

VERTICAL CURVE DATA			
SHALER STREET TANGENT	SR 0019 SB	SR 0019 NB	
PVI 14.0%	-1.61% 4.82%	-4.60% 4.86%	
PVI STA = 11+00.00	PVI STA = 268+75.00	PVI STA = 269+89.00	
ELEV = 777.57	ELEV = 760.75	ELEV = 763.90	
PVI STA = 13+00.00	VC = 650.00'	VC = 474.00'	
ELEV = 805.57	MO = 5.22'	MO = 5.60'	
	HSLD = 445'	HSLD = 254'	

HORIZONTAL CURVE DATA			
SHALER STREET	SR 0019 SB	SR 0019 NB	
STA. 10+00.00 TO STA. 13+91.71 TANGENT	PI STA = 268+55.16	PI STA = 267+33.68	
	Δ T = 19°23'24" LT	Δ T = 24°35'37" LT	
	L = 162.30'	L = 217.98'	
	R = 321.50'	R = 429.24'	
	PC STA = 950.00'	PC STA = 1000.00'	
	PT STA = 13.76'	PT STA = 23.48'	
	PC STA = 266+92.86	PC STA = 265+15.70	
	PT STA = 270+14.36	PT STA = 269+44.94	
	SE = 6.0%	SE = 6.0%	

- LEGEND**
- TRAFFIC DIRECTION
 - EXISTING CONTOUR (2' INTERVALS)
 - PROPOSED CONTOUR (1' INTERVALS)
 - TEMP EXCAVATION SUPPORT AND PROTECTION SYSTEM
 - EXISTING FENCING
 - PROPOSED FENCING
 - EXISTING GAS LINE
 - EXISTING WATER LINE
 - EXISTING ELECTRIC LINE
 - EXISTING ELECTRIC AND TELECOM LINE
 - EXISTING SANITARY SEWER LINE
 - EXISTING GUIDERAIL
 - PROPOSED GUIDERAIL
 - BORING LOCATION
 - CIP CAST-IN-PLACE
 - BFE BOTTOM FOOTING ELEV
 - ETOR ESTIMATED TOP OF ROCK ELEV
- NOTES:**
- FOR SUMMARY OF QUANTITIES, SEE SHEET 2.
 - FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
 - FOR BRIDGE LOAD RATING TABLE AND INDEX OF DRAWINGS, SEE SHEET 4.
 - FOR TYPICAL SECTION AND DECK ELEVATIONS, SEE SHEET 5.

STRUCTURE BORING LOCATIONS			
BORING	STATION	OFFSET	
SS-1	10+80.40	8.83' RT	
SS-2	11+24.46	25.51' RT	
SS-3	11+35.91	25.65' LT	
SS-4	12+16.02	23.46' RT	
SS-5	12+07.19	24.66' LT	
SS-6	12+61.58	10.05' RT	
SS-7	12+58.26	5.25' LT	
SS-8	12+74.38	11.54' RT	
SS-9	12+97.16	6.39' RT	
SS-10	12+98.72	22.05' LT	
SS-11	13+60.84	4.75' LT	
SS-12	11+03.85	8.12' LT	
SS-13	11+05.84	10.58' RT	

Mark	Description	By	Chk'd	Rec'd	Date
REVISIONS					

EXISTING BMS# 02 3110 0010 0000 EXISTING BRKEY: 1855
SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
GENERAL PLAN & ELEVATION

RECOMMENDED 08/03/2018
James J. Ruggs
DISTRICT BRIDGE ENGINEER

SHEET 1 OF 83
+SUPPLEMENTAL DRAWINGS
S - 37605

NOTE:
(1) NEOPRENE STRIP SEAL EXPANSION DAM 3 1/2" CLASSIFICATION
(2) LOCATION OF MINIMUM VERTICAL CLEARANCE
EXISTING VERTICAL CLR: 16'-0"
VERTICAL CLR PROVIDED: 16'-8 1/2"
VERTICAL CLR REQUIRED: 16'-6"
(3) VERTICAL CLR PROVIDED: 18'-6"

ELEVATION
10' 5' 0' 10'

DES: CMS DWG: CMS CKD: MEC

LOCHNER

PREPARED BY:
H.W. LOCHNER, INC.
750 HOLIDAY DRIVE,
FOSTER PLAZA 9,
SUITE 590,
PITTSBURGH PA, 15220

SIGNATURE *Matthew Earl Cochran*
DATE 8/2/2018

CLASSIFICATION OF EARTHWORK FOR STRUCTURES	RC-11M	06-01-10
BACKFILL AT STRUCTURES	RC-12M	09-15-16
GUIDE RAIL TO BRIDGE BARRIER TRANSITIONS	RC-50M	08-04-17
TYPE 31 STRONG POST GUIDE RAIL	RC-51M	08-04-17
ELECTRICAL DETAILS	BC-721M	09-30-16
PERMANENT METAL DECK FORMS	BC-732M	09-30-16
ANCHOR SYSTEMS	BC-734M	08-04-17
WALL CONSTR & EXP JOINT DETAILS	BC-735M	09-30-16
REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	09-30-16
BRIDGE BARRIER TO GUIDE RAIL TRANSITION	BC-739M	08-04-17
BRIDGE DRAINAGE	BC-751M	09-30-16
CONCRETE DECK SLAB DETAILS	BC-752M	09-30-16
STEEL GIRDER DETAILS	BC-753M	09-30-16
STEEL DIAPHRAGMS FOR STEEL BEAM/GIRDER STRUCTURES (STRAIGHT GIRDERS ONLY)	BC-754M	09-30-16
BEARINGS	BC-755M	09-30-16
NEOPRENE STRIP SEAL DAM FOR PRESTRESSED CONCRETE AND STEEL I-BEAM BRIDGES	BC-767M	09-30-16
MISCELLANEOUS PRESTRESS DETAILS	BC-775M	09-30-16
TYPICAL WATERPROOFING AND EXPANSION DETAILS	BC-788M	09-30-16
DESCRIPTION	DWG NO	APP DATE

SUPPLEMENTAL DRAWINGS

APPROXIMATE QUANTITIES, BRIDGE STRUCTURE, AS DESIGNED									
ITEM NUMBER	ITEM	UNIT	ABUT 1	PIER	ABUT 2	SUPER-STR	APPR SL 1	APPR SL 2	TOTAL
8120-0001	BRIDGE STRUCTURE, AS DESIGNED, S-37605	LS							LS
(2)	CLASS 3 EXCAVATION	CY	260	30	1820	-	-	-	2110
(2)	MEMBRANE WATERPROOFING SYSTEM INSTALLED ON OTHER SURFACES (7)	SY	52	8	98	-	-	-	158
(2)	NO. 57 COARSE AGGREGATE (1)	CY	12	-	18	-	-	-	30
(2)	CLASS AAA CEMENT CONCRETE MODIFIED (11)	CY	-	-	1	20	58	68	147
(2)	CLASS AA CEMENT CONCRETE (6)	CY	-	-	-	40	-	-	40
(2)	CLASS A CEMENT CONCRETE (5)	CY	30	-	346	-	-	-	376
(2)	CLASS C CEMENT CONCRETE MODIFIED	CY	-	-	212	-	-	-	212
(2)	CLASS H.E.S. CEMENT CONCRETE (15)	CY	-	-	10	5	12	12	39
(2)	6" STRUCTURE FOUNDATION DRAIN	LF	46	-	120	-	-	-	166
(2)	6" PVC PIPE (SCHEDULE 40)	LF	28	-	26	-	-	-	54
(2)	SELECTED BORROW EXCAVATION, STRUCTURE BACKFILL	CY	170	-	1280	-	-	-	1450
(2)	CLASS AAAP CEMENT CONCRETE (3)	CY	-	-	-	180	-	-	180
(2)	NON-SHRINK GROUT (10)	CF	4	5	19	-	-	-	28
(2)	PRECAST CONCRETE LAGGING	SF	777	-	-	-	-	-	777
(2)	PRECAST CHEEKWALL	EACH	2	-	2	-	-	-	4
(2)	PRECAST ABUTMENT CAP	EACH	-	-	1	-	-	-	1
(2)	PRECAST PIER COLUMN	EACH	-	2	-	-	-	-	2
(2)	PRECAST PIER CAP	EACH	-	1	-	-	-	-	1
(2)	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES)	SY	173	116	176	-	-	-	465
(2)	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE)	SY	-	-	-	407	66	69	542
(2)	TEXTURIZING CONCRETE BRIDGE DECK SURFACE WITH TRANSVERSE SAWED GROOVES	SY	-	-	-	417	74	80	571
(2)	DIAMOND GRINDING OF CONCRETE DECK	SY	-	-	-	417	74	80	571
(2)	NEOPRENE STRIP SEAL DAM, (3 ½" MOVEMENT)	LF	-	-	-	-	-	35	35
(2)	LAMINATED NEOPRENE BEARING PAD (14)	EACH	6	11	6	-	-	-	23
(2)	FABRICATED STRUCTURAL STEEL (12) (13)	LB	-	-	-	148500	-	-	148500
(2)	FABRICATED STRUCTURAL STEEL, GALVANIZED (9)	LB	4066	-	-	-	-	-	4066
(2)	SHEAR CONNECTORS	EACH	118	-	-	2070	-	-	2188
AND 1002-0053	REINFORCEMENT BARS, EPOXY COATED (8)	LB	3510	2460	34460	58440	15810	17670	132350
AND 1002-0151	MECHANICAL SPLICE SYSTEM FOR NO. 4 REINFORCEMENT BARS, EPOXY COATED (8)	EACH	-	-	-	16	-	-	16
AND 1002-0152	MECHANICAL SPLICE SYSTEM FOR NO. 5 REINFORCEMENT BARS, EPOXY COATED (8)	EACH	-	-	45	310	-	-	355
AND 1002-0153	MECHANICAL SPLICE SYSTEM FOR NO. 6 REINFORCEMENT BARS, EPOXY COATED (8)	EACH	-	-	-	112	-	-	112
AND 1002-0155	MECHANICAL SPLICE SYSTEM FOR NO. 8 REINFORCEMENT BARS, EPOXY COATED (8)	EACH	-	-	21	-	-	-	21
AND 9000-0001	36" DIAMETER DRILLED CAISSONS, SHAFT SECTION IN SOIL (4)	LF	214	-	-	-	-	-	214
AND 9000-0002	36" DIAMETER DRILLED CAISSONS, SHAFT SECTION IN ROCK (4)	LF	55	-	-	-	-	-	55

- (1) INCLUDES GEOTEXTILE CLASS 1 AT STRUCTURE FOUNDATION DRAINS (84 SY AT ABUTMENT 1 AND 118 SY AT ABUTMENT 2).
- (2) ITEMS IN LUMP SUM ITEM 8120-0001 GIVEN FOR INFORMATION ONLY.
- (3) INCLUDES CLASS AAAP CEMENT CONCRETE IN DECK SLAB AND APPROXIMATELY 15 CY OF CLASS AAAP CEMENT CONCRETE IN VALLEYS OF STAY-IN-PLACE FORMS.
- (4) INCLUDED IN BRIDGE BID ITEMS.
- (5) INCLUDES CLASS A CEMENT CONCRETE IN ABUTMENTS BELOW BRIDGE SEAT, ABUTMENT 1 WINGWALL CLOSURE POURS, ABUTMENT 2 WINGWALLS, AND ABUTMENT 2 FOOTING.
- (6) INCLUDES CLASS AA CEMENT CONCRETE IN SIDEWALK, CURBS, AND BARRIERS.
- (7) INCLUDES 2" THICK PREFORMED CELLULAR POLYSTYRENE (33 SY AT ABUTMENT 1, 92 SY AT ABUTMENT 2, AND 8 SY AT THE PIER).
- (8) FOR AS DESIGNED STRUCTURE INCLUDED IN BRIDGE BID ITEMS. FOR ALTERNATE DESIGNS INCLUDED IN BRIDGE STRUCTURE LUMP SUM ITEM.
- (9) PROVIDE A709M, GRADE 50 STEEL FOR ALL FABRICATED STRUCTURAL STEEL, GALVANIZED. INCLUDES STRUCTURAL STEEL FOR RETAINING CONCRETE FACING PANELS ON FRONT FACE OF TANGENT CAISSONS
- (10) INCLUDES GROUT BELOW CHEEKWALLS, ABUTMENT 2 CAP, PIER COLUMNS, AND PIER CAP.
- (11) INCLUDES CLASS AAA CEMENT CONCRETE MODIFIED IN THE APPROACH SLABS, SLEEPER SLABS, PIER DIAPHRAGM, DECK CLOSURE POUR AT THE PIER, AND IN THE CORRUGATED METAL PIPES AT ABUTMENT 2. INCLUDES APPROXIMATELY 1 CY IN THE VALLEYS OF SIP FORMS AT THE DECK CLOSURE POUR.
- (12) PROVIDE A709M, GRADE 50 STEEL FOR ALL FABRICATED STRUCTURAL STEEL. INCLUDES 21,480 LBS OF FABRICATED STRUCTURAL STEEL FOR TEMPORARY DIAPHRAGMS AND TEMPORARY BEAM ATTACHEMENTS FOR SPMT MOVE AND 6,506 LBS OF FABRICATED STRUCTURAL STEEL FOR BEARING ASSEMBLIES.
- (13) BOLTS, NUTS, WASHERS, AND ANCHOR BOLTS ARE INCIDENTAL TO THIS ITEM.
- (14) INCLUDES ONE TEST PAD AT EACH SUBSTRUCTURE.
- (15) INCLUDES CLASS H.E.S. CEMENT CONCRETE IN THE WINGWALL CLOSURE POURS AT ABUTMENT 2, BARRIER/SIDEWALK CLOSURE POURS AT THE PIER, AND BARRIERS/SIDEWALKS ON THE APPROACH SLABS.
- (16) DRILL 1 TEST HOLE AT EACH PIER CAISSON.

APPROXIMATE QUANTITIES, BRIDGE STRUCTURE, AS DESIGNED									
ITEM NUMBER	ITEM	UNIT	ABUT 1	PIER	ABUT 2	SUPER-STR	APPR SL 1	APPR SL 2	TOTAL
AND 9000-0003	SOLDIER PILES, W24x207 - GALVANIZED (4)	LF	162	-	-	-	-	-	162
AND 9000-0004	SOLDIER PILES, W24x250 - GALVANIZED (4)	LF	234	-	-	-	-	-	234
AND 9000-0009	6" DIAMETER HOLE AND FLOWABLE CONCRETE SEAL (4)	LF	54	-	-	-	-	-	54
AND 9000-0026	54" DIAMETER DRILLED CAISSONS, SHAFT SECTION THROUGH OBSTRUCTION (4)	LF	34	-	-	-	-	-	34
AND 9000-0027	54" DIAMETER DRILLED CAISSONS, SHAFT SECTION IN SOIL (4)	LF	128	-	-	-	-	-	128
AND 9000-0028	54" DIAMETER DRILLED CAISSONS, SHAFT SECTION IN ROCK (4)	LF	14	-	-	-	-	-	14
AND 9000-0029	48" DIAMETER DRILLED CAISSONS, ROCK SOCKET (4)	LF	49	-	-	-	-	-	49
AND 9000-0030	66" DIAMETER DRILLED CAISSONS, SHAFT SECTION IN SOIL (4)	LF	-	7	-	-	-	-	7
AND 9000-0031	66" DIAMETER DRILLED CAISSONS, SHAFT SECTION IN ROCK (4)	LF	-	25	-	-	-	-	25
AND 9000-0032	66" DIAMETER DRILLED CAISSONS, SHAFT SECTION THROUGH OBSTRUCTION (4)	LF	-	3	-	-	-	-	3
AND 9000-0033	54" PERMANENT CASING FOR DRILLED CAISSONS (4)	LF	180	-	-	-	-	-	180
AND 9000-0034	66" PERMANENT CASING FOR DRILLED CAISSONS (4)	LF	-	11	-	-	-	-	11
AND 9000-0035	DRILLED SHAFT HQ CONCRETE CORING (4)	LF	34	17	-	-	-	-	51
AND 9000-0036	TEST HOLES (4) (16)	LF	-	20	-	-	-	-	20
0205-0364	SELECTED BORROW EXCAVATION ROCK, CLASS R-4	TON	114	-	159	-	-	-	273
0212-0014	GEOTEXTILE, CLASS 4, TYPE A	SY	232	-	305	-	-	-	537
5018-0050	REMOVAL OF PORTION OF EXISTING BRIDGE MODIFIED	LS	-	-	-	-	-	-	LS
9000-0005	SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER, ENGINEERING	LS	-	-	-	-	-	-	LS
9000-0006	SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER, TEMPORARY SUBSTRUCTURES	LS	-	-	-	-	-	-	LS
9000-0007	SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER	LS	-	-	-	-	-	-	LS
9000-0010	SOIL NAILS	LS	-	-	-	-	-	-	LS
9000-0046	REMOVE AND RESET BLOCK WALL	LS	-	-	-	-	-	-	LS
9000-0056	CSL TESTING	EACH	1	1	-	-	-	-	2
9000-0605	SAFETY HARNESSES AND DOUBLE LANYARDS, FALL PROTECTION	SET	-	-	-	1	-	-	1
9073-0001	DISPOSAL OF BRIDGE WASTE	LS	-	-	-	-	-	-	LS
9077-0001	WORKER HEALTH AND SAFETY	LS	-	-	-	-	-	-	LS
9203-0101	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, S-37605	LS	-	-	-	-	-	-	LS

ALTERNATE STRUCTURE ITEMS

ITEM NUMBER	ITEM	UNIT	TOTAL
8120-0001	BRIDGE STRUCTURE, AS DESIGNED, S-37605	LS	LUMP SUM
8000-0001	PRESTRESSED CONCRETE BRIDGE STRUCTURE	LS	LUMP SUM
8100-0001	STEEL BRIDGE STRUCTURE	LS	LUMP SUM

Mark	Description	By	Chk' d.	Recm' d.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY#: 54732

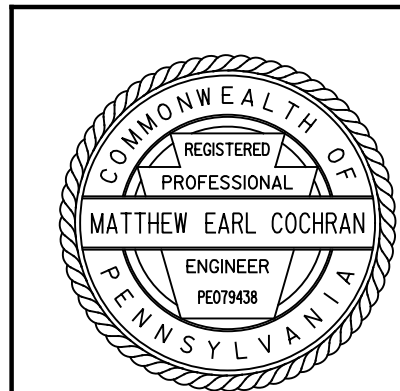
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
QUANTITIES

RECOMMENDED 08/03/2018

SHEET 2 OF 83

S - 37605



GENERAL NOTES (CONT’ D)

FIELD WELDING (CONT’ D) :

DO NOT WELD WHEN SURFACES TO BE WELDED ARE MOIST OR EXPOSED TO RAIN, SNOW, OR WIND, NOR WHEN WELDERS ARE EXPOSED TO INCLEMENT CONDITIONS THAT WILL ADVERSELY AFFECT THE QUALITY OF THE WORK.

DO NOT WELD OR BURN WHEN THE TEMPERATURE IS BELOW 0°F. PREHEAT AND MAINTAIN THE TEMPERATURE OF THE METAL TO AT LEAST 70°F WHEN THE TEMPERATURE OF THE METAL IS BETWEEN 0°F AND 32°F DURING WELDING OR BURNING.

PREHEAT THE STEEL TO THE SPECIFIED MINIMUM TEMPERATURE FOR A DISTANCE EQUAL TO THE THICKNESS OF THE PART BEING WELDED, BUT NOT LESS THAN 3" IN ALL DIRECTIONS FROM THE POINT OF WELDING.

REMOVE BY APPLICATION OF HEAT ANY MOISTURE PRESENT AT POINT OF WELD. PROVIDE WINDBREAKS FOR PROTECTION FROM DIRECT WIND.

PRIOR TO PLACING THE WELD, THOROUGHLY CLEAN ALL PORTIONS OF NEW AND EXISTING SURFACES TO RECEIVE WELDS OF ALL FOREIGN MATTER, INCLUDING PAINT FILM, FOR A DISTANCE OF 2" FROM EACH SIDE OF THE OUTSIDE LINES OF THE WELD.

TEST COMPLETED WELDS USING VISUAL AND NONDESTRUCTIVE METHODS IN ACCORDANCE WITH AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE CHAPTER 6.

PRECAST ELEMENTS:

ULTRA HIGH PERFORMANCE CONCRETE FOR LONGITUDINAL CLOSURE POURS IN APPROACH SLABS:
F'c = 2,500 @ 2 HRS.
F'c = 5,000 @ 7 DAYS

NON-SHRINK GROUT:
F'c = 5,000 PSI @ 24 HRS.

SPLICE COUPLER:
NMB SPLICE SLEEVE - TYPE 2 CONNECTION

PROVIDE GROUTED SPLICE COUPLERS, PRE-APPROVED BULLETIN 15.

SPLICE COUPLER GROUT:
SS MORTAR - f'c = 9,500 PSI

GALVANIZE AND CHROMATE ALL STRUCTURAL STEEL.

PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M 270/M 270M (ASTM A 709/A 709M) GRADE 36 DESIGNATION, EXCEPT WHEN NOTED OTHERWISE.

BOLTS: ASTM F1554, GRADE 55

NUTS: ASTM A563/ A 563M, GRADE DH

WASHERS: ASTM F436/ F436M, TYPE I

SHIMS: PERMANENT PLASTIC SHIMS

PROVIDE TEMPORARY BRACING FOR ALL ELEMENTS UNTIL CONNECTIONS HAVE ACHIEVED ADEQUATE STRENGTH. SUBMIT WORKING DRAWINGS IN ACCORDANCE WITH PUBLICATION 408, SECTION 105.02(c).

SHOW LIFTING LOCATIONS FOR ALL COMPONENTS. CONTRACTOR TO DESIGN THE LIFTING HARDWARE.

PLACE DRILLED SHAFTS AND DRIVEN PILES WITHIN A HORIZONTAL TOLERANCE AS INDICATED IN THE DRILLED CAISSON SPECIAL PROVISION.

SUBMIT, FOR EACH SIZE OF REINFORCEMENT BAR USED, THREE (3) REPRESENTATIVE SPLICE COUPLING SYSTEMS, EITHER SAMPLE OR ACTUAL, TO THE MATERIALS TESTING DIVISION AS PER PUBLICATION 408, SECTION 102.3(e).

PROVIDE 2" CLEAR COVER FOR REINFORCING UNLESS NOTED OTHERWISE.

THE CONTRACTOR MAY SUBSTITUTE ALTERNATE LEVELING DEVICES PROVIDED THEY CAN PRODUCE A STRUCTURE WITHIN THE SPECIFIED ERECTION TOLERANCES.

USE A TROWEL FINISH ON THE TOP SURFACES OF ALL PRECAST ELEMENTS.

CHAMFER ALL EXPOSED CONCRETE EDGES 1" x 1".

FOUNDATION NOTES:

GENERAL:

BLASTING FOR EXCAVATION OF FOUNDATIONS IS NOT PERMITTED.

THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL EXCAVATED SLOPES. DIRECT RUNOFF AWAY FROM THE EXCAVATION. PERFORM ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REQUIREMENTS.

CONSTRUCT TEMPORARY SHORING SOIL NAIL WALL BELOW EXISTING ABUTMENT 2 IN ACCORDANCE WITH SPECIAL PROVISION "SOIL NAILS", PLANS AND DETAILS.

DESIGN AND CONSTRUCT TEMPORARY SHORING/EXCAVATIONS EXCEPT THE SOIL NAIL WALL AT ABUTMENT 2 IN ACCORDANCE WITH PUBLICATION 408, CONTRACT SPECIAL PROVISION, "TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM", AND OSHA.

DRILLED SHAFTS:

AT ABUTMENT 1, PROVIDE 4.0-FOOT DIAMETER ROCK SOCKETS FOR THE DRILLED CAISSONS AT ABUTMENT 1.

CONSTRUCT DRILLED CAISSONS IN ACCORDANCE WITH SPECIAL PROVISION "DRILLED CAISSON" AND PUBLICATION 408, SECTION 1006.

DO NOT USE DRILLING SLURRY FOR CAISSON CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE REPRESENTATIVE. USE TREMIE METHOD FOR CONCRETE PLACEMENT IN THE CAISSONS.

PRIOR TO PLACING CONCRETE IN THE DRILLED CAISSONS, CLEAN THE BOTTOM OF ROCK SOCKET, AND INSPECT IT USING MINI-SID. DO NOT PLACE CONCRETE UNTIL MINI-SID RESULTS ARE REVIEWED AND APPROVED BY THE REPRESENTATIVE.

USE CONCRETE WITH F'c = 3 KSI FOR DRILLED SHAFTS.

THE DRILLED SHAFT CONTRACTOR SHALL PREPARE AND COMPLETE A DRILLED SHAFT INSTALLATION RECORD FOR EACH SHAFT EXCAVATED AND CONSTRUCTED. THIS RECORD SHALL PROVIDE ALL EXCAVATION AND INSTALLATION DATA AND WILL BECOME THE AS-BUILT RECORD FOR THE DRILLED SHAFT.

REMOVE CAKED MATERIAL FROM THE SIDEWALLS AND CUTTINGS FROM THE BOTTOM OF THE DRILLED SHAFT PRIOR TO CONCRETE PLACEMENT.

UPON COMPLETION OF SHAFT EXCAVATION, ALLOW THE ENGINEER TO INSPECT THE ROCK SOCKET. PROVIDE A CAMERA CAPABLE OF ARTICULATING TO VIEW THE ROCK SOCKET SURFACE TO ASSESS THE ROCK QUALITY DESIGNATION (RQD) RELATIVE TO THAT WHICH FORMED THE BASIS OF THE AXIAL RESISTANCE CALCULATION.

PROVIDE AND INSTALL TIP TUBES/THERMAL WIRES IN ACCORDANCE WITH THE SPECIAL PROVISION, "DRILLED CAISSON". PERFORM TIP TESTING IN ALL DRILLED SHAFTS ON THE PROJECT.

SPREAD FOOTINGS:

FOR SPREAD FOOTINGS, OVER-EXCAVATE TO TOP OF SANDSTONE BELOW THE FOOTING, AND BACKFILL TO BOTTOM OF FOOTING WITH CLASS C CONCRETE AS SPECIFIED ON THE SPECIAL PROVISION "CLASS C CEMENT CONCRETE MODIFIED" AND THE ABUTMENT 2 EXCAVATION DETAILS.

SPREAD FOOTINGS MAY BE ORDERED BY A REPRESENTATIVE OF THE DEPARTMENT TO BE AT ANY ELEVATIONS OR OF ANY DIMENSIONS NECESSARY TO PROVIDE A PROPER FOUNDATION.

SOLDIER PILE AND LAGGING WALL:

TEMPORARY CASING MAY BE REQUIRED DURING CAISSON CONSTRUCTION IN ORDER TO MAINTAIN AN OPEN SHAFT. IF CASING IS USED, MAINTAIN CONCRETE LEVELS ABOVE THE BOTTOM OF THE CASING AT ALL TIMES DURING CASING EXTRACTION TO PREVENT CAVED MATERIAL FROM CONTAMINATING THE CONCRETE.

BACKFILL THE DRILLED SHAFT EXCAVATION WITHIN 24-HOURS AFTER DRILLING TO LIMIT THE DETERIORATION OF BEARING MATERIAL.

SOIL NAIL WALL:

INSTALL NAILS IN ACCORDANCE WITH SPECIAL PROVISION "SOIL NAILS".

MEASURE NAIL SPACING ALONG FACE OF EXCAVATION.

ALL NAILS ARE No. 11, 150 KSI STEEL, AND 25 FT LONG.

SHOTCRETE AS REQUIRED TO PREVENT SLOUGHING OF MATERIAL.

GRADE EXCAVATION ABOVE WALL AND ON SIDES TO MEET EXISTING SLOPES. UTILIZE NAILS IF NECESSARY.

FOR PROOF TEST NAILS, DRILL THE ENTIRE LENGTH OF NAIL (25 FT). PRIOR TO GROUTING, INSTALL A FREE STRESSING SLEEVE TO ENSURE FULL TRANSFER OF TEST LOAD TO THE DESIGN BEARING ZONE DURING TESTING. REMOVE THE FREE STRESSING SLEEVE AFTER THE TESTING IS COMPLETED ON THE TEST NAIL.

INDEX OF DRAWINGS			
SHEET	TITLE	SHEET	TITLE
1	GENERAL PLAN & ELEVATION	36	PIER CAP DETAILS
2	QUANTITIES	37	PIER BAR SCHEDULE
3	GENERAL NOTES 1	38	FRAMING PLAN
4	GENERAL NOTES 2 & RATING TABLES	39	SPAN 1 - GIRDER ELEVATION
5	TYP SECTION & FINISHED DECK ELEV	40	SPAN 2 - GIRDER ELEVATION
6	BRIDGE STAGING AREA DECK ELEVS	41	STEEL DETAILS
7	CONCEPTUAL CONSTR SEQUENCE 1	42	LIFT PLATE DETAILS
8	CONCEPTUAL CONSTR SEQUENCE 2	43	MISC GIRDER DETAILS
9	CONCEPTUAL CONSTR SEQUENCE 3	44	PIER CONTINUITY CONNECTION
10	CONCEPTUAL CONSTR SEQUENCE 4	45	CAMBER TABLE & REACTIONS
11	STAKE-OUT PLAN	46	BEARING DETAILS 1
12	ABUTMENT 1 PLAN	47	BEARING DETAILS 2
13	ABUTMENT 1 ELEVATION	48	DECK SLAB PLAN
14	ABUTMENT 1 SECTIONS	49	TYPICAL DECK SLAB SECTION
15	ABUTMENT 1 CAP DETAILS	50	BARRIER/SIDEWALK DETAILS
16	WINGWALL A	51	ABUTMENT 1 CONCRETE DIAPHRAGM
17	WINGWALL B	52	ABUTMENT 2 CONCRETE DIAPHRAGM
18	SOLDIER PILE & LAGGING DETAILS	53	PIER CONCRETE DIAPHRAGM
19	ABUT 1 DRAINAGE & WATERPROOFING	54	SUPERSTRUCTURE BAR SCHEDULE
20	ABUTMENT 1 BAR SCHEDULE	55	APPROACH SLAB 1
21	ABUTMENT 2 PLAN & ELEVATION	56	APPROACH SLAB 1 DETAILS
22	ABUTMENT 2 FOOTING PLAN	57	APPROACH SLAB 2
23	ABUTMENT 2 SECTIONS	58	APPROACH SLAB 2 DETAILS
24	ABUTMENT 2 PRECAST CAP DETAILS	59	APPROACH SLAB BARRIERS
25	WINGWALL C DETAILS	60	ABUT 1 APPROACH SLAB BAR SCHEDULE
26	WINGWALL D DETAILS	61	ABUT 2 APPROACH SLAB BAR SCHEDULE
27	ABUT 2 DRAINAGE & WATERPROOFING	62	CONCEPTUAL ERECTION PLAN 1
28	ABUTMENT 2 EXCAVATION DETAILS	63	CONCEPTUAL ERECTION PLAN 2
29	ABUTMENT 2 BAR SCHEDULE	64	CONCEPTUAL BRIDGE STAGING AREA
30	SOIL NAIL WALL DETAILS 1	65	TEMPORARY ABUTMENT DETAILS
31	SOIL NAIL WALL DETAILS 2	66	SPAN 2: SPMT CONCEPTUAL MOVE PATH
32	SOIL NAIL WALL DETAILS 3	67	SPAN 1: SPMT CONCEPTUAL MOVE PATH
33	PIER PLAN & ELEVATION	68	CONSTRUCTION TOLERANCES 1
34	PIER CAISSON DETAILS	69	MISCELLANEOUS DETAILS
35	PIER COLUMN DETAILS	70-83	STRUCTURE BORINGS

BRIDGE LOAD RATINGS WITH FUTURE WEARING SURFACE							
ADTT (2038) = 160 (ONE DIRECTIONAL)							
STEEL PLATE	GIRDER, 27 INCH DEEP WEB	H20	HS20	ML-80	TK-527	PHL-93	P-82
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.704	0.704	0.704	0.704	0.704	N/A
	BEAM	5	5	5	5	5	N/A
	LOCATION (FT)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	N/A
	LIMIT STATE	STR-I	STR-I	STR-I	STR-I	STR-I	N/A
	RATING FACTOR	2.34M	1.68M	1.42M	1.46M	1.23M	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.704	0.704	0.704	0.704	0.704	0.704
	BEAM	5	5	5	5	5	5
	LOCATION (FT)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	28.27 (SPAN 1)
	LIMIT STATE	STR-II	STR-II	STR-II	STR-II	STR-IA	STR-II
	RATING FACTOR	3.04M	2.18M	1.85M	1.90M	1.59M	1.24M

BRIDGE LOAD RATINGS WITHOUT FUTURE WEARING SURFACE							
ADTT (2038) = 160 (ONE DIRECTIONAL)							
STEEL PLATE	GIRDER, 27 INCH DEEP WEB	H20	HS20	ML-80	TK-527	PHL-93	P-82
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.704	0.704	0.704	0.704	0.704	N/A
	BEAM	5	5	5	5	5	N/A
	LOCATION (FT)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	N/A
	LIMIT STATE	STR-I	STR-I	STR-I	STR-I	STR-I	N/A
	RATING FACTOR	2.45M	1.75M	1.49M	1.53M	1.28M	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.704	0.704	0.704	0.704	0.704	0.704
	BEAM	5	5	5	5	5	5
	LOCATION (FT)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	31.80 (SPAN 1)	28.27 (SPAN 1)
	LIMIT STATE	STR-II	STR-II	STR-II	STR-II	STR-IA	STR-II
	RATING FACTOR	3.17M	2.27M	1.93M	1.98M	1.66M	1.30M

RATING NOTES:

GIVEN DISTRIBUTION FACTOR IS THE VEHICULAR LIVE LOAD DISTRIBUTION FACTOR USED TO PRODUCE THE GIVEN RATING.

SYMBOL DESIGNATION FOR RATING FACTORS:
M - MOMENT RATING FACTOR CONTROLS
V - SHEAR RATING FACTOR CONTROLS

MAXIMUM MOMENT CAPACITY = 3,365.3 KIP-FT @ 31.80 FT (SPAN 1)
MAXIMUM SHEAR CAPACITY = 334.79 KIPS @ 0.00 FT (SPAN 2)

LEGEND

SPMT = SELF PROPELLED MODULAR TRANSPORTER

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

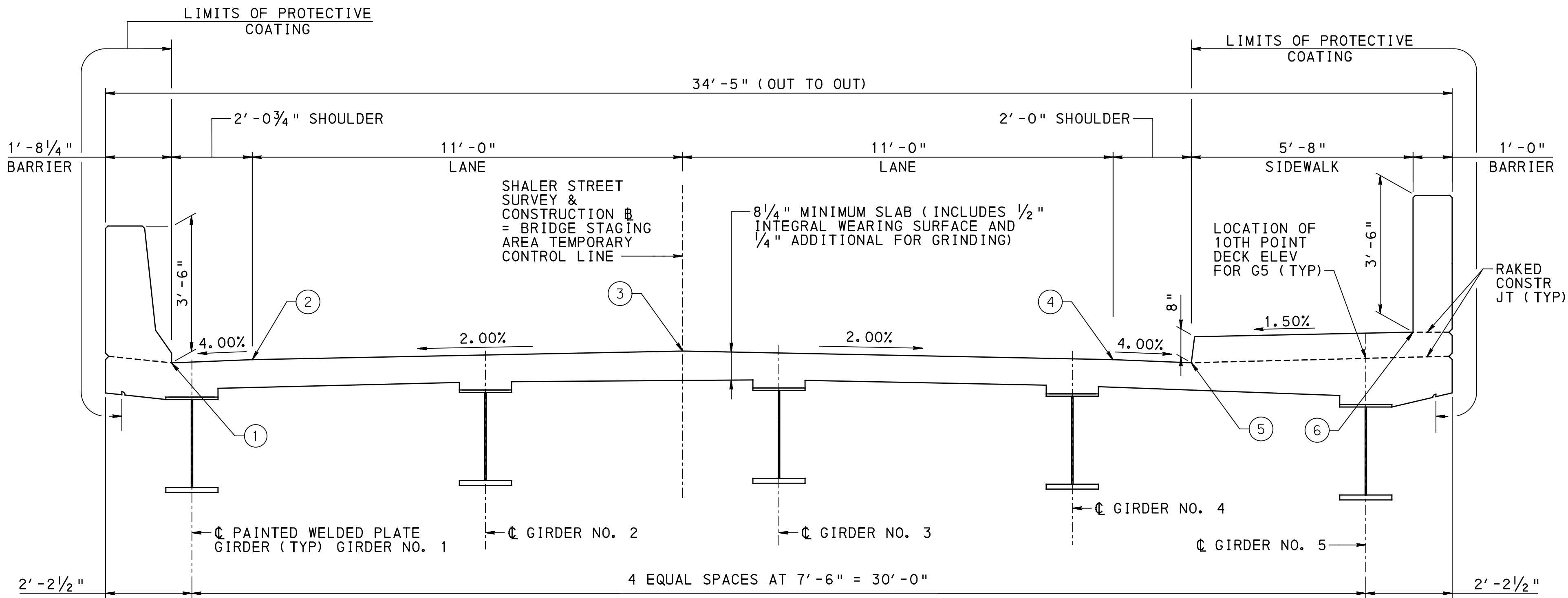
SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

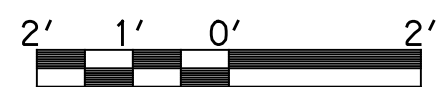
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
GENERAL NOTES 2 & RATING TABLES

RECOMMENDED	08/03/2018	SHEET 4 OF 83
		S - 37605

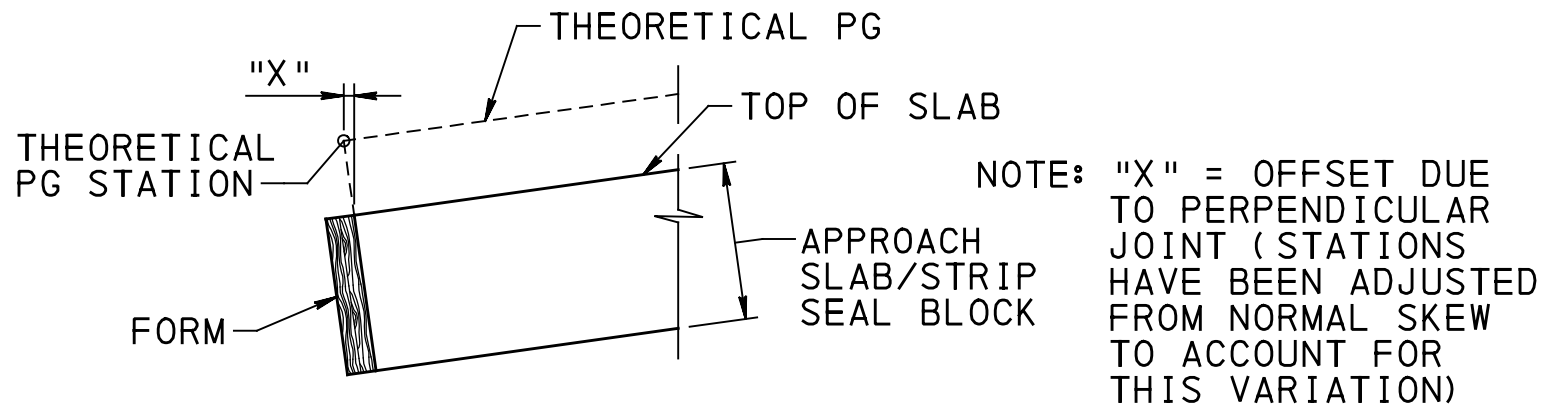




TYPICAL SECTION



FINAL STRUCTURE LOCATION TOP OF DECK ELEVATIONS AT 10' STATIONS ■						
STATION	PT ①	PT ②	PT ③	PT ④	PT ⑤	PT ⑥
11+25.60	780.85	-	-	-	-	-
11+25.78	780.88	780.96	-	-	-	-
11+26.74	781.01	781.09	781.31	-	-	-
11+27.70	781.15	781.23	781.45	781.23	-	-
11+27.88	781.17	781.25	781.47	781.25	781.17	-
11+28.37	781.24	781.32	781.54	781.32	781.24	782.01
11+30.00	781.47	781.55	781.77	781.55	781.47	782.24
11+40.00	782.87	782.95	783.17	782.95	782.87	783.64
11+50.00	784.27	784.35	784.57	784.35	784.27	785.04
11+60.00	785.67	785.75	785.97	785.75	785.67	786.44
11+70.00	787.07	787.15	787.37	787.15	787.07	787.84
11+80.00	788.47	788.55	788.77	788.55	788.47	789.24
11+90.00	789.87	789.95	790.17	789.95	789.87	790.64
12+00.00	791.27	791.35	791.57	791.35	791.27	792.04
12+10.00	792.67	792.75	792.97	792.75	792.67	793.44
12+20.00	794.07	794.15	794.37	794.15	794.07	794.84
12+30.00	795.47	795.55	795.77	795.55	795.47	796.24
12+40.00	796.87	796.95	797.17	796.95	796.87	797.64
12+50.00	798.27	798.35	798.57	798.35	798.27	799.04
12+60.00	799.67	799.75	799.97	799.75	799.67	800.44
12+65.60	800.45	800.53	800.75	800.53	800.45	801.23
12+65.78	-	800.56	800.78	800.56	800.48	801.25
12+66.74	-	-	800.91	800.69	800.61	801.39
12+67.70	-	-	-	800.83	800.75	801.52
12+67.88	-	-	-	-	800.77	801.55
12+68.37	-	-	-	-	-	801.61



PERPENDICULAR JOINT DETAIL

NOT TO SCALE

TOP OF SLAB ELEVATIONS AT 10' STATIONS ABUTMENT 1 APPROACH SLAB ■						
STATION	PT ①	PT ②	PT ③	PT ④	PT ⑤	PT ⑥
10+99.41*	777.18					
10+99.57*	777.21	777.29				
11+00.00	777.27	777.35				
11+00.49*	777.34	777.42	777.64			
11+01.46*	777.47	777.55	777.77	777.55		
11+01.64*	777.50	777.58	777.80	777.58	777.50	
11+02.02*	777.55	777.63	777.85	777.63	777.55	778.33
11+10.00	778.67	778.75	778.97	778.75	778.67	779.44
11+20.00	780.07	780.15	780.37	780.15	780.07	780.84
11+24.34	780.68	780.76	780.98	780.76	780.68	781.45
11+24.52		780.78	781.00	780.78	780.70	781.48
11+25.49			781.14	780.92	780.84	781.61
11+26.45				781.05	780.97	781.75
11+26.62					781.00	781.77
11+27.12						781.84

* STATIONS VARY FROM SKEW ANGLE, SEE PERPENDICULAR JOINT DETAIL

TOP OF SLAB ELEVATIONS AT 10' STATIONS ABUTMENT 2 APPROACH SLAB ■						
STATION	PT ①	PT ②	PT ③	PT ④	PT ⑤	PT ⑥
12+66.85	800.63					
12+67.03	800.65	800.73				
12+68.00	800.79	800.87	801.09			
12+68.96	800.92	801.00	801.22	801.00		
12+69.13	800.95	801.03	801.25	801.03	800.95	
12+69.63	801.02	801.10	801.32	801.10	801.02	801.79
12+70.00	801.07	801.15	801.37	801.15	801.07	801.84
12+80.00	802.47	802.55	802.77	802.55	802.47	803.24
12+90.00	803.87	803.95	804.17	803.95	803.87	804.64
12+91.92*	804.14	804.22	804.44	804.22	804.14	804.91
12+92.08*		804.24	804.46	804.24	804.16	804.93
12+93.00*			804.59	804.37	804.29	805.06
12+93.97*				804.51	804.42	805.20
12+94.15*					804.45	805.22
12+94.53*						805.28

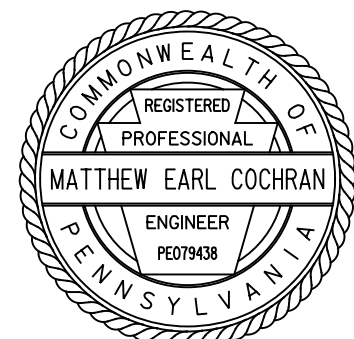
* STATIONS VARY FROM SKEW ANGLE, SEE PERPENDICULAR JOINT DETAIL

FINAL STRUCTURE LOCATION TOP OF DECK ELEVATIONS AT GIRDER 10TH POINTS ■						
	10TH POINT	G1	G2	G3	G4	G5 ◆
☉ BRG ABUT 1	0.00	780.88	781.15	781.29	781.24	781.36
SPAN 1	0.10	781.84	782.12	782.26	782.20	782.33
	0.20	782.81	783.08	783.23	783.17	783.29
	0.30	783.78	784.05	784.19	784.13	784.26
	0.40	784.74	785.01	785.16	785.10	785.22
	0.50	785.71	785.98	786.12	786.07	786.19
	0.60	786.67	786.95	787.09	787.03	787.16
	0.70	787.64	787.91	788.06	788.00	788.12
☉ BRG SPAN 1 ☉ PIER	0.80	788.61	788.88	789.02	788.96	789.09
	0.90	789.57	789.84	789.99	789.93	790.05
	1.00	790.54	790.81	790.95	790.90	791.02
☉ PIER	-	790.68	790.95	791.09	791.04	791.16
☉ BRG SPAN 2 ☉ PIER	0.00	790.82	791.09	791.23	791.18	791.30
SPAN 2	0.10	791.78	792.06	792.20	792.14	792.27
	0.20	792.75	793.02	793.17	793.11	793.23
	0.30	793.72	793.99	794.13	794.07	794.20
	0.40	794.68	794.95	795.10	795.04	795.16
	0.50	795.65	795.92	796.06	796.01	796.13
	0.60	796.61	796.89	797.03	796.97	797.10
	0.70	797.58	797.85	798.00	797.94	798.06
☉ BRG ABUT 2	0.80	798.55	798.82	798.96	798.90	799.03
	0.90	799.51	799.78	799.93	799.87	799.99
	1.00	800.48	800.75	800.89	800.84	800.96

◆ ELEVATION GIVEN AT TOP OF RAKED CONSTR JT (SEE TYPICAL SECTION)

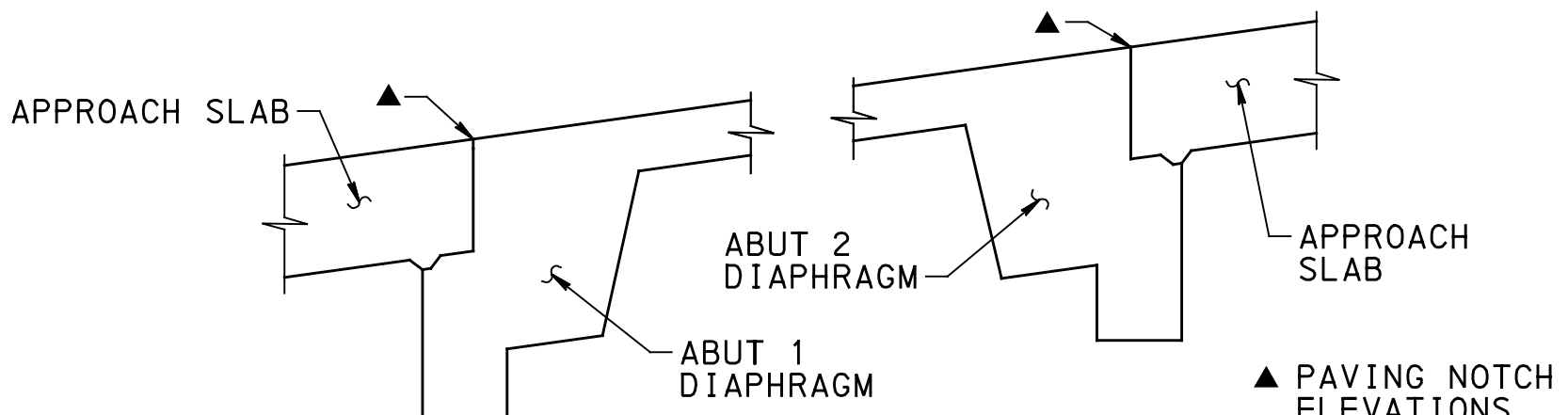
■ SEE NOTE 4

NOTE: DECK ELEVATIONS ARE GIVEN AT THE ☉ OF EACH GIRDER. LOCATIONS GIVEN ARE 10TH POINTS OF THE INDIVIDUAL SIMPLE SPANS AS MEASURED BETWEEN ☉ BRGS (SPAN 1 AND 2 SIMPLE SPAN LENGTH = 69'-0")



FINAL STRUCTURE LOCATION TOP OF DECK ELEVATIONS AT KEY POINTS ■							
LOCATION		PT ①	PT ②	PT ③	PT ④	PT ⑤	PT ⑥
BEGIN STRUCTURE (ABUT 1 PAVING NOTCH)	STATION	11+24.34	11+24.52	11+25.49	11+26.45	11+26.62	11+27.12
	ELEV	780.68	780.78	781.14	781.05	781.00	781.84
BEGIN CLOSURE POUR	STATION	11+91.92	11+92.10	11+93.06	11+94.02	11+94.20	11+94.69
	ELEV	790.14	790.24	790.60	790.51	790.46	791.30
SPAN 1 CL BRG AT PIER	STATION	11+94.60	11+94.78	11+95.74	11+96.70	11+96.88	11+97.37
	ELEV	790.51	790.62	790.97	790.89	790.83	791.67
CL PIER	STATION	11+95.60	11+95.78	11+96.74	11+97.70	11+97.88	11+98.37
	ELEV	790.65	790.76	791.11	791.03	790.97	791.81
SPAN 2 CL BRG AT PIER	STATION	11+96.60	11+96.78	11+97.74	11+98.70	11+98.88	11+99.37
	ELEV	790.79	790.90	791.25	791.17	791.11	791.95
END CLOSURE POUR	STATION	11+99.28	11+99.46	12+00.42	12+01.38	12+01.56	12+02.05
	ELEV	791.17	791.27	791.63	791.54	791.49	792.33
END STRUCTURE (ABUT 2 PAVING NOTCH)	STATION	12+66.85	12+67.03	12+67.99	12+68.96	12+69.13	12+69.63
	ELEV	800.63	800.73	801.09	801.00	800.95	801.79
BEGIN ABUT 2 SLEEPER SLAB STRIP SEAL BLOCK	STATION	12+92.08*	12+92.25*	12+93.16*	12+94.13*	12+94.32*	12+94.70*
	ELEV	804.16	804.26	804.61	804.53	804.47	805.30
END ABUT 2 SLEEPER SLAB STRIP SEAL BLOCK	STATION	12+94.07*	12+94.23*	12+95.15*	12+96.12*	12+96.30*	12+96.69*
	ELEV	804.44	804.54	804.89	804.81	804.75	805.58

* STATIONS VARY FROM SKEW ANGLE, SEE PERPENDICULAR JOINT DETAIL



ABUT 1
PAVING NOTCH ELEVATIONS

(SHOWN AFTER DIAMOND GRINDING)
NOT TO SCALE

NOTES:

- FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.
- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- ALL ELEVATIONS PROVIDED ON THIS SHEET ARE FOR THE SUPERSTRUCTURE IN THE FINAL LOCATION ON THE SUBSTRUCTURE UNITS. FOR DECK ELEVATIONS IN THE BRIDGE STAGING AREA, SEE SHEET 6.
- FINISHED DECK AND APPROACH SLAB ELEVATIONS SHOWN ARE FOR FINAL CONDITION AFTER GRINDING OF ADDITIONAL 1/4" ON DECK SURFACE.

Mark	Description	By	Chk' d.	Recm' d.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

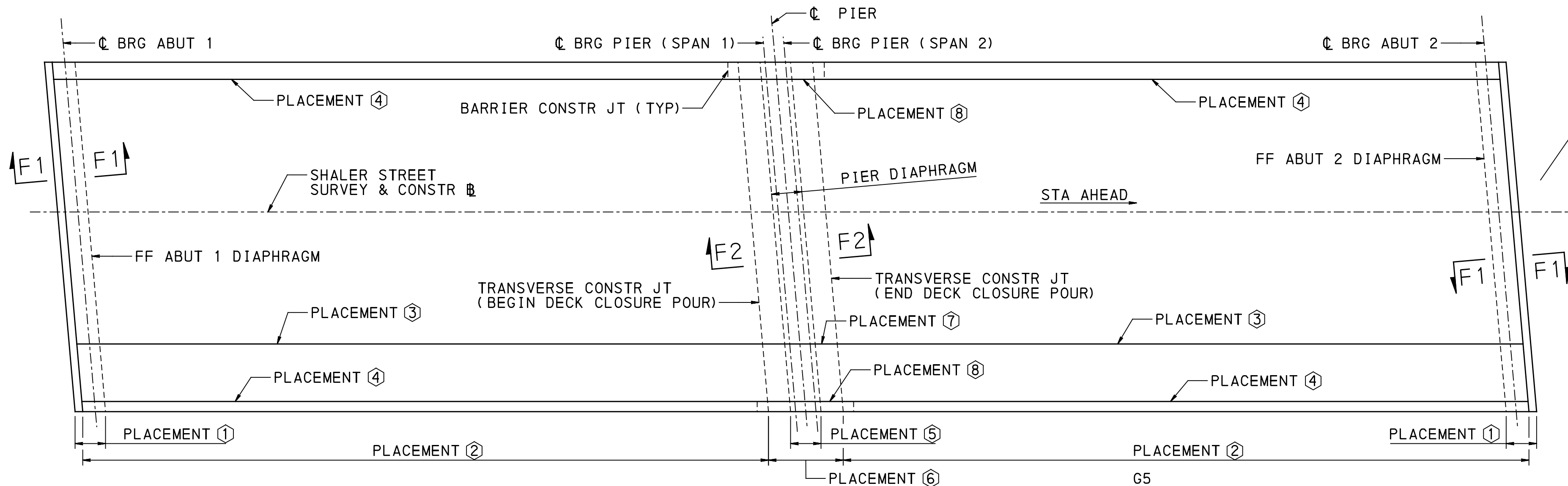
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
TYP SECTION & FINISHED DECK ELEV

RECOMMENDED 08/03/2018

SHEET 5 OF 83

S - 37605



DECK PLACEMENT PLAN

NOT TO SCALE

PLACEMENT SEQUENCE

POURS IN BRIDGE STAGING AREA:

- CAST PLACEMENT 1 (ABUTMENT DIAPHRAGMS). WAIT TWO HOURS MINIMUM BETWEEN PLACEMENT 1 AND 2.
- CAST PLACEMENT 2 (DECK SLABS).
- CAST PLACEMENT 3 (SIDEWALK). DO NOT CONSTRUCT SIDEWALK UNTIL 7 DAYS AFTER LAST DECK POUR IS COMPLETE AND ALL CONCRETE HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,250 PSI. WAIT 24 HOURS MIN BETWEEN PLACEMENT 3 AND 4.
- CAST PLACEMENT 4 (BARRIERS).

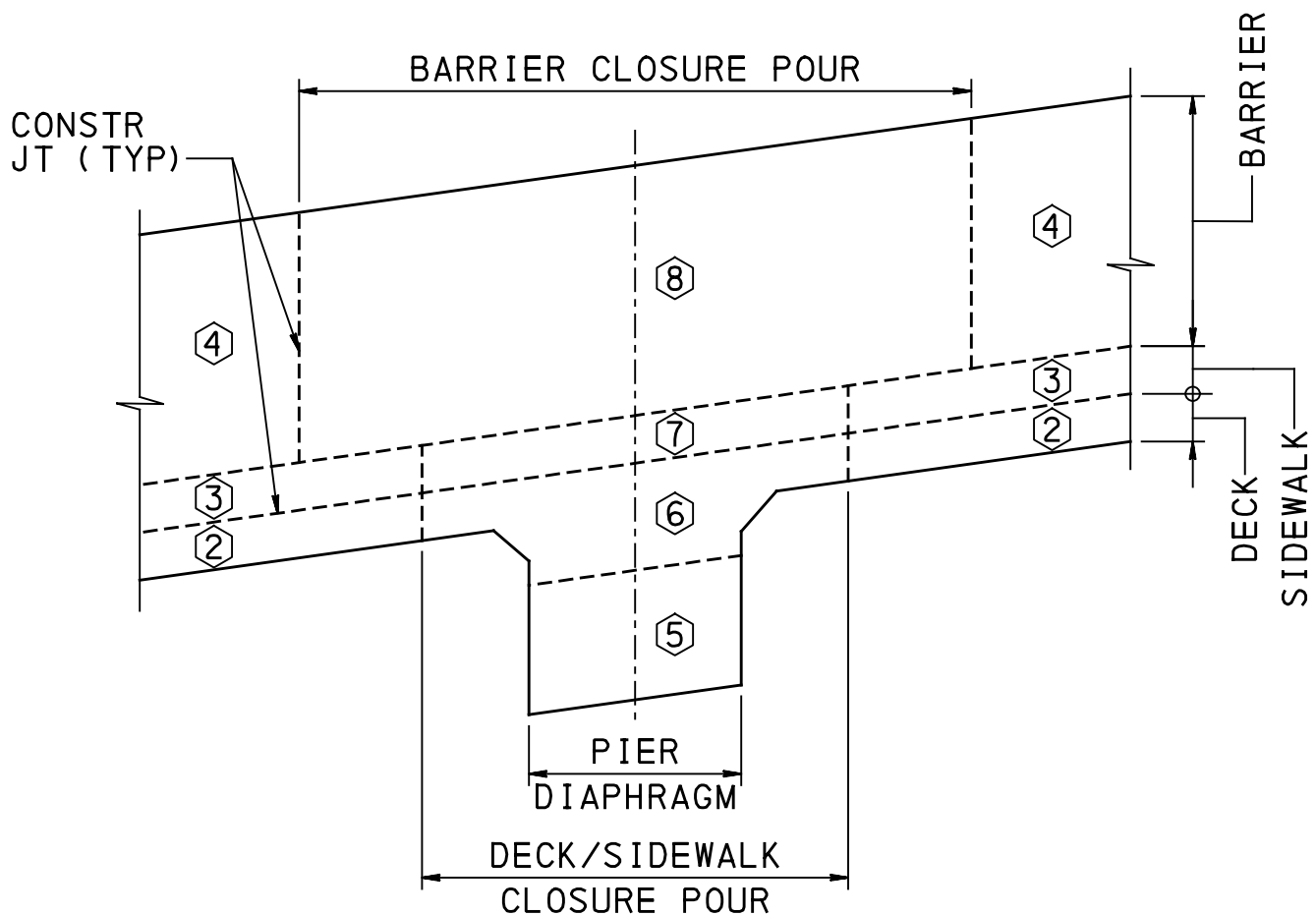
POURS IN FINAL BRIDGE LOCATION:

- CAST PLACEMENT 5 (PIER DIAPHRAGM) AFTER BRIDGE SPANS ARE IN THEIR FINAL POSITIONS. WAIT TWO HOURS MINIMUM BETWEEN PLACEMENT 5 AND 6.
- CAST PLACEMENT 6 (DECK SLAB CLOSURE). WAIT 24 HOURS MINIMUM BETWEEN PLACEMENT 6 AND 7.
- CAST PLACEMENT 7 (SIDEWALK CLOSURE). WAIT 24 HOURS MINIMUM BETWEEN PLACEMENT 7 AND 8.
- CAST PLACEMENT 8 (BARRIER CLOSURE).

SECTION F1-F1

NOT TO SCALE

NOTE: ABUT 1 DIAPHRAGM SHOWN, ABUT 2 DIAPHRAGM SIMILAR



SECTION F2-F2

NOT TO SCALE

NOTES:

- FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.
- FOR GENERAL NOTES, SEE SHEETS 3 & 4.
- FOR TYPICAL SECTION AND FINISHED DECK ELEVATIONS IN THE FINAL STRUCTURE LOCATION, SEE SHEET 5.
- FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
- FOR DECK SLAB DETAILS, SEE SHEETS 48 THRU 54.
- FOR CONCEPTUAL BRIDGE STAGING AREA LAYOUT, SEE SHEET 64.
- TEMPORARY DECK ELEVATIONS ARE NOT PROVIDED WITHIN THE DECK CLOSURE POUR REGION.
- FOR TEMPORARY ABUTMENT DETAILS IN THE BRIDGE STAGING AREA, SEE SHEET 65. BRIDGE STAGING AREA DECK ELEVATIONS ASSUME GROUND AND BEAM SEAT ELEVATIONS AS INDICATED WITH 6'-3" OF VERTICAL CLEARANCE BELOW THE BEARING ASSEMBLIES TO PROVIDE ADEQUATE CLEARANCE FOR JACKING PRIOR TO MOVING SPMTS UNDER THE STRUCTURE FOR THE BRIDGE MOVE. ALTERNATE CONFIGURATIONS ARE PERMITTED. SUBMIT ANY CHANGES IN TEMPORARY DECK ELEVATIONS FOR REVIEW AND APPROVAL.
- TEMPORARY DECK ELEVATIONS SHOWN ASSUME 8 1/4" DECK PRIOR TO GRINDING.

BRIDGE STAGING AREA - SPAN 1 TOP OF DECK ELEVATIONS AT 10' STATIONS**						
STATION	PT ①	PT ②	PT ③	PT ④	PT ⑤	PT ⑥
11+25.60	778.85	-	-	-	-	-
11+25.78	778.88	778.96	-	-	-	-
11+26.74	779.01	779.09	779.31	-	-	-
11+27.70	779.15	779.23	779.45	779.23	-	-
11+27.88	779.17	779.25	779.47	779.25	779.17	-
11+28.37	779.24	779.32	779.54	779.32	779.24	779.99
11+30.00	779.47	779.55	779.77	779.55	779.47	780.22
11+40.00	780.87	780.95	781.17	780.95	780.87	781.62
11+50.00	782.27	782.35	782.57	782.35	782.27	783.02
11+60.00	783.67	783.75	783.97	783.75	783.67	784.42
11+70.00	785.07	785.15	785.37	785.15	785.07	785.82
11+80.00	786.47	786.55	786.77	786.55	786.47	787.22
11+90.00	787.87	787.95	788.17	787.95	787.87	788.62
11+91.92*	788.14	788.22	788.44	788.22	788.14	788.89
11+92.10*	-	788.24	788.46	788.24	788.16	788.92
11+93.06*	-	-	788.60	788.38	788.30	789.05
11+94.02*	-	-	-	788.51	788.43	789.18
11+94.20*	-	-	-	-	788.46	789.21
11+94.69*	-	-	-	-	-	789.28

BRIDGE STAGING AREA - SPAN 2 TOP OF DECK ELEVATIONS AT 10' STATIONS**						
STATION	PT ①	PT ②	PT ③	PT ④	PT ⑤	PT ⑥
11+99.28*	779.42	-	-	-	-	-
11+99.46*	779.44	779.52	-	-	-	-
12+00.00	779.52	779.60	-	-	-	-
12+00.42*	779.58	779.66	779.88	-	-	-
12+01.38*	779.71	779.79	780.01	779.79	-	-
12+01.56*	779.74	779.82	780.04	779.82	779.74	-
12+02.05*	779.81	779.89	780.11	779.89	779.81	780.56
12+10.00	780.92	781.00	781.22	781.00	780.92	781.67
12+20.00	782.32	782.40	782.62	782.40	782.32	783.07
12+30.00	783.72	783.80	784.02	783.80	783.72	784.47
12+40.00	785.12	785.20	785.42	785.20	785.12	785.87
12+50.00	786.52	786.60	786.82	786.60	786.52	787.27
12+60.00	787.92	788.00	788.22	788.00	787.92	788.67
12+65.60	788.70	788.78	789.00	788.78	788.70	789.46
12+65.78	-	788.81	789.03	788.81	788.73	789.48
12+66.74	-	-	789.16	788.94	788.86	789.62
12+67.70	-	-	-	789.08	789.00	789.75
12+67.88	-	-	-	-	789.02	789.77
12+68.37	-	-	-	-	-	789.84

BRIDGE STAGING AREA - SPAN 1 TOP OF DECK ELEVATIONS AT GIRDER 10TH POINTS (SEE NOTES 8 AND 9)						
	10TH POINT	G1	G2	G3	G4	G5 ♦
BRG ABUT 1	0.00	778.88	779.15	779.29	779.24	779.34
	0.10	779.84	780.12	780.26	780.20	780.30
	0.20	780.81	781.08	781.23	781.17	781.27
	0.30	781.78	782.05	782.19	782.13	782.24
	0.40	782.74	783.01	783.16	783.10	783.20
	0.50	783.71	783.98	784.12	784.07	784.17
	0.60	784.67	784.95	785.09	785.03	785.13
	0.70	785.64	785.91	786.06	786.00	786.10
	0.80	786.61	786.88	787.02	786.96	787.07
	0.90	787.57	787.84	787.99	787.93	788.03
BEGIN DECK CLOSURE POUR	0.96	788.16	788.44	788.58	788.52	788.62

BRIDGE STAGING AREA - SPAN 2 TOP OF DECK ELEVATIONS AT GIRDER 10TH POINTS (SEE NOTES 8 AND 9)						
	10TH POINT	G1	G2	G3	G4	G5 ♦
END DECK CLOSURE POUR	0.04	779.44	779.72	779.86	779.80	779.90
	0.10	780.03	780.31	780.45	780.39	780.50
	0.20	781.00	781.27	781.42	781.36	781.46
	0.30	781.97	782.24	782.38	782.32	782.43
	0.40	782.93	783.21	783.35	783.29	783.39
	0.50	783.90	784.17	784.31	784.26	784.36
	0.60	784.86	785.14	785.28	785.22	785.33
	0.70	785.83	786.10	786.25	786.19	786.29
	0.80	786.80	787.07	787.21	787.15	787.26
	0.90	787.76	788.04	788.18	788.12	788.22
BRG ABUT 2	1.00	788.73	789.00	789.14	789.09	789.19

BRIDGE STAGING AREA - SPAN 1 TOP OF DECK ELEVATIONS AT KEY POINTS**							
LOCATION		PT ①	PT ②	PT ③	PT ④	PT ⑤	PT ⑥
BEGIN STRUCTURE (ABUT 1 PAVING NOTCH)	STATION	11+24.34	11+24.52	11+25.49	11+26.45	11+26.62	11+27.12
	ELEV	778.68	778.78	779.14	779.05	779.00	779.82
BEGIN BARRIER CLOSURE POUR	STATION	11+90.85	11+91.03	11+91.99	11+92.95	11+93.13	11+93.62
	ELEV	787.99	788.09	788.45	788.36	788.31	789.13

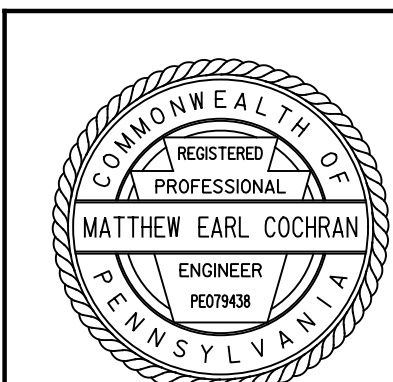
BRIDGE STAGING AREA - SPAN 2 TOP OF DECK ELEVATIONS AT KEY POINTS**							
LOCATION		PT ①	PT ②	PT ③	PT ④	PT ⑤	PT ⑥
END BARRIER CLOSURE POUR	STATION	12+00.35	12+00.53	12+01.49	12+02.45	12+02.63	12+03.12
	ELEV	779.57	779.67	780.03	779.94	779.89	780.71
END STRUCTURE (ABUT 2 PAVING NOTCH)	STATION	12+66.85	12+67.03	12+67.99	12+68.96	12+69.13	12+69.63
	ELEV	788.88	788.98	789.34	789.25	789.20	790.02

♦ ELEVATION GIVEN AT TOP OF RAKED CONSTRUCTION JT (SEE TYPICAL SECTION)

* BEGIN/END STATION OF DECK CLOSURE POUR

** FOR PT ① - PT ⑥ LOCATIONS, SEE TYPICAL SECTION (SEE NOTES 3, 8, AND 9)

NOTE: DECK ELEVATIONS ARE GIVEN AT THE C OF EACH GIRDER. LOCATIONS ARE GIVEN AT THE 10TH POINTS OF THE INDIVIDUAL SIMPLE SPANS AS MEASURED BETWEEN C BRGS (SPAN 1 AND 2 SIMPLE SPAN LENGTH = 69'-0")



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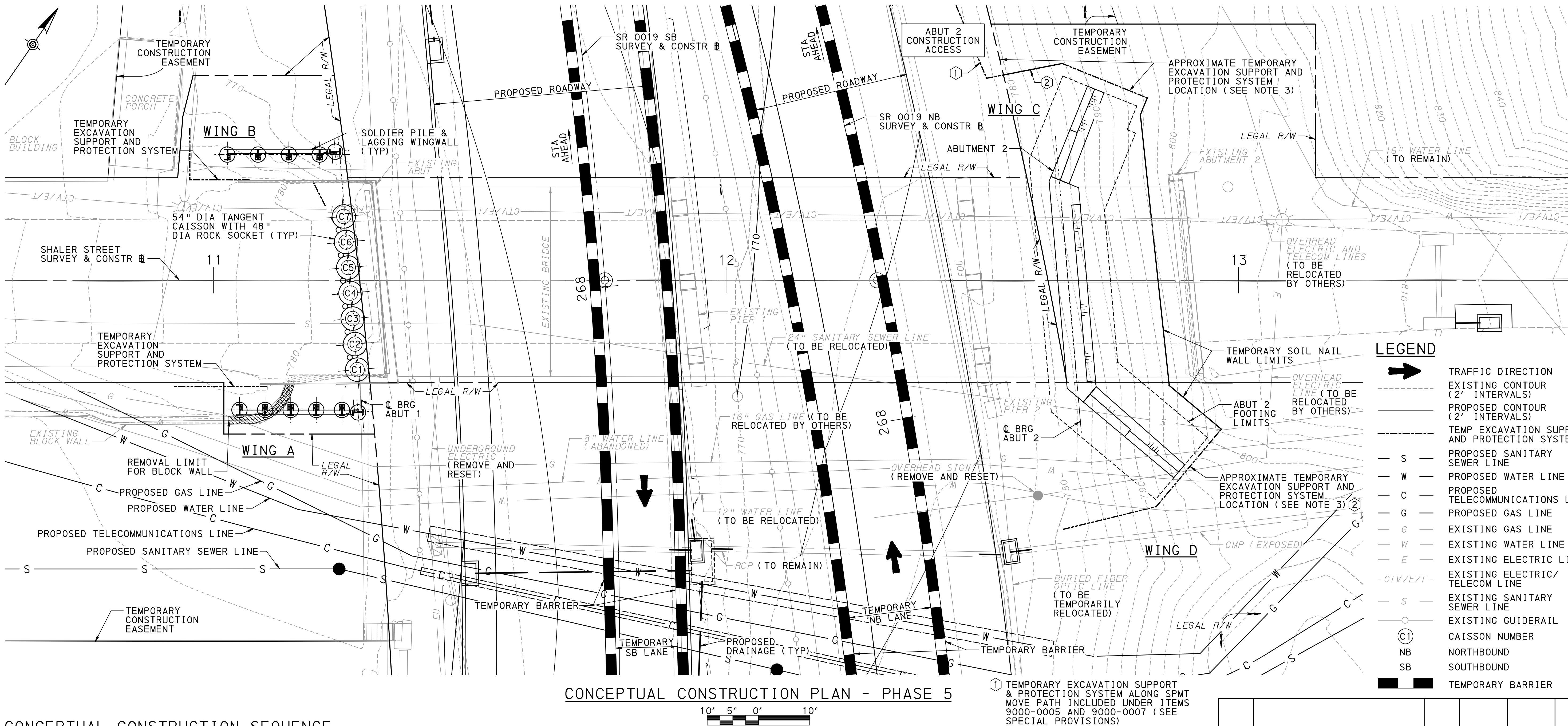
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SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
BRIDGE STAGING AREA DECK ELEVS

RECOMMENDED 08/03/2018

SHEET 6 OF 83

S - 37605



CONCEPTUAL CONSTRUCTION SEQUENCE

PHASE 5

ABUTMENT 1

1. IMPLEMENT PHASE 5 OF THE TRAFFIC CONTROL PLAN.
2. INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT WINGS A AND B AND REMOVE PORTION OF EXISTING BLOCK WALL AT WING A UNDER SHALER STREET SINGLE LANE CLOSURES USING ALTERNATING TRAFFIC WITH FLAGMEN.
3. CONSTRUCT SOLDIER PILE WINGWALLS A AND B. INSTALL CONCRETE LAGGING FOR WINGWALLS ONLY.
4. RESET BLOCK WALL AS REQUIRED.
5. IMPLEMENT SHALER STREET DETOUR TO FACILITATE CAISSON INSTALLATION. (CAISSON INSTALLATION MAY OVERLAP WITH PHASE 7 AFTER SUPERSTRUCTURE DEMOLITION). DETOUR WILL REMAIN IN PLACE UNTIL NEW STRUCTURE IS OPEN TO TRAFFIC. SEE TRAFFIC CONTROL PLAN/SECTION 901 SPECIAL PROVISION FOR RESTRICTIONS.
6. INSTALL 54" DIAMETER TANGENT CAISSONS WITH 48" DIAMETER ROCK SOCKETS BEHIND EXISTING ABUTMENT 1.

ABUTMENT 2

1. IMPLEMENT PHASE 5 OF THE TRAFFIC CONTROL PLAN. REMOVE EXISTING CONCRETE BARRIER IN FRONT OF ABUTMENT 2.
2. INSTALL SOIL NAIL WALL TO SUPPORT EXISTING ABUTMENT 2 AND TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT WINGWALLS (SEE NOTE 3).
3. FINISH EXCAVATION FOR PROPOSED ABUTMENT 2 FOOTING.
4. CONSTRUCT ABUTMENT 2 AND WINGWALL C AND D FOOTINGS AND STEMS TO BOTTOM OF PRECAST CAP ELEVATION.

SUPERSTRUCTURE (BRIDGE STAGING AREA)

1. PREPARE BRIDGE STAGING AREA BY RAISING GRADE TO FACILITATE SUPERSTRUCTURE PLACEMENT VIA SPMTs.
2. CONSTRUCT SPAN 1 AND 2 SUPERSTRUCTURES IN BRIDGE STAGING AREA.

NOTES:

1. PHASE NUMBERS CORRESPOND TO PHASING IN THE TRAFFIC CONTROL PLANS.
2. ALL CONSTRUCTION ACTIVITIES SHOWN ON THIS SHEET ARE TO TAKE PLACE PRIOR TO DEMOLITION OF EXISTING BRIDGE.
3. LOCATE TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM TO PROVIDE ADEQUATE ACCESS TO CONSTRUCT ABUTMENT 2 AND FOR MOVEMENT OF SPMTs WHEN PLACING SUPERSTRUCTURE.
4. CONSTRUCTION ACTIVITIES AT ABUTMENT 1 AND ABUTMENT 2 ARE ASSUMED TO BE COMPLETED CONCURRENTLY.
5. SEQUENCE/COORDINATE CONSTRUCTION ACTIVITIES TO MINIMIZE CLOSURE OF SHALER STREET.
6. REFER TO TRAFFIC CONTROL PLANS FOR ROADWAY WORK TAKING PLACE DURING THIS PHASE OF CONSTRUCTION.

- ① TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM ALONG SPMT MOVE PATH INCLUDED UNDER ITEMS 9000-0005 AND 9000-0007 (SEE SPECIAL PROVISIONS)
- ② TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM INCLUDED UNDER ITEM 9203-0101 (SEE SPECIAL PROVISIONS)

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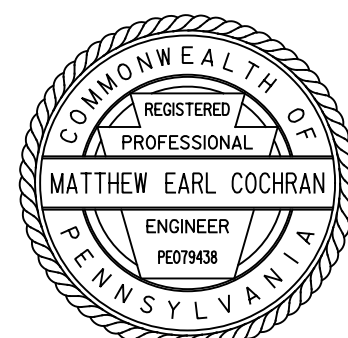
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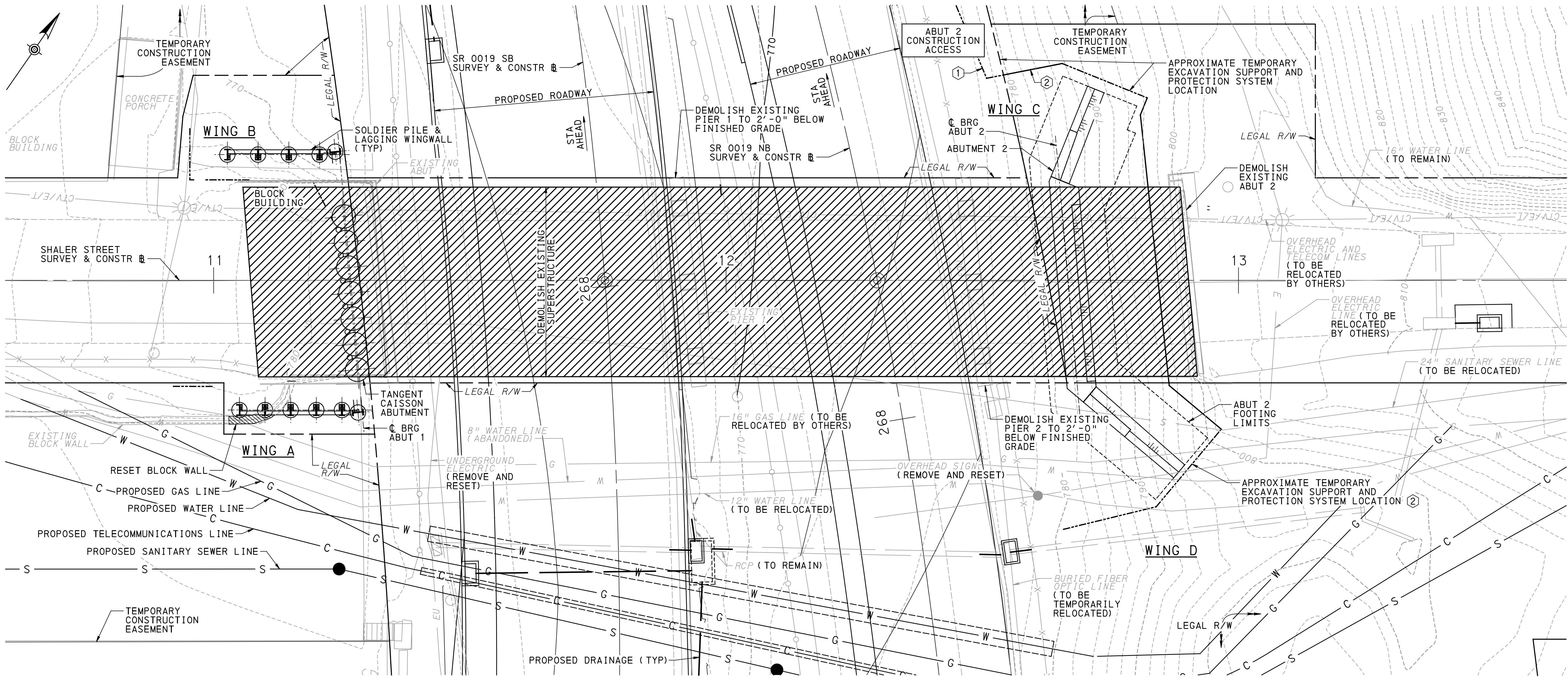
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OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
CONCEPTUAL CONSTR SEQUENCE 1

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SHEET 7 OF 83

S - 37605





CONCEPTUAL CONSTRUCTION SEQUENCE

PHASE 6

SR 0019 CLOSURE - WEEKEND 1

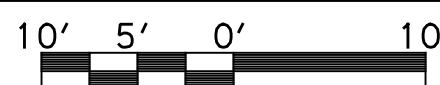
DEMOLITION:

1. SHALER STREET DETOUR IS IN PLACE FROM PHASE 5.
2. IMPLEMENT PHASE 6 OF THE TRAFFIC CONTROL PLAN (SR 0019 NB AND SB WEEKEND DETOUR). SEE TRAFFIC CONTROL PLAN/SECTION 901 SPECIAL PROVISION FOR RESTRICTIONS.
3. DEMOLISH EXISTING SPANS 1, 2 AND 3 AND APPROACH SLABS (IF PRESENT). SUBMIT DEMOLITION PROCEDURE FOR DEPARTMENT'S REVIEW AND APPROVAL PRIOR TO DEMOLITION ACTIVITIES IN ACCORDANCE WITH PUB 408.
3. DEMOLISH EXISTING PIER 1 TO 2'-0" MINIMUM BELOW FINISHED GRADE.
4. DEMOLISH EXISTING PIER 2 TO 2'-0" MINIMUM BELOW FINISHED GRADE.
5. DEMOLISH ABUTMENT 2 STEM TO 2'-0" MINIMUM BELOW PROPOSED APPROACH SLAB/SLEEPER SLAB.
6. REMOVE ANY DEBRIS LEFT AFTER BRIDGE DEMOLITION.

ABUTMENT 2:

1. INSTALL PROPOSED PRECAST CAP AT ABUTMENT 2. FIELD SURVEY BEARING SEAT ELEVATIONS AND ADJUST AS REQUIRED USING SHIMS (SEE ABUTMENT 2 ERECTION PLAN).
2. REOPEN SR 0019 NB AND SB AS INDICATED ON THE TRAFFIC CONTROL PLAN.

CONCEPTUAL CONSTRUCTION PLAN - PHASE 6



- ① TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM ALONG SPMT MOVE PATH INCLUDED UNDER ITEMS 9000-0005 AND 9000-0007 (SEE SPECIAL PROVISIONS)
- ② TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM INCLUDED UNDER ITEM 9203-0101 (SEE SPECIAL PROVISIONS)

LEGEND

- TRAFFIC DIRECTION
- - - - - EXISTING CONTOUR (2' INTERVALS)
- - - - - PROPOSED CONTOUR (2' INTERVALS)
- - - - - TEMP EXCAVATION SUPPORT AND PROTECTION SYSTEM
- X - EXISTING FENCING
- S - PROPOSED SANITARY SEWER LINE
- W - PROPOSED WATER LINE
- C - PROPOSED TELECOMMUNICATIONS LINE
- G - PROPOSED GAS LINE
- G - EXISTING GAS LINE
- W - EXISTING WATER LINE
- E - EXISTING ELECTRIC LINE
- CTV/E/T - EXISTING ELECTRIC/TELECOM LINE
- S - EXISTING SANITARY SEWER LINE
- O - EXISTING GUIDERAIL
- NB NORTHBOUND
- SB SOUTHBOUND
- REMOVAL LIMITS FOR EXISTING SUPERSTRUCTURE AND APPROACH SLABS (IF PRESENT)

NOTES:

1. PHASE NUMBERS CORRESPOND TO PHASING IN THE TRAFFIC CONTROL PLANS.
2. DEMOLITION ACTIVITIES SHOWN ON THIS SHEET ARE TO TAKE PLACE DURING THE FIRST WEEKEND CLOSURE OF SR 0019 NB AND SB AND DURING THE SHALER STREET DETOUR.

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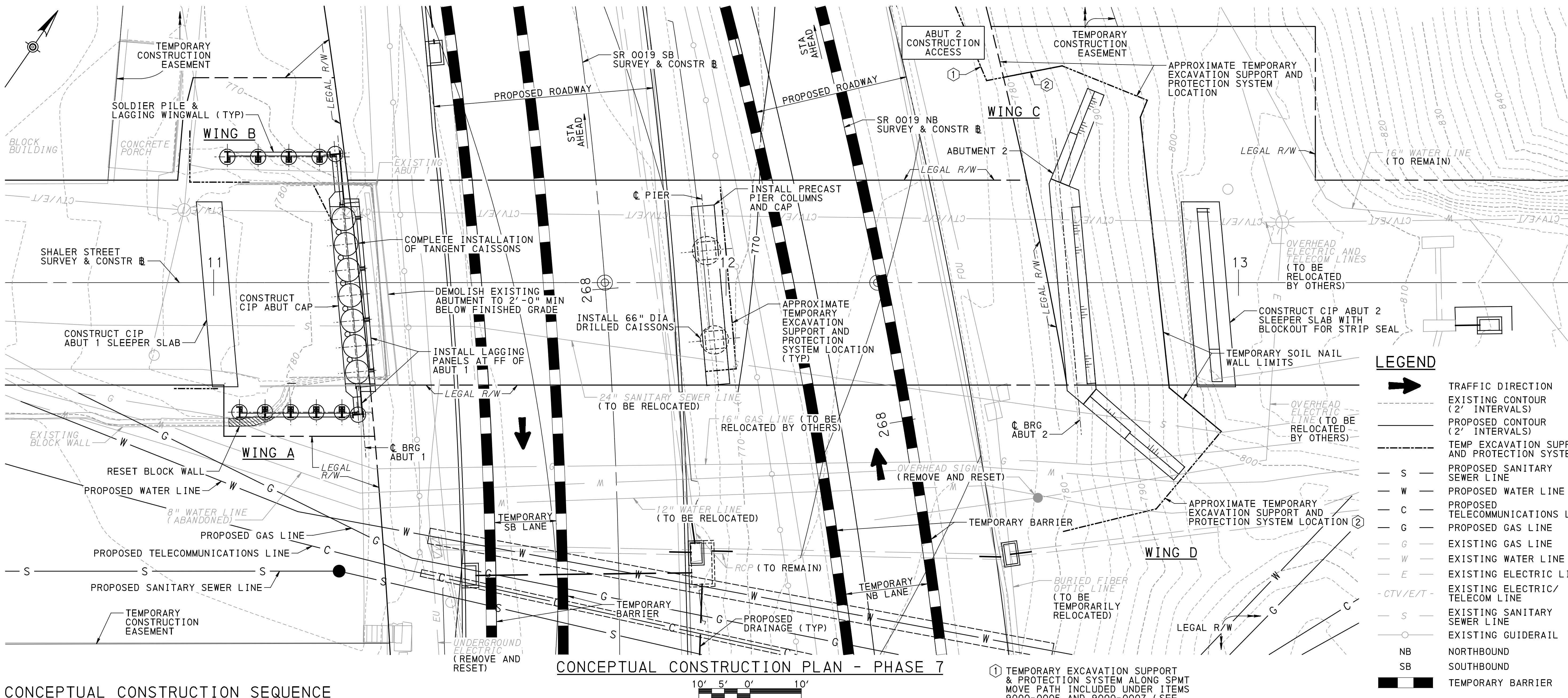
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OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
CONCEPTUAL CONSTR SEQUENCE 2

RECOMMENDED 08/03/2018

SHEET 8 OF 83

S - 37605





LEGEND

➔ TRAFFIC DIRECTION

--- EXISTING CONTOUR (2' INTERVALS)

--- PROPOSED CONTOUR (2' INTERVALS)

--- TEMP EXCAVATION SUPPORT AND PROTECTION SYSTEM

— S — PROPOSED SANITARY SEWER LINE

— W — PROPOSED WATER LINE

— C — PROPOSED TELECOMMUNICATIONS LINE

— G — PROPOSED GAS LINE

— G — EXISTING GAS LINE

— W — EXISTING WATER LINE

— E — EXISTING ELECTRIC LINE

- CTV/E/T - EXISTING ELECTRIC/TELECOM LINE

— S — EXISTING SANITARY SEWER LINE

— O — EXISTING GUIDERAIL

NB NORTHBOUND

SB SOUTHBOUND

█ TEMPORARY BARRIER

CONCEPTUAL CONSTRUCTION SEQUENCE
PHASE 7

GENERAL

1. IMPLEMENT PHASE 7 OF THE TRAFFIC CONTROL PLAN.

ABUTMENT 1

1. COMPLETE INSTALLATION OF REMAINING CAISSONS/ROCK SOCKETS AND 6" DIA FLOWABLE CONCRETE SEALS AT ABUTMENT 1.
2. AS PORTIONS OF TANGENT CAISSONS ARE COMPLETED, REMOVE EXISTING ABUTMENT 1 TO 2'-0" MINIMUM BELOW FINISHED GRADE AND PREPARE PERMANENT STEEL CASING FOR INSTALLATION OF PRECAST LAGGING PANELS.
3. INSTALL PRECAST LAGGING PANELS AT ABUTMENT 1 FRONT FACE (SEE ABUTMENT 1 AND PIER ERECTION PLAN)
4. FORM, PLACE REBAR, AND POUR ABUTMENT 1 CAP.
5. BACKFILL TO ABUTMENT 1 CAP ELEVATION.
6. CONSTRUCT CIP ABUTMENT 1 SLEEPER SLAB.
7. COMPLETE ABUTMENT 1 APPROACH ROADWAY WORK.

PIER

1. INSTALL DRILLED CAISSONS FOR PIER.
2. SET PRECAST PIER COLUMNS AND PIER CAP (SEE ABUTMENT 1 & PIER ERECTION PLAN).
3. COMPLETE GROUTED COUPLER CONNECTIONS FOR DRILLED CAISSON/COLUMN BARS AND COLUMN TO PRECAST PIER CAP BARS.

ABUTMENT 2

1. PREPARE GRADING IN FRONT OF ABUTMENT 2 FOR SPMT MOVE.
2. BACKFILL ABUTMENT 2 TO BEAM SEAT ELEVATION.
3. CONSTRUCT CIP ABUTMENT 2 SLEEPER SLAB WITH BLOCKOUT FOR STRIP SEAL.
4. COMPLETE APPROACH ROADWAY PAVEMENT.

NOTES:

1. PHASE NUMBERS CORRESPOND TO PHASING IN THE TRAFFIC CONTROL PLANS.
2. CONSTRUCTION ACTIVITIES IN PHASE 7 TO TAKE PLACE BETWEEN SR 0019 WEEKEND CLOSURES AND DURING THE SHALER STREET DETOUR.
3. WORK AT ABUTMENT 1, PIER, AND ABUTMENT 2 IS ASSUMED TO TAKE PLACE CONCURRENTLY.
4. FOR ABUTMENT 2 ERECTION PLAN, SEE SHEET 62.
5. FOR ABUTMENT 1 & PIER ERECTION PLAN, SEE SHEET 63.

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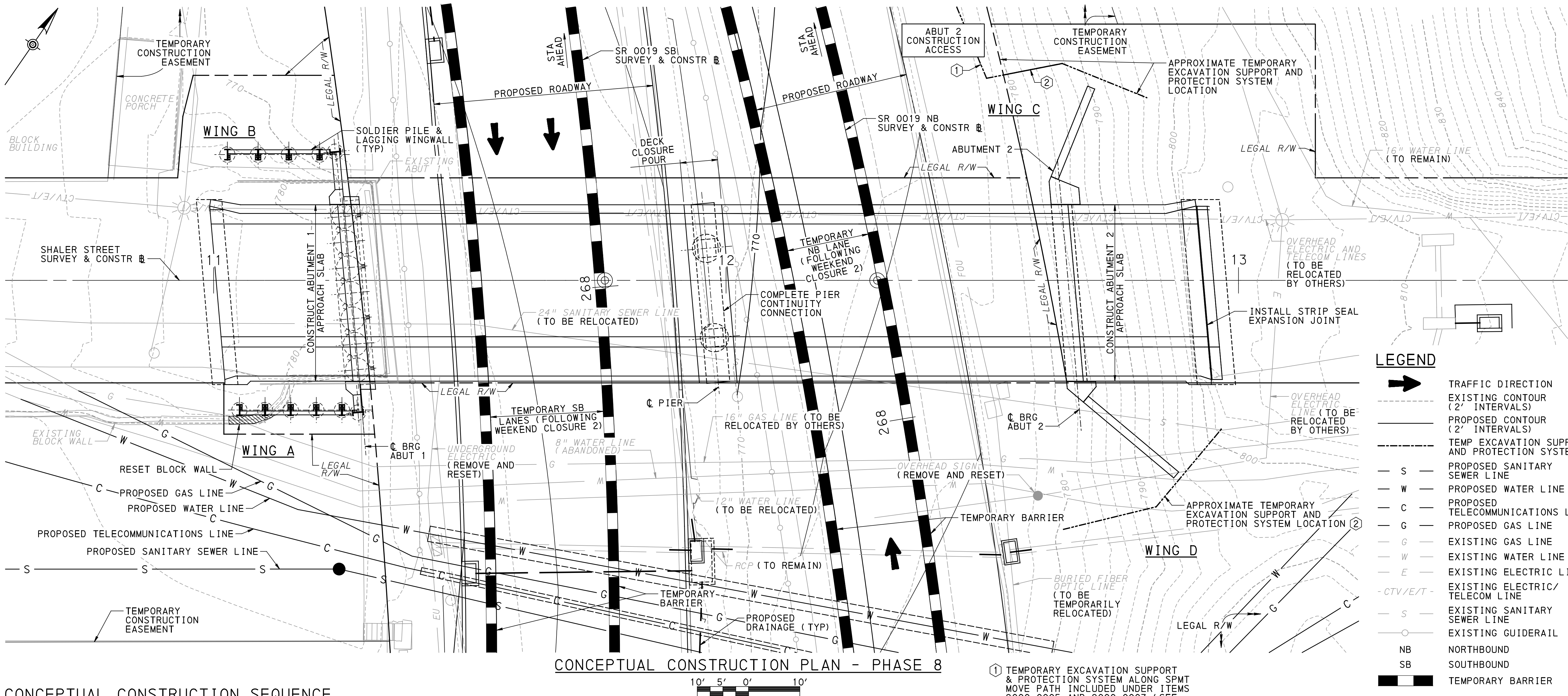
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OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
CONCEPTUAL CONSTR SEQUENCE 3

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SHEET 9 OF 83

S - 37605





CONCEPTUAL CONSTRUCTION SEQUENCE
PHASE 8 - STAGE A

DURING THE SECOND WEEKEND OF SR 0019 CLOSURE:

1. IMPLEMENT PHASE 8, STAGE A OF THE TRAFFIC CONTROL PLAN (SR 0019 NB AND SB WEEKEND DETOUR). SEE TRAFFIC CONTROL PLAN/SECTION 901 SPECIAL PROVISION FOR RESTRICTIONS.
2. JACK SUPERSTRUCTURES TO PROVIDE VERTICAL CLEARANCE FOR SPMT.
3. MOVE SPMT UNDER PROPOSED SPAN 2 SUPERSTRUCTURE IN STAGING AREA.
4. REMOVE TEMPORARY BARRIERS AND TEMPORARY/PERMANENT SIGNS AND PREPARE SR 0019 SPMT TRAVEL PATH BY PLACING TEMPORARY GRADING AS REQUIRED.
5. MOVE PROPOSED SPAN 2 SUPERSTRUCTURE TO THE PERMANENT LOCATION WITH SPMT AND RETURN SPMT TO STAGING AREA (SEE SPAN 2 SPMT CONCEPTUAL MOVE PATH).
6. RESET TEMPORARY MEDIAN BARRIER, RESET SIGNS, AND REMOVE TEMPORARY GRADING IN SR 0019 NB AND SB LANES BEYOND THE SPAN 1 MOVE PATH LIMITS.
7. MOVE PROPOSED SPAN 1 SUPERSTRUCTURE TO PERMANENT LOCATION WITH SPMT AND RETURN SPMT TO STAGING AREA (SEE SPAN 1: SPMT CONCEPTUAL MOVE PATH).
8. RESET REMAINING BARRIER AND SIGNS AND REMOVE TEMPORARY GRADING IN SR 0019 SB LANES.

PHASE 8 - STAGE B

THE FOLLOWING ACTIVITIES MAY TAKE PLACE DURING THE SR 0019 WEEKEND CLOSURE OR DURING THE REMAINING DETOUR OF SHALER STREET:

1. FOLLOWING THE WEEKEND CLOSURE, IMPLEMENT PHASE 8, STAGE B OF THE TRAFFIC CONTROL PLAN.
2. SET WEDGES FOR CONTINUITY CONNECTION AT PIER.
3. FIELD DRILL/INSTALL BOLTS FOR PIER CONTINUITY CONNECTION.
4. CONSTRUCT PIER DIAPHRAGM AND DECK/BARRIER CLOSURE POURS.
5. INSTALL CHEEKWALLS AT ABUTMENTS AND CONSTRUCT REMAINING PORTIONS OF WINGWALLS AT ABUTMENT 2.
6. PLACE REMAINING BACKFILL AND SELECTED BORROW EXCAVATION ROCK, CLASS R-4 AT ABUTMENTS 1 & 2. CONSTRUCT ABUTMENT 1 & 2 APPROACH SLABS.
7. CURE CLOSURE POURS AND APPROACH SLABS AS REQUIRED.
8. REOPEN SHALER STREET TO TRAFFIC.

NOTES:

1. PHASE NUMBERS CORRESPOND TO PHASING IN THE TRAFFIC CONTROL PLANS.
2. CONSTRUCTION ACTIVITIES SHOWN ON THIS SHEET ARE TO TAKE PLACE DURING THE SECOND WEEKEND CLOSURE OF SR 0019.
3. FOR CONCEPTUAL BRIDGE STAGING AREA PLAN, SEE SHEET 64.
4. FOR SPMT CONCEPTUAL MOVE PATH DETAILS, SEE SHEETS 66 & 67.
5. WORK AT ABUTMENT 1, PIER AND ABUTMENT 2 IS ASSUMED TO TAKE PLACE CONCURRENTLY.



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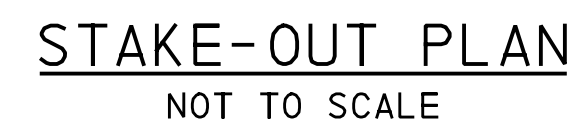
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SR 3110-A02 STA. 11+96.74 (SHALER STREET)
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CONCEPTUAL CONSTR SEQUENCE 4

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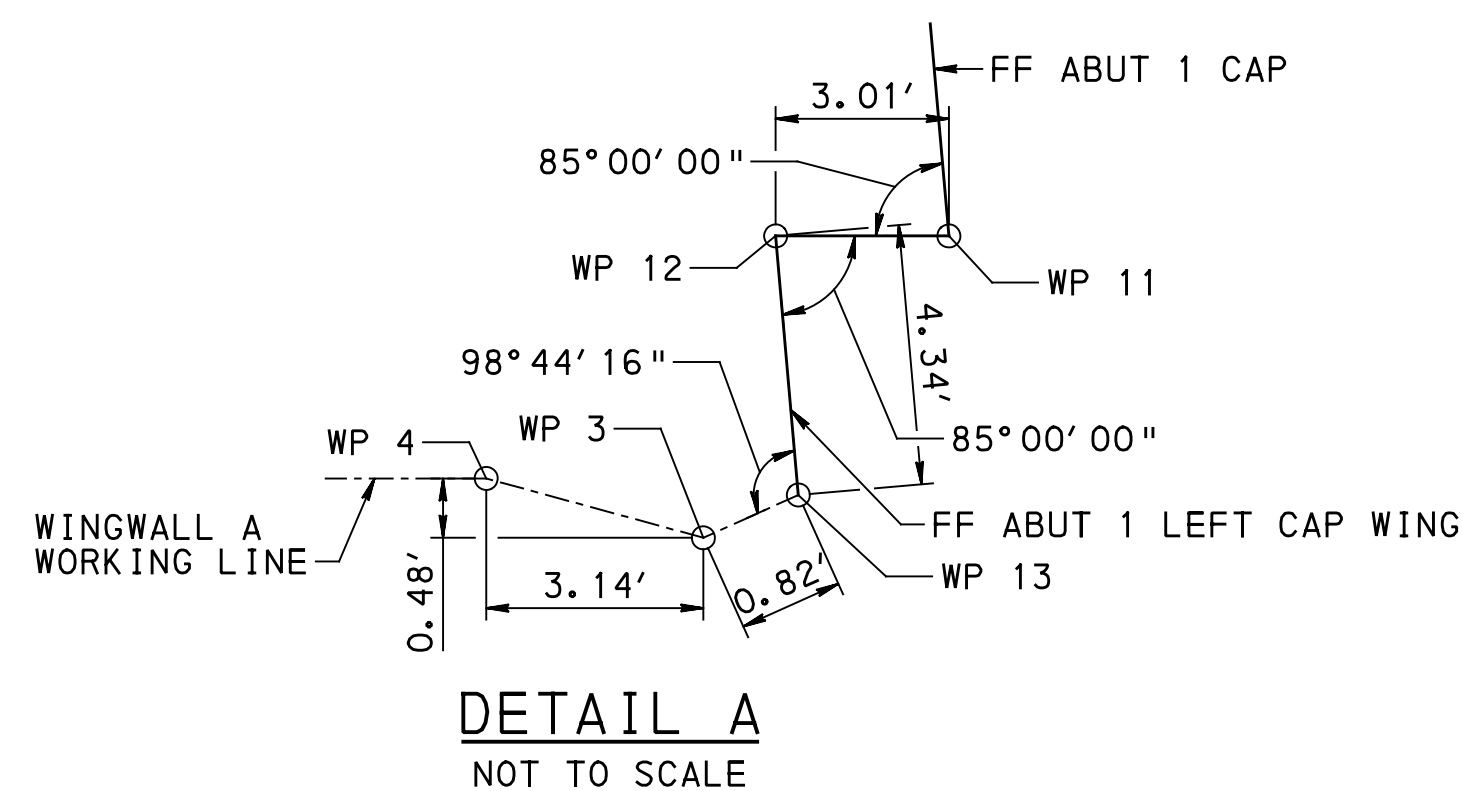
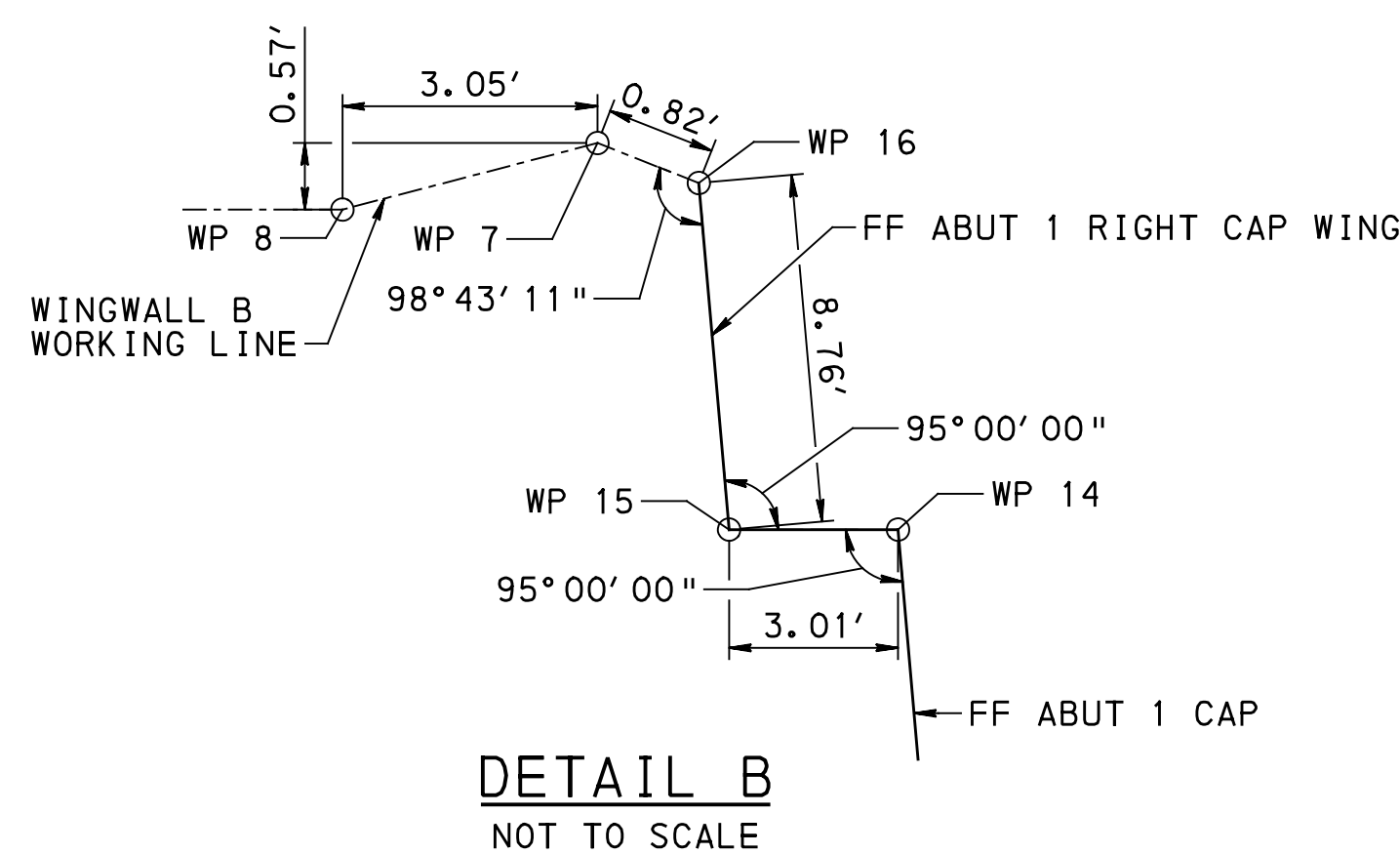
SHEET 10 OF 83

S - 37605



1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1
2. FOR GENERAL NOTES, SEE SHEETS 3 & 4
3. FOR TYPICAL DECK SECTION, SEE SHEET 5
4. FOUR PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO DECIMAL POINTS

WORK POINT TABLE					
WORK POINT	STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
1	11+26.49	0.00	408860.1083	1334195.4307	☐ ABUT 1 CAISSONS & SHALER STREET SURVEY & CONSTRUCTION ☐
2	11+28.01	17.42	408846.6426	1334206.5913	CENTER OF ABUT 1 SOUTH END CAISSON
3	11+28.18	25.77	408839.8671	1334211.4753	CENTER OF WINGWALL A CORNER CAISSON
4	11+25.04	25.29	408838.4768	1334208.6162	CENTER OF WINGWALL A SECOND CAISSON
5	11+05.04	25.29	408827.1049	1334192.1638	CENTER OF WINGWALL A END CAISSON
6	11+25.40	-12.46	408869.7405	1334187.4475	CENTER OF ABUT 1 NORTH END CAISSON
7	11+23.72	-25.12	408879.1966	1334178.8763	CENTER OF WINGWALL B CORNER CAISSON
8	11+20.68	-24.54	408876.9916	1334176.6947	CENTER OF WINGWALL B SECOND CAISSON
9	11+02.68	-24.54	408866.7569	1334161.8875	CENTER OF WINGWALL B END CAISSON
10	11+29.75	0.00	408861.9633	1334198.1144	FF ABUT 1 CAP & SHALER STREET SURVEY & CONSTRUCTION ☐
11	11+31.61	21.25	408845.5398	1334211.7264	FF ABUT 1 CAP AT LEFT CORNER
12	11+28.60	21.25	408843.8275	1334209.2492	FF ABUT 1 CAP & FF ABUT 1 LEFT CAP WING
13	11+28.98	25.58	408840.4823	1334212.0217	FF ABUT 1 LEFT CAP WING & END LEFT CAP WING
14	11+28.32	-16.33	408874.5869	1334187.6519	FF ABUT 1 CAP AT RIGHT CORNER
15	11+25.31	-16.33	408872.8746	1334185.1746	FF ABUT 1 CAP & FF ABUT 1 RIGHT CAP WING
16	11+24.55	-25.06	408879.6204	1334179.5836	FF ABUT 1 RIGHT CAP WING & END RIGHT CAP WING
17	11+96.74	0.00	408900.0527	1334253.2204	☐ PIER & SHALER STREET SURVEY & CONSTRUCTION ☐
18	12+64.73	0.00	408938.7128	1334309.1521	FF ABUT 2 & SHALER STREET SURVEY & CONSTRUCTION ☐
19	12+63.04	-19.32	408953.6418	1334296.7788	FF ABUT 2 & WINGWALL C CORNER
20	12+70.55	-37.90	408973.1968	1334292.3890	FF WINGWALL C & END WINGWALL C
21	12+66.58	21.10	408922.4071	1334322.6664	FF ABUT 2 & WINGWALL D CORNER
22	12+87.36	38.54	408919.8783	1334349.6821	FF WINGWALL D & END WINGWALL D



LEGEND

WP = WORK POINT
FF = FRONT FACE



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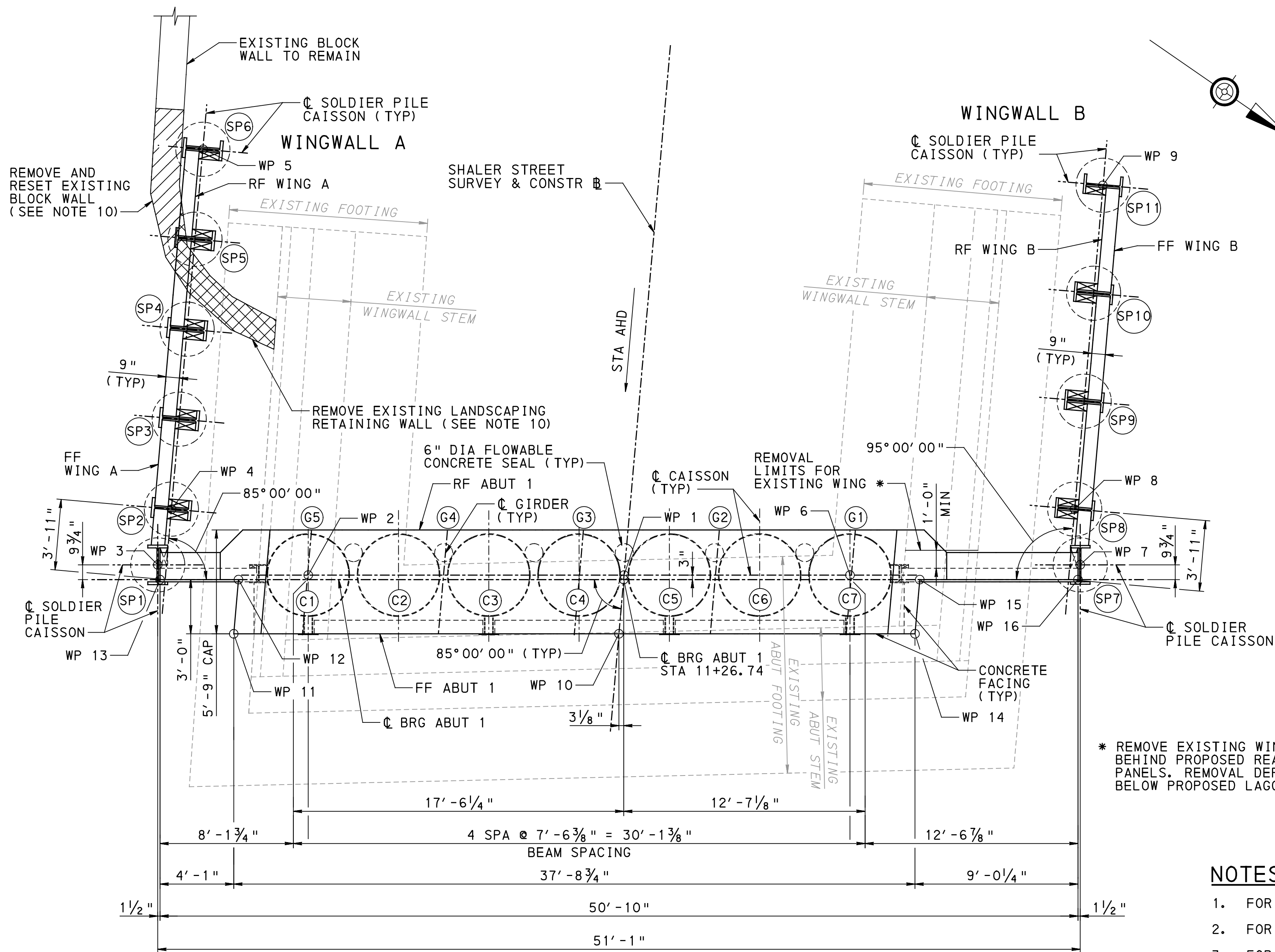
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STAKE-OUT PLAN

RECOMMENDED 08/03/2018

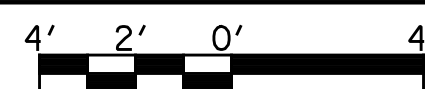
SHEET 11 OF 83

S - 37605



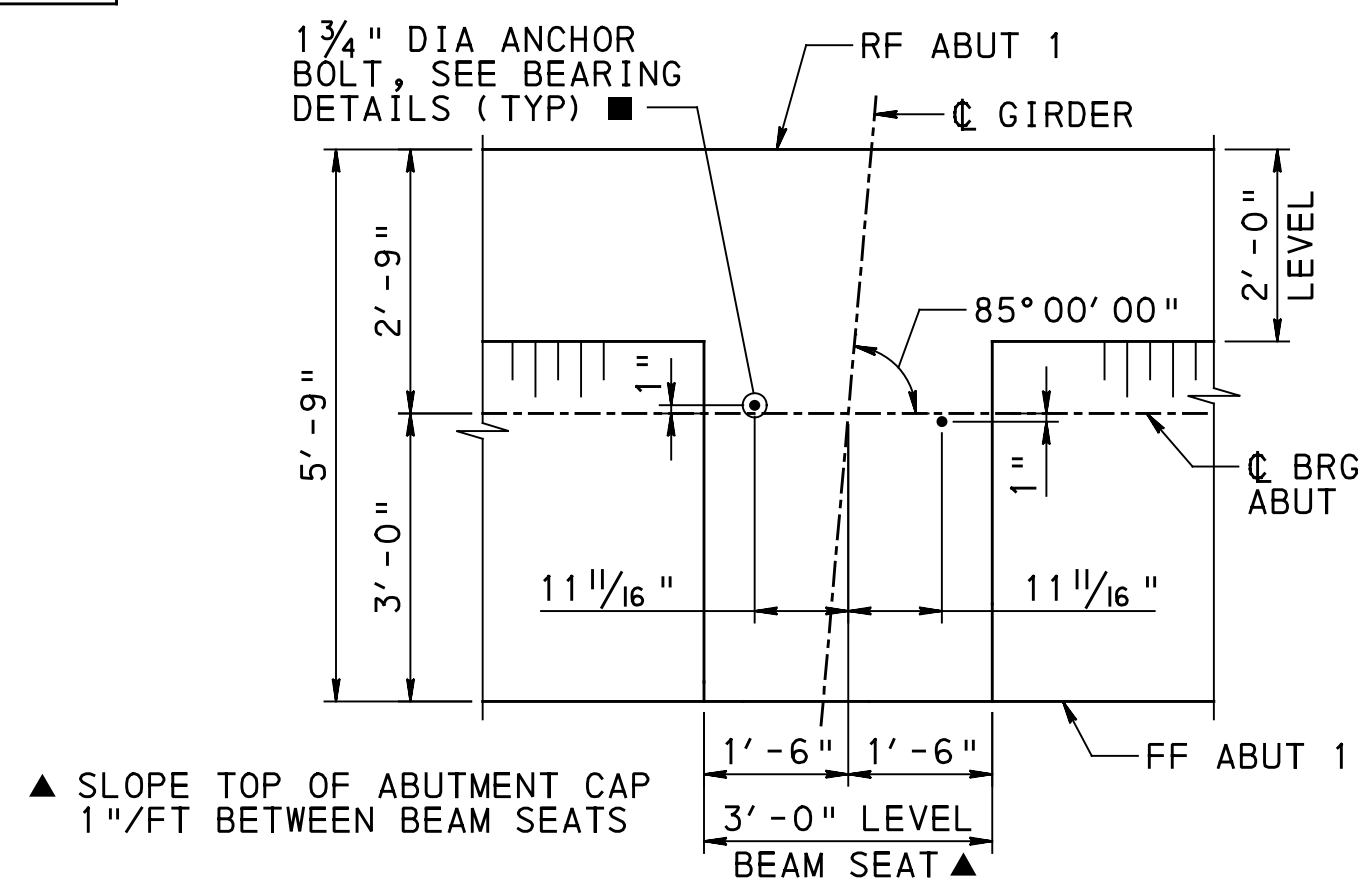
NOTE: THE EXISTING STRUCTURE SHOWN ON THE PLAN IS FOR INFORMATION ONLY.

ABUTMENT 1 PLAN

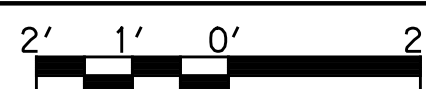


ABUTMENT 1 - FOUNDATION DATA	
FACTORED CAISSON AXIAL LOAD - STR-I **	1658.20 KIPS
FACTORED CAISSON AXIAL RESISTANCE	12122.60 KIPS
FACTORED CAISSON LATERAL LOAD - STR-I	2750.90 KIPS
SERVICE CAISSON LATERAL DEFLECTION - SERV-I	0.46 IN
ALLOWABLE LATERAL DEFLECTION	0.50 IN

** INCLUDES CAISSON DEAD LOADS



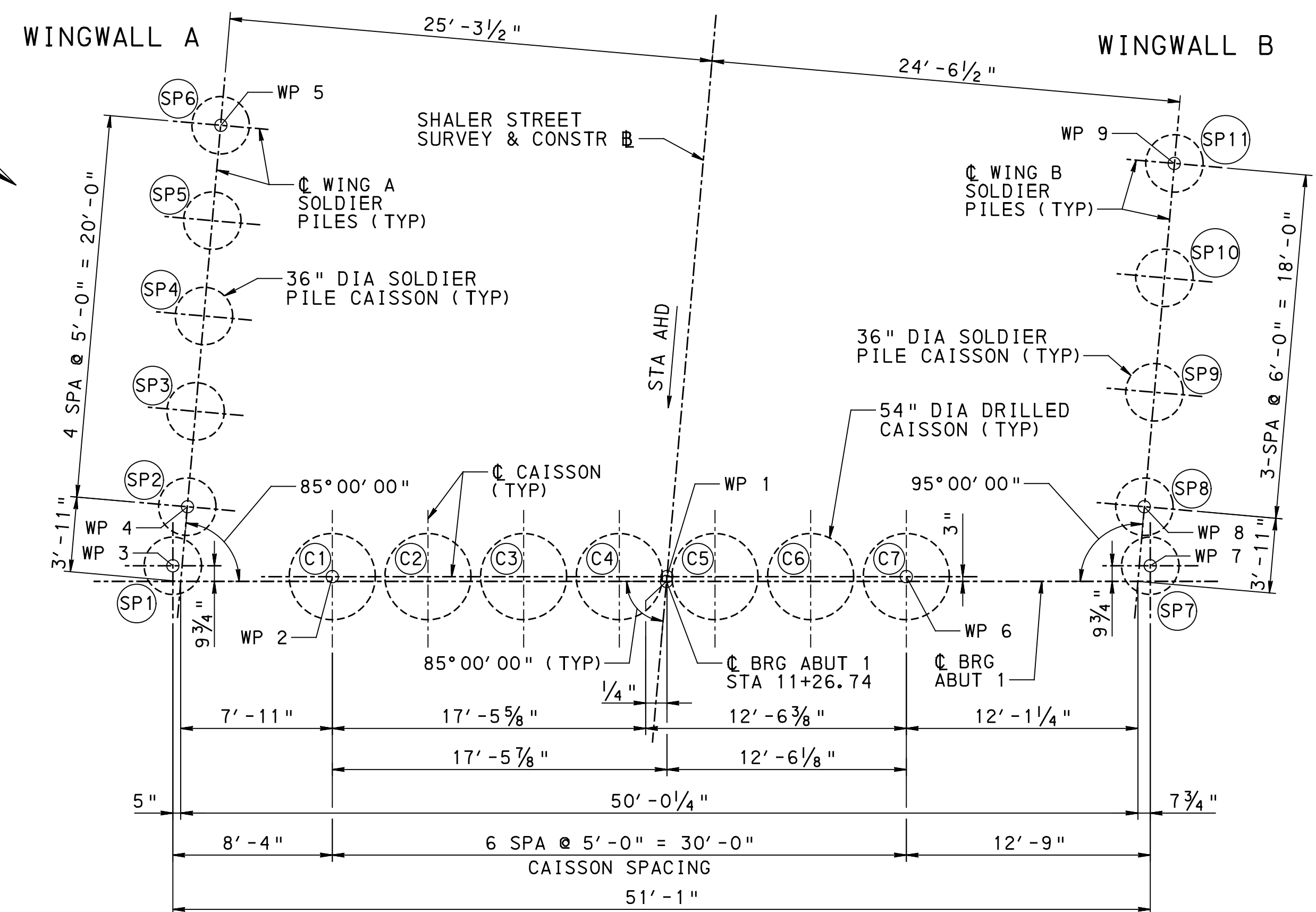
BEAM SEAT/ANCHOR BOLT LAYOUT



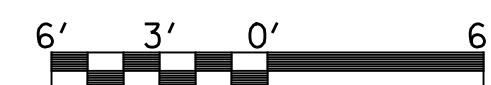
NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR STAKE-OUT PLAN SEE SHEET 11.
- FOR ABUTMENT 1 ELEVATION, SEE SHEET 13.
- FOR ABUTMENT 1 SECTIONS, SEE SHEET 14.
- FOR ABUTMENT 1 CAP AND CHEEKWALL DETAILS, SEE SHEET 15.
- FOR WINGWALL DETAILS, SEE SHEETS 16 THROUGH 18.
- FOR ABUTMENT 1 WATERPROOFING, DRAINAGE AND EXCAVATION DETAILS, SEE SHEET 19.
- FOR ABUTMENT 1 BAR SCHEDULE, SEE SHEET 20.
- FOR BEARING DETAILS, SEE SHEETS 46 AND 47.
- SEE SPECIAL PROVISION 9000-0046, REMOVE AND RESET BLOCK WALL.

■ PLACE ANCHOR BOLT LOOSE IN PREFORMED HOLE PRIOR TO SETTING SUPERSTRUCTURE IN PLACE USING SPMTs. AT EACH BEARING, GUIDE ANCHOR BOLTS THROUGH SOLE PLATES AS THE SUPERSTRUCTURE IS LOWERED INTO POSITION. FILL PREFORMED HOLES WITH NON-SHRINK GROUT AFTER SUPERSTRUCTURE HAS BEEN PLACED IN FINAL POSITION. PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUB 408 SECTION 1001.2(e) (INCIDENTAL TO FABRICATED STRUCTURAL STEEL). DRILLING OF ANCHOR BOLT HOLES IS NOT PERMITTED.



ABUTMENT 1 CAISSON LAYOUT



LEGEND

- WP WORK POINT
- RF REAR FACE
- FF FRONT FACE
- (C1) CAISSON/ROCK SOCKET NUMBER
- (G1) GIRDER NUMBER
- (SP1) SOLDIER PILE NUMBER

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

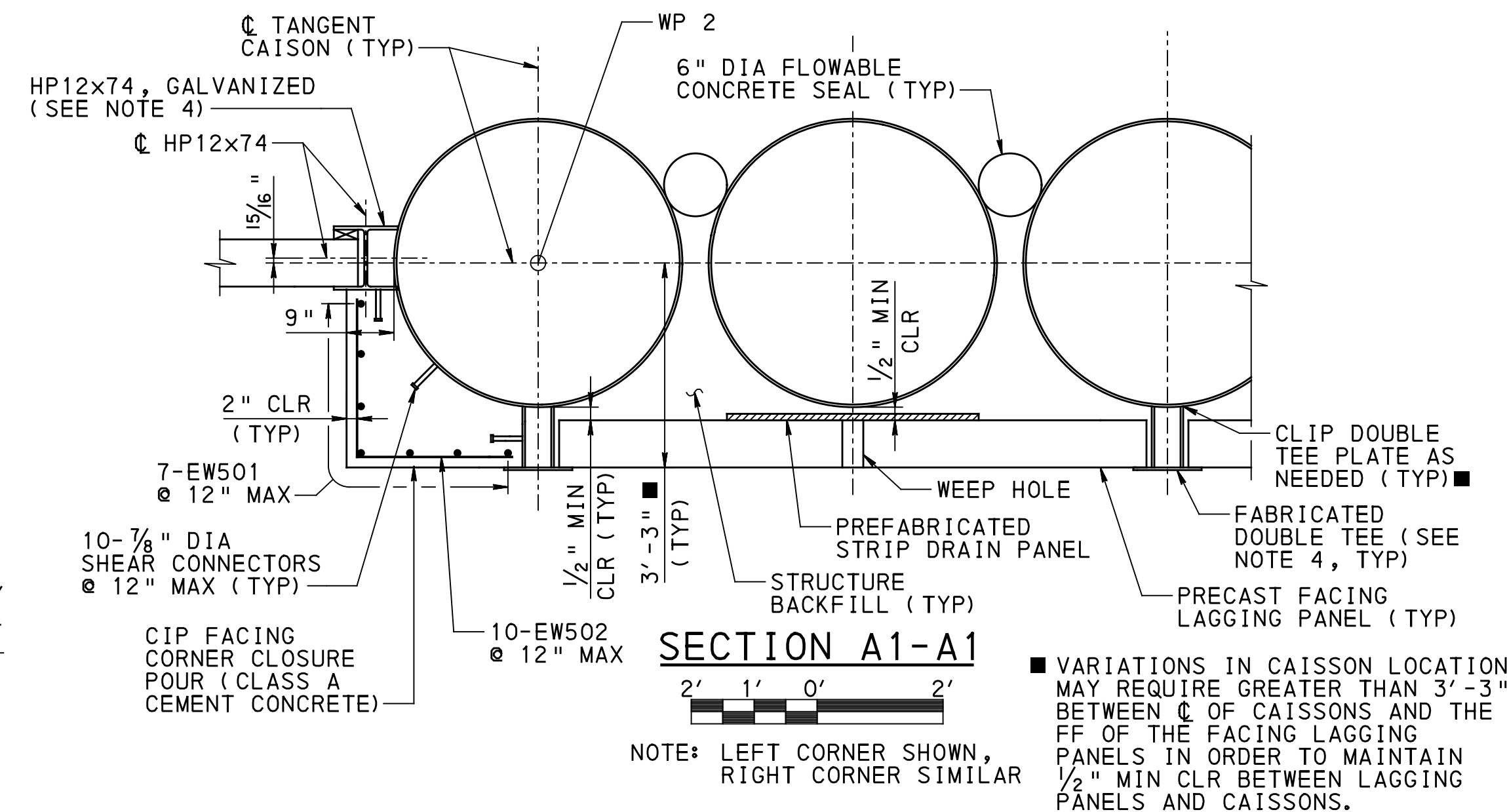
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUTMENT 1 PLAN

RECOMMENDED 08/03/2018

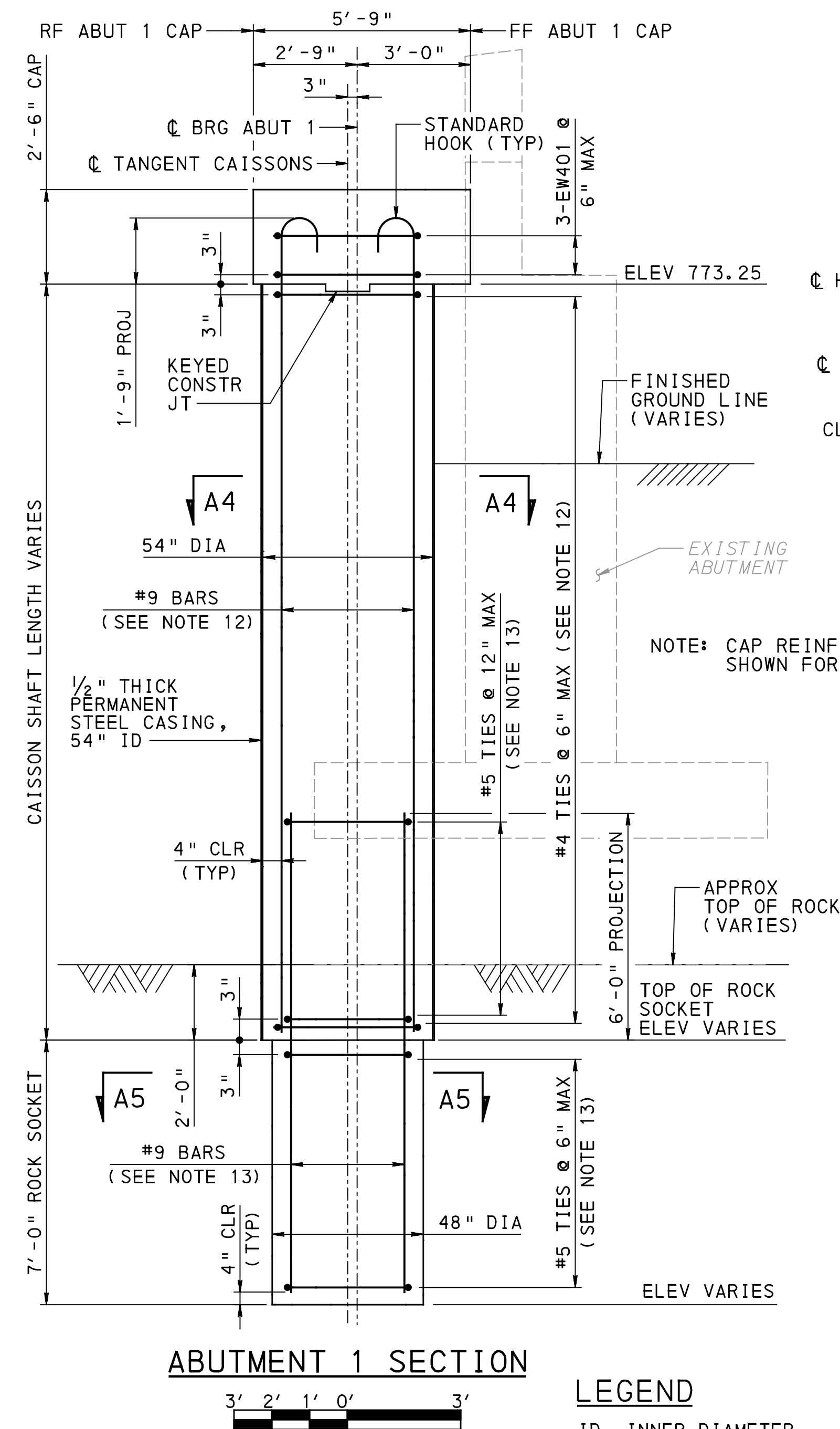
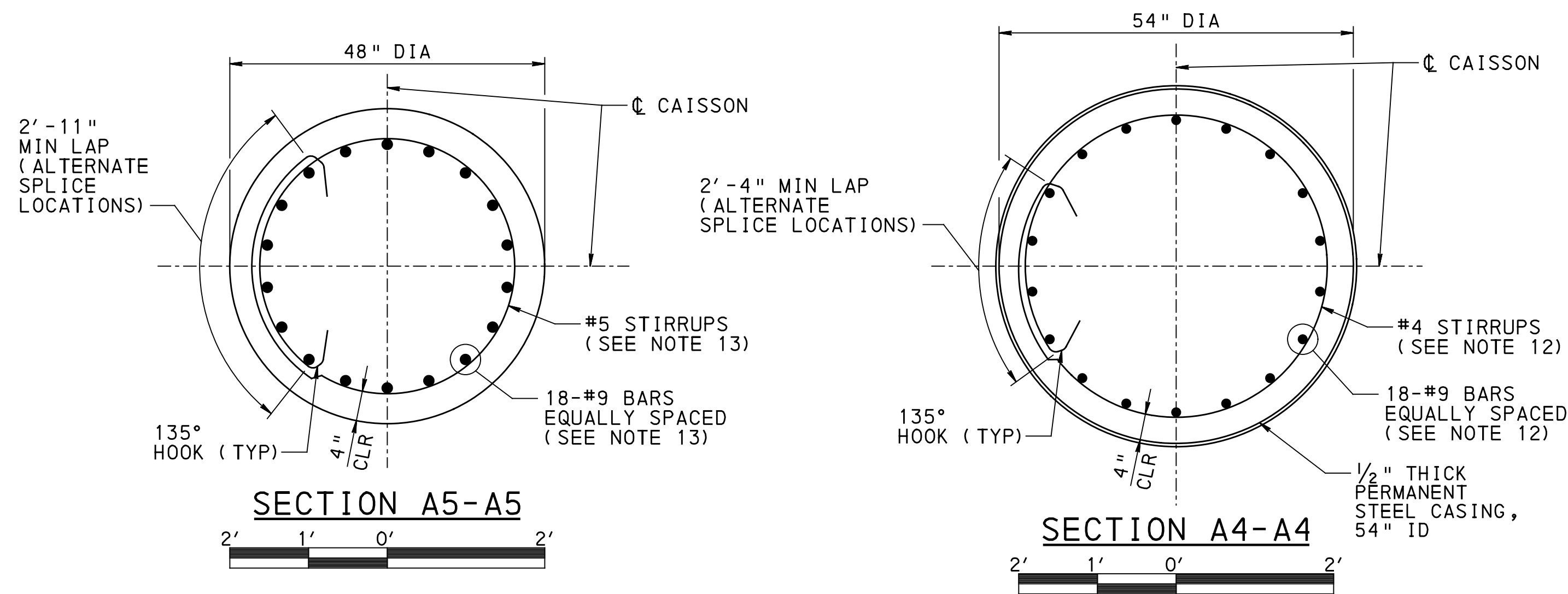
SHEET 12 OF 83

S - 37605



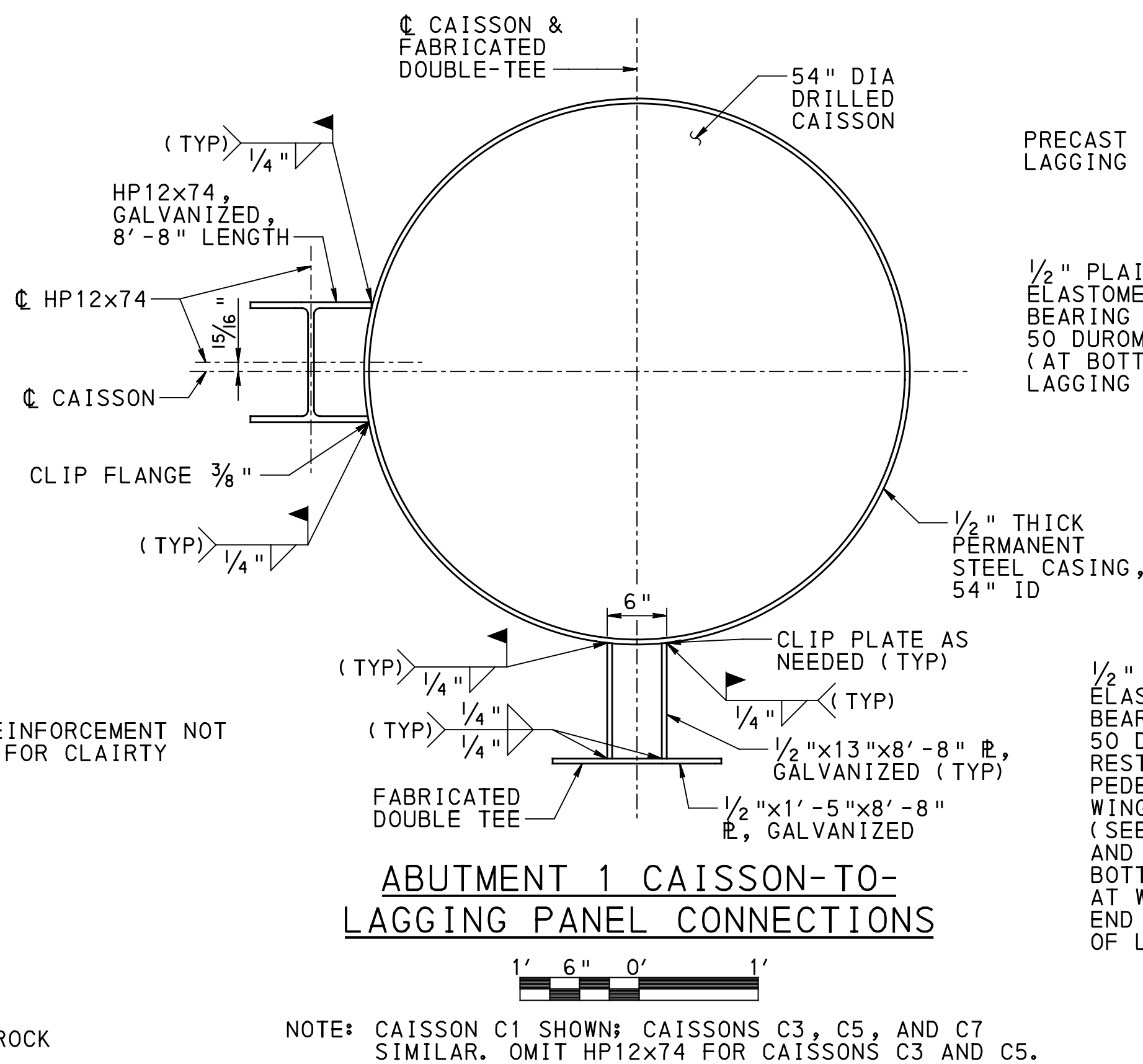


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LEGEND

ID INNER DIAMETER
FF FRONT FACE
RF REAR FACE

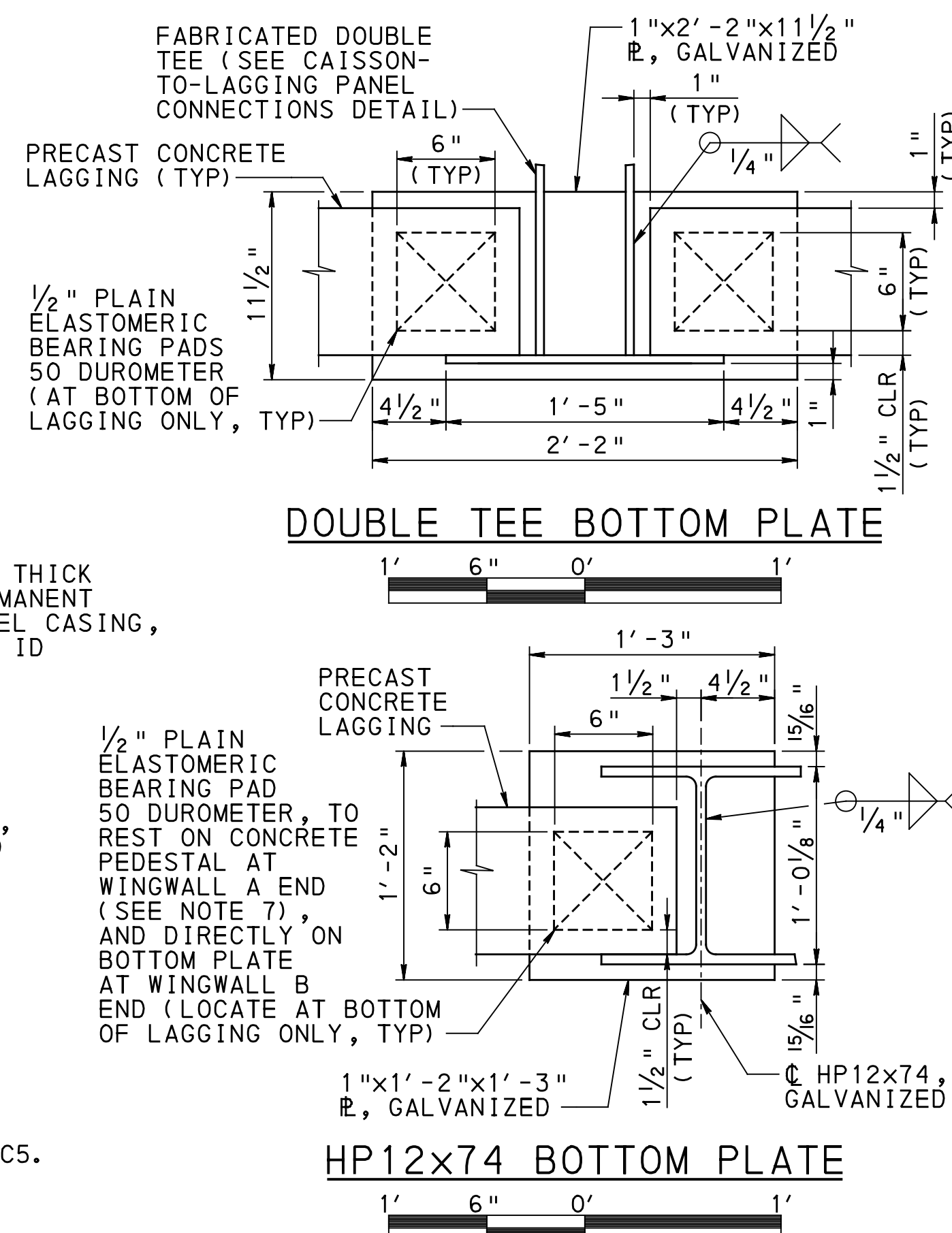


CAISSON CONSTRUCTION SEQUENCE

1. INSTALL TRAFFIC CONTROL DEVICES AND EROSION AND SEDIMENT POLLUTION CONTROL DEVICES IN ACCORDANCE WITH THE TRAFFIC CONTROL PLAN AND EROSION AND SEDIMENT POLLUTION CONTROL PLAN.
2. CLOSE SHALER STREET TO TRAFFIC (REFER TO OVERALL CONCEPTUAL CONSTRUCTION SEQUENCE) AND BEGIN CAISSON INSTALLATION STARTING WITH THE CENTERMOST CAISSON (NO. 4) AND WORKING OUTWARD. REFER TO GENERAL REQUIREMENTS FOR CAISSON INSTALLATION FOR ADDITIONAL REQUIREMENTS. INSTALLATION OF CAISSONS REQUIRES DRILLING THROUGH PORTIONS OF EXISTING SUBSTRUCTURE UNITS.
3. INSTALL 6" DIAMETER HOLES AND FLOWABLE CONCRETE SEALS WITH PERMANENT CASING BETWEEN CAISSONS. MAINTAIN OPEN HOLE BY USING PERMANENT CASING. DO NOT DRILL 6" DIAMETER HOLES UNTIL CONCRETE IN THE ADJACENT CAISSONS HAS CURED A MINIMUM OF 3 DAYS. 6" DIA HOLES ADJACENT TO THE LAST CAISSON INSTALLED MAY BE DRILLED AFTER THE CAISSON'S PERMANENT CASING HAS BEEN PLACED, AND BEFORE PLACEMENT OF CAISSON CONCRETE TO ALLOW WORK FOR THE ABUTMENT CAP TO BEGIN.
4. REMOVE PORTION OF EXISTING ABUTMENT OR WINGWALL TO EXPOSE CAISSONS AFTER THE EXISTING SUPERSTRUCTURE HAS BEEN DEMOLISHED AND CAISSONS AND 6" DIA FLOWABLE SEALS HAVE BEEN CURED AND SUCCESSFULLY TESTED IN ACCORDANCE WITH THE DRILLED CAISSON SPECIAL PROVISION.
5. PREPARE AND CLEAN EXPOSED SURFACES OF CAISSONS WHERE WELDING WILL OCCUR PRIOR TO ATTACHMENT OF THE PRECAST LAGGING RETENTION MEMBERS.
6. WELD PRECAST LAGGING RETENTION MEMBERS TO CAISSON CASINGS AND INSTALL PRECAST CONCRETE FACING.
7. CONSTRUCT ABUTMENT CAP ABOVE CAISSONS.
8. PLACE SUPERSTRUCTURE AND BACKFILL. CONSTRUCT APPROACH SLAB.

GENERAL REQUIREMENTS FOR CAISSON INSTALLATION:

1. INSTALL CAISSONS IN ACCORDANCE WITH INSTALLATION SEQUENCE, SPECIAL PROVISIONS AND GENERAL NOTES.
2. INSTALL CAISSONS BY DRILLING EVERY THIRD CAISSON AND PLACING CONCRETE.
3. DRILL THE IN-BETWEEN CAISSONS, PROVIDED THAT THE CONCRETE IN THE IMMEDIATE ADJACENT CAISSON HAS BEEN CURED AT LEAST 3 DAYS (FROM COMPLETION OF PLACEMENT).
4. DO NOT DRILL A CAISSON THAT IS WITHIN THREE DIAMETERS OF AN OPEN EXCAVATED CAISSON HOLE.
5. DO NOT DRILL A CAISSON THAT IS WITHIN THREE DIAMETERS OF A CAISSON IN WHICH CONCRETE HAS BEEN PLACED IN THE LAST 24 HOURS.
6. PLACE CONCRETE WITHIN 18 HOURS AFTER DRILLING OF CAISSON AND WITHIN 3 HOURS AFTER INSPECTION OF THE HOLE.
7. INSTALL CAISSONS THROUGH THE EXISTING ABUTMENT WHERE THE EXISTING AND PROPOSED STRUCTURES OVERLAP. USING THE PERMANENT STEEL CASING AS PROTECTION FOR THE DRILLED CAISSON, DEMOLISH ANY PORTIONS OF THE EXISTING ABUTMENT REMAINING IN PLACE AFTER INSTALLATION HAS BEEN COMPLETED USING A METHOD APPROVED BY THE REPRESENTATIVE. DO NOT DAMAGE THE STEEL CASING DURING THIS PROCEDURE. REMOVE EXISTING ABUTMENTS TO 2'-0" MIN BELOW FINISHED GRADE OR AS REQUIRED TO PERMIT CONSTRUCTION OF THE ABUTMENT CAP, APPROACH SLABS/SUBGRADE, AND ABUTMENT FACING (PRECAST LAGGING/RETENTION SYSTEM).
8. DO NOT REMOVE ANY PORTION OF THE EXISTING ABUTMENT OR WINGWALLS UNTIL 6" DIA FLOWABLE SEALS HAVE BEEN INSTALLED AND THE CAISSONS WITHIN TWO DIAMETERS OF THE AREA BEING REMOVED HAVE CURED AND BEEN SUCCESSFULLY TESTED IN ACCORDANCE WITH THE DRILLED CAISSONS SPECIAL PROVISION.
9. NEATLY CUT THE CASINGS AT THE TOP-OF-CAISSON ELEVATION. ANY CASING OR DEVICES USED FOR THE NECESSARY PROTECTION OF WORKERS SAFETY ABOVE THE TOP OF CAISSON ELEVATION IS INCIDENTAL WORK AND SHALL NOT BE PAID SEPARATELY.
10. AT NO TIME DURING THE INSTALLATION OF THE CAISSONS SHALL THE CASING BE RAISED OR REMOVED FROM THE HOLE.
11. OVERFLOW CONCRETE FOR CAISSONS INTO THE 1' DEEP OVER-EXCAVATED AREA AROUND THE CAISSON CAP TO ENSURE THAT ALL CONTAMINATED CONCRETE HAS BEEN PURGED FROM THE HOLE. REMOVE OVERFLOWED CONCRETE FROM THE EXCAVATED AREA. OVERFLOWED CONCRETE AND REMOVAL OF THE SAME IS INCIDENTAL WORK AND WILL NOT BE PAID SEPARATELY.



NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
3. FOR ABUTMENT 1 PLAN, SEE SHEET 12.
4. FOR ABUTMENT 1 ELEVATION AND FACING DETAILS, SEE SHEET 13.
5. FOR ABUTMENT 1 CAP DETAILS, SEE SHEET 15.
6. FOR ABUTMENT 1 WINGWALL DETAILS, SEE SHEETS 16 THROUGH 18.
7. FOR CONCRETE PEDESTAL DETAILS, SEE SHEET 18.
8. FOR ABUTMENT 1 REINFORCEMENT SCHEDULE, SEE SHEET 20.
9. EPOXY COAT ALL REINFORCEMENT IN DRILLED CAISSONS.
10. INSTALL 1/2" PERMANENT STEEL CASING IN ACCORDANCE WITH ITEM NO. 9000-0033 54" DIA PERMANENT CASING FOR DRILLED CAISSONS.
11. TOP OF ROCK LOCATION FOR DRILLING CAISSONS TO BE VERIFIED BY THE DISTRICT GEOTECHNICAL ENGINEER.
12. REINFORCEMENT INCIDENTAL TO ITEM NO. 9000-0026 54" DIA DRILLED CAISSONS, SHAFT SECTION THROUGH OSTRUCTION, ITEM NO. 9000-0027 54" DIA DRILLED CAISSONS, SHAFT SECTION IN SOIL, OR ITEM NO. 9000-0028, 54" DIA DRILLED CAISSONS, SHAFT SECTION IN ROCK
13. REINFORCEMENT INCIDENTAL TO ITEM NO. 9000-0029 48" DIA DRILLED CAISSONS, ROCK SOCKET.

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

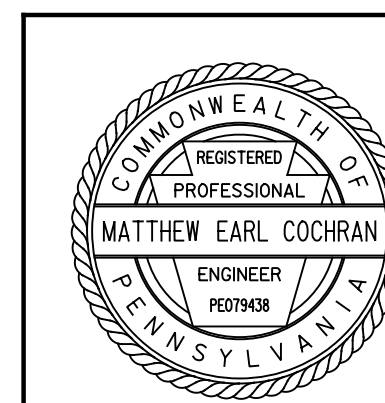
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

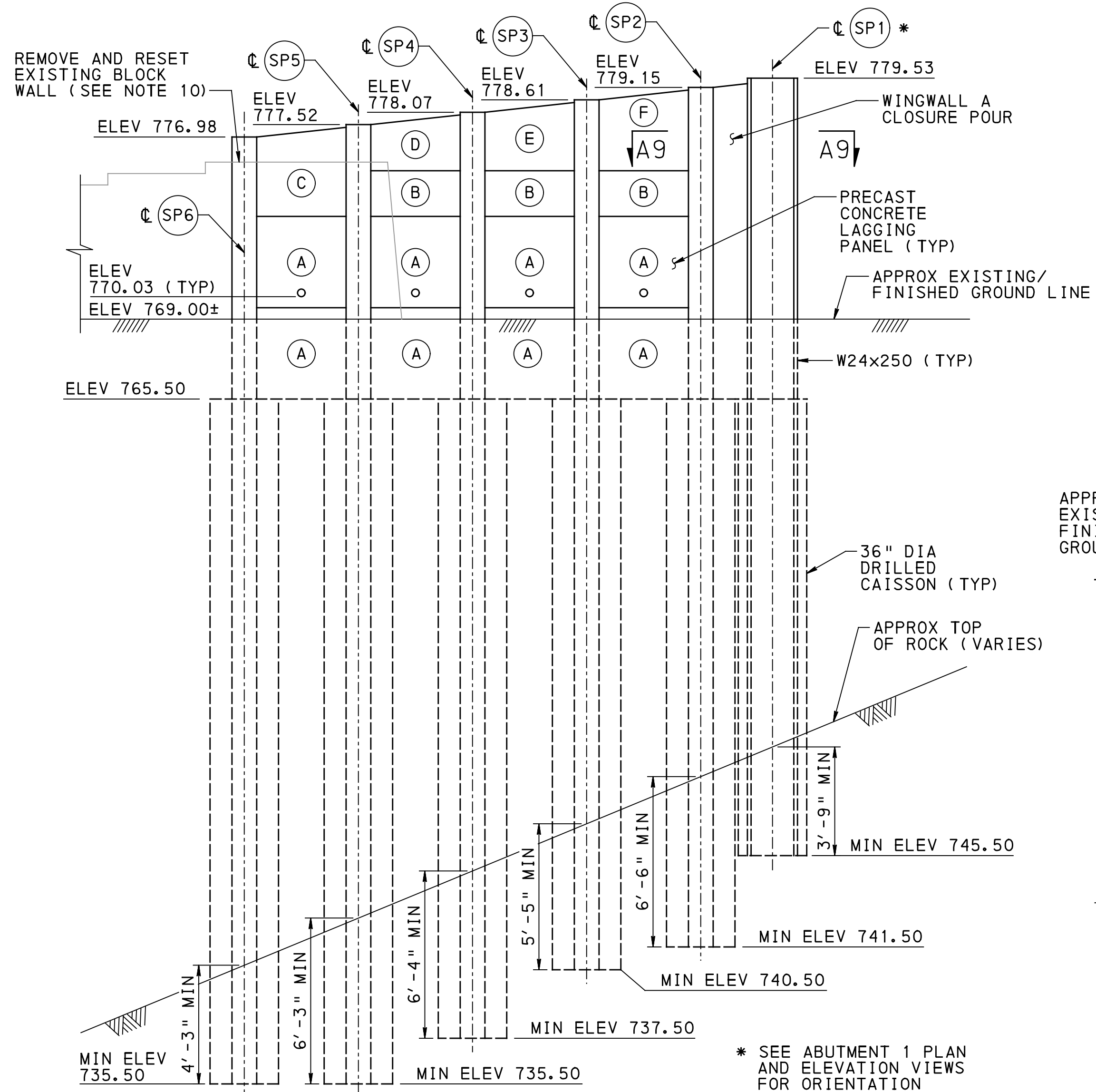
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUTMENT 1 SECTIONS

RECOMMENDED 08/03/2018

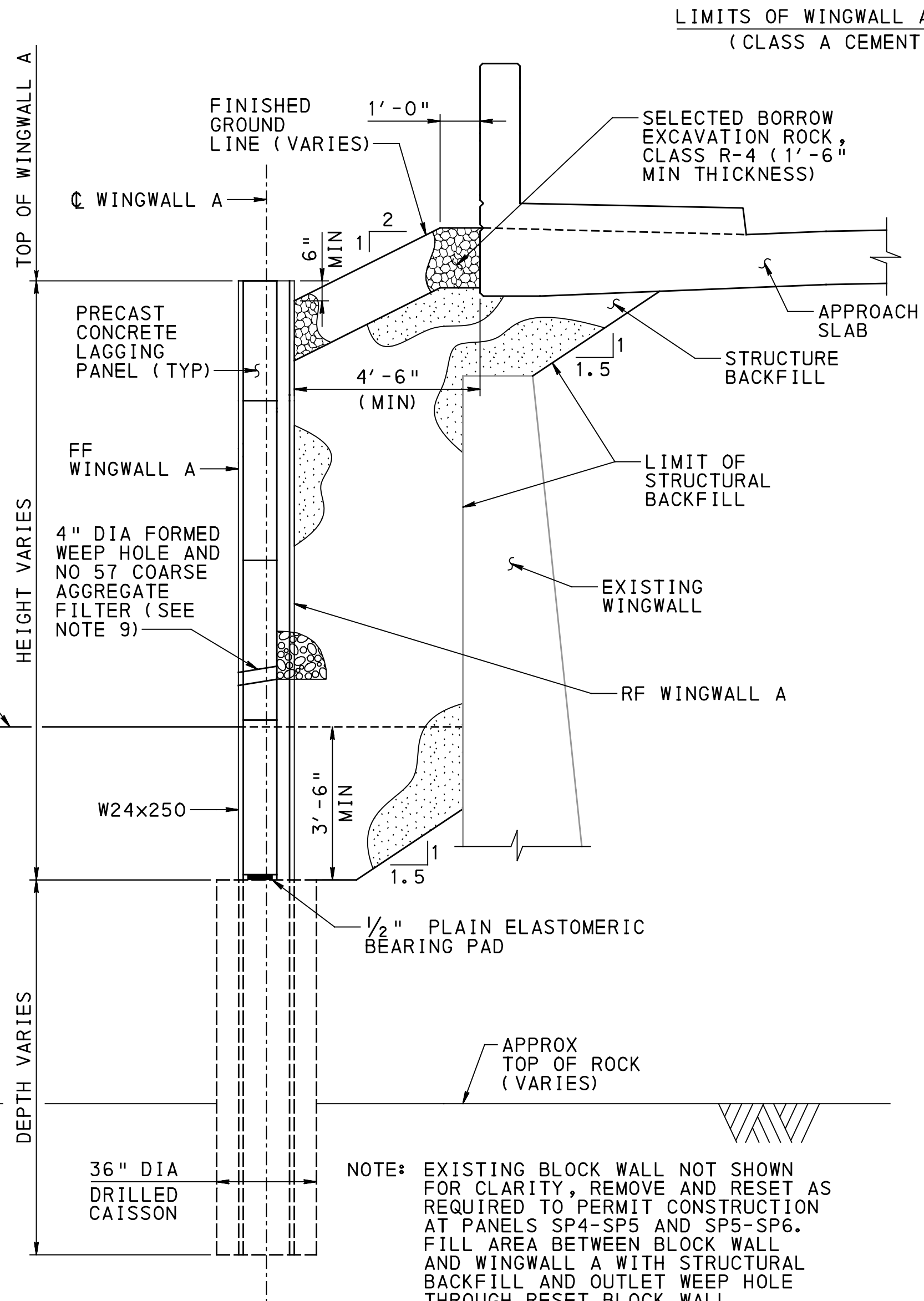
SHEET 14 OF 83

S - 37605

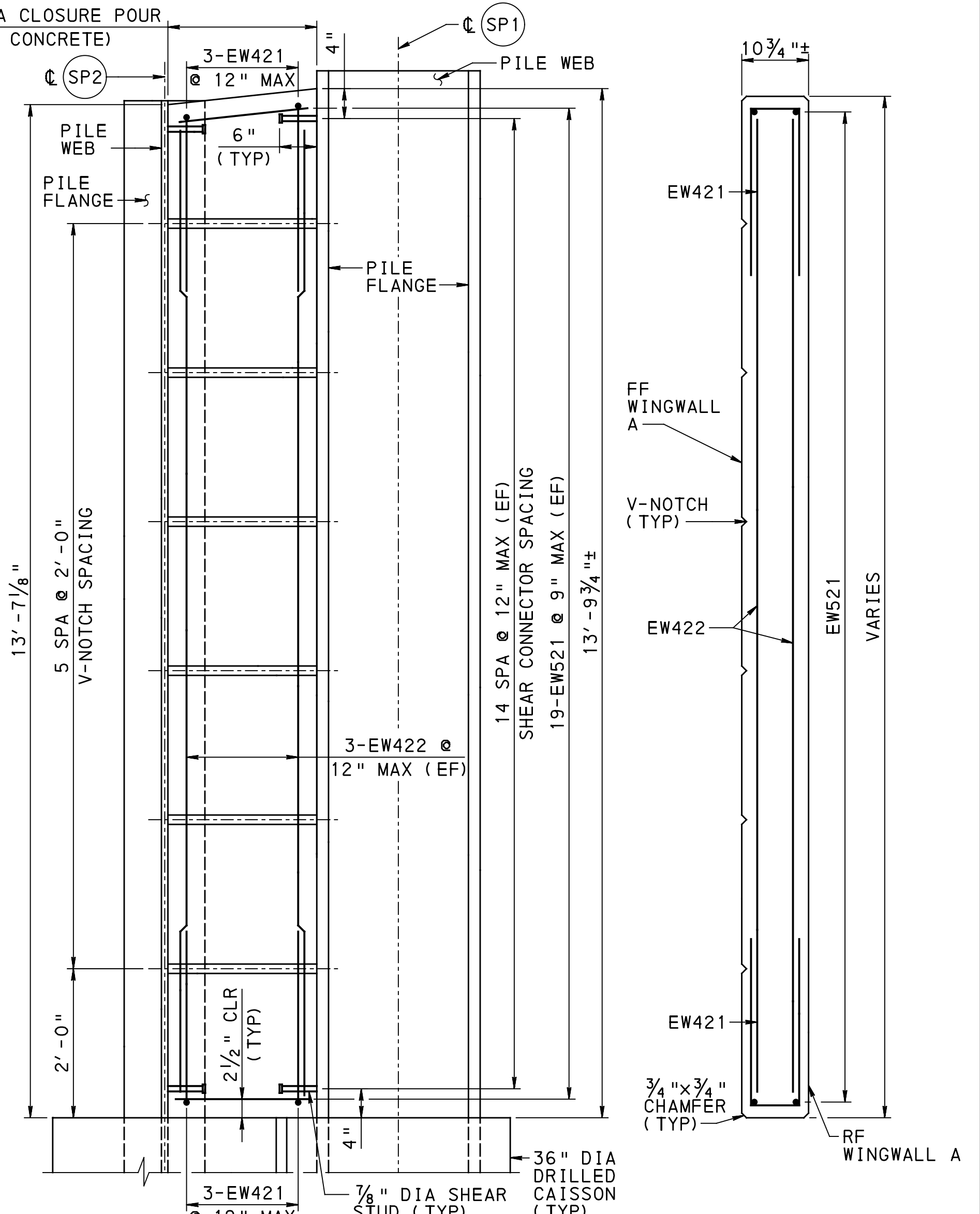




WINGWALL A ELEVATION

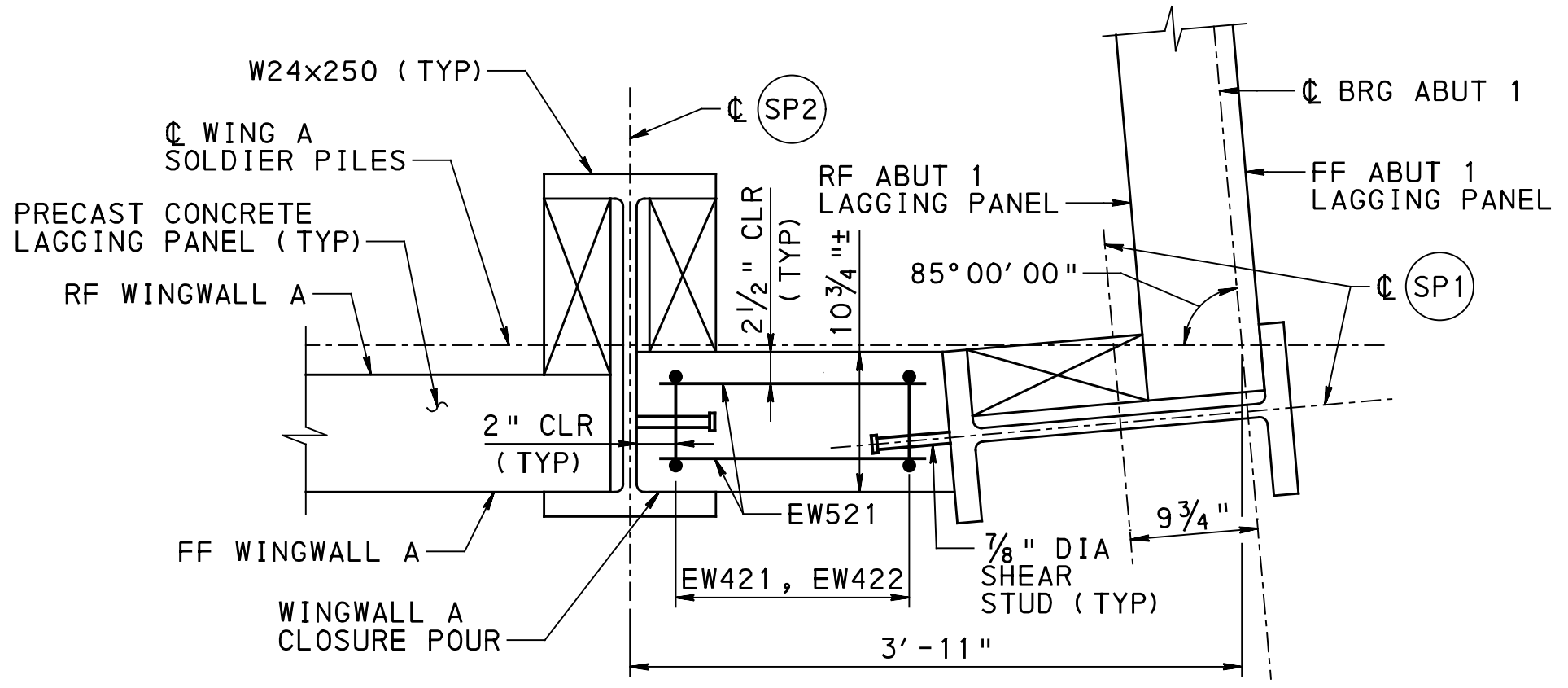


WINGWALL A SECTION
NOT TO SCALE



WINGWALL A CLOSURE
POUR ELEVATION

WINGWALL A CLOSURE
POUR SECTION



SECTION A9-A9

LEGEND

- EF EACH FACE
- FF FRONT FACE
- RF REAR FACE
- CIP CAST-IN-PLACE
- (SP1) SOLDIER PILE NUMBER
- (A) LAGGING PANEL IDENTIFICATION
- NO 57 COARSE AGGREGATE
- SELECTED BORROW EXCAVATION ROCK, CLASS R-4
- STRUCTURAL BACKFILL

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR ABUTMENT 1 PLAN, SEE SHEET 12.
- FOR ABUTMENT 1 ELEVATION, SEE SHEET 13.
- FOR ABUTMENT 1 SECTIONS, SEE SHEET 14.
- FOR ABUTMENT 1 CAP AND CHEEKWALL DETAILS, SEE SHEET 15.
- FOR WINGWALL B DETAILS, SEE SHEET 17.
- FOR ADDITIONAL WINGWALL AND LAGGING DETAILS, SEE SHEET 18.
- FOR ABUTMENT 1 BAR SCHEDULE, SEE SHEET 20.
- FOR WEEP HOLE AND AGGREGATE FILTER DETAILS, SEE BC-751M.
- SEE SPECIAL PROVISION 9000-0046, REMOVE AND RESET BLOCK WALL.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

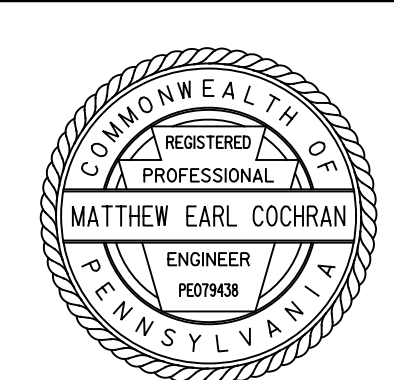
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DEPARTMENT OF TRANSPORTATION

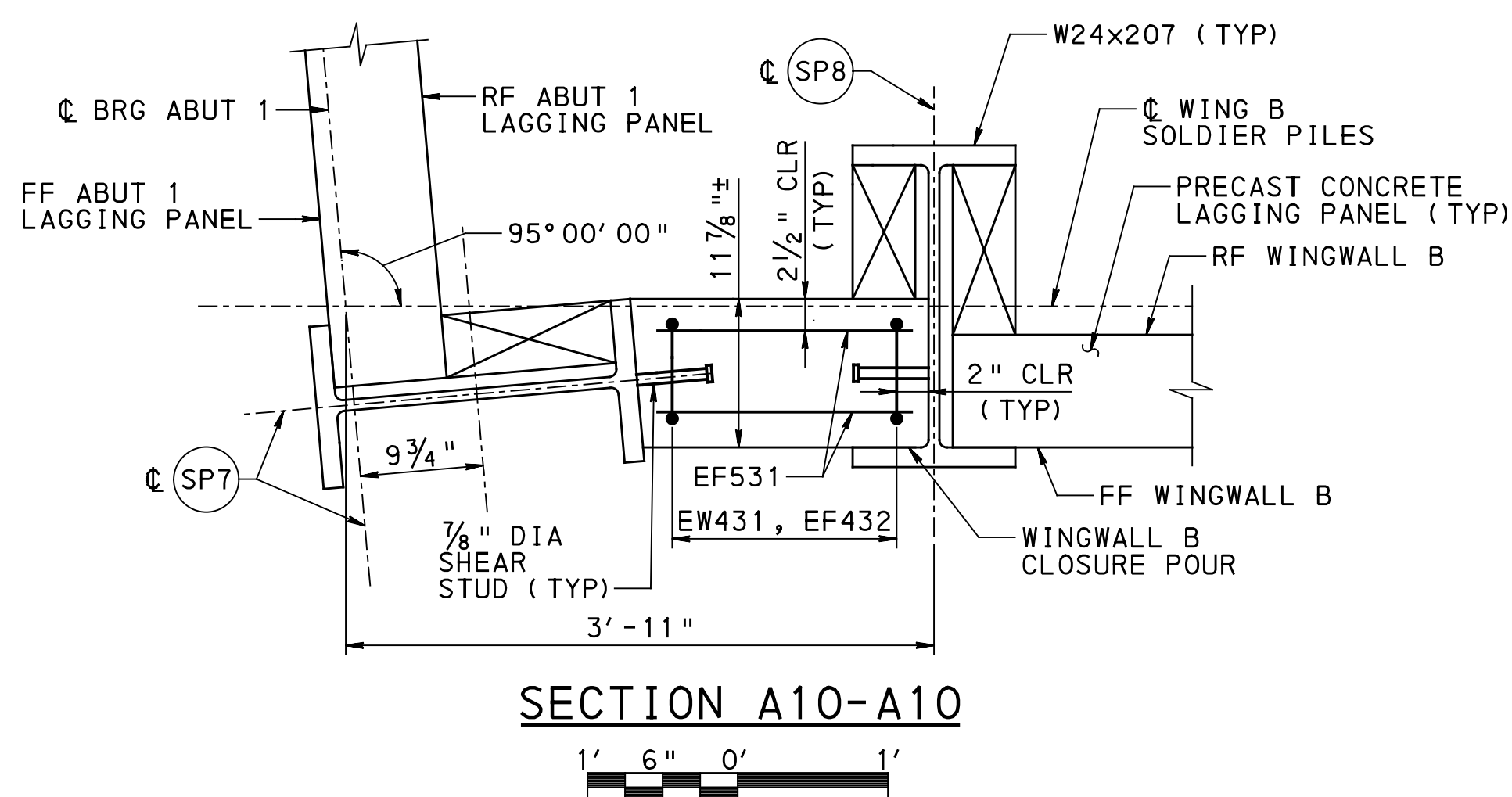
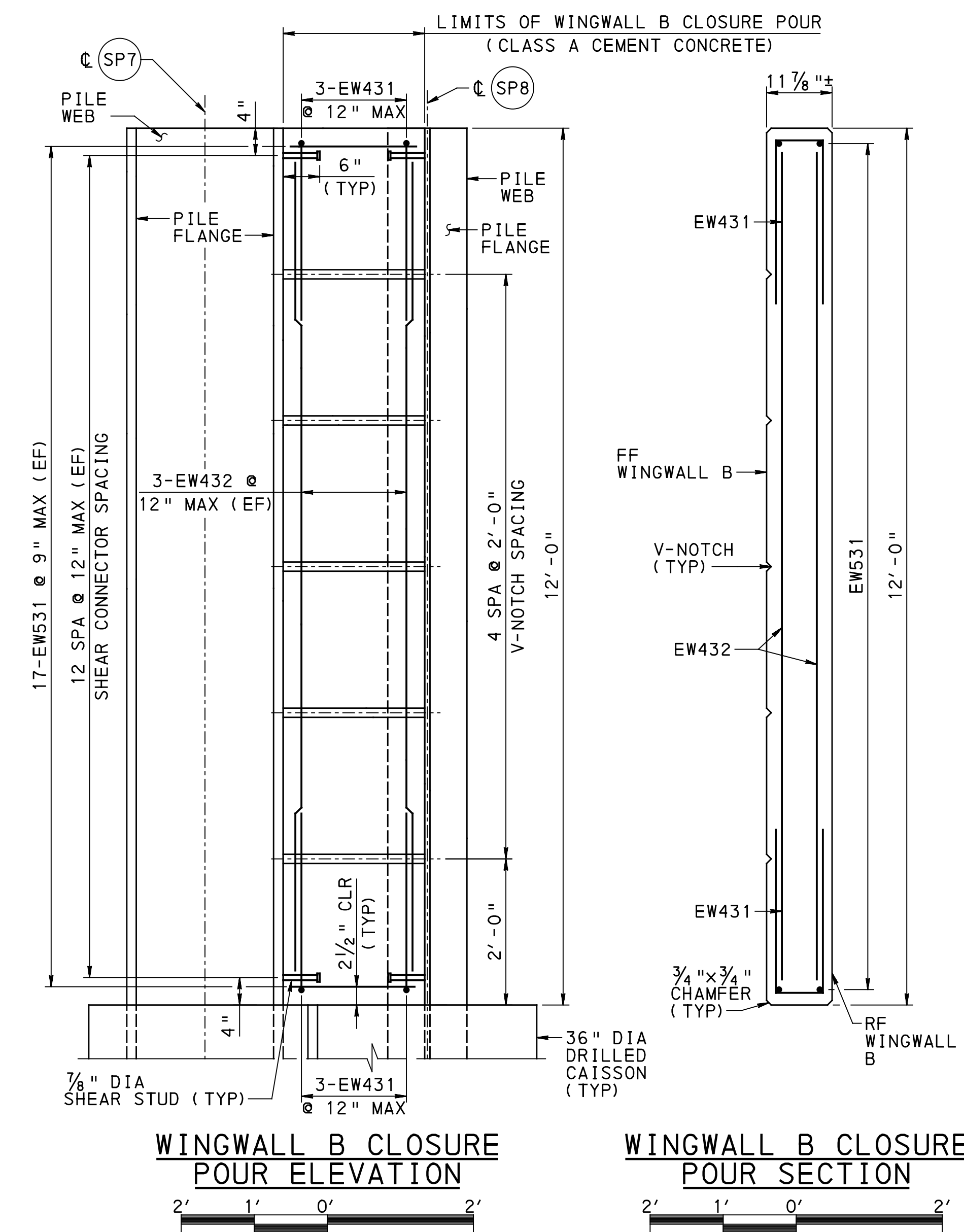
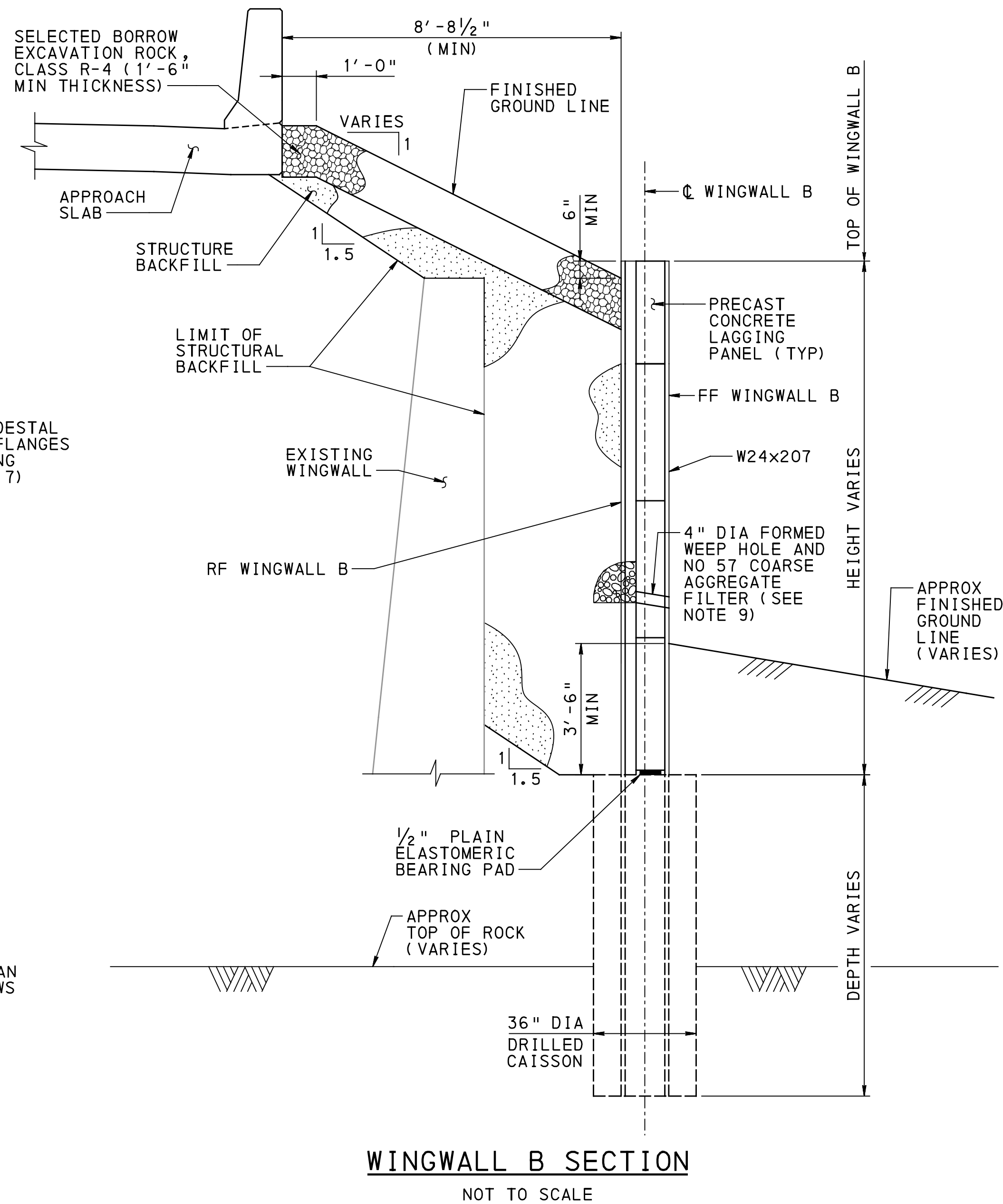
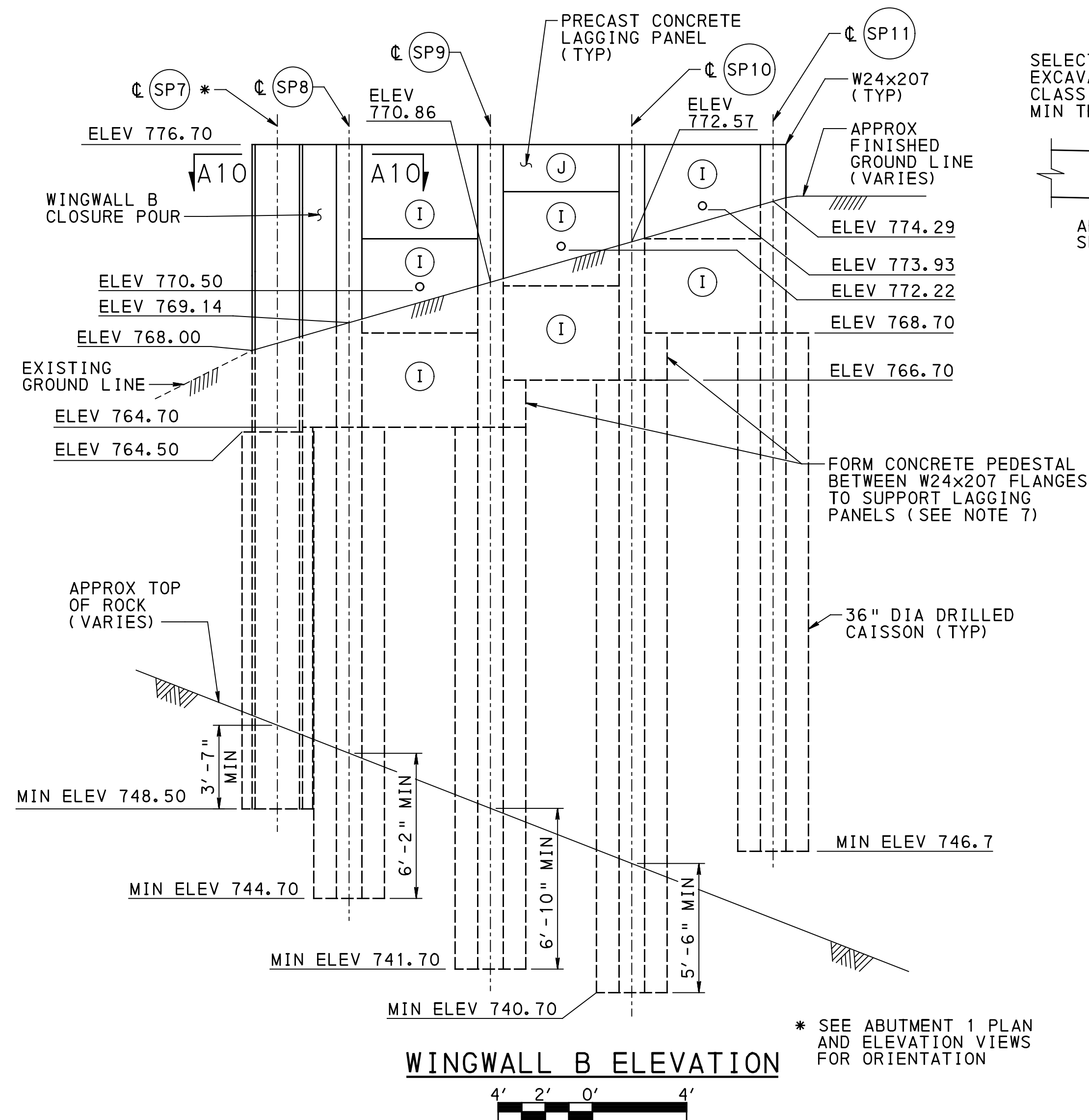
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
WINGWALL A

RECOMMENDED 08/03/2018




SHEET 16 OF 83

S - 37605





LEGEND

- | | |
|---|---|
| EF | EACH FACE |
| FF | FRONT FACE |
| RF | REAR FACE |
| CIP | CAST-IN-PLACE |
| (SP7) | SOLDIER PILE
NUMBER |
| (I) | LAGGING PANEL
IDENTIFICATION |
|  | NO 57 COARSE
AGGREGATE |
|  | SELECTED BORROW
EXCAVATION ROCK
CLASS R-4 |
|  | STRUCTURAL
BACKFILL |

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR ABUTMENT 1 PLAN, SEE SHEET 12.
3. FOR ABUTMENT 1 ELEVATION, SEE SHEET 13.
4. FOR ABUTMENT 1 SECTIONS, SEE SHEET 14.
5. FOR ABUTMENT 1 CAP AND CHEEKWALL DETAILS, SEE SHEET 15.
6. FOR WINGWALL A DETAILS, SEE SHEET 16.
7. FOR ADDITIONAL WINGWALL, LAGGING, AND CONCRETE PEDESTAL DETAILS, SEE SHEET 18.
8. FOR ABUTMENT 1 BAR SCHEDULE, SEE SHEET 20.
9. FOR WEEP HOLE AND AGGREGATE FILTER DETAILS, SEE BC-751M.



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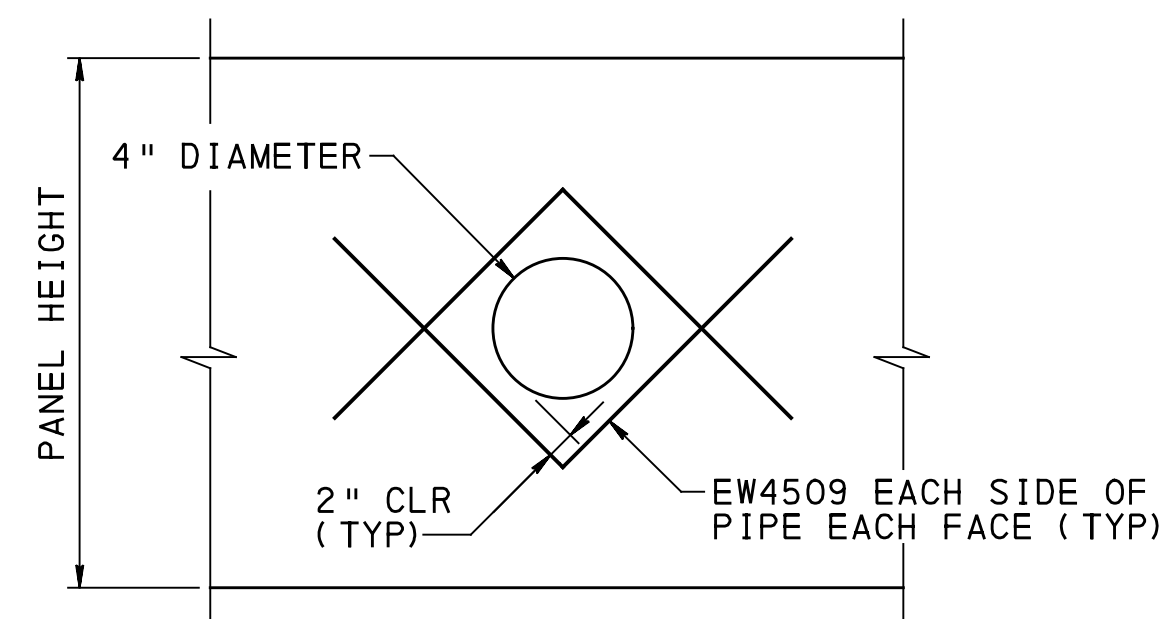
COMMONWEALTH OF PENNSYLVANIA
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OVER SR 0019-A63
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WINGWALL B

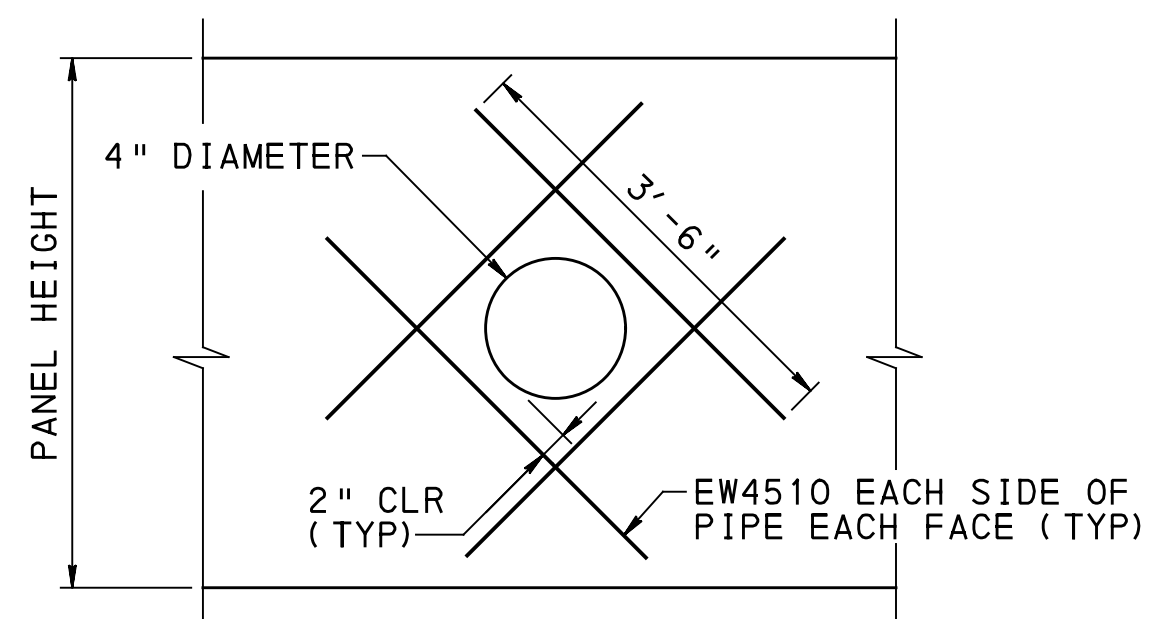
RECOMMENDED 08/03/2018

SHEET 17 OF 83

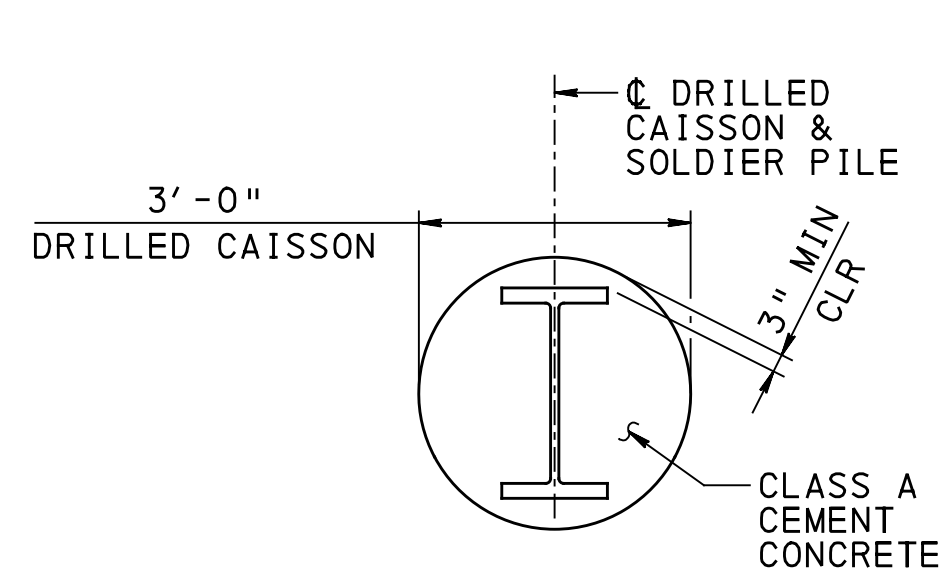
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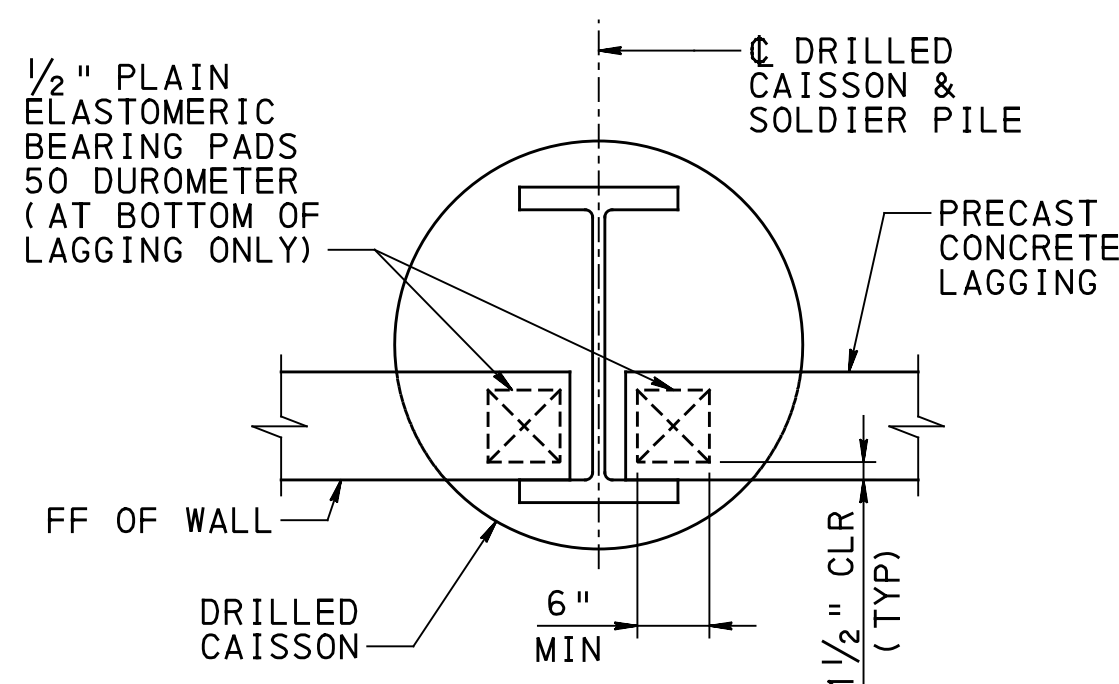
ALTERNATE WEEP HOLE
REINFORCEMENT DETAIL
NOT TO SCALE



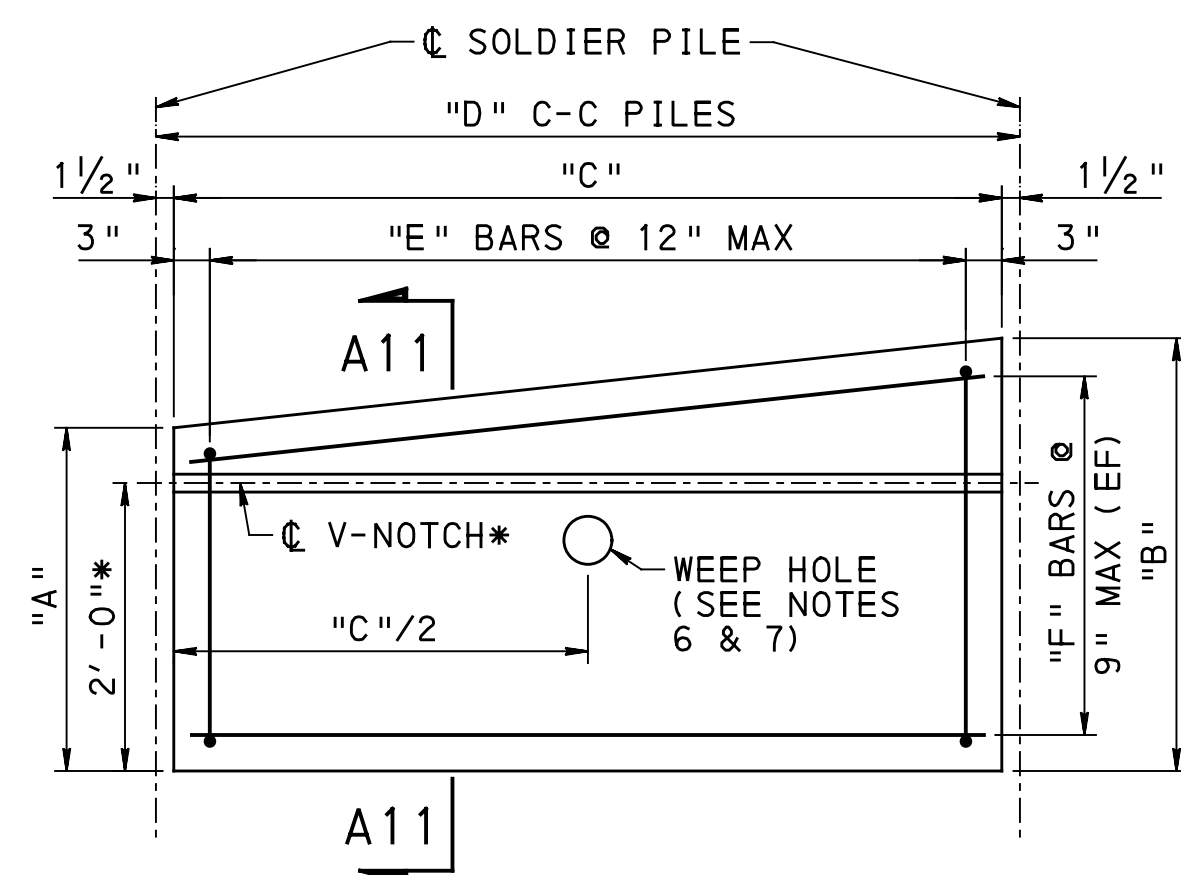
STANDARD WEEP HOLE
REINFORCEMENT DETAIL
NOT TO SCALE



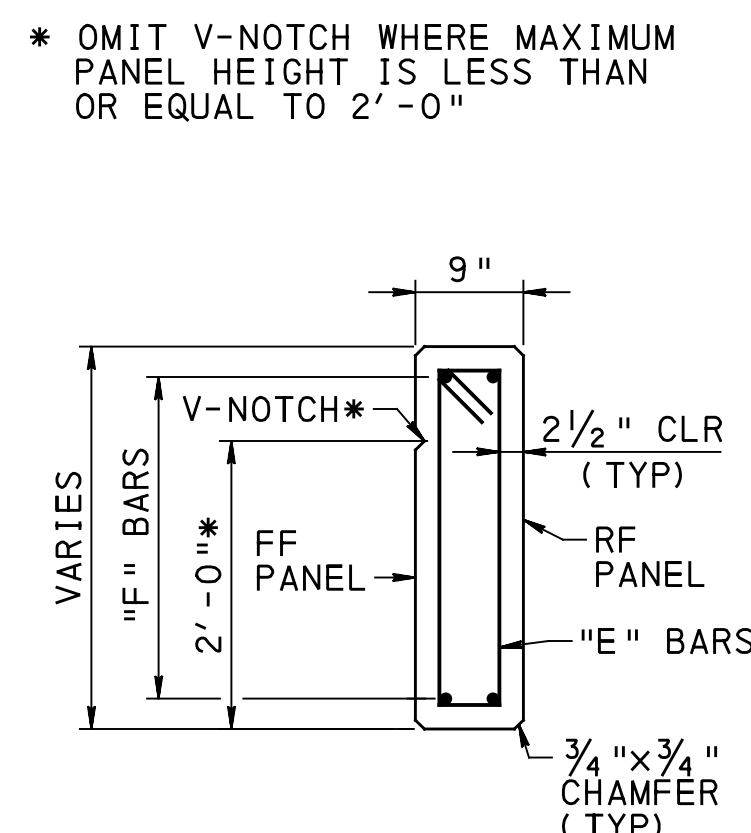
CONCRETE EMBEDMENT
SECTION
NOT TO SCALE



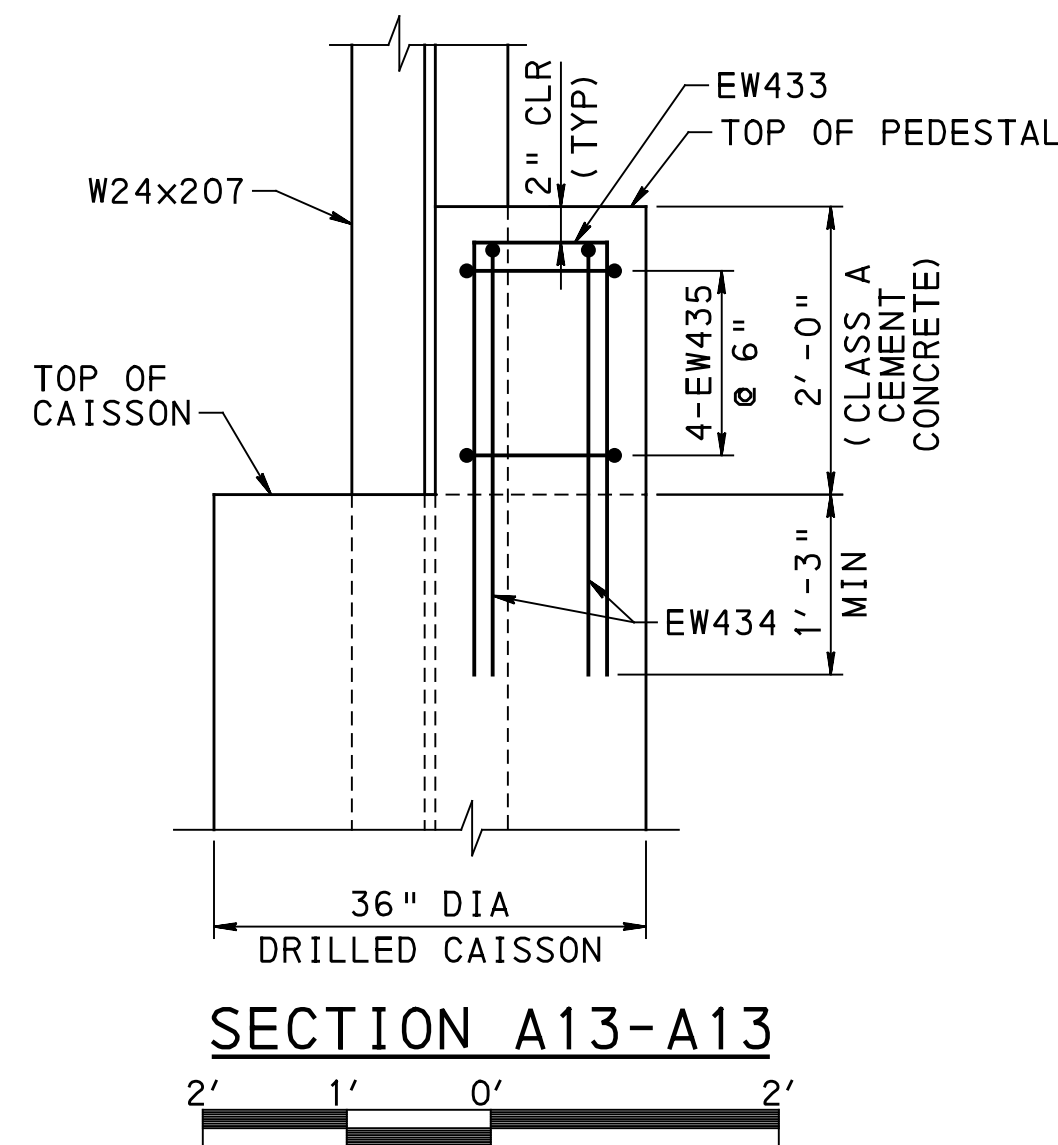
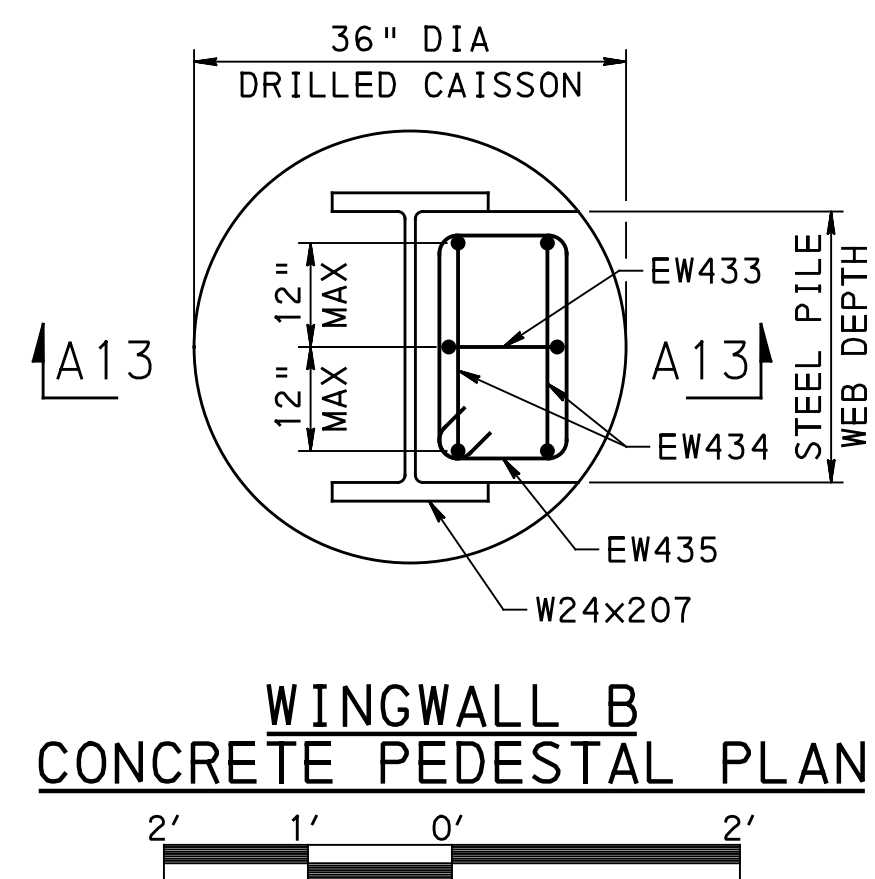
BEARING PAD DETAIL
NOT TO SCALE



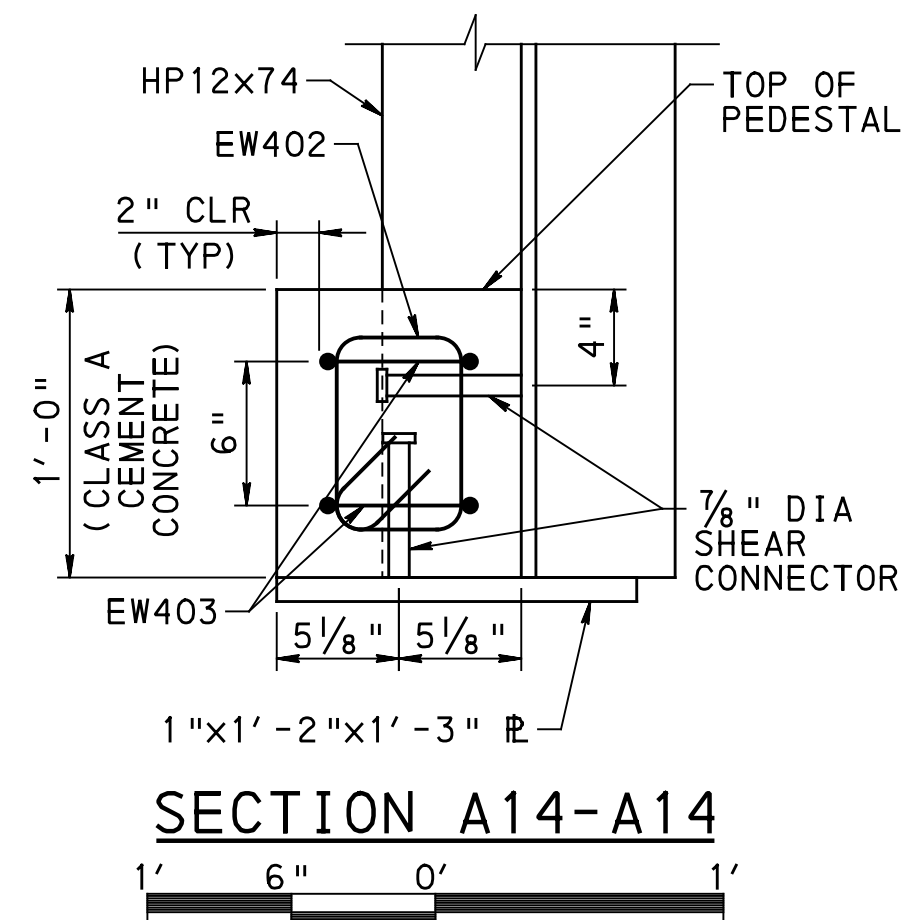
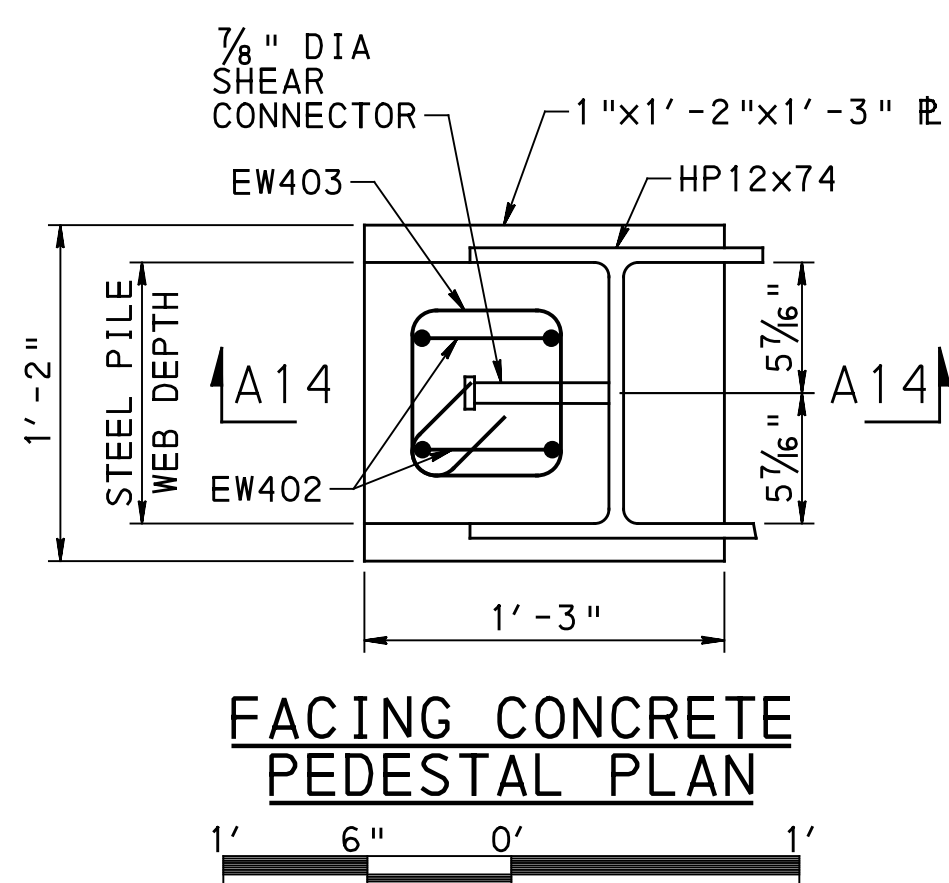
LAGGING PANEL ELEVATION
NOT TO SCALE



SECTION A11-A11
NOT TO SCALE



WINGWALL LAGGING PANEL DIMENSIONS							
LOCATION	PANEL	DIMENSIONS				BAR MARKS	
		"A "	"B "	"C "	"D "	"E "	"F "
WINGWALL A	(A)	4'-0"	4'-0"	4'-9"	5'-0"	6-EW4501	6-EW5501
	(B)	2'-0"	2'-0"	4'-9"	5'-0"	6-EW4502	4-EW5501
	(C)	3'-5 1/8"	3'-11 3/8"	4'-9"	5'-0"	6-EW4505	6-EW5501
	(D)	1'-11 3/4"	2'-5 7/8"	4'-9"	5'-0"	6-EW4506	4-EW5501
	(E)	2'-6 1/4"	3'-0 3/8"	4'-9"	5'-0"	6-EW4507	5-EW5501
	(F)	3'-0 3/4"	3'-7"	4'-9"	5'-0"	6-EW4508	6-EW5501
WINGWALL B	(I)	4'-0"	4'-0"	5'-9"	6'-0"	7-EW4501	6-EW5502
	(J)	2'-0"	2'-0"	5'-9"	6'-0"	7-EW4502	4-EW5502



1. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS PUBLICATION 408, AASHTO/AWS D1.5 BRIDGE WELDING CODE AND THE SPECIAL PROVISIONS.
2. USE CLASS A CEMENT CONCRETE FOR CONCRETE EMBEDMENT AND CAST-IN-PLACE CONCRETE.
3. FOR PRECAST CONCRETE LAGGING FOLLOW SECTION 714 OF PUB 408 AND USE 4000 PSI CONCRETE. CHAMFER EXPOSED CONCRETE EDGES $\frac{3}{4}$ " \times $\frac{3}{4}$ " WHERE NOTED.
4. PROVIDE GRADE 60 REINFORCING BARS THAT MEET THE REQUIREMENTS OF ASTM A 615, A 966, OR A 706. DO NOT WELD GRADE 60 REINFORCING BARS UNLESS SPECIFIED. GRADE 40 REINFORCING STEEL BARS MAY BE SUBSTITUTED WITH A PROPORTIONAL INCREASE IN CROSS-SECTIONAL AREA IF APPROVED BY THE CHIEF BRIDGE ENGINEER. DO NOT USE RAIL STEEL ASTM A 996 WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.
5. FOR PRECAST LAGGING, DRIVE OR PLACE PILES TO WITHIN 1" IN 10' OF VERTICAL, BUT DO NOT ALLOW AN OUT-OF-PLANE OFFSET OF MORE THAN 1" IN 10" WITH RESPECT TO ADJACENT PILES. DRIVE OR PLACE EACH PILE WITHIN 2" HORIZONTALLY OF THE INDICATED LOCATION AT FINISHED GROUND LINE. PROVIDE MINIMUM BEARING DISTANCE FOR PRECAST LAGGING AT EDGE OF PILE FLANGE AS INDICATED IN PRECAST CONCRETE LAGGING DETAILS. IF NECESSARY, FABRICATE PRECAST LAGGING AFTER DRIVING OR PLACING PILES TO ENSURE PROPER FIT AND BEARING DISTANCE.
6. PROVIDE NO. 57 COARSE AGGREGATE FOR STRUCTURAL BACKFILL. PLACE BACKFILL IN ACCORDANCE WITH SECTION 1001.3(c) 2b OF PUB 408.
7. GALVANIZE MATERIAL IN ACCORDANCE WITH SECTION 1105.02(s) 1 OF PUB 408. REPAIR GALVANIZED SURFACES DAMAGED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 1105.02(s) 2 OF PUB 408.
8. REPAIR EPOXY COATED SURFACES DAMAGED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 1092.3(e) OF PUB 408.
9. WELDING SPECIFICATIONS: ANSI/AASHTO/AWS/D1.5 BRIDGE WELDING CODE AND IN ACCORDANCE WITH SECTION 1105.03(m) OF PUB 408 AND THE SPECIAL PROVISIONS. USE QUALIFIED WELDERS IN ACCORDANCE WITH AWS D1.5 SECTION 5 PART B. FOLLOW D1.1 FOR TUBULAR (API OR ASTM A53) MATERIAL.
10. FIELD WELDING OF STEEL: USE THE SHIELDED METAL ARC PROCESS AND LOW HYDROGEN ELECTRODES WHICH ARE COMPATIBLE WITH THE BASE METAL AS SPECIFIED, AND IN ACCORDANCE WITH AN APPROVED WELD PROCEDURE SPECIFICATION.
11. DO NOT WELD WHEN SURFACES TO BE WLEDED ARE MOIST OR EXPOSED TO RAIN, SNOW OR WIND, OR WHEN WELDERS ARE EXPOSED TO INCLEMENT CONDITIONS THAT WILL ADVERSELY AFFECT THE QUALITY OF THE WORK.
12. REMOVE ANY MOISTURE PRESENT AT POINT OF WELD BY APPLICATION OF HEAT. PROVIDE WINDBREAKS FOR PROTECTION FROM DIRECT WIND.
13. DO NOT WELD OR BURN WHEN THE TEMPERATURE IS BELOW 0-DEGREES F. PREHEAT AND MAINTAIN THE TEMPERATURE OF THE METAL TO AT LEAST 70-DEGREES F WHEN THE TEMPERATURE OF THE METAL IS BETWEEN 0-DEGREES AND 30-DEGREES F DURING WELDING OR BURNING. EXTEND THE AREA TO BE HEATED 3 INCHES BEYOND THE WELD IN ALL DIRECTIONS.
14. THOROUGHLY CLEAN ALL PORTIONS OF NEW SURFACES TO RECEIVE WELDS OF ALL FOREIGN MATTER, INCLUDING PAINT FILM, FOR A DISTANCE OF 2" FROM EACH SIDE OF THE OUTSIDE LINES OF WELD PRIOR TO PLACING THE WELD.
15. TEST INDICATED WELDS USING NON-DESTRUCTIVE METHODS IN ACCORDANCE WITH AASHTO AWS D1.5 2002 BRIDGE WELDING CODE, SECTION 6.7.
16. LAGGING MAY BE PLACED INSIDE THE REAR FLANGE, IF BLOCKED, OR INSIDE THE FRONT FLANGE.
17. CHAMFER EXPOSED CONCRETE EDGES 1" \times 1" EXCEPT AS NOTED.
18. QUANTITY CALCULATIONS ARE BASED ON BOTTOM UP CONSTRUCTION

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR ABUTMENT 1 PLAN, SEE SHEET 12.
3. FOR ABUTMENT 1 ELEVATION, SEE SHEET 13.
4. FOR ABUTMENT 1 SECTIONS, SEE SHEET 14.
5. FOR ABUTMENT 1 CAP DETAILS, SEE SHEET 15.
6. FOR WINGWALL A DETAILS AND WEEPHOLE LOCATIONS, SEE SHEET 16.
7. FOR WINGWALL B DETAILS AND WEEPHOLE LOCATIONS, SEE SHEET 17.
8. FOR ABUTMENT 1 BAR SCHEDULE, SEE SHEET 20.
9. FOR WEEP HOLE AND AGGREGATE FILTER DETAILS, SEE BC-751M.
10. USE ALTERNATE WEEP HOLE REINFORCEMENT DETAIL WHERE SPACING CONSTRAINTS DO NOT PERMIT THE STANDARD WEEP HOLE REINFORCEMENT DETAIL.

Mark	Description	By	Chk' d.	Recm' d.	Date
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SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

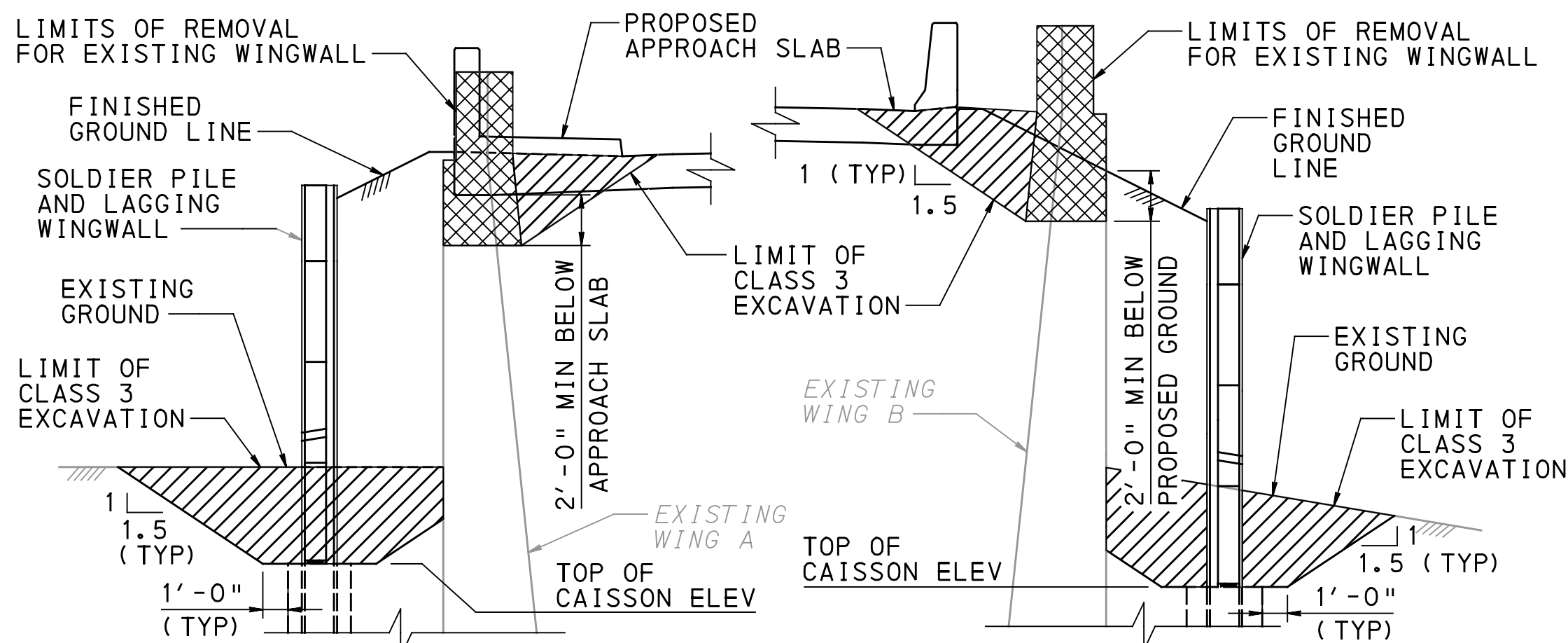
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
SOLDIER PILE & LAGGING DETAILS

RECOMMENDED 08/03/2018

SHEET 18 OF 83

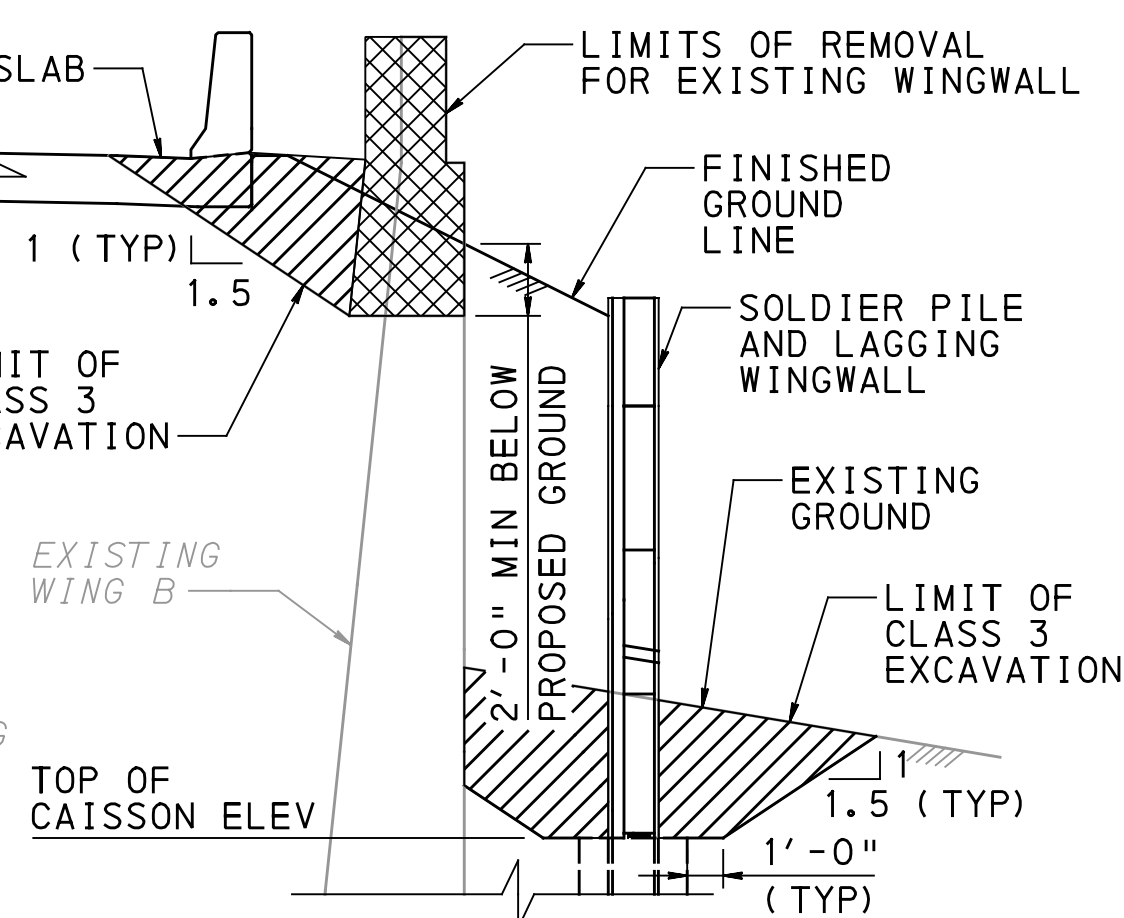
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LIMITS OF EXCAVATION

AT WINGWALL A

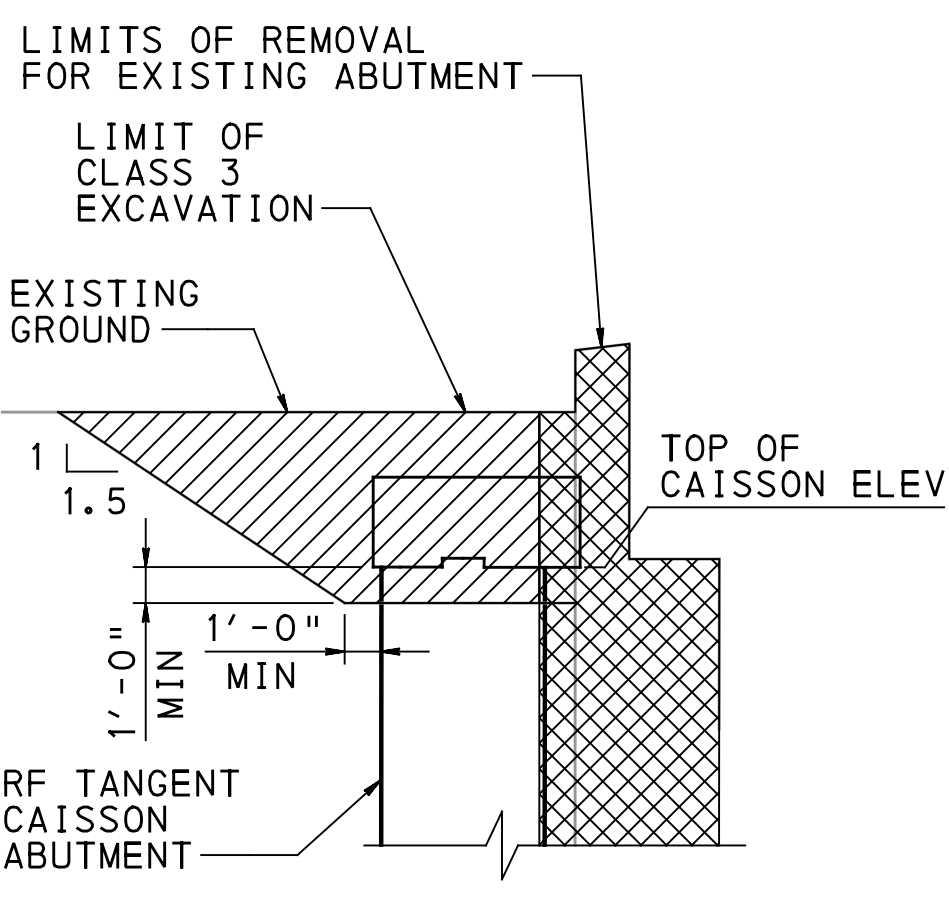
NOT TO SCALE



LIMITS OF EXCAVATION

AT WINGWALL B

NOT TO SCALE

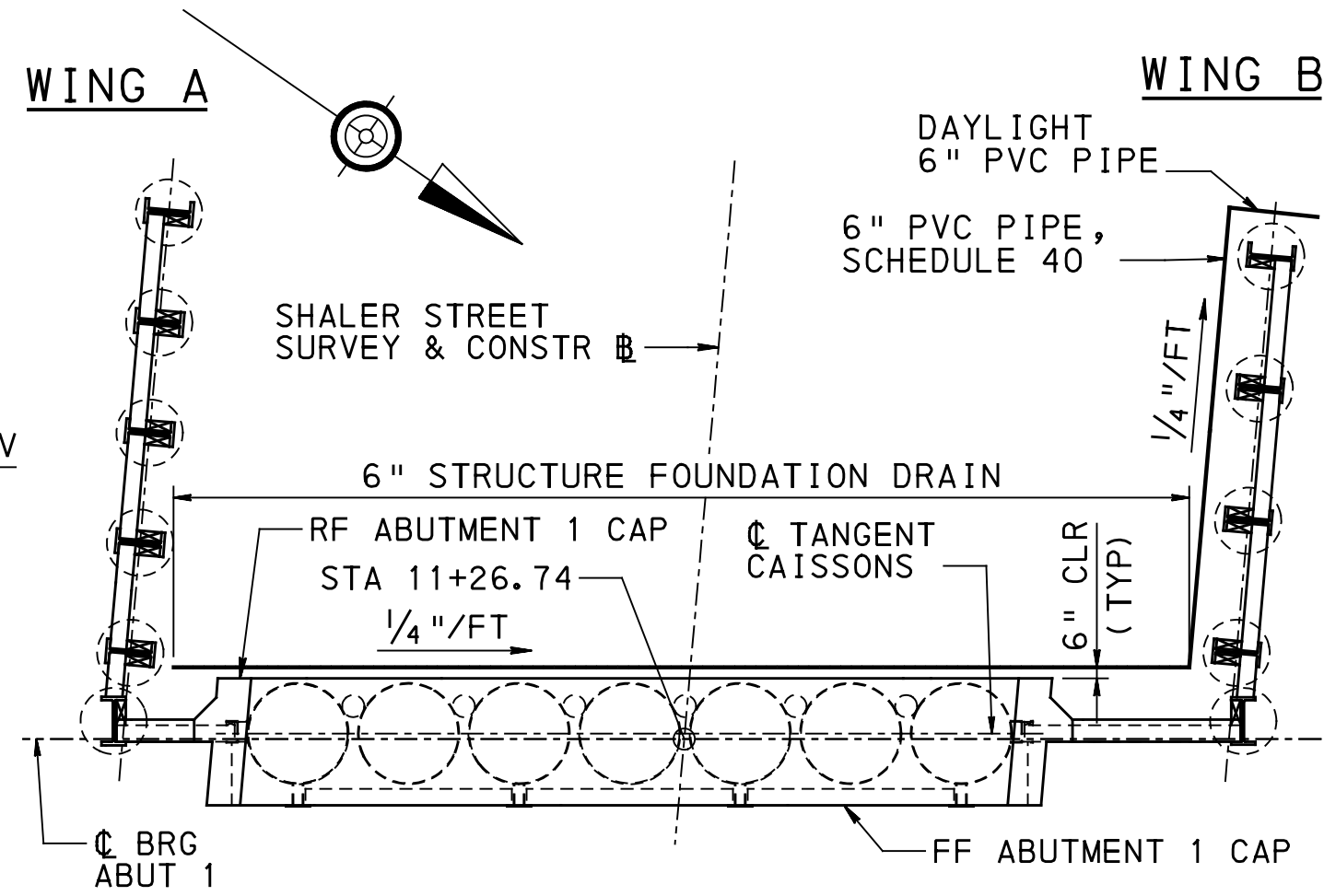


LIMITS OF EXCAVATION

AT ABUTMENT 1

NOT TO SCALE

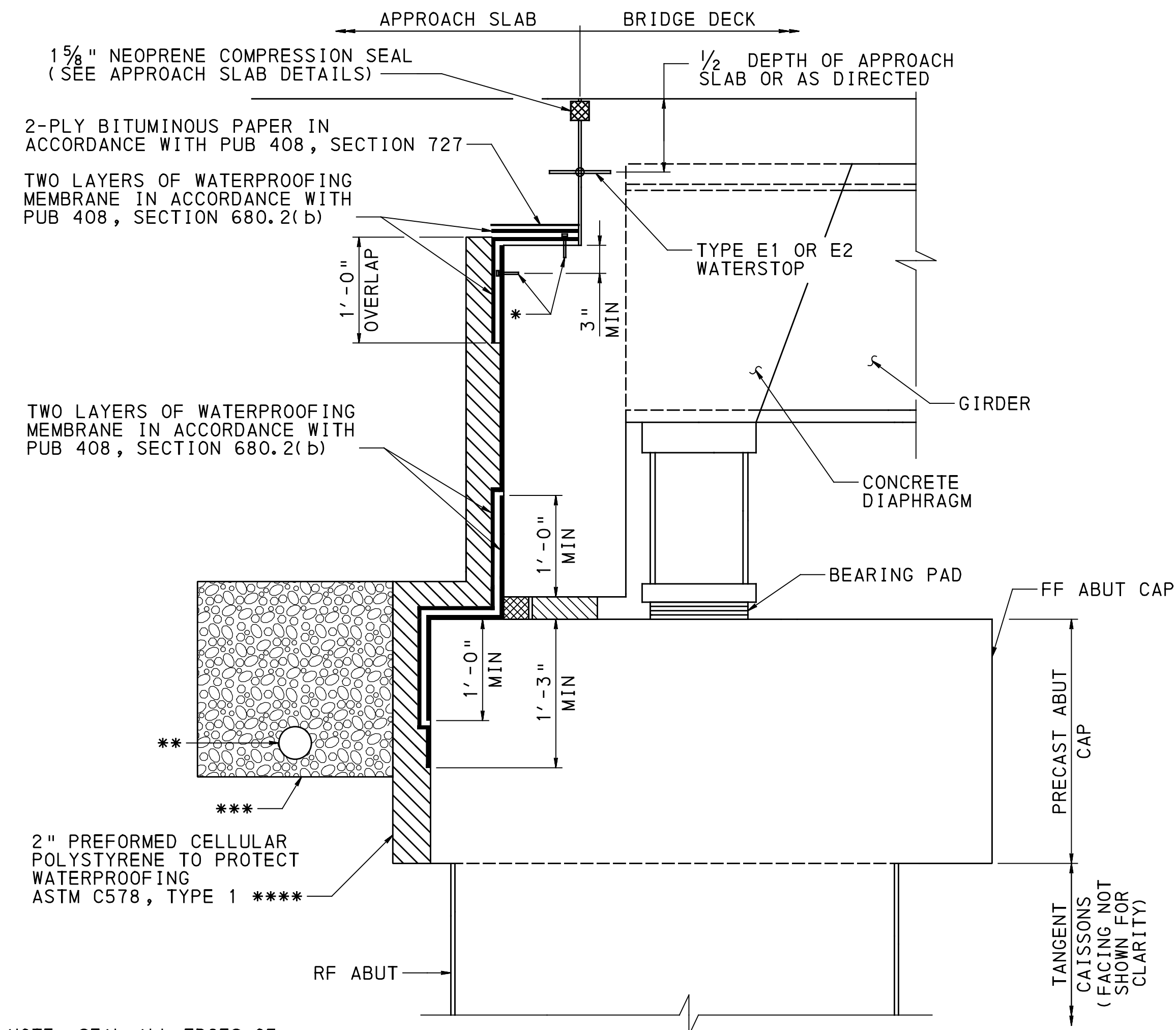
NOTE: WHERE CAP EXCAVATION LIMITS INTERSECT EXISTING WINGS, DEMOLISH EXISTING WING.



ABUTMENT 1 STRUCTURE

FOUNDATION DRAIN

NOT TO SCALE

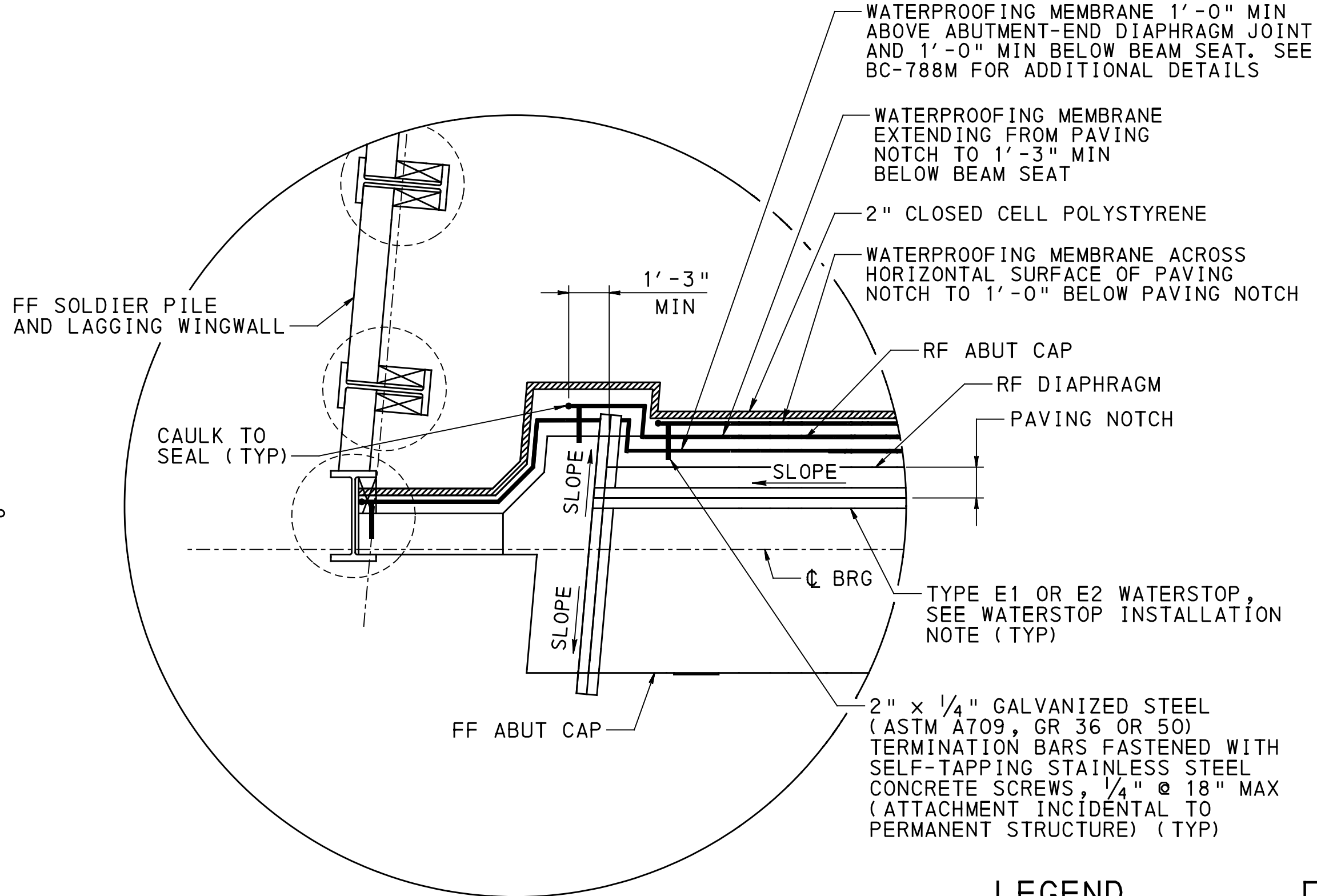


ABUTMENT 1 WATERPROOFING DETAIL

NOT TO SCALE

NOTE: SEAL ALL EDGES OF WATERPROOFING MEMBRANE AND TERMINATION BARS WITH MANUFACTURER'S RECOMMENDED SEALER.

- * 2"x1/4" GALVANIZED STEEL (ASTM A709, GR 36 OR 50) BATTEN SECURED TO CONCRETE WITH SELF-TAPPING STAINLESS STEEL CONCRETE SCREWS, 1/4" @ 18" MAX SPACING. (ATTACHMENT INCIDENTAL TO PERMANENT STRUCTURE)
- ** 6" STRUCTURE FOUNDATION DRAIN PLACED 6" MIN. TO 1'-0" MAX. BELOW BRIDGE SEAT. SLOPE FOUNDATION DRAIN A MINIMUM OF 1/4" PER FOOT.
- *** CONTINUOUS 2' x 2' OF NO. 57 COARSE AGGREGATE, ENCASED IN GEOTEXTILE, CLASS 1 IN ACCORDANCE WITH PUB 408, SECTION 1001.3(d) (GEOTEXTILE INCIDENTAL TO COARSE AGGREGATE)
- **** EXTEND P.C.P. TO BOTTOM OF THE PAVING NOTCH.



WATERSTOP PLAN VIEW AND
VERTICAL CORNER WATERPROOFING

NOT TO SCALE

(ABUT 1, WINGWALL A CORNER SHOWN, WINGWALL B CORNER SIMILAR)

WATERSTOP INSTALLATION NOTE:
SLOPE PAVING NOTCH WATERSTOP IN DIRECTION INDICATED IN ORDER TO PROVIDE POSITIVE DRAINAGE. MAKE WATERSTOPS CONTINUOUS BY SPLICING PER MANUFACTURER'S SPECIFICATIONS.

LEGEND

FF FRONT FACE

RF REAR FACE

LIMITS OF CLASS 3 EXCAVATION

LIMITS OF REMOVAL FOR EXISTING STRUCTURE



WATERPROOFING INSTALLATION SEQUENCE

1. INSTALL WATERPROOFING MEMBRANE OVER THE JOINT BETWEEN THE DIAPHRAGM AND REAR FACE OF ABUTMENT CAP. SEAL ALL EDGES OF MEMBRANE WITH MANUFACTURER'S RECOMMENDED SEALER PRIOR TO INSTALLATION OF OVERLAPPING MEMBRANE.
2. INSTALL WATERPROOFING MEMBRANE ON THE VERTICAL SURFACE OF THE DIAPHRAGM AND REAR FACE OF ABUTMENT STARTING DIRECTLY BELOW THE PAVING NOTCH TO 1'-3" BELOW THE BEAM SEAT. INSTALL 2" x 1/4" GALVANIZED STEEL (ASTM A709, GR 36 OR 50) TERMINATION BARS FASTENED WITH SELF-TAPPING STAINLESS STEEL CONCRETE SCREWS (1/4" AT 1'-6" MAX SPACING TYP.) NEAR THE TOP OF THE FULL DEPTH DIAPHRAGM AS INDICATED. SEAL ALL EDGES OF MEMBRANE WITH MANUFACTURER'S RECOMMENDED SEALER PRIOR TO INSTALLATION OF OVERLAPPING MEMBRANE.
3. INSTALL WATERPROOFING MEMBRANE OVER THE HORIZONTAL SURFACE OF THE PAVING NOTCH AND EXTENDING 1'-0" DOWN THE REAR FACE OF THE DIAPHRAGM OVERLAPPING THE PREVIOUSLY INSTALLED MEMBRANE AND TERMINATION BARS. INSTALL 2" x 1/4" GALVANIZED STEEL (ASTM A709, GR 36 OR 50) TERMINATION BARS FASTENED WITH SELF-TAPPING STAINLESS STEEL CONCRETE SCREWS (1/4" AT 1'-6" MAX SPACING TYP.) AT THE PAVING NOTCH AS INDICATED. SEAL ALL EDGES OF MEMBRANE WITH MANUFACTURER'S RECOMMENDED SEALER.
4. INSTALL WATERPROOFING MEMBRANE OVER THE HORIZONTAL SURFACE OF THE PAVING NOTCH OVERLAPPING THE PREVIOUSLY INSTALLED MEMBRANE AND TERMINATION BARS. SEAL ALL EDGES OF MEMBRANE WITH MANUFACTURER'S RECOMMENDED SEALER.
5. INSTALL TWO-PLY BITUMINOUS PAPER ON THE HORIZONTAL SURFACE OF THE PAVING NOTCH OVERLAPPING THE PREVIOUSLY INSTALLED WATERPROOFING MEMBRANE.
6. INSTALL 2" CLOSED CELL POLYSTYRENE (ASTM C578, TYPE 1) ADJACENT TO THE VERTICAL PORTION OF THE PREVIOUSLY INSTALLED WATERPROOFING MEMBRANE ON THE REAR FACE OF THE DIAPHRAGM AND ABUTMENT AS INDICATED.

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR ABUTMENT 1 PLAN, SEE SHEET 12.
3. FOR ABUTMENT 1 ELEVATION, SEE SHEET 13.
4. FOR ABUTMENT 1 SECTIONS, SEE SHEET 14.
5. FOR ABUTMENT 1 CAP AND CHEEKWALL DETAILS, SEE SHEET 15.
6. FOR WINGWALL DETAILS, SEE SHEETS 16 THRU 18.
7. FOR ABUTMENT 1 END DIAPHRAGM DETAILS, SEE SHEET 51.
8. FOR APPROACH SLAB DETAILS, SEE SHEETS 55 THRU 61.
9. FOR ADDITIONAL DRAINAGE DETAILS, SEE BC-751M.
10. FOR ADDITIONAL WATERPROOFING DETAILS, SEE BC-788M.

Mark	Description	By	Chk'd.	Rec'd.	Date
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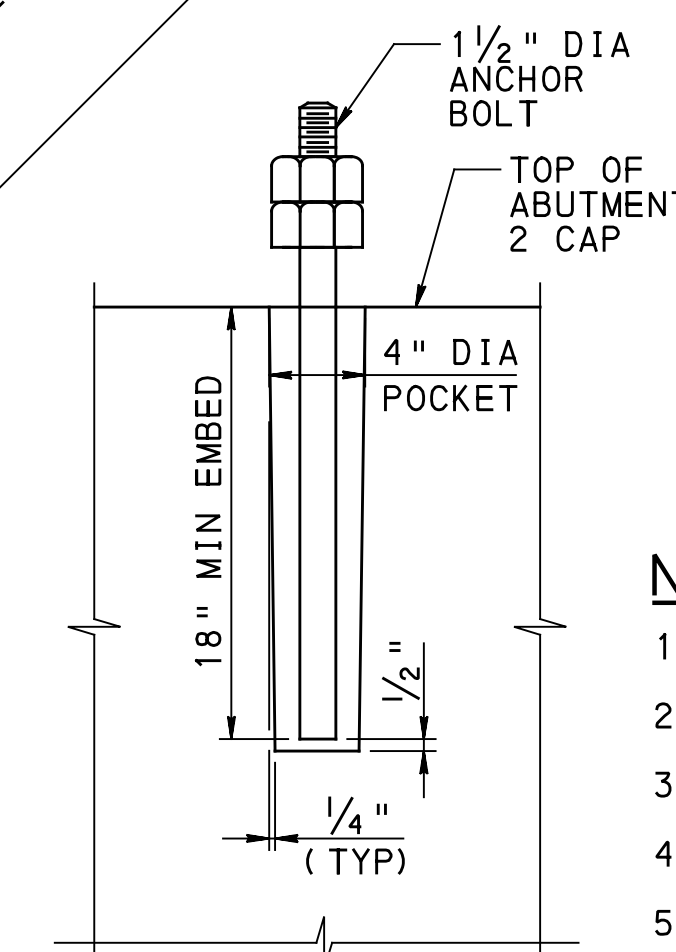
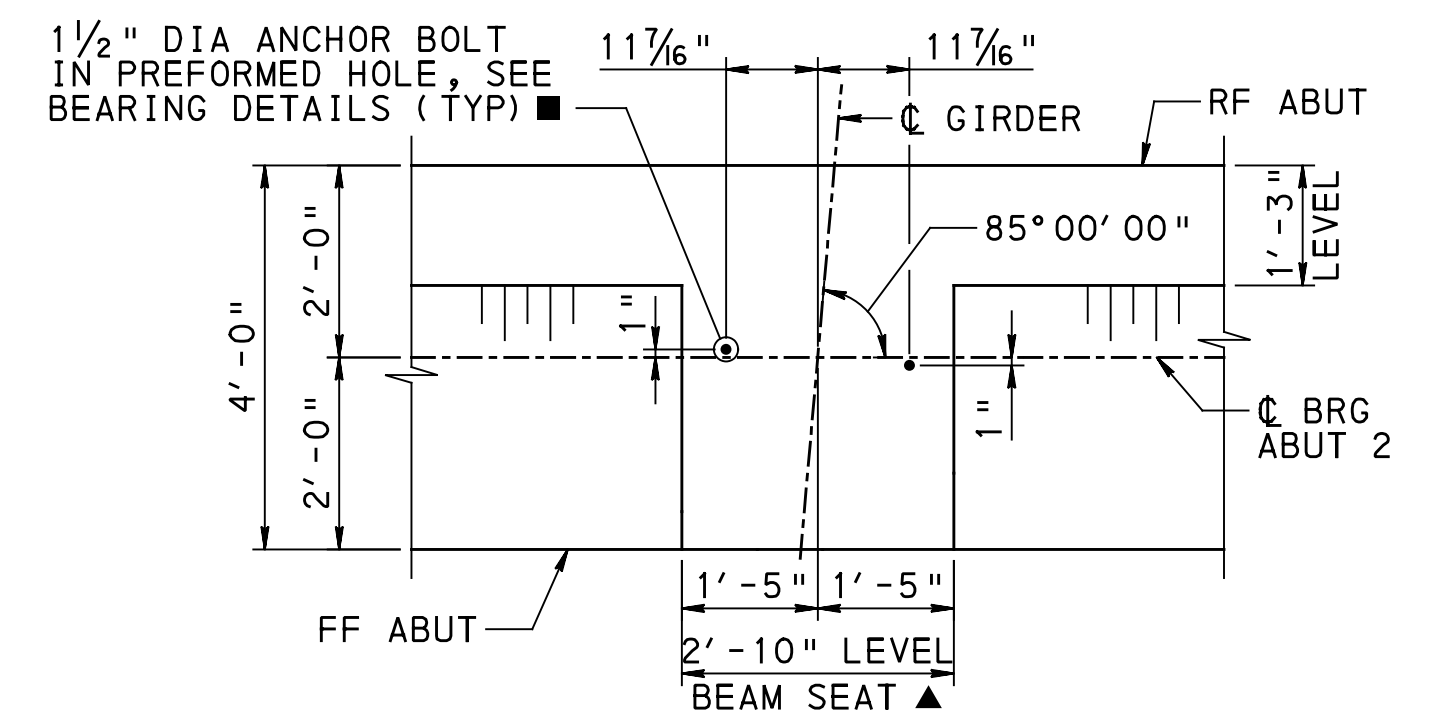
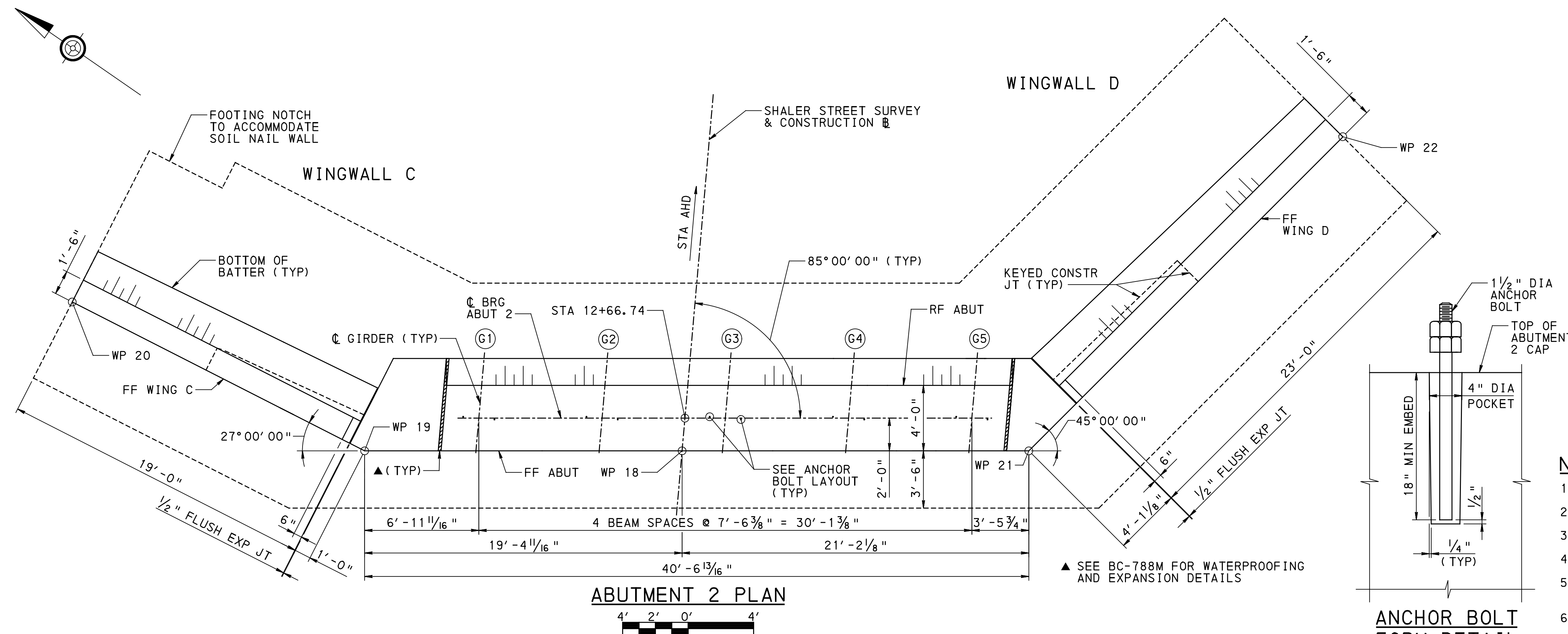
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2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUT 1 DRAINAGE & WATERPROOFING

RECOMMENDED 08/03/2018

SHEET 19 OF 83

S - 37605

ABUTMENT 1 PRECAST REINFORCEMENT BAR SCHEDULE (FOR INFORMATION ONLY)										
MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	E	REMARKS
PRECAST WING A CHEEKWALL										
EW5101	8	5	6'-0"	STR						
EW5102	8	5	5'-7"	STR						**
EW5103	4	5	VARIABLE 3'-6" TO 5'-0"	STR						2 SETS OF 2, ΔL = 1'-6"
EW5104	4	5	VARIABLE 3'-9" TO 5'-5"	STR						2 SETS OF 2 **, ΔL = 1'-8"
EW5105	2	5	16'-9"	76	1'-2"	5'-4"	1'-2"	4'-6 ½"	5 ⅝"	F = 5 ⅝"
EW5106	5	5	15'-9"	76	11 ¼"	5'-1 ½"	11 ¼"	4'-4 ½"	5 ⅜"	F = 5 ⅜"
EW5107	4	5	5'-10"	14	7"	5'-3"		5"		
EW5108	3	5	VARIABLE 2'-9" TO 5'-3"	14	7"	VARIABLE 2'-2" TO 4'-8"		5"		1 SETS OF 3, ΔB = 1'-3" ΔL = 1'-3"
EW5109	2	5	6'-4"	11	2'-3"	4'-1"	2'-4 ⅞"			
EW8101	5	8	6'-4"	14	11"	5'-5"		8"		
EW8102	4	8	VARIABLE 3'-3" TO 6'-0"	14	11"	VARIABLE 2'-4" TO 5'-1"		8"		1 SETS OF 4, ΔB = 11" ΔL = 11"
EW8103	7	8	7'-2"	77	1'-4 ¼"	2'-10 ¾"	1'-2 ½"	1'-8 ¾"	2'-0 ½"	F = 1 ¾"
EW8104	2	8	6'-10"	78	1'-4 ¼"	11 ¼"	1'-8"	1'-2 ½"	1'-8"	F = 1'-2 ⅞", G = 1 ¾"
PRECAST WING B CHEEKWALL										
EW5301	8	5	5'-8"	STR						
EW5302	8	5	5'-3"	STR						**
EW5303	8	5	VARIABLE 9" TO 4'-9"	STR						2 SETS OF 4, ΔL = 1'-4"
EW5304	8	5	VARIABLE 10" TO 5'-0"	STR						2 SETS OF 4, ΔL = 1'-4 ⅞" (+)
EW5305	2	5	16'-9"	76	1'-2"	5'-4"	1'-2"	4'-6 ½"	5 ⅝"	F = 5 ⅝"
EW5306	5	5	15'-9"	76	11 ¼"	5'-1 ½"	11 ¼"	4'-4 ½"	5 ⅜"	F = 5 ⅜"
EW5307	1	5	10'-3"	14	7"	9'-8"		5"		
EW5308	5	5	VARIABLE 4'-1" TO 9'-9"	14	7"	VARIABLE 3'-6" TO 9'-2"		5"		1 SETS OF 5, ΔB = 1'-5" ΔL = 1'-5"
EW5309	2	5	11'-6"	11	2'-9"	8'-9"	4'-9 ½"			
EW8301	1	8	10'-6"	14	11"	9'-7"		8"		
EW8302	7	8	VARIABLE 4'-0" TO 10'-5"	14	11"	VARIABLE 3'-1" TO 9'-6"		8"		1 SETS OF 7, ΔB = 1'-0 ⅞" (-) ΔL = 1'-0 ⅞" (-)
EW8303	6	8	7'-2"	80	1'-4 ¼"	2'-10 ¾"	1'-3"	1'-8"	2'-0 ½"	F = 1 ¾"
EW8304	2	8	6'-11"	81	1'-4 ¼"	11 ¼"	1'-8"	1'-3"	1'-8 ½"	F = 1'-2 ⅞", G = 1 ¾"
PRECAST LAGGING PANELS										
EW4501	144	4	8'-7"	25	3'-7"	4"	3"	2"		
EW4502	66	4	4'-7"	25	1'-7"	4"	3"	2"		
EW4503	41	4	5'-10"	25	2'-2 ½"	4"	3"	2"		
EW4504	6	4	7'-10"	25	3'-2 ½"	4"	3"	2"		
EW4505	6	4	VARIABLE 7'-5" TO 8'-5"	25	VARIABLE 3'-0" TO 3'-6"	4"	3"	2"		ΔA = 1 ¼" (-) ΔL = 2 ⅝" (+)
EW4506	6	4	VARIABLE 4'-5" TO 5'-5"	25	VARIABLE 1'-6" TO 2'-0"	4"	3"	2"		ΔA = 1 ¼" (-) ΔL = 2 ⅝" (+)
EW4507	6	4	VARIABLE 5'-7" TO 6'-7"	25	VARIABLE 2'-1" TO 2'-7"	4"	3"	2"		ΔA = 1 ¼" (-) ΔL = 2 ⅝" (+)
EW4508	6	4	VARIABLE 6'-7" TO 7'-7"	25	VARIABLE 2'-7" TO 3'-1"	4"	3"	2"		ΔA = 1 ¼" (-) ΔL = 2 ⅝" (+)
EW4509	44	4	4'-4"	11	2'-2"	2'-2"	1'-5 ⅞"			
EW4510	8	4	3'-6"	STR						
EW5501	162	5	4'-4"	STR						
EW5502	92	5	5'-4"	STR						
EW6501	108	6	8'-11"	STR						
EW6502	32	6	4'-11"	STR						
EW6503	36	6	9'-4"	STR						



■ PLACE ANCHOR BOLT LOOSE IN PREFORMED HOLE PRIOR TO SETTING SUPERSTRUCTURE IN PLACE USING SPMTs. AT EACH BEARING, GUIDE ANCHOR BOLTS THROUGH SOLE PLATES AS THE SUPERSTRUCTURE IS LOWERED INTO POSITION. FILL PREFORMED HOLES WITH NON-SHRINK GROUT AFTER SUPERSTRUCTURE HAS BEEN PLACED IN FINAL POSITION. PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUB 408 SECTION 1001.2(e) (INCIDENTAL TO FABRICATED STRUCTURAL STEEL). DRILLING OF ANCHOR BOLT HOLES IS NOT PERMITTED.

▲ SLOPE TOP OF ABUTMENT CAP 1"/FT BETWEEN BEAM SEATS.

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
3. FOR STAKE-OUT PLAN SEE SHEET 11.
4. FOR ABUTMENT 2 FOOTING PLAN, SEE SHEET 22.
5. FOR ABUTMENT 2 TYPICAL SECTION AND CORNER/CHEEKWALL DETAILS, SEE SHEET 23.
6. FOR ABUTMENT 2 PRECAST CAP DETAILS, SEE SHEET 24.
7. FOR WINGWALL DETAILS, SEE SHEETS 25 AND 26.
8. FOR WATERPROOFING AND DRAINAGE DETAILS, SEE SHEET 27.
9. FOR ABUTMENT 2 EXCAVATION DETAILS, SEE SHEET 28.
10. FOR ABUTMENT 2 BAR SCHEDULE, SEE SHEET 29.
11. FOR SOIL NAIL WALL DETAILS, SEE SHEETS 30 THRU 32.
12. FOR BEARING DETAILS, SEE SHEETS 46 AND 47.
13. ABUTMENT 2 STEM AND WINGWALLS BELOW HORIZONTAL CONSTRUCTION JOINT ARE CAST IN PLACE.
14. ABUTMENT 2 CAP IS PRECAST AND LIFTED INTO PLACE.
15. ABUTMENT 2 PRECAST CHEEKWALLS AND POUR 2 FOR CIP WINGWALLS ARE PLACED FOLLOWING PLACEMENT OF THE BRIDGE SPANS.

Mark	Description	By	Chk' d.	Recm' d.	Date
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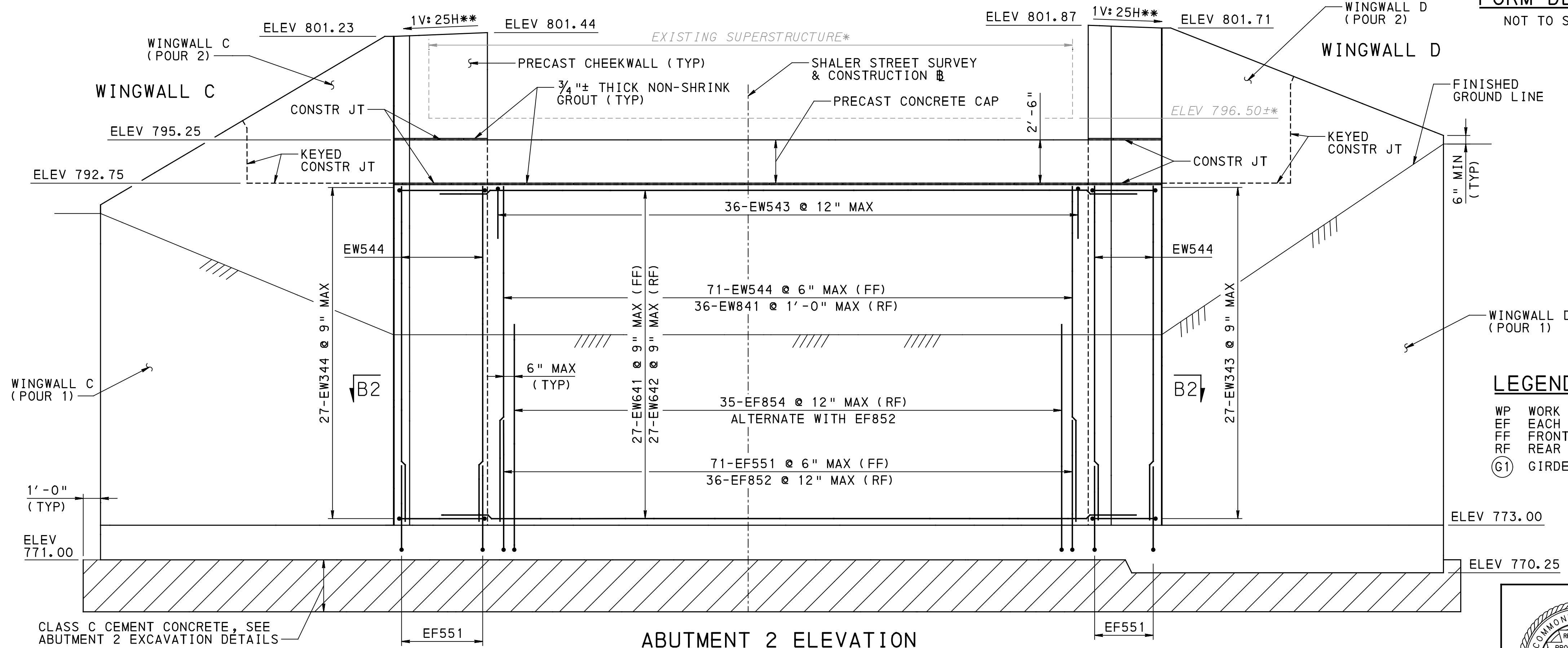
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2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUTMENT 2 PLAN & ELEVATION

RECOMMENDED 08/03/2018

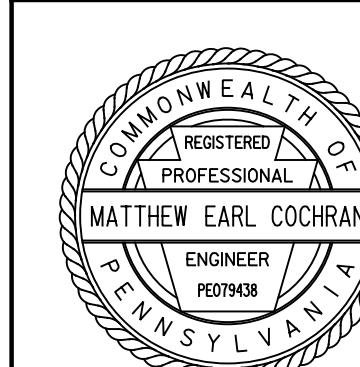
SHEET 21 OF 83

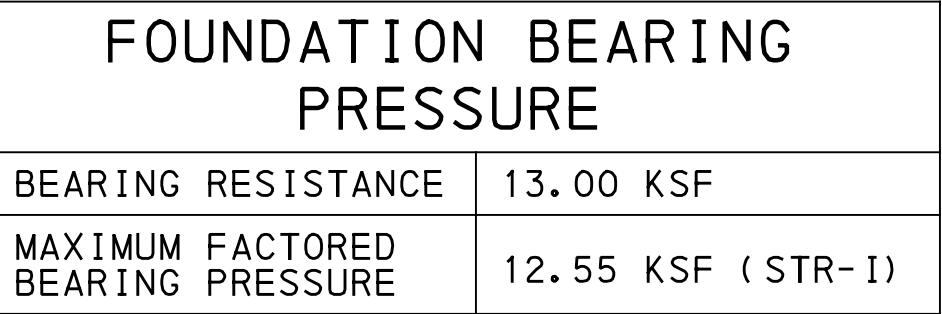
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** CHEEKWALL SLOPE IS PERPENDICULAR
 TO OUTSIDE FACE OF BRIDGE BARRIER

* PORTION OF PROPOSED ABUTMENT BELOW PRECAST CAP CONSTRUCTED BELOW EXISTING SUPERSTRUCTURE. LIMITS AND ELEVATION SHOWN ARE APPROXIMATE AND FOR INFORMATION PURPOSES ONLY. ELEVATION PROVIDED IS APPROXIMATE LOW CHORD AT FRONT FACE OF PROPOSED ABUTMENT (SEE NOTE 2).

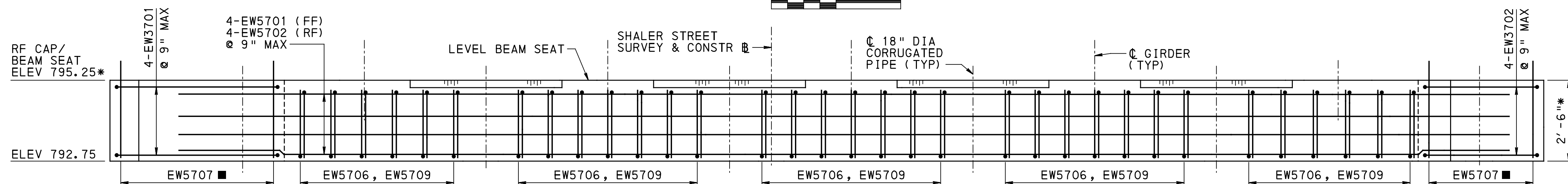
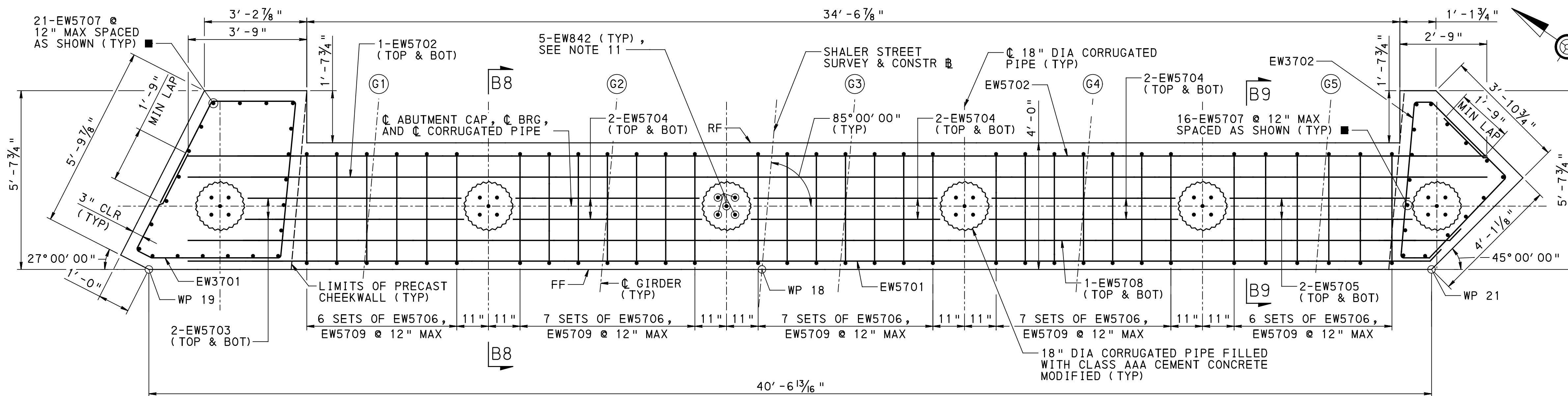




1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THROUGH 10.
3. FOR STAKE-OUT PLAN SEE SHEET 11.
4. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE SHEET 21.
5. FOR ABUTMENT 2 TYPICAL SECTION, CORNER AND CHEEKWALL DETAILS, AND STEM WATERPROOFING DETAIL, SEE SHEET 23.
6. FOR ABUTMENT 2 PRECAST CAP DETAILS, SEE SHEET 24.
7. FOR WINGWALL DETAILS, SEE SHEETS 25 AND 26.
8. FOR WATERPROOFING AND DRAINAGE DETAILS, SEE SHEET 27.
9. FOR ABUTMENT 2 EXCAVATION DETAILS, SEE SHEET 28.
10. FOR ABUTMENT 2 BAR SCHEDULE, SEE SHEET 29.
11. FOR SOIL NAIL WALL DETAILS, SEE SHEETS 30 THRU 32.
12. TIE TOP AND BOTTOM MATS OF REINFORCEMENT WITH EF451 AND EF456 BARS. ALTERNATE 90° AND 135° HOOKS AT TOP MAT IN ALTERNATE TIES IN BOTH LENGTH AND WIDTH OF FOOTING.



S - 37605



CONCEPTUAL PRECAST ABUTMENT
CAP/CHEEKWALL CONSTRUCTION SEQUENCE:

1. SURVEY TOP OF CAST-IN-PLACE PORTION OF ABUTMENT. SET SHIM PACKS.
2. ERECT PRECAST ABUTMENT CAP ON SHIM PACKS.
3. SURVEY TOP OF PRECAST CONCRETE CAP TO VERIFY PROPER PLACEMENT AND BEAM SEAT ELEVATIONS.
4. FILL CORRUGATED PIPES WITH CLASS AAA CEMENT CONCRETE MODIFIED. SEAL EDGES AND PLACE GROUT BED THROUGH GROUT PORTS IN PRECAST ABUTMENT CAP.
5. AFTER THE SUPERSTRUCTURE HAS BEEN PLACED IN THE PERMANENT LOCATION USING SPMTs, SET SHIM PACKS ON TOP OF ABUTMENT CAP FOR PLACEMENT OF PRECAST CHEEKWALLS, AND PRE-BED REGIONS UNDER CHEEKWALLS WITH NON-SHRINK GROUT WITH THICKNESS SLIGHTLY MORE THAN SHIM PACKS.
6. ERECT PRECAST CHEEKWALLS ON SHIM PACKS AND COMPLETE GROUTED SPLICE COUPLER CONNECTIONS.

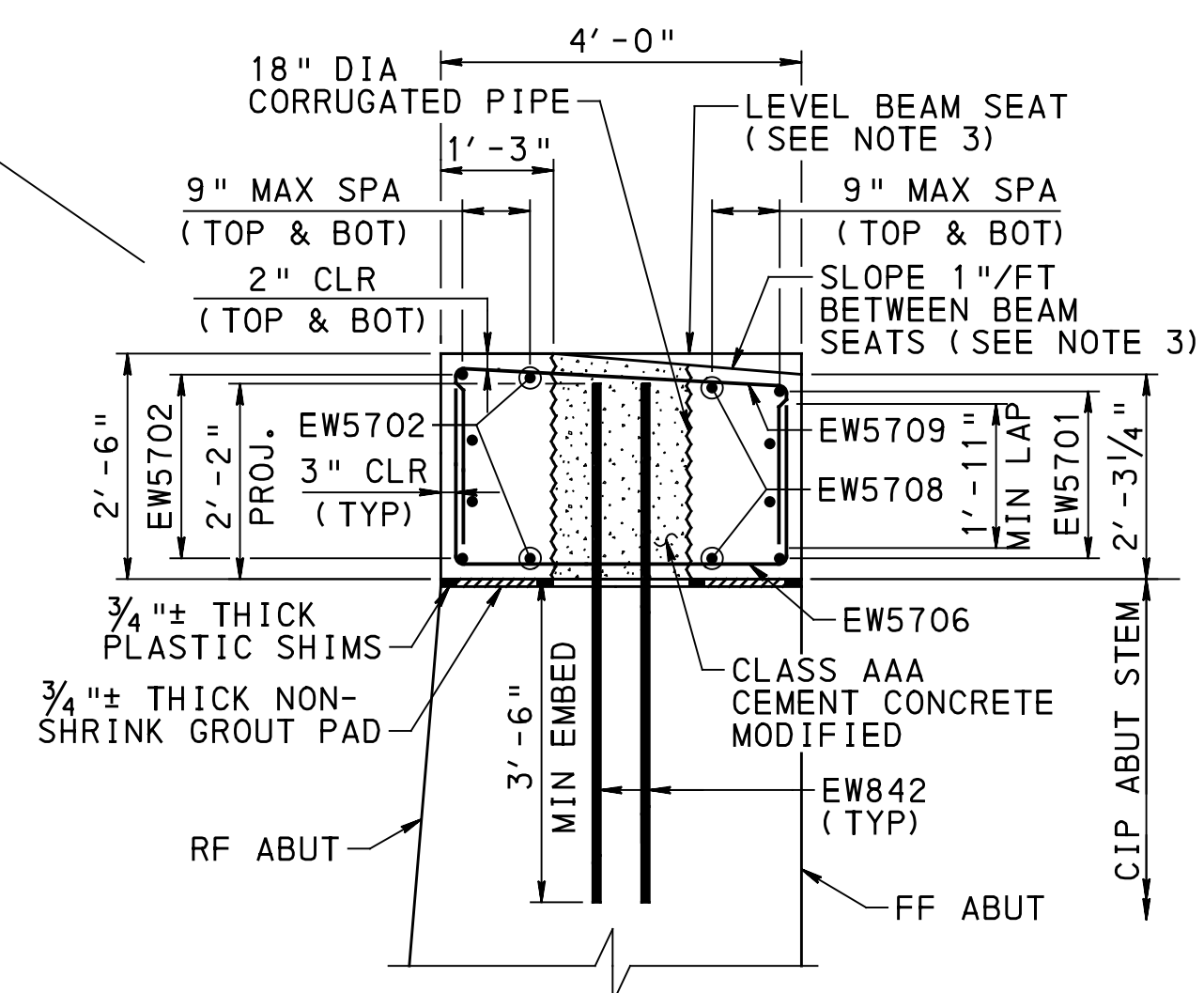
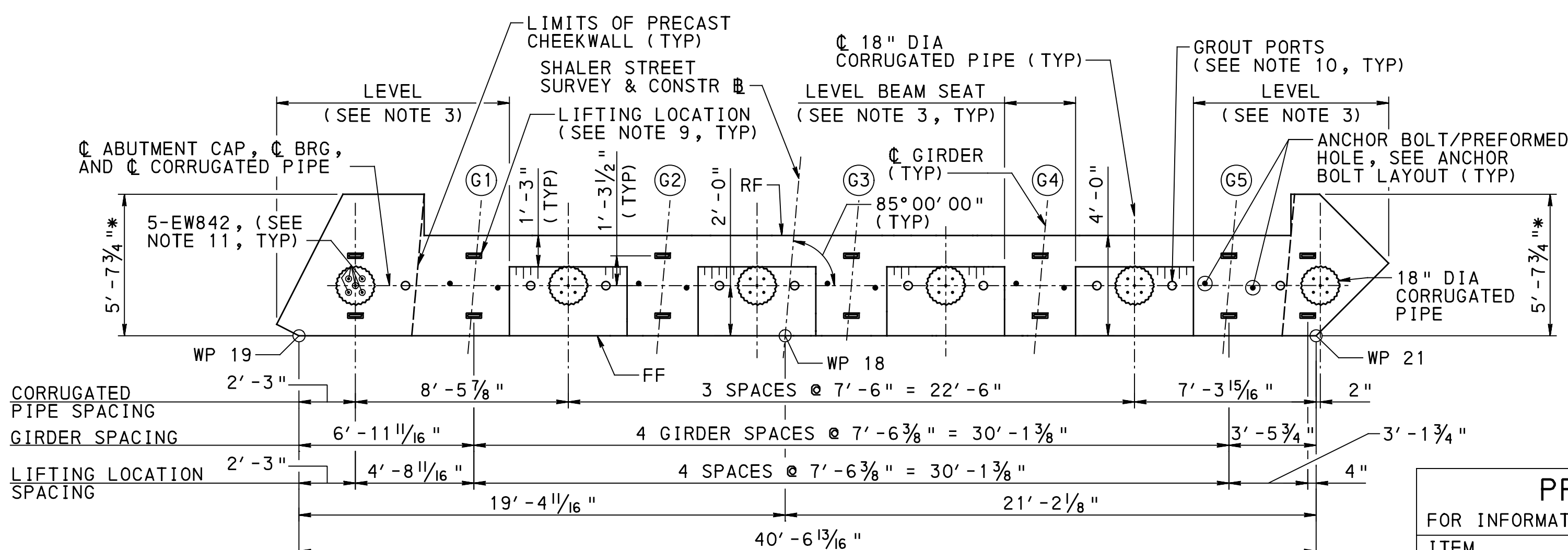
* PROVIDE LEVEL AREAS FOR BEAM SEATS, REGIONS UNDER THE PRECAST CHEEKWALLS, AND FOR A 1'-3" WIDE REGION ALONG REAR FACE OF CAP. PROVIDE THE INDICATED THICKNESS AND ELEVATION FOR THESE REGIONS. SLOPE AREAS BETWEEN BEAM SEATS 1"/FT. CAP THICKNESS/ELEVATION WILL VARY FOR THESE REGIONS

LEGEND

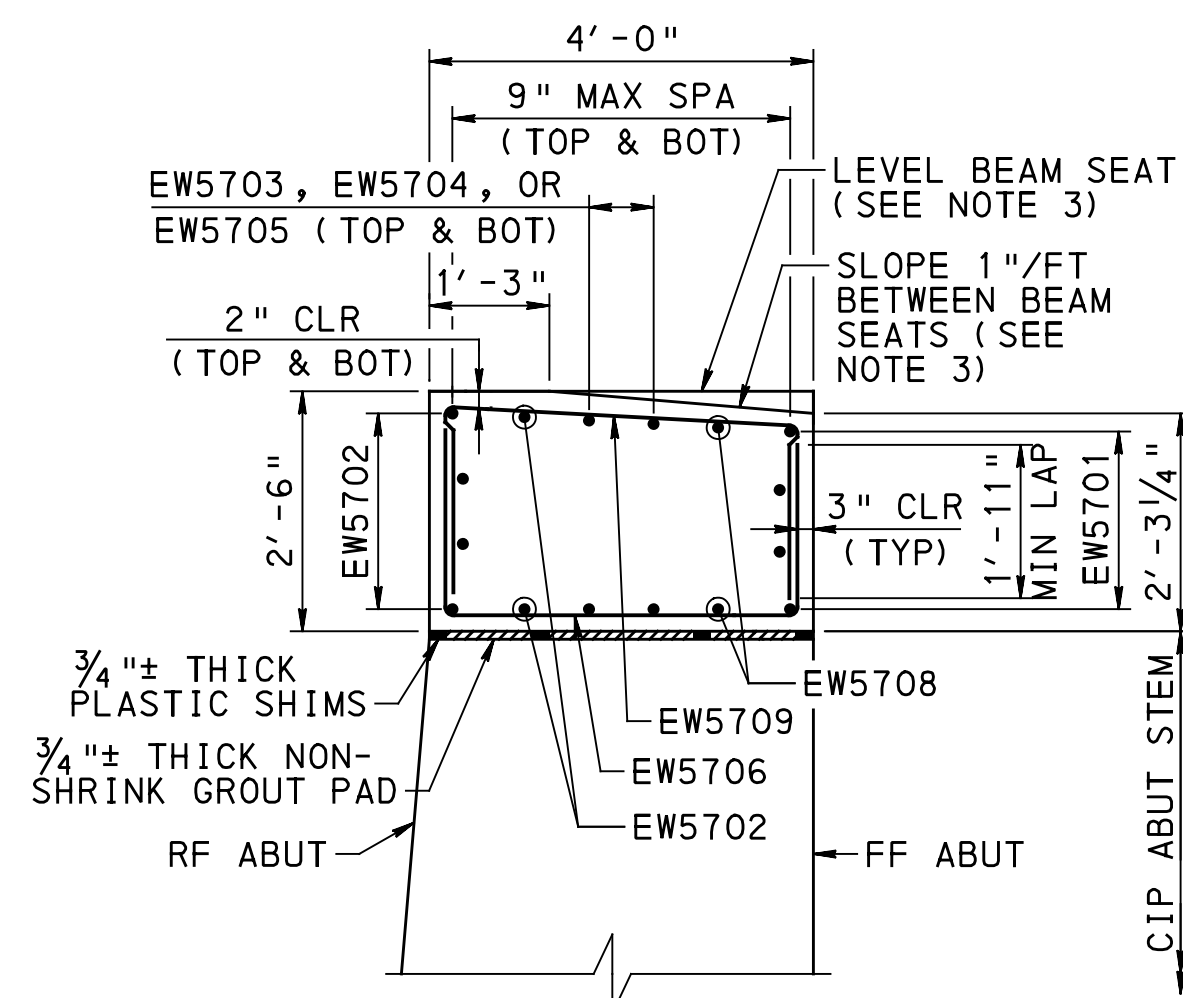
WP	WORK POINT
EF	EACH FACE
FF	FRONT FACE
RF	REAR FACE
CIP	CAST-IN-PLACE
■	BAR CONNECTED USING
	GROUTED SPLICE COUPLER

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR STAKE-OUT PLAN SEE SHEET 11.
3. FOR ABUTMENT 2 PLAN AND ELEVATION AND BEAM SEAT/ANCHOR BOLT LAYOUT, SEE SHEET 21
4. FOR ABUTMENT 2 FOOTING PLAN, SEE SHEET 22.
5. FOR ABUTMENT 2 TYPICAL SECTION, CORNER, AND CHEEKWALL DETAILS, SEE SHEET 23.
6. FOR WINGWALL DETAILS, SEE SHEETS 25 AND 26.
7. FOR WATERPROOFING AND DRAINAGE DETAILS, SEE SHEET 27.
8. FOR ABUTMENT 2 BAR SCHEDULE, SEE SHEET 29.
9. CONTRACTOR TO SUBMIT CALCULATIONS FOR ERECTION STRESSES IF LIFTING LOCATIONS/CONFIGURATION DIFFER FROM THOSE PROVIDED.
10. CONTRACTOR TO DETERMINE QUANTITY, SIZE AND SPACING OF GROUT PORTS.
11. SPACE OUTER BARS AT $6\frac{1}{2}$ " WITH A 4" MIN COVER IN CORRUGATED PIPE



SECTION B8-B8
(TYPICAL AT CORRUGATED PIPE VOIDS)



SECTION B9-B9

Mark	Description	By	Chk' d.	Recm' d.	Date
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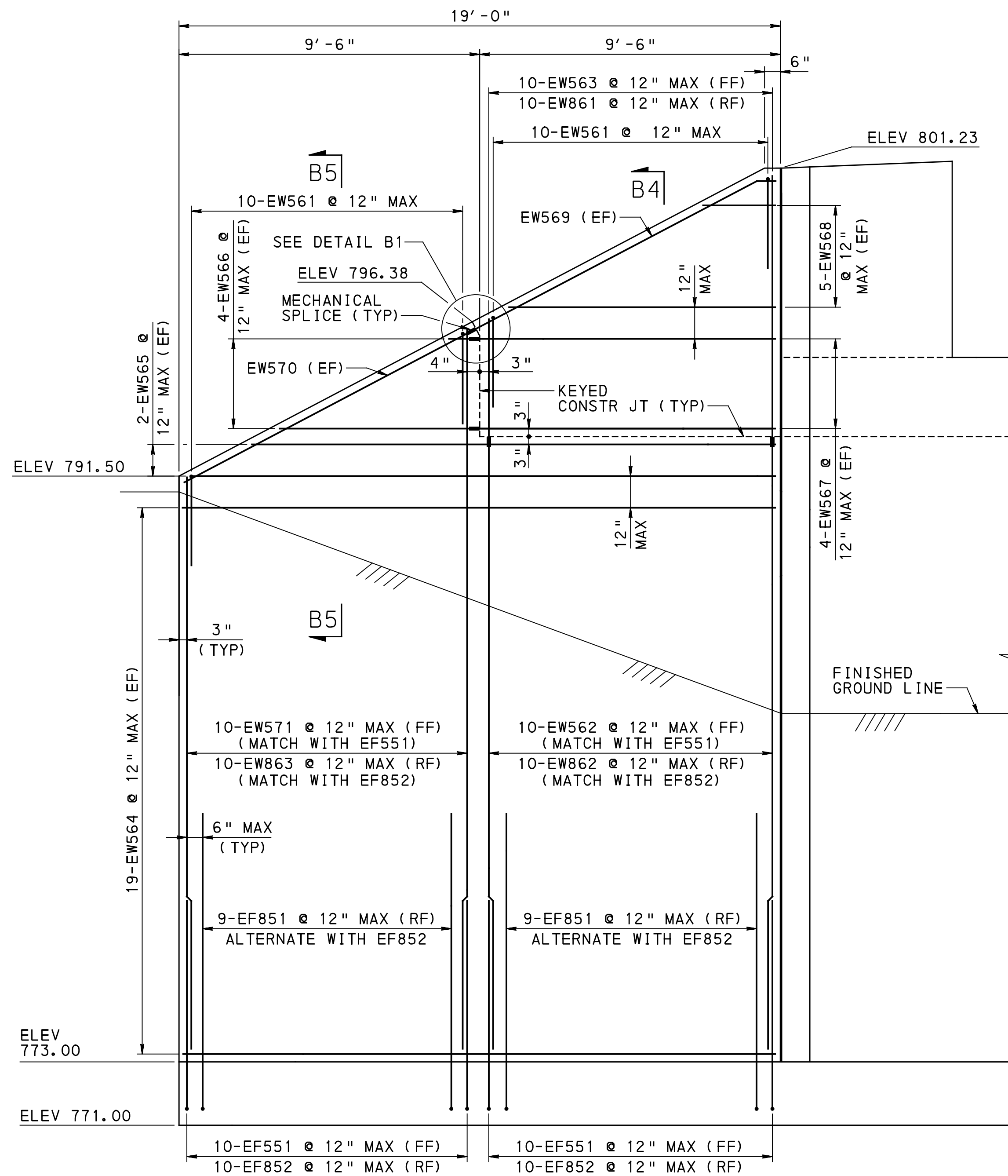
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2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUTMENT 2 PRECAST CAP DETAILS

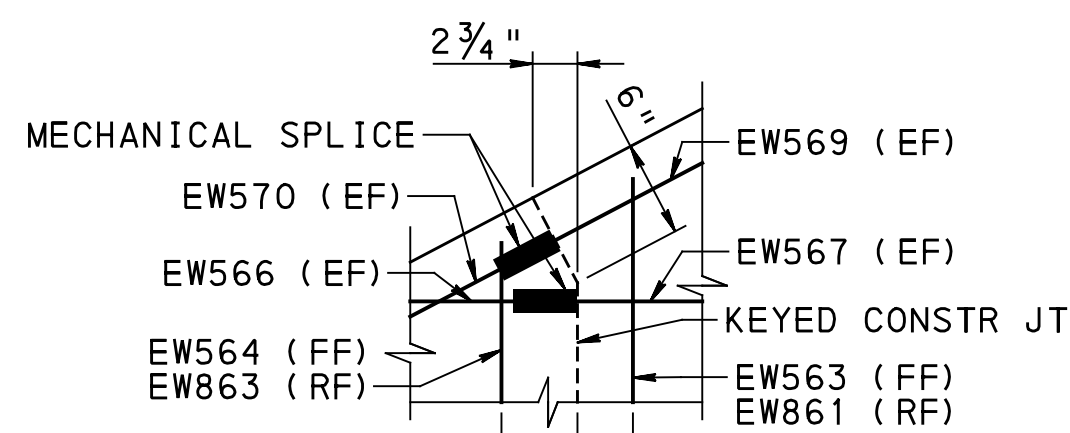
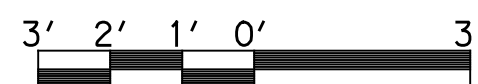
RECOMMENDED 08/03/2018

SHEET 24 OF 83

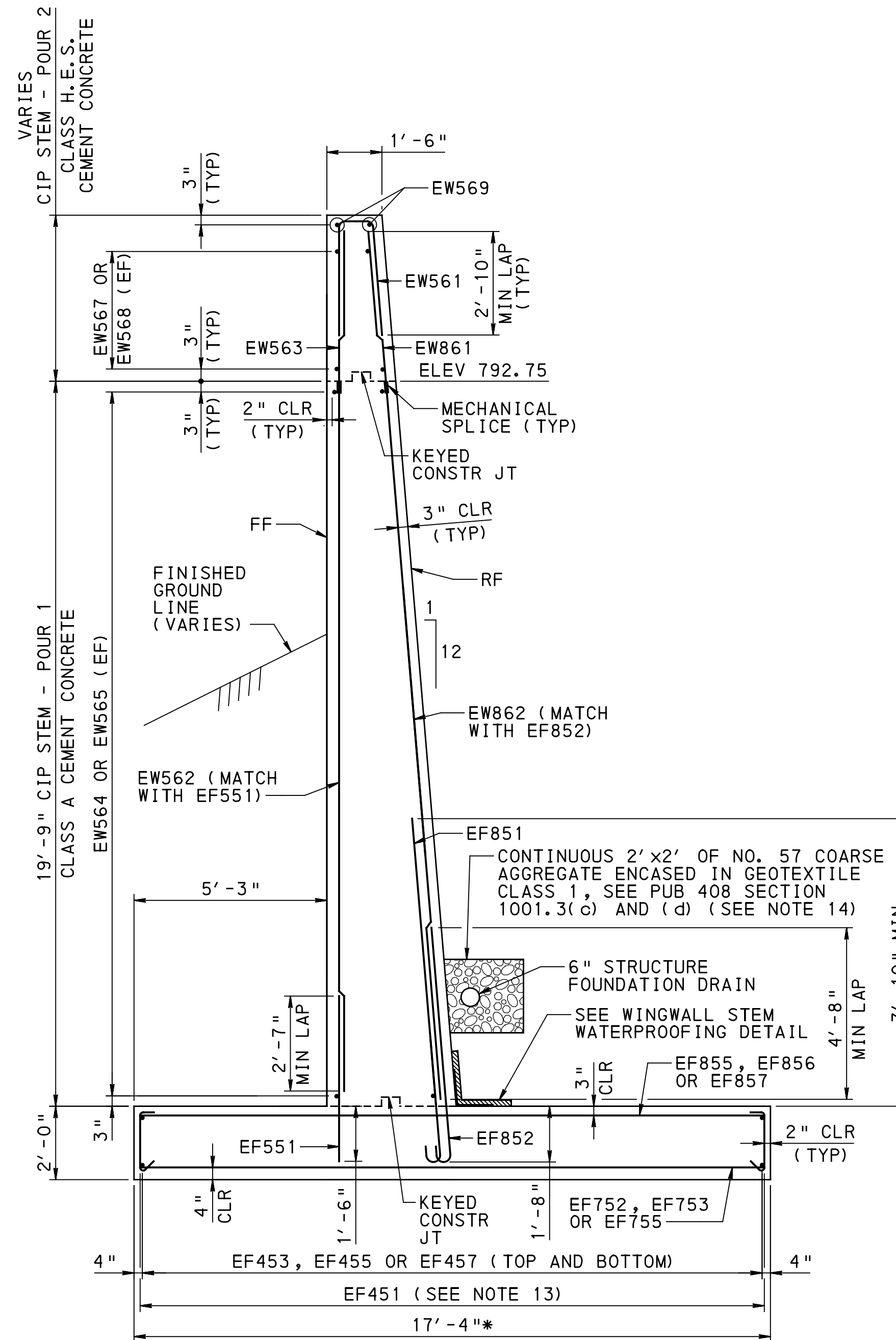
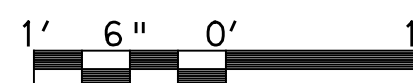
S - 37605



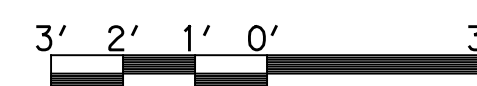
WINGWALL C ELEVATION



DETAIL B1



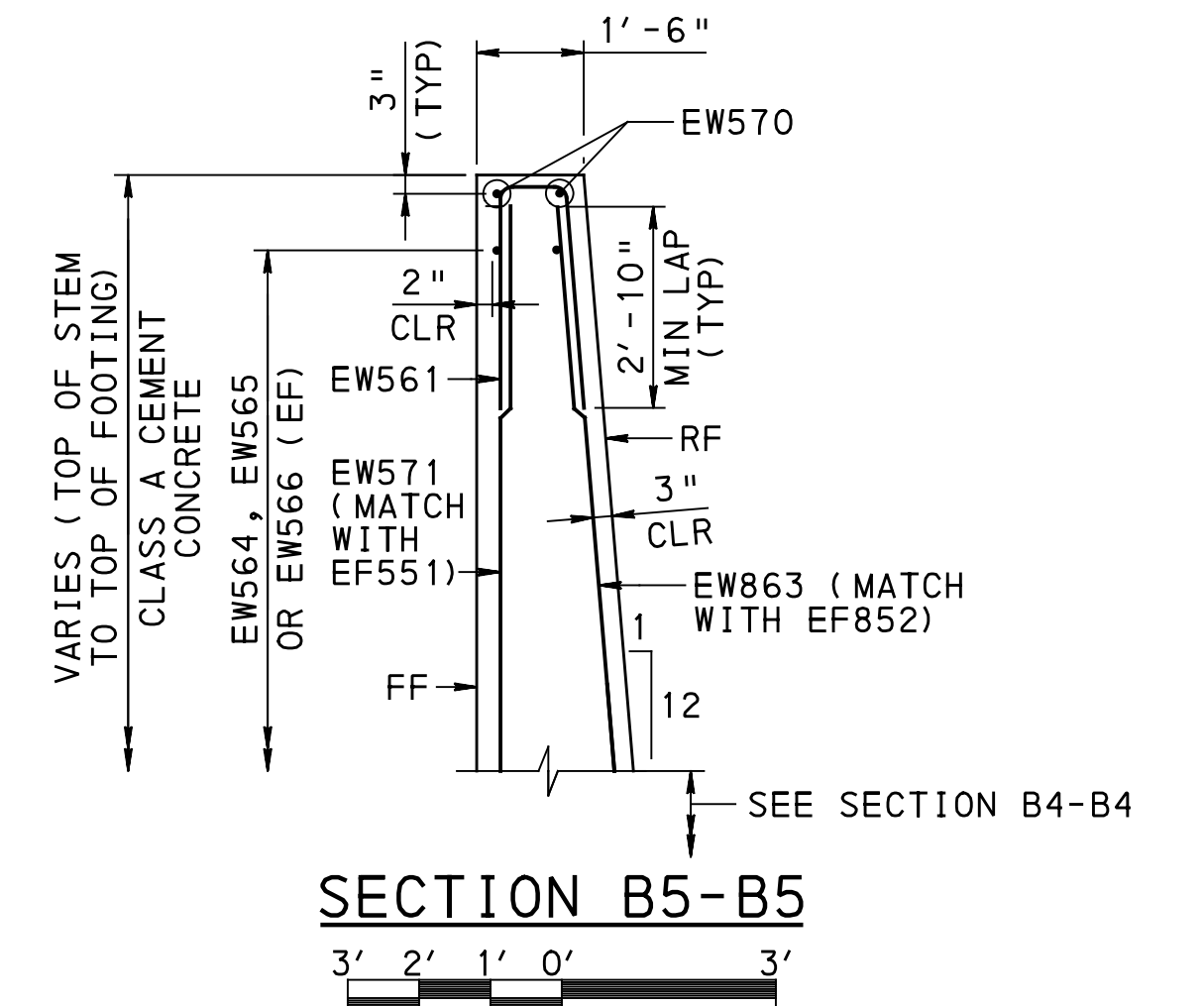
SECTION B4-B4



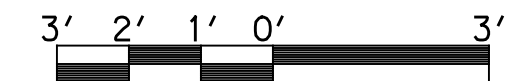
* 15'-7" FOR THE 5'-0" REGION AT THE END OF WINGWALL C IN ORDER TO ACCOMMODATE THE SOIL NAIL WALL.

LEGEND

EF EACH FACE
FF FRONT FACE
RF REAR FACE
CIP CAST-IN-PLACE



SECTION B5-B5



NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THROUGH 10.
- FOR STAKE-OUT PLAN SEE SHEET 11.
- FOR ABUTMENT 2 PLAN AND ELEVATION, SEE SHEET 21.
- FOR ABUTMENT 2 FOOTING PLAN, SEE SHEET 22.
- FOR ABUTMENT 2 TYPICAL SECTION AND CORNER/CHEEKWALL DETAILS, SEE SHEET 23.
- FOR ABUTMENT 2 PRECAST CAP DETAILS SEE SHEET 24.
- FOR WINGWALL D DETAILS, SEE SHEET 26.
- FOR WATERPROOFING AND DRAINAGE DETAILS, SEE SHEET 27.
- FOR ABUTMENT 2 EXCAVATION DETAILS, SEE SHEET 28.
- FOR ABUTMENT 2 BAR SCHEDULE, SEE SHEET 29.
- FOR KEYED CONSTRUCTION JOINT DETAILS, SEE STANDARD DRAWING BC-735M.
- ALTERNATE 90° AND 135° HOOKS AT TOP MAT IN ALTERNATE TIES IN BOTH LENGTH AND WIDTH OF FOOTING.
- GEOTEXTILE, CLASS 1 IS INCIDENTAL TO NO. 57 COARSE AGGREGATE.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

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BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

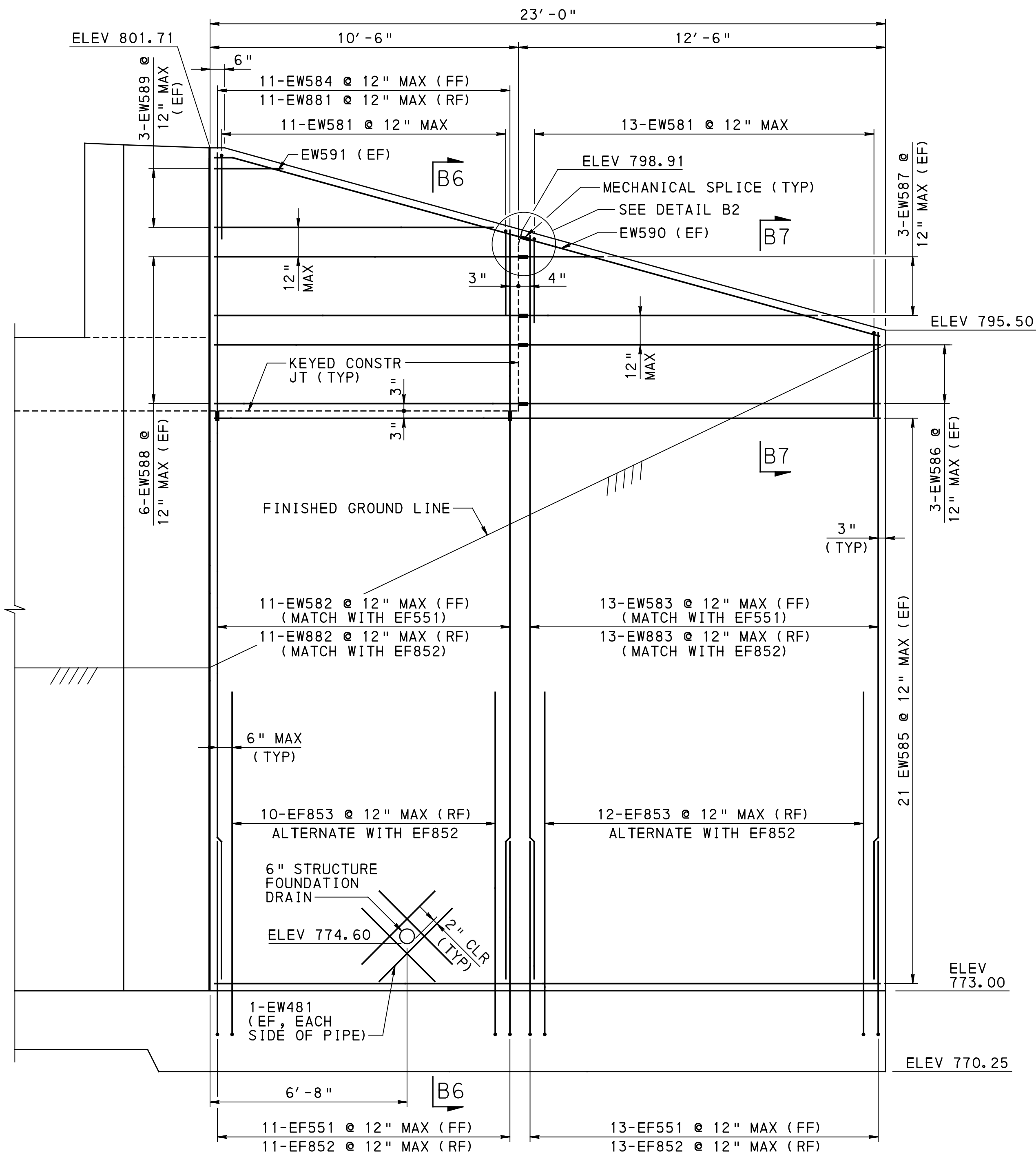
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
WINGWALL C DETAILS

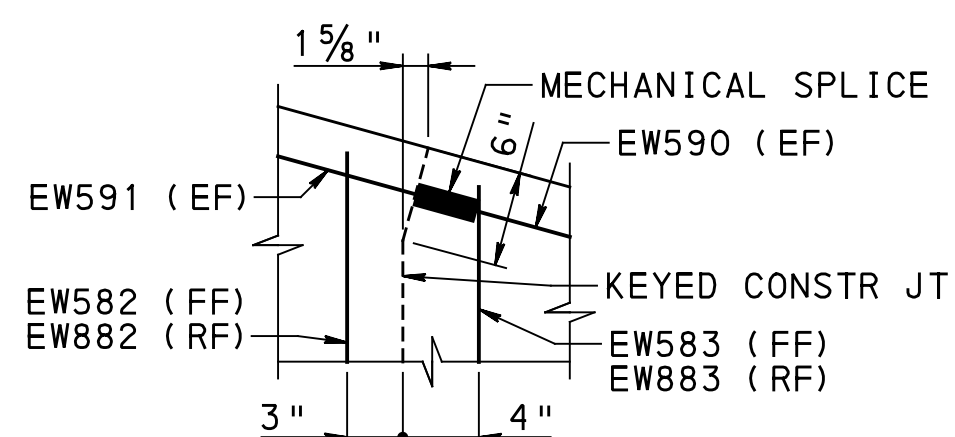
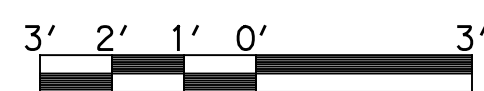
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SHEET 25 OF 83

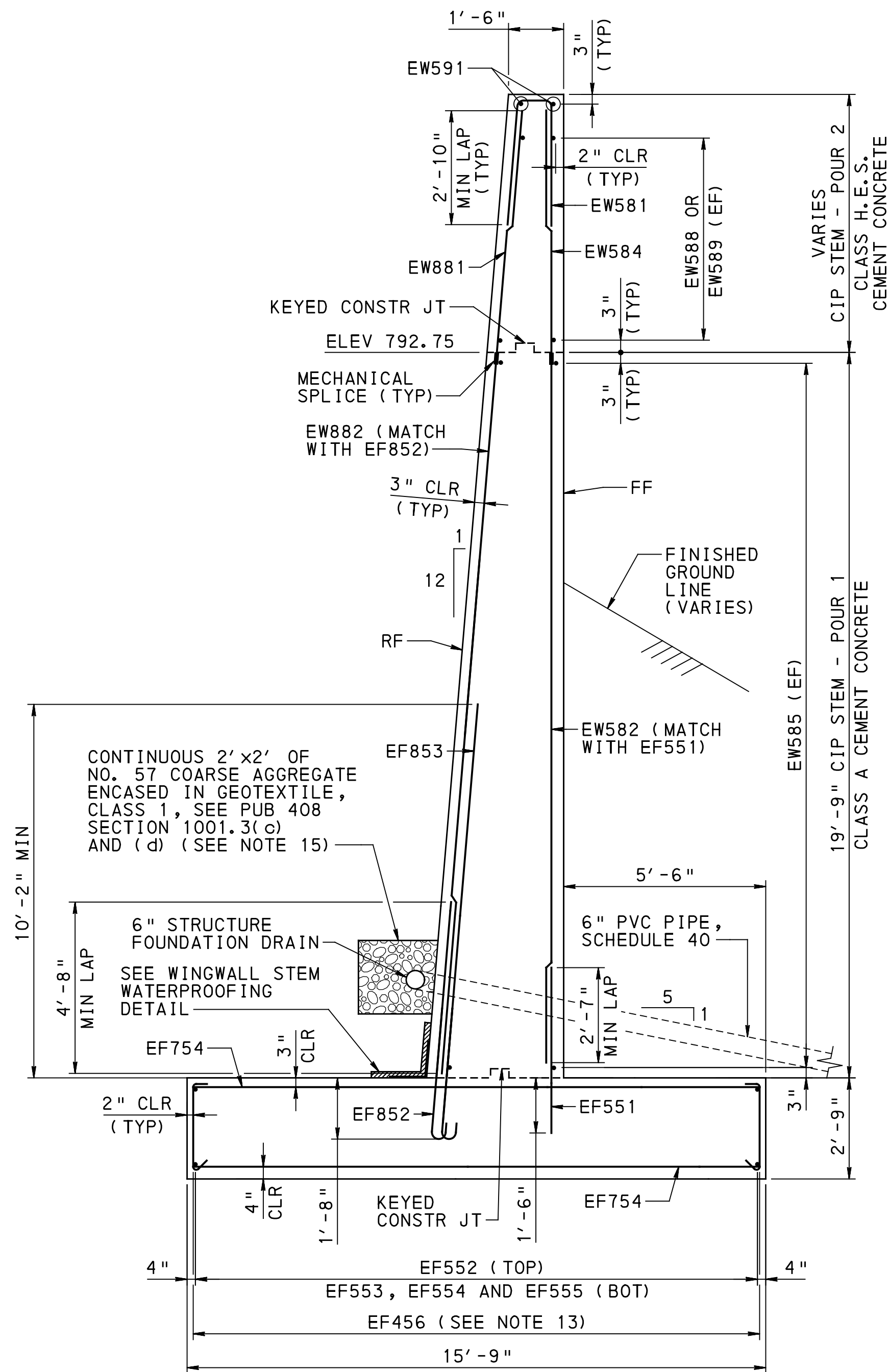
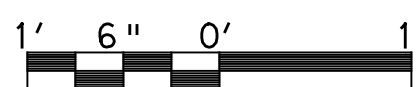
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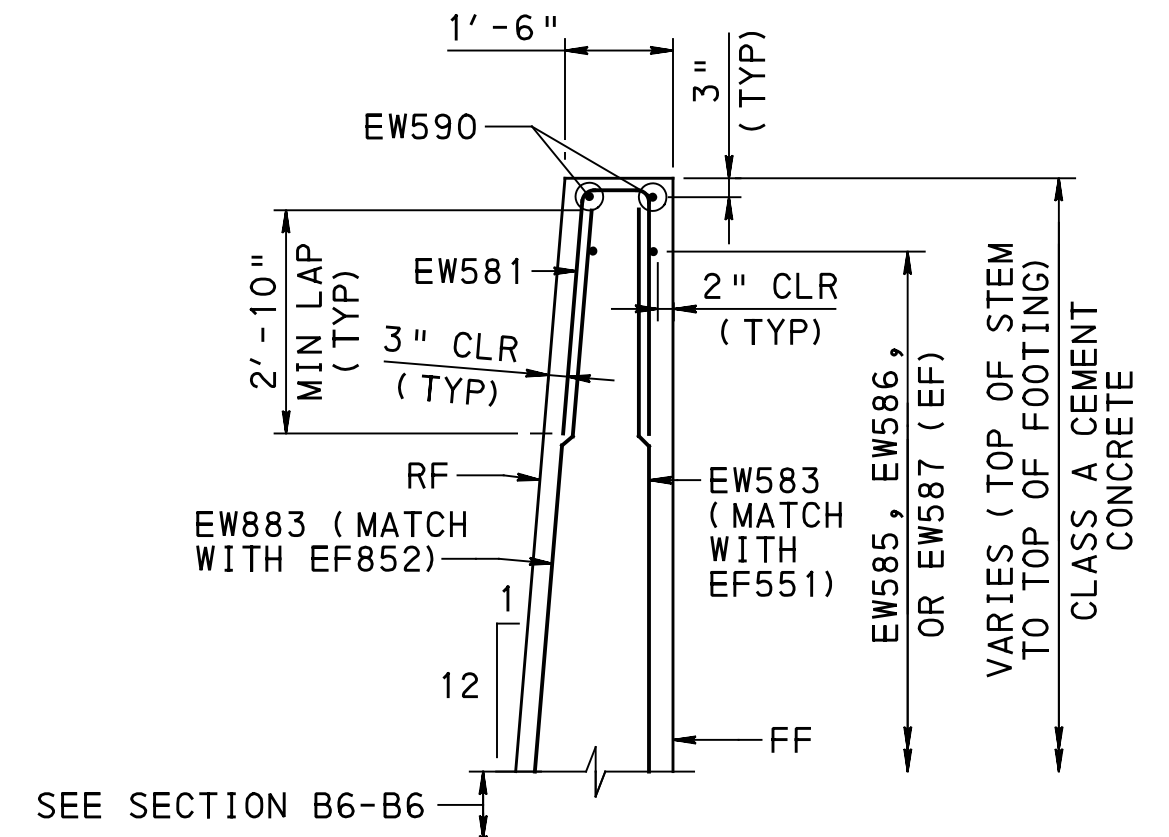
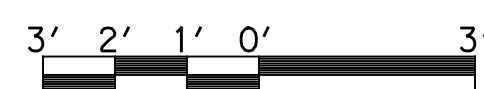
WINGWALL D ELEVATION



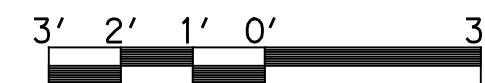
DETAIL B2



SECTION B6-B6



SECTION B7-B7



NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THROUGH 10.
- FOR STAKE-OUT PLAN SEE SHEET 11.
- FOR ABUTMENT 2 PLAN AND ELEVATION, SEE SHEET 21.
- FOR ABUTMENT 2 FOOTING PLAN, SEE SHEET 22.
- FOR ABUTMENT 2 TYPICAL SECTION AND CORNER/CHEEKWALL DETAILS, SEE SHEET 23.
- FOR ABUTMENT 2 PRECAST CAP DETAILS SEE SHEET 24.
- FOR WINGWALL C DETAILS, SEE SHEET 25.
- FOR WATERPROOFING AND DRAINAGE DETAILS, SEE SHEET 27.
- FOR ABUTMENT 2 EXCAVATION DETAILS, SEE SHEET 28.
- FOR ABUTMENT 2 BAR SCHEDULE, SEE SHEET 29.
- FOR KEYED CONSTRUCTION JOINT DETAILS, SEE STANDARD DRAWING BC-735M.
- ALTERNATE 90° AND 135° HOOKS AT TOP MAT IN ALTERNATE TIES IN BOTH LENGTH AND WIDTH OF FOOTING.
- ADJUST STEM REINFORCEMENT AS REQUIRED TO CLEAR FOUNDATION DRAIN
- GEOTEXTILE, CLASS 1 IS INCIDENTAL TO NO. 57 COARSE AGGREGATE.

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
WINGWALL D DETAILS

RECOMMENDED 08/03/2018

SHEET 26 OF 83

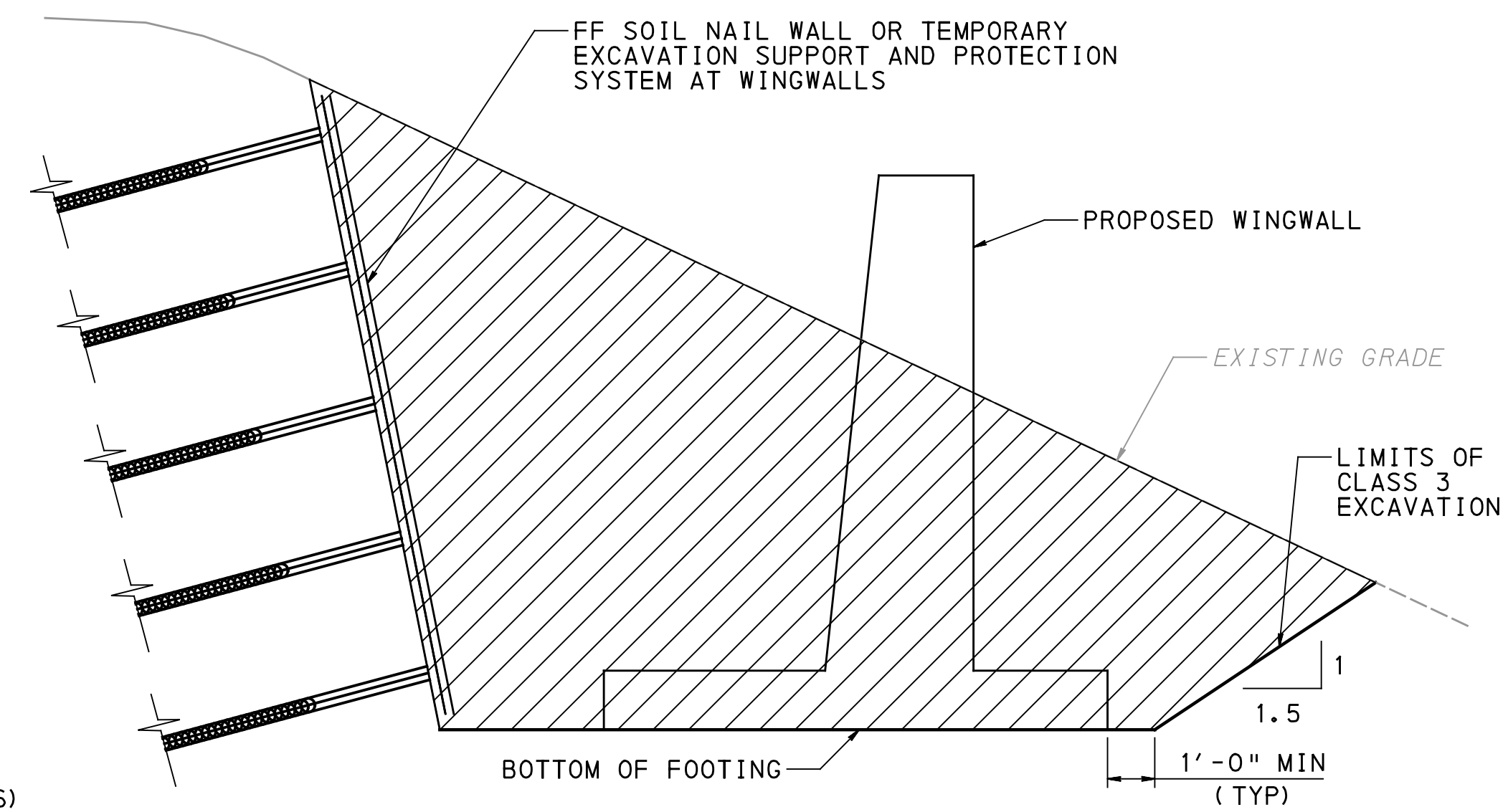
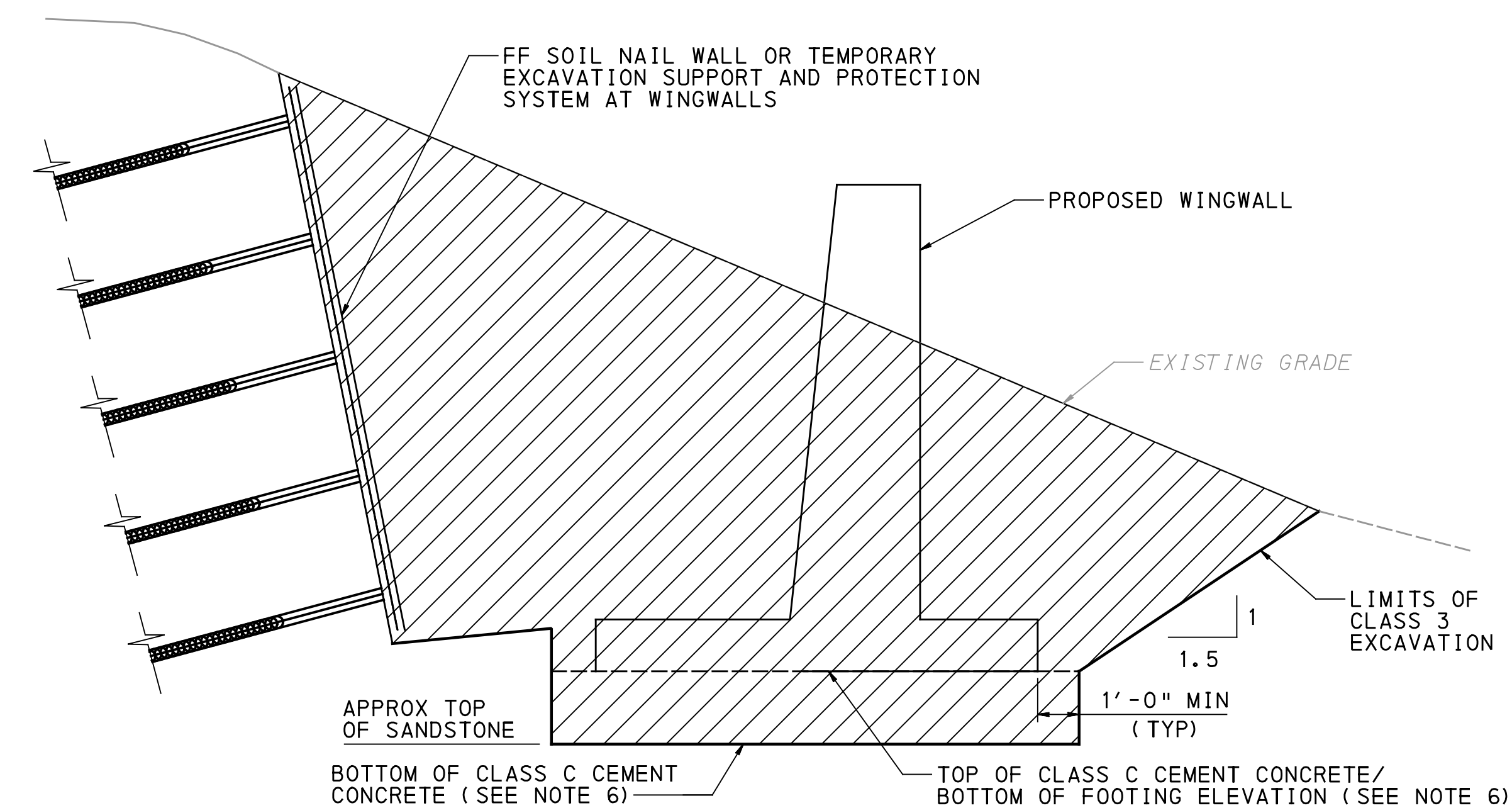
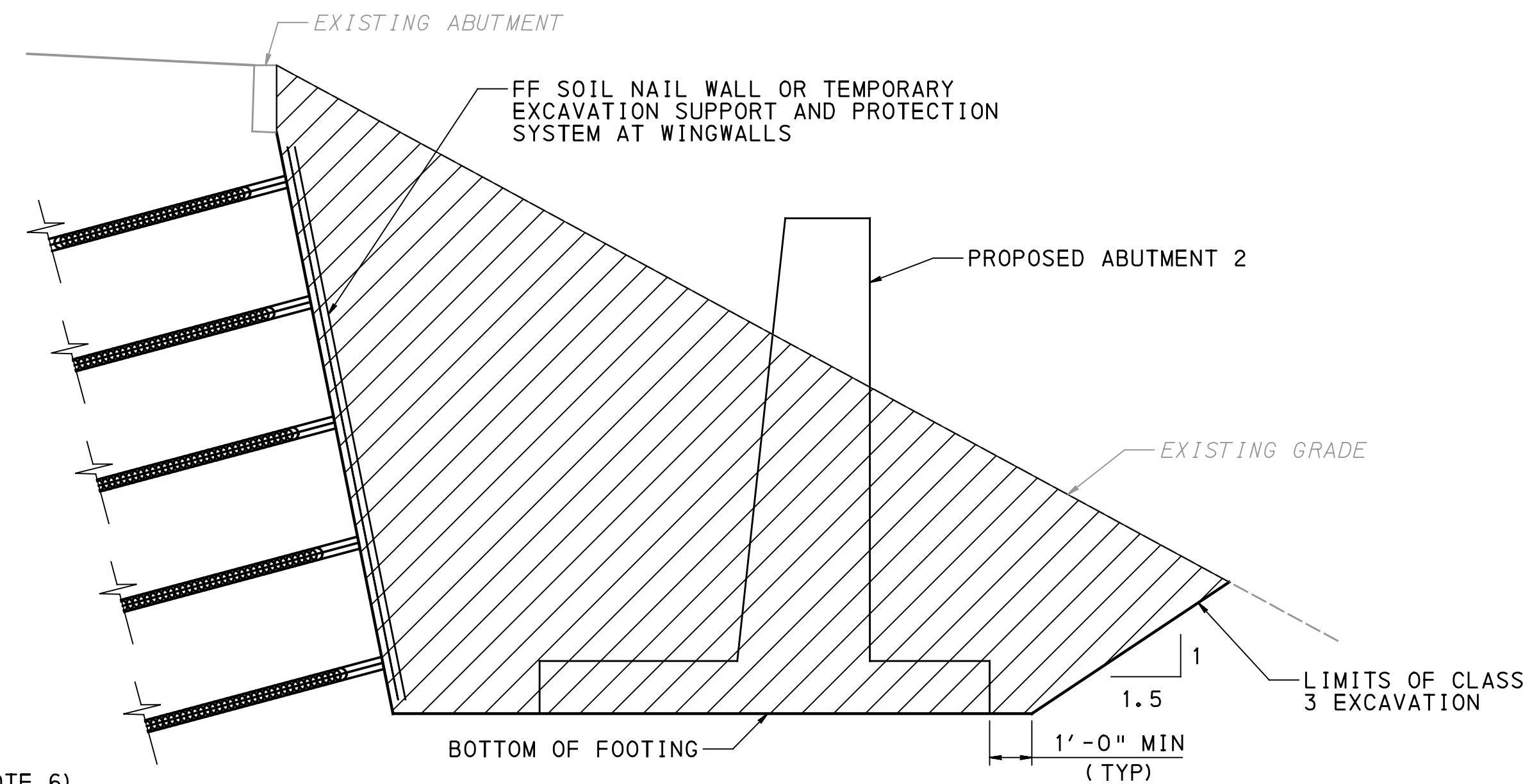
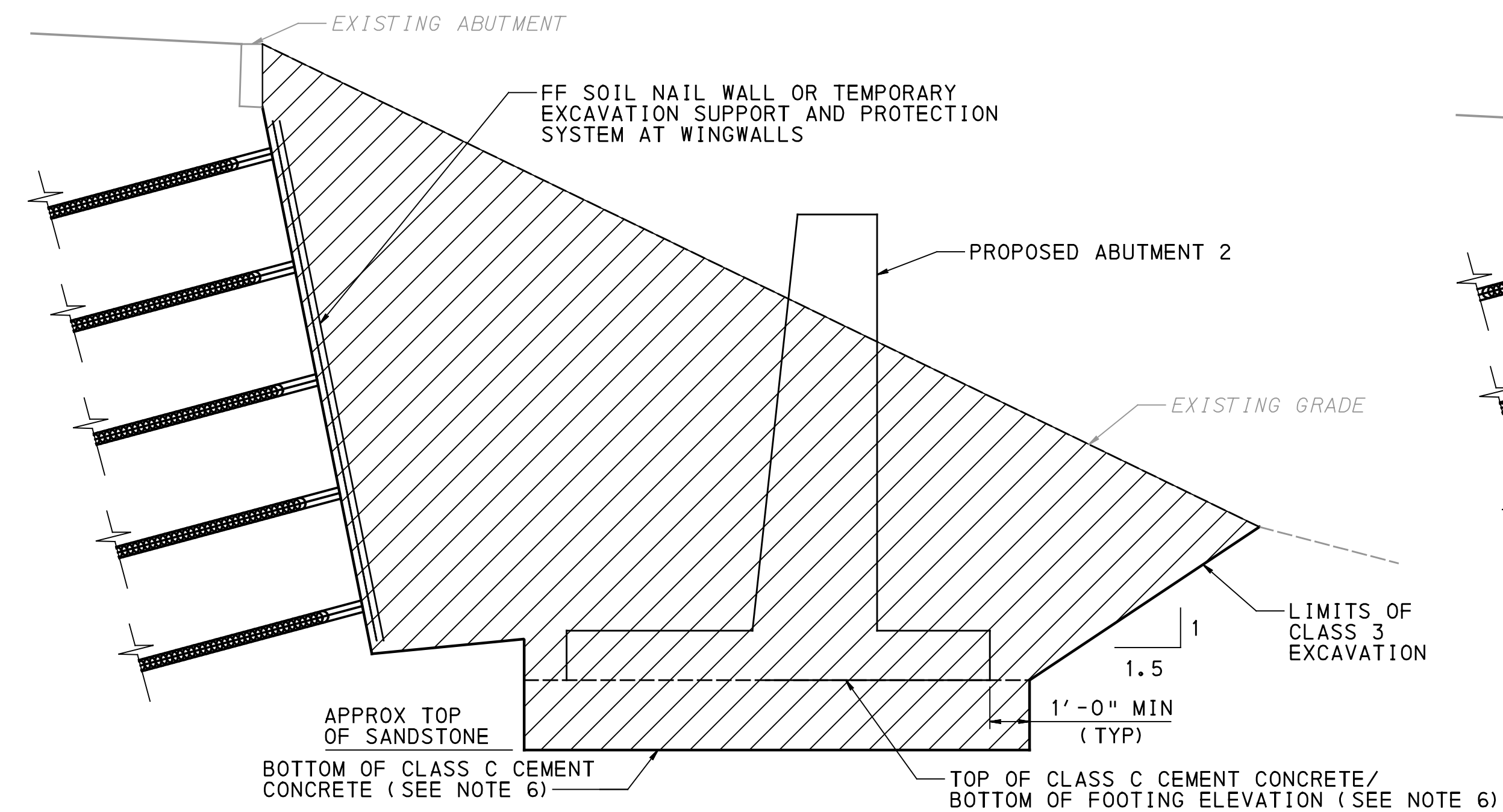
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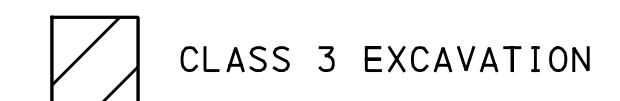
- NOT TO SCALE

(ABUT 2, WINGWALL C CORNER SHOWN, WINGWALL D CORNER SIMILAR)

WATERSTOP INSTALLATION NOTE:
SLOPE PAVING NOTCH WATERSTOP IN DIRECTION INDICATED
IN ORDER TO PROVIDE POSITIVE DRAINAGE. MAKE WATERSTOPS
CONTINUOUS BY SPLICING PER MANUFACTURER'S SPECIFICATIONS.



LEGEND



NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR ABUTMENT 2 PLAN AND ELEVATION, SEE SHEET 21.
3. FOR ABUTMENT 2 FOOTING PLAN, SEE SHEET 22.
4. FOR ABUTMENT 2 TYPICAL SECTION, CORNER AND CHEEKWALL DETAILS, SEE SHEET 23.
5. FOR WINGWALL DETAILS, SEE SHEETS 25 AND 26.
6. OVER-EXCAVATE BELOW THE BOTTOM OF FOOTING TO THE TOP OF SANDSTONE AND BACKFILL WITH CLASS C CEMENT CONCRETE.

Mark	Description	By	Chk' d.	Recm' d.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

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SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUTMENT 2 EXCAVATION DETAILS

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SHEET 28 OF 83

S - 37605



ABUTMENT 2 REINFORCEMENT BAR SCHEDULE

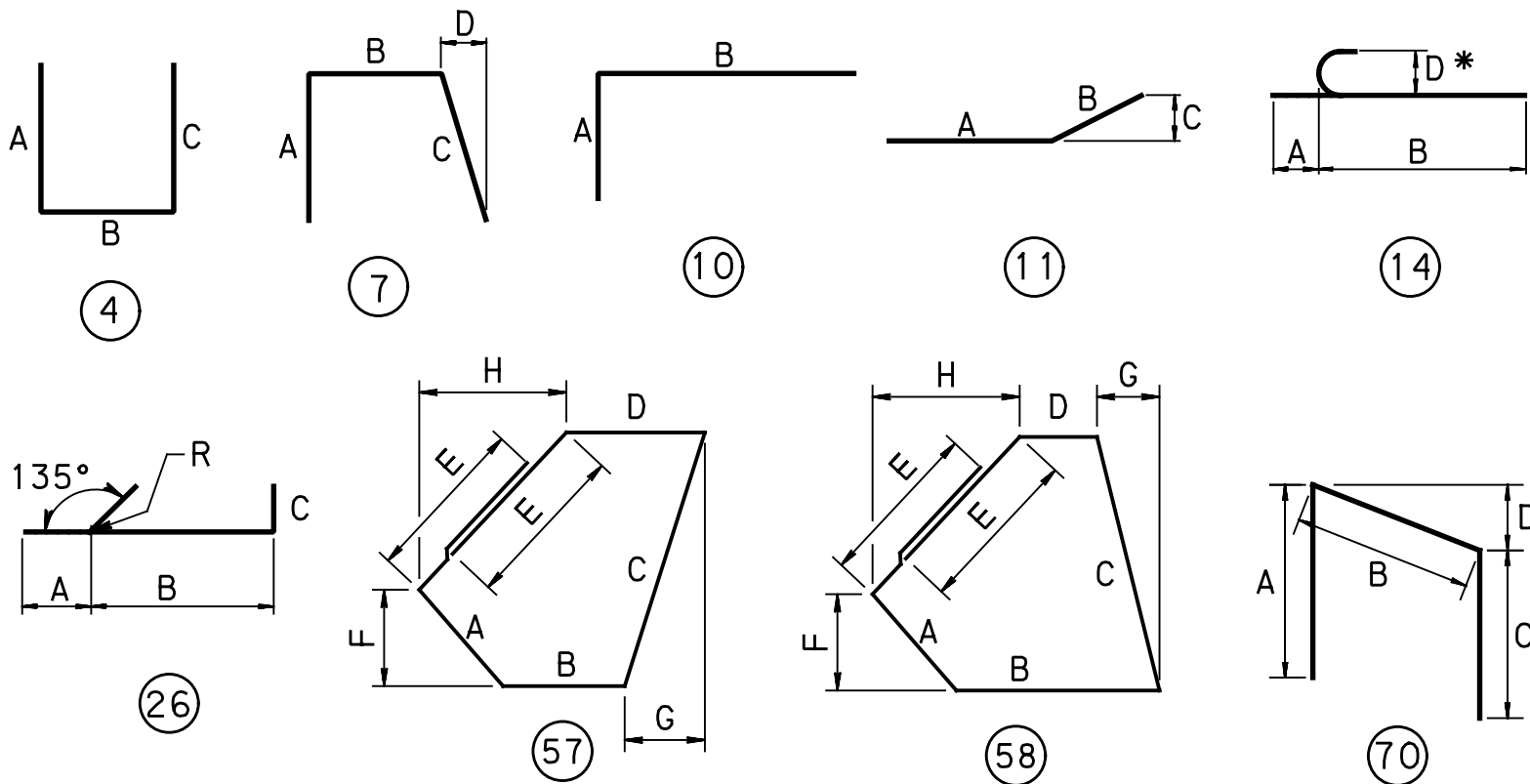
MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G		MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	REMARKS
FOOTING													WING C									
EF451	106	4	2'-2"	26	4 ½"	1'-5"	4 ½"					R = 1"	EW561	20	5	6'-9"	7	2'-10 ¼"	1'-0 ½"	2'-10 ¼"	2 ⅞"	
EF453	34	4	22'-5"	STR									EW562	10	5	19'-7"	STR					MECH SPLICE, ONE END ■
EF454	76	4	26'-2"	STR									EW563	10	5	VARIES 3'-11" TO 8'-6"	STR					THREADED 3", ONE END ■, 1 SET OF 10, ΔL = 6 ⅝" (-)
EF455	8	4	VARIES 17'-6" TO 21'-10"	STR								2 SETS OF 4, VARY EA BY ΔL = 1'-5 ⅝" (-)	EW564	38	5	18'-8"	STR					
EF456	40	4	2'-11"	26	4 ½"	2'-2"	4 ½"						EW565	4	5	VARIES 16'-6" TO 18'-5"	STR					2 SETS OF 2, VARY EA BY ΔL = 1'-11"
EF457	6	4	17'-5"	STR									EW566	8	5	VARIES 7" TO 6'-3"	STR					MECH SPLICE, ONE END ■ 2 SETS OF 4, VARY EA BY ΔL = 1'-10 ⅝" (+)
EF551	152	5	4'-4"	STR																		
EF552	17	5	26'-6"	STR																		
EF553	17	5	24'-5"	STR																		
EF554	17	5	3'-11"	STR									EW567	8	5	9'-7"	STR					THREADED 3", ONE END ■
EF555	17	5	4'-5"	11	2'-2"	2'-3"	2'-0 ⅙"						EW568	10	5	VARIES 2'-2" TO 8'-0"	STR					2 SETS OF 5, VARY EA BY ΔL = 1'-5 ½"
EF651	90	6	13'-5"	STR									EW569	2	5	10'-10"	11	10'-7"	3"	1 ⅝"		LEG "A" THREADED 3" ■
EF751	90	7	13'-5"	STR									EW570	2	5	10'-4"	STR					MECH SPLICE, ONE END ■
EF752	25	7	17'-0"	STR									EW571	10	5	VARIES 18'-3" TO 22'-11"	STR					1 SET OF 10, ΔL = 6 ¼" (-)
EF753	8	7	VARIES 15'-0" TO 16'-9"	STR								1 SET OF 8 VARY EA BY ΔL = 3"	EW861	10	8	VARIES 3'-11" TO 8'-6"	STR					THREADED 3", ONE END ■, 1 SET OF 10, ΔL = 6 ⅝" (-)
EF754	112	7	15'-5"	STR									EW862	10	8	19'-7"	STR					MECH SPLICE, ONE END ■
EF755	10	7	15'-3"	STR									EW863	10	8	VARIES 18'-3" TO 22'-11"	STR					1 SET OF 10, ΔL = 6 ¼" (-)
EF851	18	8	10'-5"	14	11"	9'-6"		8"					WING D									
EF852	80	8	7'-6"	14	11"	6'-7"		8"					EW481	8	4	3'-6"	STR					
EF853	22	8	12'-9"	14	11"	11'-10"		8"					EW581	24	5	6'-9"	7	2'-10 ¼"	1'-0 ½"	2'-10 ¼"	2 ⅞"	
EF854	35	8	14'-2"	14	11"	13'-3"		8"					EW582	11	5	19'-7"	STR					MECH SPLICE, ONE END ■
EF855	8	8	VARIES 15'-0" TO 16'-9"	STR								1 SET OF 8 VARY EA BY ΔL = 3"	EW583	13	5	VARIES 22'-2" TO 25'-6"	STR					1 SET OF 13, ΔL = 3 ⅝" (-)
EF856	25	8	17'-0"	STR									EW584	11	5	VARIES 6'-4" TO 9'-0"	STR					THREADED 3", ONE END ■, 1 SET OF 11, ΔL = 3 ¼" (-)
EF857	10	8	15'-3"	STR									EW585	42	5	22'-8"	STR					
ABUTMENT 2													EW586	6	5	12'-4"	STR					MECH SPLICE, ONE END ■
EW343	27	3	15'-8"	57	3'-8 ¾"	7 ¾"	5'-1 ¾"	9 ½"	2'-8 ⅞"	2'-7 ¾"	0"	H = 2'-6"	EW587	6	5	VARIES 2'-9" TO 10'-0"	STR					MECH SPLICE, ONE END ■ 2 SETS OF 3, VARY EA BY ΔL = 3'-7 ½"
EW344	27	3	20'-7"	57	8 ¼"	4'-8 ¼"	5'-1 ¾"	2'-10"	3'-7 ⅝"	3 ¾"	0"	H = 2'-5 ½"										
EW543	36	5	9'-3"	7	2'-10 ¼"	3'-6 ½"	2'-10 ¼"	2 ⅞"														
EW544	108	5	19'-4"	STR																		
EW641	27	6	40'-6"	11	38'-6"	2'-0"	1'-5"						EW588	12	5	10'-7"	STR					THREADED 3", ONE END ■
EW642	27	6	40'-5"	10	1'-10"	38'-7"																
EW841	36	8	19'-4"	STR																		
EW842	30	8	5'-8"	STR																		

ABUTMENT 2 PRECAST REINFORCEMENT BAR SCHEDULE (FOR INFORMATION ONLY)

MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	REMARKS
PRECAST CAP												
EW3701	4	3	19'-4"	57	6 ¾"	4'-1 ⅙"	4'-11 ⅝"	2'-7 ¾"	3'-6 ⅝"	3 ⅙"	5 ¼"	H = 2'-4 ⅝"
EW3702	4	3	15'-1"	58	3'-7 ⅙"	9 ⅞"	4'-11 ⅝"	6 ⅝"	2'-7"	2'-6 ½"	5 ¼"	H = 2'-4 ⅞"
EW5701	4	5	40'-9"	11	39'-4"	1'-5"	1'-0"					
EW5702	6	5	41'-1"	STR								
EW5703	4	5	6'-7"	STR								
EW5704	12	5	5'-8"	STR								
EW5705	4	5	5'-5"	STR								
EW5706	33	5	7'-7"	4	1'-11"	3'-6"	2'-2"					
EW5707	37	5	2'-11"	STR								**
EW5708	2	5	40'-10"	11	40'-1"	9"	6 ⅝"					
EW5709	33	5	7'-7"	70	2'-2"	3'-6"	1'-11"	2 ½"				
PRECAST WING C CHEEKWALL												
EW3801	2	3	20'-1"	57	8 ¼"	4'-2 ½"	5'-2"	2'-9 ¾"	3'-7 ¼"	3 ¾"	5 ⅝"	H = 2'-5 ½"
EW3802	7	3	19'-4"	57	6 ¾"	4'-1 ⅙"	4'-11 ⅝"	2'-7 ¾"	3'-6 ⅝"	3 ⅙"	5 ¼"	H = 2'-4 ⅞"
EW5801	21	5	5'-2"	STR								**
PRECAST WING D CHEEKWALL												
EW3901	2	3	15'-11"	58	3'-8 ¾"	11 ¾"	5'-2"	8"	2'-8 ¼"	2'-7 ¾"	5 ⅝"	H = 2'-6"
EW3902	8	3	15'-1"	58	3'-7 ⅙"	9 ⅞"	4'-11 ⅝"	6 ⅝"	2'-7"	2'-6 ½"	5 ¼"	H = 2'-4 ⅞"
EW5901	16	5	5'-8"	STR								**

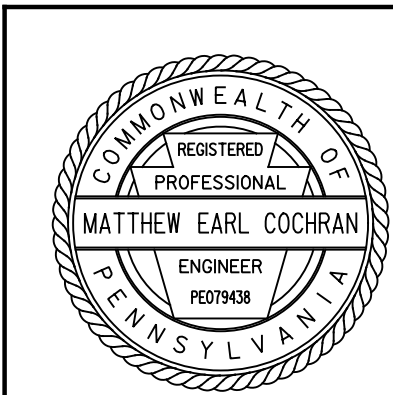
LEGEND

- BAR IS SPLICED WITH MECHANICAL SPLICE. BAR LENGTH INCLUDES 3" THREADED LENGTH WHERE "THREADED 3" IS INDICATED. BARS WHERE "MECH SPLICE, ONE END" IS INDICATED HAVE NOT BEEN ADJUSTED TO ACCOUNT FOR THE LENGTH OF MECHANICAL SPLICE. ADJUST BAR LENGTHS FOR ACTUAL DIMENSIONS OF MECHANICAL SPLICE.
- ** REBAR LENGTHS AND PROJECTIONS AT GROUTED SPLICE COUPLERS ARE BASED ON AN ASSUMED COUPLER SYSTEM. CONTRACTOR TO VERIFY REBAR LENGTHS AND PROJECTIONS WITH ACTUAL GROUTED SPLICE COUPLER USED.



NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR ABUTMENT 2 PLAN AND ELEVATION, SEE SHEET 21.
- FOR ABUTMENT 2 FOOTING PLAN, SEE SHEET 22.
- FOR ABUTMENT 2 TYPICAL SECTION AND CORNER/CHEEKWALL DETAILS, SEE SHEET 23.
- FOR ABUTMENT 2 PRECAST CAP DETAILS, SEE SHEET 24.
- FOR WINGWALL DETAILS, SEE SHEETS 25 AND 26.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, SEE STANDARD DRAWING BC-736M.
- PREFIX "E" DENOTES EPOXY COATED REINFORCEMENT BARS.
- ALL DIMENSIONS ARE OUT-TO-OUT OF BARS EXCEPT "A" ON STANDARD 180° HOOKS AND "R" WHICH IS SHOWN AT THE INSIDE OF THE BAR.
- FIGURES IN CIRCLES SHOW BAR TYPE.
- STR DENOTES STRAIGHT BAR.



Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

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BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

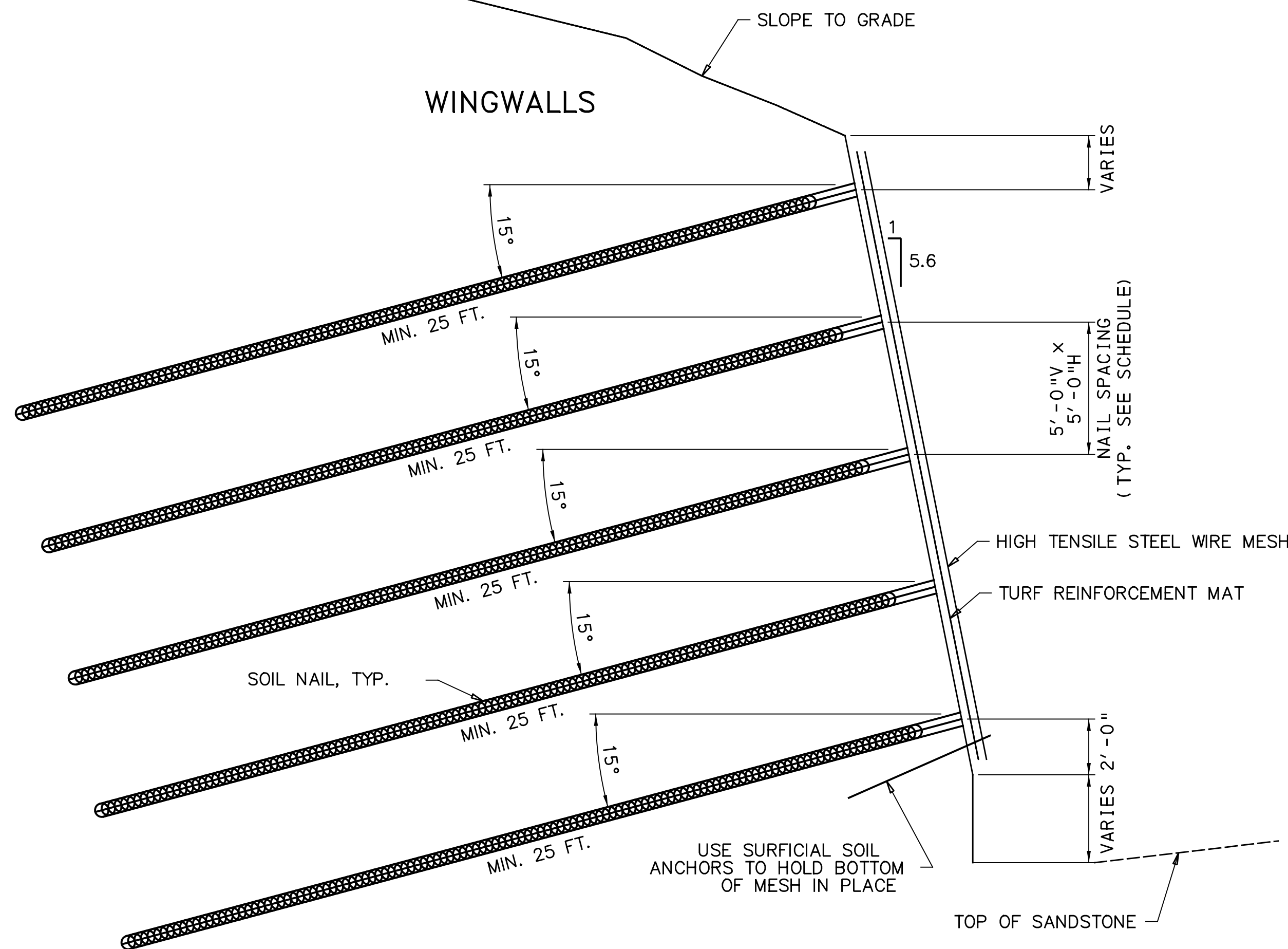
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
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OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUTMENT 2 BAR SCHEDULE

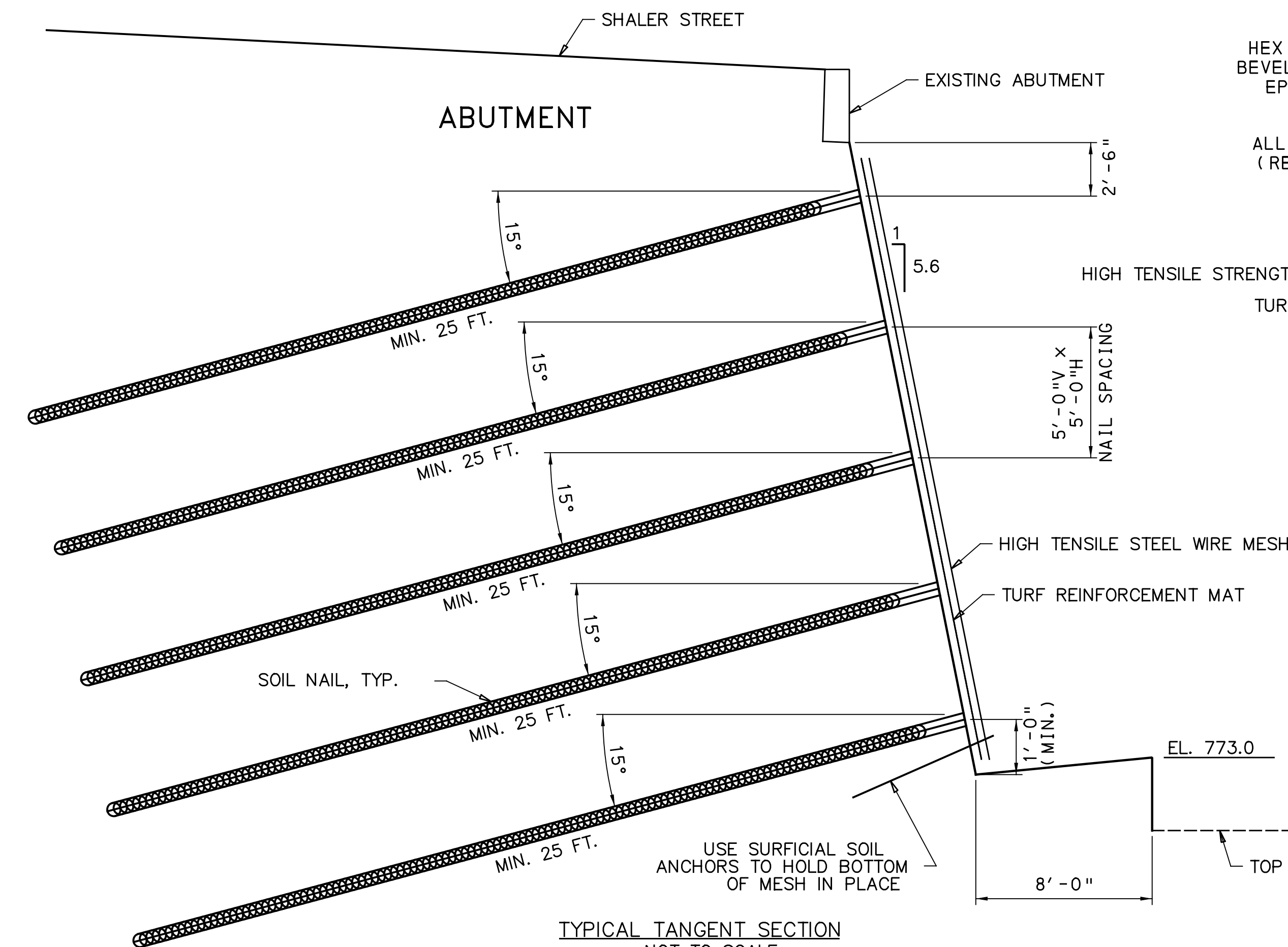
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SHEET 29 OF 83

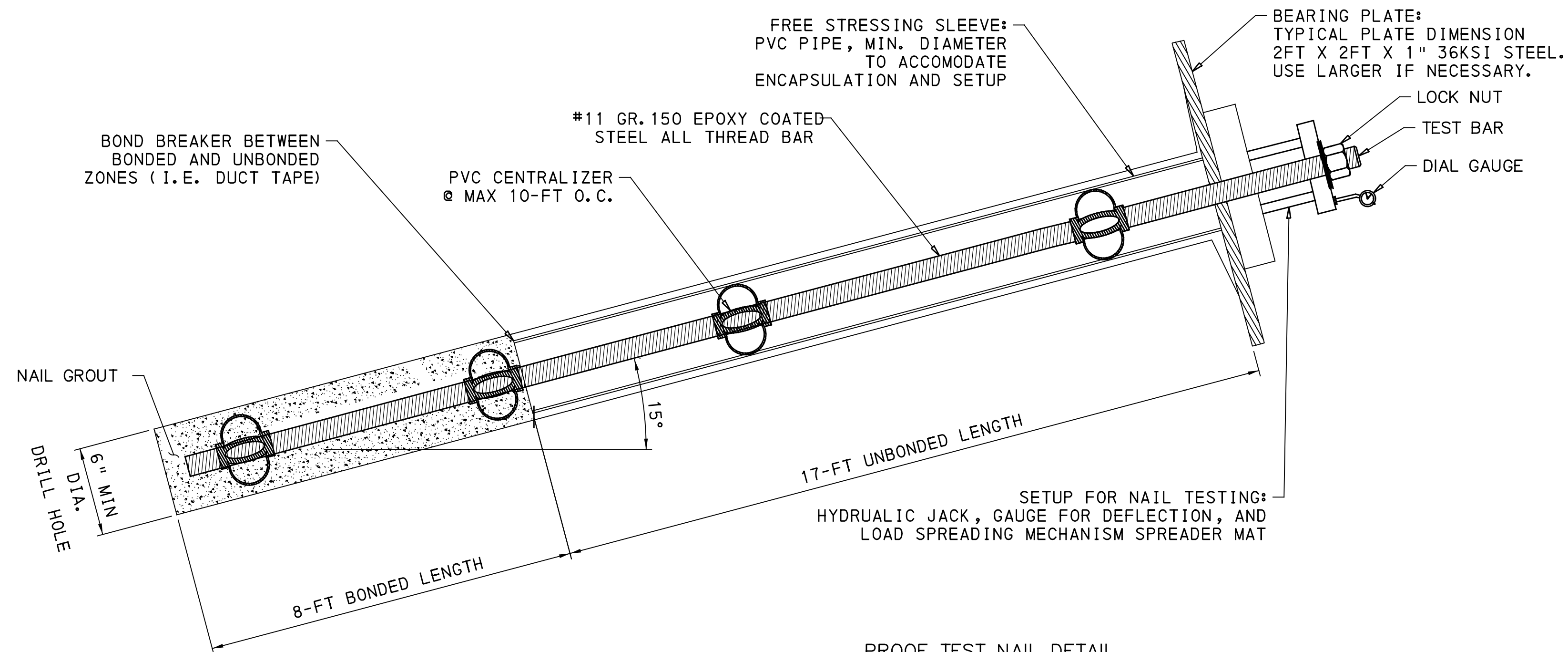
S - 37605



TYPICAL TANGENT SECTION
NOT TO SCALE



TYPICAL TANGENT SECTION
NOT TO SCALE



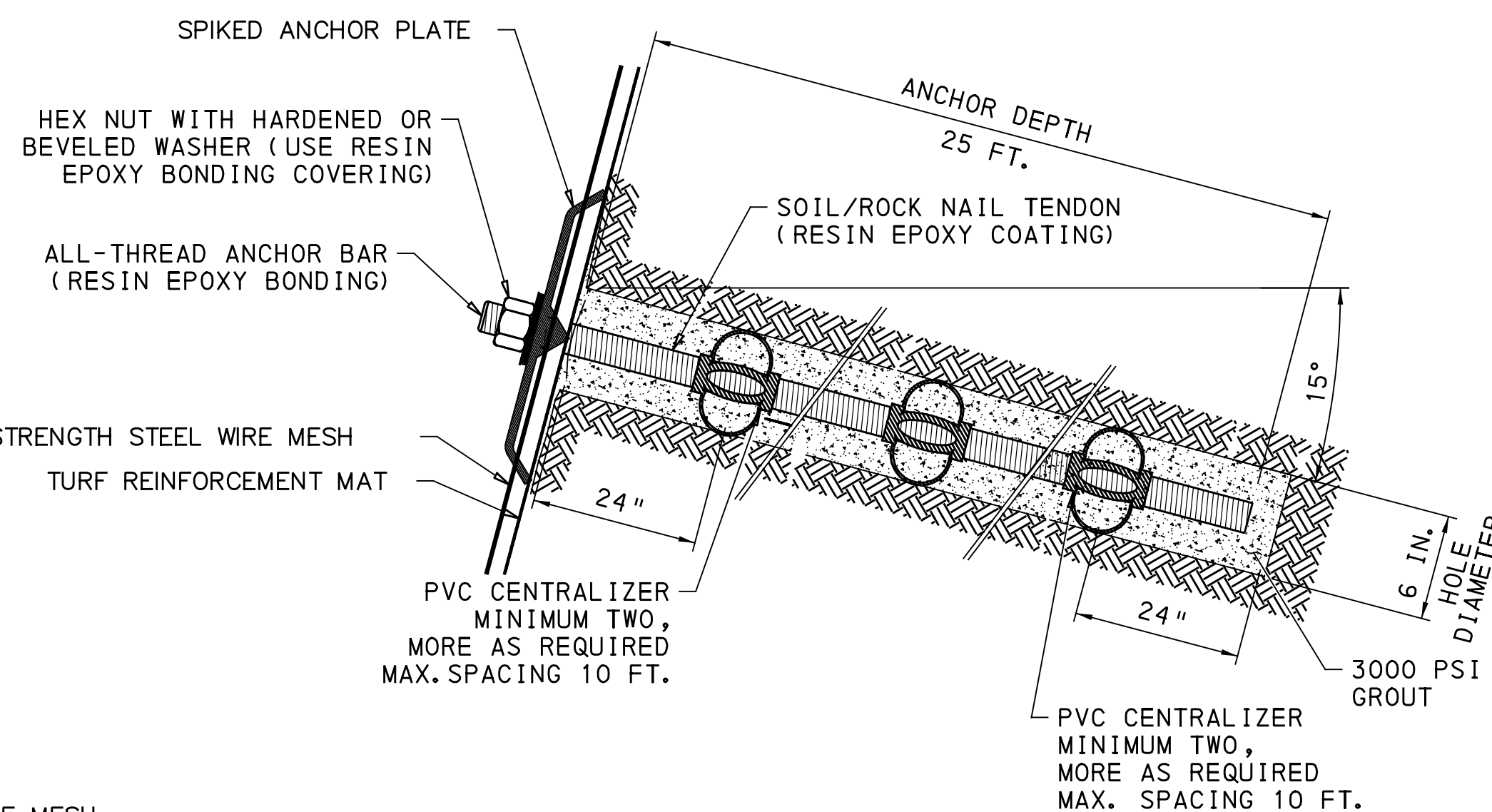
PROOF TEST NAIL DETAIL
NOT TO SCALE

NOTES:

DRILL THE ENTIRE LENGTH OF NAIL, 25 FT.

PRIOR TO GROUTING INSTALL A FREE STRESSING SLEEVE TO ENSURE FULL TRANSFER OF TEST LOAD TO THE DESIGN BOND ZONE DURING TESTING.

REMOVE THE FREE STRESSING SLEEVE AFTER THE TESTING IS COMPLETED ON TEST NAIL. GROUT THE PREVIOUSLY UNBOUNDED ZONE.



PRODUCTION NAIL DETAIL
NOT TO SCALE

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
SOIL NAIL WALL DETAILS 1

RECOMMENDED 08/03/2018

SHEET 30 OF 83

S - 37605

SOIL NAIL SCHEDULE		
FRONT FACE OF TEMPORARY SHORING		
NAIL	HORIZONTAL DISTANCE FROM REFERENCE POINT C	ELEVATION
FF1-1	47'-10 1/2" LT	793.00'
FF1-2	42'-10 1/2" LT	793.00'
FF1-3	39'-0 3/8" LT	793.00'
FF1-4A	34'-0 3/8" LT	793.00'
FF1-4B	32'-5 7/8" LT	793.00'
FF1-5A	27'-5 7/8" LT	793.00'
FF1-5B	26'-5 9/16" LT	793.00'
FF1-6A	21'-5 9/16" LT	793.00'
FF1-6B	20'-5 1/8" LT	793.00'
FF1-7	15'-5 1/8" LT	793.00'
FF1-8	14'-4 11/16" LT	793.00'
FF1-9A	9'-4 11/16" LT	793.00'
FF1-9B	8'-4 1/4" LT	793.00'
FF1-10	3'-4 1/4" LT	793.00'
FF2-1	47'-10 1/2" LT	788.00'
FF2-2	42'-10 1/2" LT	788.00'
FF2-3	37'-10 1/2" LT	788.00'
FF2-4	32'-10 1/2" LT	788.00'
FF2-5	27'-10 1/2" LT	788.00'
FF2-6	22'-10 1/2" LT	788.00'
FF2-7	17'-10 1/2" LT	788.00'
FF2-8	12'-10 1/2" LT	788.00'
FF2-9	7'-10 1/2" LT	788.00'
FF2-10	2'-10 1/2" LT	788.00'
FF3-1	47'-10 1/2" LT	783.00'
FF3-2	42'-10 1/2" LT	783.00'
FF3-3	37'-10 1/2" LT	783.00'
FF3-4	32'-10 1/2" LT	783.00'
FF3-5	27'-10 1/2" LT	783.00'
FF3-6	22'-10 1/2" LT	783.00'
FF3-7	17'-10 1/2" LT	783.00'
FF3-8	12'-10 1/2" LT	783.00'
FF3-9	7'-10 1/2" LT	783.00'
FF3-10	2'-10 1/2" LT	783.00'

SOIL NAIL SCHEDULE		
FRONT FACE OF TEMPORARY SHORING		
NAIL	HORIZONTAL DISTANCE FROM REFERENCE POINT C	ELEVATION
FF4-1	47'-10 1/2" LT	778.00'
FF4-2	42'-10 1/2" LT	778.00'
FF4-3	37'-10 1/2" LT	778.00'
FF4-4	32'-10 1/2" LT	778.00'
FF4-5	27'-10 1/2" LT	778.00'
FF4-6	22'-10 1/2" LT	778.00'
FF4-7	17'-10 1/2" LT	778.00'
FF4-8	12'-10 1/2" LT	778.00'
FF4-9	7'-10 1/2" LT	778.00'
FF4-10	2'-10 1/2" LT	778.00'
FF5-1	47'-10 1/2" LT	773.00'
FF5-2	42'-10 1/2" LT	773.00'
FF5-3	37'-10 1/2" LT	773.00'
FF5-4	32'-10 1/2" LT	773.00'
FF5-5	27'-10 1/2" LT	773.00'
FF5-6	22'-10 1/2" LT	773.00'
FF5-7	17'-10 1/2" LT	773.00'
FF5-8	12'-10 1/2" LT	773.00'
FF5-9	7'-10 1/2" LT	773.00'
FF5-10	2'-10 1/2" LT	773.00'

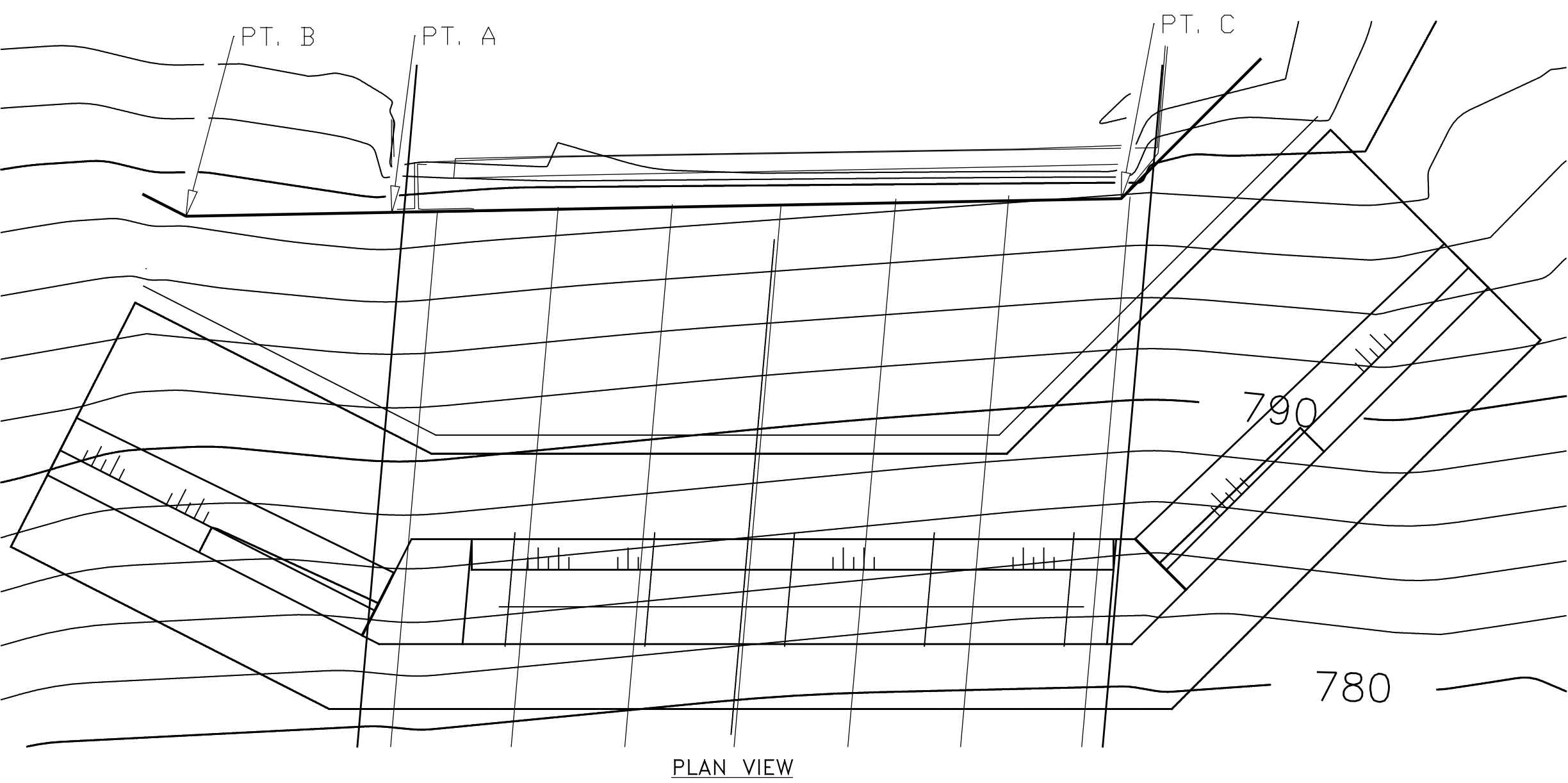
SOIL NAIL SCHEDULE		
TEMPORARY SHORING – WING WALL C		
NAIL	HORIZONTAL DISTANCE FROM REFERENCE POINT B	ELEVATION
WC1-1	1'-5 5/16" LT	792.06
WC2-1	1'-8 1/8" LT	787.07
WC3-1	3'-2 5/16" LT	782.14
WC3-2	1'-5 15/16" LT	782.06
WC4-1	3'-11 9/16" LT	777.17
WC4-2	1'-5 3/4" LT	777.04
WC5-1	3'-8 15/16" LT	772.15
WC5-2	1'-4 1/2" LT	772.04

SOIL NAIL SCHEDULE		
TEMPORARY SHORING – WING WALL D		
NAIL	HORIZONTAL DISTANCE FROM REFERENCE POINT C	ELEVATION
WD1-1	5'-7 1/8" RT	794.00
WD1-2	9'-1 1/8" RT	794.00
WD2-1	0'-8 1/4" RT	791.44
WD2-2	5'-8 1/4" RT	791.44
WD3-1	9'-1 1/8" RT	789.00
WD4-1	0'-3 5/8" RT	786.44
WD4-2	5'-3 5/8" RT	786.44
WD5-1	9'-1 1/8" RT	784.00
WD6-1	0'-2 11/16" LT	782.23
WD6-2	4'-9 5/16" RT	781.73
WD7-1	0'-9 5/16" LT	777.52
WD7-2	9'-1 1/8" RT	779.00
WD7-3	4'-2 11/16" RT	778.69
WD7-4	11'-0 13/16" RT	777.54
WD8-1	1'-5 13/16" LT	772.48
WD8-2	3'-3 3/16" RT	774.15
WD8-3	8'-1 1/8" RT	774.00
WD8-4	11'-0 13/16" RT	772.54
WD9-1	2'-3 3/16" RT	771.51
WD9-2	8'-3 3/16" RT	771.15

GENERAL CONSTRUCTION SEQUENCE:

EXCAVATION AND NAIL INSTALLATION WILL BE PERFORMED USING AN EXCAVATOR ARM WITH ADEQUATE REACH TO WORK FROM BENCHES AS EXCAVATION PROGRESSES FROM TOP DOWN.

- START EXCAVATION FROM THE TOP OF THE SLOPE LIMITING THE EXCAVATION TO 1 FOOT BELOW EACH ROW OF NAILS UNTIL THAT ROW OF NAILS IS INSTALLED. CLEAR THE AFFECTED SLOPE AREA FROM VEGETATION AS REQUIRED.
- INSTALL NAILS FROM THE BOTTOM OF THE EXCAVATED ZONE FOLLOWING THE REQUIREMENTS SPECIFIED IN SPECIAL PROVISION SOIL NAILS, AND THE GENERAL RECOMMENDATIONS PROVIDED LATER IN THIS CONSTRUCTION SEQUENCE.
- PERFORM PROOF TESTING OF NAILS IN ACCORDANCE WITH THE SPECIAL PROVISION SOIL NAILS AND AS INDICATED IN THE PLANS AS CONSTRUCTION PROGRESSES. FAILURE OF ANY TESTS TO MEET LOADING REQUIREMENTS WILL REQUIRE RE-ASSESSMENT OF THE SOIL NAIL DESIGN AND RECOMMENDATION FOR FURTHER ACTION BY THE ENGINEER. PROOF TESTING SHOULD BE PERFORMED ON PRODUCTION NAILS CONCURRENTLY WITH CONSTRUCTION.
- ONCE EACH ROW OF NAILS HAVE BEEN INSTALLED, INSTALL THE MESH, TURF REINFORCEMENT MAT, AND SPIKED PLATE CONNECTIONS.



NOTES:

- MEASURE NAIL SPACING ALONG FACE OF EXCAVATION
- ALL NAILS ARE NO. 11 150KSI STEEL, 25 FT. LONG
- NAILS ON FRONT FACE ARE NUMBERED FF (ROW)-(COLUMN). NAILS ON WINGWALL ARE NUMBERED BY ROW
- ESTIMATED TOTAL OF SOIL NAIL TREATMENT AREA = 1050 SF
- SHOTCRETE AS REQUIRED TO PREVENT SLOUGHING OF MATERIAL.
- GRADE EXCAVATION ABOVE WALL AND ON SIDES TO MEET EXISTING SLOPES. UTILIZE NAILS IF NECESSARY.

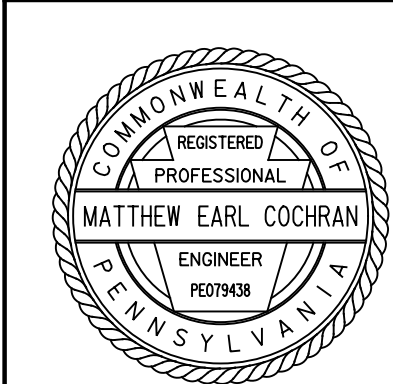
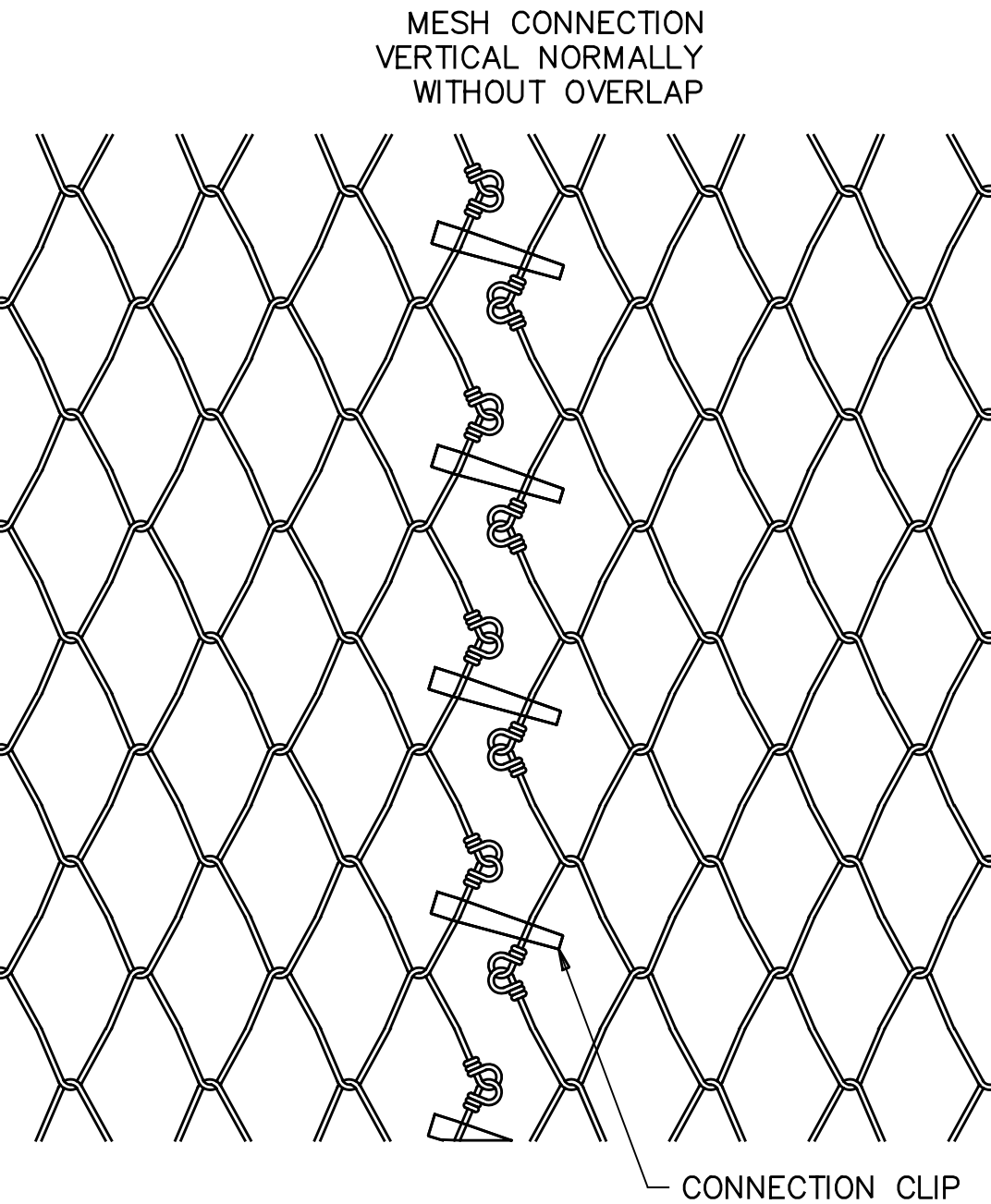
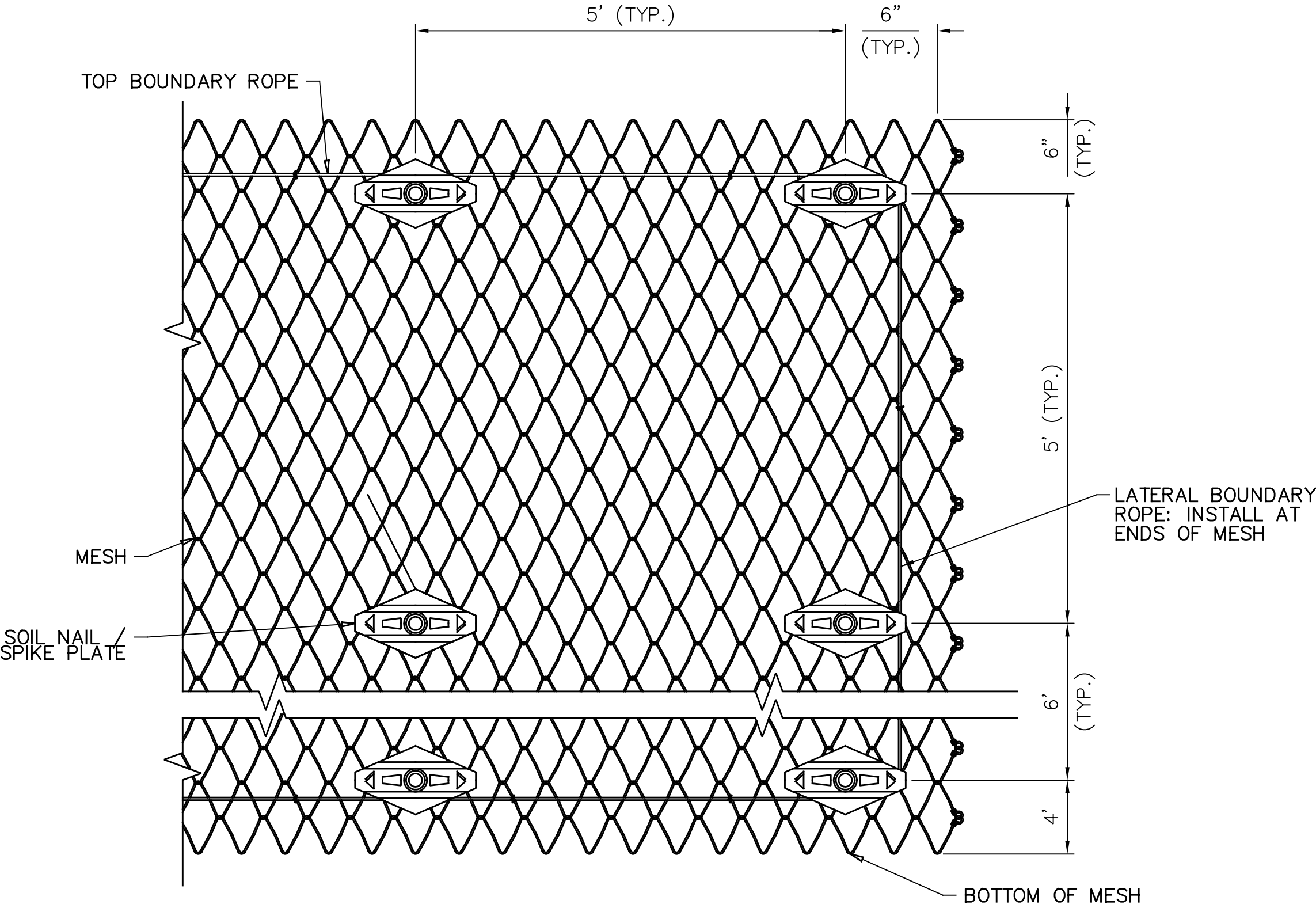
NAIL INSTALLATION AND TESTING:

INSTALL NAILS FOLLOWING THE REQUIREMENTS SPECIFIED IN SPECIAL PROVISION SOIL NAILS. DRILL HOLES FOR NAILS AT THE ANGLE AND LENGTH SPECIFIED IN THE PLANS. CASING MAY BE NECESSARY TO MAINTAIN A CLEAN OPEN HOLE. INJECT GROUT FROM THE BOTTOM OF THE NAIL PROGRESSIVELY TO THE TOP TO PREVENT AIR VOIDS. USE NAIL CENTRALIZERS AS INDICATED ON THE DETAILS.

PROOF TESTING OF NAILS SHOULD BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISION SOIL NAILS AND AS INDICATED IN THE PLANS. PROOF TESTING SHOULD BE PERFORMED ON PRODUCTION NAILS CONCURRENTLY WITH CONSTRUCTION.

MESH:

IN ACCORDANCE WITH SPECIAL PROVISIONS "SOIL NAILS".



Mark	Description	By	Chk' d.	Recm' d.	Date
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BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

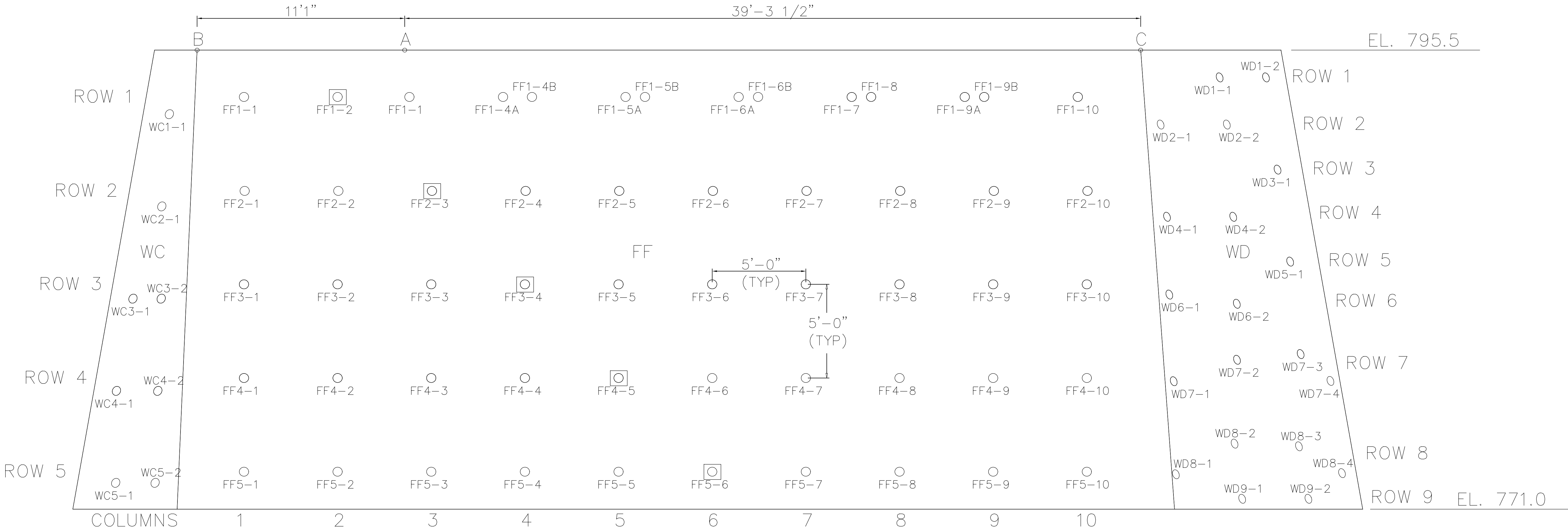
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
SOIL NAIL WALL DETAILS 2

RECOMMENDED 08/03/2018

SHEET 31 OF 83

S - 37605



* REFERENCE POINT A IS BOTTOM LEFT CORNER OF EXISTING ABUTMENT, POINT B IS 11'-1" LEFT OF POINT A, AND POINT C IS 39'-3 1/2" RIGHT OF POINT A.

REFERENCE POINTS ARE MEASURED ALONG THE TOP FRONT FACE OF TEMPORARY SHORING.

FRONT FACE AND WING C HAVE 5 ROWS, WING D HAS 9 ROWS.

○ - DENOTES PROOF TEST NAIL

PROOF TEST NAILS	TEST LOAD P
FF1-2	16.3 KIP
FF2-3	23.1 KIP
FF3-4	39.8 KIP
FF4-5	39.8 KIP
FF5-6	6.3 KIP

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

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BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY# 54732

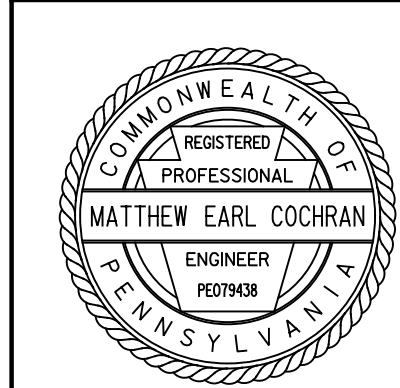
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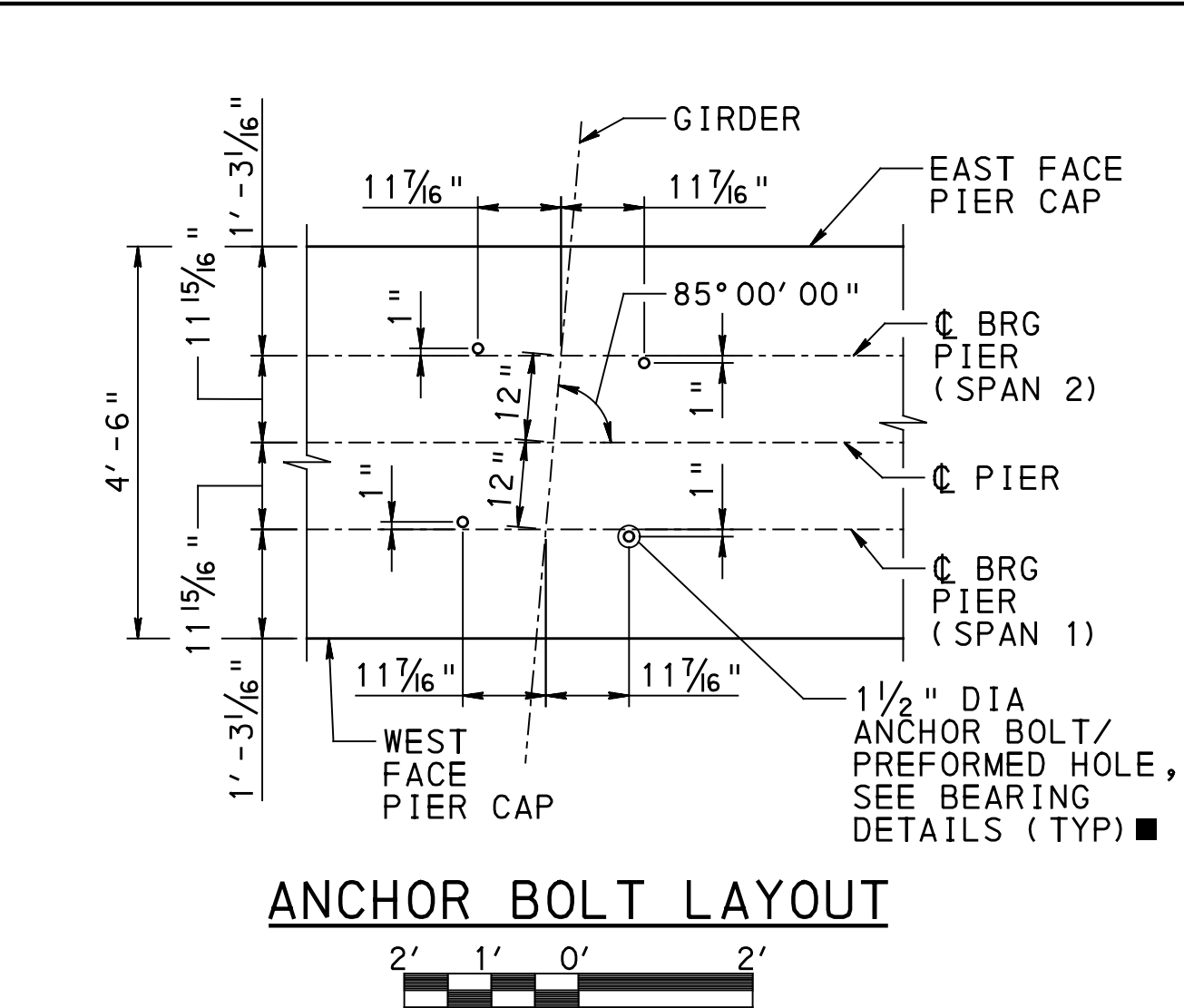
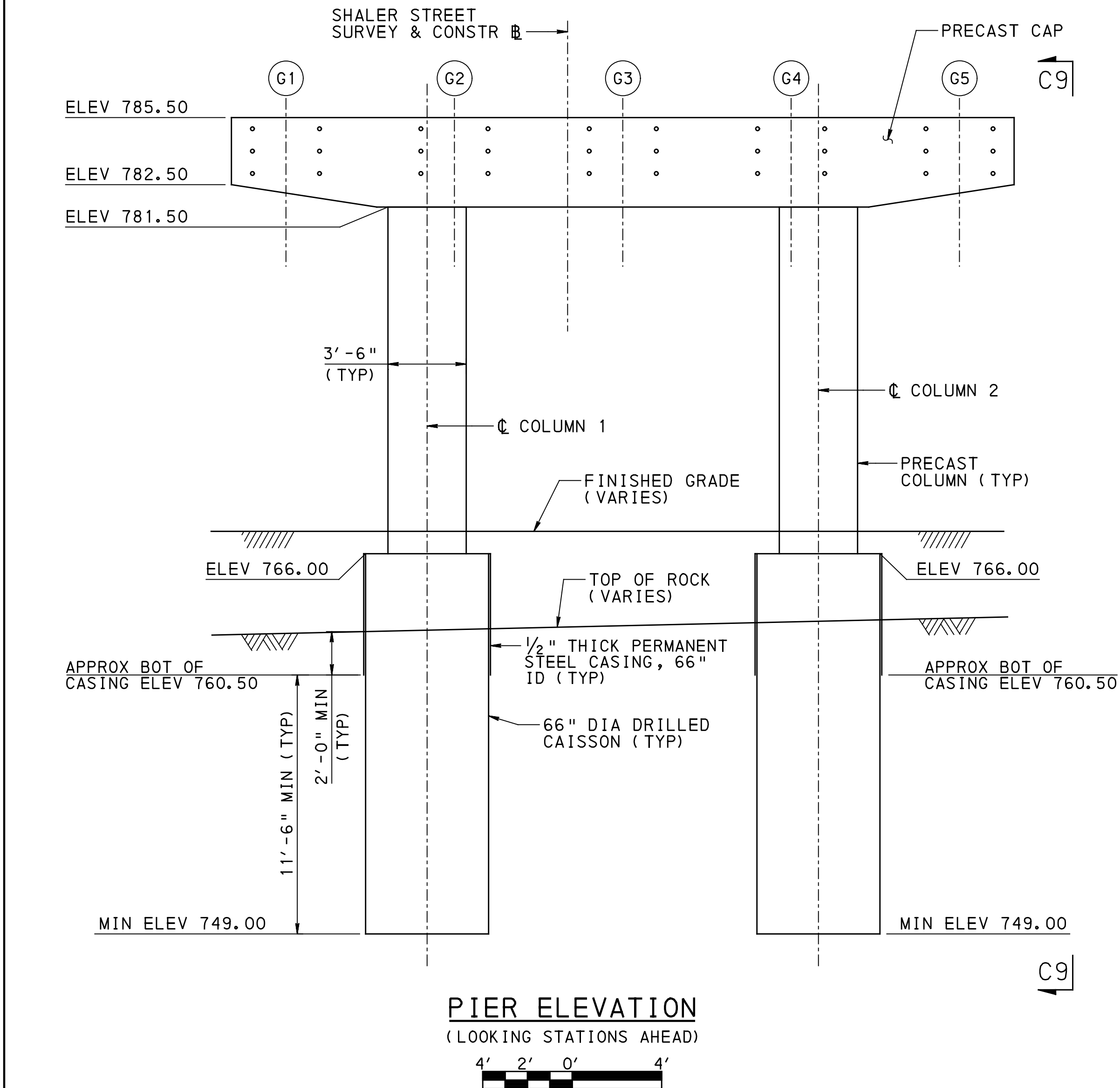
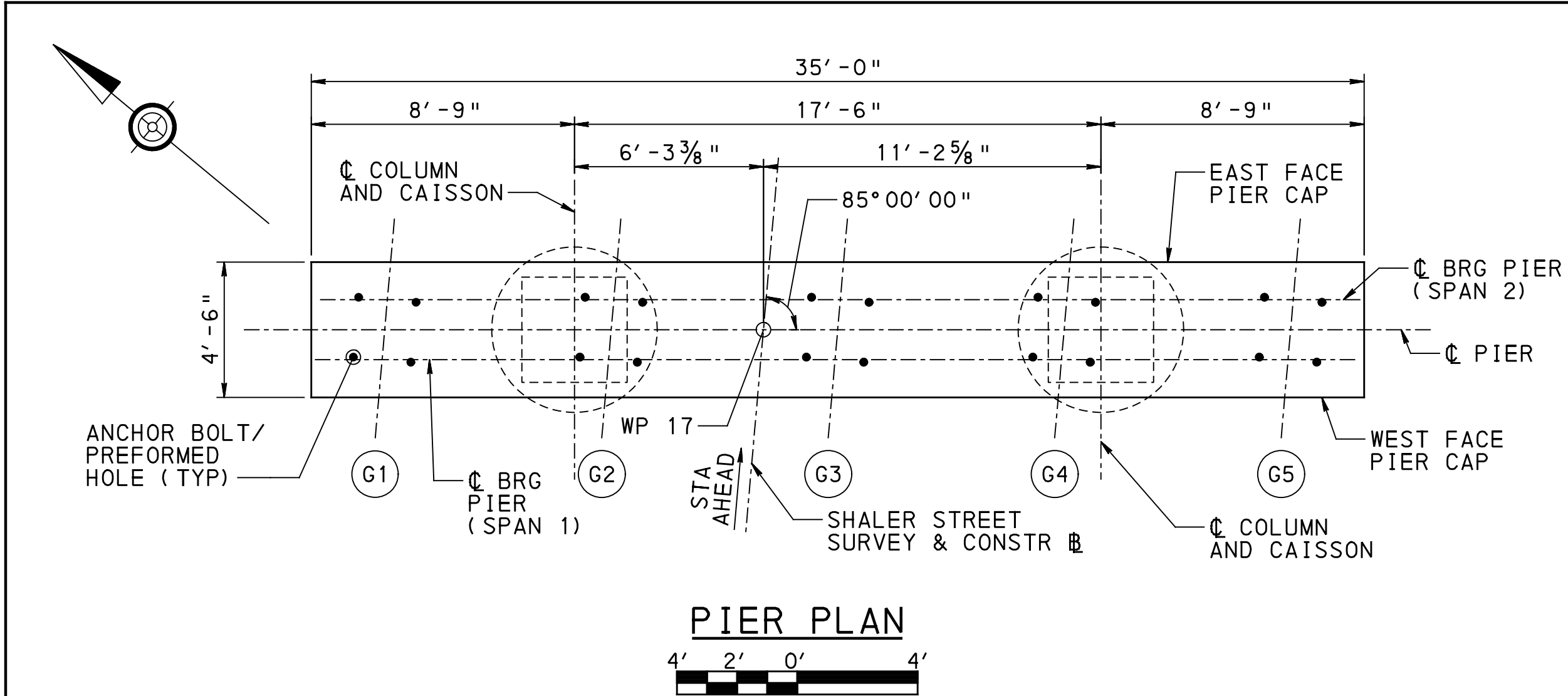
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
SOIL NAIL WALL DETAILS 3

RECOMMENDED 08/03/2018

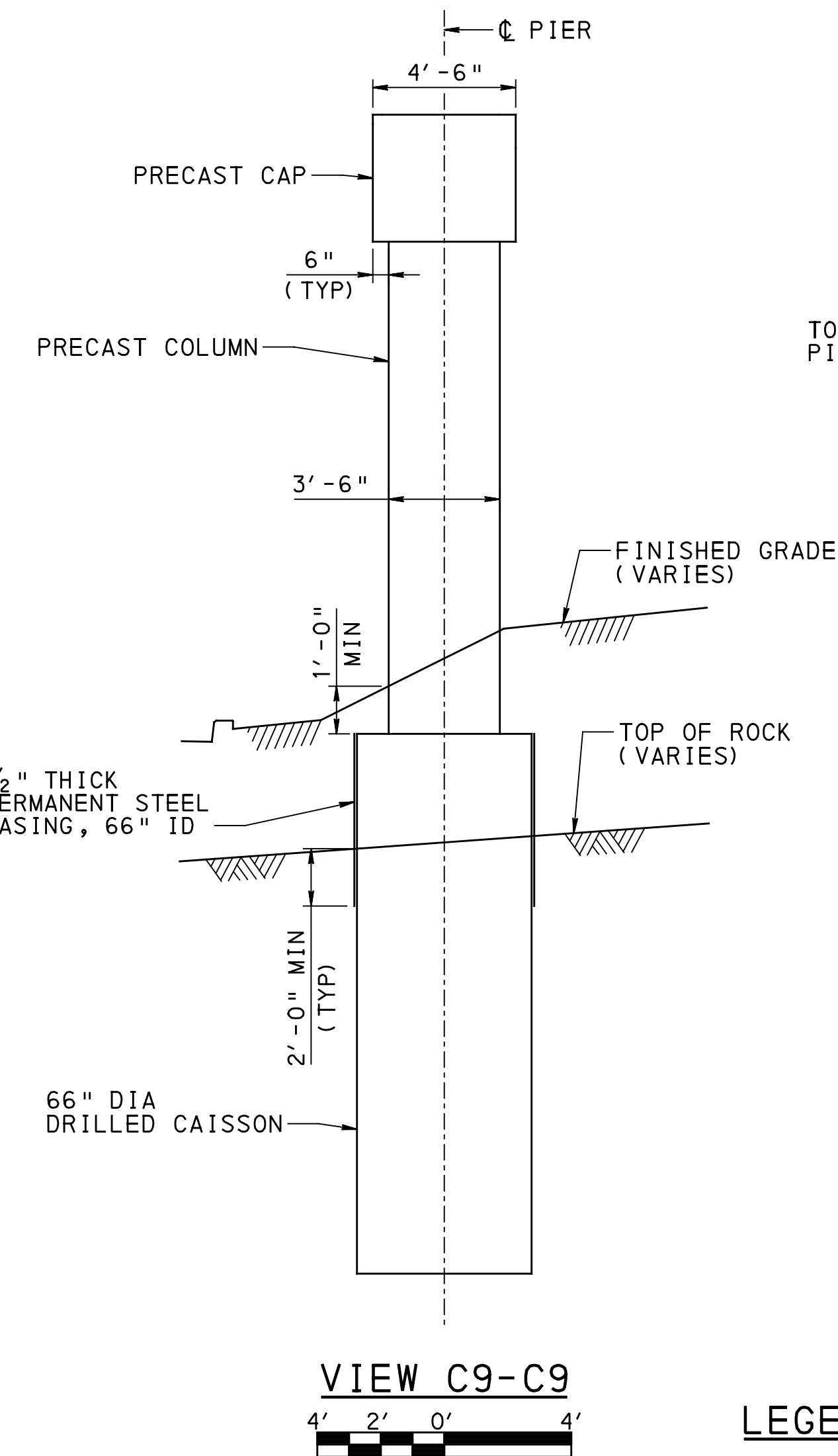
SHEET 32 OF 83

S - 37605

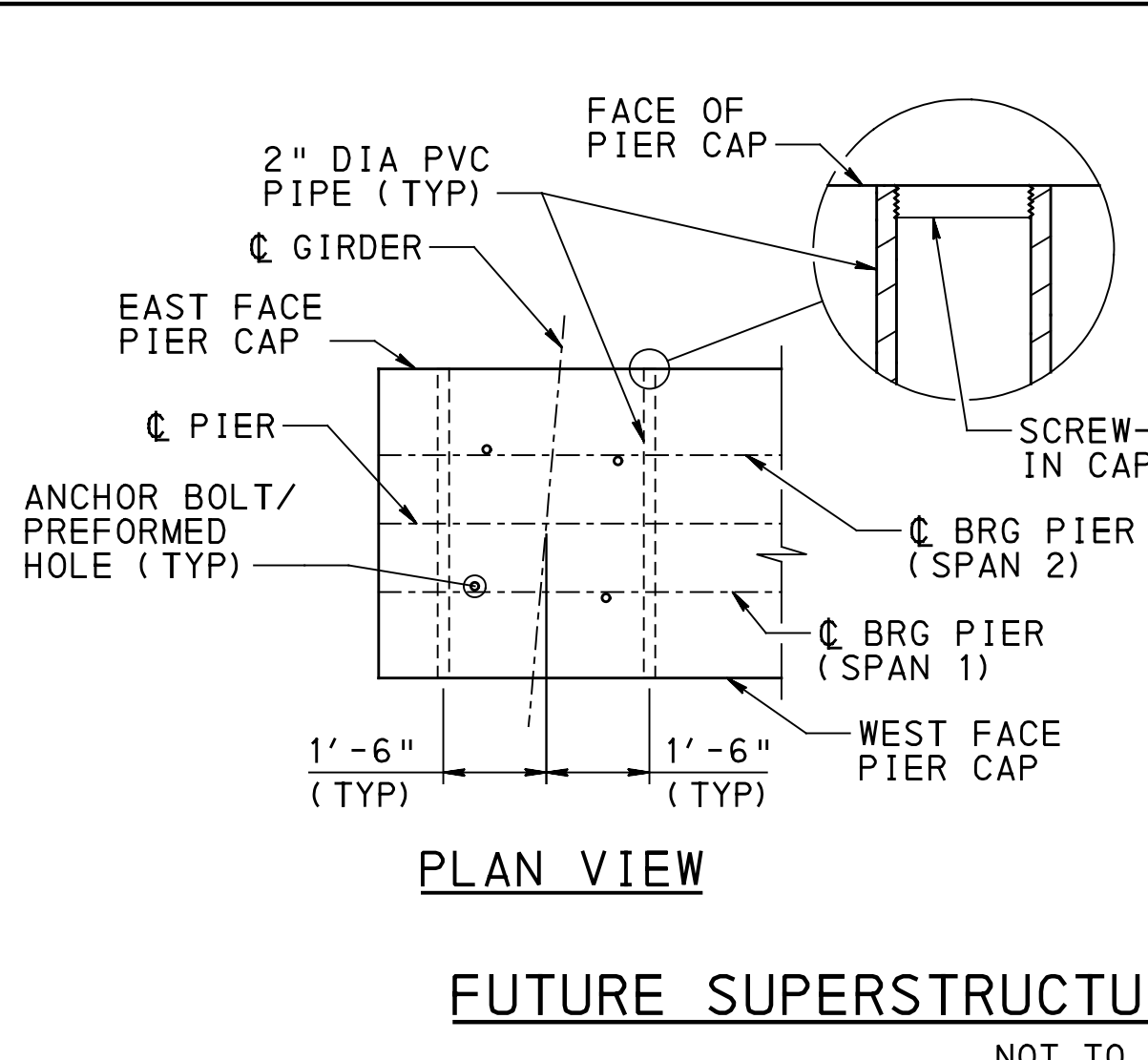




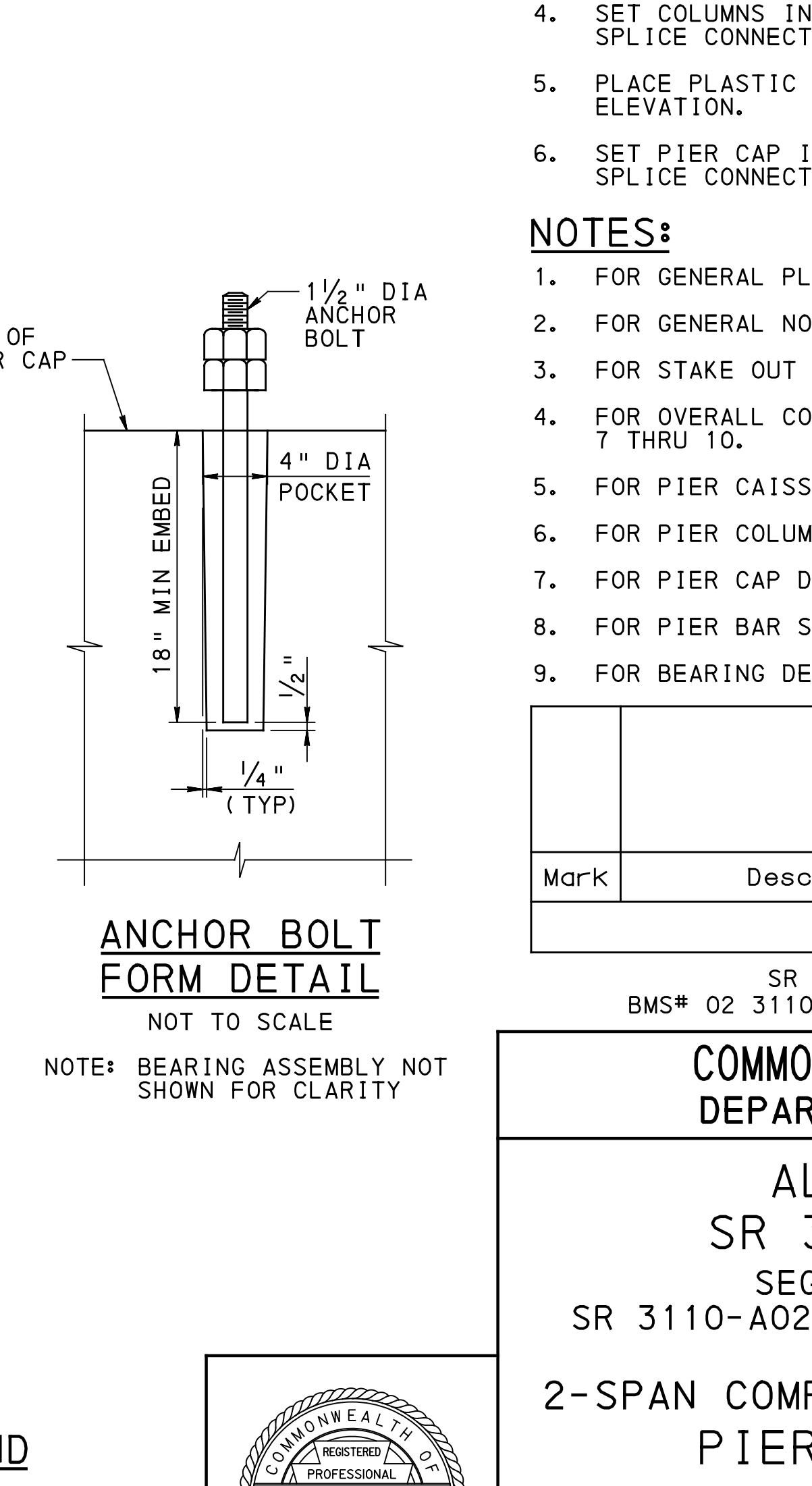
■ PLACE ANCHOR BOLT LOOSE IN PREFORMED HOLE PRIOR TO SETTING SUPERSTRUCTURE IN PLACE USING SPMTS. AT EACH BEARING, GUIDE ANCHOR BOLTS THROUGH SOLE PLATES AS THE SUPERSTRUCTURE IS LOWERED INTO POSITION. FILL PREFORMED HOLES WITH NON-SHRINK GROUT AFTER SUPERSTRUCTURE HAS BEEN PLACED IN FINAL POSITION. PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUB 408 SECTION 1001.2(e) (INCIDENTAL TO FABRICATED STRUCTURAL STEEL). DRILLING OF ANCHOR BOLT HOLES IS NOT PERMITTED.



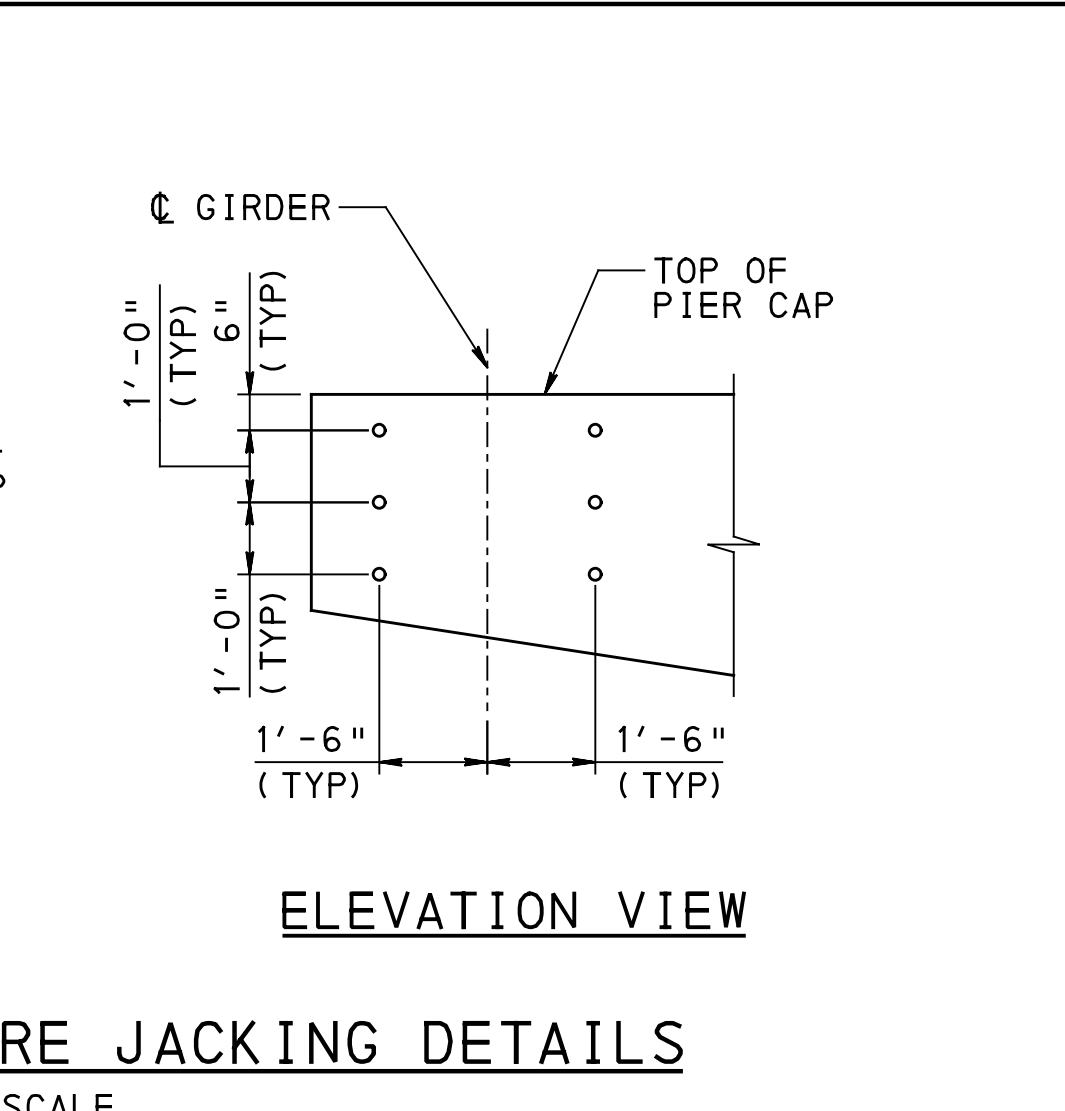
VIEW C9-C9



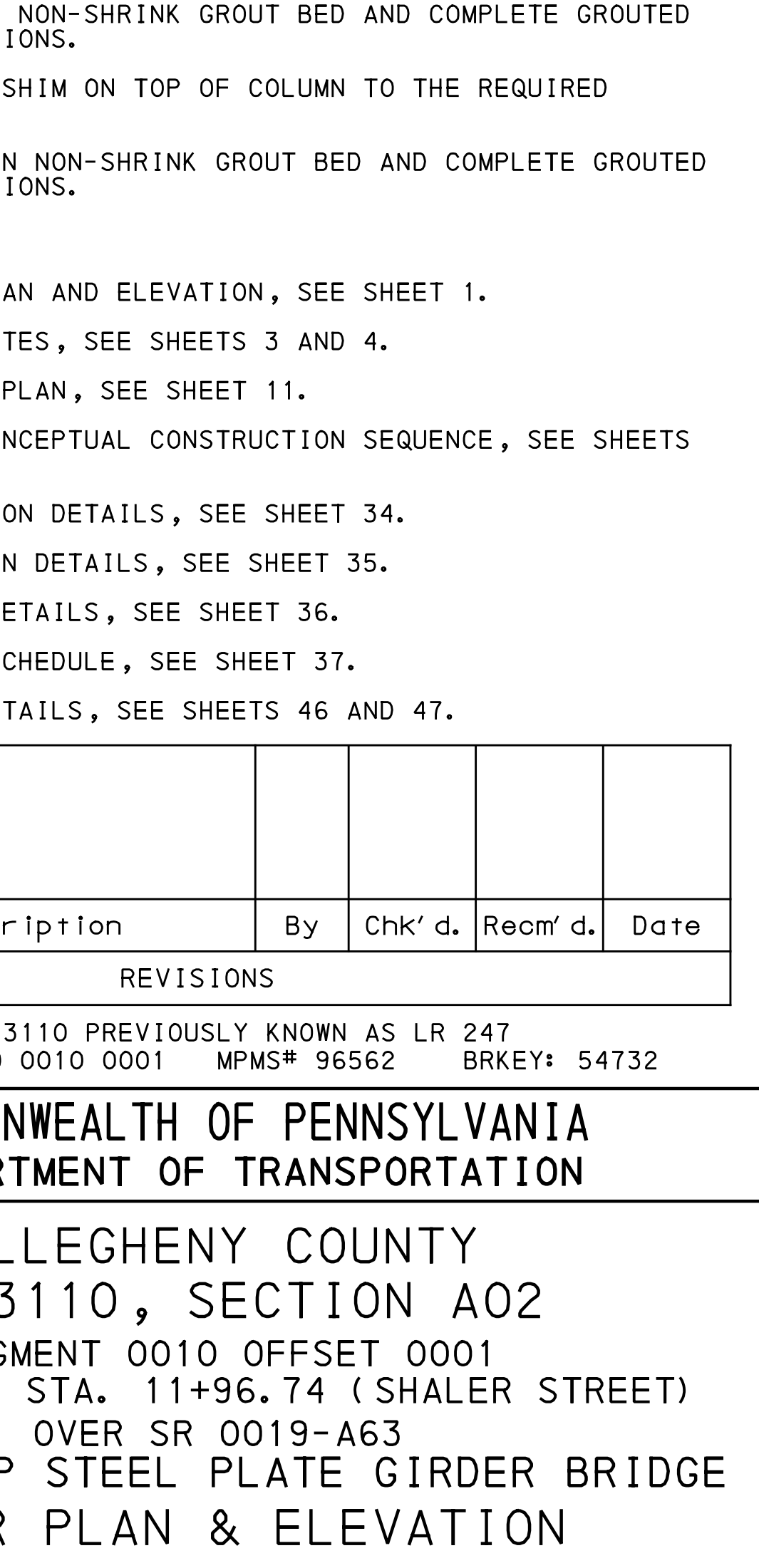
■ PLACE ANCHOR BOLT LOOSE IN PREFORMED HOLE PRIOR TO SETTING SUPERSTRUCTURE IN PLACE USING SPMTS. AT EACH BEARING, GUIDE ANCHOR BOLTS THROUGH SOLE PLATES AS THE SUPERSTRUCTURE IS LOWERED INTO POSITION. FILL PREFORMED HOLES WITH NON-SHRINK GROUT AFTER SUPERSTRUCTURE HAS BEEN PLACED IN FINAL POSITION. PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUB 408 SECTION 1001.2(e) (INCIDENTAL TO FABRICATED STRUCTURAL STEEL). DRILLING OF ANCHOR BOLT HOLES IS NOT PERMITTED.



ANCHOR BOLT FORM DETAIL



■ PLACE ANCHOR BOLT LOOSE IN PREFORMED HOLE PRIOR TO SETTING SUPERSTRUCTURE IN PLACE USING SPMTS. AT EACH BEARING, GUIDE ANCHOR BOLTS THROUGH SOLE PLATES AS THE SUPERSTRUCTURE IS LOWERED INTO POSITION. FILL PREFORMED HOLES WITH NON-SHRINK GROUT AFTER SUPERSTRUCTURE HAS BEEN PLACED IN FINAL POSITION. PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUB 408 SECTION 1001.2(e) (INCIDENTAL TO FABRICATED STRUCTURAL STEEL). DRILLING OF ANCHOR BOLT HOLES IS NOT PERMITTED.



FUTURE SUPERSTRUCTURE JACKING DETAILS

CONCEPTUAL PIER CONSTRUCTION SEQUENCE

- DEMOLISH EXISTING STRUCTURE DURING WEEKEND CLOSURE (SEE NOTE 4).
- INSTALL DRILLED CAISSONS WITH TEMPLATE FOR COLUMN REINFORCEMENT.
- PLACE PLASTIC SHIM ON TOP OF CAISSON TO THE REQUIRED ELEVATION.
- SET COLUMNS IN NON-SHRINK GROUT BED AND COMPLETE GROUTED SPLICE CONNECTIONS.
- PLACE PLASTIC SHIM ON TOP OF COLUMN TO THE REQUIRED ELEVATION.
- SET PIER CAP IN NON-SHRINK GROUT BED AND COMPLETE GROUTED SPLICE CONNECTIONS.

NOTES:

- FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.
- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR STAKE OUT PLAN, SEE SHEET 11.
- FOR OVERALL CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
- FOR PIER CAISSON DETAILS, SEE SHEET 34.
- FOR PIER COLUMN DETAILS, SEE SHEET 35.
- FOR PIER CAP DETAILS, SEE SHEET 36.
- FOR PIER BAR SCHEDULE, SEE SHEET 37.
- FOR BEARING DETAILS, SEE SHEETS 46 AND 47.

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

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BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

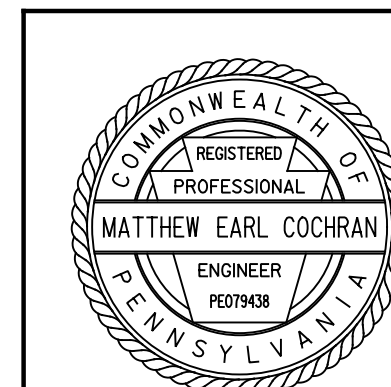
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
PIER PLAN & ELEVATION

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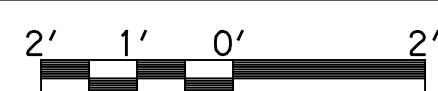
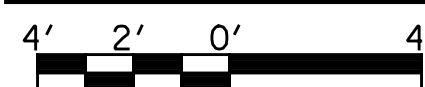
SHEET 33 OF 83

S - 37605



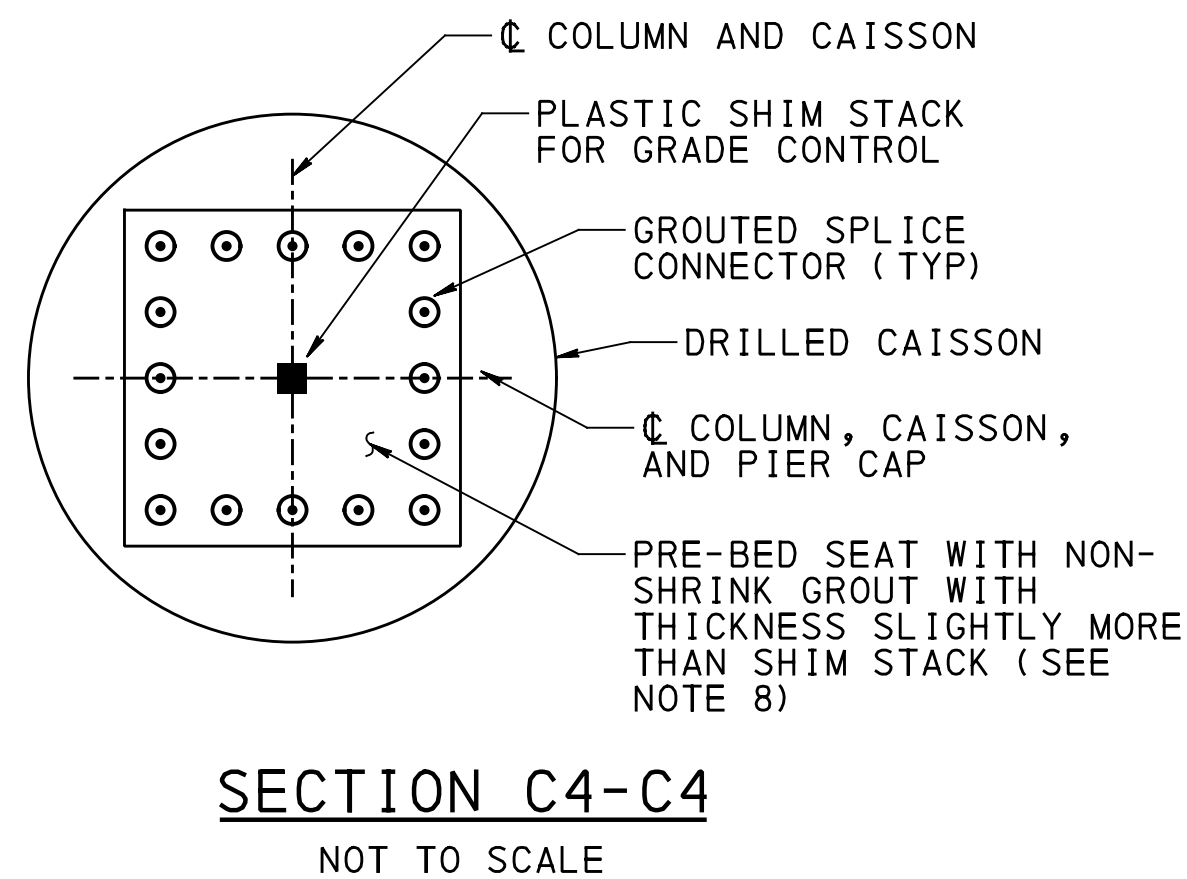
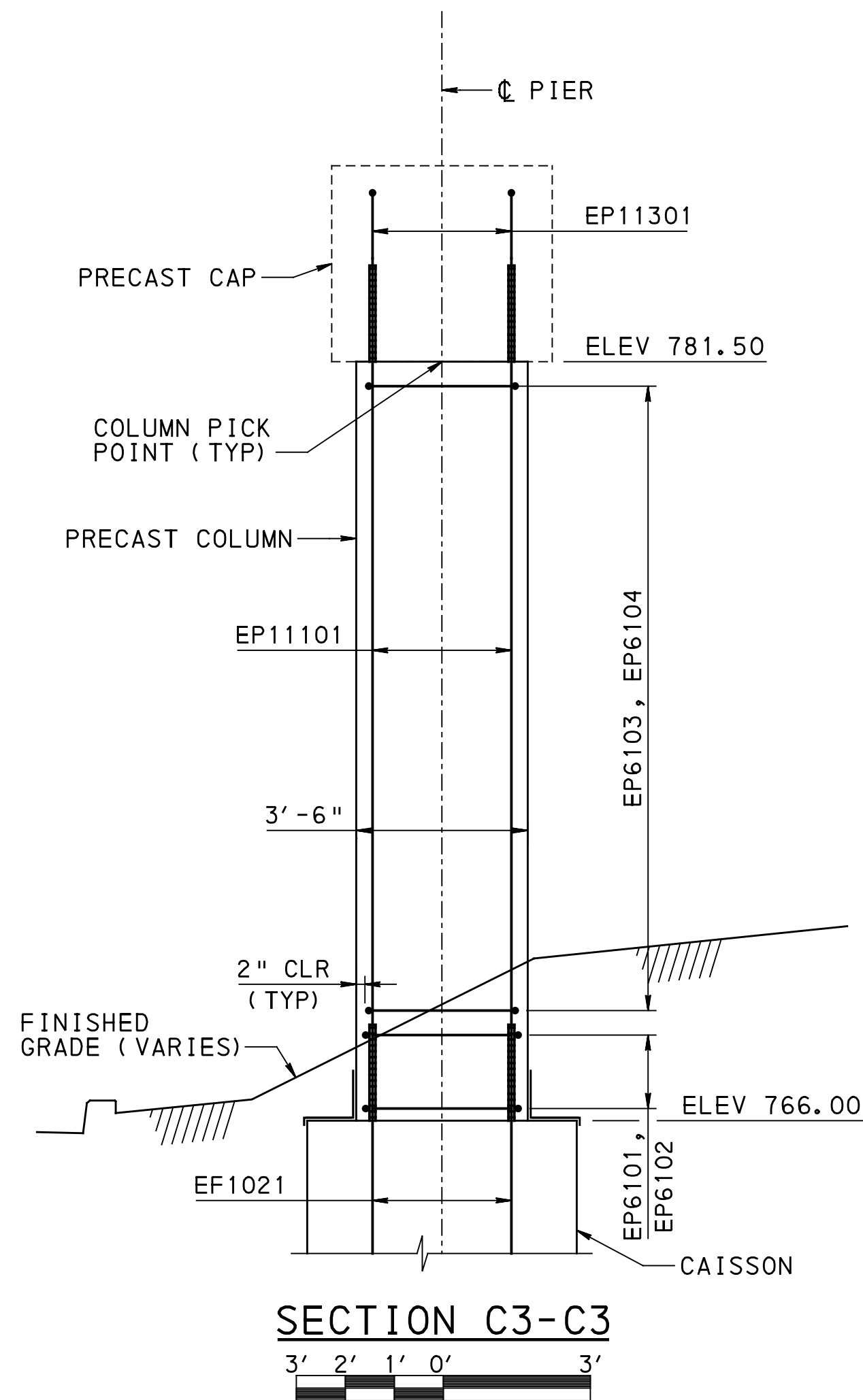
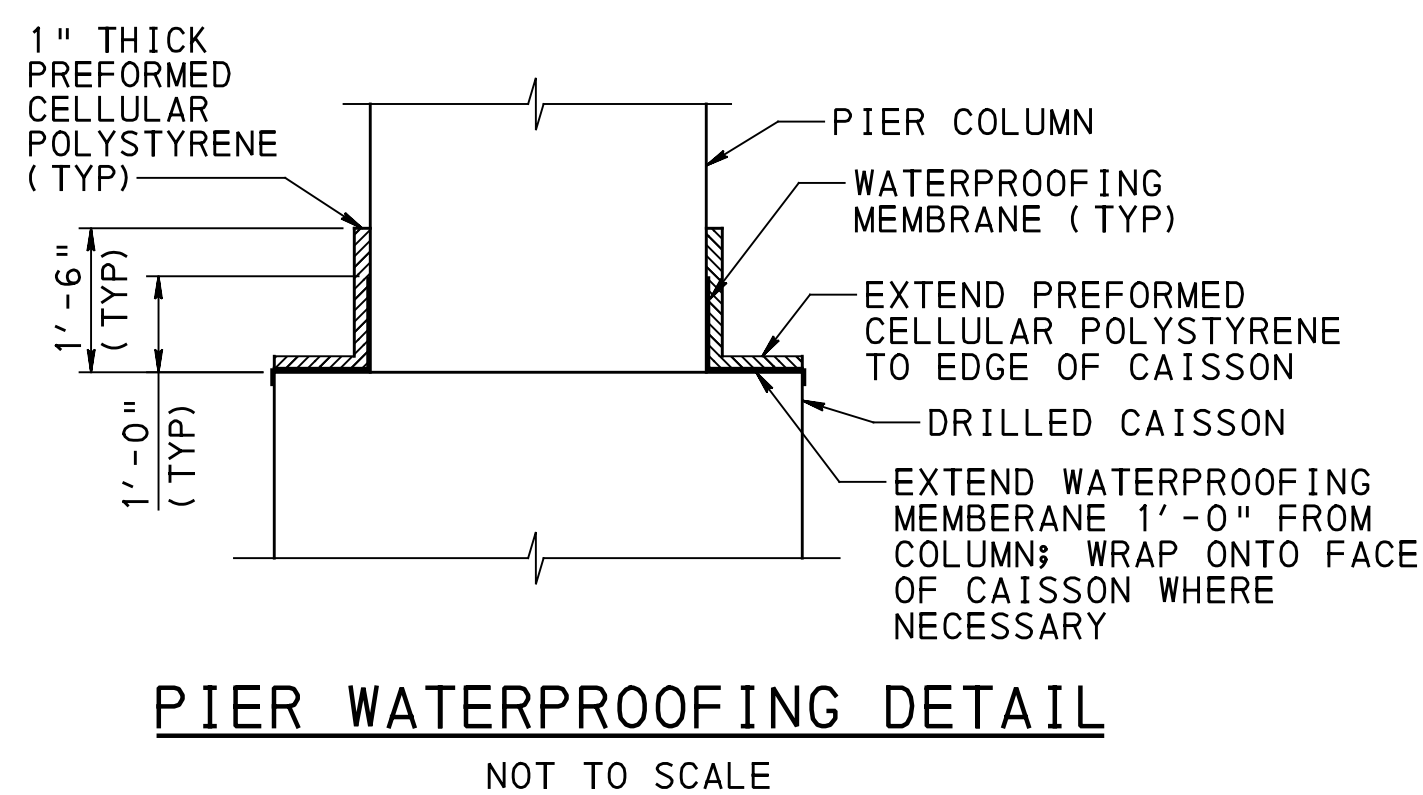
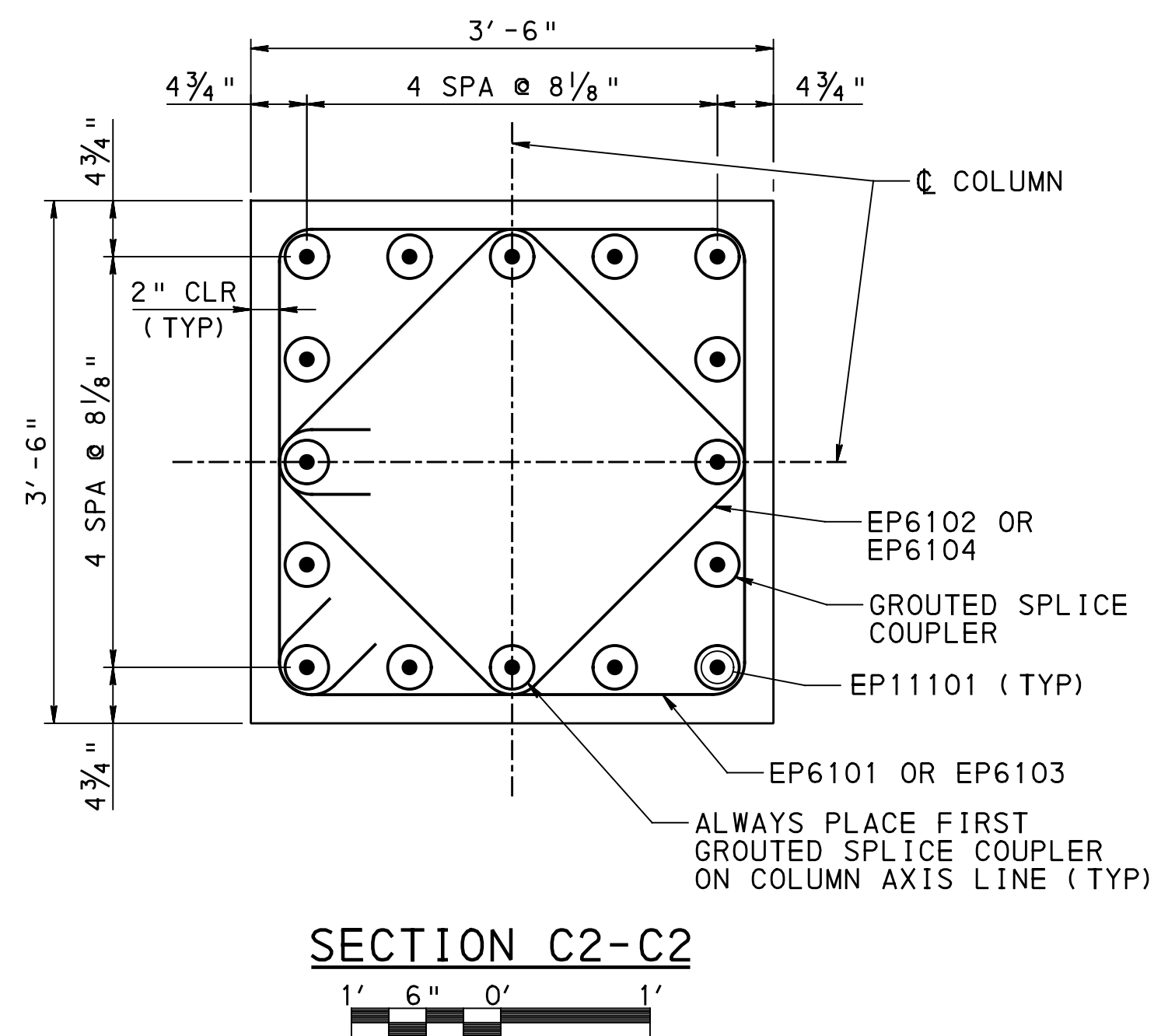
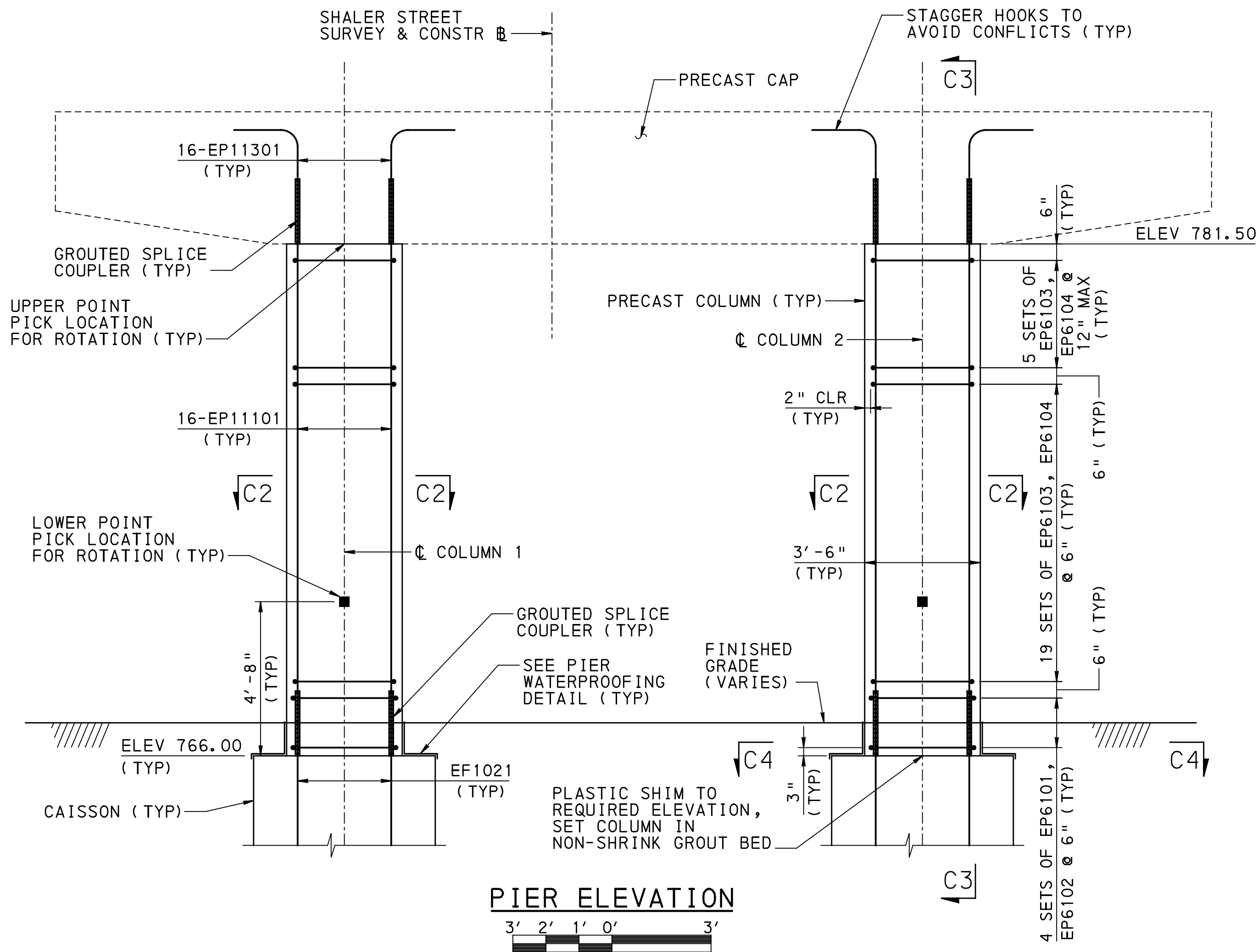
LEGEND

- ID INNER DIAMETER
WP WORK POINT



NOT TO SCALE
(LOOKING SR 0019 STA AHEAD)

NOTE: COLUMN REINFORCEMENT
NOT SHOWN FOR CLARITY



PRECAST PIER COLUMN 1		
FOR INFORMATION ONLY		PICK WEIGHT = 29 KIP
ITEM	UNIT	QUANTITY
REINFORCEMENT BARS, EPOXY COATED	LB	2320
CEMENT CONCRETE, 5000 PSI	CY	8
LIFTING DEVICE	EA	2
GROUTED SPLICE COUPLER	EA	16

PRECAST PIER COLUMN 2		
FOR INFORMATION ONLY		PICK WEIGHT = 29 KIP
ITEM	UNIT	QUANTITY
REINFORCEMENT BARS, EPOXY COATED	LB	2320
CEMENT CONCRETE, 5000 PSI	CY	8
LIFTING DEVICE	EA	2
GROUTED SPLICE COUPLER	EA	16

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR STAKE OUT PLAN, SEE SHEET 11.
- FOR PIER PLAN AND ELEVATION, SEE SHEET 33.
- FOR PIER CAISSON DETAILS, SEE SHEET 34.
- FOR PIER CAP DETAILS, SEE SHEET 36.
- FOR PIER REBAR SCHEDULE, SEE SHEET 37.
- FOR CONSTRUCTION TOLERANCES AND GROUTED SPLICE COUPLER DETAIL, SEE SHEET 68.
- PLACE SHIM STACK AS NOTED ON PLANS. PLACE NON-SHRINK GROUT AROUND SHIM STACK WITHIN LIMITS OF CONNECTION OR RIGID PLASTIC FORM, AND AS SHOWN ON PLANS. NON-SHRINK GROUT TO BE SLIGHTLY HIGHER THAN SHIM STACK TO ACHIEVE FULL CONTACT BETWEEN BOTH CONNECTION SURFACES. SHIMS ARE TO REMAIN IN PLACE.
- ERECTION TOLERANCE ON ELEVATION = $\pm \frac{1}{4}$ "

Mark	Description	By	Chk'd.	Rec'd.	Date
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BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

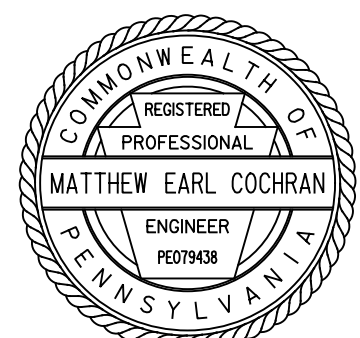
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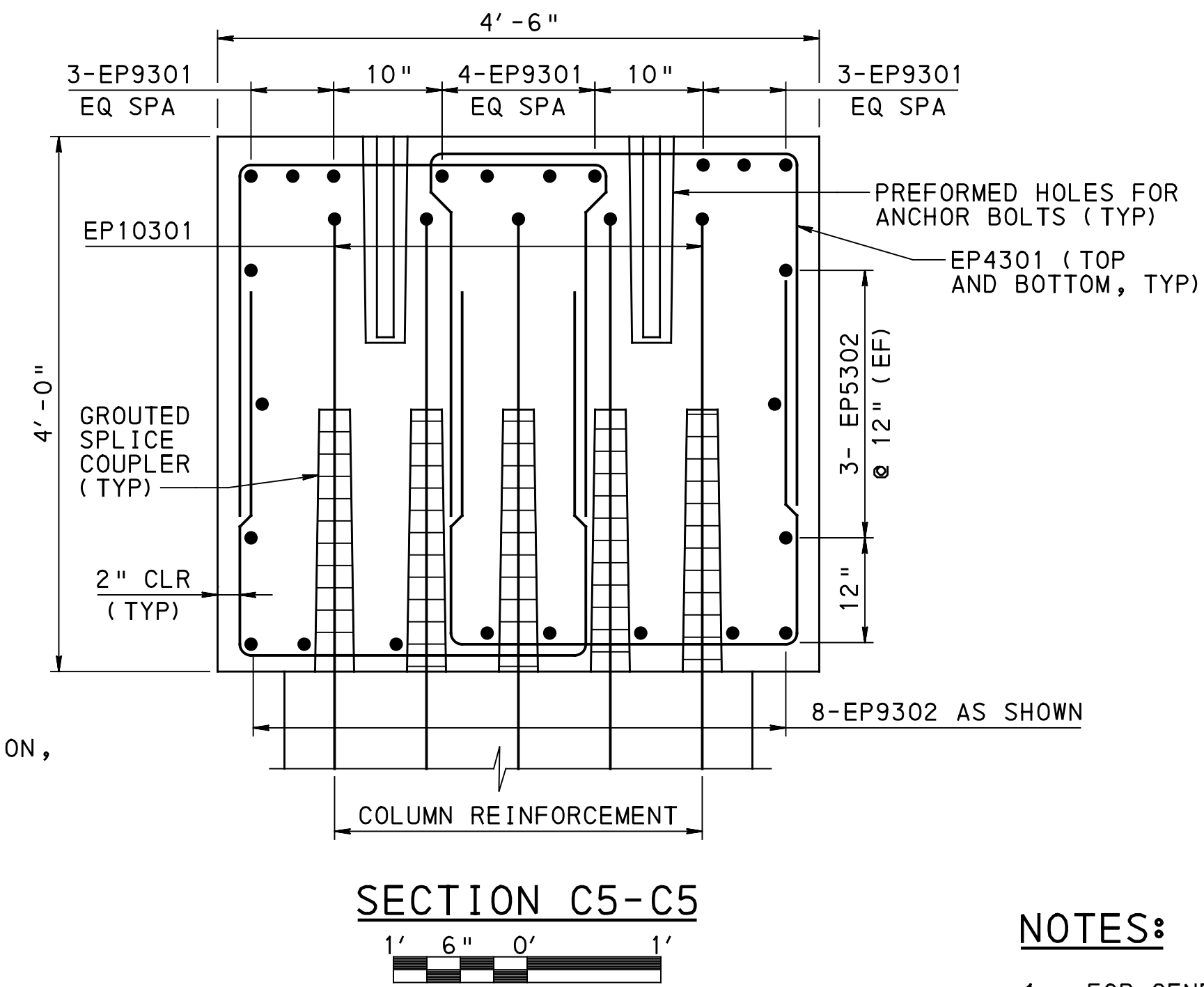
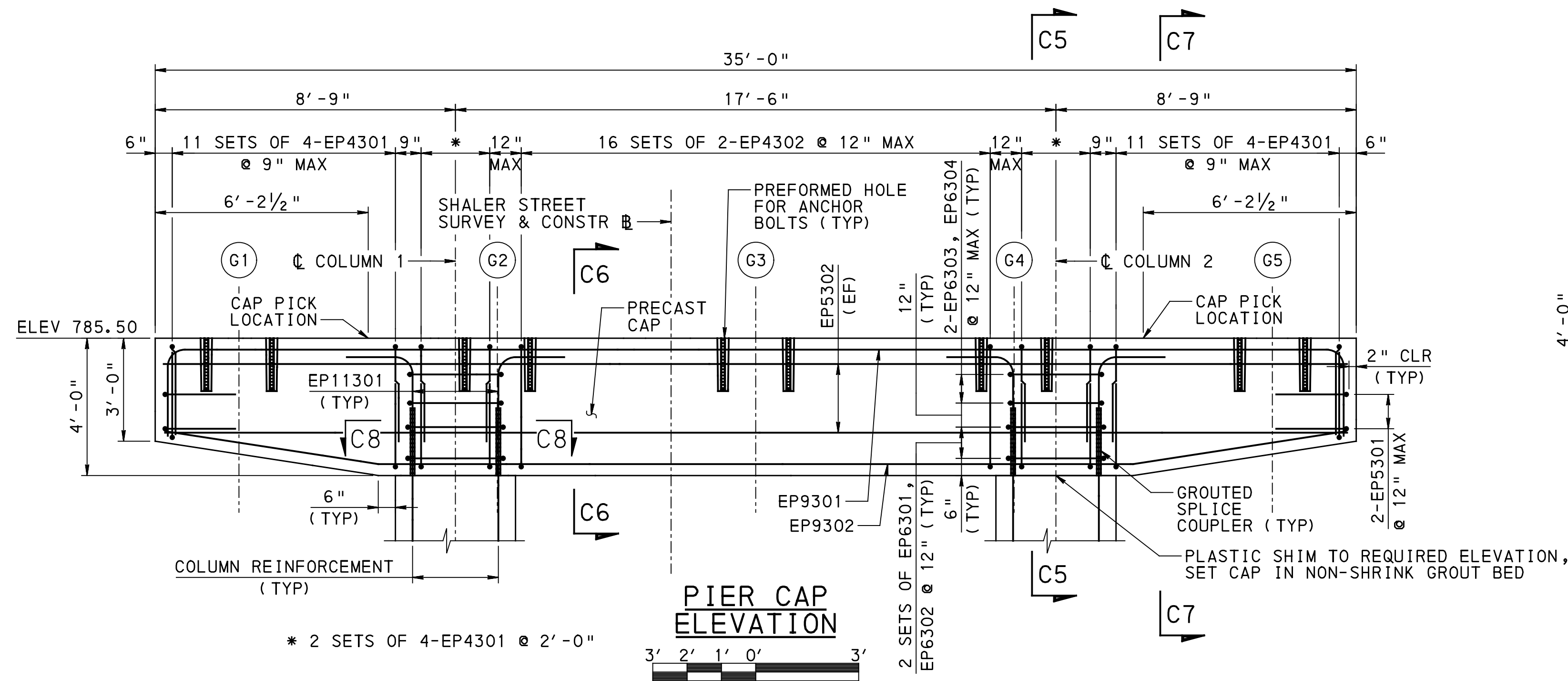
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SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
PIER COLUMN DETAILS

RECOMMENDED 08/03/2018

SHEET 35 OF 83

S - 37605

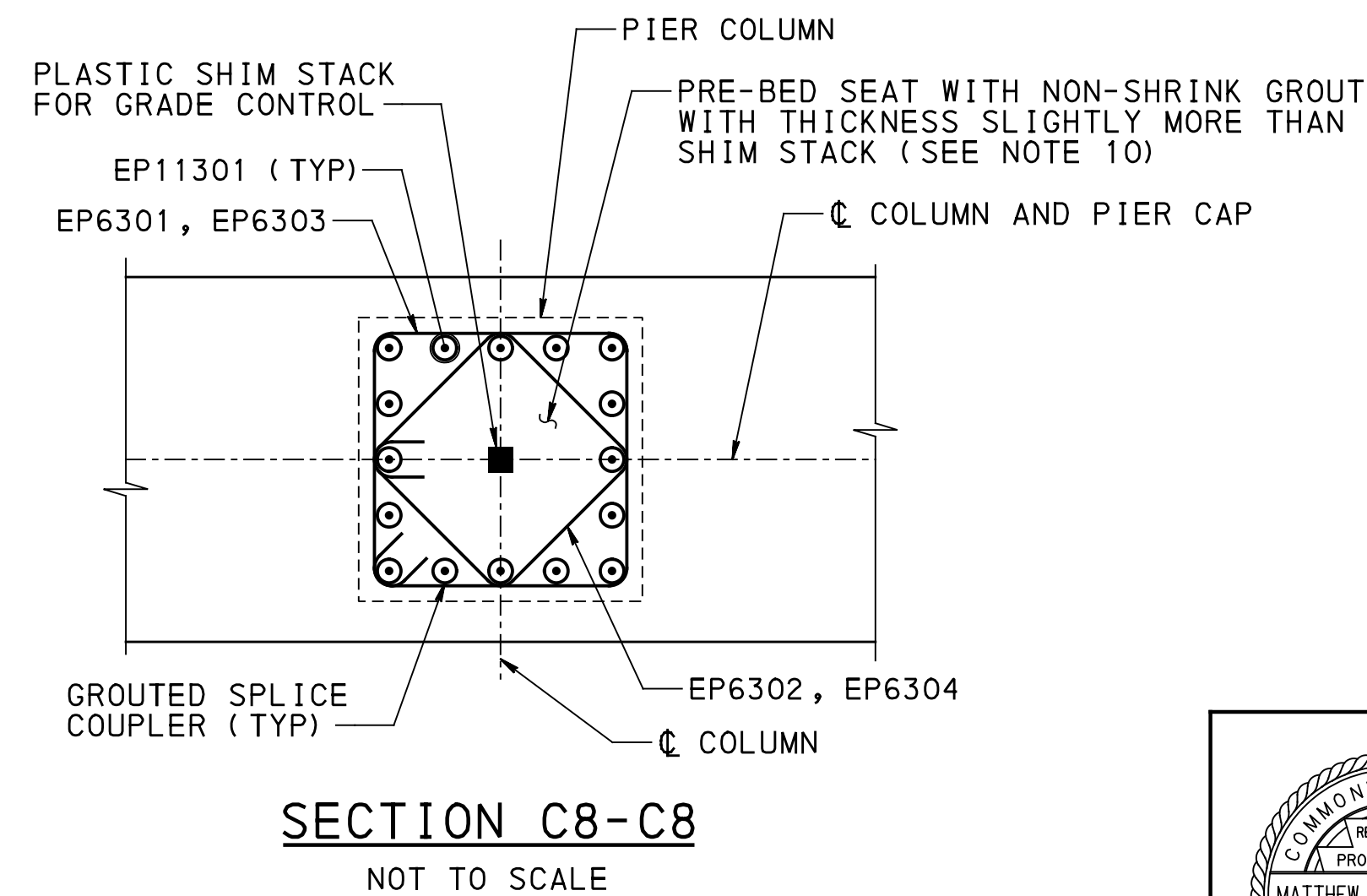
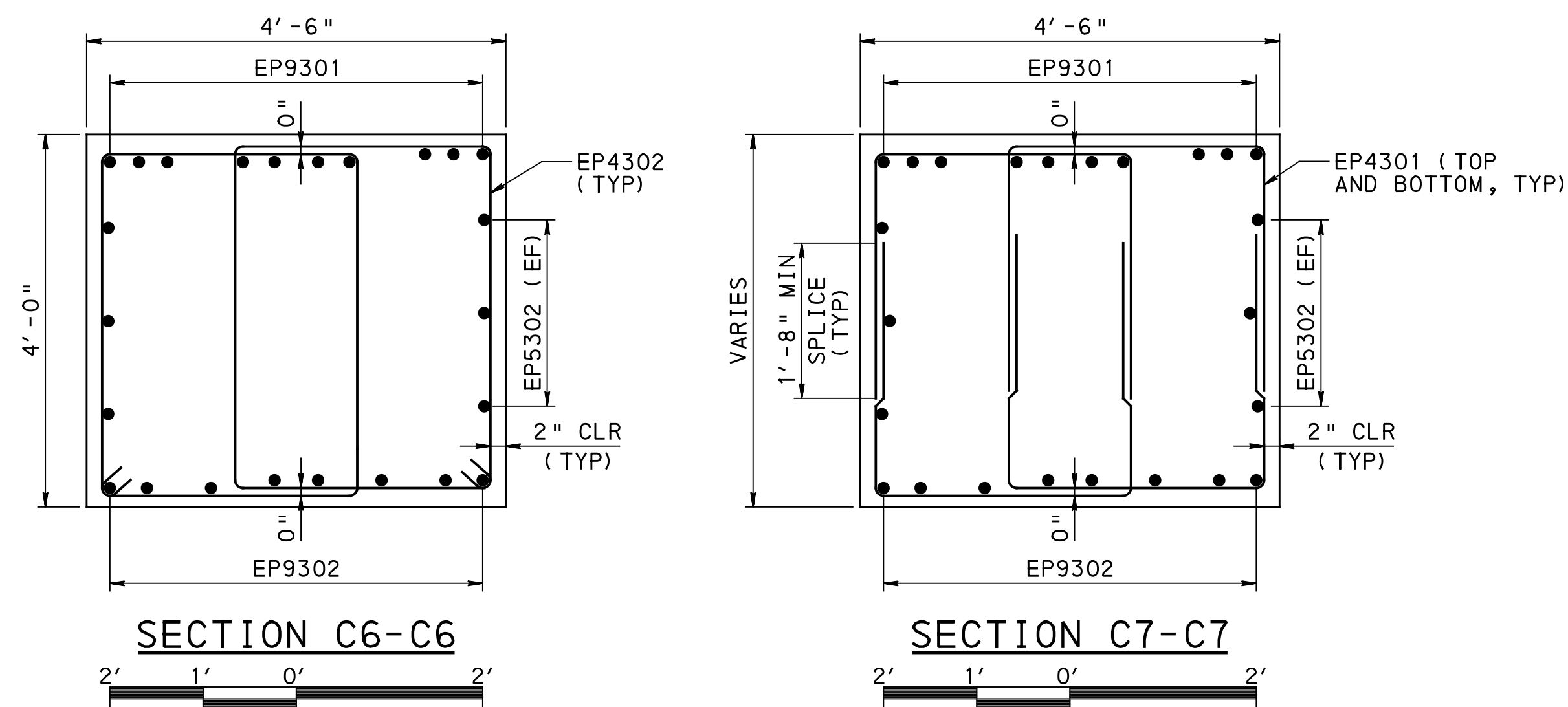
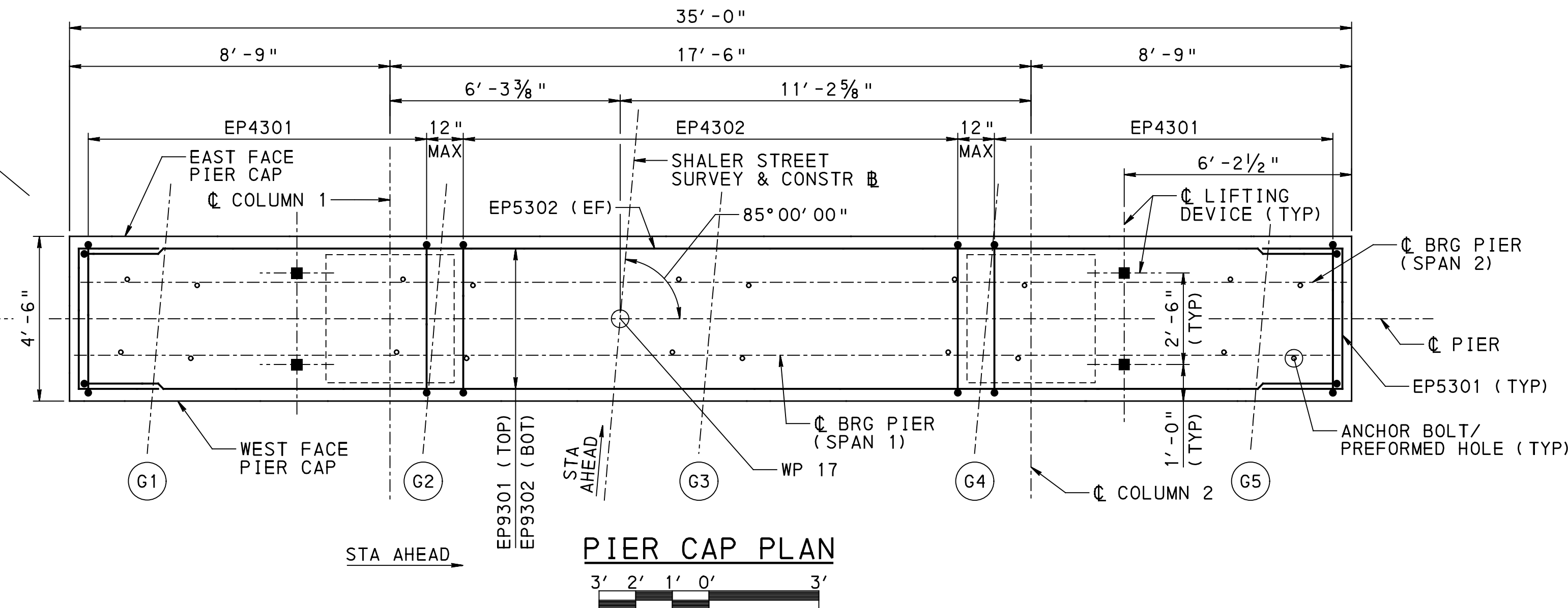




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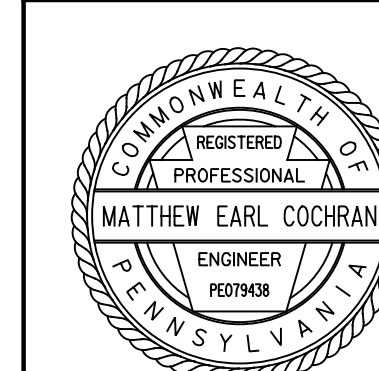
- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR STAKE-OUT PLAN SEE SHEET 11.
- FOR PIER PLAN AND ELEVATION, ANCHOR BOLT LAYOUT, AND FUTURE SUPERSTRUCTURE JACKING DETAILS, SEE SHEET 33.
- FOR PIER CAISSON DETAILS, SEE SHEET 34.
- FOR PIER COLUMN DETAILS, SEE SHEET 35.
- FOR PIER BAR SCHEDULE, SEE SHEET 37.
- FOR BEARING DETAILS, SEE SHEETS 46 & 47.
- FOR CONSTRUCTION TOLERANCES AND GROUDED SPLICE COUPLER DETAIL, SEE SHEET 68.
- ERECTION TOLERANCE FOR BEAM SEAT ELEVATION = $\pm 1/16"$. MAY BE SET HIGH AND GROUND TO SPECIFIED ELEVATION.
- PLACE SHIM STACK AS NOTED ON PLANS. PLACE NON-SHRINK GROUT AROUND SHIM STACK WITHIN LIMITS OF CONNECTION OR RIGID PLASTIC FORM, AND AS SHOWN ON PLANS. NON-SHRINK GROUT TO BE SLIGHTLY HIGHER THAN SHIM STACK TO ACHIEVE FULL CONTACT BETWEEN BOTH CONNECTION SURFACES. SHIMS ARE TO REMAIN IN PLACE.

PRECAST PIER CAP		
FOR INFORMATION ONLY		PICK WEIGHT = 91 KIP
ITEM	UNIT	QUANTITY
REINFORCEMENT BARS, EPOXY COATED	LB	4440
CEMENT CONCRETE, 5000 PSI	CY	23
LIFTING DEVICE	EA	4
GROUDED SPLICE COUPLER	EA	32



LEGEND

EF EACH FACE



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SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

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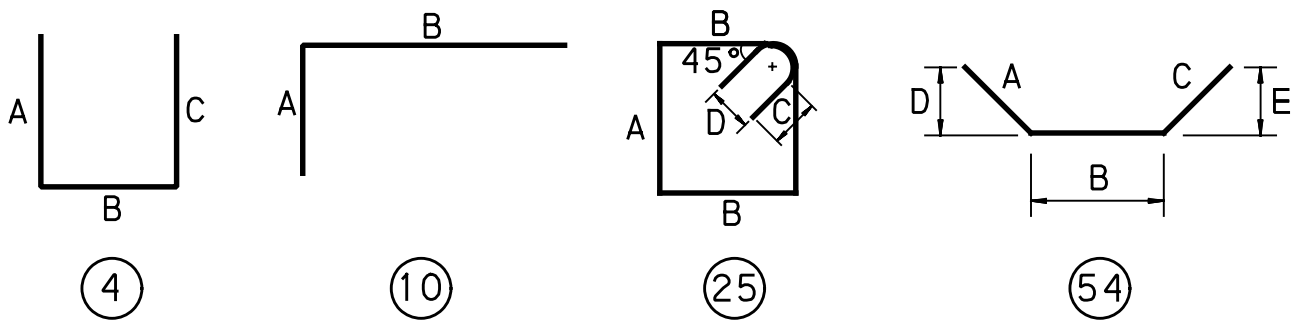
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
PIER CAP DETAILS

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SHEET 36 OF 83

S - 37605

PIER REINFORCEMENT BAR SCHEDULE									
MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	REMARKS
CAISSON									
EF621	20	6	10'-4 "	25	2'-3 "	2'-3 "	4 ½"	4 ½"	
EF622	20	6	13'-4 "	25	3'-0 "	3'-0 "	4 ½"	4 ½"	
EF1121	32	11	10'-3 "	STR					**



PIER PRECAST REINFORCEMENT BAR SCHEDULE (FOR INFORMATION ONLY)										
MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	E	REMARKS
COLUMN										
EP6101	8	6	14'-0 "	25	3'-2 "	3'-2 "	4 ½"	4 ½"		
EP6102	8	6	10'-10 "	25	2'-4 ½"	2'-4 ½"	4 ½"	4 ½"		
EP6103	48	6	13'-4 "	25	3'-0 "	3'-0 "	4 ½"	4 ½"		
EP6104	48	6	10'-4 "	25	2'-3 "	2'-3 "	4 ½"	4 ½"		
EP11101	32	11	15'-6 "	STR						**
CAP										
EP4301	104	4	8'-1 "	4	2'-8 "	2'-9 "	2'-8 "			
EP4302	32	4	13'-5 "	25	3'-8 "	2'-9 "	3 "	2 "		
EP5301	4	5	8'-5 "	4	2'-2 "	4'-1 "	2'-2 "			
EP5302	6	5	34'-8 "	STR						
EP6301	4	6	14'-0 "	25	3'-2 "	3'-2 "	4 ½"	4 ½"		
EP6302	4	6	10'-8 "	25	2'-4 "	2'-4 "	4 ½"	4 ½"		
EP6303	4	6	13'-4 "	25	3'-0 "	3'-0 "	4 ½"	4 ½"		
EP6304	4	6	10'-4 "	25	2'-3 "	2'-3 "	4 ½"	4 ½"		
EP9301	10	9	39'-8 "	4	2'-7 "	34'-6 "	2'-7 "			
EP9302	8	9	34'-8 "	54	6'-4 "	22'-0 "	6'-4 "	11 ½"	11 ½"	
EP11301	32	11	4'-5 "	10	2'-5 "	2'-0 "				**

LEGEND:

** REBAR LENGTHS AND PROJECTIONS AT GROUTED SPLICE COUPLERS ARE BASED ON AN ASSUMED COUPLER SYSTEM. CONTRACTOR TO VERIFY REBAR LENGTHS AND PROJECTIONS WITH ACTUAL GROUTED SPLICE COUPLER USED.

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR PIER PLAN AND ELEVATION, SEE SHEET 33.
- FOR PIER CAISSON DETAILS, SEE SHEET 34.
- FOR PIER COLUMN DETAILS, SEE SHEET 35.
- FOR PIER CAP DETAILS, SEE SHEET 36.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, SEE STANDARD DRAWING BC-736M.
- PREFIX "E" DENOTES EPOXY COATED REINFORCEMENT BARS.
- ALL DIMENSIONS ARE OUT-TO-OUT OF BARS EXCEPT "A" ON STANDARD 180° HOOKS AND "R" WHICH IS SHOWN AT THE INSIDE OF THE BAR.
- FIGURES IN CIRCLES SHOW BAR TYPE.
- STR DENOTES STRAIGHT BAR.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

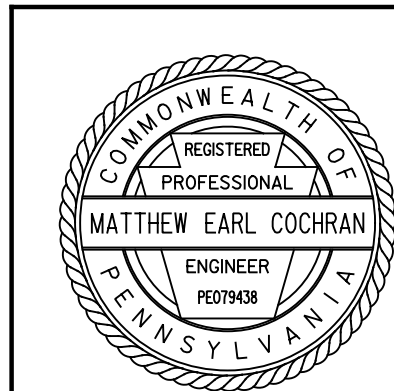
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

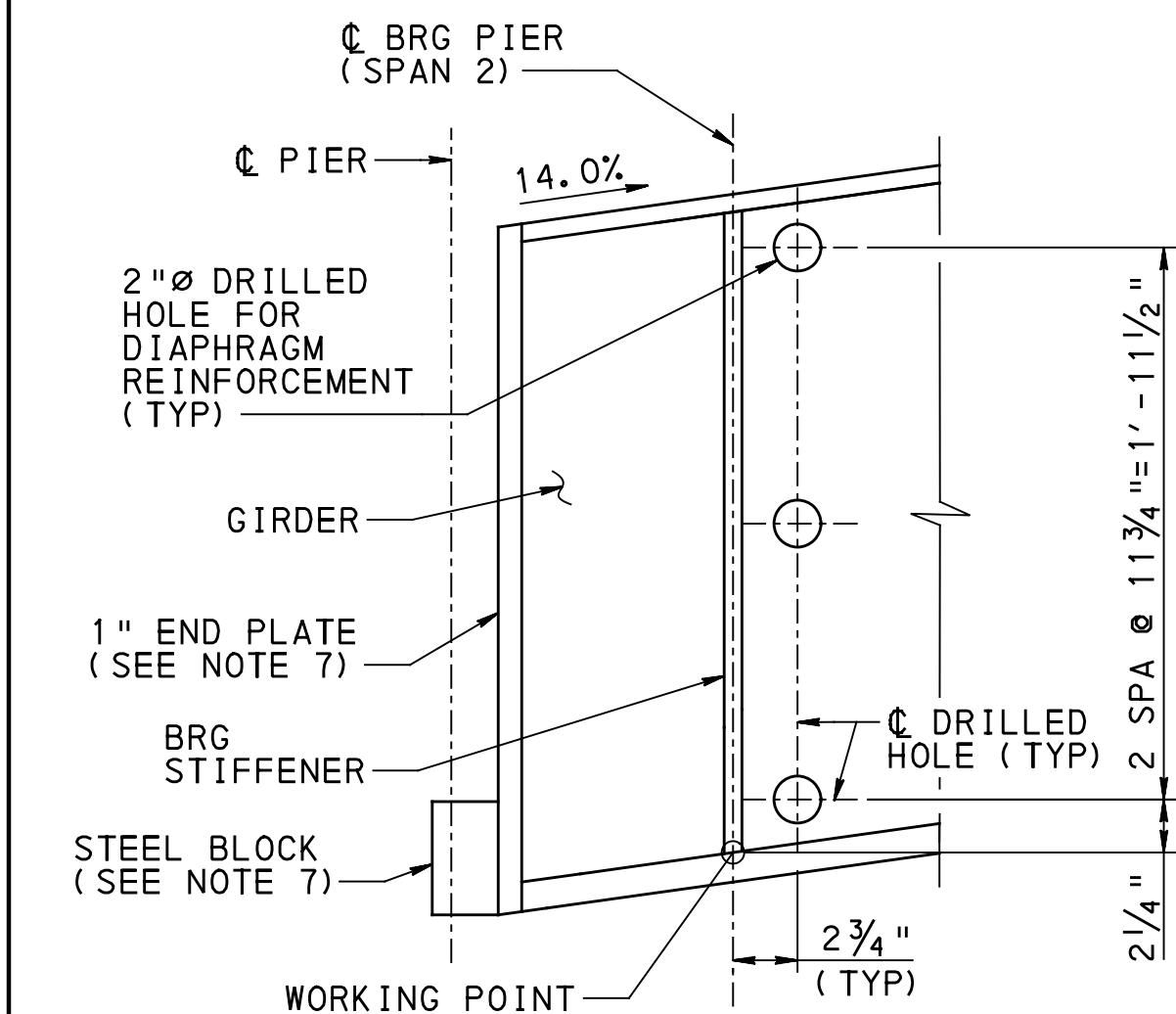
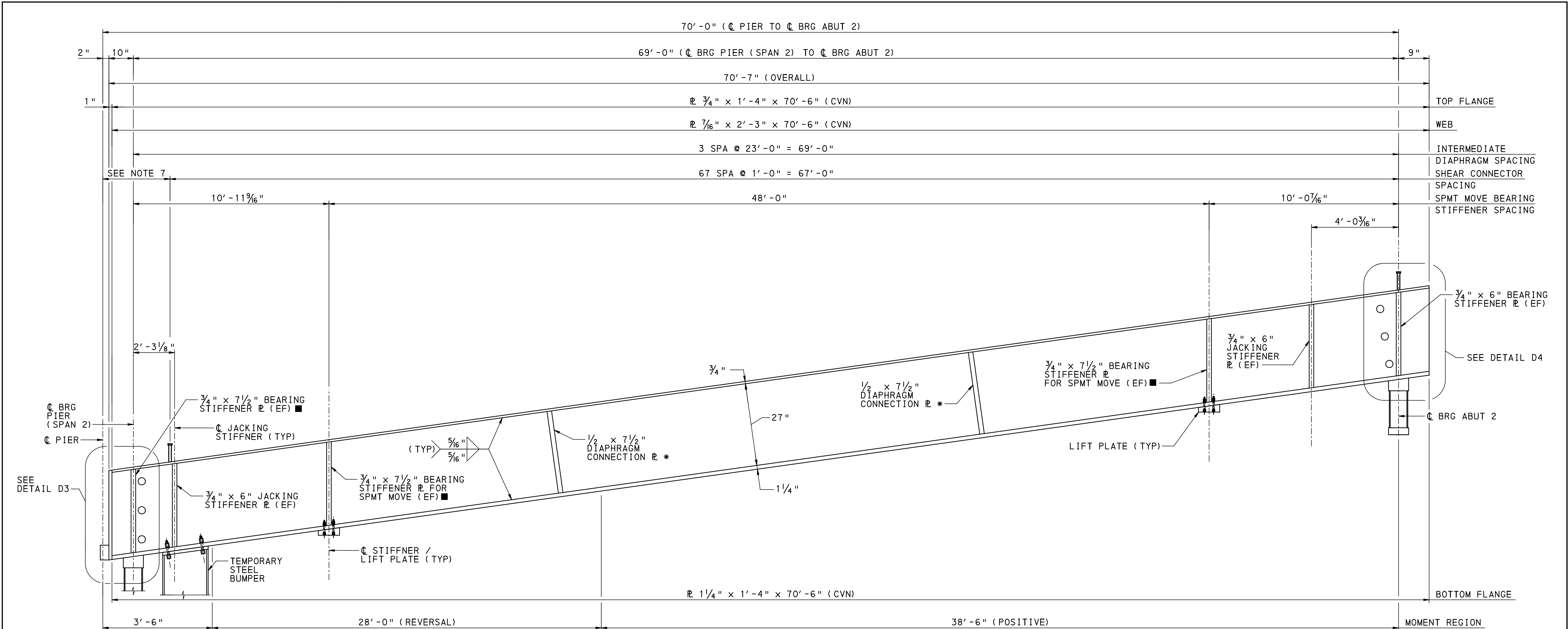
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
PIER BAR SCHEDULE

RECOMMENDED 08/03/2018

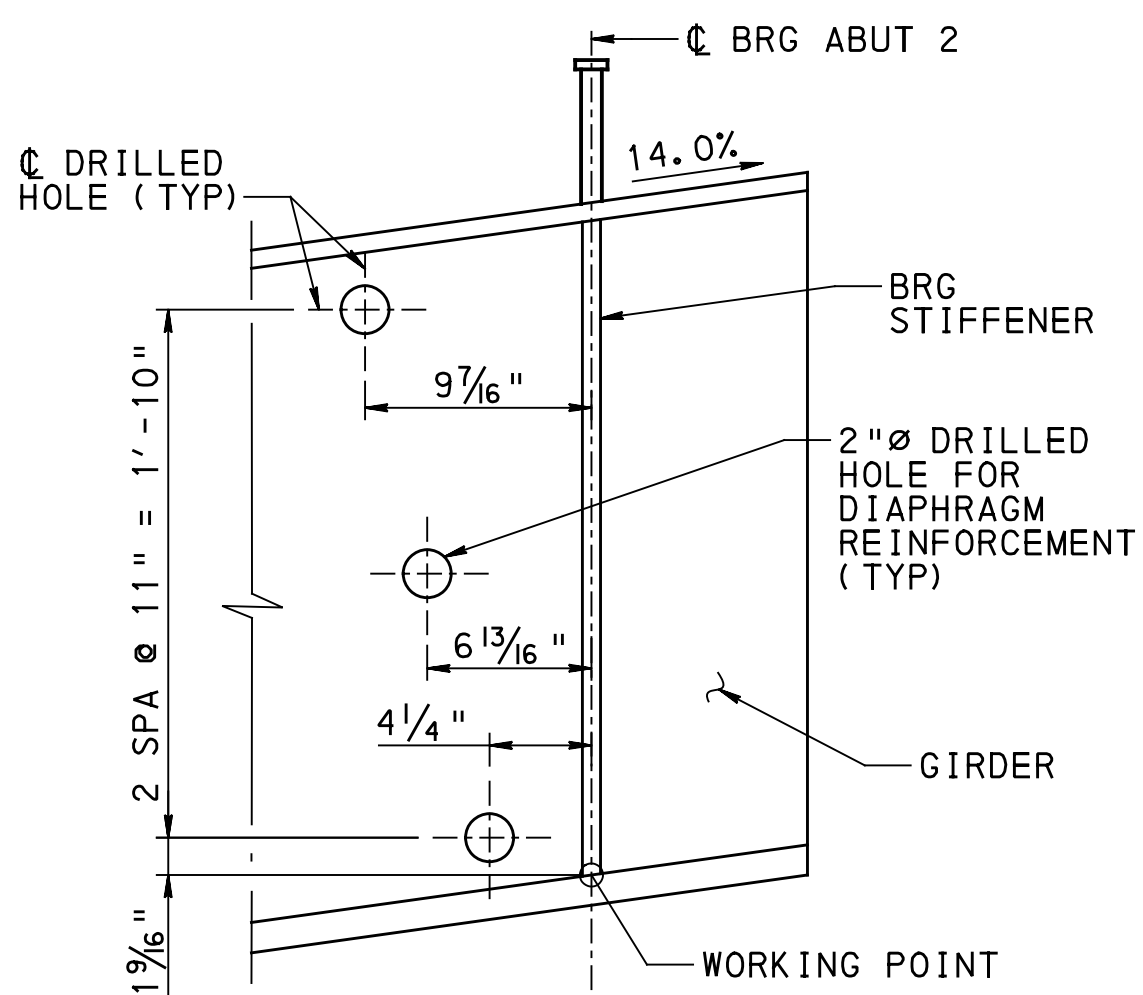
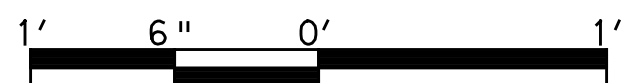
SHEET 37 OF 83

S - 37605

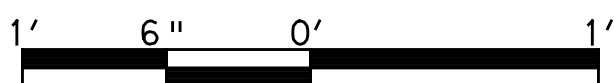




DETAIL D3



DETAIL D4



NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR FRAMING PLAN, SEE SHEET 38.
- FOR SPAN 1 GIRDER ELEVATION, SEE SHEET 39.
- FOR STIFFENER AND DIAPHRAGM DETAILS AND GIRDER PROPERTIES, SEE SHEET 41.
- FOR LIFT PLATE DETAILS, SEE SHEET 42.
- FOR TEMPORARY STEEL BUMPER DETAILS, SEE SHEET 43.
- FOR END PLATE, STEEL BLOCK AND PIER CONTINUITY CONNECTION, SEE SHEET 44.
- FOR CAMBER TABLES, SEE SHEET 45.
- FOR BEARING AND STEEL PEDESTAL DETAILS, SEE SHEETS 46 AND 47.
- FOR ADDITIONAL STEEL GIRDER AND DIAPHRAGM DETAILS, SEE STANDARD DRAWINGS BC-753M AND BC-754M.
- ALL DIMENSIONS SHOWN ARE HORIZONTAL. TAKE SHALER STREET SURVEY & CONSTR VERTICAL GRADE INTO ACCOUNT WHEN DETERMINING GIRDER LENGTH FOR FABRICATION.

LEGEND:

- EF EACH FACE
- CVN PERFORM CHARPY V-NOTCH TESTING IN ACCORDANCE WITH PUB 408/2016 SECTION 1105.02(d) 5.

- * EACH FACE FOR G2, G3, AND G4
INTERIOR FACE FOR G1 AND G5
- BEARING STIFFENER IS ALSO USED
AS A CONNECTION PLATE FOR
TEMPORARY DIAPHRAGMS.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

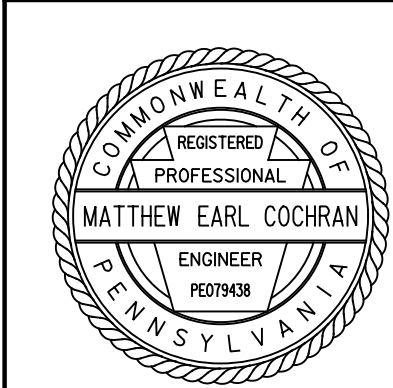
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DEPARTMENT OF TRANSPORTATION

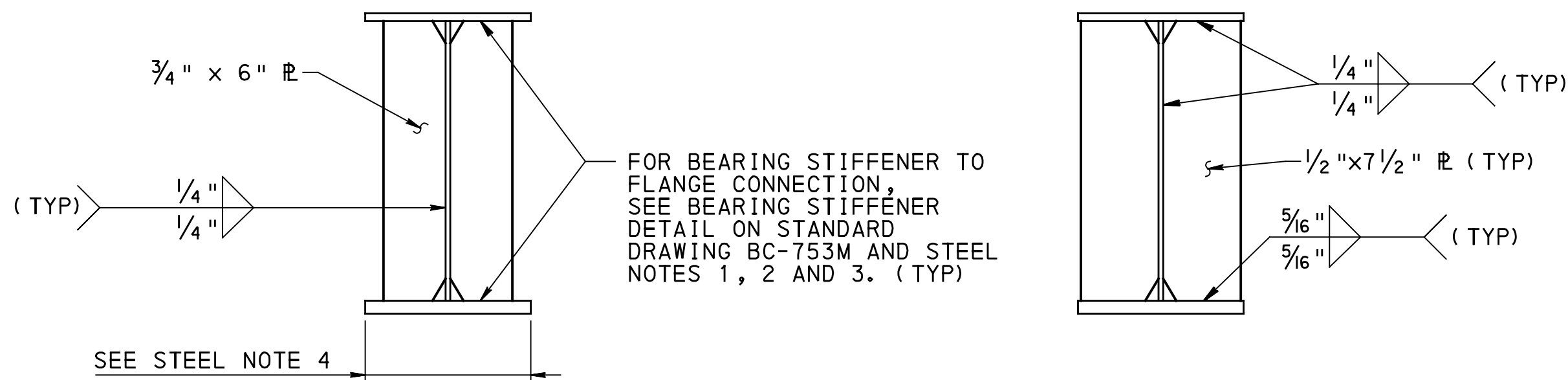
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
SPAN 2 - GIRDER ELEVATION

RECOMMENDED 08/03/2018

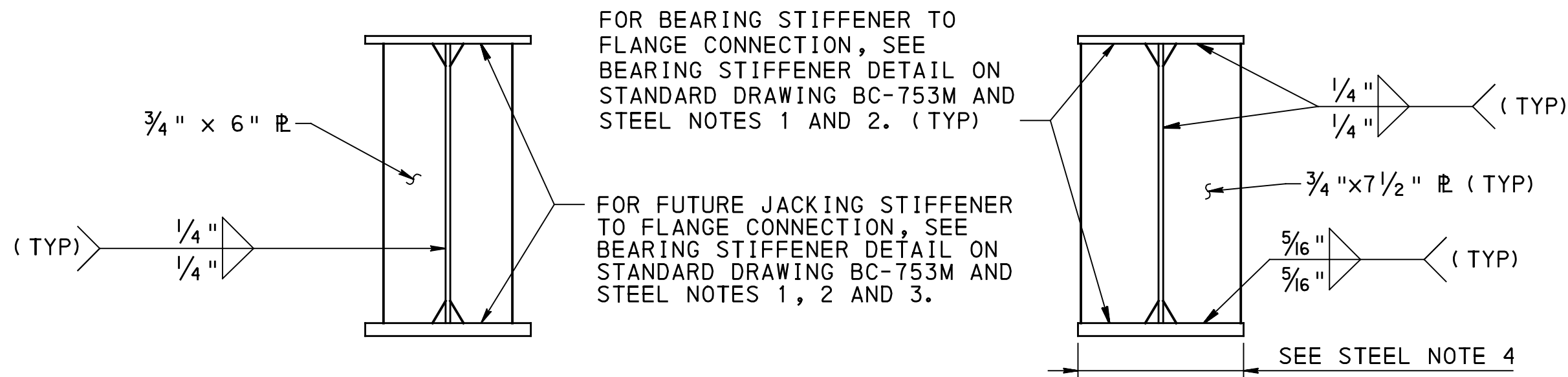
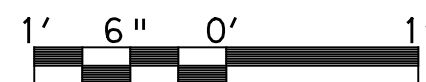
SHEET 40 OF 83

S - 37605

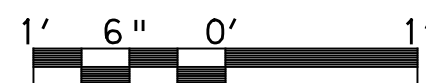




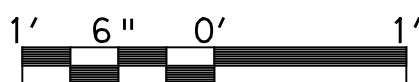
ABUTMENT BEARING
STIFFENER



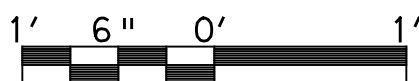
FUTURE JACKING STIFFENER



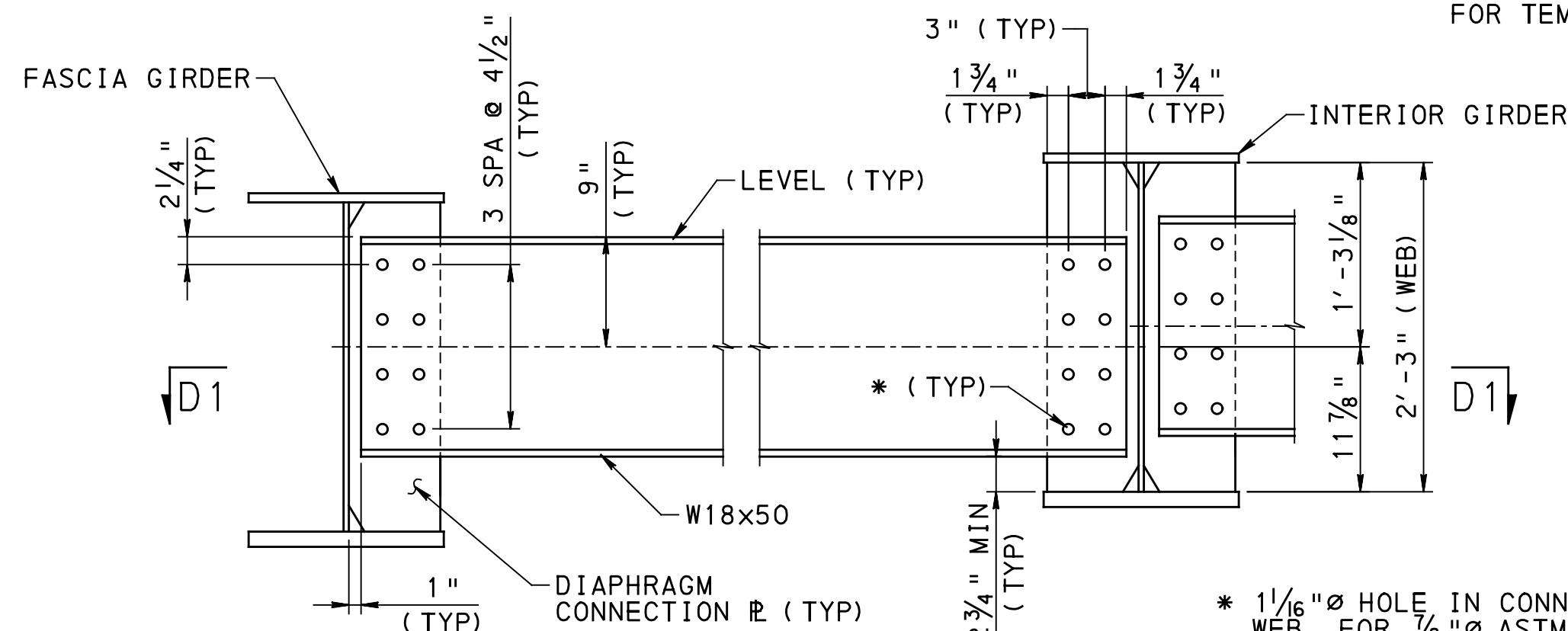
INTERMEDIATE DIAPHRAGM
CONNECTION PLATE



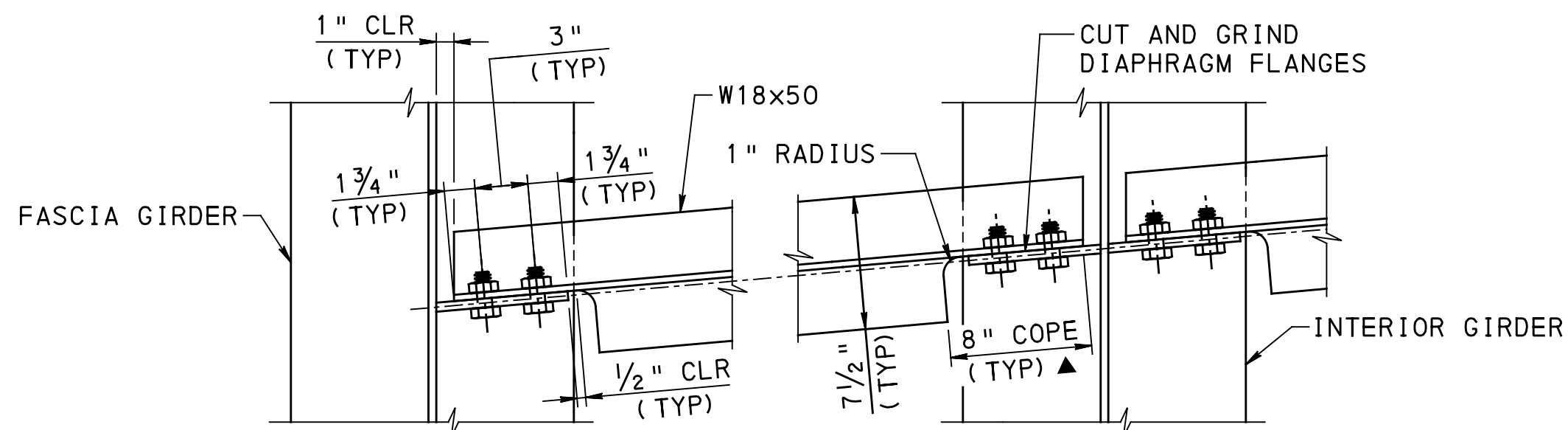
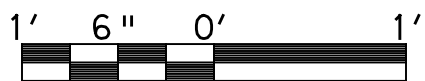
LIFT PLATE & PIER
BEARING STIFFENER



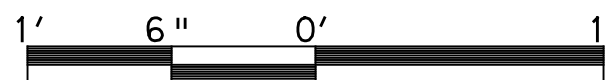
NOTE: STIFFENERS ARE ALSO
USED AS CONNECTION PLATES
FOR TEMPORARY DIAPHRAGMS



TYPICAL INTERMEDIATE AND
TEMPORARY DIAPHRAGM



SECTION D1-D1



▲ PROVIDE 1/2" CLEARANCE FROM TOE OF
COPE RADIUS TO CONNECTION PLATE.
COPE TOP AND BOTTOM FLANGES FLUSH
WITH WEB ON ONE SIDE OF DIAPHRAGM.

STEEL GIRDER
SECTION PROPERTIES (ALL GIRDERS)

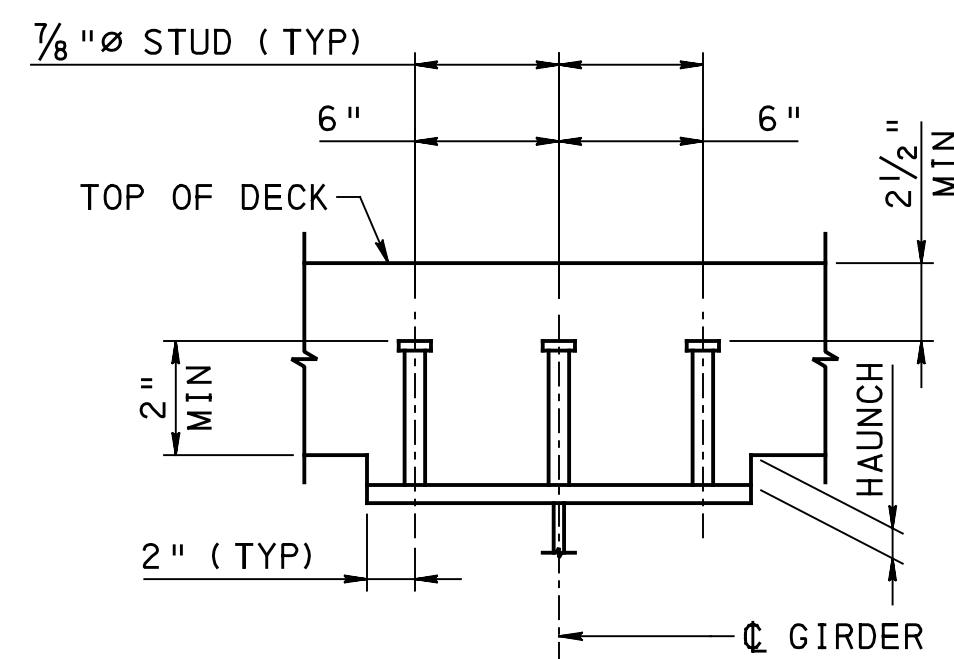
TOP FLANGE: 1'-4" X 3/4" GRADE 50
WEB: 2'-3" X 7/16" GRADE 50
BOTTOM FLANGE: 1'-4" X 1 1/4" GRADE 50

NON-COMPOSITE, POSITIVE & NEGATIVE FLEXURE

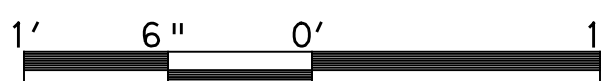
MOMENT OF INERTIA, IX, in ⁴	6714
MOMENT OF INERTIA (COMPR. FLG.), IYC, in ⁴	256 (TOP FLG) 427 (BOT FLG)
MOMENT OF INERTIA, IY, in ⁴	683
NEUTRAL AXIS TO TOP OF GIRDER, in	16.898
NEUTRAL AXIS TO BOTTOM OF GIRDER, in	12.102
SECTION MODULUS AT TOP OF GIRDER, in ³	397
SECTION MODULUS AT BOTTOM OF GIRDER, in ³	555
RADIUS OF GYRATION OF GIRDER, in	3.948

STEEL NOTES:

- UNDER FULL DEAD LOAD GIRDER ENDS AND ALL BEARING STIFFENERS, INCLUDING BEARING STIFFENERS AT PIERS, FUTURE JACKING STIFFENERS AND LIFT PLATE BEARING STIFFENERS ARE VERTICAL TO WITHIN APPLICABLE AASHTO/AWS FABRICATION AND CONSTRUCTION TOLERANCES.
- DIRECTION OF WELDS IS NOT APPLICABLE IF STIFFENERS ARE FITTED WITH TACK WELDS.
- TIGHT FIT AT TENSION FLANGES AT INTERIOR SUPPORTS. FILLET WELDS OVER END SUPPORTS.
- BEARING AREAS: PROVIDE BOTTOM FLANGE IN A TRUE HORIZONTAL PLANE IN TRANSVERSE DIRECTION AND IN A TRUE PLANE LONGITUDINALLY OVER DIMENSION "L", WHERE L = WIDTH OF SOLE PLATE + 6" AHEAD AND BACK, WHERE APPLICABLE. IF THE SOLE PLATE IS WELDED TO THE BOTTOM FLANGE PROVIDE THE SOLE PLATE MEETING THE SAME FLATNESS REQUIREMENTS. EACH BEARING MUST BE STRESSED UNIFORMLY AFTER ALL DEAD LOAD IS PLACED. MAKE NECESSARY SHOP AND/OR FIELD ADJUSTMENTS TO PROVIDE UNIFORM BEARING STRESS UNDER ALL DEAD LOADS.



SHEAR CONNECTOR DETAIL



FILLET WELD TABLE

BASE METAL THICKNESS OF THICKER PART JOINED (T)	MIN SIZE
T <= 3/4"	1/4"
3/4" < T	5/16"

FOR MATERIAL LESS THAN 1/4" THICK, THE MAXIMUM
WELD SIZE IS THE THICKNESS OF THE MATERIAL.
FOR MATERIAL THAT IS GREATER THAN OR EQUAL TO
1/4" THICK, THE MAXIMUM WELD SIZE IS 1/16" LESS
THAN THE THICKNESS OF THE MATERIAL.

STEEL GIRDER
SECTION PROPERTIES

TOP FLANGE: 1'-4" X 3/4" GRADE 50
WEB: 2'-3" X 7/16" GRADE 50
BOTTOM FLANGE: 1'-4" X 1 1/4" GRADE 50

COMPOSITE, 3N = 24, POSITIVE FLEXURE

GIRDERS	1, 5	2, 3, 4
MOMENT OF INERTIA, IX, in ⁴	13127	14149
NEUTRAL AXIS TO BOTTOM OF GIRDER, in	19.076	20.175
SECTION MODULUS AT TOP OF GIRDER, in ³	1323	1603
SECTION MODULUS AT BOTTOM OF GIRDER, in ³	688	701

COMPOSITE, N = 8, POSITIVE FLEXURE

GIRDERS	1, 5	2, 3, 4
MOMENT OF INERTIA, IX, in ⁴	18324	19404
NEUTRAL AXIS TO BOTTOM OF GIRDER, in	24.589	25.693
SECTION MODULUS AT TOP OF GIRDER, in ³	4154	5867
SECTION MODULUS AT BOTTOM OF GIRDER, in ³	745	755

COMPOSITE, NEGATIVE FLEXURE (SPAN 1: 0'-38.5' & SPAN 2: 31.5'-70' **)

GIRDERS	1, 5	2, 3, 4
MOMENT OF INERTIA, IX, in ⁴	7979	8277
NEUTRAL AXIS TO BOTTOM OF GIRDER, in	13.546	13.886
SECTION MODULUS AT TOP OF GIRDER, in ³	516	548
SECTION MODULUS AT BOTTOM OF GIRDER, in ³	589	596

COMPOSITE, NEGATIVE FLEXURE (SPAN 1: 38.5'-70' & SPAN 2: 0'-31.5' **)

GIRDERS	1, 5	2, 3, 4
MOMENT OF INERTIA, IX, in ⁴	9361	9926
NEUTRAL AXIS TO BOTTOM OF GIRDER, in	15.055	15.685
SECTION MODULUS AT TOP OF GIRDER, in ³	671	745
SECTION MODULUS AT BOTTOM OF GIRDER, in ³	622	633

** DISTANCES MEASURED FROM ABUT 1 @ BRG
FOR SPAN 1 AND FROM @ PIER FOR SPAN 2

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR FRAMING PLAN, SEE SHEET 38.
- FOR GIRDER ELEVATIONS, SEE SHEETS 39 AND 40.
- FOR ADDITIONAL STEEL GIRDER AND DIAPHRAGM DETAILS, SEE STANDARD DRAWINGS BC-753M AND BC-754M.

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

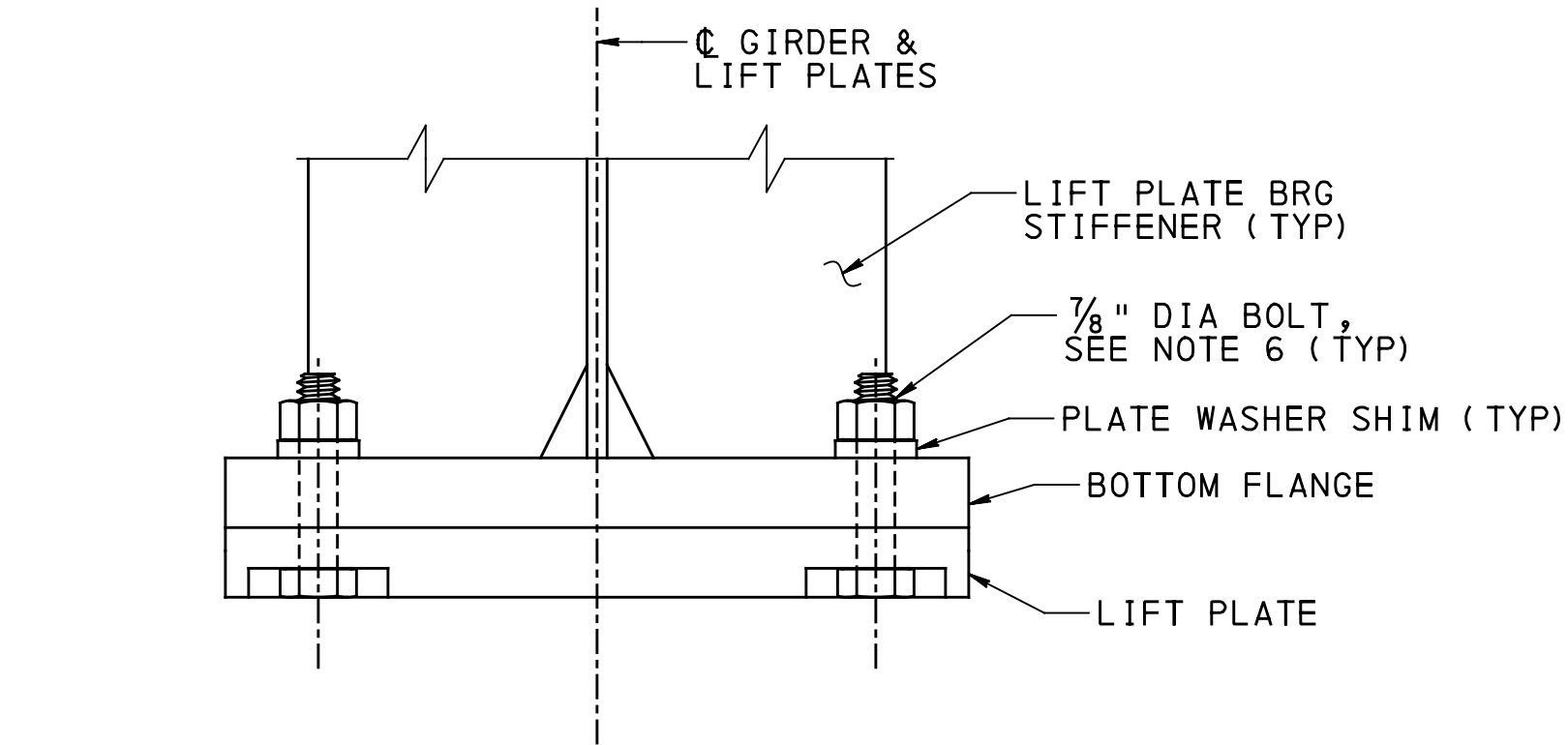
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STEEL DETAILS

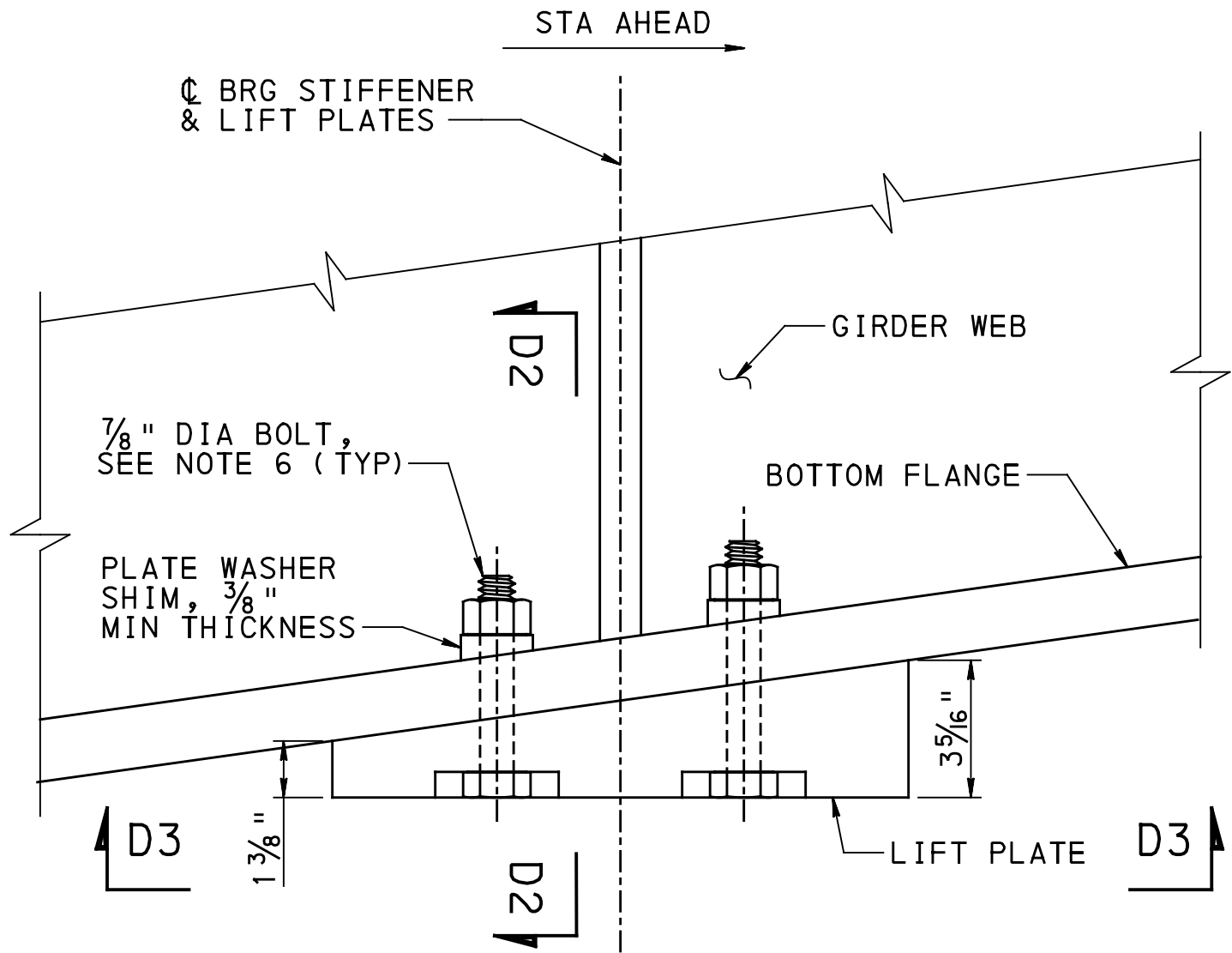
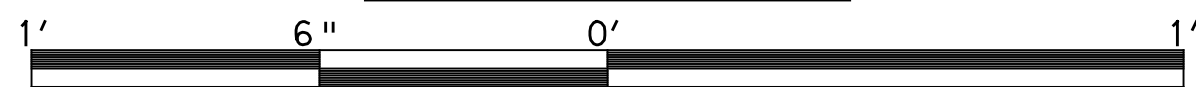
RECOMMENDED 08/03/2018

SHEET 41 OF 83

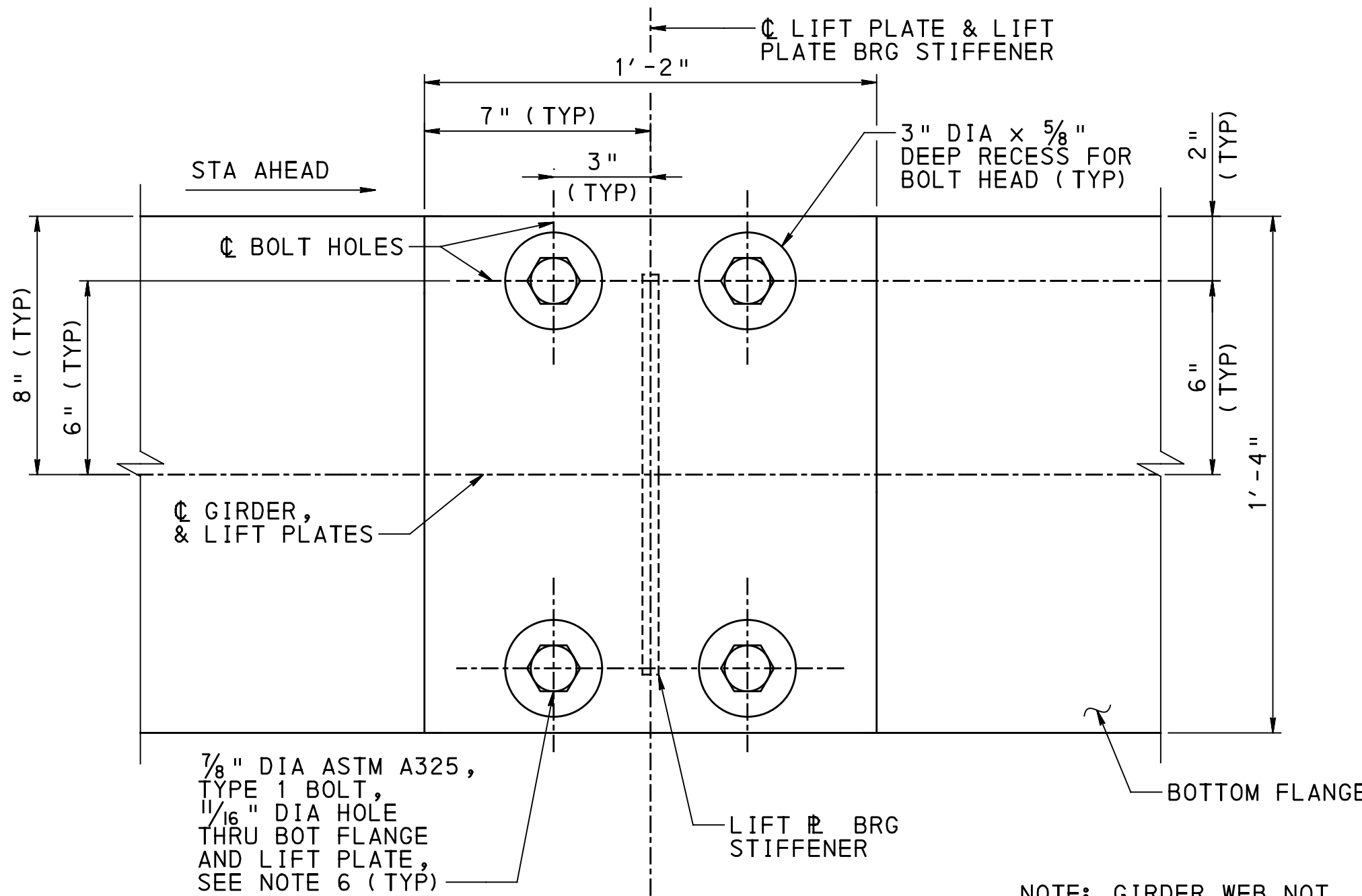
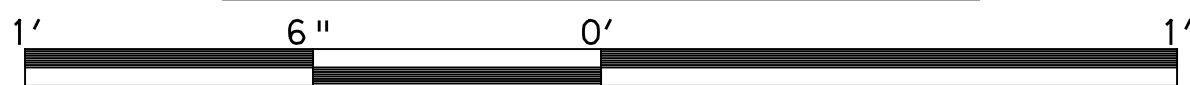
S - 37605



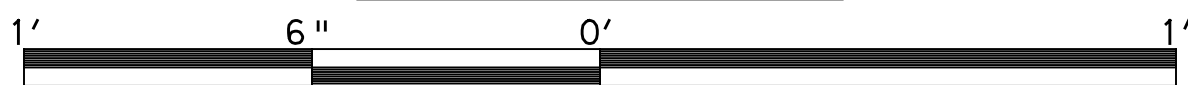
SECTION D2-D2



LIFT PLATE ELEVATION



SECTION D3-D3



NOTE: GIRDER WEB NOT SHOWN FOR CLARITY

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR FRAMING PLAN, SEE SHEET 38.
- FOR GIRDER ELEVATIONS, SEE SHEETS 39 AND 40.
- FOR STEEL DETAILS, SEE SHEET 41.
- LIFT PLATES/BEARING STIFFENERS PROVIDED FOR SPMT BRIDGE MOVE. REMOVE LIFT PLATES AFTER BRIDGE MOVE. TOUCH UP PAINT DAMAGED BY LIFT PLATE IN ACCORDANCE WITH PUB 408 SECTION 1060.3(c) 6 AND FILL BOLT HOLE IN BOTTOM FLANGE WITH 7/8\"/>
- EXCLUDE BOLT THREADS FROM SHEAR PLANE.

Mark	Description	By	Chk'd.	Rec'd.	Date
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SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

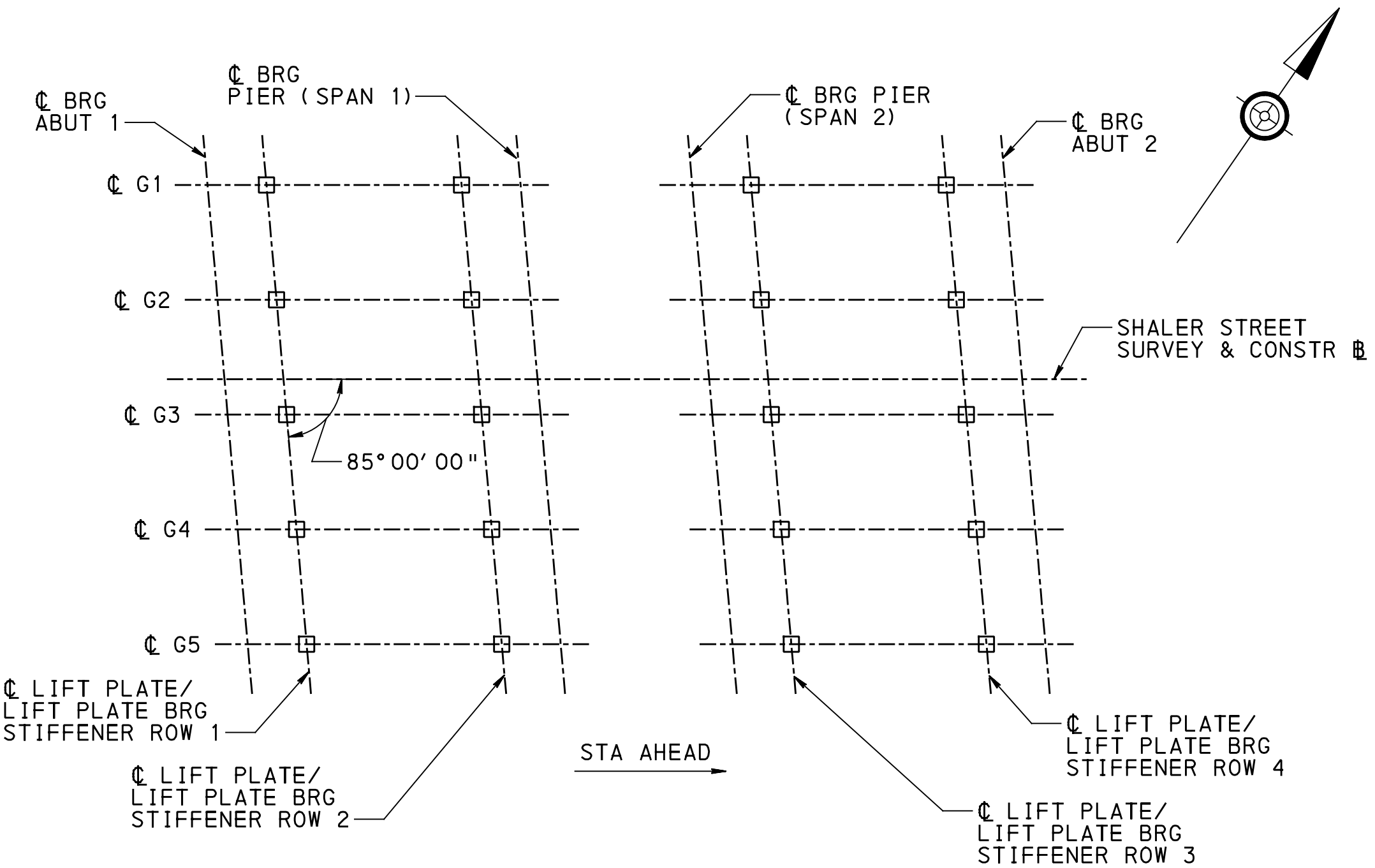
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
LIFT PLATE DETAILS

RECOMMENDED 08/03/2018

SHEET 42 OF 83

S - 37605

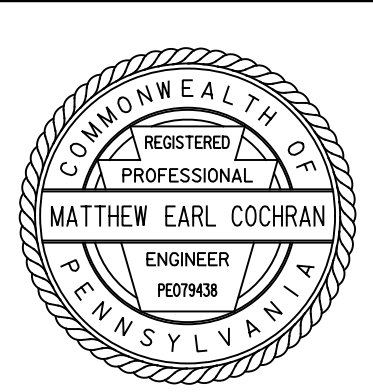


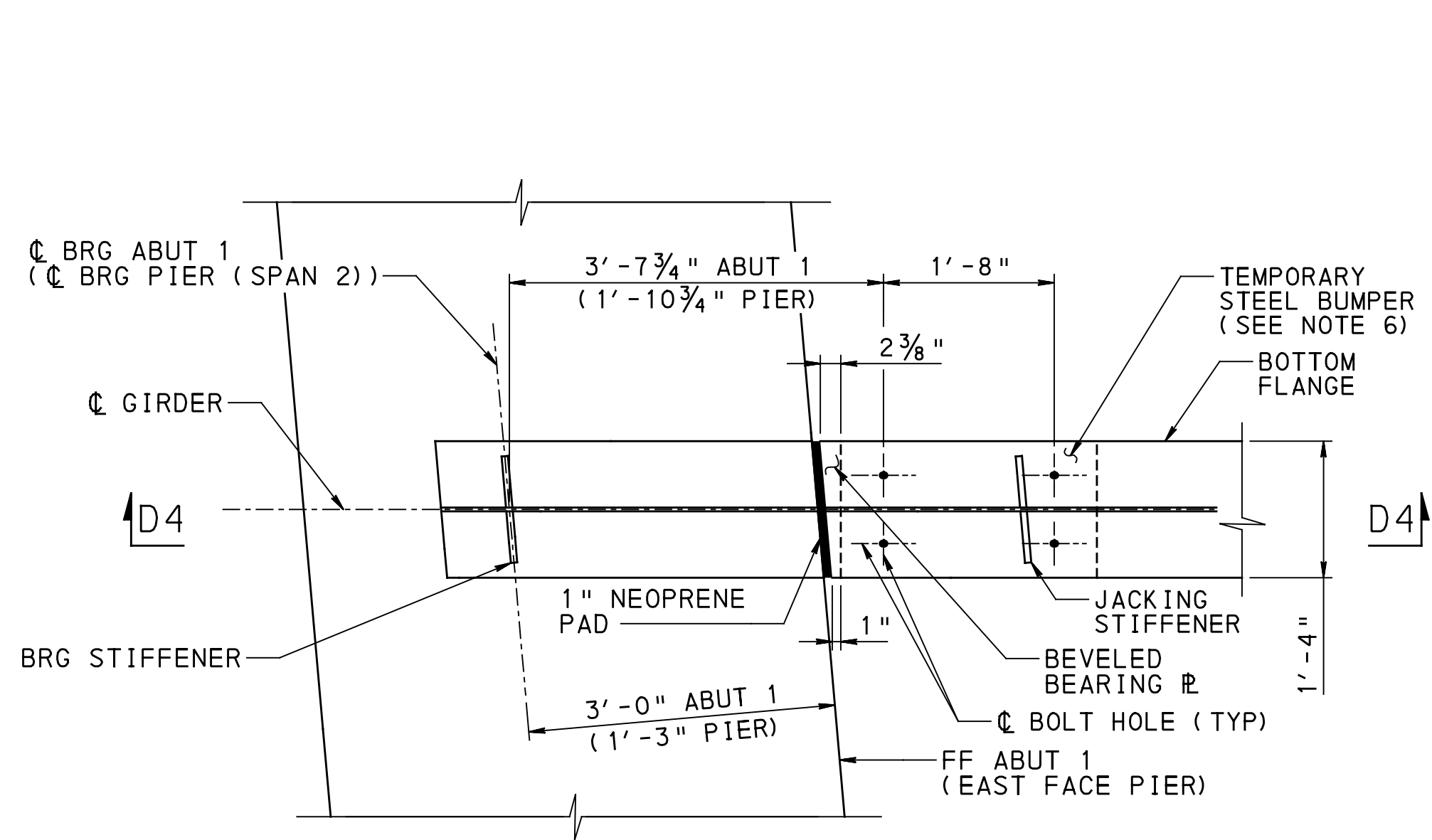
SPAN 1

SPAN 2

LIFT PLATE KEY PLAN

NOT TO SCALE

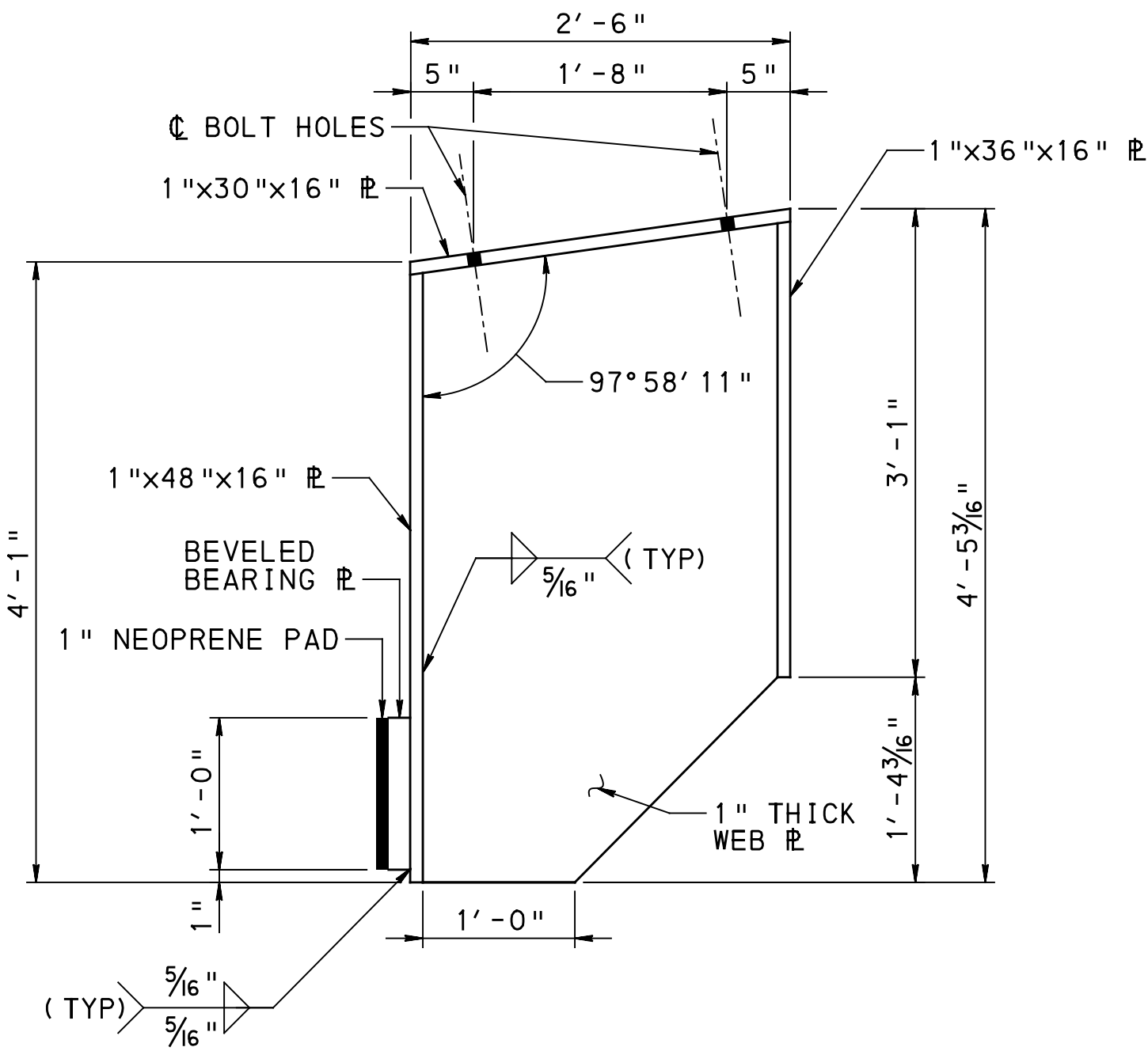




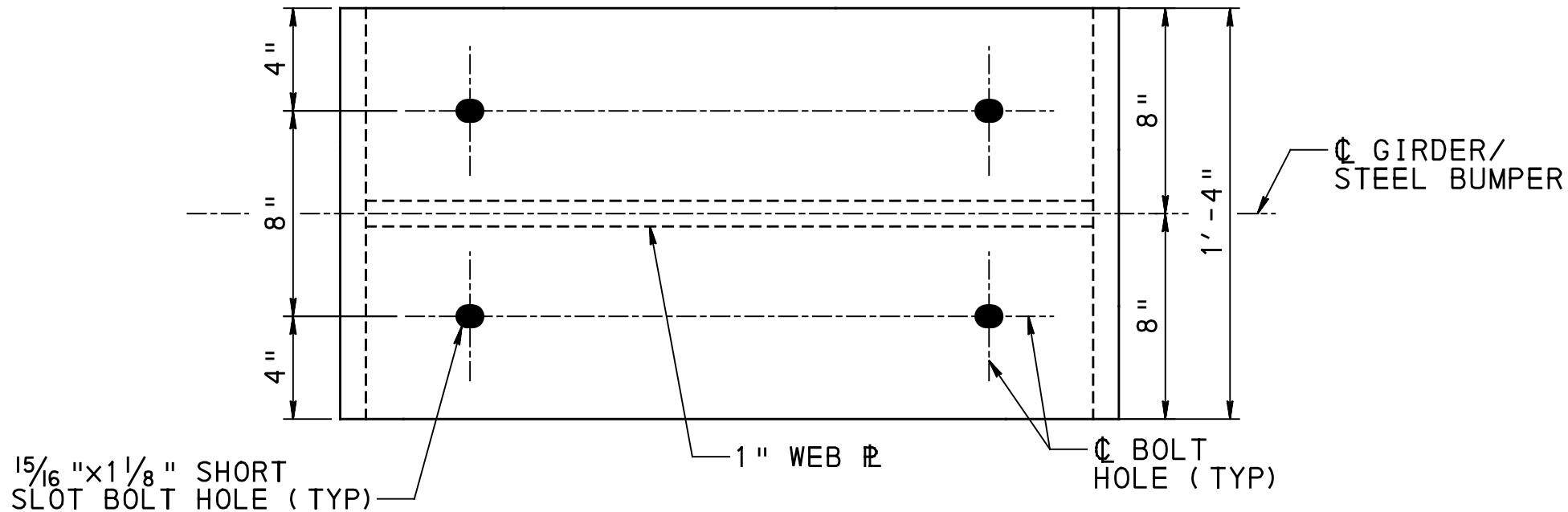
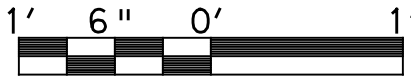
TEMPORARY STEEL BUMPER CONNECTION:
PLAN VIEW

NOTE: GIRDER TOP FLANGE/WEB AND BEARINGS NOT SHOWN FOR CLARITY, ABUTMENT 1 SHOWN, PIER SIMILAR

NOT TO SCALE



TEMPORARY STEEL BUMPER ELEVATION



TEMPORARY STEEL BUMPER PLAN

NOT TO SCALE

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR FRAMING PLAN, SEE SHEET 38.
- FOR GIRDER ELEVATIONS, SEE SHEETS 39 AND 40.
- FOR STEEL DETAILS, SEE SHEET 41.
- FOR BEARING DETAILS, SEE SHEETS 46 AND 47.
- PROVIDE STEEL BUMPER ON EACH GIRDER AS SHOWN ON THE GIRDER ELEVATION. REMOVE BUMPER AFTER CONTINUITY CONNECTION HAS BEEN COMPLETED AND ANCHOR BOLTS HAVE BEEN INSTALLED. TOUCH UP PAINT DAMAGED BY BUMPER IN ACCORDANCE WITH PUB 408 SECTION 1060.3(c)6 AND FILL BOLT HOLES WITH $\frac{7}{8}$ " DIAMETER HIGH STRENGTH BOLTS (INCIDENTAL TO STRUCTURAL STEEL ITEM).
- USE AASHTO M270 GRADE 50 (ASTM A709 GRADE 50) STEEL UNLESS OTHERWISE NOTED.

Mark	Description	By	Chk'd.	Recm'd.	Date
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SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

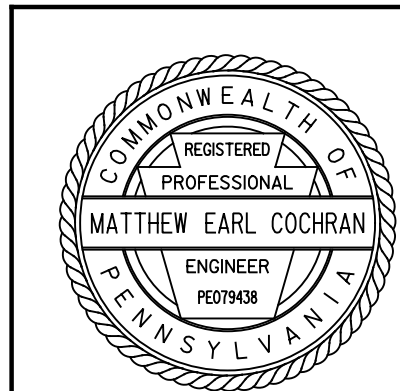
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

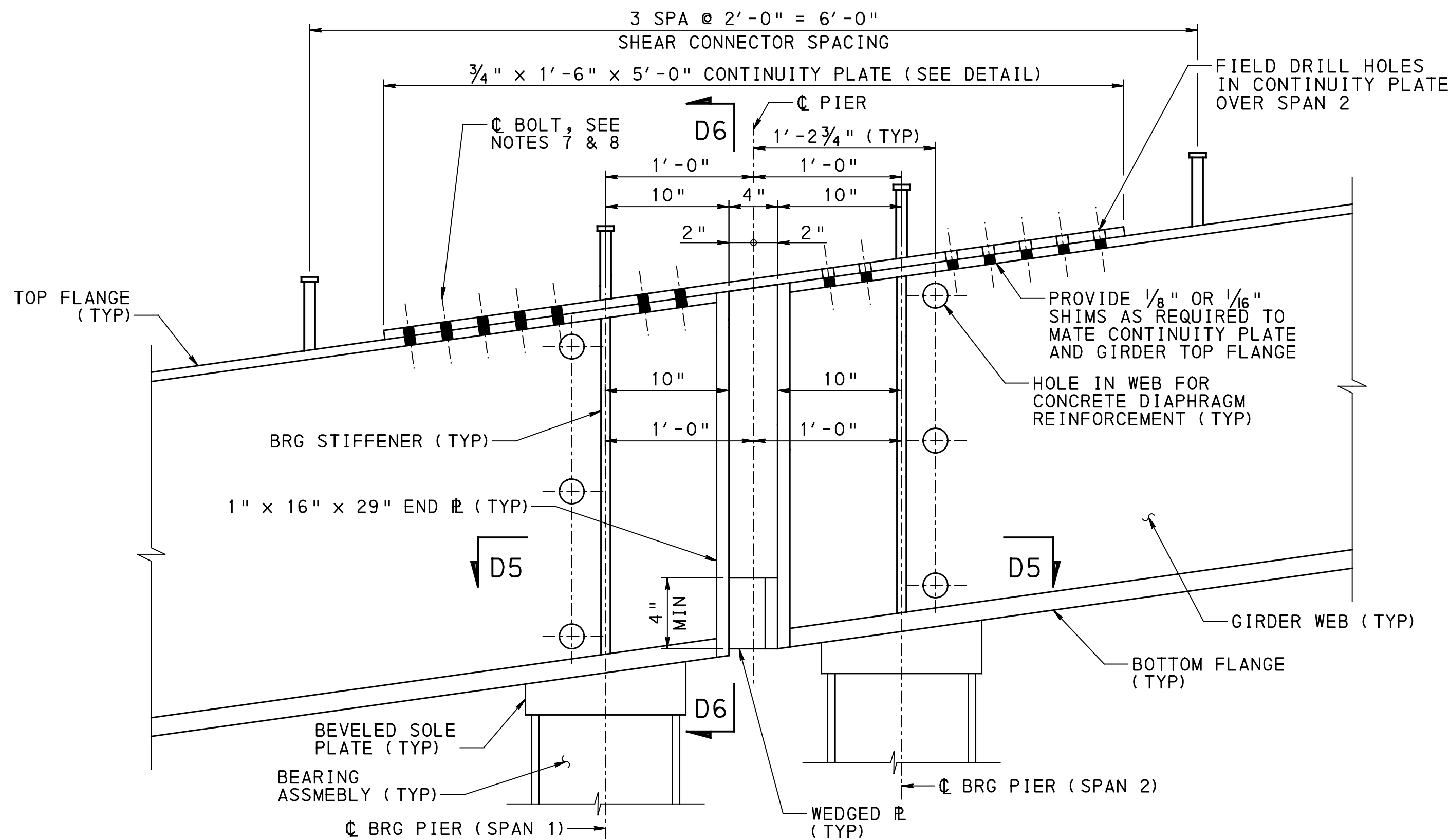
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
MISC GIRDER DETAILS

RECOMMENDED 08/03/2018

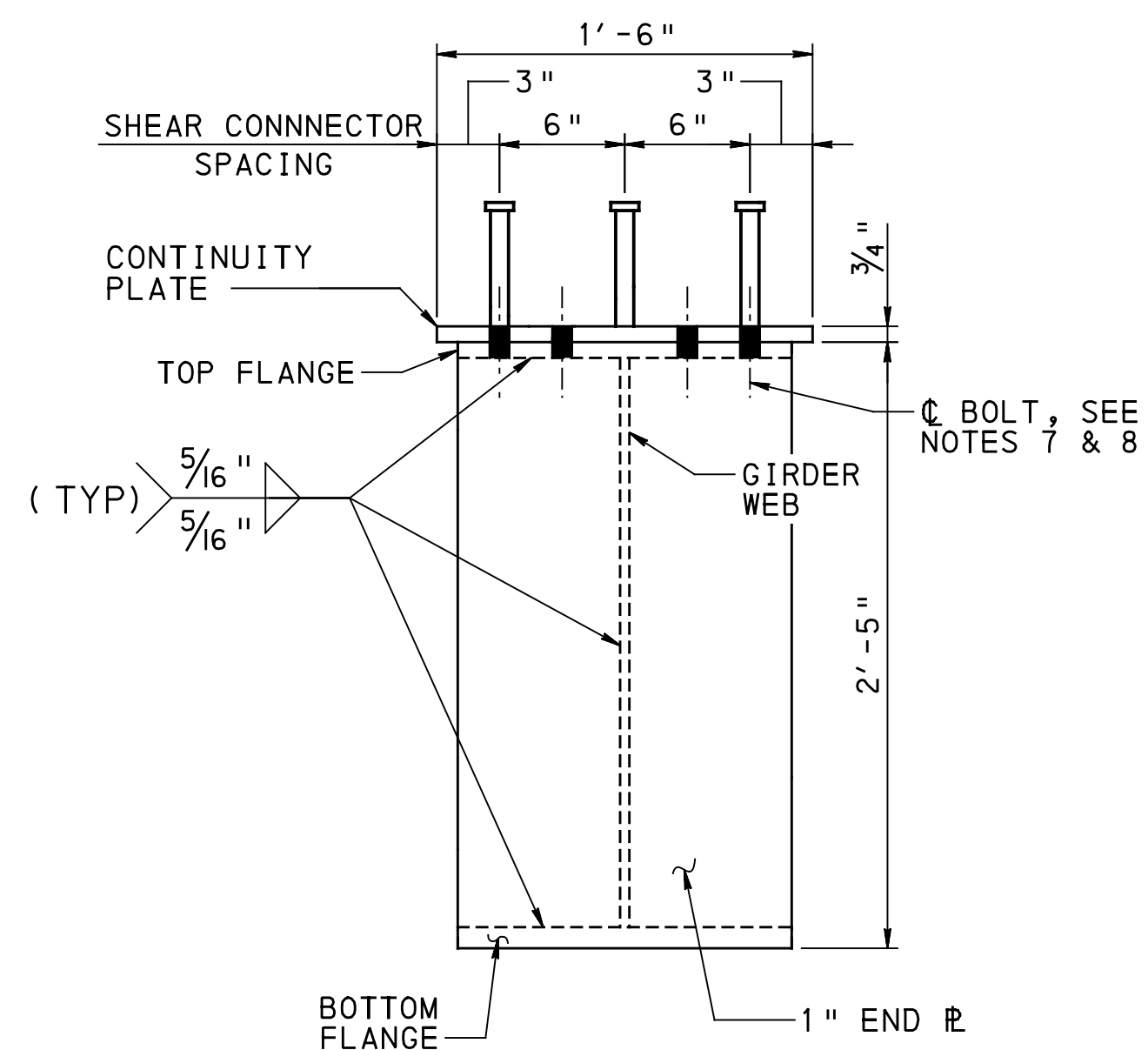
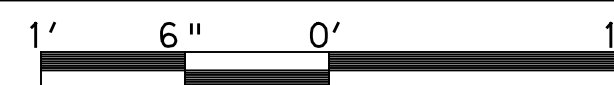
SHEET 43 OF 83

S - 37605

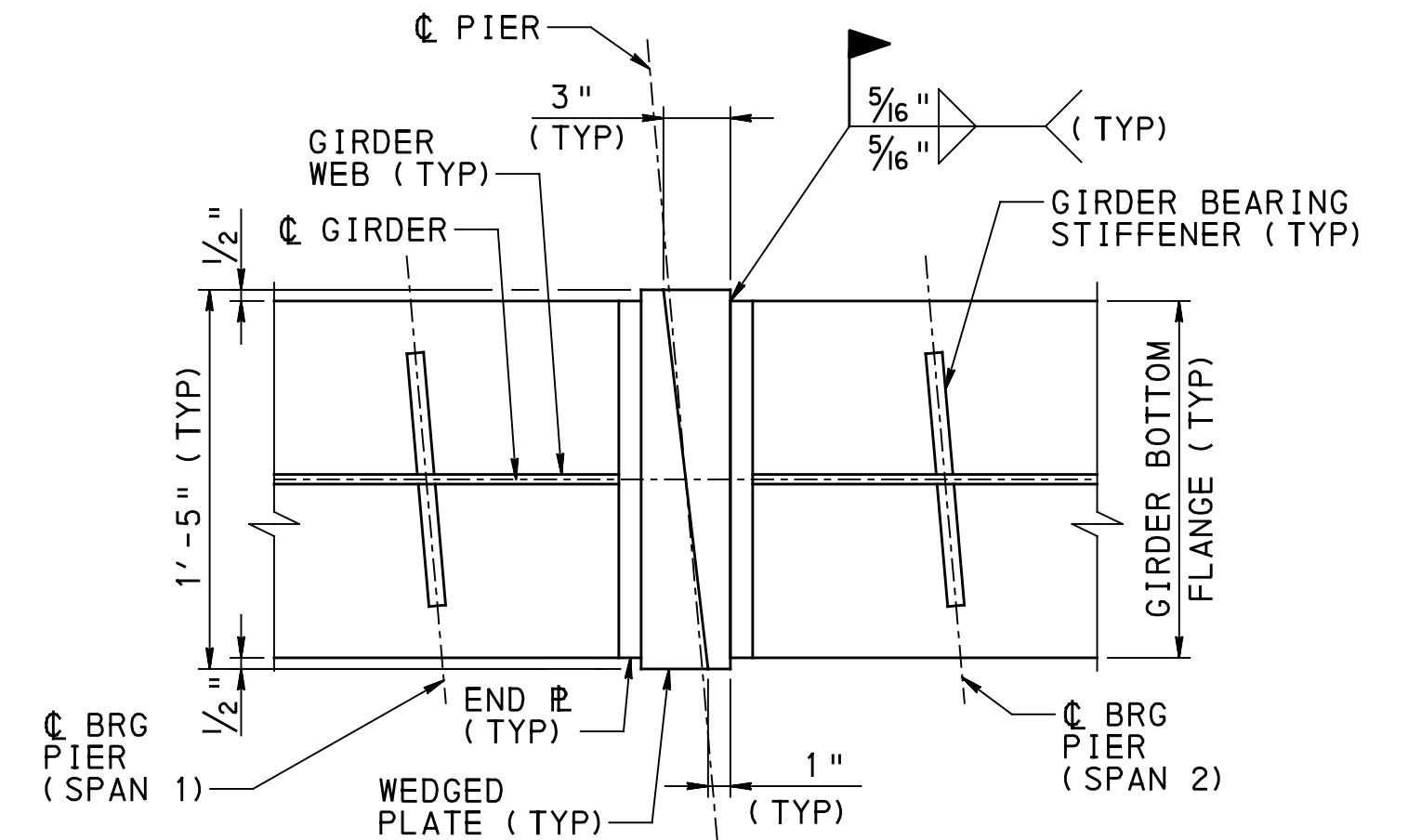
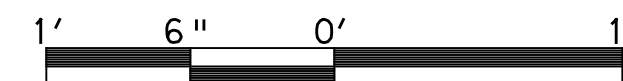




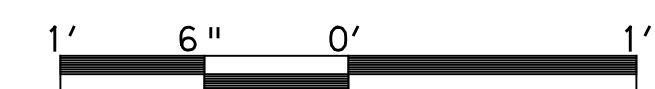
CONTINUITY DETAIL AT PIER



SECTION D6-D6



SECTION D5-D5



NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 & 4.
2. FOR FRAMING PLAN, SEE SHEET 38.
3. FOR GIRDER ELEVATIONS, SEE SHEETS 39 & 40.
4. FOR STEEL DETAILS, SEE SHEET 41.
5. FOR PIER CONCRETE DIAPHRAGM DETAILS, SEE SHEET 53.
6. INSTALL PIER CONTINUITY CONNECTION AFTER SPMTS HAVE MOVED SUPERSTRUCTURE SPANS INTO THE FINAL LOCATION ON SUBSTRUCTURE UNITS.
7. ALL HOLES $\frac{15}{16}$ " \varnothing FOR $\frac{7}{8}$ " \varnothing ASTM A325, TYPE 1 HS BOLTS. EXCLUDE THREADS FROM SHEAR PLANE. BOLT SPACING GIVEN TO TOP OF CONTINUITY PLATE, DRILL BOLT HOLES PERPENDICULAR TO GIRDER SLOPE.
8. SHOP DRILL HOLES IN CONTINUITY PLATE OVER SPAN 1 AND GIRDER TOP FLANGES. FIELD DRILL HOLES IN CONTINUITY PLATE OVER SPAN 2.
9. ALL DIMENSIONS SHOWN ARE HORIZONTAL. TAKE SHALER STREET SURVEY & CONSTR B VERTICAL GRADE INTO ACCOUNT WHEN DETERMINING LENGTHS FOR FABRICATION.

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

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SR 3110, SECTION A02
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SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
PIER CONTINUITY CONNECTION

RECOMMENDED 08/03/2018

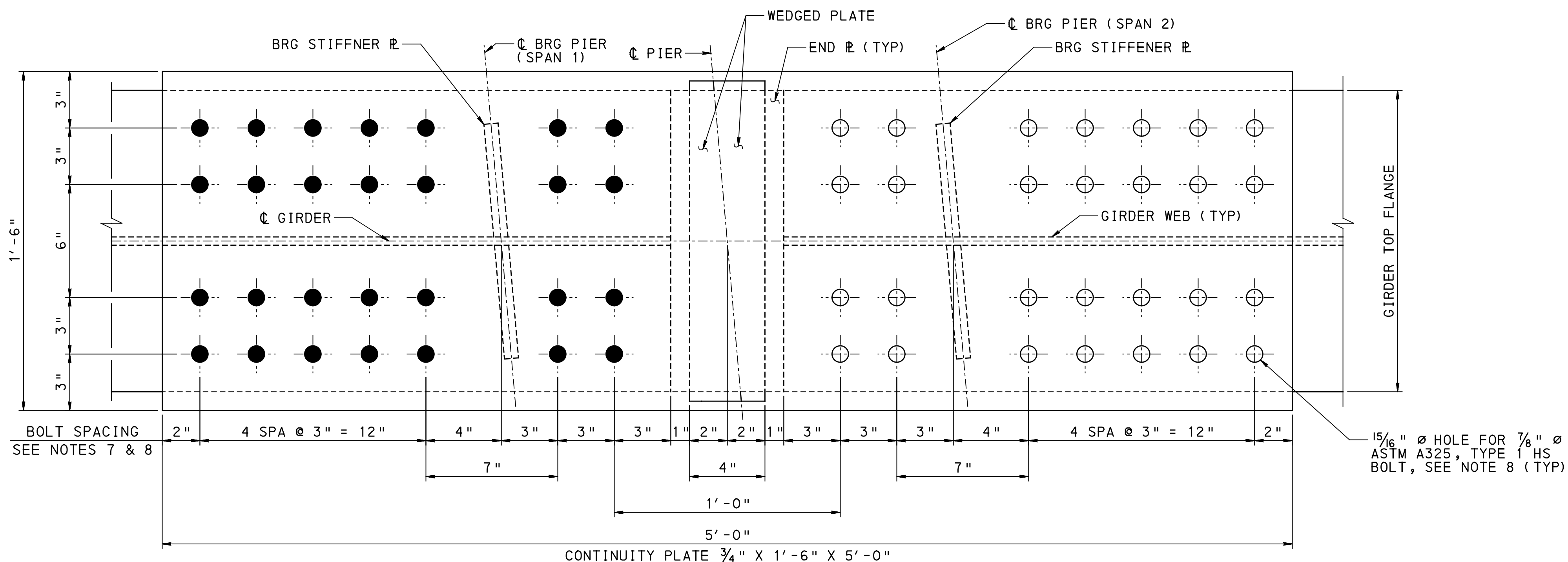
SHEET 44 OF 83

S - 37605

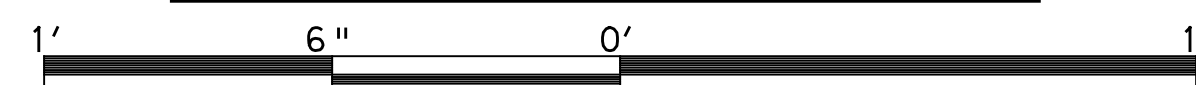


LEGEND

- SHOP DRILLED HOLE
- FIELD DRILLED HOLE



CONTINUITY PLATE DETAIL



MOMENT TABLE (UNFACTORED)																				
GIRDER	G1				G2				G3				G4				G5			
LOADING	POSITIVE MOMENT (K-FT)	LOCATION (FT) ■	NEGATIVE MOMENT (K-FT)	LOCATION (FT) ■	POSITIVE MOMENT (K-FT)	LOCATION (FT) ■	NEGATIVE MOMENT (K-FT)	LOCATION (FT) ■	POSITIVE MOMENT (K-FT)	LOCATION (FT) ■	NEGATIVE MOMENT (K-FT)	LOCATION (FT) ■	POSITIVE MOMENT (K-FT)	LOCATION (FT) ■	NEGATIVE MOMENT (K-FT)	LOCATION (FT) ■	POSITIVE MOMENT (K-FT)	LOCATION (FT) ■	NEGATIVE MOMENT (K-FT)	LOCATION (FT) ■
NON-COMPOSITE DEAD LOAD (DC1) *	620.50	35.00 (S1)	-	-	686.01	35.00 (S1)	-	-	684.21	35.00 (S1)	-	-	678.11	35.00 (S1)	-	-	712.70	35.00 (S1)	-	-
COMPOSITE DEAD LOAD (DC2) *	197.20	35.00 (S1)	-	-	197.20	35.00 (S1)	-	-	-	-	-	-	350.22	35.00 (S1)	-	-	350.22	35.00 (S1)	-	-
FWS**	66.50	24.50 (S1)	-118.30	0.0 (S2)	66.50	24.50 (S1)	-118.30	0.0 (S2)	66.50	24.50 (S1)	-118.30	0.0 (S2)	66.50	24.50 (S1)	-118.30	0.0 (S2)	66.50	24.50 (S1)	-118.30	0.0 (S2)
TOTAL DEAD LOAD	877.20	35.00 (S1)	-118.30	0.0 (S2)	942.72	35.00 (S1)	-118.30	0.0 (S2)	743.71	35.00 (S1)	-118.30	0.0 (S2)	1087.83	35.00 (S1)	-118.30	0.0 (S2)	1122.41	35.00 (S1)	-118.30	0.0 (S2)
PHL-93**	963.20	28.00 (S1)	-1020.70	0.0 (S2)	884.90	28.00 (S1)	-937.70	0.0 (S2)	884.90	28.00 (S1)	-937.70	0.0 (S2)	884.90	28.00 (S1)	-937.70	0.0 (S2)	1016.10	28.00 (S1)	-1076.70	0.0 (S2)
P-82**	1250.50	28.00 (S1)	-919.60	0.0 (S2)	1148.80	28.00 (S1)	-844.80	0.0 (S2)	1148.80	28.00 (S1)	-844.80	0.0 (S2)	1148.80	28.00 (S1)	-844.80	0.0 (S2)	1319.20	28.00 (S1)	-970.10	0.0 (S2)

NOTE: S1 = CONTROLLING LOCATION IS ON SPAN 1; S2 = CONTROLLING LOCATION IS ON SPAN 2. STRUCURE IS SYMETRICAL.

* DC1 AND DC2 DEAD LOAD MOMENTS ARE BASED ON SIMPLE SPAN ANALYSIS.

** FWS AND LIVE LOAD MOMENTS ARE BASED ON CONTINUOUS ANALYSIS. LIVE LOAD MOMENTS ASSUME NO SIDEWALK IS PRESENT AND INCLUDE IMPACT AND DISTRIBUTION FACTORS.

■ DIMENSION MEASURED HORIZONTAL BETWEEN C BRGS

CAMBER TABLE (INCHES)												
GIRDER	ITEM	SPAN 1 (L = 69' -0'") ▲										
		C BRG ABUT 1	0. 1L	0. 2L	0. 3L	0. 4L	0. 5L	0. 6L	0. 7L	0. 8L	0. 9L	C BRG PIER (SPAN 1)
1	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.727	1.374	1.882	2.204	2.314	2.204	1.882	1.374	0.727	0.000
	C	0.000	0.143	0.271	0.372	0.435	0.457	0.435	0.372	0.271	0.143	0.000
	D	0.000	1.016	1.921	2.632	3.082	3.236	3.082	2.632	1.921	1.016	0.000
2	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.818	1.549	2.120	2.483	2.608	2.483	2.120	1.549	0.818	0.000
	C	0.000	0.133	0.252	0.345	0.404	0.424	0.404	0.345	0.252	0.133	0.000
	D	0.000	1.097	2.077	2.843	3.330	3.497	3.330	2.843	2.077	1.097	0.000
3	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.816	1.544	2.114	2.475	2.600	2.475	2.114	1.544	0.816	0.000
	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	D	0.000	0.962	1.820	2.492	2.918	3.065	2.918	2.492	1.820	0.962	0.000
4	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.807	1.528	2.092	2.450	2.572	2.450	2.092	1.528	0.807	0.000
	C	0.000	0.240	0.454	0.622	0.728	0.765	0.728	0.622	0.454	0.240	0.000
	D	0.000	1.193	2.258	3.092	3.621	3.802	3.621	3.092	2.258	1.193	0.000
5	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.856	1.619	2.378	2.597	2.727	2.597	2.218	1.619	0.856	0.000
	C	0.000	0.259	0.490	0.670	0.785	0.824	0.785	0.670	0.490	0.259	0.000
	D	0.000	1.261	2.385	3.266	3.825	4.016	3.825	3.266	2.385	1.261	0.000

CAMBER TABLE (INCHES)												
GIRDER	ITEM	SPAN 2 (L = 69' -0'") ▲										
		C BRG PIER (SPAN 2)	0. 1L	0. 2L	0. 3L	0. 4L	0. 5L	0. 6L	0. 7L	0. 8L	0. 9L	C BRG ABUT 2
1	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.727	1.374	1.882	2.204	2.314	2.204	1.882	1.374	0.727	0.000
	C	0.000	0.143	0.271	0.372	0.435	0.457	0.435	0.372	0.271	0.143	0.000
	D	0.000	1.016	1.921	2.632	3.082	3.236	3.082	2.632	1.921	1.016	0.000
2	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.818	1.549	2.120	2.483	2.608	2.483	2.120	1.549	0.818	0.000
	C	0.000	0.133	0.252	0.345	0.404	0.424	0.404	0.345	0.252	0.133	0.000
	D	0.000	1.097	2.077	2.843	3.330	3.497	3.330	2.843	2.077	1.097	0.000
3	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.816	1.544	2.114	2.475	2.600	2.475	2.114	1.544	0.816	0.000
	C	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	D	0.000	0.962	1.820	2.492	2.918	3.065	2.918	2.492	1.820	0.962	0.000
4	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.807	1.528	2.092	2.450	2.572	2.450	2.092	1.528	0.807	0.000
	C	0.000	0.240	0.454	0.622	0.728	0.765	0.728	0.622	0.454	0.240	0.000
	D	0.000	1.193	2.258	3.092	3.621	3.802	3.621	3.092	2.258	1.193	0.000
5	A	0.000	0.146	0.276	0.378	0.443	0.465	0.443	0.378	0.276	0.146	0.000
	B	0.000	0.856	1.619	2.378	2.597	2.727	2.597	2.218	1.619	0.856	0.000
	C	0.000	0.259	0.490	0.670	0.785	0.824	0.785	0.670	0.490	0.259	0.000
	D	0.000	1.261	2.385	3.266	3.825	4.016	3.825	3.266	2.385	1.261	0.000

CAMBER NOTES:

- SELF-WEIGHT OF STEEL INCLUDES ALL STRUCTURAL FRAMING.
- NON-COMPOSITE DEAD LOAD INCLUDES DECK SLAB WITH 1/4" ADDITIONAL THICKNESS FOR GRINDING, HAUNCH, PERMANENT METAL DECK FORMS, AND CONCRETE IN THE VALLEYS OF STAY-IN-PLACE FORMS.
- SUPERIMPOSED DEAD LOAD INCLUDES BARRIERS AND SIDEWALK. FUTURE WEARING SURFACE IS NOT INCLUDED.
- NO CAMBER IS REQUIRED FOR VERTICAL GEOMETRY OR SUPERELEVATION TRANSITION DUE TO CONSTANT GRADE AND ROADWAY CROSS SLOPES.
- FOR CALCULATION OF FORM HAUNCH HEIGHTS, SUBTRACT THE STEEL CAMBER (A) FROM THE TOTAL CAMBER (D).

CAMBER LEGEND:

A = CAMBER DUE TO WEIGHT OF STEEL

B = CAMBER DUE TO NON-COMPOSITE DEAD LOAD

C = CAMBER DUE TO SUPERIMPOSED DEAD LOAD

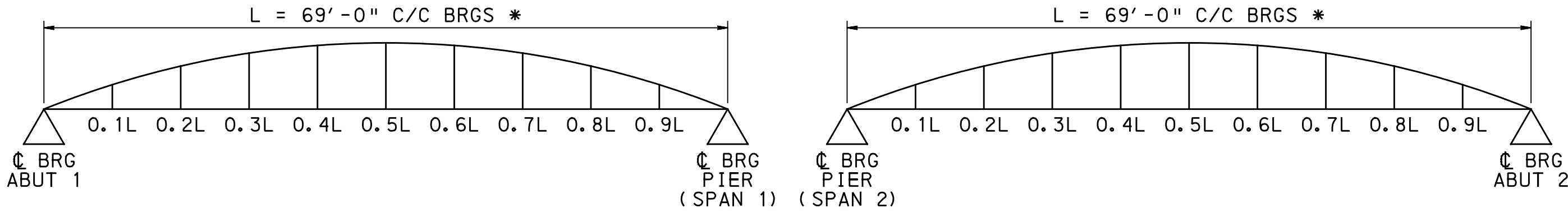
D = TOTAL CAMBER (A+B+C)

▲ = DIMENSION MEASURED HORIZONTALLY BETWEEN CENTERLINES OF BEARING

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 & 4.
- FOR FINISHED DECK ELEVATIONS AT THE FINAL BRIDGE LOCATION, SEE SHEET 5.
- FOR FINISHED DECK ELEVATIONS IN THE BRIDGE STAGING AREA AND DECK PLACEMENT SEQUENCE, SEE SHEET 6.
- FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.

UNFACTORED REACTIONS AND FUTURE JACKING LOADS						
LOCATION	LOADING	GIRDER				
		G1	G2	G3	G4	G5
ABUT 1	DC1 (STEEL)	5.96	5.96	5.96	5.96	5.96
	DC1 (CONCRETE)	39.75	43.51	43.41	43.06	45.04
	DC2	36.60	36.60	25.28	45.40	45.40
	DC1 + DC2	82.31	86.07	74.65	94.42	96.40
	FWS	7.39	7.39	7.39	7.39	7.39
	TOTAL DL	89.70	93.46	82.04	101.81	103.79
	PHL-93 MAX	70.00	81.13	81.13	81.13	75.13
	PHL-93 MIN	-7.54	-8.80	-8.80	-8.80	-8.12
	P-82 MAX	101.14	118.00	118.00	118.00	108.91
	P-82 MIN	-11.06	-12.90	-12.90	-12.90	-11.90
C BRG SPAN 1 & C BRG SPAN 2 AT PIER (SEE NOTE 8)	DC1 (STEEL)	5.96	5.96	5.96	5.96	5.96
	DC1 (CONCRETE)	34.52	38.28	38.18	37.83	39.81
	DC2	11.71	11.71	0.39	20.51	20.51
	DC1 + DC2	52.19	55.95	44.53	64.30	66.28
	FWS	8.39	8.39	8.39	8.39	8.39
	TOTAL DL	60.58	64.34	52.92	72.69	74.67
	PHL-93 MAX	60.42	70.49	70.49	70.49	63.74
	PHL-93 MIN	0.00	0.00	0.00	0.00	0.00
	P-82 MAX	73.81	86.11	86.11	86.11	77.86
ABUT 2	P-82 MIN	0.00	0.00	0.00	0.00	0.00
	DC1 (STEEL)	5.96	5.96	5.96	5.96	5.96
	DC1 (CONCRETE)	40.37	44.13	44.03	43.68	45.66
	DC2	36.60	36.60	25.28	45.40	45.40
	DC1 + DC2	82.93	86.69	75.27	95.04	97.02
	FWS	7.39	7.39	7.39	7.39	7.39
	TOTAL DL	90.32	94.08	82.66	102.43	104.41
	PHL-93 MAX	71.39	81.13	81.13	81.13	73.67
	PHL-93 MIN	-7.70	-8.80	-8.80	-8.80	-7.96
	P-82 MAX	103.24	118.00	118.00	118.00	106.70
	P-82 MIN	-11.28	-12.90	-12.90	-12.90	-11.66



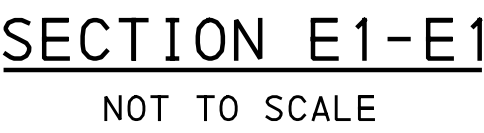
CAMBER DIAGRAM

REACTION AND JACKING LOADS NOTES:

- ALL REACTIONS ARE IN KIPS.
- ALL REACTIONS ARE UNFACTORED.
- PHL-93 AND P-82 REACTIONS INCLUDE IMPACT AND DISTRIBUTION FACTORS AND ASSUME NO SIDEWALK IS PRESENT. REACTIONS AT ABUTMENTS INCLUDE LANE LIVE LOAD ON APPROACH SLABS.
- DC1 (STEEL) INCLUDES WEIGHT OF GIRDERS AND STEEL DETAILS.
- DC1 (CONCRETE) INCLUDES WEIGHT OF DECK SLAB WITH 1/4" ADDITIONAL THICKNESS FOR GRINDING, HAUNCH, AND DIAPHRAGMS.
- DC2 INCLUDES WEIGHT OF BARRIERS AND SIDEWALK. DC2 REACTIONS AT ABUTMENTS INCLUDE APPROACH SLABS.
- FWS REACTIONS AT ABUTMENTS INCLUDE FWS ON APPROACH SLABS.
- REACTIONS AT PIER ARE BASED ON REACTIONS FOR INDIVIDUAL SPANS. VALUES ARE IDENTICAL FOR SPAN 1 AND SPAN 2.
- DC1 AND DC2 REACTIONS ARE BASED ON SIMPLE SPAN GIRDER ANALYSIS. LIVE LOAD AND FWS REACTIONS ARE BASED ON CONTINUOUS GIRDER ANALYSIS.



Mark	Description	By	Chk' d.	Recm' d.	Date
REVISIONS					



BEARING ASSEMBLY TABLE												
BEARING MARK	A	B	C	D	E	F	G	H	J	K Ø	M	N
FLB1	2' - 5"	1' - 2½"	1' - 3"	7½"	11¾"	4¾"	1"	7⁄8"	2¾"	2⁹⁄₁₆"	--	--
ELB1	2' - 4"	1' - 2"	1' - 2"	7"	11½"	4½"	1"	¾"	2½"	--	2⁵⁄₁₆"	4½"
ELB2	2' - 4"	1' - 2"	1' - 4"	8"	11½"	4½"	1"	¾"	2½"	--	2⁵⁄₁₆"	4½"



COMMONWEALTH OF
REGISTERED
PROFESSIONAL
MATTHEW EARL COCHRAN
ENGINEER
PE079438
PENNSYLVANIA

1. ELASTOMERIC BEARINGS MANUFACTURED IN ACCORDANCE WITH THE CONTRACT DRAWINGS DO NOT REQUIRE SHOP DRAWINGS.
2. MANUFACTURE ALL BEARINGS IN ACCORDANCE WITH THE COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PLANS AND SPECIFICATIONS (PUB.408) SECTION 1113.
3. MOLD ALL BEARING PADS ARE TO DESIGN DIMENSIONS. CUTTING TO SIZE AFTER FABRICATION IS PROHIBITED.
4. HOLES ARE NOT PERMITTED IN ELASTOMERIC BEARINGS.
5. PROVIDE NEOPRENE 50 ± 5 DUROMETER.
6. VULCANIZE PATCH PIN GROOVES.
7. PROVIDE MINIMUM LOW-TEMPERATURE NEOPRENE GRADE 3.
8. BEARING DESIGN FOR ROTATIONAL CONSTRUCTION TOLERANCE ABOUT THE LONGITUDINAL AXIS EQUAL TO 0.000 RAD. BEARING DESIGN FOR ROTATIONAL CONSTRUCTION TOLERANCE ABOUT TRANSVERSE AXIS EQUAL TO:

ABUTMENT 1 & PIER = 0.003 RADIANS
ABUTMENT 2 = 0.005 RADIANS
9. PROVIDE INTERNAL SHIMS IN ACCORDANCE WITH A36/A36M ASTM A1001 OR EQUIVALENT
10. SMOOTH CUT AND DEBURR METAL SHIMS.
11. GRIT BLAST AND DEGREASE METAL SHIMS.
12. PROVIDE STRUCTURAL STEEL (PEDESTAL, SOLE PLATE, AND BEVELED SOLE PLATE) CONFORMING TO AASHTO M270 GRADE 50 (ASTM A709 GRADE 50) DESIGNATION. PROVIDE FLATNESS TOLERANCE IN ACCORDANCE WITH PUB 408 SECTION 1105.03(d).
13. DO NOT USE THE BEARING PADS FOR SUPERSTRUCTURE CONSTRUCTION IN THE BRIDGE STAGING AREA. CONTRACTOR TO DETERMINE METHOD OF SUPPORT IN THE BRIDGE STAGING AREA.

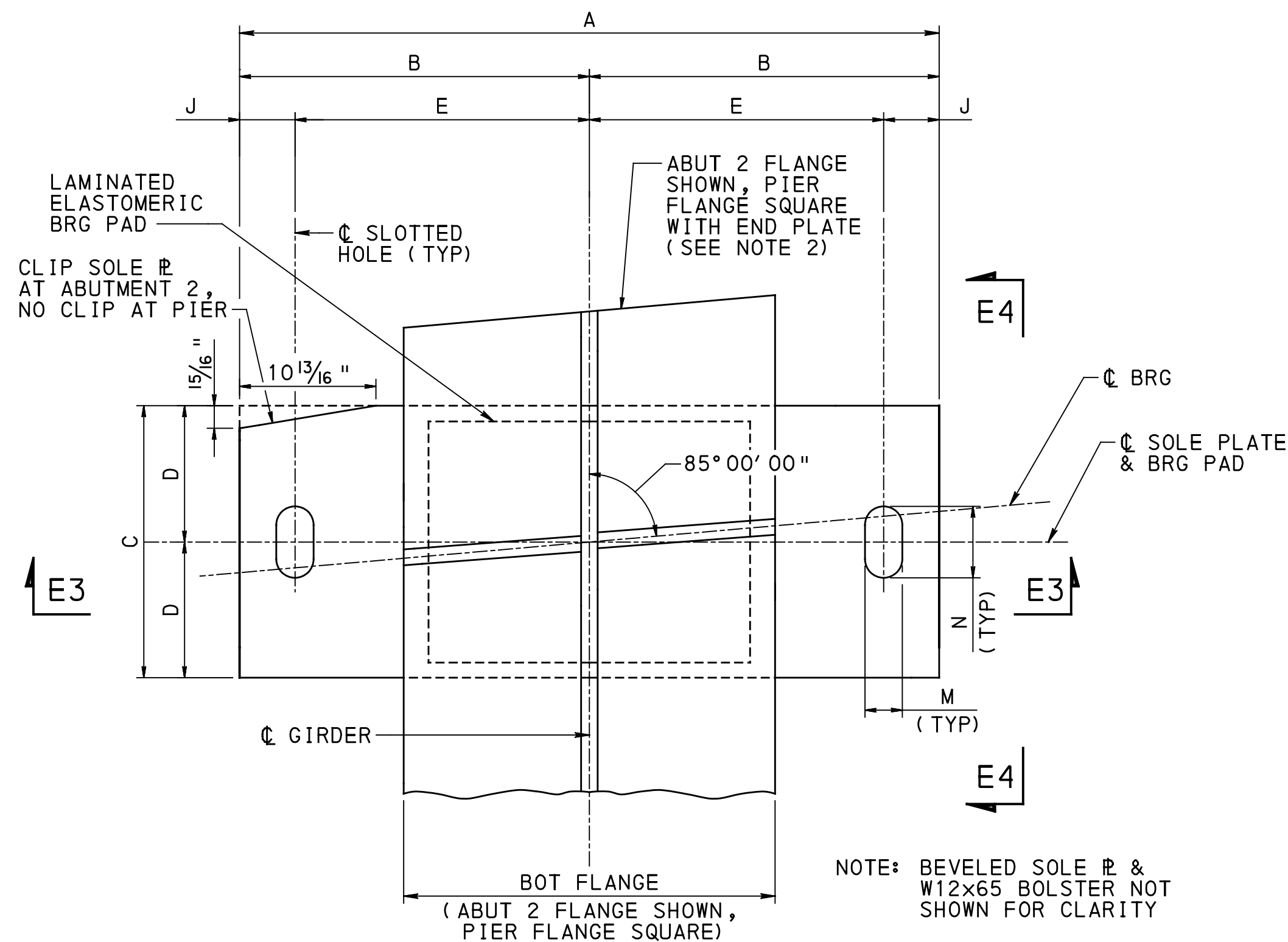
1. WORK THIS SHEET WITH SHEET 47.
2. FOR GENERAL NOTES, SEE SHEETS 3 & 4.
3. FOR FRAMING PLAN, SEE SHEET 38.
4. FOR GIRDER ELEVATIONS, SEE SHEETS 39 AND 40.
5. FOR ADDITIONAL BEARING PAD DETAILS AND NOTES SEE STANDARD DRAWING BC-755M.
6. VERTICAL DIMENSIONS ARE AT ϕ BEARINGS UNLESS NOTED OTHERWISE.
7. MECHANICALLY GALVANIZE ANCHOR BOLTS, NUTS AND WASHERS.
8. INSTALL BEAM AND BEARINGS TO ENSURE FULL CONTACT WITH BEARING SURFACE. IF FULL CONTACT IS NOT ACHIEVED AFTER THE SUPERSTRUCTURE IS IN THE FINAL LOCATION ON SUBSTRUCTURE UNITS, MAKE FIELD ADJUSTMENTS OR MODIFICATIONS TO ENSURE FULL CONTACT.

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

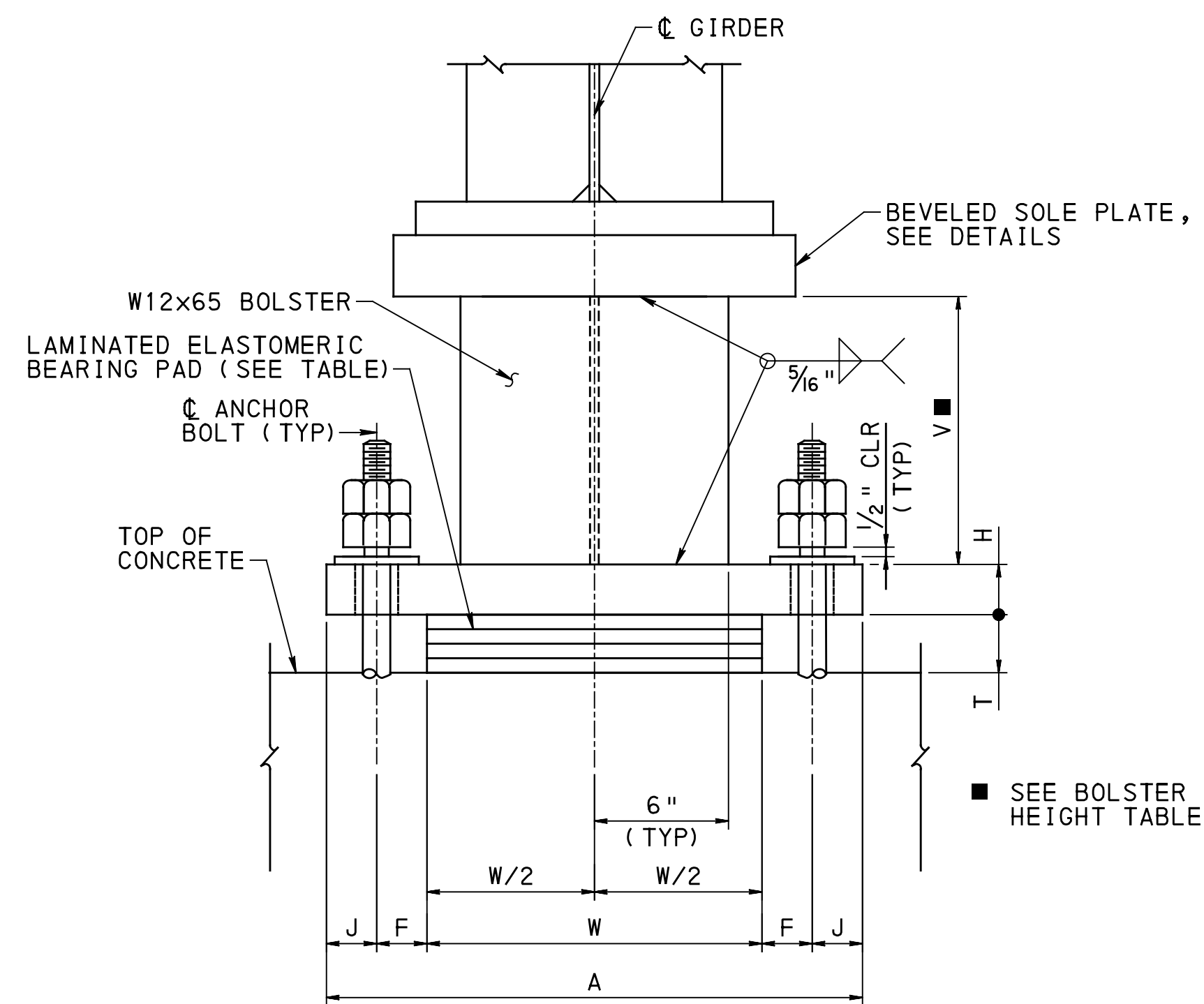
ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
BEARING DETAILS 1

SHEET 46 OF 83

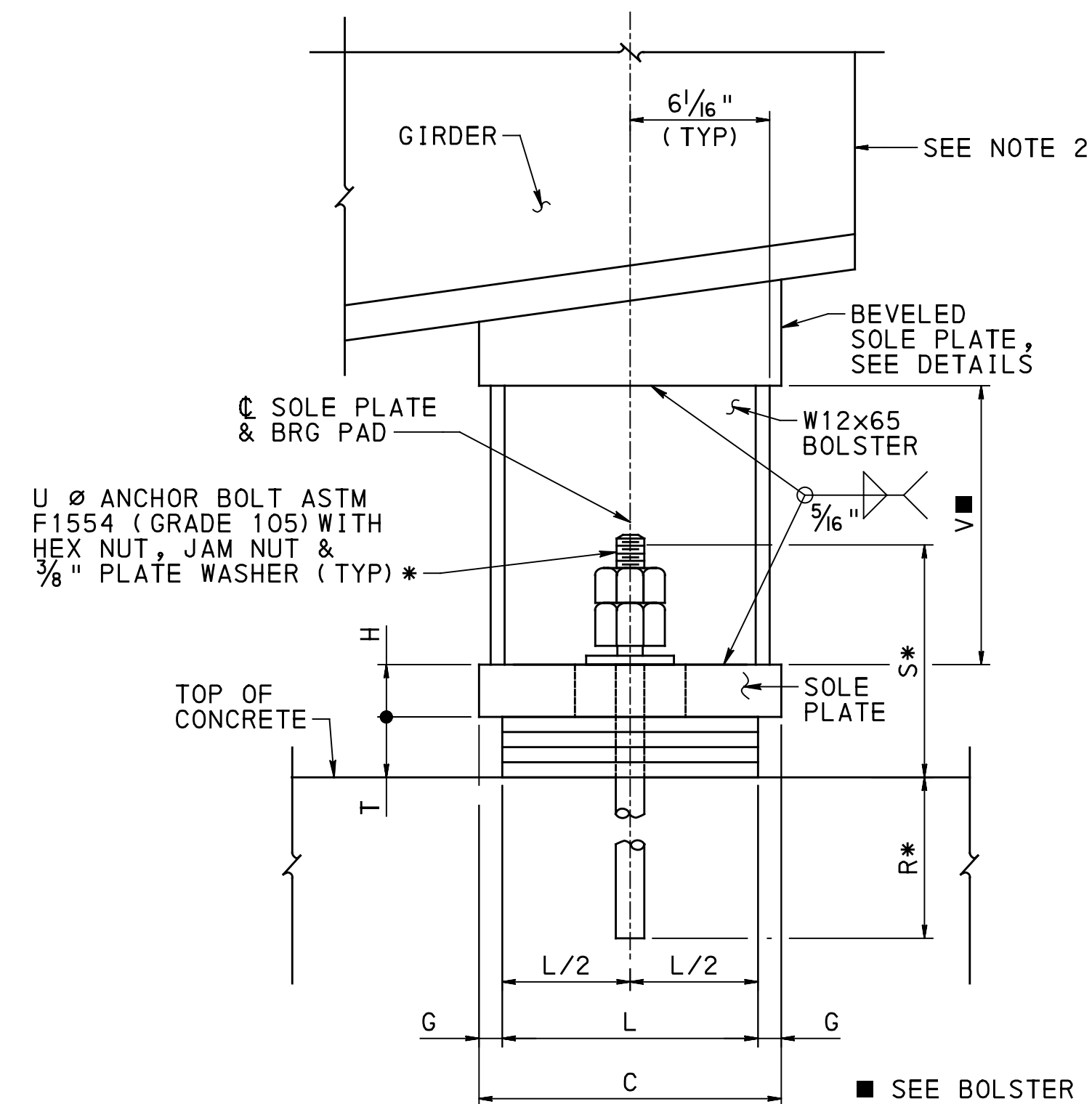
S - 37605



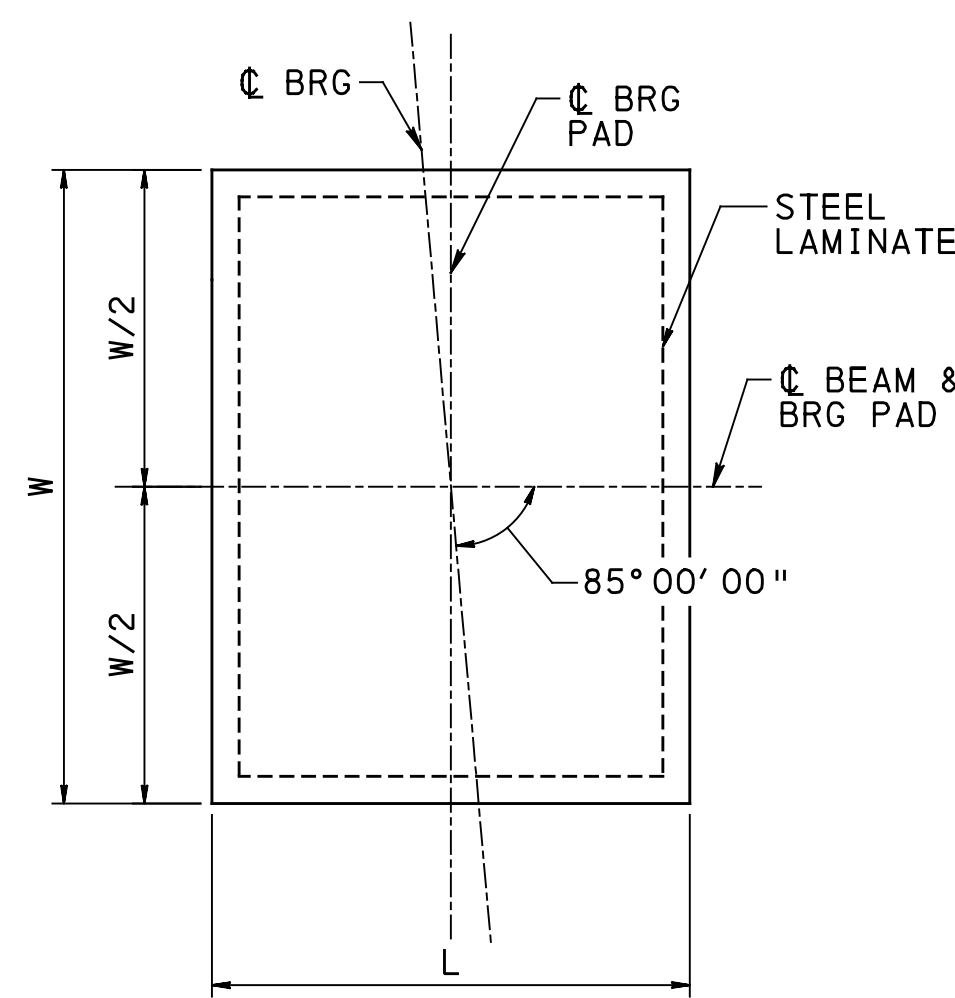
EXPANSION BEARING AT PIER AND ABUTMENT 2
PLAN VIEW
NOT TO SCALE



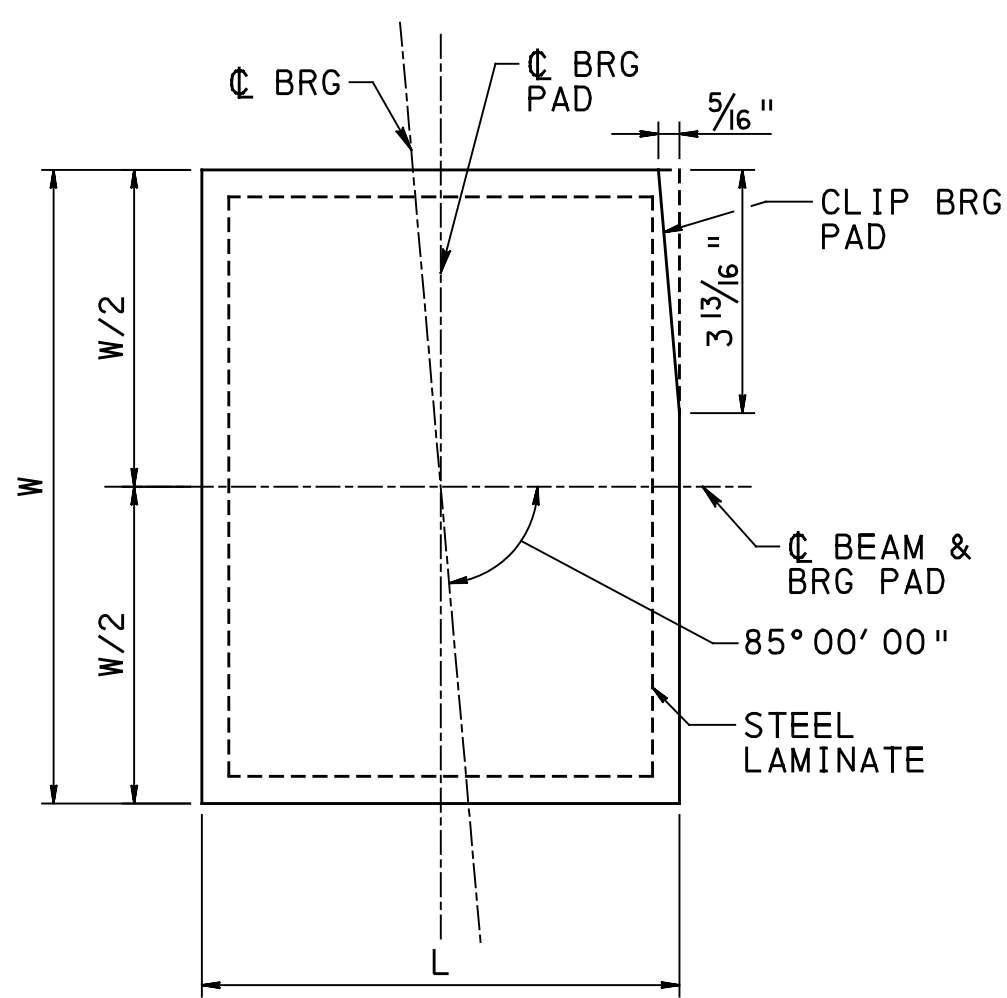
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NOT TO SCALE



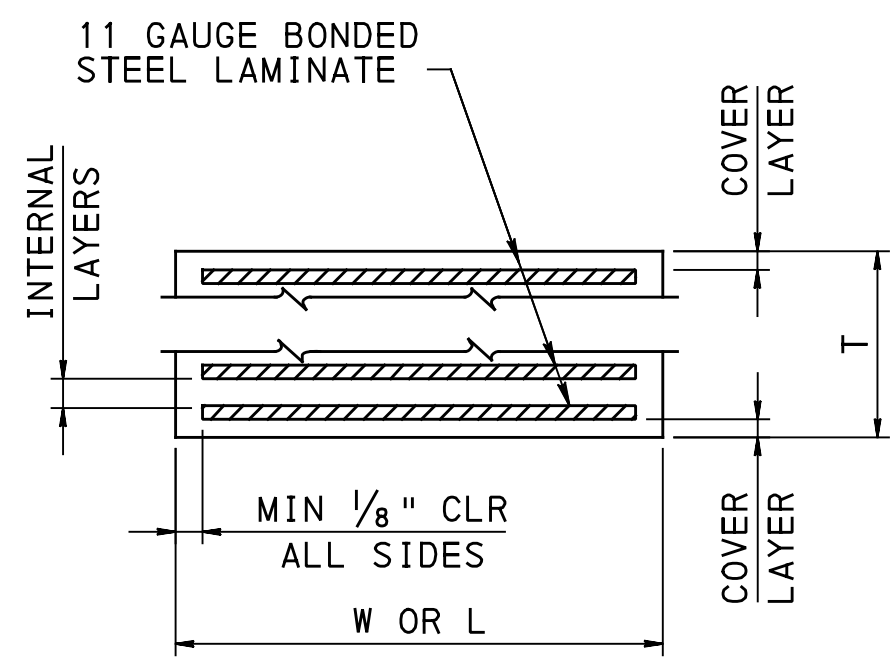
SECTION E4-E4
NOT TO SCALE



FLB1 & ELB1 LAMINATED
ELASTOMERIC BEARING PAD PLAN
NOT TO SCALE



ELB2 LAMINATED
ELASTOMERIC BEARING PAD PLAN
NOT TO SCALE



LAMINATED ELASTOMERIC
BEARING PAD ELEVATION
NOT TO SCALE

W12x65 BOLSTER HEIGHT ("V") TABLE				
GIRDER	FLB1 (ABUT 1)	ELB1 (BRG PIER - SPAN 1)	ELB1 (BRG PIER - SPAN 2)	ELB2 (ABUT 2)
G1	16 15/16 "	14 1/2 "	17 7/8 "	15 13/16 "
G2	20 3/16 "	17 3/4 "	21 1/8 "	19 1/16 "
G3	21 15/16 "	19 1/2 "	22 7/8 "	20 13/16 "
G4	21 1/4 "	18 13/16 "	22 3/16 "	20 1/8 "
G5	19 "	16 9/16 "	19 15/16 "	17 7/8 "

LAMINATED ELASTOMERIC BEARING PADS							
BEARING MARK	SIZE		NO. OF INTERNAL LAYERS	INTERNAL LAYER THICKNESS	COVER LAYER THICKNESS	NO. OF STEEL LAMINATES	TOTAL BEARING THICKNESS (T)
	W	L					
FLB1	14 "	13 "	3	3/8 "	1/4 "	4	2.1034 "
ELB1	14 "	12 "	6	3/8 "	1/4 "	7	3.5872 "
ELB2	14 "	14 "	8	3/8 "	1/4 "	9	4.5764 "

* INCLUDES 1 TEST PAD

- NOTES:
1. WORK THIS SHEET WITH SHEET 46.
 2. FOR GIRDER END DETAILS AT PIER, SEE SHEET 44.

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

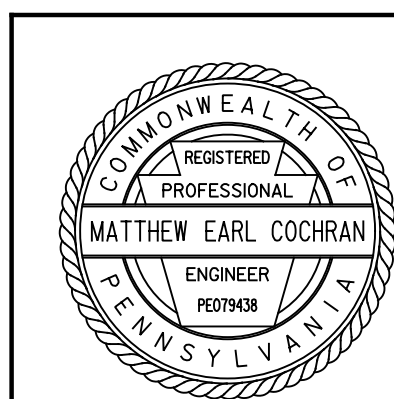
SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

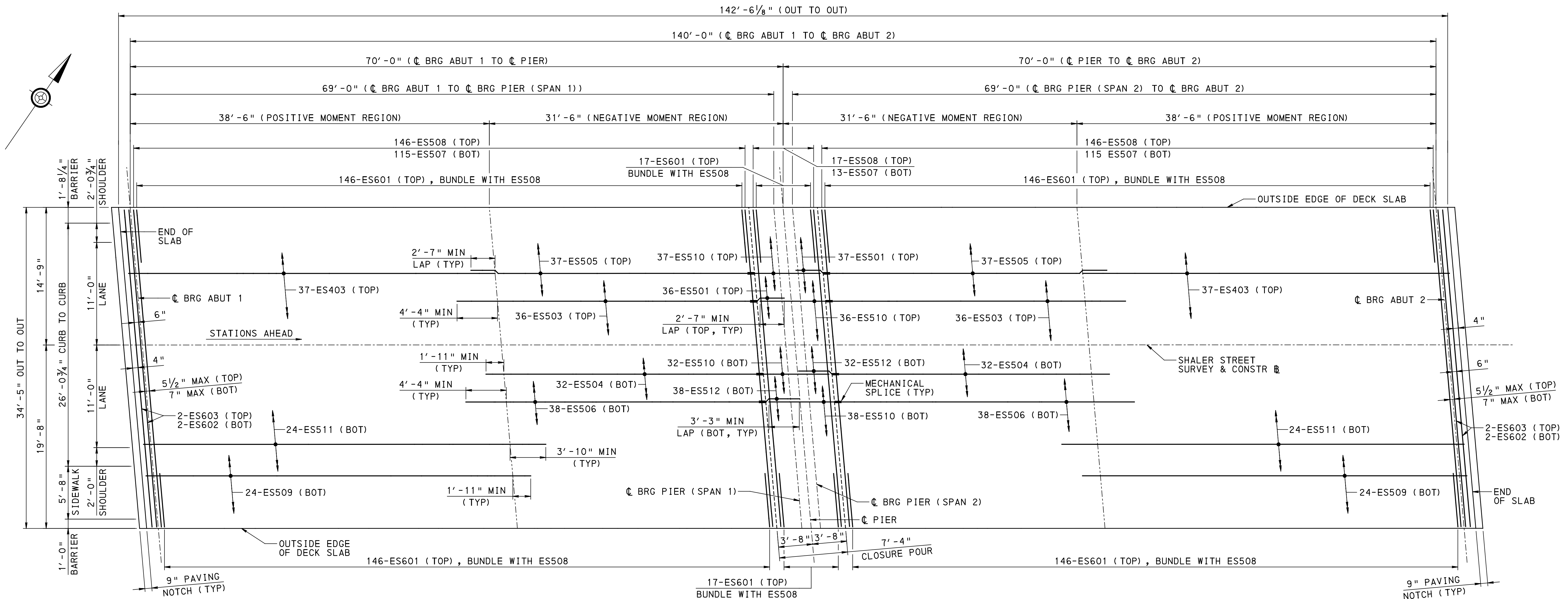
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
BEARING DETAILS 2

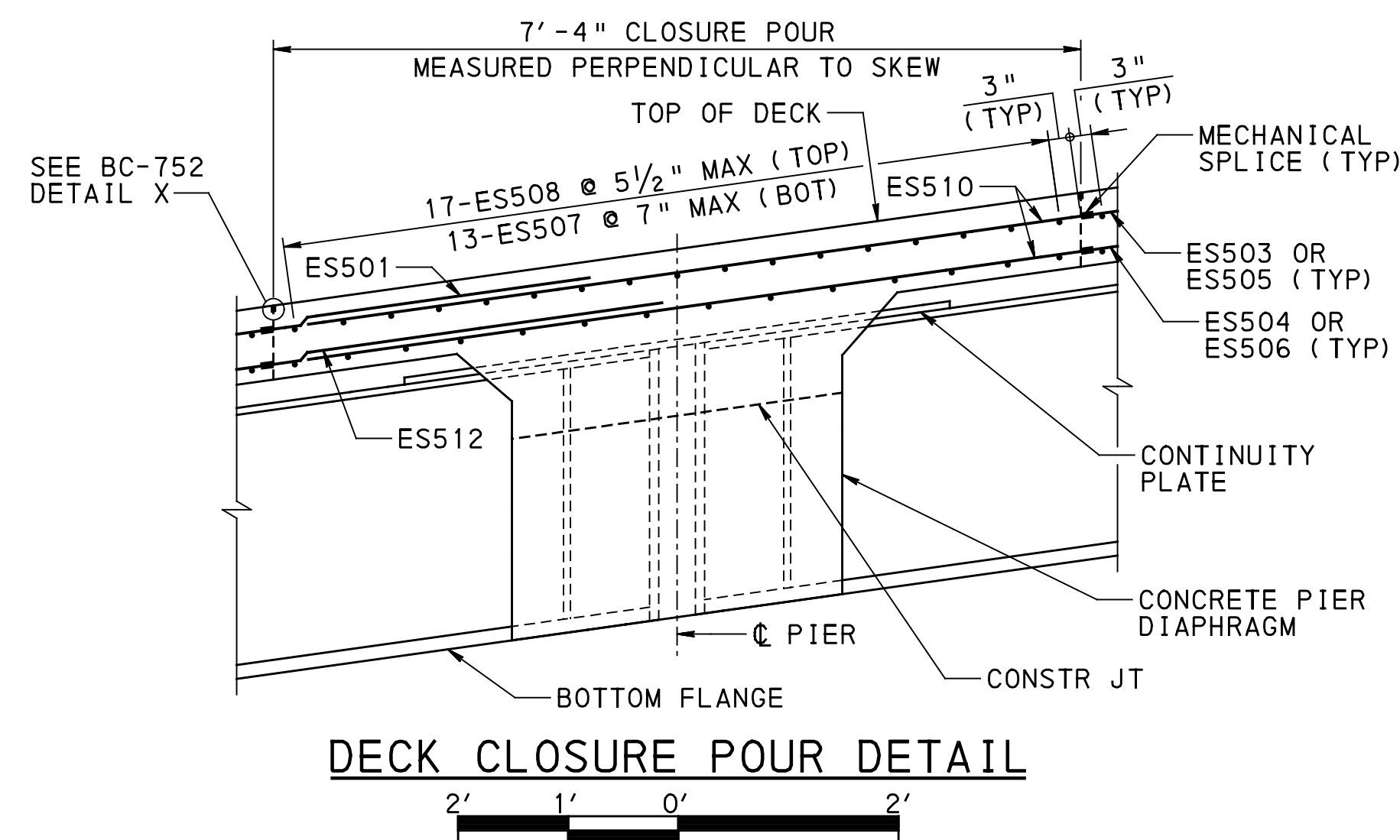
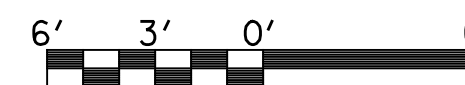
RECOMMENDED 08/03/2018 SHEET 47 OF 83

S - 37605





DECK SLAB REINFORCING PLAN



NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR FINISHED DECK ELEVATIONS IN THE PERMANENT STRUCTURE LOCATION, SEE SHEET 5.
3. FOR FINISHED DECK ELEVATIONS IN THE BRIDGE STAGING AREA AND DECK POUR SEQUENCE, SEE SHEET 6.
4. FOR GIRDER DETAILS, SEE SHEETS 38 THRU 45.
5. FOR DECK SLAB TYPICAL SECTIONS, SEE SHEET 49.
6. FOR BARRIER AND SIDEWALK DETAILS, SEE SHEET 50.
7. FOR ABUTMENT AND PIER CONCRETE DIAPHRAGMS, SEE SHEETS 51 THRU 53.
8. FOR SUPERSTRUCTURE REINFORCEMENT SCHEDULE, SEE SHEET 54.
9. ALL REINFORCEMENT DIMENSIONS ARE TRUE DIMENSIONS, MEASURED ALONG BRIDGE SLOPE. ALL OTHER DIMENSIONS ARE MEASURED HORIZONTALLY AND DO NOT ACCOUNT FOR BRIDGE SLOPE.
10. PLACE CONCRETE IN DECK IN UPHILL DIRECTION FOR BOTH SPANS.
11. FOR ADDITIONAL CONCRETE DECK SLAB DETAILS, SEE BC-752M.



Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

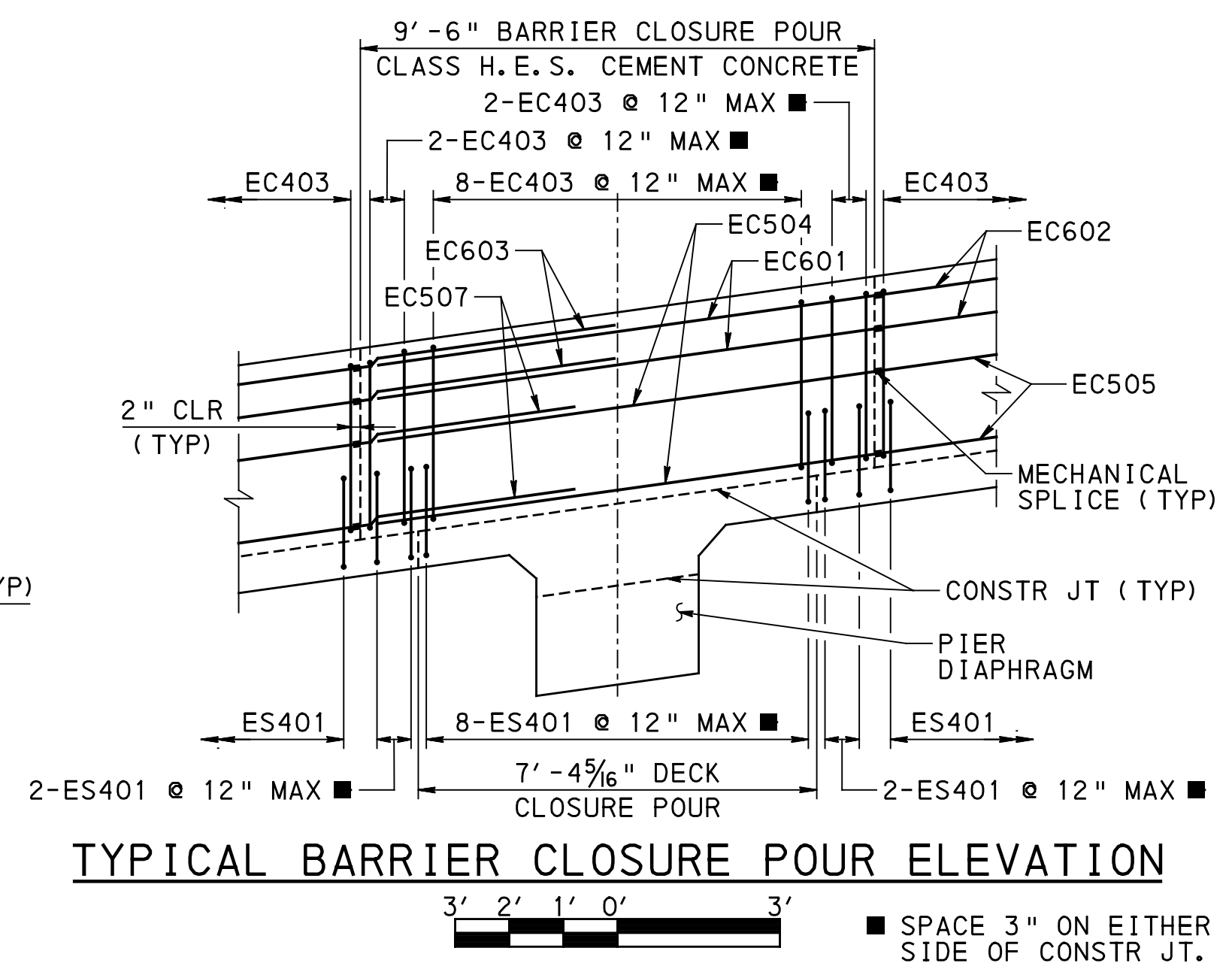
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
DECK SLAB PLAN

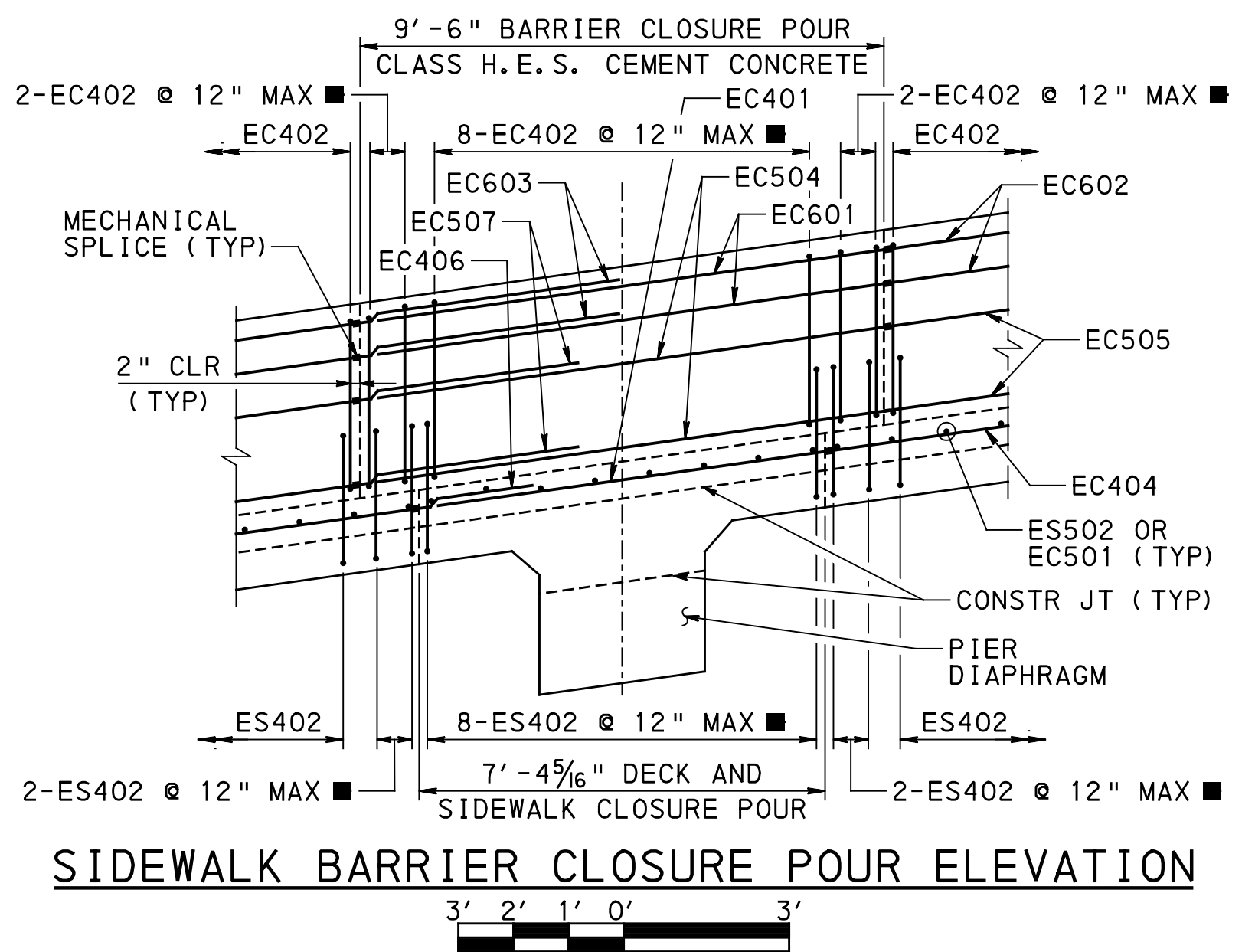
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SHEET 48 OF 83

S - 37605



TYPICAL BARRIER CLOSURE POUR ELEVATION



SIDEWALK BARRIER CLOSURE POUR ELEVATION

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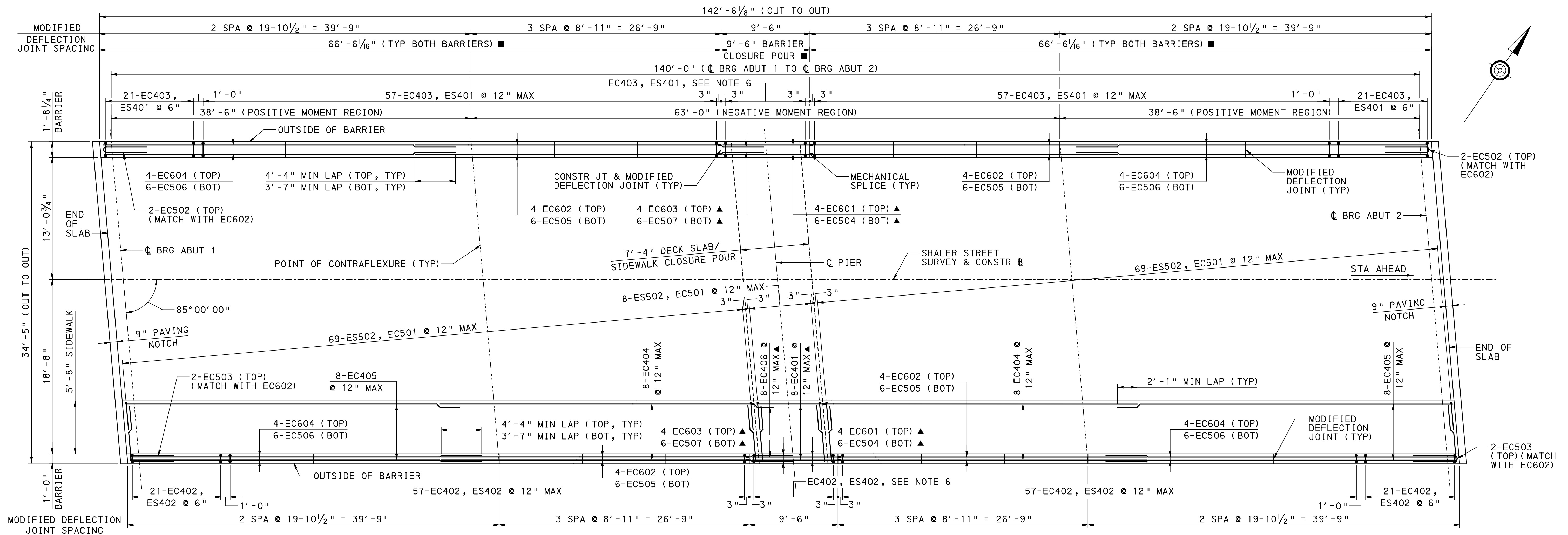
SHEET 49 OF 83

S - 37605

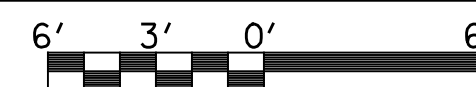
** MEASURED TO TOP OF 8 1/4" DECK
 SLAB PRIOR TO DIAMOND GRINDING

7. FOR ABUTMENT AND PIER CONCRETE DIAPHRAGM DETAILS, SEE SHEETS 51 THRU 53.
8. FOR SUPERSTRUCTURE REINFORCEMENT SCHEDULE, SEE SHEET 54.
9. FOR DRIP NOTCH DETAILS, SEE BC-775M
10. BEAM HAUNCH REINFORCEMENT WAS NOT DETERMINED TO BE REQUIRED FOR THE COMPUTED BEAM CAMBERS. HOWEVER, PROVIDE HAUNCH REINFORCEMENT IN ACCORDANCE WITH BC-752M WHERE IRREGULAR BEAM CAMBERS OR OTHER CONSTRUCTION CONDITIONS PROVIDE ACTUAL HAUNCHES THAT EXCEED THE THICKNESSES SPECIFIED IN BC-752M.





BARRIER REINFORCEMENT PLAN



NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR FINISHED DECK ELEVATIONS IN THE PERMANENT STRUCTURE LOCATION, SEE SHEET 5.
- FOR FINISHED DECK ELEVATIONS IN THE BRIDGE STAGING AREA AND DECK POUR SEQUENCE, SEE SHEET 6.
- FOR FRAMING PLAN, SEE SHEET 38.
- FOR DECK PLAN AND SLAB CLOSURE POUR DETAILS, SEE SHEET 48.
- FOR DECK SECTIONS AND BARRIER/SIDEWALK CLOSURE POUR DETAILS, SEE SHEET 49.
- FOR CONCRETE DIAPHRAGM DETAILS, SEE SHEETS 51 THRU 53.
- FOR SUPERSTRUCTURE REINFORCEMENT SCHEDULE, SEE SHEET 54.
- FOR BARRIER ELEVATIONS, SEE SHEET 69.
- ALL REINFORCEMENT DIMENSIONS ARE TRUE DIMENSIONS MEASURED ALONG BRIDGE SLOPE. ALL OTHER DIMENSIONS ARE MEASURED HORIZONTALLY AND DO NOT ACCOUNT FOR BRIDGE SLOPE.
- FOR ADDITIONAL DECK SLAB AND BARRIER DETAILS, SEE BC-752M.
- FOR DRIP NOTCH DETAILS, SEE BC-775M.

- PLACE BARRIER/SIDEWALK CLOSURE POUR AFTER SPMT MOVE WHEN SUPERSTRUCTURE IS IN THE FINAL LOCATION. CAST REMAINDER OF BARRIER IN BRIDGE STAGING AREA PRIOR TO SPMT MOVE. SEE DECK POUR SEQUENCE. USE CLASS H.E.S. CEMENT CONCRETE FOR BARRIER/SIDEWALK CLOSURE POUR. USE CLASS AA CEMENT CONCRETE FOR PORTIONS OF BARRIER /SIDEWALK CONSTRUCTED IN THE BRIDGE STAGING AREA.
- ALTERNATE ADJACENT EC401/EC406, EC504/EC507, AND EC601/EC603 TO STAGGER LAPS.

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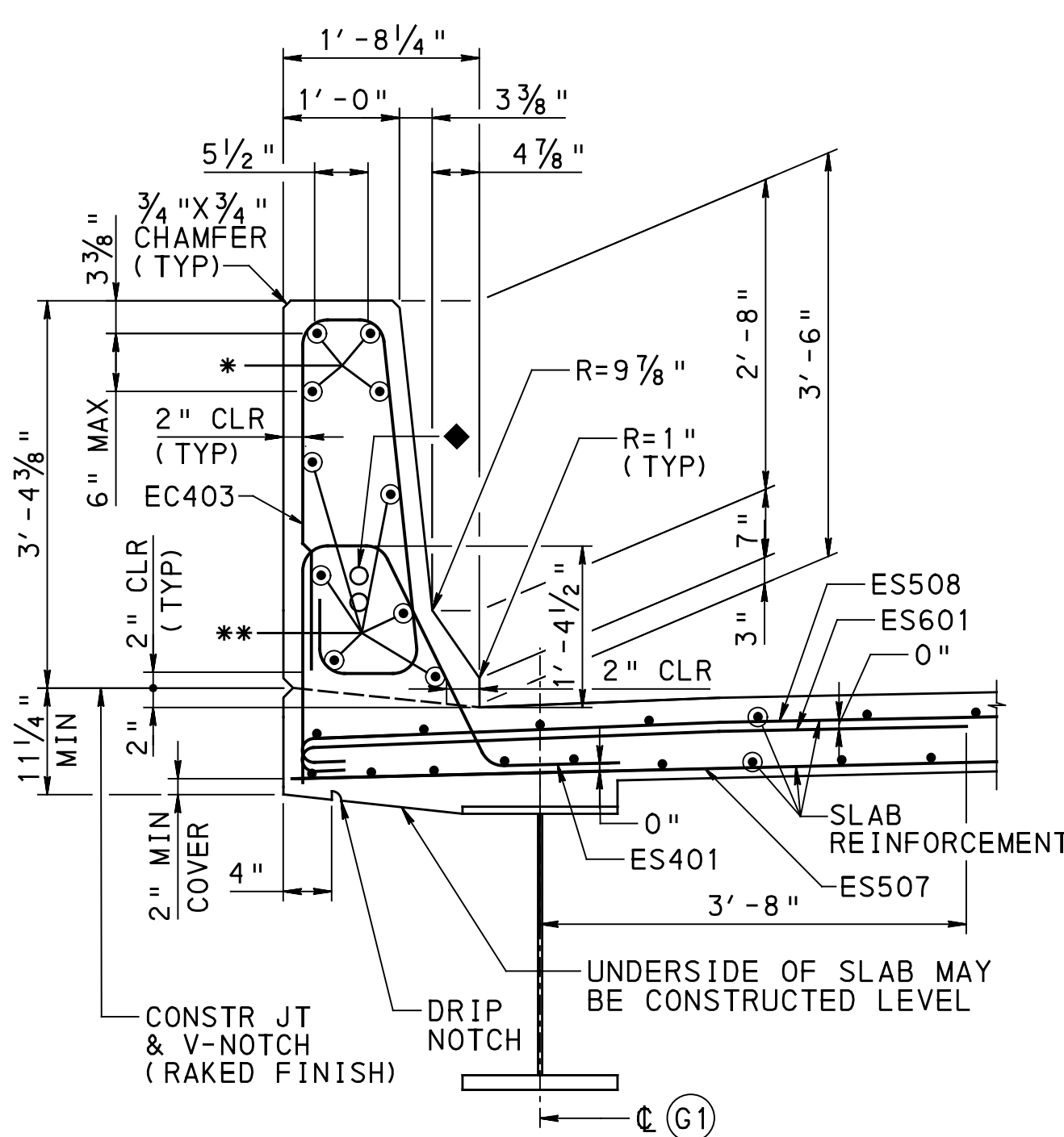
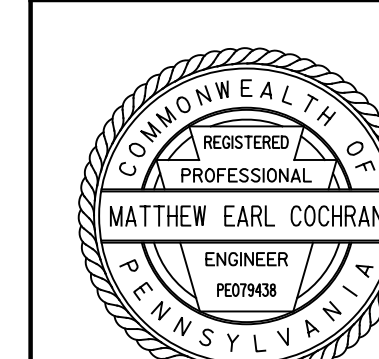
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SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
BARRIER/SIDEWALK DETAILS

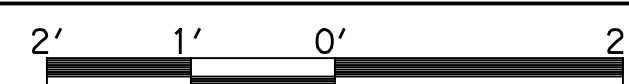
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SHEET 50 OF 83

S - 37605



TYPICAL CONCRETE BARRIER DETAIL

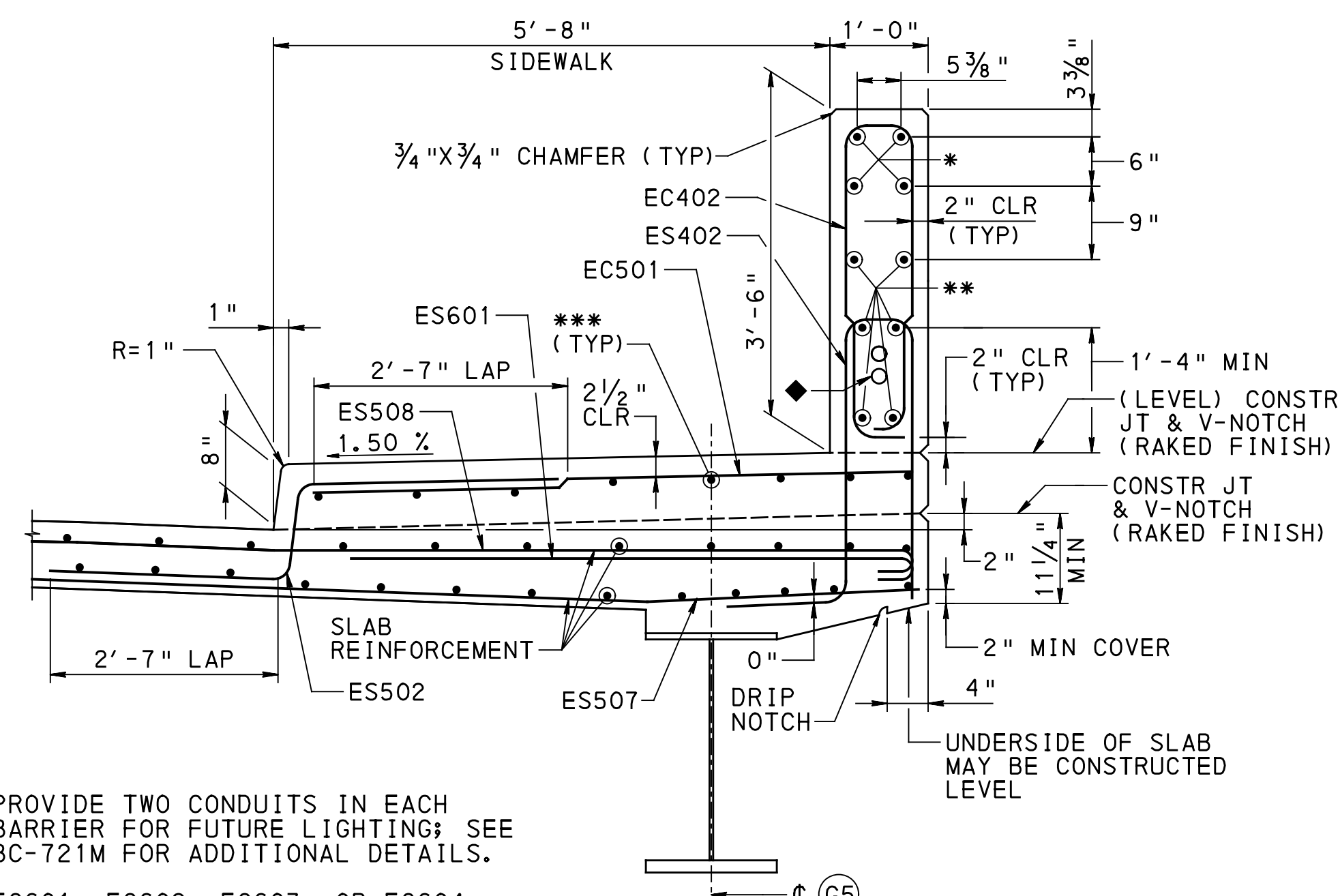


- PROVIDE TWO CONDUITS IN EACH BARRIER FOR FUTURE LIGHTING; SEE BC-721M FOR ADDITIONAL DETAILS.

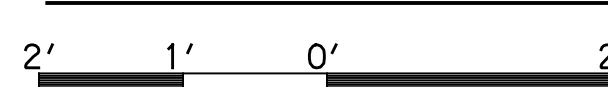
* EC601, EC602, EC603, OR EC604

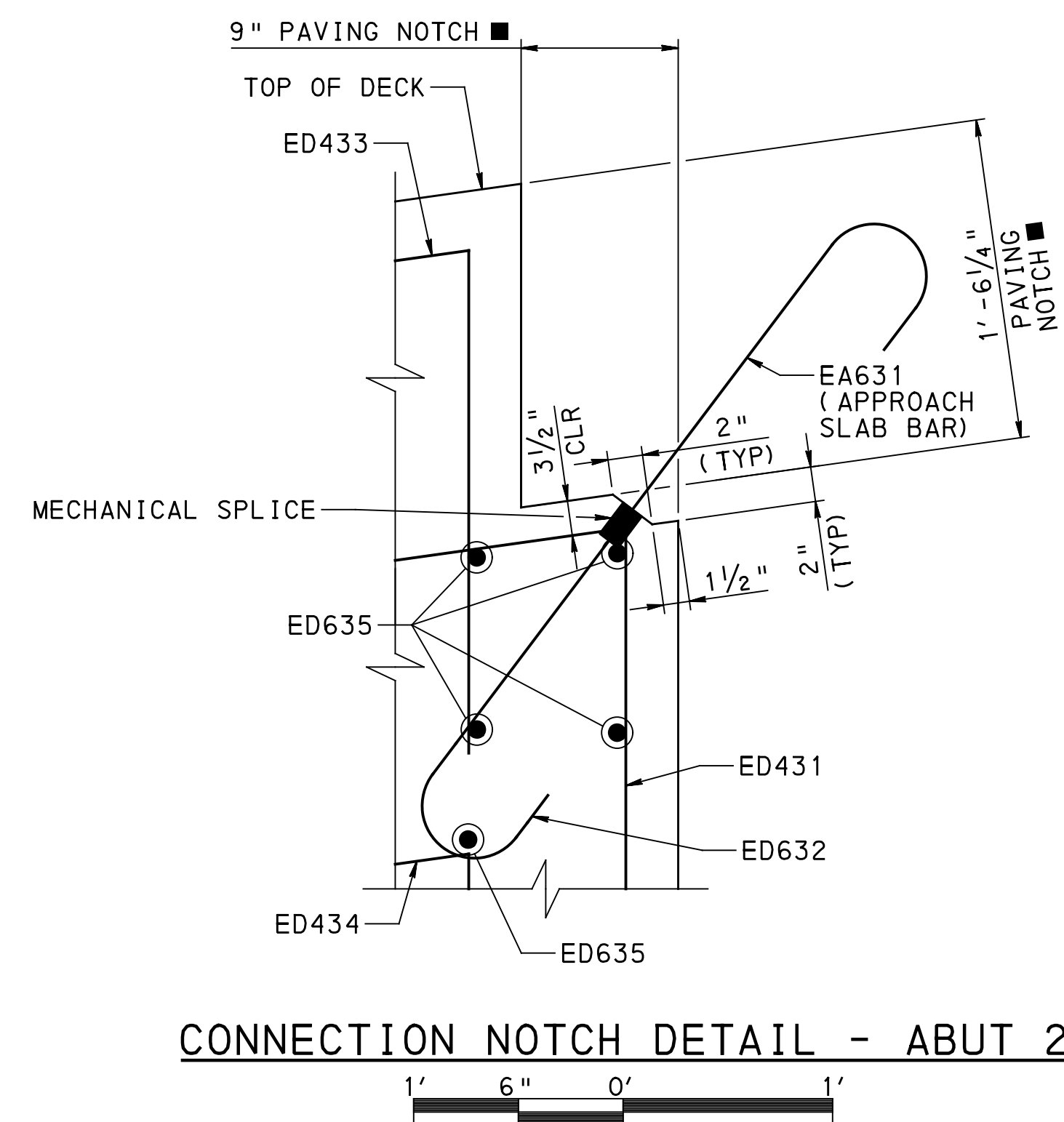
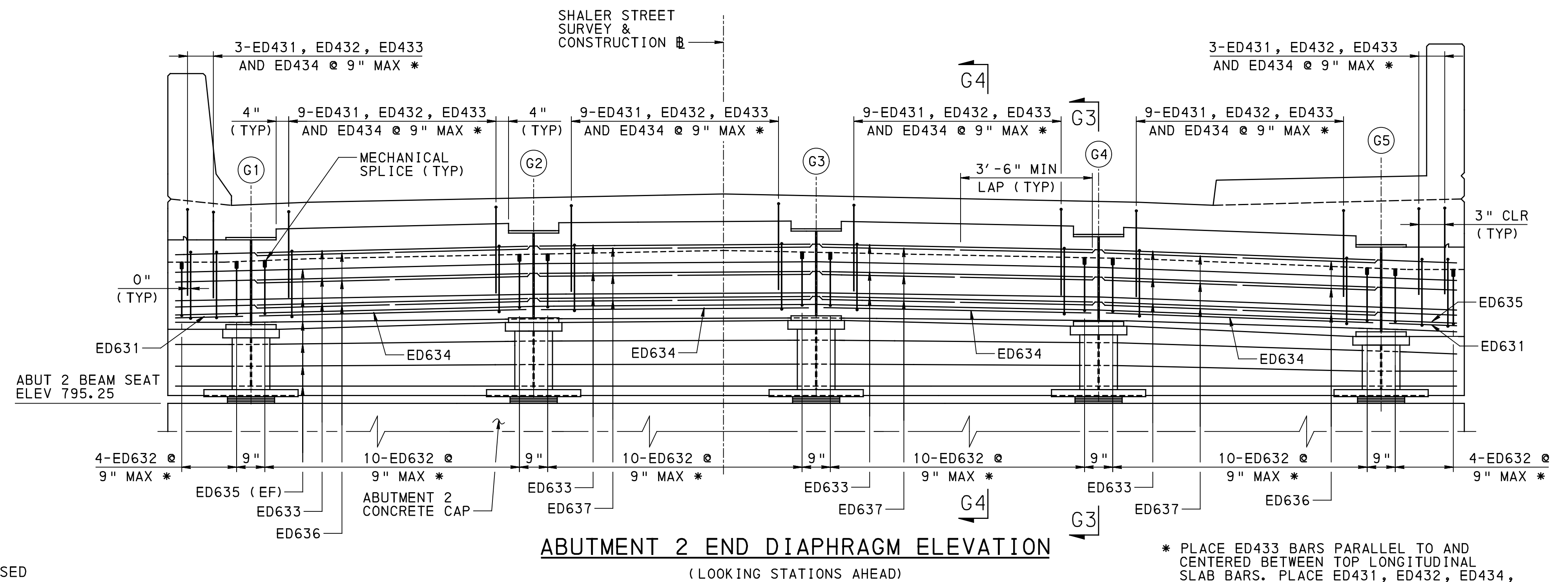
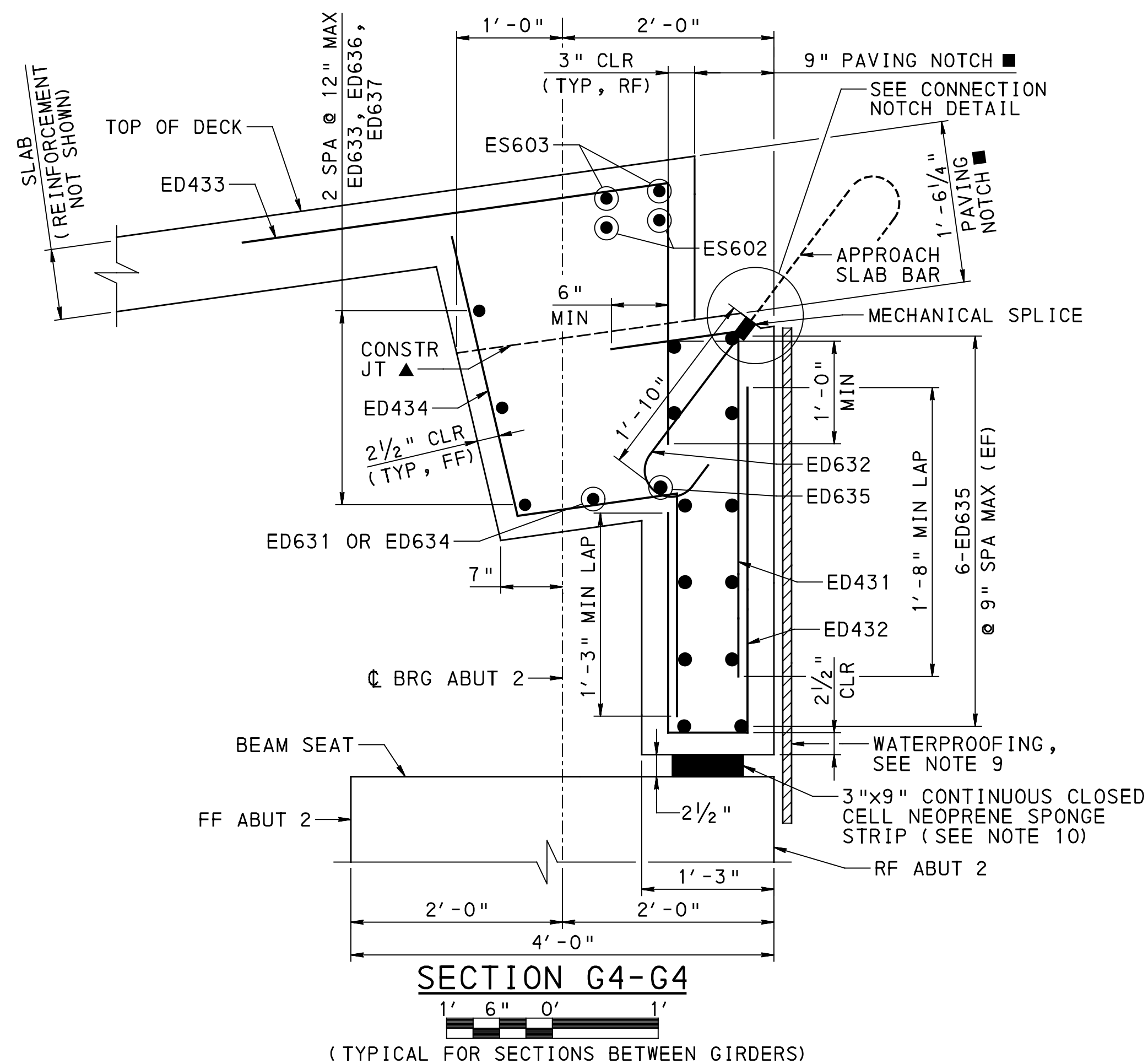
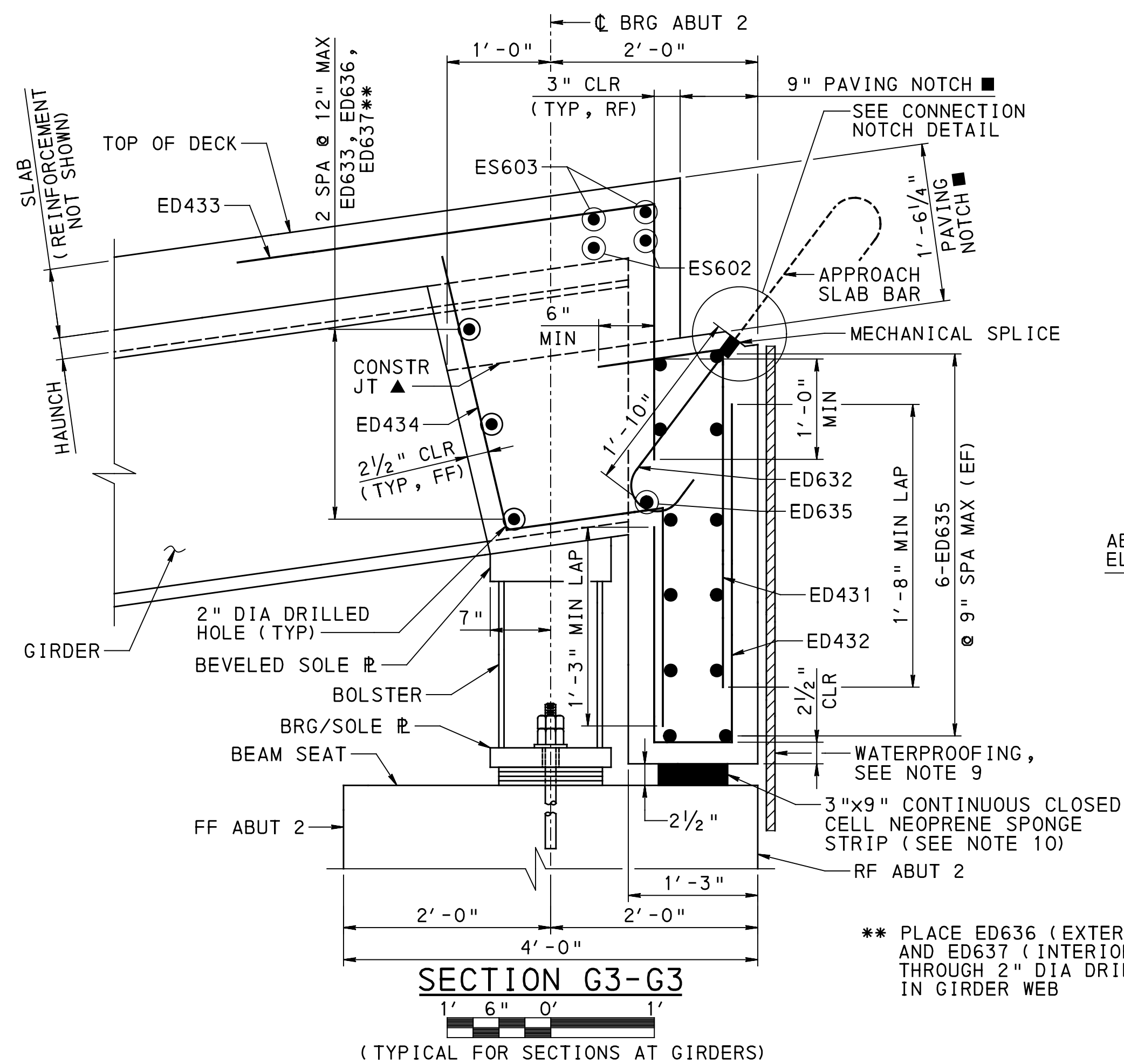
** EC504, EC505, EC506, OR EC507

*** EC401, EC404, EC405, OR EC406



SIDEWALK DETAIL





- NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR DECK POUR SEQUENCE, SEE SHEET 6.
3. FOR ABUTMENT 2 DETAILS, SEE SHEETS 21 THRU 28.
4. FOR GIRDER DETAILS, SEE SHEETS 38 THRU 45.
5. FOR BEARING DETAILS, SEE SHEETS 46 AND 47.
6. FOR DECK REINFORCING DETAILS, SEE SHEETS 48 THRU 50.
7. FOR DIAPHRAGM REINFORCEMENT BAR SCHEDULE, SEE SHEET 54.
8. FOR APPROACH SLAB DETAILS, SEE SHEETS 55 THRU 59.
9. FOR ABUTMENT WATERPROOFING DETAILS, SEE SHEET 27.
10. SHIP AND INSTALL THE 9" WIDE CLOSED CELL NEOPRENE SPONGE IN ONE CONTINUOUS PIECE. SPLICE AS REQUIRED IN THE FABRICATION SHOP ONLY USING AN APPROVED SPONGE ADHESIVE CONTAINING 26% ($\pm 2\%$) NEOPRENE SOLIDS OR EQUAL. USE MANUFACTURER RECOMMENDATIONS FOR FIELD SPLICE IF REQUIRED (INCIDENTAL TO PERMANENT STRUCTURE).

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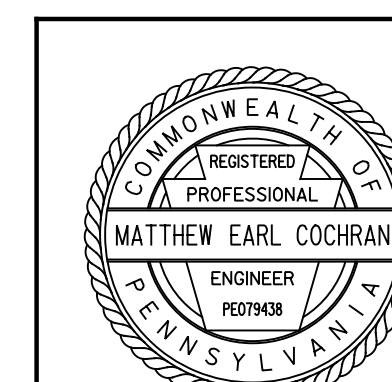
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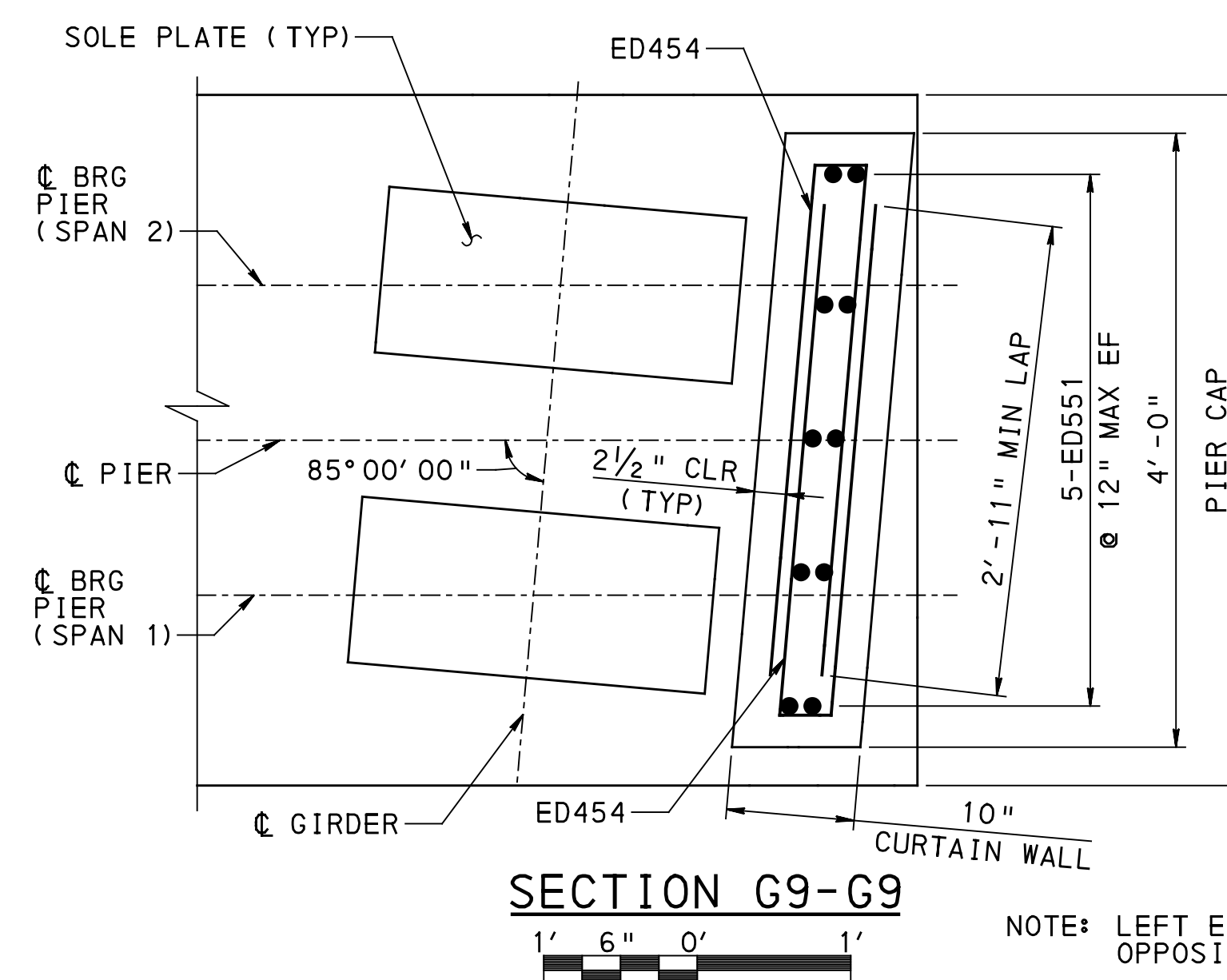
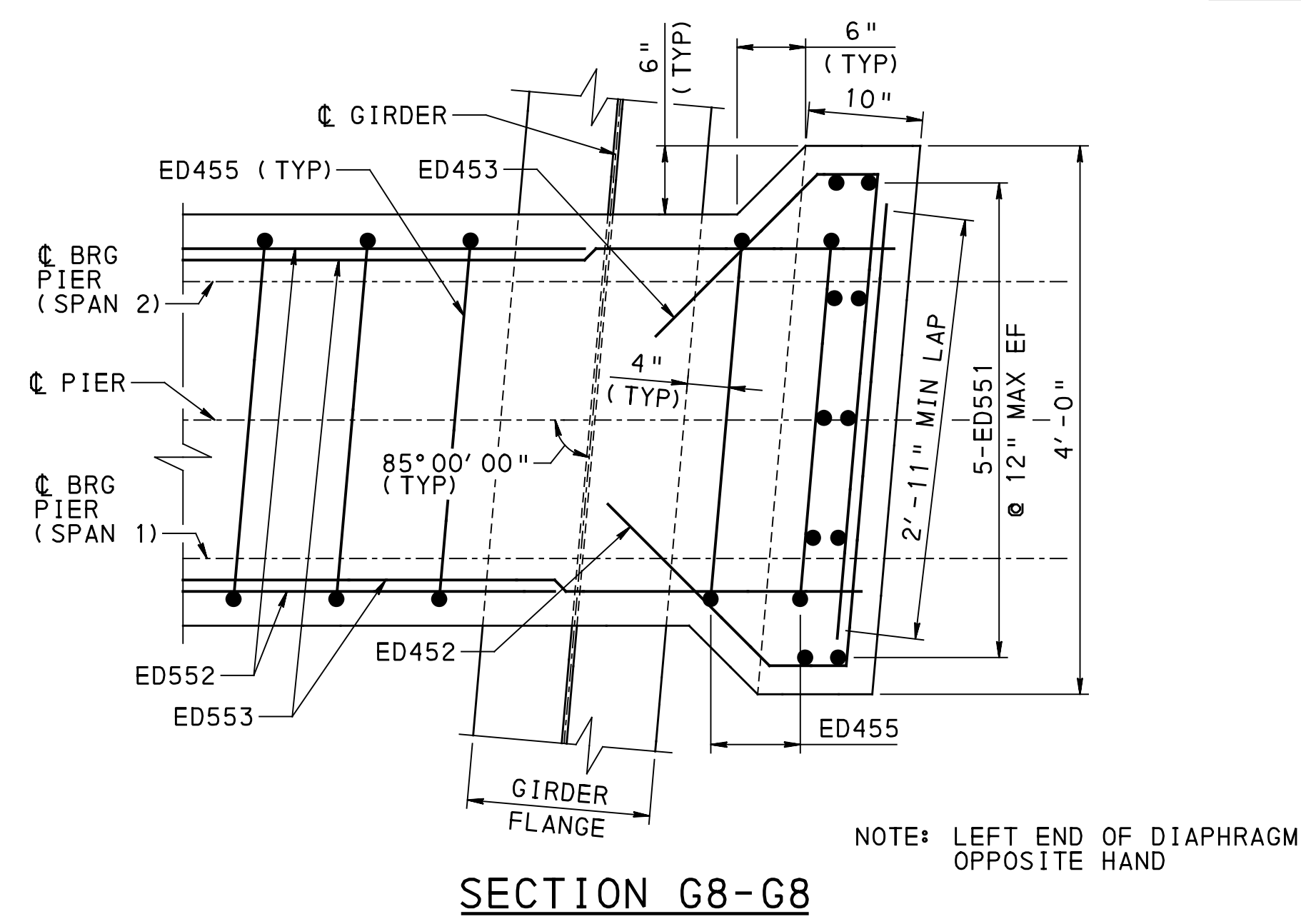
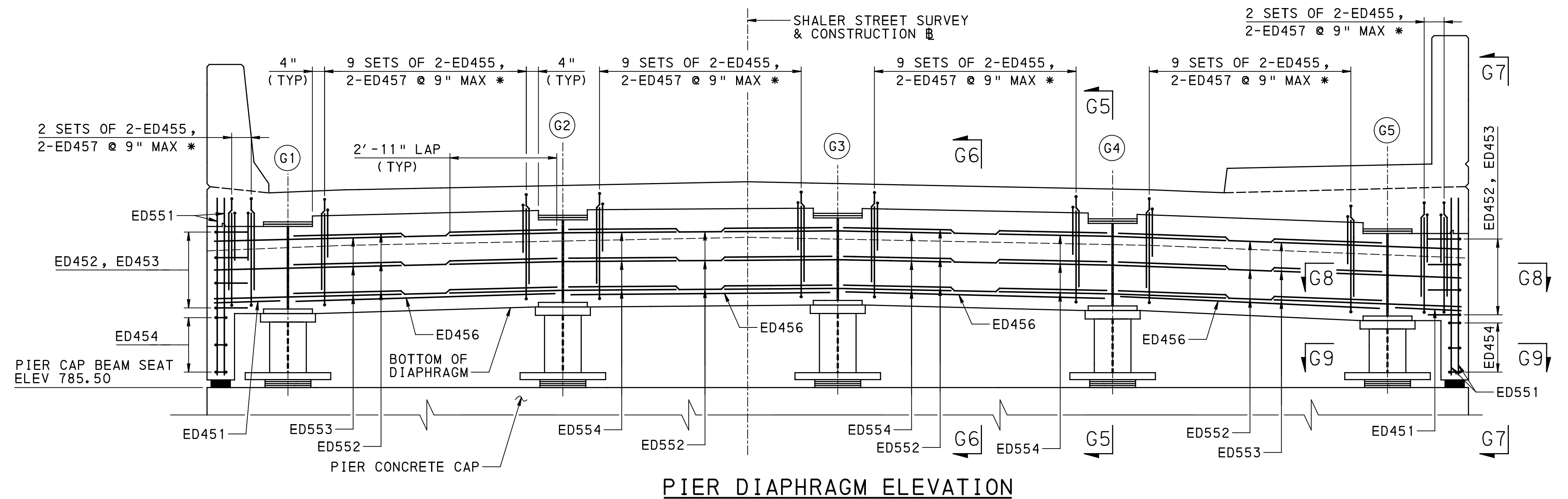
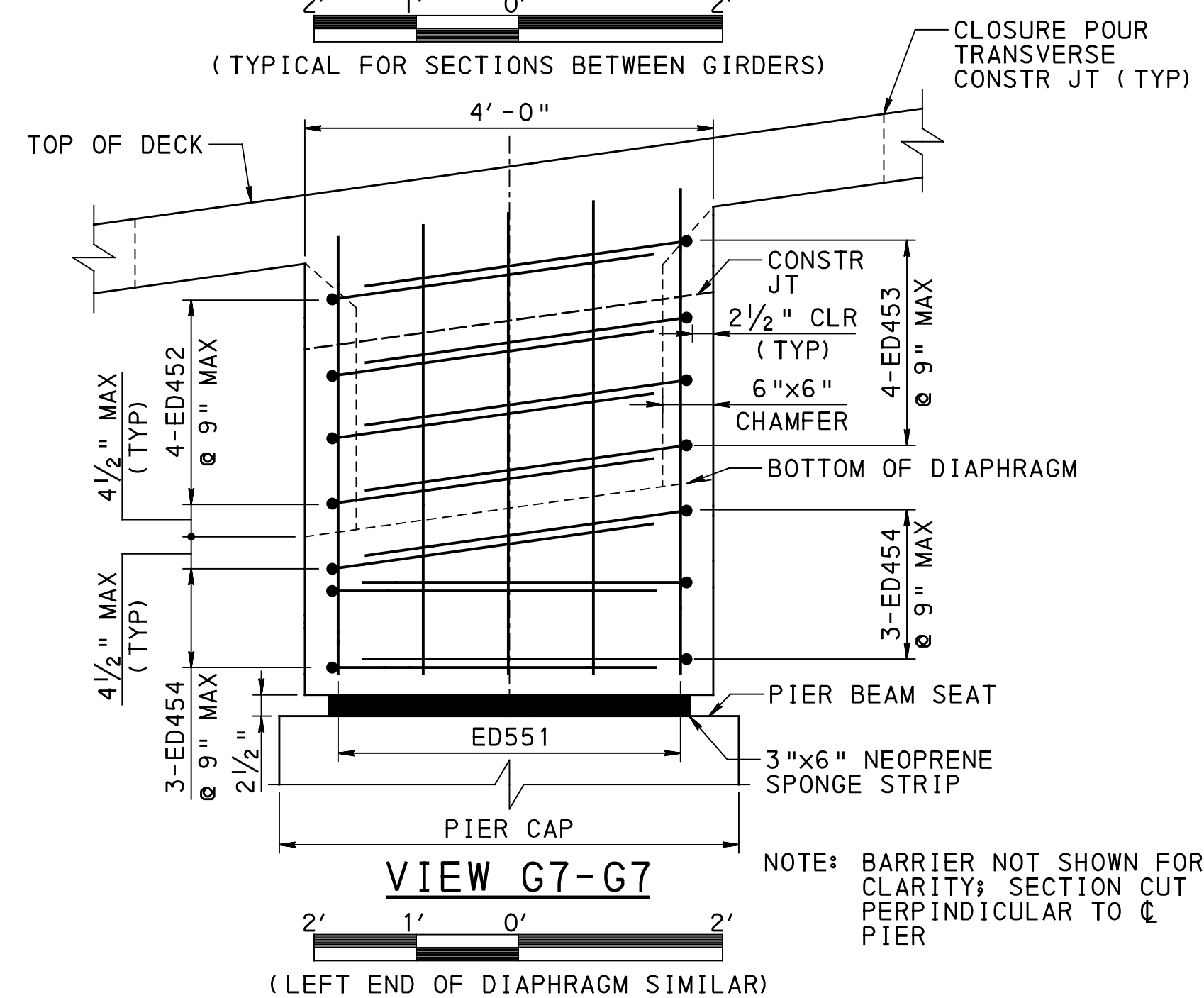
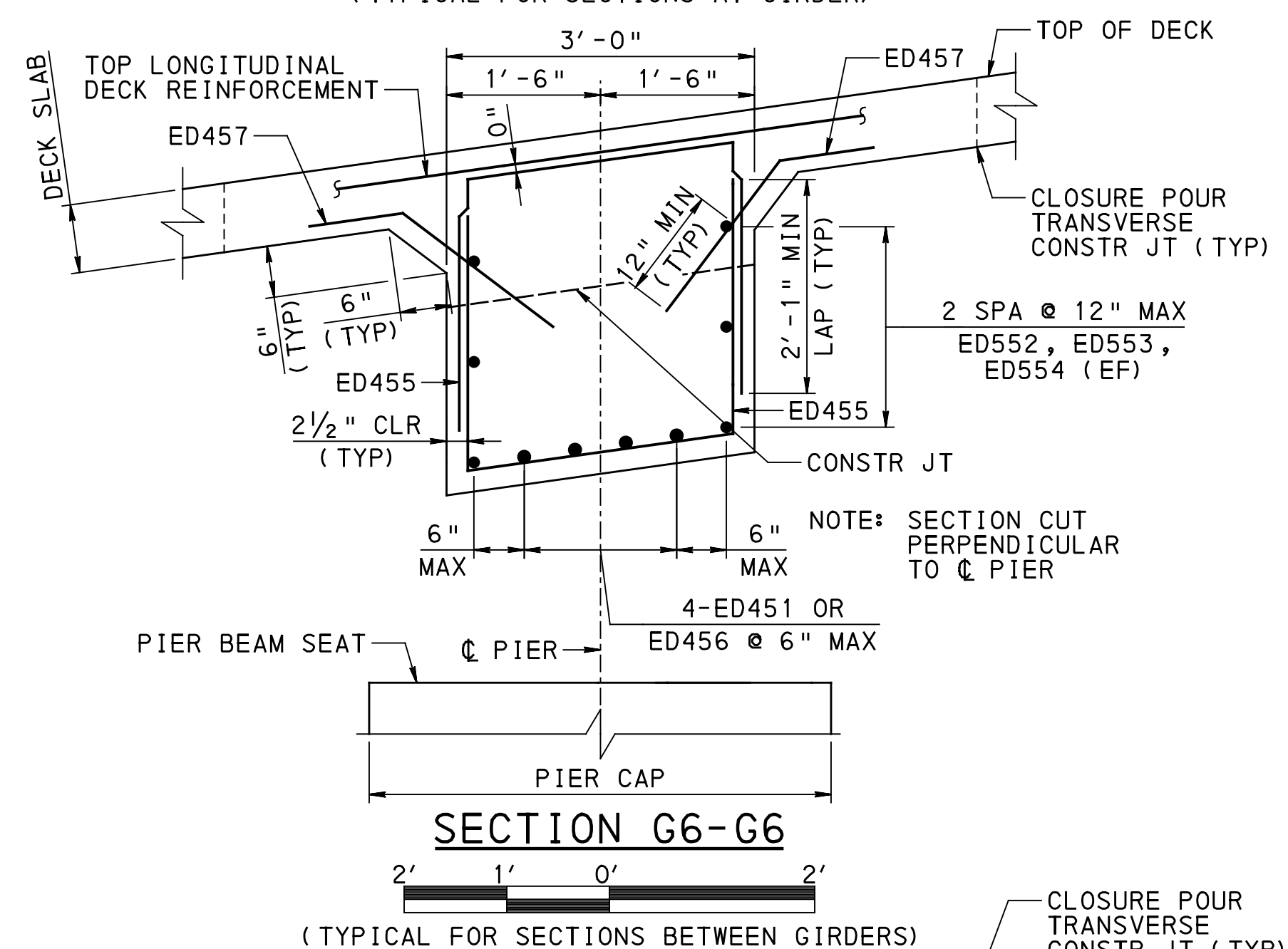
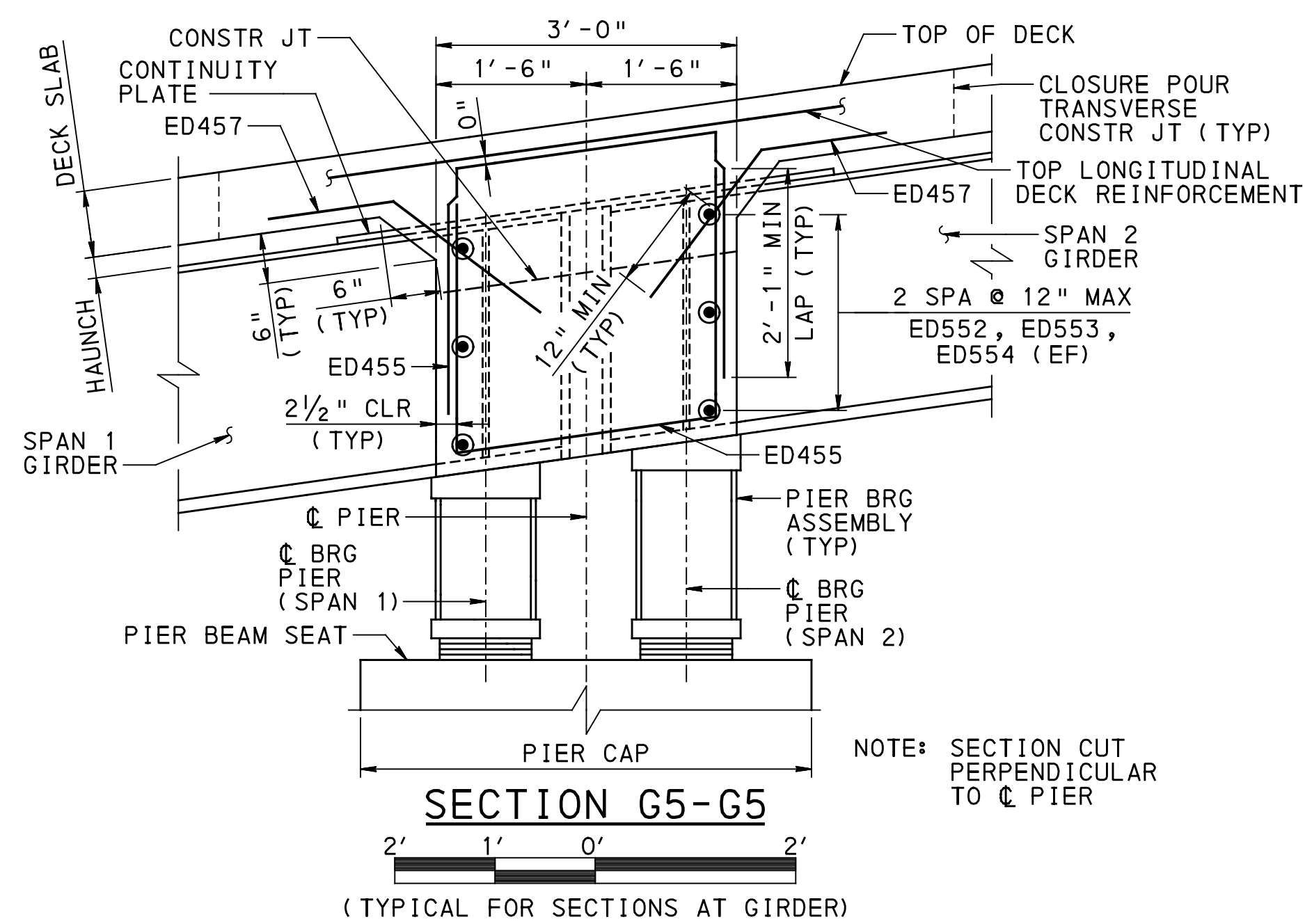
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SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUTMENT 2 CONCRETE DIAPHRAGM

RECOMMENDED 08/03/2018

SHEET 52 OF 83

S - 37605





- NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
2. FOR PIER DETAILS, SEE SHEETS 33 THRU 37.
3. FOR GIRDER DETAILS, SEE SHEETS 38 THRU 45.
4. FOR BEARING DETAILS, SEE SHEETS 46 AND 47.
5. FOR DECK SLAB REINFORCEMENT DETAILS, SEE SHEETS 48 THRU 50.
6. FOR DIAPHRAGM REINFORCEMENT BAR SCHEDULE, SEE SHEET 54.

Mark	Description	By	Chk' d.	Recm' d.	Date
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SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
PIER CONCRETE DIAPHRAGM

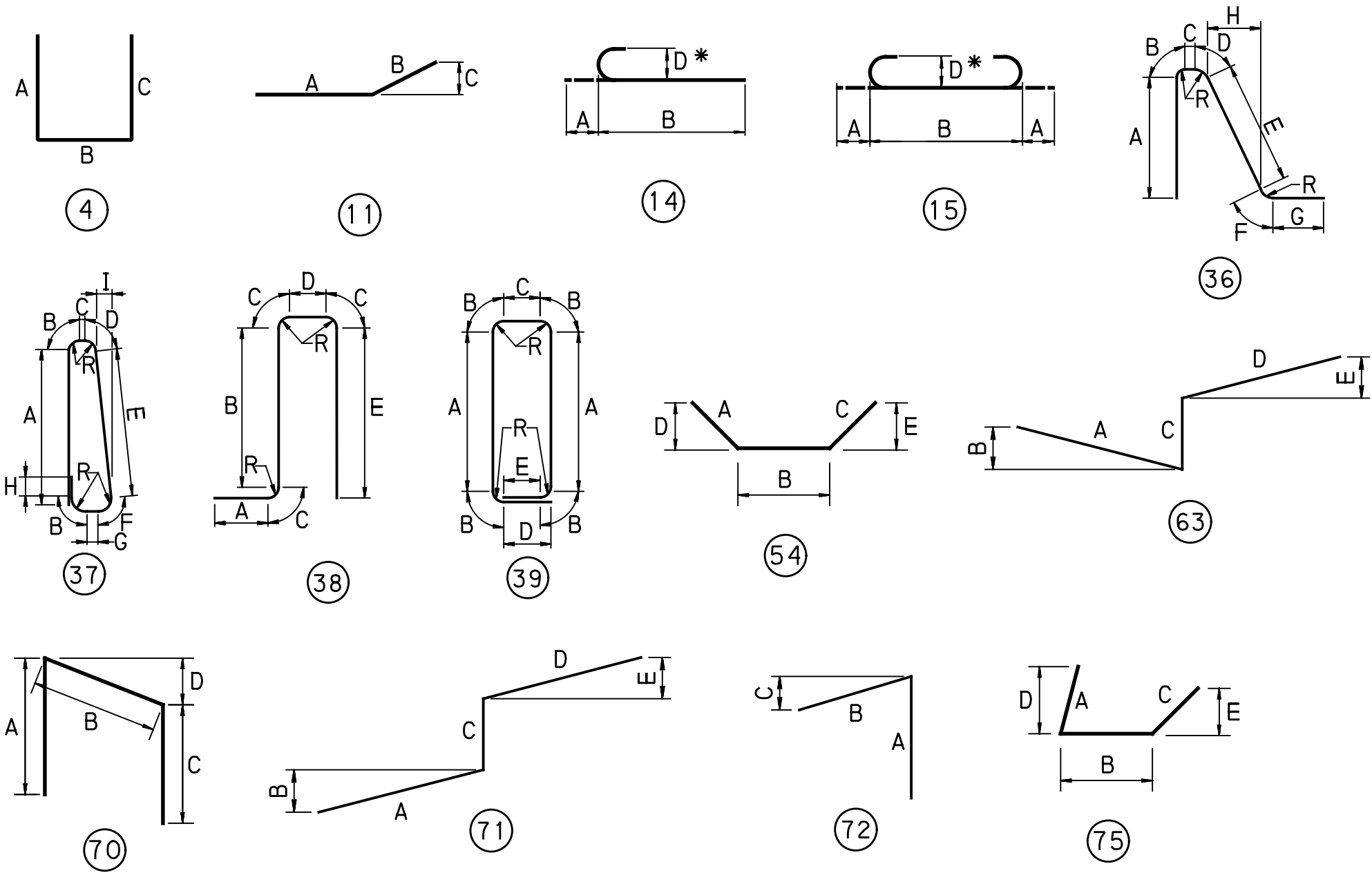
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SHEET 53 OF 83

S - 37605



SUPERSTRUCTURE REINFORCEMENT BAR SCHEDULE															
MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	I	R	REMARKS
DECK SLAB															
ES401	168	4	5'-10"	36	1'-9"	4"	4"	2 ¾"	1'-11"	2 ¾"	1'-0 ½"	10 ⅛"		2"	
ES402	168	4	7'-2"	38	1'-0 ½"	2'-4"	4"	3"	2'-6 ½"					2"	
ES403	74	4	40'-0"	STR											
ES501	73	5	3'-3"	STR											THREADED 3", ONE END ■
ES502	146	5	6'-6"	71	2'-9"	¾"	1'-0"	2'-9"	2 ⅝"						
ES503	72	5	32'-8"	STR											MECH SPLICE, ONE END ■
ES504	64	5	30'-1"	STR											MECH SPLICE, ONE END ■
ES505	74	5	30'-11"	STR											MECH SPLICE, ONE END ■
ES506	76	5	32'-6"	STR											MECH SPLICE, ONE END ■
ES507	243	5	34'-2"	STR											
ES508	309	5	35'-4"	15	7"	34'-2"		5"							
ES509	48	5	41'-11"	STR											
ES510	143	5	7'-4"	STR											THREADED 3", ONE END ■
ES511	48	5	43'-10"	STR											
ES512	70	5	3'-11"	STR											THREADED 3", ONE END ■
ES601	618	6	6'-5"	14	8"	5'-9"		6"							
ES602	4	6	34'-2"	STR											
ES603	4	6	35'-6"	15	8"	34'-2"		6"							
BARRIERS & SIDEWALK															
EC401	8	4	7'-4"	STR											THREADED 3", ONE END ■
EC402	168	4	7'-10"	39	2'-9"	4"	3"	5 ½"	3 ½"					2"	
EC403	168	4	8'-1"	37	2'-9 ½"	4"	3 ⅝"	3 ⅝"	2'-7 ¾"	4 ⅛"	6 ¾"	5 ⅞"	3 ⅝"	2"	
EC404	16	4	35'-2"	STR											MECH SPLICE, ONE END ■
EC405	16	4	35'-2"	STR											
EC406	8	4	2'-9"	STR											THREADED 3", ONE END ■
EC501	146	5	6'-2"	STR											
EC502	4	5	9'-4"	4	4'-5 ¼"	5 ½"	4'-5 ¼"								
EC503	4	5	9'-4"	4	4'-5 ⅝"	5 ¼"	4'-5 ⅝"								
EC504	12	5	9'-6"	STR											THREADED 3", ONE END ■
EC505	24	5	35'-4"	STR											MECH SPLICE, ONE END ■
EC506	24	5	35'-4"	STR											
EC507	12	5	4'-3"	STR											THREADED 3", ONE END ■
EC601	8	6	9'-6"	STR											THREADED 3", ONE END ■
EC602	16	6	35'-8"	STR											MECH SPLICE, ONE END ■
EC603	8	6	5'-0"	STR											THREADED 3", ONE END ■
EC604	16	6	35'-8"	STR											
ABUTMENT 1 DIAPHRAGM															
ED401	42	4	4'-0"	11	2'-7"	1'-5"	1'-4 ⅞"								
ED402	42	4	5'-4"	4	2'-7"	9 ½"	1'-11 ½"								
ED403	42	4	6'-7"	11	2'-9"	3'-10"	3'-9 ½"								
ED404	42	4	5'-8"	71	1'-5"	2 ⅝"	1'-4 ½"	2'-10 ½"	1'-0"						
ED601	2	6	1'-9"	STR											
ED602	48	6	2'-5"	14	8"	1'-9"		6"							MECH SPLICE, ONE END ■
ED603	12	6	7'-1"	STR											
ED604	4	6	7'-0"	STR											
ED605	12	6	34'-0"	STR											
ED606	6	6	5'-9"	STR											
ED607	9	6	7'-6"	STR											
ABUTMENT 2 DIAPHRAGM															
ED431	42	4	4'-7"	72	3'-2 ½"	1'-4 ½"	2 ¼"								
ED432	42	4	5'-9"	4	2'-4"	9 ½"	2'-7 ½								
ED433	42	4	6'-11"	72	2'-8"	4'-3"	7"								
ED434	42	4	5'-10"	63	1'-9"	3"	1'-4 ¾"	2'-8 ¼"	2 ⅞"						
ED631	2	6	1'-9"	STR											
ED632	48	6	2'-6"	14	8"	1'-10"		6"							MECH SPLICE, ONE END ■
ED633	12	6	7'-1"	STR											
ED634	4	6	7'-0"	STR											
ED635	13	6	34'-0"	STR											
ED636	6	6	5'-9"	STR											
ED637	9	6	7'-6"	STR											
PIER DIAPHRAGM															
ED451	8	4	1'-9"	STR											
ED452	8	4	5'-7"	54	3'-4 ½"	6 ½"	1'-8"	3'-4 ⅜"	1'-2 ¼"						
ED453	8	4	5'-8"	75	3'-4 ¾"	6 ¼"	1'-9"	3'-4 ⅝"	1'-2 ⅞"						
ED454	12	4	7'-1"	70	3'-4"	5"	3'-4"	0 ⅞"							
ED455	80	4	7'-11"	70	2'-8"	2'-7"	2'-8"	4 ⅝"							
ED456	16	4	7'-0"	STR											
ED457	80	4	3'-1"	11	1'-3"	1'-10"	1'-3 ½"								
ED551	20	5	VARIES 4'-3" TO 4'-9"	STR											4 SETS OF 5 VARY EA BY ΔL = 1 ½"
ED552	24	5	7'-1"	STR											
ED553	12	5	5'-2"	STR											
ED554	18	5	6'-4"	STR											



LEGEND:

- BAR IS SPLICED WITH MECHANICAL SPLICE. BAR LENGTH INCLUDES 3" THREADED LENGTH WHERE "THREADED 3" IS INDICATED. BARS WHERE "MECH SPLICE, ONE END" IS INDICATED HAVE NOT BEEN ADJUSTED TO ACCOUNT FOR THE LENGTH OF MECHANICAL SPLICE. ADJUST BAR LENGTHS FOR ACTUAL DIMENSIONS OF MECHANICAL SPLICE.
- NOTES:
- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
 - FOR DECK DETAILS, SEE SHEETS 48 AND 49.
 - FOR DECK SIDEWALK/BARRIER DETAILS, SEE SHEET 50.
 - FOR DIAPHRAGM DETAILS, SEE SHEETS 51 THRU 53.
 - FOR REINFORCEMENT BAR FABRICATION DETAILS, SEE STANDARD DRAWING BC-736M.
 - PREFIX "E" DENOTES EPOXY COATED REINFORCEMENT BARS.
 - ALL DIMENSIONS ARE OUT-TO-OUT OF BARS EXCEPT "A" ON STANDARD 180°HOOKS AND "R" WHICH IS SHOWN AT THE INSIDE OF THE BAR.
 - FIGURES IN CIRCLES SHOW BAR TYPE.
 - "STR" DENOTES STRAIGHT BAR.

Mark	Description	By	Chk'd.	Recm'd.	Date
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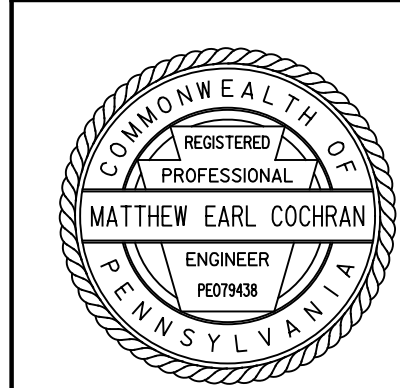
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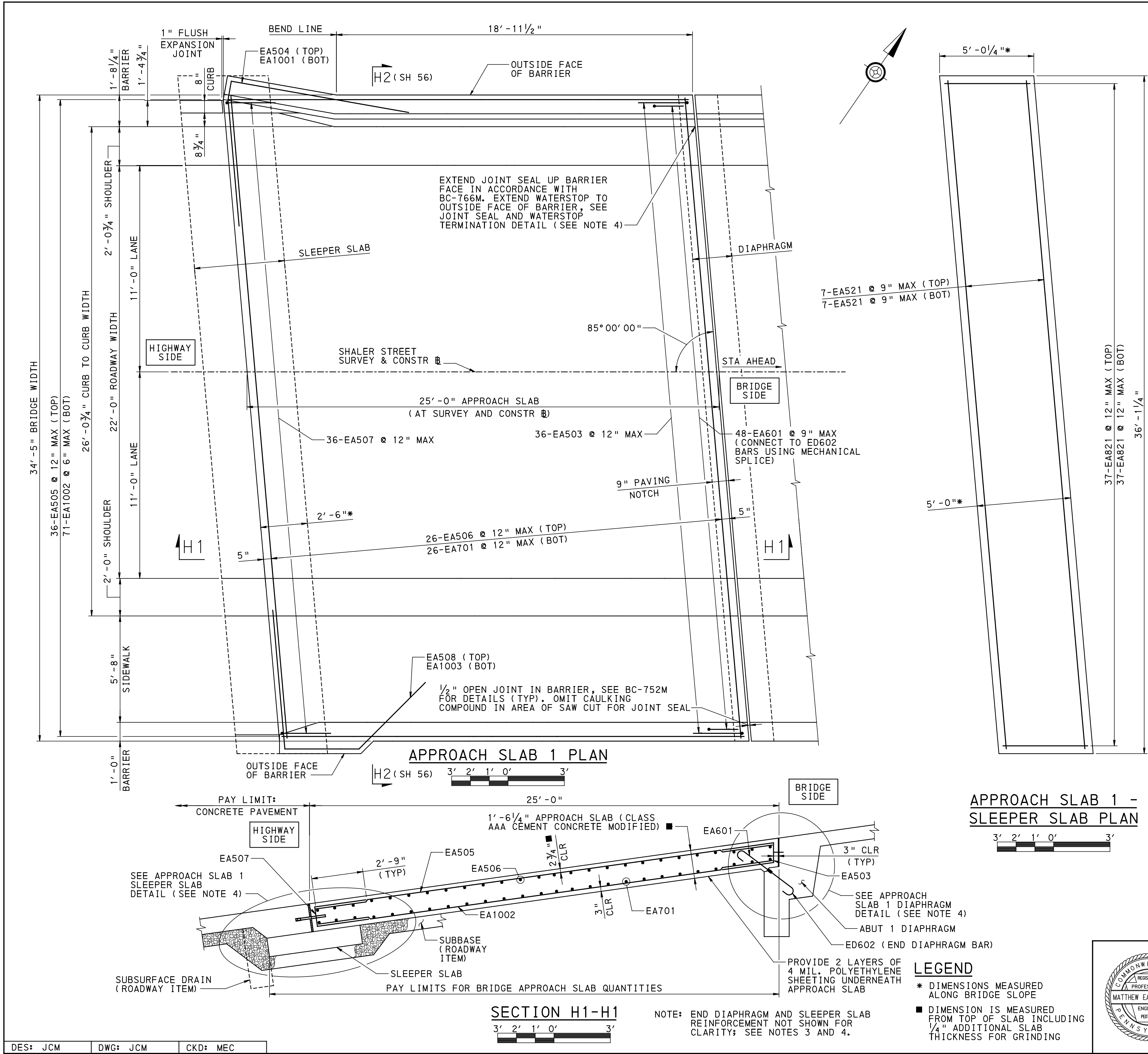
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SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
SUPERSTRUCTURE BAR SCHEDULE

RECOMMENDED 08/03/2018

SHEET 54 OF 83

S - 37605





NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.
2. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
3. FOR ABUTMENT 1 CONCRETE DIAPHRAGM DETAILS, SEE SHEET 51.
4. FOR ADDITIONAL APPROACH SLAB 1 DETAILS, SEE SHEET 56.
5. FOR APPROACH SLAB 2 DETAILS, SEE SHEETS 57 AND 58.
6. FOR APPROACH SLAB BARRIER DETAILS, SEE SHEET 59.
7. FOR APPROACH SLAB 1 REINFORCEMENT SCHEDULE SEE SHEET 60.
8. FOR BARRIER ELEVATION VIEWS, SEE SHEET 69.
9. FOR BARRIER OPEN JOINT DETAILS, SEE BC-752M.
10. FOR ADDITIONAL PREFORMED NEOPRENE COMPRESSION SEAL JOINT DETAILS, SEE BC-766M.

APPROACH SLAB NOTES:

1. CONSTRUCT BRIDGE APPROACH SLAB AFTER THE SUPERSTRUCTURE SEGMENTS HAVE BEEN SET IN THEIR PERMANENT LOCATIONS AND ANCHOR BOLTS HAVE BEEN INSTALLED.
2. PLACE CONCRETE IN ONE CONTINUOUS OPERATION, UNLESS OTHERWISE INDICATED OR DIRECTED.
3. TRANSVERSE CONSTRUCTION JOINTS ARE NOT PERMITTED IN THE CONCRETE APPROACH SLAB OR SLEEPER SLAB UNLESS OTHERWISE INDICATED.
4. ALL REINFORCEMENT DIMENSIONS ARE TRUE DIMENSIONS, MEASURED ALONG BRIDGE SLOPE. ALL OTHER DIMENSIONS ARE MEASURED HORIZONTALLY AND DO NOT ACCOUNT FOR BRIDGE SLOPE, UNLESS OTHERWISE INDICATED.

JOINT PREPARATION NOTES:

1. THE JOINT OPENING IS TO BE FORMED BY A TWO-STAGE SAWING OPERATION WHERE ACCESSIBLE. WHERE ACCESSIBILITY IS LIMITED, THE JOINT OPENING SHALL BE FORMED. THE FIRST SAW CUT IS DESIGNED TO CONTROL CRACKING. THE SECOND SAW CUT IS MADE USING A DOUBLE-BLADED WATER-COOLED SAW CAPABLE OF HOLDING A TOLERANCE OF $\pm 1/16$ " TO CREATE THE PROPER OPENING FOR THE PREFORMED NEOPRENE COMPRESSION SEAL OR INVERTED V JOINT SEAL.
2. WATER BLAST OPENING IMMEDIATELY FOLLOWING SAW CUTTING OPERATION TO REMOVE ANY RESIDUAL SLURRY BEFORE IT DRIES.
3. THE DEPTH OF THE JOINT OPENING EQUALS THE HEIGHT OF THE SEAL PLUS 1". THE WIDTH OF THE SECOND SAW CUT SHOULD BE ADJUSTED TO ACCOUNT FOR THE CONCRETE SURFACE TEMPERATURE AT THE TIME OF SAWING; SEE MANUFACTURER'S PRODUCT INFORMATION.
4. BEFORE INSTALLING THE SEAL, ABRASIVE BLAST THE BONDING SURFACES TO THOROUGHLY CLEAN THE JOINT OPENING AND REMOVE FOREIGN MATERIAL, INCLUDING BROKEN CONCRETE. USE WATER AND OIL FREE COMPRESSED AIR TO BLOW OUT RESIDUE FROM THE SEAL GROOVE OPENING.
5. PREPARE BONDING SURFACES AND INSTALL JOINT SEAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. DO NOT EXCEED 3% ELONGATION OF THE SEAL, IF STRETCHING OCCURS.

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SR 3110 PREVIOUSLY KNOWN AS LR 247
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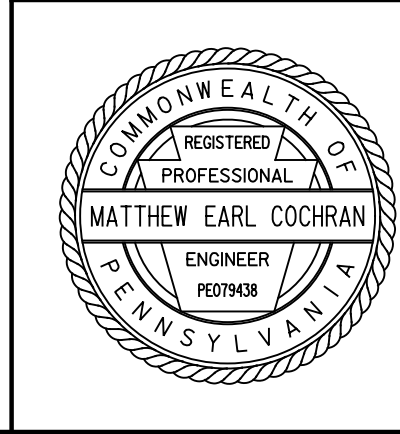
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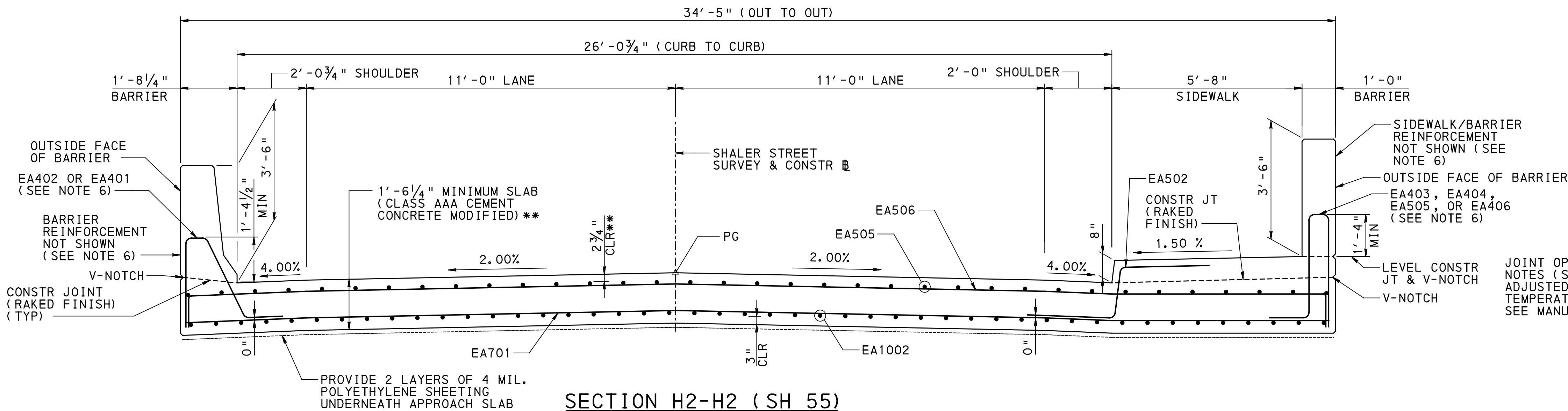
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SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
APPROACH SLAB 1

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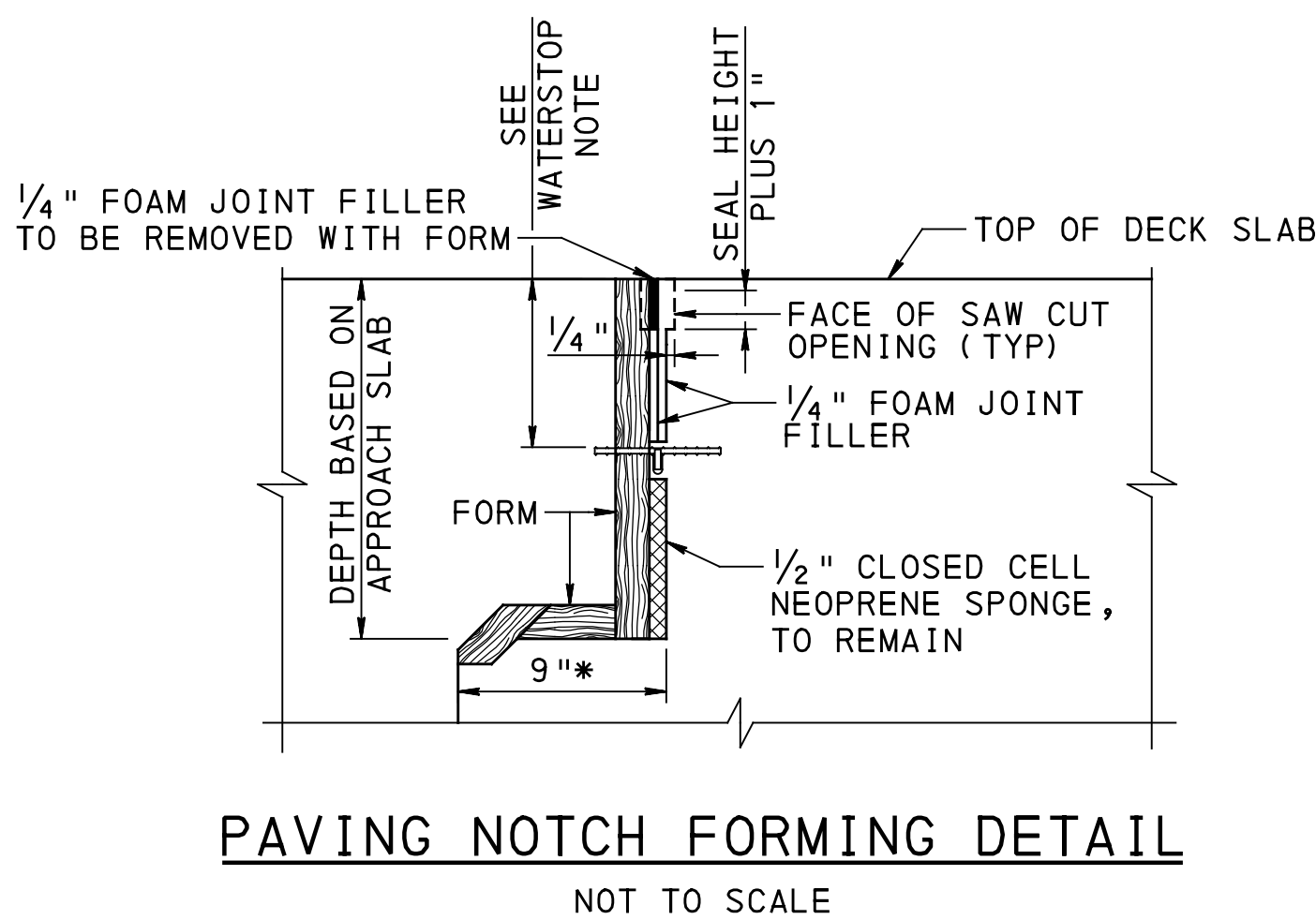
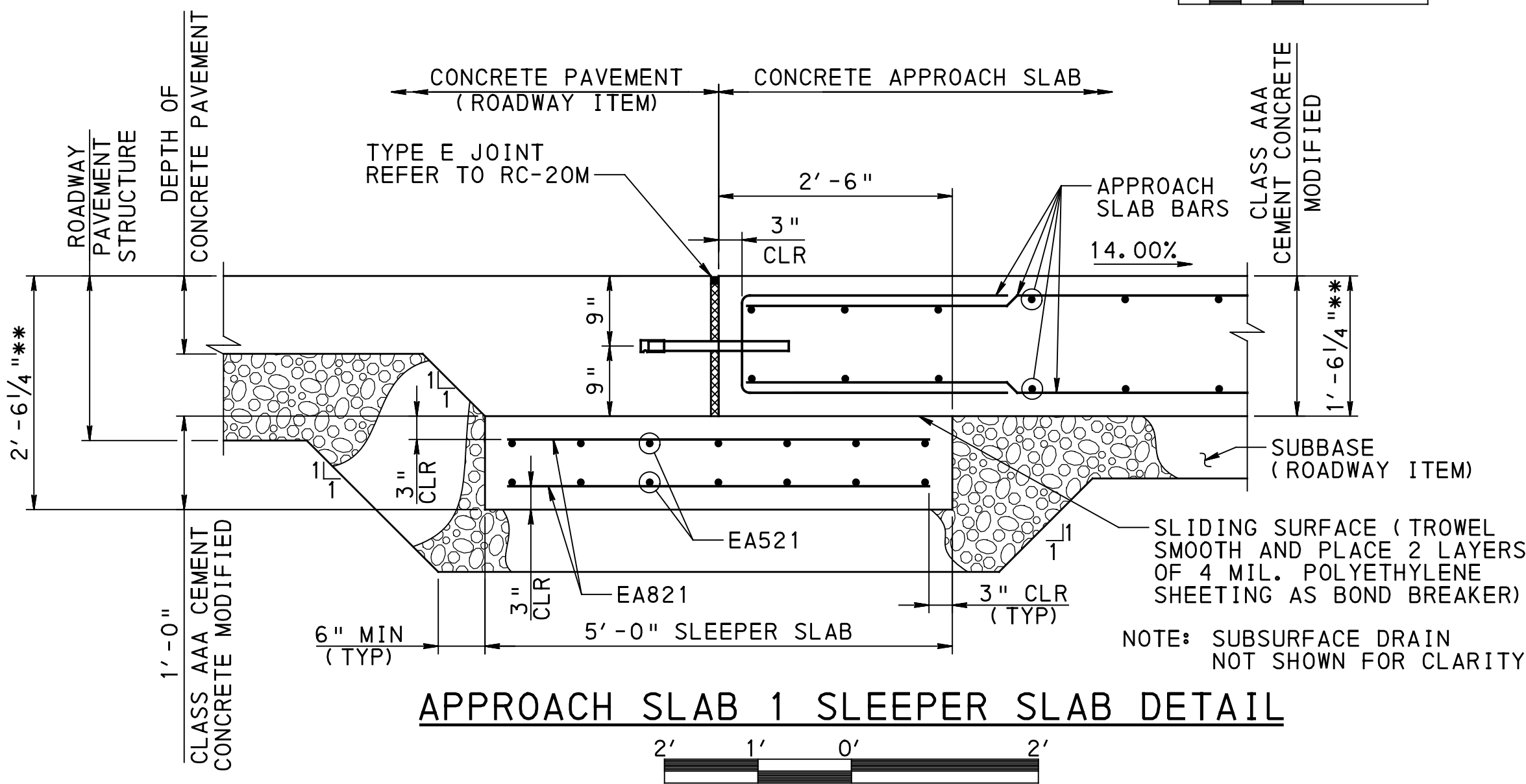
SHEET 55 OF 83

S - 37605

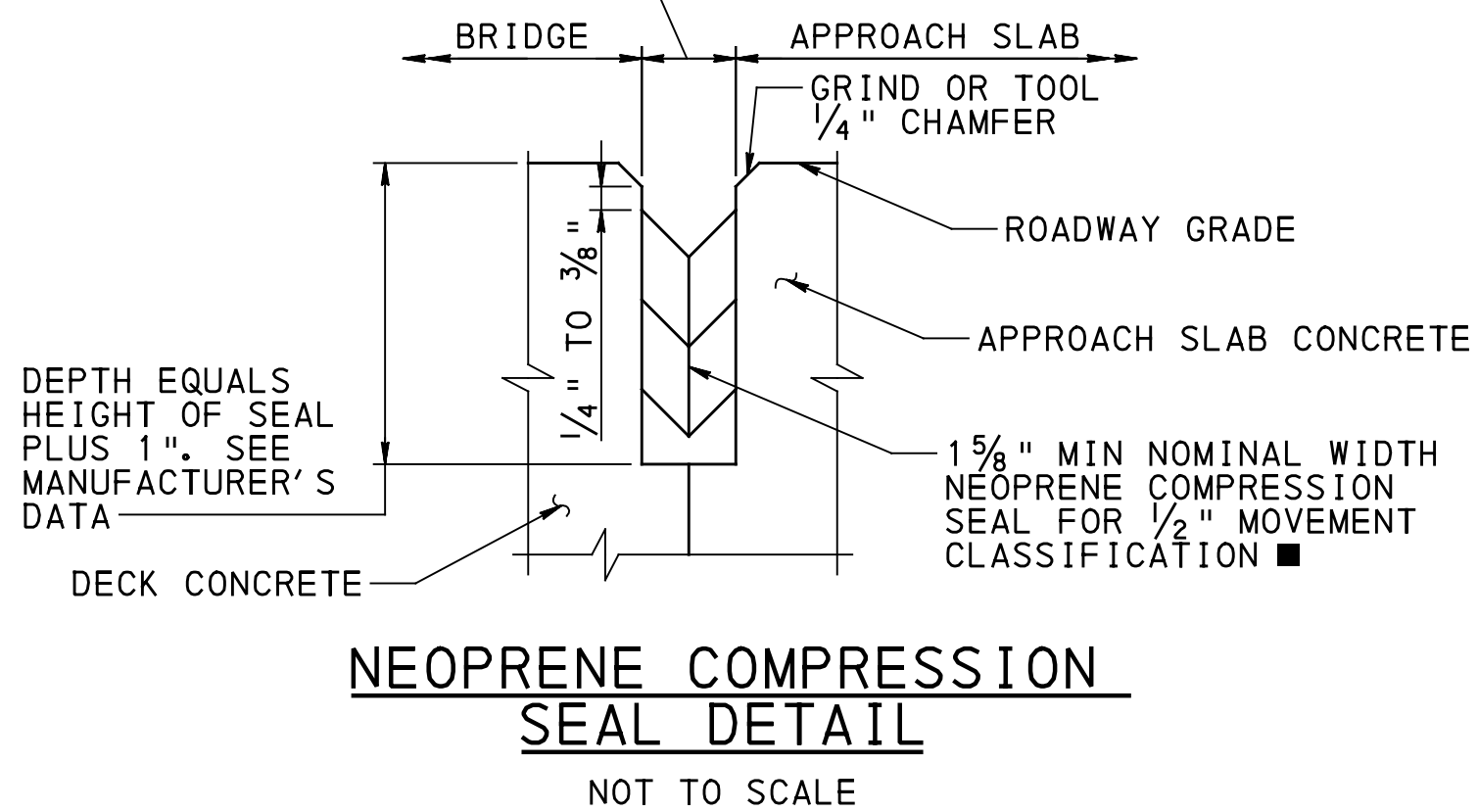




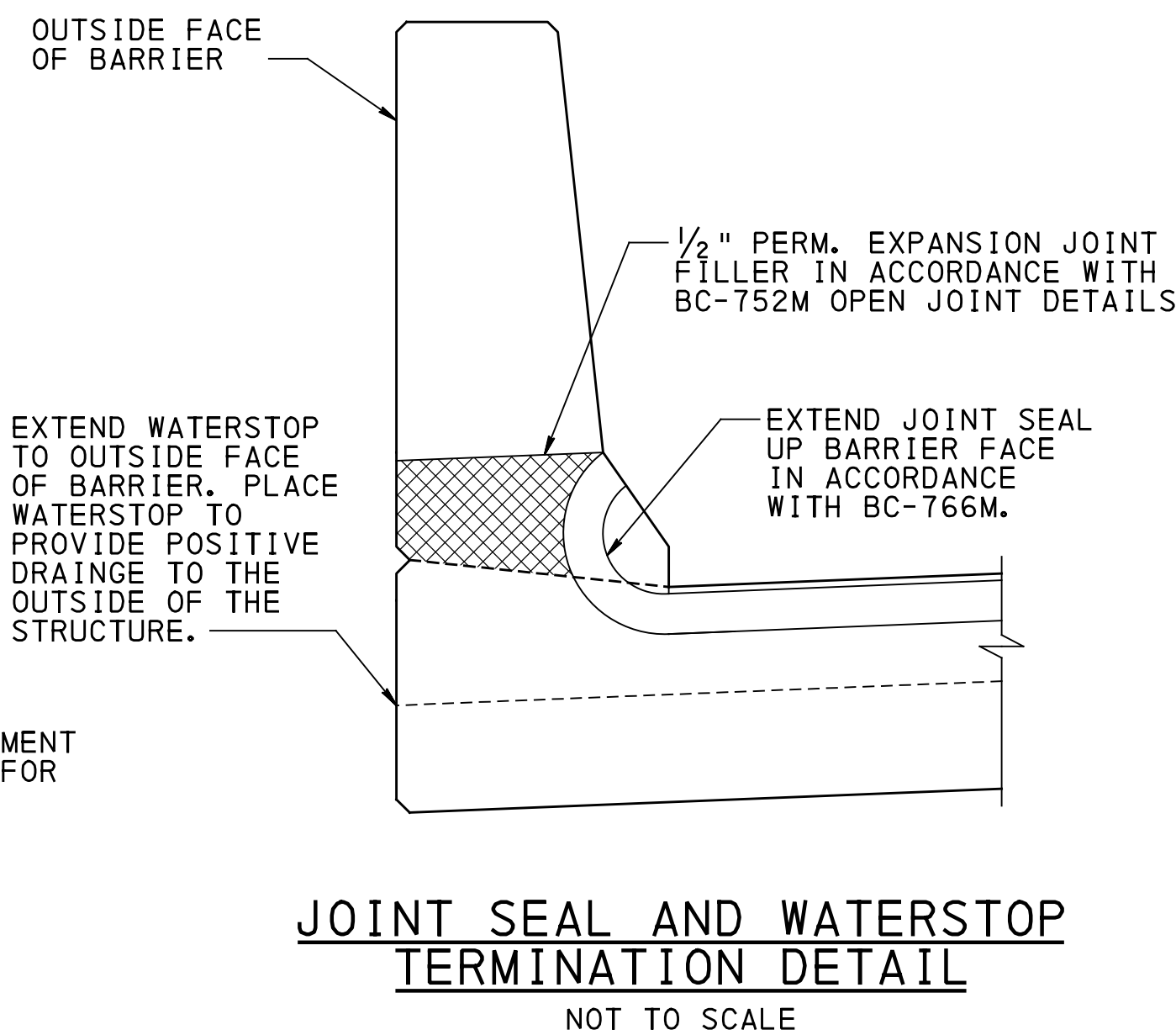
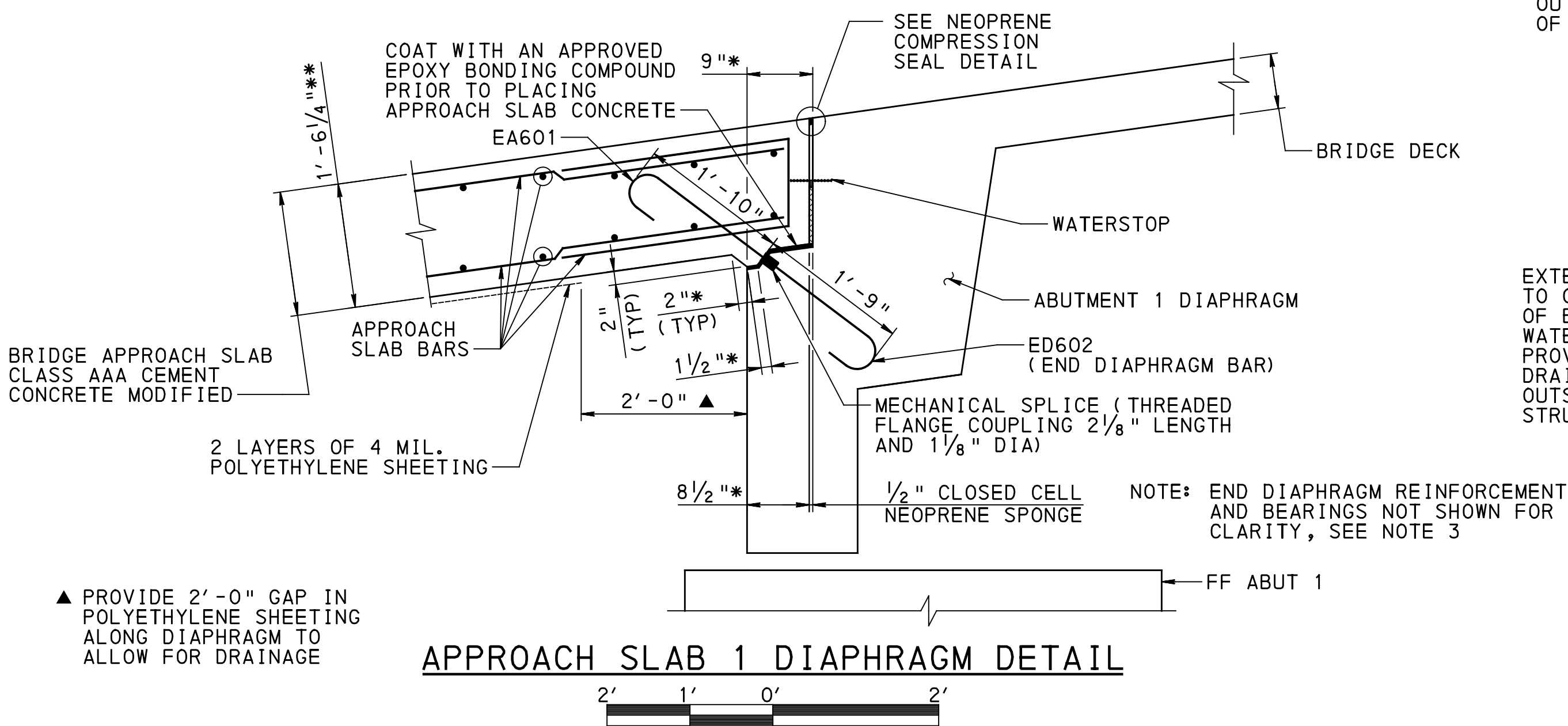
- LEGEND**
- * MEASURED NORMAL TO ABUTMENT
 - ** DIMENSION IS MEASURED FROM TOP OF SLAB INCLUDING 1/4" ADDITIONAL SLAB THICKNESS FOR GRINDING
 - USE ONLY APPROVED SEALS, AS LISTED IN BULLETIN 15. INSTALL JOINT SEALS TO A UNIFORM DEPTH WITH THE TOP OF THE SEAL FROM 1/4" TO 1/2" BELOW THE LEVEL OF THE CHAMFER. MAKE THE TOP EDGES OF THE CONTACT SURFACES ON BOTH SIDES OF THE SEAL AT THE SAME ELEVATION.



JOINT OPENING FOR JOINT SEAL, SEE JOINT PREPARATION NOTES (SEE NOTE 4). WIDTH OF OPENING SHOULD BE ADJUSTED TO ACCOUNT FOR THE CONCRETE SURFACE TEMPERATURE AT THE TIME OF SAWING. SEE MANUFACTURER'S DATA.



- NOTES:**
- FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.
 - FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
 - FOR ABUTMENT 1 CONCRETE DIAPHRAGM DETAILS, SEE SHEET 51.
 - FOR ADDITIONAL APPROACH SLAB 1 DETAILS, APPROACH SLAB NOTES, AND JOINT PREPARATION NOTES, SEE SHEET 55.
 - FOR APPROACH SLAB 2 DETAILS, SEE SHEETS 57 THRU 58.
 - FOR APPROACH SLAB BARRIER DETAILS, SEE SHEET 59.
 - FOR APPROACH SLAB 1 REINFORCEMENT SCHEDULE SEE SHEET 60.
 - FOR APPROACH SLAB BARRIER ELEVATION VIEWS, SEE SHEET 69.
 - FOR ADDITIONAL NEOPRENE COMPRESSION SEAL JOINT DETAILS, SEE BC-766M.



Mark	Description	By	Chk'd.	Rec'd.	Date
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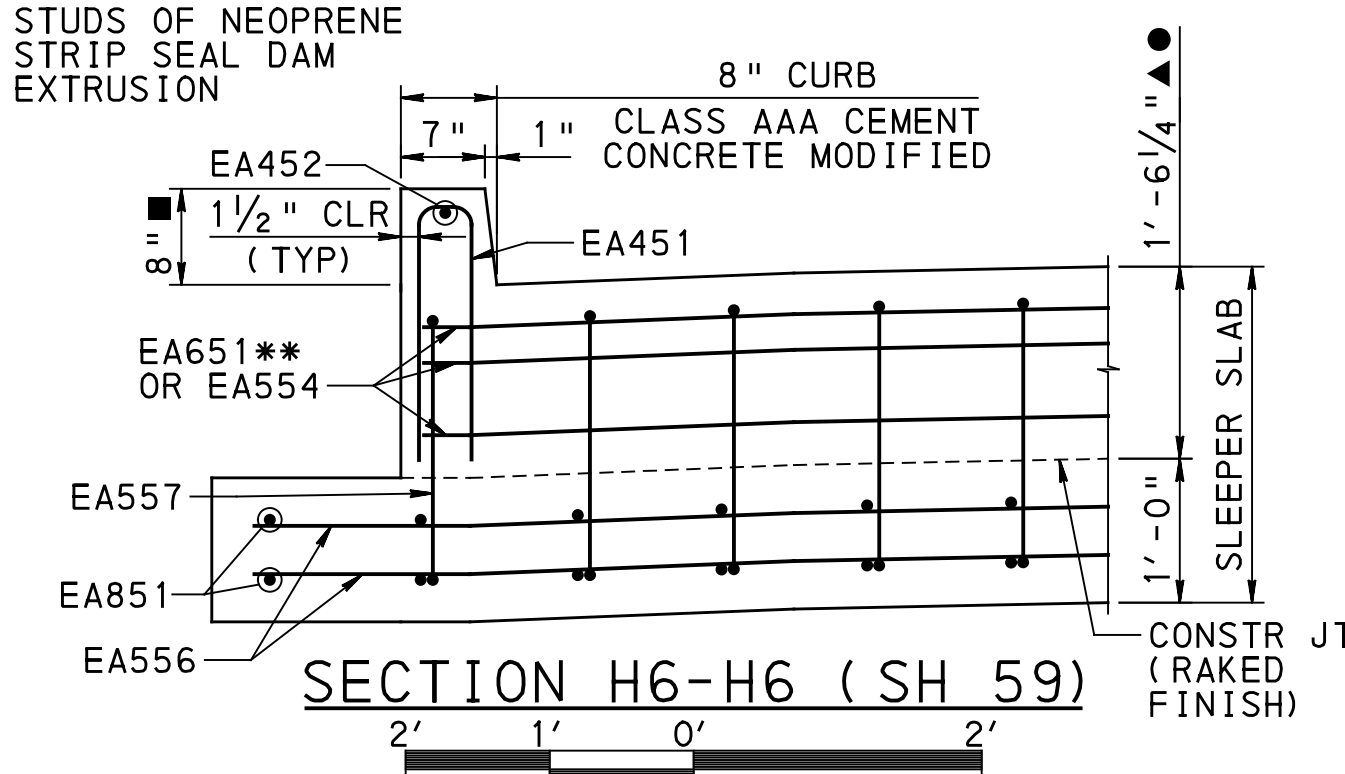
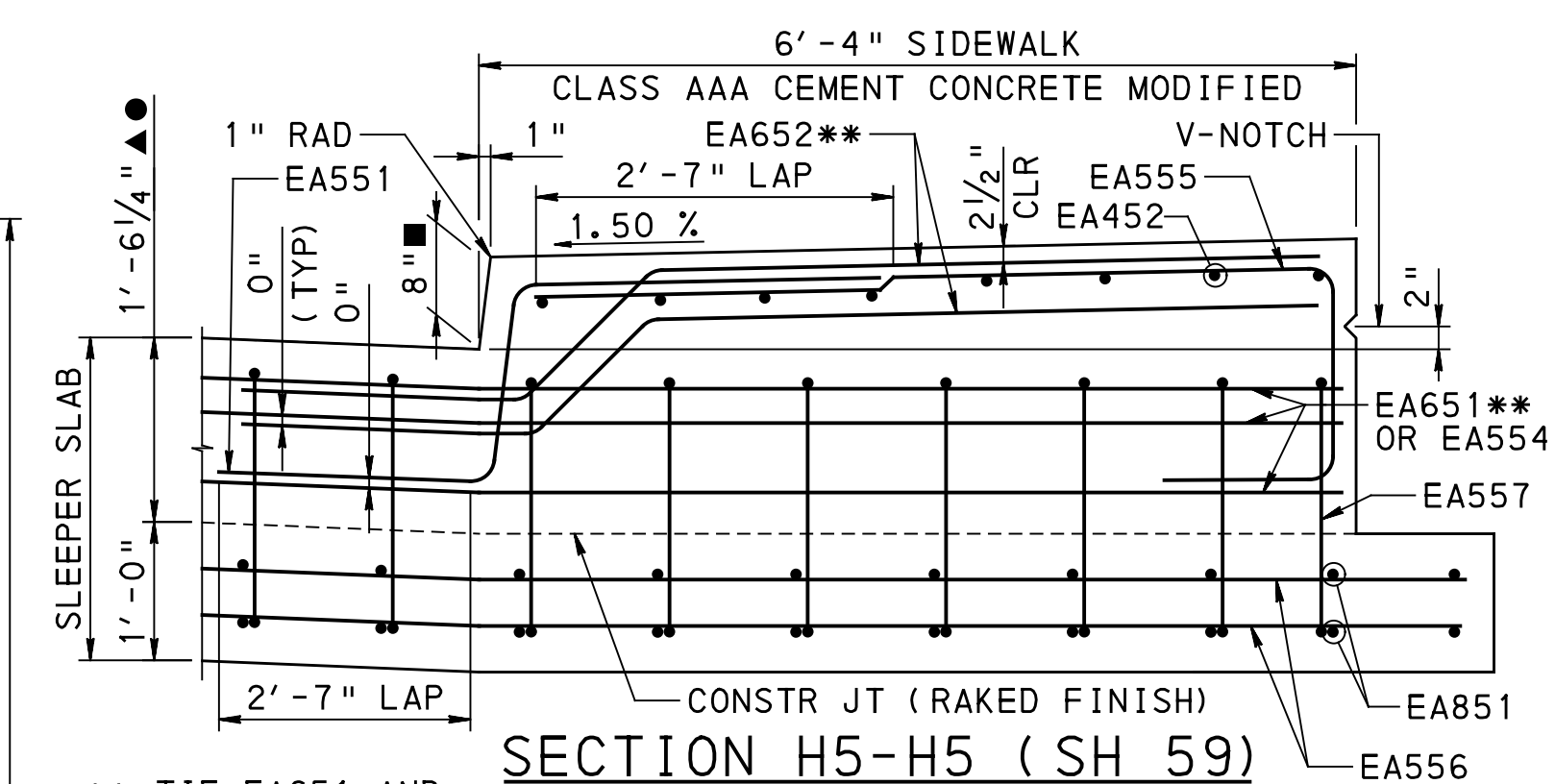
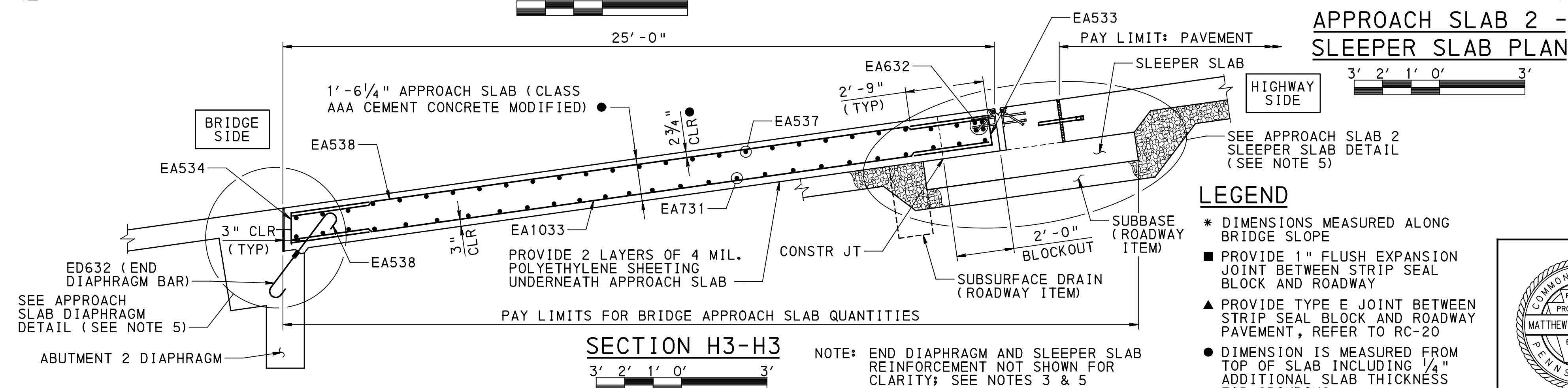
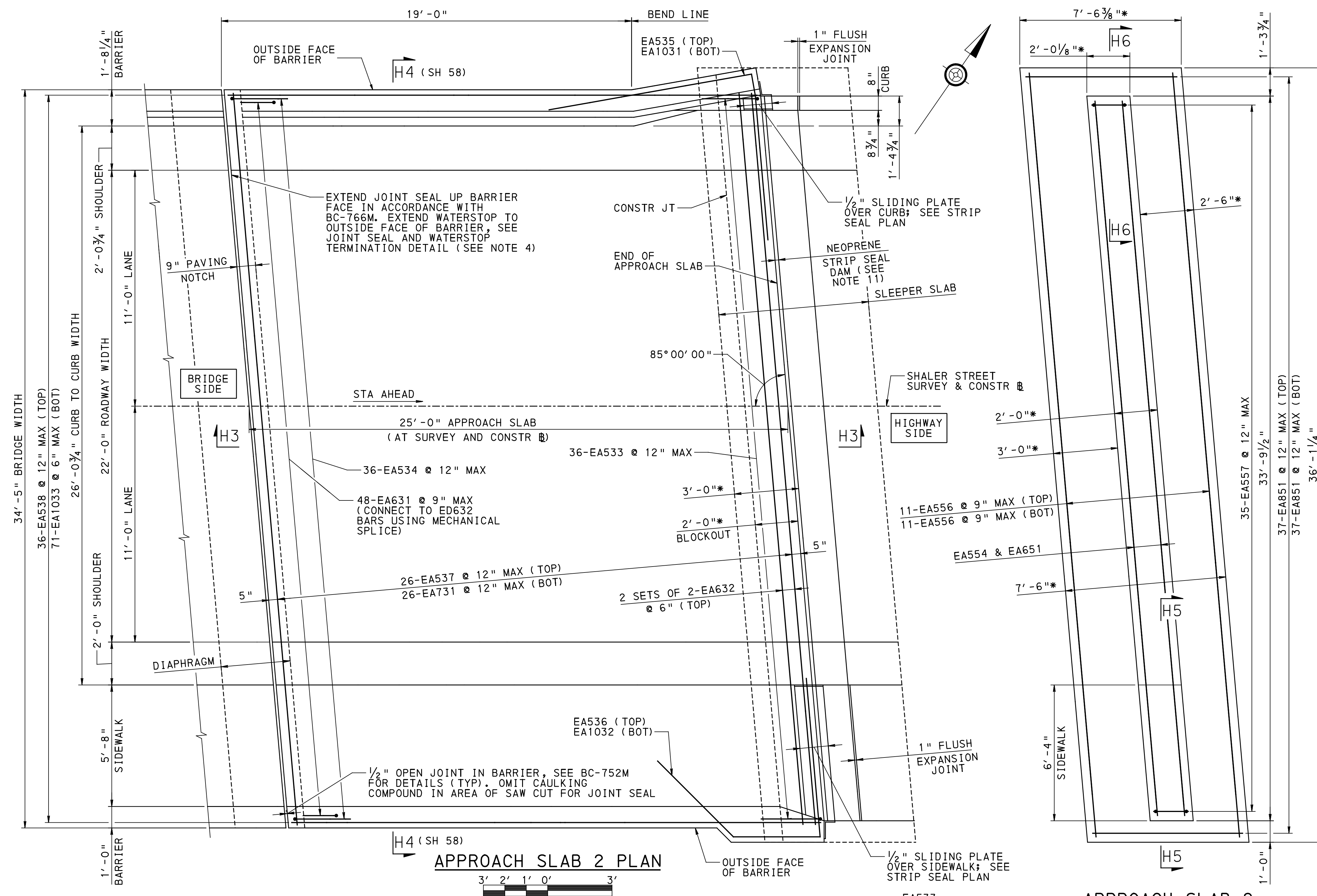
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DEPARTMENT OF TRANSPORTATION**

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
APPROACH SLAB 1 DETAILS

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SHEET 56 OF 83

S - 37605



NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.
2. FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
3. FOR ABUTMENT 2 CONCRETE DIAPHRAGM DETAILS, SEE SHEET 52.
4. FOR APPROACH SLAB 1 DETAILS, JOINT SEAL AND WATERSTOP TERMINATION DETAIL, AND APPROACH SLAB NOTES, SEE SHEETS 55 AND 56.
5. FOR ADDITIONAL APPROACH SLAB 2 DETAILS, SEE SHEET 58.
6. FOR APPROACH SLAB BARRIER DETAILS, SEE SHEET 59.
7. FOR APPROACH 2 SLAB REINFORCEMENT SCHEDULE SEE SHEET 61.
8. FOR BARRIER ELEVATION VIEWS, SEE SHEET 69.
9. FOR BARRIER OPEN JOINT DETAILS, SEE BC-752M.
10. FOR ADDITIONAL PREFORMED NEOPRENE COMPRESSION SEAL JOINT DETAILS, SEE BC-766M.
11. FOR ADDITIONAL NEOPRENE STRIP SEAL DAM DETAILS, SEE BC-767M.

Mark	Description	By	Chk' d.	Recm' d.	Date
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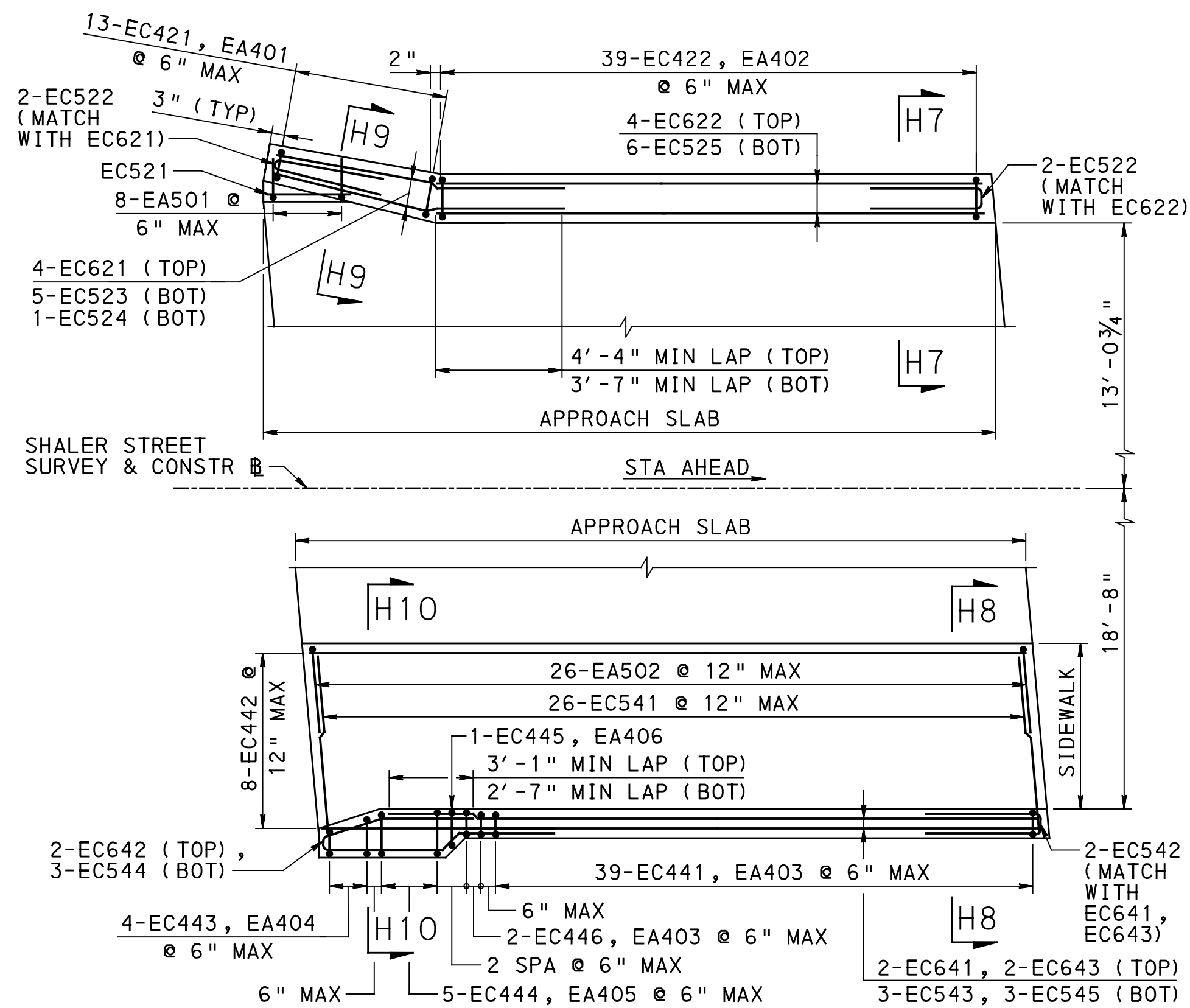
ALLEGHENY COUNTY
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SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
APPROACH SLAB 2

RECOMMENDED 08/03/2018

SHEET 57 OF 83

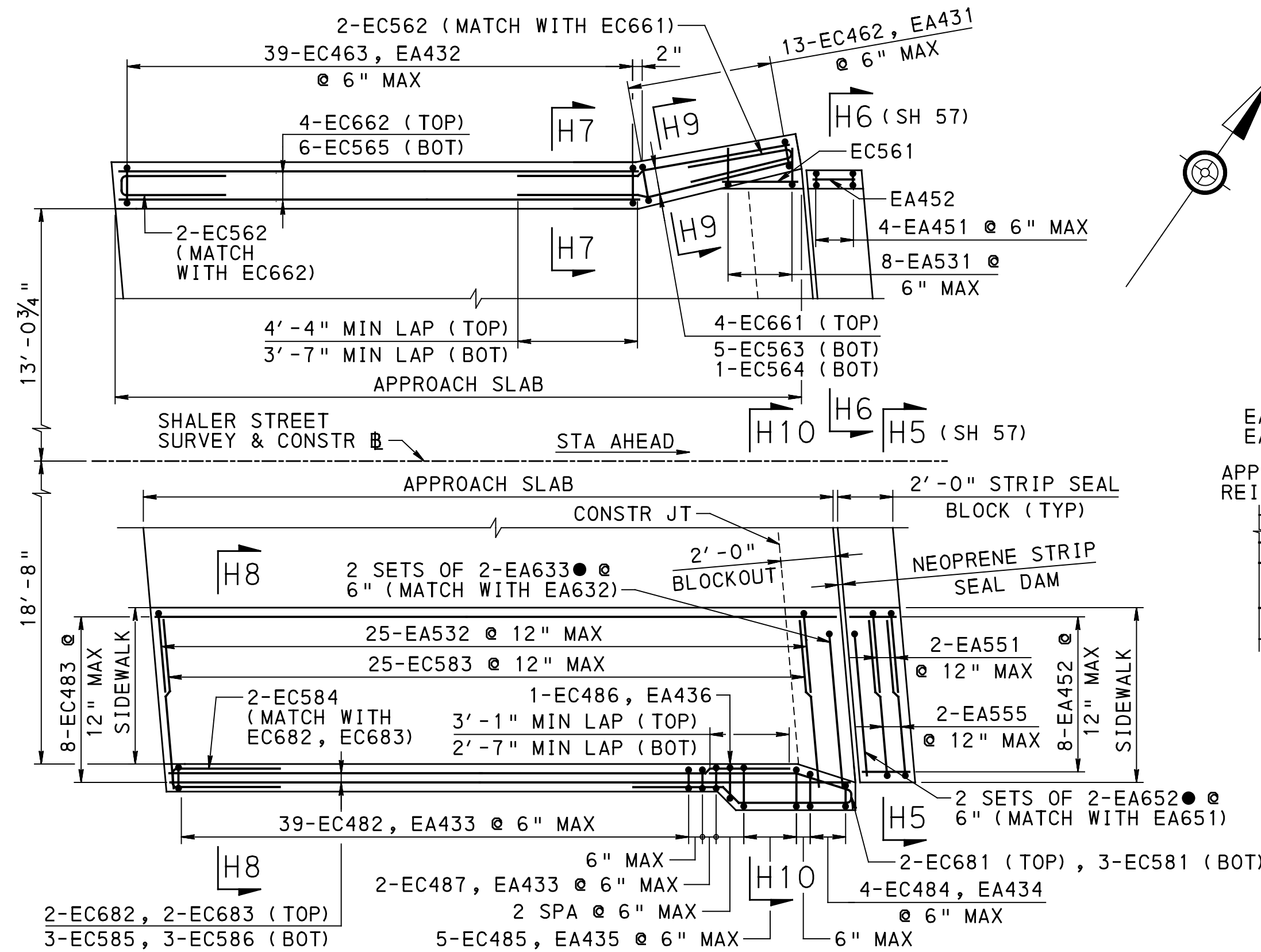
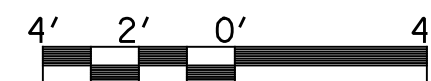
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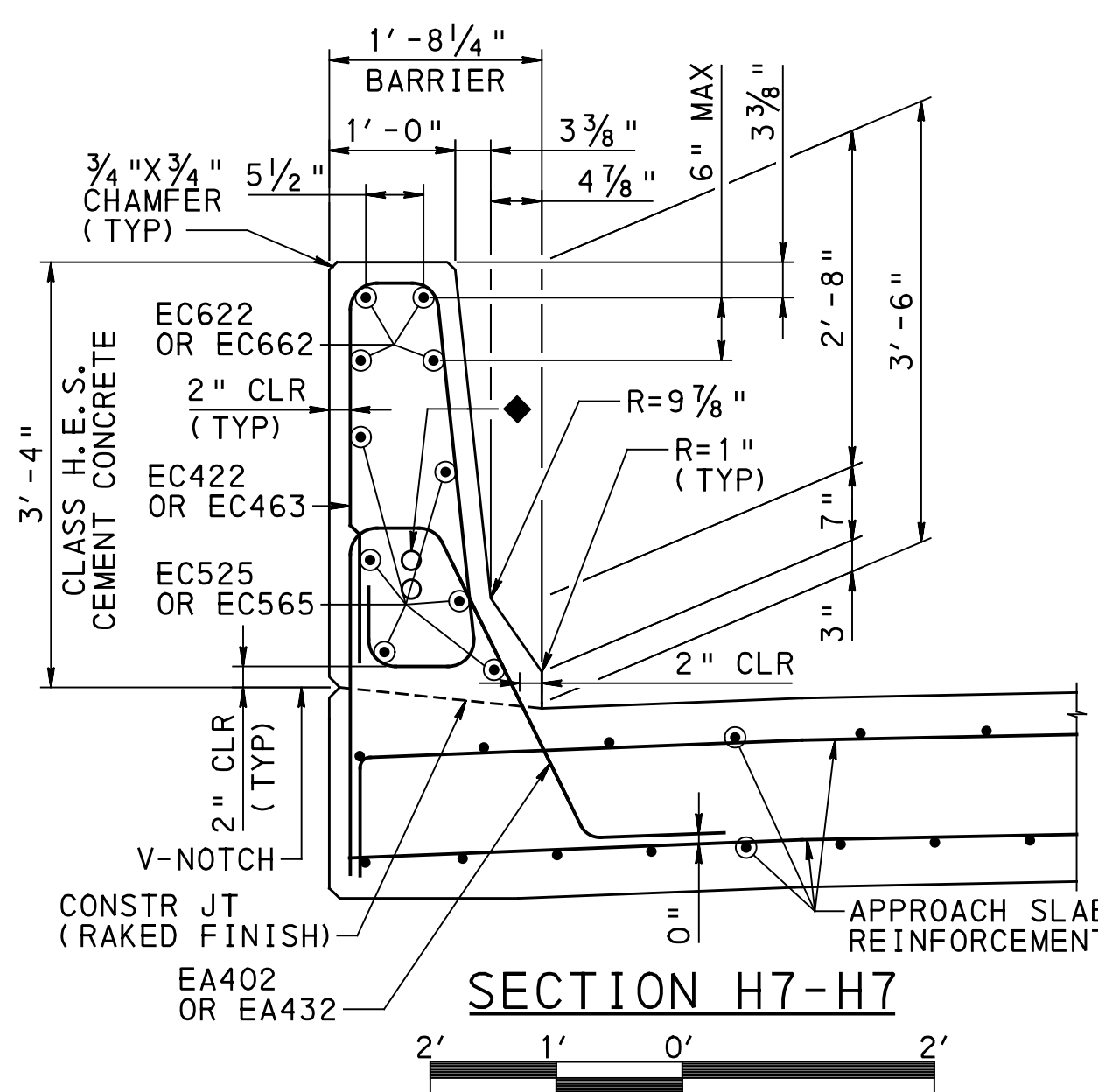
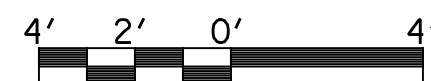
APPROACH SLAB 1 BARRIER REBAR PLAN

(SEE NOTE 5)

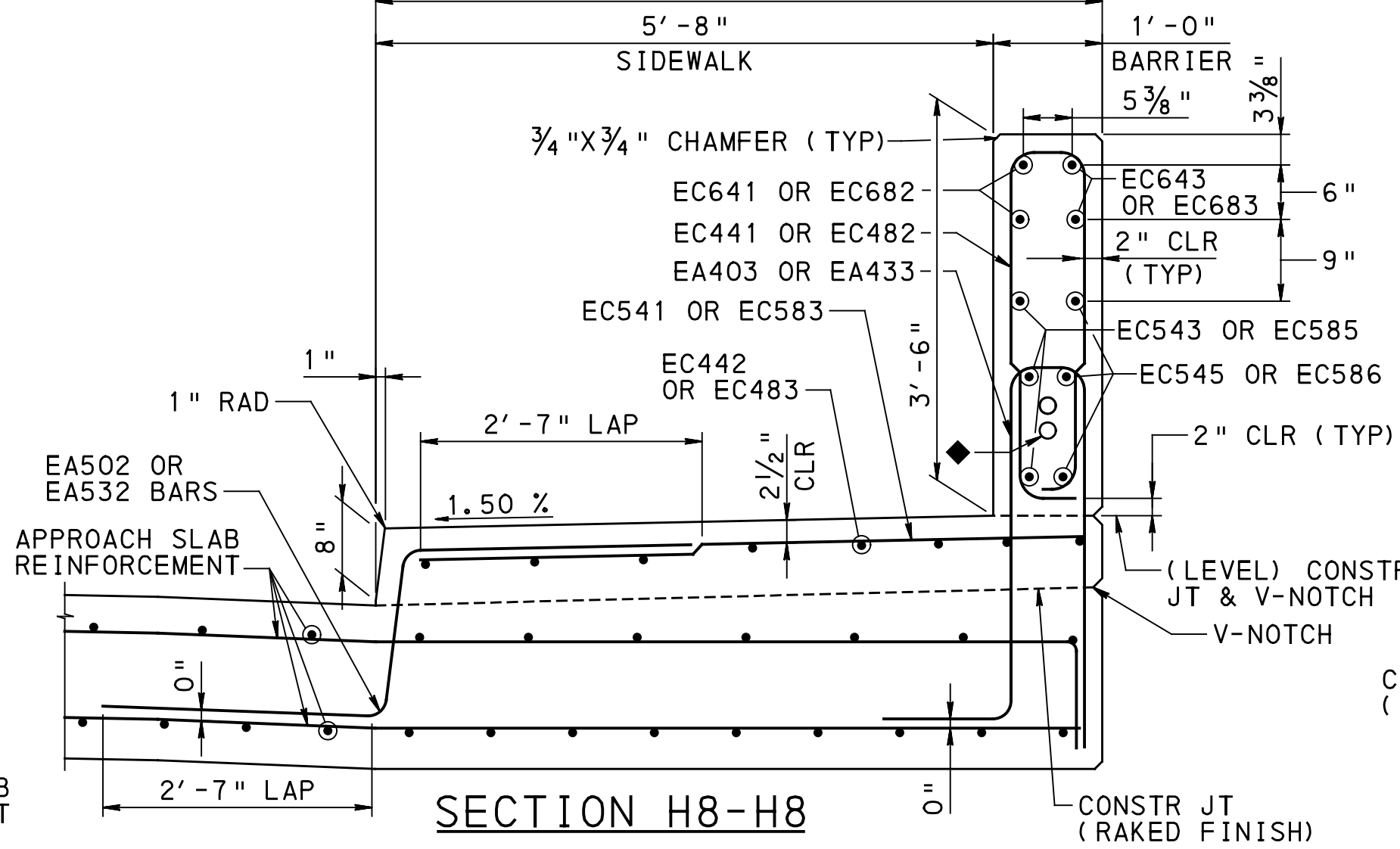
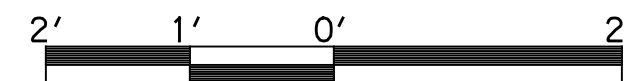


APPROACH SLAB 2 BARRIER REBAR PLAN

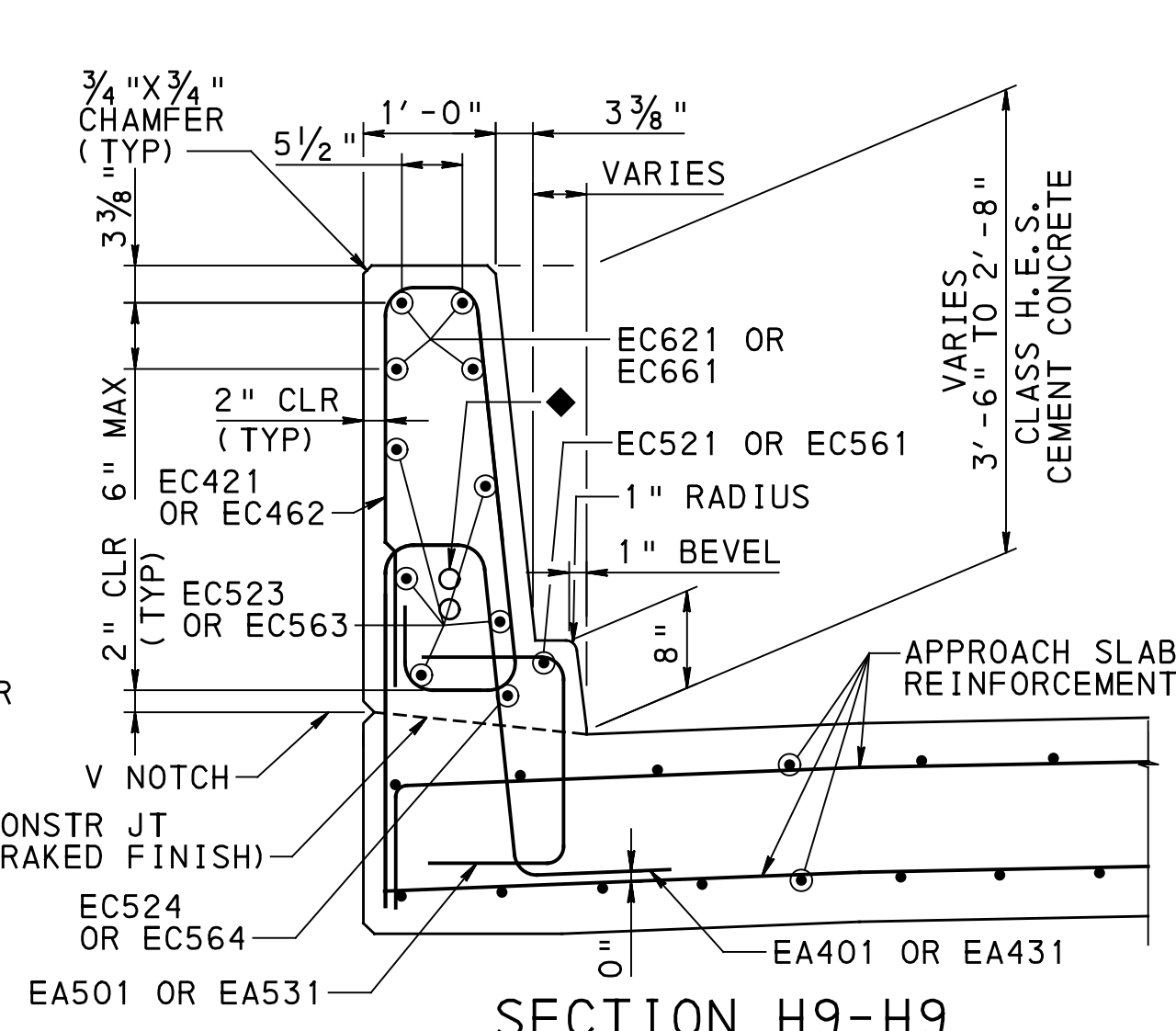
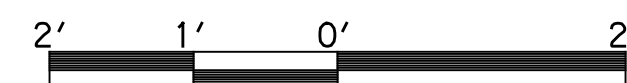
(SEE NOTE 5)



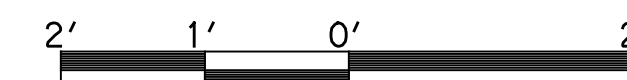
SECTION H7-H7



SECTION H8-H8

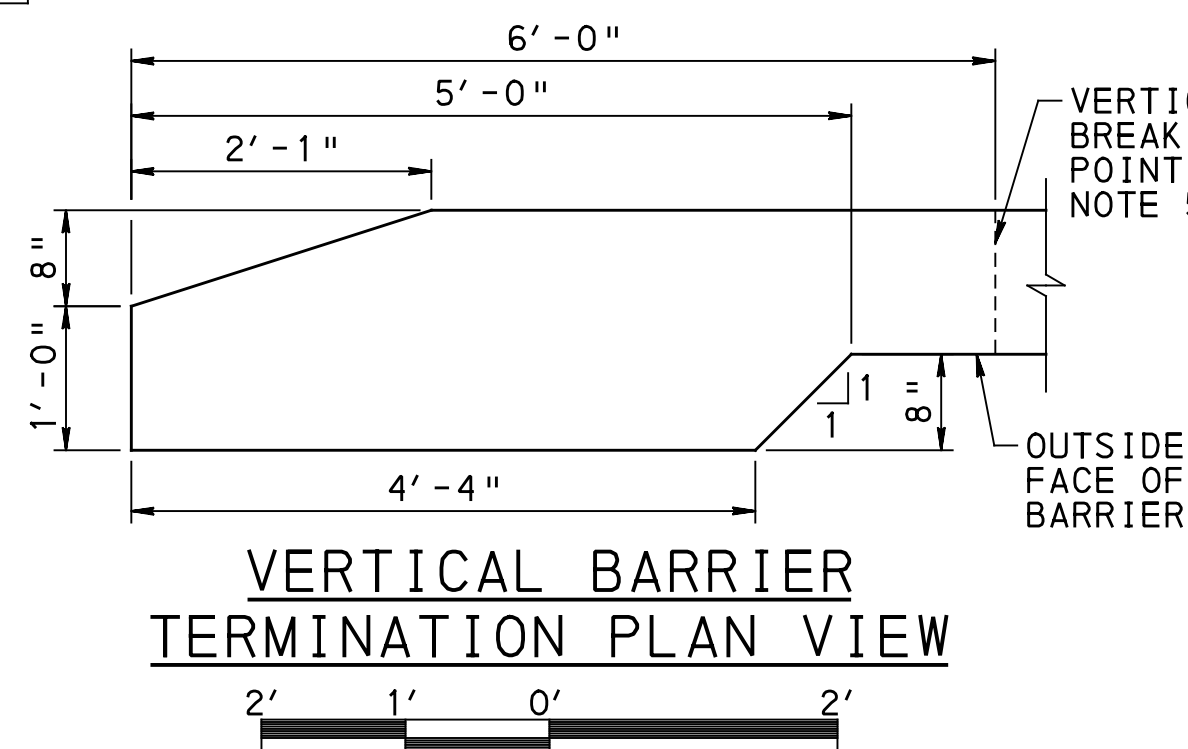


SECTION H9-H9

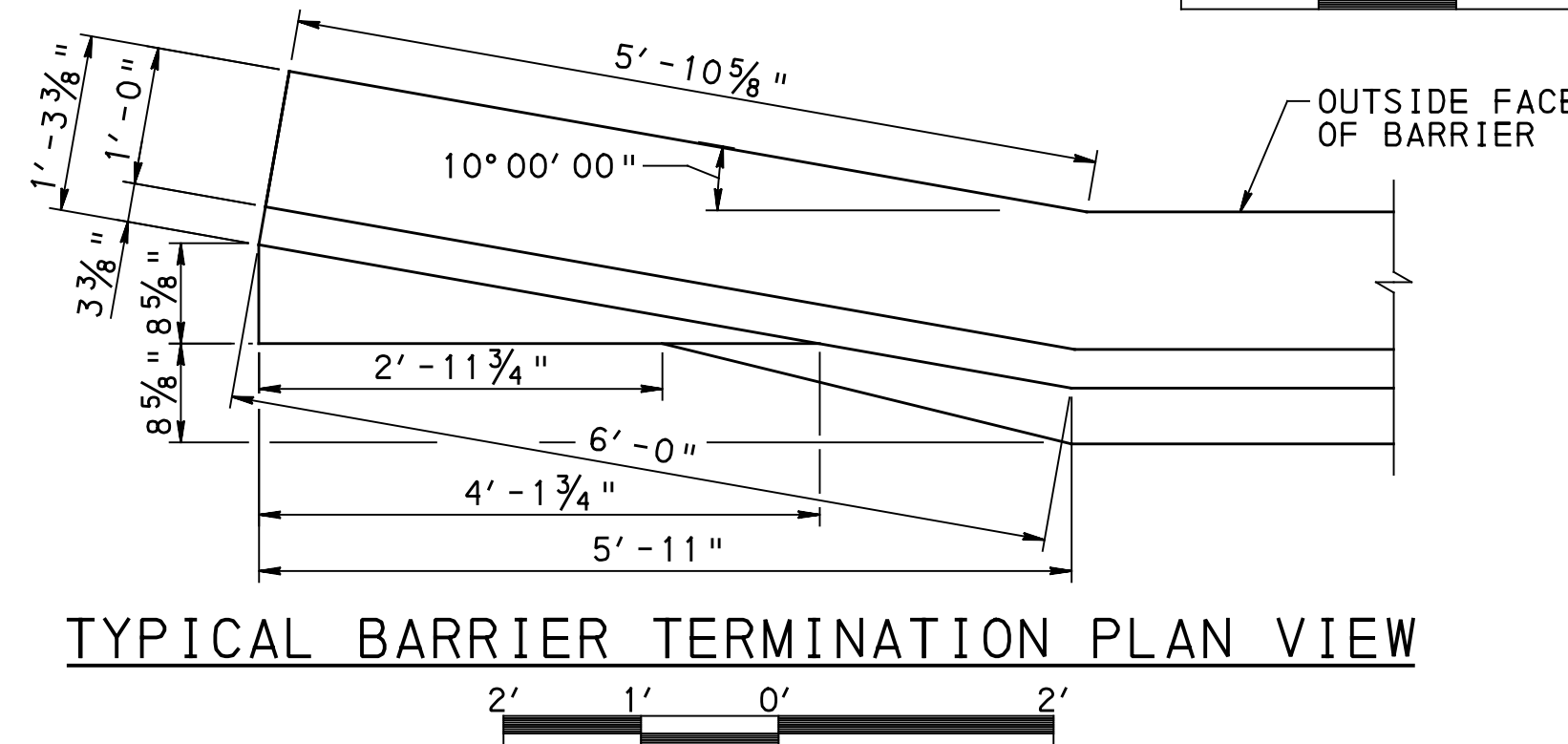
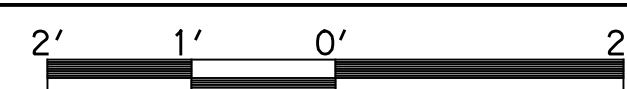


LEGEND

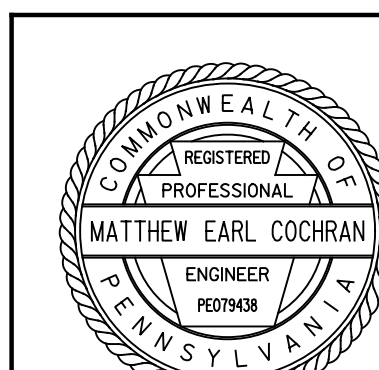
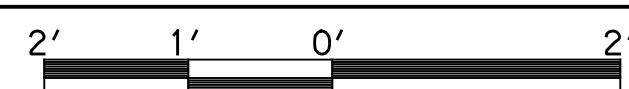
- ◆ PROVIDE TWO CONDUITS IN EACH BARRIER FOR FUTURE LIGHTING; SEE BC-721M FOR ADDITIONAL DETAILS.
- TIE EA633 AND EA652 BARS TO TOP AND BOT STUDS OF NEOPRENE STRIP SEAL DAM EXTRUSION



VERTICAL BARRIER TERMINATION PLAN VIEW



TYPICAL BARRIER TERMINATION PLAN VIEW



l:44:02 PM

NOTES:

- FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.
- FOR GENERAL NOTES, SEE SHEETS 2 AND 3.
- FOR APPROACH SLAB DETAILS, SEE SHEETS 55 THRU 58.
- FOR APPROACH SLAB REINFORCEMENT SCHEDULES SEE SHEETS 60 & 61.
- FOR BARRIER ELEVATION VIEWS, SEE SHEET 69.
- FOR ADDITIONAL TYPICAL BARRIER END TRANSITION DETAILS, SEE BC-739M.

Mark	Description	By	Chk'd.	Recm'd.	Date
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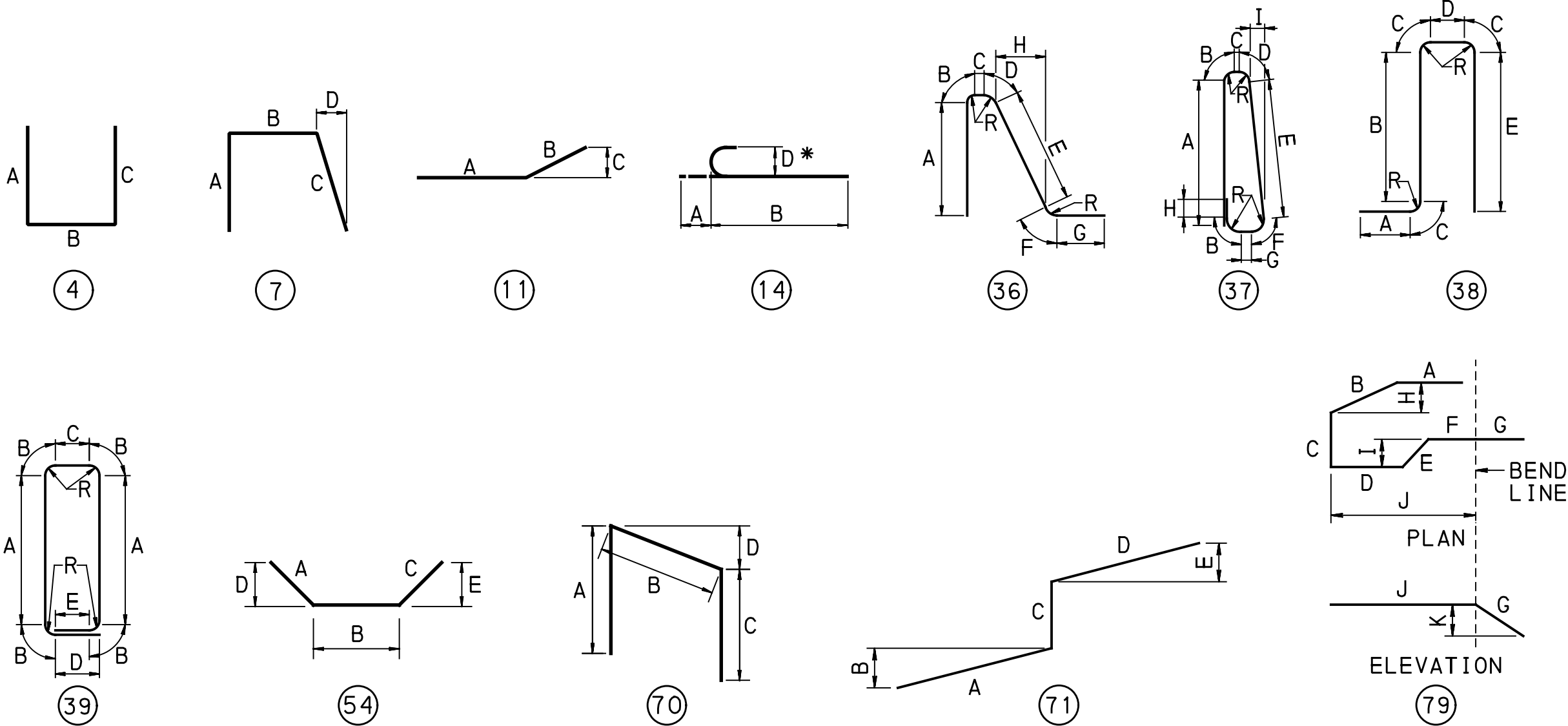
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OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
APPROACH SLAB BARRIERS

RECOMMENDED 08/03/2018

SHEET 59 OF 83

S - 37605

ABUTMENT 1 APPROACH SLAB REINFORCEMENT BAR SCHEDULE														
MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	I	REMARKS
ABUTMENT 1 APPROACH SLAB														
EA401	13	4	VARIES 6'-9" TO 6'-11"	36	2'-4"	4"	4"	2 3/4"	VARIES 2'-3 1/2" TO 2'-5 1/2"	2 3/4"	1'-0"	VARIES 5 3/4" TO 1'-0 3/8"		1 SET OF 13, R = 2" ΔE = 3/16" (-) ΔH = 9/16" (-) ΔL = 3/16" (-)
EA402	39	4	6'-11"	36	2'-4"	4"	4"	2 3/4"	2'-5 1/2"	2 3/4"	1'-0"	1'-0 3/8"		R = 2"
EA403	41	4	8'-1"	38	1'-0"	2'-10"	4"	3"	3'-0"					R = 2"
EA404	4	4	VARIES 8'-1" TO 8'-7"	38	1'-0"	2'-10"	4"	VARIES 3" TO 9"	3'-0"					1 SET OF 4, R = 2" ΔD = 2" ΔL = 2"
EA405	5	4	8'-9"	38	1'-0"	2'-10"	4"	11"	3'-0"					R = 2"
EA406	1	4	8'-6"	38	1'-0"	2'-10"	4"	8"	3'-0"					R = 2"
EA501	8	5	3'-7"	4	1'-0"		1'-7"	1'-0"						
EA502	26	5	6'-10"	71	2'-7"	0 5/8"	1'-7"	2'-8"	2 3/8"					
EA503	36	5	6'-7"	70	2'-9 1/4"	1'-0 5/8"	2'-9 1/8"	1 3/4"						
EA504	1	5	11'-9"	7	7'-10"	1'-0"	2'-11"	2'-9 3/4"						
EA505	36	5	24'-8"	STR										
EA506	26	5	35'-10"	4	11"	34'-0"	11"							
EA507	36	5	6'-7"	4	2'-9 1/4"	1'-0 1/2"	2'-9 1/4"							
EA508	1	5	10'-9"	54	3'-8"	3'-11"	3'-2"	3'-7 7/8"	2'-2 7/8"					
EA601	48	6	2'-9"	14	8"	2'-1"		4 1/2"						THREADED 3", ONE END ■
EA701	26	7	34'-0"	STR										
EA1001	1	10	17'-4"	7	9'-7"	1'-0"	6'-9"	6'-6 1/4"						
EA1002	71	10	24'-6"	STR										
EA1003	1	10	16'-4"	54	7'-5"	3'-11"	5'-0"	7'-4 5/8"	3'-6 3/8"					
ABUT 1 APPROACH SLAB NORTH BARRIER														
EC421	13	4	VARIES 6'-3" TO 7'-11"	37	VARIES 1'-11 1/2" TO 2'-9 1/2"	4"	3 3/8"	3 5/8"	VARIES 1'-9 3/4" TO 2'-7 3/4"	4 1/8"	5 5/8"	5"	2 3/8"	1 SET OF 13, R = 2" ΔA = 13/16" (+) ΔE = 13/16" (+) ΔL = 1 1/16" (-)
EC422	39	4	8'-1"	37	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	4 1/8"	6 3/4"	5 7/8"	3 5/8"	R = 2"
EC521	1	5	5'-8"	STR										
EC522	4	5	7'-9"	4	3'-7"	7"	3'-7"							
EC523	5	5	9'-7"	11	3'-10"	5'-9"	1'-0"							
EC524	1	5	9'-8"	11	3'-9 1/8"	5'-10 7/8"	1'-4 7/8"							
EC525	6	5	18'-11"	STR										
EC621	4	6	10'-4"	11	4'-6 1/4"	5'-9 3/4"	1'-3 5/8"							
EC622	4	6	18'-11"	STR										
ABUT 1 APPROACH SLAB SOUTH BARRIER/SIDEWALK														
EC441	39	4	7'-10"	39	2'-9"	4"	3"	5 1/2"	3 1/2"					R = 2"
EC442	8	4	24'-8"	STR										
EC443	4	4	VARIES 6'-2" TO 8'-0"	39	VARIES 1'-11" TO 2'-1"	4"	VARIES 3" TO 9"	VARIES 5 1/2" TO 11 1/2"	VARIES 3 1/2" TO 9 1/2"					1 SET OF 4, R = 2" ΔA = 1 1/16" (-) ΔC = 2" ΔD = 2" ΔE = 2" ΔL = 7 5/16" (+)
EC444	5	4	VARIES 8'-8" TO 9'-2"	39	VARIES 2'-2" TO 2'-5"	4"	11"	13 1/2"	11 1/2"					1 SET OF 5, R = 2" ΔA = 3/4" ΔL = 1 1/2"
EC445	1	4	8'-8"	39	2'-6 1/2"	4"	8"	10 1/2"	8 1/2"					R = 2"
EC446	2	4	VARIES 7'-6" TO 7'-8"	39	VARIES 2'-7" TO 2'-8"	4"	3"	5 1/2"	3 1/2"					1 SET OF 2, R = 2" ΔA = 1" ΔL = 2"
EC541	26	5	6'-2"	STR										
EC542	2	5	7'-9"	4	3'-7"	7"	3'-7"							
EC543	3	5	22'-11"	STR										
EC544	3	5	12'-11"	79	2'-8"	2'-0"	7"	4'-1"	11"	2'-8"	0"	7 1/2"	7 3/4"	J = N/A, K = N/A
EC545	3	5	20'-1"	STR										
EC641	2	6	23'-0"	11	19'-0"	4'-0"	6 7/16"							
EC642	2	6	14'-0"	79	3'-2"	2'-0"	7"	4'-1"	11"	1'-1"	2'-2"	7 1/2"	7 3/4"	J = 5'-9 3/4", K = 3 1/2"
EC643	2	6	20'-1"	11	19'-0"	1'-1"	1 3/4"							
ABUT 1 APPROACH SLEEPER SLAB														
EA521	14	5	35'-8"	STR										
EA821	74	8	4'-6"	STR										



LEGEND:

■ BAR IS SPLICED WITH MECHANICAL SPLICE. BAR LENGTH INCLUDES 3" THREADED LENGTH WHERE "THREADED 3" IS INDICATED. BARS WHERE "MECH SPLICE, ONE END" IS INDICATED HAVE NOT BEEN ADJUSTED TO ACCOUNT FOR THE LENGTH OF MECHANICAL SPLICE. ADJUST BAR LENGTHS FOR ACTUAL DIMENSIONS OF MECHANICAL SPLICE.

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR APPROACH SLAB 1 DETAILS, SEE SHEETS 55 AND 56.
- FOR APPROACH SLAB SIDEWALK/BARRIER DETAILS, SEE SHEET 59.
- FOR BARRIER ELEVATION VIEWS, SEE SHEET 69.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, SEE STANDARD DRAWING BC-736M.
- PREFIX "E" DENOTES EPOXY COATED REINFORCEMENT BARS.
- ALL DIMENSIONS ARE OUT-TO-OUT OF BARS EXCEPT "A" ON STANDARD 180°HOOKS AND "R" WHICH IS SHOWN AT THE INSIDE OF THE BAR.
- FIGURES IN CIRCLES SHOW BAR TYPE.
- STR DENOTES STRAIGHT BAR.

Mark	Description	By	Chk'd.	Recm'd.	Date
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SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
ABUT 1 APPROACH SLAB BAR SCHEDULE

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SHEET 60 OF 83

S - 37605

MARK	QUANTITY	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	I	REMARKS
ABUTMENT 2 APPROACH SLAB														
EA431	13	4	VARIABLES 6'-9" TO 6'-11"	36	2'-4"	4"	4"	2 3/4"	VARIABLES 2'-3 1/2" TO 2'-5 1/2"	2 3/4"	1'-0"	VARIABLES 5 3/4" TO 1'-0 3/8"		1 SET OF 13, R = 2" ΔE = 3/16" (-), ΔH = 9/16" (-), ΔL = 3/16" (-)
EA432	39	4	6'-11"	36	2'-4"	4"	4"	2 3/4"	2'-5 1/2"	2 3/4"	1'-0"	1'-0 3/8"		R = 2"
EA433	41	4	8'-1"	38	1'-0"	2'-10"	4"	3"	3'-0"					R = 2"
EA434	4	4	VARIABLES 8'-1" TO 8'-7"	38	1'-0"	2'-10"	4"	VARIABLES 3" TO 9"	3'-0"					1 SET OF 4, R = 2" ΔD = 2" ΔL = 2"
EA435	5	4	8'-9"	38	1'-0"	2'-10"	4"	11"	3'-0"					R = 2"
EA436	1	4	8'-6"	38	1'-0"	2'-10"	4"	8"	3'-0"					R = 2"
EA531	8	5	3'-7"	4	1'-0"	1'-7"	1'-0"							
EA532	25	5	6'-10"	71	2'-7"	0 5/8"	1'-7"	2'-8"	2 3/8"					
EA533	36	5	6'-7"	4	2'-9 1/4"	1'-0 1/2"	2'-9 1/4"							
EA534	36	5	6'-7"	70	2'-9 1/4"	1'-0 5/8"	2'-9 1/8"	1 3/4"						
EA535	1	5	11'-9"	7	7'-10"	1'-0"	2'-11"	2'-10 7/8"						
EA536	1	5	9'-6"	75	2'-10"	3'-11"	2'-9"	2'-9 7/8"	1'-11 3/8"					
EA537	26	5	35'-10"	4	11"	34'-0"	11"							
EA538	36	5	24'-9"	STR										
EA631	48	6	2'-9"	14	8"	2'-1"		4 1/2"						THREADED 3", ONE END ■
EA632	4	6	34'-0"	STR										
EA633	4	6	9'-5"	12	3'-6 1/4"	1'-0 1/4"	4'-10 1/2"	9"	9"					
EA731	26	7	34'-0"	STR										
EA1031	1	10	17'-4"	7	9'-7"	1'-0"	6'-9"	6'-8 3/4"						
EA1032	1	10	16'-4"	75	7'-5"	3'-11"	5'-0"	7'-4 5/8"	3'-6 3/8"					
EA1033	71	10	24'-9"	STR										
ABUT 2 APPROACH SLAB NORTH BARRIER														
EC462	13	4	VARIABLES 6'-3" TO 7'-11"	37	VARIABLES 1'-11 1/2" TO 2'-9 1/2"	4"	3 3/8"	3 5/8"	VARIABLES 1'-9 3/4" TO 2'-7 3/4"	4 1/8"	5 5/8"	5"	2 3/8"	1 SET OF 13, R = 2" ΔA = 13/16" (+), ΔE = 13/16" (+), ΔL = 1 1/16" (-)
EC463	39	4	8'-1"	37	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	4 1/8"	6 3/4"	5 7/8"	3 3/8"	R = 2"
EC561	1	5	5'-8"	STR										
EC562	4	5	7'-9"	4	3'-7"	7"	3'-7"							
EC563	5	5	9'-7"	11	3'-10"	5'-9"	1'-0"							
EC564	1	5	9'-8"	11	3'-9 1/8"	5'-10 7/8"	1'-4 7/8"							
EC565	6	5	18'-11"	STR										
EC661	4	6	10'-4"	11	4'-6 1/4"	5'-9 3/4"	1'-3 5/8"							
EC662	4	6	18'-11"	STR										
ABUT 2 APPROACH SLAB SOUTH BARRIER/SIDEWALK														
EC482	39	4	7'-10"	39	2'-9"	4"	3"	5 1/2"	3 1/2"					R = 2"
EC483	8	4	24'-8"	STR										
EC484	4	4	VARIABLES 6'-2" TO 8'-0"	39	VARIABLES 1'-11" TO 2'-1"	4"	VARIABLES 3" TO 9"	VARIABLES 5 1/2" TO 11 1/2"	VARIABLES 3 1/2" TO 9 1/2"					1 SET OF 4, R = 2" ΔA = 13/16" (-), ΔC = 2" ΔD = 2", ΔE = 2" ΔL = 7 5/16" (+)
EC485	5	4	VARIABLES 8'-8" TO 9'-2"	39	VARIABLES 2'-2" TO 2'-5"	4"	11"	13 1/2"	11 1/2"					1 SET OF 5, R = 2" ΔA = 3/4" ΔL = 1 1/2"
EC486	1	4	8'-8"	39	2'-6 1/2"	4"	8"	10 1/2"	8 1/2"					

■ BAR IS SPLICED WITH MECHANICAL SPLICE. BAR LENGTH INCLUDES 3" THREADED LENGTH WHERE "THREADED 3" IS INDICATED. BARS WHERE "MECH SPLICE, ONE END" IS INDICATED HAVE NOT BEEN ADJUSTED TO ACCOUNT FOR THE LENGTH OF MECHANICAL SPLICE. ADJUST BAR LENGTHS FOR ACTUAL DIMENSIONS OF MECHANICAL SPLICE.



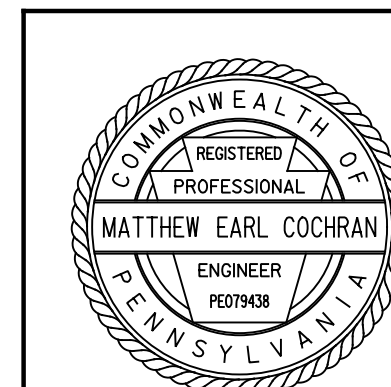
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| Mark | Description | By | Chk' d. | Recm' d. | Date |
| REVISIONS | | | | | |

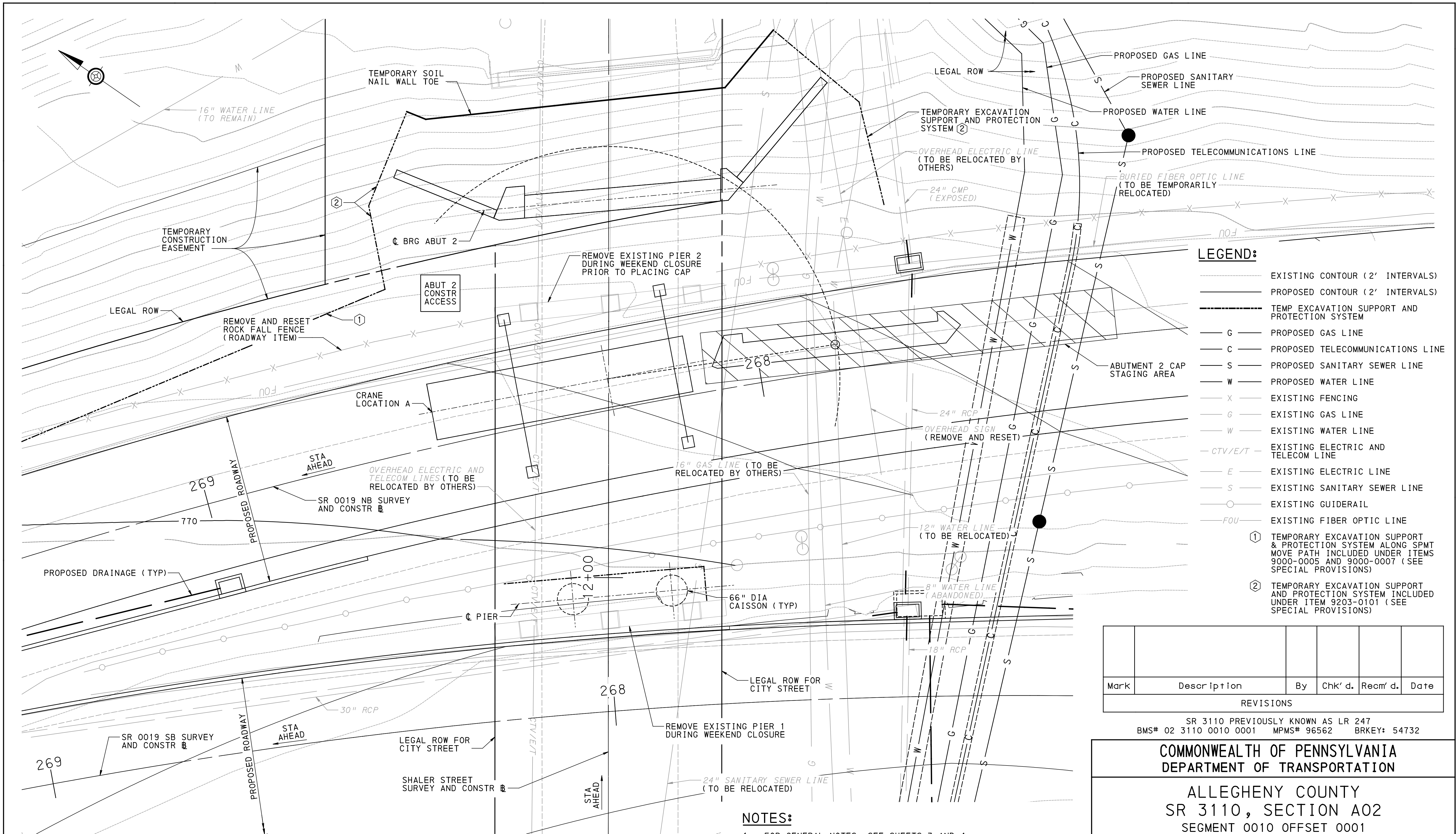
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SHEET 61 OF 83

S - 37605





LEGEND:

- EXISTING CONTOUR (2' INTERVALS)
- PROPOSED CONTOUR (2' INTERVALS)
- TEMP EXCAVATION SUPPORT AND PROTECTION SYSTEM
- G PROPOSED GAS LINE
- C PROPOSED TELECOMMUNICATIONS LINE
- S PROPOSED SANITARY SEWER LINE
- W PROPOSED WATER LINE
- X EXISTING FENCING
- G EXISTING GAS LINE
- W EXISTING WATER LINE
- CTV/E/T EXISTING ELECTRIC AND TELECOM LINE
- E EXISTING ELECTRIC LINE
- S EXISTING SANITARY SEWER LINE
- O EXISTING GUIDERAIL
- FOU EXISTING FIBER OPTIC LINE
- ① TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM ALONG SPMT MOVE PATH INCLUDED UNDER ITEMS 9000-0005 AND 9000-0007 (SEE SPECIAL PROVISIONS)
- ② TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM INCLUDED UNDER ITEM 9203-0101 (SEE SPECIAL PROVISIONS)

Mark	Description	By	Chk'd	Rec'd	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
CONCEPTUAL ERECTION PLAN 1

RECOMMENDED 08/03/2018

SHEET 62 OF 83

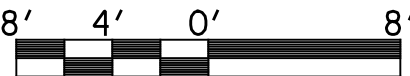
S - 37605

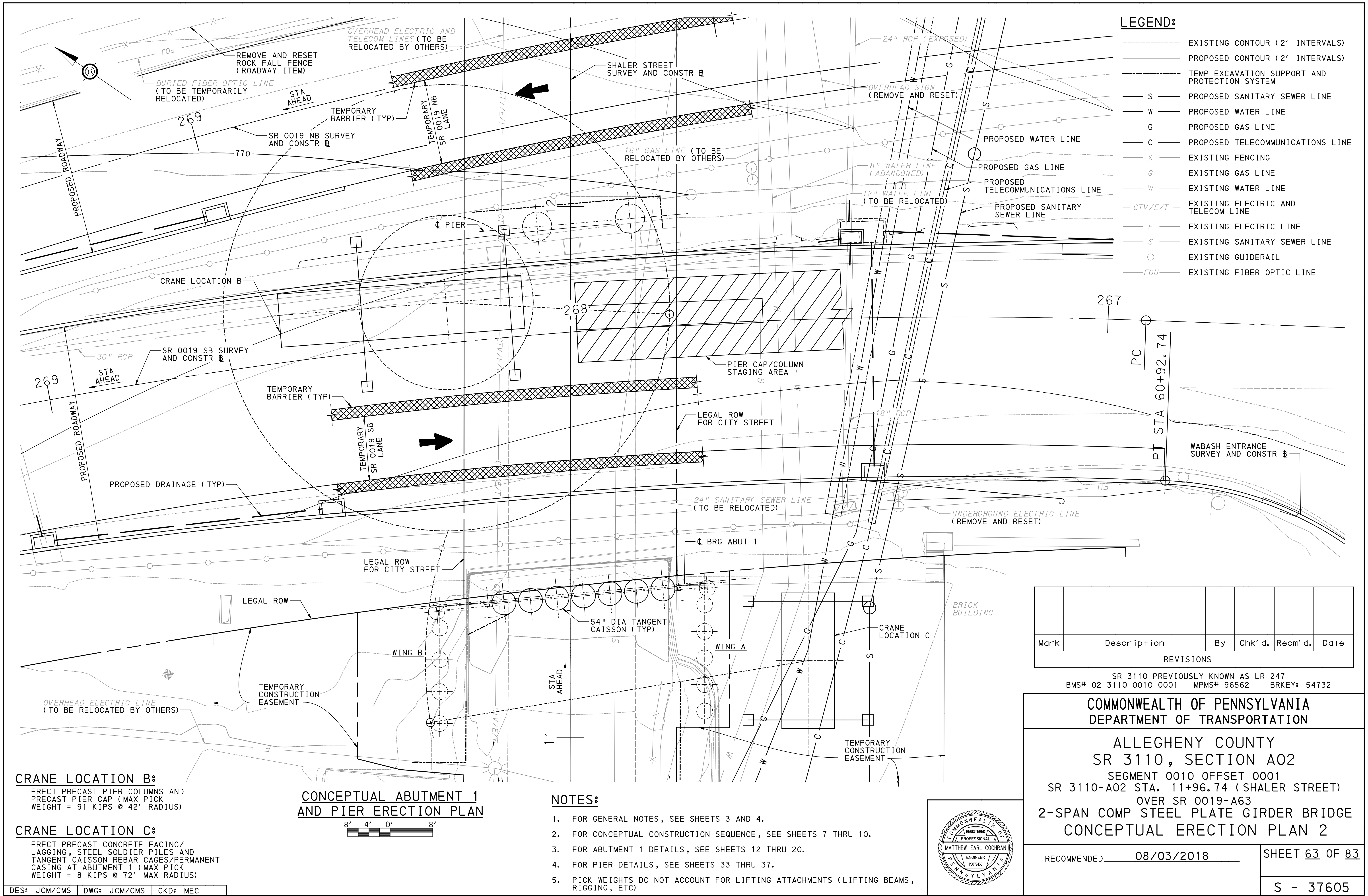
- NOTES:**
- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
 - FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
 - FOR ABUTMENT 2 DETAILS, SEE SHEETS 21 THRU 29.
 - PLACEMENT OF ABUT 2 CAP IS TO OCCUR DURING THE SR 0019 NB & SB WEEKEND 1 CLOSURE.
 - PICK WEIGHTS DO NOT ACCOUNT FOR LIFTING ATTACHMENTS (LIFTING BEAMS, RIGGING, ETC)



CRANE LOCATION A:
ERECT ABUTMENT 2 CAP
(MAX PICK WEIGHT = 67 KIPS @ 41' MAX RADIUS)

CONCEPTUAL ABUTMENT 2 CAP ERECTION PLAN





LEGEND:

---	EXISTING CONTOUR (2' INTERVALS)
---	PROPOSED CONTOUR (2' INTERVALS)
---	TEMP EXCAVATION SUPPORT AND PROTECTION SYSTEM
S	PROPOSED SANITARY SEWER LINE
W	PROPOSED WATER LINE
G	PROPOSED GAS LINE
C	PROPOSED TELECOMMUNICATIONS LINE
X	EXISTING FENCING
G	EXISTING GAS LINE
W	EXISTING WATER LINE
CTV/E/T	EXISTING ELECTRIC AND TELECOM LINE
E	EXISTING ELECTRIC LINE
S	EXISTING SANITARY SEWER LINE
O	EXISTING GUIDERAIL
FOU	EXISTING FIBER OPTIC LINE

Mark	Description	By	Chk'd	Rec'd	Date
REVISIONS					

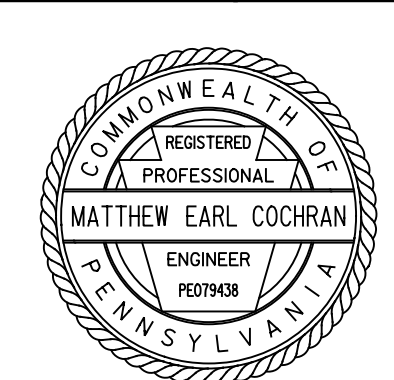
SR 3110 PREVIOUSLY KNOWN AS LR 247
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
CONCEPTUAL ERECTION PLAN 2

RECOMMENDED 08/03/2018	SHEET 63 OF 83
S - 37605	

- NOTES:
- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
 - FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
 - FOR ABUTMENT 1 DETAILS, SEE SHEETS 12 THRU 20.
 - FOR PIER DETAILS, SEE SHEETS 33 THRU 37.
 - PICK WEIGHTS DO NOT ACCOUNT FOR LIFTING ATTACHMENTS (LIFTING BEAMS, RIGGING, ETC)

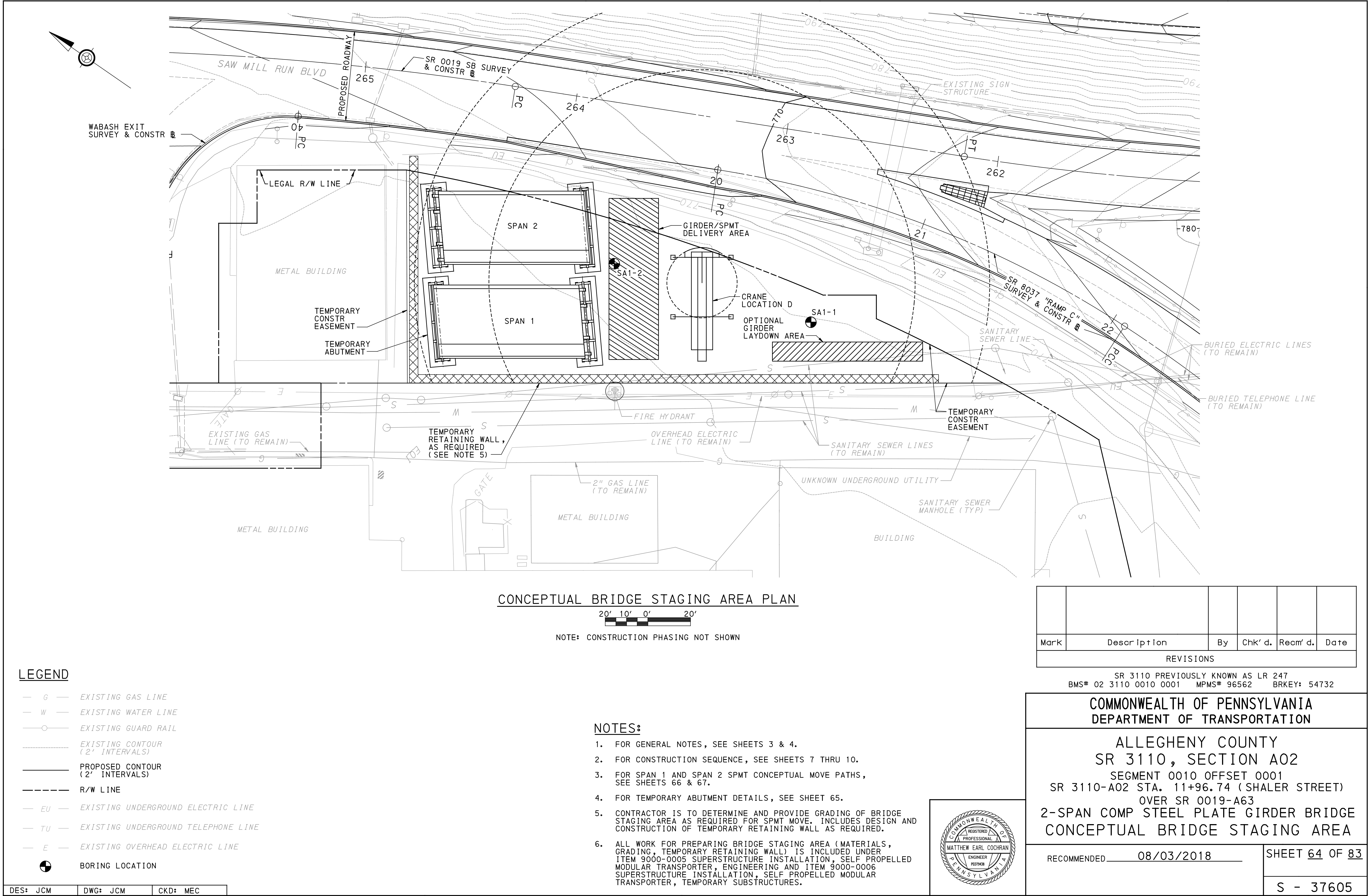


CRANE LOCATION B:
ERECT PRECAST PIER COLUMNS AND PRECAST PIER CAP (MAX PICK WEIGHT = 91 KIPS @ 42' RADIUS)

CRANE LOCATION C:
ERECT PRECAST CONCRETE FACING/LAGGING, STEEL SOLDIER PILES AND TANGENT CAISSON REBAR CAGES/PERMANENT CASING AT ABUTMENT 1 (MAX PICK WEIGHT = 8 KIPS @ 72' MAX RADIUS)

CONCEPTUAL ABUTMENT 1 AND PIER ERECTION PLAN

8' 4' 0' 8'



LEGEND

- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- O — EXISTING GUARD RAIL
- — — — — EXISTING CONTOUR (2' INTERVALS)
- — — — — PROPOSED CONTOUR (2' INTERVALS)
- — — — — R/W LINE
- EU — EXISTING UNDERGROUND ELECTRIC LINE
- TU — EXISTING UNDERGROUND TELEPHONE LINE
- E — EXISTING OVERHEAD ELECTRIC LINE
- BORING LOCATION

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 & 4.
- FOR CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
- FOR SPAN 1 AND SPAN 2 SPMT CONCEPTUAL MOVE PATHS, SEE SHEETS 66 & 67.
- FOR TEMPORARY ABUTMENT DETAILS, SEE SHEET 65.
- CONTRACTOR IS TO DETERMINE AND PROVIDE GRADING OF BRIDGE STAGING AREA AS REQUIRED FOR SPMT MOVE. INCLUDES DESIGN AND CONSTRUCTION OF TEMPORARY RETAINING WALL AS REQUIRED.
- ALL WORK FOR PREPARING BRIDGE STAGING AREA (MATERIALS, GRADING, TEMPORARY RETAINING WALL) IS INCLUDED UNDER ITEM 9000-0005 SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER, ENGINEERING AND ITEM 9000-0006 SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER, TEMPORARY SUBSTRUCTURES.



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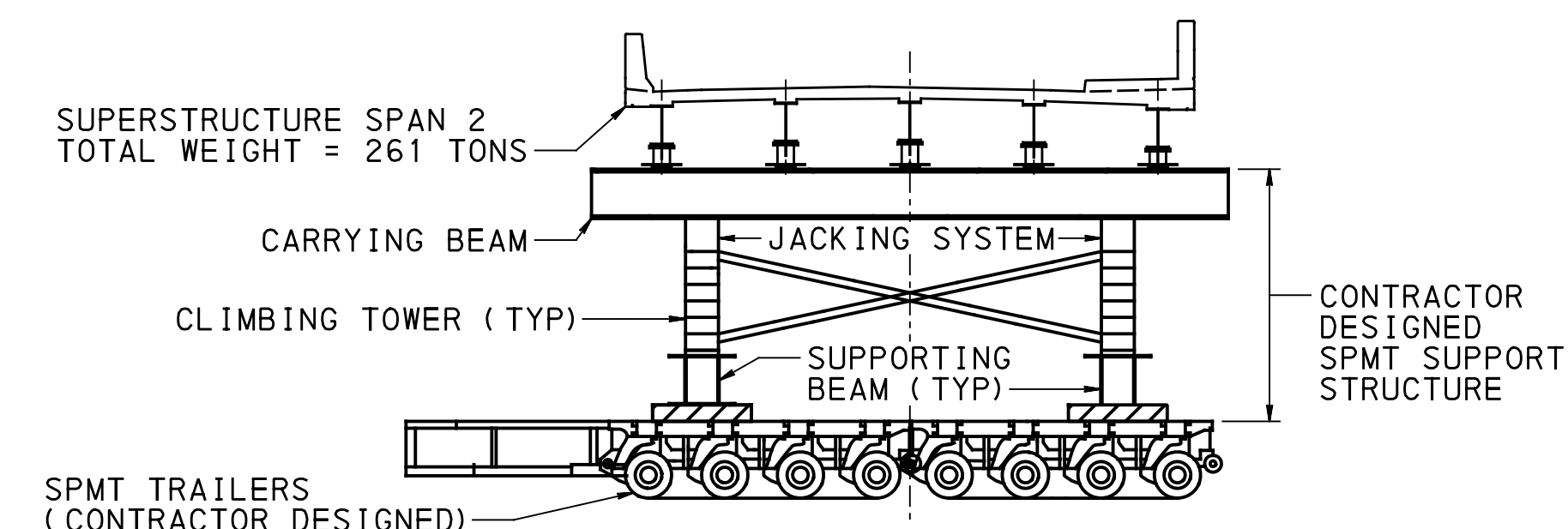
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
CONCEPTUAL BRIDGE STAGING AREA

RECOMMENDED 08/03/2018

SHEET 64 OF 83

S - 37605



NOT TO SCALE

(NOT ALL STEPS ARE SHOWN, SOME STEPS ARE CONCURRENT)

1. PREPARE BRIDGE STAGING AREA: GRADE BRIDGE STAGING AREA TO PROVIDE EVEN TRANSITION TO SR 0019 SB LANES.
2. CONSTRUCT SPAN 1 AND SPAN 2 SUPERSTRUCTURES IN BRIDGE STAGING AREA.
3. REMOVE SECTION OF CIP MEDIAN BARRIERS AND REPLACE WITH TEMPORARY BARRIER/CONSTRUCT PROPOSED SR 0019 NB/SB ROADWAY IN PHASE OF CONSTRUCTION INDICATED IN THE TRAFFIC CONTROL PLANS.
4. REMOVE EXISTING BARRIER AND CONSTRUCT REQUIRED TEMPORARY SHORING WITH TEMPORARY BARRIER ADJACENT TO SR 0019 NB LANES IN PHASE OF CONSTRUCTION INDICATED IN THE TRAFFIC CONTROL PLANS.
5. DEMOLISH EXISTING STRUCTURE. COMPLETE SUBSTRUCTURE CONSTRUCTION (SEE NOTE 3).
6. CLOSE SR 0019 NB & SB (WEEKEND CLOSURE 2).
7. MOVE SPMT UNDER PROPOSED SPAN 2 SUPERSTRUCTURE IN BRIDGE STAGING AREA.
8. REMOVE TEMPORARY BARRIERS; REMOVE TEMPORARY/PERMANENT SIGNS AND PREPARE REQUIRED TEMPORARY GRADING FOR SPMT TRAVEL PATH.
9. MOVE PROPOSED SPAN 2 SUPERSTRUCTURE TO PERMANENT LOCATION WITH SPMT (PATH A-B-C-D) AND RETURN SPMT TO STAGING AREA.
10. RESET TEMPORARY MEDIAN BARRIER, RESET PERMANENT/TEMPORARY SIGNS AND REMOVE TEMPORARY GRADING ALONG SR 0019 NB.
11. MOVE PROPOSED SPAN 1 SUPERSTRUCTURE WITH SPMT TO PERMANENT LOCATION (PATH E-F, SEE NOTE 4). RETURN SPMT TO STAGING AREA.
12. REMOVE TEMPORARY GRADING ALONG SR 0019 SB.
13. REOPEN SR 0019 NB & SB.
14. COMPLETE CONTINUITY CONNECTION AT PIER, POUR CONCRETE DIAPHRAGM AND DECK BARRIER CLOSURE POURS AT PIER, CONSTRUCT APPROACH SLABS AT ABUTMENTS AND SET STRIP SEAL.
15. CURE CONCRETE AND CONNECT GUIDERAIL.
16. REOPEN SHALER STREET.

NOTES:

- A = SPMT/SPAN 2
SUPERSTRUCTURE AT
BRIDGE STAGING AREA
 - B = SPMT/SPAN 2
SUPERSTRUCTURE
TRAVERSE
 - C = SPMT/SPAN 2
SUPERSTRUCTURE
APPROACHING
PERMANENT LOCATION
 - D = SPMT/SPAN 2
SUPERSTRUCTURE AT
PERMANENT LOCATION
- ① = TEMPORARY EXCAVATION
SUPPORT & PROTECTION
SYSTEM ALONG SPMT MOVE
PATH INCLUDED UNDER
ITEMS 9000-0005 AND
9000-0007 (SEE SPECIAL
PROVISIONS)
- ② = TEMPORARY EXCAVATION
SUPPORT AND PROTECTION
SYSTEM INCLUDED UNDER
ITEM 9203-0101 (SEE
SPECIAL PROVISIONS)

1. UTILITY STATUS NOT SHOWN FOR CLARITY, SEE GENERAL PLAN AND ELEVATION (SHEET 1) AND ROADWAY PLANS.
2. FOR GENERAL NOTES, SEE SHEETS 3 & 4.
3. FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
4. FOR SPMT TRAVEL PATH OF SPAN 1 SUPERSTRUCTURE, SEE SHEET 67.
5. LOCATION OF SPMT ASSUMES C OF SPMT'S AND CENTER OF GRAVITY OF SUPERSTRUCTURE COINCIDE. FOR SUPERSTRUCTURE CENTER OF GRAVITY AND TOLERANCES FOR SPMT MOVE, SEE SHEET 68.
6. SPMT PATH PREPARATION, SPMT MOVE AND ALL WORKMANSHIP MATERIALS AND LABOR FOR THE SPMT MOVE ARE INCIDENTAL TO ITEM 9000-0005, SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER, ENGINEERING, AND ITEM 9000-0007, SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER. REMOVAL OF SIGN STRUCTURE AT STA 269+65 IS INCIDENTAL TO ITEM 9000-0040, REMOVE EXISTING SIGN STRUCTURE (SEE SPECIAL PROVISIONS).

Mark	Description	By	Chk' d.	Recm' d.	Date
REVISIONS					

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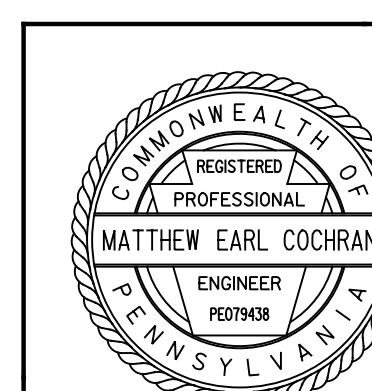
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
SPAN 2: SPMT CONCEPTUAL MOVE PATH

RECOMMENDED 08/03/2018

SHEET 66 OF 83

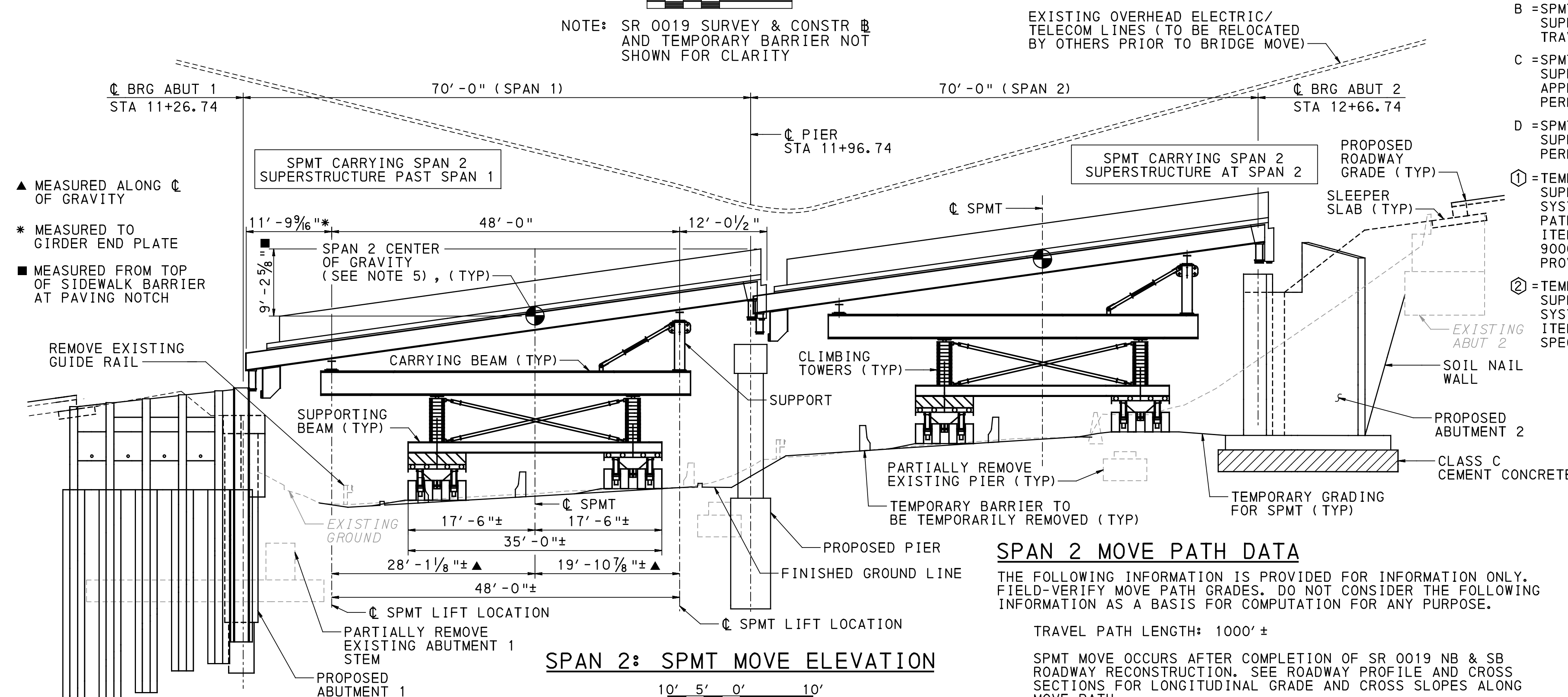
S - 37605



A horizontal graphic scale bar with tick marks at 40', 20', 0', and 40'.

NOTE: SR 0019 SURVEY & CONSTR D
AND TEMPORARY BARRIER NOT
SHOWN FOR CLARITY

EXISTING OVERHEAD ELECTRIC/
TELECOM LINES (TO BE RELOCATED
BY OTHERS PRIOR TO BRIDGE MOVE

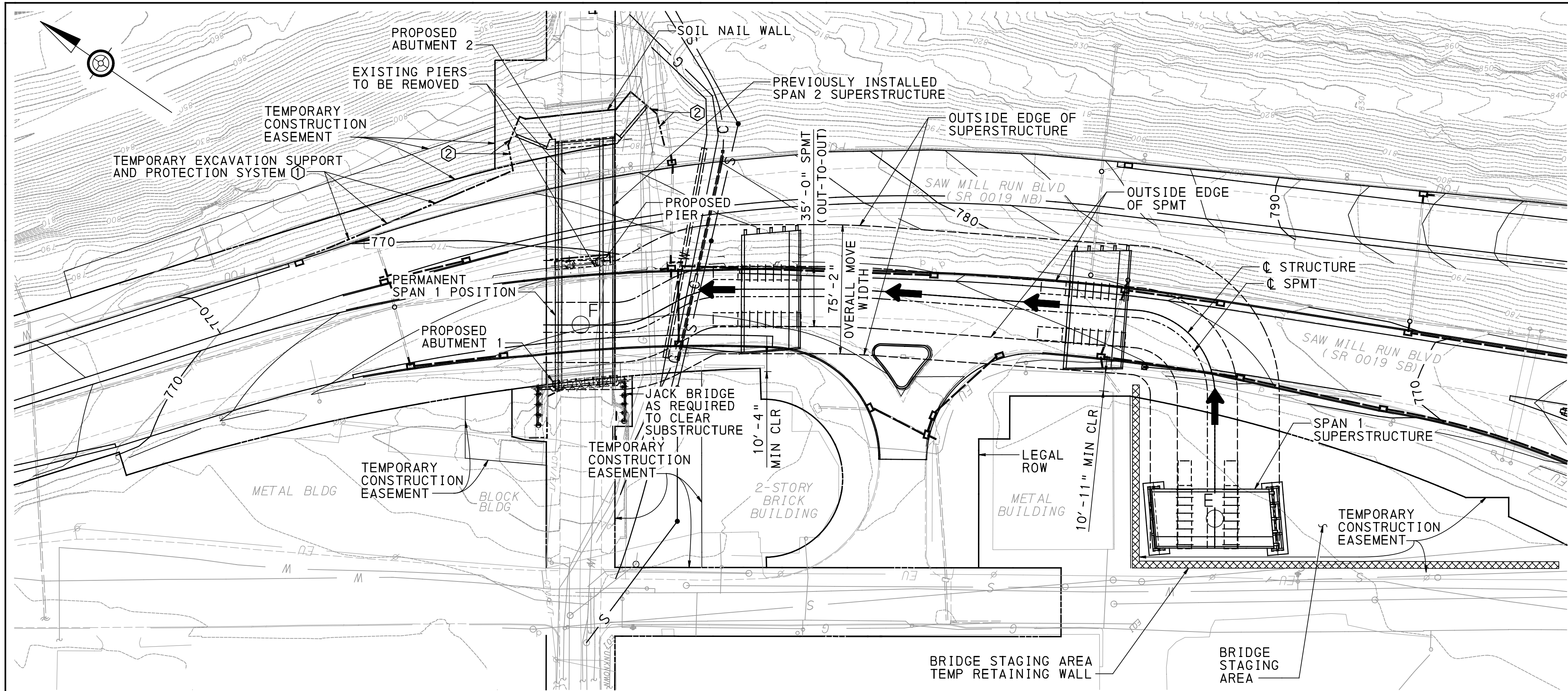


SPAN 2 MOVE PATH DATA

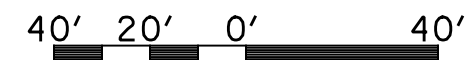
THE FOLLOWING INFORMATION IS PROVIDED FOR INFORMATION ONLY.
FIELD-VERIFY MOVE PATH GRADES. DO NOT CONSIDER THE FOLLOWING
INFORMATION AS A BASIS FOR COMPUTATION FOR ANY PURPOSE.

TRAVEL PATH LENGTH: 1000' ±

SPMT MOVE OCCURS AFTER COMPLETION OF SR 0019 NB & SB
ROADWAY RECONSTRUCTION. SEE ROADWAY PROFILE AND CROSS
SECTIONS FOR LONGITUDINAL GRADE AND CROSS SLOPES ALONG
MOVE PATH.

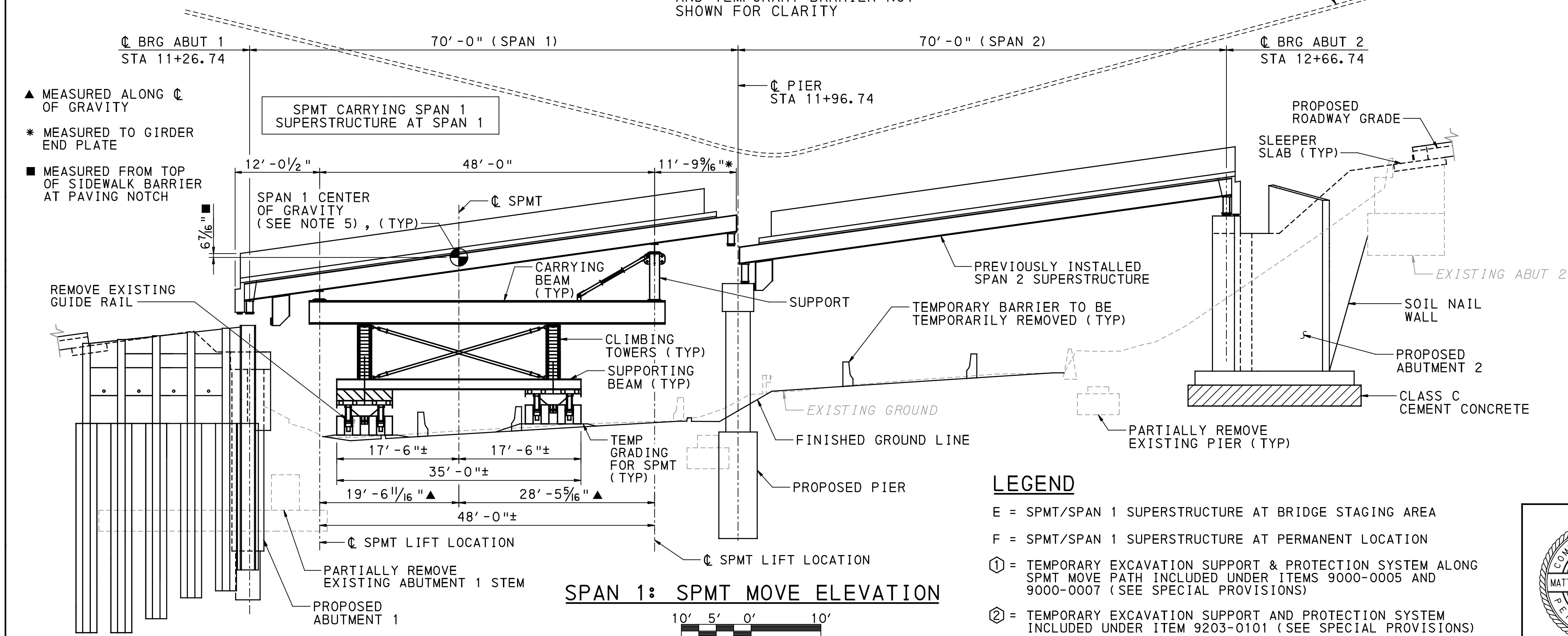


SPMT PATH PLAN: SPAN 1



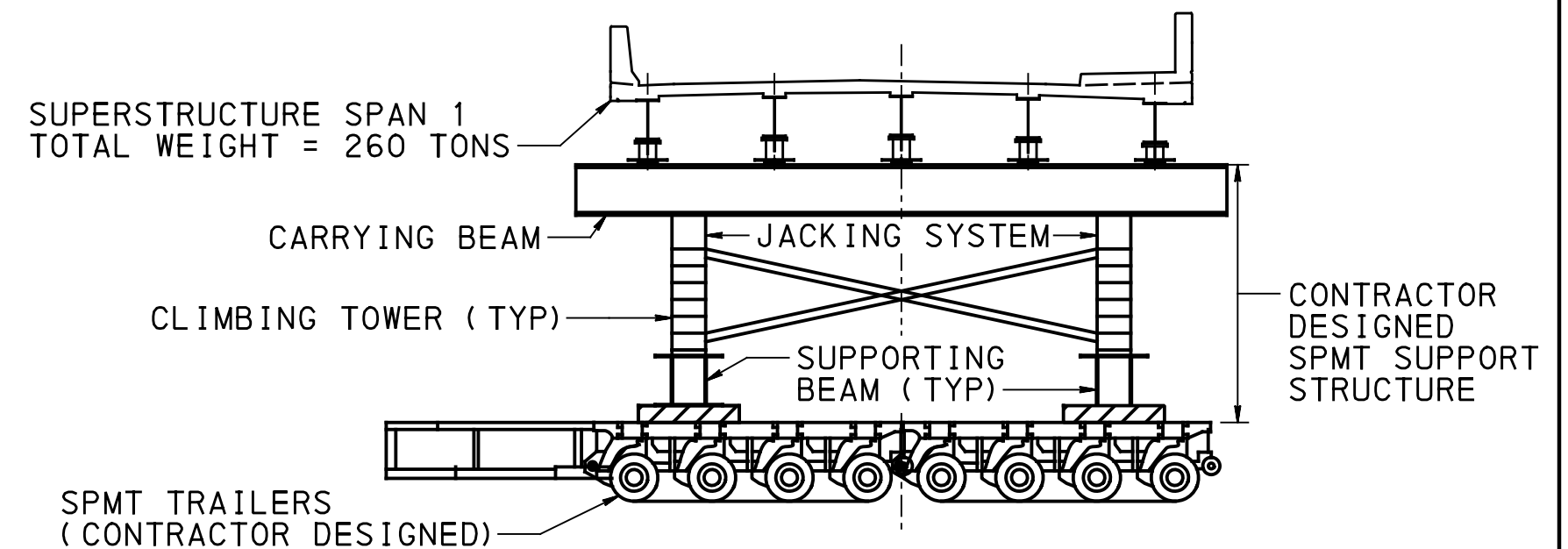
NOTE: SR 0019 SURVEY & CONSTR AND TEMPORARY BARRIER NOT SHOWN FOR CLARITY

EXISTING OVERHEAD ELECTRIC/TELECOM LINES (TO BE RELOCATED BY OTHERS PRIOR TO BRIDGE MOVE)



LEGEND

- E = SPMT/SPAN 1 SUPERSTRUCTURE AT BRIDGE STAGING AREA
- F = SPMT/SPAN 1 SUPERSTRUCTURE AT PERMANENT LOCATION
- ① = TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM ALONG SPMT MOVE PATH INCLUDED UNDER ITEMS 9000-0005 AND 9000-0007 (SEE SPECIAL PROVISIONS)
- ② = TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM INCLUDED UNDER ITEM 9203-0101 (SEE SPECIAL PROVISIONS)



SPAN 1: SPMT SIDE VIEW

NOT TO SCALE

SPAN 1 MOVE PATH DATA

THE FOLLOWING INFORMATION IS PROVIDED FOR INFORMATION ONLY. FIELD-VERIFY MOVE PATH GRADES. DO NOT CONSIDER THE FOLLOWING INFORMATION AS A BASIS FOR COMPUTATION FOR ANY PURPOSE.

TRAVEL PATH LENGTH: 475' ±

SPMT MOVE OCCURS AFTER COMPLETION OF SR 0019 NB & SB ROADWAY RECONSTRUCTION. SEE ROADWAY PROFILE AND CROSS SECTIONS FOR LONGITUDINAL GRADE AND CROSS SLOPES ALONG MOVE PATH.

NOTES:

- UTILITY STATUSES NOT SHOWN FOR CLARITY; SEE GENERAL PLAN & ELEVATION (SHEET 1) AND ROADWAY PLANS.
- FOR GENERAL NOTES, SEE SHEETS 3 & 4.
- FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
- FOR SPMT TRAVEL PATH OF SPAN 2 SUPERSTRUCTURE, SEE SHEET 66.
- LOCATION OF SPMT ASSUMES C. OF SPMTS AND CENTER OF GRAVITY OF SUPERSTRUCTURE COINCIDE. FOR SUPERSTRUCTURE CENTER OF GRAVITY AND TOLERANCES FOR SPMT MOVE, SEE SHEET 68.
- SPMT PATH PREPARATION, SPMT MOVE AND ALL WORKMANSHIP MATERIALS AND LABOR FOR THE SPMT MOVE ARE INCIDENTAL TO ITEM 9000-0005, SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER, ENGINEERING, AND ITEM 9000-0007, SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER (SEE SPECIAL PROVISIONS).

Mark	Description	By	Chk'd.	Recm'd.	Date
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SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

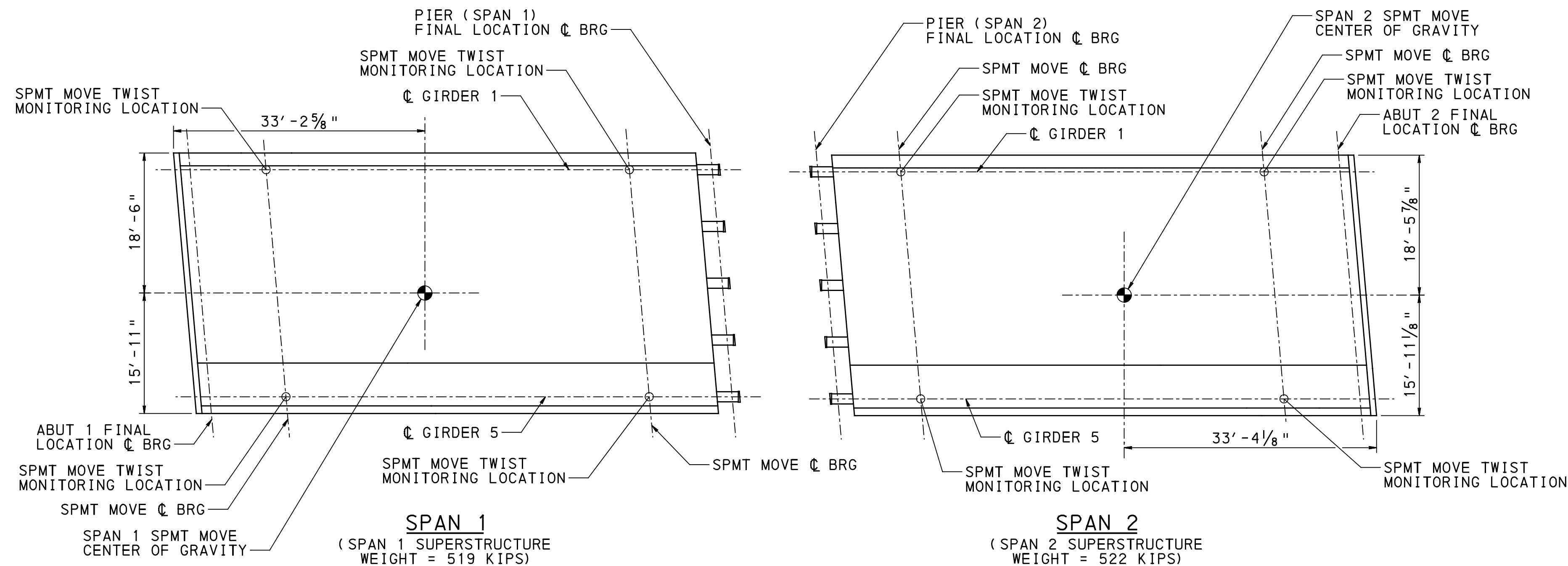
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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
SR 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
SPAN 1: SPMT CONCEPTUAL MOVE PATH

RECOMMENDED 08/03/2018

SHEET 67 OF 83

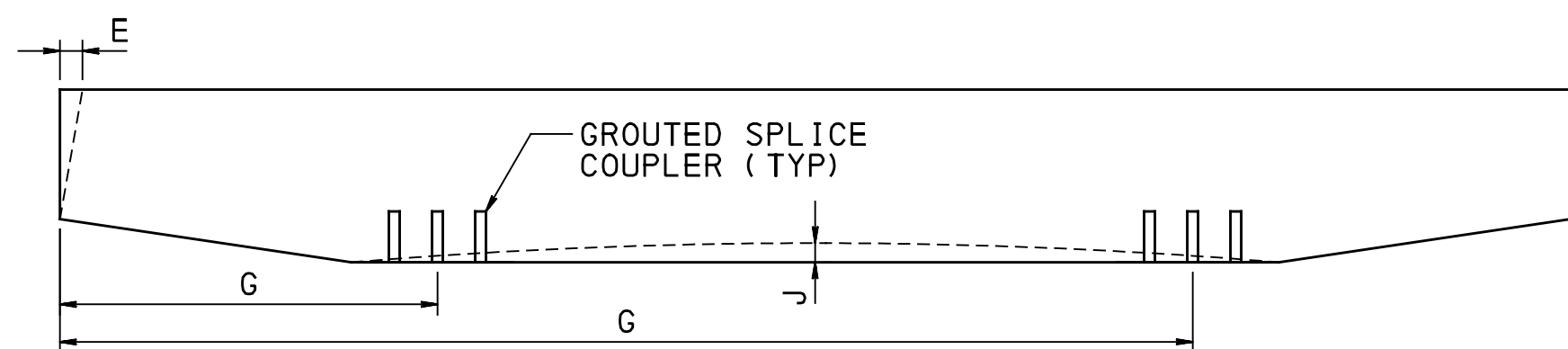
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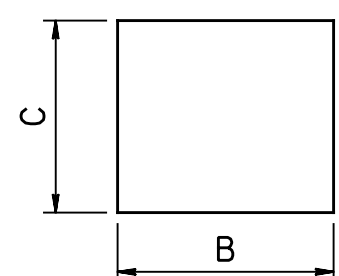
SPAN CENTERS OF GRAVITY DURING SPMT MOVE

NOT TO SCALE

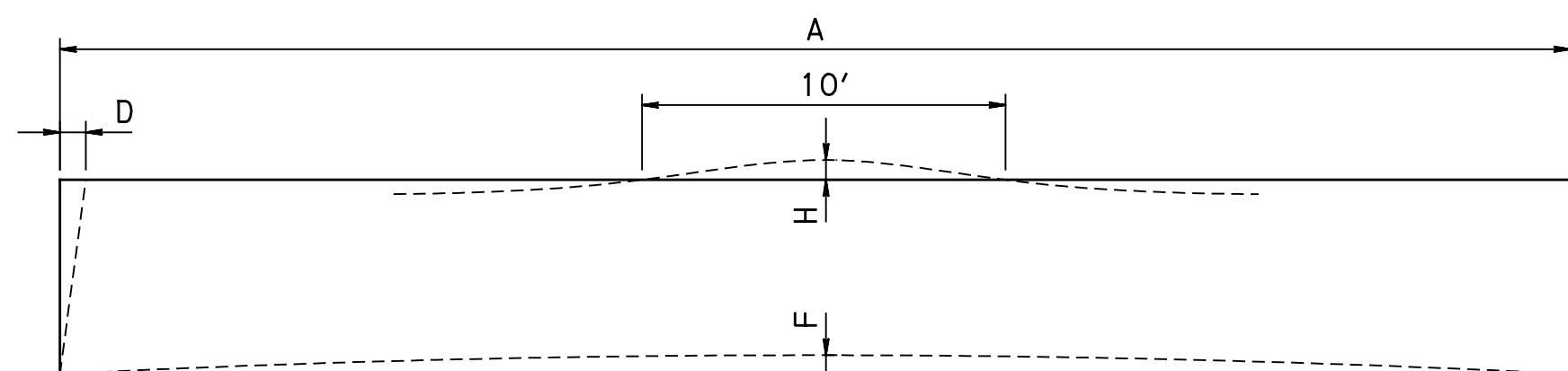
NOTE: LIMIT DEFLECTION AT EACH SPMT MOVE TWIST MONITORING LOCATION POINT AS INDICATED IN THE SPMT MOVE TOLERANCES



ELEVATION



PIER CAP SECTION

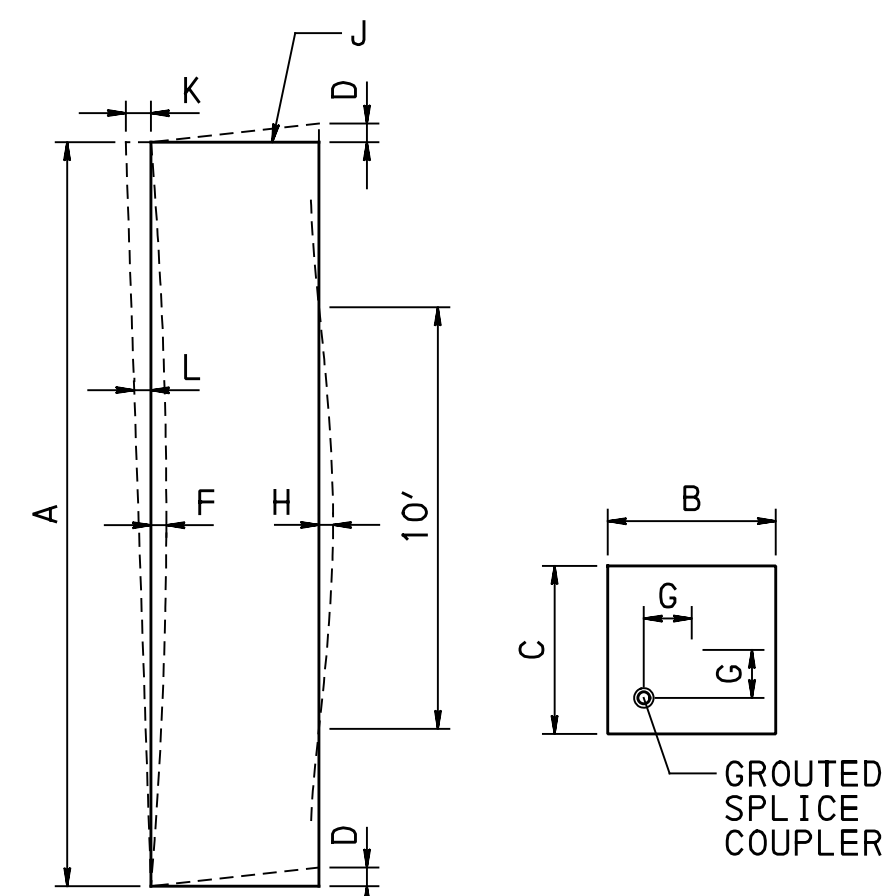


PLAN

PRECAST PIER CAP TOLERANCE DIAGRAM

NOT TO SCALE

PRECAST PIER CAP FABRICATION TOLERANCES		
A	LENGTH	$\pm \frac{3}{4}$ "
B	WIDTH (OVERALL)	$\pm \frac{1}{4}$ "
C	DEPTH (OVERALL)	$\pm \frac{1}{4}$ "
D	VARIATION FROM SPECIFIED PLAN END SQUARENESS OR SKEW	$\pm \frac{1}{8}$ " PER 12 INCH WIDTH $\pm \frac{1}{2}$ " MAXIMUM
E	VARIATION FROM SPECIFIED ELEVATION END SQUARENESS OR SKEW	$\pm \frac{1}{8}$ " PER 12 INCH WIDTH $\pm \frac{1}{2}$ " MAXIMUM
F	SWEEP, FOR MEMBER LENGTH: UP TO 40 FEET 40 FEET TO 60 FEET OVER 60 FEET	$\pm \frac{1}{4}$ " $\pm \frac{1}{2}$ " $\pm \frac{5}{8}$ "
G	LOCATION OF GROUTED SPLICE COUPLER FROM A COMMON REFERENCE POINT (SEE GROUTED SPLICE COUPLER DETAIL)	$\pm \frac{1}{4}$ "
H	LOCAL SMOOTHNESS OF ANY SURFACE	$\pm \frac{1}{4}$ " IN 10 FEET
J	VARIATION FROM SPECIFIED CAMBER DEPTH (OVERALL)	$\pm \frac{1}{8}$ " PER 10 FEET $\pm \frac{1}{2}$ " MAXIMUM

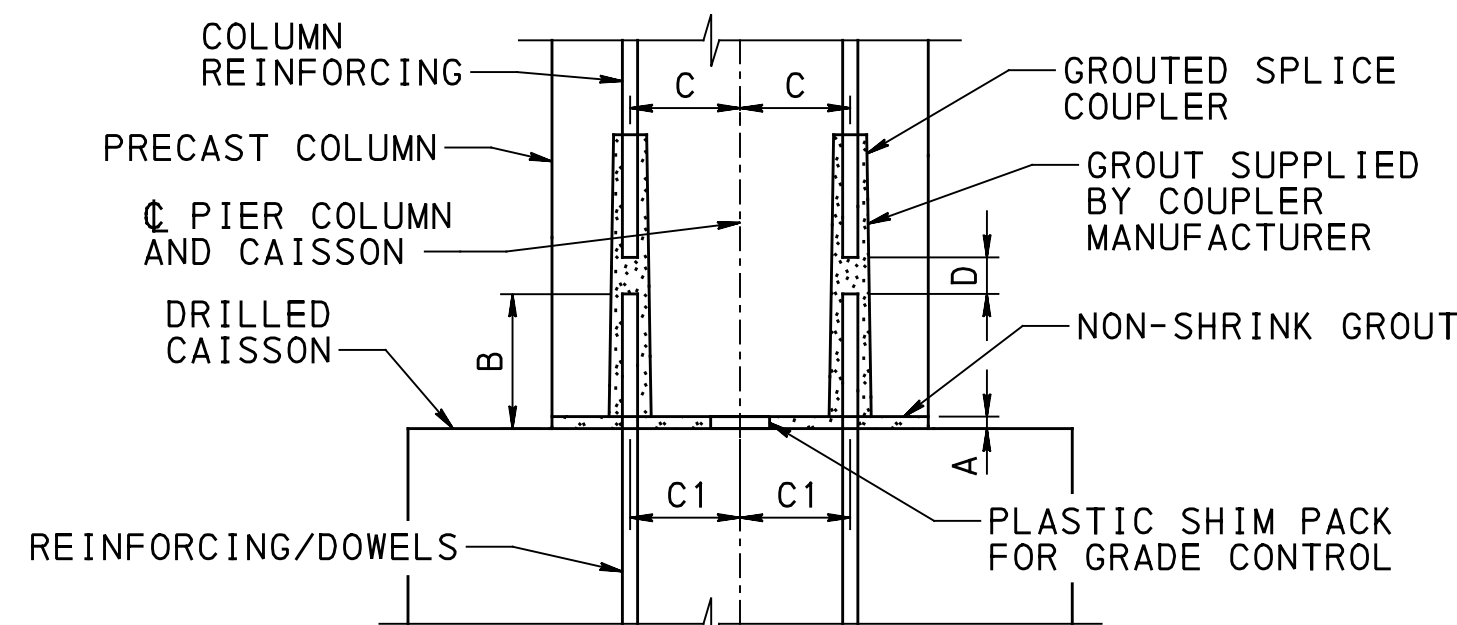


ELEVATION

COLUMN SECTION

PRECAST COLUMN TOLERANCE DIAGRAM

NOT TO SCALE



GROUTED SPLICE COUPLER DETAIL

NOT TO SCALE

NOTE: PIER COLUMN TO CAISSON CONNECTION SHOWN, OTHER CONNECTIONS SIMILAR

GROUTED SPLICE COUPLER TOLERANCES		
A	SHIM PACK HEIGHT	$\frac{3}{4}$ " $\pm \frac{3}{8}$ "
B	DOWEL HEIGHT	CONSULT MANUFACTURER
C	LOCATION OF COLUMN OR CAP REINFORCING, GROUTED SPLICE COUPLER, AND REINFORCING/DOWELS MEASURED FROM A COMMON REFERENCE POINT	$\pm \frac{1}{4}$ "
D	GAP BETWEEN DOWELS AND COLUMN REINFORCING	CONSULT MANUFACTURER

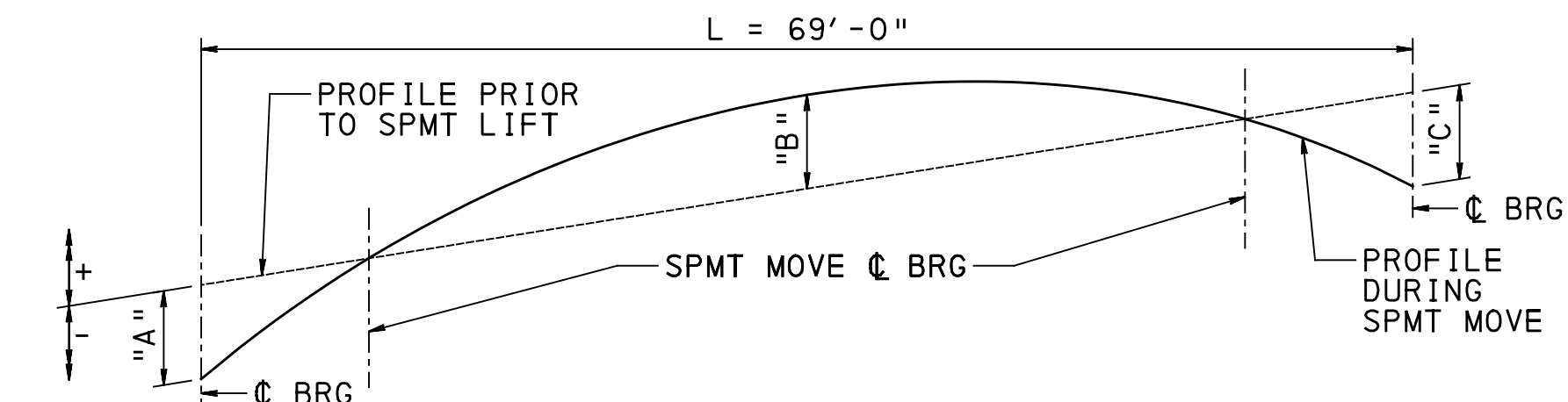
PRECAST COLUMN FABRICATION TOLERANCES		
A	LENGTH	$\pm \frac{1}{2}$ "
B	WIDTH (OVERALL)	$\pm \frac{1}{4}$ "
C	DEPTH (OVERALL)	$\pm \frac{1}{4}$ "
D	VARIATION FROM SPECIFIED PLAN END SQUARENESS OR SKEW	$\pm \frac{1}{8}$ " PER 12 INCH WIDTH $\pm \frac{3}{8}$ " MAXIMUM
F	SWEEP, FOR MEMBER LENGTH	$\pm \frac{1}{8}$ " PER 10 FEET $\pm \frac{1}{2}$ " MAXIMUM
G	LOCATION OF GROUTED SPLICE COUPLER MEASURED FROM A COMMON REFERENCE POINT	$\pm \frac{1}{4}$ "
H	LOCAL SMOOTHNESS OF ANY SURFACE	$\pm \frac{1}{4}$ " IN 10 FEET

PRECAST COLUMN ERECTION TOLERANCES		
J	TOP ELEVATION FROM NOMINAL TOP ELEVATION MAXIMUM LOW MAXIMUM HIGH	$\frac{1}{2}$ " $\frac{1}{4}$ "
K	MAXIMUM PLUMB VARIATION OVER HEIGHT OF COLUMN	$\frac{1}{2}$ "
L	PLUMB IN ANY 10 FEET OF COLUMN HEIGHT	$\frac{1}{4}$ "

SPMT MOVE TOLERANCES:

SPMT TOLERANCES ARE IN ACCORDANCE WITH THE SUPERSTRUCTURE INSTALLATION, SELF PROPELLED MODULAR TRANSPORTER SPECIAL PROVISION AND AS FOLLOWS:

- FINAL PLACEMENT OF THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING TOLERANCES:
SUPERSTRUCTURE DEVIATION FROM PLAN ALIGNMENT: $\pm \frac{1}{2}$ "
BEARING ELEVATION: $\pm \frac{1}{8}$ "
BEARING PLAN LOCATION: $\pm \frac{1}{8}$ "
BEARING ALIGNMENT: $\pm \frac{1}{8}$ " ACROSS BEARING
- LIMIT DEFLECTION AT EACH SPMT MOVE TWIST MONITORING LOCATION TO $\frac{1}{4}$ " RELATIVE TO THE PLANE OF ALL OTHER TWIST MONITORING LOCATIONS DURING SPMT MOVE
- DIFFERENTIAL DEFLECTION:



SPMT MOVE DIFFERENTIAL DEFLECTIONS	
ANTICIPATED DEFLECTION	ANTICIPATED DEFLECTION TOLERANCE
"A" = -0.111 "	"A" MINIMUM = -0.130 " WITH CONCURRENT "B" = +0.070 " "A" MAXIMUM = -0.096 " WITH CONCURRENT "B" = +0.051 "
"B" = +0.059 " @ 0.47L	"C" MINIMUM = -0.155 " WITH CONCURRENT "B" = +0.091 " "C" MAXIMUM = -0.017 " WITH CONCURRENT "B" = +0.031 "
"C" = -0.081 "	

NOTE: CHANGES IN LONGITUDINAL AND TRANSVERSE GRADIENTS TO BE DETERMINED BY HEAVY LIFT FIRM

GROUTED SPLICE COUPLER NOTES:

- USE MATCHING TEMPLATES FOR THE LOCATION OF COLUMN REINFORCEMENT AND GROUTED SPLICE COUPLER PLACEMENT WITHIN THE ELEMENTS TO CONTROL CRITICAL DIMENSIONS "C" AND "C1", WHICH WOULD BE IDENTICAL.
- CONSULT MANUFACTURER OF THE GROUTED SPLICE COUPLER FOR PROPER DIMENSIONS "B" AND "D" AND FOR TOLERANCE ON THESE DIMENSIONS.
- BEFORE EXECUTING GROUTED SPLICE COUPLER ASSEMBLIES, ALWAYS SEEK INSTALLATION RECOMMENDATIONS FROM THE MANUFACTURER OF THE GROUTED SPLICE COUPLER USED.

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 3 AND 4.
- FOR CONCEPTUAL CONSTRUCTION SEQUENCE, SEE SHEETS 7 THRU 10.
- FOR PIER DETAILS, SEE SHEETS 33 THRU 37.
- FOR SUPERSTRUCTURE DETAILS, SEE SHEETS 38 THRU 54
- FOR SPMT MOVE PATHS AND DETAILS, SEE SHEETS 66 & 67.
- FOR PRECAST WALL PANEL/ABUTMENT 2 CAP TOLERANCES, SEE SHEET 69.

Mark	Description	By	Chk'd.	Rec'd.	Date
REVISIONS					

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS# 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
SR 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
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OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
CONSTRUCTION TOLERANCES 1

RECOMMENDED 08/03/2018

SHEET 68 OF 83

S - 37605

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT.
REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER
INFORMATION.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

TRS - TOP OF ROCK SOCKET
 BRS - BOTTOM OF ROCK SOCKET
 TOC - TOP OF CAISSON
 BOC - BOTTOM OF CAISSON
 BFE - BOTTOM OF FOOTING ELEVATION
 BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

ML

Michael J. Lomansky

8-29-17
DATE:



ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 1 OF 14)

RECOMMENDED BY:

H. H. H.

5-24-18

SHEET 70 OF 83

S-37605



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$FILE$
$DATE$
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PLT: RJS	CKD: AM	QA/QC: MJL
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GENERAL NOTES

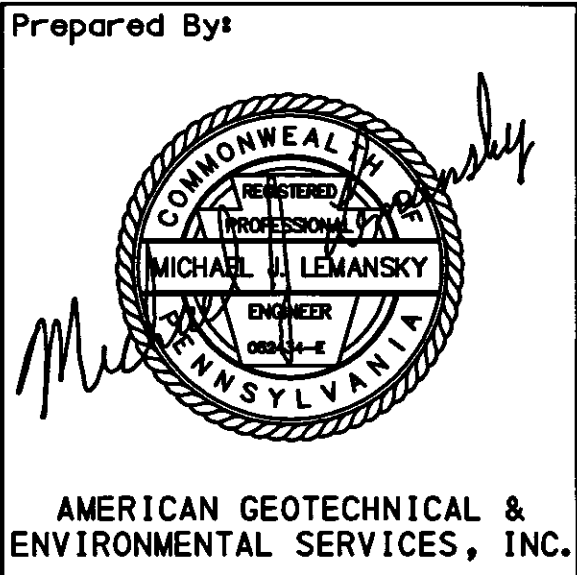
THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

- LEGEND
- TRS - TOP OF ROCK SOCKET
 - BRS - BOTTOM OF ROCK SOCKET
 - TOC - TOP OF CAISSON
 - BOC - BOTTOM OF CAISSON
 - BFE - BOTTOM OF FOOTING ELEVATION
 - BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

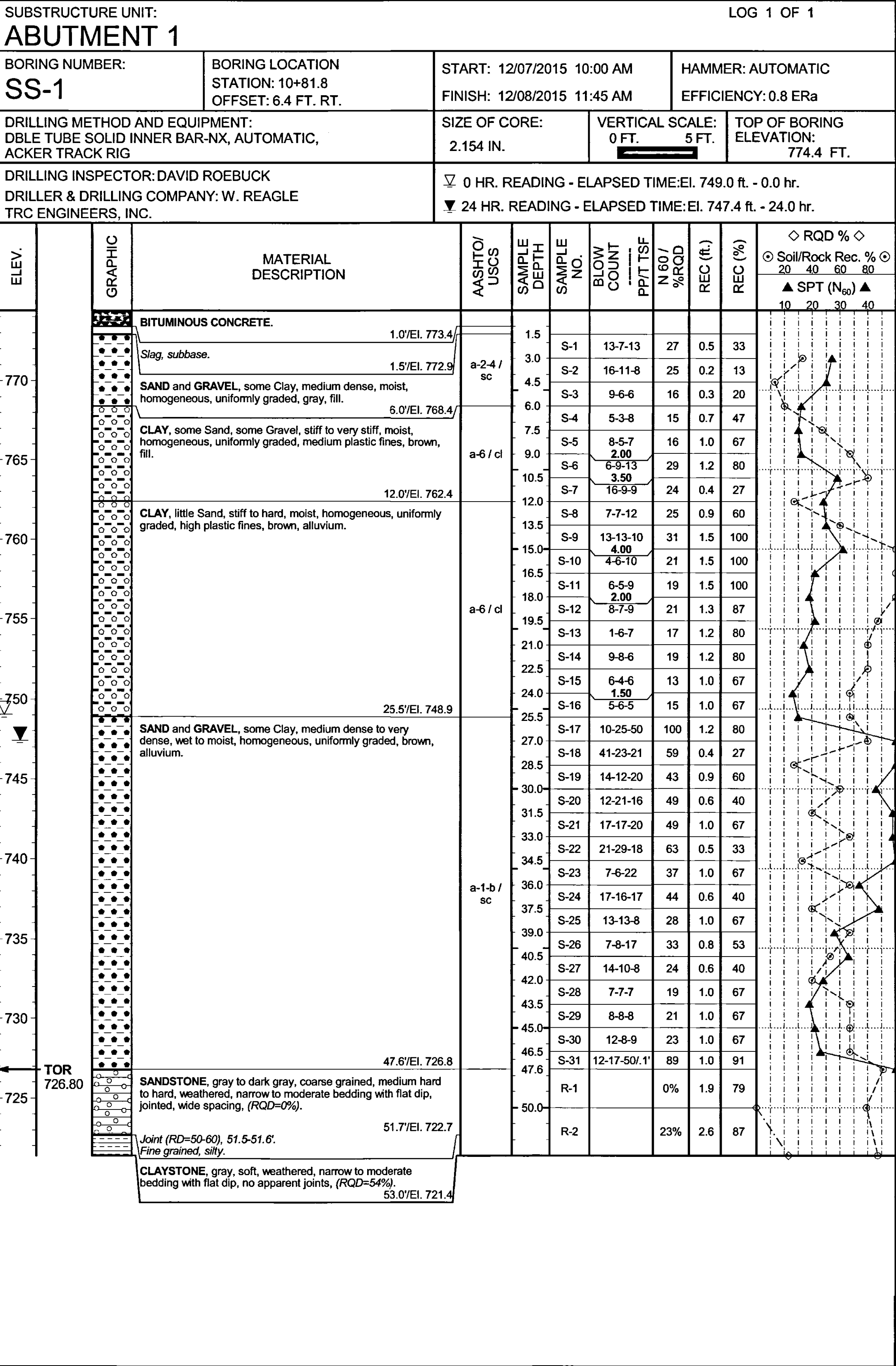
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 2 OF 14)

RECOMMENDED BY:

DISTRICT GEOTECHNICAL ENGINEER

SHEET 71 OF 83
S-37605



GENERAL NOTES

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LEGEND

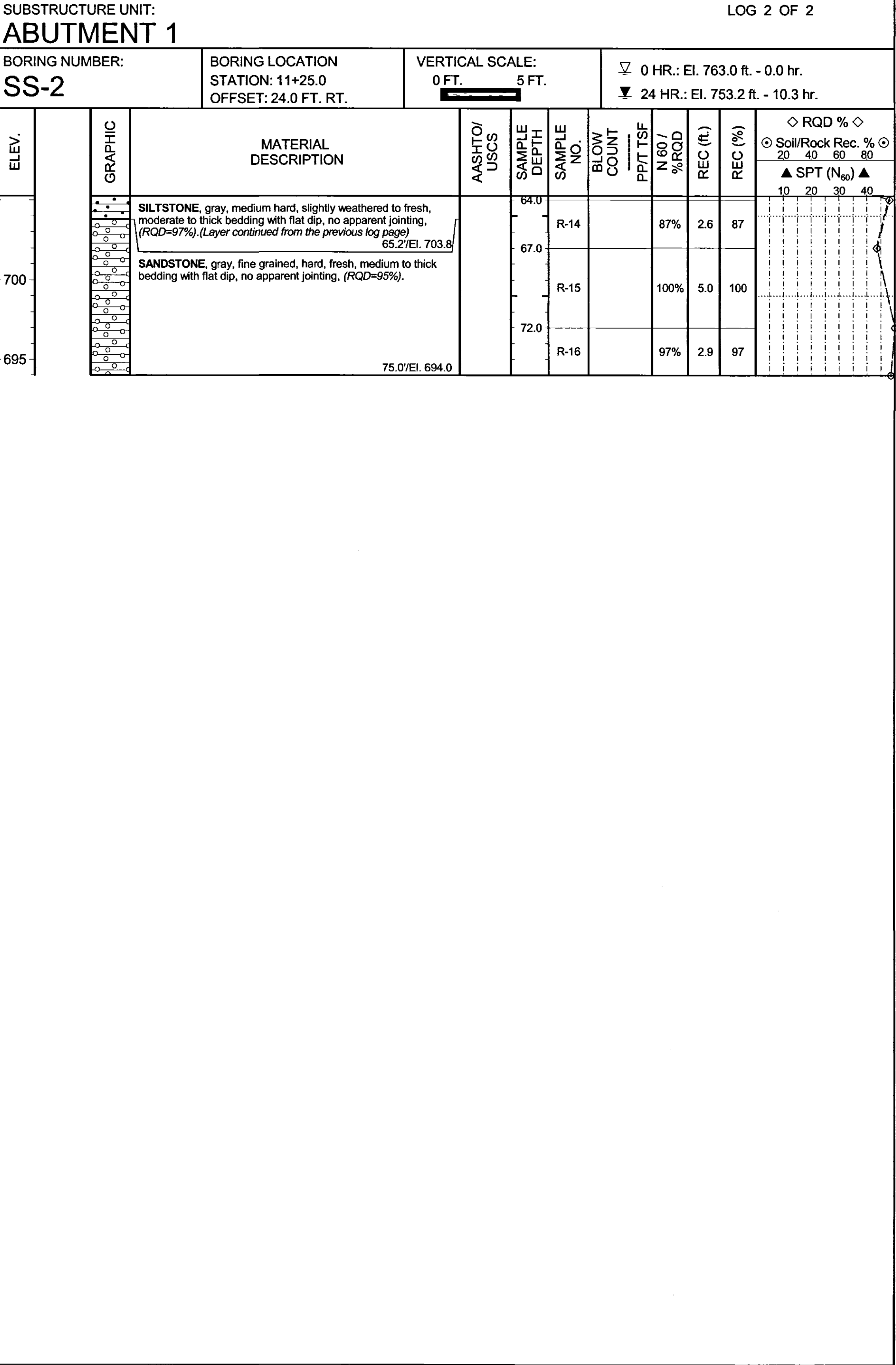
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THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.

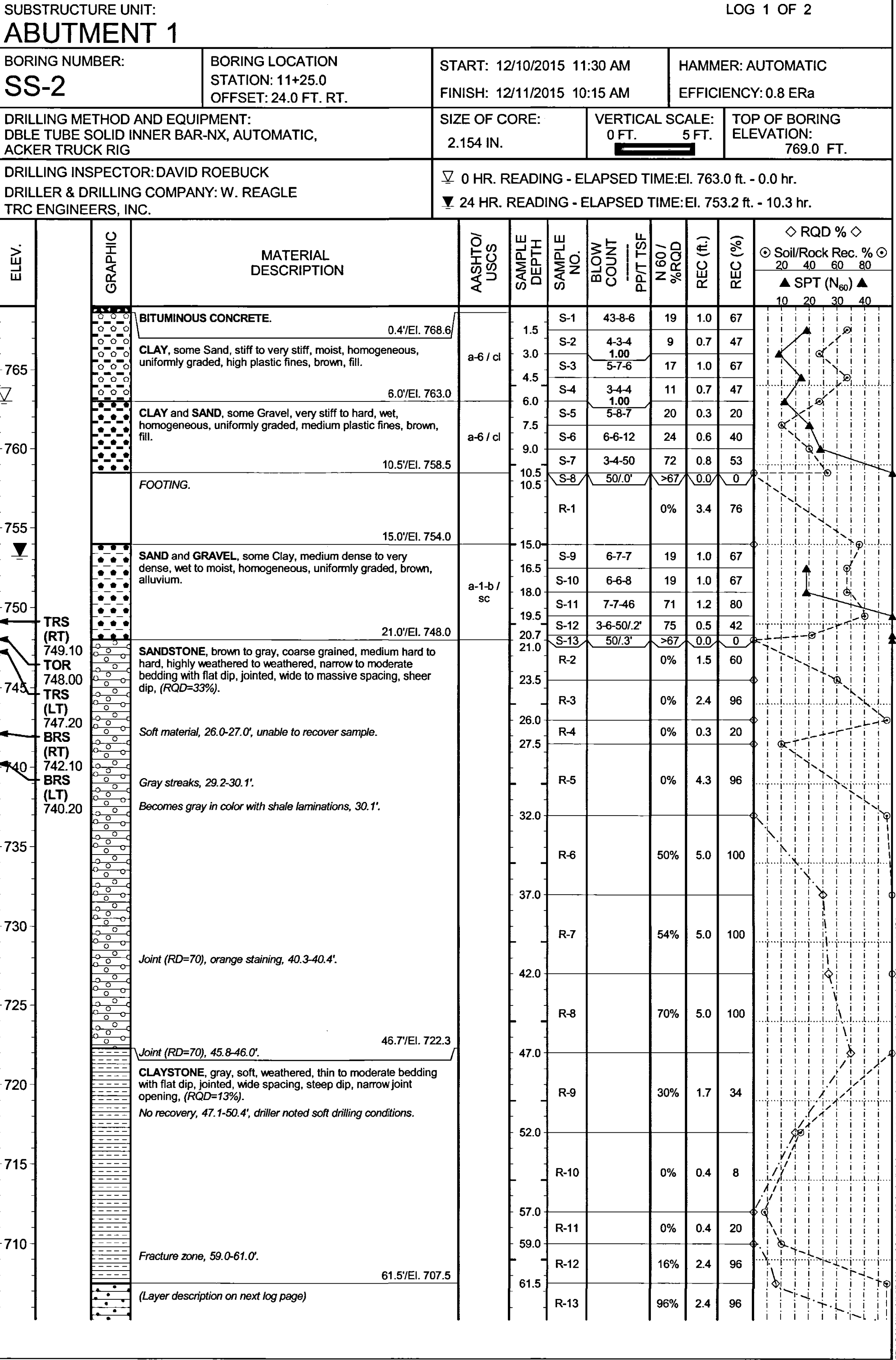


SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION	
ALLEGHENY COUNTY S.R. 3110, SECTION A02 SEGMENT 0010 OFFSET 0001 S.R. 3110-A02 STA. 11+96.74 (SHALER STREET) OVER SR 0019-A63 2-SPAN COMP STEEL PLATE GIRDER BRIDGE STRUCTURE BORINGS (SHEET 3 OF 14)	
RECOMMENDED BY: DISTRICT GEOTECHNICAL ENGINEER	SHEET 72 OF 83 S-37605



NOTE: TOP AND BOTTOM OF ROCK SOCKET BASED ON CALCULATION COMPLETED BY LOCHNER



GENERAL NOTES

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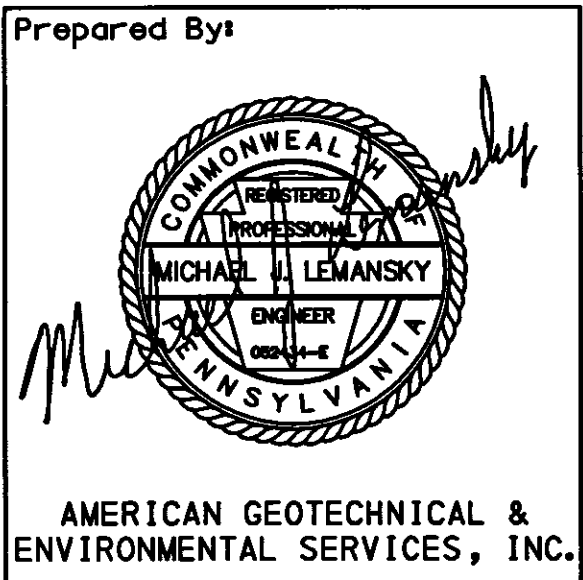
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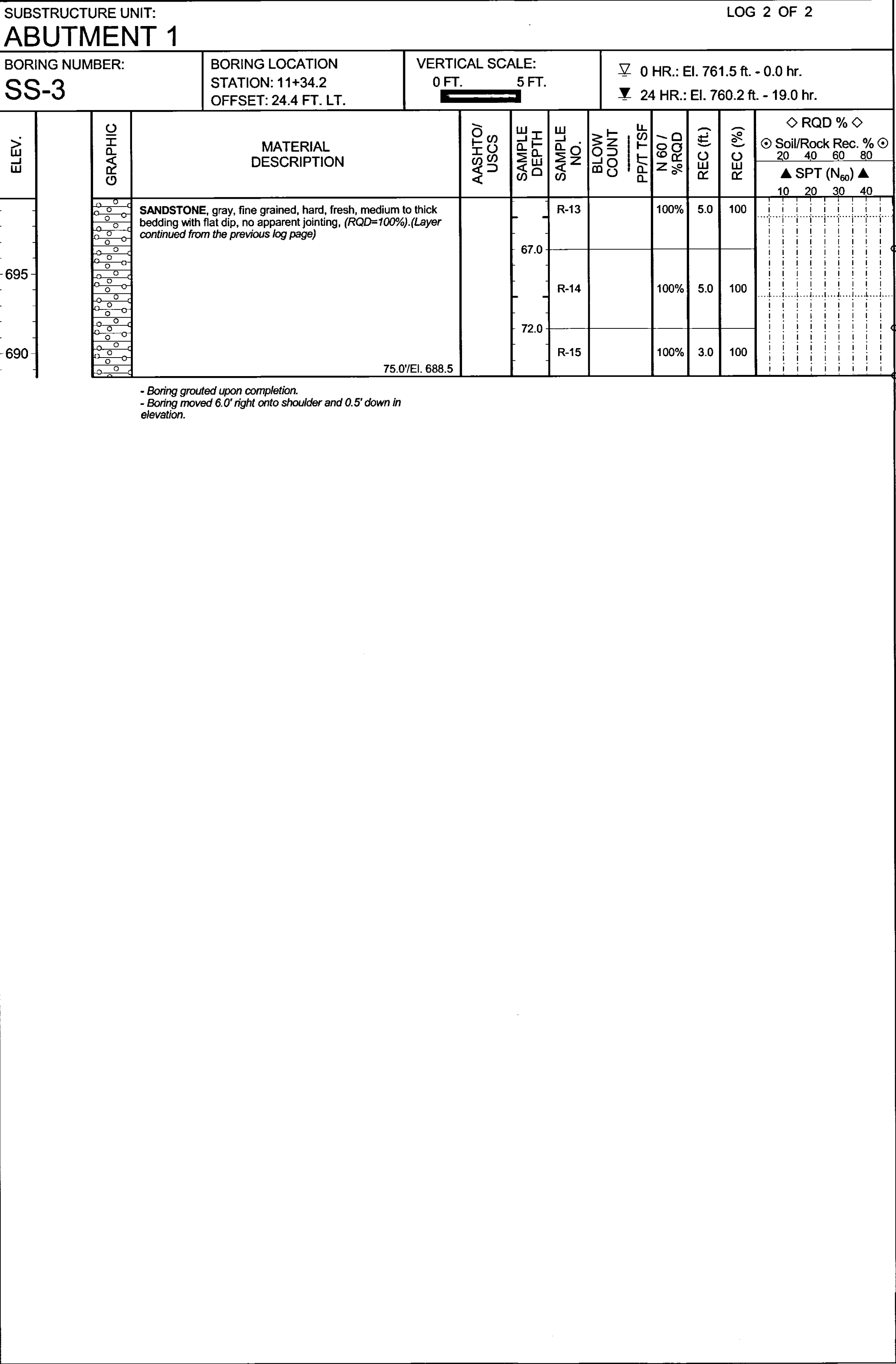
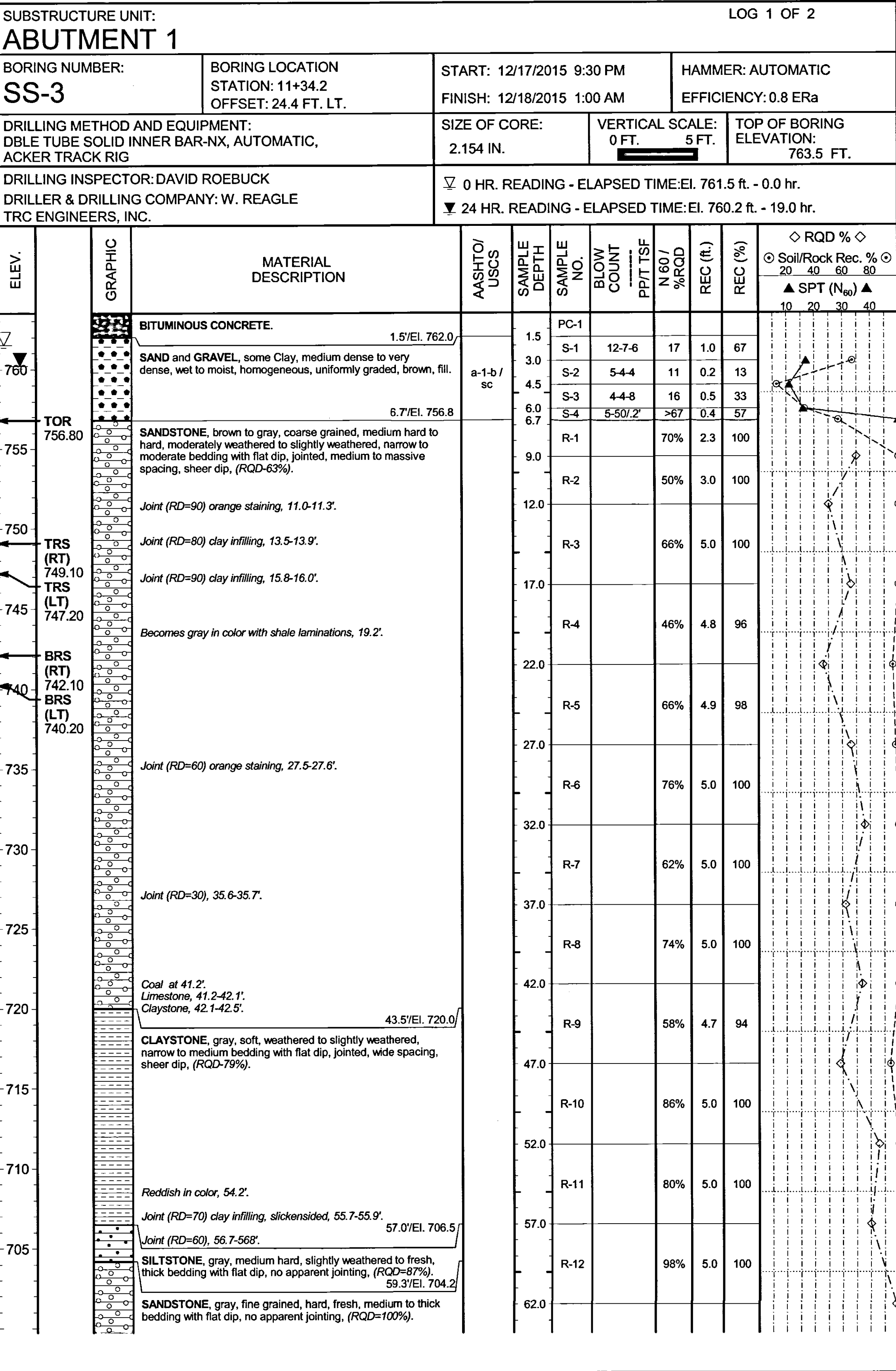
- TRS - TOP OF ROCK SOCKET
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THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION	
ALLEGHENY COUNTY S.R. 3110, SECTION A02 SEGMENT 0010 OFFSET 0001 S.R. 3110-A02 STA. 11+96.74 (SHALER STREET) OVER SR 0019-A63 2-SPAN COMP STEEL PLATE GIRDER BRIDGE STRUCTURE BORINGS (SHEET 4 OF 14)	
RECOMMENDED BY: DISTRICT GEOTECHNICAL ENGINEER	SHEET 73 OF 83 S-37605



NOTE: TOP AND BOTTOM OF ROCK SOCKET BASED ON CALCULATION COMPLETED BY LOCHNER

GENERAL NOTES

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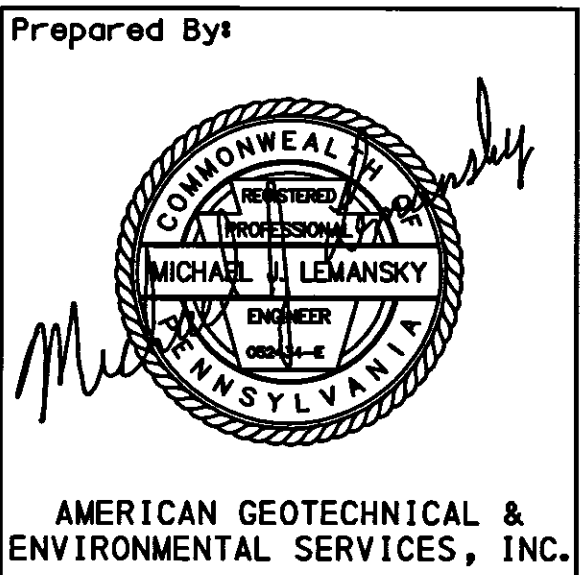
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LEGEND

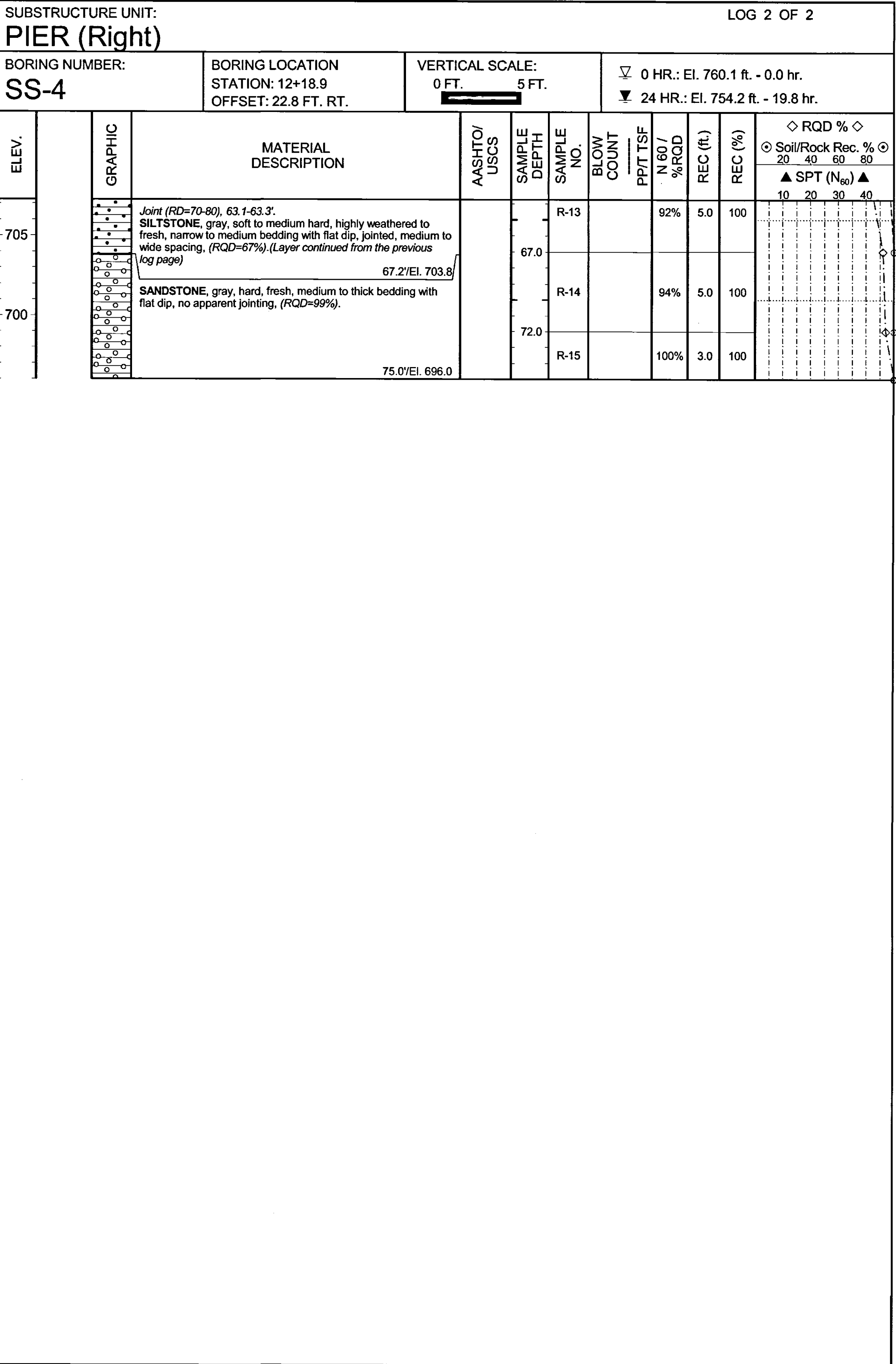
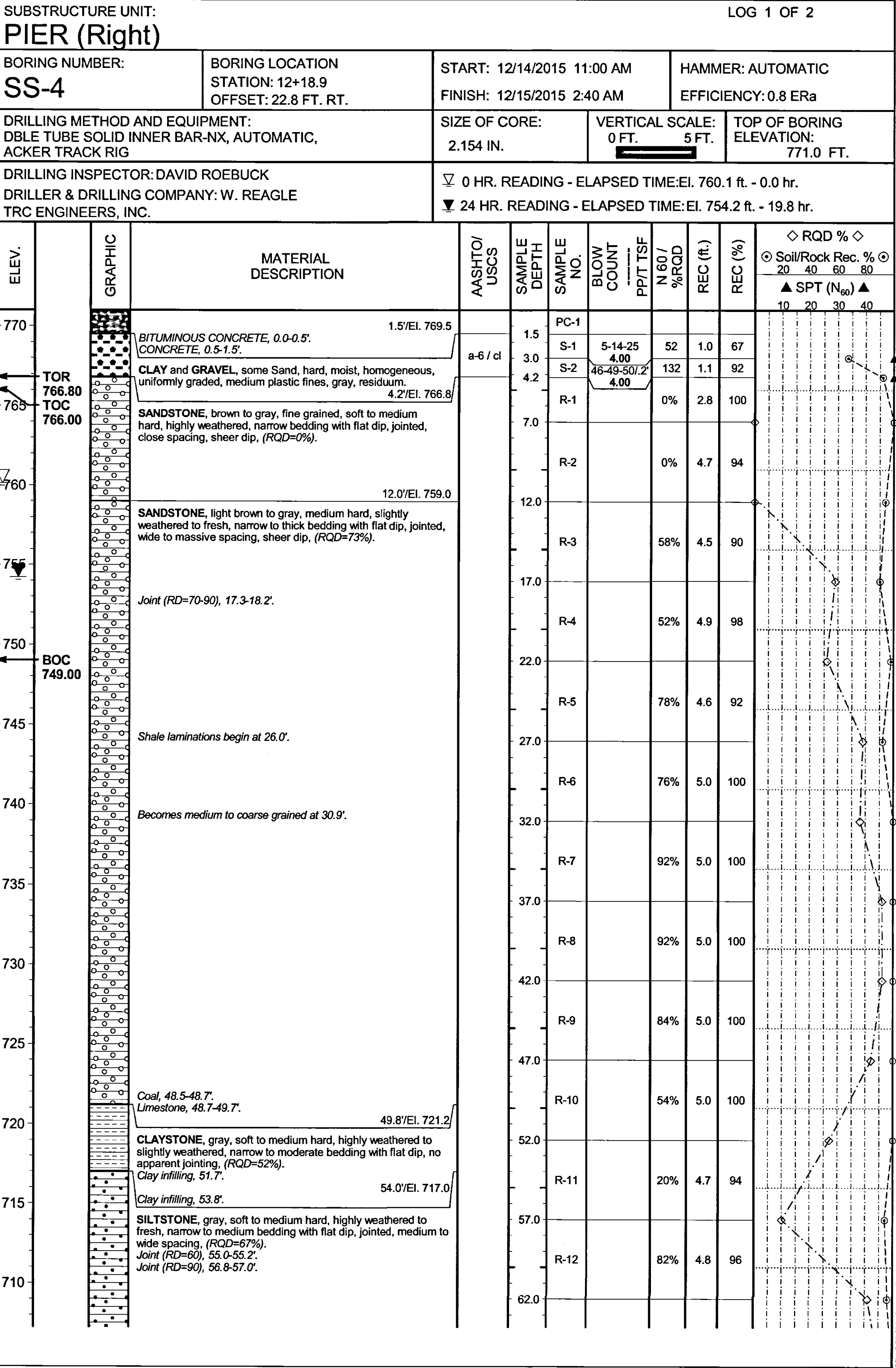
- TRS - TOP OF ROCK SOCKET
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THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION ALLEGHENY COUNTY S.R. 3110, SECTION A02 SEGMENT 0010 OFFSET 0001 S.R. 3110-A02 STA. 11+96.74 (SHALER STREET) OVER SR 0019-A63 2-SPAN COMP STEEL PLATE GIRDER BRIDGE STRUCTURE BORINGS (SHEET 5 OF 14)	
RECOMMENDED BY: DISTRICT GEOTECHNICAL ENGINEER	SHEET 74 OF 83 S-37605



NOTE: TOP AND BOTTOM OF ROCK SOCKET BASED ON CALCULATION COMPLETED BY LOCHNER

GENERAL NOTES

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT.
REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER
INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

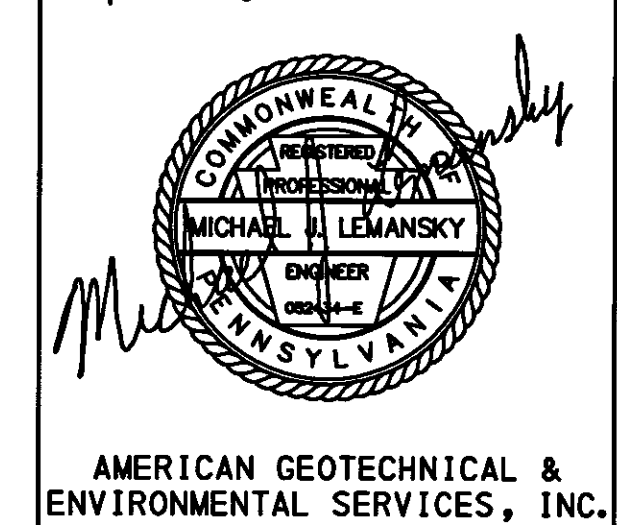
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LEGEND

TRS - TOP OF ROCK SOCKET
BRS - BOTTOM OF ROCK SOCKET
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BOC - BOTTOM OF CAISSON
BFE - BOTTOM OF FOOTING ELEVATION
BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.

Prepared By:



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 6 OF 14)

RECOMMENDED BY:

Wear 5-24-19
DISTRICT GEOTECHNICAL ENGINEER

SHEET 75 OF 83

S-37605

Substructure Unit:PIER (Left)

LOG 1 OF 2

BORING NUMBER:
SS-5

BORING LOCATION
STATION: 12+09.9
OFFSET: 23.8 FT. LT.

START: 12/14/2015 11:00 PM
FINISH: 12/15/2015 3:00 AM

HAMMER: AUTOMATIC
EFFICIENCY: 0.8 ERa

DRILLING METHOD AND EQUIPMENT:
DBLE TUBE SPLIT INNER BRL-NQ, AUTOMATIC,
ACKER SOILS XLS TRACK RIG

SIZE OF CORE:
1.874 IN.

VERTICAL SCALE:
0 FT. 5 FT.

TOP OF BORING
ELEVATION:
769.4 FT.

DRILLING INSPECTOR: DANIEL MARTT
DRILLER & DRILLING COMPANY: R. CRUM
TRC ENGINEERS, INC.

0 HR. READING - ELAPSED TIME: EI. 754.6 ft. - 0.0 hr.

24 HR. READING - ELAPSED TIME: EI. 756.1 ft. - 43.5 hr.

ELEV.

GRAPHIC

MATERIAL DESCRIPTION

AASHTO/
USCS

SAMPLE
DEPTH

SAMPLE
NO.

BLOW
COUNT

PP/T TSF

N 60/
%RQD

REC (ft.)

REC (%)

◇ RQD % ◇

⊙ Soil/Rock Rec. % ⊙

▲ SPT (N₆₀) ▲

TOR
767.10
TOC
766.00

765

760

755

750

745

740

735

730

725

720

715

710

BITUMINOUS CONCRETE, 0.0-0.6'.
CONCRETE, 0.6-1.5'.
1.5'/EI. 767.9

GRAVEL, (mechanically broken limestone), very dense,
homogeneous, brown, residuum.
2.3'/EI. 767.1

FLINT CLAY, brown, pearly luster, soft to medium hard,
weathered, narrow to moderate bedding with flat dip, jointed,
medium spacing, very steep dip, open joints, smooth surfaces,
(RQD=0%).
6.1'/EI. 763.3

SANDSTONE, brown to gray, fine grained, hard, weathered to
slightly weathered, narrow to moderate bedding with flat dip,
jointed, laminated to wide spacing, sheer dip, open joints, rough
surfaces, (RQD=52%).
10.7'/EI. 758.7

SANDSTONE, gray, shaley, fine to medium grained, hard,
slightly weathered to fresh, thin to thick bedding with flat dip, no
apparent jointing, (RQD=92%).

Black shale layers (0.1-0.5' thick), 22.5-47.0'.

LIMESTONE, gray to dark gray, fine to coarse grained, very
hard, fresh, laminated to moderate bedding with moderate dip,
no apparent jointing, brecciated with thin coal, (RQD=80%).
48.0'/EI. 721.4

CLAYSTONE, gray, very soft to soft, fresh, narrow to moderate
bedding with flat dip, jointed, medium spacing, moderate dip,
slickensided, (RQD=59%).
Very soft, 49.5-49.7' and 53.8-54.1'.
55.0'/EI. 714.4

SILTSTONE, gray, medium hard, fresh, thin to medium
bedding with flat dip, jointed, medium to wide spacing, very
steep dip, slickensided, (RQD=78%).
Clayey, 56.1-56.2'.
60.8'/EI. 708.6

SANDSTONE, gray, fine grained, hard, fresh, narrow to thick
bedding with flat dip, no apparent jointing, (RQD=99%).

a-1-b /
gp

1.5
2.3

4.5

8.0

13.0

18.0

23.0

28.0

33.0

38.0

43.0

48.0

53.0

58.0

63.0

PC-1

S-1

R-1

R-2

R-3

R-4

R-5

R-6

R-7

R-8

R-9

R-10

R-11

R-12

R-13

23-50/3'

>67

0%

23%

74%

86%

84%

94%

90%

94%

100%

98%

64%

70%

80%

0.8

2.2

3.5

5.0

5.0

4.7

5.0

5.0

5.0

5.0

5.0

5.0

5.0

4.8

5.0

100

100

100

94

100

100

100

100

96

100

10 20 30 40

20 40 60 80

10 20 30 40

NOTE: TOP AND BOTTOM OF ROCK SOCKET BASED ON CALCULATION COMPLETED BY LOCHNER

[illegible]

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$FILE$
$DATE$
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PLT: RJS	CKD: AM	QA/QC: MJL
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GENERAL NOTES

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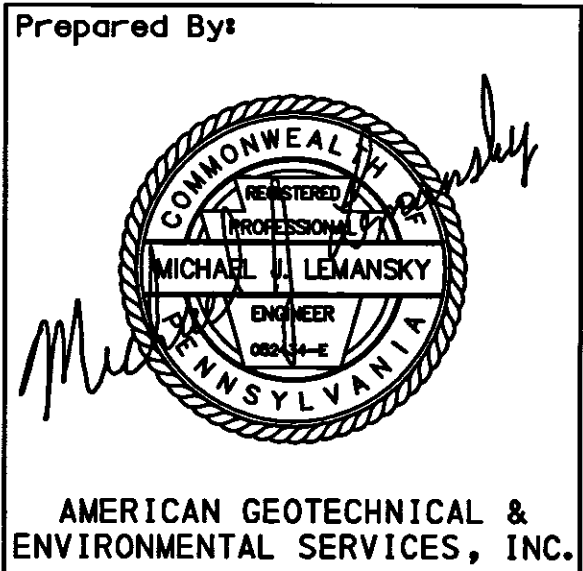
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LEGEND


- TRS - TOP OF ROCK SOCKET
- BRS - BOTTOM OF ROCK SOCKET
- TOC - TOP OF CAISSON
- BOC - BOTTOM OF CAISSON
- BFE - BOTTOM OF FOOTING ELEVATION
- BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 7 OF 14)

RECOMMENDED BY:  5-24-18
DISTRICT GEOTECHNICAL ENGINEER

SHEET 76 OF 83
S-37605

SUBSTRUCTURE UNIT: LOG 1 OF 2											
ABUTMENT 2											
BORING NUMBER: SS-6		BORING LOCATION STATION: 12+60.3 OFFSET: 15.9 FT. RT.		START: 12/08/2015 12:30 PM FINISH: 12/09/2015 12:00 PM		HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa					
DRILLING METHOD AND EQUIPMENT: DBLE TUBE SOLID INNER BAR-NX, AUTOMATIC, ACKER TRACK RIG				SIZE OF CORE: 2.154 IN.		VERTICAL SCALE: 0 FT. 5 FT.		TOP OF BORING ELEVATION: 800.1 FT.			
DRILLING INSPECTOR: DAVID ROEBUCK DRILLER & DRILLING COMPANY: W. REAGLE TRC ENGINEERS, INC.				▽ 0 HR. READING - ELAPSED TIME: El. 761.8 ft. - 0.0 hr. ¹ ▼ 24 HR. READING - ELAPSED TIME: El. 758.6 ft. - 44.5 hr. ²							
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PP/T TSP	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇ ○ Soil/Rock Rec. % ○ ▲ SPT (N ₆₀) ▲ 10 20 30 40
795		BITUMINOUS CONCRETE, 0.0-0.4'. CONCRETE, 0.4-1.0'. 1.0'/El. 799.1 Air - Distance between bridge deck and ground elevation.		1.0	PC-1						
790											
785											
780											
775											
770											
765											
760											
755											
750											
745											
740											

SUBSTRUCTURE UNIT: LOG 2 OF 2									
ABUTMENT 2									
BORING NUMBER: SS-6		BORING LOCATION STATION: 12+60.3 OFFSET: 15.9 FT. RT.		VERTICAL SCALE: 0 FT. 5 FT.		▽ 0 HR.: El. 761.8 ft. - 0.0 hr. ¹ ▼ 24 HR.: El. 758.6 ft. - 44.5 hr. ²			
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PP/T TSP N 60 / %RQD	REC (ft.)	REC (%)
735		SANDSTONE, brown gray, medium hard, highly weathered to slightly weathered, narrow to thick bedding with flat dip, jointed, close to massive spacing, narrow joint opening, (RQD=72%). (Layer continued from the previous log page) Joint (RD=10-20), 64.5-65.0'. Coal, 75.5-75.6' and 76.0-76.5'. Breccia, 75.6-76.0'. 79.1'/El. 721.0							
730									
725									
720		SILTSTONE, gray, soft to medium hard, highly weathered to slightly weathered, narrow to medium bedding with flat dip, jointed, moderate to wide spacing, steep to sheer dip, (RQD=74%). Clay infilling, 80.3' Joint (RD=60-70), 80.5-80.7'. Joint (RD=45), 82.4-82.7'. Joint (RD=83.6-83.7'. Clay infilling, 85.2-85.5'. Joint (RD=80-90), 94.5-96.2'. 97.0'/El. 703.1							
715									
710									
705									

¹0-hr. Water: Water level taken from bridge deck through tremi.
²24-hr. Water: Water level taken from bridge deck through tremi.

GENERAL NOTES

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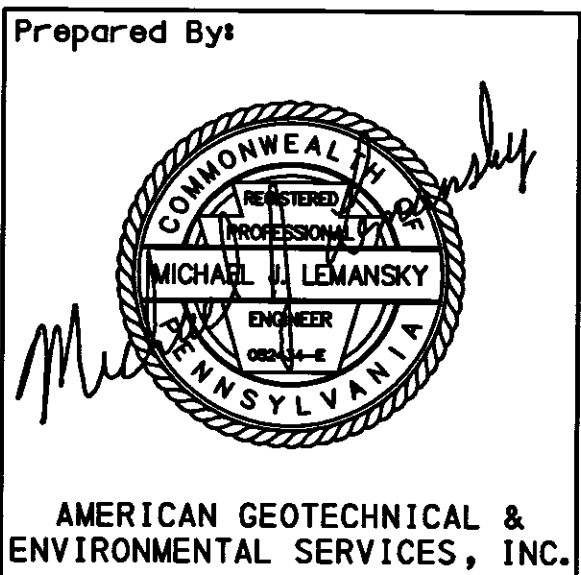
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LEGEND

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BRS - BOTTOM OF ROCK SOCKET
TOC - TOP OF CAISSON
BOC - BOTTOM OF CAISSON
BFE - BOTTOM OF FOOTING ELEVATION
BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

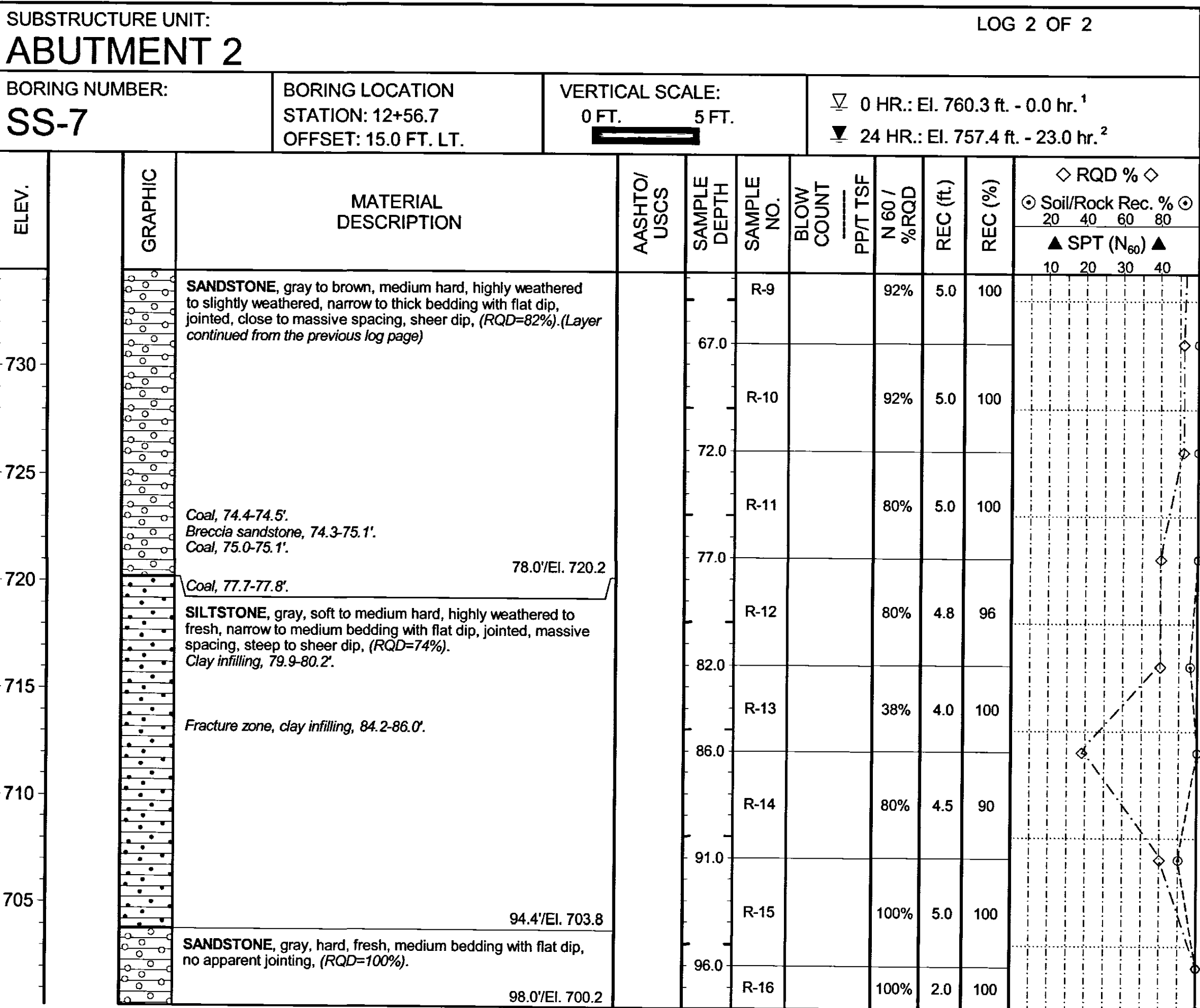
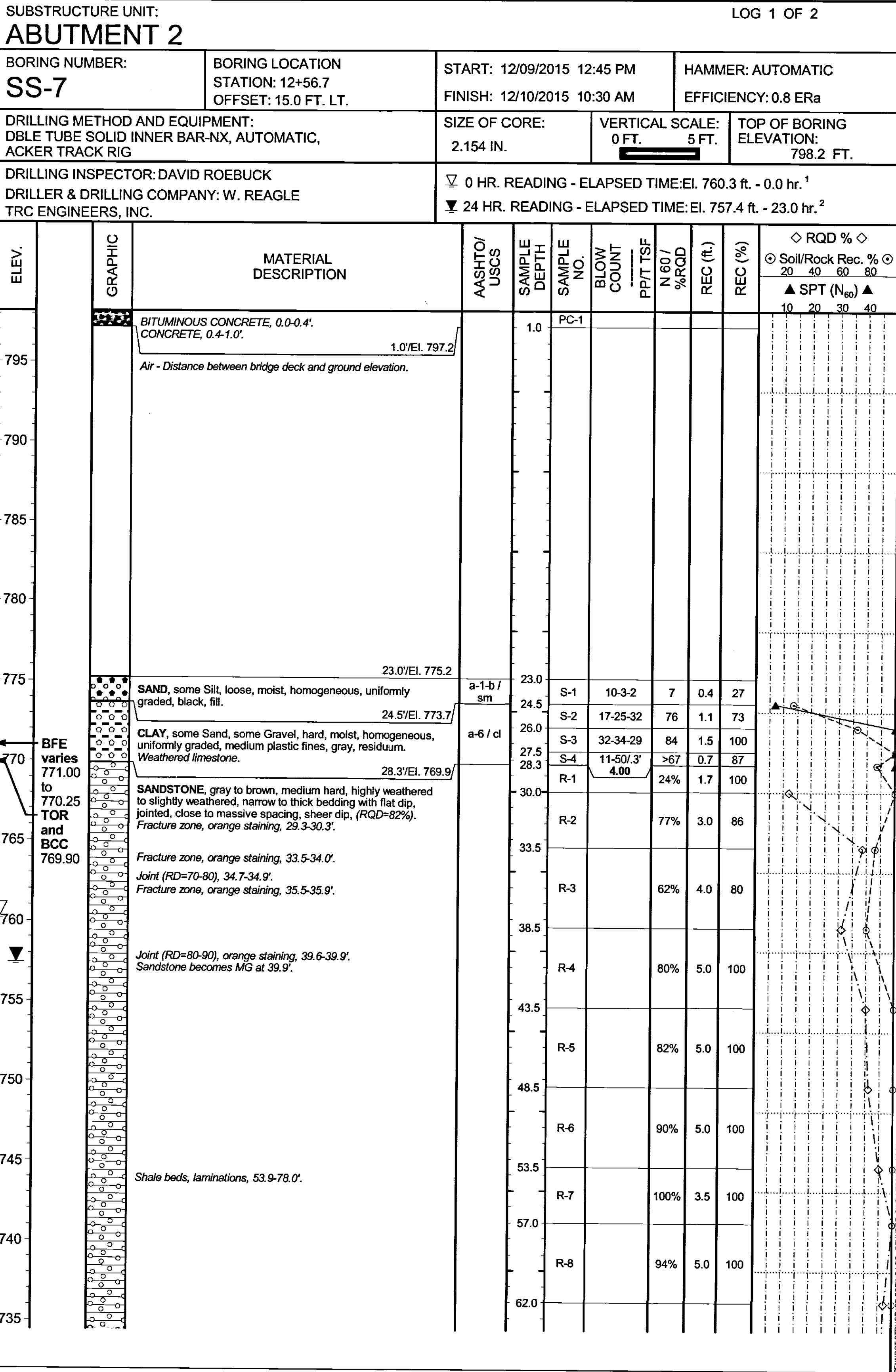
ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 8 OF 14)

RECOMMENDED BY:

[Signature]
DISTRICT GEOTECHNICAL ENGINEER

SHEET 77 OF 83

S-37605



¹0-hr. Water: Water level taken from bridge deck through tremi.
²24-hr. Water: Water level taken from bridge deck through tremi.

GENERAL NOTES

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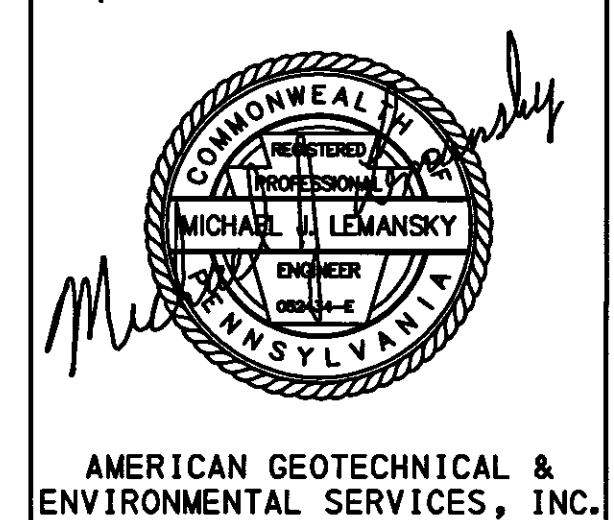
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BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.

M/L

Prepared By:



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 9 OF 14)

RECOMMENDED BY:

J. Mass 5-24-18
DISTRICT GEOTECHNICAL ENGINEER

SHEET 78 OF 83

S-37605

SUBSTRUCTURE UNIT:										LOG 1 OF 1	
ABUTMENT 2											
BORING NUMBER: SS-8			BORING LOCATION STATION: 12+78.9 OFFSET: 0.0 FT.			START: 12/08/2015 10:30 AM FINISH: 12/08/2015 2:30 PM			HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa		
DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NX, AUTOMATIC, ACKER SOILS XLS TRACK RIG						SIZE OF CORE: 1.874 IN.		VERTICAL SCALE: 0 FT. 5 FT. <div style="text-align:center; width:100px; height:10px; background-color:black;"></div>		TOP OF BORING ELEVATION: 800.5 FT.	
DRILLING INSPECTOR: DANIEL MARTT DRILLER & DRILLING COMPANY: R. CRUM TRC ENGINEERS, INC.						∇ 0 HR. READING - ELAPSED TIME: EI. 773.0 ft. - 0.0 hr. ¹ ▼ 24 HR. READING - ELAPSED TIME: EI. 762.9 ft. - 23.0 hr. ²					
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT TSF	N ₆₀ / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇ ◎ Soil/Rock Rec. % ◎ ▲ SPT (N ₆₀) ▲ 10 20 30 40
800	[Pattern]	Bridge Deck. Bituminous Concrete, 0.0-0.35' Concrete, 0.35-1.0'. <i>Air - Distance between bridge deck and ground elevation. Drilled 8' south of location.</i> <i>Driller using NQ tools to advance to ground surface, drilled over top with casing to keep boring straight.</i>									
		1.0'/EI. 799.5									
785	[Pattern]	GRAVEL, some Clay, (mechanically broken shale), medium dense, wet to damp, laminated, brown to dark gray, residuum. <i>Rods settled to 16' prior to sampling.</i>	a-2-G / gc	16.0	S-1	2-5-11	21	1.2	80		
		15.4'/EI. 785.1		17.5	S-2	8-12-9	28	1.2	80		
780	[Pattern]	GRAVEL, (mechanically broken limestone), very dense, damp, homogeneous, brown, residuum.	a-1-b / gp	19.0	S-3	20-50/4'	>67	0.9	100		
		19.0'/EI. 781.5		19.9	S-4	50/4'	>67	0.4	91		
		22.4'/EI. 778.1		20.9	S-5	50/4'	>67	0.4	100		
				22.0	R-1		19%	1.6	76		
				22.4	R-2		25%	1.3	65		
				24.5	R-3		32%	2.1	84		
				26.5	R-4		28%	2.0	80		
				29.0	R-5		54%	4.6	92		
				31.5	R-6		74%	4.9	98		
775	[Pattern]	LIMESTONE, brown, soft to medium hard, moderately weathered to weathered, narrow to moderate bedding with flat dip, jointed, close to medium spacing, moderate to sheer dip, open joints, smooth surfaces, (RQD=26%).									
		29.0'/EI. 771.5									
770	[Pattern]	FLINT CLAY, gray brown to brown, pearly luster, soft to medium hard, weathered, narrow to moderate bedding with flat dip, jointed, close to moderate spacing, steep to sheer dip, slickensided, (RQD=29%). <i>Soft clay, 31.8-31.9'.</i>									
		33.9'/EI. 766.6									
765	[Pattern]	SANDSTONE, brown gray, fine grained, hard, weathered to slightly weathered, narrow to medium bedding with shallow dip, jointed, medium to wide spacing, steep to sheer dip, tight joints, smooth surfaces, (RQD=85%).									
		38.7'/EI. 761.8									
760	[Pattern]	<i>Near vertical, rehealed fracture (calcite) though strata.</i> SANDSTONE, brown, fine grained, hard, moderately weathered, thin to moderate bedding with shallow dip, jointed, laminated to moderate spacing, moderate to sheer dip, open joints, rough surfaces, (RQD=0%).									
		39.7'/EI. 760.8									
		41.5'/EI. 759.0									

¹0-hr. Water: Water level taken from bridge deck through tremi.

²24-hr. Water: Water level taken from bridge deck through tremi.

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$FILE$
$DATE$
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PLT: RJS	CKD: AM	QA/QC: MJL
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GENERAL NOTES

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT.
REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER
INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

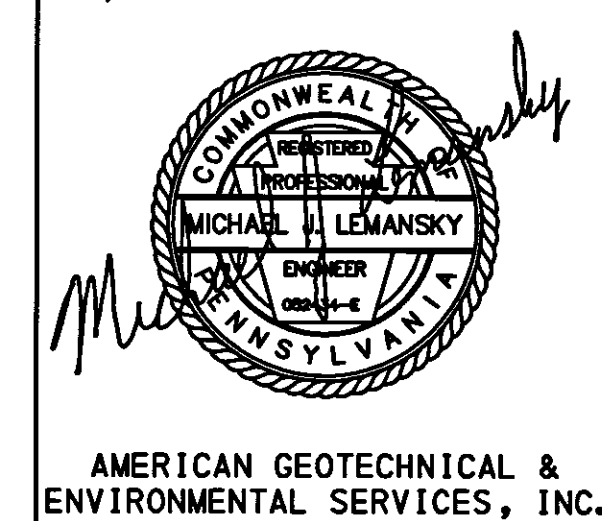
LEGEND

TRS - TOP OF ROCK SOCKET
BRS - BOTTOM OF ROCK SOCKET
TOC - TOP OF CAISSON
BOC - BOTTOM OF CAISSON
BFE - BOTTOM OF FOOTING ELEVATION
BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.

M/L

Prepared By:



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
S. R. 3110, SECTION A02
 SEGMENT 0010 OFFSET 0001
S. R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 10 OF 14)

RECOMMENDED BY:

H. Warr 5-24-18
DISTRICT GEOTECHNICAL ENGINEER

SHEET 79 OF 83

S-37605

SUBSTRUCTURE UNIT:				LOG 1 OF 2									
ABUTMENT 2													
BORING NUMBER: SS-9		BORING LOCATION STATION: 12+98.7 OFFSET: 14.9 FT. RT.		START: 12/07/2015 10:00 AM FINISH: 12/08/2015 10:00 AM		HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa							
DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NQ, AUTOMATIC, ACKER SOILS XLS TRACK RIG				SIZE OF CORE: 1.874 IN.		VERTICAL SCALE: 0 FT. 5 FT.		TOP OF BORING ELEVATION: 804.9 FT.					
DRILLING INSPECTOR: DANIEL MARTT DRILLER & DRILLING COMPANY: R. CRUM TRC ENGINEERS, INC.				▽ 0 HR. READING - ELAPSED TIME: EI. 752.6 ft. - 0.0 hr. ▽ 24 HR. READING - ELAPSED TIME: EI. 751.1 ft. - 27.5 hr.									
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO. **	BLOW COUNT <small>(Blows per foot)</small>	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇ ⊕ Soil/Rock Rec. % ⊕ 20 40 60 80 ▲ SPT (N ₆₀) ▲ 10 20 30 40			
800		1.5'/EI. 803.4 <i>Bituminous Concrete, 0.0-0.7'. Subbase, 0.7-1.5'.</i>	A-24 / GC	1.5	PC-1								
		GRAVEL, little Clay, little Sand, little Silt, (shale and sandstone fragments), very loose to very dense, moist, homogeneous to stratified (0.1-0.2' shale layers), gap graded, angular, medium plastic fines, red brown with gray, fill. S-1, slag fragments, possible subbase. Class. on S-1 to S-5 (1.5-9.0'), N.M.C. = 16.0%.		3.0	S-1	2-4-3 0.25	9	0.4	27				
				4.5	S-2	3-5-6 1.50	15	1.0	67				
				6.0	S-3	4-3-3 1.00	8	1.0	67				
				7.5	S-4	5-6-5 1.00	15	1.2	80				
				9.0	S-5	6-4-6 1.25	13	1.2	80				
				10.5	S-6	3-2-1 0.25	4	0.6	40				
				12.0	S-7	3-2-3 0.50	7	0.8	53				
				13.5	S-8	2-2-4 0.50	8	0.6	40				
				15.0	S-9	1-1-2 0.25	4	0.5	33				
				16.5	S-10	3-6-3 0.25	49	1.1	73				
				16.5	S-11	50/0.0	>67	0.0	0				
785		16.5'/EI. 788.4 SANDSTONE, brown to gray, shaley, with coal laminations, fine to medium grained, hard, weathered to slightly weathered, laminated to moderate bedding with flat dip, jointed, medium spacing, (RQD=0%).		18.5	R-1		0%	1.4	71				
		18.0'/EI. 786.9 SHALE, brown to dark gray, very soft to medium hard, highly weathered, laminated bedding with flat dip, jointed, laminated to narrow spacing, sheer dip, open to large openings, smooth surfaces, (RQD=0%).		21.5	R-2		0%	1.7	57				
		23.2'/EI. 781.7 LIMESTONE, brown, soft to medium hard, moderately weathered to weathered, medium bedding with flat dip, jointed, laminated to wide spacing, sheer dip, open joints, smooth surfaces, (RQD=40%).		24.0	R-3		0%	1.0	40				
		35.8'/EI. 769.1 FLINT CLAY, gray to brown, pearly luster, medium hard, weathered to slightly weathered, thin to moderate bedding with flat dip, jointed, close to moderate spacing, sheer dip, open joints, rough surfaces, (RQD=29%).		26.5	R-4		48%	2.4	96				
				29.0	R-5		28%	2.5	100				
				31.5	R-6		56%	2.4	96				
				36.5	R-7		34%	4.3	86				
				41.5	R-8		66%	5.0	100				
				46.5	R-9		74%	5.0	100				

SUBSTRUCTURE UNIT:										LOG 2 OF 2										
ABUTMENT 2																				
BORING NUMBER:					BORING LOCATION					VERTICAL SCALE:										
SS-9					STATION: 12+98.7 OFFSET: 14.9 FT. RT.					0 FT. 5 FT.					▽ 0 HR.: El. 752.6 ft. - 0.0 hr. ▽ 24 HR.: El. 751.1 ft. - 27.5 hr.					
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	ASHTO/USCS	SAMPLE DEPTH	SAMPLE NO. **	BLOW COUNT	PPT/ TSF	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇ ◎ Soil/Rock Rec. % ◎ 20 40 60 80 ▲ SPT (N ₆₀) ▲ 10 20 30 40									
740		SANDSTONE, brown to gray, fine to medium grained, hard, slightly weathered to fresh, thin to thick bedding with flat dip, jointed, close to massive spacing, sheer dip, open to tight joint openings, (RQD=85%). (Layer continued from the previous log page)		66.5	R-13			80%	5.0	100										
735				71.5	R-14			88%	4.9	98										
730				R-15			90%	5.0	100											

- Drilled next to far abutment.

****SAMPLE NO. shading indicates lab testing performed.**

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$FILE$
$DATE$
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PLT: RJS	CKD: AM	QA/QC: MJJ
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GENERAL NOTES

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

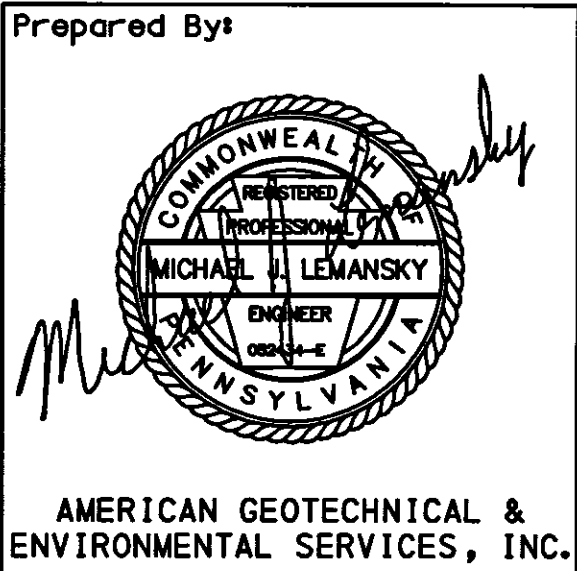
FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

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LEGEND

- TRS - TOP OF ROCK SOCKET
BRS - BOTTOM OF ROCK SOCKET
TOC - TOP OF CAISSON
BOC - BOTTOM OF CAISSON
BFE - BOTTOM OF FOOTING ELEVATION
BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 11 OF 14)

RECOMMENDED BY:

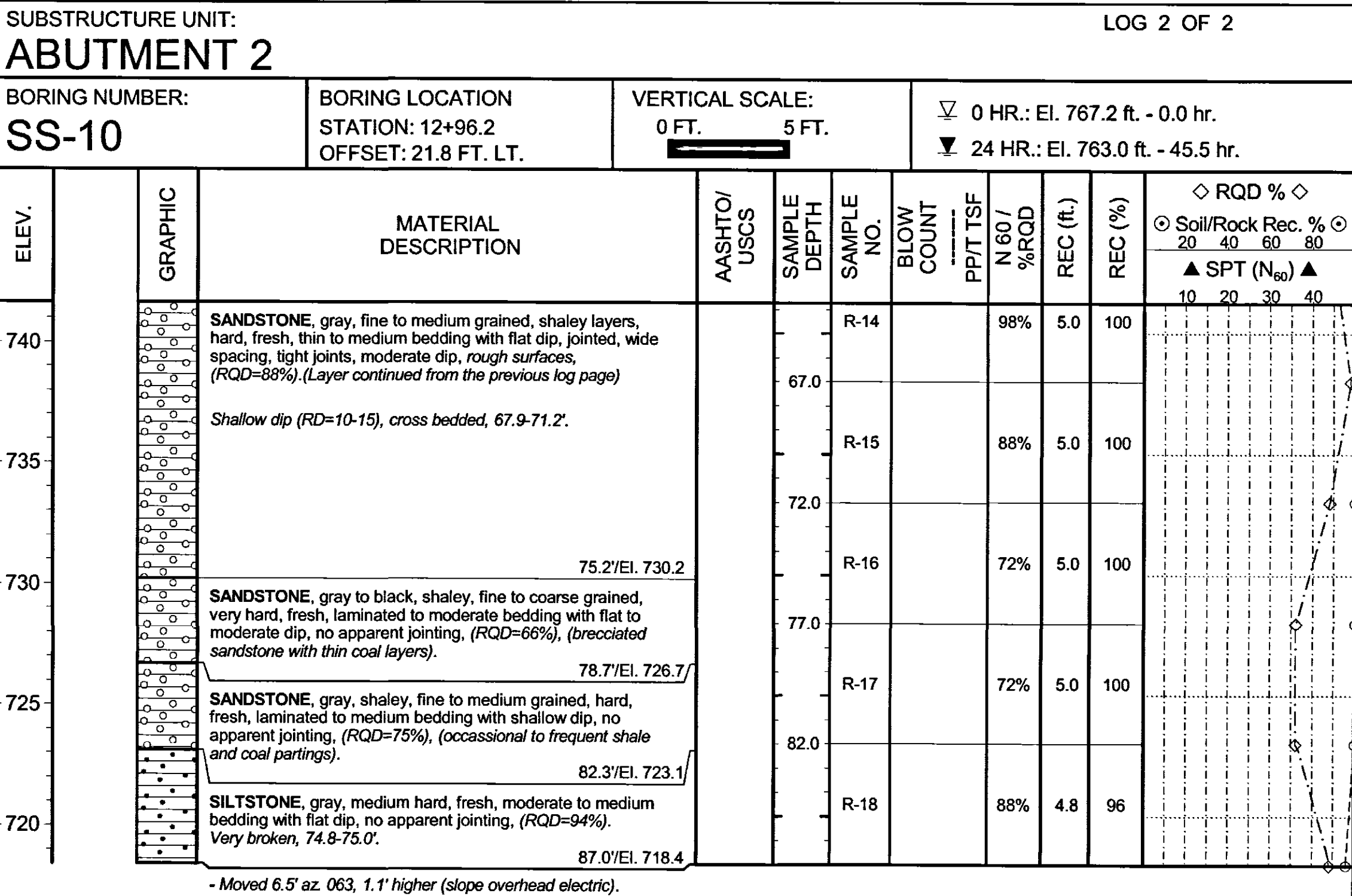
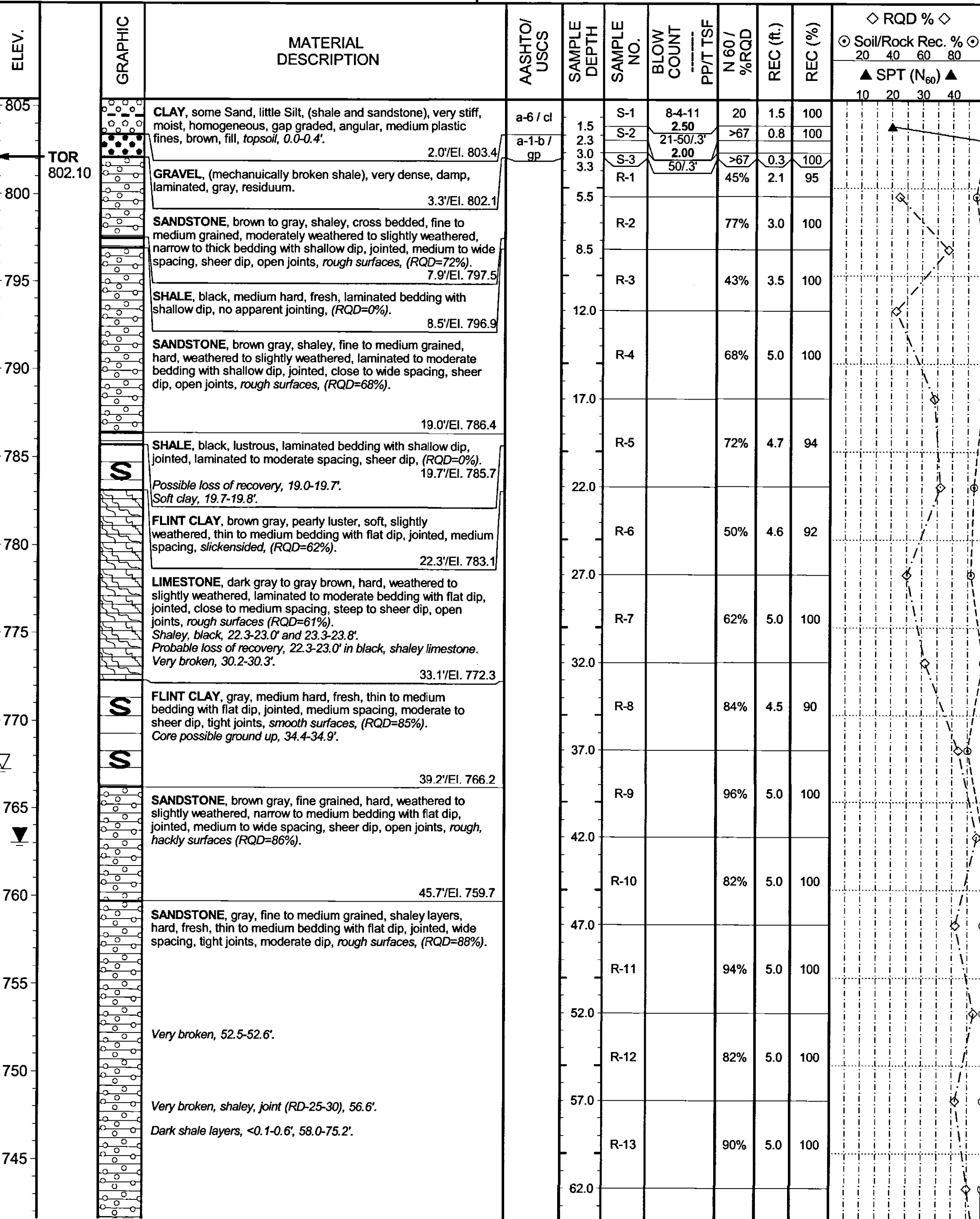
[Signature] 5-24-18
DISTRICT GEOTECHNICAL ENGINEER

SHEET 80 OF 83

S-37605

SUBSTRUCTURE UNIT: LOG 1 OF 2
ABUTMENT 2

BORING NUMBER: SS-10	BORING LOCATION STATION: 12+96.2 OFFSET: 21.8 FT. LT.	START: 12/08/2015 3:00 PM FINISH: 12/09/2015 12:00 PM	HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa	
DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NQ, AUTOMATIC, ACKER SOILS XLS TRACK RIG		SIZE OF CORE: 1.874 IN.	VERTICAL SCALE: 0 FT. 5 FT.	TOP OF BORING ELEVATION: 805.4 FT.
DRILLING INSPECTOR: DANIEL MARTT DRILLER & DRILLING COMPANY: R. CRUM TRC ENGINEERS, INC.		▽ 0 HR. READING - ELAPSED TIME: El. 767.2 ft. - 0.0 hr. ▼ 24 HR. READING - ELAPSED TIME: El. 763.0 ft. - 45.5 hr.		



GENERAL NOTES

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

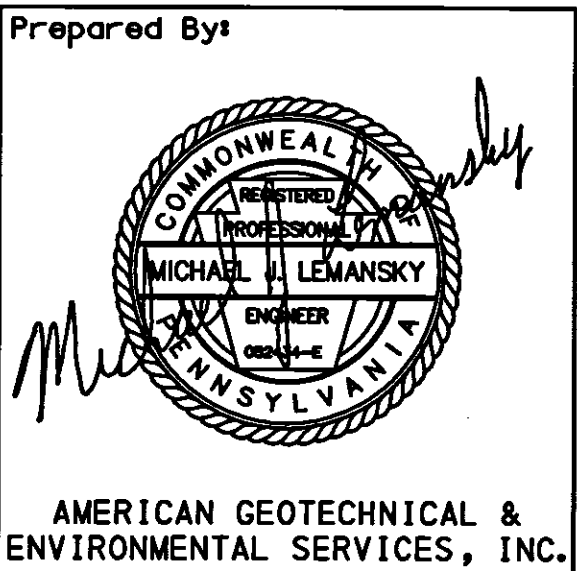
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LEGEND

- TRS - TOP OF ROCK SOCKET
BRS - BOTTOM OF ROCK SOCKET
TOC - TOP OF CAISSON
BOC - BOTTOM OF CAISSON
BFE - BOTTOM OF FOOTING ELEVATION
BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY# 54732

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION	
ALLEGHENY COUNTY S.R. 3110, SECTION A02 SEGMENT 0010 OFFSET 0001 S.R. 3110-A02 STA. 11+96.74 (SHALER STREET) OVER SR 0019-A63 2-SPAN COMP STEEL PLATE GIRDER BRIDGE STRUCTURE BORINGS (SHEET 12 OF 14)	
RECOMMENDED BY: DISTRICT GEOTECHNICAL ENGINEER	SHEET 81 OF 83 S-37605

SUBSTRUCTURE UNIT: LOG 1 OF 2										
BORING NUMBER: SS-11		BORING LOCATION STATION: 13+61.0 OFFSET: 5.0 FT. LT.		START: 12/10/2015 8:30 AM FINISH: 12/10/2015 2:00 PM		HAMMER: AUTOMATIC EFFICIENCY: 0.8 Era				
DRILLING METHOD AND EQUIPMENT: DBLE TUBE SPLIT INNER BRL-NQ, AUTOMATIC, ACKER SOILS XLS TRACK RIG				SIZE OF CORE: 1.874 IN.		VERTICAL SCALE: 0 FT. 5 FT.		TOP OF BORING ELEVATION: 813.6 FT.		
DRILLING INSPECTOR: DANIEL MARTT DRILLER & DRILLING COMPANY: R. CRUM TRC ENGINEERS, INC.				▽ 0 HR. READING - ELAPSED TIME: El. 792.1 ft. - 0.0 hr. ▼ 24 HR. READING - ELAPSED TIME: El. 783.0 ft. - 20.5 hr.						
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT/TSF N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇ ⊙ Soil/Rock Rec. % ⊙ ▲ SPT (N ₆₀) ▲
		BITUMINOUS CONCRETE. 0.3'/El. 813.3	a-2-6 / gc	1.5	S-1	21-50/3'	>67	0.8	100	
810	TOR	COBBLES. 1.0'/El. 812.6		2.3	R-1		0%	1.4	82	
		SUBBASE. 1.5'/El. 812.1		4.0	R-2		27%	2.9	97	
805		GRAVEL, some Sand, little Clay, very dense, damp, homogeneous, well graded, angular, brown, fill, shale, 2.0-2.3'. 2.3'/El. 811.3		7.0						
		SANDSTONE, gray to brown, shaley, fine to medium grained, hard, weathered to slightly weathered, thin to medium bedding with moderate dip, jointed, laminated to medium spacing, sheer dip, open joints, rough surfaces, (RQD=39%). Clay on joints (RD=30), 7.0-7.5'. Lost water return at 7.0'. Clay on joints (RD=90), 10.7-12.0'. 17.0'/El. 796.6		12.0	R-3		52%	4.2	84	
800					R-4		46%	4.5	90	
795		SANDSTONE, brown gray, shaley, fine to medium grained, hard, slightly weathered to fresh, moderate to medium bedding with shallow dip, no apparent jointing, (RQD=89%). Shale and coal partings (RD=20-25 and 40-45), 26.0-27.5'. 29.1'/El. 784.5		17.0	R-5		100%	5.0	100	
790				22.0	R-6		84%	5.0	100	
785				27.0	R-7		48%	4.2	84	
780	S	SHALE, gray to dark gray, clayey, very soft to medium hard, highly weathered to slightly weathered, laminated bedding with flat dip, no apparent jointing, (RQD=0%). 30.7'/El. 782.9 Carbonaceous shale, 29.1-29.5'. Shale, clayey, 29.5-30.7'. Loss of recovery probably, 29.5-30.7'. Possible shear zone, 29.5-30.7'. FLINT CLAY, gray, pearly luster, soft, fresh, narrow to medium bedding with flat dip, jointed, laminated to medium spacing, very steep dip, (RQD=35%). 33.0'/El. 780.6 Black shale, 32.8-33.0'. LIMESTONE, dark gray to gray, hard, slightly weathered to fresh, narrow to thick bedding with shallow dip, jointed, close to wide spacing, steep to sheer dip, open joints, rough surfaces, (RQD=71%). Slickensided joint (RD=60-65), 41.0'. Very broken, 45.1-45.2'. Probable loss of recovery, 45.1-45.5'. 45.5'/El. 767.1		32.0	R-8		76%	5.0	100	
775				37.0	R-9		64%	5.0	100	
770				42.0	R-10		62%	4.6	92	
765				47.0						
		FLINT CLAY, gray, soft, fresh, narrow to moderate bedding with shallow dip, jointed, moderate spacing, moderate dip, slickensided, (RQD=50%). 47.5'/El. 766.1			R-11		88%	4.9	98	
760		SANDSTONE, gray, fine grained, hard, fresh, narrow to medium bedding with flat dip, no apparent jointing, (RQD=97%). 53.3'/El. 760.3		52.0						
		SANDSTONE, gray, fine to medium grained, hard, fresh, thin to medium bedding with flat dip, jointed, massive spacing, sheer dip, tight joints, (RQD=93%). Frequent black shale layers (0.1-0.8" thick), 61.0-77.0'.		57.0	R-12		98%	5.0	100	
755				62.0	R-13		84%	4.9	98	

SUBSTRUCTURE UNIT: LOG 2 OF 2									
BORING NUMBER: SS-11		BORING LOCATION STATION: 13+61.0 OFFSET: 5.0 FT. LT.		VERTICAL SCALE: 0 FT. 5 FT.		▽ 0 HR.: EL. 792.1 ft. - 0.0 hr. ▼ 24 HR.: EL. 783.0 ft. - 20.5 hr.			
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT/TSF N 60 / %RQD	REC (ft.)	REC (%)
745	---	SANDSTONE, gray, fine to medium grained, hard, fresh, thin to medium bedding with flat dip, jointed, massive spacing, sheer dip, tight joints, (RQD=93%). (Layer continued from the previous log page)		67.0	R-14		100%	5.0	100
740	---			72.0	R-15		82%	4.9	98
	---				R-16		100%	5.0	100
	---	77.0'/EL. 736.6							
- Drilled 9' ahead station to avoid subsurface utilities.									

GENERAL NOTES

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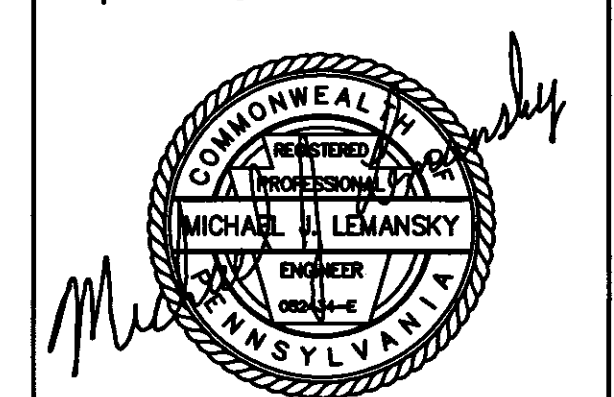
LEGEND

TRS - TOP OF ROCK SOCKET
BRS - BOTTOM OF ROCK SOCKET
TOC - TOP OF CAISSON
BOC - BOTTOM OF CAISSON
BFE - BOTTOM OF FOOTING ELEVATION
BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.

M/L

Prepared By:



AMERICAN GEOTECHNICAL &
ENVIRONMENTAL SERVICES, INC.

SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION


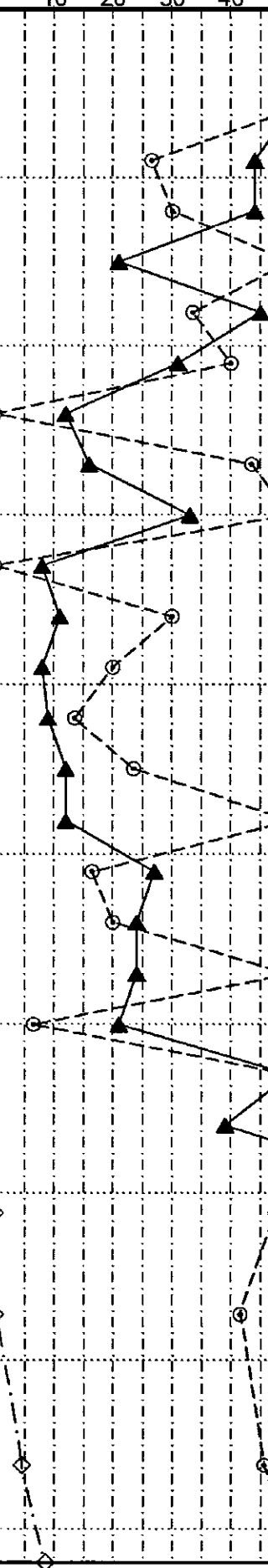









ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 13 OF 14)

RECOMMENDED BY:

J. Meier S-24-18
DISTRICT GEOTECHNICAL ENGINEER

SHEET 82 OF 83

S-37605

SUBSTRUCTURE UNIT: ABUTMENT 1				LOG 1 OF 1										
BORING NUMBER: SS-12		BORING LOCATION STATION: 11+04.0 OFFSET: 8.0 FT. LT.		START: 12/15/2016 8:30 AM FINISH: 12/15/2016 2:00 PM		HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa								
DRILLING METHOD AND EQUIPMENT: DOUBLE TUBE WIRE LINE-NQ, AUTOMATIC, ACKER XLS TRACK MOUNT RIG				SIZE OF CORE: 2.000 IN.	VERTICAL SCALE: 0 FT. 5 FT.	TOP OF BORING ELEVATION: 777.9 FT.								
DRILLING INSPECTOR: ZACHERY ROBERTSON DRILLER & DRILLING COMPANY: W. REAGLE TRC ENGINEERS, INC.				▽ 0 HR. READING - ELAPSED TIME: El. 765.9 ft. - 0.0 hr. ▽ 24 HR. READING - ELAPSED TIME: El. 758.9 ft. - 25.0 hr.										
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	P/P/T TSF	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇ ◎ Soil/Rock Rec. % ◎ 20 40 60 80 ▲ SPT (N ₆₀) ▲ 10 20 30 40			
775		CEMENT CONCRETE.	a-1-b / sw	1.5	PC-1									
		GRAVEL.		3.0	S-1	22-27-28	73	1.5	100					
770		SAND and GRAVEL, little Clay, contains slag, rock fragments, medium dense to very dense, wet to dry, heterogeneous, well graded, angular, brown gray, fill. <i>Reddog, S-1. Slag, S-4.</i>		4.5	S-2	14-15-18	44	0.8	53					
				6.0	S-3	19-16-17	44	0.9	60					
765		SAND and CLAY, some Gravel, contains rock fragments, loose to dense, wet, heterogeneous, well graded, angular, brown gray, fill. <i>Some clay, S-6.</i>		7.5	S-4	8-10-6	21	1.5	100					
				9.0	S-5	6-23-11	45	1.0	67					
760			a-2-6 / sc	10.5	S-6	25-12-11	31	1.2	80					
				12.0	S-7	3-5-4	12	0.0	0					
755				13.5	S-8	5-6-6	16	1.3	87					
				15.0	S-9	4-12-13	33	1.5	100					
750				16.5	S-10	3-3-3	8	0.0	0					
				18.0	S-11	3-3-5	11	0.9	60					
745				19.5	S-12	4-3-3	8	0.6	40					
				21.0	S-13	3-4-3	9	0.4	27					
740			a-6 / cl	22.5	S-14	4-4-5	12	0.7	47					
				24.0	S-15	5-5-4	12	1.5	100					
735				25.5	S-16	7-10-10 3.50	27	0.5	33					
				27.0	S-17	9-7-11	24	0.6	40					
730				28.5	S-18	8-10-8 3.00	24	1.5	100					

SUBSTRUCTURE UNIT: ABUTMENT 1						LOG 1 OF 1								
BORING NUMBER: SS-13		BORING LOCATION STATION: 11+06.0 OFFSET: 10.5 FT. RT.		START: 12/16/2016 8:30 AM FINISH: 12/16/2016 2:00 PM		HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa								
DRILLING METHOD AND EQUIPMENT: DOUBLE TUBE WIRE LINE-NQ, AUTOMATIC, ACKER XLS TRACK MOUNT RIG				SIZE OF CORE: 2.000 IN.		VERTICAL SCALE: 0 FT. 5 FT. 		TOP OF BORING ELEVATION: 778.0 FT.						
DRILLING INSPECTOR: ZACHERY ROBERTSON DRILLER & DRILLING COMPANY: W. REAGLE TRC ENGINEERS, INC.				∇ 0 HR. READING - ELAPSED TIME:EI. 764.5 ft. - 0.0 hr. ∇ 24 HR. READING - ELAPSED TIME:NR - NR ¹										
ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PPT TSF	N 60 / %RQD	REC (ft.)	REC (%)	\diamond RQD % \diamond \odot Soil/Rock Rec. % \odot 20 40 60 80 \blacktriangle SPT (N_{60}) \blacktriangle 10 20 30 40			
775		CEMENT CONCRETE. 1.0'/EI. 777.0'	a-1-b / sp	1.5										
		SAND and GRAVEL, little Clay, contains slag, very dense, damp, heterogeneous, poorly graded, angular, black brown, fill. 4.5'/EI. 773.5'		3.0	S-1	23-28-22	67	1.5	100					
770		SAND and CLAY, some Gravel, contains rock fragments, loose to dense, wet, heterogeneous, well graded, angular, brown black, fill. Reddog, S-8. Soft zone with no recovery, traps in spoons, 15.0-19.5'. 19.5'/EI. 758.5'	a-2-6 / sc	4.5	S-2	24-48-33	108	1.5	100					
				6.0	S-3	15-9-6	20	0.0	0					
765			a-6 / cl	7.5	S-4	6-8-6	19	1.3	87					
				9.0	S-5	7-17-11	37	1.5	100					
760			a-1-b / sw	10.5	S-6	8-8-9	23	1.2	80					
				12.0	S-7	6-18-7	33	0.6	40					
755			a-6 / cl	13.5	S-8	7-6-6	16	1.0	67					
				15.0	S-9	8-11-13	32	1.5	100					
750			a-6 / cl	16.5	S-10	4-4-4	11	0.0	0					
				18.0	S-11	3-3-3	8	0.0	0					
745			a-6 / cl	19.5	S-12	3-2-3	7	0.0	0					
				21.0	S-13	5-3-1 1.00	5	0.2	13					
740			a-6 / cl	22.5	S-14	1-1-2 0.50	4	0.4	27					
				24.0	S-15	1-1-4 1.00	7	1.2	80					
735			a-1-b / sw	25.5	S-16	6-8-5	17	1.1	73					
				27.0	S-17	17-12-7	25	0.9	60					
730			a-1-b / sw	28.5	S-18	7-25-11	48	1.5	100					
				30.0	S-19	15-18-9	36	0.7	47					
TOR 740.30			a-1-b / sw	31.5	S-20	13-19-13	43	1.5	100					
				33.0	S-21	1								

¹24-hr. Water: Boring grouted upon completion

GENERAL NOTES

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

LEGEND

- TRS - TOP OF ROCK SOCKET
- BRS - BOTTOM OF ROCK SOCKET
- TOC - TOP OF CAISSON
- BOC - BOTTOM OF CAISSON
- BFE - BOTTOM OF FOOTING ELEVATION
- BCC - BOTTOM OF CLASS C CONCRETE ELEVATION

THE DESCRIPTION OF THE MATERIALS HAVE BEEN VERIFIED.



SR 3110 PREVIOUSLY KNOWN AS LR 247
BMS # 02 3110 0010 0001 MPMS# 96562 BRKEY: 54732

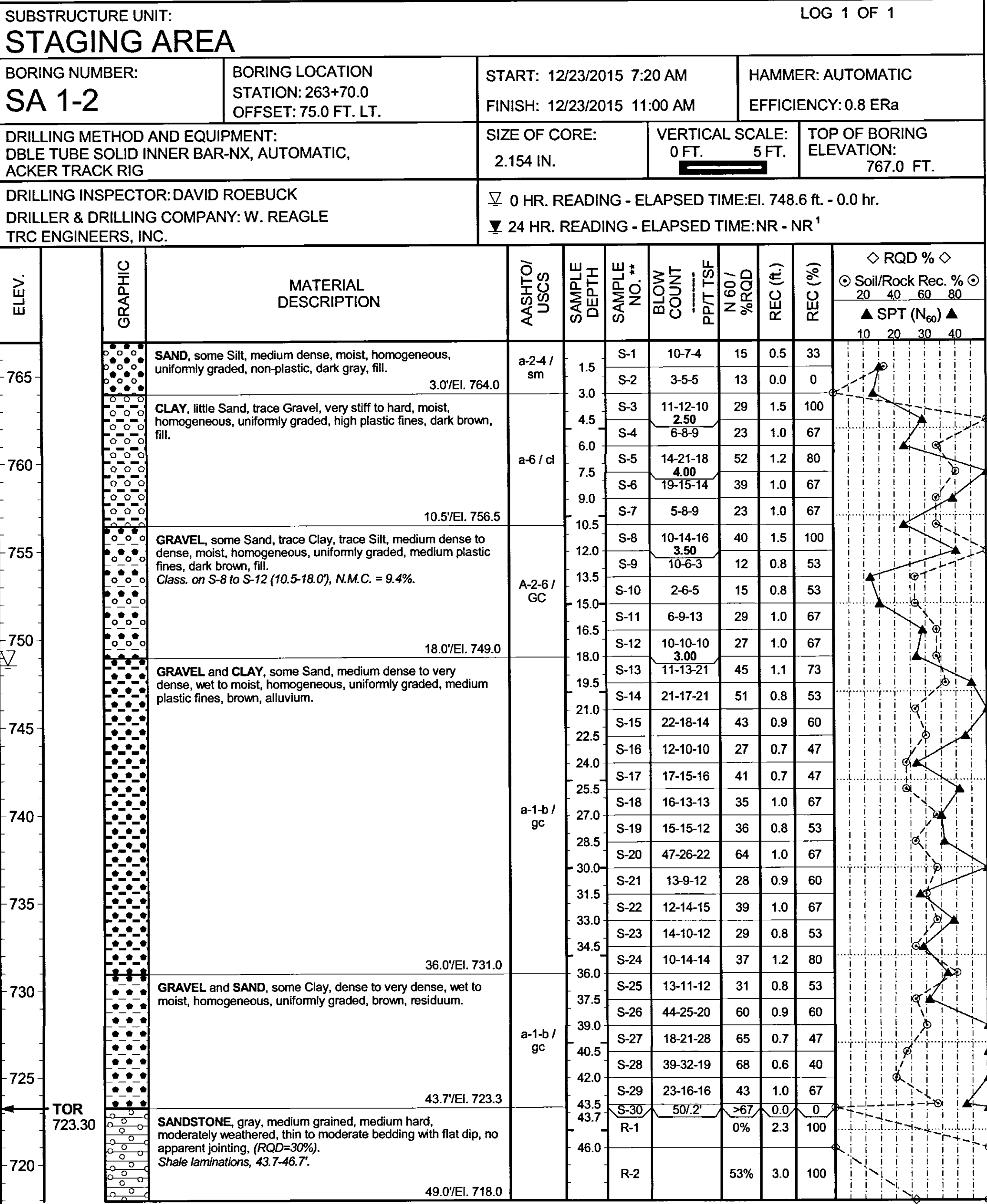
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY
S.R. 3110, SECTION A02
SEGMENT 0010 OFFSET 0001
S.R. 3110-A02 STA. 11+96.74 (SHALER STREET)
OVER SR 0019-A63
2-SPAN COMP STEEL PLATE GIRDER BRIDGE
STRUCTURE BORINGS (SHEET 14 OF 14)

RECOMMENDED BY:

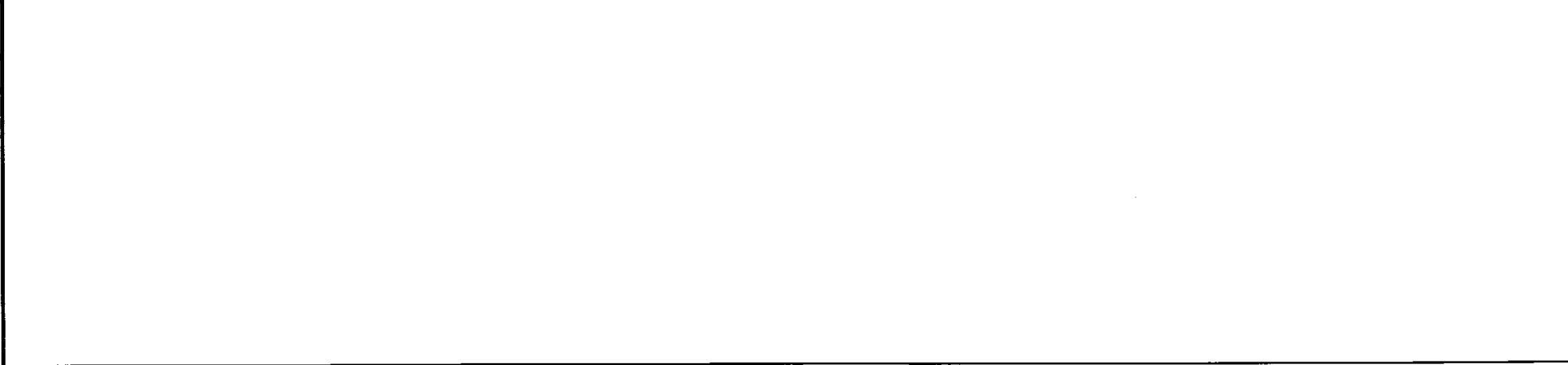
DISTRICT GEOTECHNICAL ENGINEER

SHEET 83 OF 83
S-37605



124-hr. Water: Boring grouted upon completion.

**SAMPLE NO. shading indicates lab testing performed.



124-hr. Water: Boring grouted upon completion.

**SAMPLE NO. shading indicates lab testing performed.



124-hr. Water: Boring grouted upon completion.

**SAMPLE NO. shading indicates lab testing performed.

