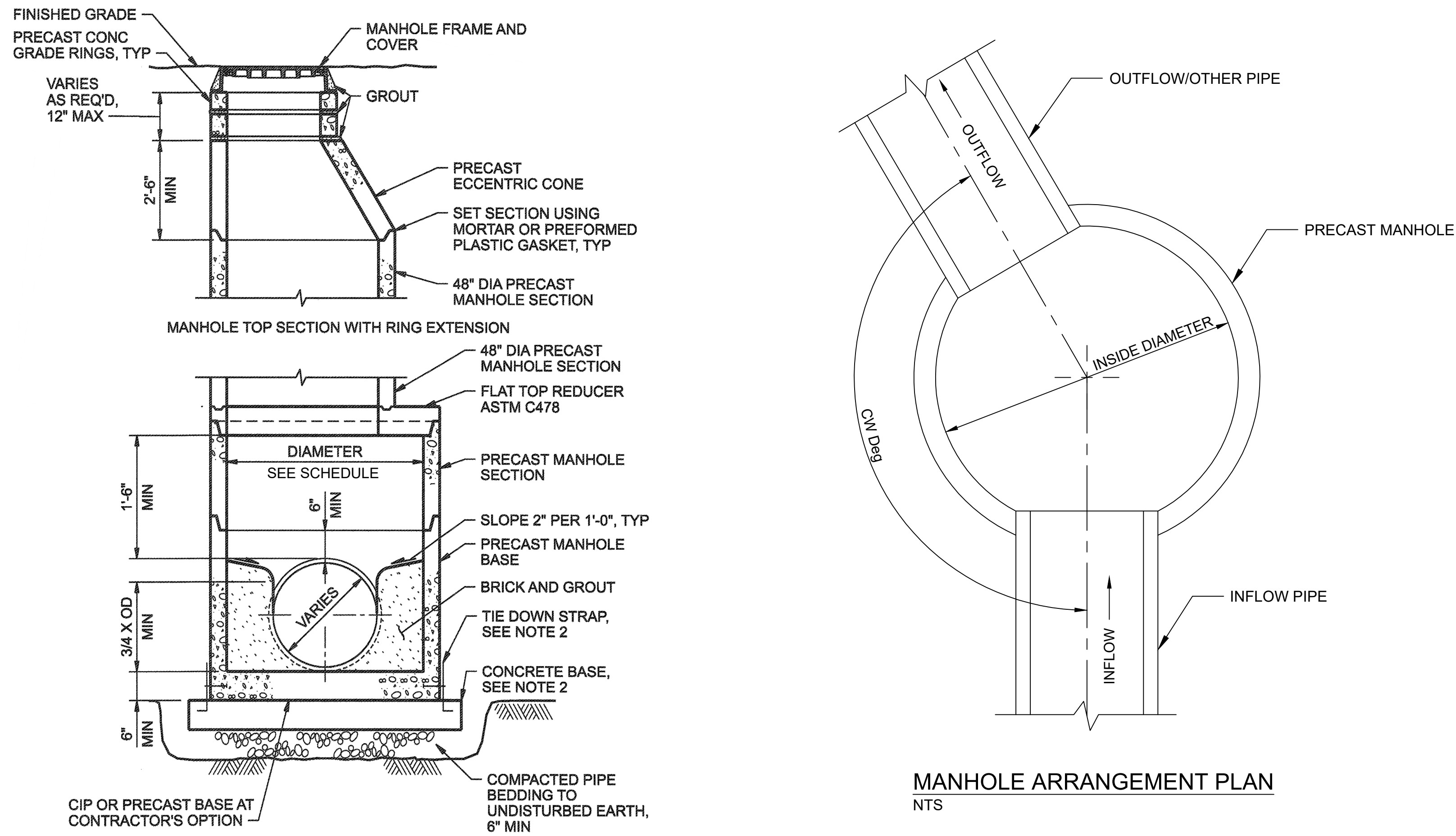
8 DETAIL (OF-214)
S-14 SCALE: 3" = 1'-0"

PRECAST MANHOLE/CHAMBER SCHEDULE								
MH ID	INSIDE DIAMETER	RIM EL	FLAT TOP REDUCER EL	INFLOW PIPE DIA	INFLOW INVERT EL	OUTFLOW PIPE DIA	OUTFLOW INVERT EL	OUTFLOW PIPE ANGLE
	(ft)	(ft)	(ft)	(in)	(ft)	(in)	(ft)	(CW Deg)
210-1 (NOTE 7)	8	32.99	30.99	48	24.74	48	20.60	182d37'09"
OF-210 (NOTES 3 & 7)	10	32.55	30.55	48	20.49	48	16.25	249d27'23"
213-1	8	31.36	25.36	48	15.82	48	14.02	197d35'57"
213-2	8	24.52	18.52	48	12.80	48	9.51	179d55'20"
213-3	8	23.25	17.25	48	8.59	48	6.59	153d40'41"
217-3	8	12.72	6.72	48	-2.62	48	-2.72	172d53'24"
217-2	8	15.15	9.15	48	-3.11	48	-3.21	259d54'29"
217-1	8	15.62	9.62	48	-3.24	48	-3.34	118d21'01"
GSS-2	10	23.90	17.90	72	-5.79	72	-5.89	148d21'53"

NOTES:

- REFER TO STRUCTURAL NOTES ON SHEET S-1.
- CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF PRECAST MANHOLES/CHAMBERS, INCLUDING BASE AND FLAT TOP REDUCER.
- ADDITIONAL PIPE PENETRATIONS THROUGH OF-210 STRUCTURE.

PIPE DIA (IN)	PIPE INVERT EL (FT)	PIPE ANGLE (CW DEG)
12	25.84	115d01'17"
12	25.84	268d41'06"
48	24.10	190d06'02"
- CONTRACTOR TO VERIFY ALL MANHOLE/CHAMBER PENETRATION SIZES AND LOCATIONS.
- CONTRACTOR TO PROVIDE LADDER AND RUNGS FOR MAN ACCESS IN ACCORDANCE WITH PROJECT STANDARDS.
- PRECAST CONCRETE MANHOLES AND CHAMBERS SHALL BE COATED WITH BITUMEN MODIFIED WATERPROOFING MEMBRANE USING SIKALASTIC 320 OR APPROVED EQUAL.
- PRECAST CONCRETE GRADE RINGS SUPPORTED DIRECTLY FROM FLAT TOP REDUCER FOR MH 210-1 AND OF-210. OPENING IN FLAT TOP SHALL BE 30", 48" MANHOLE RISER INCLUDING ECCENTRIC CONE NOT USED.



NOTES:

- CONTRACTOR MAY FORM WALLS OF MANHOLE BASE AT HIS OPTION. CONTRACTOR SHALL PROVIDE SUBMITTAL SHOWING DIMENSIONS AND REINFORCING OF MANHOLE BASE FOR APPROVAL.
- CONCRETE FLOTATION RESISTANT BASE SHALL BE PROVIDED IF REQUIRED BY DESIGN THE SLAB SHALL BE ATTACHED TO THE PRECAST MH WITH A MINIMUM OF 4 EQUALLY SPACED STAINLESS STEEL (SS) TIE DOWN STRAP ANCHORS. STAINLESS STEEL TIE DOWN STRAP ANCHORS SHALL BE A 1/2"x4" TYPE 316 SS BENT PLATE (MIN) ATTACHED TO THE MH WITH 2 1/2" DIA SS THROUGH BOLTS (MIN).

MANHOLE DETAIL
NTS

MANHOLE ARRANGEMENT PLAN
NTS

GENERAL NOTES

GENERAL

- PROCESS MECHANICAL EQUIPMENT AND PIPING LOCATIONS, DIMENSIONS, AND LAYOUTS ARE BASED ON THE EQUIPMENT SELECTED AND SPECIFIED BY THE ENGINEER. IF THE CONTRACTOR PROPOSES TO FURNISH EQUIPMENT THAT REQUIRES AN ARRANGEMENT OR SPACE OTHER THAN THAT INDICATED ON THE DRAWINGS OR AS SPECIFIED, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL DETAILED DRAWINGS AND EQUIPMENT LISTS (FOR IMPACTED DISCIPLINES) SHOWING EQUIPMENT AND PIPING LOCATIONS, DIMENSIONS, AND LAYOUTS PROPOSED. THIS INFORMATION SHALL INCLUDE, BUT NOT BE LIMITED TO, PLANS, SECTIONS, DETAILS, AND SCHEMATICS OF EQUIPMENT AND APPURTENANCES REQUIRED. THE CONTRACTOR SHALL PROVIDE DETAILS OF CHANGES TO ADJACENT PIPE ROUTING TO ACCOMMODATE TIE-IN LOCATIONS FOR PROPOSED EQUIPMENT.
- OTHER DISCIPLINE BACKGROUND DRAWINGS AND DIMENSIONS SHOWN ON THE PROCESS MECHANICAL DRAWINGS ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL CLARIFY DISCREPANCIES BETWEEN DISCIPLINES WITH THE ENGINEER PRIOR TO FABRICATION OR CONSTRUCTION.
- EQUIPMENT FOUNDATION AND PAD DIMENSIONS SHOWN ON THE PROCESS MECHANICAL DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE EQUIPMENT PAD DIMENSIONS WITH THE MANUFACTURER TO ACCOMMODATE THE ACTUAL SIZE OF EQUIPMENT FURNISHED (AS SHOWN ON THE APPROVED SHOP DRAWINGS) AND AVAILABLE SPACE. REFER TO THE STRUCTURAL DRAWINGS AND STRUCTURAL STANDARD DETAILS FOR EQUIPMENT PAD DESIGN REQUIREMENTS.
- EQUIPMENT BASES HAVING DRAIN OUTLETS, EQUIPMENT DRAINS, AND PIPING DRAINS SHALL BE PIPED WITH A CONTINUOUS SLOPE TO THE NEAREST FLOOR DRAIN, FLOOR SINK, HUB DRAIN, OR TRENCH DRAIN. DRAIN PIPE NOMINAL DIAMETER AND MATERIAL SHALL BE PER THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. DRAIN PIPING SHALL BE SUITABLY SUPPORTED AND ROUTED IN SUCH A MANNER TO AVOID TRIP HAZARDS.
- WHERE WELDING OF STAINLESS STEEL IS REQUIRED, PASSIVATE STAINLESS STEEL AFTER WELDING.

PIPING

- CONTRACTOR SHALL PROVIDE INTERCONNECTING PIPING, FITTINGS, WALL PIPES, AND PIPE SUPPORTS (INCLUDING THOSE REQUIRED FOR INSTRUMENTS, DRAINS, AND OTHER APPURTENANCES) AS REQUIRED FOR A COMPLETE PROCESS MECHANICAL PIPING SYSTEM.
- FOR CLARITY, SMALL DIAMETER PROCESS PIPING MAY NOT BE SHOWN IN ITS ENTIRETY. THE CONTRACTOR SHALL REFER TO THE CONTRACT DOCUMENTS TO DETERMINE THE NEW WORK ASSOCIATED WITH EACH PIPING SYSTEM TO COMPLETE THE WORK.
- PROCESS MECHANICAL PIPING SYSTEMS AND EQUIPMENT SHALL BE INSTALLED IN SUCH A WAY TO BE EASILY DISMANTLED AND REMOVED WITHOUT DISTURBING THE REMAINING AND ADJACENT EQUIPMENT, PIPING, AND SUPPORTS.
- PIPING CONNECTED TO PROCESS MECHANICAL EQUIPMENT SHALL BE INSTALLED AND SUPPORTED SUCH THAT IT DOES NOT IMPART STRAIN ON THE EQUIPMENT.
- UNLESS OTHERWISE SHOWN, HORIZONTAL REDUCERS INSTALLED IN PIPING SYSTEMS SHALL BE ECCENTRIC (BOTTOM FLAT). HORIZONTAL REDUCERS CONNECTED TO PUMP SUCTIONS SHALL BE ECCENTRIC (TOP FLAT).
- UNLESS OTHERWISE SHOWN, ELBOWS 2-1/2" AND LARGER SHALL BE STANDARD LONG RADIUS ELBOWS. WHERE REQUIRED IN TIGHT AREAS FOR FIT-UP, USE SHORT RADIUS OR REDUCING ELBOWS.
- A MINIMUM HEADROOM CLEARANCE HEIGHT OF 7'-6" SHALL BE PROVIDED FOR OVERHEAD PROCESS MECHANICAL PIPING SYSTEMS.
- SLEEVE COUPLINGS, FLANGED COUPLING ADAPTERS, AND FLEXIBLE COUPLINGS SUBJECT TO A POSITIVE INTERNAL FLUID PRESSURE SHALL BE PROVIDED WITH RESTRAINT SYSTEMS.
- EXPOSED PIPING SUBJECT TO FREEZING SHALL BE INSULATED AND HEAT TRACED (IF HEAT TRACE IS SPECIFIED). SEE THE SPECIFICATION SECTION 'PIPING', GENERAL FOR HEAT TRACE AND INSULATION REQUIREMENTS.
- IF AN EXTERNAL SOURCE OF PUMP SEAL WATER IS REQUIRED BY THE PUMP MANUFACTURER, SEAL WATER SHALL BE PROVIDED BY THE CONTRACTOR PER THE MANUFACTURER'S RECOMMENDATIONS, WHETHER SHOWN OR NOT SHOWN ON THE CONTRACT DRAWINGS. SEAL WATER PIPING SHALL BE PIPED TO THE NEAREST UTILITY WATER SUPPLY.
- SEAL WELD THREADED PIPE INSTALLATIONS FOR LIQUID OR GASEOUS CHLORINE, LIQUID OR GASEOUS SULFUR DIOXIDE, SODIUM HYDROXIDE, AND ACIDS UNDER PRESSURE. WHEN CONNECTING TO THREADED COMPONENTS OR EQUIPMENT, PROVIDE SEAL WELDED BREAKOUT CONNECTIONS (FLANGED TYPE).

PIPE SUPPORTS

- FOR MATERIALS, SPACING, AND ADDITIONAL REQUIREMENTS RELATED TO PIPE SUPPORTS, SEE THE SPECIFICATION SECTION 'PIPE SUPPORTS'.
- PROVIDE PIPE SUPPORTS REQUIRED FOR A COMPLETE PIPING SYSTEM. PIPE SUPPORTS SHALL BE PROVIDED WHERE REQUIRED BY THE SPECIFICATION SECTION 'PIPE SUPPORTS' AND/OR AT POINTS MARKED WITH AN "X" ON PLAN VIEW DRAWINGS.
- WHEN FIBERGLASS OR PVC-COATED PIPE SUPPORT MATERIALS ARE CUT OR DRILLED, THE CUT EXPOSED END OF THE MATERIAL SHALL BE RE-COATED OR SEALED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- PIPE SUPPORTS FOR PLASTIC PIPE OR FIBERGLASS PIPE SHALL BE PROVIDED WITH EXTRA WIDE PIPE SADDLES OR METALLIC SHIELDS WITH LOOSE FIT AROUND THE FULL CIRCUMFERENCE OF THE PIPE AT EACH PIPE SUPPORT.
- PIPE SUPPORTS FOR COPPER PIPE OR TUBING SHALL BE PROVIDED WITH A 2" WIDE BY 1/8" THICK STRIP OF RUBBER FABRIC (OR SIMILAR SUITABLE MATERIAL) AROUND FULL CIRCUMFERENCE OF THE PIPE AT EACH PIPE SUPPORT.
- SUPPORT STRUT CHANNEL ENDS THAT EXTEND INTO PERSONNEL TRAFFIC AREAS SHALL HAVE PLASTIC END CAPS.

VALVES AND GATES

- VALVE AND GATE ACTUATORS SHALL BE MOUNTED TO ALLOW PROPER OPENING AND CLOSING WITHOUT INTERFERENCE WITH ADJACENT PIPING OR EQUIPMENT. UNLESS INDICATED ON THE DRAWINGS, ORIENTATION OF OPERATORS SHALL BE APPROVED BY THE ENGINEER
- UNLESS INDICATED ON THE DRAWINGS, REFER TO THE MANUFACTURER'S RECOMMENDATIONS AND PROJECT SPECIFICATIONS REGARDING THE LOCATION OF THE VALVE SEAT (UPSTREAM OR DOWNSTREAM) AND STEM ORIENTATION.

BY: JAIMIE PAYNE

PLOT DATE: Friday, November 12, 2021 3:57:56 PM

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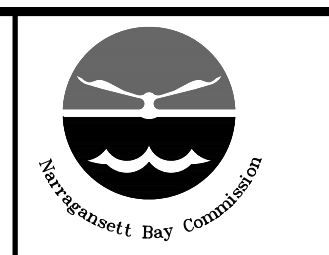
REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

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WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
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DESIGNED	C. CRONIN
DRAWN	J. PAYNE
CHECKED	J. D'ALELIO

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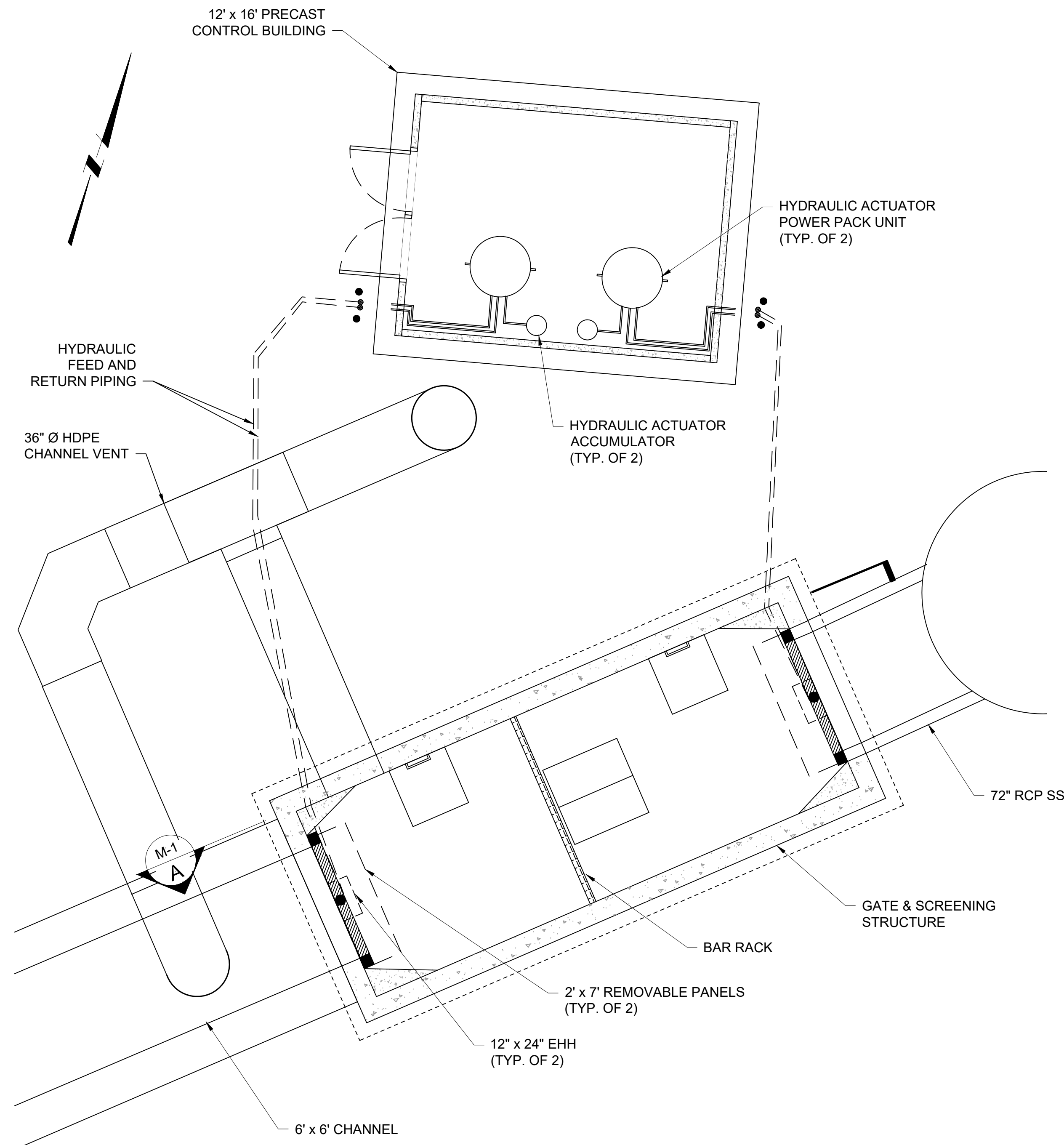


NBC CONTRACT NO 308.04C GENERAL MECHANICAL OF 210/213/214 FACILITIES NOTES & SYMBOLS

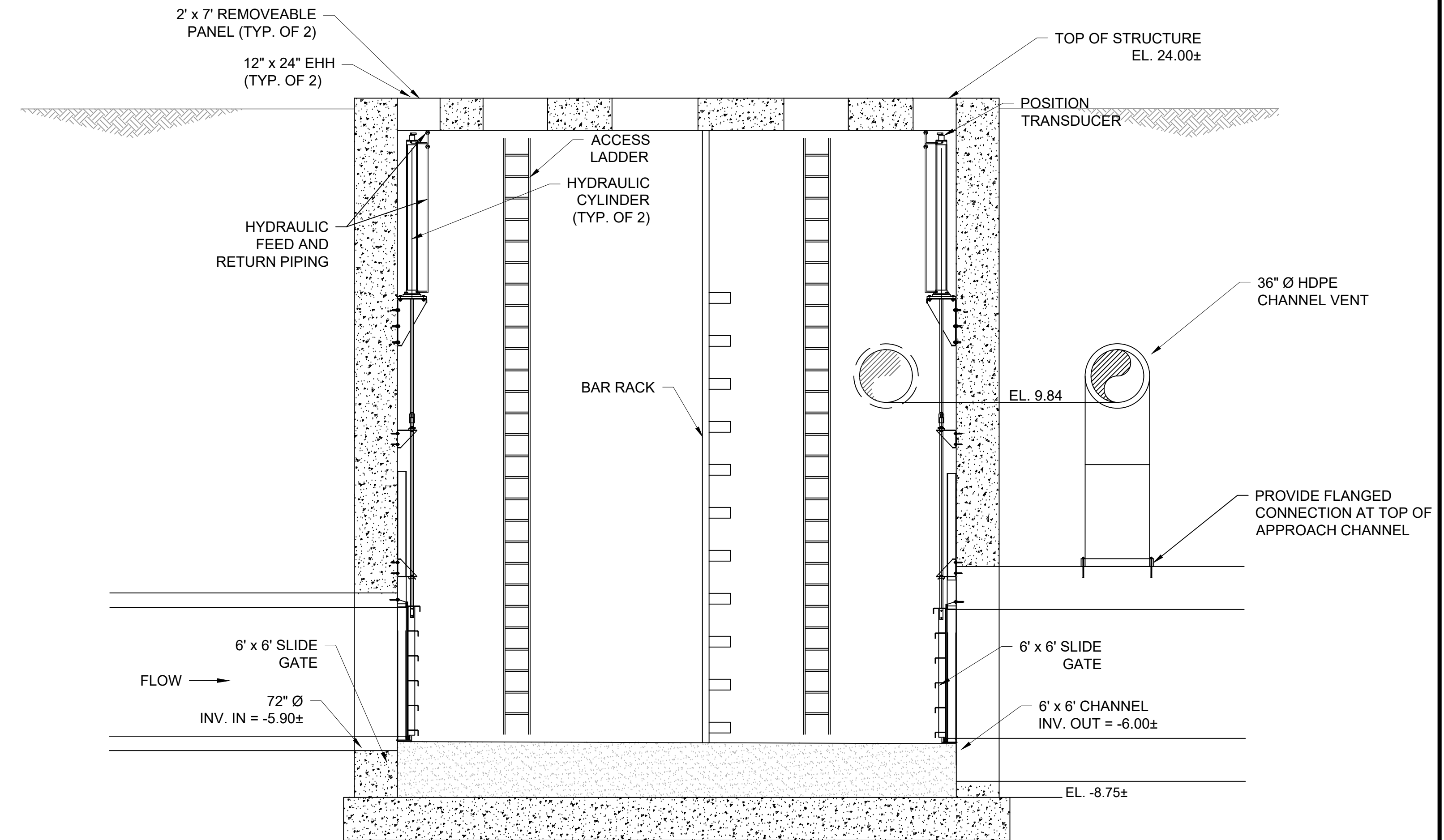
SHEET
GM-1
195130227

GENERAL SHEET NOTES

1. VERTICAL DATUM FOR PROJECT IS NGVD29.



PLAN VIEW
SCALE: 1/4" = 1'-0"



A SECTION
M-1 SCALE: 1/4" = 1'-0"

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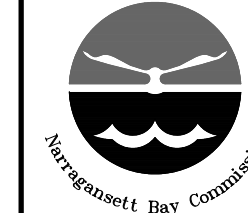
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WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED	C. CRONIN
DRAWN	J. PAYNE
CHECKED	J. D'ALELIO

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PHASE III COMBINED SEWER
OVERFLOW PROGRAM

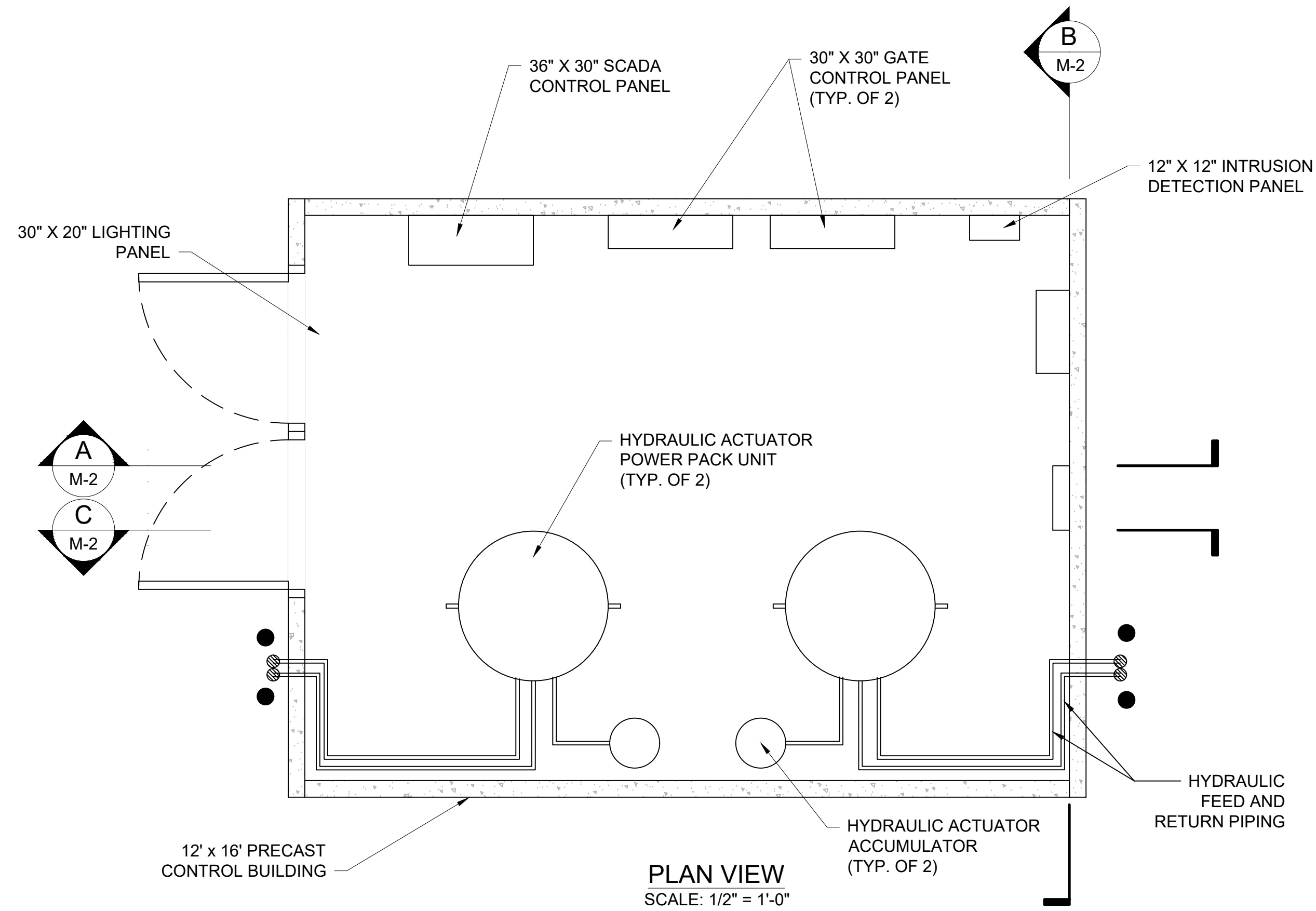


NBC CONTRACT NO 308.04C
MECHANICAL
OF 210/213/214 FACILITIES
GATE & SCREENING STRUCTURE - HYDRAULIC ACTUATOR
AND GATE PLAN AND SECTION

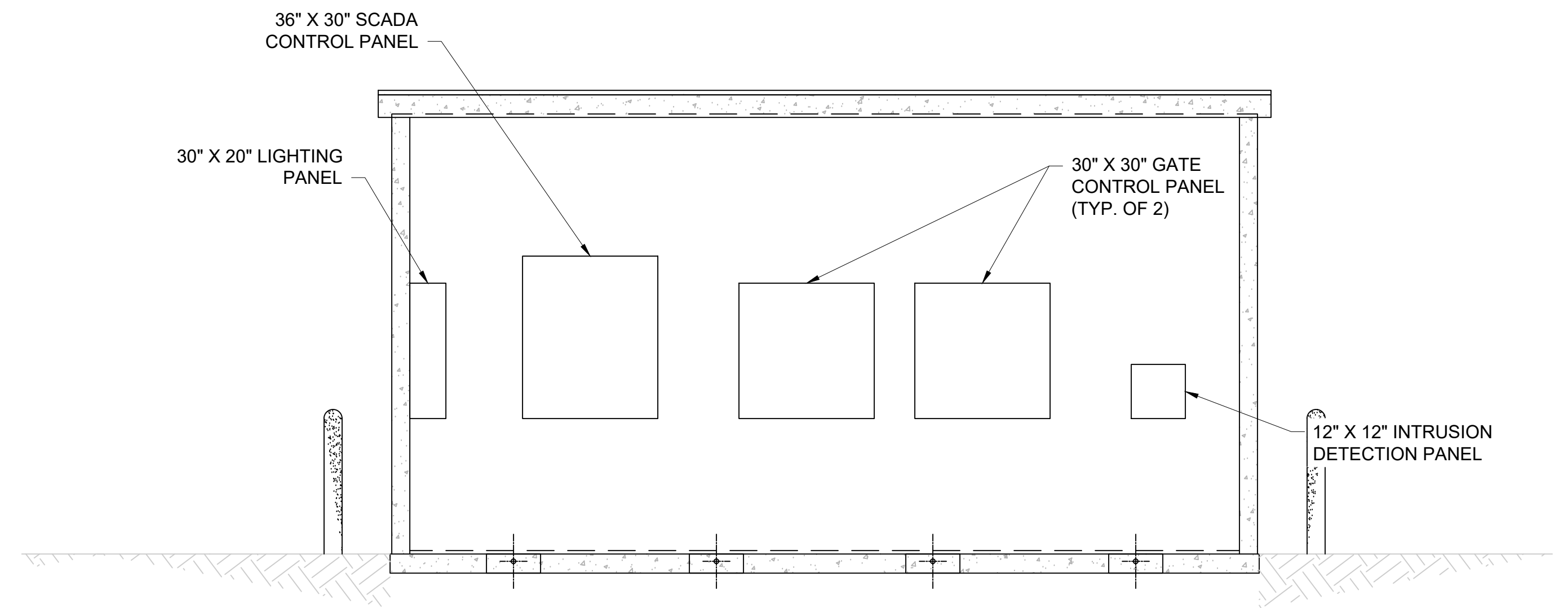
SHEET
M-1
195130227

BY: JAMIE PAYNE

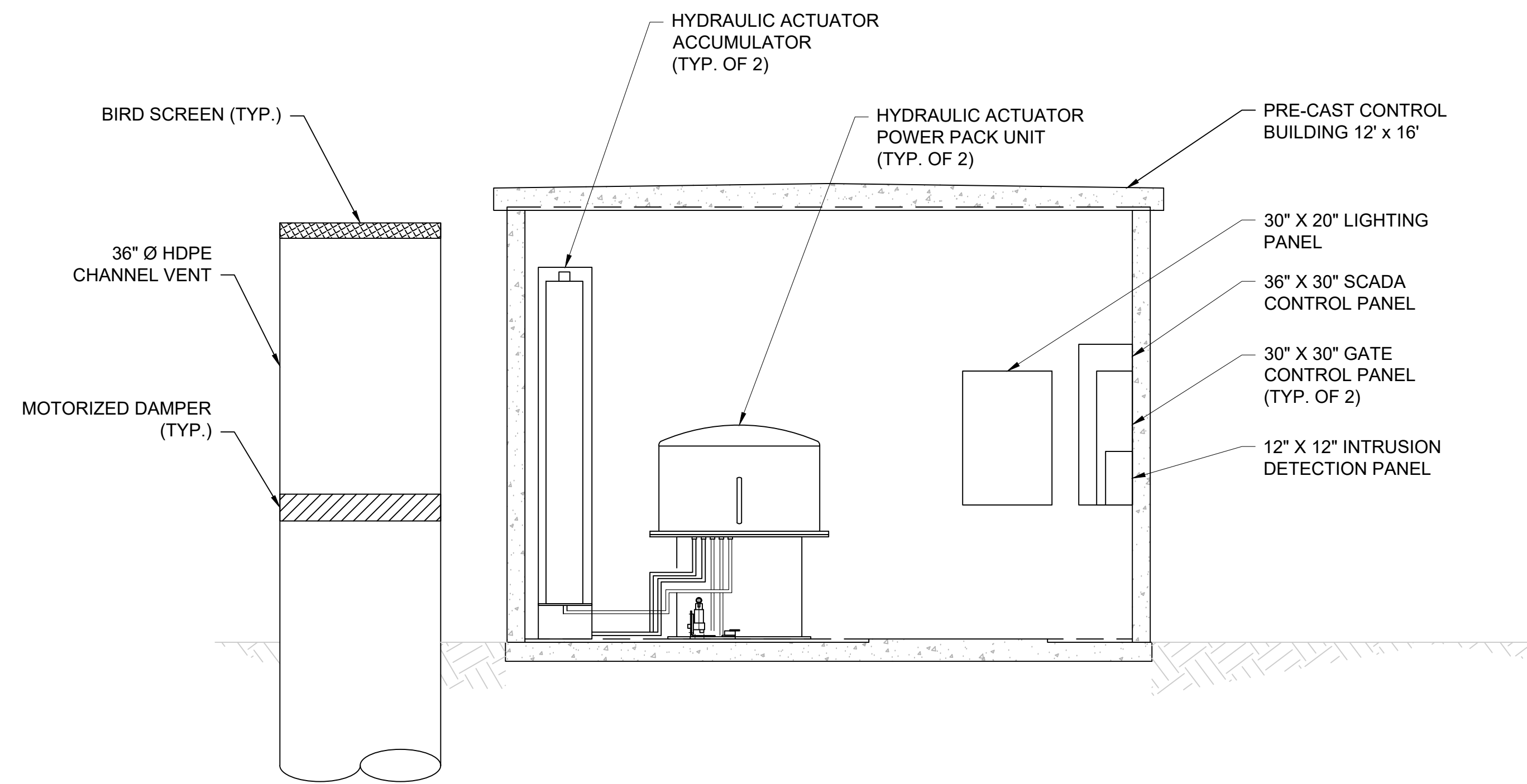
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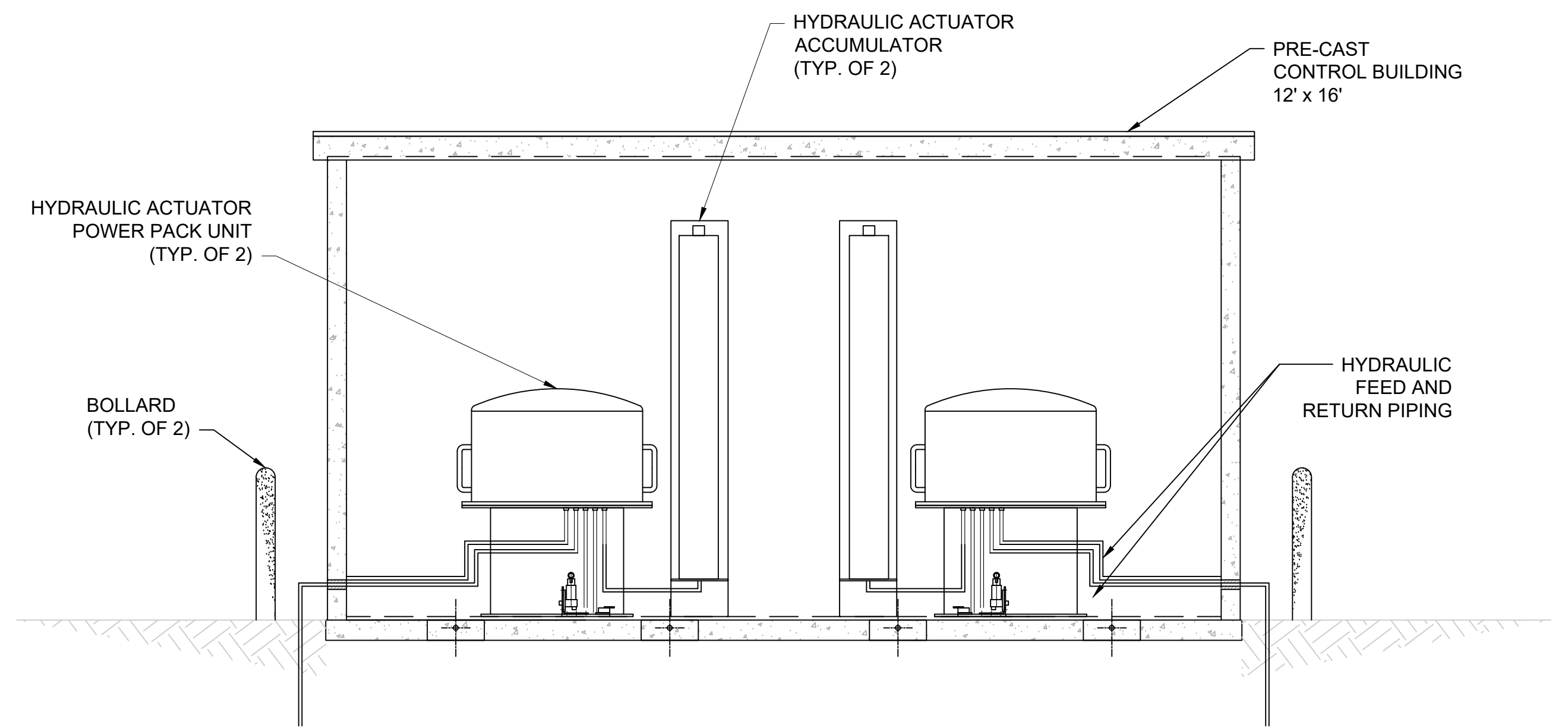
PLAN VIEW
SCALE: 1/2" = 1'-0"



A SECTION
M-2 SCALE: 1/2" = 1'-0"



B SECTION
M-2 SCALE: 1/2" = 1'-0"



C SECTION
M-2 SCALE: 1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION
1	5/13/20	JP	STANTEC COMMENTS

SCALE AS SHOWN	<p>WARNING</p> <p>IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE</p>
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DESIGNED <u>C. CRONIN</u>
DRAWN <u>J. PAYNE</u>
CHECKED <u>J. D'ALESSIO</u>

90% DESIGN PHASE - NOVEMBER 2021

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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
MECHANICAL
OF 210/213/214 FACILITIES
GATE & SCREENING STRUCTURE
CONTROL BUILDING - PLAN AND SECTIONS

SHEET
M-2
195130227

DWG FILE: C:\pwworking\0520871\0F-210,213,214 HVAC.dwg
 PLOT DATE: Thursday, November 4, 2021 10:13:41 AM
 BY: MIKE C

ABBREVIATIONS	
AC	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ALT	ALTITUDE
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CT	COOLING TOWER
CU	CONDENSING UNIT
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DB	DRY BULB
EA	EXHAUST AIR
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FRP	FIBER-REINFORCED PLASTIC
HP	HORSEPOWER
HPU	HEAT PUMP UNIT
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IH	INTAKE HOOD
KW	KILOWATT
LV	LOUVER
M	MOTOR OPERATED DAMPER
MAU	MAKE-UP AIR HANDLING UNIT
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MTD	MOUNTED
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OD AMB	OUTDOOR AMBIENT TEMPERATURE
PW	PUMP POTABLE WATER
RA	RETURN AIR
RF	RETURN FAN
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SEN	SENSIBLE HEAT
SF	SUPPLY FAN
S/S	STAINLESS STEEL
TA	TRANSFER AIR
TYP	TYPICAL
VD	VOLUME DAMPER
V-PH-C	VOLTS-PHASE-CYCLE
WB	WET BULB
WG	WATER GAUGE
WH	WATER HEATER

LEGEND	
DOUBLE LINE	SINGLE LINE
DUCTWORK WITH DUCT LINING	
REDUCER OR INCREASER	
NEW DUCTWORK	
VOLUME DAMPER (VD)	
RADIUS ELBOW (R=1.5)	
VANED ELBOW	
BRANCH DUCT TAKE-OFF	
DIFFUSER	
CEILING RETURN/EXHAUST REGISTER (R) OR GRILLE (G)	
SUPPLY AIR GRILLE (G) OR SUPPLY AIR REGISTER (R)	
RETURN AND/OR AIR GRILLE (G) OR REGISTER (R)	

EQUIPMENT SYMBOLS	
	MOTORIZED DAMPER (OPPOSED BLADE)
	EXHAUST FAN
	LOUVER WITH MOTORIZED DAMPERS
	ELECTRIC UNIT HEATER
	SMOKE DETECTOR
	STATIC PRESSURE SENSOR
	THERMOSTAT
	TEMPERATURE SENSOR
	SUPPLY DIFFUSER
	GAS UNIT HEATER
	INTAKE HOOD
	AIRFLOW
	WALL MOUNTED FAN
	EQUIPMENT CALLOUT

GENERAL HVAC NOTES	
1.	SCOPE OF WORK
A.	THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
B.	ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL MECHANICAL CODE, THE RHODE ISLAND BUILDING CODE, ALL LOCAL CODES, AND ALL OTHER REGULATIONS GOVERNING THE WORK OF THIS NATURE.
C.	BEFORE SUBMITTING ANY PROPOSAL, THE HVAC CONTRACTOR SHALL EXAMINE THE PROPOSED SITE AND SHALL DETERMINE THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE BECAUSE THE HVAC CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
D.	ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER.
2.	SHOP DRAWINGS
A.	REFER TO THE SPECIFICATIONS FOR SHOP DRAWING REQUIREMENTS.
3.	DUCTWORK
A.	DUCTWORK SHALL BE ALUMINUM ONLY, CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS SPECIFIED OTHERWISE.
B.	ALL DUCT JOINTS SHALL BE SEALED IN ACCORDANCE WITH SMACNA STANDARDS AND ACCEPTED GOOD PRACTICE.
C.	ALL DUCT DIMENSIONS ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED PROVIDED THAT THE NET FREE AREA IS MAINTAINED.
6.	MISCELLANEOUS
A.	ALL EXTERIOR OPENINGS SHALL BE PROPERLY CAULKED AND SEALED TO PREVENT INFILTRATION OF OUTSIDE AIR INTO THE CONDITIONED SPACE.
B.	THE CONTRACTOR SHALL VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
C.	THE MECHANICAL PLANS ARE DIAGRAMATIC IN NATURE AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL OF THE DETAILS FOR THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT AND ENSURE THAT IT WILL FIT IN THE AVAILABLE SPACE.
7.	TESTING AND BALANCING
A.	THE HVAC SYSTEMS SHALL BE TESTED AND BALANCED BY AN INDEPENDENT AGENCY. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER.
8.	GUARANTEE
A.	MATERIALS, EQUIPMENT, AND INSTALLATION SHALL BE GUARANTEE FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE. DEFECTS THAT APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

REV	DATE	BY	DESCRIPTION

SCALE	NO SCALE
WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
DESIGNED	R. BEAUVAIS
DRAWN	R. BEAUVAIS
CHECKED	

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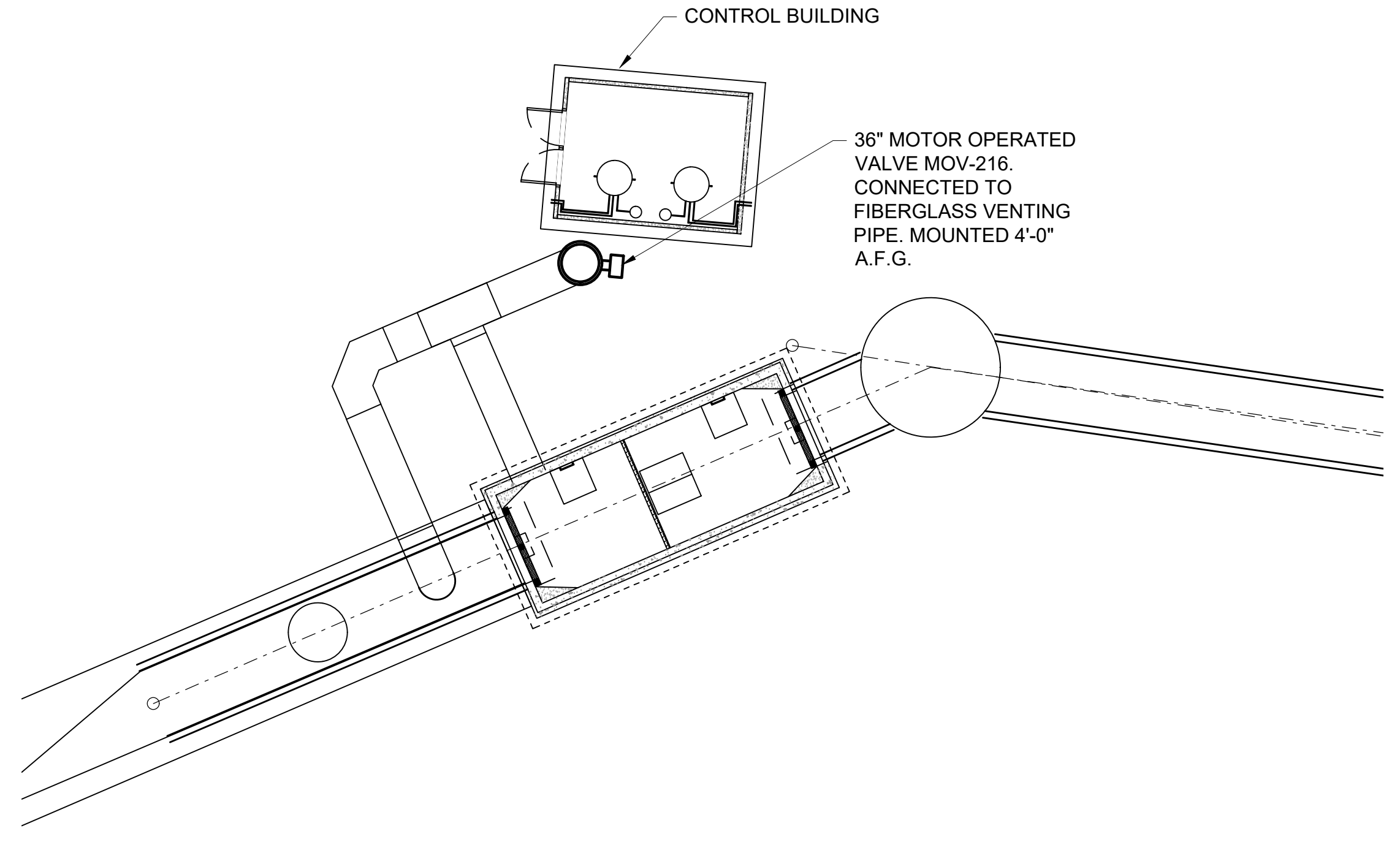
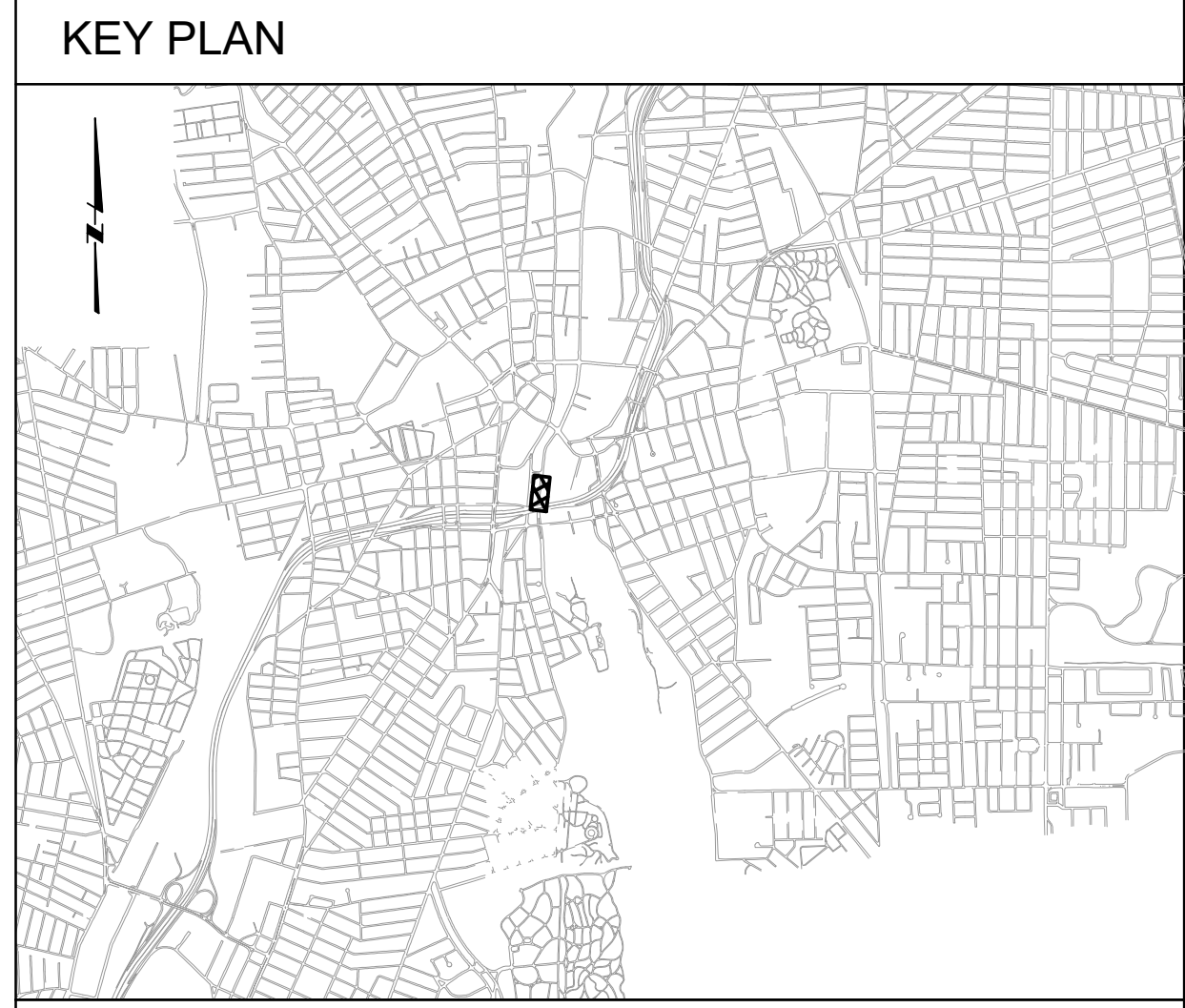


NBC CONTRACT NO 308.04C
GENERAL HVAC
LEGEND & GENERAL NOTES

BY: MIKE C

PLOT DATE: Friday, October 29, 2021 12:49:04 PM

DWG FILE: C:\pwworking\0520871\0F-210,213,214 HVAC.dwg



SITE PLAN VIEW
SCALE: 1" = 10'

GENERAL SHEET NOTES

- 1. NONE

SHEET KEYNOTES

- A. NONE

REV	DATE	BY	DESCRIPTION

SCALE
1/2"=1'-0"

WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED R. BEAUVAIS
DRAWN R. BEAUVAIS
CHECKED _____

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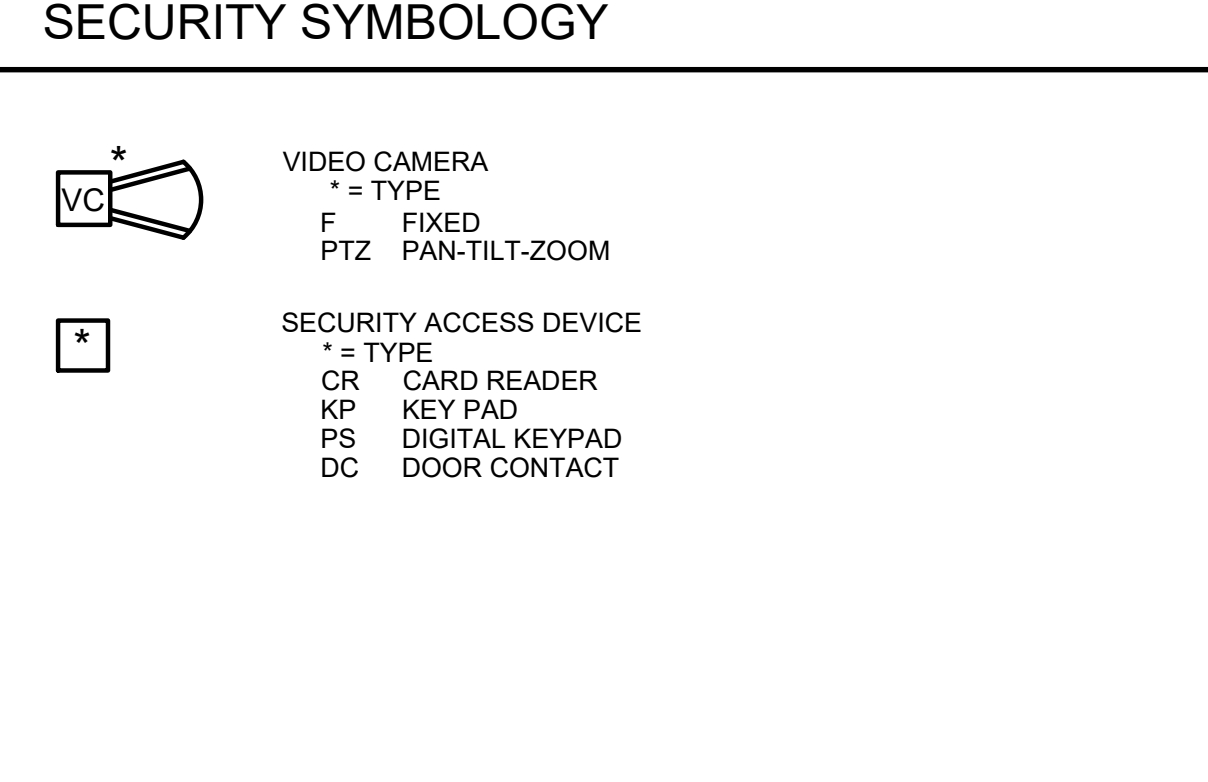
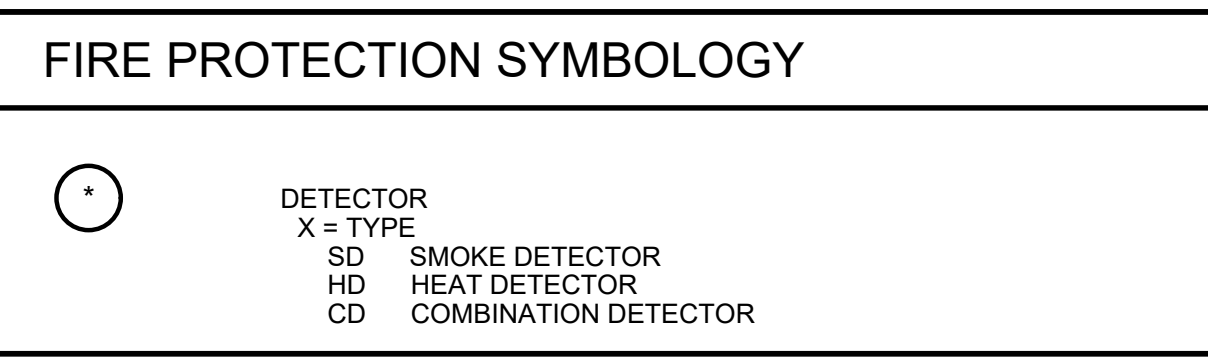
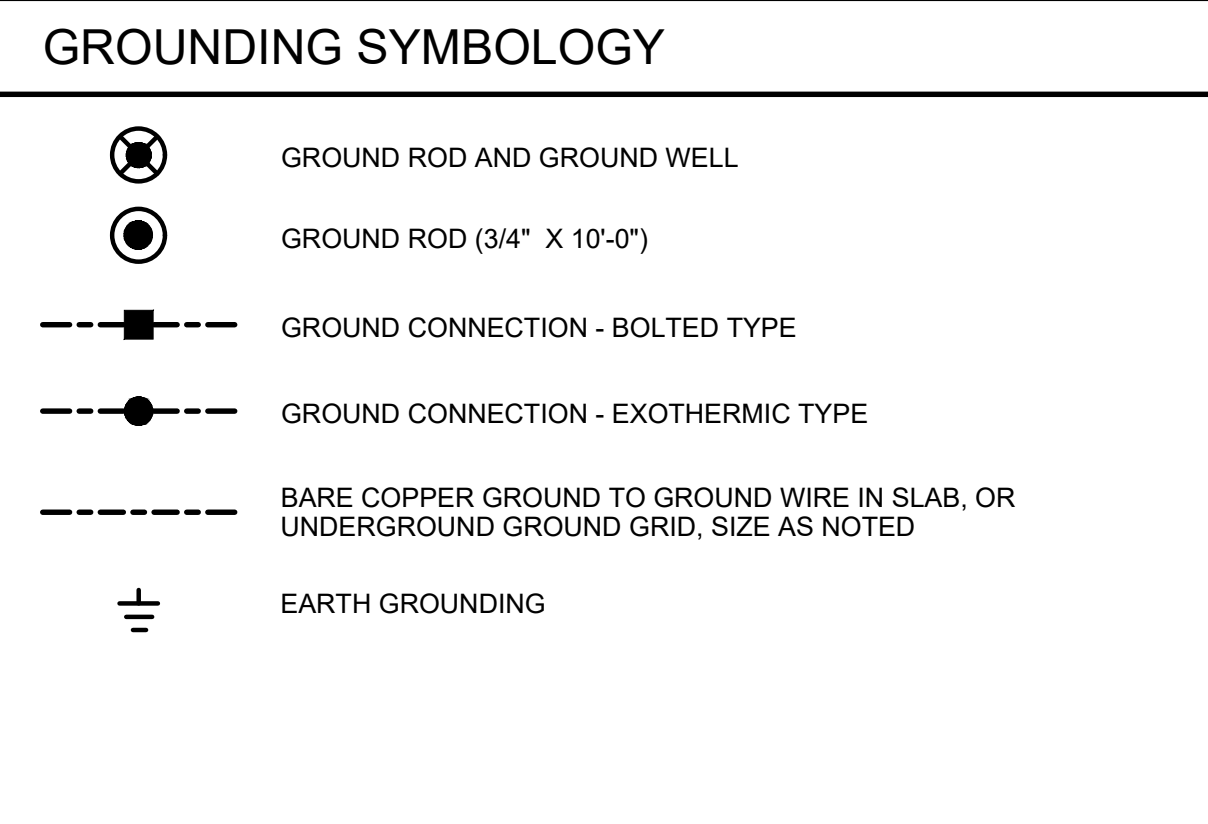
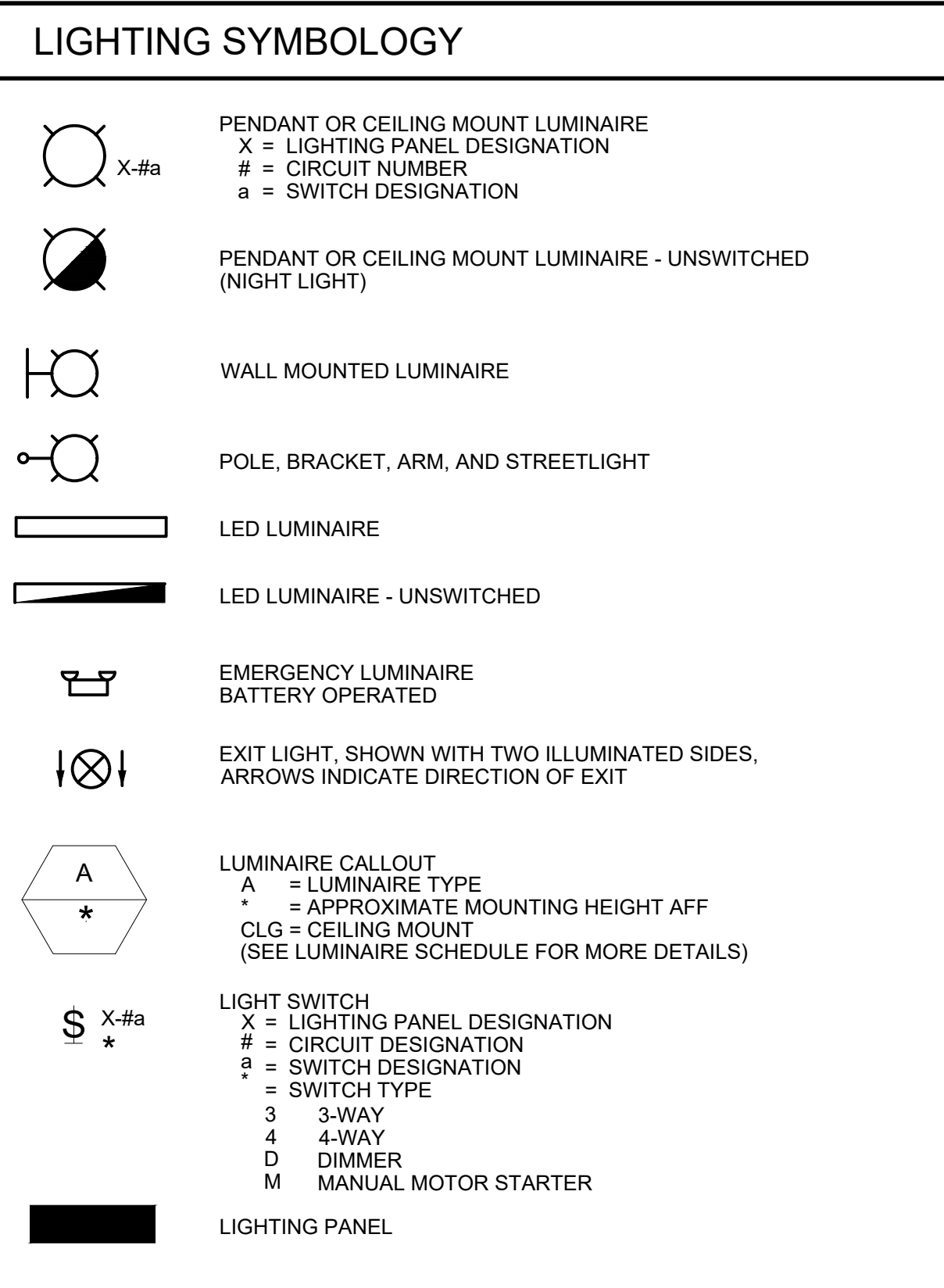
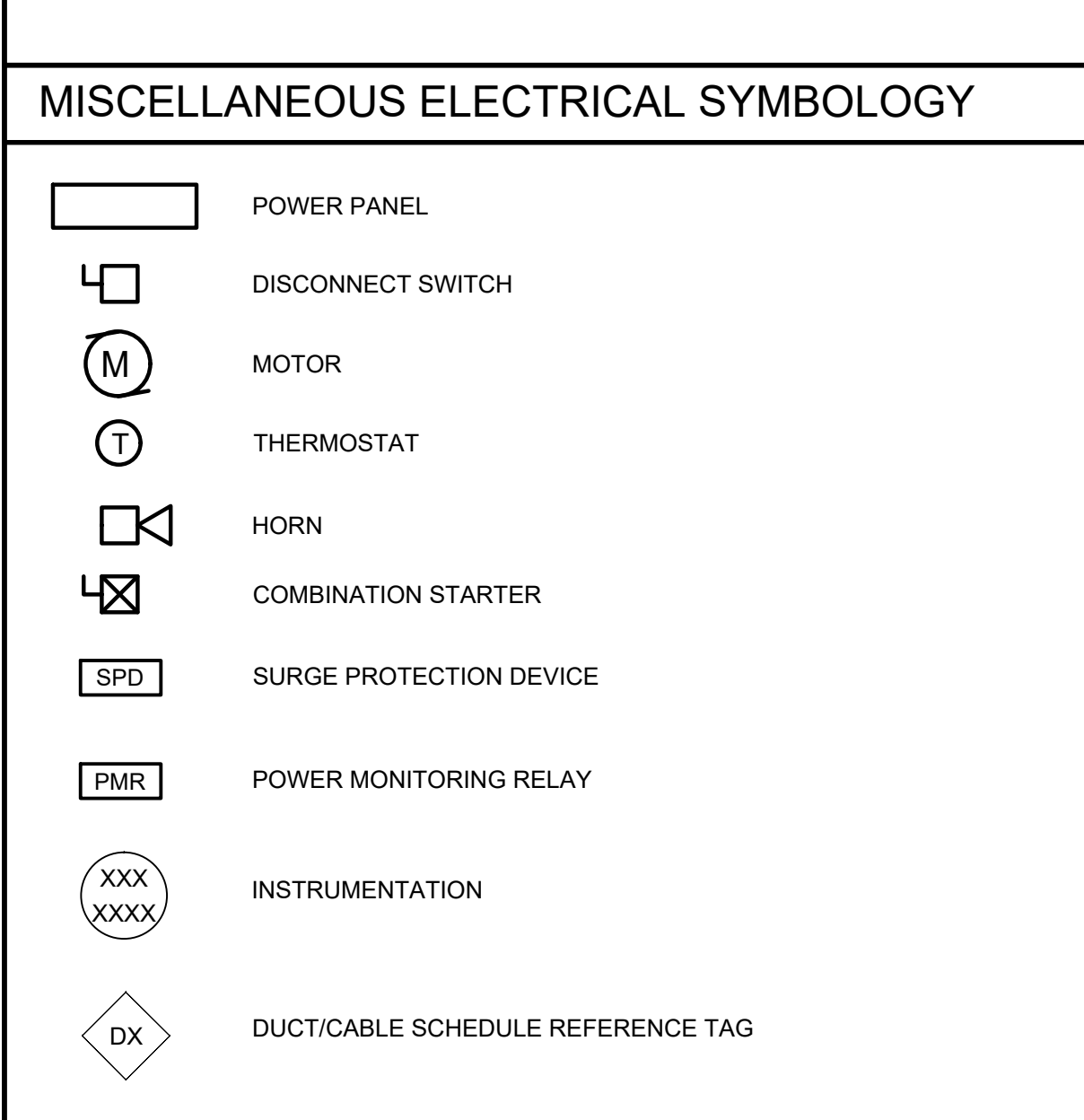
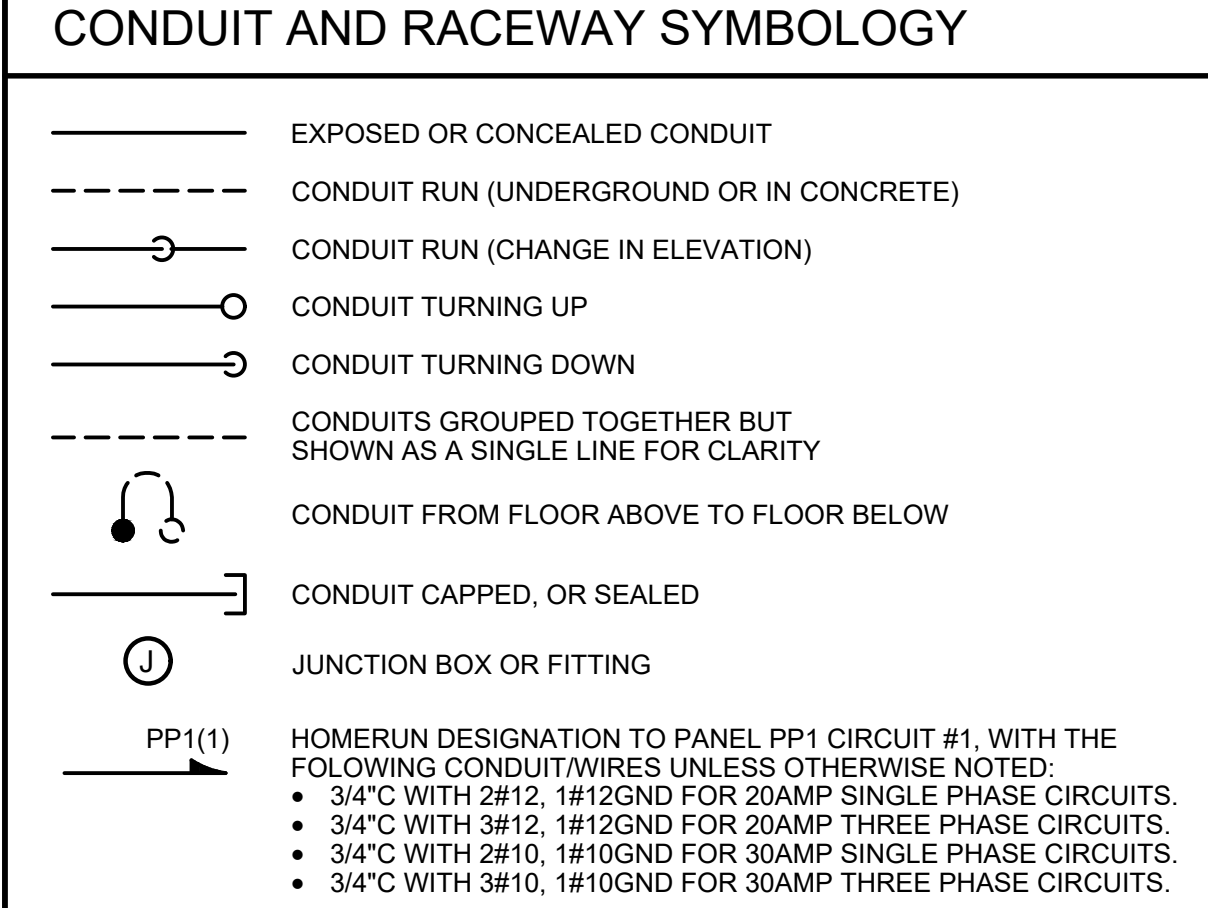
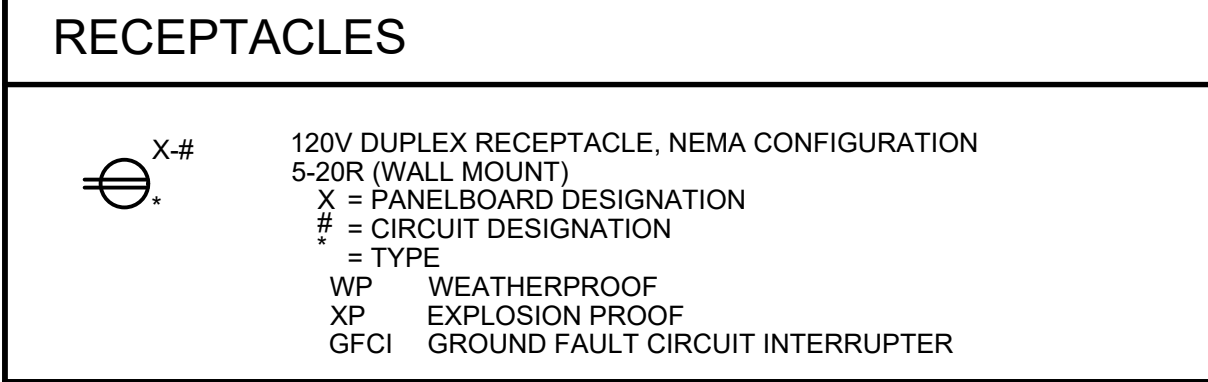
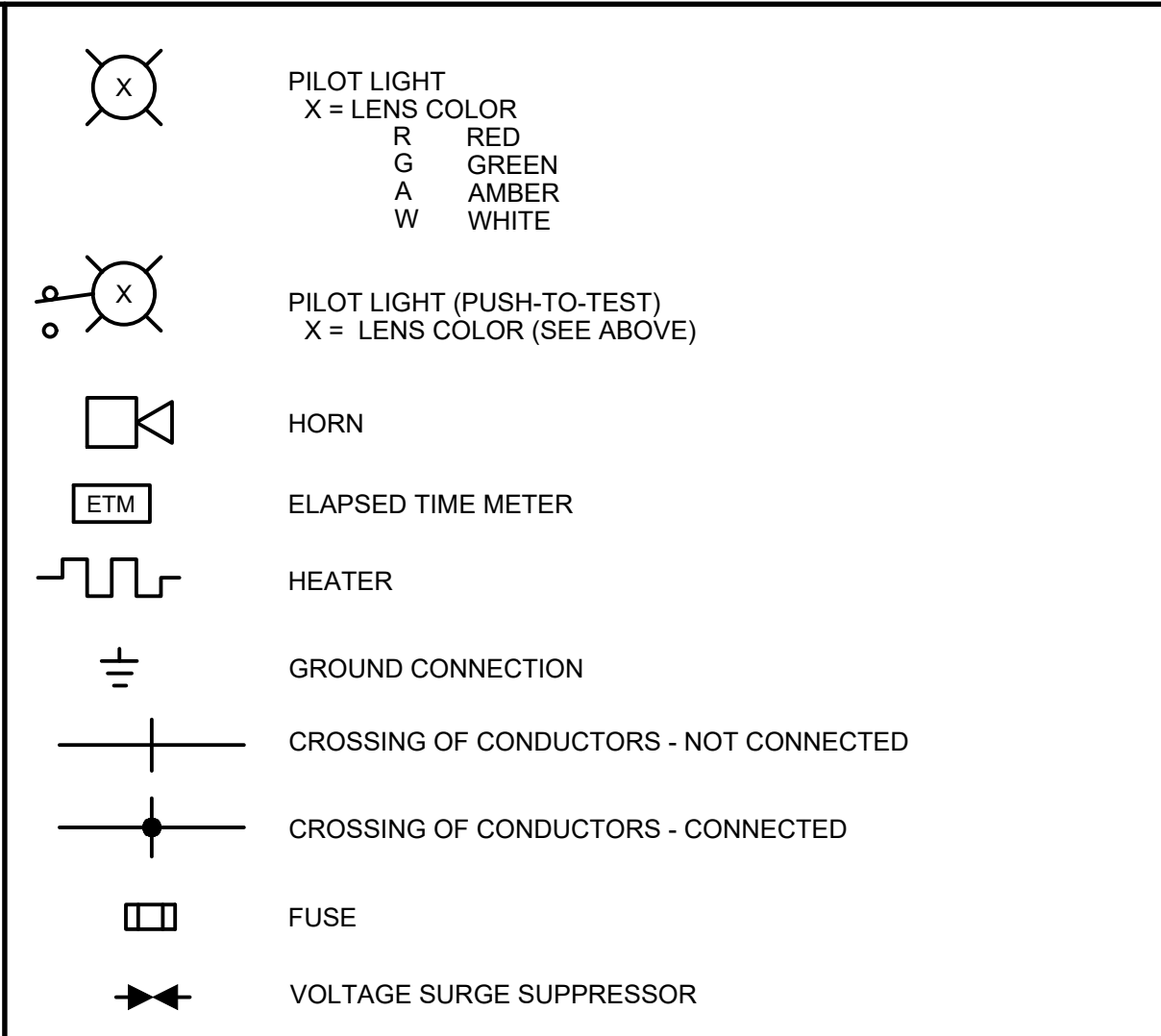
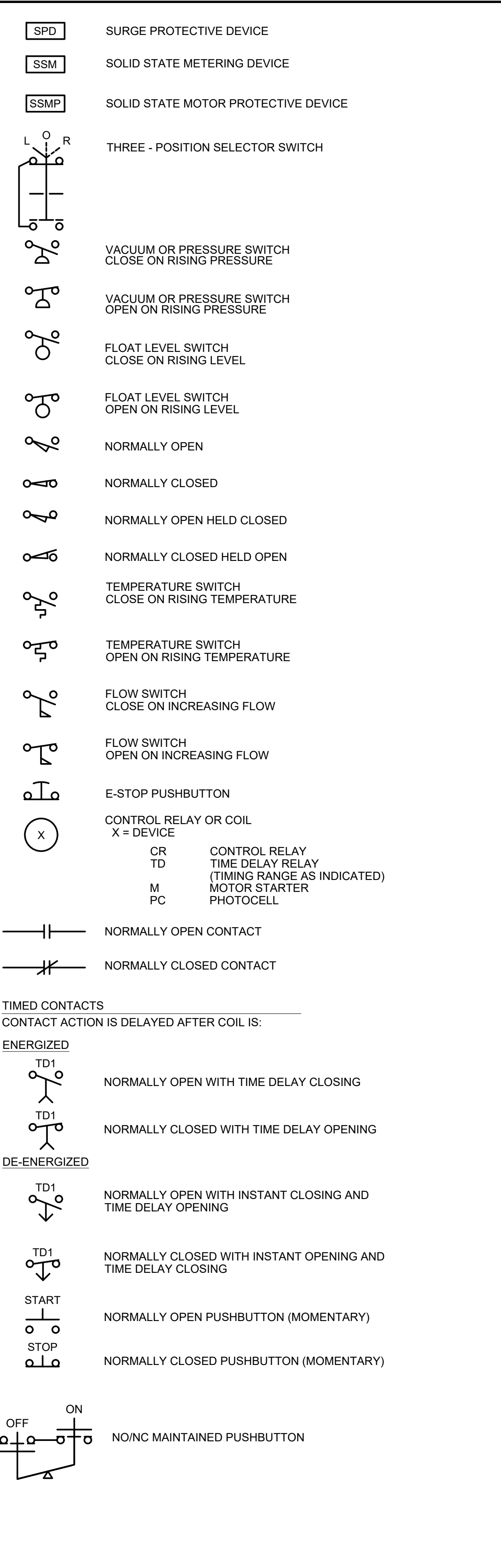
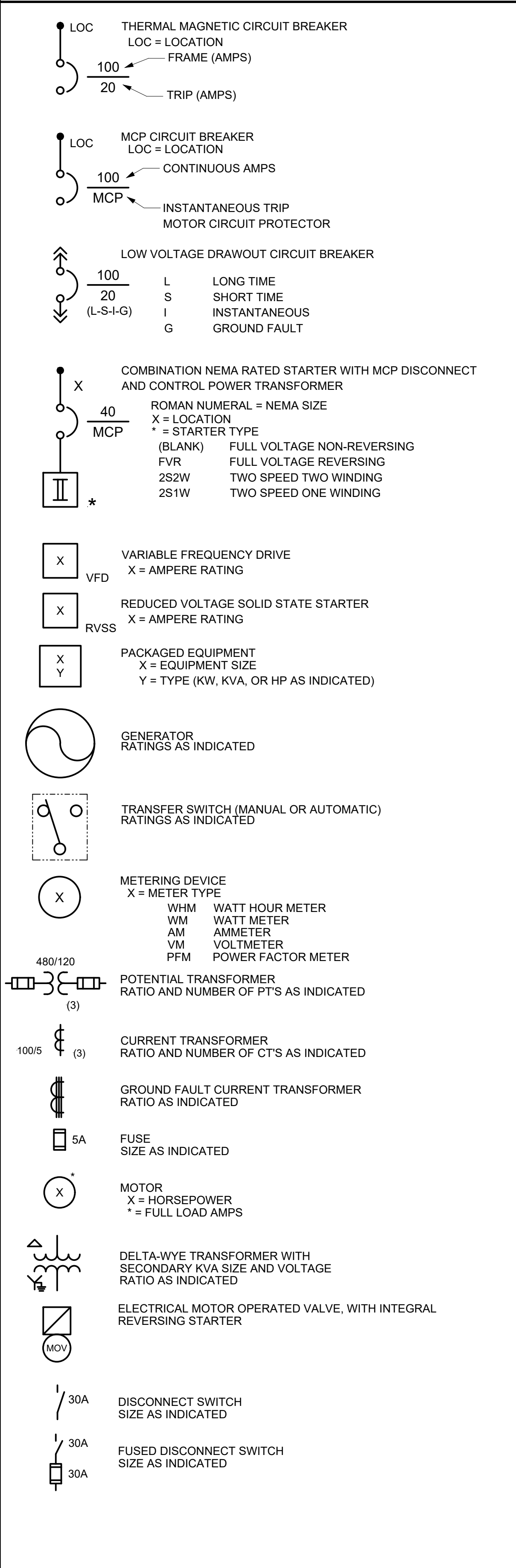
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
Stantec PARE

NBC CONTRACT NO 308.04C
HVAC
OF 210/213/214 FACILITIES
GATE & SCREENING STRUCTURE
PLAN

SHEET
H-1
195130227

SINGLE LINE DIAGRAM, SCHEMATIC DIAGRAM SYMBOLOGY AND PLAN SYMBOLOGY

GENERAL ELECTRICAL NOTES



- ALL RACEWAYS AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF TERMINAL BOXES AND CONDUIT ENTRANCES OF ALL EQUIPMENT AGAINST APPROVED SHOP DRAWINGS BEFORE STUBBING UP CONDUITS.
- REFER TO SPECIFICATION SECTION 16130 FOR REQUIREMENTS RELATED TO FLEXIBLE CONDUIT INSTALLATION CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE
- INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT OR STRUCTURAL CONDITIONS. EXPOSED CONDUIT SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BEAMS AND WALLS. REFER TO SPECIFICATION SECTION 16130.
- CONDUIT STUB-UPS SHALL NOT BE MORE THAN 6 INCHES FROM THE CENTERLINE OF TERMINAL BOXES.
- IN THE EVENT OF INTERFERENCE BETWEEN ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS AND OTHER EQUIPMENT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING AND THE ENGINEER SHALL APPROVE PROPOSED CHANGES BEFORE THEY ARE MADE.
- ALL SURFACE MOUNTED PANELS AND PANELBOARDS ON THE INTERIOR OF EXTERIOR WALLS ABOVE GRADE OR IN OTHER LOCATIONS CONSIDERED DAMP OR WET SHALL BE MOUNTED SO AS TO MAINTAIN A 1/4 INCH (MINIMUM) AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
- LOCATION OF PULLBOXES ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH MECHANICAL PIPING AND SHALL BE 6 INCHES (MINIMUM) AWAY FROM MECHANICAL PIPING FLOW LINES.
- ONLY MAJOR PULLBOXES ARE SHOWN. THE CONTRACTOR SHALL PROVIDE ADDITIONAL PULLBOXES WHERE REQUIRED TO MAKE A WORKABLE INSTALLATION.
- THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DETAILS WHETHER OR NOT THEY ARE REFERENCED ON THE DRAWINGS.
- ALL CONDUIT RUNS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION OR EXPANSION AND DEFLECTION TYPE FITTINGS. FOR LOCATIONS OF EXPANSION JOINTS, REFER TO THE STRUCTURAL DWGS.
- LUMINAIRES SHALL BE MOUNTED ACCORDING TO THE MOUNTING HEIGHT GIVEN ON THE DRAWINGS, WITH THE DISTANCE BEING MEASURED FROM THE BOTTOM OF THE LUMINAIRE TO THE FINISHED FLOOR. THE APPROPRIATE MOUNTING BRACKETS AND HARDWARE SHALL BE SUPPLIED.
- ALL PANELBOARDS SHALL BE MOUNTED SO THAT THE DISTANCE FROM THE CENTERLINE OF THE TOP CIRCUIT BREAKER OPERATING HANDLE IN THE UPPERMOST POSITION TO THE FINISHED FLOOR SHALL NOT EXCEED 6'-7".
- THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
- CONNECTIONS BETWEEN RIGID CONDUIT AND MOTOR TERMINAL BOXES OR SIMILAR EQUIPMENT SUBJECT TO VIBRATION SHALL BE FLEXIBLE LIQUID-TIGHT CONDUIT.
- CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTION TO MOTORS AND OTHER EQUIPMENT.
- CONDUITS FOR FUTURE EQUIPMENT OR EXTENSIONS SHALL BE TERMINATED AS SHOWN IN DETAIL OR AS SPECIFIED.
- ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS.
- EQUIPMENT LOCKOUTS SHALL BE IN STRICT ACCORDANCE WITH OWNER'S REQUIREMENTS.
- FOR LIGHTING AND RECEPTACLE SYSTEMS, ONLY CIRCUIT NUMBERS ARE SHOWN. CONTRACTOR SHALL PROVIDE ALL NECESSARY CONDUITS, WIRES, FITTINGS, JUNCTION BOXES AND ALL NECESSARY COMPONENTS SHOWN OR NOT SHOWN ON THE DRAWINGS, TO MAKE THE ELECTRICAL INSTALLATION COMPLETE AND OPERATIONAL. ALL CONDUIT RUNS SHALL BE CONCEALED UNLESS INDICATED OTHERWISE. CIRCUIT LOADING SHALL BE AS INDICATED IN THE PANEL SCHEDULES. ALL LIGHTING AND RECEPTACLE CIRCUITS SHALL INCLUDE GROUND WIRE.

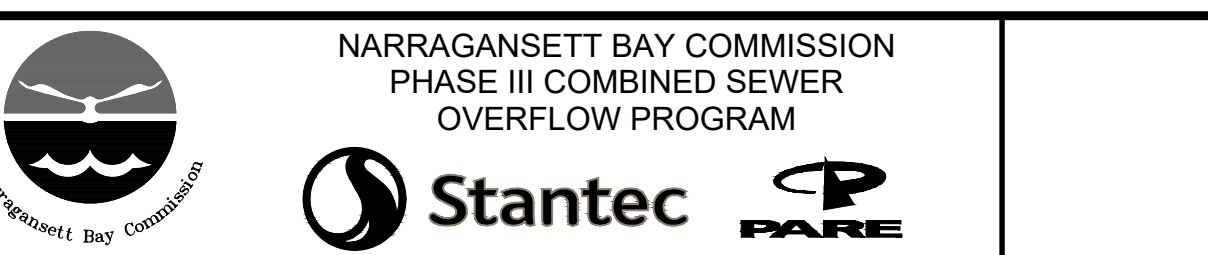
BY: MIKE C PLOT DATE: Friday, October 29, 2021 12:43:12 PM DWG FILE: C:\pwworkdir\0520666\0F-210,213,214 Electrical - 2013.dwg

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WARNING	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
DESIGNED	M. COTTER
DRAWN	R. BEAUVAIS
CHECKED	

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ELECTRICAL ABBREVIATIONS

A AMPERE, AUTOMATIC
 AC ALTERNATING CURRENT
 AF CIRCUIT BREAKER FRAME SIZE
 AM AMPMETER
 ANN ANNUNCIATOR
 AS ADJUSTABLE SPEED
 AT AMPERE TRIP
 ATS AUTOMATIC TRANSFER SWITCH
 AUTO AUTOMATIC
 AWG AMERICAN WIRE GAUGE

BATT BATTERY
 BC BARE COPPER
 BKR BREAKER

C CONDUIT, NUMBERS FOLLOWING INDICATE WIRE QUANTITIES AND WIRE GAUGE SIZES
 CAP CAPACITOR
 CB CIRCUIT BREAKER
 CKT CIRCUIT
 CLF CURRENT LIMITING FUSE
 COM COMMON
 COMM COMMUNICATIONS
 COMP COMPARTMENT
 CP CONTROL PANEL
 CPT CONTROL POWER TRANSFORMER
 CR CONTROL RELAY, CARD READER
 CT CURRENT TRANSFORMER

DCS DISTRIBUTED CONTROL SYSTEM
 DISC DISCONNECT
 DISTR DISTRIBUTION
 DPDT DOUBLE POLE DOUBLE THROW
 DPST DOUBLE POLE SINGLE THROW

E EMERGENCY
 EMT ELECTRICAL METALLIC TUBING
 ENCL ENCLOSURE
 ETM ELAPSED TIME METER

F FREQUENCY, FUSE, FIXED
 FDR FEEDER
 FLA FULL LOAD AMPS
 FLUOR FLUORESCENT
 FM FREQUENCY METER
 FO FIBER OPTIC
 FVR FULL VOLTAGE REVERSING
 FVNR FULL VOLTAGE NON-REVERSING

GEN GENERATOR
 GFCI GROUND FAULT CIRCUIT INTERRUPTER
 GND GROUND

H HAND
 HD HEAT DETECTOR
 HH HAND HOLE
 HID HIGH INTENSITY DISCHARGE
 HOA HAND-OFF-AUTOMATIC
 HPS HIGH PRESSURE SODIUM
 HS HAND SWITCH
 HZ HERTZ

IMC INTERMEDIATE METALLIC CONDUIT
 INCAND INCANDESCENT
 IND INDICATION
 INST INSTANTANEOUS
 I/O INPUT/OUTPUT
 IS INTRINSICALLY SAFE
 I_{sc} SHORT CIRCUIT CURRENT, AMPS
 ISO ISOLATION

J,JB JUNCTION BOX

KA KILO AMPERES
 KAIC KILO AMP INTERRUPTING CURRENT
 KCMIL KILO CIRCULAR MILS
 KVA KILOVOLT AMPERE

L LOCAL
 LCP LOCAL CONTROL PANEL
 LCS LOCAL CONTROL STATION
 LIT LEVEL INDICATING TRANSMITTER
 LOC LOCAL
 LOR LOCAL-OFF-REMOTE
 LOS LOCKOUT STOP PUSHBUTTON
 LP LIGHTING PANEL
 LRA LOCKED ROTOR AMPS
 LS LEVEL SWITCH
 LTG LIGHTING
 LTS LIGHTS

M MOTOR CONTACTOR COIL
 mA MILLIAMPERE
 MAINT MAINTENANCE
 MCP MOTOR CIRCUIT PROTECTOR
 MLO MAIN LUGS ONLY
 MOV MOTOR OPERATED VALVE
 MS MANUAL MOTOR STARTER
 MTS MANUAL TRANSFER SWITCH

NEUT NEUTRAL
 NP NAMEPLATE

O OEM
 OL ORIGINAL EQUIPMENT MANUFACTURE SUPPLIED OVERLOAD

PA PUBLIC ADDRESS
 PB PUSHBUTTON, PULLBOX
 PC PHOTOCELL
 PCM PROCESS CONTROL MODULE
 PF POWER FACTOR
 PFM POWER FACTOR METER
 PH PHASE
 PL PILOT LIGHT
 PMR POWER MONITORING RELAY
 PNLBD PANELBOARD
 PP POWER PANELBOARD
 POS POSITION
 POT POTENTIOMETER
 PRI PRIMARY
 PT POTENTIAL TRANSFORMER
 PTZ PAN-TILT-ZOOM
 PWR POWER

R REMOTE
 RECPRT RECEPTACLE
 RGS RIGID GALVANIZED STEEL
 RMS ROOT MEAN SQUARE
 RTU REMOTE TERMINAL UNIT
 RVSS REDUCED VOLTAGE SOLID STATE

SEL SW SELECTOR SWITCH
 SEQ SEQUENCE
 SHLD SHIELDED
 SIG SIGNAL
 SP SPARE
 SP HTR SPACE HEATER
 SPDT SINGLE POLE DOUBLE THROW
 SPST SINGLE POLE SINGLE THROW
 SS 316 STAINLESS STEEL
 SSM SOLID STATE METER
 SSMP SOLID STATE MOTOR PROTECTOR
 ST, SH SHUNT TRIP
 STR STARTER
 SSTU SOLID STATE TRIP UNIT
 SW SWITCH
 SWBD SWITCHBOARD
 SWGR SWITCHGEAR

TACH TACHOMETER
 TB TERMINAL BOX
 TERM TERMINAL
 TM REPEAT CYCLE TIMER
 TD TIME DELAY RELAY
 TS TEMPERATURE SWITCH
 TSP TWISTED SHIELDED PAIR

UPS UNINTERRUPTIBLE POWER SUPPLY

V VOLTAGE, VOLTS
 VA VOLT AMPERE
 VAR VOLT AMPERE REACTIVE
 VFD VARIABLE FREQUENCY DRIVE
 VM VOLTMETER
 VP VAPOR PROOF

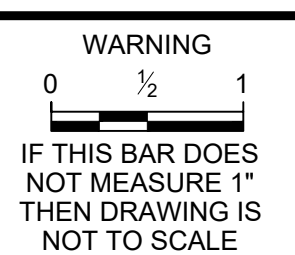
W WATTS, WIRE
 WM WATT METER
 WP WEATHERPROOF

XFMR TRANSFORMER
 XMTR TRANSMITTER
 XP EXPLOSION PROOF

BY: MIKE C
 PLOT DATE: Friday, October 29, 2021 12:43:31 PM
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DESIGNED M. COTTER
 DRAWN R. BEAUVAIS
 CHECKED

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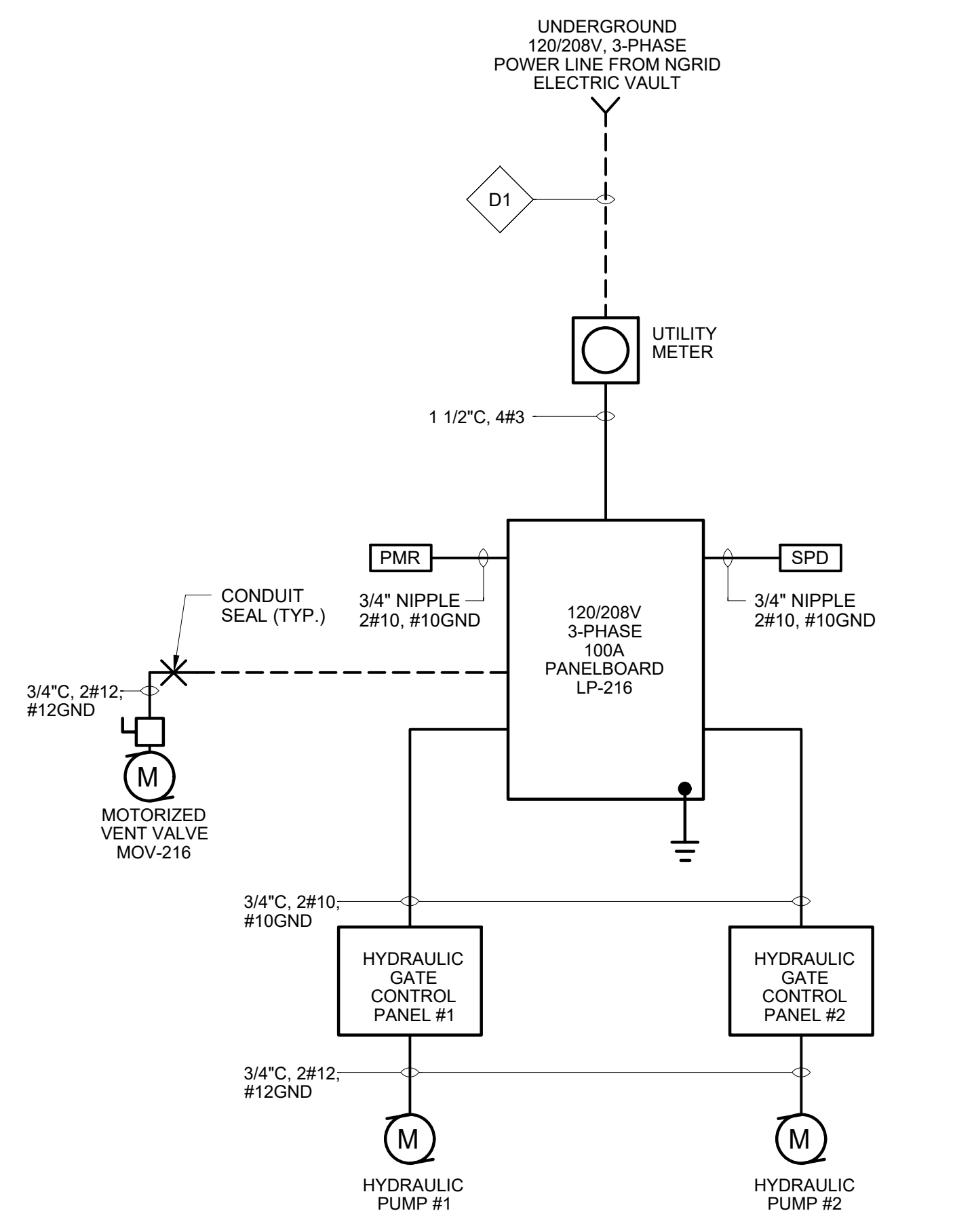
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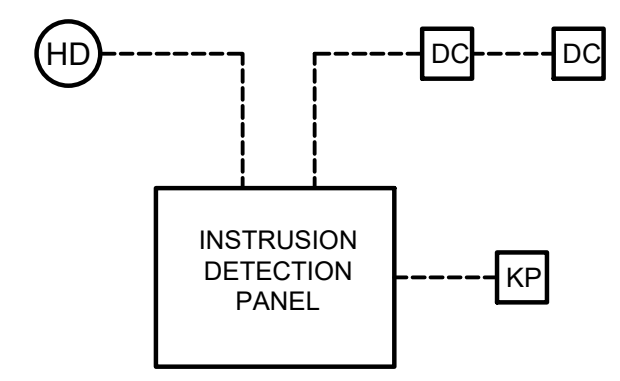
NARRAGANSETT BAY COMMISSION
 PHASE III COMBINED SEWER
 OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
 ELECTRICAL
 ABBREVIATIONS

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 BY: MIKE C



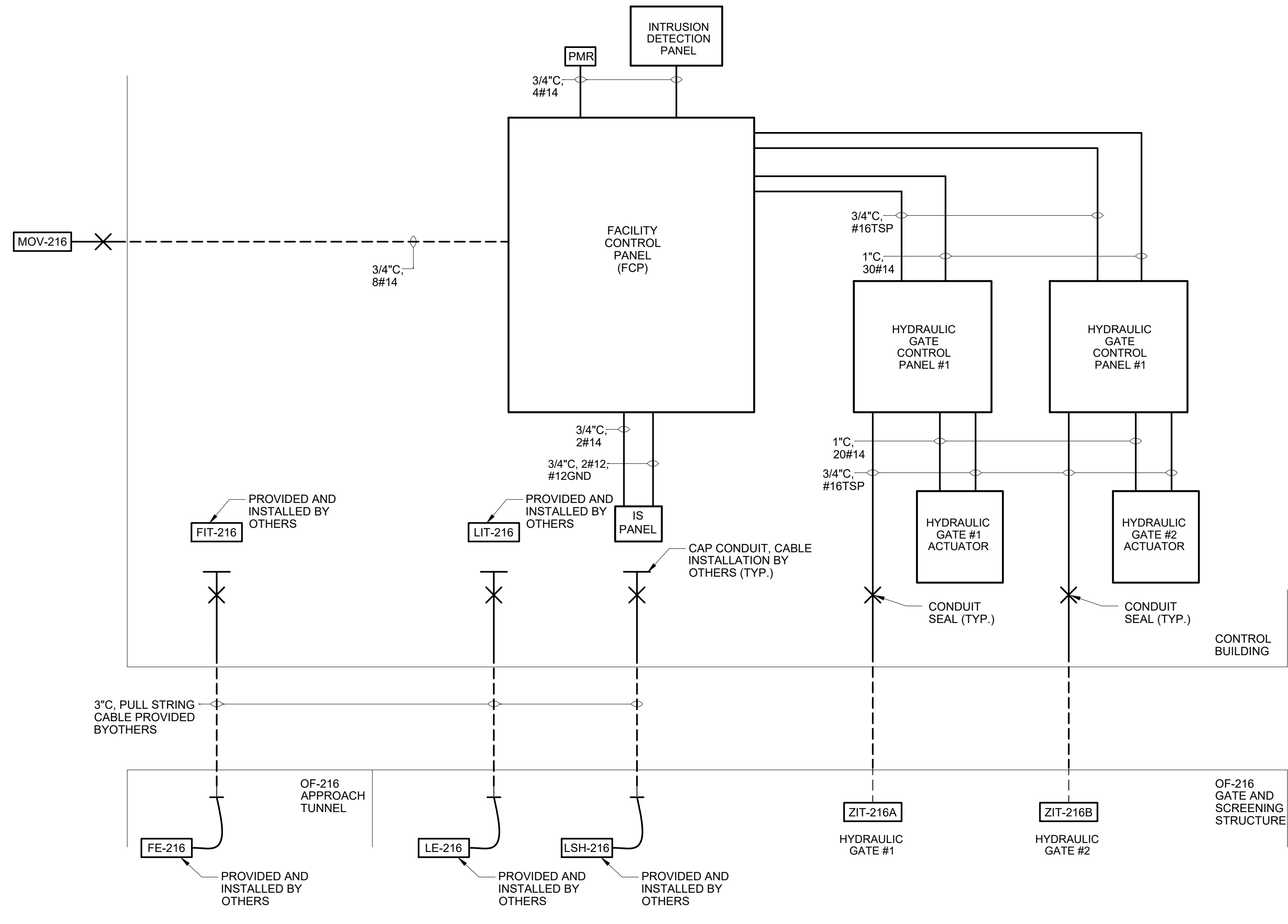
1 ONE LINE DIAGRAM
NOT TO SCALE



SECURITY NOTES:

1. RISER DIAGRAM ONLY REPRESENTS TYPE OF DEVICES AND DOES NOT REPRESENT ACTUAL QUANTITIES. REFER TO PLAN DRAWINGS QUANTITIES AND LOCATIONS OF DEVICES.
2. MINIMUM SIZE CONDUIT SHALL BE 3/4" UNLESS NOTED OTHERWISE.
3. SYSTEM CONDUIT/CABLING SHALL BE INSTALLED IN ACCORDANCE WITH EQUIPMENT SUPPLIERS APPROVED SHOP DRAWINGS AND WIRING DIAGRAMS.

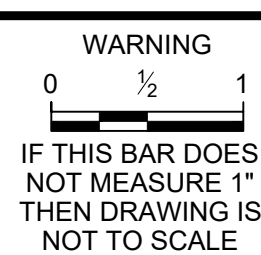
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NOT TO SCALE



2 CONTROL BLOCK WIRING DIAGRAM
NOT TO SCALE

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DESIGNED M. COTTER
DRAWN R. BEAUVAIS
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NBC CONTRACT NO 308.04C
ELECTRICAL

ONE LINE DIAGRAM AND
CONTROL BLOCK WIRING DIAGRAM

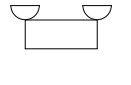

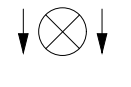
SHEET
E-1
195130227

PANELBOARD SCHEDULE

NO. LP-216										LOCATION: CONTROL BUILDING									
120/208 V, 3 PH, 4 W, 100 A MAINS					100 A SOLID NEUTRAL					100 A MCB									
10,000 AIC AT 120 V					100 A GROUND BUS					- A MLO SURFACE MOUNTING									

CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA)			BREAKER		TRIP	POLE	TRIP	POLE	LOAD (KVA)			DESCRIPTION OF LOAD	CIRCUIT
		AØ	BØ	CØ	TRIP	POLE					AØ	BØ	CØ		
1	INTERIOR LIGHTING	0.82			20	1			1	20	0.40			INTERIOR RECEPTACLES	2
3	EXTERIOR LIGHTING		0.55		20	1			1	20	0.20			EXTERIOR RECEPTACLE	4 *
5	MOV-216			1.20	20	1			1	20		0.50		FACILITY CONTROL PANEL	6
7	INTRUSION DETECTION PANEL	0.50			20	1			1	20	0.20			RESERVED - FIT-216 INSTALLED BY OTHERS	8
9	SPARE		-		20	1			1	20		0.20		RESERVED - LIT-216 INSTALLED BY OTHERS	10
11	SPARE				20	1			1	20		1.0		RESERVED - SCADA CONTROL PANEL INSTALLED BY OTHERS	12
13	SPARE				20	1			1	20		-		SPARE	14
15	SPARE				20	1			1	20		-		SPARE	16
17	SPARE				20	1			1	20		-		SPARE	18
19	SPARE				20	1			1	20		-		SPARE	20
21	SPARE				20	1			1	20		-		SPARE	22
23	SPARE				20	1			1	20		-		SPARE	24
25	SPARE				20	1			2	30	0.30			RESERVED - OF-210 ELECTRICAL ENCLOSURE POWER INSTALLED BY OTHER	26
27	SPARE				20	1					0.30				28
29	HYDRAULIC GATE CONTROL PANEL #1				30	2			2	30		0.30		RESERVED - OF-213 ELECTRICAL ENCLOSURE POWER INSTALLED BY OTHER	30
31											0.30				32
33	HYDRAULIC GATE CONTROL PANEL #2				30	2			2	30		0.30		RESERVED - OF-214 ELECTRICAL ENCLOSURE POWER INSTALLED BY OTHER	34
35											0.30				36
37											-				38
39	POWER MONITORING RELAY				20	3			3	30		-		SURGE PROTECTION DEVICE (SPD)	40
41											-				42
SUB-TOTAL CONNECTED													SUB-TOTAL CONNECTED		
* PROVIDE GFCI BREAKER															
										SUB-TOTAL CONNECTED			KVA AØ = -		
										SUB-TOTAL CONNECTED			KVA BØ = -		
										SUB-TOTAL CONNECTED			KVA CØ = -		
										TOTAL CONNECTED			KVA = -		

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG SERIES	LAMPS		VOLTS	WATTS	MOUNTING		REMARKS
			TYPE	LUMENS			TYPE	HEIGHT	
F1	48" LED ENCLOSED AND GASKETED INDUSTRIAL LIGHTING FIXTURE.	LITHONIA FEM-L48-4000LM-IMAFL-MVOLT-35K-80CRI	LED 3500K	4000lm	120	31	PENDENT	-	
W1	EXTERIOR BUILDING MOUNTED LED MINI WALL PACK LIGHT FIXTURE	LITHONIA TWS-LED-P1-50K-120-PE	LED 5000K	1476lm	120	25	WALL	-	INTEGRAL PHOTOCCELL CONTROLLED
	SELF CONTAINED EMERGENCY LIGHTING BATTERY UNIT NEMA 4 WITH TWO LIGHTING HEADS	REFER TO SPECIFICATIONS			120	8W	WALL	-	INSTALL 3/4"C, 2#12, 1#12GND TO REMOTE HEADS
	SEALED-BEAM WEATHERPROOF REMOTE LIGHTING FIXTURE WITH TWO LIGHTING HEADS	REFER TO SPECIFICATIONS			120	8W	WALL	-	
	EMERGENCY EXIT SIGN LED TYPE WITH BATTERY BACK-UP NEMA 4X	REFER TO SPECIFICATIONS			120	3W	WALL	-	

LIGHTING FIXTURE SCHEDULE NOTES:

- THE CATALOG NUMBERS LISTED ARE GIVEN AS A GUIDE TO THE DESIGN AND QUALITY OF FIXTURE DESIRED. EQUIVALENT DESIGNS, MATERIALS, DIMENSIONS, COEFFICIENT OF UTILIZATIONS AND EQUAL QUALITY FIXTURES OF OTHER MANUFACTURERS WILL BE ACCEPTABLE.

BY: MIKE C

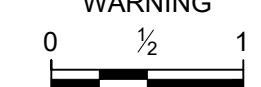
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REV	DATE	BY	DESCRIPTION

SCALE: NO SCALE

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DESIGNED: M. COTTER
 DRAWN: R. BEAUVAIS
 CHECKED: _____

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NARRAGANSETT BAY COMMISSION
 PHASE III COMBINED SEWER
 OVERFLOW PROGRAM

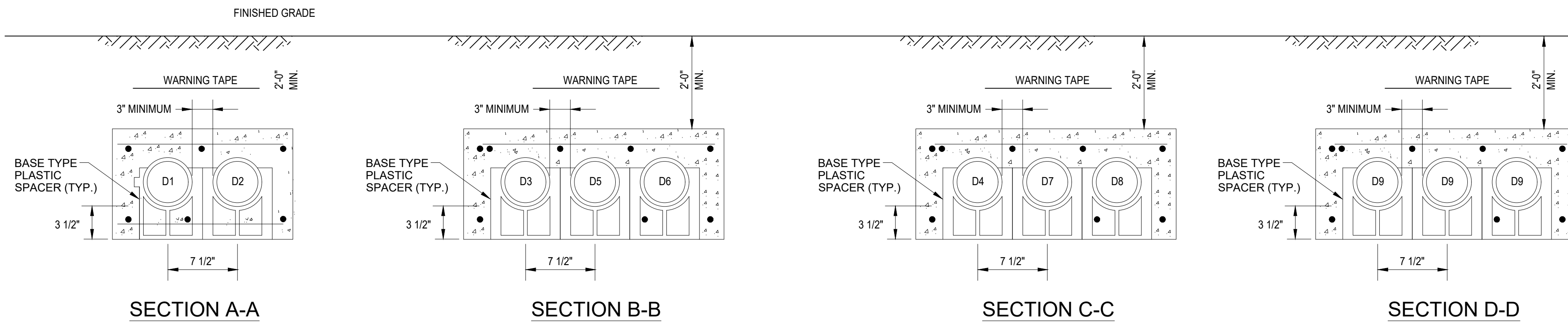
NBC CONTRACT NO 308.04C
 ELECTRICAL

PANELBOARD AND
 LIGHT FIXTURE SCHEDULES

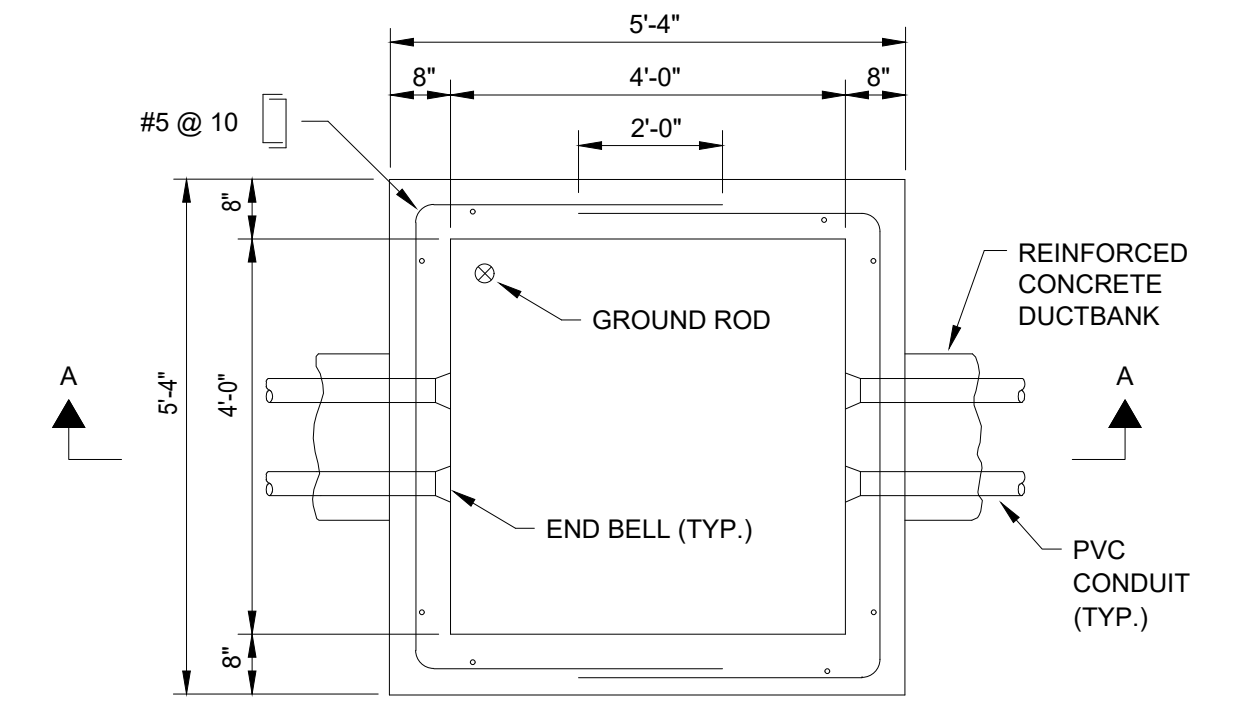
DUCT / CABLE SCHEDULE				
DUCT NO.	SIZE	CONDUCTORS	FROM	TO
D1	2"	4#3	NATIONAL GRID MAN HOLE	UTILITY METER
D2	2"	PULL STRING	NATIONAL GRID MAN HOLE	STUB UP BELOW UTILITY METER
D3	2"	PULL STRING - POWER WIRING PROVIDED BY OTHERS	LP-216	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE
D4	2"	PULL STRING - POWER WIRING PROVIDED BY OTHERS	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE
D5	3"	PULL STRING - SIGNAL WIRING PROVIDED BY OTHERS	SCADA CONTROL PANEL	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE
D6	3"	PULL STRING - SIGNAL WIRING PROVIDED BY OTHERS	SCADA CONTROL PANEL	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE
D7	3"	PULL STRING - SIGNAL WIRING PROVIDED BY OTHERS	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE
D8	3"	PULL STRING - SIGNAL WIRING PROVIDED BY OTHERS	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE
D9	3"	PULL STRING - CABLE BY VENDER PROVIDED BY OTHERS	STUB UP IN DIVERSION STRUCTURE ELECTRICAL ENCLOSURE	DIVERSION STRUCTURE LEVEL TRANSMITTER LOCATION

NOTES:

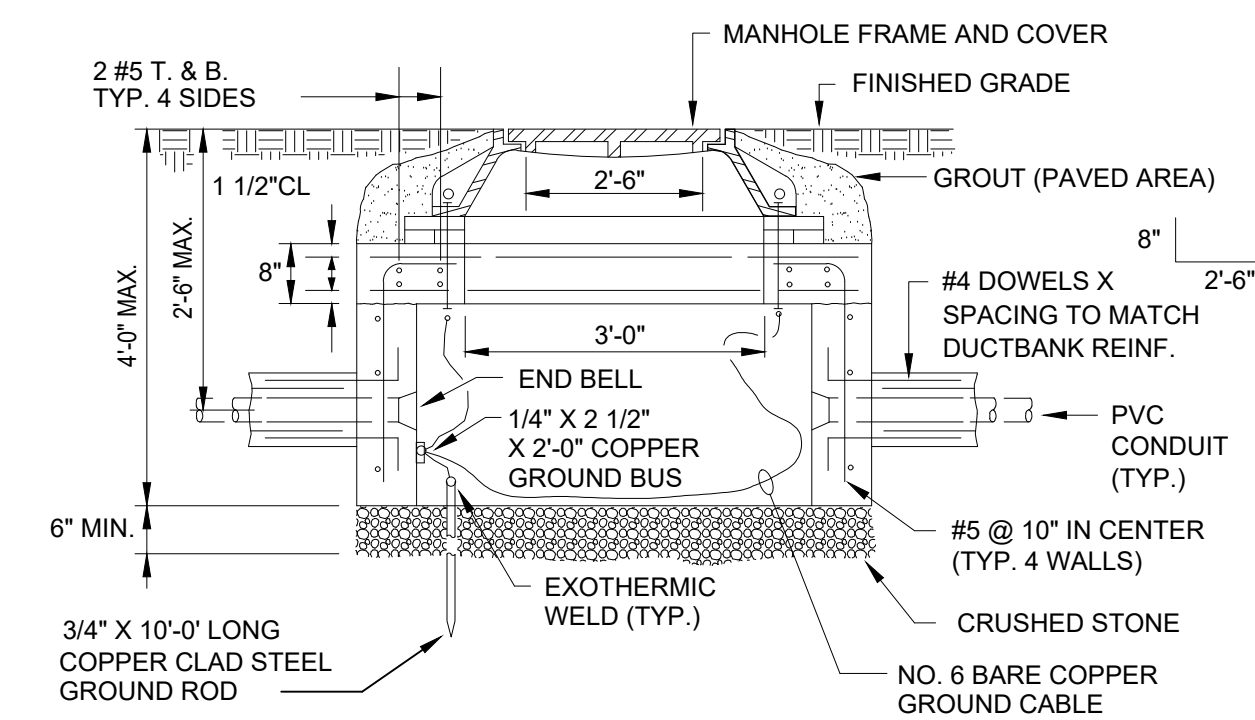
- BACKFILL DUCT BANK IN LAYERS AND MANUALLY TAMP OR "PUDDLE" CONCRETE FILL. PROVIDE RED DUCT BANK MARKER TAPES, READING "CAUTION - ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPES 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.
- A MINIMUM OF 12" SEPARATION SHALL BE KEPT BETWEEN DUCT BANK SECTIONS WITHIN SAME TRENCH.
- REINFORCING REBAR IS TO BE #5 ASTM A615 GRADE 60 STEEL REBAR.



1 DUCTBANK SECTIONS
NOT TO SCALE



PLAN VIEW

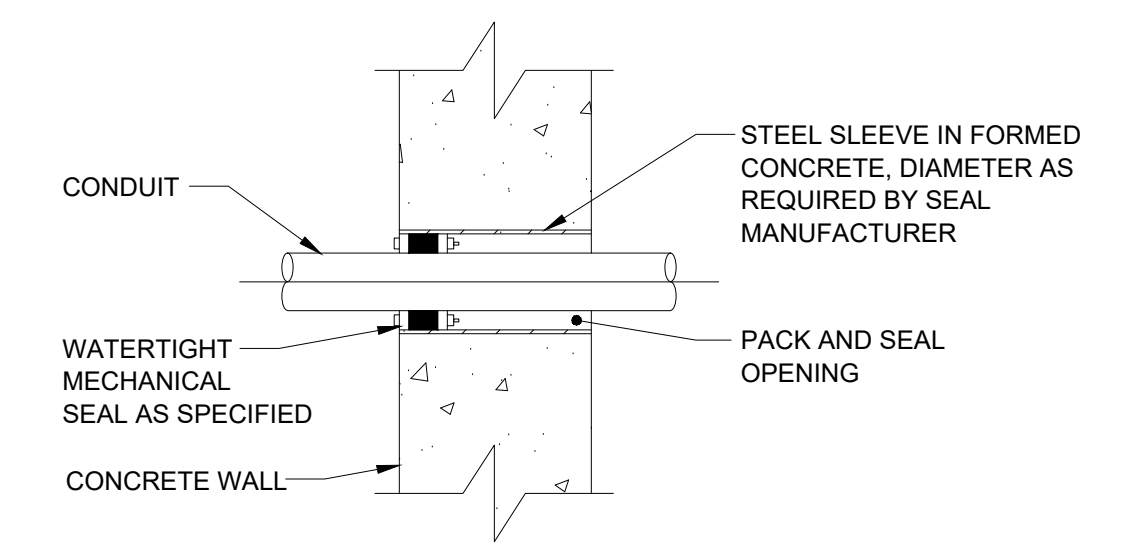


SECTION A-A

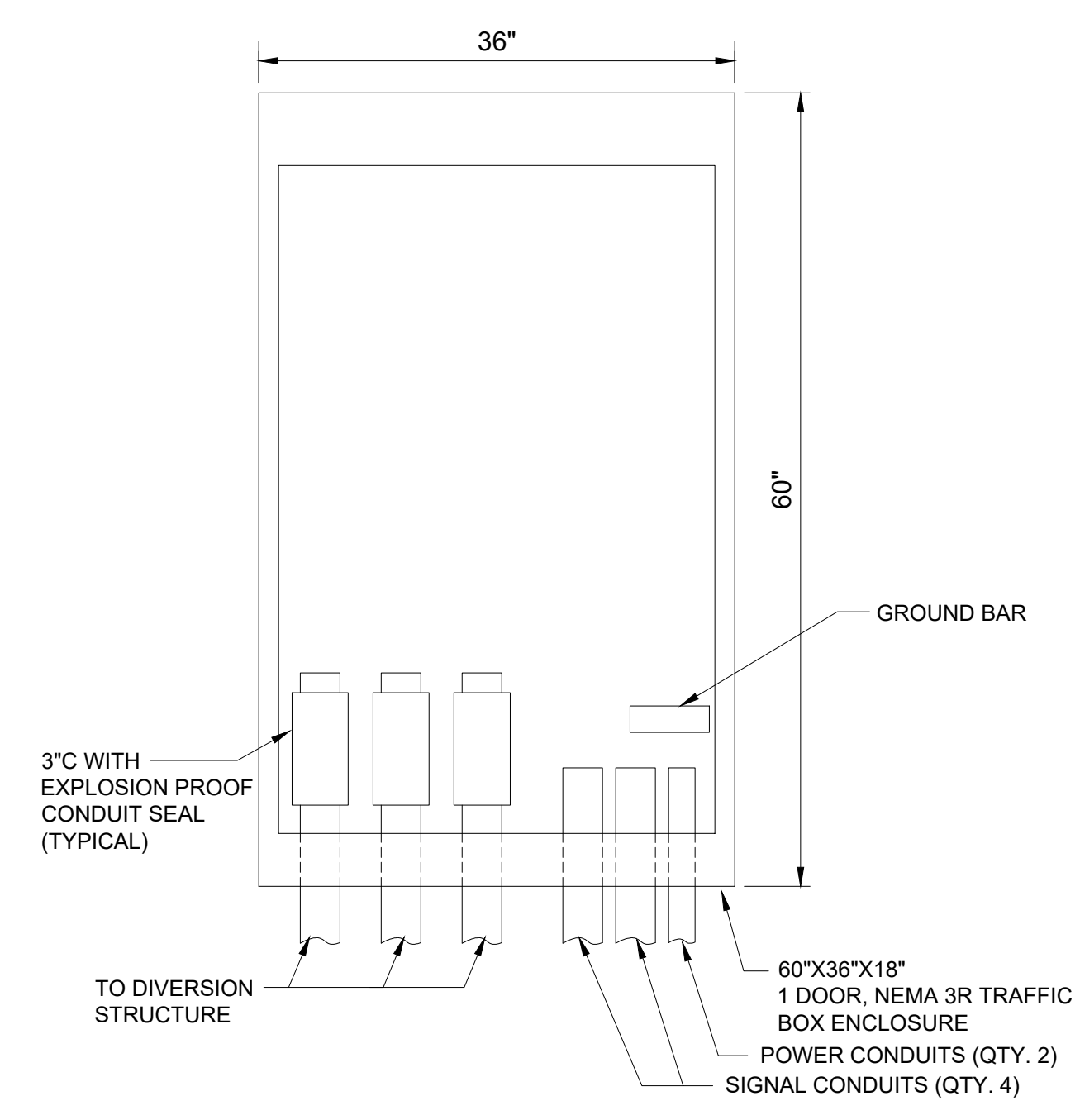
NOTES:

- CHIMNEY HEIGHT IS KEPT TO MINIMUM TO FACILITATE WIRE PULLING IN HANDHOLE FROM ABOVE GRADE
- CONCRETE TO HAVE MINIMUM STRENGTH OF 5,000 PSI AT 28 DAYS. REINFORCING REBAR IS TO BE #5 ASTM A615 GRADE 60 STEEL REBAR.
- PROVIDE HANDHOLE FRAME, RING AND COVER.
- REFER TO DUCTBANK SECTIONS FOR THE REQUIRED NUMBER OF CONDUIT ENTRANCES. PROVIDE CONDUIT ENTRY SPACE ON NON-USED SIDES FOR A MINIMUM (4) 4" FUTURE CONDUITS.
- REFER TO SITE PLAN FOR HANDHOLE SIDES CONDUITS ARE ENTERING.

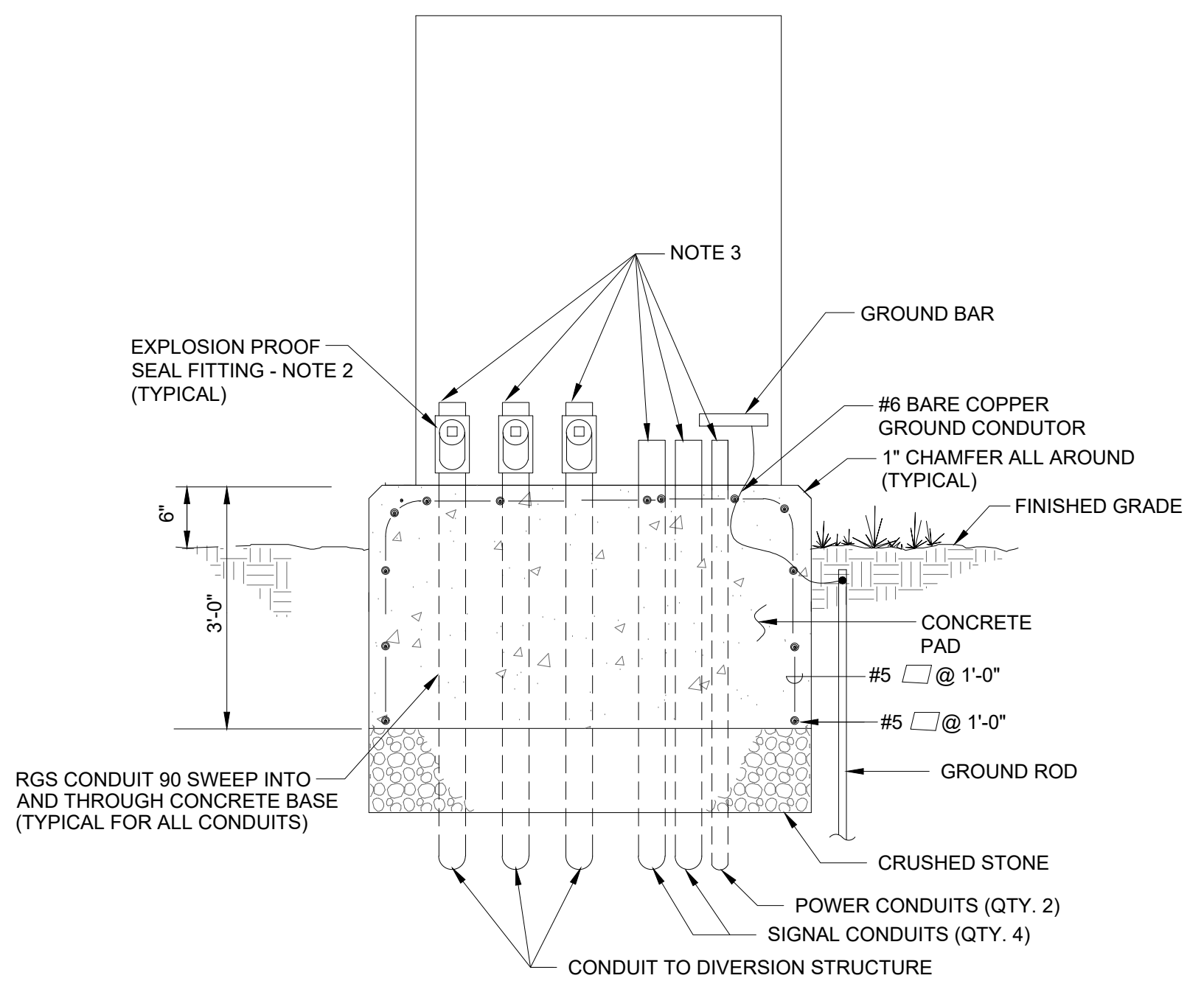
4 ELECTRIC HANDHOLE DETAIL
NOT TO SCALE



5 CONDUIT THROUGH STRUCTURE WALL DETAIL
NOT TO SCALE



2 ELECTRICAL ENCLOSURE INTERIOR LAYOUT
SCALE: 1" = 1'-0"



NOTES:

- REINFORCING REBAR IS TO BE #5 ASTM A615 GRADE 60 STEEL REBAR.
- EXPLOSION PROOF SEAL FITTINGS ARE NOT TO BE FILLED, INSTALLATION OF CABLE AND SEALANT WILL BE BY OTHERS.
- SEAL AND CAP THE ENDS OF CONDUITS.

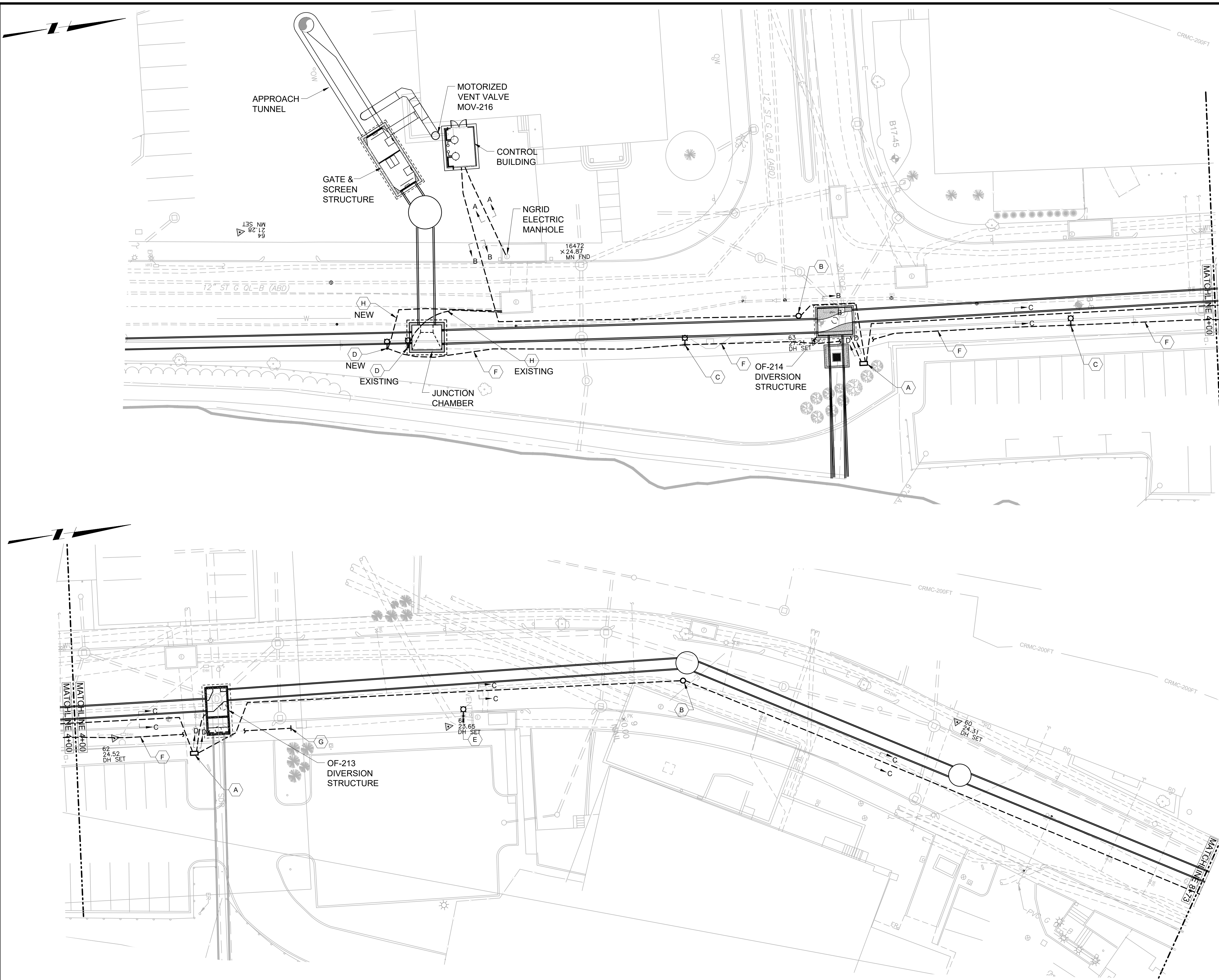
3 ELECTRICAL ENCLOSURE BASE DETAIL
NOT TO SCALE

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 PLOT DATE: Monday, November 8, 2021 10:41:57 AM
 BY: MIKE C

BY: MIKE C

PLOT DATE: Thursday, November 4, 2021 10:20:04 AM

DWG FILE: C:\pwworking\0520666\OF-210,213,214 Electrical - 2013.dwg



KEY PLAN



GENERAL SHEET NOTES

- REMOVE LIGHT POLES AND ASSOCIATED WIRE/CONDUIT AS NEEDED TO FACILITATE THE CIVIL SITE WORK. REFER TO CIVIL DRAWING FOR LOCATIONS. LIGHT POLES SHALL BE REMOVED PROPERLY STORED AND REINSTALLED. INSTALL NEW UNDERGROUND CONDUIT AND ALL WIRING TO RECONNECT LIGHT POLES INTO EXISTING LIGHTING SYSTEM.

SHEET KEYNOTES

- A. 60"x36"x18", NEMA 3R STAINLESS STEEL TRAFFIC BOX ELECTRICAL ENCLOSURE MOUNTED ON CONCRETE BASE, REFER TO DRAWING E-3 DETAIL 3.
- B. ELECTRIC HANDHOLE, REFER DRAWING E-3 DETAIL 4.
- C. EXISTING LIGHT POLE, DISCONNECT, MAKE SAFE, REMOVE AND PROPERLY STORE. REINSTALL LIGHT POLE WITH NEW POLE BASE IN SAME LOCATION.
- D. EXISTING LIGHT POLE, DISCONNECT, MAKE SAFE, REMOVE AND PROPERLY STORE. REINSTALL LIGHT POLE WITH NEW POLE BASE IN NEW LOCATION INDICATED.
- E. EXISTING LIGHT POLE TO REMAIN, DISCONNECT AND REMOVE WIRING FROM LIGHTS POLES FROM THE SOUTH.
- F. REMOVE EXISTING LIGHT POLE FEEDER CONDUIT/WIRING AND REPLACE WITH NEW 2" WITH (2) #8 AND #8GND BETWEEN LIGHT POLES.
- G. REMOVE EXISTING LIGHT POLE FEEDER CONDUIT TO THIS POINT, ALL WIRING BETWEEN LIGHT POLES SHALL BE REMOVED. CONNECT TO NEW CONDUIT INTO EXISTING AND INSTALL (2) #8 AND #8GND WITHIN NEW AND EXISTING CONDUIT TO NEXT EXISTING LIGHT POLE TOWARD NORTH.
- H. REMOVE EXISTING LIGHT POLE FEEDER CONDUIT/WIRING FROM NATION GRID MAN HOLE, REPLACE WITH NEW 2" WITH (2) #8 AND #8GND ALONG NEW ROUTE AS INDICATED. COORDINATE WITH NATIONAL GRID FOR DISCONNECTION AND RECONNECTION OF POWER.

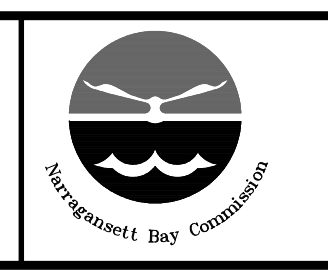
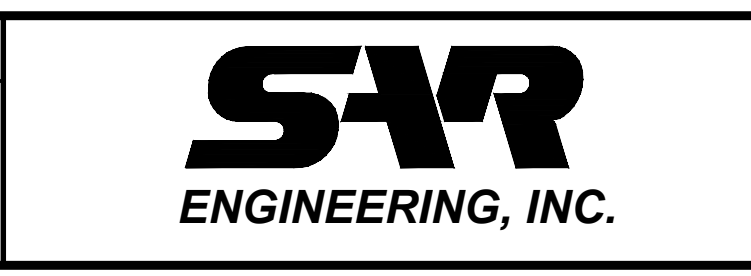
REV	DATE	BY	DESCRIPTION

SCALE
1" = 20'

WARNING
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED M. COTTER
DRAWN R. BEAUVAIS
CHECKED

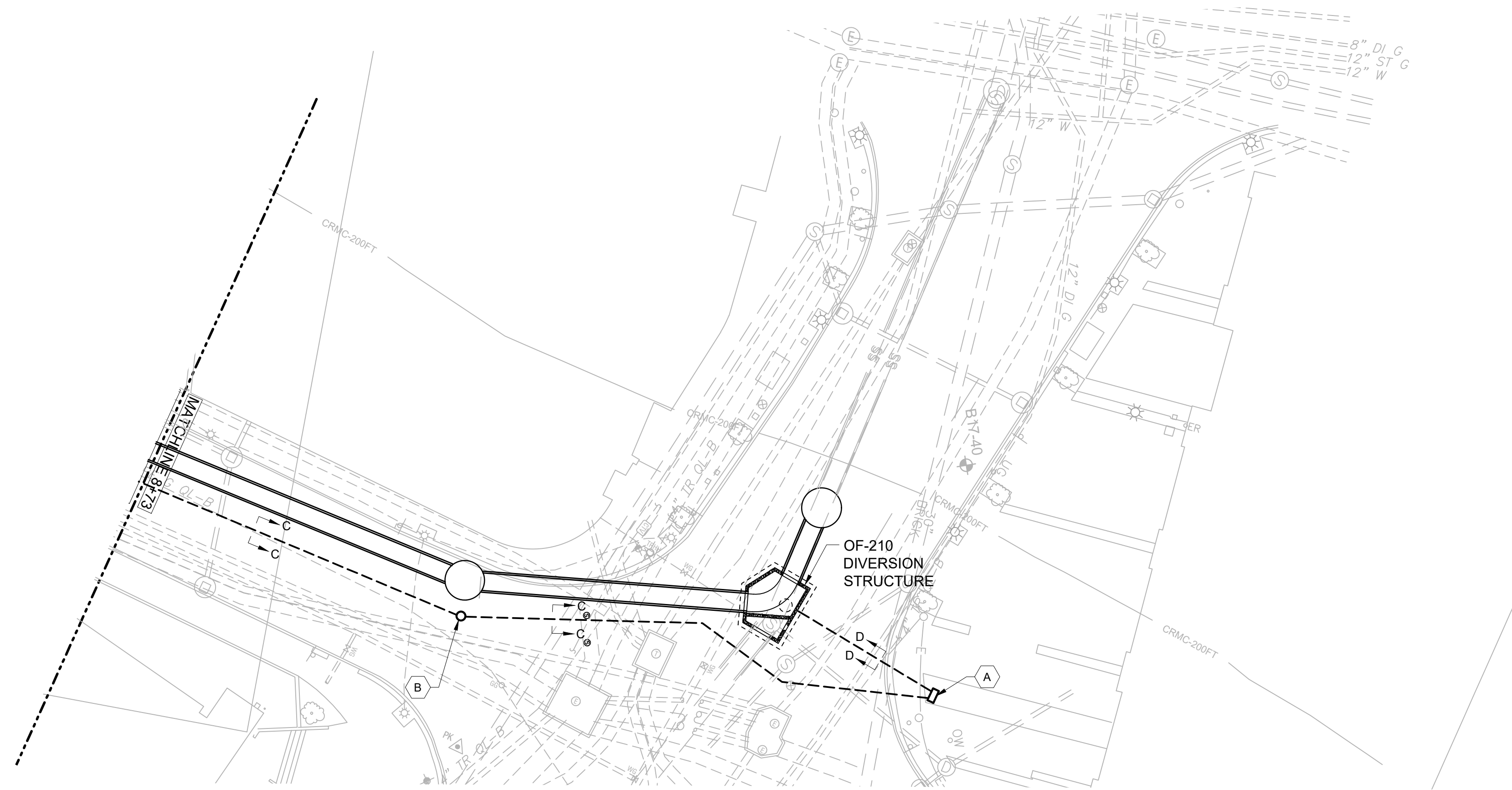
90% DESIGN PHASE - NOVEMBER 2021
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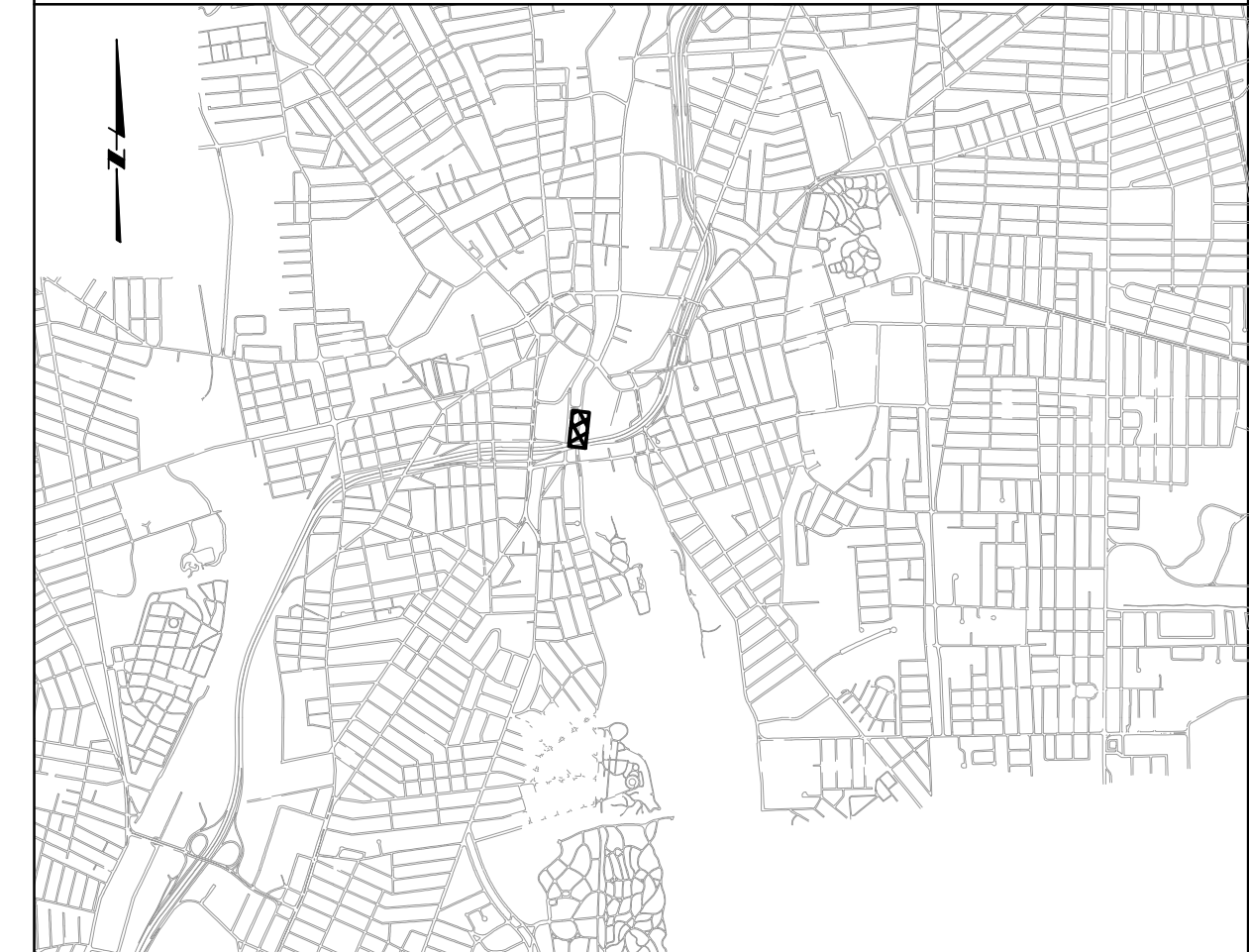
NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
Stantec PARE

NBC CONTRACT NO 308.04C
ELECTRICAL
SITE PLAN
STA 0+00 - 8+00

SHEET
E-4
195130227



KEY PLAN



GENERAL SHEET NOTES

1. REMOVE LIGHT POLES AND ASSOCIATED WIRE/CONDUIT AS NEEDED TO FACILITATE THE CIVIL SITE WORK. REFER TO CIVIL DRAWING FOR LOCATIONS. LIGHT POLES SHALL BE REMOVED PROPERLY STORED AND REINSTALLED, INSTALL NEW UNDERGROUND CONDUIT AND ALL WIRING TO RECONNECT LIGHT POLES INTO EXISTING LIGHTING SYSTEM.

SHEET KEYNOTES

- A. 60"X36"18", NEMA 3R STAINLESS STEEL TRAFFIC BOX ELECTRICAL ENCLOSURE MOUNTED ON CONCRETE BASE, REFER TO DRAWING E-3 DETAIL 3.
- B. ELECTRIC HANDHOLE, REFER DRAWING E-3 DETAIL 4.

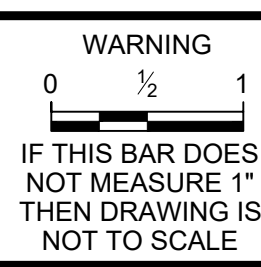
BY: MIKE C

PLOT DATE: Thursday, November 4, 2021 10:20:33 AM

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REV	DATE	BY	DESCRIPTION

SCALE
1" = 20'



DESIGNED M. COTTER
 DRAWN R. BEAUVAIS
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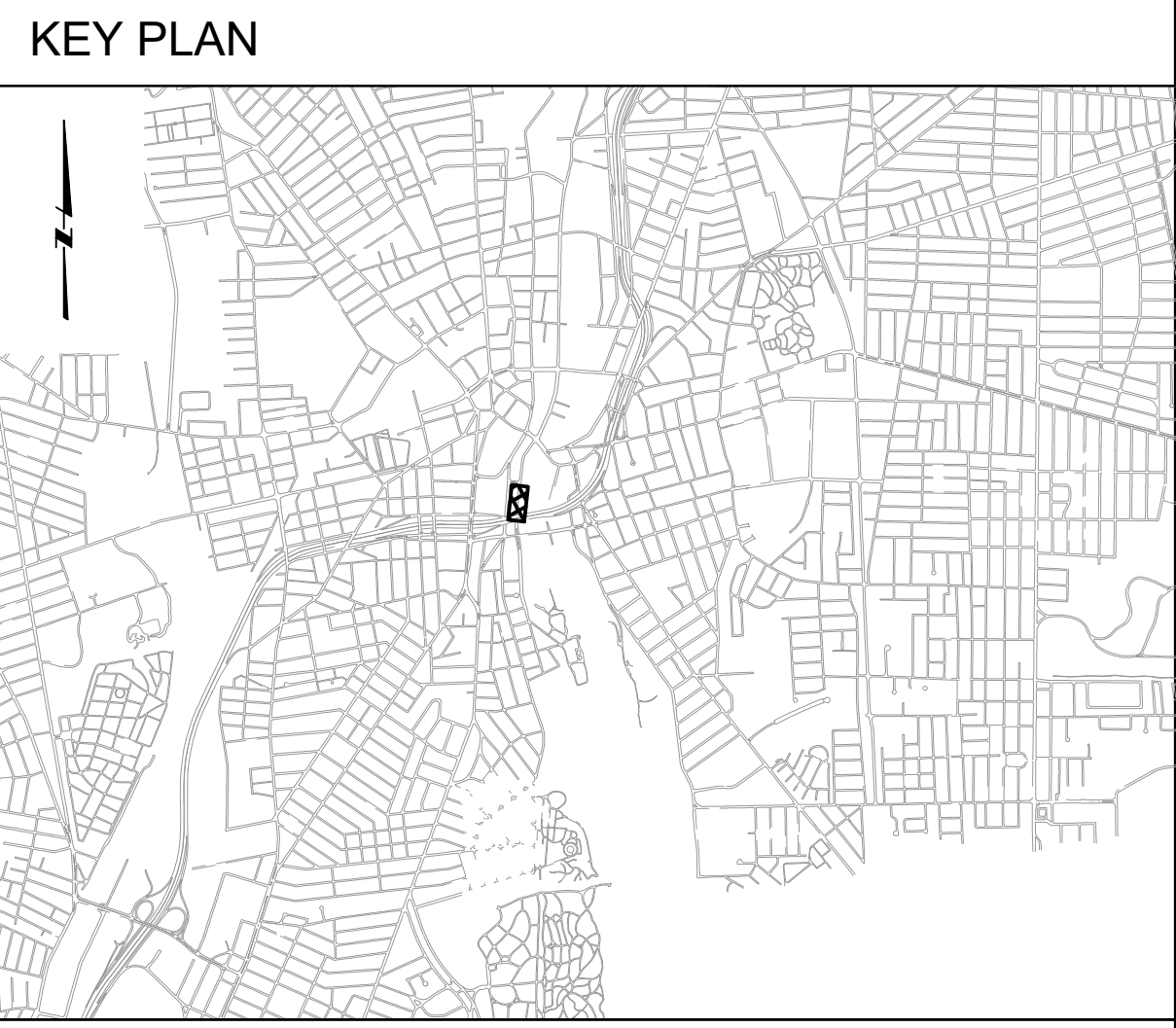
NARRAGANSETT BAY COMMISSION
 PHASE III COMBINED SEWER
 OVERFLOW PROGRAM

NBC CONTRACT NO 308.04C
 ELECTRICAL

SITE PLAN
 STA 8+00 - 11+50

SHEET
E-5
 195130227

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 BY: MIKE C

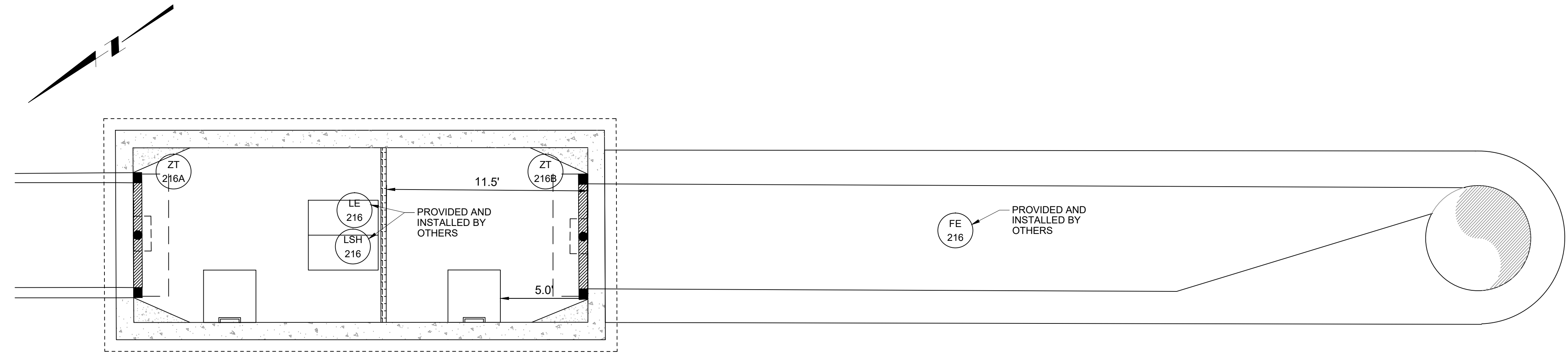


GENERAL SHEET NOTES

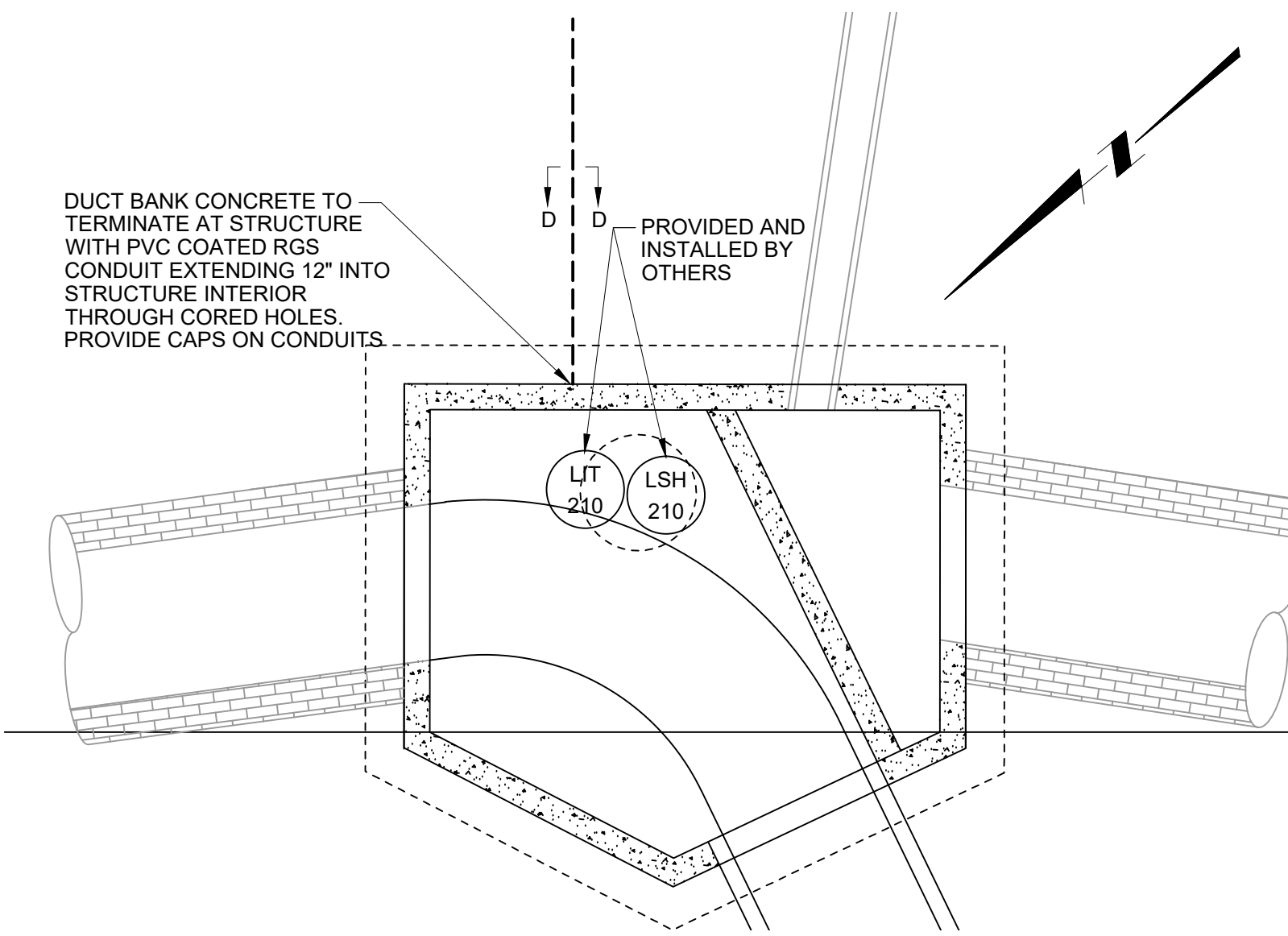
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SHEET KEYNOTES

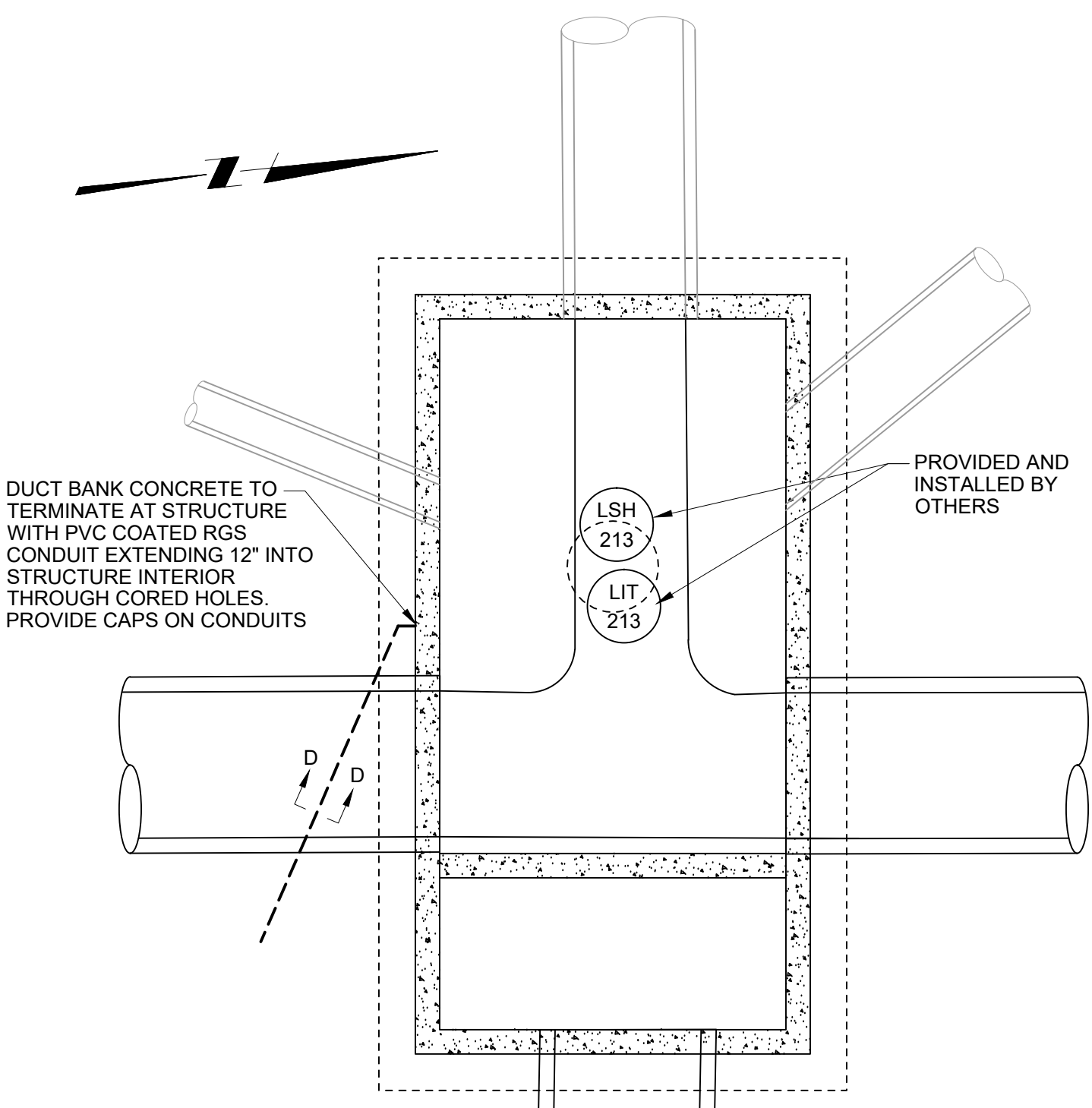
- A. NONE



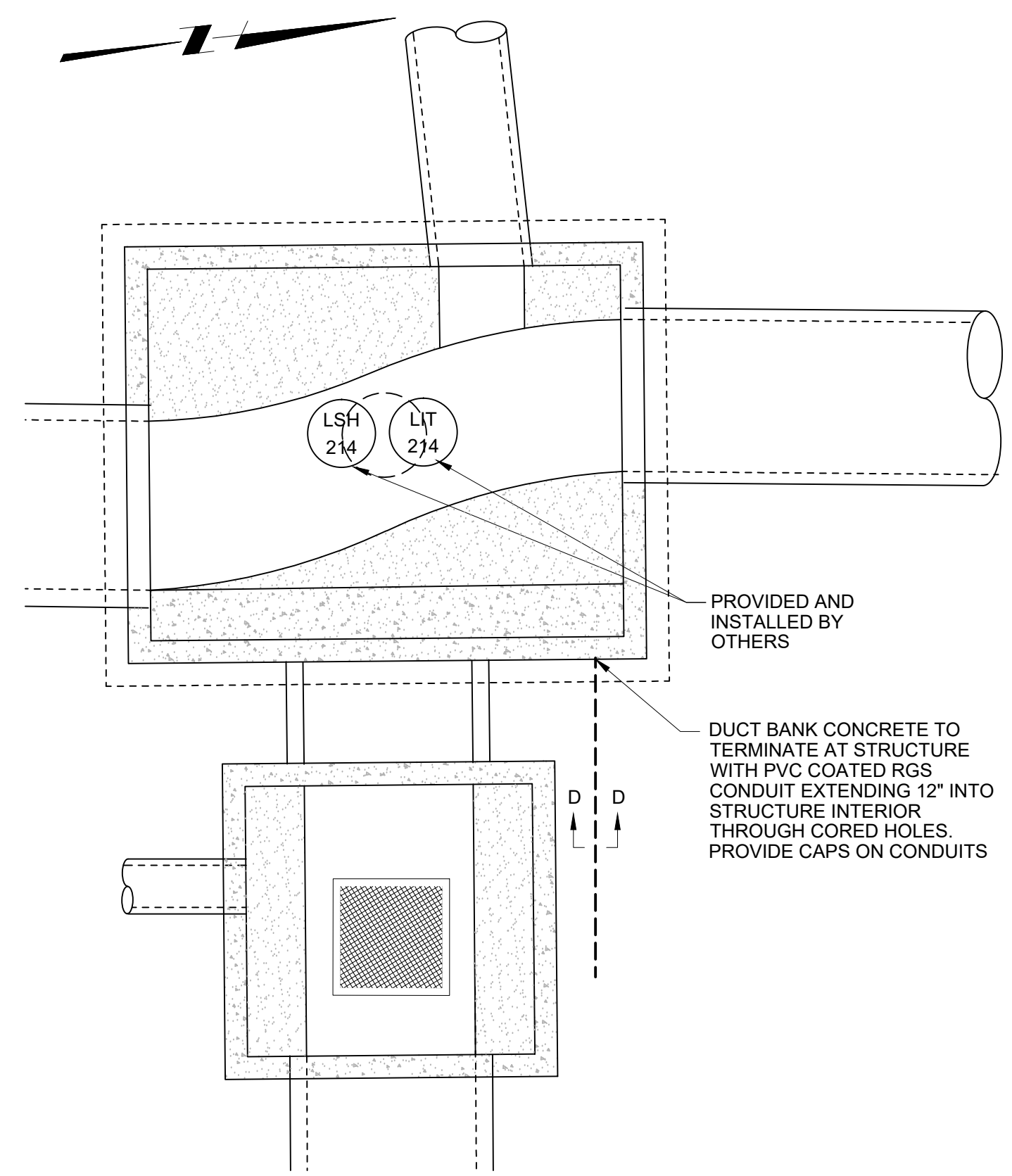
GATE & SCREENING STRUCTURE & APPROACH TUNNEL
SCALE: 1/4" = 1'-0"



OF-210 DIVERSION STRUCTURE
SCALE: 1/4" = 1'-0"



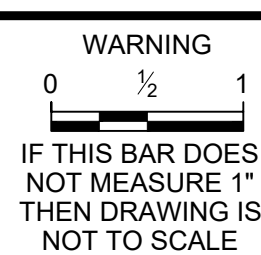
OF-213 DIVERSION STRUCTURE
SCALE: 1/4" = 1'-0"



OF-214 DIVERSION STRUCTURE
SCALE: 1/4" = 1'-0"

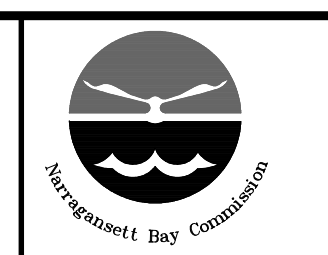
REV	DATE	BY	DESCRIPTION

SCALE
AS SHOWN



DESIGNED M. COTTER
DRAWN R. BEAUVAIS
CHECKED _____

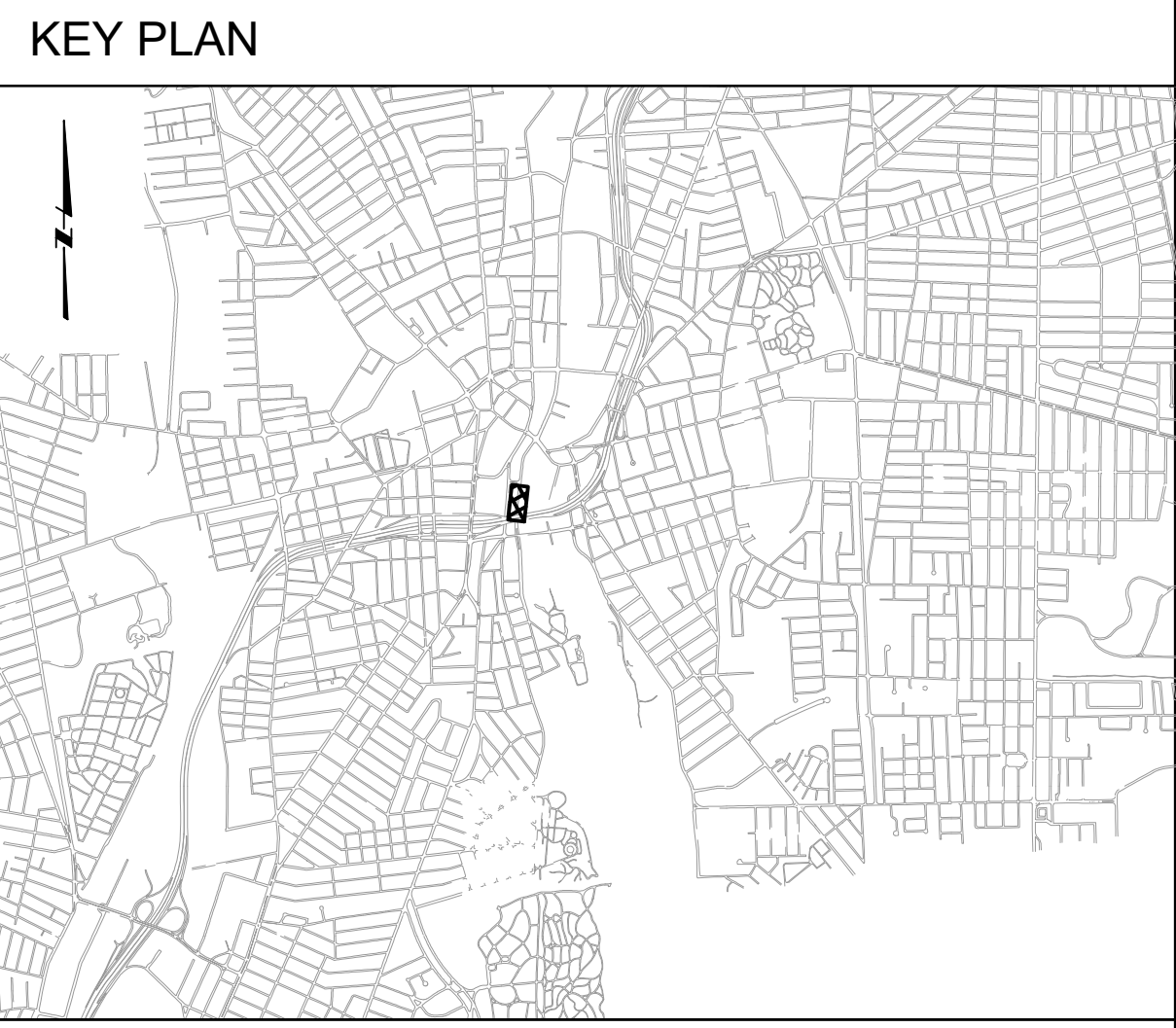
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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM
Stantec **PARE**

NBC CONTRACT NO 308.04C
ELECTRICAL
GATE & SCREENING STRUCTURE, APPROACH TUNNEL &
OF-210, OF-213, & OF-214 DIVERSION STRUCTURES PLANS

SHEET
E-6
195130227



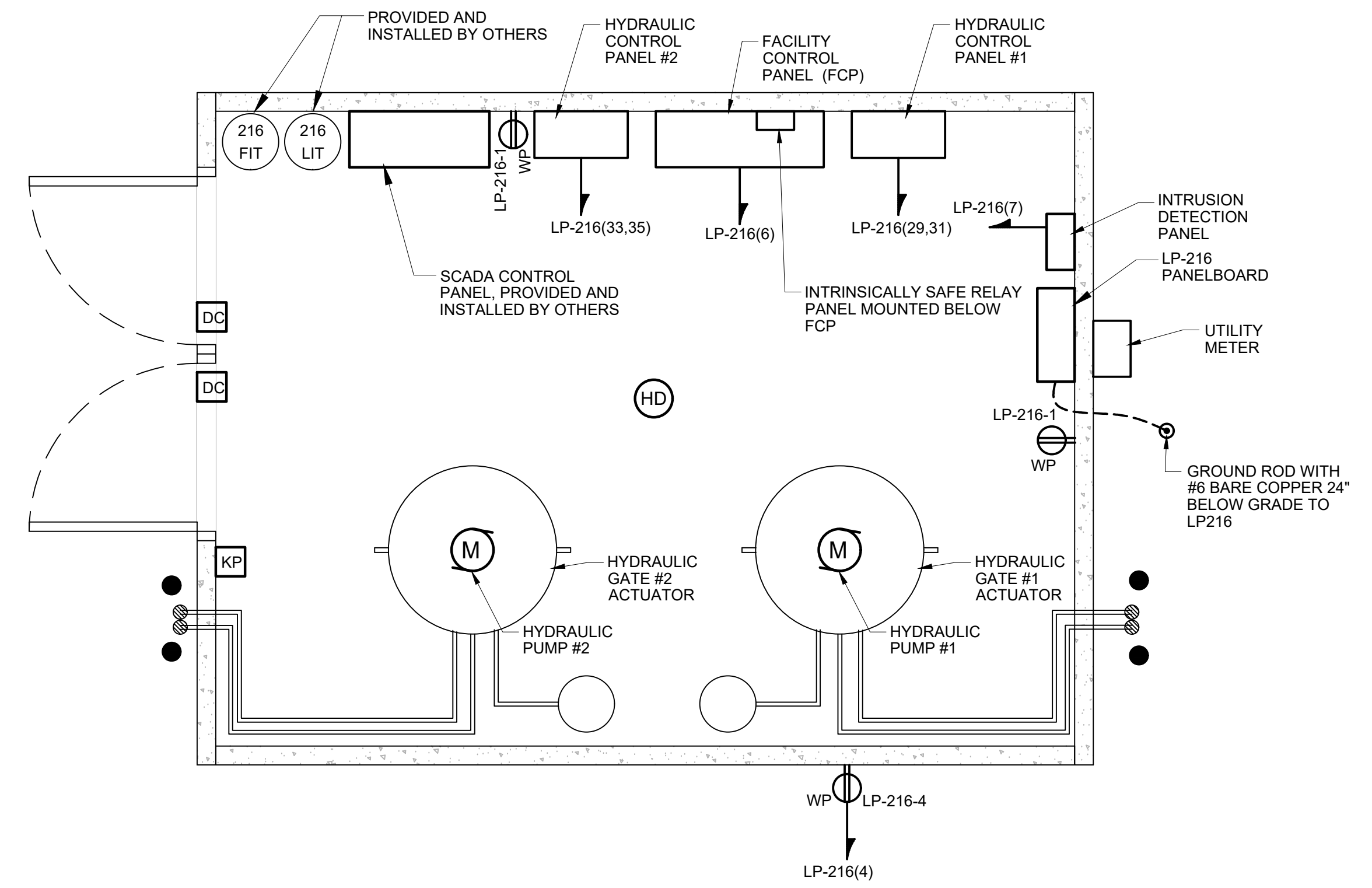
KEY PLAN

GENERAL SHEET NOTES

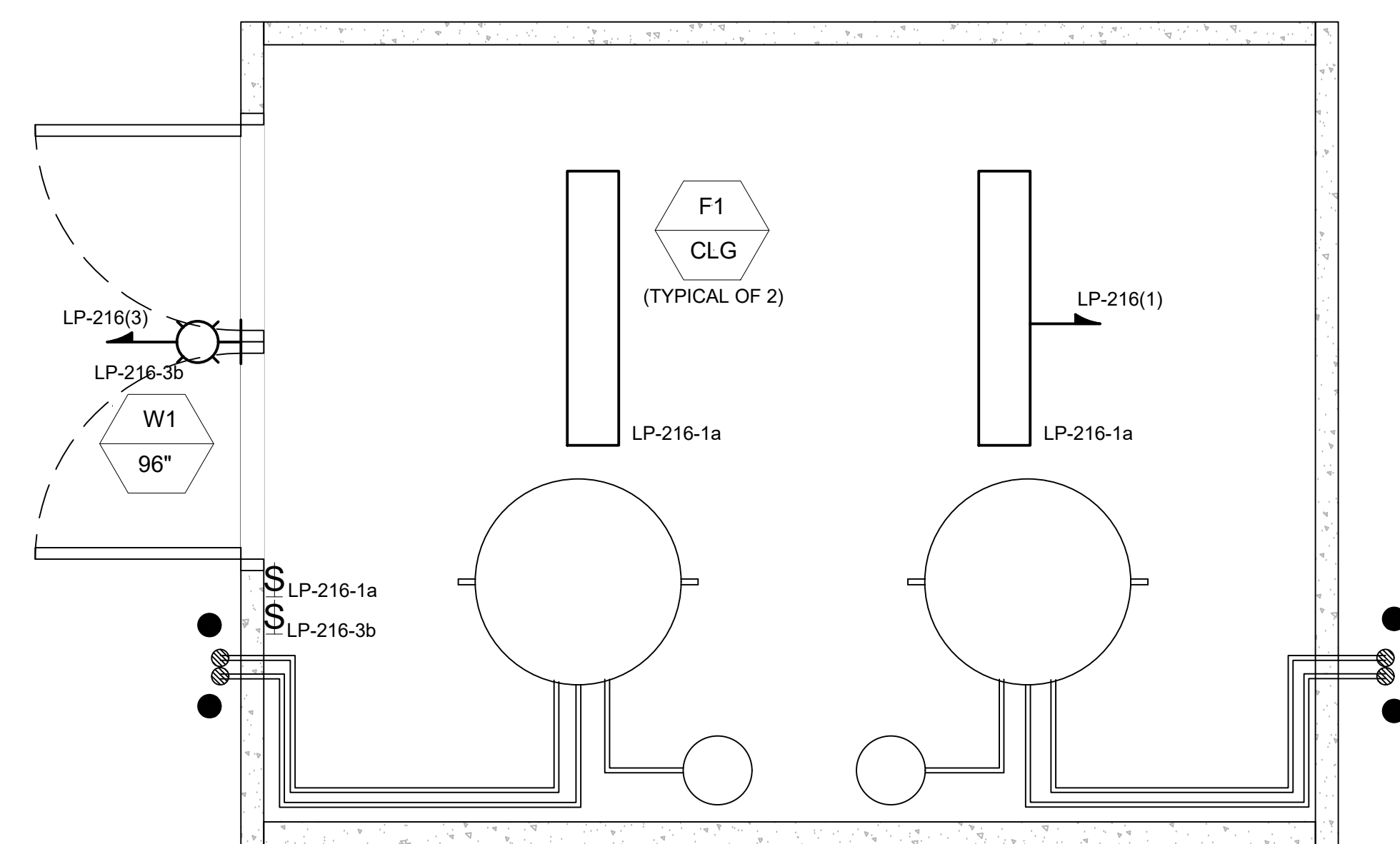
1. NONE

SHEET KEYNOTES

A. NONE



CONTROL BUILDING - POWER & SECURITY PLAN
SCALE: 1/2" = 1'-0"

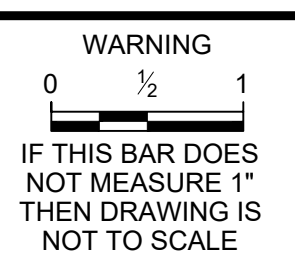


CONTROL BUILDING - LIGHTING PLAN
SCALE: 1/2" = 1'-0"

BY: MIKE C
PLOT DATE: Friday, October 29, 2021 3:09:43 PM
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REV	DATE	BY	DESCRIPTION

SCALE
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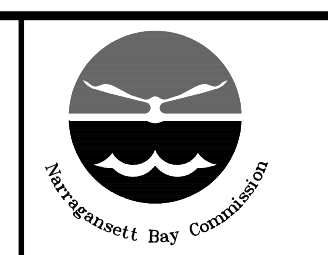


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NARRAGANSETT BAY COMMISSION
PHASE III COMBINED SEWER
OVERFLOW PROGRAM

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NBC CONTRACT NO 308.04C
ELECTRICAL

GATE & SCREENING STRUCTURE
CONTROL BUILDING PLANS

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