

CITY OF PORTSMOUTH, NEW HAMPSHIRE

FOR CONSTRUCTION

CORPORATE DRIVE RECONSTRUCTION

CITY BID No. 03-24



PREPARED BY
UNDERWOOD ENGINEERS, INC.
 PORTSMOUTH, NEW HAMPSHIRE
 JULY 21, 2023

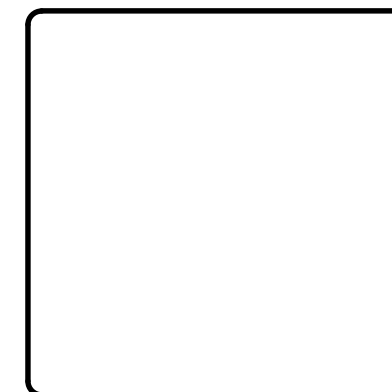
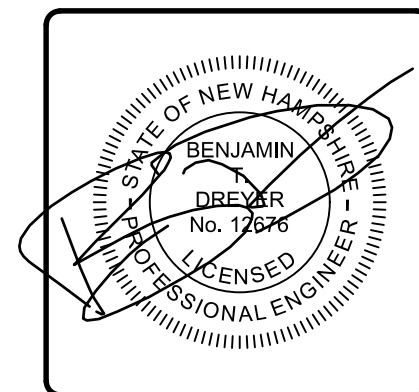
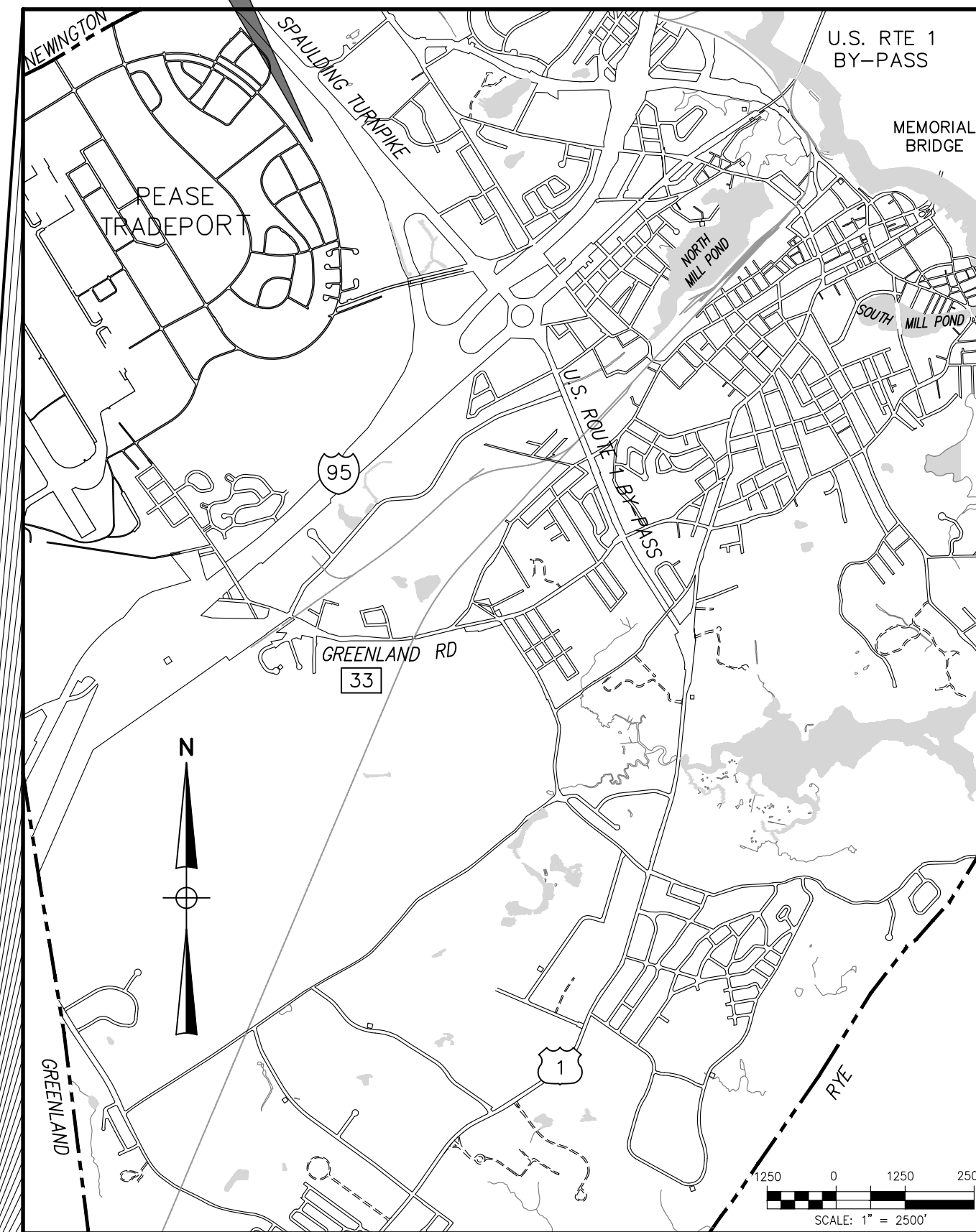


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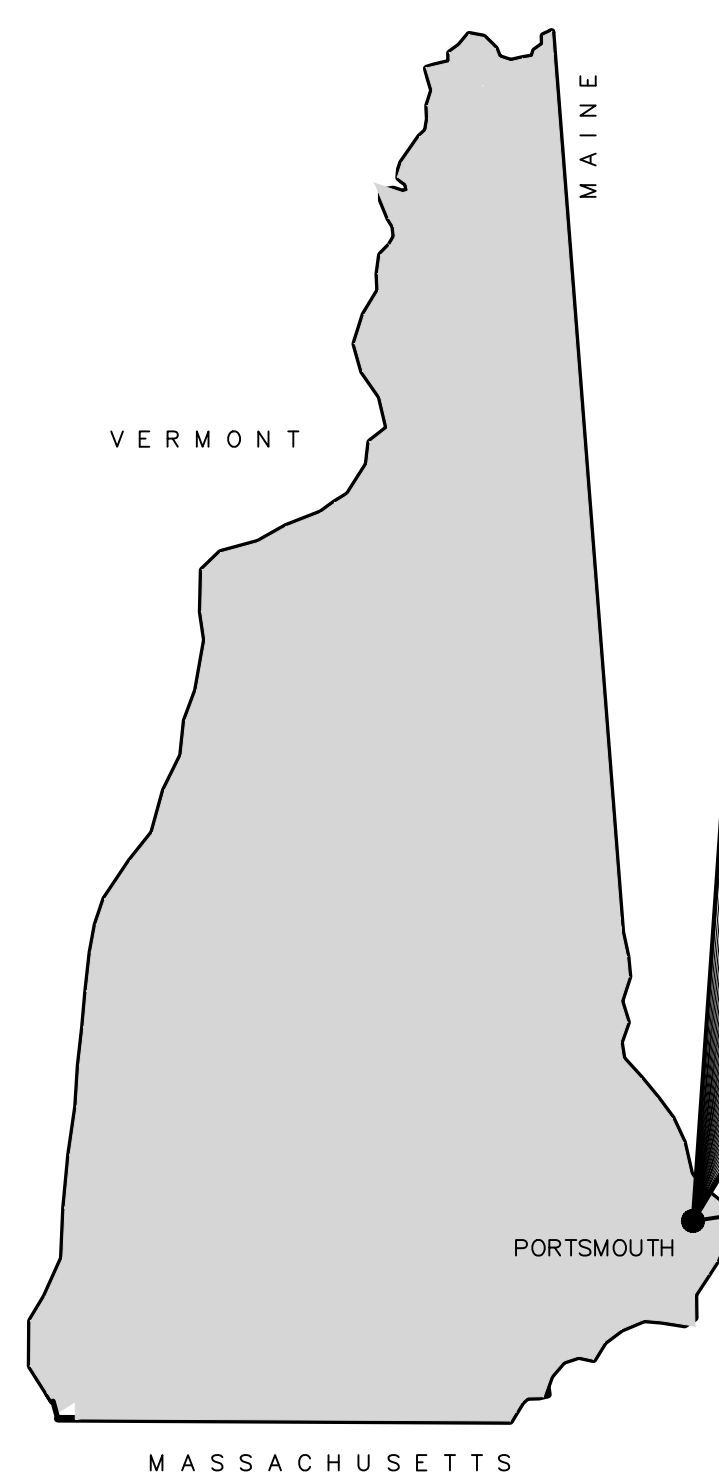
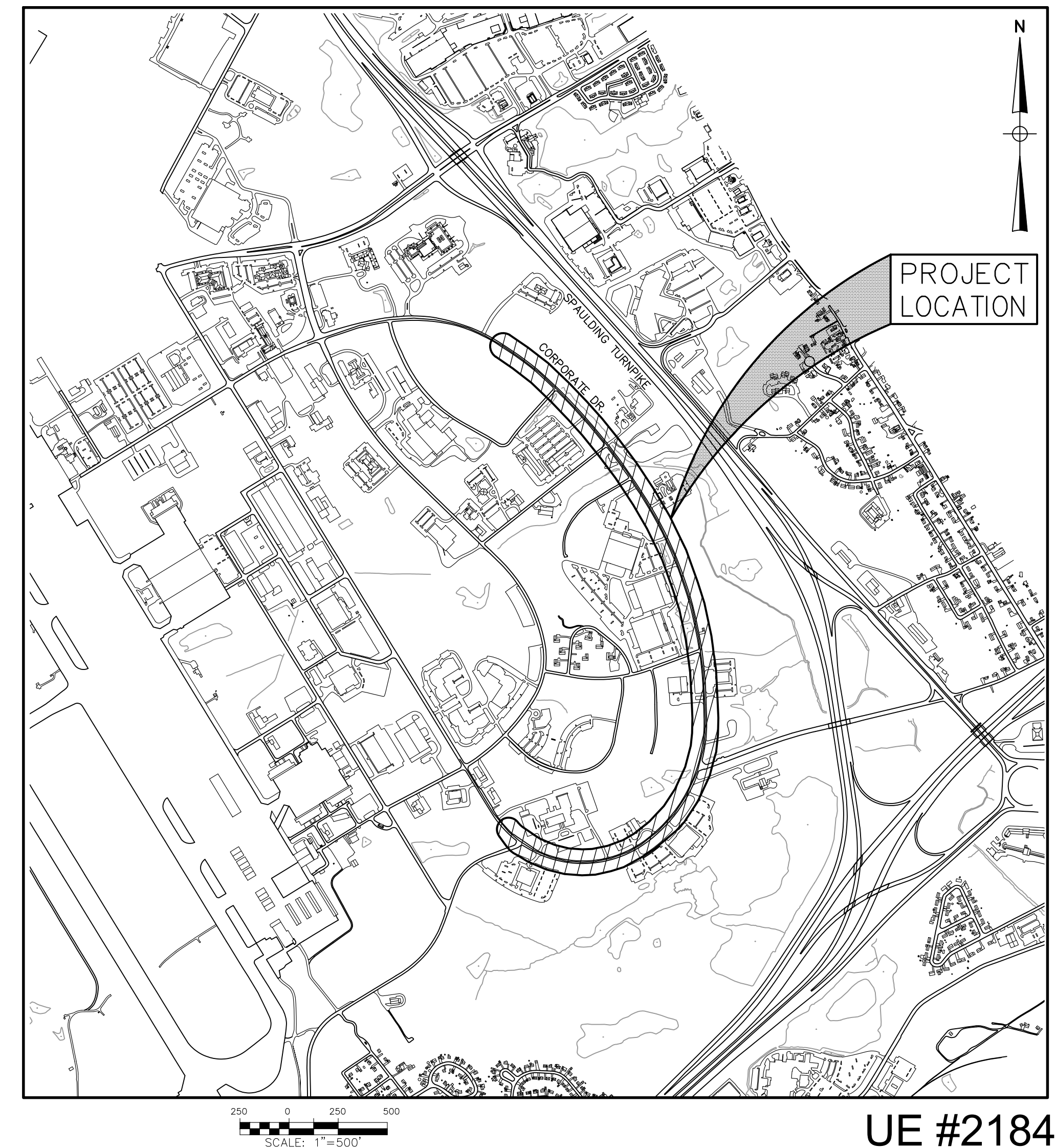
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PROJECT AREA

VICINITY MAP



LOCATION PLAN



UE #2184



ABBREVIATIONS:

APPROX	APPROXIMATE
B	BORING
BC	BITUMINOUS CURB
BLDG	BUILDING
CB	CATCH BASIN
CI	CAST IRON PIPE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONST	CONSTRUCT
CPE	CORRUGATED POLYETHYLENE
CPP	CORRAGATED PLASTIC PIPE
D	DRAIN
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DMH	DRAINAGE MANHOLE
DYL	DOUBLE YELLOW LINE
EL	ELEVATION
EMER	EMERGENCY
ENGR	ENGINEER
EOP,EP	EDGE OF PAVEMENT
EXIST	EXISTING
FM	FORCE MAIN
FT	FOOT OR FEET
GAS	PROPANE GAS
GC	GRANITE CURB
GND	GROUND
FM	FORCE MAIN
IN	INCH
INV	INVERT ELEVATION
LF	LINEAR FEET
LGT	LIGHT
LP	LIGHT POLE
MJ	MECHANICAL JOINT
MW	MUNICIPAL WATER
NA OR N/A	NOT APPLICABLE
NCVD	NATIONAL GEODETIC VERTICAL DATUM
N/F	NOW OR FORMERLY
N/R	NO REFUSAL
OD	OUTSIDE DIAMETER
ORN	ORNAMENTAL TREE
OS	OUTLET STRUCTURE
PK	SURVEYOR'S NAIL
PL	PROPERTY LINE
PSNH	PUBLIC SERVICE COMPANY OF N.H.
PVC	POLYVINYL CHLORIDE SDR 35
PVMT	PAVEMENT
R	REFUSAL
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RD	ROAD
REF	REFER OR REFERENCE
REQD	REQUIRED
ROW	RIGHT OF WAY
S	MUNICIPAL SEWER OR SEPTIC TANK
S	SLOPE (I.E., FT. PER FT.) IN PROFILES
SCH	SCHEDULE
SHT	SHEET
SMH	SEWER MANHOLE
ST	STEEL
STA	STATION
STD	STANDARD
TBM	TEMPORARY BENCH MARK
TRANS	TRANSFORMER
TYPE	TYPICAL
UGE	UNDERGROUND ELECTRIC
U/P	UTILITY POLE
VCD	VC DRAIN
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W	WATER
WD	WOOD
W/	WITH

1. THIS IS A STANDARD LEGEND SHEET, THEREFORE SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS.

2. CONTACT ENGINEER FOR ABBREVIATIONS USED BUT NOT SHOWN ON THESE DRAWINGS.

GENERAL NOTES:

- THE LINE WORK REPRESENTING THE EXISTING UNDERGROUND STRUCTURES AND PIPES IS BASED ON A FIELD SURVEY, TIE SHEETS, AND OTHER INFORMATION AVAILABLE DURING DESIGN. THE ENGINEER/SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ON THE PLANS OR THE PROJECT MANUAL APPENDIX COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE ENGINEER/SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. UG TELEPHONE DUCTS ARE LOCATED BASED ON SURVEY, TELEPHONE SCHEMATICS AND RECORD INFORMATION. CONTRACTOR SHALL CONFIRM LOCATION OF EXISTING UTILITIES AT PROPOSED CROSSING LOCATIONS. IN ADDITION, CONTRACTOR SHALL ANTICIPATE THAT EVERY BUILDING OR UNIT WITHIN THE PROJECT AREA HAS A LEAST ONE GAS, SEWER AND WATER SERVICE EXTENDING FROM THE MAIN IN THE STREET TO THE BUILDING. THEREFORE THE CONTRACTOR SHOULD CONSIDER CONFLICTS, HAND EXCAVATION AND POSSIBLE DELAYS IN CONSTRUCTION, WHEN PREPARING THEIR BID.
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR (IF DAMAGED) OF ALL EXISTING UTILITY MAINS AND SERVICES. THE LOCATIONS OF KNOWN SEWER, WATER AND GAS, MAINS, SHOWN ON THESE DRAWINGS ARE APPROXIMATE. HOWEVER, WATER AND SEWER SERVICE LATERALS ARE NOT SHOWN AND THE CONTRACTOR IS TO ANTICIPATE THEIR EXISTENCE. NOTIFY DIG-SAFE (1-888-344-7233) AND THE CITY OF PORTSMOUTH DISPATCH (603 427-1530) PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL GIVE ADEQUATE NOTICE TO THE ENGINEER OF CONFLICTS OF PROPOSED WORK WITH MARKED UTILITIES PRIOR TO CONSTRUCTING THE PROPOSED WORK.
- ALL CONFLICTS WITH GAS LINES SHALL BE COORDINATED WITH UNITIL, SUBSIDIARY. CONTACT FOR UNITIL IS (603) 294-5118.
- THE CONTRACTOR SHALL MAINTAIN SINGLE LANE TRAFFIC AND ACCESS TO BUSINESSES AND PROPERTIES AT ALL TIMES DURING WORKING HOURS. TRAFFIC CONTROL WARNING DEVICES SHALL BE IN ACCORDANCE WITH MUTCD (LATEST EDITION) REQUIREMENTS AND SECTION 619 OF THE STANDARD SPECIFICATIONS.
- ALL STREET OPENINGS SHALL BE BACKFILLED AT THE END OF EACH DAYS OPERATIONS TO ENSURE SAFE VEHICULAR AND PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL MAINTAIN SAFE PASSAGE FOR 2-LANES OF TRAFFIC AT THE END OF EACH WORK DAY. DUST CONTROL OPERATIONS ARE TO BE CONTINUOUS THROUGHOUT CONSTRUCTION AND IS INCIDENTAL TO THE WORK.
- THE USE OF PLATES TO COVER OPEN EXCAVATIONS IN LIEU OF BACKFILLING WILL NOT BE PERMITTED UNLESS PRIOR APPROVAL HAS BEEN GRANTED BY THE OWNER.
- AN EXCAVATION PERMIT FOR CONSTRUCTION ACTIVITIES FROM PEASE DEVELOPMENT AUTHORITY (PDA) IS REQUIRED FOR THIS PROJECT.
- THE CONTRACTOR IS REQUIRED TO PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND TO SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA TO FULFILL PROJECT REQUIREMENTS. THE SWPPP MUST BE PREPARED IN ACCORDANCE WITH THE EPA'S REQUIREMENTS. NO WORK IS TO PROCEED UNTIL THE SWPPP AND THE NOI IS SUBMITTED AND ACCEPTED BY THE OWNER.
- THIS SET OF PLANS HAS BEEN CREATED TO BE USED IN CONJUNCTION WITH A TECHNICAL SPECIFICATION ENTITLED "PROJECT MANUAL, CORPORATE DRIVE RECONSTRUCTION, PORTSMOUTH, NH".
- ACCESS TO AREAS OUTSIDE CORPORATE DRIVE 100' RIGHT OF WAY SHALL BE COORDINATED WITH PEASE DEVELOPMENT AUTHORITY, WHO HAVE JURISDICTION FOR THIS COMMON LAND OUTSIDE THE DEVELOPED AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL SURPLUS EARTHEN MATERIALS, LEDGE, CURB, PIPE, AND SEWER OR DRAIN STRUCTURES EXCAVATED DURING CONSTRUCTION, UNLESS MATERIALS ARE CLAIMED BY THE OWNER OR OTHERWISE INDICATED IN THE PROJECT MANUAL OR THE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROPERTY RESTORATION BOTH PUBLIC AND PRIVATE. UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- TEMPORARY PAVING REPAIRS SHALL MAINTAIN EXISTING LINE AND GRADE UNLESS OTHERWISE INDICATED OR DIRECTED.
- OVERHEAD WRES AND WIRE DROPS TO BUILDINGS ARE NOT SHOWN IN ENTIRETY. THE CONTRACTOR SHALL ANTICIPATE THEIR EXISTENCE IN ALL OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ROADWAY SIGNS. ANY SIGN DAMAGED DURING THE COMPLETION OF WORK SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOT USE ANY ADJACENT DRIVEWAYS OR PARKING LOTS WITHOUT WRITTEN PERMISSION FROM THE PROPERTY OWNER. DAMAGE RESULTING FROM CONSTRUCTION LOADS OUTSIDE PROPOSED LIMITS OF WORK SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
- ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A LICENSED LAND SURVEYOR (LLS) AT NO COST TO OWNER.
- THE CONTRACTOR SHALL AVOID DISTURBANCE TO WETLANDS THROUGHOUT THE COURSE OF THE PROJECT AND TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DEGRADATION OF WETLANDS AND DOWNSTREAM SURFACE WATERS.

REFERENCE PLANS:

- TOPOGRAPHIC PLAN OF CORPORATE DRIVE BY DOUCET SURVEY INC. DATED JUNE 30, 2017, LAST REVISED APRIL 25, 2018.
- SITE PLANS – 273 CORPORATE DRIVE PREPARED FOR MAGNA CORPORATION BY MILLETTE, SPRAGUE & COLWELL, INC. DATED JUNE 14, 2000, LAST REVISED OCTOBER 25, 2000.
- SITE PLANS – 164 & 166 CORPORATE DRIVE PREPARED FOR FLEXTRONICS INTERNATIONAL BY MILLETTE, SPRAGUE & COLWELL, INC. DATED AUGUST 2000, LAST REVISED JANUARY 2, 2001.
- CITY OF PORTSMOUTH GIS MAPPING (WATER, SEWER, AND DRAIN SYSTEMS MAPPING).
- AERIAL TOPOGRAPHY, CITY OF PORTSMOUTH.
- UNDERGROUND CONDUIT (ELECTRONIC AND TELEPHONE) LOCATED BASED ON PLANS, PREPARED FOR PEASE DEVELOPMENT AUTHORITY BY DAVID COCHRAN & ASSOCIATES, DATED MARCH 2001.
- GAS MAIN LOCATIONS BASED ON PLANS BY UNITIL SERVICE CORPORATION DATED AUGUST 11, 2017.
- PEASE INTERNATIONAL TRADEPORT SEWER INTERCEPTOR CONTRACTS 1 AND 2, PREPARED BY UNDERWOOD ENGINEERS, INC. DATED SEPTEMBER 7, 2001.
- PORTSMOUTH AIR FORCE BASE STORM DRAINS AND DRAINAGE SYSTEM LAYOUT PREPARED FOR THE CORPS. OF ENGINEERS, US ARMY BY WHITMAN & HOWARD DATED JANUARY 1954, LAST REVISED JUNE 6, 1954.
- WATERSHED RESTORATION PLAN FOR HODGSCON BROOK, PORTSMOUTH 2004.
- PEASE AIR FORCE BASE DRAINAGE SYSTEM SCHEMATIC, NOT DATED.
- CORPORATE DRIVE AND GOOSE BAY DRIVE SEWER IMPROVEMENTS, PREPARED BY UNDERWOOD ENGINEERS, INC.. DATED MAY 8, 2018.

SURVEY NOTES & REFERENCES:

- REFERENCE: TOPOGRAPHICAL SURVEY PLAN OF CORPORATE DRIVE, PREPARED FOR UNDERWOOD ENGINEERS, INC. BY DOUCET SURVEY, INC., LAST REVISED/UPDATED ON APRIL 25, 2018.
- FIELD SURVEY PERFORMED BY DOUCET SURVEY, INC. DURING JUNE 2017 & APRIL 2018 USING A TRIMBLE S6 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR AND A TRIMBLE DINI DIGITAL AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
- JURISDICTIONAL WETLANDS DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING JUNE 2017 IN ACCORDANCE WITH THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS. WETLANDS SHOWN BEYOND THE IMMEDIATE WORK AREA ARE DELINEATED ON THE PLANS UTILIZING REFERENCE PLANS, PORTSMOUTH AERIAL SURVEY AND VISUAL OBSERVATIONS.
- HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE (2800) NAD83 (2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
- VERTICAL DATUM BASED ON NAVD88 PER NHDOT DISK 379-0740 WITH A PUBLISHED ELEVATION OF 38.17
- PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.
- UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.
- ALL ELECTRIC, GAS, TELEPHONE, WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH, CALL DIG-SAFE AT 1-888-DIG-SAFE.
- FIELD INVESTIGATIONS OF CATCH BASINS AND DRAIN MANHOLES ALONG CORPORATE DRIVE WAS COMPLETED IN JUNE 2018 BY UNDERWOOD ENGINEERS, INC. PIPE INVERTS AND WATER LEVELS IN STRUCTURES WERE RECORDED UNDER NO FLOW CONDITIONS.
- DRIVEWAY LOCATION UPDATED TO REFLECT FIELD CONDITIONS AFTER SURVEY. FIELD MEASUREMENTS BY UNDERWOOD ENGINEERS WERE TAKEN ON 6/14/22 USING A CARLSON BRX7 SURVEY GRADE GPS.

DRAINAGE SYSTEM NOTES

- IN GENERAL, NEW CB'S WILL BE SET AT THE LOCATIONS SHOWN. EXISTING CB STRUCTURES WITHIN THE NORMAL EXCAVATION LIMITS ARE TO BE REMOVED, (SUBSIDIARY). ALL FRAMES AND GRATES SHALL BE DELIVERED TO THE PORTSMOUTH DPW (SUBSIDIARY). ALL NEW CATCH BASIN RIMS SHALL BE SET TO FINISH GRADE ELEVATION IN ACCORDANCE WITH DETAIL ON DWG D4.
- MANHOLE AND CATCH BASIN BASES, RISERS, CONE SECTIONS, AND SLAB TOPS SHALL BE DESIGNED TO PROVIDE A MINIMUM 6" PERIPHERY OF MONOLITHIC SOLID WALL SEPARATION BETWEEN OPENINGS (CORINGS AND SECTIONS).
- ALL NEW CATCH BASINS, DRAIN MANHOLES & DRAIN LINES SHALL BE CLEANED PRIOR TO ACCEPTANCE (SUBSIDIARY TO ITEMS 603.XX & 604.XX).
- DMH RIMS SHALL BE SET 1/8" TO 1/4" BELOW GRADE WHEN IN PAVEMENT OR GRAVEL ROADS (I.E., PLOWED AREAS). RIMS SHALL BE SET AT GRADE IN NON-PLOWED AREAS UNLESS OTHERWISE INDICATED. WHEN HINGED COVERS ARE SPECIFIED, HINGES SHALL FACE THE DIRECTION OF TRAFFIC.

ROADWAY GRADING, PAVING & RESTORATION NOTES:

- THE ROADWAY WILL BE RECONSTRUCTED AT THE ALIGNMENT AND GRADES SHOWN ON THE DRAWINGS. ROAD LAYOUT AND SUBGRADE ELEVATIONS ARE SUBJECT TO REVIEW BY THE ENGINEER AND/OR THE OWNER. THE ALIGNMENT IS TO BE STAKED OUT FOR REVIEW IN ADVANCE OF CONSTRUCTION.
- ROADWAY RECONSTRUCTION METHODS AND MATERIALS VARY DEPENDANT ON LOCATION, REFER TO DRAWINGS. GRADES WILL BE AT THE ELEVATIONS INDICATED ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- PAVEMENT REPAIRS TO DRIVEWAYS OR OTHER AREAS OUTSIDE PAYMENT LIMITS DEFINED ON THE DRAWINGS IS SUBSIDIARY AND WILL NOT BE MEASURED FOR PAYMENT EXCEPT WHEN DIRECTED BY THE OWNER'S REPRESENTATIVE.

SEWER AND DRAIN NOTES

- EXISTING SEWER AND DRAIN PIPES SHALL BE PROTECTED BY CONTRACTOR. ANY EXISTING DRAINAGE DAMAGED WHILE COMPLETING THE WORK SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

PERMITS & REGULATORY:

THE FOLLOWING PERMITS AND REGULATORY CONDITIONS APPLY TO THE WORK (SEE APPENDIX OF PROJECT MANUAL):

- PDA EXCAVATION PERMIT – TO BE FILED BY THE CONTRACTOR PRIOR TO THE WORK.
- EPA CONSTRUCTION GENERAL PERMIT – NOI TO BE FILED BY THE CONTRACTOR PRIOR TO THE WORK.

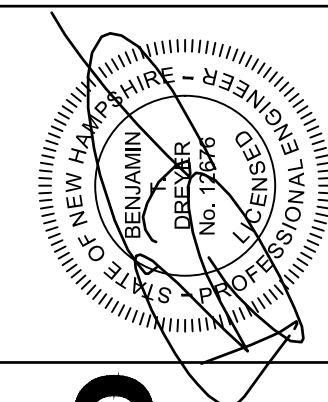

CONSTRUCTION SEQUENCE:

PERFORM WORK IN ACCORDANCE WITH APPROVED SCHEDULE, GENERALLY ACCEPTED INDUSTRY ORDER OF OPERATIONS UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER.

- PRIOR TO THE START OF CONSTRUCTION, PROVIDE A WRITTEN NARRATIVE OF THE CONSTRUCTION METHODS TO BE USED AND INCLUDE A PRELIMINARY SCHEDULE OF KEY MILESTONES, INCLUDING COORDINATION OF UTILITY PIPE INSTALLATIONS AND COORDINATION WITH GAS COMPANY, AND OTHER UTILITIES AS APPLICABLE.
- PRIOR TO ANY PIPE WORK, THE CONTRACTOR SHALL INSTITUTE AN EXPLORATORY EXCAVATION PROGRAM WITH ENGINEER TO IDENTIFY POTENTIAL CONFLICTS AT UTILITY CROSSINGS. EXPLORATORY EXCAVATION COMPLETED WITHOUT PRIOR APPROVAL, OR WITHOUT OBSERVATION BY ENGINEER, WILL NOT BE MEASURED FOR PAYMENT. IF PIPE WORK PROCEEDS PRIOR TO EXPLORATORY EXCAVATION PROGRAM, ANY ADDITIONAL COSTS DUE TO UTILITY CONFLICTS WILL NOT BE CONSIDERED FOR PAYMENT.
- A SEQUENCE FOR DRAIN AND ROADWAY CONSTRUCTION SHALL BE SUBMITTED TO THE ENGINEER AND THE OWNER FOR REVIEW AND APPROVAL PRIOR TO THE START OF THE WORK. ANY CHANGE IN THIS APPROVED SEQUENCE SHALL BE SUBMITTED IN WRITING AND APPROVED BY THE ENGINEER AND THE OWNER.
- REFER TO SPECIFICATION SECTION 110 (PROSECUTION OF WORK) FOR ADDITIONAL SCHEDULE AND PROJECT REQUIREMENTS.
- DISPOSE OF SURPLUS AND UNSUITABLE MATERIALS AS THE WORK PROGRESSES. STOCKPILE OF MATERIALS WILL ONLY BE PERMITTED IN AREAS APPROVED BY THE CITY OF PORTSMOUTH, DPW AND PEASE DEVELOPMENT AUTHORITY (PDA).
- INSTALL AND MAINTAIN TEMPORARY AND PERMANENT EROSION CONTROL DEVICES THROUGHOUT THE CONSTRUCTION PERIOD (INCLUDING WINTER SHUT DOWN PERIODS AS REQUIRED) AS SHOWN IN THE APPROVED SWPPP, ON THE DRAWINGS, OR AS APPROVED BY THE ENGINEER.
- PRE-DRAIN AND/OR DEWATER EXCAVATIONS BEFORE INSTALLING PIPE. INSTALL PIPE ON STABLE BEDDING (IN DRY CONDITIONS) TO THE ELEVATIONS SHOWN ON DRAWINGS.
- IMMEDIATELY STABILIZE DISTURBED AREAS AFTER PIPE INSTALLATION AND RE-ESTABLISH TEMPORARY EROSION CONTROL DEVICES MOVED DURING CONSTRUCTION.
- INSTALL CRUSHED GRAVEL OR RECLAIMED BASE AS SHOWN ON DRAWINGS, IN TRENCH AT END OF EACH DAY. VISUAL INSPECTION, ALIGNMENT TESTS AND DEFLECTION TESTS OF PIPES SHALL BE COMPLETED NO LESS THAN THIRTY (30) DAYS FOLLOWING INSTALLATION. CONSTRUCT PAVEMENT REPAIRS AS SOON AS PRACTICAL, FOLLOWING UTILITY INSTALLATIONS AND TESTING.
- RESTORE ALL DRAINAGE SWALES AND CULVERT PIPES IMMEDIATELY AFTER PIPE INSTALLATION.
- FINISH GRADING, LOAM AND SEED DISTURBED AREAS AND BACK UP PAVEMENT WITH GRAVEL IMMEDIATELY FOLLOWING PAVEMENT REPAIRS.
- REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AS SOON AS VEGETATION IS ESTABLISHED AND AREAS ARE STABILIZED.

DRAINAGE KEY NOTES:

- COMPLETE TEST PIT PRIOR TO CONSTRUCTION OF DRAINAGE SYSTEM TO VERIFY PIPE ELEVATIONS AT UTILITY CROSSINGS AND REPORT FINDINGS TO ENGINEER, PAY AS ITEM 206.19 (SEE CONSTRUCTION SEQUENCE NOTE 2).
- REMOVAL OF EXISTING PIPE 0-24" DIA. (ITEM 202.41). CROSS PIPES IN TRAVELED WAY SHALL BE REMOVED TO 1 FOOT BEYOND ROAD BOX.
- CUT AND CAP PIPE. CAP TO BE MECHANICAL PLUG, BRICK & MORTAR OR OTHER METHOD APPROVED BY THE OWNER & ENGINEER, SUBSIDIARY TO DRAIN PIPE AND/OR DRAIN STRUCTURE (604.XX AND 603.XX)
- FILL AND ABANDON STRUCTURE, ITEM 202.32
- FILL ABANDONED PIPE, ITEM 202.31
- HEAVY CLEANING & VIDEO INSPECTION, ITEM 603.0002
- INSULATION AT UTILITY CROSSING, ITEM 611.9512. SEE CROSSING DETAIL ON DWG D4
- INSTALL PRE-TREATMENT CHAMBER (ITEM 1010.1101) IN ACCORDANCE WITH DETAIL ON DWG D6
- INSTALL HIGH RATE BIOFILTRATION UNIT IN ACCORDANCE WITH DETAIL ON DWG D6, ITEM 1010.11A-C
- GRADING AT DRIVEWAY GUTTERLINE TO TRANSITION FLOW FROM CURB LINE TO PRE-TREATMENT CURB CUT AND CHAMBER. GRADES TO BE REVIEWED IN FIELD WITH ENGINEER IN ADVANCE OF PAVING.
- DRAIN MANHOLE FRAME AND COVER, ITEM 604.62
- INSULATION AT STRUCTURE IN ACCORDANCE WITH DETAIL ON DWG D5, ITEM 611.9512
- COORDINATE WITH UTILITY COMPANY FOR POLE SUPPORT AND/OR RELOCATION (SUBSIDIARY)
- INSTALL FLOW THROUGH STORMWATER TREATMENT UNIT IN ACCORDANCE WITH DETAIL, ITEM 1010.2
- REMOVE EXISTING CATCH BASIN FRAME AND GRATE WHERE "TOMBSTONE" OR OTHER STYLE GRATE IS PRESENT AND REPLACE WITH TYPE 'B' GRATE, ITEM 604.72. OTHERWISE, REMOVE EXISTING MASONRY BELOW FRAME ASSEMBLY AND PROVIDE NEW CONCRETE SLAB TOP (ITEM 604.4) WITH PE LINER (ITEM 604.0007).
- TRIMMING OF TREES, ITEM 201.52
- PRIOR TO CONSTRUCTION, INSTALL SILT FENCE, ITEM 645.531 AND ANY OTHER BMP DEVICES REQUIRED PER THE APPROVED SWPPP , ITEM 645.701. SEE SHEET D1
- RAISE DRAIN MANHOLE, ITEM 604.5
- CONSTRUCT 4" REINFORCED CONCRETE SIDEWALK 5' WIDE (ITEM 608.34). CONCRETE DEPTH FOR CURB RAMPS SHALL BE 6" (ITEM 608.36)
- CONSTRUCT SWALE. SEE SPECIAL PROVISION 1010.11 AND DETAIL ON DWG D6.
- CONFIRM STATUS OF WATER SERVICE WITH PORTSMOUTH WATER DEPARTMENT PRIOR TO EXCAVATION IN THIS AREA.

ISSUE FOR APPROVAL Date 3/23/23 BY CONSTRUCTION Date 7/21/23 RECORD DRAWING Date	REVISIONS APP'D
Drawn/Chk. MAH Designed KLV Checked BT Approved: _____ Date 7/21/23 Book No. _____ Project No. 2184L Dwg. ID 2184L_notes Scale AS SHOWN	
	
	
25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733	
GENERAL NOTES & ABBREVIATIONS	CORPORATE DRIVE RECONSTRUCTION CITY OF PORTSMOUTH PORTSMOUTH, NEW HAMPSHIRE
DWG NO G1	SHEET 2 OF 32

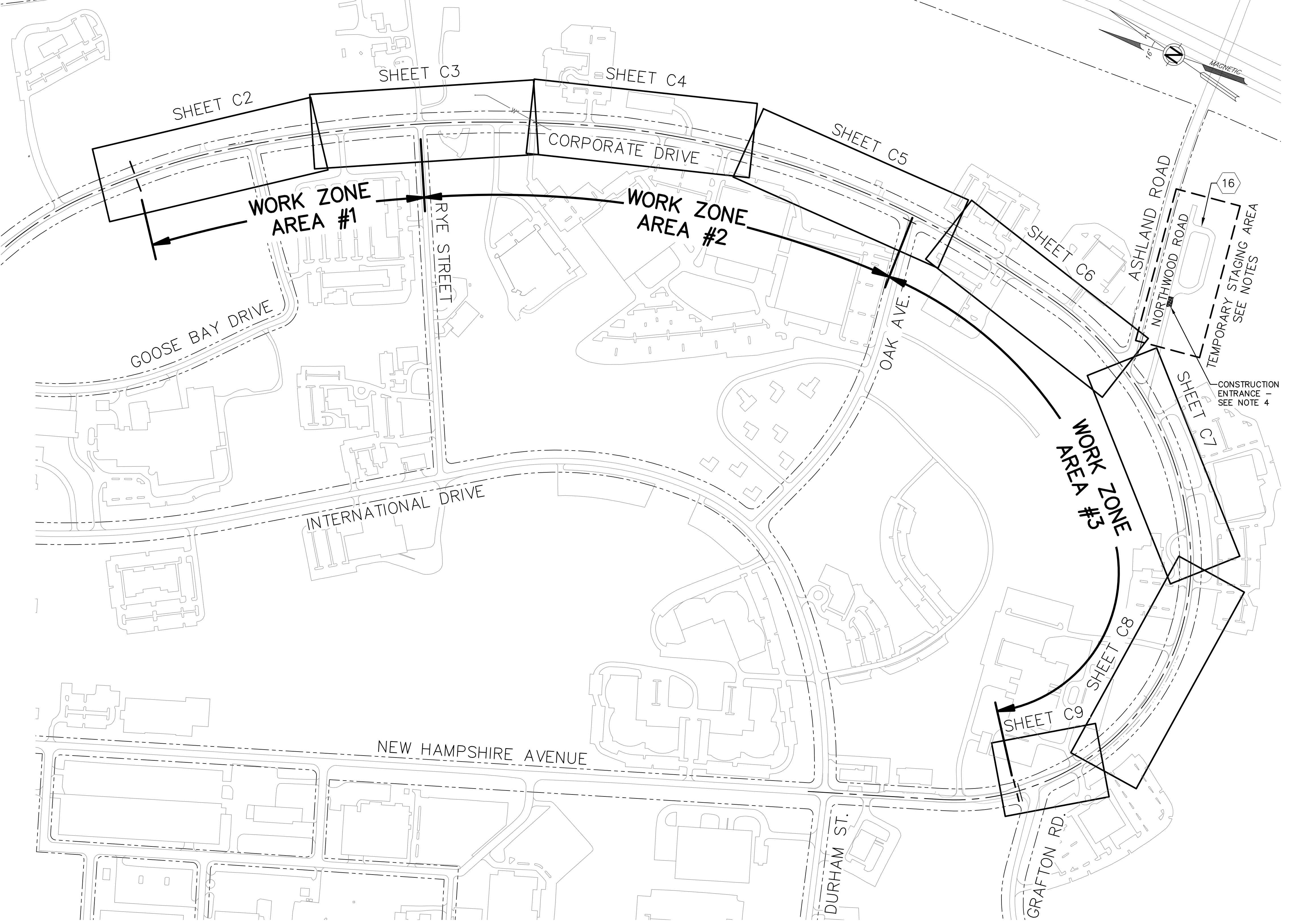
ROADWAY QUANTITY SCHEDULE														
Roadway Parameter		Binder Course			Wearing Course			SubBase			Total Depth (inches)			
Corporate Drive		3.5 inches			1.5 inches			15.0 inches			20.0 inches			
Location	Station	Length	Existing Pavement Width	Proposed Roadway Width	Proposed Pavement Width	Existing Centerline Grak	Finished Centerline Grak	Centerline Δ (FG-EG)	Depth of Common Excavation (ft)	Depth of Additional Gravels	ITEM 203.1: Common Excavation (CY)	ITEM 304.4: Crushed Stone (CY)	ITEM 403.11: Hot Bituminous Pavement (3.5" Binder) (Ton)	ITEM 403.12: Hot Bituminous Pavement (1.5" Wearing) (Ton)
C2	21+75	0	26	27	26	48.5	48.52	0.00	1.67	0.0	0.00	0.0	0	0
C2	22+00	25	26	27	26	47.9	47.97	0.07	1.60	0.0	39.92	31.3	14	6
C2	22+50	50	26	27	26	46.8	46.87	0.07	1.60	0.0	79.83	62.5	29	12
C2	23+00	50	26	27	26	45.7	45.77	0.07	1.60	0.0	79.83	62.5	29	12
C2	23+50	50	26	27	26	44.7	44.94	0.24	1.43	0.0	71.33	62.5	29	12
C2	24+00	50	26	27	26	44.0	44.14	0.14	1.53	0.0	76.33	62.5	29	12
C2	24+50	50	26	27	26	43.2	43.54	0.34	1.33	0.0	66.33	62.5	29	12
C2	25+00	50	26	27	26	42.8	42.94	0.14	1.53	0.0	76.33	62.5	29	12
C2	25+50	50	26	27	26	42.4	42.51	0.11	1.56	0.0	77.83	62.5	29	12
C2	26+00	50	26	27	26	42.1	42.26	0.16	1.51	0.0	75.33	62.5	29	12
C2	26+50	50	26	27	26	41.9	42.00	0.10	1.57	0.0	78.33	62.5	29	12
C2	27+00	50	26	27	26	41.5	41.74	0.24	1.43	0.0	74.83	62.5	29	12
C2	27+50	50	27	27	26	41.4	41.49	0.09	1.58	0.0	75.08	62.5	29	12
C2	28+00	50	27	27	26	41.2	41.23	0.03	1.64	0.0	80.33	62.5	29	12
C2	28+50	50	27	27	26	40.9	40.98	0.08	1.59	0.0	80.58	62.5	29	12
C2	29+00	50	27	27	26	40.7	40.72	0.02	1.65	0.0	80.83	62.5	29	12
C2	29+50	50	27	27	26	40.4	40.46	0.06	1.61	0.0	81.33	62.5	29	12
C2	30+00	50	27	27	26	40.1	40.21	0.11	1.56	0.0	79.08	62.5	29	12
TOTAL: 400											1274	1031	473	203
C3	30+50	50	27	27	26	39.9	39.95	0.05	1.62	0.0	79.33	62.5	29	12
C3	31+00	50	26	27	26	39.6	39.70	0.10	1.57	0.0	79.58	62.5	29	12
C3	31+50	50	27	27	26	39.4	39.44	0.04	1.63	0.0	79.83	62.5	29	12
C3	32+00	50	26	27	26	39.1	39.18	0.08	1.59	0.0	80.33	62.5	29	12
C3	32+50	50	27	27	26	38.9	38.95	0.05	1.64	0.0	80.58	62.5	29	12
C3	33+00	50	27	27	26	38.6	38.67	0.07	1.60	0.0	80.83	62.5	29	12
C3	33+50	50	27	27	26	38.5	38.41	-0.09	1.76	0.0	83.83	62.5	29	12
C3	34+00	50	27	27	26	38.3	38.16	-0.14	1.81	0.0	89.08	62.5	29	12
C3	34+50	50	26	27	26	38.3	38.09	-0.21	1.88	0.0	92.08	62.5	29	12
C3	35+00	50	26	27	26	38.5	38.34	-0.16	1.83	0.0	92.58	62.5	29	12
C3	35+50	50	27	27	26	38.6	38.59	-0.01	1.68	0.0	87.58	62.5	29	12
C3	36+00	50	27	27	26	38.9	38.84	-0.06	1.73	0.0	88.83	62.5	29	12
C3	36+50	50	27	27	26	39.4	39.13	-0.27	1.94	0.0	91.58	62.5	29	12
C3	37+00	50	27	27	26	39.7	39.42	-0.28	1.95	0.0	97.08	62.5	29	12
C3	37+50	50	27	27	26	40.0	39.71	-0.29	1.96	0.0	97.58	62.5	29	12
C3	38+00	50	27	27	26	40.2	40.00	-0.20	1.87	0.0	95.58	62.5	29	12
C3	38+50	50	27	27	26	40.5	40.27	-0.27	1.94	0.0	98.58	62.5	29	12
C3	39+00	50	26	27	26	40.6	40.47	-0.13	1.80	0.0	93.33	62.5	29	12
C3	39+50	50	26	27	26	40.8	40.70	-0.10	1.77	0.0	99.08	62.5	29	12
C3	40+00	50	26	27	26	41.1	40.93	-0.17	1.84	0.0	89.08	62.5	29	12
TOTAL: 1,000											1760	1250	573	246
C4	40+50	50	26	27	26	41.2	41.17	-0.03	1.70	0.0	88.33	62.5	29	12
C4	41+00	50	25	27	26	41.2	41.24	0.04	1.63	0.0	83.08	62.5	29	12
C4	41+50	50	27	27	26	41.0	41.00	0.00	1.67	0.0	83.33	62.5	29	12
C4	42+00	50	27	27	26	40.6	40.60	0.00	1.67	0.0	83.33	62.5	29	12
C4	42+50	50	26	27	26	40.1	40.06	-0.04	1.71	0.0	84.33	62.5	29	12
C4	43+00	50	27	27	26	39.3	39.26	-0.04	1.71	0.0	85.33	62.5	29	12
C4	43+50	50	26	27	26	38.5	38.46	-0.04	1.71	0.0	85.33	62.5	29	12
C4	44+00	50	27	27	26	37.7	37.66	-0.04	1.71	0.0	87.33	62.5	29	12
C4	44+50	50	27	27	26	36.9	36.86	-0.04	1.71	0.0	85.33	62.5	29	12
C4	45+00	50	27	27	26	35.9	36.01	0.11	1.56	0.0	81.58	62.5	29	12
C4	45+50	50	26	27	26	34.9	35.06	0.16	1.51	0.0	76.58	62.5	29	12
C4	46+00	50	25	27	26	33.9	34.12	0.23	1.45	0.0	73.83	62.5	29	12
C4	46+50	50	26	27	26	33.2	33.07	-0.01	1.66	0.0	77.58	62.5	29	12
C4	47+00	50	27	27	26	32.8	32.64	-0.16	1.83	0.0	87.08	62.5	29	12
C4	47+50	50	26	27	26	32.3	32.28	-0.02	1.69	0.0	87.83	62.5	29	12
C4	48+00	50	27	27	26	31.8	31.93	0.13	1.54	0.0	80.58	62.5	29	12
C4	48+50	50	26	27	26	31.3	31.59	0.29	1.38	0.0	72.83	62.5	29	12
C4	49+00	50	26	27	26	31.0	31.24	0.24	1.43	0.0	76.08	62.5	29	12
C4	49+50	50	27	27	26	30.8	30.97	0.17	1.50	0.0	73.08	62.5	29	12
C4	50+00	50	26	27	26	30.8	30.70	-0.10	1.77	0.0	81.58	62.5	29	12
TOTAL: 1,000											1625	1250	573	246
C5	50+50	50	26	27	26	30.3	30.43	0.13	1.54	0.0	82.58	62.5	29	12
C5	51+00	50	26	27	26	30.6	30.51	-0.06	1.61	0.0	78.58	62.5	29	12
C5	51+50	50	27	27	26	29.8	29.89	0.09	1.58	0.0	79.58	62.5	29	12
C5	52+00	50	27	27	26	29.6	29.62	0.02	1.65	0.0	80.58	62.5	29	12
C5	52+50	50	27	27	26	29.3	29.35	0.05	1.62	0.0	81.58	62.5	29	12
C5	53+00	50	26	27	26	29.1	29.09	-0.01	1.68	0.0	82.33	62.5	29	12
C5	53+50	50	26	27	26	28.9	28.82	-0.08	1.75	0.0	85.58	62.5	29	12
C5	54+00	50	26	27	26	29.2	28.98	-0.22	1.89	0.0	94.33	62.5	29	12
C5	54+50	50	26	27	26	28.5	28.28	-0.22	1.89	0.0	92.58	62.5	29	12
C5	55+00	50	26	27	26	28.5	28.01	-0.49	2.16	0.0	101.08	62.5	29	12
C5	55+50	50	26	27	26	28.5	28.24	-0.01	1.68	0.0	95.83	62.5	29	12
C5	56+00	50	26	27	26	28.5	28.49	-0.01	1.84	0.0	87.83	62.5	29	12
C5	56+50	50	26	27	26	28.9	28.73	-0.22	1.89	0.0	93.08	62.5	29	12
C5	57+00	50	26	27	26	29.2	28.98	-0.22	1.89	0.0	94.33	62.5	29	12
C5	57+50	50	26	27	26	29.2	29.23	0.03	1.64	0.0	88.08	62.5	29	12
C5	58+00	50	26	27	26	29.1	29.48	0.38	1.29	0.0	73.08	62.5	29	12
C5	58+50	50	26	27	26	29.2	29.50	0.30	1.37	0.0	66.33	62.5	29	12
C5	59+00	50	26	27	26	29.2	29.25	0.05	1.62	0.0	74.58	62.5	29	12
C5	59+50	50	25	27	26	29.1	29.00	-0.10	1.77	0.0	84.58	62.5	29	12
C5	60+00	50	24	27	26	28.9	28.73	-0.15	1.82	0.0	89.58	62.5	29	12
TOTAL: 1,000											1701	1250	573	246
C6	60+50	50	25	27	26	28.7	28.51	-0.19	1.86	0.0	91.83	62.5	29	12
C6	61+00	50	25	27	26	28.4	28.26	-0.14	1.81	0.0	91.58	62.5	29	12
C6	61+50	50	26	27	26	28.5	28.19	-0.31	1.98	0.0	94.58	62.5	29	12
C6	62+00	50	26	27	26	28.7	28.44	-0.26	1.93	0.0	97.58	62.5	29	12
C6	62+50	50	25	27	26	28.8	28.69	-0.11	1.78	0.0	92.58	62.5	29	12
C6	63+00	50	25	27	26	29.0	28.94	-0.06	1.73	0.0	87.58	62.5	29	12
C6	63+50	50	26	27	26	29.3	29.19	-0.11	1.78	0.0	87.58	62.5	29	12
C6	64+00	50	26	27	26	29.6	29.44	-0.16	1.83	0.0	90.08	62.5	29	12
C6	64+50	50	26	27	26	29.8	29.60	-0.11	1.78	0.0	90.08	62.5	29	12
C6	65+00	50	26	27	26	30.0	29.94	-0.06	1.73	0.0	87.58	62.5	29	12
C6	65+50	50	26	27	26	30.3	30.19	-0.11	1.78	0.0	87.58	62.5	29	12
C6	66+00	50	27	27	26	30.5	30.44	-0.06	1.73	0.0	87.58	62.5	29	12
C6	66+50	50	27	27	26	30.5	30.69	0.19	1.48	0.0	80.08	62.5	29	12
C6	67+00	50	27	27	26	30.9	30.93	0.05	1.63	0.0	77.33			

EXISTING

LEGEND:

PROPOSED

- EDGE OF PAVEMENT
- VERTICAL CURB
- RESET VERTICAL CURB
- SIDEWALK
- OVERHEAD WIRE
- UNDERGROUND UTILITIES
- MINOR CONTOUR ELEVATION
- MAJOR CONTOUR ELEVATION
- SPOT ELEVATION
- WETLAND
- EDGE OF WETLAND
- 100' WETLAND SETBACK
- WETLAND FLAG (SEE NOTE 3)
- STREAM/BROOK
- PROPERTY BOUNDARY
- DECIDUOUS TREE
- CONIFER TREE
- BUSH LINE
- CONCRETE
- RIP RAP
- LANDSCAPED AREA
- CONCRETE/GRANITE BOUND
- IRON PIPE - IRON ROD
- DRILL HOLE
- FIRE ALARM BOX
- FLAG POLE
- LIGHT POLE
- GUY POLE
- GUY WIRE
- HANDHOLE
- TELEPHONE BOX
- TELEPHONE MANHOLE
- UTILITY POLE
- UTILITY POLE W/ LIGHTS
- FLARED END SECTION
- GAS VALVE
- ELECTRIC MANHOLE
- ELECTRIC BOX
- SIGN
- BOLLARD
- MANHOLE MISC.
- POST
- HYDRANT
- WATER SHUT-OFF
- WATER VALVE
- IRRIGATION CONTROL VALVE
- SEWER MANHOLE
- SEWER CLEANOUT
- CATCH BASIN
- DOUBLE CATCH BASIN
- DRAIN MANHOLE
- CAPPED PIPE
- WATER LINE
- DRAIN LINE
- UNDER DRAIN LINE
- SEWER LINE
- GAS LINE
- FORCE MAIN
- CATV BOX
- MAILBOX
- EDGE OF PAVEMENT
- SINGLE WHITE LINE
- SINGLE YELLOW LINE
- DOUBLE YELLOW LINE
- DASHED SINGLE WHITE LINE
- VERTICAL GRANITE CURB
- SLOPED GRANITE CURB
- TEST PIT
- BORING



WORK ZONE NOTES:

1. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL (SEE SECTIONS 110 AND 619 OF THE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS).
2. WORK ZONE LIMITS ARE PROVIDED TO FACILITATE TRAFFIC CONTROL FOR ACCEPTABLE DETOUR ROUTES AND SEQUENCING.
3. WHEN DETOURS ARE PROPOSED, CONTRACTOR SHALL WORK IN ONLY ONE WORK ZONE AT A TIME (UNLESS OTHERWISE APPROVED BY THE OWNER).

CORPORATE DRIVE KEY



STAGING AREA NOTES:

1. THE CONTRACTOR MAY USE THE AREA KNOWN AS "JONES SCHOOL" FOR STAGING OF MATERIALS.
2. SOIL STOCKPILES TREATED FOR INVASIVE SPECIES ARE PRESENT FROM PREVIOUS WORK. INVASIVE SPECIES ARE INACTIVE.
3. AFTER COMPLETION OF CORPORATE DRIVE RECONSTRUCTION WORK, THE CONTRACTOR SHALL SPREAD ALL SOIL STOCKPILES AND ESTABLISH TURF AS PART OF RESTORATION AND PROJECT CLOSE OUT (SUBSIDIARY TO ITEM 692 MOBILIZATION)
4. PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT NORTHWOOD ROAD (SUBSIDIARY TO ITEM 645.701)

ISSUE FOR APPROVAL		Date		By	
APPROVAL		3/23/23		BTD	
CONSTRUCTION		7/21/23		BTD	
RECORD DRAWING		Date		By	
REVISIONS		NO.		APP'D	
Drawn/Chk. - MAH	Designed - KLV	Checked - BTD	Approved - BTD	Book No. - 2184	Project No. - 2184-BASE
			7/21/23	Dwg. ID - 2184-BASE	Scale - AS SHOWN

UNDERWOOD engineers

25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

CORPORATE DRIVE KEY PLAN & LEGEND

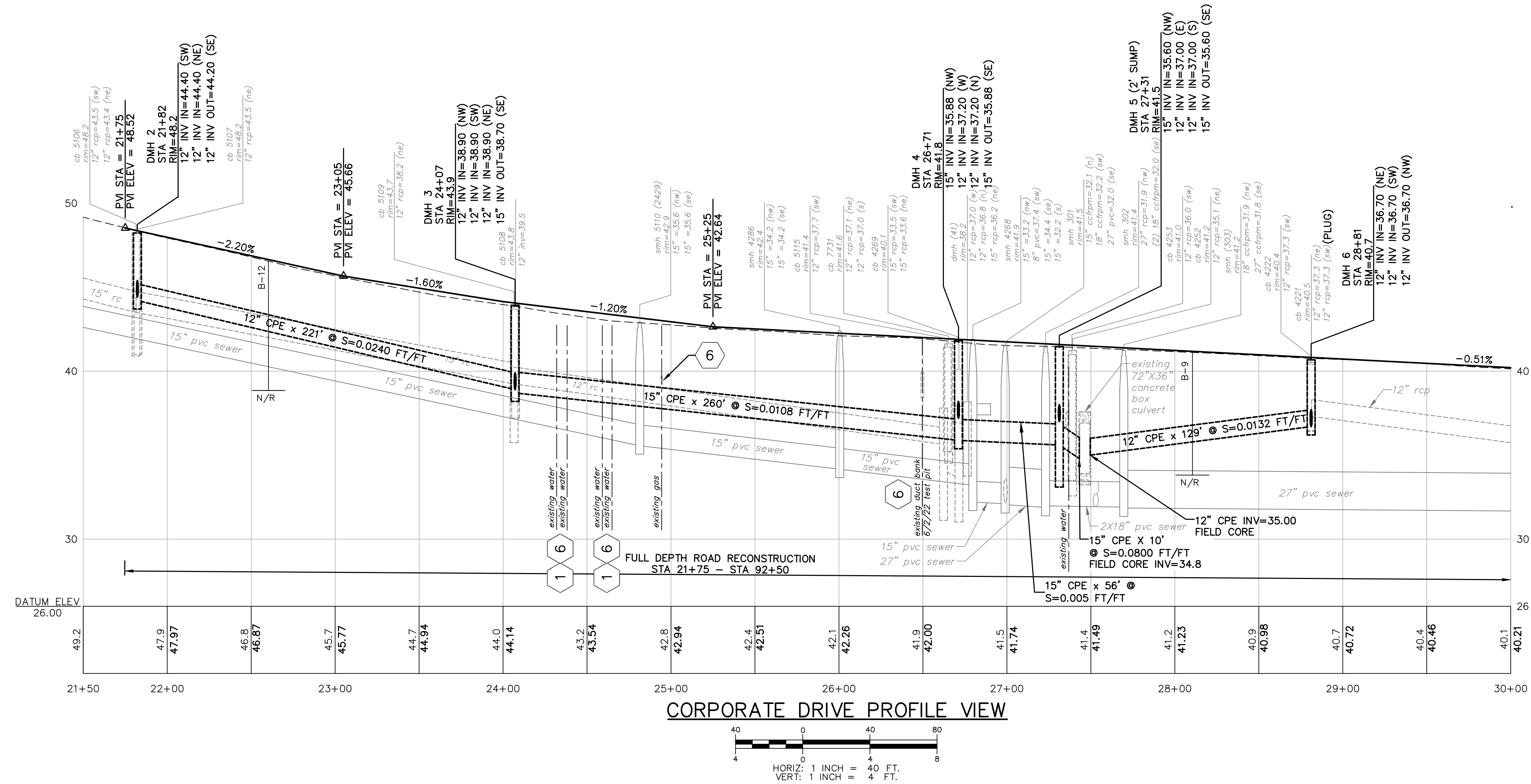
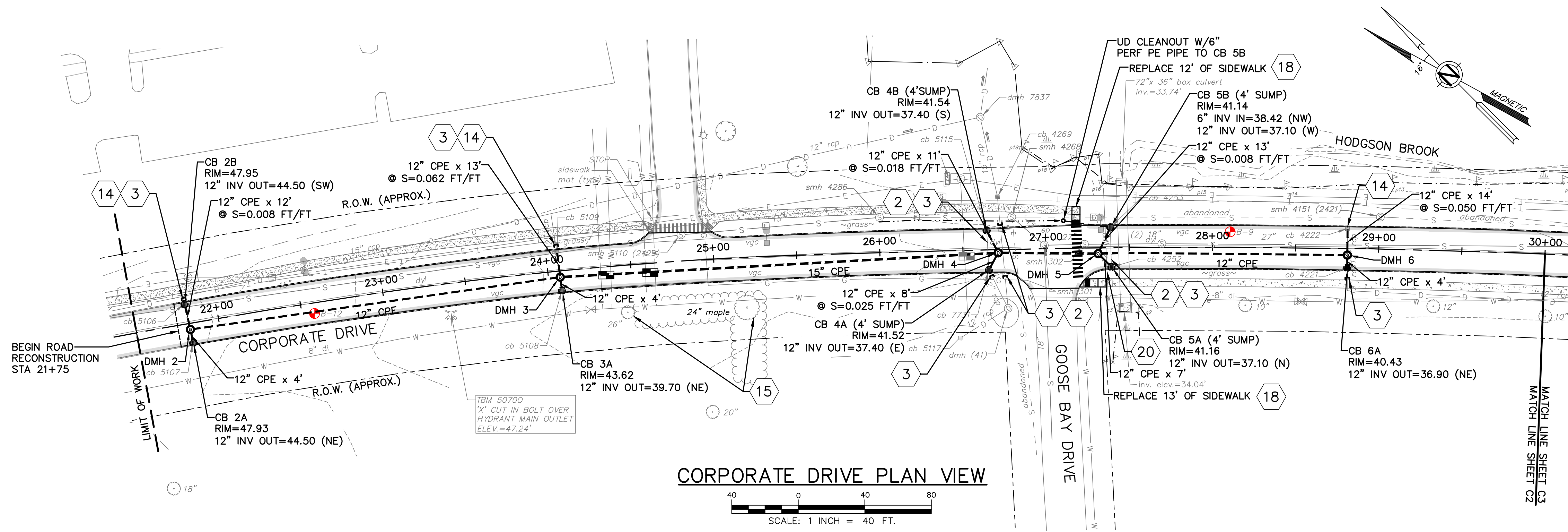
CORPORATE DRIVE RECONSTRUCTION

CITY OF PORTSMOUTH

PORTSMOUTH, NEW HAMPSHIRE

DWG NO	SHEET
G3	4 OF 32

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DESIGNED	BY	DATE	3/23/23
CHECKED	BY	DATE	
APPROVED	BY	DATE	7/21/23
BOOK NO.	PROJECT NO.	DWG. ID	SCALE
	2184	2184-BASE	AS SHOWN
REVISIONS		NO.	APP'D
<p>UNDERWOOD engineers</p> <p>25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733</p>			
CORPORATE DRIVE RECONSTRUCTION		CITY OF PORTSMOUTH PORTSMOUTH, NEW HAMPSHIRE	
DWG NO	C2	SHEET	6 OF 32

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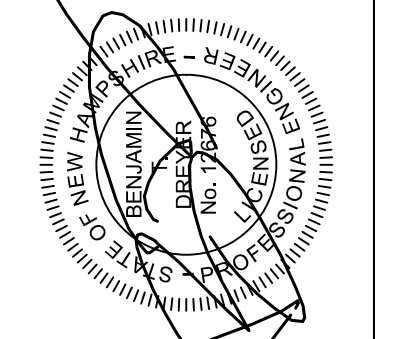
CORPORATE DRIVE PLAN & PROFILE
STA 20+00 TO 30+00

CORPORATE DRIVE RECONSTRUCTION

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

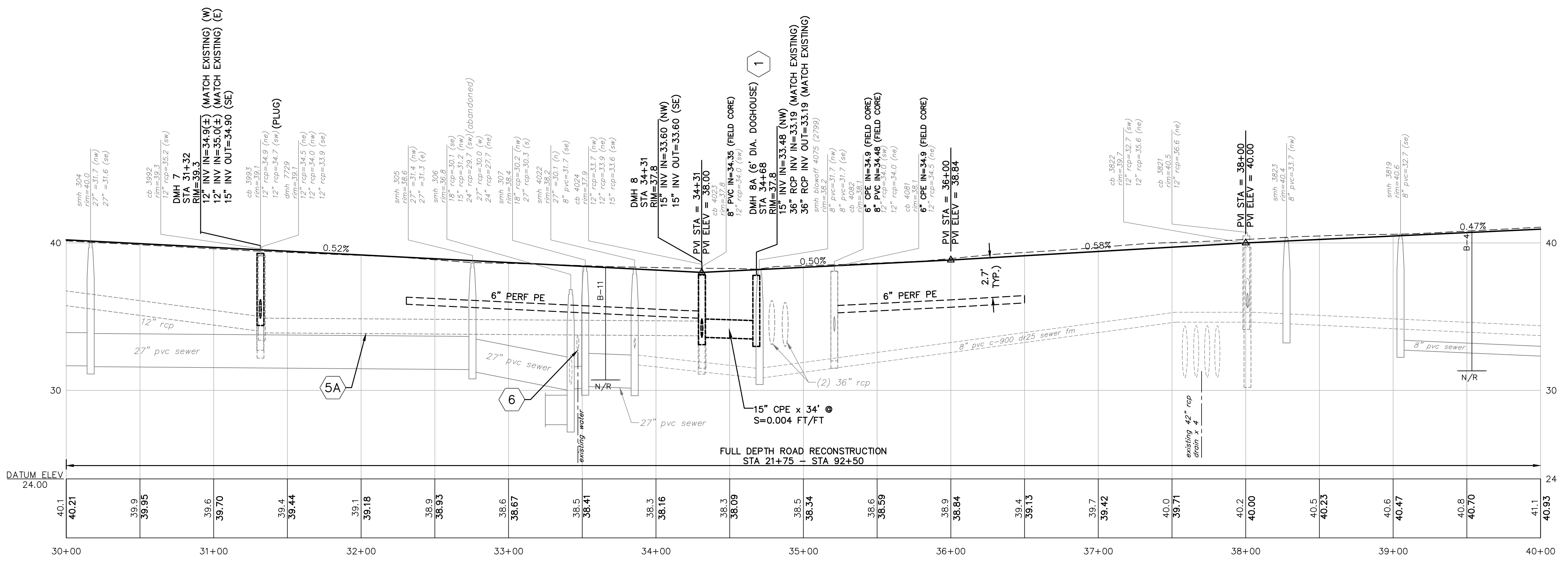
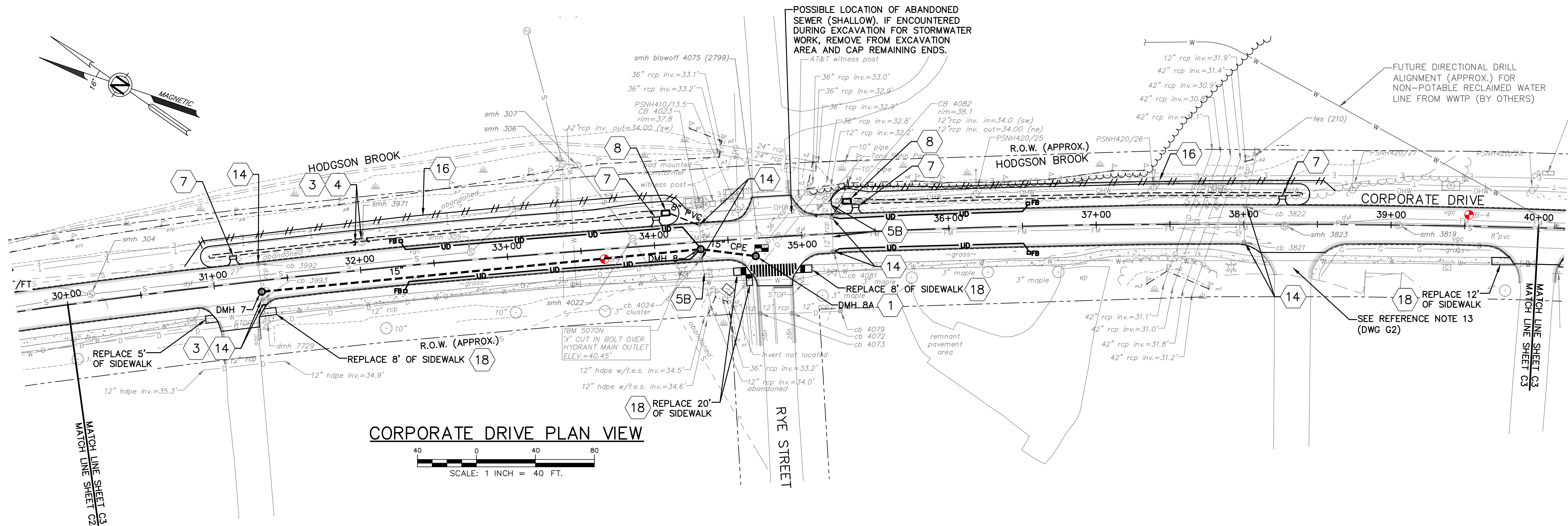
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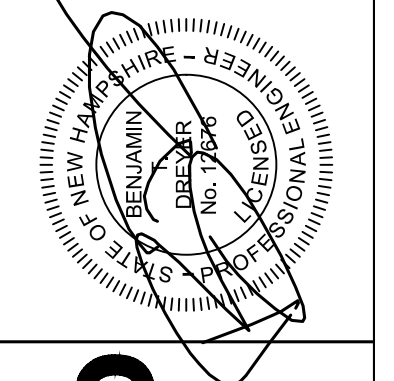


Drawn/Chk.	MAH
Designed	KLV
Checked	BTD
Approved	
Date	7/21/23
Book No.	
Project No.	2184
Dwg. ID	2184-BASE
Scale	AS SHOWN

APPROVAL	DATE
CONSTRUCTION	7/21/23
RECORD DRAWING	



ISSUE FOR		APPROVAL	DATE
DESIGNED	MAH	BY	3/23/23
CHECKED	KLV	BY	3/23/23
APPROVED	BTD	BY	3/23/23
DATE	7/21/23	DATE	7/21/23
BOOK NO.	2184	DATE	7/21/23
PROJECT NO.	2184	DATE	7/21/23
DWG. ID	2184-BASE	DATE	7/21/23
SCALE	AS SHOWN	DATE	7/21/23
NO.		REVISIONS	APP'D
NO.		REVISIONS	APP'D



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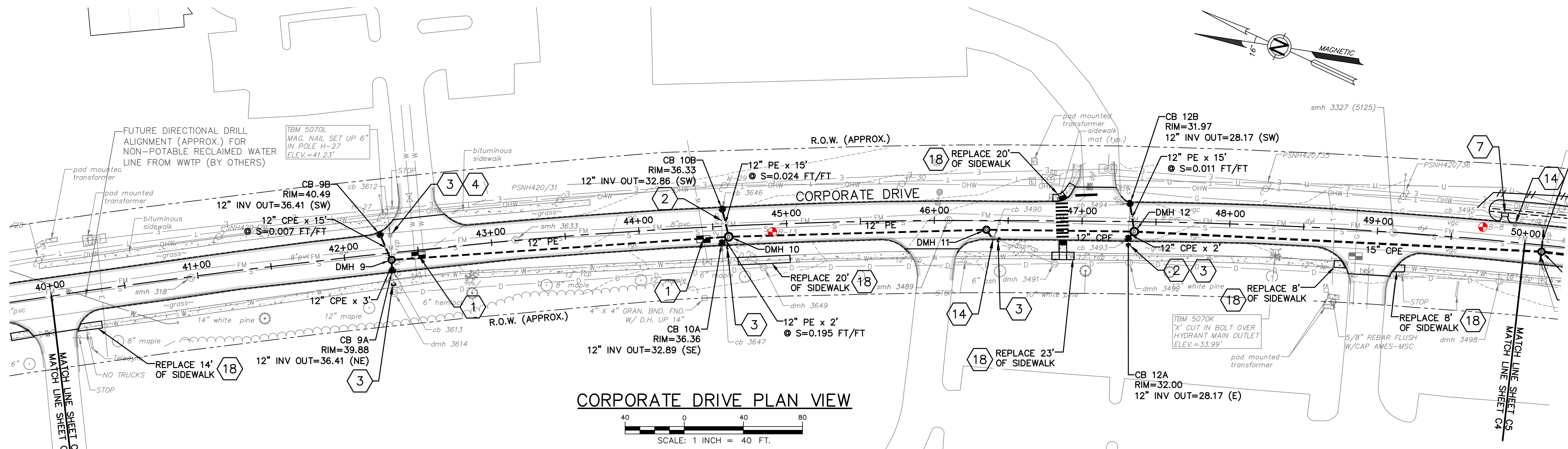
CORPORATE DRIVE PLAN & PROFILE
STA 30+00 TO STA 40+00

CORPORATE DRIVE RECONSTRUCTION

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PORTSMOUTH, NEW HAMPSHIRE

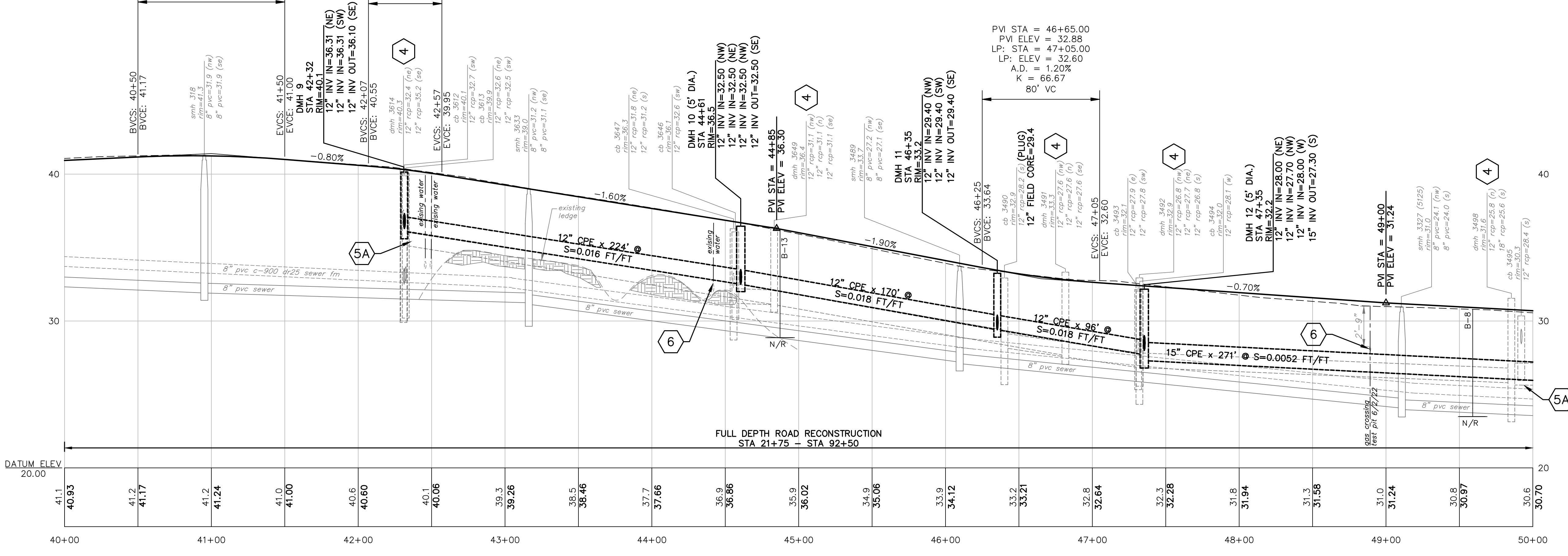
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PVI STA = 41+00.00
 PVI ELEV = 41.40
 HP: STA = 40+86.97
 HP: ELEV = 41.25
 A.D. = -1.26%
 K = 79.23
 100' VC

PVI STA = 42+32.00
 PVI ELEV = 40.35
 HP: STA = 42+07.00
 HP: ELEV = 40.55
 A.D. = -0.81%
 K = 62.09
 50' VC

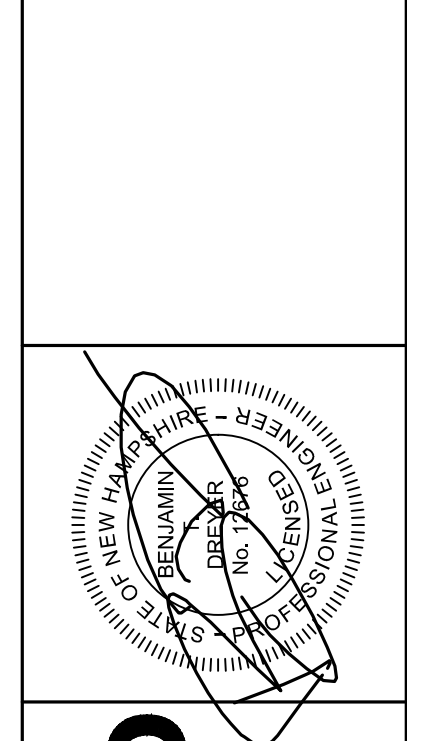


CORPORATE DRIVE PROFILE VIEW
 HORIZ: 1 INCH = 40 FT.
 VERT: 1 INCH = 4 FT.

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Date	7/21/23
Book No.	2184
Project No.	2184-BASE
Dwg. ID	2184-BASE
Scale	AS SHOWN



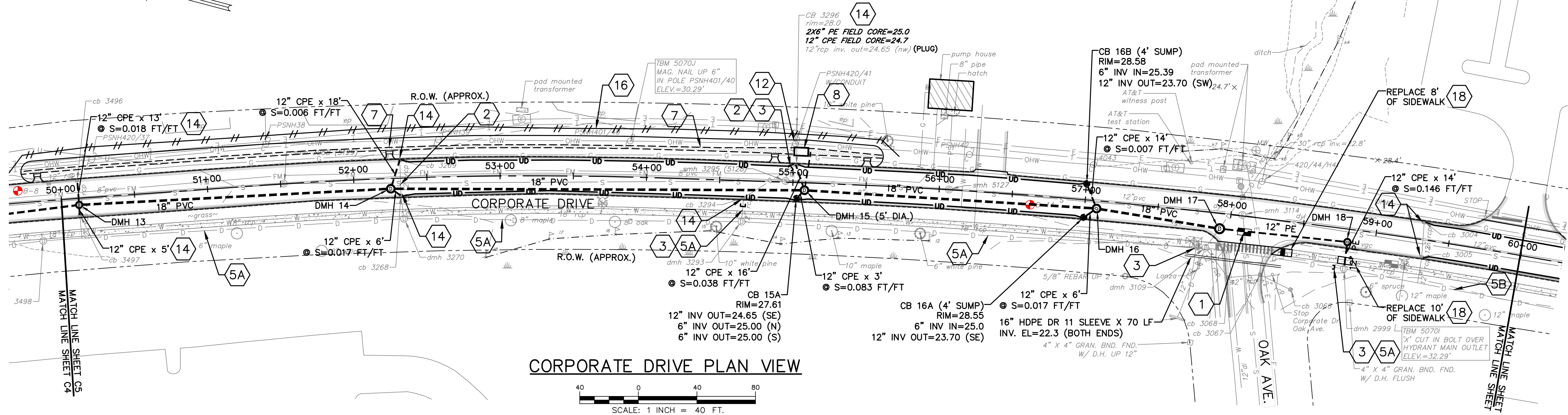
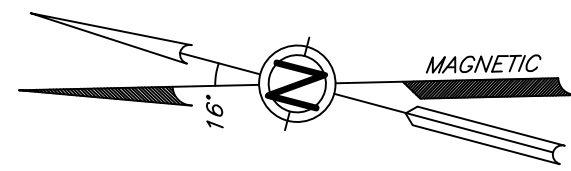
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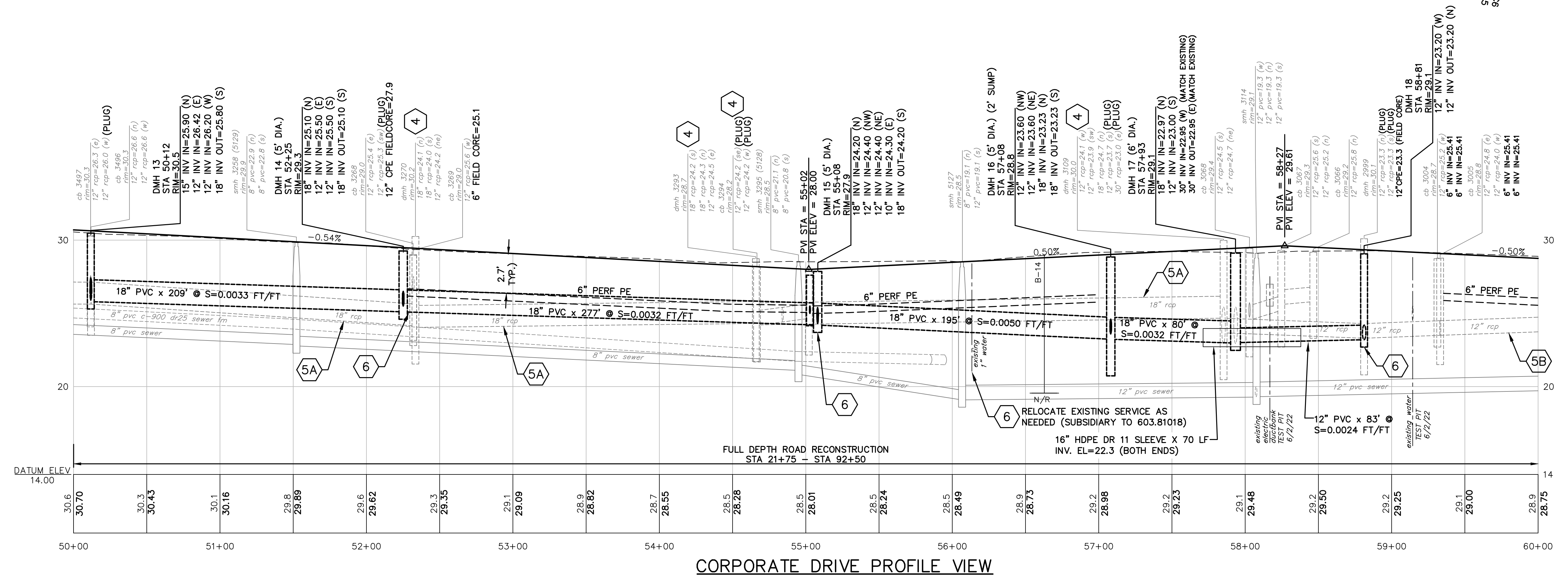
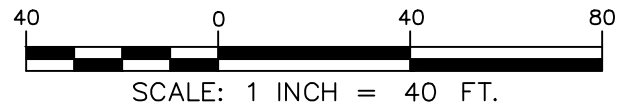
CORPORATE DRIVE PLAN & PROFILE
STA 40+00 TO STA 50+00

CORPORATE DRIVE RECONSTRUCTION

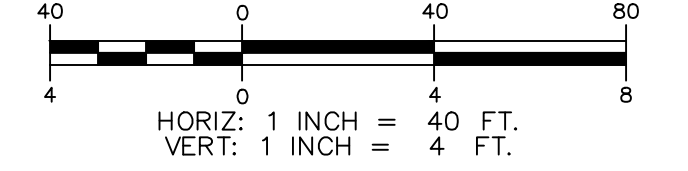
CITY OF PORTSMOUTH
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CORPORATE DRIVE PLAN VIEW



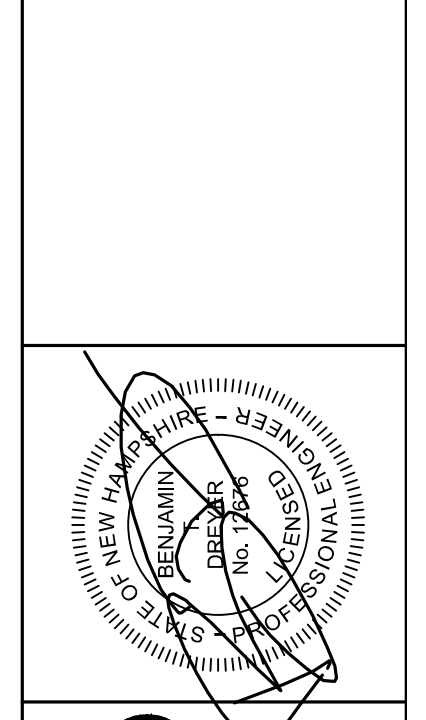
CORPORATE DRIVE PROFILE VIEW



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Date	7/21/23
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Date	

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NO.	APP'D

Drawn/Chk.	MAH
Designed	KLW
Checked	BTD
Approved	
Date	7/21/23
Book No.	2184
Project No.	2184-BASE
Dwg. ID	AS SHOWN
Scale	



UNDERWOOD
engineers

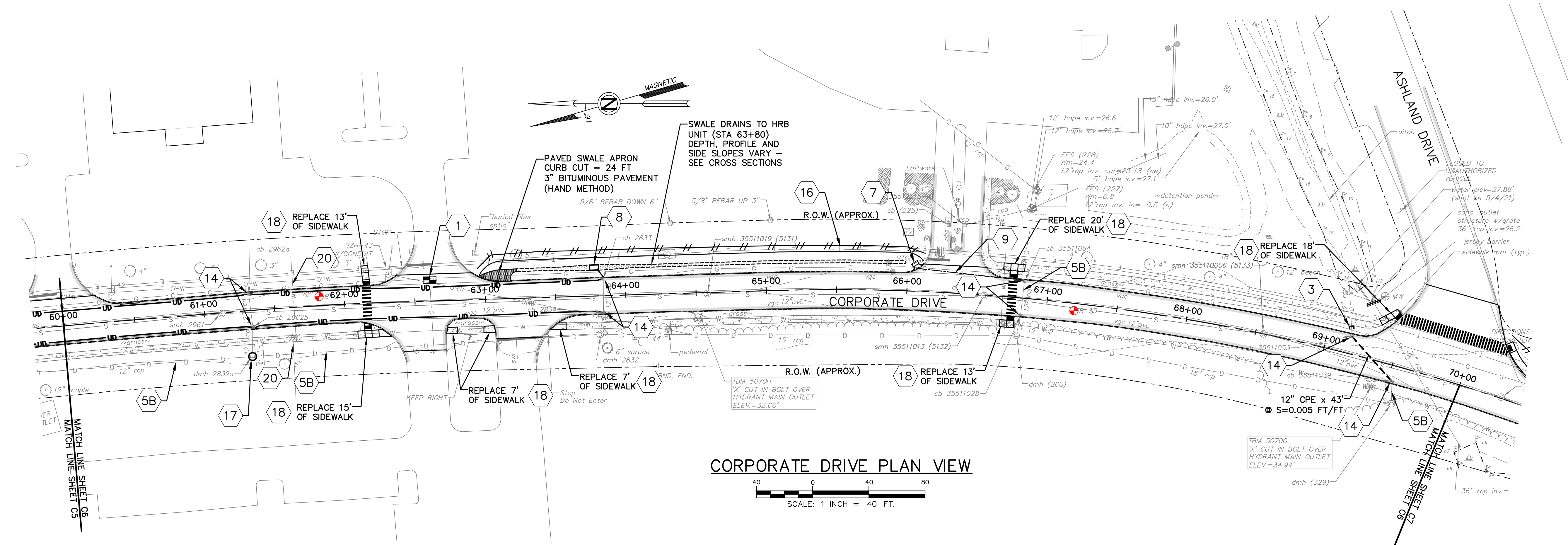
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CORPORATE DRIVE PLAN & PROFILE
STA 50+00 TO STA 60+00

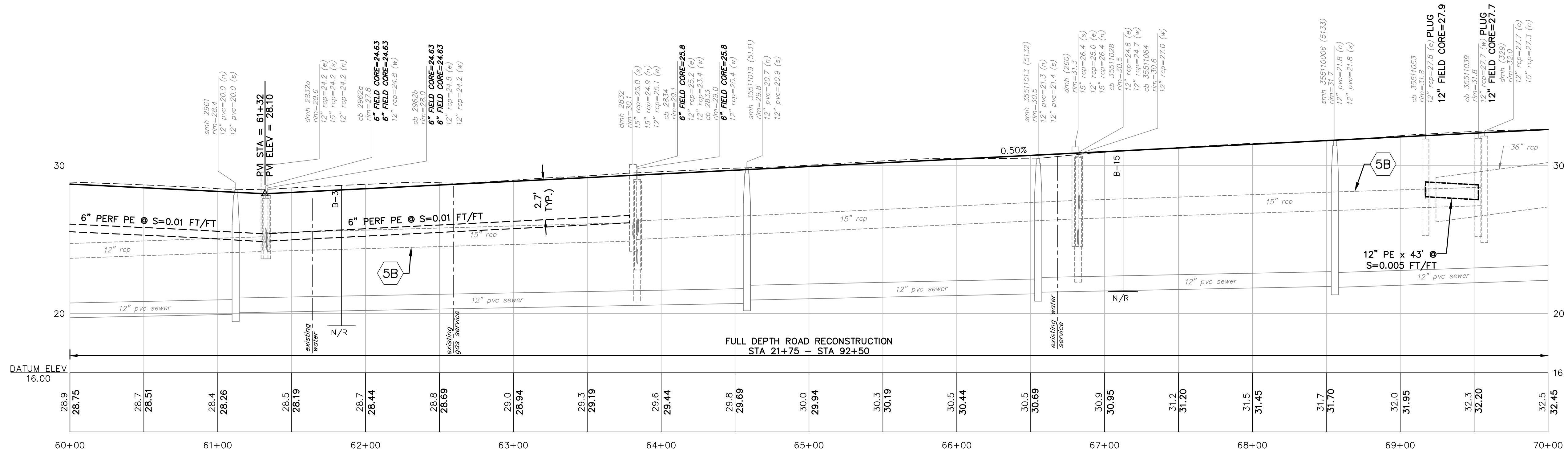
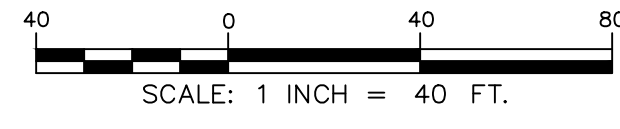
CORPORATE DRIVE RECONSTRUCTION

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

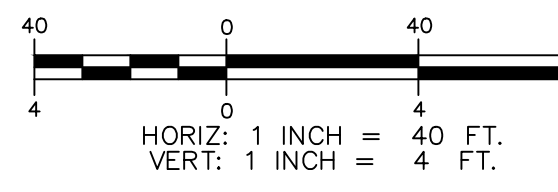
DWG NO	C5	SHEET	9 OF 32
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CORPORATE DRIVE PLAN VIEW



CORPORATE DRIVE PROFILE VIEW



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	ISSUE FOR	APPROVAL	DATE	BY	DATE	BY
	CONSTRUCTION		3/23/23	BTD		
	RECORD DRAWING		7/21/23	BTD		

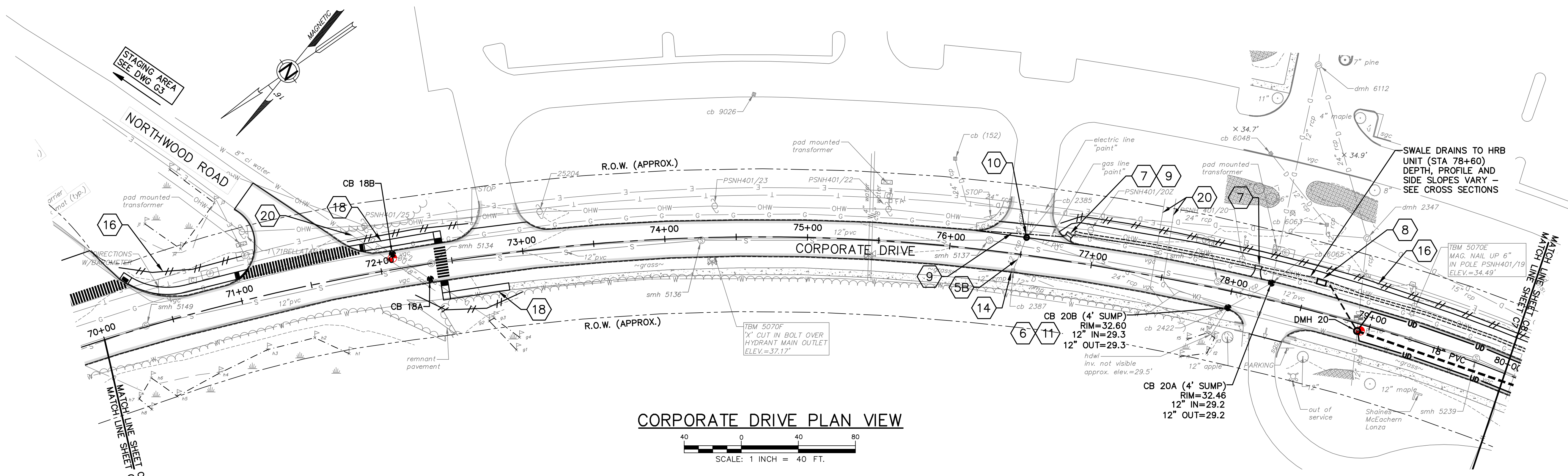
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Designed	BTD	Approved		Dwg. ID 2184-BASE	

NO.	REVISIONS	APP'D	DATE	BY

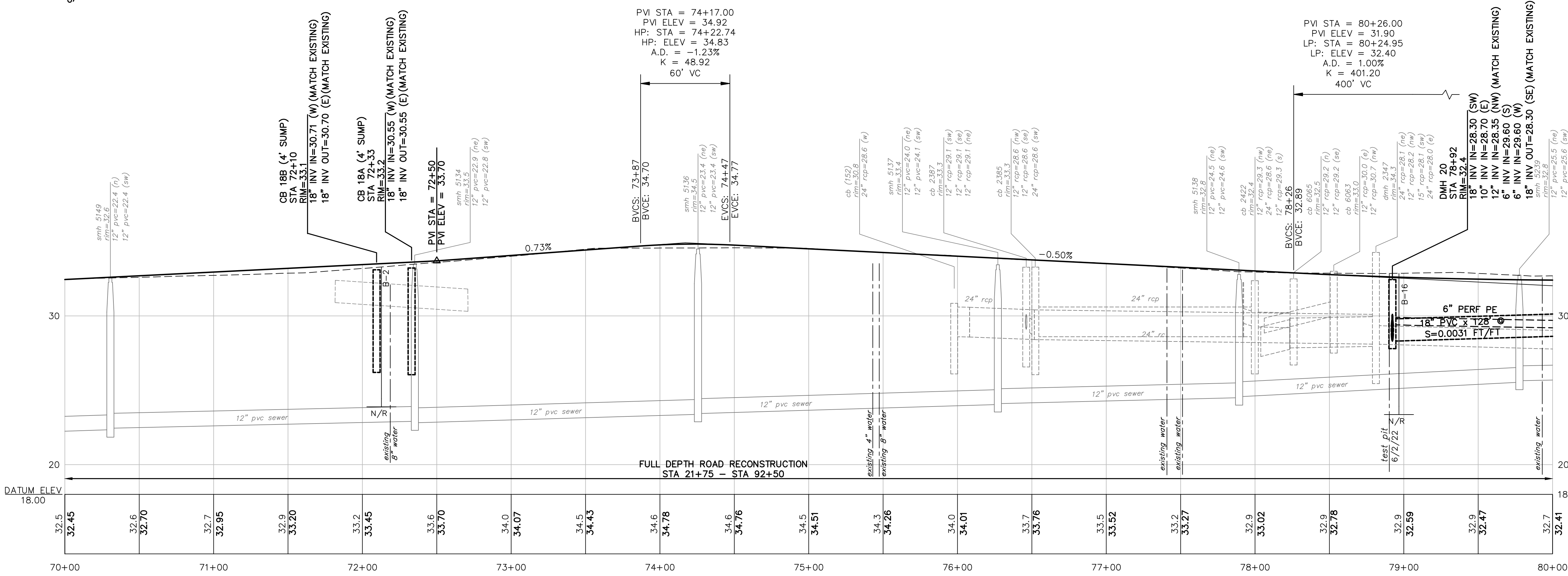
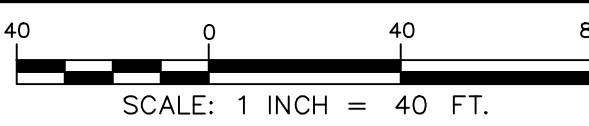
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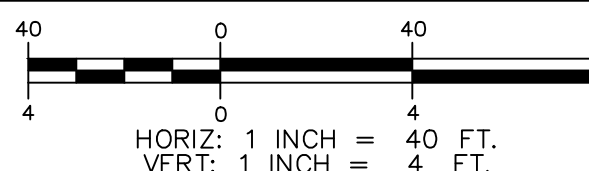
CORPORATE DRIVE PLAN & PROFILE STA 60+00 TO STA 70+00	CORPORATE DRIVE RECONSTRUCTION CITY OF PORTSMOUTH PORTSMOUTH, NEW HAMPSHIRE
DWG NO C6	SHEET 10 OF 32



CORPORATE DRIVE PLAN VIEW

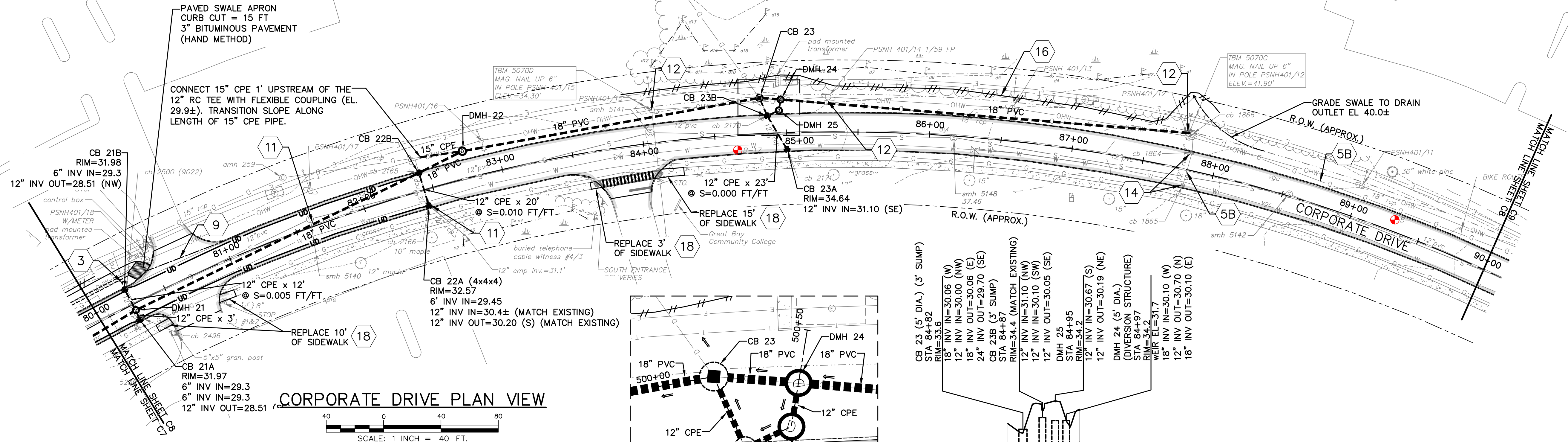
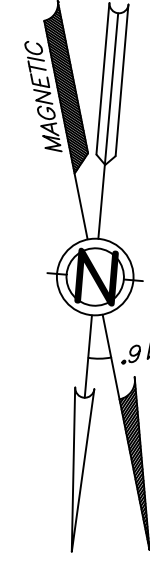


CORPORATE DRIVE PROFILE VIEW

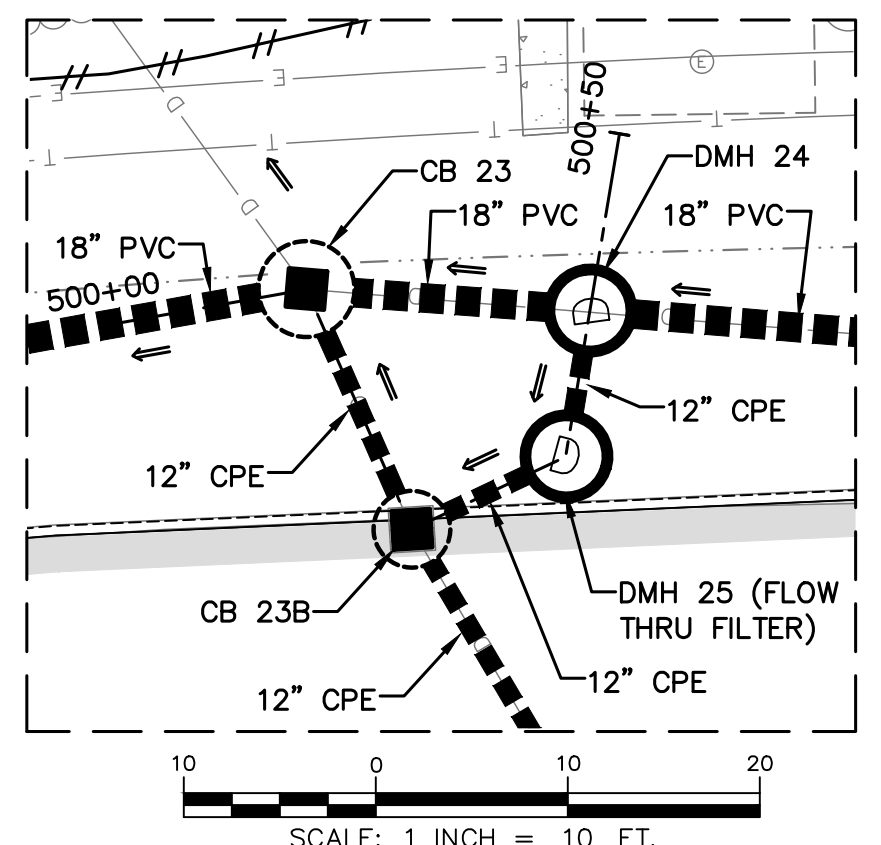


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Drawn/Chk. MAH	Date	By
Designed KLV	3/23/23	BTD
Checked BTD		
Approved		
Date	7/21/23	
Book No.		
Project No.	2184	
Dwg. ID	2184-BASE	
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NO.		

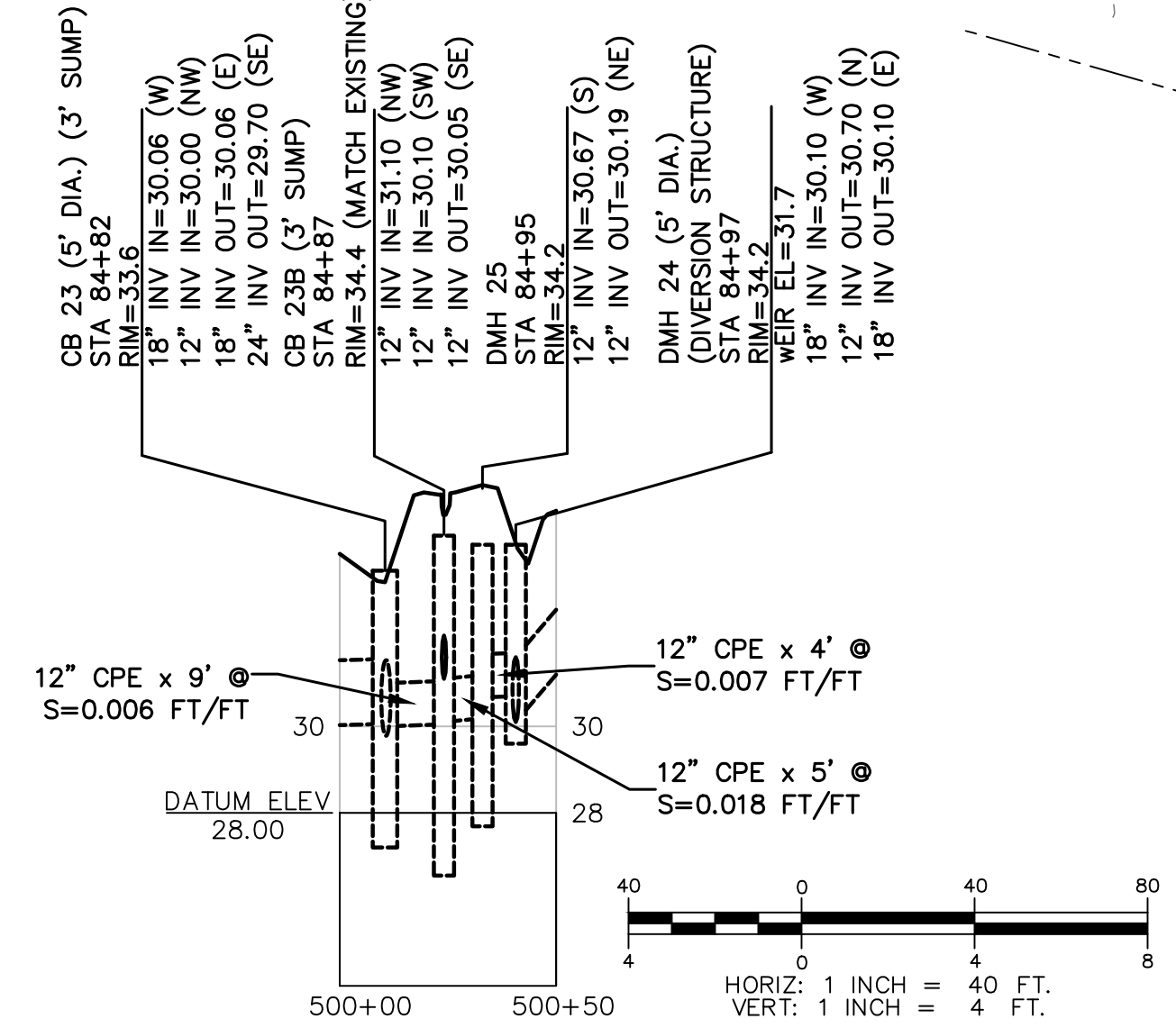
<p>UNDERWOOD engineers</p> <p>25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733</p>	
<p>CORPORATE DRIVE PLAN & PROFILE STA 70+00 TO STA 80+00</p>	
<p>CORPORATE DRIVE RECONSTRUCTION</p>	
<p>CITY OF PORTSMOUTH PORTSMOUTH, NEW HAMPSHIRE</p>	
DWG NO	SHEET
C7	11 OF 32



CORPORATE DRIVE PLAN VIEW
SCALE: 1 INCH = 40 FT.



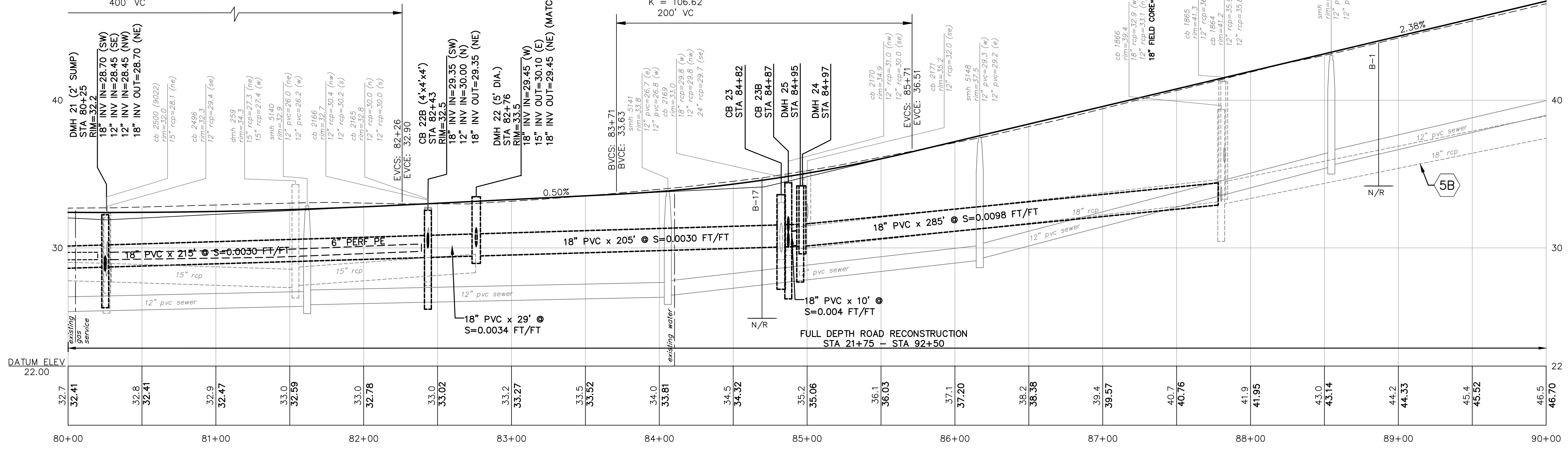
SCALE: 1 INCH = 10 FT.



HORIZ: 1 INCH = 40 FT.
VERT: 1 INCH = 4 FT.

PVI STA = 80+26.00
PVI ELEV = 31.90
LP: STA = 80+24.95
LP: ELEV = 32.40
A.D. = 1.00%
K = 401.20
400' VC

PVI STA = 84+71.00
PVI ELEV = 34.13
LP: STA = 83+71.00
LP: ELEV = 33.63
A.D. = 1.88%
K = 106.62
200' VC



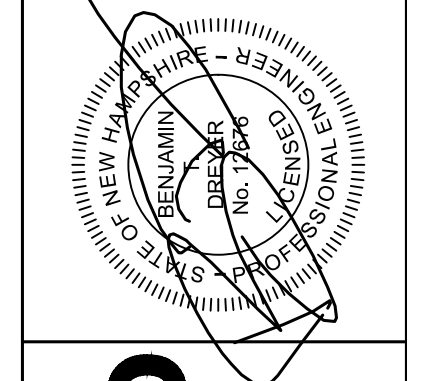
CORPORATE DRIVE PROFILE VIEW

HORIZ: 1 INCH = 40 FT.
VERT: 1 INCH = 4 FT.

ISSUE FOR	APPROVAL
By	Date
By	Date
By	Date
By	Date

REVISIONS	NO.	DATE	BY	APP'D

Drawn/Chk. MAH	Checked BTD	Approved BTD	Date 7/21/23	Book No. 2184	Project No. 2184-BASE	Dwg. ID 2184-BASE	Scale AS SHOWN
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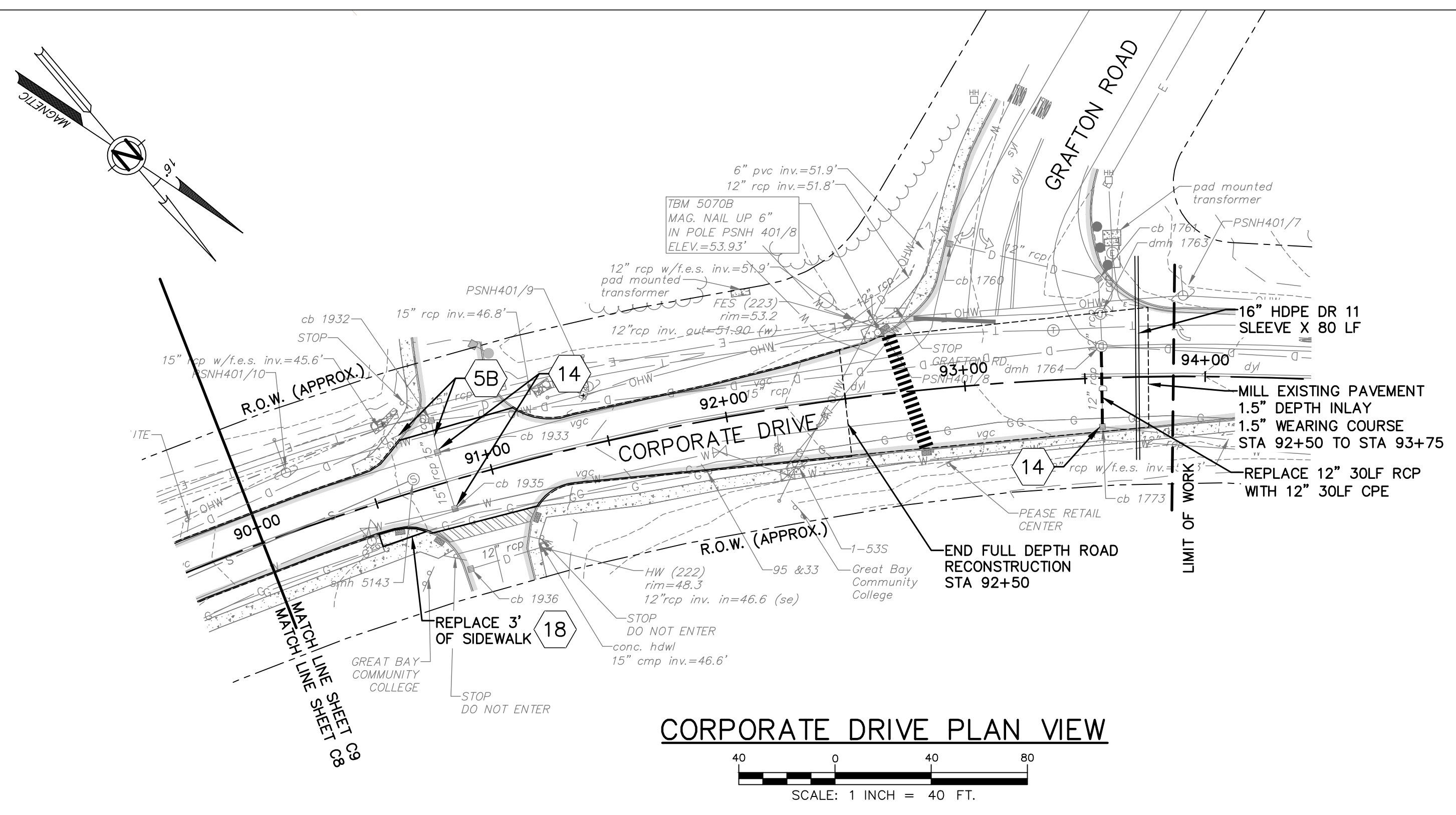
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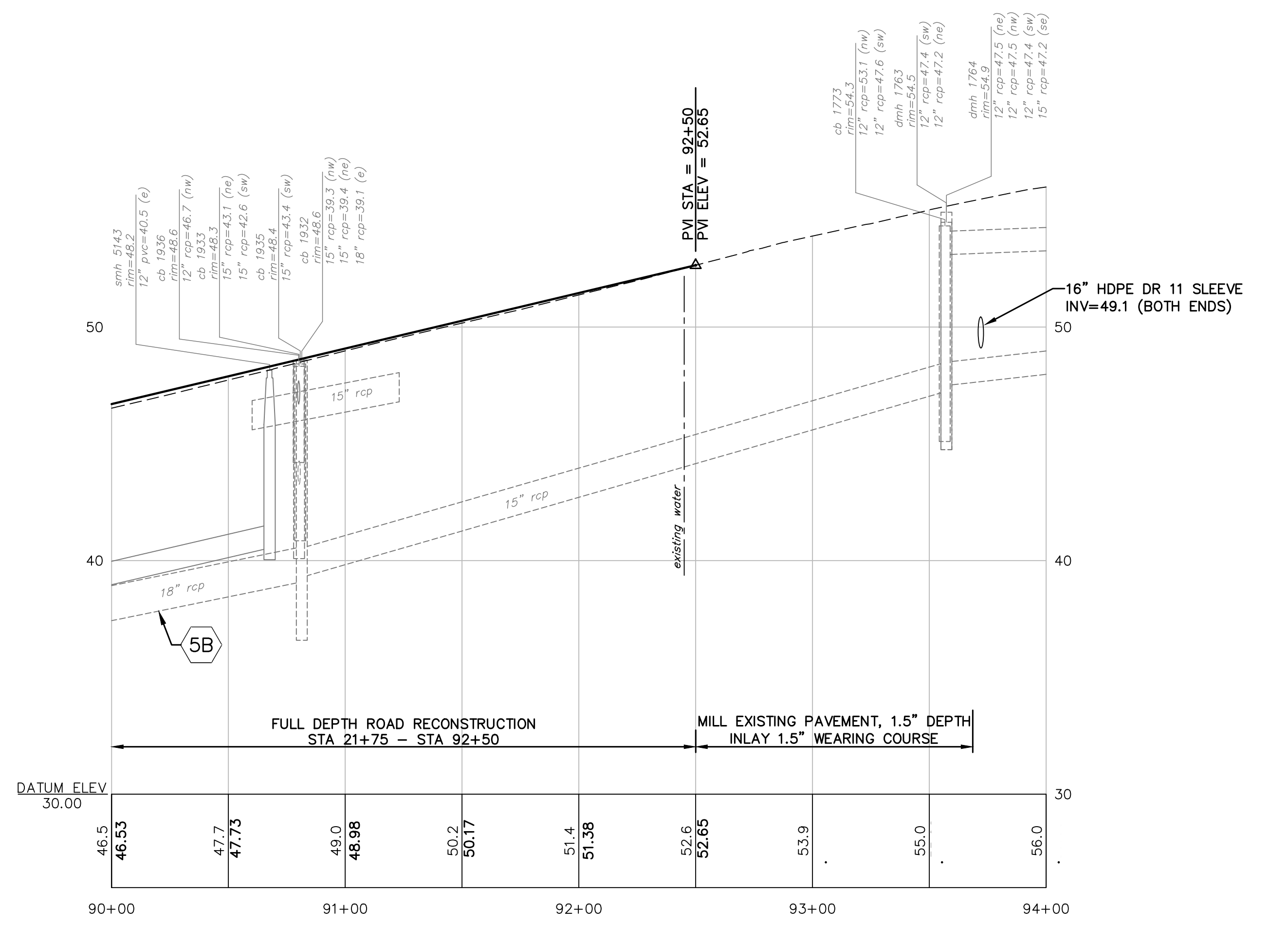
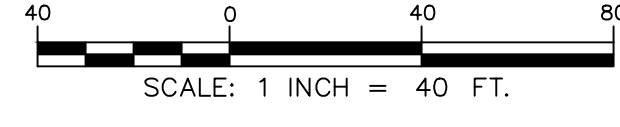
CORPORATE DRIVE PLAN & PROFILE
STA 80+00 TO STA 90+00

CORPORATE DRIVE RECONSTRUCTION

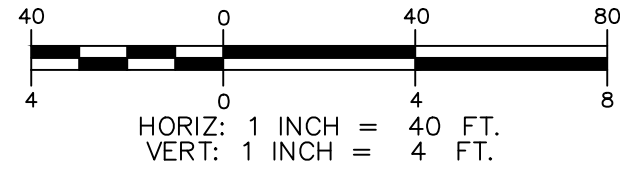
CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE



CORPORATE DRIVE PLAN VIEW



CORPORATE DRIVE PROFILE VIEW



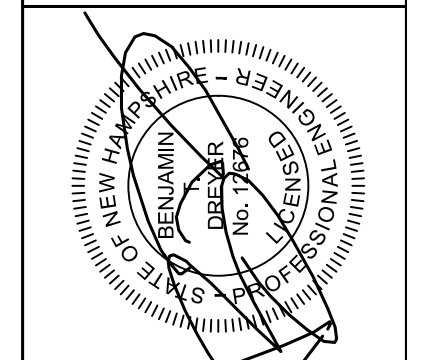
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**CORPORATE DRIVE PLAN & PROFILE
STA 90+00 TO STA 94+00**

CORPORATE DRIVE RECONSTRUCTION

**CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE**

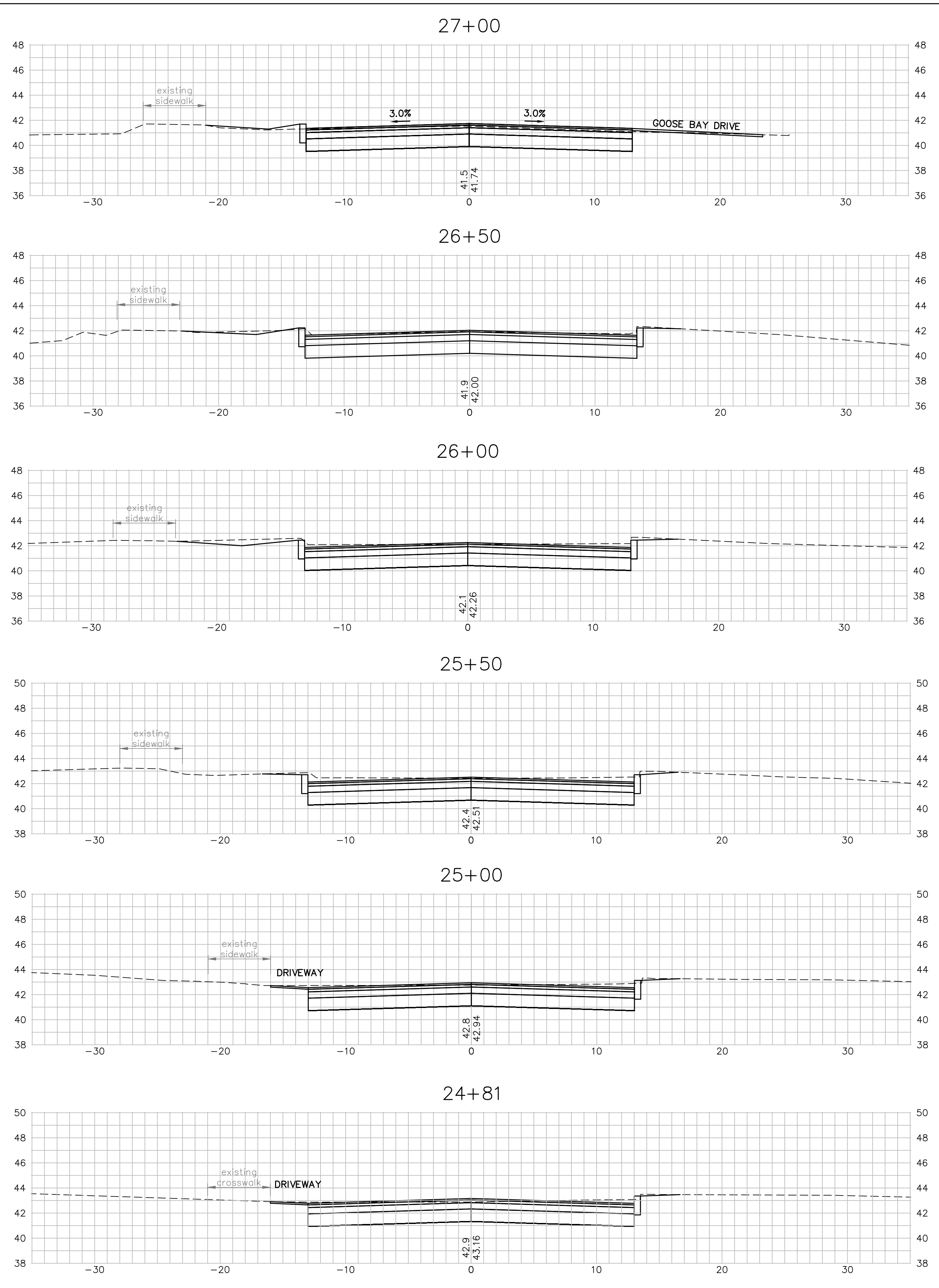
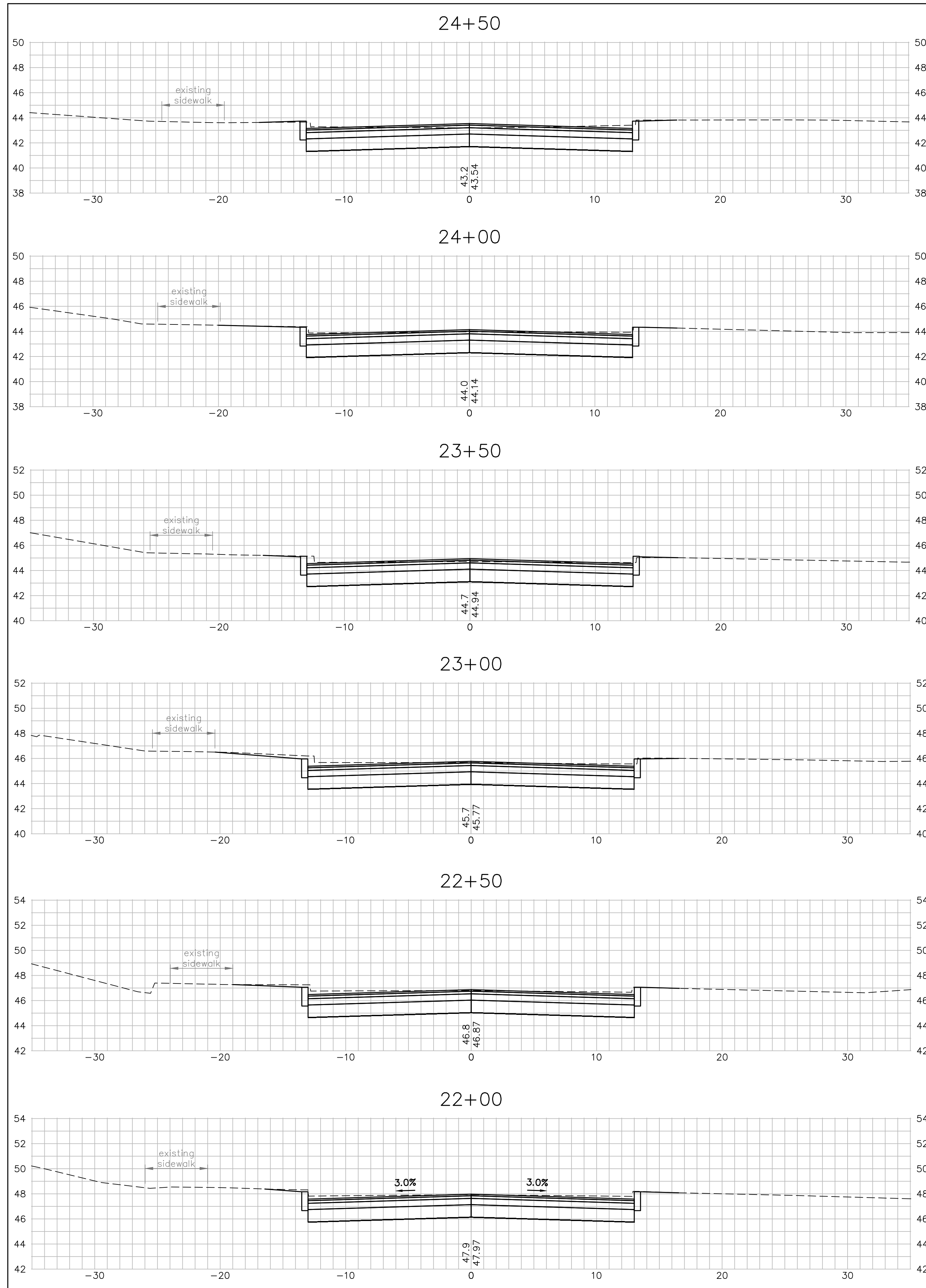
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Drawn/Chk. - MAH	MAH
Designed - KLV	KLV
Checked - BTD	BTD
Approved - BTD	BTD
Date - 7/21/23	7/21/23
Book No. - 2184	2184
Project No. - 2184	2184
Dwg. ID - 2184-BASE	2184-BASE
Scale - AS SHOWN	AS SHOWN

NO.	REVISIONS	APP'D

ISSUE FOR	APPROVAL
Date	By
3/23/23	BTB
CONSTRUCTION	BTB
Date	By
7/21/23	BTB
RECORD DRAWING	BTB
Date	By



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		3/23/23			7/21/23
APPROVAL	By	Date	RECORD DRAWING	By	Date
REVISIONS	NO.	DATE	DESCRIPTION	BY	DATE
Drawn/Chk.	MAH		Book No.	2184	
Designed	KLV		Project ID	2693_BASE	
Checked	BTD		Dwg. ID	2693_BASE	
Approved			Scale	AS SHOWN	
Date	7/21/23				

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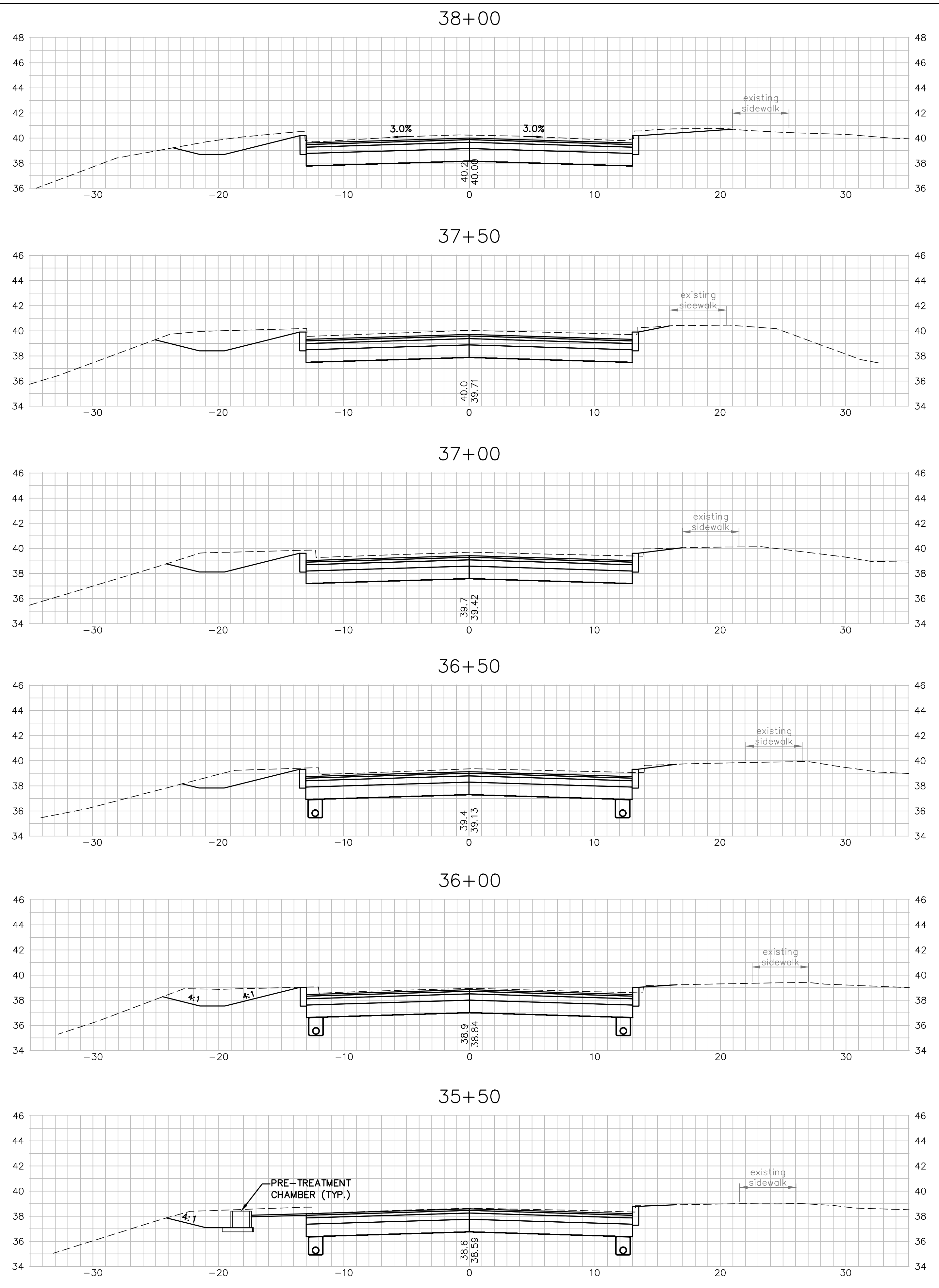
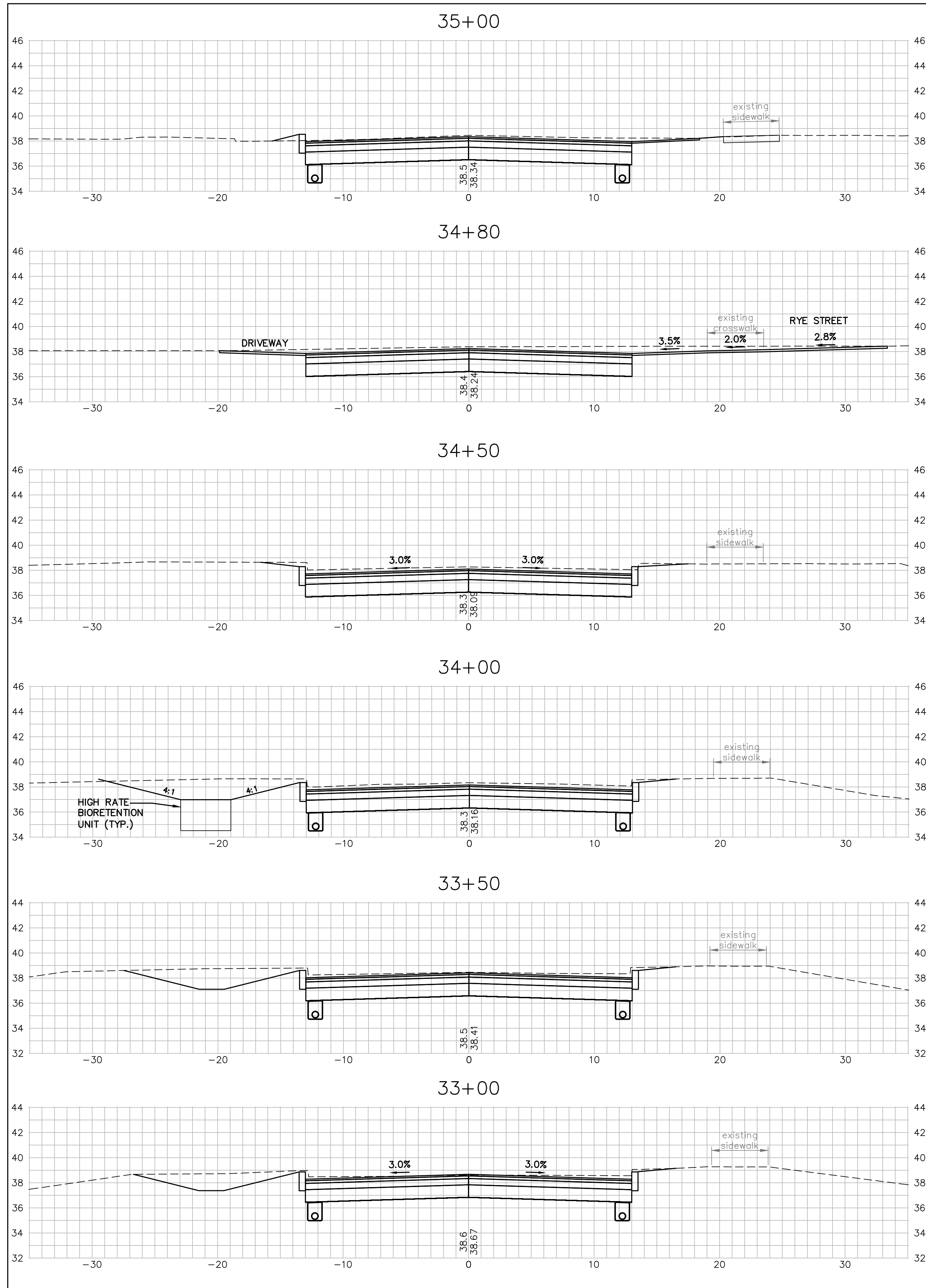
**CROSS SECTIONS
STA 22+00 TO STA 27+00**

CORPORATE DRIVE RECONSTRUCTION

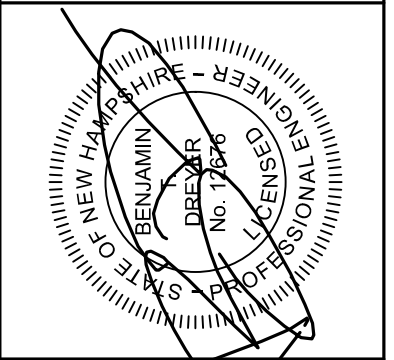
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PORTSMOUTH, NEW HAMPSHIRE**

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X1	14 OF 32

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Book No. 2184	CONSTRUCTION
Project No. 2693_BASE	Date 7/21/23
Dwg. ID 2693_BASE	By BTD
Scale AS SHOWN	RECORD DRAWING
	Date
	By
	APP'D
	REVISIONS
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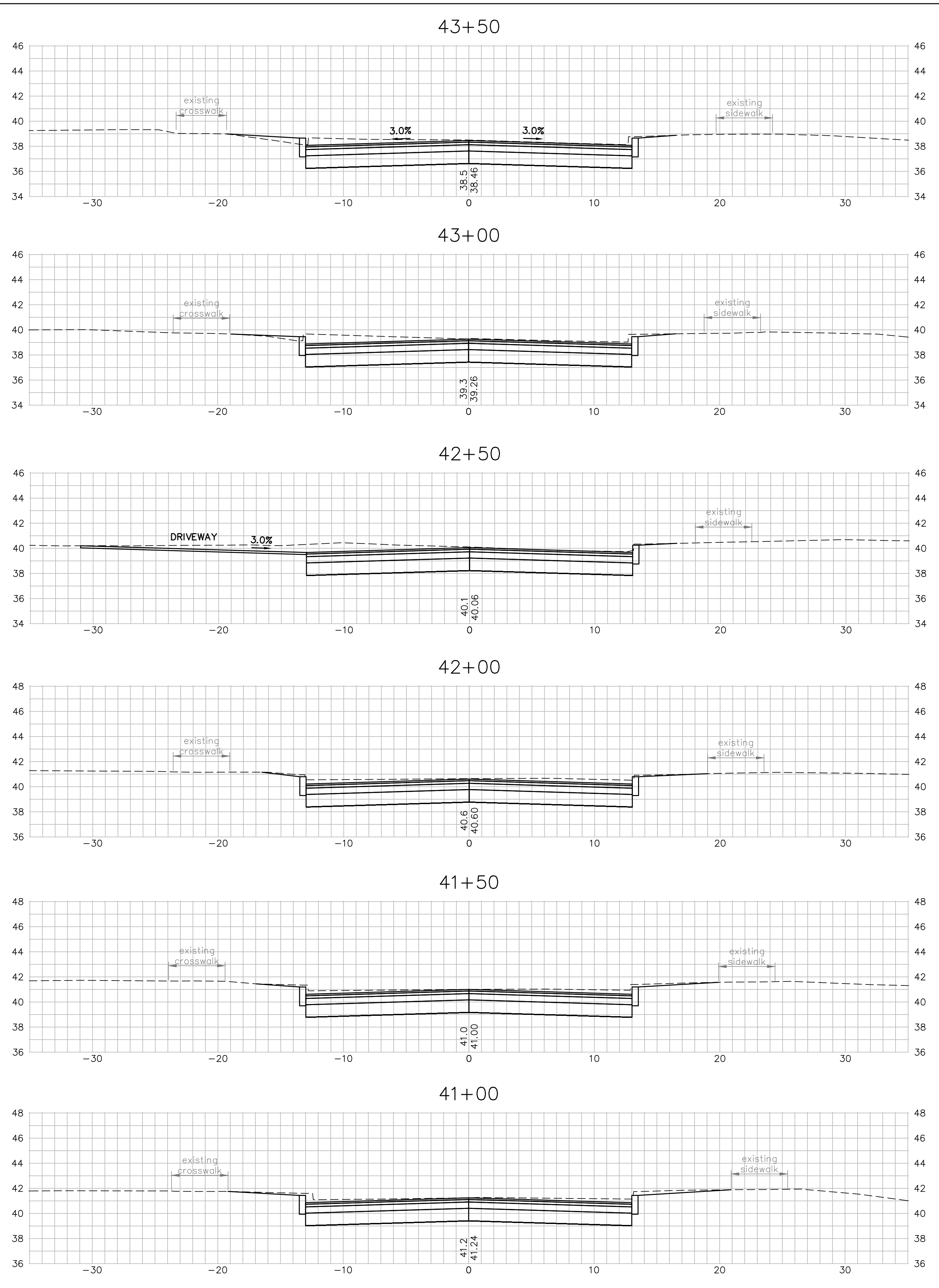
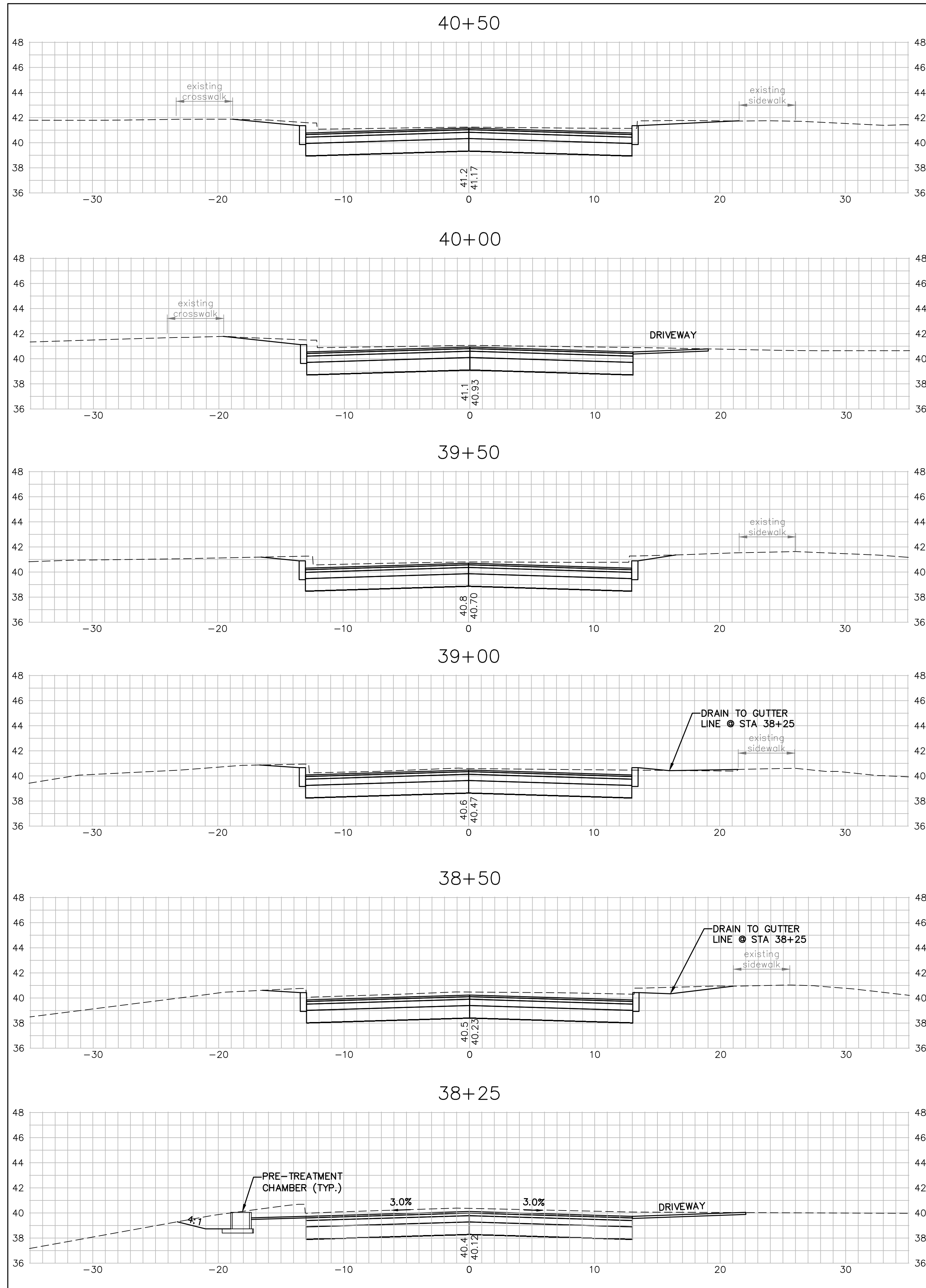
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CROSS SECTIONS
STA 33+00 TO STA 38+00

CORPORATE DRIVE RECONSTRUCTION

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE



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By	Date	By	Date
	3/23/23		3/23/23
REVISIONS		APPROVAL	
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Drawn/Chk. MAH		Checked KLV	
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Date 7/21/23		Book No. 2184	
Project No. 2693_BASE		Dwg. ID 2693_BASE	
Scale AS SHOWN			

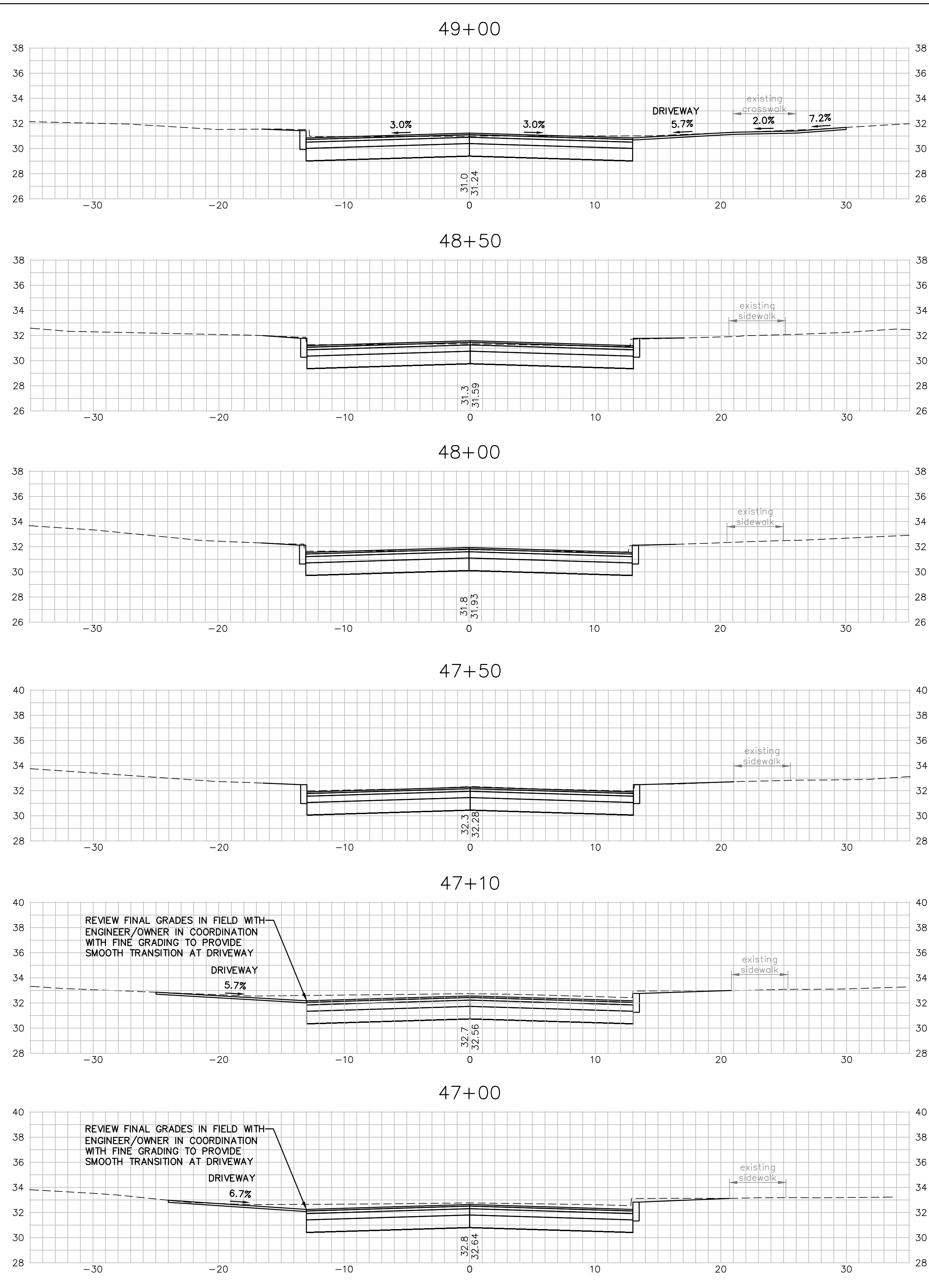
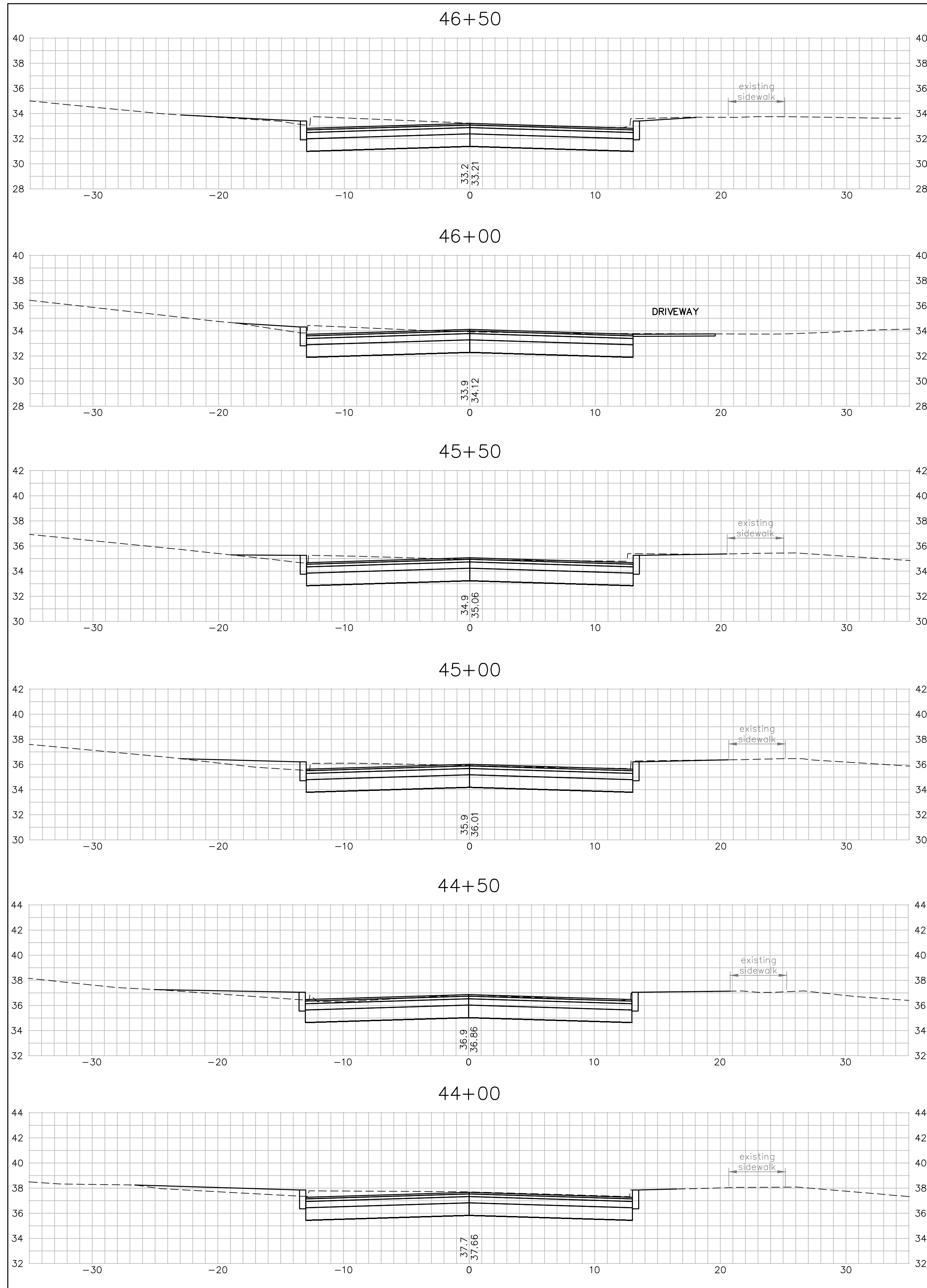
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CROSS SECTIONS
STA 38+25 TO STA 43+50
CORPORATE DRIVE RECONSTRUCTION
CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

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X4	17 OF 32

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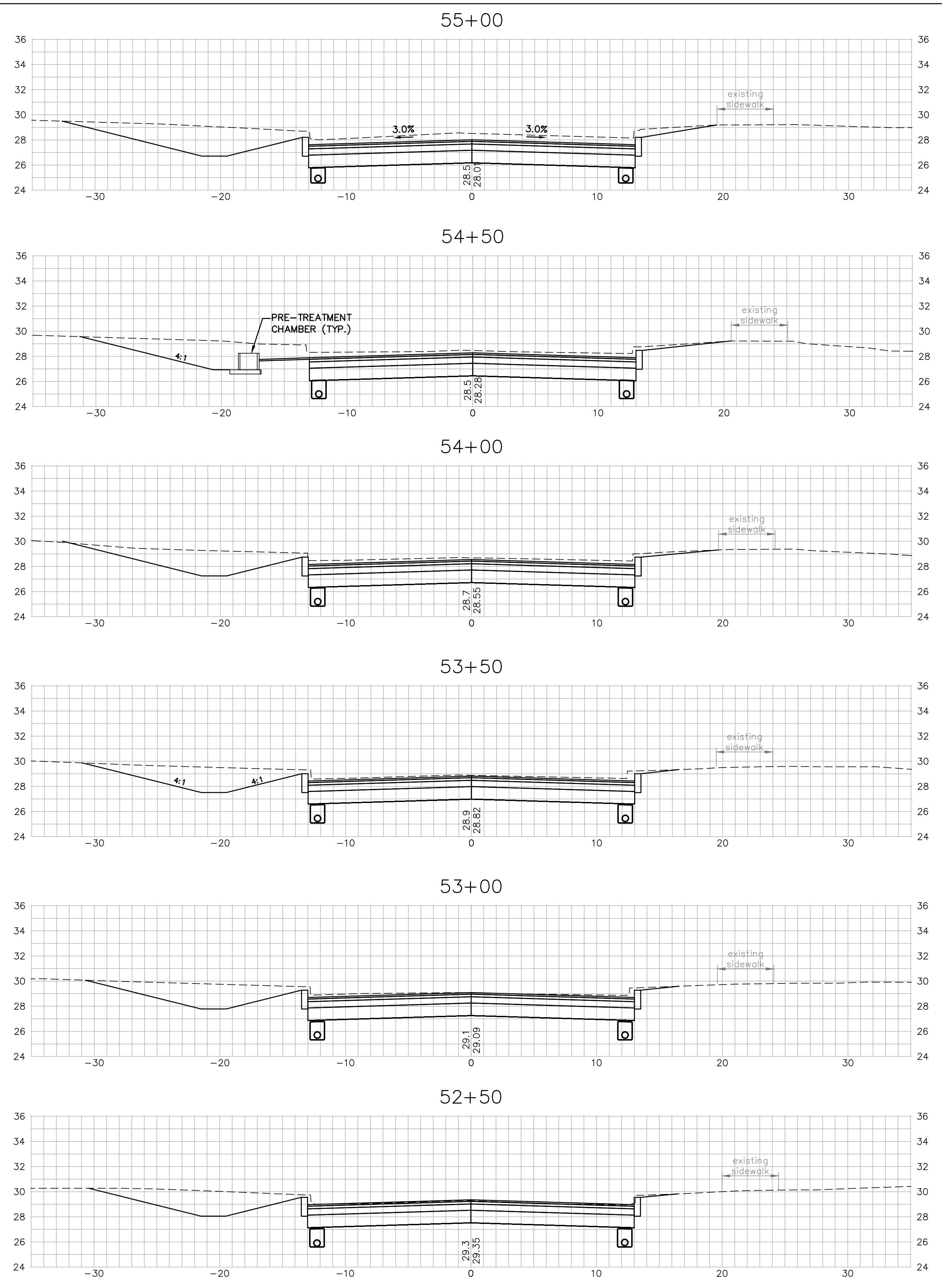
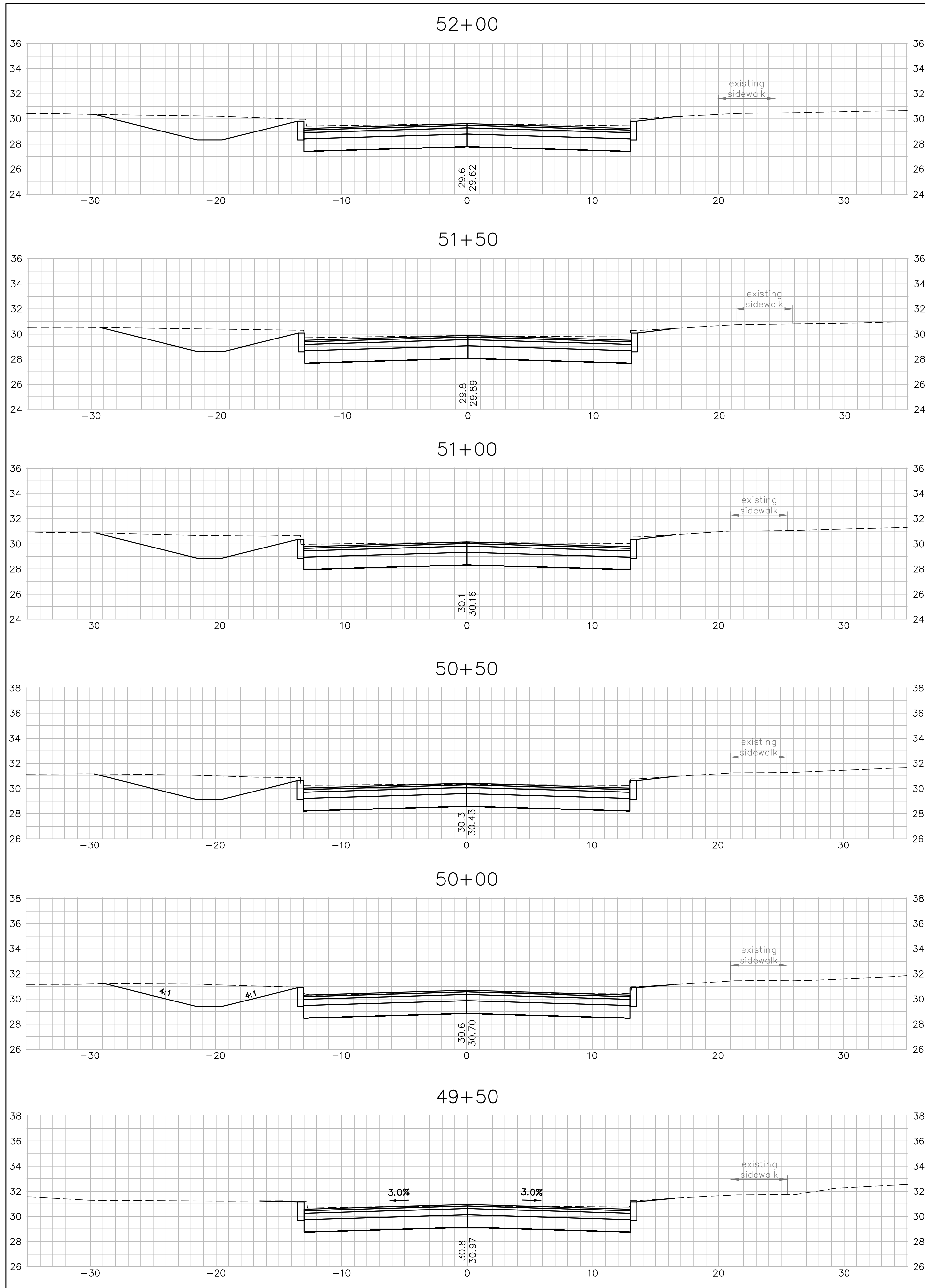
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Date		Date		Date	
3/23/23		3/23/23		3/23/23	
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By		By		By	
Date		Date		Date	
REVISIONS		NO.		NO.	
Drawn/Chk		MAH		Scale	
Designed		KLV		AS SHOWN	
Checked		BTD			
Approved		Date			
Date		7/21/23			
Book No.		Project No.		Dwg. ID	
		.2184		2693_BASE	

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CROSS SECTIONS STA 44+00 TO STA 49+00	
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DWG NO X5	SHEET 18 OF 32

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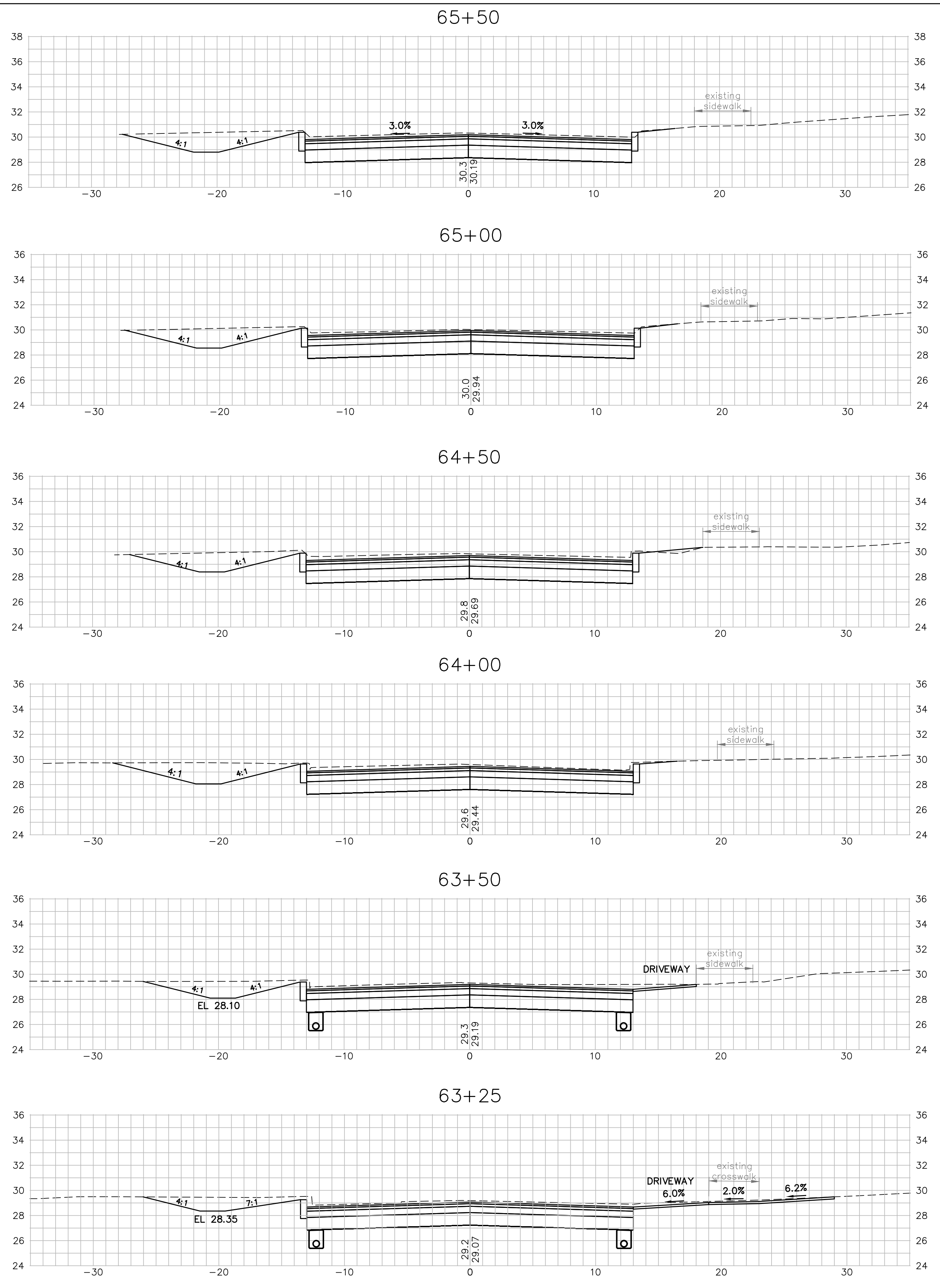
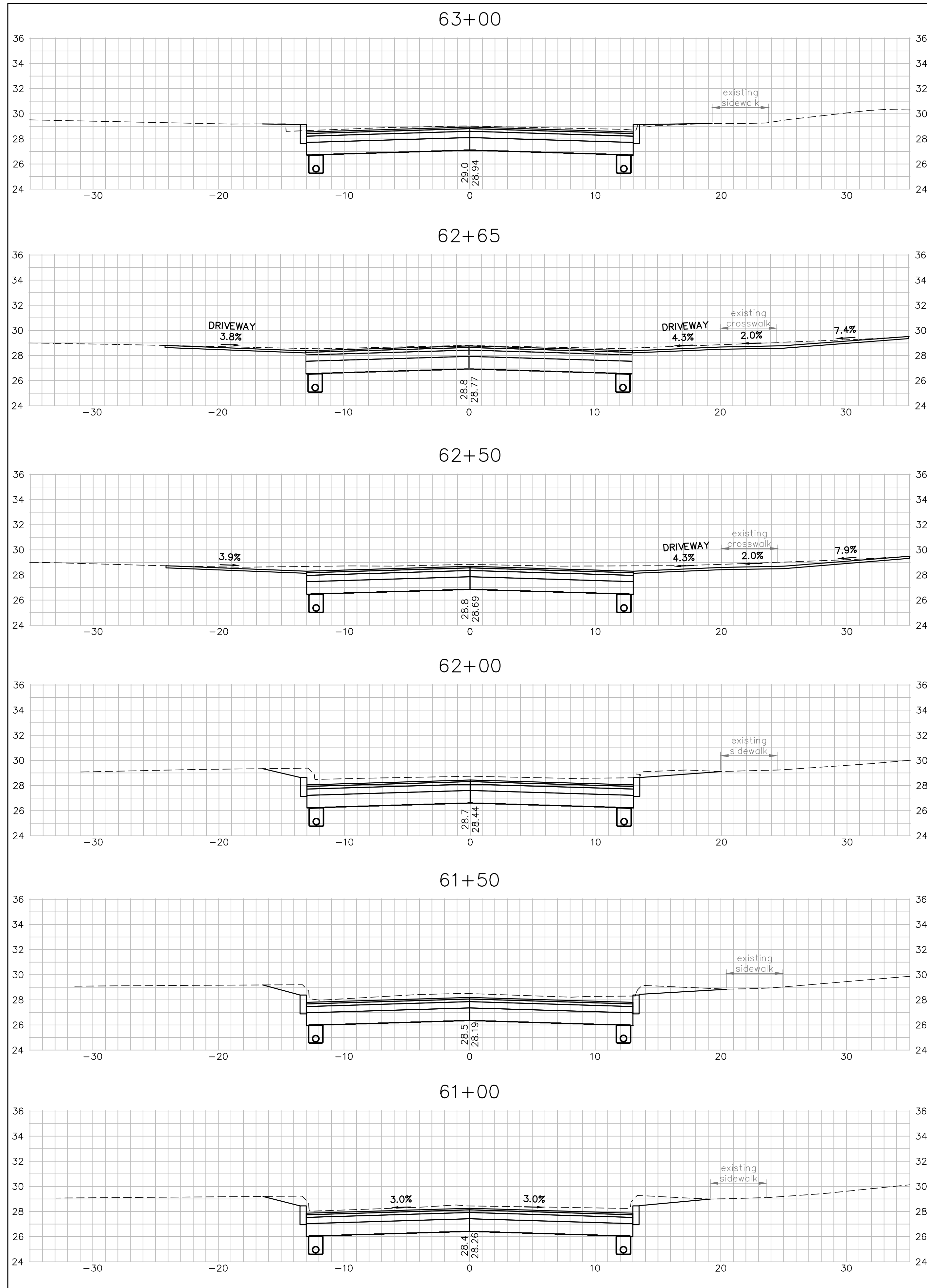
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Scale	AS SHOWN	Dwg. ID	2693_BASE		

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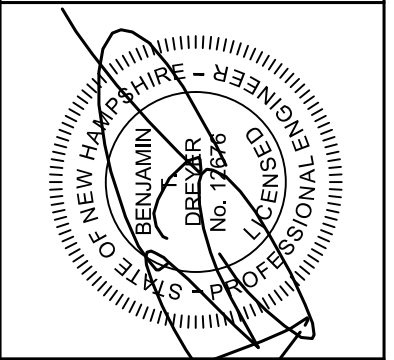
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CROSS SECTIONS STA 49+50 TO STA 55+00	
CORPORATE DRIVE RECONSTRUCTION	
CITY OF PORTSMOUTH PORTSMOUTH, NEW HAMPSHIRE	
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Book No. 2184	CONSTRUCTION
Project No. 2693_BASE	Date 7/21/23
Dwg. ID 2693_BASE	By BT
Scale AS SHOWN	RECORD DRAWING
	Date
	AP'D
	REVISIONS
	NO.



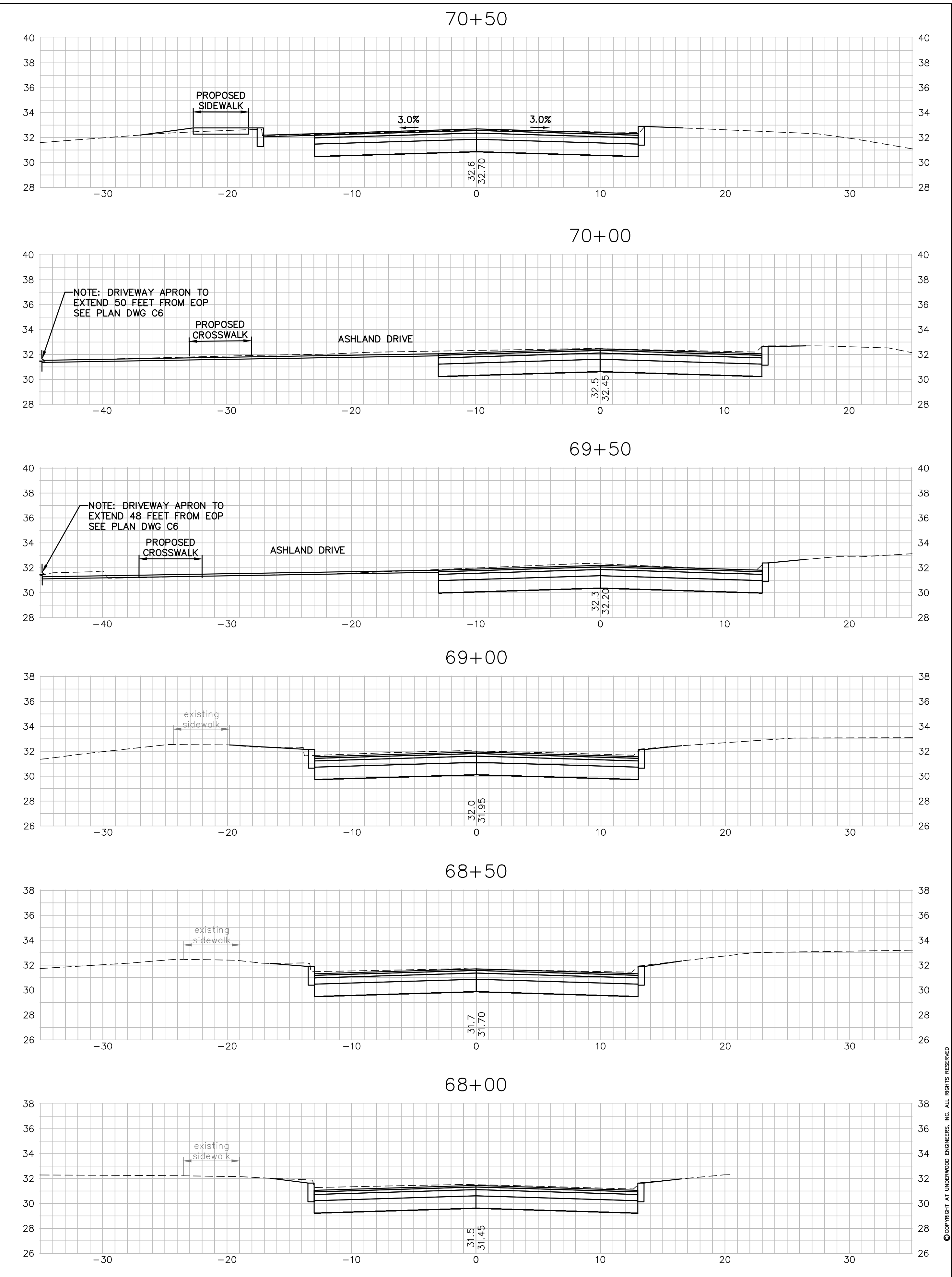
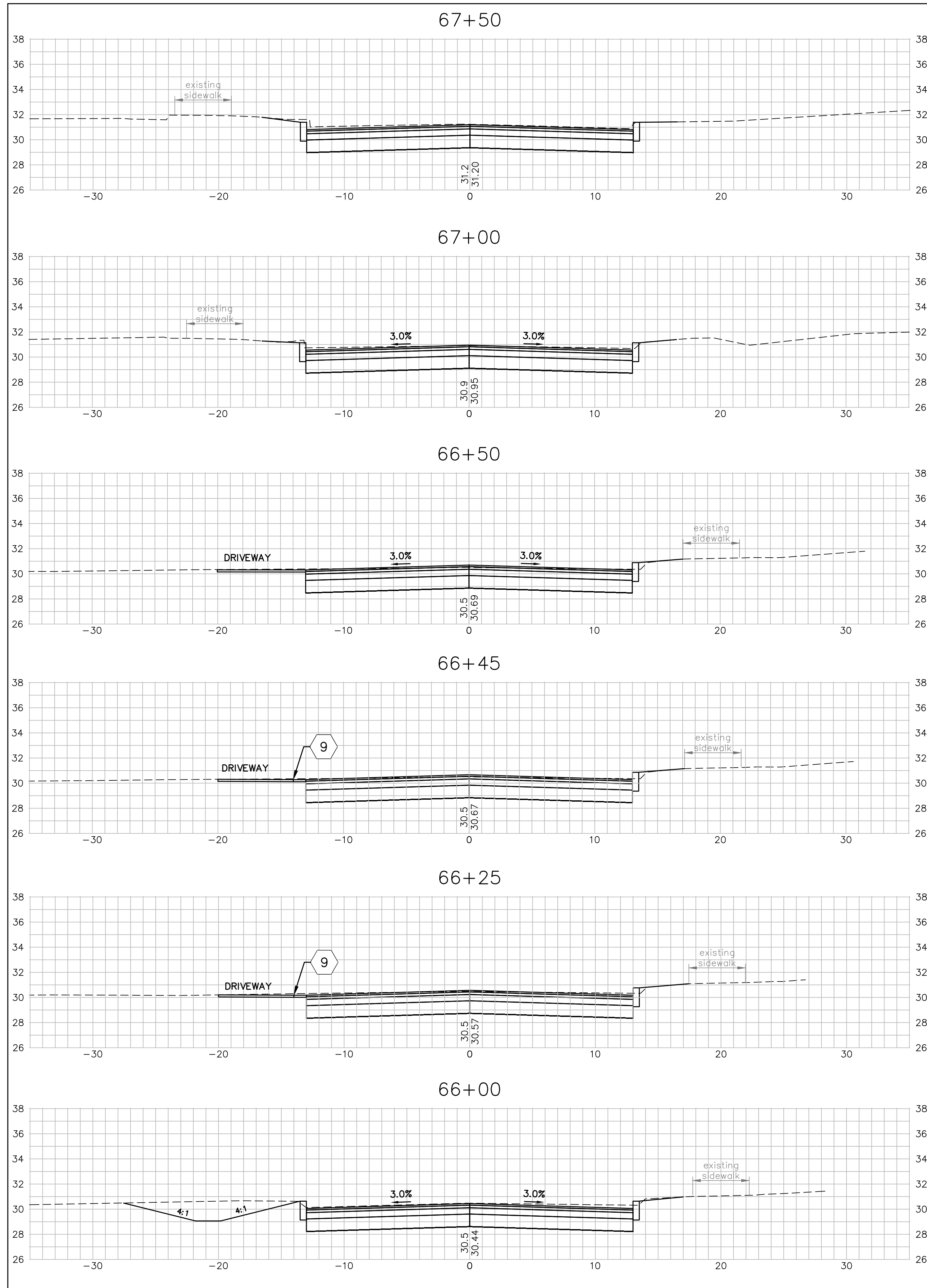
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CROSS SECTIONS
STA 61+00 TO STA 65+50

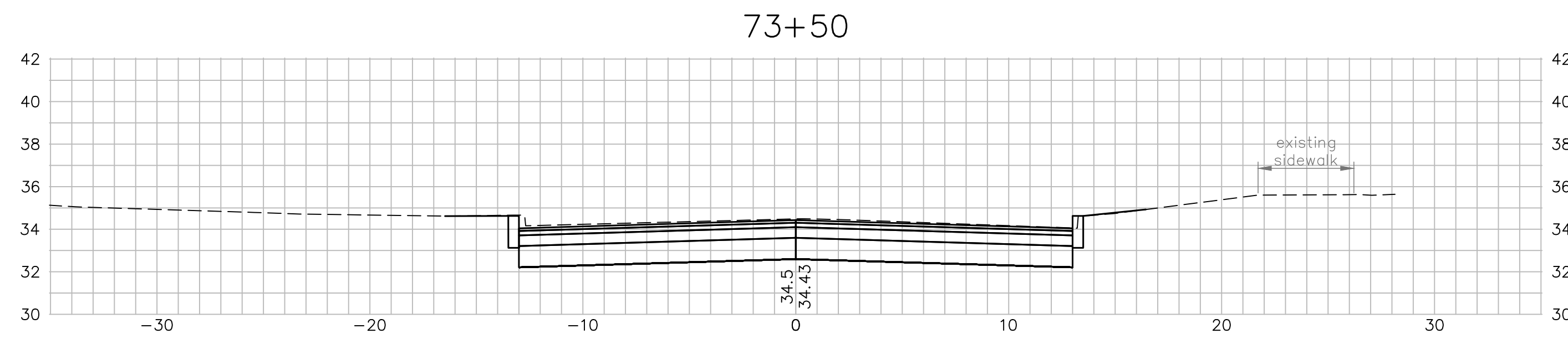
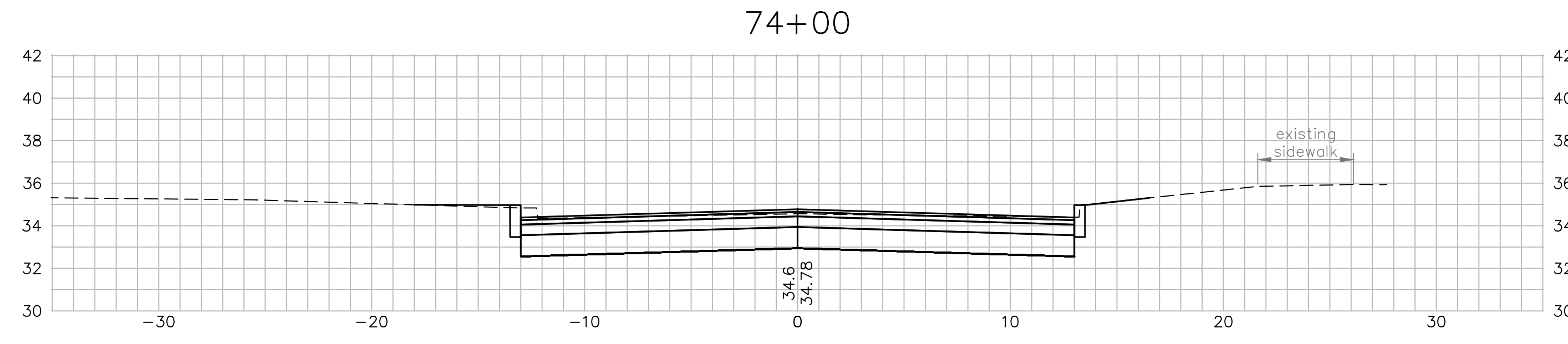
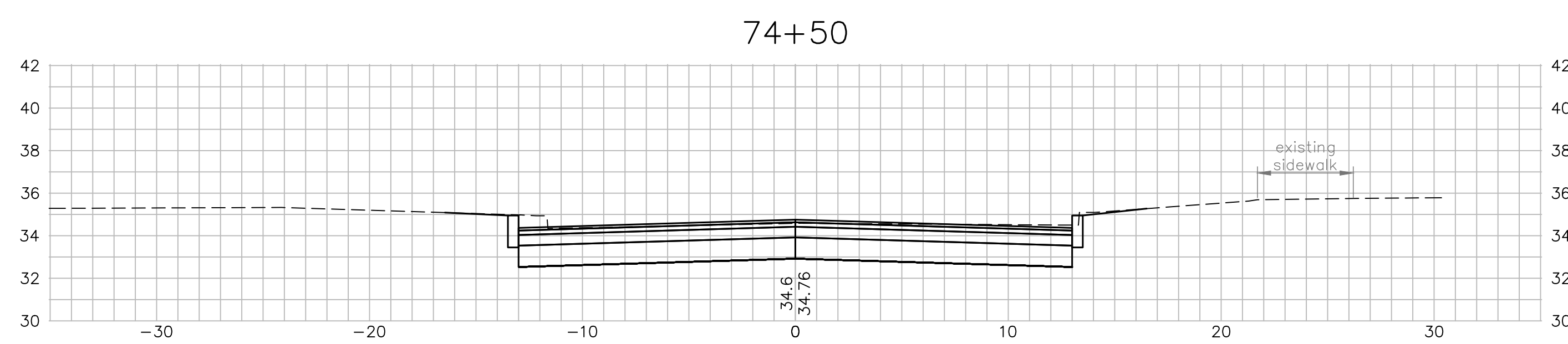
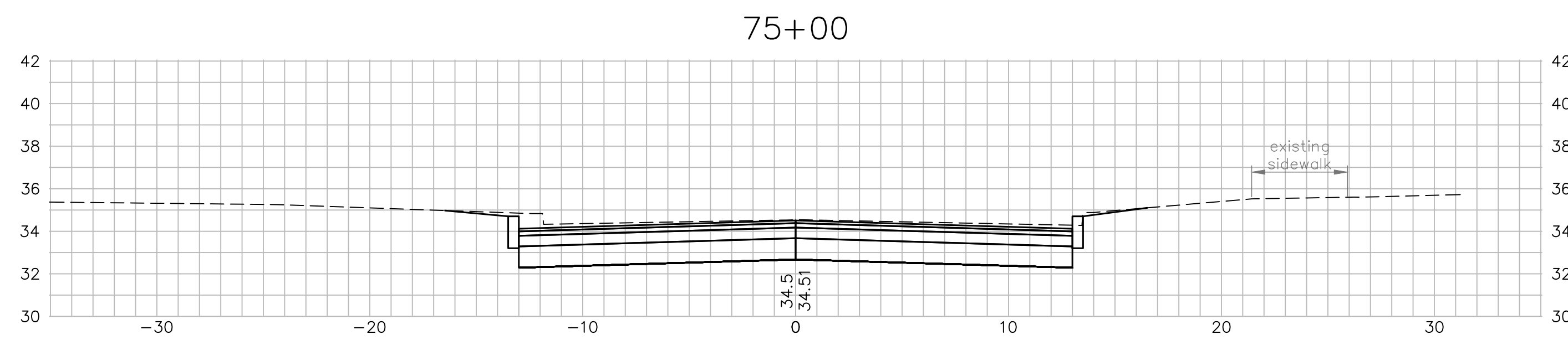
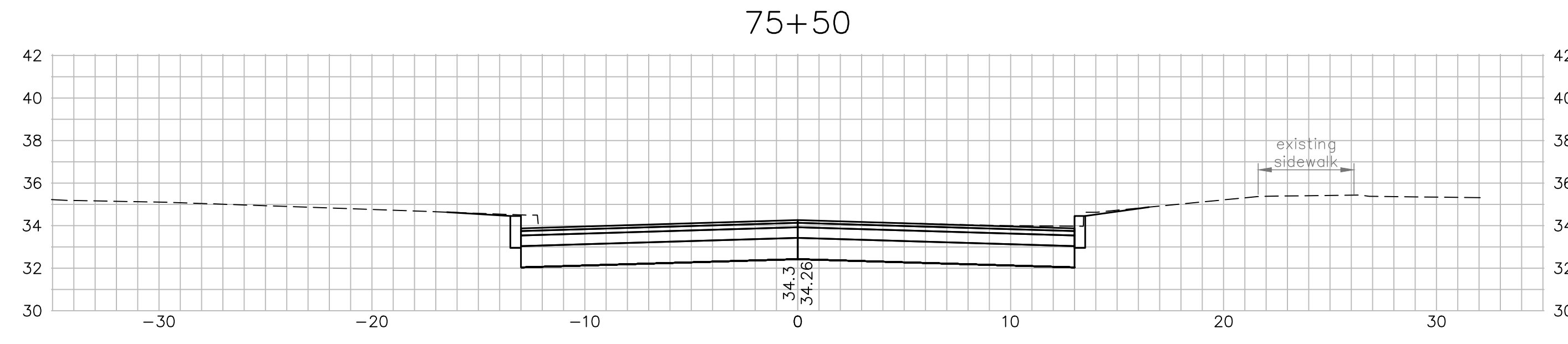
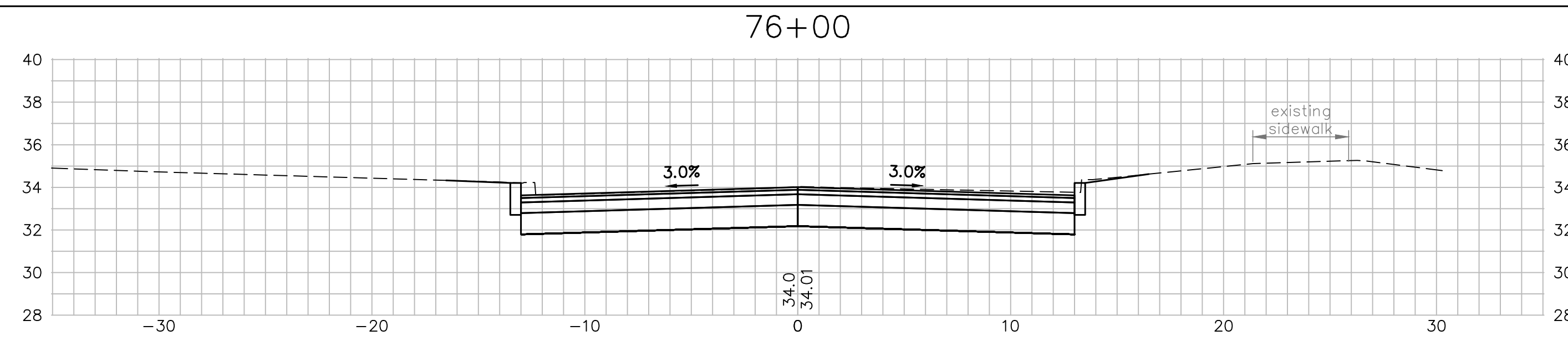
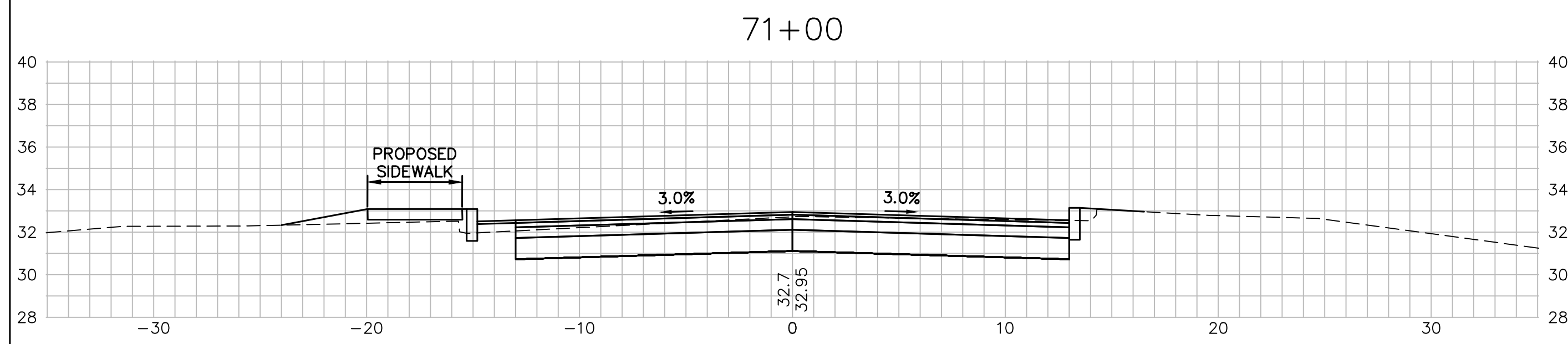
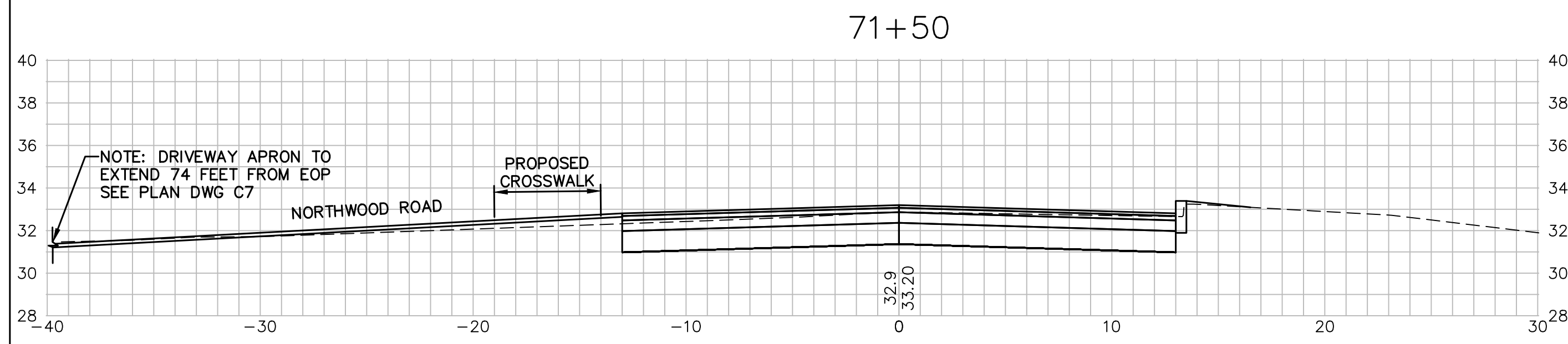
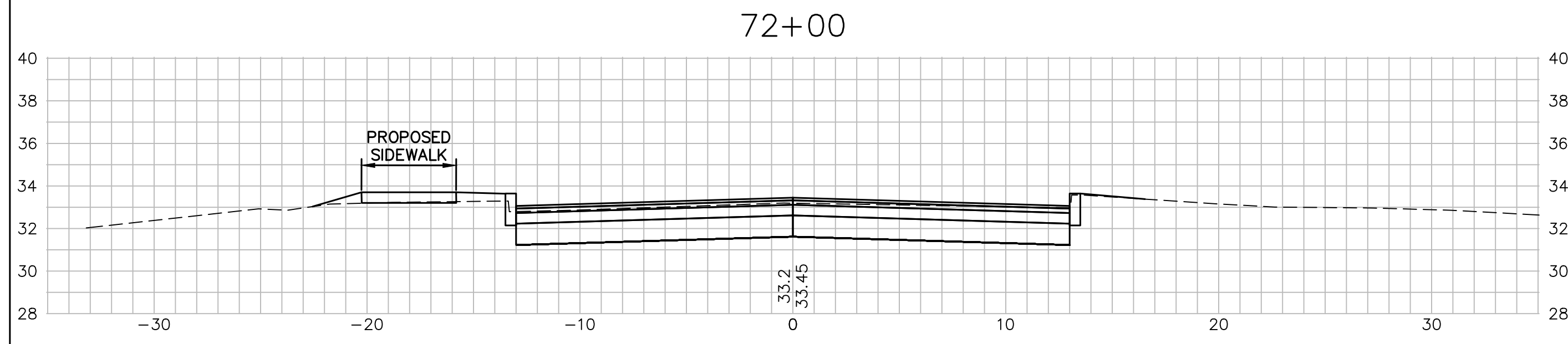
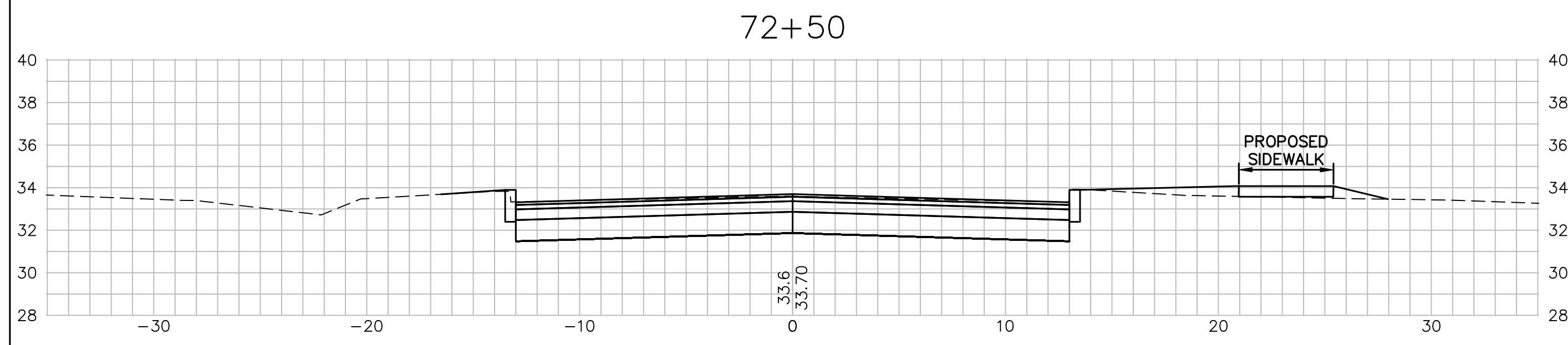
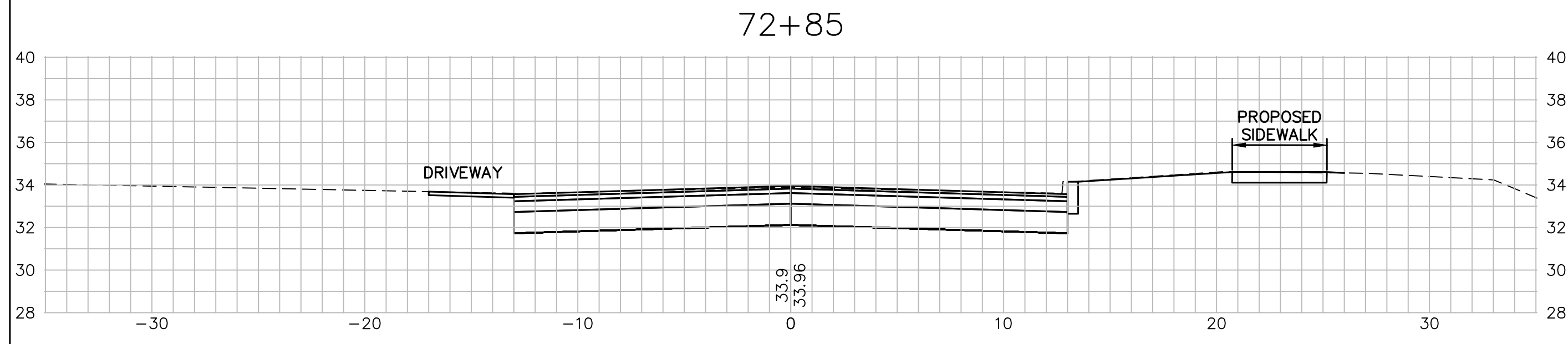
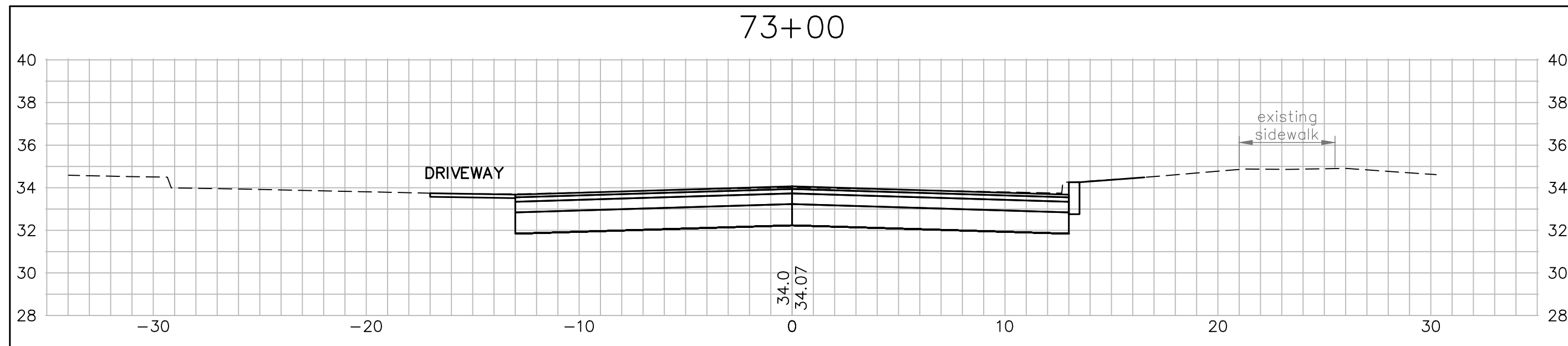
CORPORATE DRIVE RECONSTRUCTION

CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE



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APPROVAL	By	APPROVAL	By	APPROVAL	By
	3/23/23		3/23/23		3/23/23
CONSTRUCTION		By		Date	
CONSTRUCTION	By	CONSTRUCTION	By	CONSTRUCTION	By
	7/21/23		7/21/23		7/21/23
RECORD DRAWING		By		Date	
RECORD DRAWING	By	RECORD DRAWING	By	RECORD DRAWING	By
REVISIONS		APP'D		NO.	
REVISIONS	APP'D	REVISIONS	APP'D	REVISIONS	APP'D
Drawn/Chk.	MAH	Checked	KLV	Date	7/21/23
Designed		Checked	BTD	Date	
Checked	BTD	Approved		Book No.	
Approved		Approved		Project No.	2184
				Dwg. ID	2693_BASE
				Scale	AS SHOWN
25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733					
CROSS SECTIONS STA 66+00 TO STA 70+50 CORPORATE DRIVE RECONSTRUCTION CITY OF PORTSMOUTH PORTSMOUTH, NEW HAMPSHIRE					
DWG NO		SHEET			
X9		22 OF 32			

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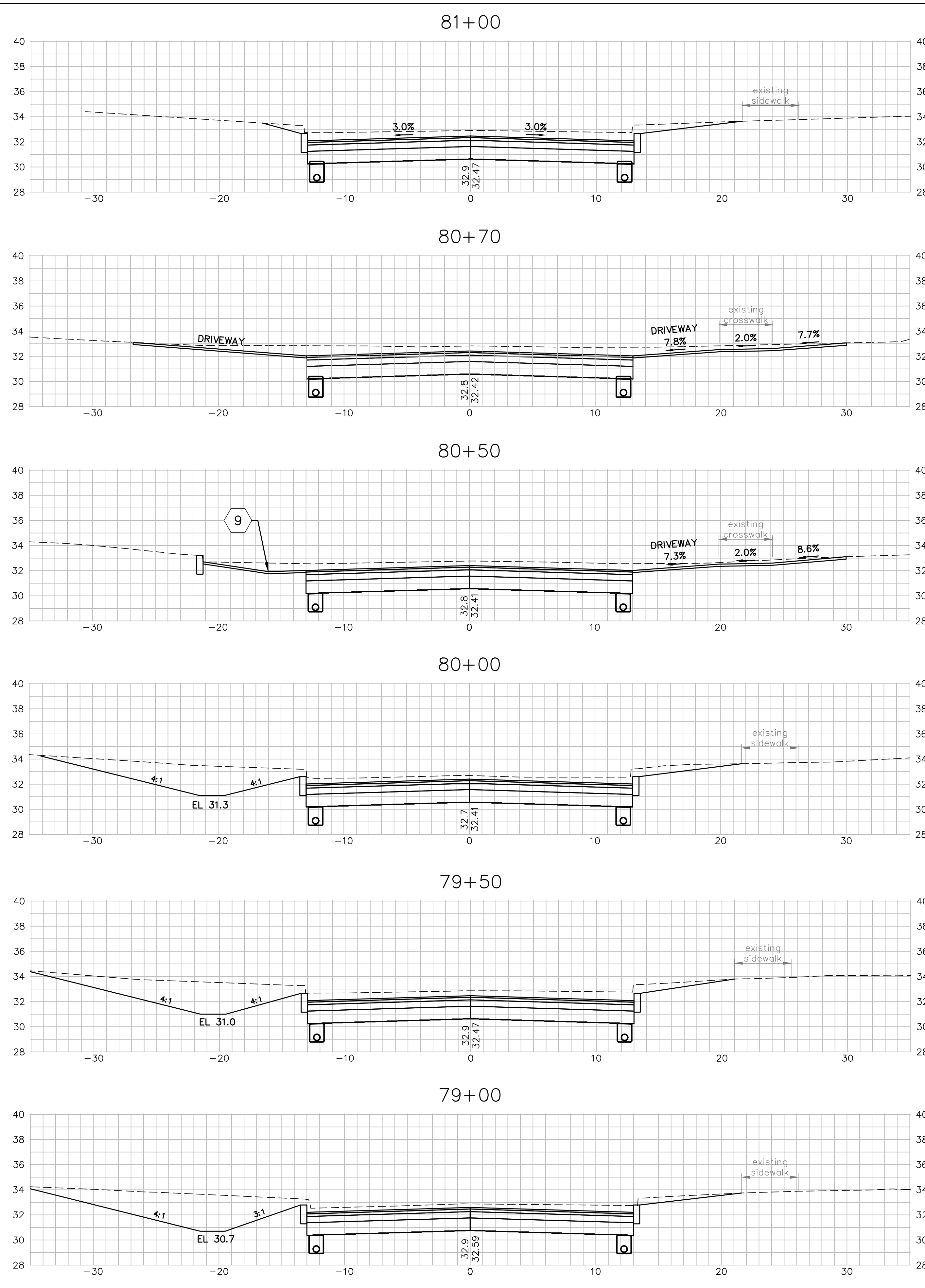
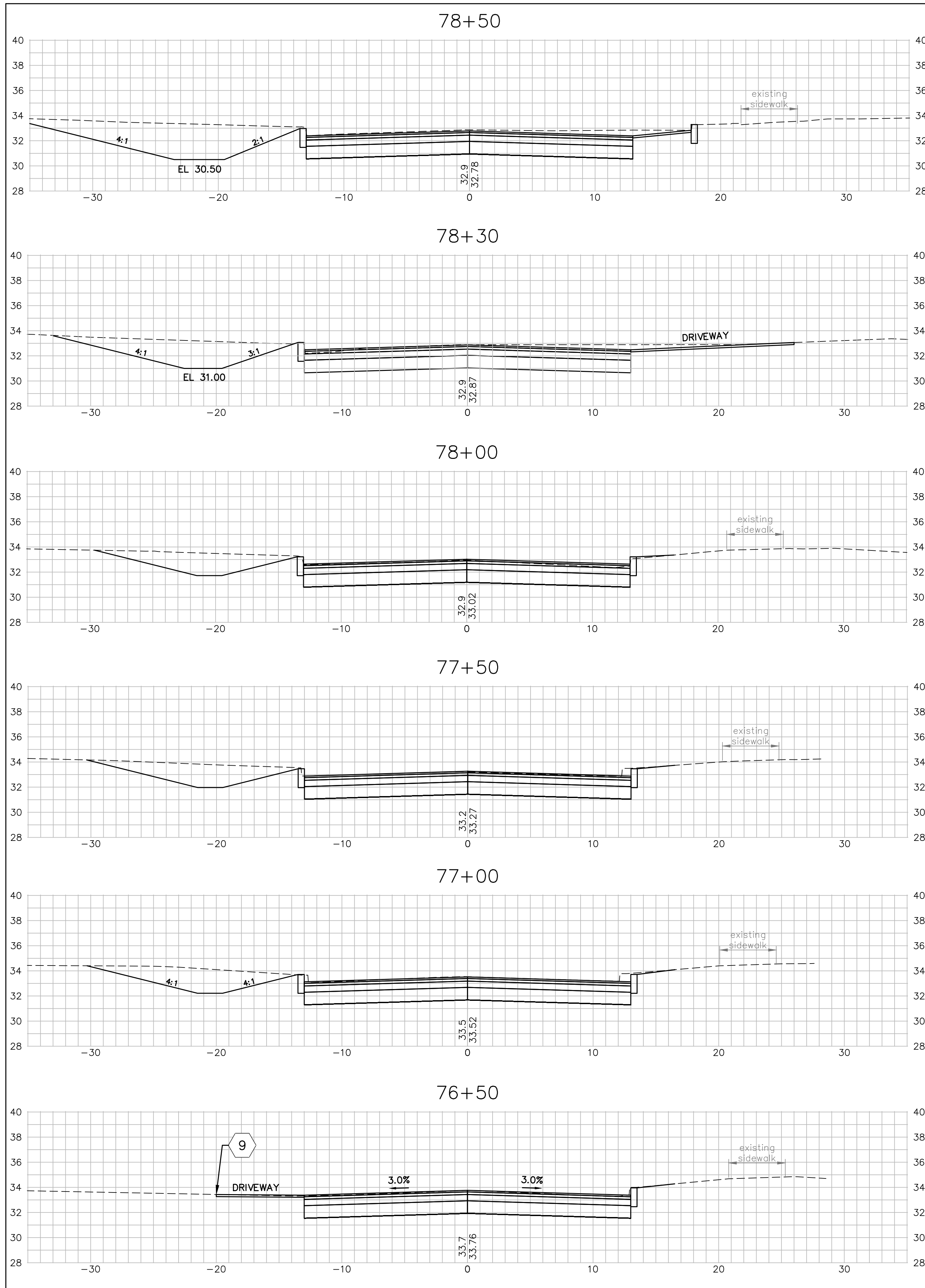


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Designed KLV	APPROVAL
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Date 7/21/23	CONSTRUCTION
Book No. -	Date 7/21/23
Project No. 2184	RECORD DRAWING
Dwg. ID 2693_BASE	Date
Scale AS SHOWN	By
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	REVISIONS
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CROSS SECTIONS STA 71+00 TO STA 76+00	
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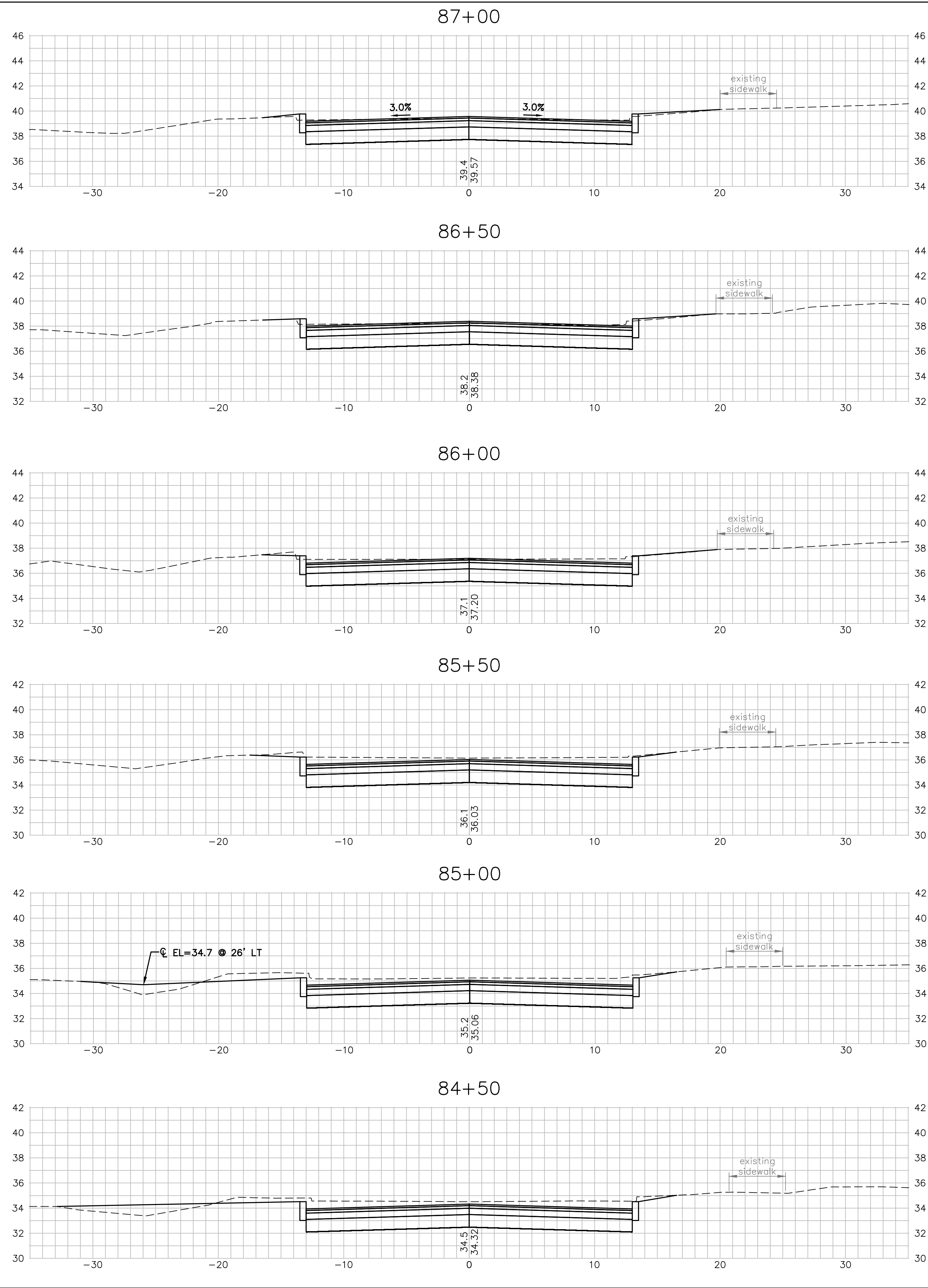
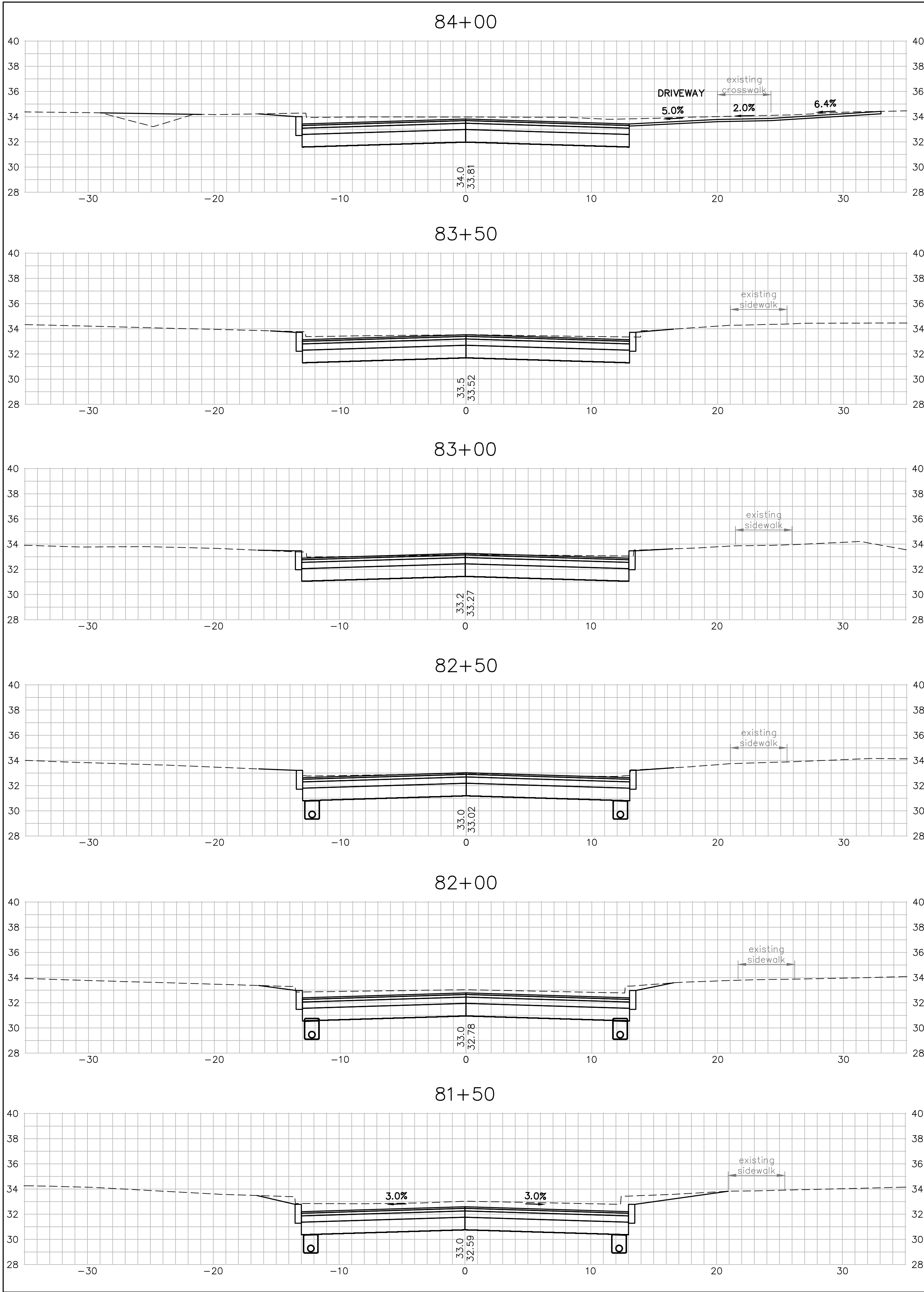
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Approved 7/21/23	By
Book No. -	CONSTRUCTION
Project No. 2184	Date 7/21/23
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CROSS SECTIONS STA 76+50 TO STA 81+00	
CORPORATE DRIVE RECONSTRUCTION	
CITY OF PORTSMOUTH PORTSMOUTH, NEW HAMPSHIRE	
DWG NO X11	SHEET 24 OF 32

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ISSUE FOR APPROVAL	By	Date	ISSUE FOR APPROVAL	By	Date
		3/23/23			3/23/23
REVISIONS	NO.	DATE	REVISIONS	NO.	DATE
Drawn/Chk	MAH	Checked	KLV	Approved	7/21/23
Designed					
Book No.		Project No.	2184	Dwg. ID	2693_BASE
Scale	AS SHOWN				

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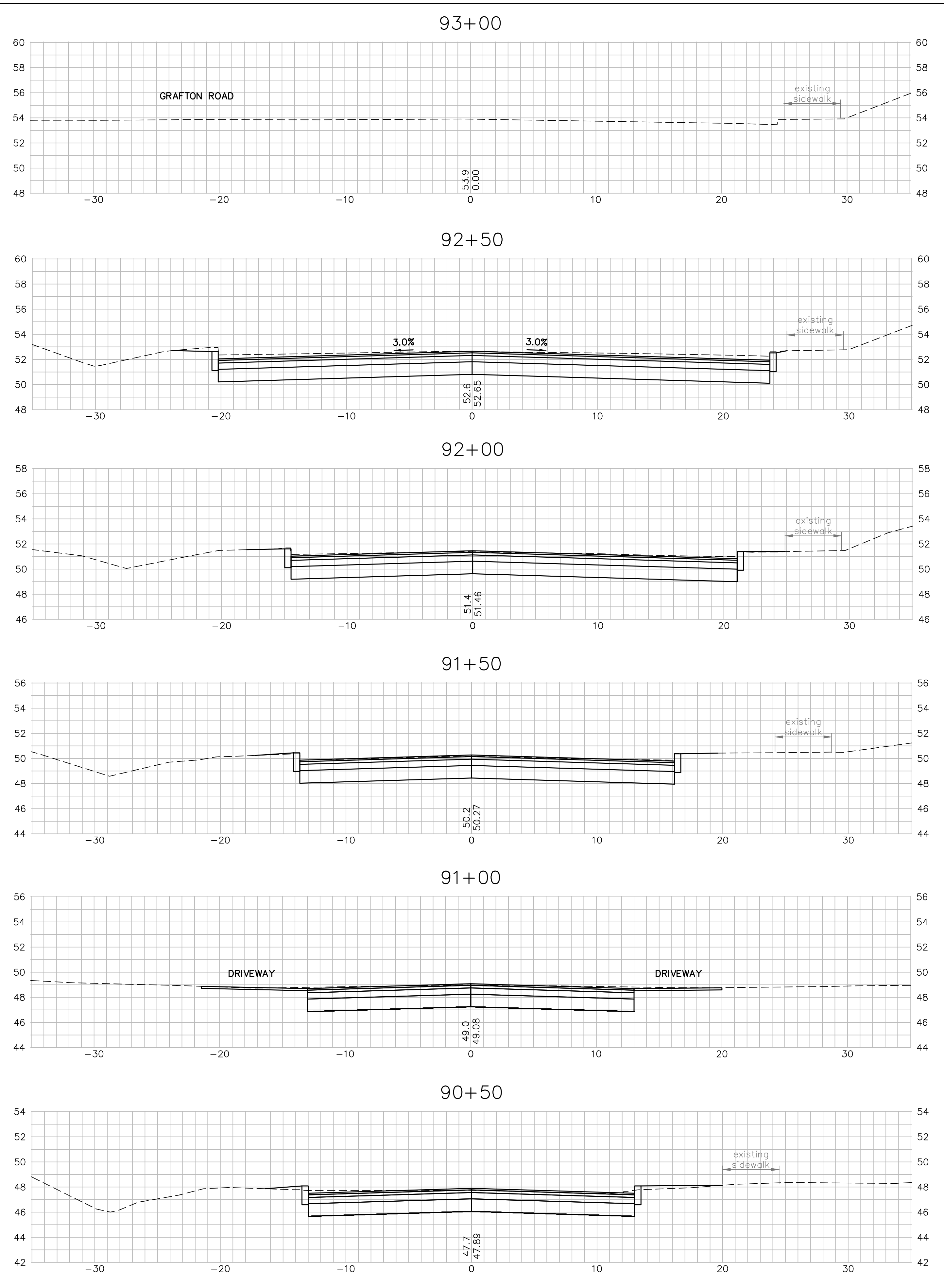
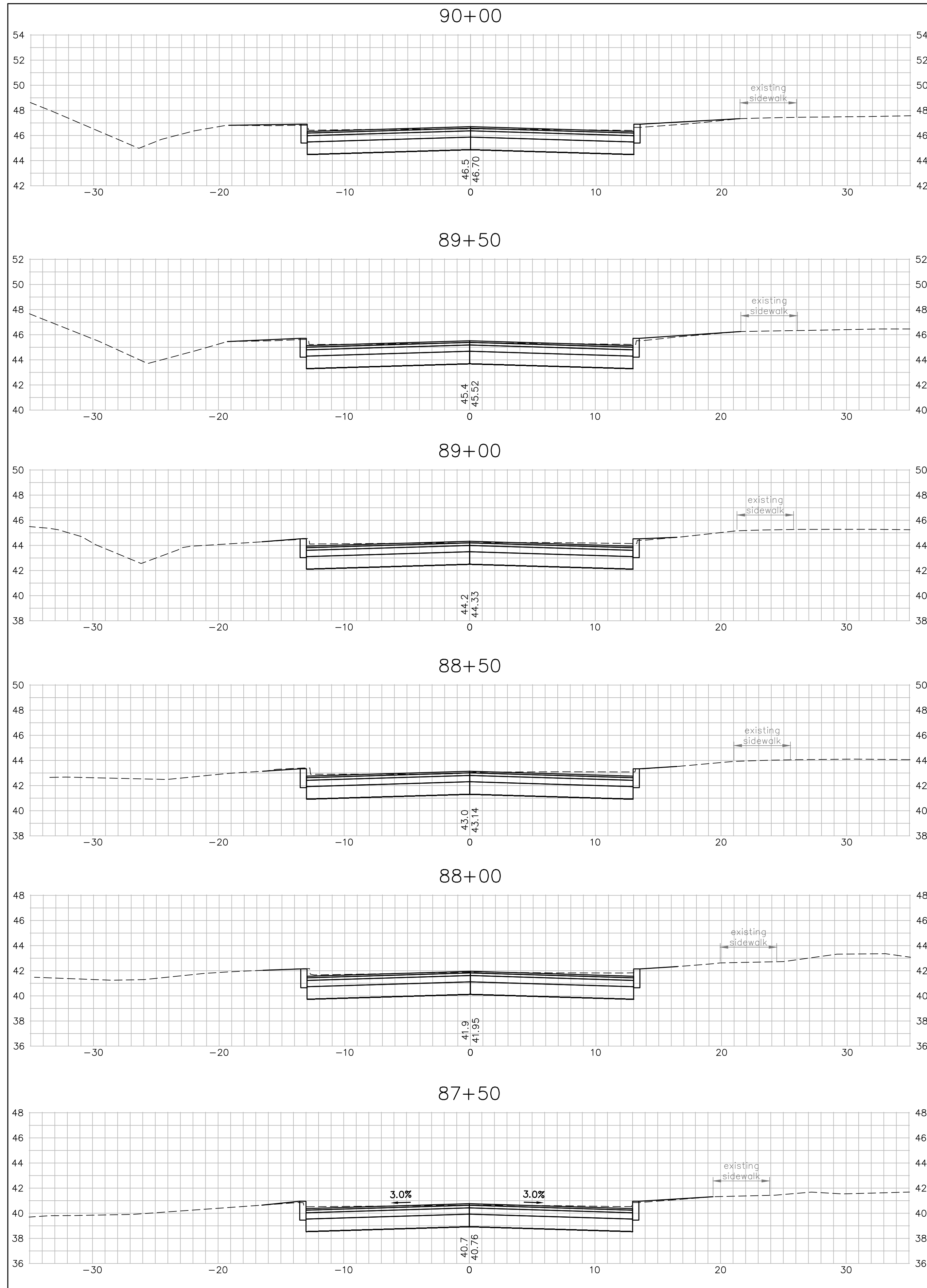
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**CROSS SECTIONS
 STA 81+50 TO STA 87+00**

**CORPORATE DRIVE RECONSTRUCTION
 CITY OF PORTSMOUTH
 PORTSMOUTH, NEW HAMPSHIRE**

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X12	25 OF 32

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DWG NO X13	SHEET 26 OF 32	ISSUE FOR APPROVAL Date: 3/23/23 By: [blank]	REVISIONS APP'D NO.
<p>CROSS SECTIONS SAT 87+50 TO STA 92+50</p> <p>CITY OF PORTSMOUTH PORTSMOUTH, NEW HAMPSHIRE</p>		<p>CONSTRUCTION Date: 7/21/23 By: [blank]</p> <p>RECORD DRAWING Date: [blank] By: [blank]</p>	<p>APPROVAL Date: 3/23/23 By: [blank]</p> <p>CONSTRUCTION Date: 7/21/23 By: [blank]</p> <p>RECORD DRAWING Date: [blank] By: [blank]</p>
Drawn/Chk. MAH Designed: KLV Checked: [blank] Approved: [blank] Date: 7/21/23 Book No.: [blank] Project No.: 2184 Dwg. ID: 2693_BASE Scale: AS SHOWN			
<p>UNDERWOOD engineers</p> <p>25 Vaughan Mall, Portsmouth, N.H. 03801 Tel. 603-436-6192 Fax. 603-431-4733</p>			

EROSION & SEDIMENT CONTROL NOTES

(GENERAL):

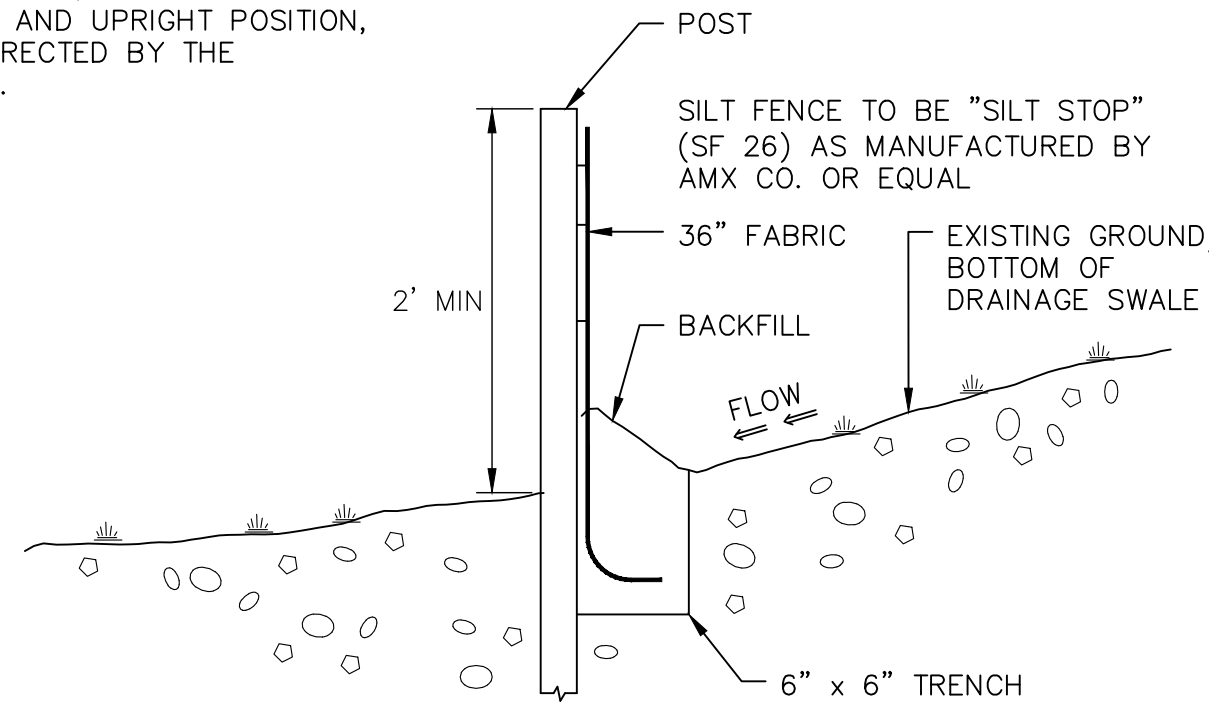
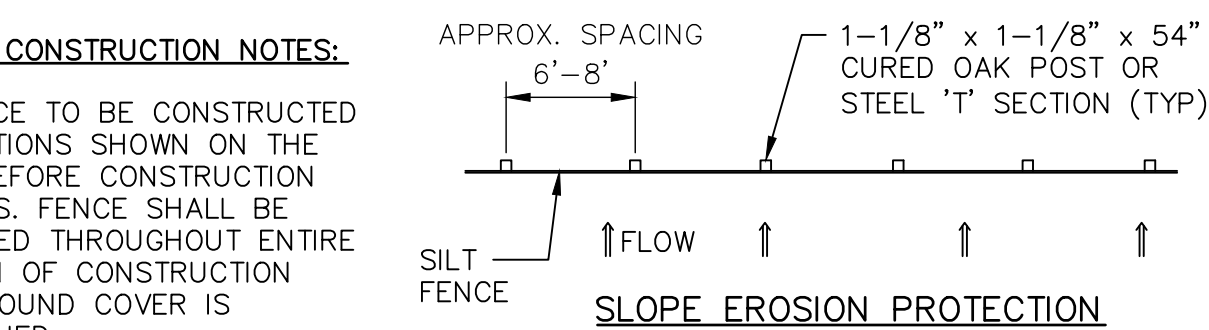
DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED:

1. EROSION CONTROLS SHALL BE IN PLACE BEFORE EARTH MOVING OPERATIONS CAN BEGIN.
2. EXCAVATION AND EARTHWORK SHALL BE CONDUCTED IN A MANNER THAT WILL MINIMIZE EFFECTS OF EROSION THROUGHOUT CONSTRUCTION.
3. THE SMALLEST PRACTICABLE AREA OF LAND SHALL BE EXPOSED FOR THE SHORTEST PRACTICAL PERIOD AT ANY GIVEN TIME DURING CONSTRUCTION. DRAINAGE DITCHES, SWALES AND STEEP SLOPE EMBANKMENTS SHALL BE LOAMED, SEEDED AND STABILIZED WITHIN 72-HOURS OF FINAL GRADING. THE MAXIMUM PERIOD ANY ONE AREA MAY BE EXPOSED IS 45 CALENDAR DAYS.
4. REFER TO DRAINAGE AND EROSION CONTROL DETAILS FOR ADDITIONAL NOTES AND SPECIFICATIONS.
5. PERMANENT SEEDING AND MULCHING OF UPLAND AREAS:
 - ALL DISTURBED AREAS SHALL BE GRADED IN A MANNER CONSISTENT WITH SURROUNDINGS AS SHOWN ON THE DRAWINGS, UNLESS DIRECTED, AND COVERED WITH A MINIMUM OF 4 INCHES OF SCREENED TOPSOIL, SEEDED, FERTILIZED AND MULCHED AS REQUIRED TO PROVIDE A PERMANENT, DENSE, HEALTHY GROWTH OF GRASS.
 - SCARIFY UNDERLYING SOIL TO A MINIMUM DEPTH OF 4 INCHES PRIOR TO PLACEMENT OF TOPSOIL.
9. UPLAND SLOPES (3:1 OR FLATTER) SHALL BE SEEDED WITH PARK SEED MIXTURE, NHDOT SECTION 644.2.2.
10. UPLAND SLOPES (STEEPER THAN 3:1) SHALL BE SEEDED WITH A SLOPE SEED MIXTURE, SECTION 644.2.3. AFTER SEEDING, STEEP SLOPES SHALL BE MULCHED WITH EXCELISOR OR EQUAL AND A CHEMICAL TACKIFIER SHALL BE APPLIED TO ALL SIDE SLOPES STEEPER THAN 3:1. RATE OF APPLICATION SHALL BE AS RECOMMENDED BY THE MANUFACTURER. INSTALL JUTE MATTING, EXCESIOR STABILIZATION BLANKET OR STONE FILL ON STEEP SLOPES, WHERE DIRECTED.
11. TEMPORARY SEEDING AND MULCHING: TEMPORARILY SEED DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR MORE THAN 21 DAYS WITH ANNUAL RYEGRASS AND MULCH. TEMPORARILY MULCH DISTURBED AREAS, INCLUDING STOCKPILES, WHICH WILL NOT BE WORKED FOR 7 TO 21 DAYS WITH CHOPPED HAY AND NETTING.
12. EROSION & SEDIMENT CONTROL SHALL BE INSTALLED WHERE NECESSARY TO MINIMIZE THE POTENTIAL FOR EROSION. ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH THE LATEST EDITION OF NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3 "EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION" TO PREVENT THE DEGRADATION OF DOWNSTREAM PROPERTIES AND DRAINAGE.
13. THE EROSION CONTROL SPECIFIED AND DETAILED ON THE PLANS SHALL BE CONSIDERED THE MINIMUM REQUIRED AND IS TO BE USED AS A GUIDELINE ONLY. ADDITIONAL MEASURES MAY BE DICTATED BY FIELD CONDITIONS. PROVIDE ADDITIONAL EROSION CONTROL AS REQUIRED BY THE TOWN, STATE OR THE ENGINEER.
14. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: FINISHED COURSE GRAVELS HAVE BEEN INSTALLED; A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED, NON-EROSIVE MATERIALS SUCH AS PERMANENT EROSION MATTING, CONCRETE STONE OR RIP RAP HAS BEEN PROPERLY INSTALLED, OR EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
16. THE CONTRACTOR IS RESPONSIBLE FOR STORMWATER MANAGEMENT DURING ALL PHASES OF CONSTRUCTION. NO WORK SHALL BE PERMITTED IN FLOWING WATER. DIVERSION SHALL BE ACCOMPLISHED BY THE USE OF SAND BAGS, BERMS, TEMPORARY CULVERTS/SWALES, AND/OR PUMPING. ALL DIVERTED WATER SHALL BE DISCHARGED TO DIRT BAGS, STONE FILL OR OTHER SUITABLE EROSION CONTROL STRUCTURE.
17. THE CONTRACTOR MAY NOT REMOVE EROSION CONTROL MEASURES UNTIL TURF IS ESTABLISHED. DISTURBED AREAS REMAINING AFTER OR AS A RESULT OF THE REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE LOAMED, SEEDED AND MULCHED.
18. TEMPORARY EROSION CONTROL MEASURES, HAY BALE BARRIERS, SEDIMENT TRAPS AND STONE CHECK DAMS ARE TO BE MAINTAINED AND KEPT CLEAN UNTIL ALL EXPOSED AREAS HAVE A HEALTHY STAND OF GROUND COVER, AT WHICH TIME TEMPORARY MEASURES ARE TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF EROSION CONTROL MEASURES, AND DISPOSAL OF TEMPORARY MATERIALS AND SILT.

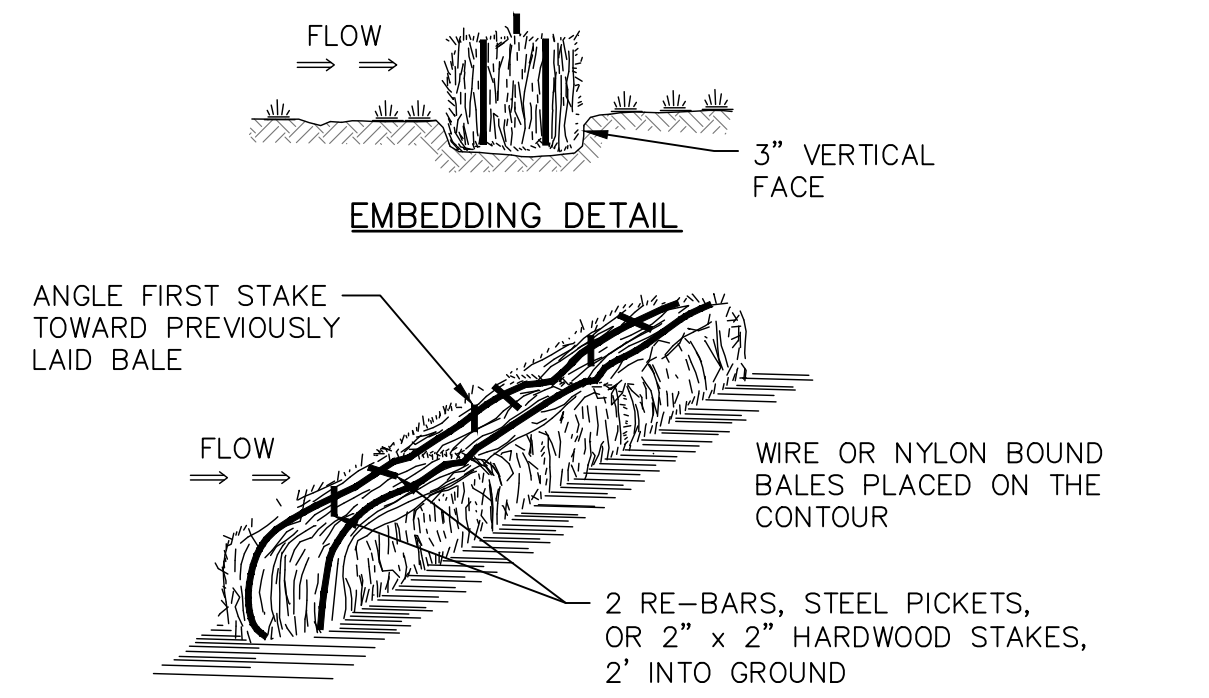
SILT FENCE CONSTRUCTION NOTES:

1. SILT FENCE TO BE CONSTRUCTED AT LOCATIONS SHOWN ON THE PLANS BEFORE CONSTRUCTION PROCEEDS. FENCE SHALL BE MAINTAINED THROUGHOUT ENTIRE DURATION OF CONSTRUCTION UNTIL GROUND COVER IS ESTABLISHED.

2. PLACE HAY BALES BEHIND SILT FENCE AS REQUIRED TO MAINTAIN FENCE IN AND UPRIGHT POSITION, OR AS DIRECTED BY THE ENGINEER.



SILT FENCE
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

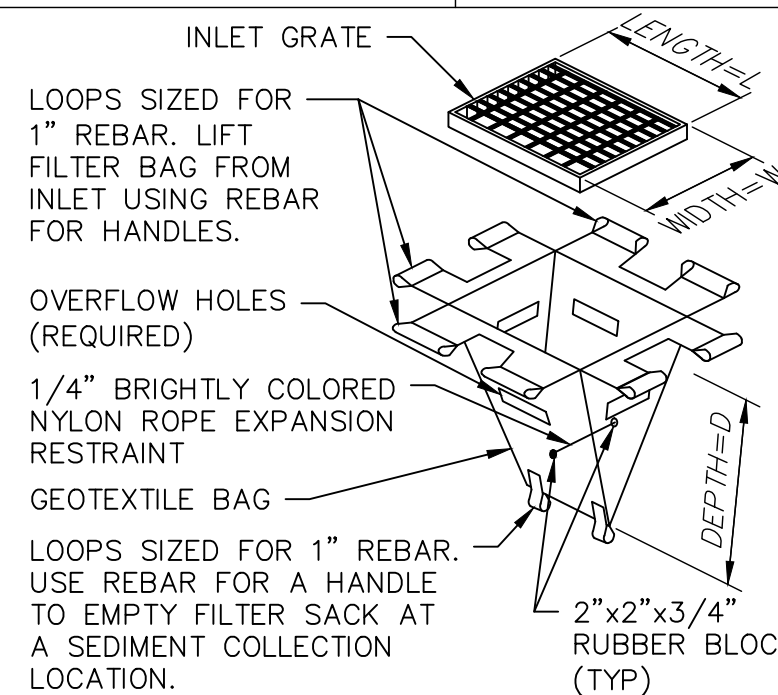
1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID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

STRAW OR HAYBALE BARRIER

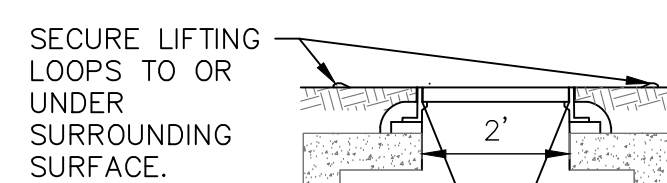
NOT TO SCALE

NOTES:

1. ACCEPTED MANUFACTURERS:
 - A. "SILT SACK" INLET SEDIMENT CONTROL DEVICE BY "ACF ENVIRONMENTAL, INC" 2831 CARDWELL RD., RICHMOND VA 23234, (800)448-3636
 - B. "DANDY SACK" BY "DANDY PRODUCTS, INC.", P.O. BOX 1980, WESTERVILLE, OH 43086, (800) 591-2284.
2. ALTERNATIVE CATCH BASIN INLET PROTECTION MEASURES MAY INCLUDE THE NHDES "BLOCK AND GRAVEL METHOD" PER THE NH STORMWATER MANUAL (VOL. 3).
3. EMPTY FILTER SACK WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
4. GEOTEXTILE WILL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
5. AN OIL ADSORBENT PAD OR PILLOW CAN BE USED WHEN OIL SPILLS ARE A CONCERN.
6. INSPECT PER REGULATORY REQUIREMENTS.
7. THE WIDTH, "W", OF THE FILTER SACK WILL MATCH THE INSIDE WIDTH OF THE CATCH BASIN FRAME.
8. THE DEPTH, "D", OF THE FILTER SACK WILL BE BETWEEN 18 INCHES AND 36 INCHES.
9. THE LENGTH, "L", OF THE FILTER SACK WILL MATCH THE INSIDE LENGTH OF THE CATCH BASIN FRAME.

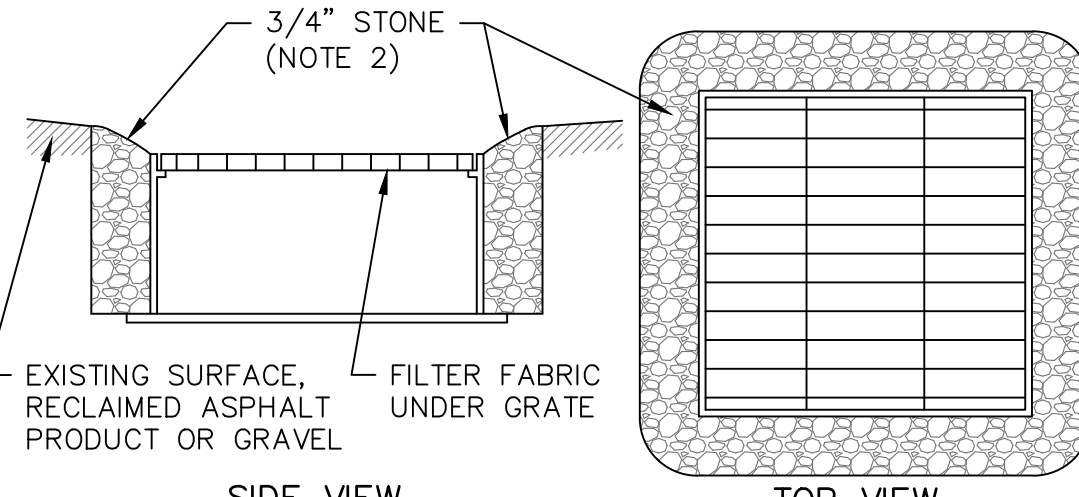


FILTER SACK-ISOMETRIC VIEW



FILTER SACK-INSTALLED CROSS-SECTION VIEW

TYPE HF MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE SIZE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC-1



CATCH BASIN PROTECTION DETAIL

NOTES:

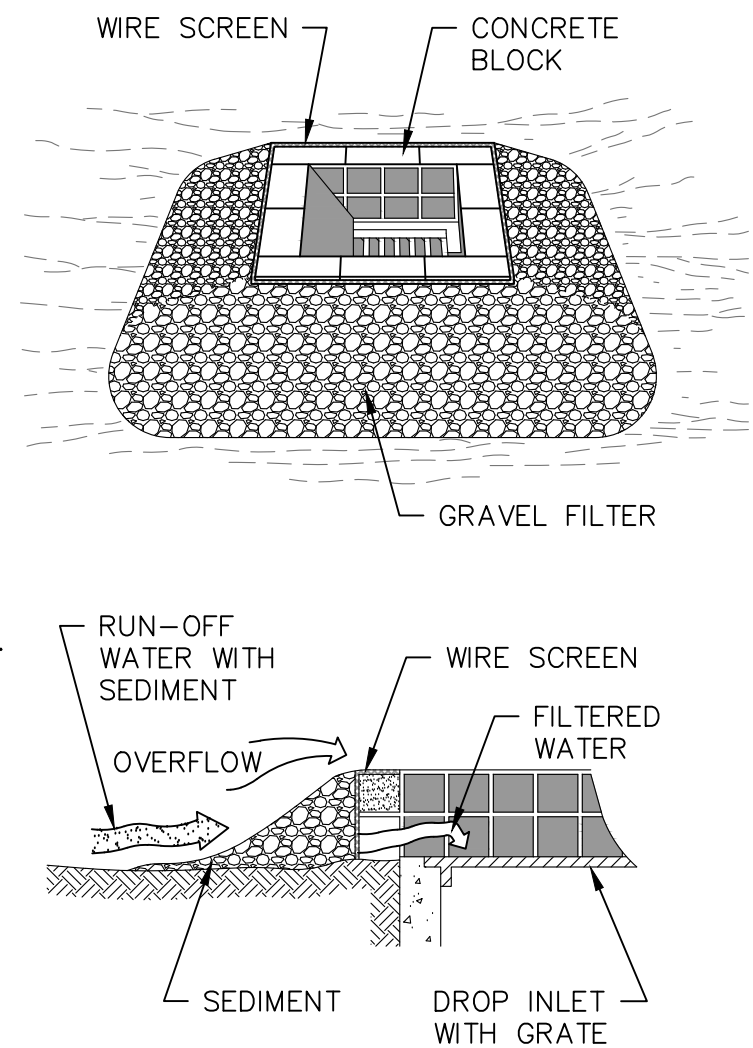
1. INSPECT AND MAINTAIN STONE & FILTER FABRIC AFTER 1/2" RAIN EVENT OR WEEKLY WHEN EXISTING CATCH BASIN IS NOT BEING MODIFIED (RAISED, LOWERED, ETC.).
2. CONSTRUCT 4" HIGH x 6" WIDE STONE BERM AROUND PERIMETER OF GRATE.

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

NOT TO SCALE

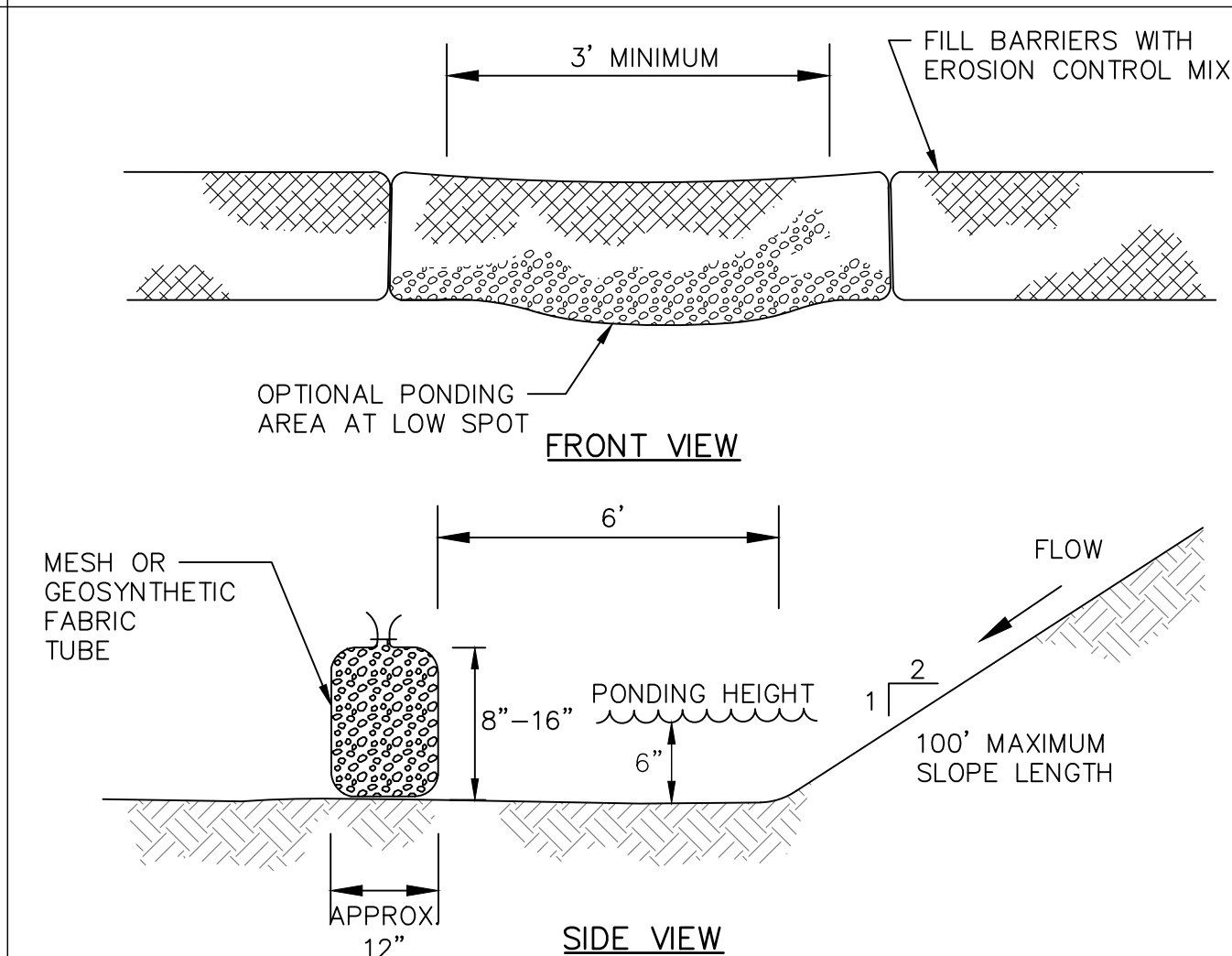
NOTES:

1. CONCRETE BLOCKS SHOULD BE PLACED LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET. THE ENDS OF EACH BLOCK SHOULD BE ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED DEPENDING ON THE DESIGN BY STACKING VARIOUS COMBINATIONS OF DIFFERENT SIZED BLOCKS. THE BARRIER SHOULD BE A MINIMUM OF 12 INCHES HIGH AND MAXIMUM OF 24 INCHES HIGH.
2. HARDWARE CLOTH OR WIRE MESH SHOULD BE PLACED OVER THE OPENINGS OF THE CONCRETE BLOCKS AND EXTENDED AT LEAST 12 INCHES AROUND THE OPENING TO PREVENT AGGREGATE FROM BEING TRANSPORTED THROUGH THE OPENINGS IN THE BLOCK.
3. SEWER STONE OR OTHER CLEAN COARSE AGGREGATE SHOULD BE PLACED AGAINST THE BLOCK TO THE TOP OF THE BARRIER.



BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

NOT TO SCALE



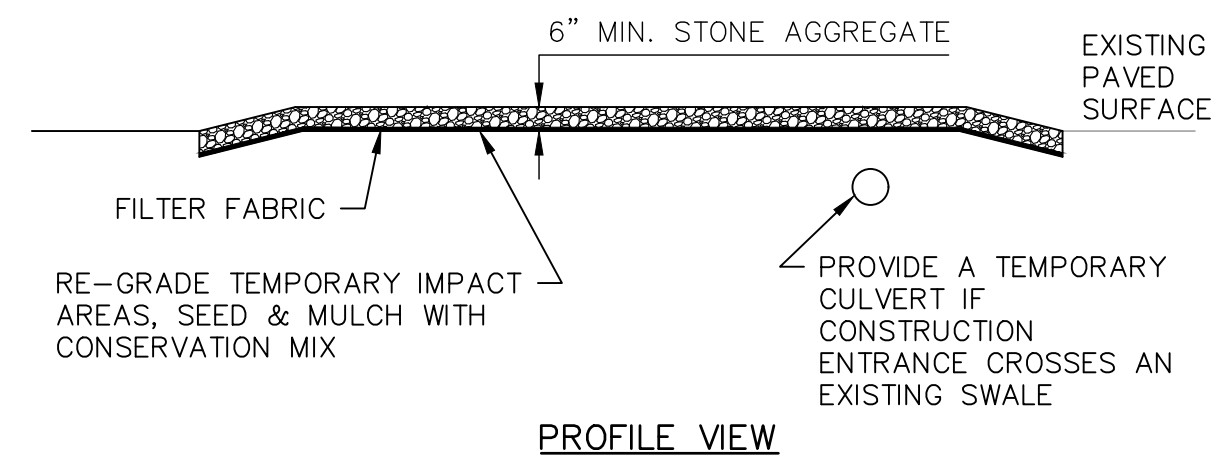
NOTE:
1. FILTER SOCK OR "SILT SOXX" MAY BE USED IN LIEU OF, OR IN COMBINATION WITH, SILT FENCE.

FILTER SOCK

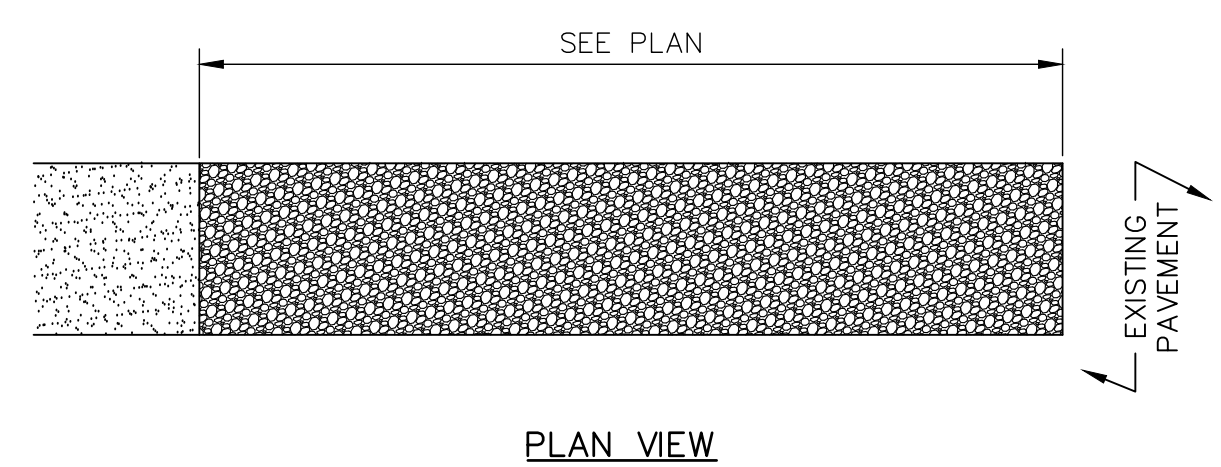
NOT TO SCALE

STABILIZED CONSTRUCTION ENTRANCE SPECIFICATIONS:

1. THE TEMPORARY STABILIZED CONSTRUCTION ENTRANCE SHALL CONSIST OF PLACING 1"-2" STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT, AT THE LOCATION WHERE CONSTRUCTION VEHICLES EXIT THE SITE IN ORDER TO MINIMIZE MIGRATION OF DIRT ONTO THE ADJOINING PAVED ROADS.
2. STONE SHALL BE 1" TO 2" FRACTURED ROCK.
3. STONE SHALL BE PLACED OVER GEOTEXTILE FABRIC.
4. THE MINIMUM STONE DEPTH SHALL BE 6 INCHES.
5. SURFACE WATER RUNOFF FROM THE PAVED ROAD SHALL NOT BE PERMITTED TO COME IN CONTACT WITH THE STONE ENTRANCE. USE A CROSS CULVERT UNDER THE NEW ENTRANCE OR CONSTRUCT A BERM ALONG THE EDGE OF EXISTING PAVEMENT TO DIVERT WATER AWAY FROM THE STONE.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC ROADWAYS. TOP DRESS OR REPLACE STONE AS NEEDED. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS SHALL BE IMMEDIATELY REMOVED.
7. THE ENTRANCE SHALL BE MAINTAINED UNTIL THE SITE CONDITIONS WARRANT ITS REMOVAL.



PROFILE VIEW



PLAN VIEW

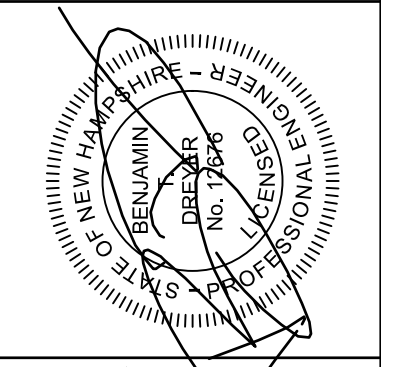
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

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APPROVED	BTD	7/21/23	CONSTRUCTION
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DATE			BY

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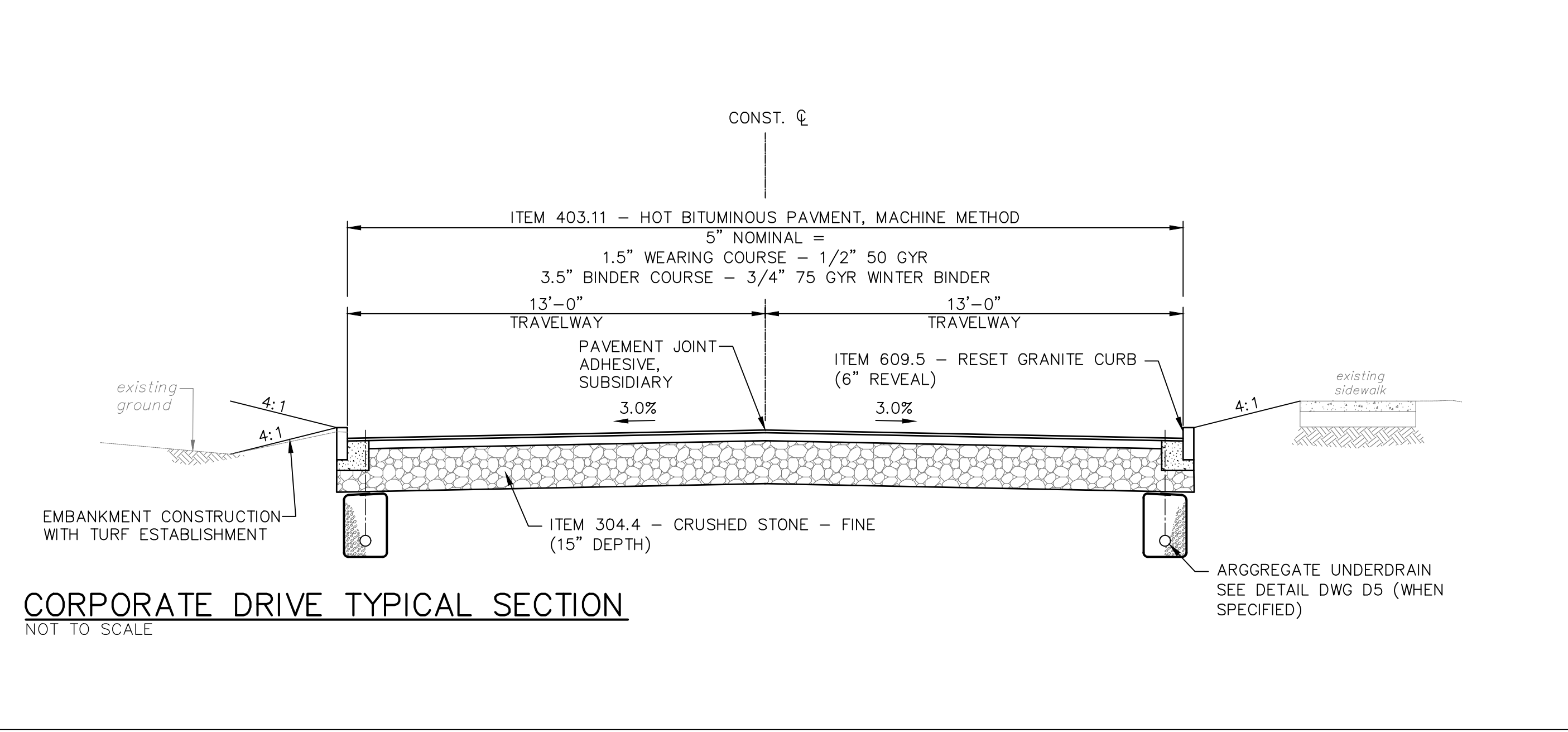
EROSION CONTROL NOTES & DETAILS

CORPORATE DRIVE RECONSTRUCTION

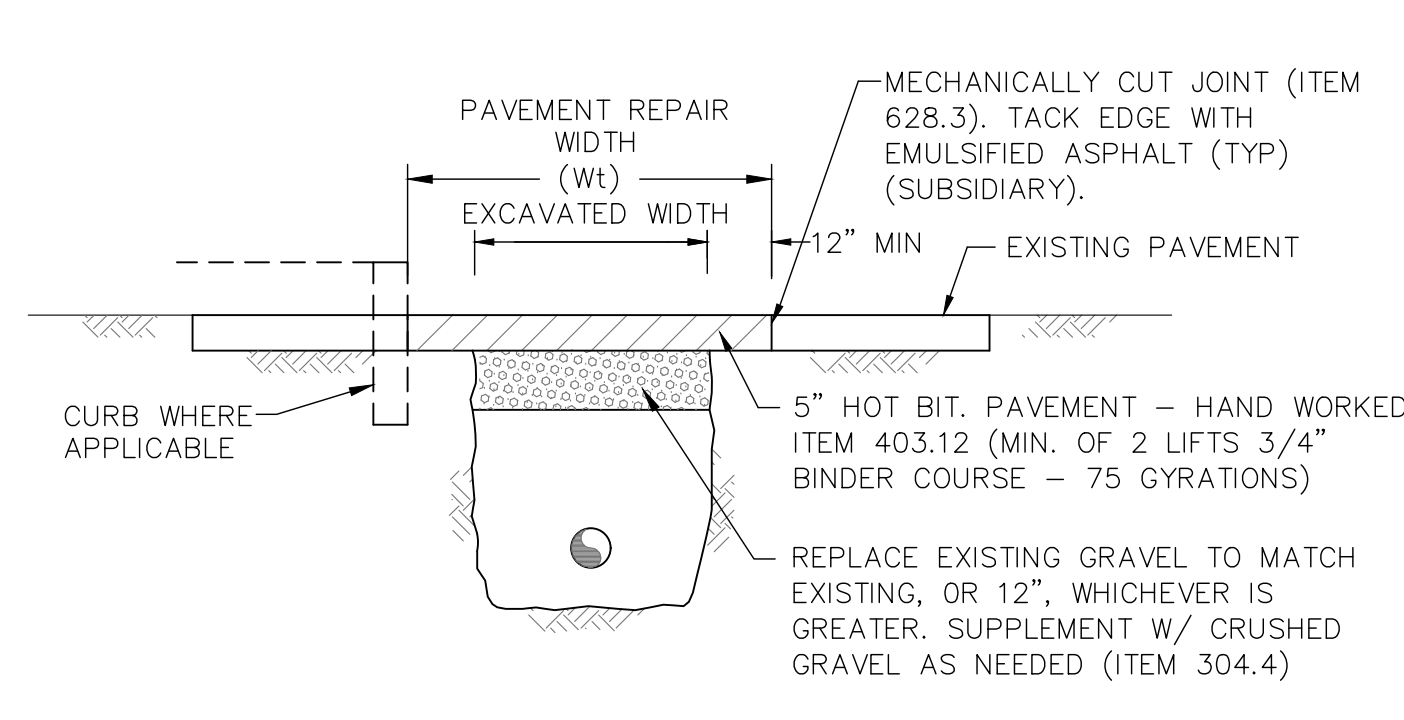
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PORTSMOUTH, NEW HAMPSHIRE

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CORPORATE DRIVE TYPICAL SECTION
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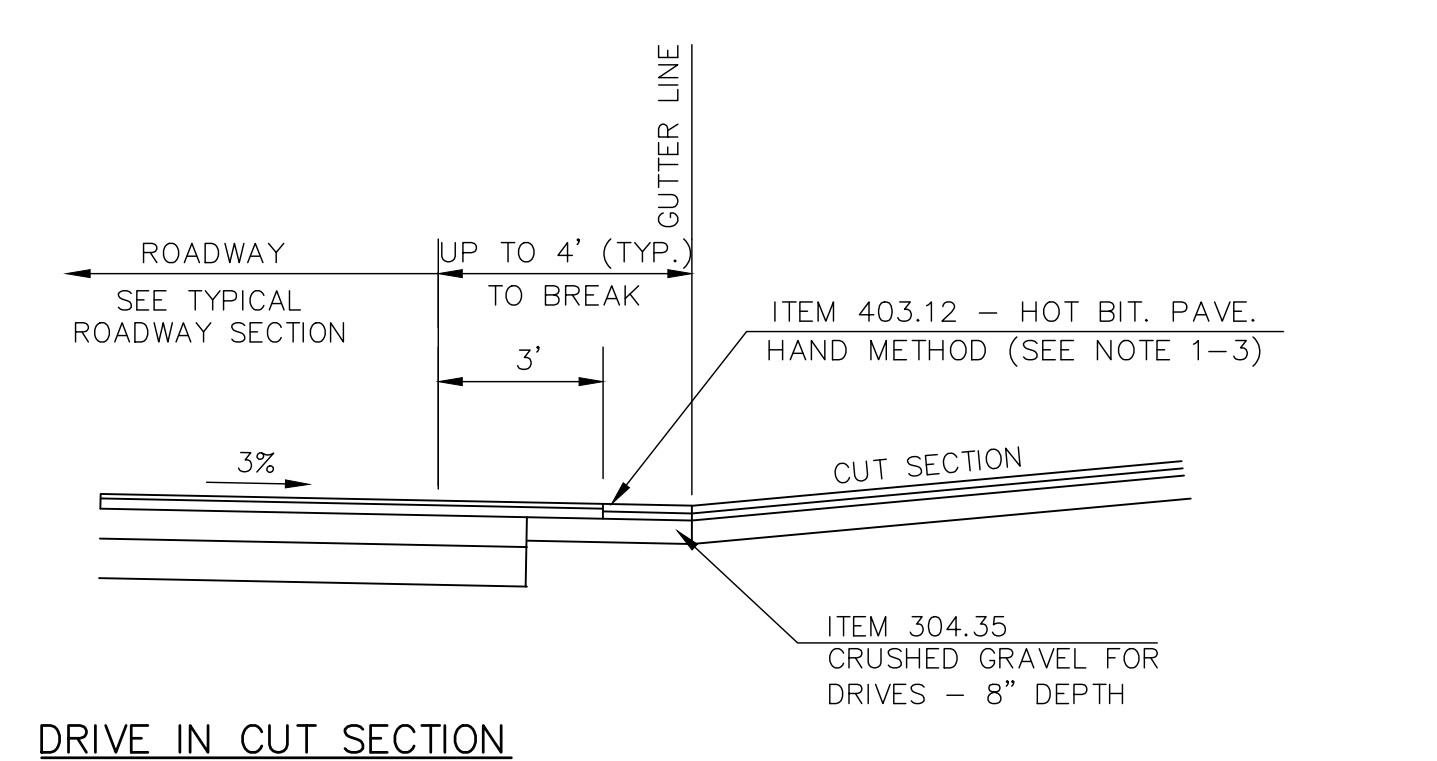
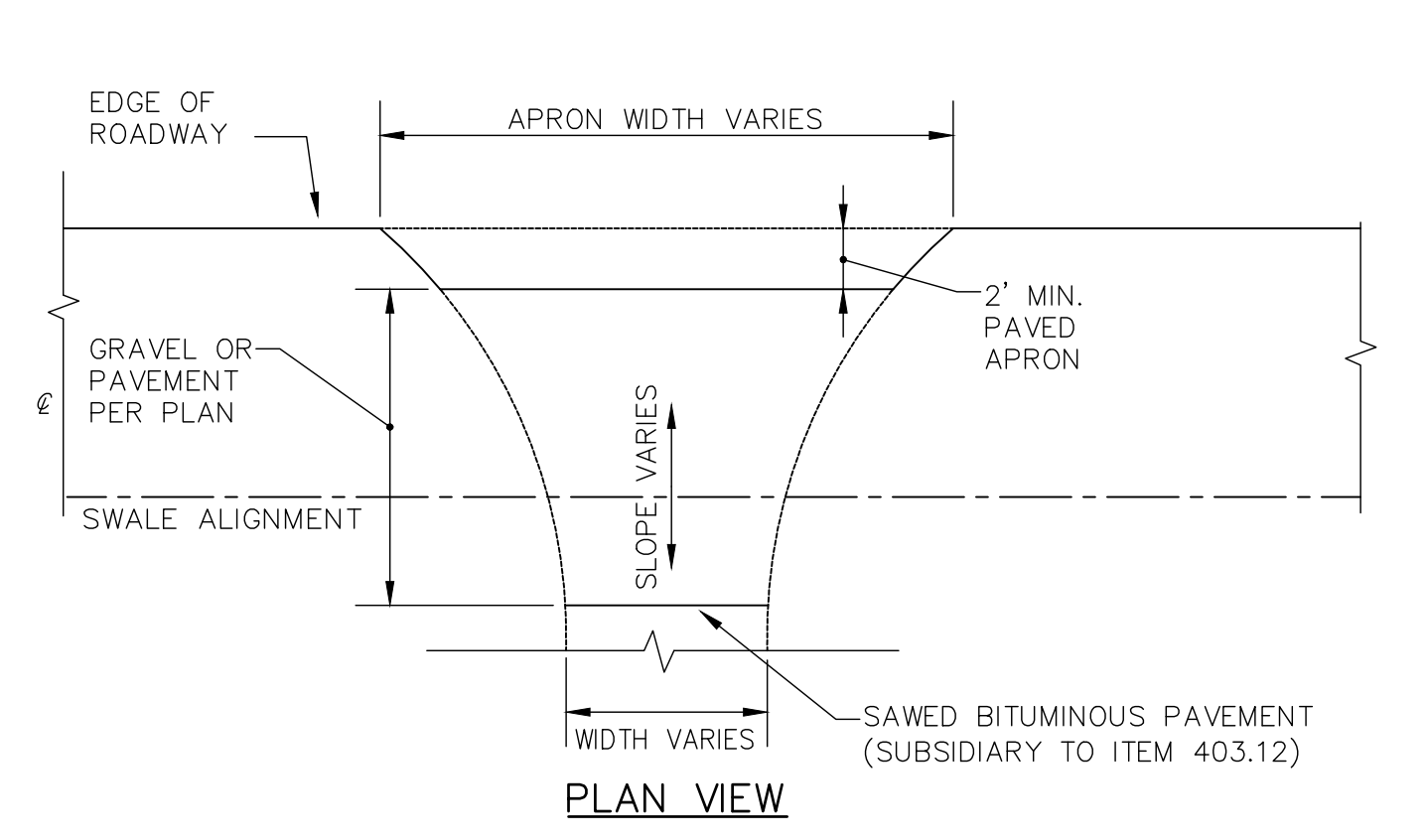


NOTES:

1. THE DIMENSIONS SHOWN SHALL BE CONSIDERED MAXIMUM PAVEMENT PAYMENT WIDTHS FOR 0-10' DEEP CONSTRUCTION. Wt AND Wp SHALL BE INCREASED BY 4'-0" FOR TRENCHES 10' TO 15' AND BY 8'-0" FOR TRENCHES 15' TO 20' IN DEPTH.
2. ALL PAVEMENT REMOVAL SHALL BE PRECEDED BY MECHANICAL SAW CUTTING (ITEM 628.3).

PIPE I.D.	Wt (INCHES)	Wp (INCHES)
1-21 INCHES	84	108
24-30 INCHES	96	120
> 30 INCHES	108	132

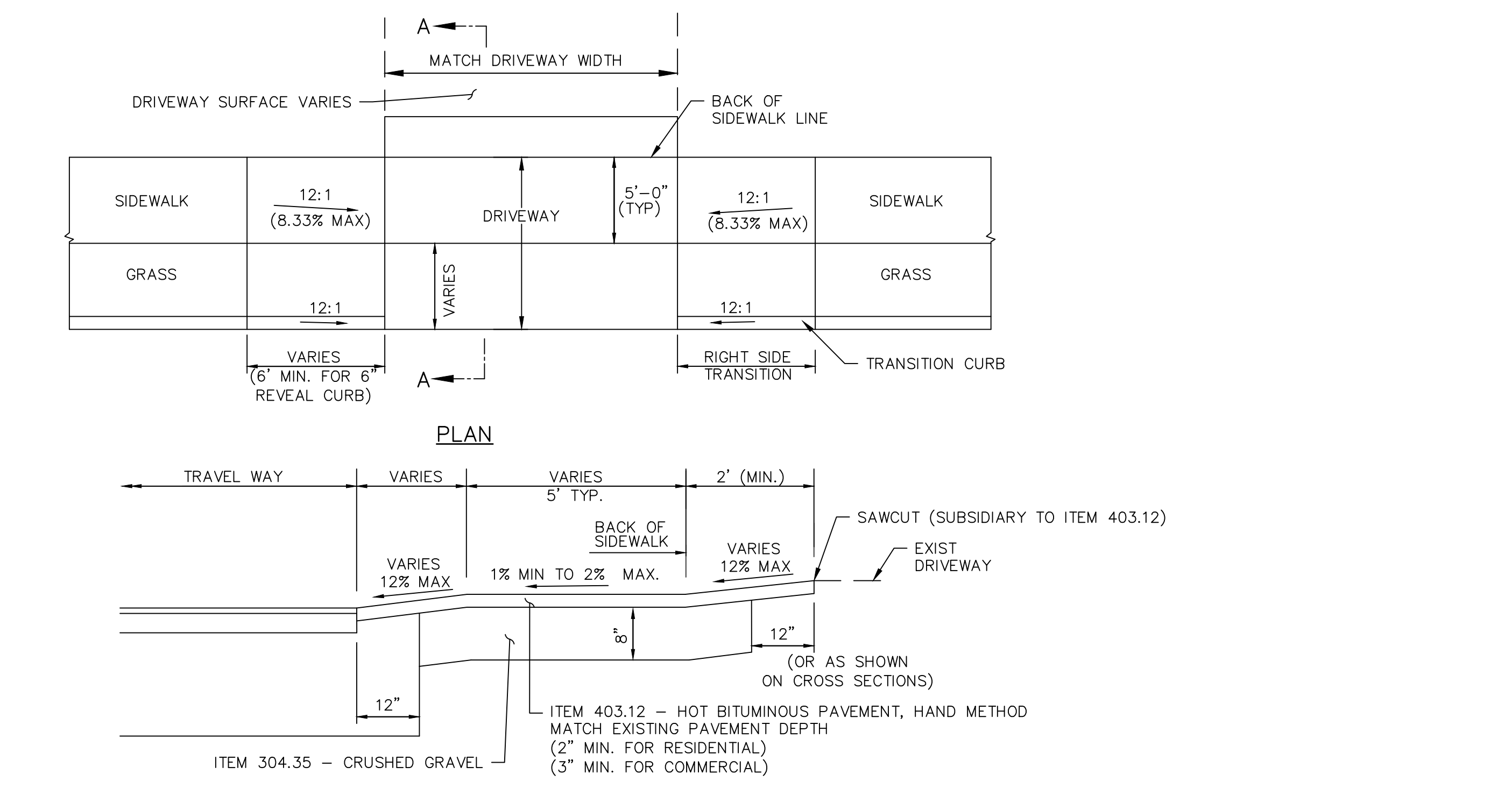
TRENCH PAVEMENT REPAIR-PRELIMINARY
NOT TO SCALE



NOTES:

1. IF CONTRACTOR ELECTS TO EMPLOY MACHINE METHOD PAVEMENT (ITEM 403.11) FOR APRON CONSTRUCTION, PAY LIMITS EXTEND 2' BEYOND THE EDGE OF THE ROADWAY.
2. EXTEND DRIVEWAY APRONS AS DIRECTED. THE OWNER'S REPRESENTATIVE WILL REVIEW FINAL LIMITS OF DRIVEWAY RESTORATION IN ADVANCE OF PAVING OPERATIONS. FINAL LIMITS MAY VARY FROM PLAN LOCATIONS SHOWN. PAVEMENT SAWCUTTING & REMOVAL IS SUBSIDIARY TO ITEM 403.12.
3. PAVEMENT DEPTHS FOR COMMERCIAL DRIVES SHALL BE 3" H.B.P. (HAND METHOD) WEARING AND BASE COURSE AS FOLLOWS:
A. 1" WEARING COURSE PAVEMENT. CONFORMING TO NHDOT 403 (3/8" MIX)
B. 2" BASE COURSE PAVEMENT. CONFORMING TO NHDOT 403 (3/4" MIX)
4. DRIVEWAY CURB CUTS WILL MATCH EXISTING APRON WIDTHS UNLESS OTHERWISE DIRECTED.
5. DOWN GRADIENT DRIVEWAYS SHALL RECEIVE A 2" PAVED LIP REVEAL (PLUMB DIMENSION) AS PART OF THE WEARING COURSE. DRIVEWAY APRONS ARE UNIT ITEM COSTS COMPLETE AND IN PLACE. NO ADDITIONAL COMPENSATION SHALL BE GRANTED FOR PAVED LIPS.
6. ALL PAVEMENT MATCHES AT DRIVEWAY SHALL BE SAWCUT AND KEYED FOR SMOOTH TRANSITION (SUBSIDIARY).
7. UNLESS OTHERWISE NOTED HORIZONTAL DIMENSION FOR DRIVEWAYS SHALL BE GOVERNED BY MAXIMUM SLOPE REQUIREMENTS AND AS DIRECTED BY THE ENGINEER. ANY DIMENSION GREATER THAN THE PLAN DIMENSIONS SHALL BE COORDINATED WITH THE ENGINEER FIRST. ANY AREA NOT PRE-APPROVED BY THE ENGINEER SHALL NOT BE PAID.
8. UNLESS OTHERWISE NOTED TOTAL HORIZONTAL DIMENSION OF GRAVEL DRIVE APRONS SHALL BE 5 FEET WITH A MAXIMUM OF 2 FEET BEING PAVED. THE REMAINING DISTANCE SHALL BE CRUSHED GRAVEL.
9. TACK COAT SHALL BE APPLIED TO THE JOINTS AND BETWEEN PAVEMENT COURSES AND SHALL BE SUBSIDIARY TO UNIT ITEM COST.
10. GRAVELS SHALL BE COMPACTED TO 95% MODIFIED PROCTOR.
11. SUB-BASE SHALL BE COMPACTED BEFORE PLACEMENT OF GRAVEL.
12. WHERE EXISTING GRAVELS ARE DETERMINED TO BE SUITABLE BY THE ENGINEER, THEN NO EXCAVATION OR GRAVEL REPLACEMENT SHALL OCCUR. APRON PREP SHALL BE INCIDENTAL. ADDITIONAL GRAVEL SHIM (ITEM 304.35) OR EXCAVATION TO MEET ROAD GRADES SHALL BE PAID AS ITEM 203.1.

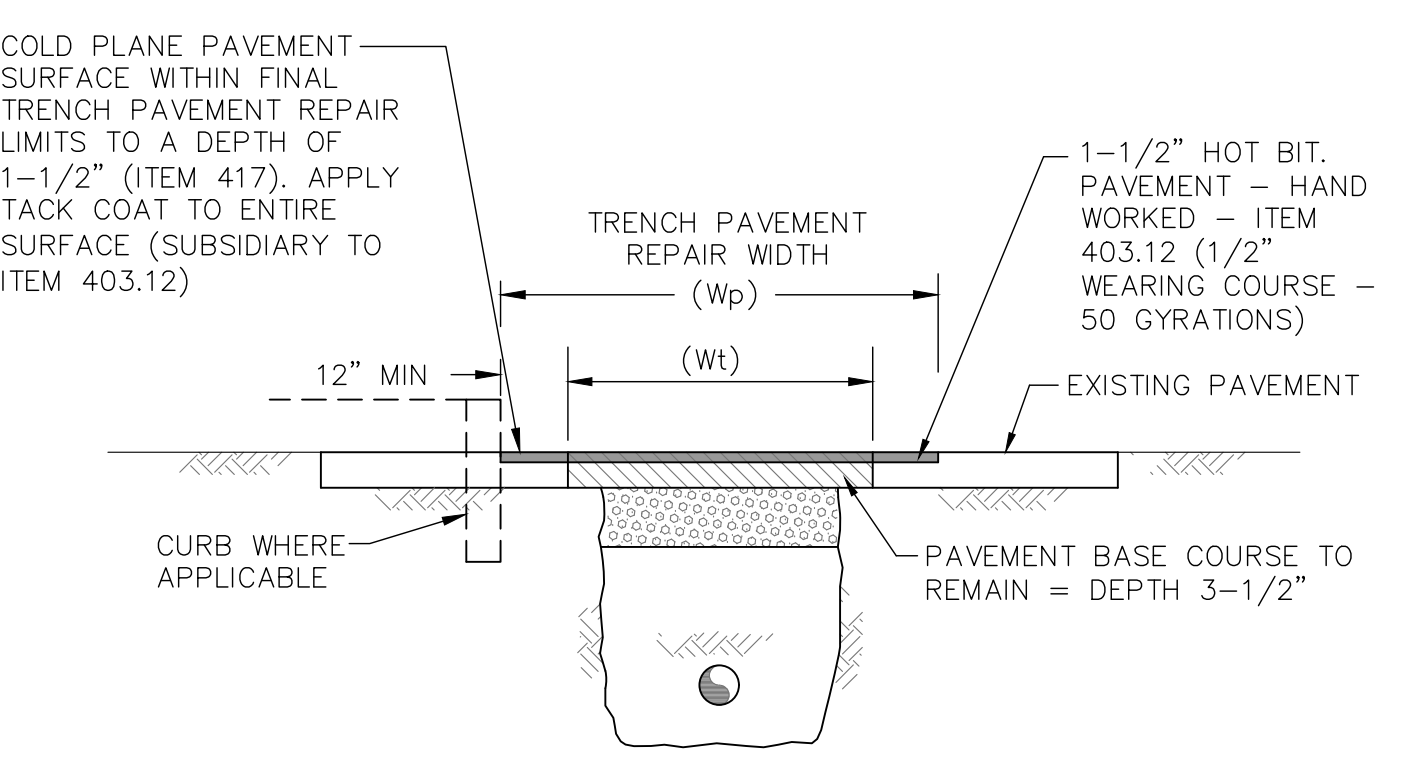
TYPICAL DRIVE APRON W/O SIDEWALK
NOT TO SCALE



NOTES:

1. THE INTENT OF THIS DETAIL IS TO SHOW MINIMUM STANDARDS FOR GRADING/TRANSITION AT THE SIDEWALK AND DRIVEWAY INTERFACE.
2. ALSO REFER TO TYPICAL DRIVE APRON NOTES.

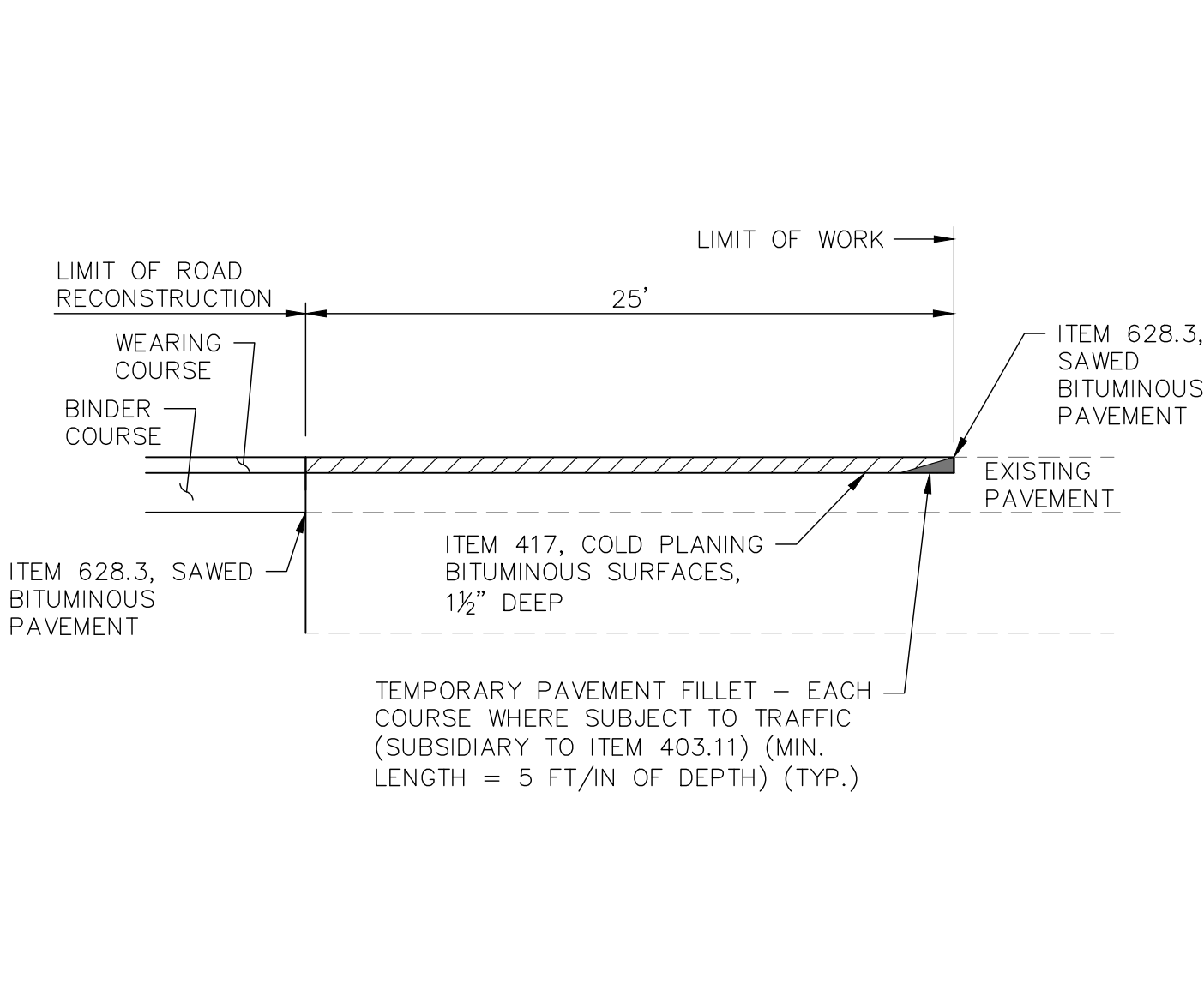
TYPICAL DRIVEWAY APRON W/SIDEWALK & GRANITE TRANSITION CURB
NOT TO SCALE



NOTES:

1. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
2. SEE TABLE IN "TRENCH PAVEMENT REPAIR - PRELIMINARY" (ABOVE) FOR TRENCH PAVEMENT WIDTHS.

TRENCH PAVEMENT REPAIR-FINAL
NOT TO SCALE



OVERLAY PAVEMENT MATCH
NOT TO SCALE

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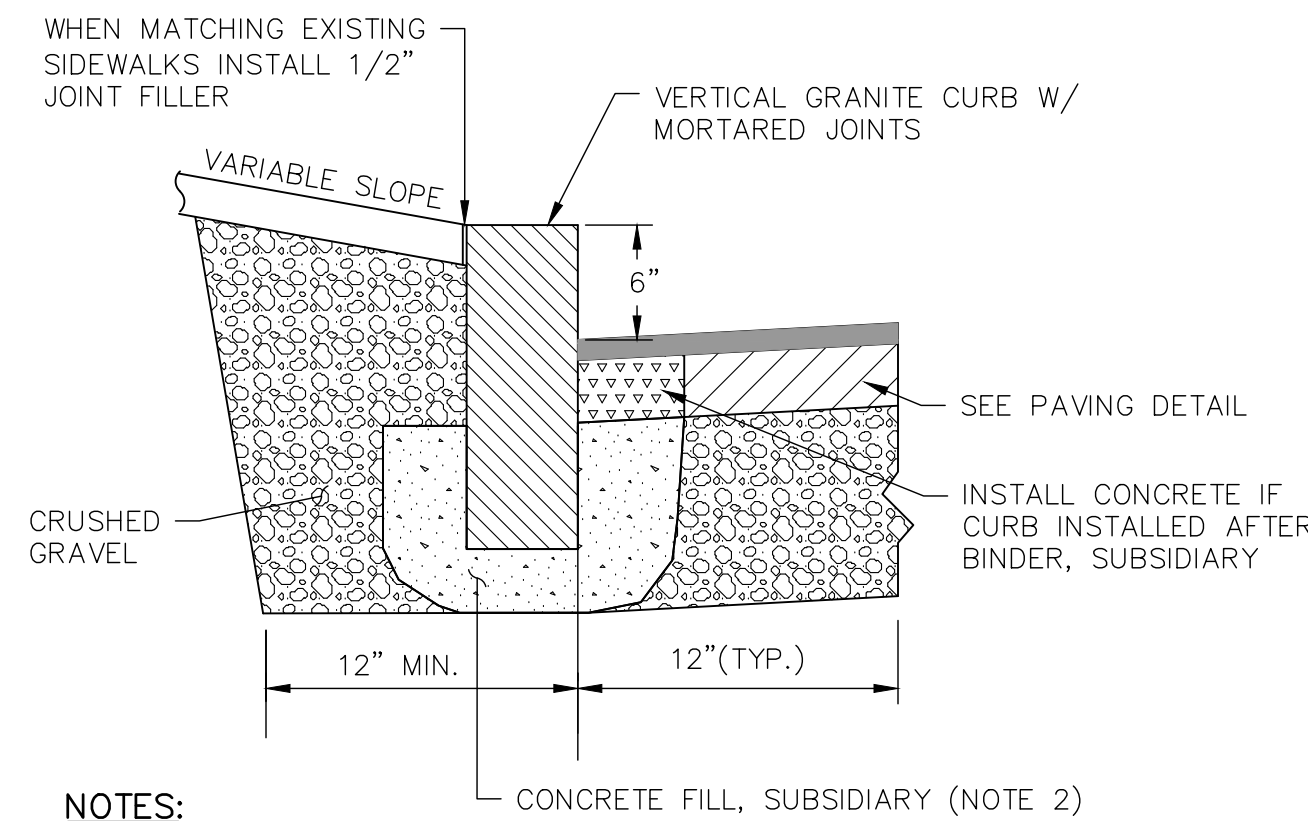
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Dwg. ID - 2184.dwg
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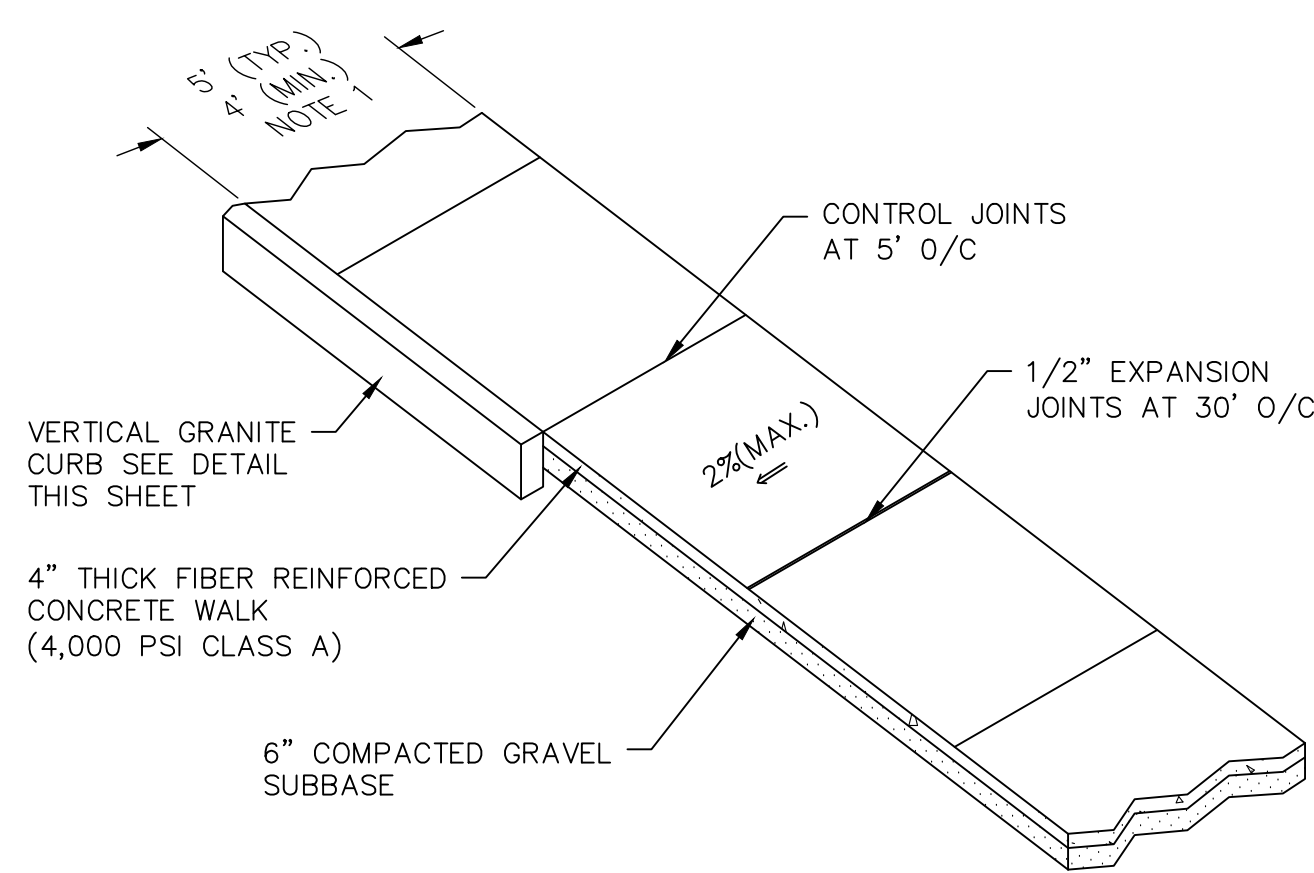
ROADWAY DETAILS 1
CORPORATE DRIVE RECONSTRUCTION
CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

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D2	28 OF 32



- NOTES:**
- DAMAGED OR IMPACTED CURB (WHETHER GRANITE OR CONCRETE) IS TO BE REPLACED AT THE CONTRACTOR'S OWN EXPENSIVE, UNLESS OTHERWISE NOTED ON PLAN.
 - CLASS AA CONCRETE FILL SHALL BE PLACED IN VOIDS IN FRONT, BEHIND, AND BELOW CURBING PRIOR TO INSTALLATION OF GRAVEL BACKING AND FINISH GRADE WEARING COURSE PAVEMENT.

VERTICAL GRANITE CURB (NEW OR RESET)
NOT TO SCALE



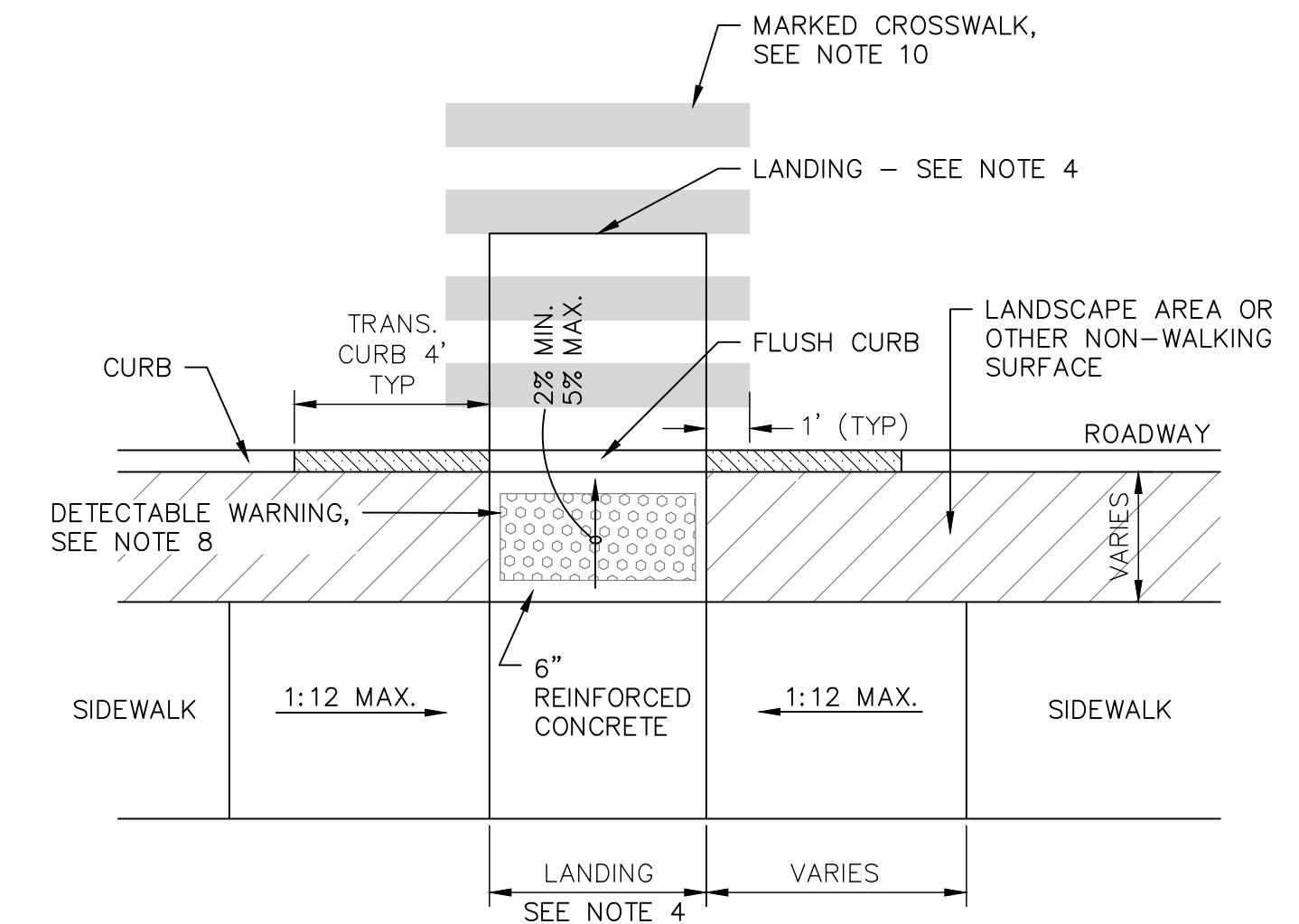
- NOTES:**
- SIDEWALKS SHALL BE 5' WIDE EXCEPT WHERE MEETING/REPLACING 4' WIDE SIDEWALKS.

SIDEWALK
NOT TO SCALE

CURB RAMP NOTES:

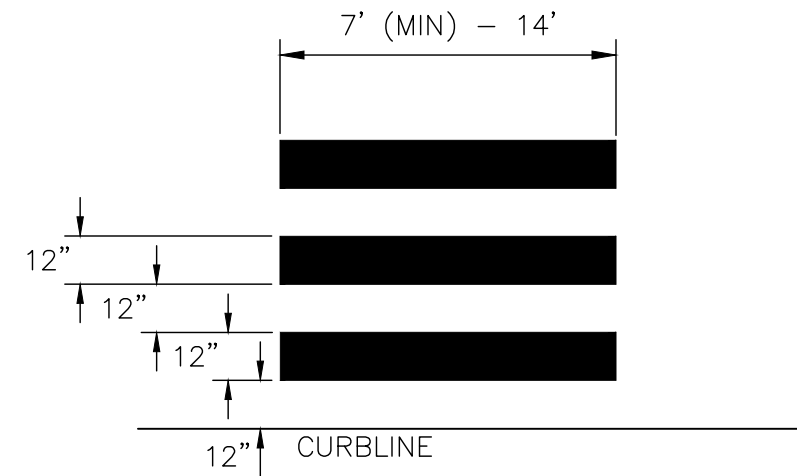
- CURB RAMP AND FLARES SHALL BE CONSTRUCTED USING 6" THICK REINFORCED CONCRETE (4000 PSI, CLASS A), ITEM 608.36. SUBBASE SHALL CONSIST OF 6" THICK OF CRUSHED GRAVEL, ITEM 304.3.
- RAMP WIDTH EQUALS WIDTH OF SIDEWALK, (4' MIN.).
- MAX. SLOPE OF CURB RAMP SHALL BE 1:12.
- LANDING SHALL HAVE A MAX. SLOPE OF 2% IN ANY DIRECTION. LANDINGS SHALL BE 5' LONG (MIN.) BY WIDTH OF SIDEWALK (4' MIN.).
- MAX. CROSS SLOPE ON SIDEWALK, SHALL BE 2%.
- TRANSITIONS FROM RAMPS TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
- INTERCEPT DRAINAGE ALONG THE CURB BEFORE CURB RAMP. CATCH BASINS, MANHOLES, ETC. SHALL NOT BE LOCATED AT BASE OF CURB RAMP OR IN LANDING.
- DETECTABLE WARNING (TRUNCATED DOMES) SHALL BE FULL WIDTH OF CURB RAMP OR LANDING AND 24" MINIMUM IN THE DIRECTION OF TRAVEL. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN ROWS PERPENDICULAR TO DIRECTION OF TRAVEL. IN THIS ALIGNMENT, OFFSET EDGE OF DETECTABLE WARNING 6-8" FROM INSIDE FACE OF CURB IF POSSIBLE. COLOR PER LOCAL REQUIREMENTS AND SHALL VISUALLY CONTRAST ADJOINING WALKING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.
- PROVIDE ANY ADDITIONAL STATE AND LOCAL CURB RAMP REQUIREMENTS.
- PROVIDE MARKED CROSSWALKS (SEE DETAIL THIS SHEET).

CURB RAMP - TYPE T
NOT TO SCALE

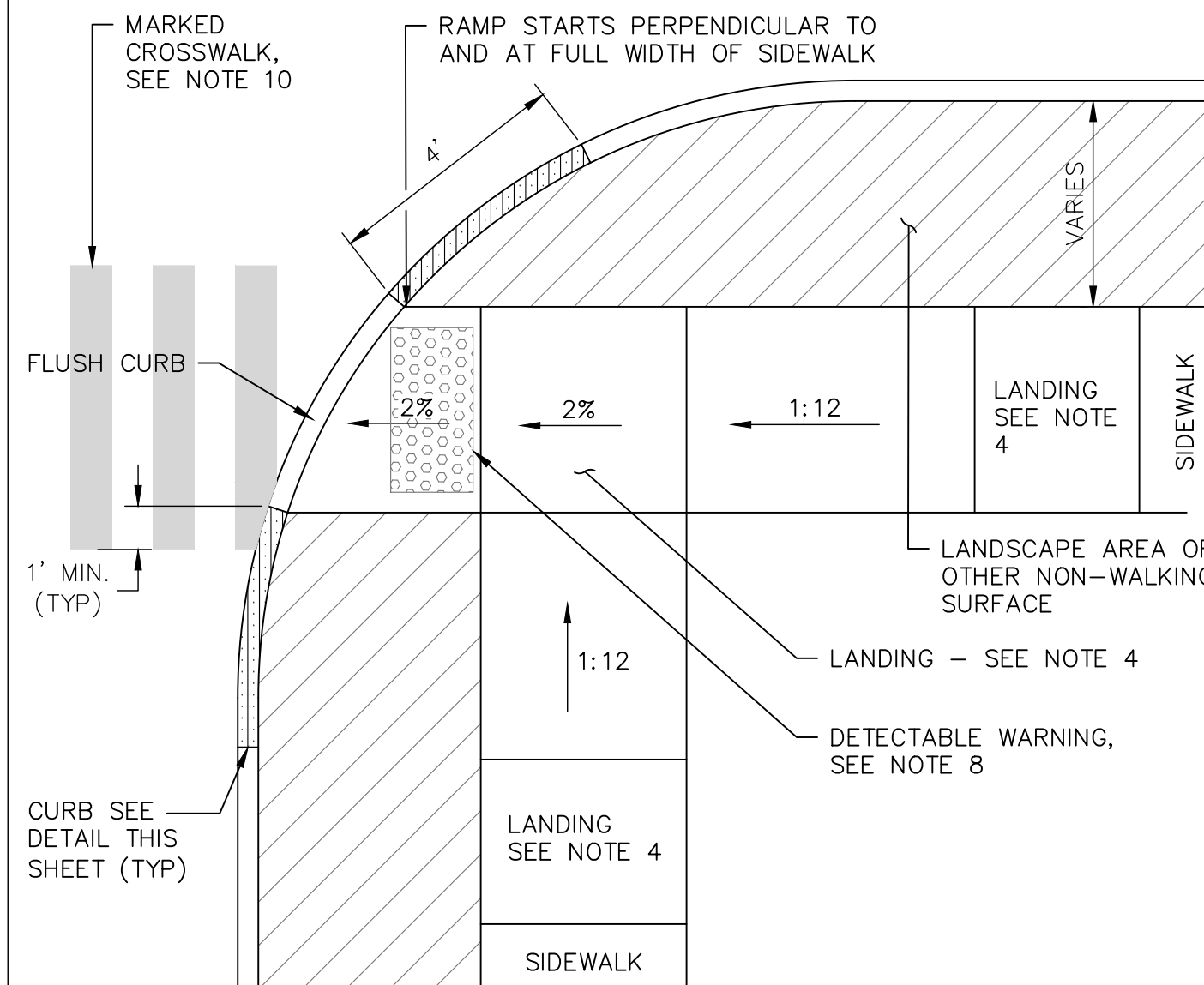


MARKED CROSSWALK NOTES:

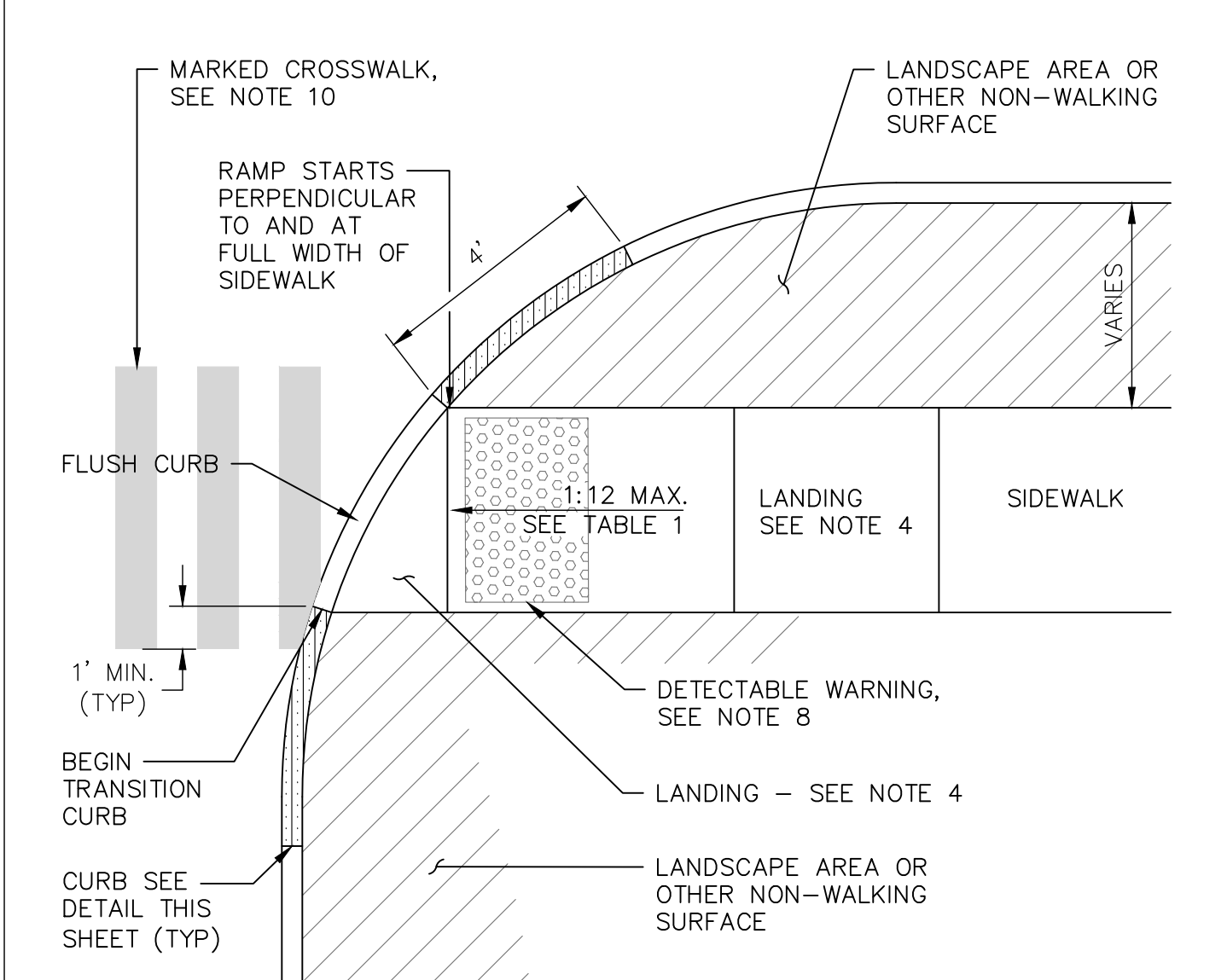
- EXISTING CROSSWALKS SHALL BE REPLACED AND PAINTED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ITEM 632.4112.
- CROSSWALKS SHALL EXTEND 1' FOOT PAST THE PARALLEL EDGE OF THE RAMP OR THE RAMP FLARE, WHICH EVER IS GREATER AND CONFORM TO THE LATEST MUTCD, ADA, AND STATE/LOCAL REQUIREMENTS.
- WIDTH OF LINES SHALL BE 12" ± 1/4 INCH MAX.
- SPACES BETWEEN LINES SHALL BE 12" ± 1/4 INCH MAX.
- THE WET FILM THICKNESS OF A PAINTED LINE SHALL BE A MINIMUM OF 20 MILS THROUGHOUT THE ENTIRE WIDTH AND LENGTH OF LINE SPECIFIED. OVERSPRAY SHALL BE KEPT TO ABSOLUTE MINIMUM.



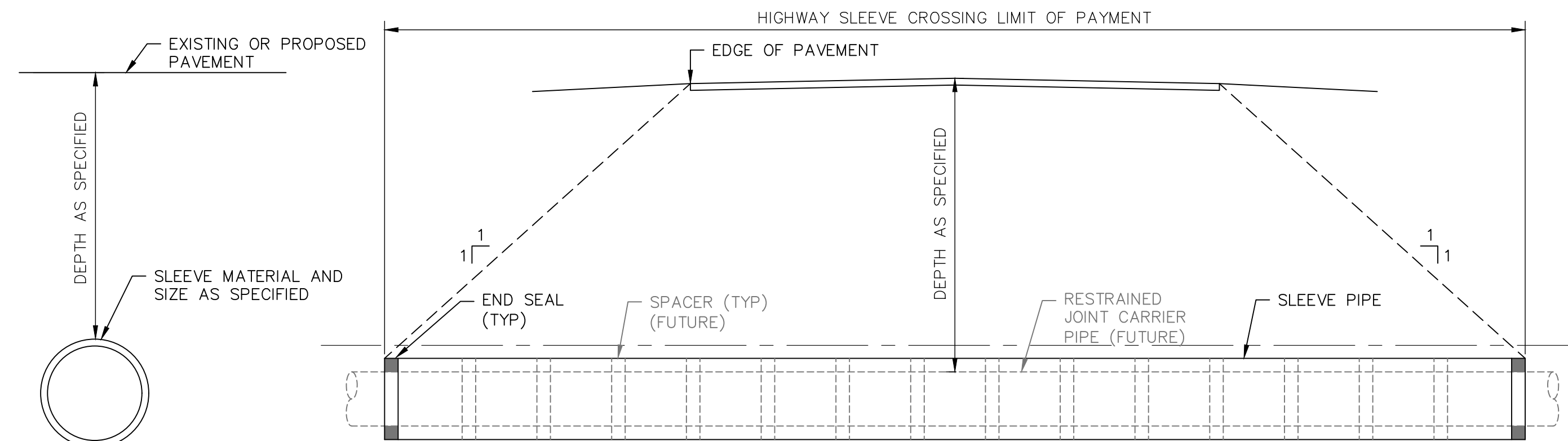
MARKED CROSSWALK
NOT TO SCALE



CORNER CURB RAMP-SINGLE CROSSWALK
NOT TO SCALE



CURB RAMP-SINGLE SIDEWALK
NOT TO SCALE



- NOTES:**
- ALL SLEEVES SHALL BE DR-11 HDPE INSTALLED TO THE LENGTHS AND DEPTHS SPECIFIED ON THE DRAWINGS.
 - SEE SPECIAL PROVISION 611 FOR ADDITIONAL INFORMATION.
 - SEAL EACH END OF SLEEVE WATER AND SOIL TIGHT WITH MECHANICAL STYLE PLUGS AS MANUFACTURED BY CHERNE OR APPROVED EQUAL (SUBSIDIARY).

HIGHWAY CROSSING SLEEVE
NOT TO SCALE

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CONSTRUCTION		3/23/23	BTD
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NO.			
APP'D			

Drawn/Chk. MAH	Designed KLV	Checked BTD	Approved BTD	Date 7/21/23	Book No. 2184	Project No. 2184 details	Dwg. ID 2184 details	Scale AS SHOWN
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ROADWAY DETAILS 2

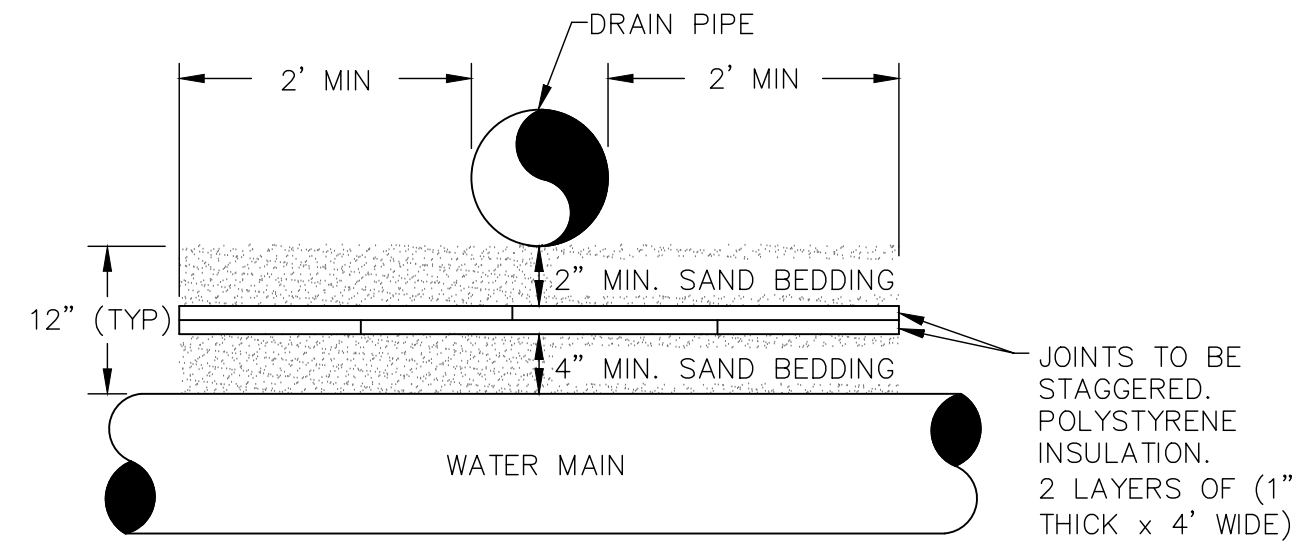
CORPORATE DRIVE RECONSTRUCTION

CITY OF PORTSMOUTH

PORTSMOUTH, NEW HAMPSHIRE

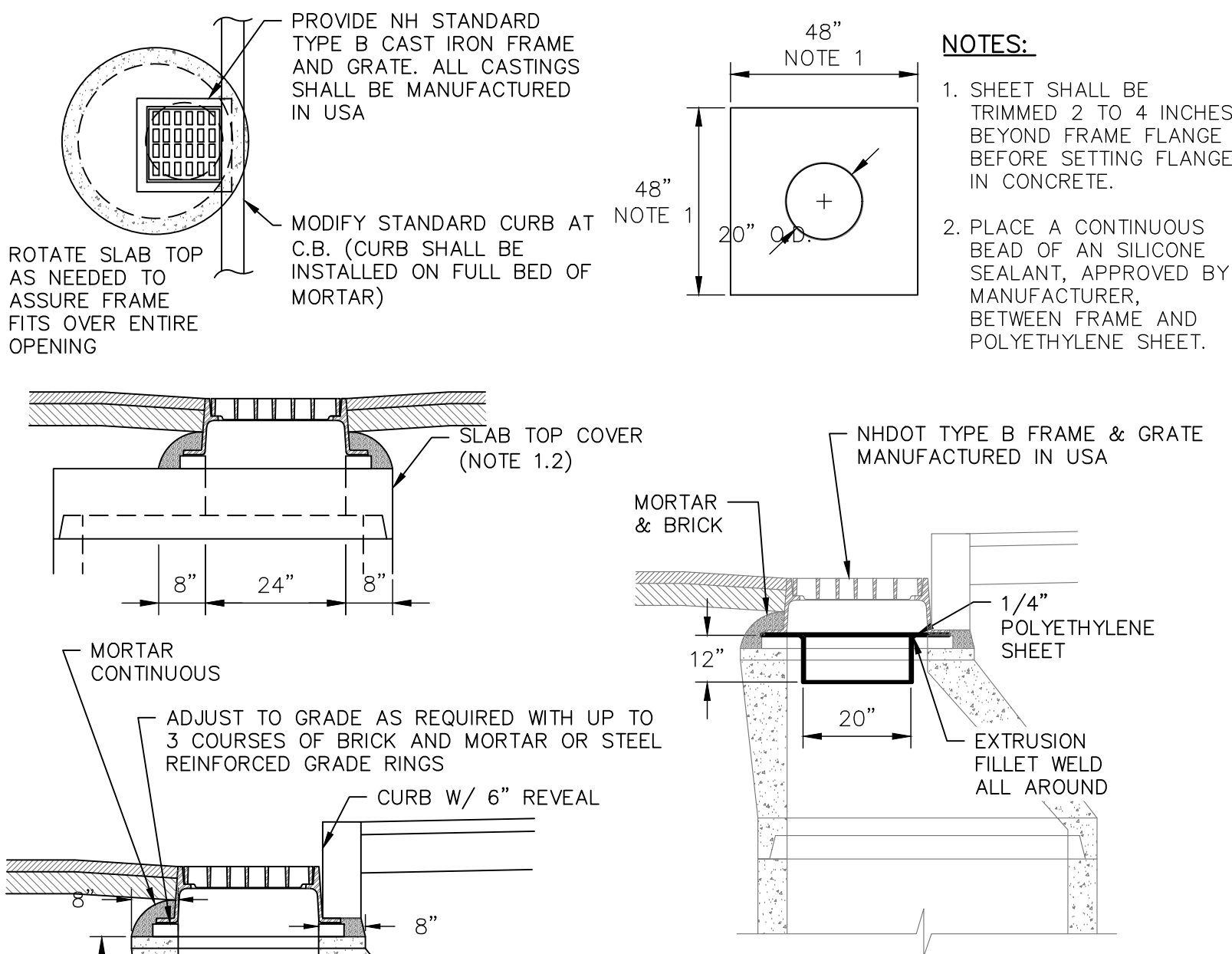
DWG NO	SHEET
D3	29 OF 32

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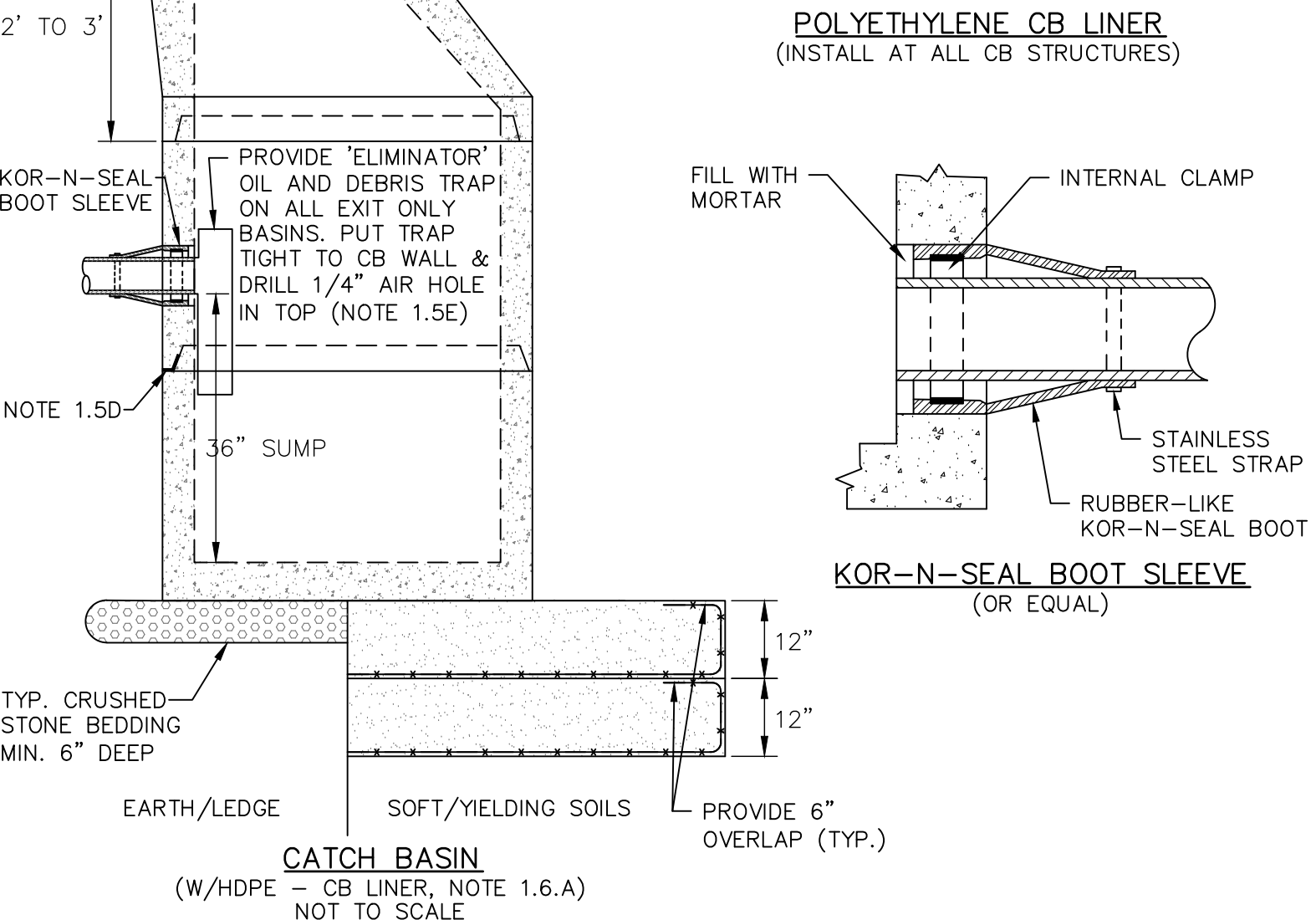
NOTES:

- INSULATION TO BE USED WHERE PIPE SEPARATION IS 12" OR LESS.



NOTES:

- SHEET SHALL BE TRIMMED 2 TO 4 INCHES BEYOND FRAME FLANGE BEFORE SETTING FLANGE IN CONCRETE.
- PLACE A CONTINUOUS BEAD OF AN SILICONE SEALANT, APPROVED BY MANUFACTURER, BETWEEN FRAME AND POLYETHYLENE SHEET.



POLYETHYLENE CB LINER
(INSTALL AT ALL CB STRUCTURES)

KOR-N-SEAL BOOT SLEEVE
(OR EQUAL)

CATCH BASIN
(W/HDPE - CB LINER, NOTE 1.6.A)
NOT TO SCALE

CATCH BASIN
NOT TO SCALE

PART 3 - EXECUTION:

3.1 INSTALLATION

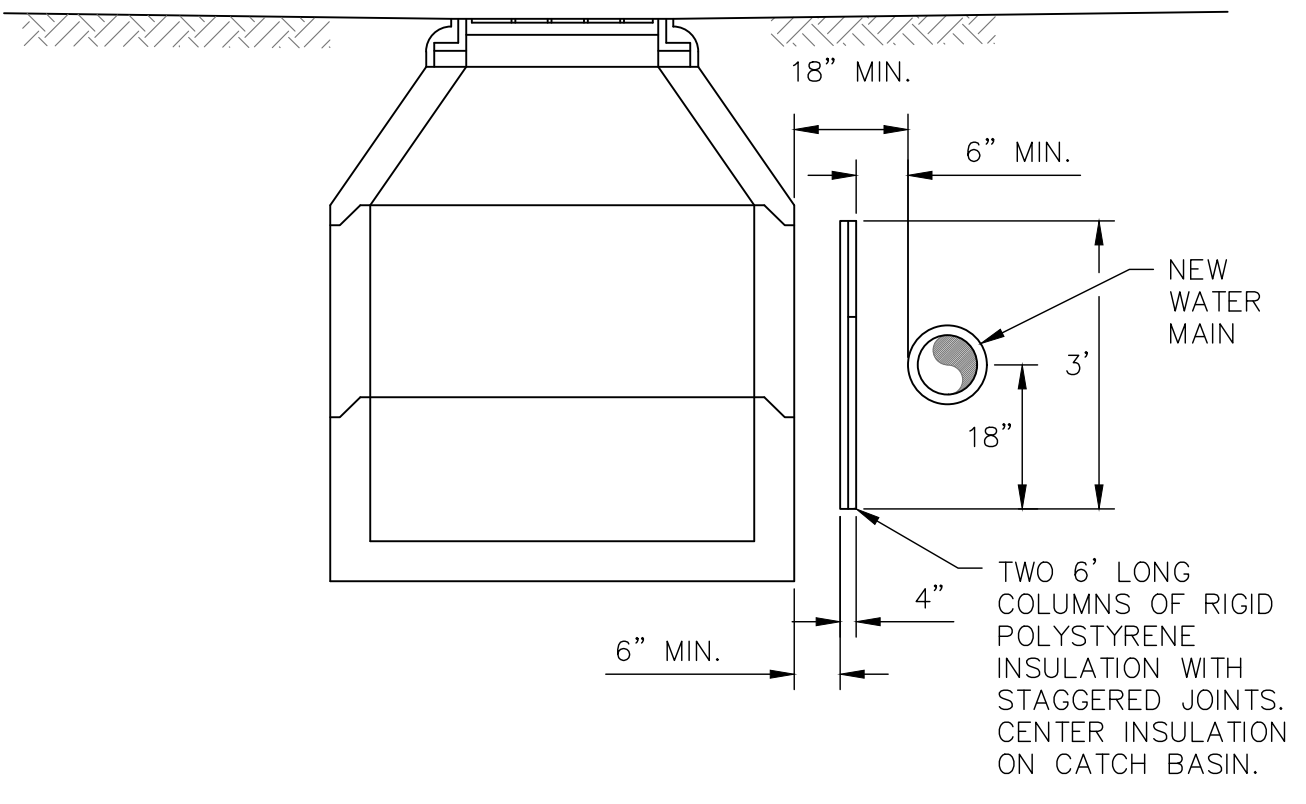
- INSTALL BASES, RISERS, AND TOPS LEVEL AND PLUMB ON A FIRM FOUNDATION OF CRUSHED STONE. PROVIDE GEOTEXTILE REINFORCING IN FILL AREAS OR SOFT SOILS AS SHOWN.
- BACKFILL IN LIFTS THAT ARE APPROPRIATE FOR THE SOIL CONDITIONS. COMPACT SOILS WITHIN 2' OF PAVEMENT IN 8" LIFTS. IN NO CASE SHALL A BACKFILL LIFT BE MORE THAN 12" CLAY SOILS OR SOILS WITH ORGANIC PARTICLES OR CLUMPS SHALL NOT BE USED FOR BACKFILL. BACKFILL THE STRUCTURE CAREFULLY TO PREVENT SETTLING OF ADJACENT SOILS.
- COMPACTION SHALL BE ACHIEVED BY THE USE OF A MECHANICAL COMPACTOR.
- MORTAR INTERIOR AND EXTERIOR JOINTS. MORTAR JOINTS SHALL NOT BE MORE THAN 1/2" WIDE, WITH ALL EXPOSED JOINTS NEATLY FINISHED.
- CONSTRUCT MASONRY TO FIT NEATLY AND TIGHTLY AROUND THE CONNECTIONS.
- FRAMES AND GRATES: INSTALL DIRECTLY ON CB LINER USING APPROVED SILICONE SEALANT.
- COMPOSITE HOOD DEVICES: INSTALL COMPOSITE HOOD DEVICE IN STRUCTURES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. USE MANUFACTURER SUPPLIED HARDWARE AND SUPPLEMENT AS NEEDED TO MAKE A COMPLETE INSTALLATION.
- CLEAN UP: UPON COMPLETION, CLEAN ALL STRUCTURES OF SILT, DEBRIS, AND OTHER MATTER. KEEP ALL CATCH BASINS CLEAN UNTIL FINAL ACCEPTANCE OF THE WORK.

3.2 TESTING

- CATCH BASINS SHALL BE VISUALLY INSPECTED FOR PROPER MATERIALS AND CONSTRUCTION.
- PROVIDE COMPACTION TESTING BETWEEN SOIL LIFTS UPON REQUEST BY PORTSMOUTH DPW.

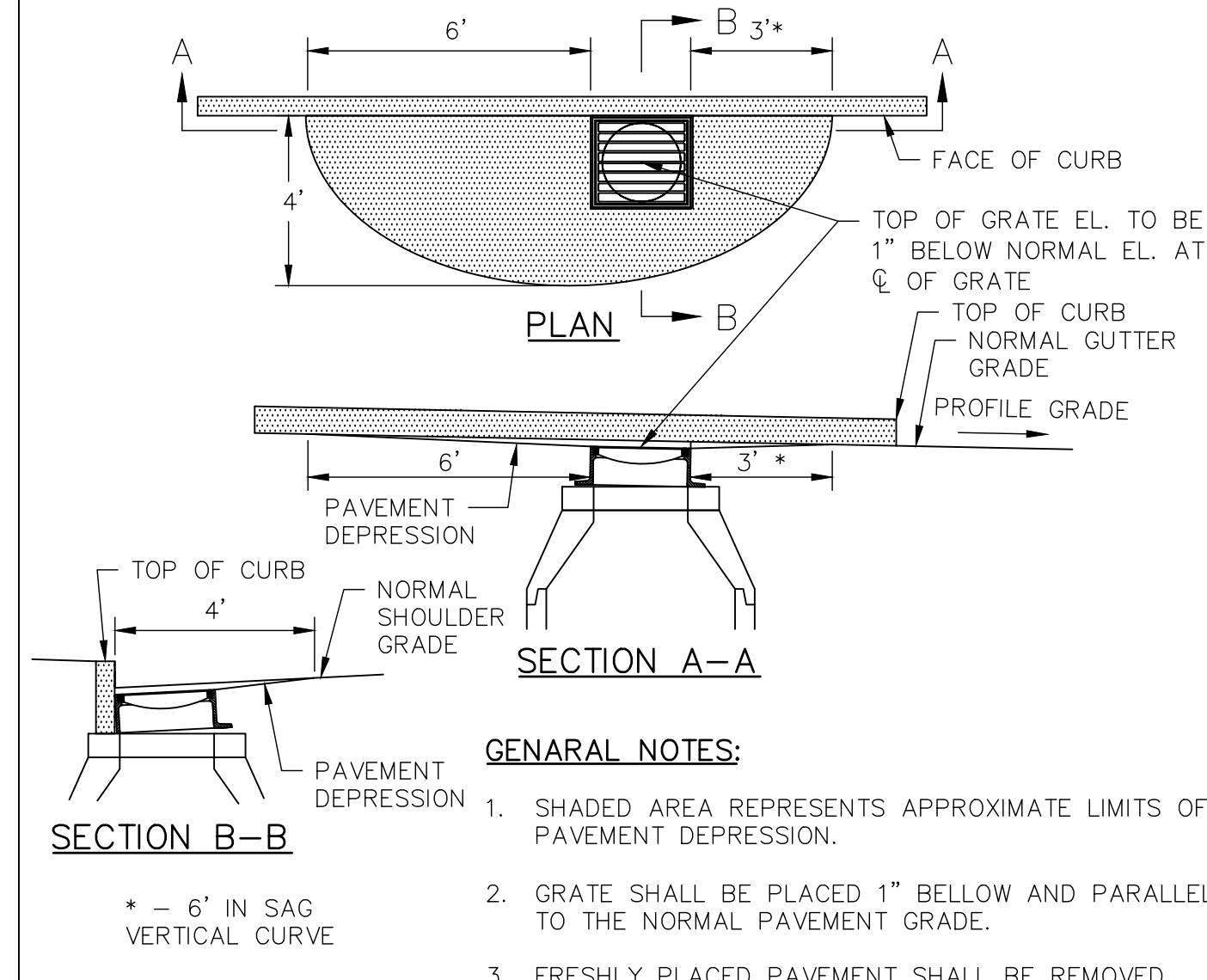
3.3 INSPECTION

- CONTRACTOR SHALL REQUEST INSPECTION PRIOR TO BACKFILLING.



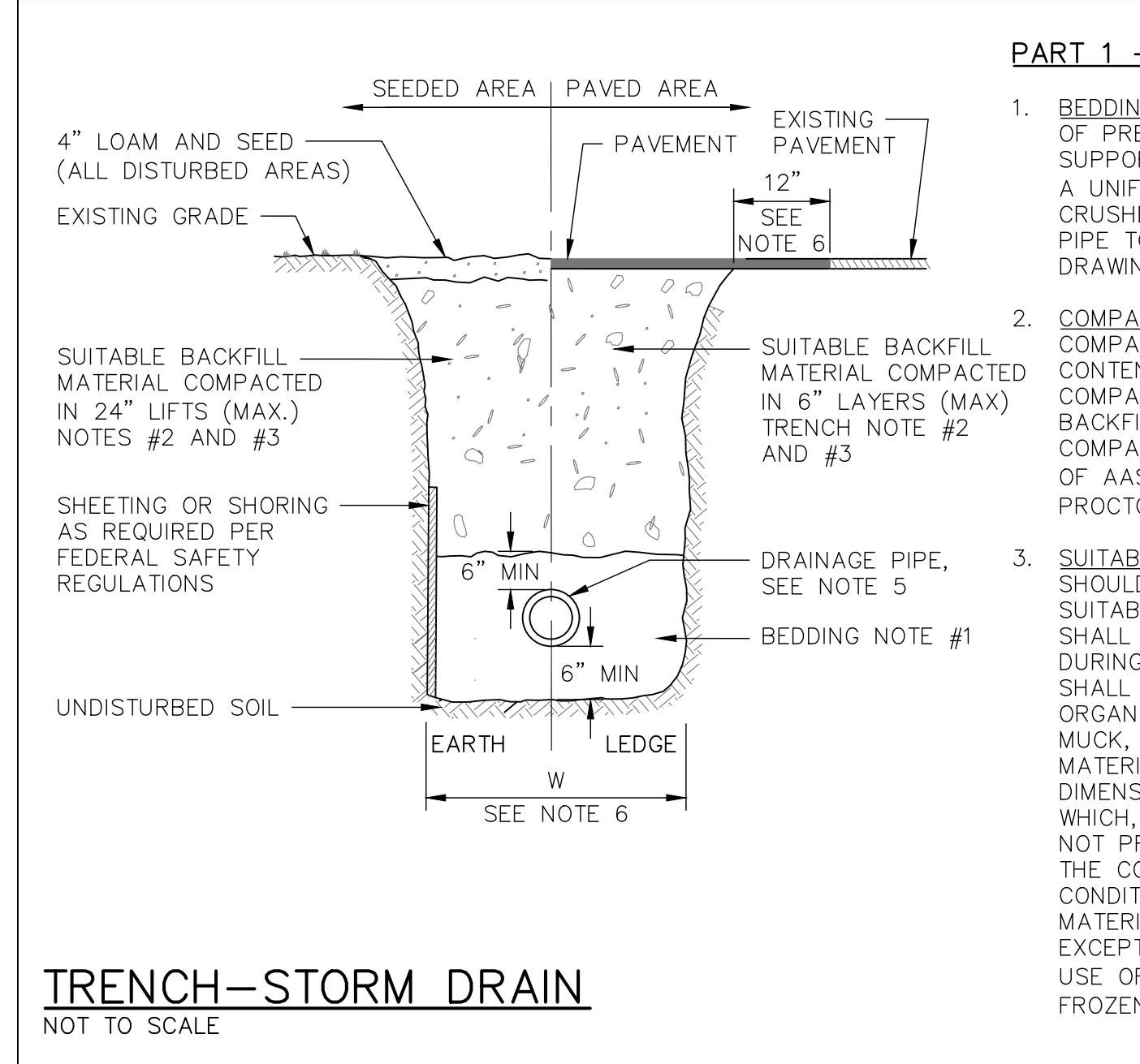
INSULATION AT STRUCTURE
NOT TO SCALE

DRAIN PIPE CROSSING DETAIL (WHERE DIRECTED)
NOT TO SCALE



SECTION A-A

PAVEMENT DEPRESSION DETAIL
NOT TO SCALE



TRENCH-STORM DRAIN
NOT TO SCALE

PART 1 - GENERAL:

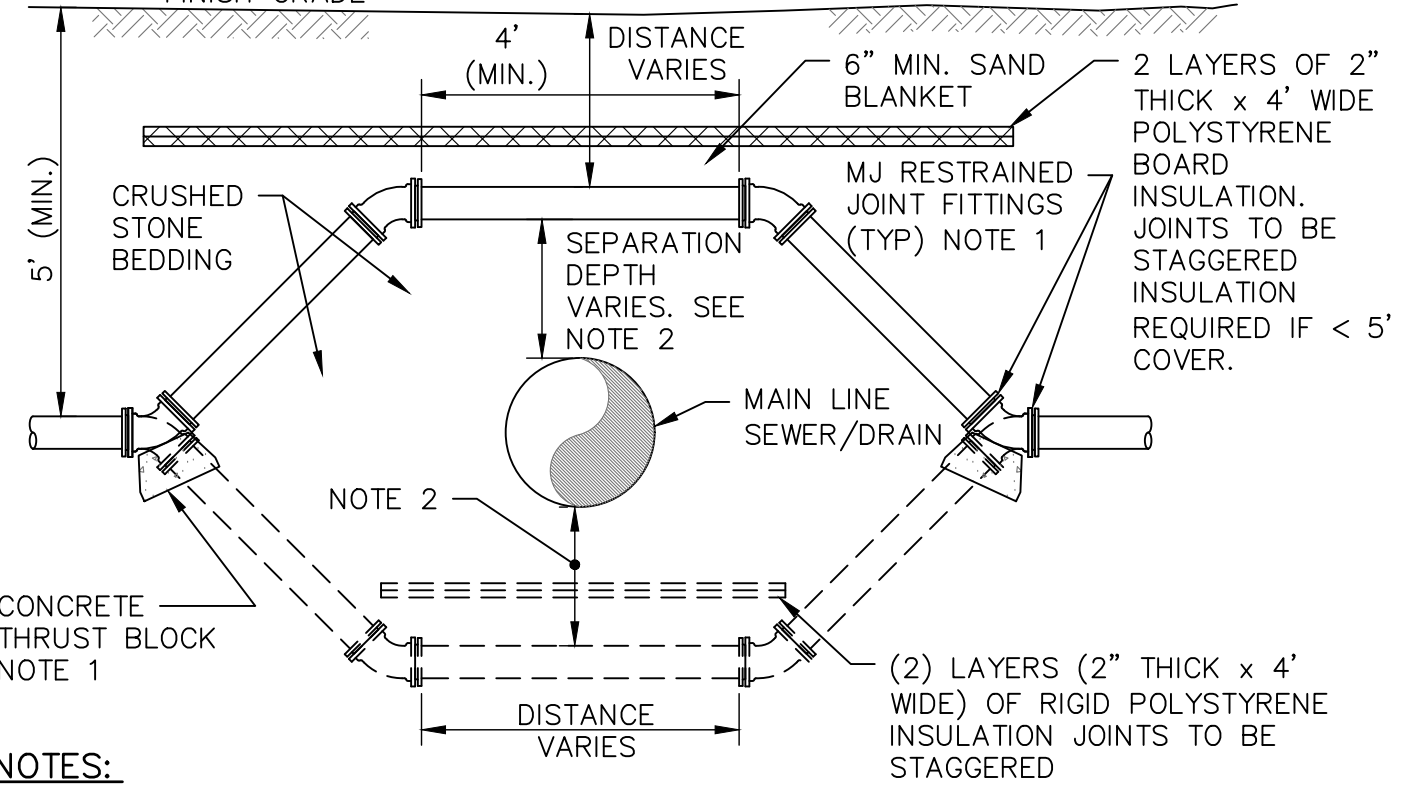
- CATCH BASINS SHALL BE PRE-CAST CONCRETE STRUCTURES CONFORMING TO NHDOT SECTION 604 AND THESE SPECIFICATIONS.
- CONE SECTIONS SHALL BE ECCENTRIC. SLAB TOPS WITH OFFSET OPENING MAY BE USED WHERE PIPE COVER IS LESS THAN 4 FEET OR WHERE PIPE WOULD OTHERWISE IMPAIR OR ENTER INTO THE CONE SECTION OF THE STRUCTURE.
- PROVIDE TRANSITION RISER SECTION TO 4 FOOT CONE SECTION, FOR CB'S GREATER THAN 4 FOOT DIAMETER, OR A SLAB TOP MAY BE USED WHERE PIPE PENETRATION WOULD ENTER OR IMPAIR TRANSITION RISER OR CONE SECTION.
- FRAMES AND GRATES:
 - ALL CASTINGS SHALL BE AMERICAN MADE.
 - CATCH BASIN GRATES IN PAVED AREAS SHALL BE NHDOT TYPE B UNLESS OTHERWISE APPROVED BY PORTSMOUTH DPW. CB GRATES IN NON-PAVED AREAS MAY BE ALLOWED ON A CASE BY CASE BASIS.
 - ADJUSTMENT OF FRAME & GRATES TO GRADE MAY BE DONE USING STEEL REINFORCED GRADE RINGS OR CLAY BRICKS (UP TO 3 COURSES).
- PIPE PENETRATIONS, CORES & JOINTS:
 - FIELD VERIFY PIPE ELEVATIONS AND LOCATIONS BEFORE ORDERING STRUCTURES. STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 8 INCHES OF INSIDE SURFACE BETWEEN HOLES AND THERE SHALL BE NO HOLES CLOSER THAN 3 INCHES TO SECTION JOINTS.
 - OUTSIDE EDGES OF PIPE SHALL NOT PROJECT MORE THAN 3 INCHES BEYOND INSIDE WALL OF STRUCTURE.
 - INSTALL KOR-N-SEAL BOOT(S) (ASTM C-923) FOR ALL PIPES 18" DIA OR LESS, INCLUDING PENETRATIONS CORED IN THE FIELD. THE MAXIMUM SIZE PIPE IN A 4" DIA STRUCTURE SHALL BE 24" WITH A MAXIMUM CORE OF 32" DIAMETER.
 - INSTALL BUTYL RUBBER SEALANT AT ALL STRUCTURE JOINTS.
 - INSTALL OIL AND DEBRIS TRAPS (COMPOSITE HOODS) ON ALL NEW CB'S WITH OUTLET PIPES 18" DIAMETER OR LESS. SEE QUANTITY SCHEDULE ON DWG 62
- HDPE CB LINERS:
 - PROVIDE 1/4" THICK PE LINER CONFORMING TO NHDOT SPECIFICATIONS, SECTION 604 AT ALL CB'S.

PART 2 - PRODUCTS:

- RISERS, TOPS, FRAMES, GRATES AND MASONRY
 - SIDES OF CATCH BASINS AND CATCH BASIN BASES SHALL BE MADE OF PRECAST CONCRETE BARREL SECTIONS CONSISTING OF CONCRETE WITH A MINIMUM STRENGTH OF 4000 PSI AFTER 28 DAYS USING TYPE III CEMENT.
 - PRECAST CONCRETE SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING. SEE ASTM C478 AND AASHTO M199.
 - THE BASE SECTION OF THE STRUCTURE SHALL BE MONOLITHIC UNLESS APPROVED OTHERWISE.
 - CLAY BRICK USED TO INSTALL THE FRAME AND GRATE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 91, GRADE MS. THE USE OF CONCRETE BRICK WILL NOT BE PERMITTED.
 - CEMENT MORTAR SHALL CONFORM TO SECTION 569 OF THE N.H.D.O.T. STANDARD SPECIFICATIONS.
 - CASTINGS SHALL BE GRAY IRON, CLASS 30, CONFIRMING TO AASHTO M105, UNLESS OTHERWISE SPECIFIED. ACCEPTABLE CASTING MANUFACTURERS:
 - LEBARON
 - NEENAH
 - EAST JORDAN IRON WORKS
 - FILL ALL INTERIOR ANNULAR SPACE AT PIPE PENETRATIONS OR LIFT HOLES WITH NON-SHRINK MORTAR.
- COMPOSITE HOOD DEVICES (OIL & DEBRIS TRAPS)
 - MOLDED HIGH DENSITY POLYETHYLENE (HDPE).
 - PROVIDE ANTI-SYPHON OPENING.
 - MULTIPLE PIECE CONSTRUCTION NOT ALLOWED.
 - PROVIDE MOUNTING HARDWARE AS NEEDED OR PROVIDED BY MANUFACTURER.
 - MANUFACTURER SHALL BE KLEANSTREAM ELUMINATOR OR APPROVED EQUAL.
 - TRIM PIPE FLUSH WITH INSIDE OF STRUCTURE SO THAT HOOD DEVICE SITS TIGHT TO INSIDE WALL OF STRUCTURE.
- CATCH BASIN LINER
 - 1/4" THICK POLYETHYLENE (HDPE) CONFORMING TO NHDOT SPECIFICATION 604.0007
 - TRIM LINER FLUSH WITH CONCRETE TOP.

SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE PIPE WILL BE PRESERVED.

- BASE COURSE AND PAVEMENT:** SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY. SEE TRENCH PAVEMENT REPAIR DETAILS.
- DRAINAGE PIPE:** PIPE MATERIALS SHALL BE EITHER POLYVINYL CHLORIDE (PVC) OR CORRUGATED POLYETHYLENE (CPE), AS SHOWN ON THE DRAWINGS.
- W=MAXIMUM ALLOWABLE TRENCH WIDTH:**
 - FOR ROCK EXCAVATION, FOR ORDERED EXCAVATION BELOW GRADE AND HANDLING OF EXCAVATED CONTAMINATED SOILS. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.).
 - TEMPORARY PAVEMENT WILL BE USED IN ROAD RECONSTRUCTION AREAS. TEMPORARY PAVEMENT TO BE 2" DEPTH, PAY LIMITS 1' BEYOND TRENCH WIDTH, EACH SIDE. SAWCUT PAVEMENT PRIOR TO REMOVAL (ITEM 628.3).



NOTES:

- AVOID ABRUPT CHANGES IN DEPTH. INSTALL (4) FOUR 22.5' MJ BENDS WITH RESTRAINED JOINT FITTINGS OR THRUST RESTRAINT WHERE ABRUPT CHANGES IN DEPTH ARE NECESSARY.
- SEPARATION DEPTH BETWEEN WATER AND SEWER SHALL BE 18" (MIN.) PER NHDES ENV-Wq 704.12. WHERE SEPARATION DEPTH IS LESS THAN 18" IN ORDER TO HAVE 4'-0" (MIN.) COVER OVER WATER MAIN, THEN SEWER SHALL BE PRESSURE PIPE, WHERE INDICATED ON DRAWINGS. WATER SHALL CROSS OVER SANITARY SEWER. PROVIDE 12" SEPARATION AT ALL DRAIN/WATER CROSSINGS UNLESS DIRECTED OTHERWISE.

WATER MAIN RELOCATION AT DRAIN CROSSING
NOT TO SCALE

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Date	By
7/21/23	BTD
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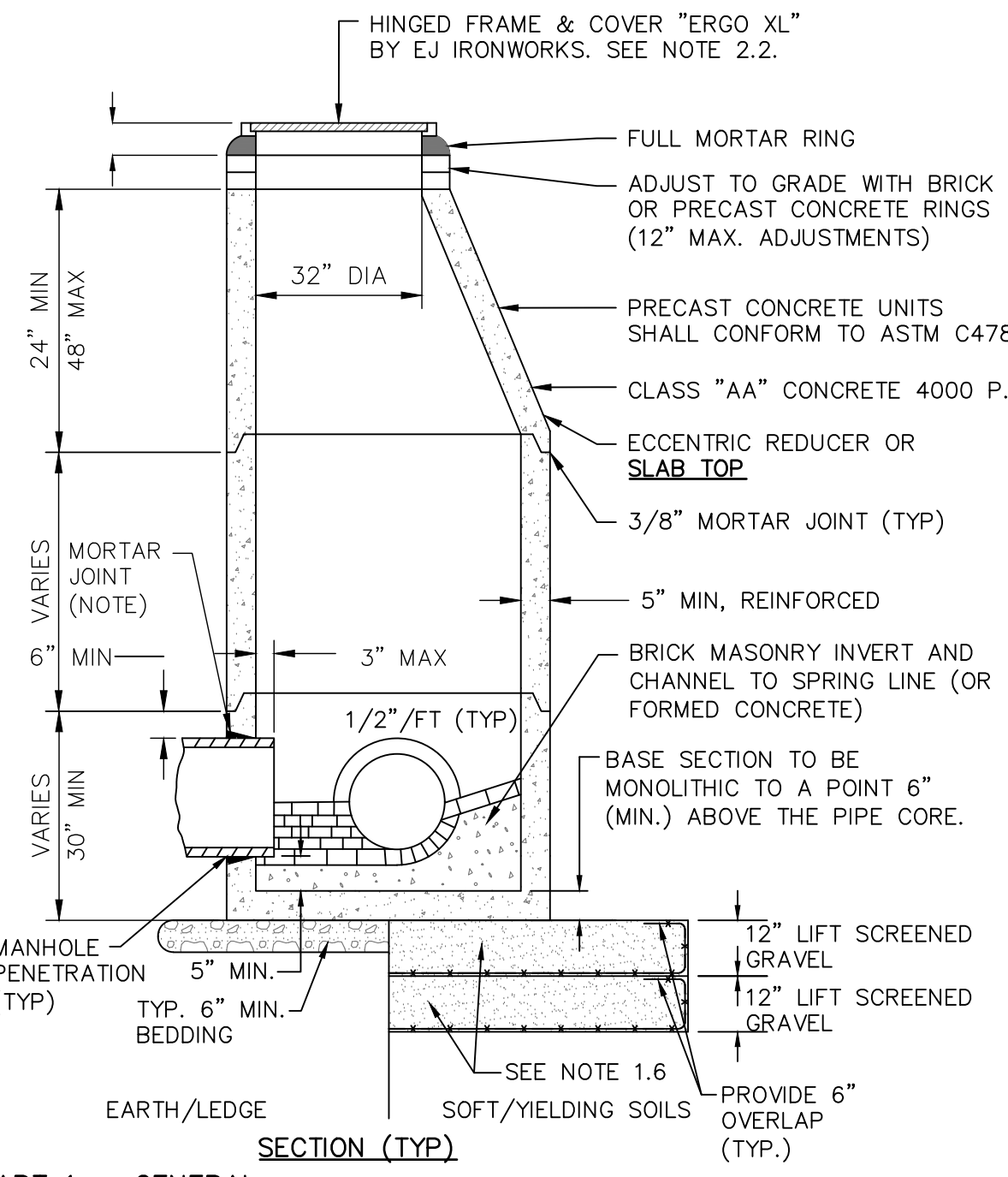
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DRAINAGE DETAILS 1	DWG NO D4
CORPORATE DRIVE RECONSTRUCTION	SHEET 30 OF 32
CITY OF PORTSMOUTH	
PORTSMOUTH, NEW HAMPSHIRE	

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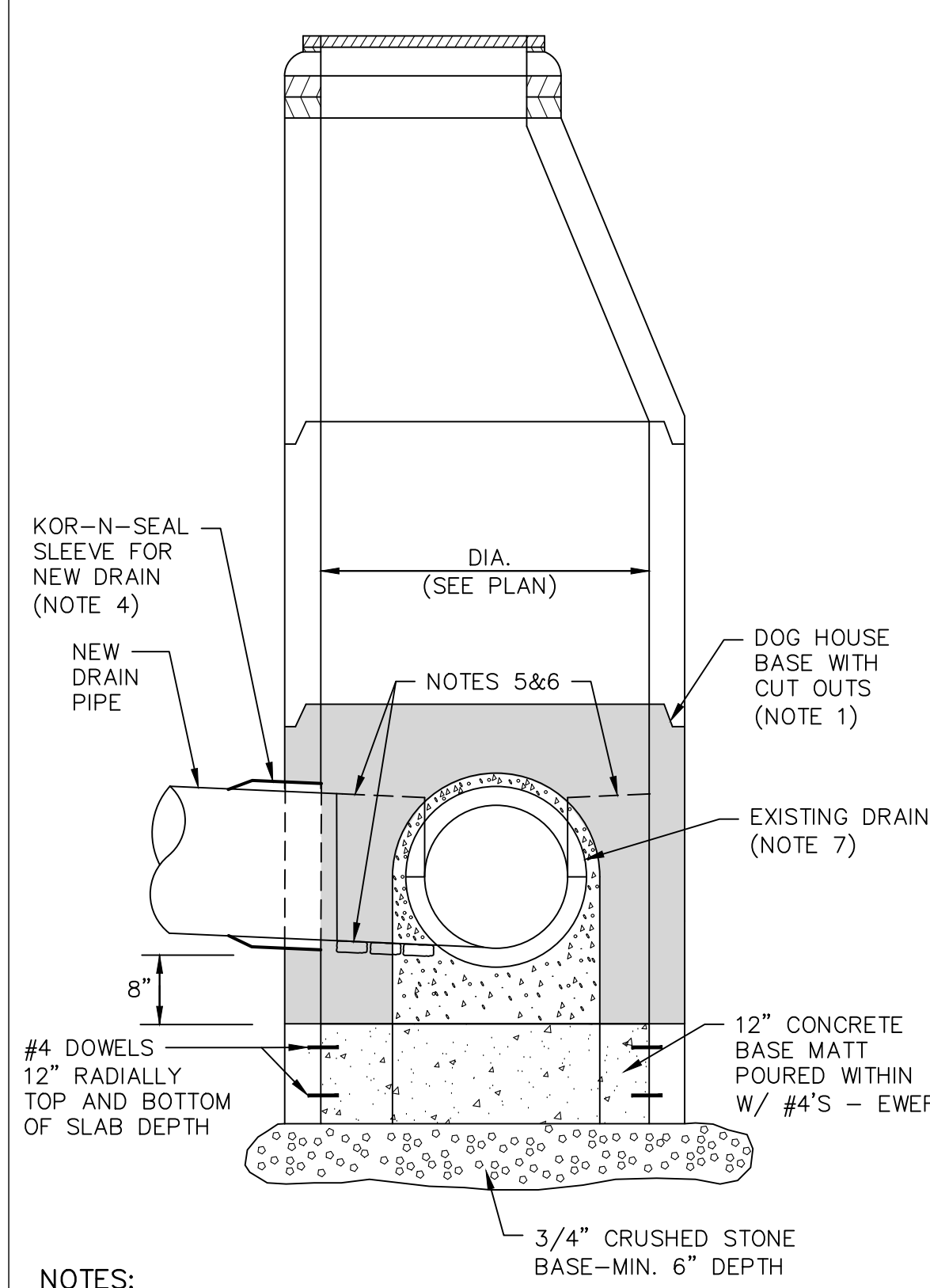


PART 2 - PRODUCTS:

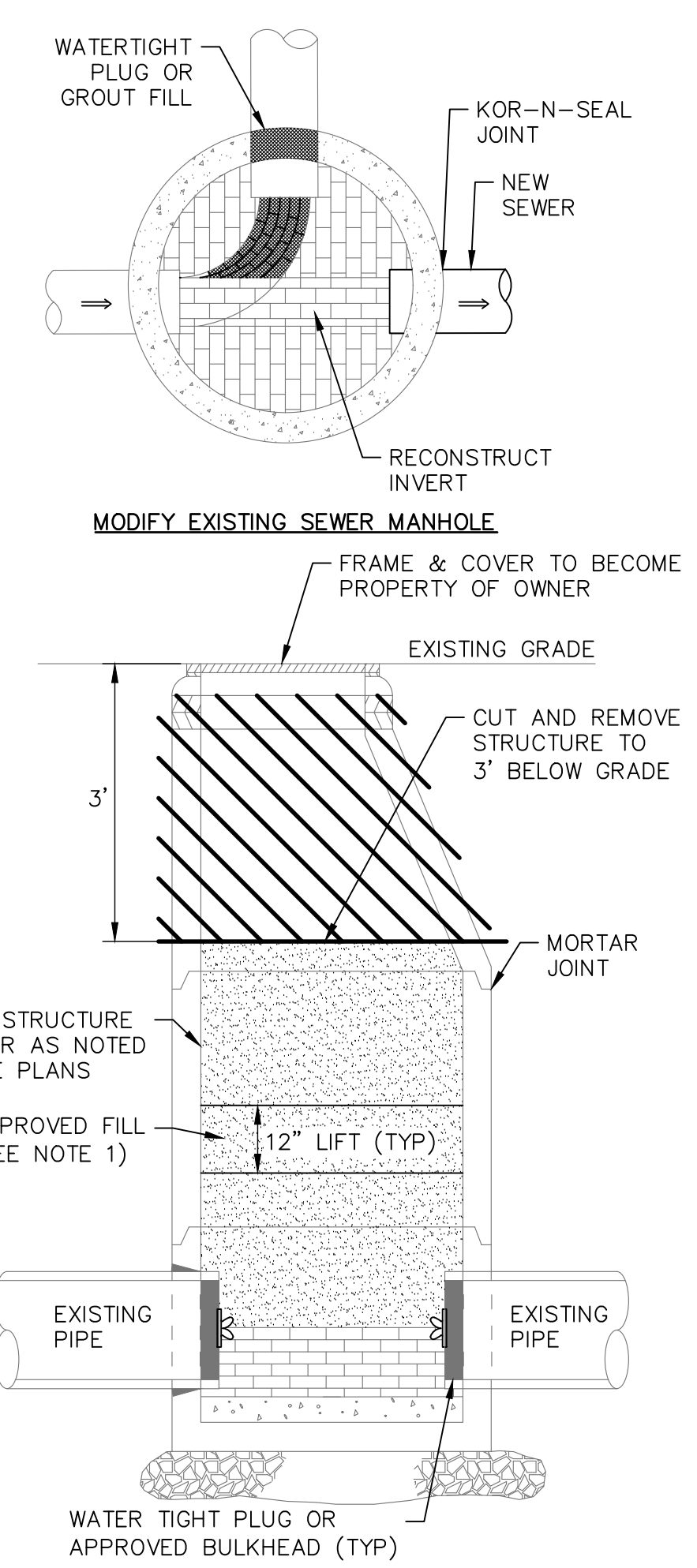
- 2.1 PRECAST MANHOLE SECTIONS
- A. GENERAL
- RISERS AND TOPS SHALL BE PRECAST REINFORCED.
 - MANHOLE BASES SHALL BE MONOLITHIC TO A POINT 6 INCHES ABOVE THE CORE OF INCOMING PIPES.
 - USE CONCRETE THAT CONFORMS TO THE REQUIREMENTS OF CLASS A CONCRETE IN SECTION 520 OF THE N.H.D.O.T. STANDARD SPECIFICATIONS.
 - DO NOT INSTALL MANHOLE STEPS UNLESS SHOWN ON THE DRAWINGS.
 - MINIMUM SIZE FOR SEWER MANHOLE COVERS SHALL BE 30 INCHES IN DIAMETER UNLESS SHOWN OTHERWISE ON THE DRAWINGS AND HAVE THE LETTER "S" OR THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE.
 - ALL CASTINGS SHALL BE OF GOOD QUALITY, STRONG, TOUGH, EVEN-GRAINED DUCTILE IRON, SMOOTH, FREE FROM SCALE, LUMPS, BLISTERS, SANDHOLES, AND DEFECTS OF EVERY NATURE WHICH WOULD RENDER THEM UNFIT FOR THE SERVICE FOR WHICH THEY ARE INTENDED.
 - CONTACT SURFACES OF COVERS AND FRAME SEATS SHALL BE MACHINED AT THE FOUNDRY BEFORE SHIPMENT TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION.
 - ALL CASTINGS SHALL BE THOROUGHLY CLEANED AND SUBJECT TO A CAREFUL HAMMER INSPECTION.
 - PRIOR TO BEING SHIPPED FROM THE FOUNDRY, CASTINGS SHALL BE SANDBLASTED.
 - REPAIR ALL COATINGS THAT HAVE BEEN DAMAGED IN TRANSIT OR HANDLING TO THE SATISFACTION OF THE ENGINEER.
- B. OPENINGS:
- PROVIDE OPENINGS IN THE RISERS TO RECEIVE PIPES ENTERING THE MANHOLE.
 - SIZE: TO PROVIDE A UNIFORM ANNULAR SPACE BETWEEN THE OUTSIDE WALL OF PIPE AND RISER.
 - LOCATION: TO PERMIT SETTING OF THE ENTERING PIPES AT THE CORRECT ELEVATIONS.
 - PIPE PENETRATIONS OF 18" DIAMETER OR LESS SHALL HAVE A FLEXIBLE WATERTIGHT CONNECTION BETWEEN PIPE AND THE MANHOLE BASE. THE TYPE OF FLEXIBLE JOINT BEING USED SHALL BE APPROVED BY THE ENGINEER. INSTALL MATERIALS ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
 - LOCK JOINT FLEXIBLE MANHOLE SLEEVE MADE BY INTERPACE CORPORATION.
 - KOR N SEAL MADE BY NATIONAL POLLUTION CONTROL SYSTEM, INC.
 - LINK SEAL BY THUNDERLINE CORPORATION (WAYNE, MI).
- C. JOINTS:
- JOINT GASKETS TO BE FLEXIBLE SELF-SEATING BUTYL RUBBER JOINT SEALANT INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. FOR COLD WEATHER APPLICATIONS, USE ADHESIVE WITH JOINT SEALANT AS RECOMMENDED BY MANUFACTURER.
 - ACCEPTABLE MATERIALS:
 - KENT-SEAL NO. 2
 - RAM-NEK
 - OR EQUIVALENT.

PART 3 - EXECUTION:

- 3.1 INSTALLATION
- A. MANHOLE BASES:
- INSTALL BASES RISERS AND CONES, LEVEL AND PLUMB ON A 6-INCH LAYER OF COMPACTED BEDDING CONSISTING OF CRUSHED STONE.
 - PROPERLY DEWATER THE EXCAVATION WHILE PLACING THE BEDDING MATERIAL AND PLACING THE STRUCTURE OR CONCRETE.
- B. CONSTRUCT INLET AND OUTLET STUBS AS SHOWN.
- C. INVERT CHANNELS:
- CONSTRUCT SMOOTH AND SEMICIRCULAR IN SHAPE CONFORMING TO THE PIPE SECTIONS.
 - MAKE CHANGES IN DIRECTION OF FLOW WITH SMOOTH CURVES HAVING A RADIUS AS LARGE AS PERMITTED BY THE SIZE OF THE MANHOLE.
 - STOP THE PIPES NEAR THE INSIDE FACE OF THE MANHOLE WHERE CHANGES OF DIRECTION OCCUR.
 - FORM INVERT CHANNELS AS SHOWN.
 - SLOPE THE FLOOR OF THE MANHOLE OUTSIDE THE FLOW CHANNEL AS SHOWN UNLESS OTHERWISE DIRECTED OR APPROVED.
- D. PRECAST RISERS AND TOPS:
- USE THE APPROPRIATE COMBINATIONS OF RISERS AND TOP LENGTHS.
 - SEAL JOINTS WITH AN APPROVED TYPE MASTIC AS SHOWN.
 - PERFORM JOINTING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS APPROVED BY THE ENGINEER.
 - INSTALL RISERS AND TOPS LEVEL AND PLUMB.
 - DO NOT PERMIT WATER TO RISE OVER NEWLY MADE JOINTS UNTIL AFTER INSPECTION BY THE ENGINEER.
 - MAKE ALL JOINTS WATERTIGHT.
 - SOLIDLY FILL ANNULAR SPACES AROUND PIPES ENTERING THE MANHOLES WITH NON-SHRINK MORTAR OR AS OTHERWISE SHOWN.
 - WHEN NECESSARY, CORE OPENINGS CAREFULLY TO PREVENT DAMAGE TO RISERS AND TOPS. REPLACE ALL DAMAGED RISERS AND TOPS AT NO ADDITIONAL COST TO THE OWNER.
 - CUTTING OPENING SHALL NOT BE ALLOWED WITHOUT THE EXPRESSED WRITTEN PERMISSION IS PROVIDED.
- E. ADJUSTMENT TO GRADE: IF NECESSARY, ADJUST TOPS OF MANHOLES TO GRADE, A MAXIMUM OF 12 INCHES, WITH BRICK MASONRY.
- F. SET MANHOLE FRAMES WITH THE TOPS CONFORMING ACCURATELY TO THE GRADE OF THE PAVEMENT OR FINISHED GROUND SURFACE OR AS SHOWN ON THE DRAWINGS.
- G. SET FRAMES CONCENTRIC WITH THE TOP OF THE MASONRY AND IN A FULL BED OF MORTAR SO THAT THE SPACE BETWEEN THE TOP OF THE MANHOLE MASONRY AND THE BOTTOM FLANGE AT THE FRAME SHALL BE COMPLETELY FILLED AND MADE WATERTIGHT.
- H. PLACE A THICK RING OF MORTAR EXTENDING TO THE OUTER EDGE OF THE MASONRY ALL AROUND AND ON THE TOP OF THE BOTTOM FLANGE.
- I. FINISH THE MORTAR SO THAT IT WILL BE SMOOTH AND HAVE A SLIGHT SLOPE TO SHED WATER AWAY FROM THE FRAME.
- J. WHEN THE WORK ON EACH MANHOLE IS COMPLETE, CLEAN THE FRAME SEAT AND SET THE COVER IN PLACE.
- 3.2 TESTING:
- A. PROVIDE COMPACTION TESTING BETWEEN SOIL LIFTS UPON REQUEST BY PORTSMOUTH DPW.



- NOTES:**
- CONTRACTOR SHALL COMPLETE TEST PIT TO CONFIRM NECESSARY DIMENSIONS PRIOR TO MANUFACTURE.
 - PROVIDE TEMPORARY FLOW DIVERSION UPSTREAM AND DOWNSTREAM PRIOR TO EXCAVATING FOR THE MANHOLE (SUBSIDIARY TO ITEM 604.326).
 - INSTALL DOG HOUSE MANHOLE ON CONCRETE BASE (CIP OR PRE-CAST).
 - CONNECT NEW DRAIN PIPE TO DOG HOUSE BASE.
 - FOR INVERT CONSTRUCTION, CONTRACTOR MAY CUT & REMOVE TOP SECTION OF EXISTING PIPE, RETAIN BOTTOM SECTION OF EXISTING PIPE FOR INVERT, OTHERWISE REMOVE EXISTING PIPE COMPLETELY AND CONSTRUCT NEW INVERT. APPROACH CHANNEL & SHELF TO BE CONSTRUCTED WITH BRICK MASONRY.
 - SHAPE INVERT AND CONSTRUCT BRICK MASONRY INVERT AND SHELF FOR NEW DRAIN INLET.
 - FILL ANNULAR SPACE WITH MASONRY AND/OR NON-SHRINK GROUT.
- DOG HOUSE MANHOLE**
NOT TO SCALE

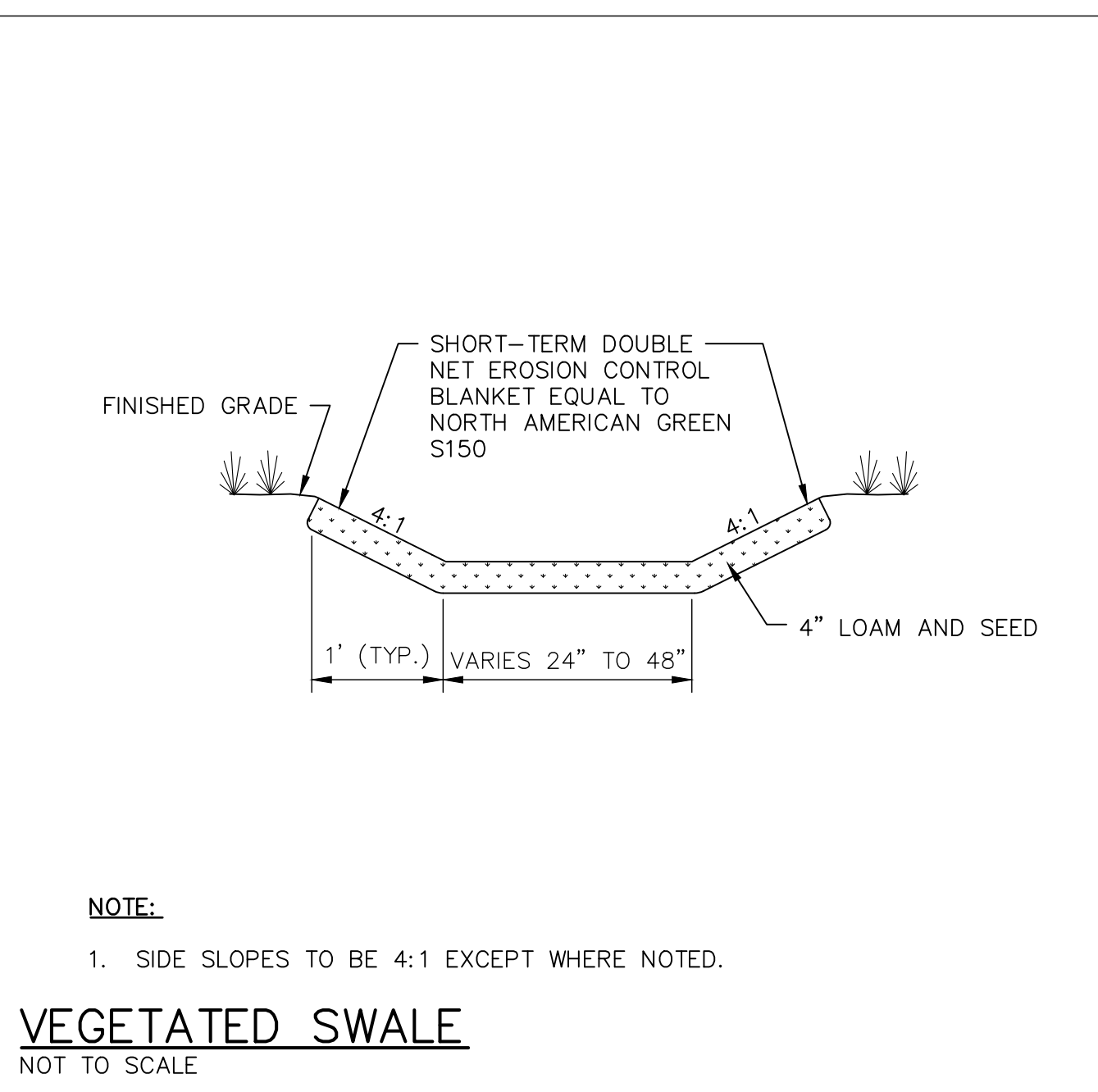
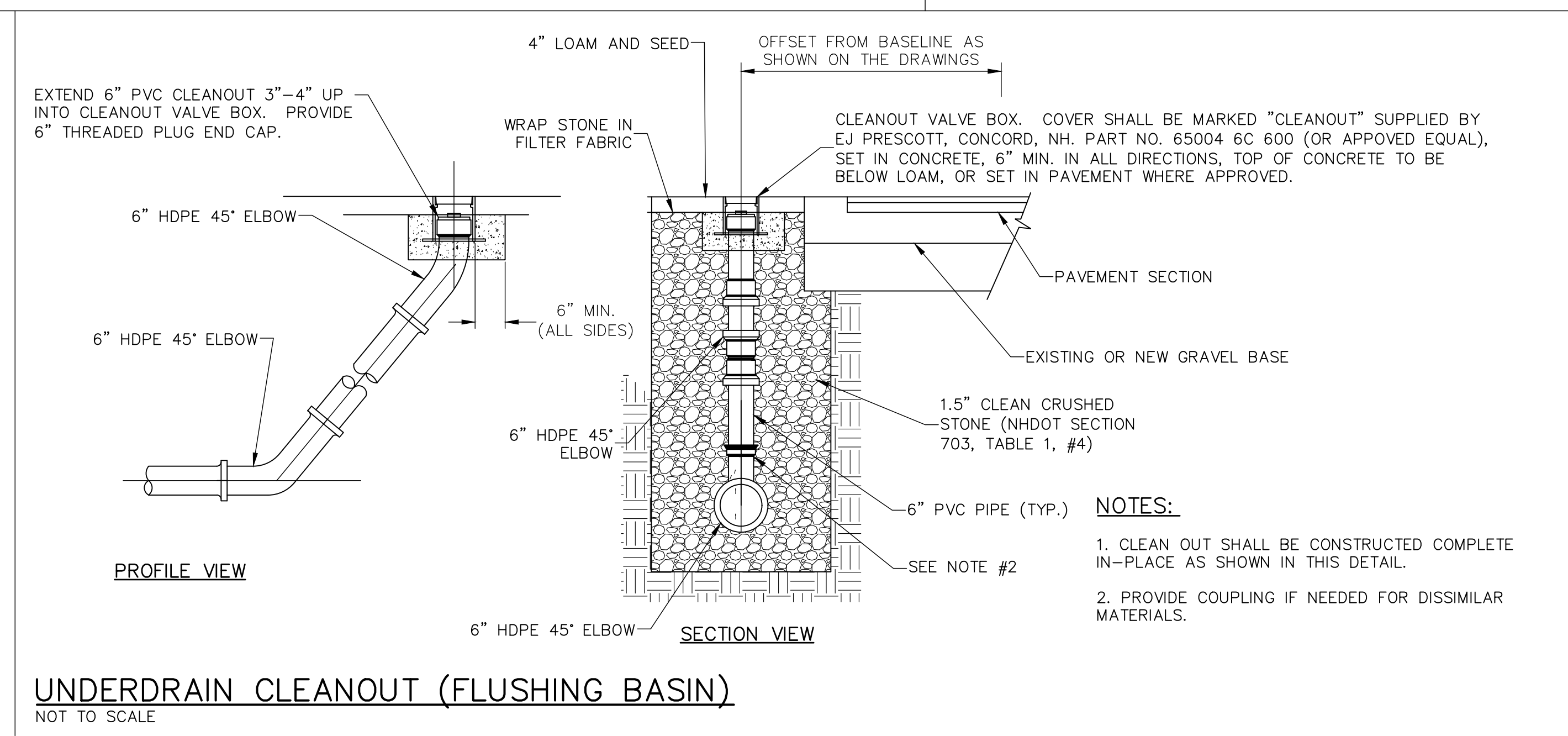
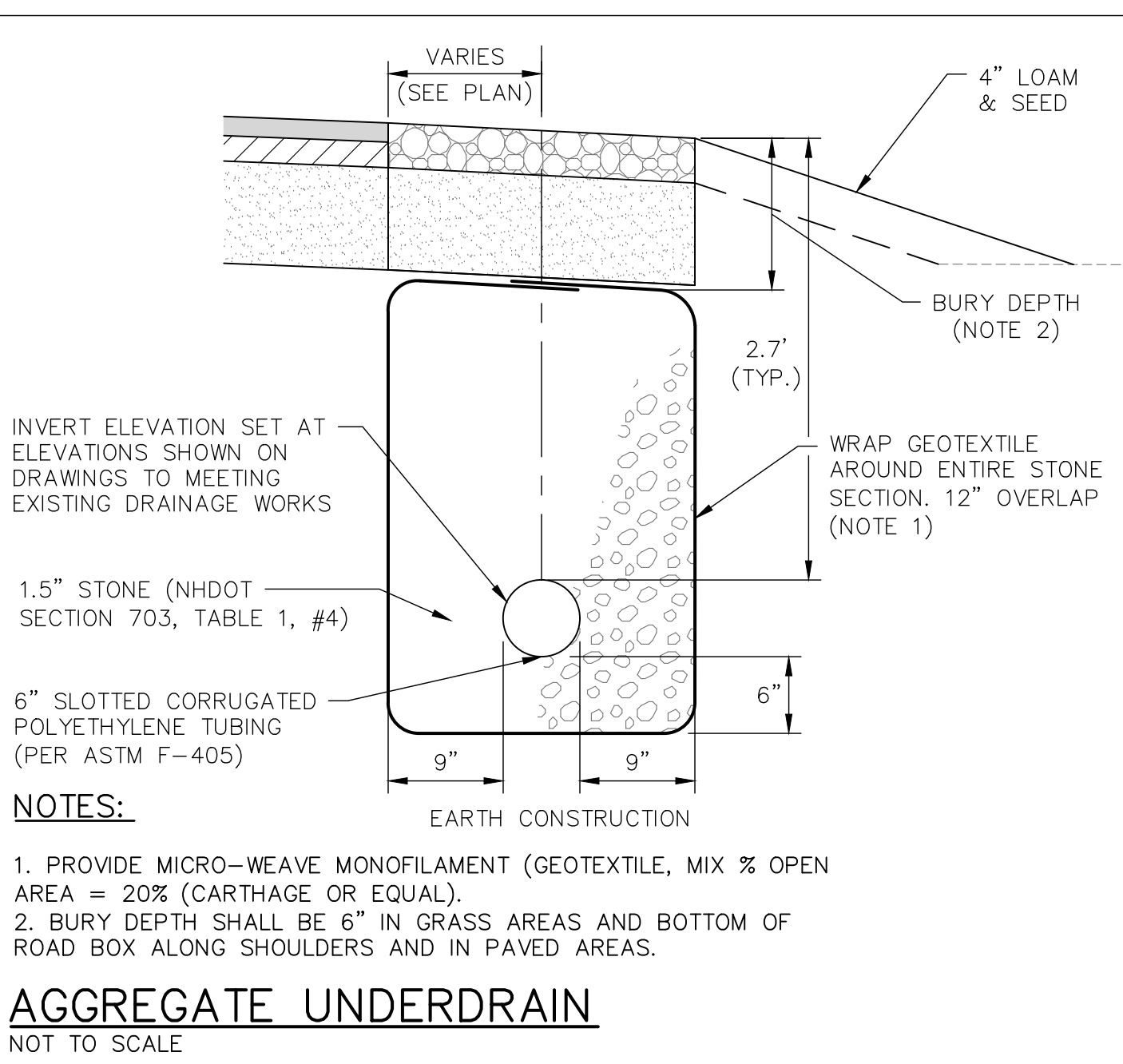


- ABANDONED STRUCTURE NOTES:**
1. **MANHOLE FILL:**
- GRANULAR FILL OPTION: INSTALL APPROPRIATE BULKHEAD. INSTALL APPROVED FILL IN 12" LIFTS COMPACTED TO 95% STANDARD PROCTOR.
 - FLOW FILL OPTION: INSTALL APPROPRIATE BULKHEAD TO SUPPORT FLOW FILL. INSTALL MACHINE EXCAVATABLE (2000#) FLOW FILL. DO NOT REMOVE CONE AND SLAB TOP UNTIL FLOW FILL IS SET.
 - MANHOLE FILL IS INCIDENTAL TO THE WORK, OR INCIDENTAL TO THE ABANDON STRUCTURE PAY ITEM IF INCLUDED IN BID SCHEDULE.
- ABANDONED STRUCTURE**
NOT TO SCALE

PART 1 - GENERAL:

- 1.1 **GENERAL:** DRAINAGE MANHOLES, INCLUDING ALL COMPONENT PARTS, SHALL BE ASSEMBLED OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20LOADING) WITHOUT FAILURE.
- 1.2 **BARRELS AND CONE SECTIONS:** SHALL BE PRECAST REINFORCED CONCRETE.
- 1.3 **PRECAST CONCRETE:** BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.
- 1.4 **FRAMES AND COVERS:** MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN, MANUFACTURED IN USA, AND PROVIDE A 32-INCH (MIN.) CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) LETTER "D" FOR DRAIN SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER. FRAME AND COVER SHALL BE HINGED, ERGO XL BY EAST JORDAN IRON WORKS.
- 1.5 **BEDDING:** SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33. STONE SIZE NO. 67. 100% PASSING 1 INCH SCREEN 90-100% PASSING 3/4 INCH SCREEN 20-55% PASSING 3/8 INCH SCREEN 0-10% PASSING #4 SIEVE 0-5% PASSING #8 SIEVE
- 1.6 WHERE THE MATERIAL BELOW MANHOLE STRUCTURE IS SOFT OR YIELDING, AND WHERE DIRECTED BY THE ENGINEER, INSTALL DOUBLE LAYER OF GEOGRID (TENSAR TX160 OR EQUAL), AS SHOWN.
- 1.7 **SHALLOW MANHOLE:** IN LIEU OF A CONE SECTION, WHEN MANHOLE IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER HAVING AN ECCENTRIC ENTRANCE AND CAPABLE OF SUPPORTING H-20 LOADS MAY BE USED.
- DRAINAGE MANHOLE**
NOT TO SCALE

- 2.2 FRAMES AND COVERS
- A. STANDARD UNITS:
- FRAME AND COVER ASSEMBLY SHALL BE HINGED.
 - DIMENSIONS AND STYLE SHALL CONFORM TO THE DRAWINGS; STANDARD CASTINGS DIFFERING IN NON-ESSENTIAL DETAILS ARE SUBJECT TO APPROVAL BY THE ENGINEER:
 - COVERS - SOLID 3-INCH LETTERS DIAMOND PATTERN.
 - FRAME - 32-INCH DIAMETER CLEAR OPENING, WITH FLANGE BRACING RIBS.
 - PROVIDE CERTIFICATION THAT FRAMES AND COVER ARE "MADE IN USA".
 - PROVIDE CAM LOCKS FOR ALL HINGED MANHOLE COVER ASSEMBLIES.
 - HINGED FRAME AND COVER PROVIDED WILL BE MODEL ERGO XL AS MANUFACTURED BY EAST JORDAN IRON WORKS.



ISSUE FOR	APPROVAL	DATE	BY
		3/23/23	BTD
			CONSTRUCTION
		7/21/23	BTD
			RECORD DRAWING
			BY
			DATE
			APP'D
			REVISIONS
			NO.
Drawn/Chk. MAH	KLW		
Designed	BTD		
Checked	BTD		
Approved		7/21/23	
Book No.			
Project No.		2184	
Dwg. ID		2184 details	
Scale		AS SHOWN	

UNDERWOOD
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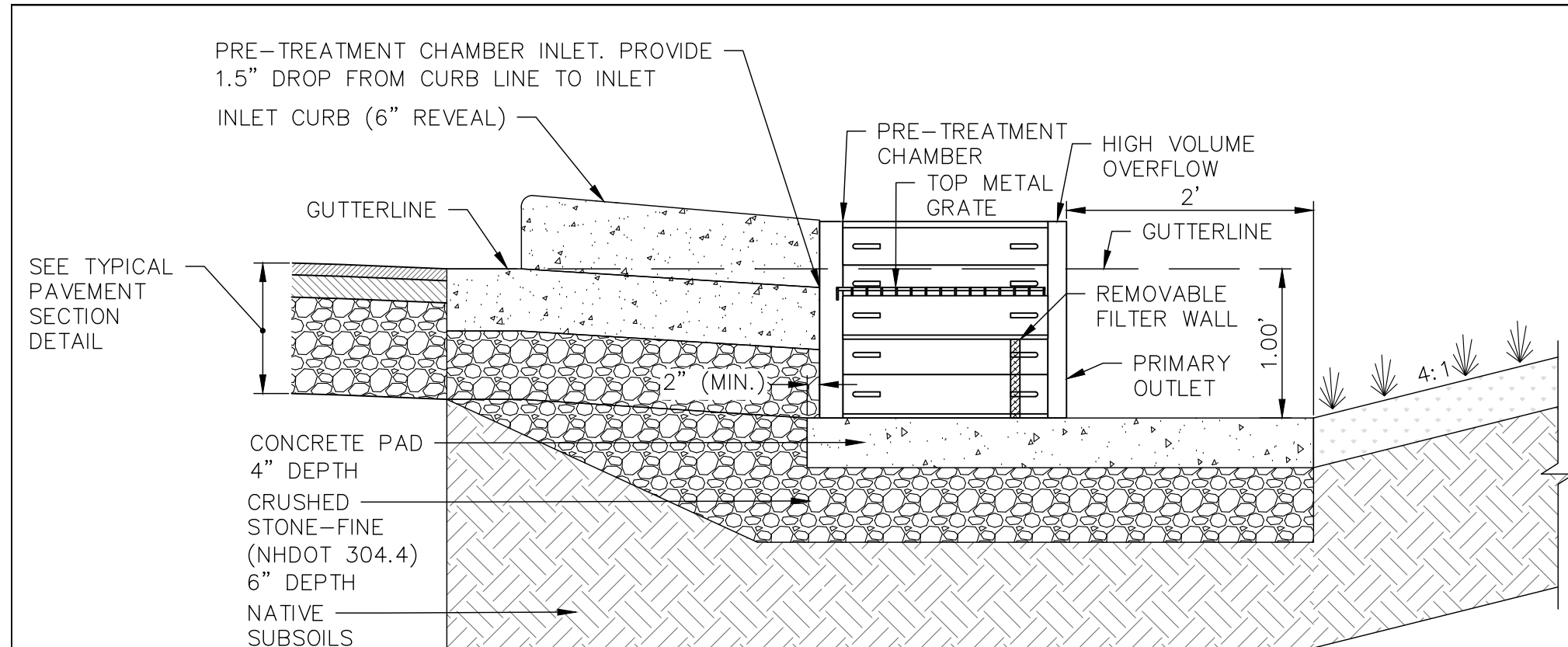
DRAINAGE DETAILS 2

CORPORATE DRIVE RECONSTRUCTION

CITY OF PORTSMOUTH

PORTSMOUTH, NEW HAMPSHIRE

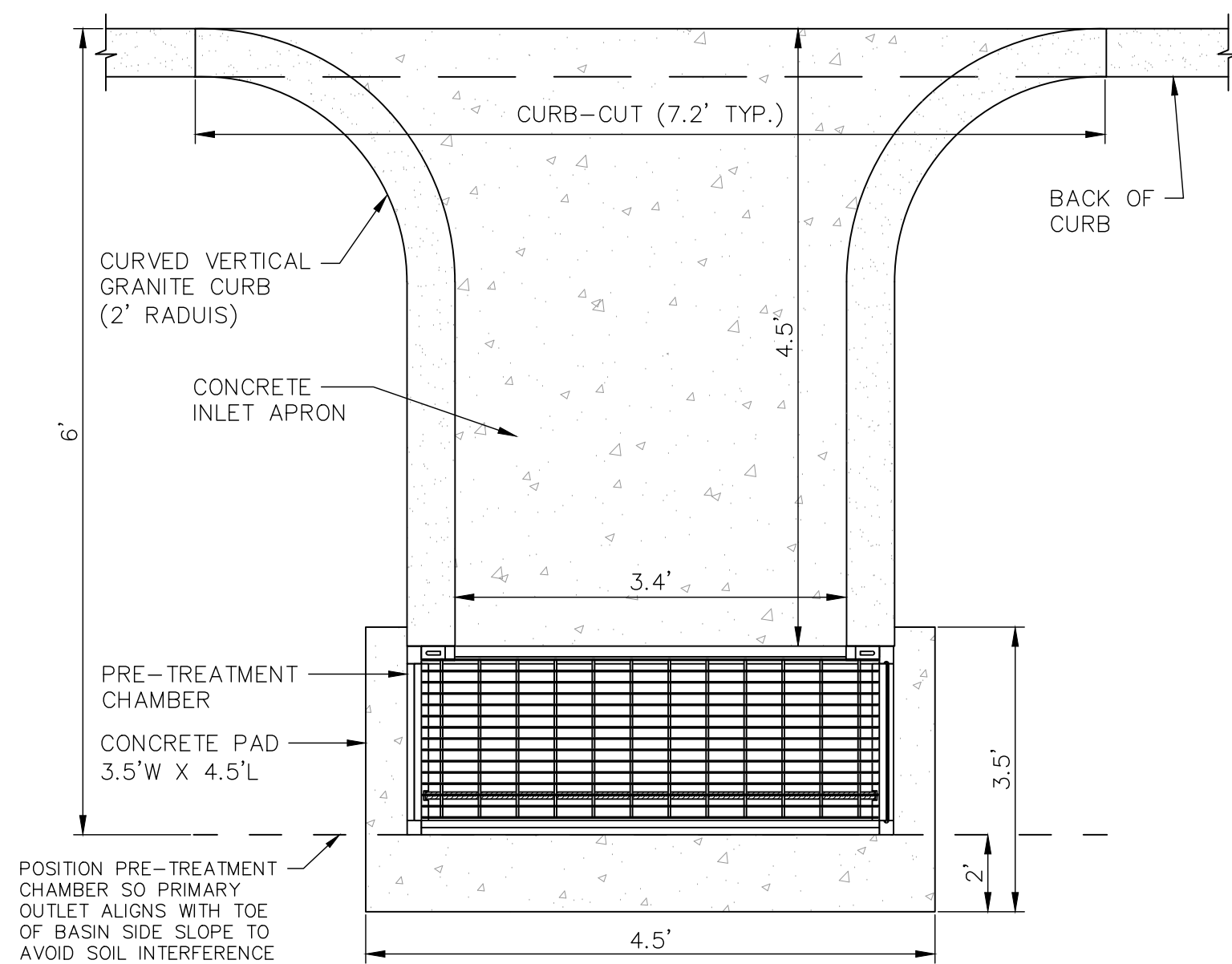
DWG NO D5 SHEET 31 OF 32



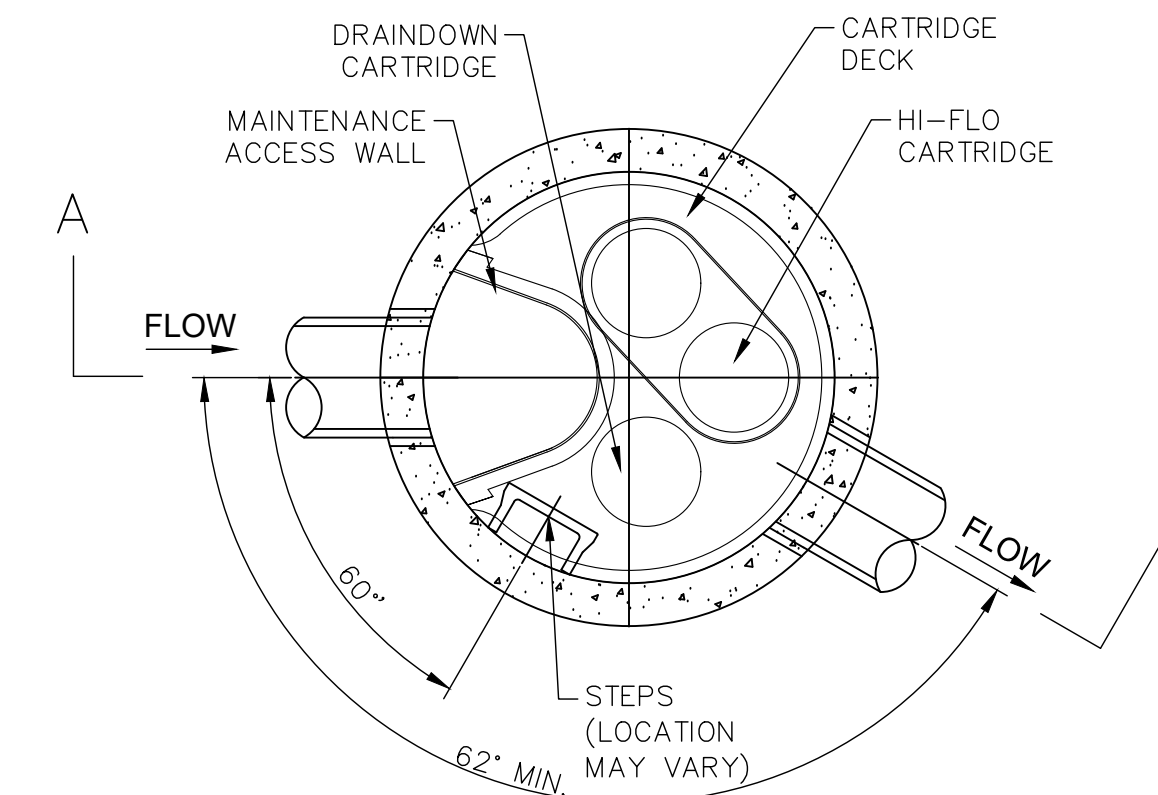
CROSS-SECTION VIEW

- NOTES:**
- CRUSHED STONE AGGREGATE SUPPORTING CONCRETE PADS AND APRONS SHALL BE COMPACTED TO AT LEAST 95% STANDARD PROCTOR DENSITY (AASHTO T99 METHOD C)
 - CONCRETE SHALL BE FIBER REINFORCED MEETING NHDOT SECTION 608 PARAGRAPHS 2.1, 2.2 AND 2.3. FINAL SURFACE SHALL BE FLOATED AND BROOM FINISHED. APPLY SILICONE SILOXANE PROTECTIVE COATING IN ACCORDANCE WITH SECTION 534.
 - PRE-TREATMENT CHAMBER SHALL BE "RAINGUARDIAN BUNKER" AS SPECIFIED IN SPECIAL PROVISION 1010. SEE MANUFACTURER'S DRAWINGS AND INSTRUCTIONS FOR SPECIFIC PRODUCT DIMENSIONS AND INSTALLATION REQUIREMENTS.

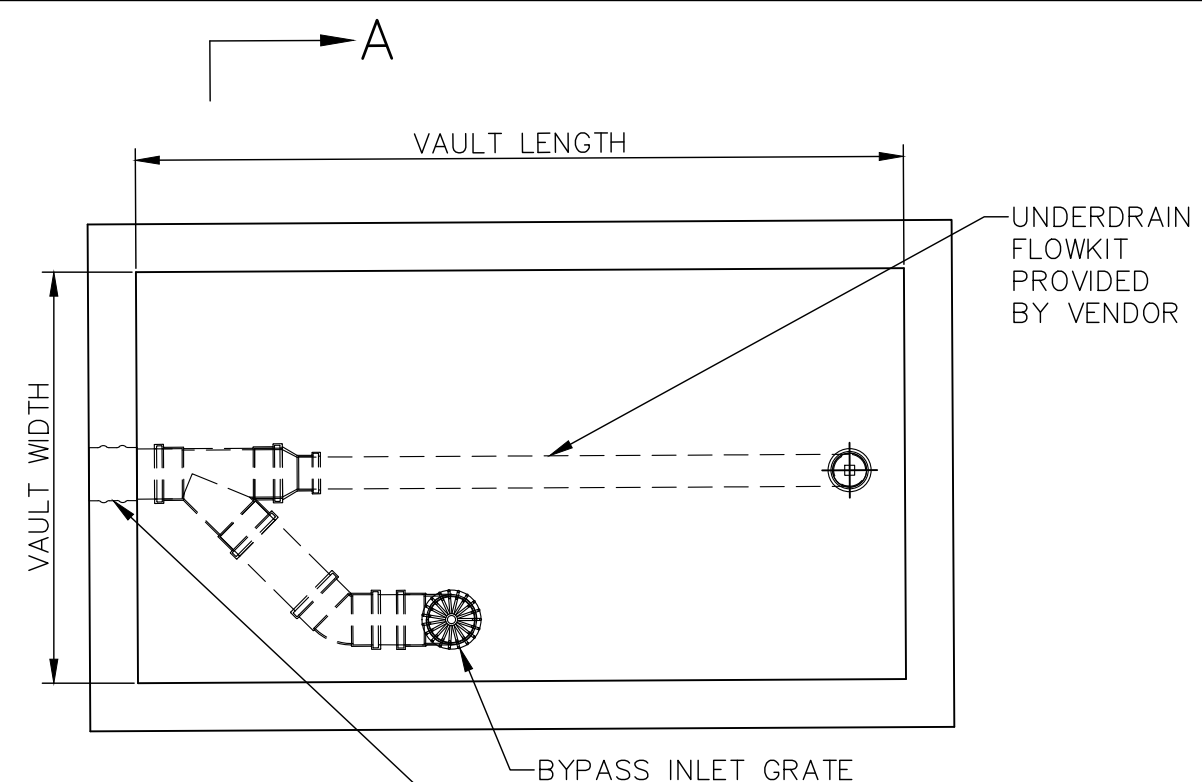
PRE-TREATMENT CHAMBER
NOT TO SCALE



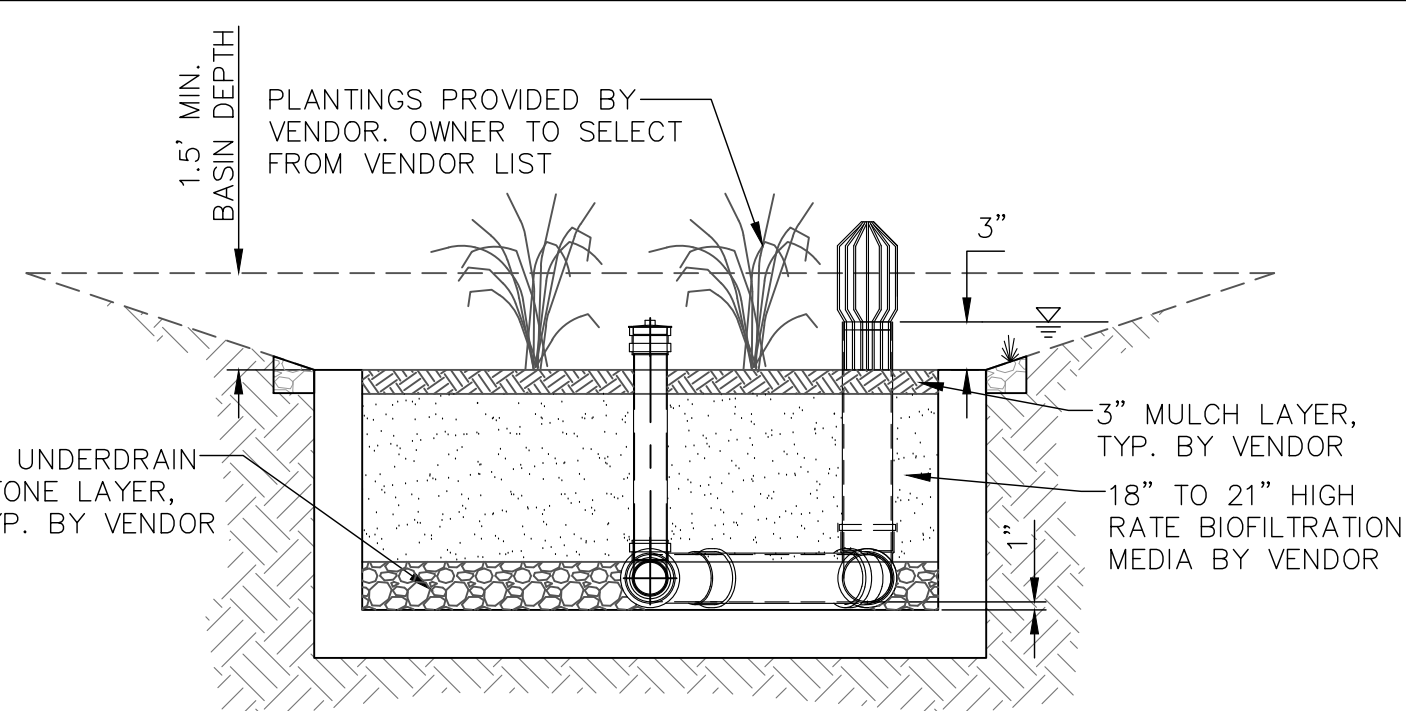
PLAN VIEW



PLAN VIEW



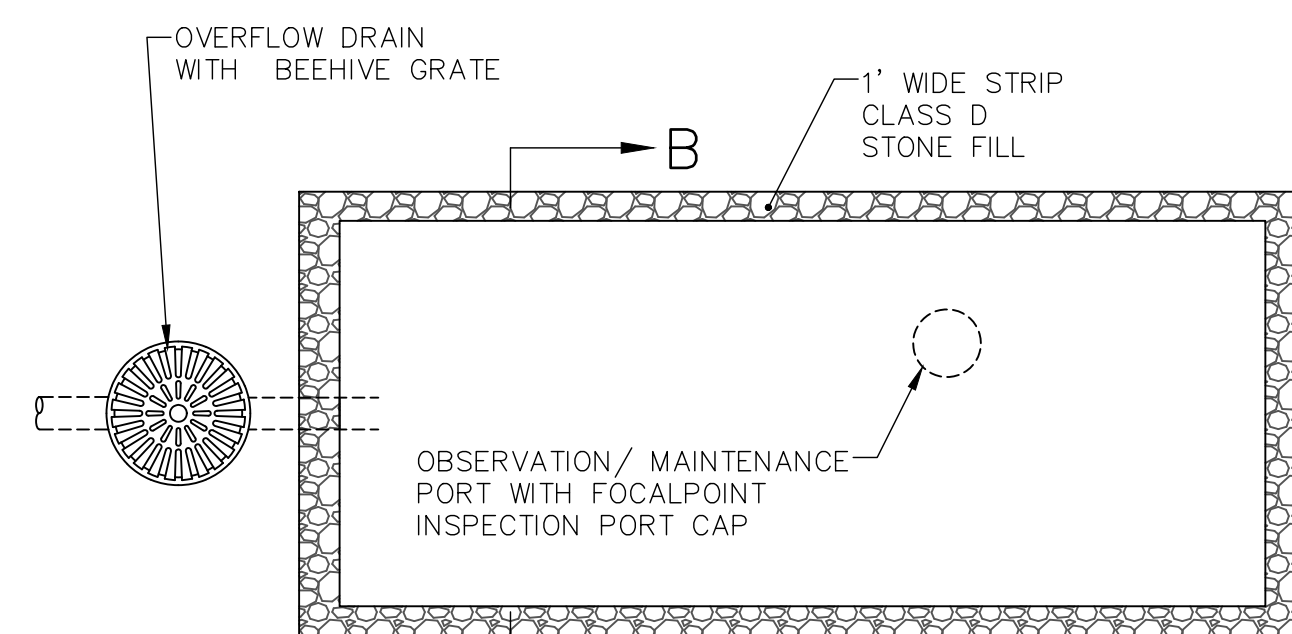
FILTERRA PLAN VIEW



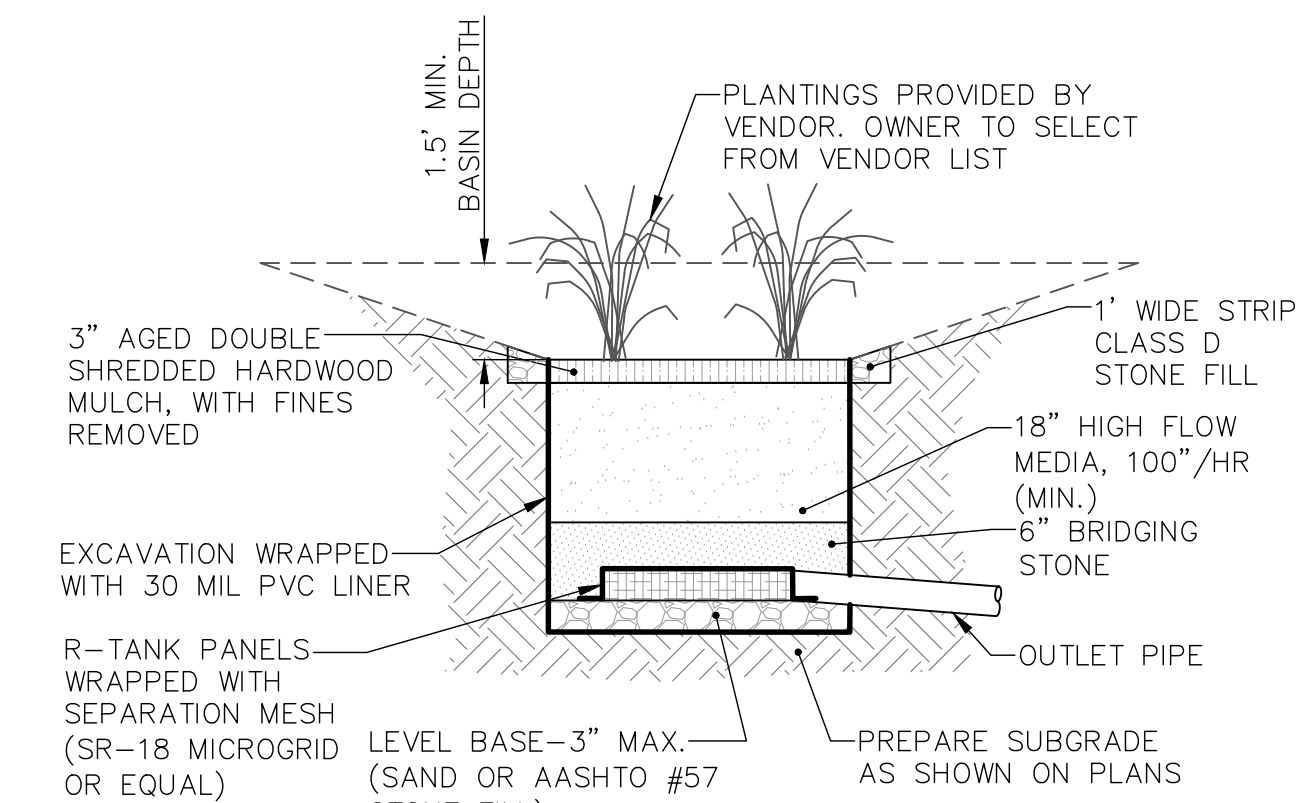
SECTION A-A

- NOTES:**
- TREATMENT CHAMBER SIZES SHOWN IN PLAN VIEW ARE APPROXIMATE AND VARY BY MANUFACTURER (SEE SCHEDULE).
 - HIGH RATE BIOFILTRATION SHALL BE FILTERRA OR FOCALPOINT (SEE SPECIAL PROVISION 1110.11)
 - DIMENSIONS AND DEPTH OF SOIL CROSS SECTION VARY BY MANUFACTURER. ADJUST SLOPE OF OUTLET PIPE AS NECESSARY TO PROVIDE UNIFORM SLOPE DRAINING TO THE INVERT ELEVATION SPECIFIED AT THE DOWNSTREAM DRAINAGE STRUCTURE.
 - SEE DRAIN MANHOLE DETAIL FOR BEDDING AND BACKFILL REQUIREMENTS.
 - PLANT QUANTITIES ARE FURTHER DETAILED IN SPECIAL PROVISION 1110.11 (SEE FILTERRA BIOSCAPE VAULT PLANT PALETTE AND FOCAL POINT PLANT SELECTION GUIDE)

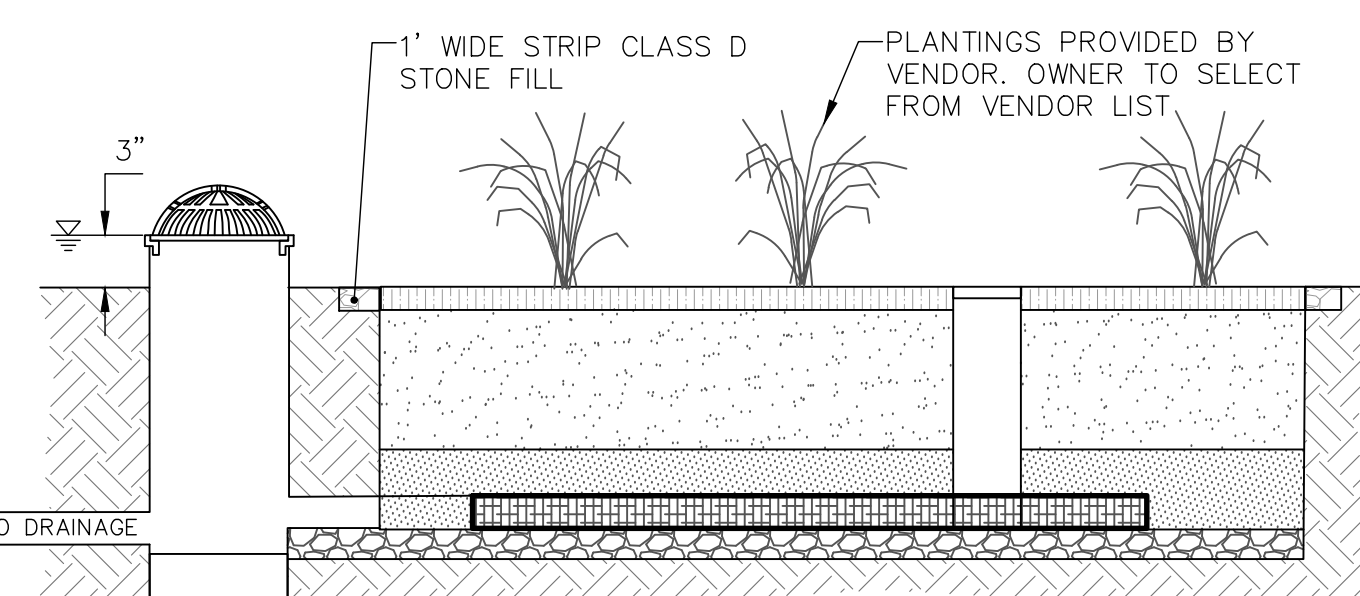
Unit Sizing Schedule						
Location	Size	System Size (L x W)		Shrubs per unit	Small plants per unit	Shrubs per unit
		Filterra	Focal Point	4 - 6 ft Spread 1-7 Gallon	2 - 4 ft Spread 1-7 Gallon	Up to 2 ft Spread 1-2 Gallon
STA 34+10	Small	4x4	6x4	1	1 - 2	3 - 5
STA 35+35	Small	4x4	6x4	1	1 - 2	3 - 5
STA 55+00	Large	10x6	13x6	2	3	15
STA 63+80	Medium	6x4	7x6	1	2	5
STA 78 +60	Small	4x4	6x3	1	2 - 3	3 - 5



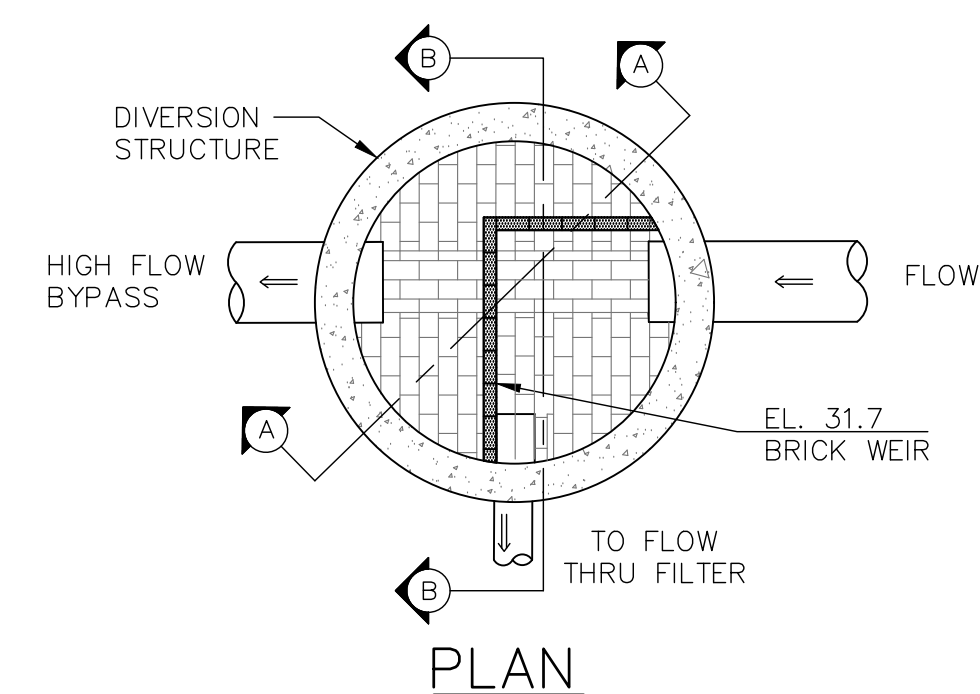
FOCALPOINT PLAN VIEW



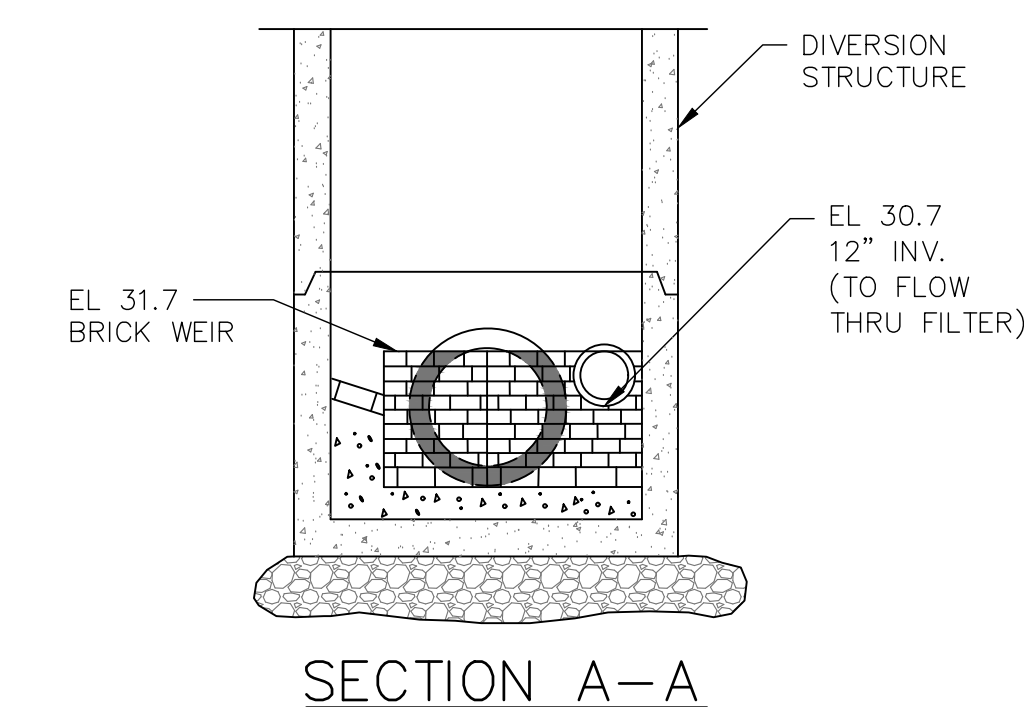
SECTION B-B



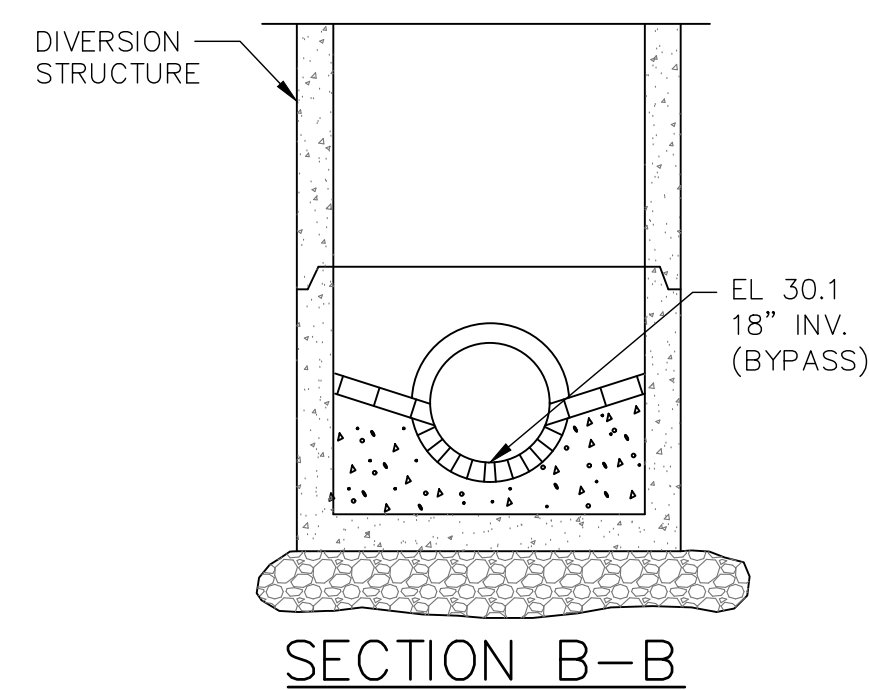
HIGH RATE BIO-FILTRATION UNIT
NOT TO SCALE



PLAN



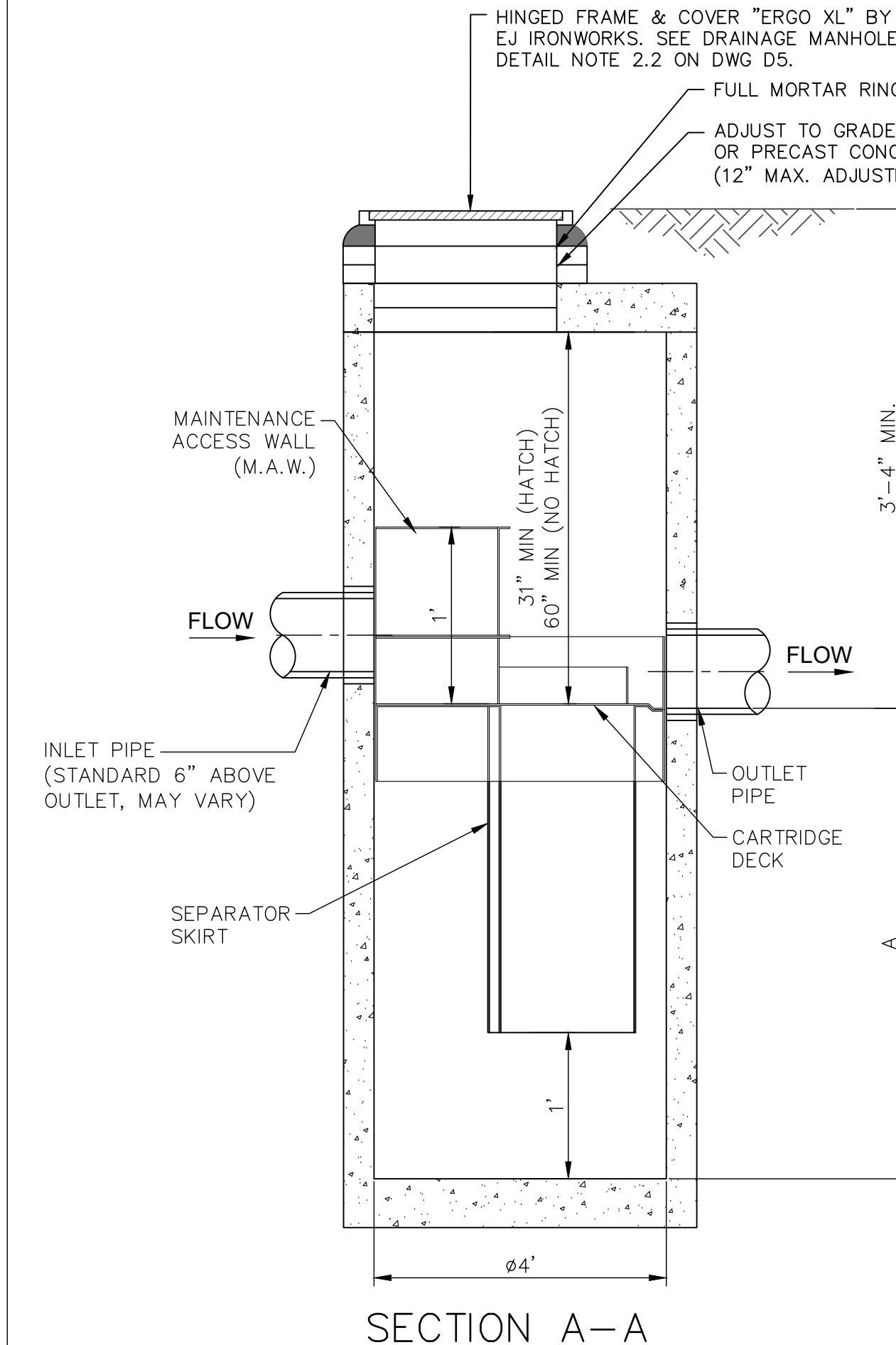
SECTION A-A



SECTION B-B

- NOTE:**
- REFER TO DRAINAGE MANHOLE DETAIL FOR GENERAL NOTES, PRODUCTS AND EXECUTION.

5' DIA. DIVERSION STRUCTURE
NOT TO SCALE



SECTION A-A

- NOTE:**
- REFER TO DRAINAGE MANHOLE DETAIL FOR GENERAL NOTES, PRODUCTS AND EXECUTION.
- FLOW THROUGH STORMWATER TREATMENT UNIT**
NOT TO SCALE

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STORMWATER DETAILS
CORPORATE DRIVE RECONSTRUCTION
CITY OF PORTSMOUTH
PORTSMOUTH, NEW HAMPSHIRE

ISSUE FOR	APPROVAL	DATE	BY
CONSTRUCTION	[Signature]	7/21/23	[Name]
RECORD DRAWING	[Signature]	7/21/23	[Name]

NO.	REVISIONS	APP'D

Drawn/Chk. MAH
Designed KLV
Checked BT
Approved BT
Date 7/21/23
Book No. 2184
Project No. 2184
Dwg. ID 2184-Details
Scale AS SHOWN

DWG NO. D6 SHEET 32 OF 32