



June 3, 2026

Matthew L. Homsher, Secretary
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg, PA 17105-3265

Re: PUC No. A-2023-3045018

Dear Secretary Homsher:

In accordance with ordering paragraph number 5 of the PUC Secretarial Letter at Docket No. A-2023-3045018 dated March 15, 2024, please find attached for your approval one copy of half-size final signed Structure Plans for SR 2016, Section 01B (S- 41964) consisting of sheets 1 through 61 of 61.

The Department of Transportation hereby avers that a set of the aforesaid Structure Plans (S- 41964) are being sent to the parties of record in accordance with the attached Certificate of Service.

We respectfully request the approval of these plans and the subsequent issuance of a PUC Order or a Secretarial Letter. Should you have any questions or concerns, please feel free to contact Rodney Rehnert at (610) 871 - 4562.

Sincerely,

Rodney O. Rehnert

Rodney O. Rehnert
District Grade Crossing Administer
Engineering District 5-0
Department of Transportation

Attachments

cc: Parties of Record

M. J. Chappell, PE - Chief, Right-of-Way and Utilities Section, 7th Floor, CKB

Robert J. Kopacz, Office of Chief Counsel, 9th Floor, CKB

W. M. Sinick, PE - Supervisor, Rail Safety Engineering Section, PUC, 3rd Floor, CKB

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of the Department of Transportation of the Commonwealth of Pennsylvania for approval to replace the existing bridge where State Route 2016 Bellevue Ave. crosses above the track(s) of reading, Blue Mountain & Northern Railroad, DOT Number 592 475 A in Muhlenberg Township, Berks County and the allocation of costs incident thereto.

Application
Docket No. A-2023-3045018

Electronically Filed

(Note: Bold and Italicized type to be used only for 130 Program Projects)

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the participants listed below, in accordance with the requirements of 52 Pa. Code § 1.54, by first class mail, postage prepaid:

Jolene Busher
Reading, Blue Mountain & Northern Railroad
1 Railroad BLVD
Port Clinton, Pennsylvania 19549
JBusher@readingnorthern.com

Christian Y. Leinbach, Chairperson
Berks, County Commissioners
Berks County Services Center
13th Floor
633 Court Street
Reading, PA 19601
cleinbach@countyofberks.com

James Bobeck
Muhlenberg Township, Township Manager
210 George Street
Reading, PA 19605
JBobek@muhlenbergtp.com

Nicholas Barman
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nbarman@firstenergycorp.com

Deborah Barum
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deborah.d.delia@verizon.com

Jeffrey Calpino
Muhlenberg Township Authority
2840 Kutztown Road, Hyde Park
Reading, PA 19605
muhlenbergtownshipauthority@gmail.com

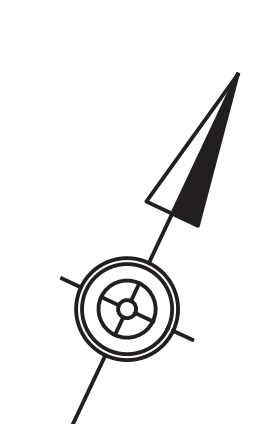
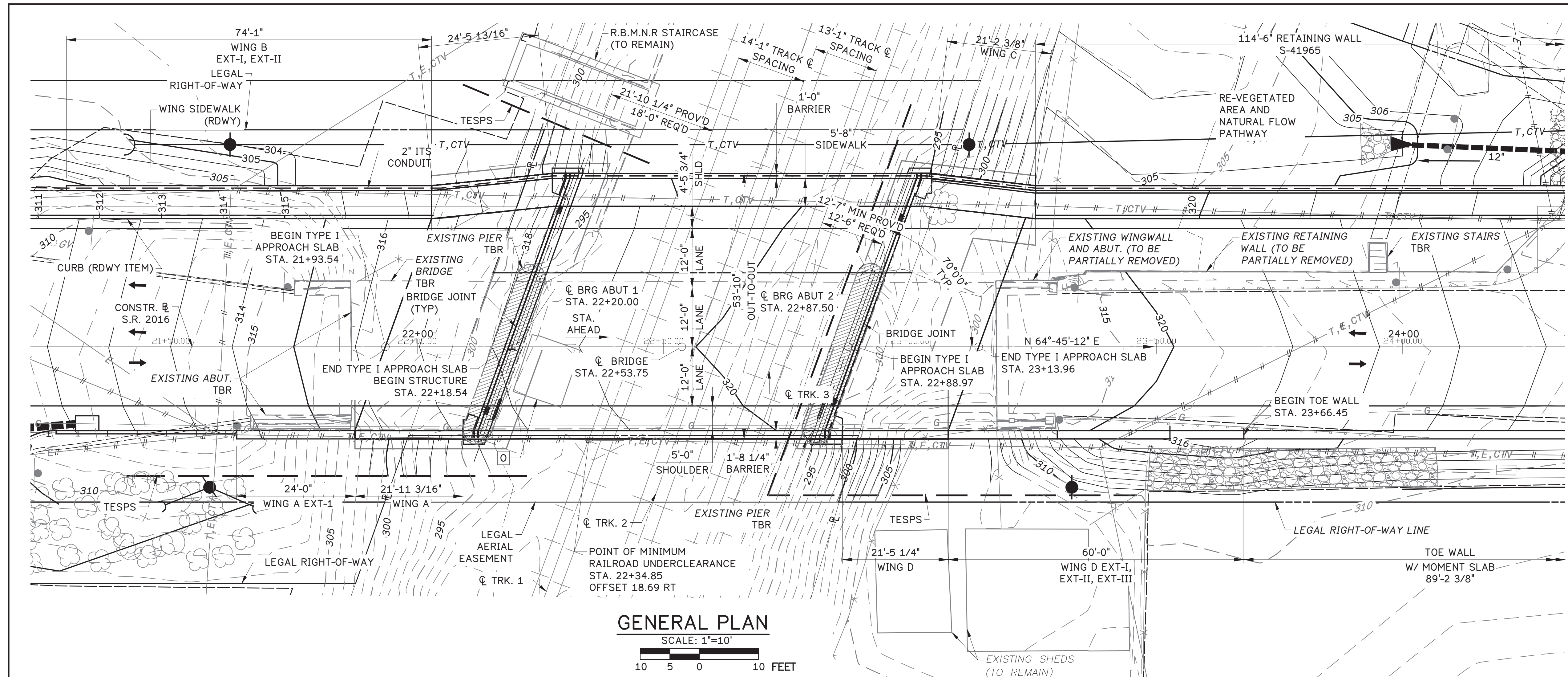
William Murray
Reading Area Water Authority
1801 Kutztown Road
Reading, PA 19604-1515
Bill.Murray@readingareawater.com

Jeff Jacovidis
Comcast Cable Communications Inc
400 Riverfront Drive
P.O. Box 107
Reading, PA 19603
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Kurt Zielaskowski
UGI Utilities, Inc.
225 Morgantown Road
Reading, PA 19611-1049
kzielaskowski@ugi.com

Dated this 3rd Day of June, 2026

Rodney O. Rehnert
1002 Hamilton Street
Allentown, PA 18101
(610) 871-4562
rrehnert@pa.gov



EXISTING STRUCTURE DATA
 STA. = 40+23.30
 TYPE = CONC. ENCASED ROLLED STEEL
 I-BEAM (SPAN 1 & 3)
 RIVETED STEEL THRU-GIRDER
 (SPAN 2)
 SPAN = 32'-0" (SPAN 1 & 3)
 68'-0" (SPAN 2)
 UNDERCLEARANCE = 21'-10"
 CLEAR RDWY WIDTH = 24'-0"
 SKEW = 70°-00'-00"

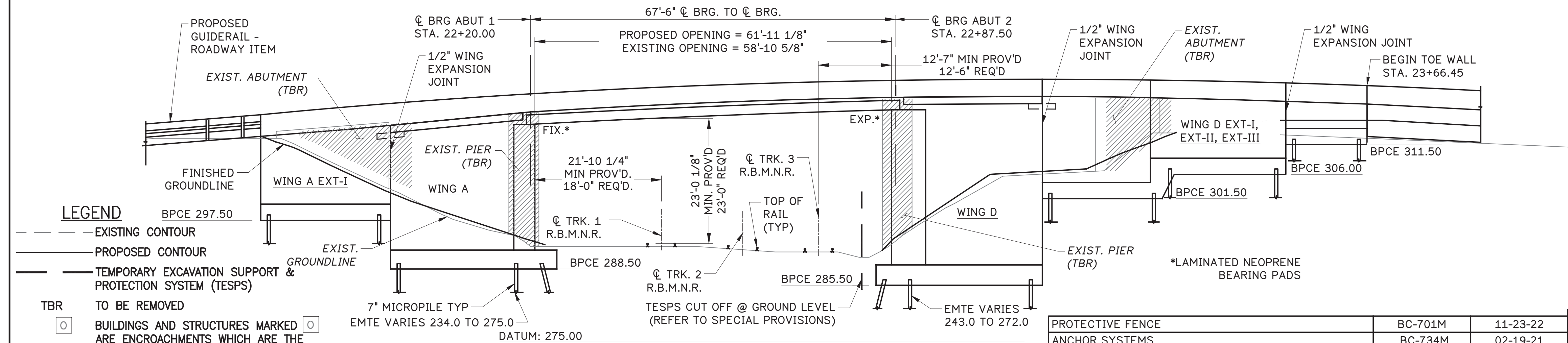
PROPOSED STRUCTURE DATA
 STA. = 22+53.75
 TYPE = 1-SPAN P/S ADJ BOX
 BEAM BRIDGE
 SPAN = 67'-6"
 UNDERCLEARANCE = 23'-1/4"
 CLEAR RDWY WIDTH = 53'-10"
 SKEW = 70°-00'-00"

VERTICAL CURVE
 PVI STA. 22+95.00
 PVI ELEV. 324.61
 LVC 210.00'
 MO +3.82'
 SSD 177'
 +8.00% @ -6.54%

HORIZONTAL CURVE
 TANGENT

GENERAL PLAN
 SCALE: 1"=10'
 10 5 0 10 FEET

- SHEET NOTES:**
- FOR SHEET INDEX & BRIDGE QUANTITIES, SEE SHEET 2
 - FOR GENERAL NOTES, SEE SHEET 3
 - FOR TYPICAL SECTION, SEE SHEET 4
 - FOR STAKE OUT PLAN, SEE SHEET 6



ELEVATION
 SCALE: 1"=10'
 10 5 0 10 FEET

- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM (TESPS)
 - TBR TO BE REMOVED
 - BUILDINGS AND STRUCTURES MARKED [] ARE ENCROACHMENTS WHICH ARE THE RESPONSIBILITY OF THE PROPERTY OWNER TO REMOVE. IN CASE ANY ENCROACHMENTS SO MARKED ARE NOT REMOVED BY THE PROPERTY OWNER, DO NOT INTERFERE WITH OR REMOVE SAME UNTIL AUTHORIZED IN WRITING BY THE ENGINEER
 - EXISTING RAILROAD
 - R.B.M.N.R. READING BLUE MOUNTAIN & NORTHERN RAILROAD
 - T, CTV COMMUNICATION LINE
 - T, E, CTV COMMUNICATION & POWER LINE
 - ABANDONED UTILITY
 - EXISTING SUBSTRUCTURE
 - EMTE ESTIMATED PILE TIP ELEVATION
 - BCPE BOTTOM OF PILE CAP ELEVATION

DESIGN REVIEWED BY: NTM ENGINEERING, INC.
 130 W. CHURCH ST., SUITE 200
 DILLSBURG, PA 17019

DAVID JAMES MIRAGLIA
 REGISTERED PROFESSIONAL ENGINEER
 PENNSYLVANIA

THE DESIGN REVIEW IS FOR GENERAL CONFORMANCE WITH THE DEPARTMENT'S DESIGN AND CONSTRUCTION CRITERIA AND STANDARDS AND IS NOT INTENDED TO RELIEVE THE DESIGNER OF FULL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF THE PLANS.

CCJM

C.C. JOHNSON & MALHOTRA, P.C.
 4660 TRINDLE ROAD, SUITE 103
 CAMP HILL, PENNSYLVANIA 17011
 T.(717) 730-4160 F.(717) 730-4170

PRASADU BABU PENMENDRA
 REGISTERED PROFESSIONAL ENGINEER
 PENNSYLVANIA

04/29/2026

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

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS/ECMS PROJ: 10527 BRKEY: 71030

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
 GENERAL PLAN AND ELEVATION

RECOMMENDED 05/04/2026
 Andrew Trelen
 DISTRICT 5-B BRIDGE ENGINEER

SHEET 1 OF 61
 + SUPP. DWGS.
 S-41964

DESCRIPTION	DWG. NO.	APP. DATE
PROTECTIVE FENCE	BC-701M	11-23-22
ANCHOR SYSTEMS	BC-734M	02-19-21
WALL CONSTRUCTION & EXPANSION JOINT DETAILS	BC-735M	09-30-16
REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	11-23-22
BRIDGE DRAINAGE	BC-751M	01-31-19
CONCRETE DECK SLAB DETAILS	BC-752M	11-23-22
BEARINGS	BC-755M	01-31-19
MISCELLANEOUS PRESTRESS DETAILS	BC-775M	11-23-22
TYPICAL WATERPROOFING AND EXPANSION DETAILS	BC-788M	11-23-22
STANDARD UTILITY ATTACHMENT AND SUPPORT DETAILS	BC-794M	01-31-19
PRESTRESSED BRIDGES	RC-11M	02-10-26
CLASSIFICATION OF EARTHWORK FOR STRUCTURES	RC-12M	02-10-26
BACKFILL AT STRUCTURES	RC-23M	02-10-26
BRIDGE APPROACH SLABS	RC-50M	02-10-26
GUIDE RAIL TO BRIDGE BARRIER TRANSITIONS	RC-51M	02-10-26
TYPE 31 STRONG POST GUIDE RAIL		

11/14/2023 2:20:16 over: r:\drawing files\2016 sheets\GENERAL PLAN & ELEVATION.dwg, 4/17/2026 12:32 PM, AutoCAD PDF (General Documentation).pc3

INDEX OF DRAWINGS	
NUMBER	TITLE
1	GENERAL PLAN & ELEVATION
2	SHEET INDEX & BRIDGE QUANTITIES
3	GENERAL NOTES
4	TYPICAL SECTION & ELEVATION TABLES
5	ADDITIONAL DECK ELEVATION TABLES
6	STAKE-OUT PLAN
7	ABUTMENT 1 PLAN
8	ABUTMENT 1 ELEVATION
9	ABUTMENT 1 TYPICAL SECTION & DETAILS
10	ABUTMENT 1 FOOTING REBAR PLAN
11	ABUTMENT 1 PILE LAYOUT
12	MICROPILE DETAILS
13	ABUTMENT 1 PILE TABLES
14	ABUTMENT 1 BEARING SEAT ELEVATIONS
15	WING A ELEVATION
16	WING A TYPICAL SECTIONS
17	WING A BARRIER TRANSITION
18	WING B ELEVATION
19	WING B TYPICAL SECTIONS
20	ABUTMENT 1 REINFORCEMENT BAR SCHEDULE
21	ABUTMENT 2 PLAN
22	ABUTMENT 2 ELEVATION
23	ABUTMENT 2 TYPICAL SECTIONS & DETAILS
24	ABUTMENT 2 FOOTING REBAR PLAN
25	ABUTMENT 2 PILE LAYOUT
26	ABUTMENT 2 PILE TABLES
27	ABUTMENT 2 BEARING SEAT ELEVATIONS
28	WING C ELEVATION AND TYPICAL SECTION
29	WING D ELEVATION
30	WING D TYPICAL SECTIONS
31	ABUTMENT 2 REINFORCEMENT BAR SCHEDULE
32	BEAM FRAMING PLAN
33	DECK REINFORCEMENT PLAN
34	SLAB REINFORCEMENT SECTION
35	DECK AND DIAPHRAGM SECTION DETAILS
36	SUPERSTRUCTURE SIDEWALK & BARRIER DETAILS
37	DECK REBAR SCHEDULE
38	BEAM FABRICATION DETAILS
39	BEAM CAMBER AND DAP
40	BEAM END DETAILS
41	BEAM RATING
42	BEAM RATING CONTINUED
43	BEAM END & BEARING DETAILS
44	ABUTMENT 1 APPROACH SLAB PLAN
45	ABUT 1 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS
46	APPROACH SLAB JOINT DETAILS
47	ABUTMENT 2 APPROACH SLAB PLAN
48	ABUT 2 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS
49	APPROACH REINFORCEMENT BAR SCHEDULE
50-61	TEST BORINGS

- (1) ITEMS IN BRIDGE STRUCTURE LUMP SUM ITEM 8020-0001 GIVEN FOR INFORMATION ONLY.
- (2) GEOTEXTILE CLASS 1 IS INCIDENTAL TO NO.57 COARSE AGGREGATE, AT WEEPHOLES AND AROUND 6" STRUCTURE FOUNDATION DRAIN.
- (3) INCLUDES CLASS AAAP CONCRETE TO ACCOUNT FOR STAY IN PLACE FORM TROUGHS.
- (4) INCLUDES CLASS AA CONCRETE IN CHEEKWALLS, BARRIERS AND CONCRETE DIAPHRAGMS.
- (5) FOR AS DESIGNED STRUCTURE, INCLUDED IN BRIDGE BID ITEMS. FOR ALTERNATE DESIGNS, INCLUDED IN BRIDGE STRUCTURE LUMP SUM BID ITEM. INCLUDES 100 LB DOWEL QUANTITY.
- (6) SEE SPECIAL PROVISIONS.
- (7) INCLUDES REQUIRED ELASTOMERIC BEARING PADS FOR TESTING.
- (8) WATERPROOFING MEMBRANE, RUBBERIZED TROUGH MATERIAL, PREFORMED CELLULAR POLYSTYRENE, GALVANIZED STEEL (ASTM A709, GR 36 OR 50) BATTENS, SELF TAPPING SCREWS AND CAULKING ARE INCIDENTAL TO MEMBRANE WATERPROOFING SYSTEM.
- (9) FOR LIMITS OF TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, SEE GENERAL PLAN AND ELEVATION. INCLUDES 1570 SF AT ABUTMENT 1 AND 1190 SF AT ABUTMENT 2 EXPOSED SURFACE AREA (FOR INFORMATION ONLY).
- (10) ONLY APPLY PROTECTIVE COATING TO BRIDGE DECK IF CONCRETE IS Poured BETWEEN SEPTEMBER 1 AND MARCH 1 PER PUBLICATION 408, SECTION 1001.3(K)6.
- (11) INCLUDES ELBOWS, FITTINGS, AND SCHEDULE 40 PVC.

APPROXIMATE QUANTITIES - BRIDGE STRUCTURE AS DESIGNED, S-41964

ITEM NO	DESCRIPTION	UNIT	SINGLE SPAN PRESTRESSED ADJACENT BOX BEAM					TOTAL QUANTITY
			ABUT. 1	ABUT. 2	SUPER STRUCTURE	APPROACH SLAB 1	APPROACH SLAB 2	
8020-0001	BRIDGE STRUCTURE, AS DESIGNED, S-41964 (1) (6)	LS						LS
(1)	CLASS A CEMENT CONCRETE	CY	628	637	-	-	-	1266
(1)	CLASS AA CEMENT CONCRETE (4)	CY	-	-	34	102	97	233
(1)	CLASS AAAP CEMENT CONCRETE (3)	CY	-	-	98	-	-	98
(1)	CLASS 3 EXCAVATION	CY	2073	2695	-	-	-	4768
(1)	SELECTED BORROW EXCAVATION, COARSE AGGREGATE, NO. 57 (2)	CY	8	8	-	-	-	16
(1)	STRUCTURE BACKFILL	CY	2669	2943	-	-	-	5612
(1)	PRESTRESSED ADJACENT BOX BEAMS, 48" X 21"	LF	-	-	901	-	-	901
(1)	LAMINATED NEOPRENE BEARING PADS (7)	EA	-	-	54	-	-	54
(1)	2 INCHES ITS CONDUIT (6)	LS	-	-	-	-	-	1
(1)	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM (6) (9)	LS	-	-	-	-	-	1
(1)	VIBRATION MONITORING (6)	LS	-	-	-	-	-	1
(1)	MEMBRANE WATERPROOFING SYSTEM INSTALLED ON OTHER SURFACES (8)	SY	18	18	-	-	-	36
(1)	SIDEWALK PROTECTIVE FENCE STEEL	LF	-	-	68	-	-	68
(1)	6" STRUCTURE FOUNDATION DRAIN (11)	LF	175	175	-	-	-	350
AND								
1002-0052	REINFORCEMENT BARS, EPOXY COATED	LB	55170	76719	19470	14670	14789	180819
AND								
1019-0050	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) (10)	SY	-	-	460	-	-	460
AND								
1007-0330	MICRO PILES 7" DIAMETER, PLAIN STEEL (6)	LF	5805	5445	-	-	-	11250
AND								
1007-0220	MICRO PILES MOBILIZATION	LS	-	-	-	-	-	1
AND								
1007-0230	MICRO PILES GROUT (6)	CY	1215	1188	-	-	-	2403
AND								
1007-0200	MICRO PILES VERIFICATION LOAD TEST(6)	LS	-	-	-	-	-	1

ALTERNATE STRUCTURE ITEMS

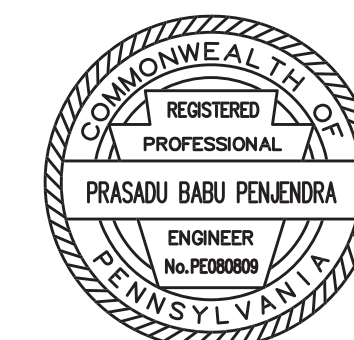
ITEM NO.	DESCRIPTION	UNIT	TOTAL
8020-0001	BRIDGE STRUCTURE, AS DESIGNED, S-41964 (1) (6)	LS	LUMP SUM
8000-0001	PRESTRESSED CONCRETE BRIDGE STRUCTURE (6)	LS	LUMP SUM
8020-0003	STEEL BRIDGE STRUCTURE (6)	LS	LUMP SUM

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
SHEET INDEX & BRIDGE QUANTITIES



RECOMMENDED 05 / 04 / 2026

SHEET 2 OF 61

S-41964

GENERAL NOTES

DESIGN SPECIFICATIONS:

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 2017 (8TH EDITION), AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4, DECEMBER 2019.
- LIVE LOAD DISTRIBUTION TO GIRDERS IS BASED UPON DM-4 DISTRIBUTION FACTOR METHOD.
- DESIGN IS IN ACCORDANCE WITH THE LRFD METHOD.

DESIGN LIVE LOADS:

- PHL-93, P-82 (204 kip PERMIT LOAD), OR P2016-13.

FATIGUE DESIGN IS BASED ON THE FOLLOWING:

- PRESTRESSED CONCRETE: ADTT 351 (2046) (ONE DIRECTIONAL)
- MAXIMUM ALLOWABLE TENSILE STRESS IN PRECOMPRESSED TENSILE ZONE: 0.0948 σ_c .

DEAD LOADS:

- INCLUDES A SURFACE AREA DENSITY OF 30 LB/SF FOR FUTURE WEARING SURFACE ON THE DECK SLAB.
- INCLUDES PROTECTIVE FENCE OF 48 LB/FT DISTRIBUTED EVENLY ON BEAM 1-3.
- INCLUDES GAS MAIN LOAD OF 50 LB/FT DISTRIBUTED EVENLY ON BEAMS 3 AND 4.
- INCLUDES A SURFACE AREA DENSITY OF 15 PSF FOR PERMANENT METAL DECK FORMS THAT TAKES INTO ACCOUNT THE WEIGHT OF THE FORM, PLUS THE WEIGHT OF THE CONCRETE IN THE VALLEYS OF THE FORMS DISTRIBUTED EVENLY ON BEAMS 3 AND 4.

COATING NOTES:

- APPLY PROTECTIVE COATING TO THE ENTIRE BRIDGE DECK, BARRIERS, SIDEWALK AND APPROACH SLAB AS NOTED IN TYPICAL SECTION, SHEET 4. ONLY APPLY TO BRIDGE DECK IF THE AMBIENT CONDITIONS ARE MET IN ACCORDANCE WITH PUBLICATION 408, SECTION 1001.3(k)6.b.
- APPLY PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES) TO ALL FRONT FACE PORTIONS OF THE ABUTMENTS AND WINGWALLS ABOVE A PLANE APPROXIMATELY 3ft BELOW THE FINISHED GRADE.

GENERAL:

- PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS PUBLICATION 408/2020, AASHTO/AWS D1.5M/D1.5 2020, AND THE CONTRACT SPECIAL PROVISION.
- STATIONS AND ELEVATIONS ARE GIVEN IN FEET UNLESS OTHERWISE NOTED.
- PROVIDE 2" CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.
- USE CLASS AAAP CEMENT CONCRETE IN:
 - DECK SLAB
 - DIAPHRAGMS
- USE CLASS AA CEMENT CONCRETE IN:
 - SIDEWALK
 - SLEEPER SLABS
 - APPROACH SLABS
 - CURBS
 - BARRIERS
 - CHEEK WALLS
 - SHEAR BLOCKS
- USE CLASS A CEMENT CONCRETE IN:
 - ABUTMENT STEMS
 - WINGWALLS
 - FOOTINGS
- A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT, IF APPROVED BY THE DISTRICT BRIDGE ENGINEER.
- PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A 615/A 615M, A 996/A 996M OR, A 706/A 706M. DO NOT WELD GRADE 60 REINFORCING STEEL 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 A 996/A 996M REINFORCEMENT BARS IN BRIDGE PIERS, ABUTMENTS, SHEAR BLOCKS, BEAMS, FOOTINGS, PILES, BARRIERS OR WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.
- USE EPOXY-COATED REINFORCEMENT BARS IN THE ENTIRE STRUCTURE.
- GALVANIZED REINFORCING STEEL BARS MAY BE SUBSTITUTED FOR EPOXY-COATED REINFORCING STEEL BARS AT NO ADDITIONAL COST TO THE DEPARTMENT.
- RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS, EXCEPT AS INDICATED.
- SITE CLASS IS NOT CLASS E.
- DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED.
- VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE IN THE FIELD AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.

- CONSTRUCT DECK SLAB TRANSVERSE CONSTRUCTION JOINTS PARALLEL TO BRIDGE CENTERLINE OF BEARINGS.
- PLACE CHEEK WALL AND CONCRETE SHEAR BLOCKS AFTER BEAMS ARE SET IN POSITION.
- CHAMFER EXPOSED CONCRETE EDGES $\frac{3}{4}$ " IN. BY $\frac{3}{4}$ " IN., EXCEPT AS NOTED.
- ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.
- USE EITHER PERMANENT METAL FORMS OR REMOVABLE FORMS TO CONSTRUCT THE DECK SLAB BETWEEN BEAM 3 AND BEAM 4.

- DECK SLAB THICKNESS INCLUDES A $\frac{1}{2}$ IN. INTEGRAL WEARING SURFACE.
- DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68° F.
- PREPARE BEARING AREAS AS SPECIFIED IN PUBLICATION 408/2020, SECTION 1001.3(k)9.
- PROVIDE SPLICE LENGTHS AND MINIMUM EMBEDMENT IN ACCORDANCE WITH STANDARD DRAWING BC-736M, UNLESS OTHERWISE INDICATED.
- DO NOT USE ADHESIVE ANCHORS IN A TENSION APPLICATION FOR PERMANENT INSTALLATIONS.

- AN ACI CERTIFIED ANCHOR INSTALLER IS REQUIRED FOR THE INSTALLATION OF ADHESIVE ANCHORS FOR TEMPORARY INSTALLATIONS, INCLUDING DURING CONSTRUCTION.
- THE EXISTING BRIDGE IS WEIGHT RESTRICTED FOR 27 TONS WITH EXCEPT COMBINATIONS UP TO 30 TONS.
- INSTALL STEM WATERPROOFING MEMBRANE TO THE ENTIRE PERIMETER OF THE CONSTRUCTION JOINT AT TOP OF FOOTER, ABUTMENT AND WINGWALL STEMS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR THE STABILITY OF ALL EXCAVATED SLOPES AND THE DESIGN OF ANY TEMPORARY SHORING AND BRACING THAT MAY BE USED.

- PERFORM ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REQUIREMENTS.
- DIRECT ALL SURFACE RUNOFF AWAY FROM EXCAVATIONS.

- DETAILS OTHER THAN THOSE SHOWN SHALL CONFORM TO THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION FOR ROADWAY CONSTRUCTION, PUBLICATION 72M AND THE STANDARDS FOR BRIDGE CONSTRUCTION, PUBLICATION 219M.

- PROVIDE WEEPHOLES (REINFORCED) AS SHOWN ON THE DRAWINGS. THE COST OF THE WEEPHOLES ARE INCIDENTAL TO THE CONCRETE.

- WHEN PLACING DECK SLAB, ENSURE THE CONCRETE IS PLACED AGAINST A CLEAN CONCRETE SURFACE THAT IS FREE OF LAITANCE, DEBRIS, AND ALL OTHER FOREIGN MATERIALS.

- FREE END HEIGHTS OF WINGS MAY BE ADJUSTED AS REQUIRED BY THE PROJECT MANAGER TO MEET FIELD CONDITIONS.
- USE RETARDER ADMIXTURE CONFORMING TO PUBLICATION 408/2020 IN THE CONCRETE DECK SLAB.

- DO NOT CONSIDER ANY OF THE DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE TO YOU BY THE DEPARTMENT OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT YOU WILL ENCOUNTER IN THE FIELD.

- THE INFORMATION SHOWN ON THE PLANS FOR THE EXISTING BRIDGE IS NOT PART OF THE PLANS, PROPOSAL, OR CONTRACT AND IS NOT TO BE CONSIDERED A BASIS FOR COMPUTATION OF THE UNIT PRICES USED FOR BIDDING PURPOSES. THERE IS NO EXPRESSED OR IMPLIED AGREEMENT THAT INFORMATION IS CORRECTLY SHOWN. THE BIDDER IS NOT TO RELY ON THIS INFORMATION, BUT IS TO ASSUME THE POSSIBILITY THAT CONDITIONS AFFECTING THE COST AND/ OR QUANTITIES OF WORK TO BE PERFORMED MAY DIFFER FROM THOSE INDICATED.

- THE EXISTING BRIDGE STRUCTURAL MEMBERS CONTAIN LEAD PAINT AND OTHER TOXIC MATERIALS BASED ON LABORATORY TESTING.

UTILITY NOTES:

- COORDINATE, LOCATE, AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH PUBLICATION 408/2020, SECTIONS 105.06 AND 107.12
- VERIFY AND LOCATE ALL EXISTING UTILITIES PRIOR TO STARTING WORK AND CONDUCT OPERATIONS IN A MANNER WHICH ENSURES THE UTILITIES WILL NOT BE DISTURBED OR ENDANGERED DURING CONSTRUCTION.
- COORDINATE WITH GAS MAIN PLANS TO INSTALL THE OPENINGS AND BEAM HANGERS.

FOUNDATION NOTES:

- PRIOR TO AND DURING CONSTRUCTION, PERFORM VIBRATION MONITORING IN ACCORDANCE WITH THE VIBRATION MONITORING SPECIAL PROVISION.
- COMPLETELY REMOVE ANY PART OF THE EXISTING STRUCTURE THAT INTERFERES WITH THE PROPOSED FOUNDATIONS. EXCAVATION SHOULD BE BACKFILLED WITH PROPERLY COMPACTED MATERIAL.
- BLASTING IS NOT PERMITTED FOR FOUNDATION EXCAVATION.
- IF NEEDED, PROVIDE TEMPORARY EXCAVATION SUPPORT IN ACCORDANCE WITH TEMPORARY EXCAVATION SUPPORT AND PROTECTION SPECIAL PROVISION. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL SHORING SYSTEMS.
- INSTALL 7-INCH DIAMETER MICROPILES IN ACCORDANCE WITH PUBLICATION 408, SECTION 1007, AND THE MICROPILE SPECIAL PROVISION AND SPECIAL DETAIL. THE DISTRICT STRUCTURE CONTROL ENGINEER (DSCE) OR DISTRICT GEOTECHNICAL ENGINEER (DGE) SHALL BE PRESENT DURING THE CONSTRUCTION OF THE MICROPILES AND SHALL APPROVE THE BOND ZONE IN THE FIELD. NOTE THAT A WEAK ZONE, AS MENTIONED BELOW, IS A SUDDEN LOSS OF PRESSURE OR RAPID ADVANCEMENT OF THE TOOLING EQUIPMENT THAT INDICATES LOW RESISTANCE. THE SUDDEN LOSS OF PRESSURE/RAPID ADVANCEMENT SHOULD BE OBSERVED BY THE DSCE/DGE AND VERIFIED BY THE DRILLING EQUIPMENT OPERATOR.
- NOTIFY THE DSCE OR DGE A TENTATIVE SCHEDULE FOR THE INSPECTION OF THE MICROPILES AT LEAST 7 CALENDAR DAYS BEFORE THE NEED FOR THE INSPECTION IS ANTICIPATED. NOTIFY THE DSCE OR DGE OF A FIRM DATE AND TIME AT LEAST 48 HOURS BEFORE THE REQUESTED DATE AND TIME OF THE INSPECTION OF THE MICROPILES, BUT GIVE THE NOTICE BETWEEN THE START OF WORK ON MONDAY AND NOON OF THE FOLLOWING FRIDAY. DO NOT SCHEDULE AN INSPECTION ON SATURDAYS, SUNDAYS, OR HOLIDAYS WITHOUT THE PRIOR APPROVAL OF THE DSCE OR DGE.
- CONSTRUCT MICROPILES WITH A MINIMUM BOND LENGTH OF 8 FEET. THE BOND LENGTH SHOULD BE IN COMPETENT BEDROCK AND SHOULD NOT HAVE MAJOR VOIDS, WEAK SEAMS, OR OTHER SOLUTION FEATURES. CASING SHALL BE ADVANCED THROUGH ROCK TO THE BOTTOM OF THE BOND ZONE. ONCE THE BOTTOM OF THE BOND ZONE IS CONFIRMED, CASING SHALL BE LIFTED TO THE FINAL CONFIGURATION TO ALLOW GROUT/ROCK CONTACT AT THE BOND ZONE. THERE SHALL BE NO COLLAPSED MATERIAL IN THE BOND ZONE. CONTRACTOR SHALL PROVIDE EQUIPMENT NECESSARY TO DRILL AT LEAST TWICE THE ESTIMATED PILE LENGTH.
- MAINTAIN A RECORD OF VOIDS, FRACTURES, AND WEAK ZONES IN GENERAL AS DRILLING ADVANCES. ALSO, MAINTAIN A RECORD OF PENETRATION RATE, TORQUE, AND/OR OTHER PENETRATION RESISTANCE WITH DEPTH. IF VOIDS AND/OR WEAK ZONES ARE ENCOUNTERED IN AN ATTEMPTED BOND ZONE, USE THE FOLLOWING CRITERIA:
 - IF ATTEMPTED BOND LENGTH HAS VOIDS OR FRACTURES/WEAK ZONES THAT SUM LESS THAN 6 INCHES IN LENGTH, EXTEND THE BOND ZONE AN ADDITIONAL 1 FOOT. NO BOND ZONE SHALL BE TERMINATED WITHOUT A MINIMUM OF 2 FEET OF COMPETENT ROCK AT THE BOTTOM OF THE BOND ZONE.
 - IF VOIDS OR FRACTURES/WEAK ZONES SUM MORE THAN 6 INCHES, RESTART THE BOND ZONE. CONTINUE THE DRILLING UNTIL CRITERIA 1 IS SATISFIED.
 - IF THE HOLE EXCEEDS 150 PERCENT OF THE DEEPEST EXPECTED HOLE DEPTH FOR THE SUBSTRUCTURE UNIT, STOP THE DRILLING AND CONTACT THE DESIGNER TO ESTABLISH UPDATED PROCEDURES.
- ESTIMATED MICROPILE BOND ZONE ELEVATIONS ARE PROVIDED IN THE CONTRACT DOCUMENTS. ACTUAL BOND ZONE ELEVATIONS SHALL BE BASED ON LOAD TEST DATA AND ACTUAL BEDROCK CONDITIONS ENCOUNTERED AT EACH MICROPILE LOCATION.
- SOME LOSS OF GROUT DUE TO MINOR JOINTS OR THIN VOIDS IN BEDROCK WITHIN THE BOND ZONE IS POSSIBLE. IF THE GROUT TAKE IN THE BOND ZONE EXCEEDS 200 PERCENT OF THE CALCULATED VOLUME AT ANY STAGE, GROUTING OPERATIONS SHALL BE CEASED. AFTER THE GROUT HAS HARDENED, RESUME DRILLING AND EXTEND THROUGH THE HARDENED GROUT, AND CONTINUE DEEPER THAN THE ESTIMATED BOND ZONE.

- PERFORM A MINIMUM OF TWO (2) PROOF LOAD TESTS AT THE LOCATIONS PRESENTED ON THE PLANS. PERFORM LOAD TESTS IN ACCORDANCE WITH PUBLICATION 408, 1007.3(J)2 AND THE MICROPILE SPECIAL PROVISION. THE MAXIMUM UNFACTORED DESIGN LOADS (DL) ARE 72 KIPS.
- NOTIFY THE DSCE AND/OR DGE IMMEDIATELY IF SINKHOLES ARE ENCOUNTERED DURING CONSTRUCTION. REPAIR THE SINKHOLES AS DIRECTED BY THE DSCE AND/OR DGE IN ACCORDANCE WITH REMEDIATION OF SINKHOLES SPECIAL PROVISION AND THE SINKHOLE REPAIR DETAIL.
- PROVIDE SUFFICIENT DEWATERING SO THAT ALL EXCAVATIONS ARE DRY ENOUGH TO BE INSPECTED BY THE DSCE/DGE.
- MAINTAIN THE STABILITY OF ALL TEMPORARY EXCAVATION SLOPES. DIRECT SURFACE RUNOFF AWAY FROM THE EXCAVATION. PERFORM ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REQUIREMENTS.
- REMOVE REMNANTS OF THE SUBSTRUCTURE TO 3'-0" BELOW EXISTING GROUND. EXISTING FOUNDATIONS ARE NOT ANTICIPATED TO INTERFERE WITH THE PROPOSED FOUNDATIONS.
- GROUNDWATER MAY BE ENCOUNTERED DURING EXCAVATION FOR THE STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT DEWATERING SO THAT EXCAVATIONS ARE DRY ENOUGH FOR INSPECTION AND CONSTRUCTION. IT IS EXPECTED THAT PUMPING WILL BE SUFFICIENT FOR REMOVAL OF GROUNDWATER.
- TO DESIGN FOR A POTENTIALLY CORROSIVE ENVIRONMENT, PROVIDE FOR THE FOLLOWING:
 - CONCRETE ADDITIVES THAT CONTAIN CHLORIDE SHALL NOT BE USED.
 - USE AIR-ENTRAINED CONCRETE AS SPECIFIED IN PUB. 408 WITH A MINIMUM WATER/CEMENT RATIO OF 0.45.
 - UTILIZE SULFATE RESISTANT CONCRETE.

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

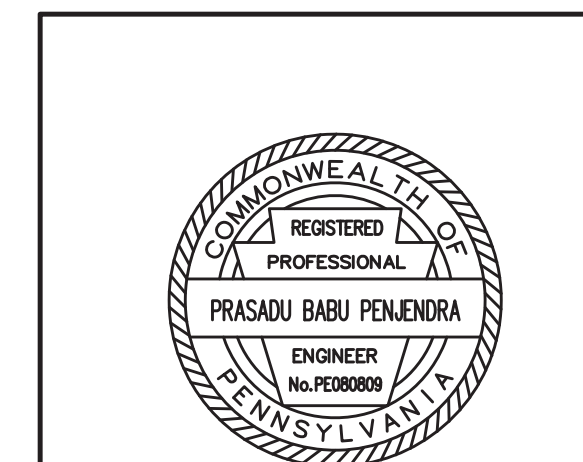
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

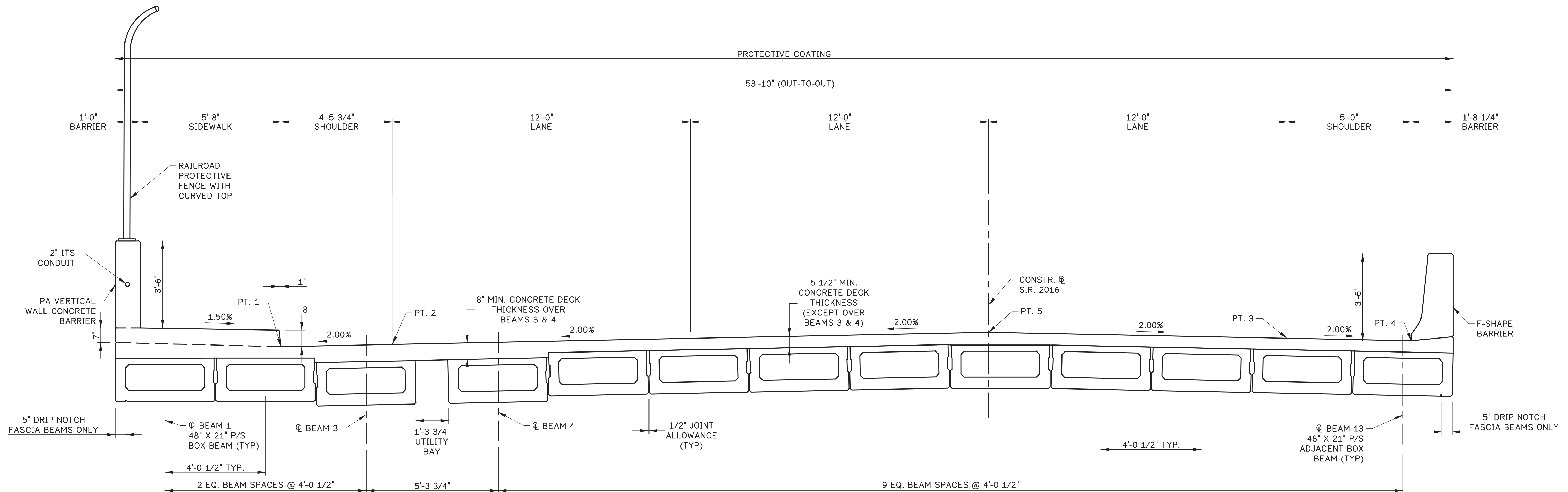
GENERAL NOTES

RECOMMENDED 05 / 04 / 2026

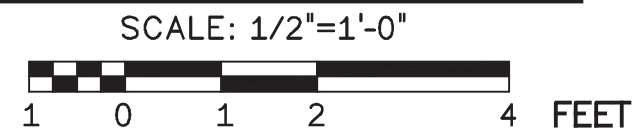
SHEET 3 OF 61

S-41964





TYPICAL SECTION



ELEVATION TABLE							
STATION	PG ELEV	PT. 1	PT. 2	PT. 3	PT. 4	PT. 5	
21+80.00	315.41	---	---	---	---	---	
21+87.35	315.99	---	---	---	315.65	---	BEGIN APPR. SLAB 1 @ RT. GUTTER LINE
21+89.16	316.14	---	---	315.90	315.80	---	BEGIN APPR. SLAB 1 @ RT. EDGE OF LANE
21+90.00	316.21	---	---	315.97	315.87	---	
21+93.50	316.48	---	---	316.24	316.14	316.48	BEGIN APPR. SLAB 1 @ BASELINE
21+97.82	316.81	---	316.33	316.57	316.47	316.81	BEGIN APPR. SLAB 1 @ LT. EDGE OF LANE
22+00.00	316.97	---	316.49	316.73	316.63	316.97	
22+02.90	317.18	316.66	316.70	316.94	316.84	317.18	BEGIN APPR. SLAB 1 @ LT. GUTTER LINE
22+10.00	317.67	317.13	317.19	317.43	317.33	317.67	
22+12.35	317.82	317.28	317.34	317.58	317.48	317.82	END APPR. SLAB 1 @ RT. GUTTER LINE
22+13.81	317.91	317.37	317.43	317.67	317.57	317.91	ϵ OF BEARING 1 @ RT. GUTTER LINE
22+14.17	317.94	317.39	317.46	317.70	317.60	317.94	END APPR. SLAB 1 @ RT. EDGE OF LANE
22+15.63	318.03	317.48	317.55	317.79	317.69	318.03	ϵ OF BEARING 1 @ RT. EDGE OF LANE
22+18.54	318.21	317.65	317.73	317.97	317.87	318.21	END APPR. SLAB 1 @ BASELINE
22+20.00	318.29	317.74	317.81	318.05	317.95	318.29	ϵ OF BEARING 1 @ BASELINE
22+27.27	318.71	318.14	318.23	318.47	318.37	318.71	END APPR. SLAB 1 @ LT. EDGE OF LANE
22+27.42	318.71	318.14	318.23	318.47	318.37	318.71	BEGIN PT. 1 OFFSET CONSTANT
22+28.74	318.78	318.21	318.30	318.54	318.44	318.78	ϵ OF BEARING 1 @ LT. EDGE OF LANE
22+28.90	318.79	318.22	318.31	318.55	318.45	318.79	END APPR. SLAB 1 @ LT. GUTTER LINE
22+30.00	318.85	318.28	318.37	318.61	318.51	318.85	
22+30.37	318.87	318.30	318.39	318.63	318.53	318.87	ϵ OF BEARING 1 @ LT. GUTTER LINE
22+40.00	319.34	318.77	318.86	319.10	319.00	319.34	
22+50.00	319.76	319.19	319.28	319.52	319.42	319.76	
22+60.00	320.11	319.54	319.63	319.87	319.77	320.11	
22+70.00	320.39	319.82	319.91	320.15	320.05	320.39	
22+80.00	320.60	320.03	320.12	320.36	320.26	320.60	
22+81.31	320.62	320.05	320.14	320.38	320.28	320.62	ϵ OF BEARING 2 @ RT. GUTTER LINE

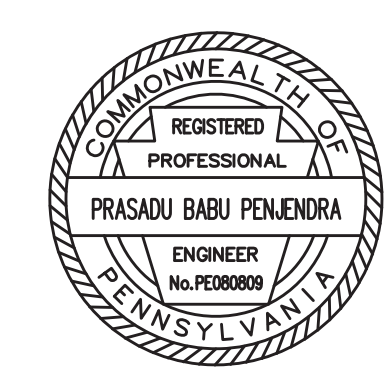
STATION	PG ELEV	PT. 1	PT. 2	PT. 3	PT. 4	PT. 5	
22+82.78	320.65	320.08	320.17	320.41	320.31	320.65	BEGIN APPR. SLAB 2 @ RT. GUTTER LINE
22+83.13	320.65	320.08	320.17	320.41	320.31	320.65	ϵ OF BEARING 2 @ RT. EDGE OF LANE
22+84.60	320.67	320.11	320.19	320.43	320.33	320.67	BEGIN APPR. SLAB 2 @ RT. EDGE OF LANE
22+87.50	320.71	320.14	320.23	320.47	320.37	320.71	ϵ OF BEARING 2 @ BASELINE
22+88.97	320.73	320.16	320.25	320.49	320.39	320.73	BEGIN APPR. SLAB 2 @ BASELINE
22+90.00	320.74	320.17	320.26	320.50	320.40	320.74	
22+96.24	320.80	320.23	320.32	320.56	320.46	320.80	ϵ OF BEARING 2 @ LT. EDGE OF LANE
22+97.70	320.81	320.24	320.33	320.57	320.47	320.81	BEGIN APPR. SLAB 2 @ LT. EDGE OF LANE
22+97.87	320.81	320.24	320.33	320.57	320.47	320.81	ϵ OF BEARING 2 @ LT. GUTTER LINE
22+99.33	320.81	320.24	320.33	320.57	320.47	320.81	BEGIN APPR. SLAB 2 @ LT. GUTTER LINE
23+00.00	320.82	320.25	320.34	320.58	320.48	320.82	
23+02.09	320.82	320.25	320.34	320.58	320.48	320.82	BEGIN PT. 1 OFFSET VARIES
23+07.78	320.83	320.27	320.35	320.59	320.49	320.83	END APPR. SLAB 2 @ RT. GUTTER LINE
23+09.60	320.82	320.27	320.34	320.58	---	320.82	END APPR. SLAB 2 @ RT. EDGE OF LANE
23+10.00	320.82	320.27	320.34	---	---	320.82	
23+13.96	320.80	320.26	320.32	---	---	320.80	END APPR. SLAB 2 @ BASELINE
23+20.00	320.75	320.22	320.27	---	---	---	
23+22.70	320.72	320.20	320.24	---	---	---	END APPR. SLAB 2 @ LT. EDGE OF LANE
23+25.69	320.69	320.17	---	---	---	---	END APPR. SLAB 2 @ LT. GUTTER LINE
23+30.00	320.62	---	---	---	---	---	

- SHEET NOTES:**
- FOR GENERAL PLAN & ELEVATION, SEE SHEET 1.
 - FOR GENERAL NOTES, SEE SHEET 3.
 - FOR BARRIER DETAILS, SEE SHEET 36.
 - FOR BEARING DETAILS, SEE SHEET 43.

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION
 BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
TYPICAL SECTION & ELEVATION TABLES



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DECK ELEVATIONS AT 10TH POINTS ALONG CENTERLINE OF BEAM													
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7	BEAM 8	BEAM 9	BEAM 10	BEAM 11	BEAM 12	BEAM 13
0/10	318.50	318.33	318.30	318.31	318.31	318.31	318.30	318.30	318.27	318.10	317.93	317.76	317.59
1/10	318.83	318.66	318.65	318.66	318.66	318.67	318.67	318.68	318.66	318.49	318.33	318.17	318.00
2/10	319.13	318.97	318.95	318.98	318.99	319.00	319.01	319.02	319.01	318.85	318.70	318.54	318.38
3/10	319.39	319.24	319.23	319.26	319.28	319.30	319.32	319.34	319.33	319.18	319.03	318.88	318.73
4/10	319.63	319.48	319.48	319.52	319.55	319.57	319.60	319.62	319.62	319.48	319.34	319.19	319.05
5/10	319.83	319.69	319.70	319.74	319.78	319.81	319.84	319.87	319.88	319.75	319.61	319.47	319.33
6/10	320.00	319.86	319.88	319.94	319.98	320.02	320.06	320.09	320.11	319.98	319.85	319.72	319.59
7/10	320.14	320.01	320.03	320.10	320.15	320.19	320.24	320.28	320.30	320.18	320.06	319.94	319.81
8/10	320.24	320.12	320.15	320.23	320.28	320.34	320.39	320.44	320.47	320.35	320.24	320.12	320.00
9/10	320.32	320.20	320.24	320.32	320.39	320.45	320.51	320.56	320.60	320.49	320.38	320.27	320.16
10/10	320.36	320.25	320.30	320.39	320.46	320.53	320.59	320.66	320.70	320.60	320.50	320.40	320.29

- SHEET NOTES:**
- FOR GENERAL PLAN & ELEVATION, SEE SHEET 1.
 - FOR GENERAL NOTES, SEE SHEET 3.
 - FOR TYPICAL SECTION & ELEVATION TABLES, SEE SHEET 4.

TOP OF BEAM ELEVATIONS AT 10TH POINTS ALONG CENTERLINE OF BEAM													
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7	BEAM 8	BEAM 9	BEAM 10	BEAM 11	BEAM 12	BEAM 13
0/10	317.92	317.86	317.64	317.64	317.85	317.85	317.84	317.84	317.77	317.64	317.47	317.30	317.13
1/10	318.17	318.12	317.90	317.92	318.16	318.16	318.17	318.17	318.11	317.99	317.81	317.65	317.48
2/10	318.41	318.37	318.14	318.19	318.44	318.46	318.47	318.48	318.42	318.31	318.13	317.97	317.81
3/10	318.63	318.60	318.38	318.44	318.71	318.73	318.75	318.76	318.71	318.61	318.43	318.28	318.13
4/10	318.84	318.82	318.60	318.67	318.96	318.98	319.01	319.03	318.99	318.89	318.72	318.57	318.42
5/10	319.03	319.02	318.80	318.89	319.18	319.21	319.25	319.28	319.24	319.15	318.98	318.85	318.70
6/10	319.21	319.20	319.00	319.09	319.39	319.43	319.46	319.50	319.47	319.39	319.23	319.10	318.96
7/10	319.38	319.37	319.18	319.27	319.57	319.62	319.66	319.71	319.68	319.61	319.46	319.34	319.21
8/10	319.53	319.52	319.34	319.44	319.73	319.79	319.84	319.89	319.88	319.81	319.67	319.56	319.43
9/10	319.66	319.66	319.49	319.59	319.88	319.94	320.00	320.06	320.05	319.99	319.87	319.76	319.64
10/10	319.78	319.78	319.63	319.72	320.00	320.07	320.14	320.20	320.20	320.14	320.04	319.94	319.83

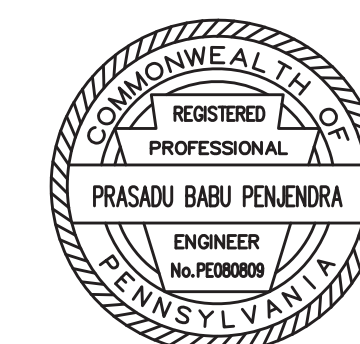
BOTTOM OF BEAM ELEVATIONS AT 10TH POINTS ALONG CENTERLINE OF BEAM													
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7	BEAM 8	BEAM 9	BEAM 10	BEAM 11	BEAM 12	BEAM 13
0/10	316.17	316.11	315.89	315.89	316.10	316.10	316.09	316.09	316.02	315.89	315.72	315.55	315.38
1/10	316.42	316.37	316.15	316.17	316.41	316.41	316.42	316.42	316.36	316.24	316.06	315.90	315.73
2/10	316.66	316.62	316.39	316.44	316.69	316.71	316.72	316.73	316.67	316.56	316.38	316.22	316.06
3/10	316.88	316.85	316.63	316.69	316.96	316.98	317.00	317.01	316.96	316.86	316.68	316.53	316.38
4/10	317.09	317.07	316.85	316.92	317.21	317.23	317.26	317.28	317.24	317.14	316.97	316.82	316.67
5/10	317.28	317.27	317.05	317.14	317.43	317.46	317.50	317.53	317.49	317.40	317.23	317.10	316.95
6/10	317.46	317.45	317.25	317.34	317.64	317.68	317.71	317.75	317.72	317.64	317.48	317.35	317.21
7/10	317.63	317.62	317.43	317.52	317.82	317.87	317.91	317.96	317.93	317.86	317.71	317.59	317.46
8/10	317.78	317.77	317.59	317.69	317.98	318.04	318.09	318.14	318.13	318.06	317.92	317.81	317.68
9/10	317.91	317.91	317.74	317.84	318.13	318.19	318.25	318.31	318.30	318.24	318.12	318.01	317.89
10/10	318.03	318.03	317.88	317.97	318.25	318.32	318.39	318.45	318.45	318.39	318.29	318.19	318.08

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

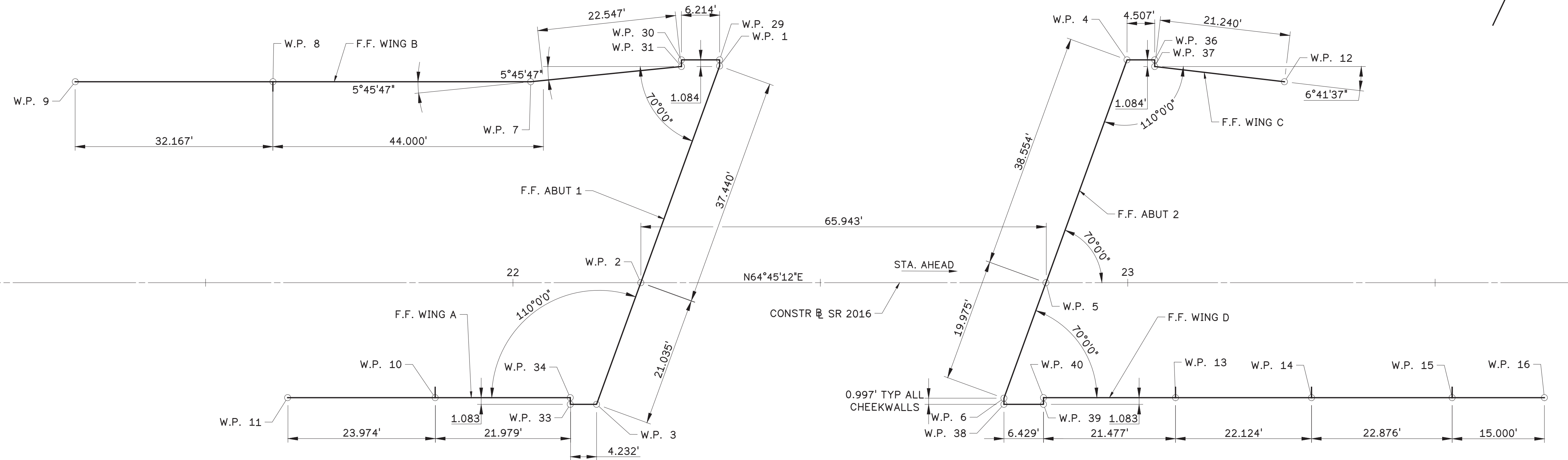
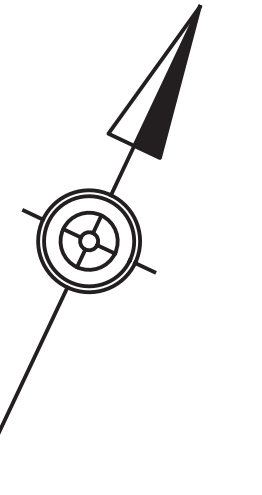
BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
ADDITIONAL DECK ELEVATION TABLES



RECOMMENDED 05 / 04 / 2026

SHEET 5 OF 61

S-41964



21

22

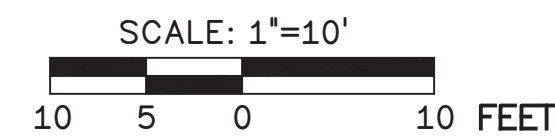
23

WORK POINT (W.P.) LOCATIONS				
WP NUMBER	COORDINATES (FT)		STATION	OFFSET
	NORTHING	EASTING		
1	388313.0982	2474428.5409	22+33.62	35.23
2	388275.7652	2474431.9691	22+20.80	0.00
3	388254.8137	2474433.8930	22+13.60	-19.77
4	388342.2669	2474488.0522	22+99.89	36.23
5	388303.8742	2474491.5777	22+86.70	0.00
6	388283.9824	2474493.4044	22+79.87	-18.77
7	388297.6847	2474401.8399	22+02.90	32.68
8	388279.7954	2474363.9038	21+60.95	32.68
9	388266.0752	2474334.8088	21+28.79	32.68
10	388244.5964	2474409.6861	21+87.35	-18.69
11	388234.3599	2474387.9782	21+63.35	-18.69
12	388349.9674	2474512.7267	23+25.49	32.67
13	388295.9600	2474518.6091	23+07.78	-18.69
14	388305.3965	2474538.6202	23+29.90	-18.69
15	388315.1533	2474559.3107	23+52.78	-18.69
16	388321.5510	2474572.8779	23+67.78	-18.69
29	388314.0027	2474428.1143	22+33.62	36.23
30	388311.3523	2474422.4939	22+27.41	36.23
31	388310.3725	2474422.9560	22+27.41	35.15
33	388252.9887	2474430.0229	22+09.32	-19.77
34	388253.9686	2474429.5609	22+09.32	-18.69
36	388344.1892	2474492.1285	23+04.40	36.23
37	388343.2093	2474492.5906	23+04.40	35.15
38	388283.0803	2474493.8298	22+79.87	-19.77
39	388285.8201	2474499.6460	22+86.30	-19.77
40	388286.7999	2474499.1840	22+86.30	-18.69

W.P. NOTES

- ORIGIN IS AT STA. 22+00.00 ON THE \varnothing OF S.R. 2016.
- FOUR DECIMAL PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY PRECISION BEYOND TWO DECIMAL POINTS.
- OFFSET IS MEASURED PERPENDICULAR TO \varnothing OF S.R. 2016, LOOKING STATIONS AHEAD.

STAKE-OUT PLAN

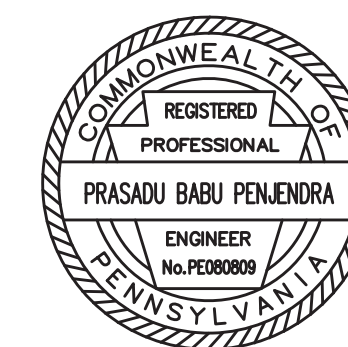


LEGEND

W.P. = WORK POINT
F.F. = FRONT FACE

SHEET NOTES:

- FOR GENERAL PLAN & ELEVATION, SEE SHEET 1.
- FOR GENERAL NOTES, SEE SHEET 3.
- FOR TYPICAL SECTION AND ELEVATION TABLES, SEE SHEET 4.
- FOR BEAM RATINGS, SEE SHEET 41.



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

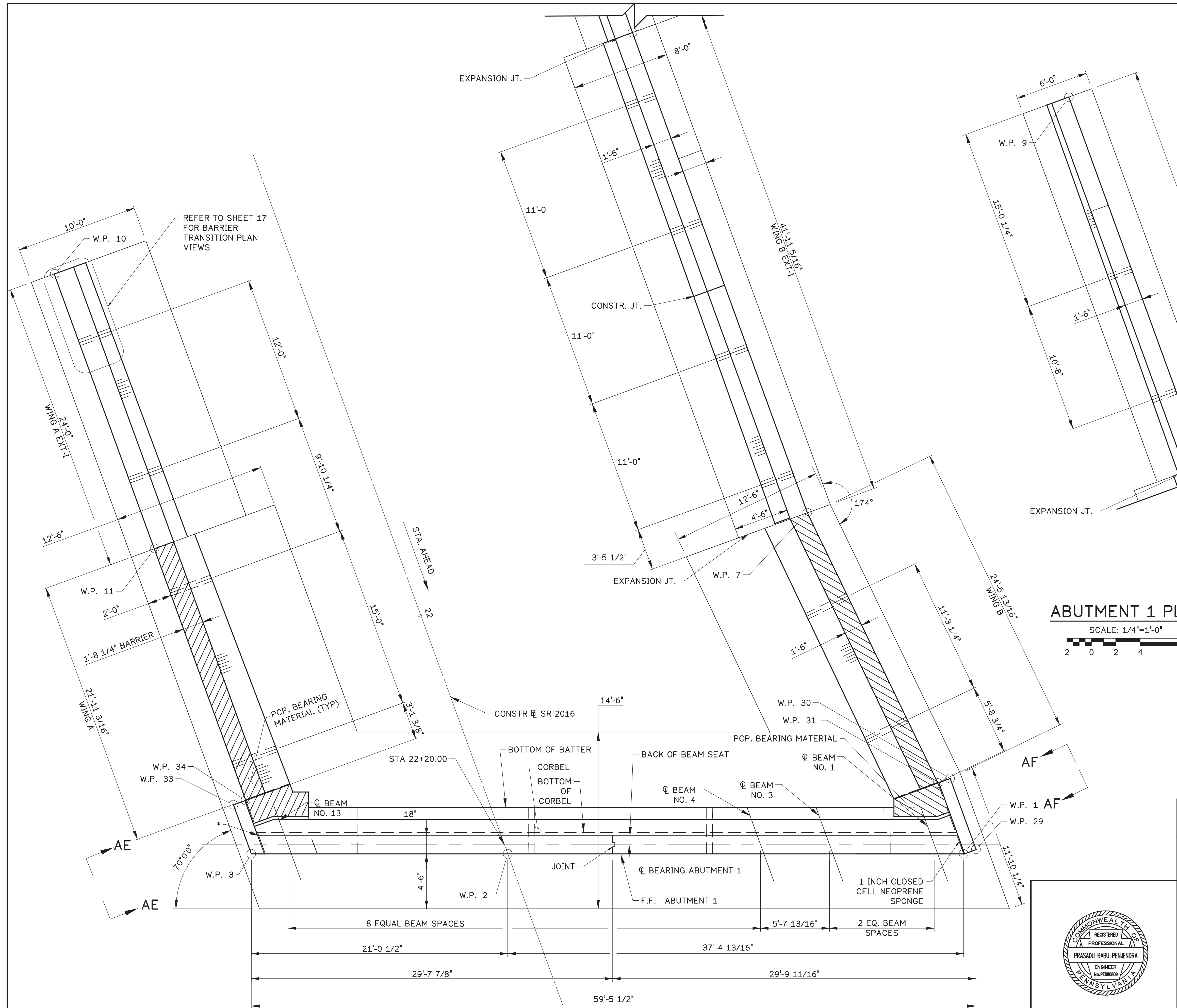
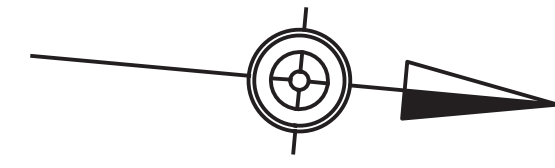
S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
STAKE-OUT PLAN

RECOMMENDED 05 / 04 / 2026

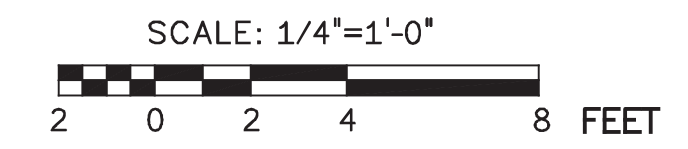
SHEET 6 OF 61

S-41964



- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR STAKE-OUT PLAN, SEE SHEET 6.
 - FOR ABUTMENT 1 TYPICAL SECTION, SEE SHEET 9.
 - FOR ABUTMENT 1 FOOTING REBAR PLAN, SEE SHEET 10.
 - FOR ABUTMENT 1 PILE LAYOUT, SEE SHEET 11.
 - FOR WING A AND WING B, SEE SHEETS 15-19.
 - FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 20.
 - FOR ABUTMENT 1 ELEVATION, SECTION AE, AND AF SEE SHEET 8.

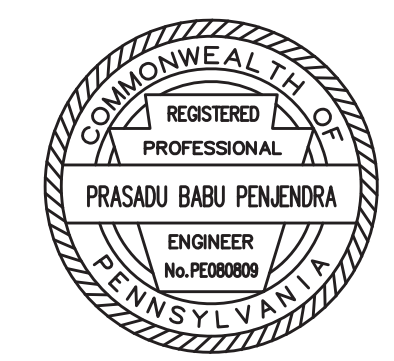
ABUTMENT 1 PLAN



Mark	Description	By	Chk'd.	Recm'd.	Date
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S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

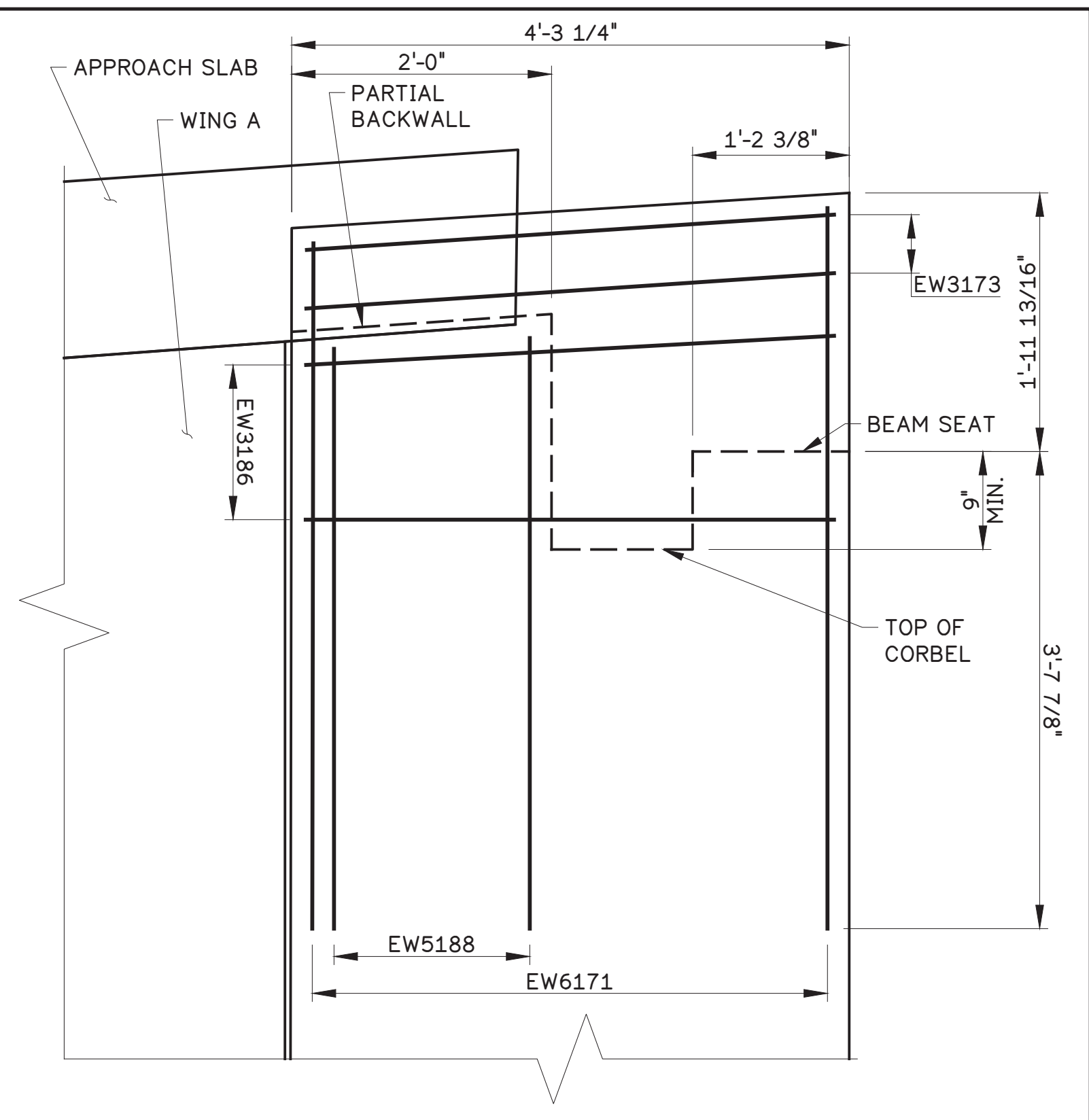
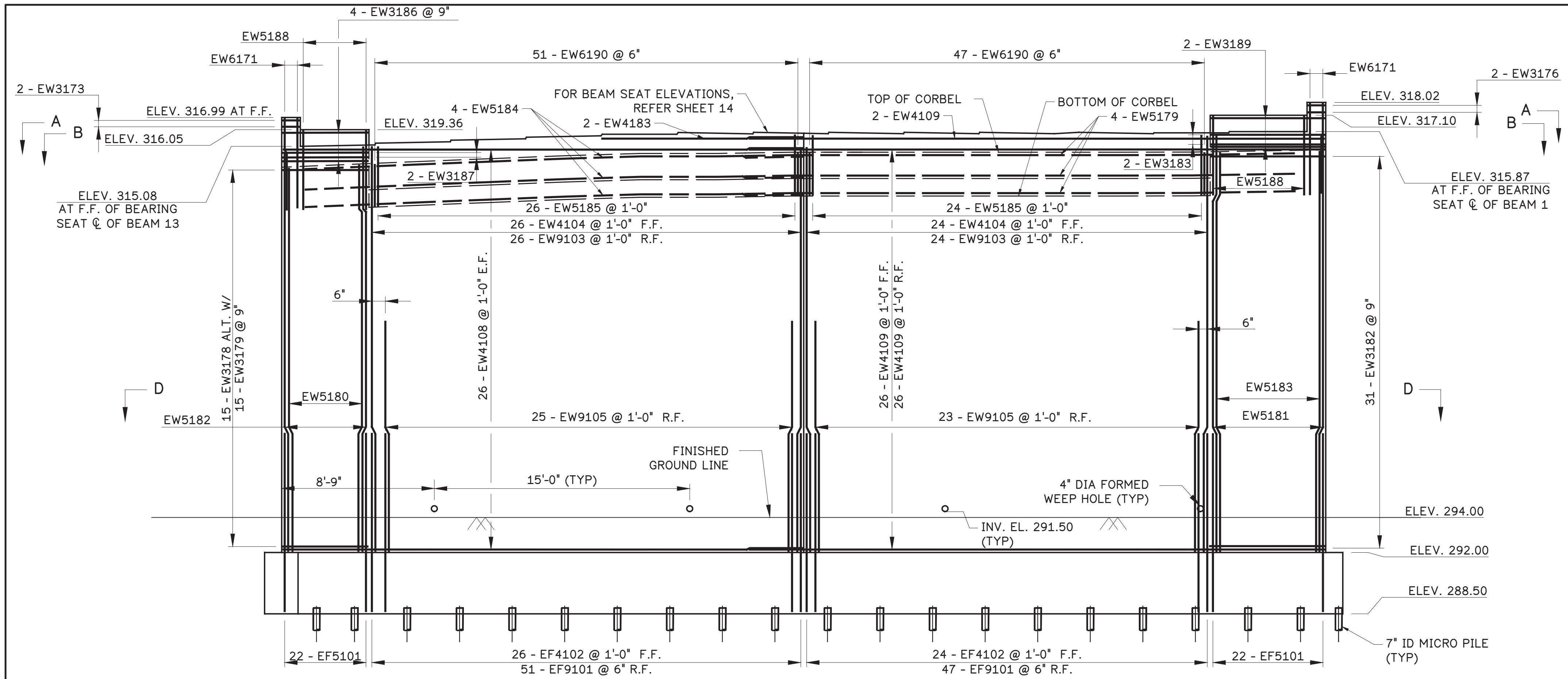
COMMONWEALTH OF PENNSYLVANIA
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 BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 1 PLAN



RECOMMENDED 05 / 04 / 2026 SHEET 7 OF 61

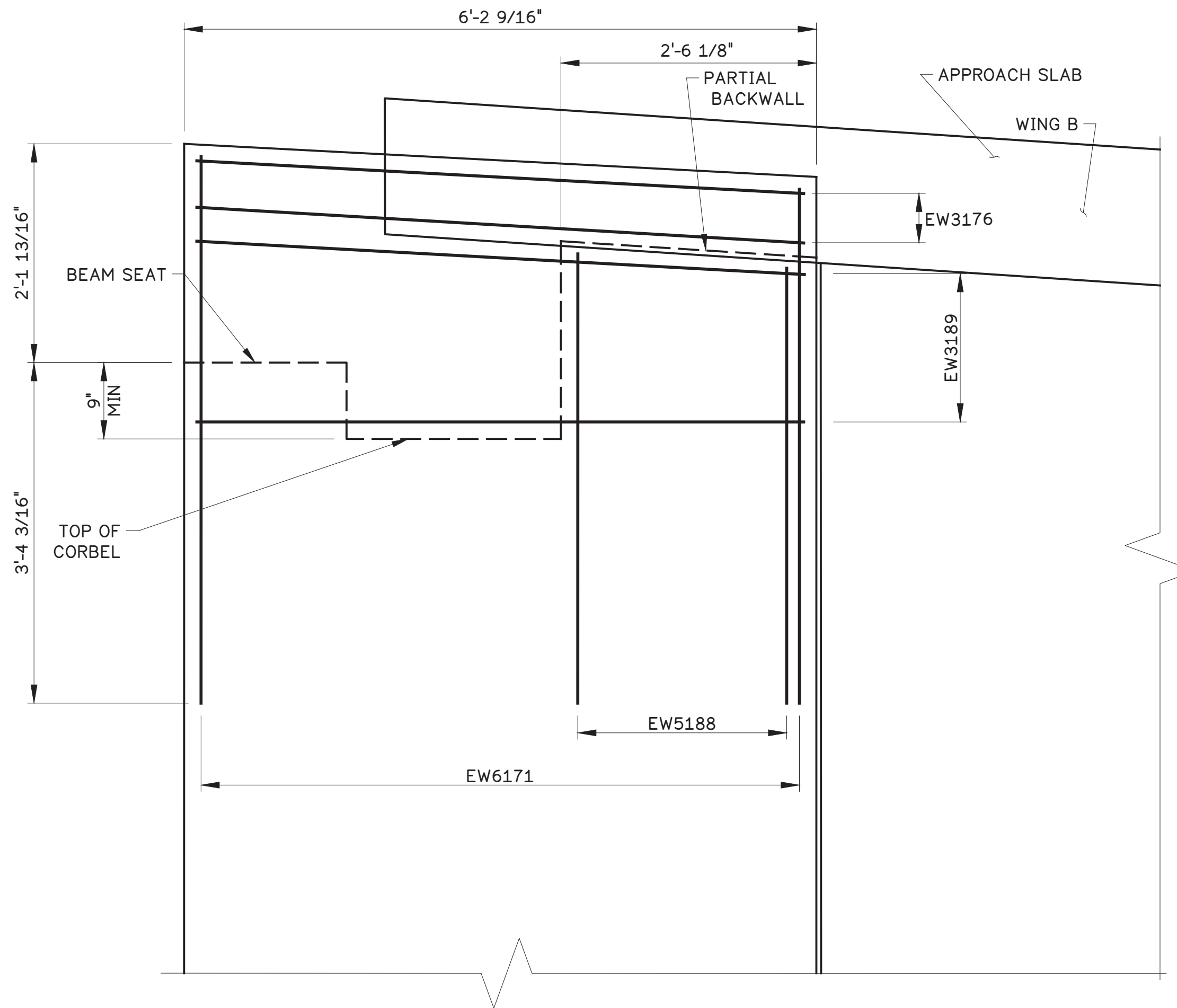
S-41964

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ABUTMENT 1 ELEVATION

CHEEKWALL WING A SECTION AE-AE



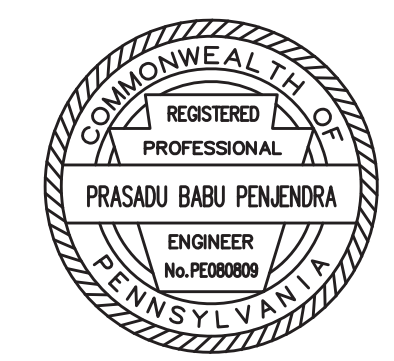
CHEEKWALL WING B SECTION AF-AF

- SHEET NOTES:
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR STAKEOUT PLAN, SEE SHEET 6.
 - FOR ABUTMENT 1 PLAN, SEE SHEET 7.
 - FOR WEEP HOLE REINFORCEMENT DETAILS, SEE SHEET 9.
 - FOR ABUTMENT 1 SECTIONS, SEE THIS SHEET AND SHEET 9.
 - FOR ABUTMENT 1 BEARING SEAT ELEVATIONS, SEE SHEET 14.
 - FOR WING A ELEVATION, SEE SHEET 15.
 - FOR WING B ELEVATION, SEE SHEET 18.

Mark	Description	By	Chk'd.	Recm'd.	Date
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1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 1 ELEVATION



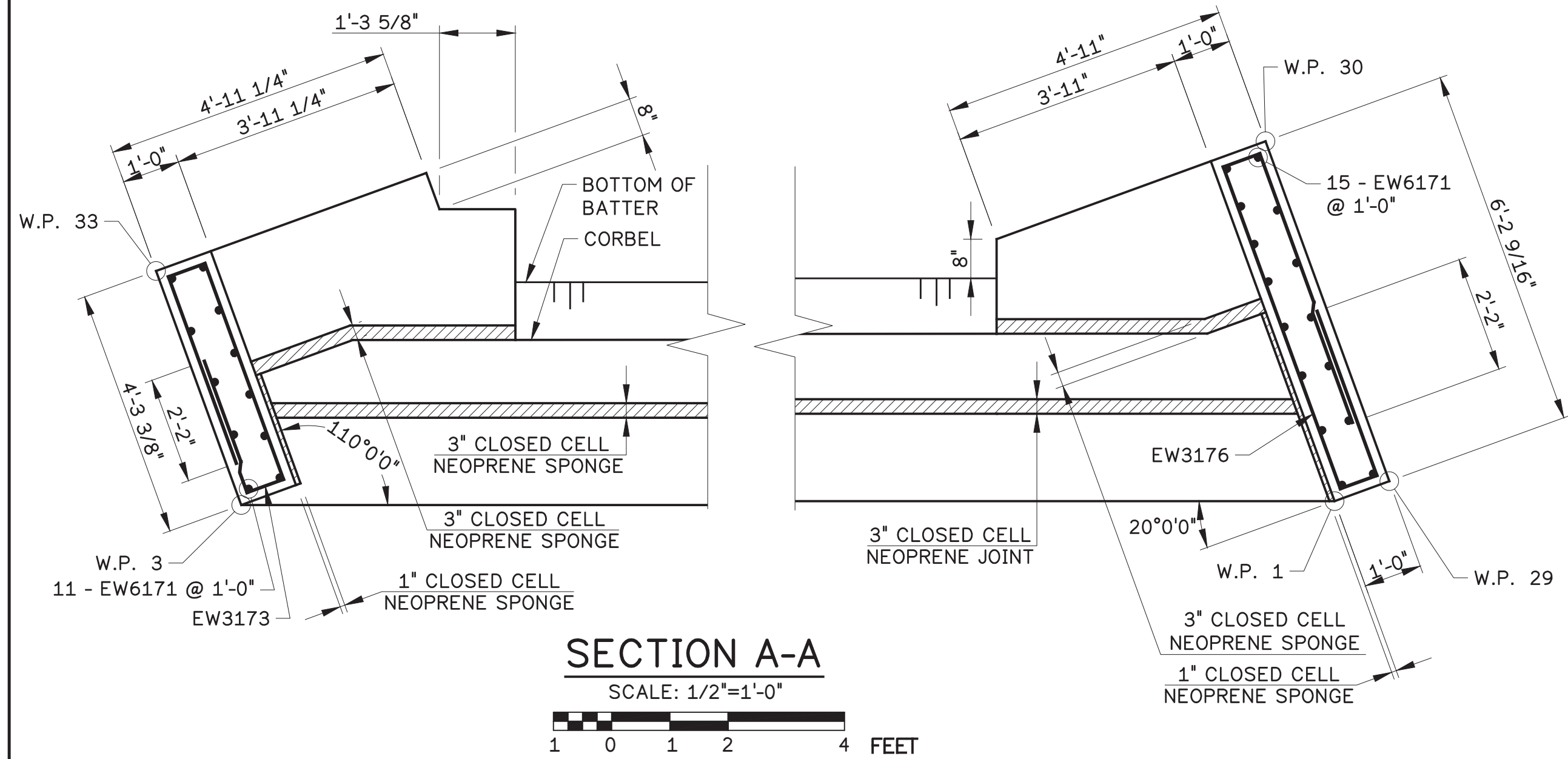
RECOMMENDED 05 / 04 / 2026

SHEET 8 OF 61

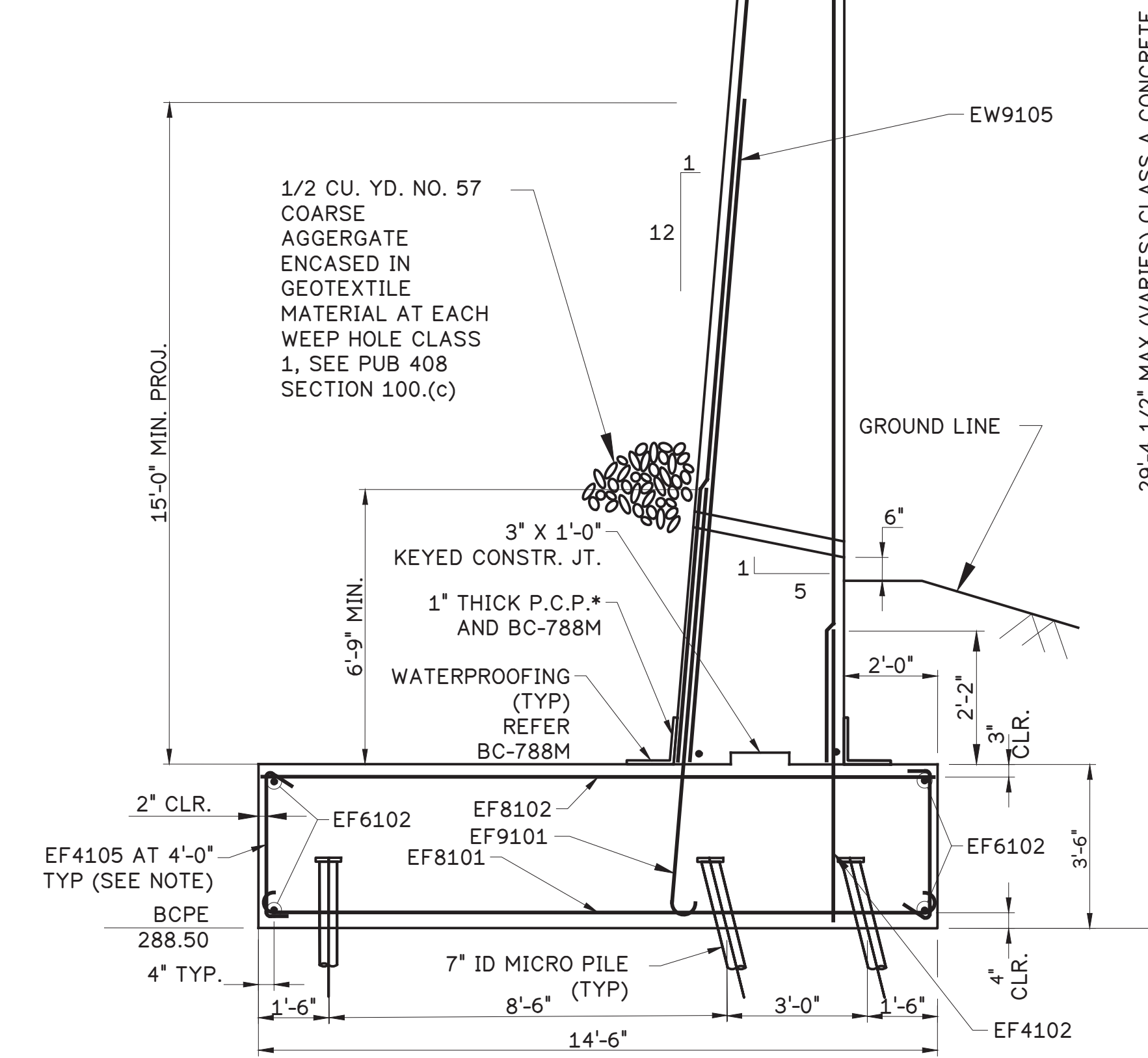
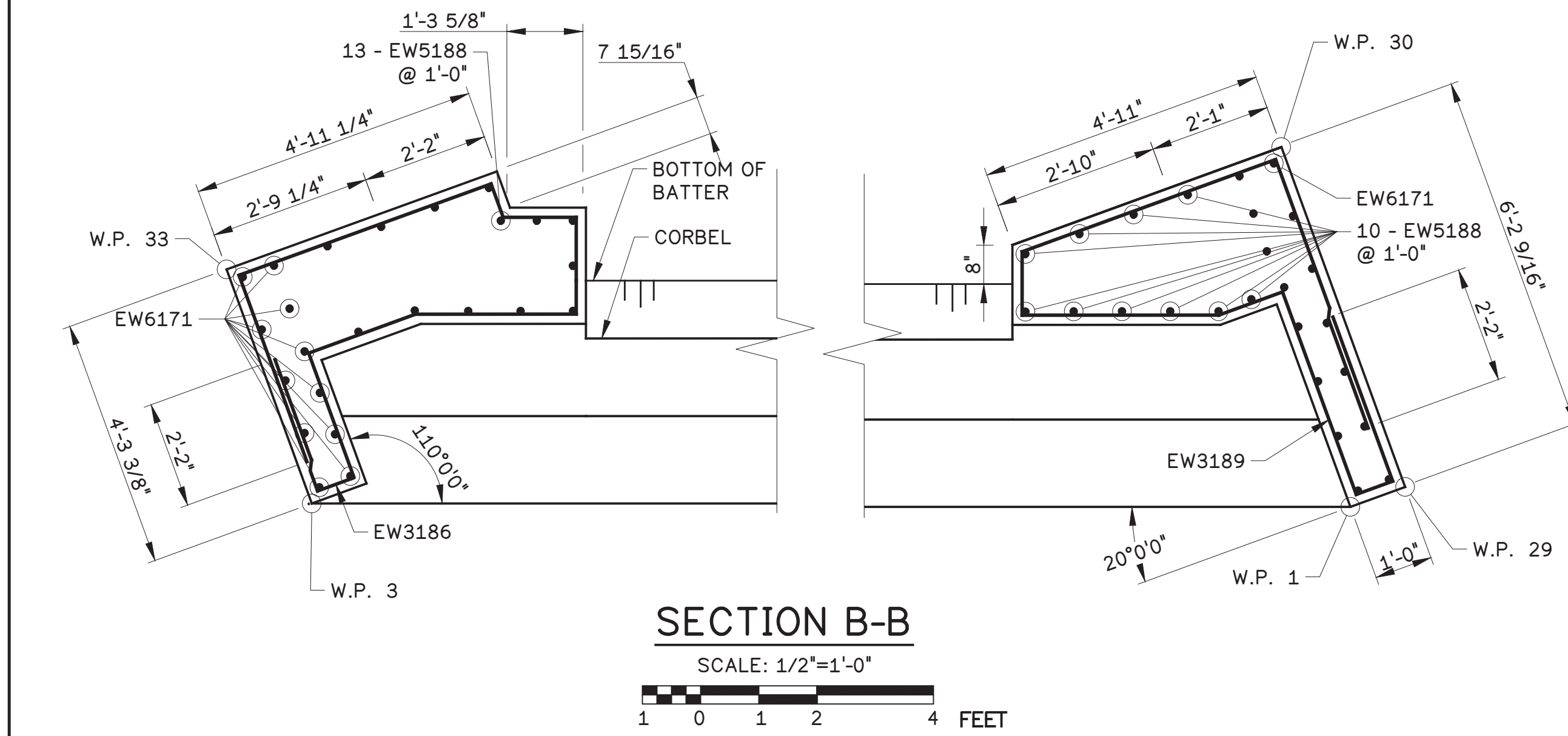
S-41964

SHEET NOTES:

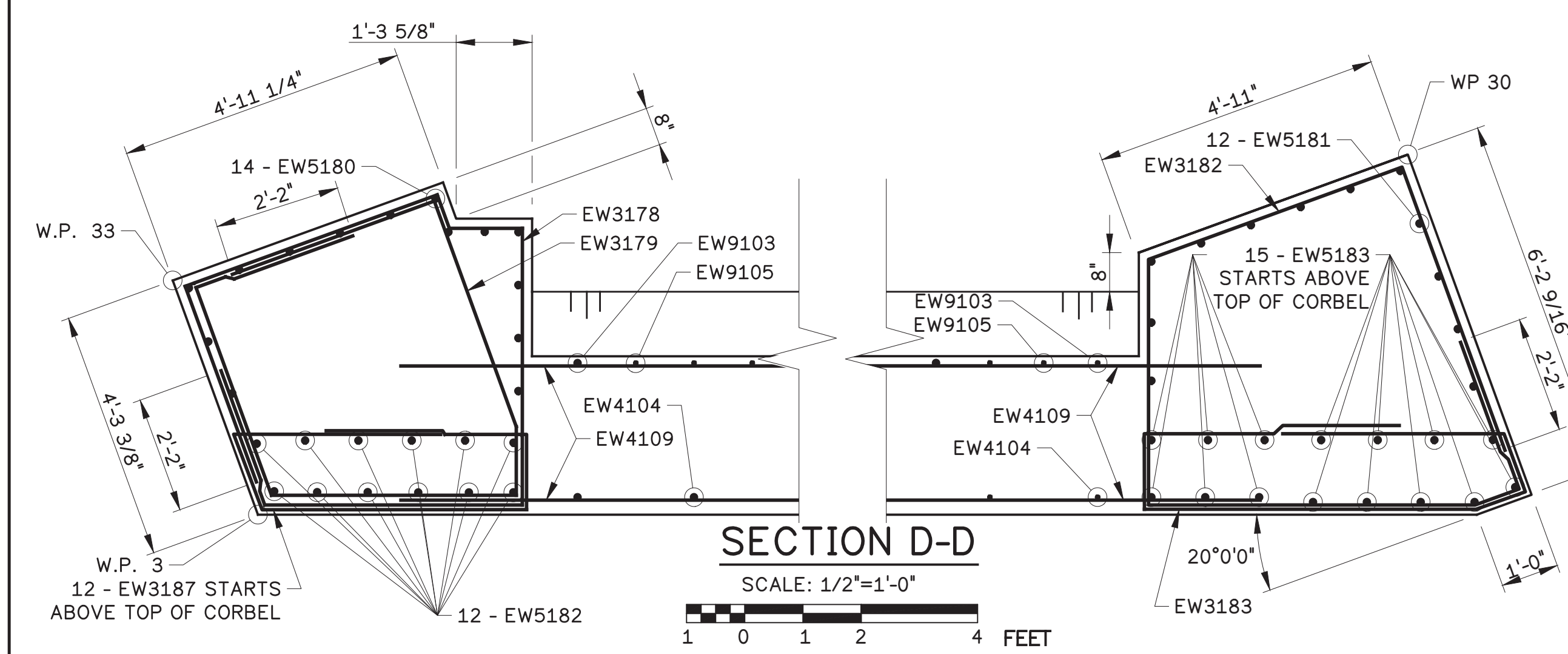
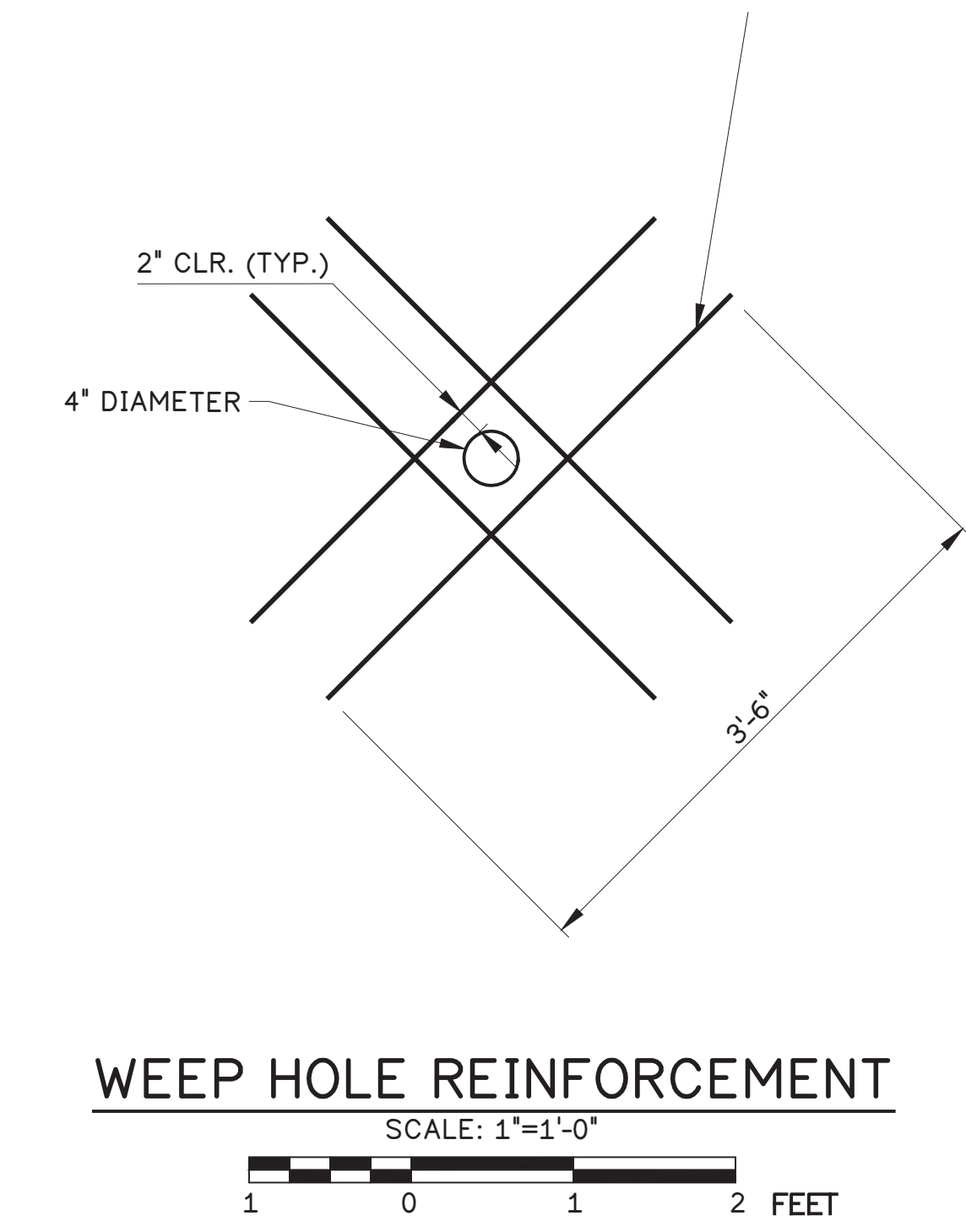
- FOR GENERAL NOTES, SEE SHEET 3.
- FOR STAKE-OUT PLAN, SEE SHEET 6.
- FOR ABUTMENT 1 PLAN, SEE SHEET 7.
- FOR ABUTMENT 1 ELEVATION, SEE SHEET 8.
- FOR WING A ELEVATION, SEE SHEET 15.
- FOR WING B ELEVATION, SEE SHEET 18.



WATERPROOFING NOTE:
INSTALL 2'-0" WIDE WATERPROOFING MEMBRANE TO FIT STEM AND TOP OF FOOTING AS SHOWN. USE AN ADHESIVE BACKED, PREFORMED WATERPROOFING MEMBRANE SYSTEM PER PUB. 408, SECTION 680.2 (B). MEMBRANE TO BE RUN CONTINUOUS FROM WINGWALL STEM TO ABUTMENT STEM.

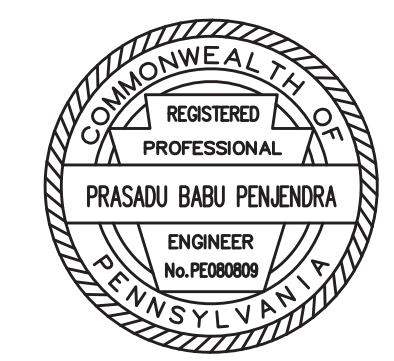


- 1-EW4343 EACH SIDE OF EACH PIPE, EACH FACE, ABUTMENT STEM (TYP.)
- 1-EW4338 EACH SIDE EACH OF PIPE, EACH FACE, WING A (TYP.)
- 1-EW4339 EACH SIDE OF EACH PIPE, EACH FACE, WING A EXT-1 (TYP.)
- 1-EW4340 EACH SIDE OF EACH PIPE, EACH FACE, WING B (TYP.)
- 1-EW4341 EACH SIDE OF EACH PIPE, EACH FACE, WING B EXT-1 (TYP.)
- 1-EW4342 EACH SIDE OF EACH PIPE, EACH FACE, WING B EXT-II (TYP.) WING A, WING B, AND WING B EXT-I AND II



REINFORCING NOTE:

- TIE TOP AND BOTTOM LAYERS OF REINFORCING STEEL WITH EF4105 TIE BARS AT A MAXIMUM SPACING OF 4'-0" IN BOTH DIRECTIONS. PROVIDE TIE BARS WITH 90° HOOK AT ONE END AND 135° HOOK AT THE OTHER END. ALTERNATE 90° AND 135° HOOKS AT TOP IN ALTERNATE TIES.



Mark	Description	By	Chk'd.	Recm'd.	Date
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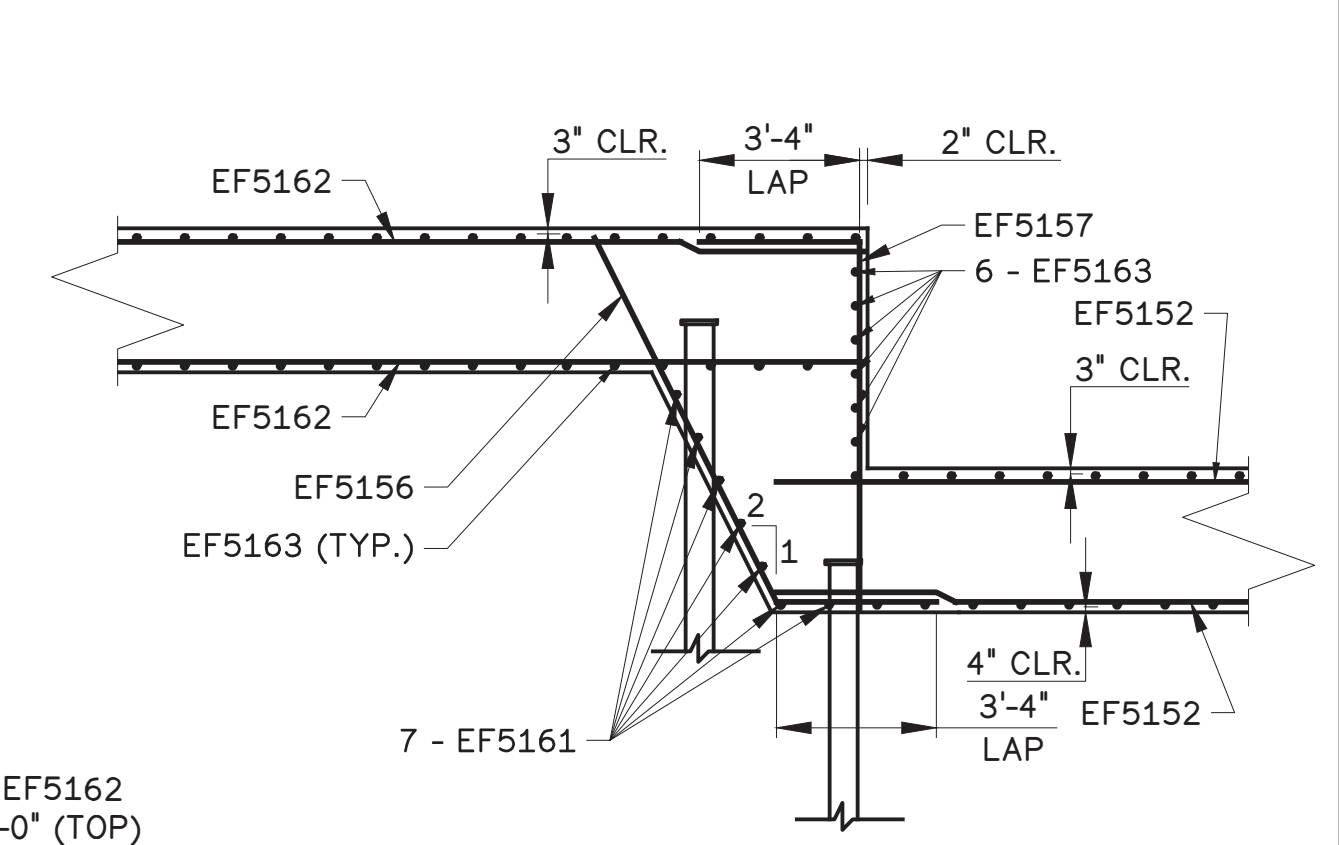
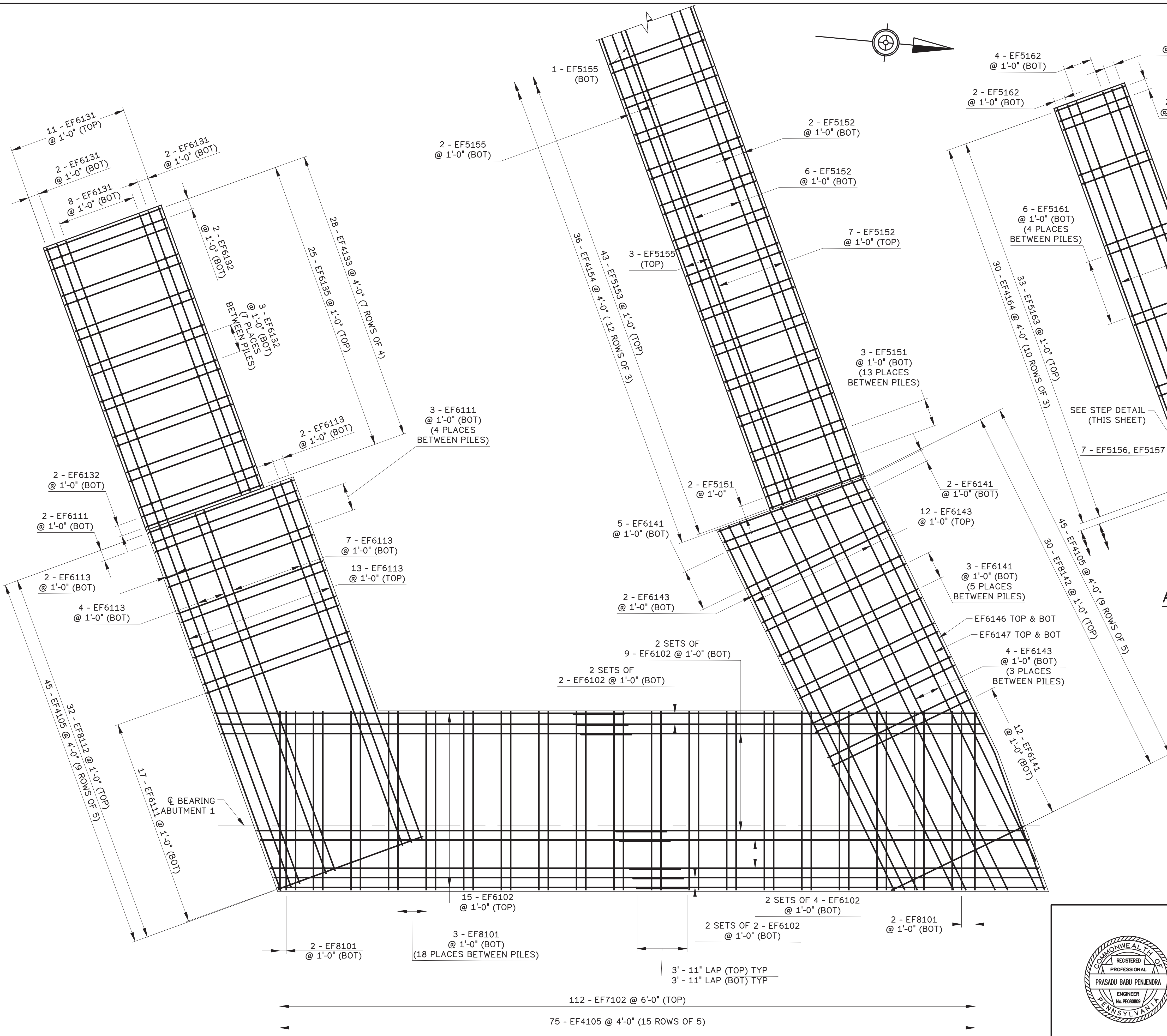
S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
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S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

ABUTMENT 1 TYPICAL SECTION & DETAILS

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STEP DETAIL
SCALE: 1/4"=1'-0"
2 0 2 4 8 FEET

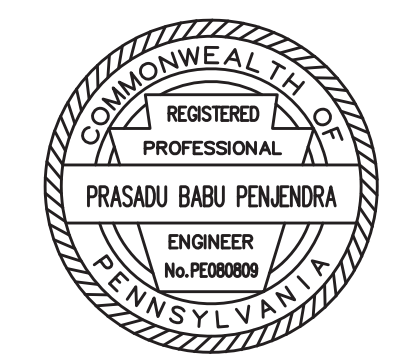
ABUTMENT 1 FOOTING REBAR PLAN
SCALE: 1/4"=1'-0"
2 0 2 4 8 FEET

- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR STAKE-OUT PLAN, SEE SHEET 6.
 - FOR ABUTMENT 1 ELEVATION, SEE SHEET 8.
 - FOR ABUTMENT 1 TYPICAL SECTION AND DETAILS, SEE SHEET 9.
 - FOR ABUTMENT 1 PILE LAYOUT, SEE SHEET 11.

Mark	Description	By	Chk'd.	Recm'd.	Date
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ABUTMENT 1 FOOTING REBAR PLAN

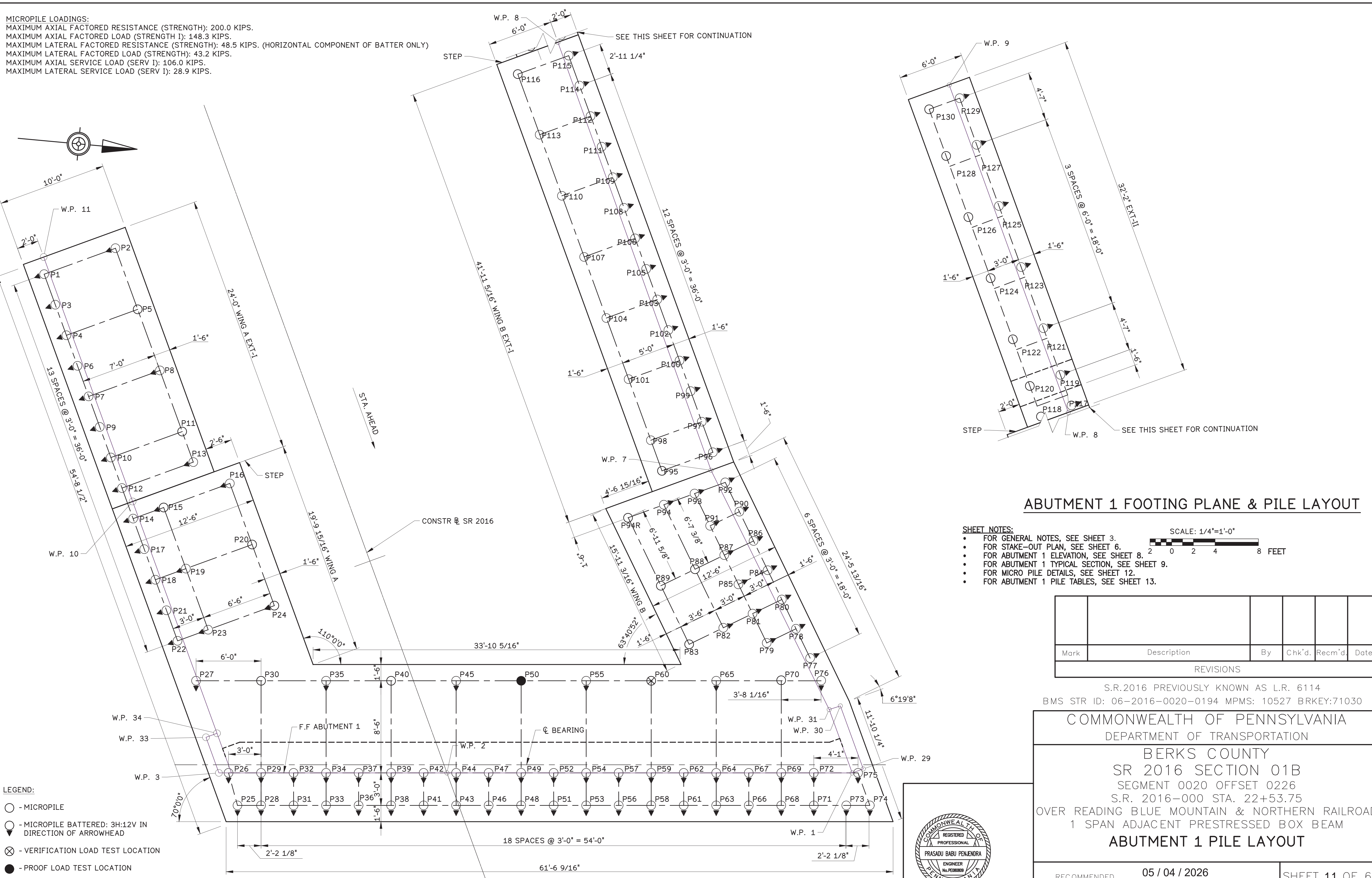
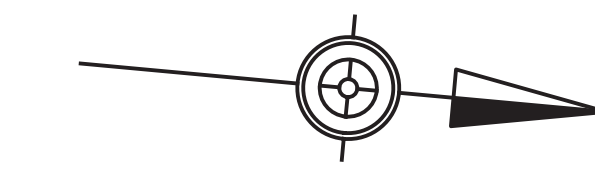


RECOMMENDED 05 / 04 / 2026 SHEET 10 OF 61

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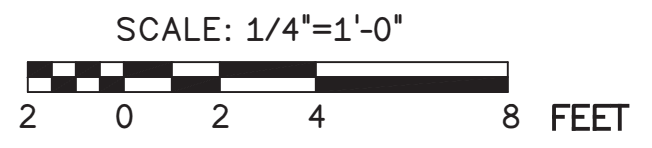
h:\168003_2016_over\rdrawing files\2_STR\6 sheets\ABUTMENT 1 FOOTING REBAR PLAN.dwg, 4/17/2025, 10:08 AM, AutoCAD PLOT (General Documentation).pc3

MICROPILE LOADINGS:
 MAXIMUM AXIAL FACTORED RESISTANCE (STRENGTH): 200.0 KIPS.
 MAXIMUM AXIAL FACTORED LOAD (STRENGTH I): 148.3 KIPS.
 MAXIMUM LATERAL FACTORED RESISTANCE (STRENGTH): 48.5 KIPS. (HORIZONTAL COMPONENT OF BATTER ONLY)
 MAXIMUM LATERAL FACTORED LOAD (STRENGTH): 43.2 KIPS.
 MAXIMUM AXIAL SERVICE LOAD (SERV I): 106.0 KIPS.
 MAXIMUM LATERAL SERVICE LOAD (SERV I): 28.9 KIPS.



ABUTMENT 1 FOOTING PLANE & PILE LAYOUT

- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR STAKE-OUT PLAN, SEE SHEET 6.
 - FOR ABUTMENT 1 ELEVATION, SEE SHEET 8.
 - FOR ABUTMENT 1 TYPICAL SECTION, SEE SHEET 9.
 - FOR MICRO PILE DETAILS, SEE SHEET 12.
 - FOR ABUTMENT 1 PILE TABLES, SEE SHEET 13.



Mark	Description	By	Chk'd.	Recm'd.	Date
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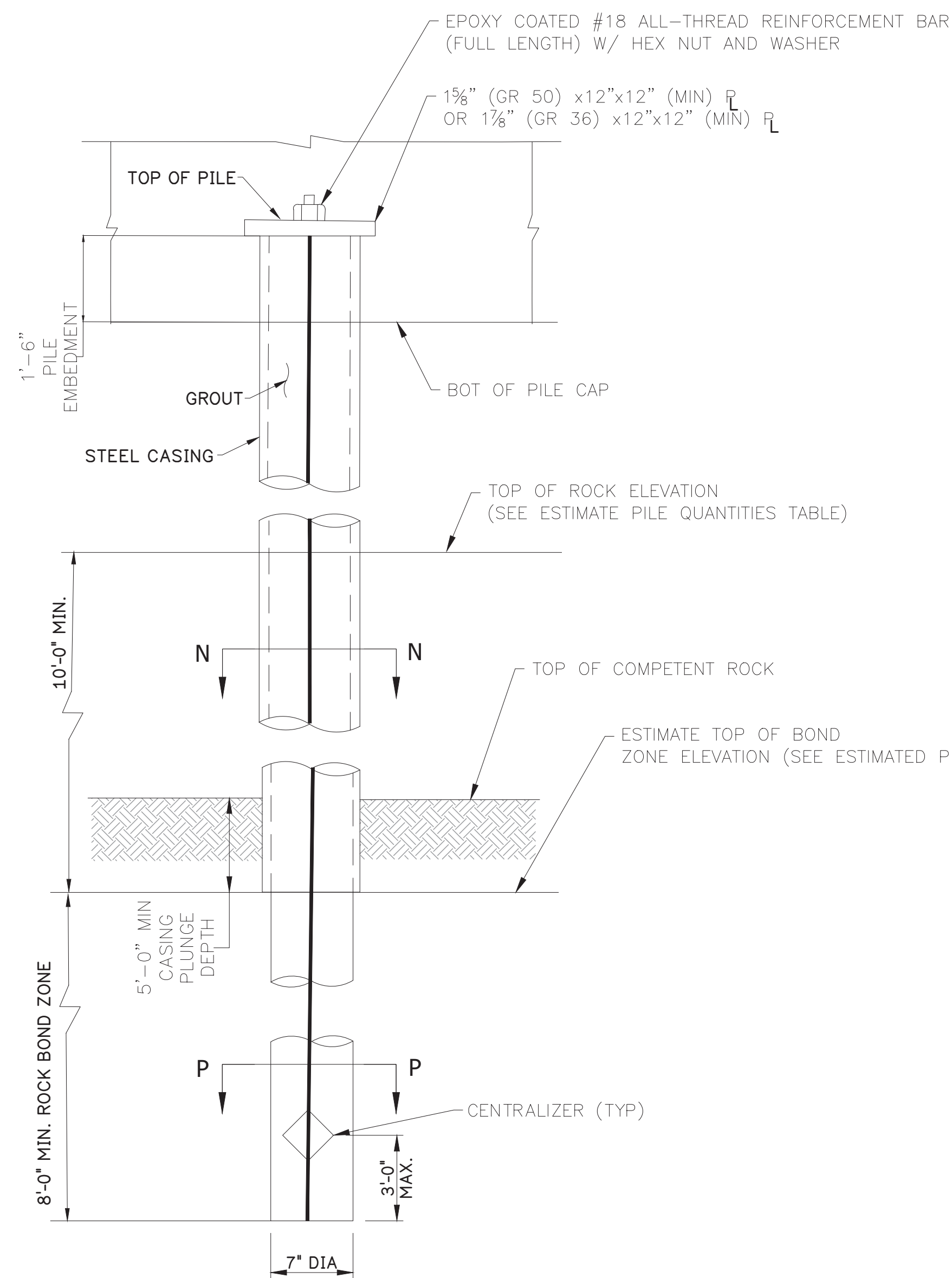
COMMONWEALTH OF PENNSYLVANIA
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 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
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 1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 1 PILE LAYOUT



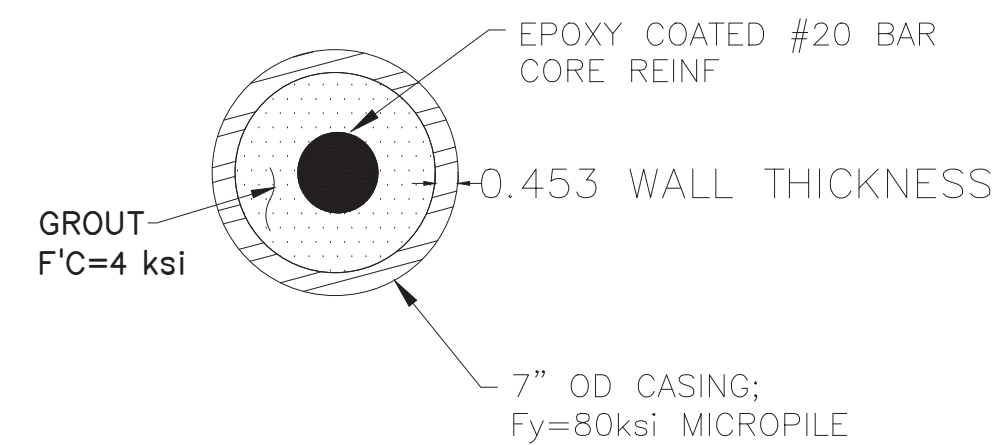
RECOMMENDED 05 / 04 / 2026 SHEET 11 OF 61

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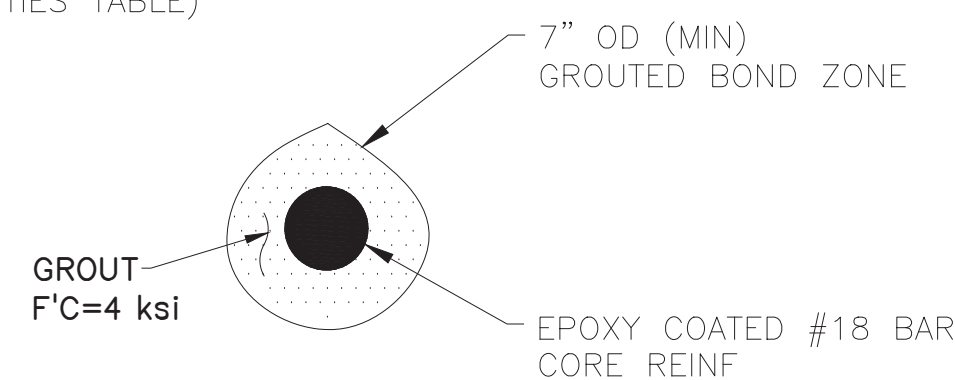
h:\16000 2-2016 over-drawing files\2-STR\06 sheets\ABUTMENT 1 PILE TABLES.dwg, 4/17/2026 2:30 PM, AutoCAD PDF (General Documentation).pc3



MICROPILE DETAIL
SCALE : NOT TO SCALE



SECTION N-N
SCALE : NOT TO SCALE



SECTION P-P
SCALE : NOT TO SCALE

MICRO PILE NOTES

- TENSION IN MICRO PILES HAS NOT BEEN PERMITTED AT THE SERVICE LIMIT STATE.
- PROVIDE 7" (MINIMUM) OUTSIDE DIAMETER STEEL CASING WITH 0.453" WALL THICKNESS.
- PROVIDE STRUCTURAL STEEL FOR BEARING PLATES CONFORMING TO AASHTO M270, GRADE 36 OR GRADE 50 (ASTM A709, GRADE 36 OR GRADE 50) AS NOTED.
- PROVIDE GRADE 75 REINFORCING STEEL BARS FOR CORE REINFORCEMENT MEETING THE REQUIREMENTS OF ASTM A615 FOR PRODUCTION PILES. PROVIDE ASTM A108 HEX NUTS AND ASTM F43 WASHER.
- PROVIDE GRADE 150 REINFORCING STEEL BARS FOR CORE REINFORCEMENT MEETING THE REQUIREMENTS OF ASTM A722 FOR VERIFICATION OF TEST PILE.
- USE NEAT CEMENT GROUT WITH $f'_c=4$ ksi FOR MICRO PILE.
- IF A SEGMENT WITH A LENGTH EQUAL TO THE DESIGN BOND LENGTH HAS VOIDS OR FRACTURES/WEAK ZONES THAT SUM LESS THAN 6 INCHES IN LENGTH, THE BOND ZONE WOULD EXTEND AN ADDITIONAL 1 FOOT. NO BOND ZONE SHALL BE TERMINATED WITHOUT A MINIMUM OF 2 FEET OF ROCK AT THE BOTTOM OF THE BOND ZONE.
- IF VOIDS OR FRACTURES /WEAK ZONES SUM MORE THAN 6 INCHES, RESTART THE BOND ZONE. CONTINUE DRILLING UNTIL ABOVE CRITERIA IS SATISFIED.
- IF THE HOLE EXCEEDS 150 PERCENT OF THE DEEPEST EXPECTED HOLE FOR THE SUBSTRUCTURE UNIT, STOP THE DRILLING AND CONTACT THE DESIGNER TO ESTABLISH UPDATED PROCEDURES.
- INSTALL AND VERIFICATION TEST A MINIMUM OF 1 TEST MICRO PILE PER ABUTMENT PRIOR TO INSTALLING PRODUCTION PILE.
- PERFORM STATIC PROOF LOAD TESTS ON A MINIMUM OF 1 PRODUCTION MICRO PILE PER ABUTMENT.
- USE A 7" (MINIMUM) DIAMETER BOND ZONE.
- ESTIMATED TOP OF ROCK (ETRE), ESTIMATED TOP OF BOND ZONE (ETBZE) AND ESTIMATED MICRO PILE TIP ELEVATIONS (EMTE) ARE AS FOLLOW:

ABUTMENT 1, WINGWALL A AND WINGWALL
EMTE VARIES FROM 234.0 TO 280.0
EMTE VARIES FROM 254.0 TO 300.0
ETBZE VARIES FROM 257.0 TO 303.0

ABUTMENT 2, WINGWALL C AND WINGWALL
EMTE VARIES FROM 243.0 TO 275.0
ETBZE VARIES FROM 263.0 TO 295.0
ETRE VARIES FROM 266.0 TO 298.0
- THE MICRO PILE CONTRACTOR SHALL PREPARE AND COMPLETE A MICRO PILE INSTALLATION RECORD FOR EACH MICRO PILE EXCAVATED AND CONSTRUCTED. THIS RECORD SHALL PROVIDE ALL EXCAVATION AND INSTALLATION DATA AND WILL BECOME THE AS-BUILT RECORD FOR THE MICRO PILE.
- FOR OTHER MICRO PILE DESIGN, CONSTRUCTION AND TESTING REQUIREMENTS, SEE SPECIAL PROVISION.

- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR BEARING DETAILS, SEE SHEET 33.
 - FOR ABUTMENT 1 PILE LAYOUT, SEE SHEET 11.
 - FOR ABUTMENT 2 PILE LAYOUT, SEE SHEET 25.

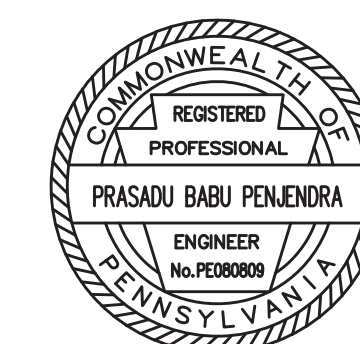
Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

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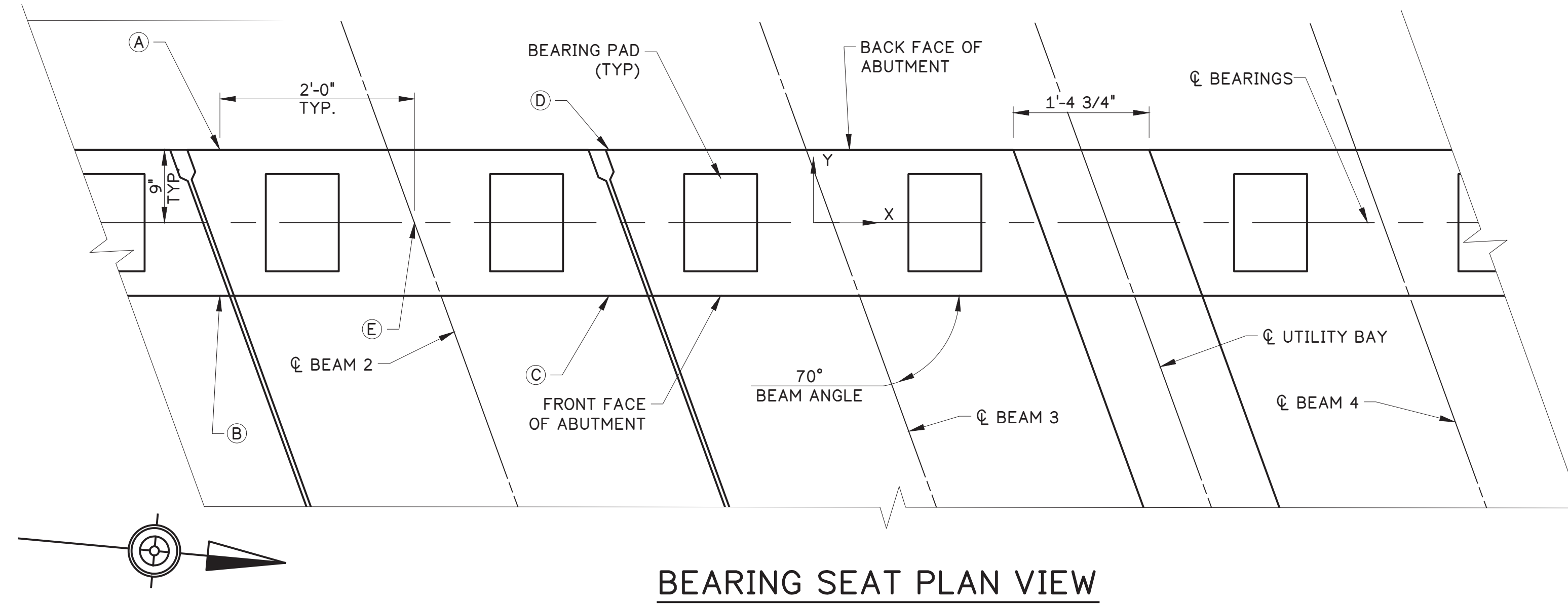
MICRO PILE DETAILS



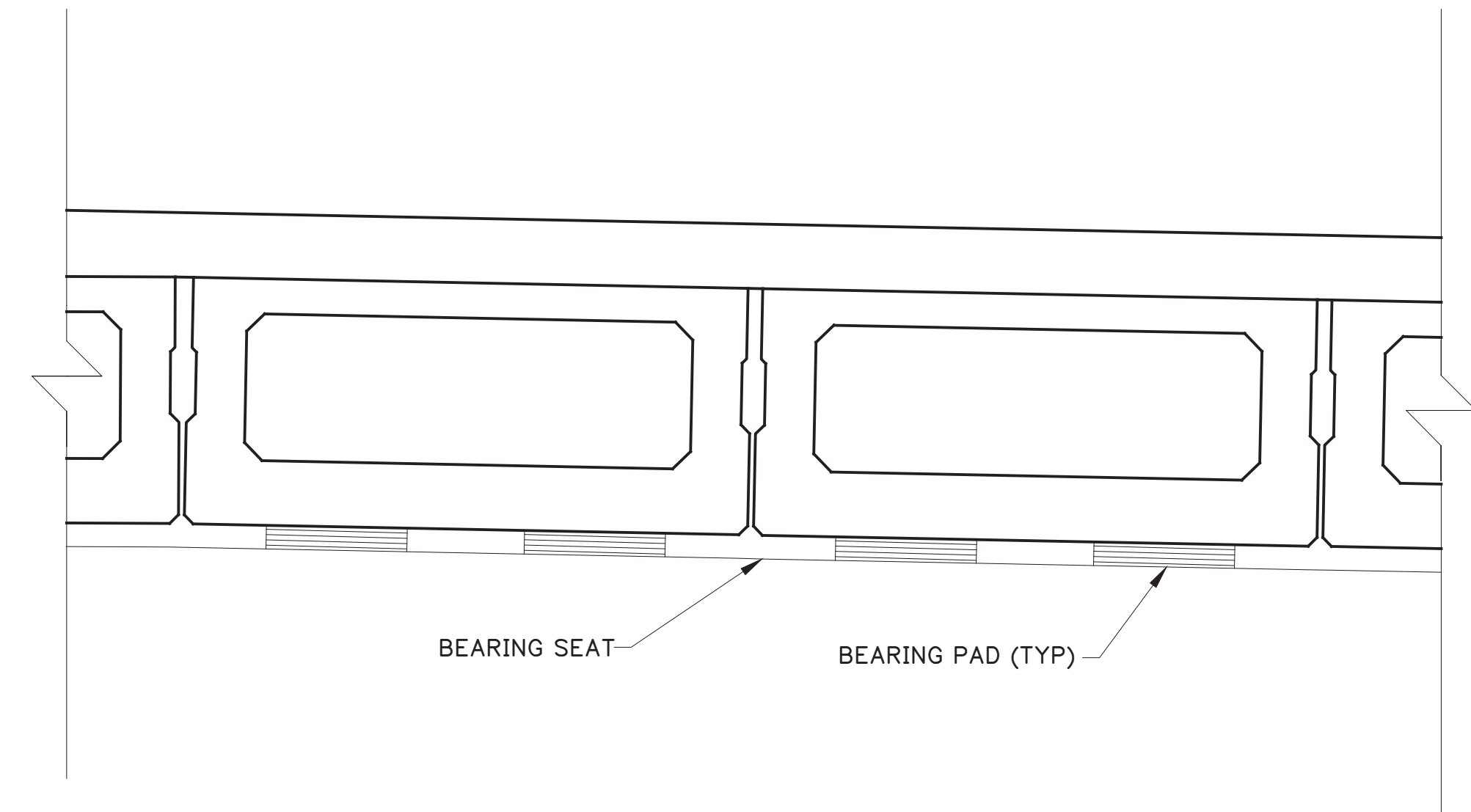
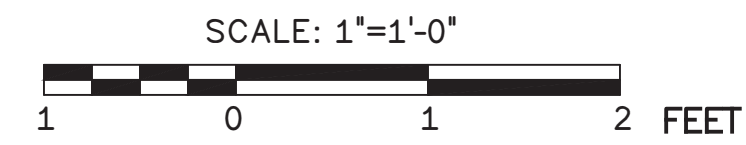
RECOMMENDED 05 / 04 / 2026

SHEET 12 OF 61

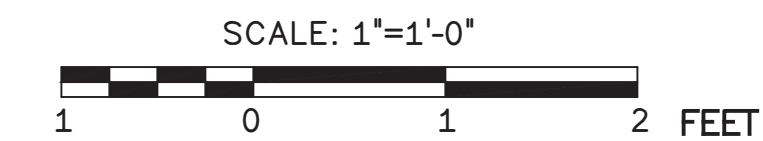
S-41964



BEARING SEAT PLAN VIEW



BEARING SEAT ELEVATION VIEW



ABUTMENT 1 BEARING SEAT LOCATION AND ELEVATION TABLE

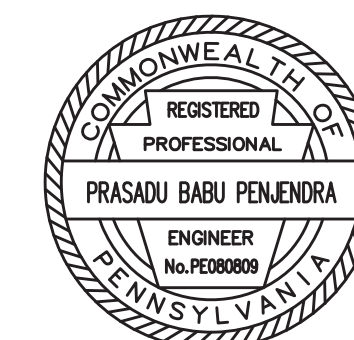
BEAM NO.	CL BEAM OFFSET	BEAM ANGLE	BRG. SEAT SLOPE		A ELEV.	B ELEV.	C ELEV.	D ELEV.	E ELEV.
			X	Y					
1	-33.15	70	-0.48%	1.31%	316.02	316.01	315.96	315.96	315.99
2	-29.10	70	1.37%	-0.50%	315.95	315.95	315.89	315.90	315.92
3	-25.06	70	3.23%	-1.18%	315.78	315.76	315.63	315.65	315.70
4	-19.75	70	3.36%	-1.22%	315.79	315.77	315.63	315.65	315.71
5	-15.71	70	3.49%	-1.27%	316.00	315.98	315.84	315.86	315.92
6	-11.67	70	3.52%	-1.28%	316.00	315.98	315.84	315.86	315.92
7	-7.63	70	3.56%	-1.30%	316.00	315.98	315.84	315.86	315.92
8	-3.58	70	3.59%	-1.31%	316.00	315.98	315.83	315.85	315.91
9	0.49	70	1.74%	-0.63%	315.89	315.88	315.81	315.82	315.85
10	4.56	70	-0.10%	0.03%	315.72	315.72	315.72	315.72	315.72
11	8.60	70	-0.12%	0.04%	315.55	315.55	315.55	315.55	315.55
12	12.65	70	-0.09%	0.03%	315.38	315.38	315.38	315.38	315.38
13	16.69	70	-0.06%	0.02%	315.20	315.20	315.21	315.21	315.21

- SHEET NOTES:**
- FOR ABUTMENT 1 ELEVATION, SEE SHEET 8.
 - FOR ABUTMENT 1 TYPICAL SECTION, SEE SHEET 9.

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ABUTMENT 1 BEARING SEAT ELEVATIONS

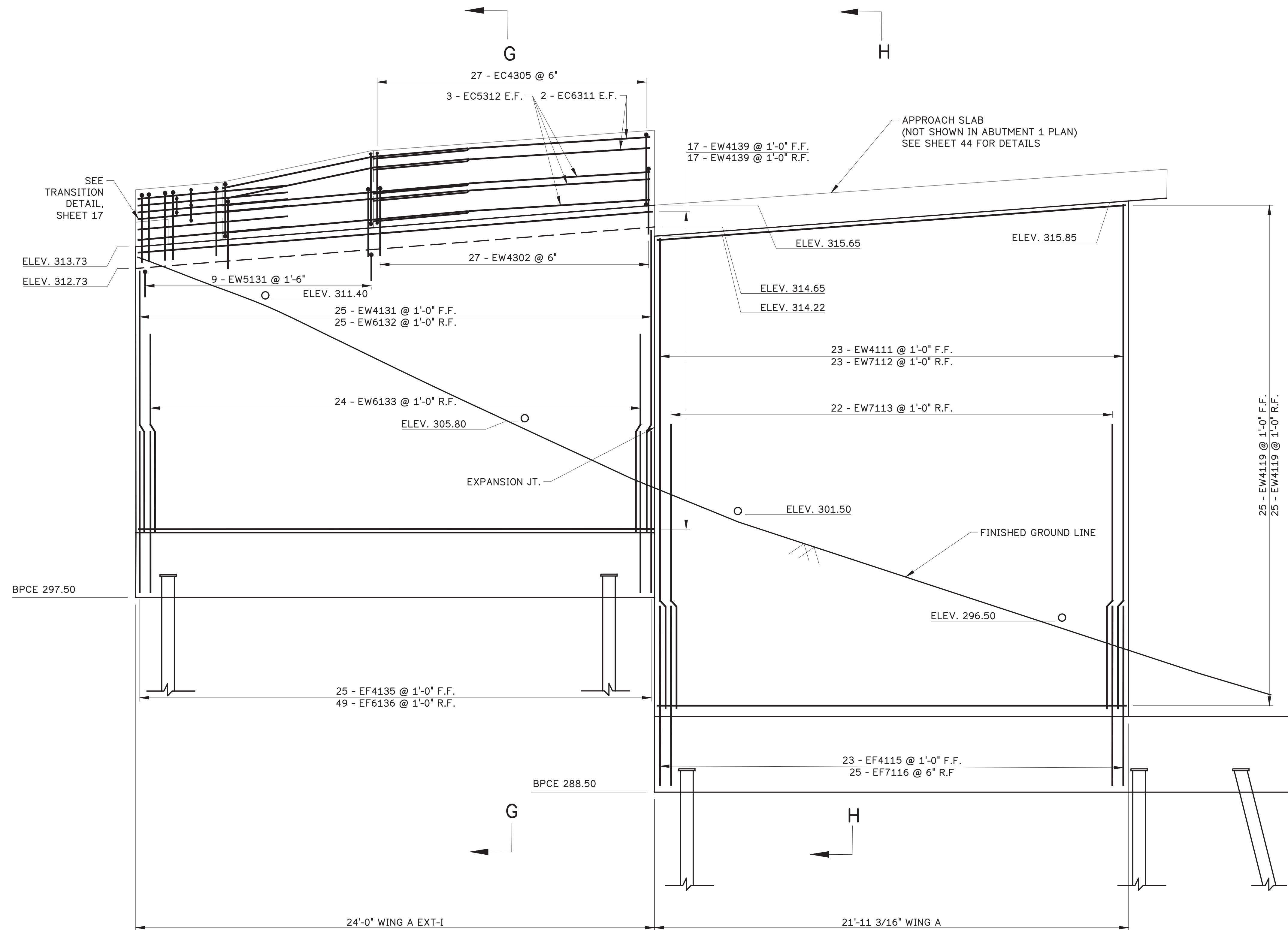


RECOMMENDED 05 / 04 / 2026

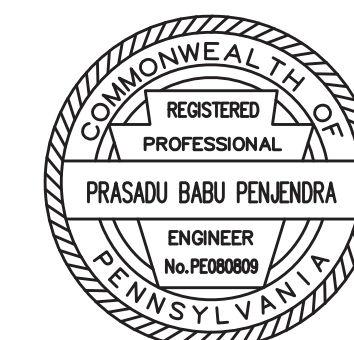
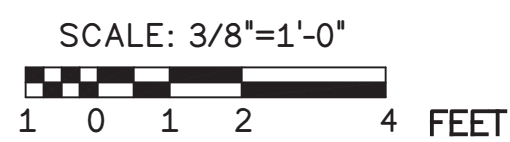
SHEET 14 OF 61

S-41964

- SHEET NOTES:
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR ABUTMENT 1 PLAN, SEE SHEET 7.
 - FOR SECTION G-G, SEE SHEET 16.
 - FOR SECTION H-H, SEE SHEET 16.
 - FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 20.
 - FOR APPROACH SLAB DETAILS, SEE SHEETS 44 TO 48.



WING A ELEVATION



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

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DEPARTMENT OF TRANSPORTATION

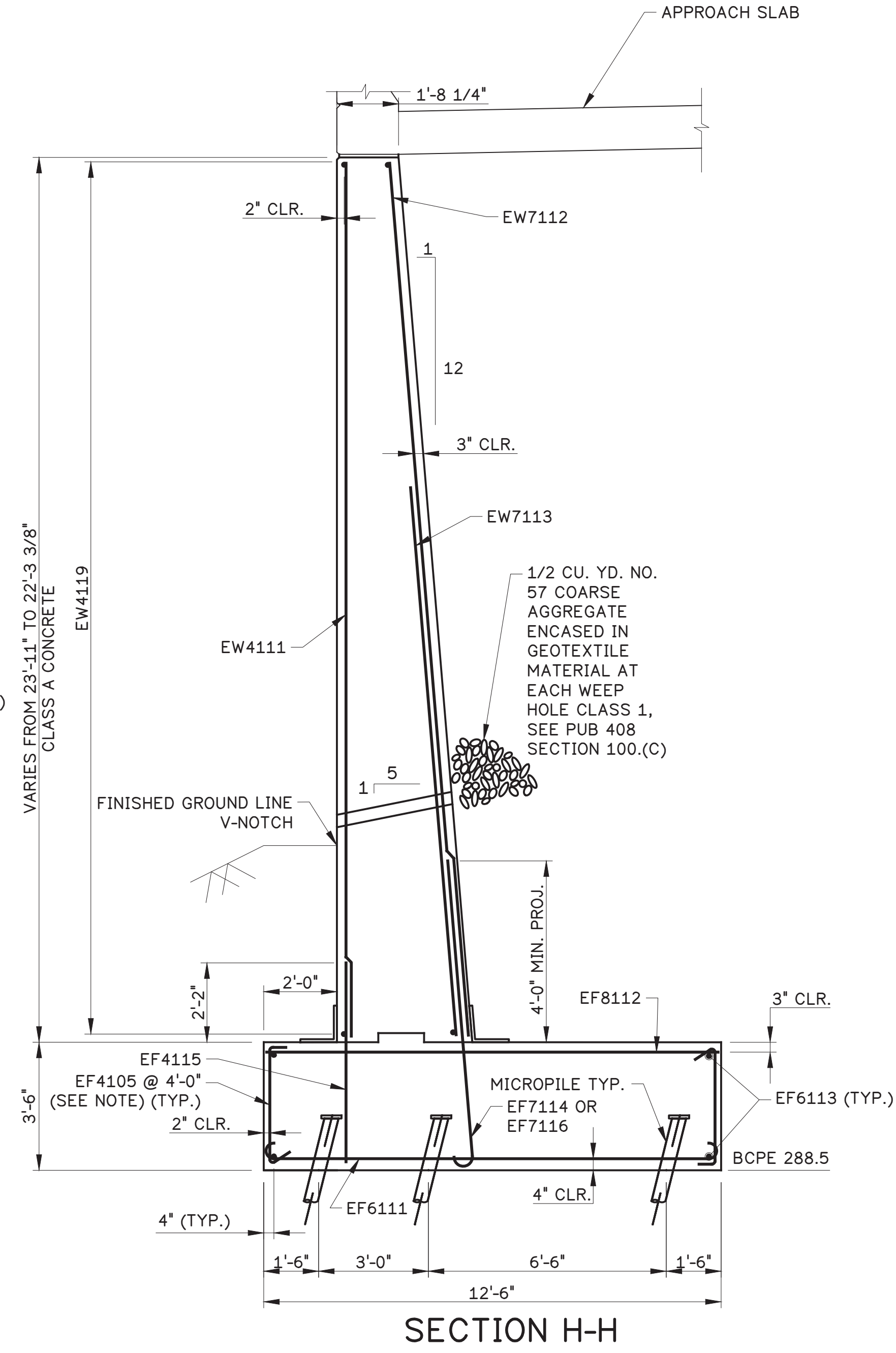
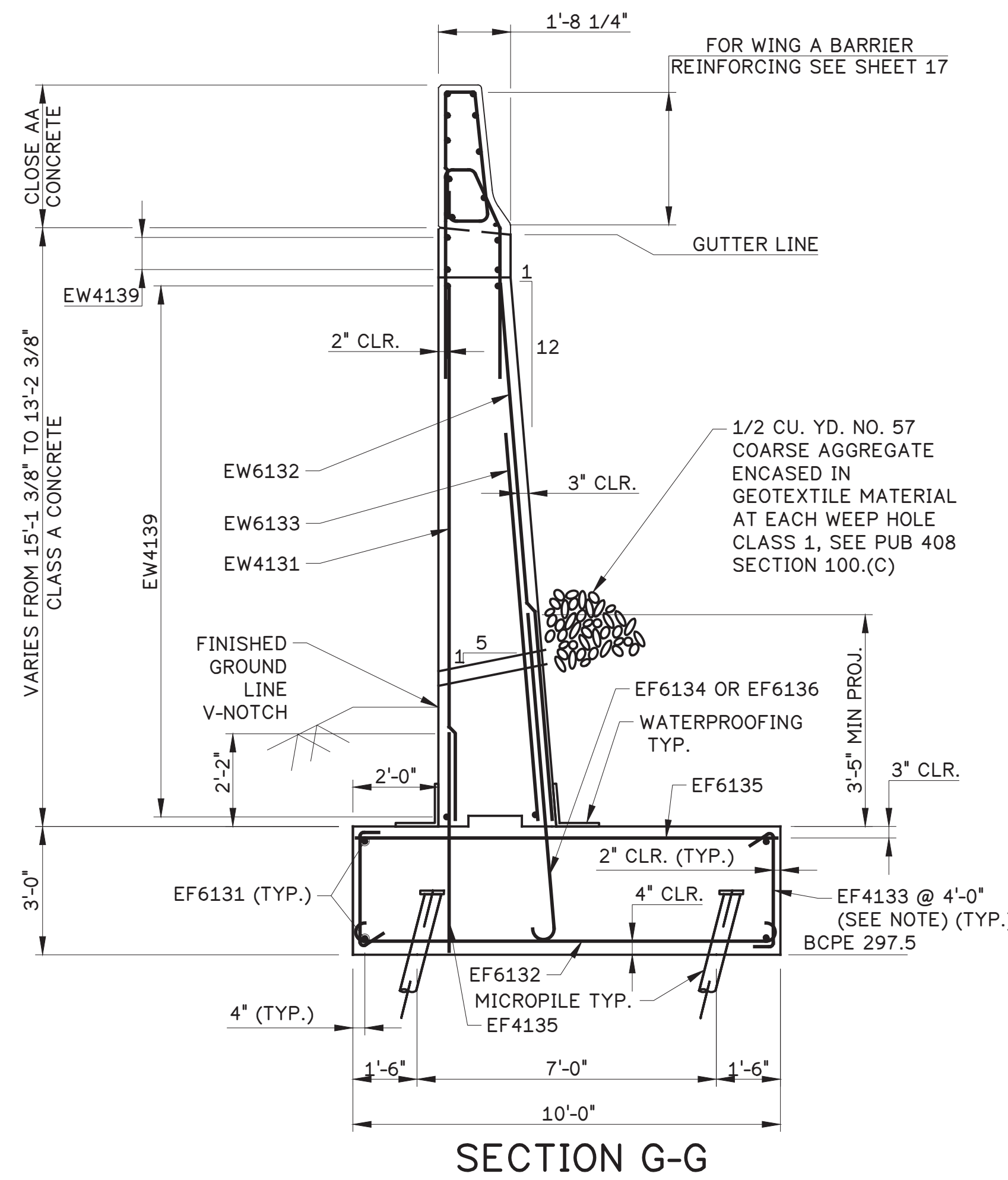
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

WING A ELEVATION

RECOMMENDED 05 / 04 / 2026

SHEET 15 OF 61

S-41964



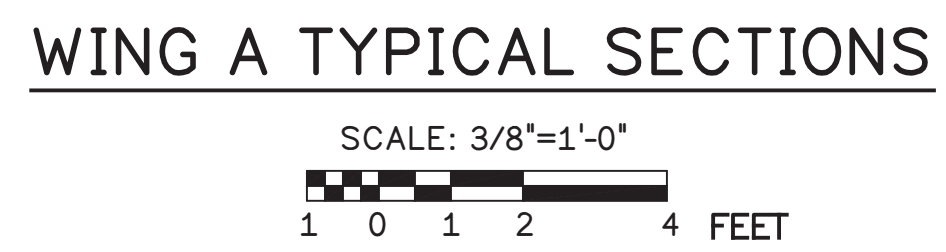
- SHEET NOTES:
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR REINFORCEMENT BAR SCHEDULE, SEE SHEET 20.
 - FOR WING A ELEVATION, SEE SHEET 15.
 - FOR APPROACH SLAB DETAILS, SEE SHEETS 44 TO 48.

REINFORCING NOTE:

- TIE TOP AND BOTTOM LAYERS OF REINFORCING STEEL WITH EF4133 OR EF4105 TIE BARS AT A MAXIMUM SPACING OF 4'-0" IN BOTH DIRECTIONS. PROVIDE TIE BARS WITH 90° HOOK AT ONE END AND 135° HOOK AT THE OTHER END. ALTERNATE 90° AND 135° HOOKS AT TOP IN ALTERNATE TIES.

WATERPROOFING NOTE:

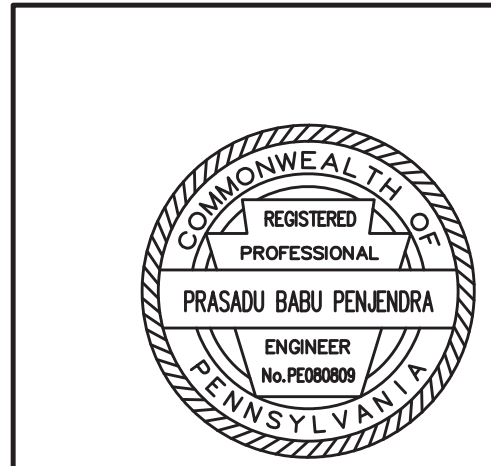
- INSTALL 2'-0" WIDE WATERPROOFING MEMBRANE TO FIT STEM AND TOP OF FOOTING AS SHOWN. USE AN ADHESIVE BACKED, PREFORMED WATERPROOFING MEMBRANE SYSTEM PER PUB. 408, SECTION 680.2 (B). MEMBRANE TO BE RUN CONTINUOUS FROM WINGWALL STEM TO ABUTMENT STEM.



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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

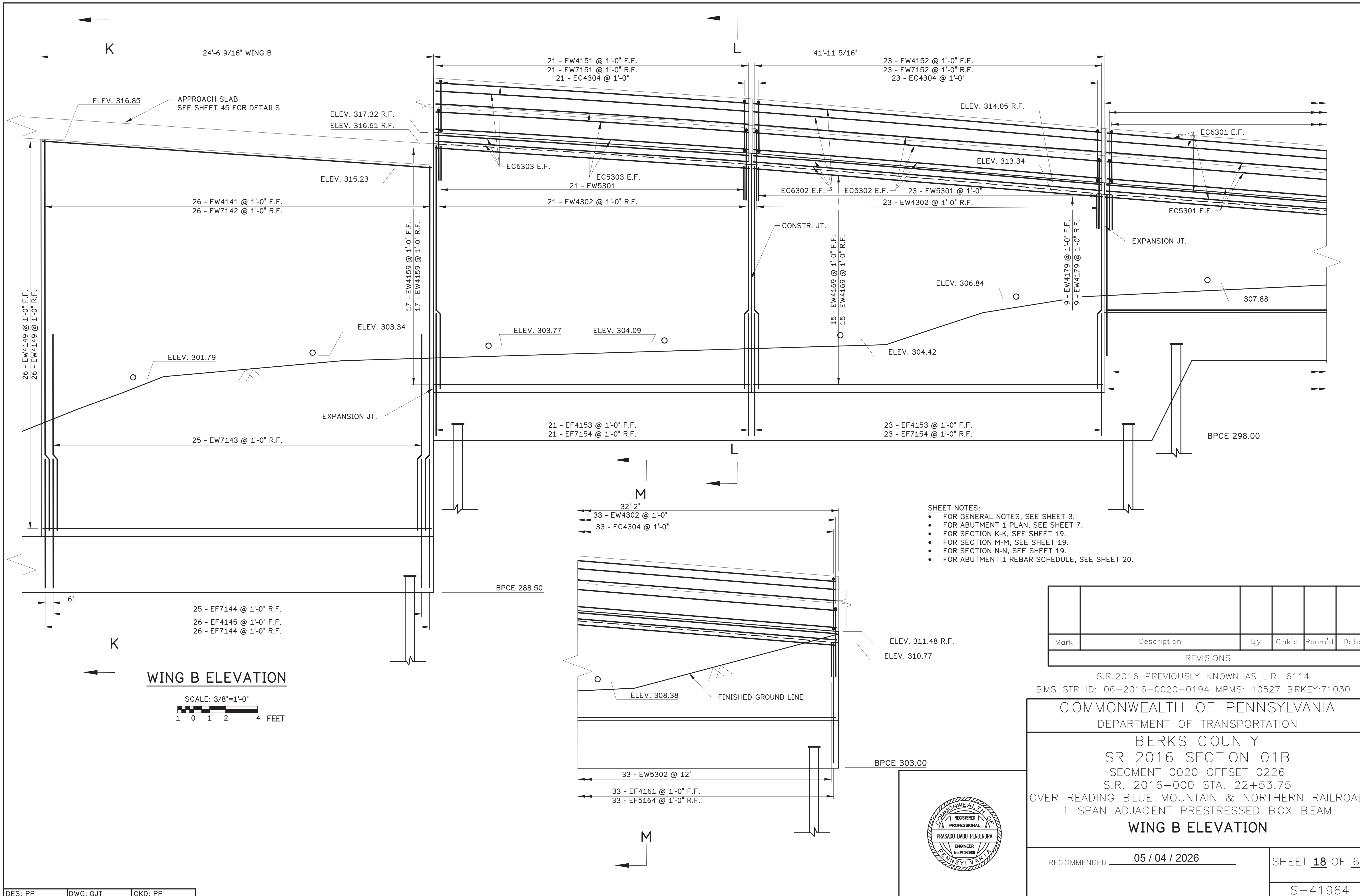
COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION
 BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
WING A TYPICAL SECTIONS



RECOMMENDED 05 / 04 / 2026

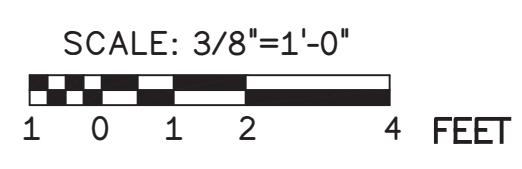
SHEET 16 OF 61
 S-41964

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- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR ABUTMENT 1 PLAN, SEE SHEET 7.
 - FOR SECTION K-K, SEE SHEET 19.
 - FOR SECTION M-M, SEE SHEET 19.
 - FOR SECTION N-N, SEE SHEET 19.
 - FOR ABUTMENT 1 REBAR SCHEDULE, SEE SHEET 20.

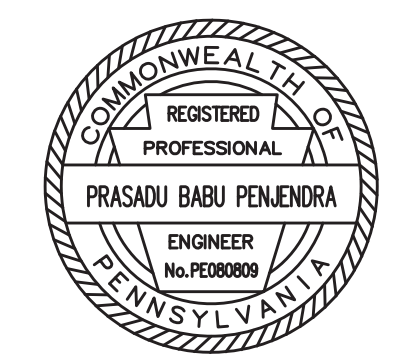
WING B ELEVATION



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

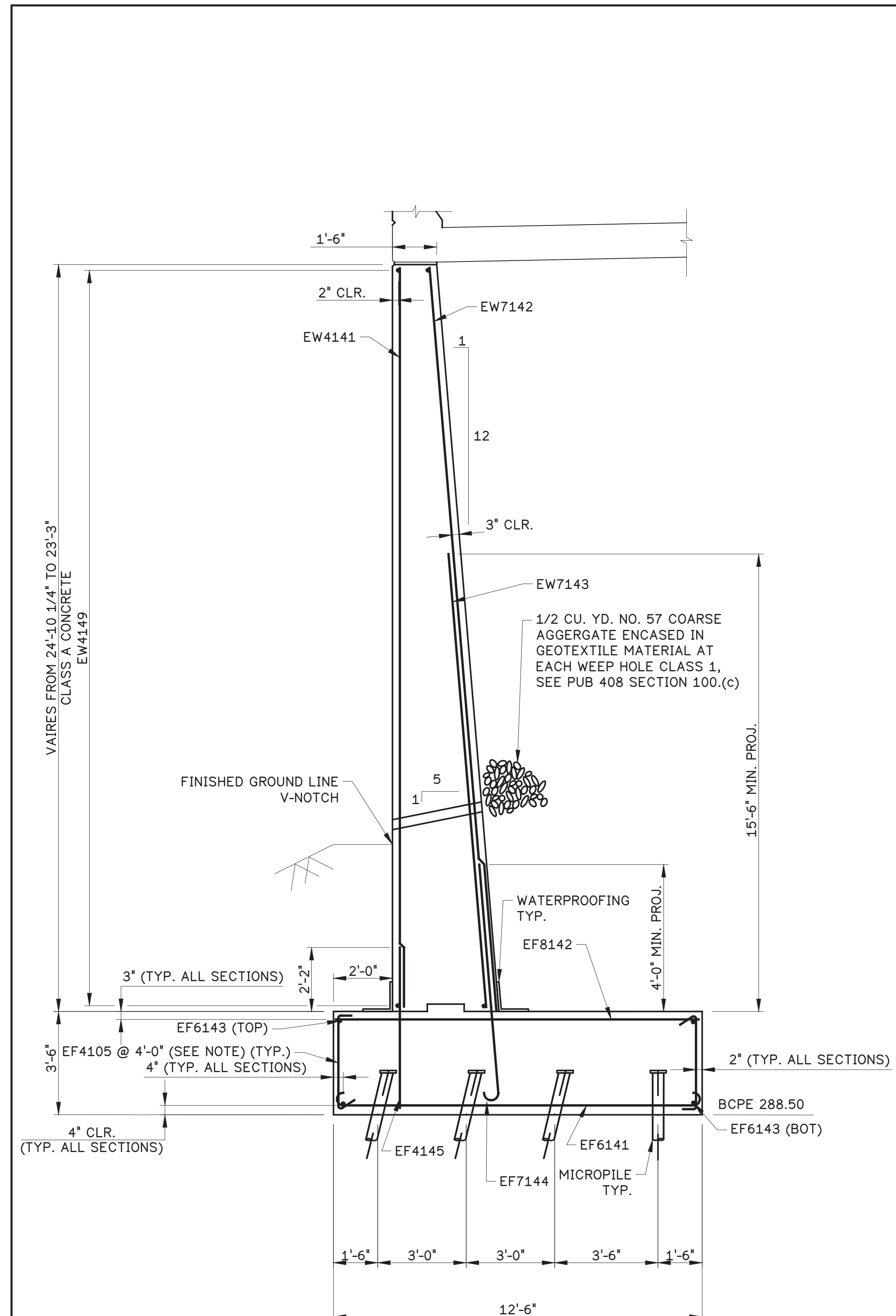
S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
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 1 SPAN ADJACENT PRESTRESSED BOX BEAM
WING B ELEVATION

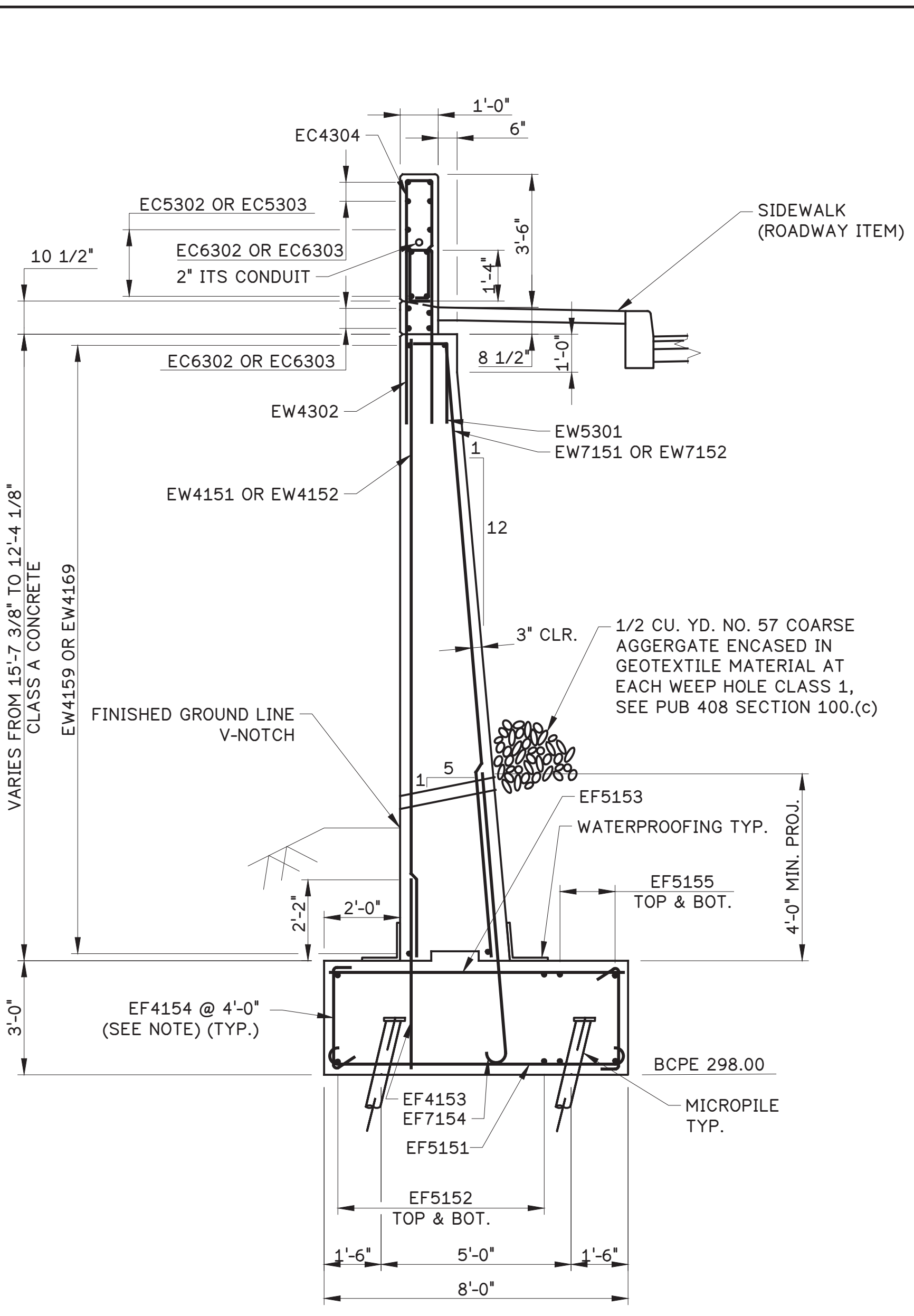


RECOMMENDED	05 / 04 / 2026	SHEET 18 OF 61
		S-41964

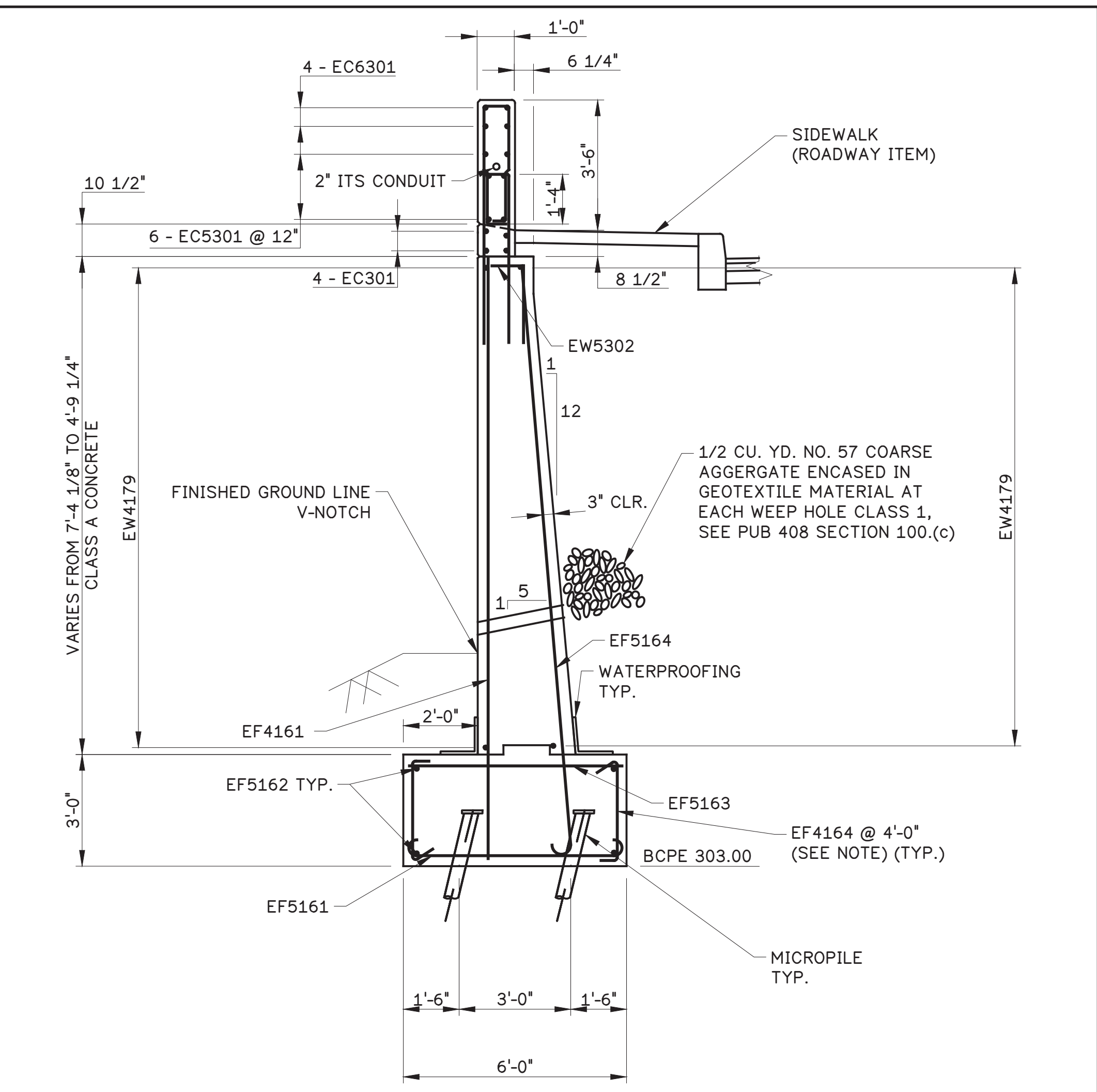
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SECTION K-K

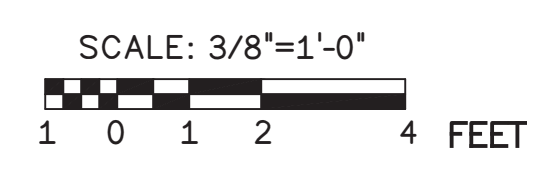


SECTION L-L



SECTION M-M

WING B TYPICAL SECTIONS



REINFORCING NOTE:

- TIE TOP AND BOTTOM LAYERS OF REINFORCING STEEL WITH EF4105, EF4154, OR EF4164 TIE BARS AT A MAXIMUM SPACING OF 4'-0" IN BOTH DIRECTIONS. PROVIDE TIE BARS WITH 90° HOOK AT ONE END AND 135° HOOK AT THE OTHER END. ALTERNATE 90° AND 135° HOOKS AT TOP IN ALTERNATE TIES.

WATERPROOFING NOTE:

- INSTALL 2'-0" WIDE WATERPROOFING MEMBRANE TO FIT STEM AND TOP OF FOOTING AS SHOWN. USE AN ADHESIVE BACKED, PREFORMED WATERPROOFING MEMBRANE SYSTEM PER PUB. 408, SECTION 680.2 (B). MEMBRANE TO BE RUN CONTINUOUS FROM WINGWALL STEM TO ABUTMENT STEM.

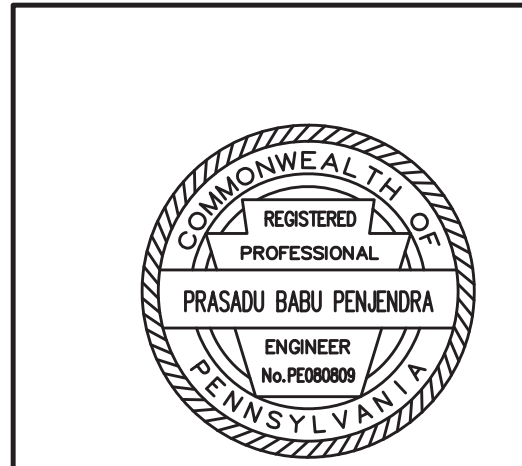
SHEET NOTES:

- FOR GENERAL NOTES, SEE SHEET 3.
- FOR WING B ELEVATION, SEE SHEET 18.
- FOR ABUTMENT 1 REBAR SCHEDULE, SEE SHEET 20.

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION
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 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
WING B TYPICAL SECTIONS



RECOMMENDED 05 / 04 / 2026 SHEET 19 OF 61

S-41964

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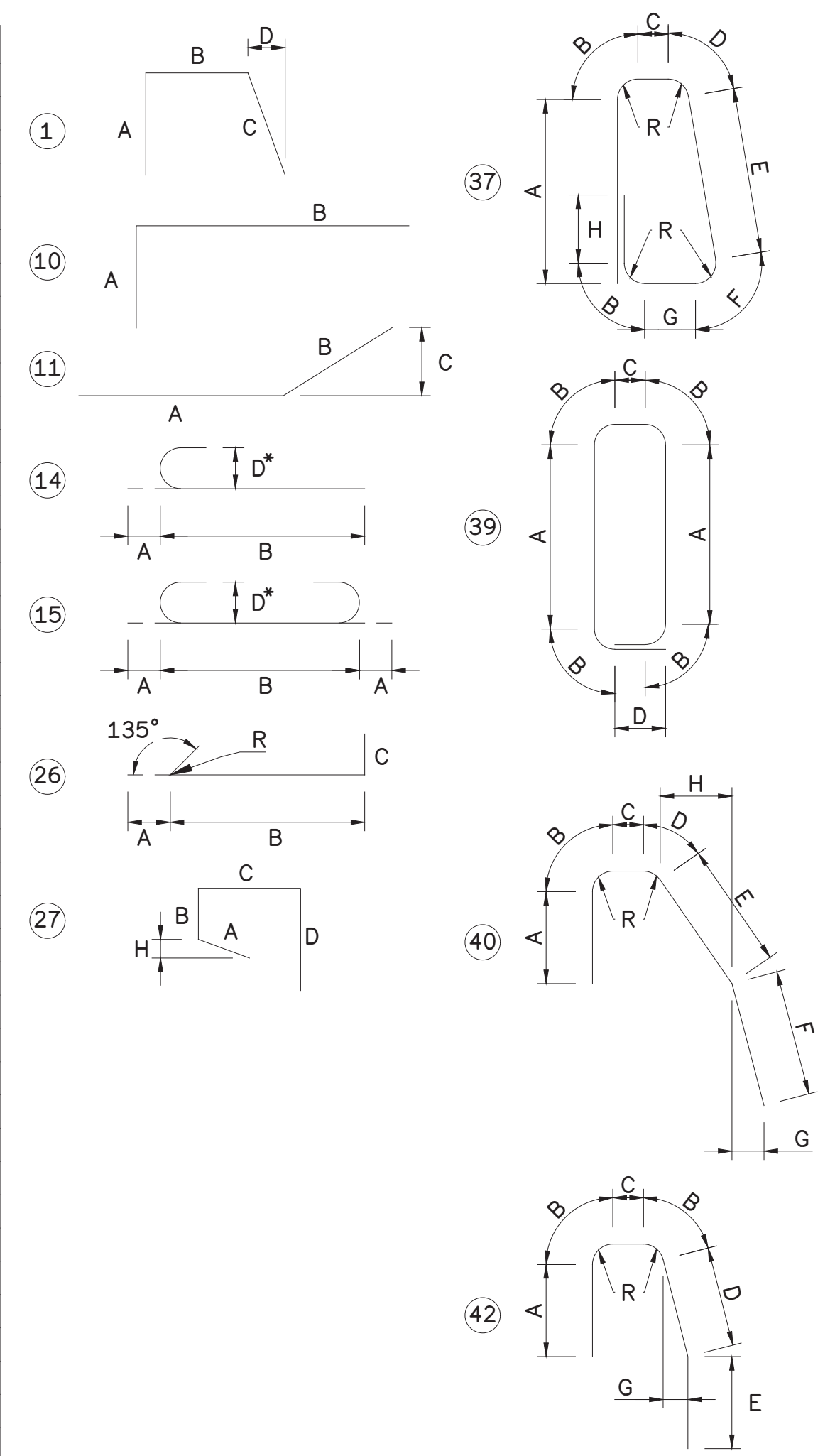
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ABUTMENT 1 - REINFORCEMENT BAR SCHEDULE											
MARK	SIZE	QTY	LENGTH	TYPE	A	B	C	D	E	R	REMARKS
FOOTING											
EF4102	4	50	5'-4"	STR							
EF4105	4	259	3'-7"	26	3 1/2"	2'-11"	3 1/2"			1"	
EF4115	4	23	5'-4"	STR							
EF4133	4	28	3'-0"	26	3 1/2"	2'-5"	3 1/2"			1"	
EF4135	4	25	4'-10"	STR							
EF4145	4	26	5'-4"	STR							
EF4153	4	44	4'-10"	STR							
EF4154	4	36	3'-0"	26	3 1/2"	2'-5"	3 1/2"			1"	
EF4161	4	33	VARIES	STR							VARIES BY 1" FROM 9'-10" TO 7'-2"
EF4164	4	30	3'-0"	26	3 1/2"	2'-5"	3 1/2"			1"	
EF5101	5	55	6'-1"	STR							
EF5151	5	43	8'-10"	15	7"	7'-8"		5"			
EF5152	5	15	44'-6"	STR							
EF5153	5	43	7'-8"	STR							
EF5155	5	6	41'-6"	STR							
EF5156	5	7	11'-8"	11	3'-4"	8'-4"	3'-9"				
EF5157	5	7	10'-10"	10	3'-4"	7'-6"					
EF5161	5	42	6'-10"	15	7"	5'-8"		5"			
EF5162	5	14	31'-8"	STR							
EF5163	5	39	5'-8"	STR							
EF5164	5	33	10'-5"	14	7"	9'-10"		5"			
EF6102	6	49	32'-9"	STR							
EF6111	6	31	13'-6"	15	8"	12'-2"		6"			
EF6113	6	28	30'-9"	STR							
EF6131	6	23	23'-6"	STR							
EF6132	6	25	11'-0"	15	8"	9'-8"		6"			
EF6135	6	25	9'-8"	STR							
EF6141	6	34	13'-6"	15	8"	12'-2"		6"			
EF6143	6	24	VARIES	STR							VARIES BY 3-3/4" FROM 31'-9" TO 35'-7"
EF6146	6	2	35'-8"	11	24'-4"	11'-4"	1'-1"				
EF6147	6	2	32'-2"	STR							
EF6136	6	49	7'-1"	14	8"	6'-5"		6"			
EF7102	7	112	14'-2"	STR							
EF7116	7	25	7'-10"	14	10"	7'-0"		7"			
EF7144	7	51	7'-10"	14	10"	7'-0"		7"			
EF7145	7	21	6'-2"	STR							
EF7154	7	44	8'-1"	14	10"	7'-0"		7"			
EF8101	8	58	16'-0"	15	11"	14'-2"		8"			
EF8112	8	32	12'-2"	STR							
EF8142	8	30	12'-2"	STR							
EF9101	9	98	10'-1"	14	1'-6"	8'-7"		1'-0"			
ABUTMENT STEM											
EW3173	3	2	11'-6"	STR							
EW3176	3	2	15'-4"	STR							
EW3178	3	15	21'-10"	STR							
EW3179	3	15	20'-9"	STR							
EW3182	3	31	23'-4"	STR							
EW3183	3	2	17'-6"	STR							
EW3186	3	4	21'-11"	STR							
EW3187	3	2	14'-6"	STR							
EW3189	3	4	22'-9"	STR							
EW4104	4	50	23'-4"	STR							
EW4108	4	52	29'-5"	STR							
EW4109	4	54	32'-8"	STR							
EW4183	4	2	11'-6"	STR							
EW4343	4	32	3'-6"	STR							
EW5179	5	4	33'-1"	STR							
EW5180	5	14	21'-11"	STR							
EW5181	5	12	22'-10"	STR							
EW5182	5	12	22'-9"	STR							
EW5183	5	15	23'-8"	STR							
EW5184	5	4	29'-9"	STR							
EW5185	5	50	7'-7"	1	3'-3 1/4"	1'-0"	3'-3 3/8"	3 1/4"			
EW5188	5	23	4'-0"	STR							
EW6171	6	26	5'-4"	STR							
EW6190	6	98	7'-2"	27	3'-3"	1'-1"	3'-3"	3"			
EW9103	9	50	23'-4"	STR							
EW9105	9	48	15'-0"	STR							
SSW10101	10	13	3'-2"	STR							10 = 1 1/4" DIA. DOWEL BAR

ABUTMENT 1 - REINFORCEMENT SCHEDULE											
MARK	SIZE	QTY	LENGTH	TYPE	A	B	C	D	E	R	REMARKS
WINGWALL A											
EW4119	4	50	21'-6"	STR							
EW4131	4	25	VARIES	STR							VARIES BY 3/4" FROM 12'-0 1/2" TO 13'-6 1/2"
EW4139	4	34	23'-8"	STR							
EW4302	4	74	11'-3"	42	4'-8 1/2"	4"	3"	4'-8 1/2"	0"	2"	H=0"
EW4333	4	14	10'-4" TO 10'-6"	40	4'-8 1/2"	4"	2 3/8"	VARIES	1'-4 3/8"	2"	D VARIES 2 1/2" TO 4"; F=3'-6"; G=0
EW4334	4	5	12'-5"	42	5'-11"	2 3/8"	4 3/8"	5'-11"	0"	1"	H VARIES 1/4" TO 8 5/8"
EW4335	4	3	7'-6"	42	5'-11"	2 3/8"	4 3/8"	1'-0 1/2"	0"	1"	H=0"
EW4336	4	3	6'-0"	STR							H=0"
EW4337	4	1	12'-0"	42	5'-10 1/2"	2 3/4"	0"	5'-10 1/2"	0"	1 1/2"	H=0"
EW4338	4	16	3'-6"	STR							
EW4339	4	16	3'-6"	STR							
EW5131	5	9	2'-8"	11	1'-4"	1'-4"	1 3/8"				
EW6132	6	25	VARIES	STR							VARIES BY 3/4" FROM 12'-0 1/2" TO 13'-6 1/2"
EW6133	6	23	9'-2"	STR							
EW7112	8	23	VARIES	STR							VARIES BY 7/8" FROM 22'-0" TO 23'-7 1/4"
EW7113	7	22	15'-0"	STR							
EW4111	4	23	VARIES	STR							VARIES BY 7/8" FROM 22'-0" TO 23'-7 1/4"
EW4141	4	26	VARIES	STR							VARIES BY 3/4" FROM 23'-0 1/2" TO 24'-7 1/4"
EW4149	4	52	24'-2"	STR							
EW4151	4	21	15'-4"	STR							
EW4152	4	23	13'-11"	STR							
EW4159	4	34	19'-5"	STR							
EW4169	4	30	21'-8"	STR							
EW4179	4	18	31'-8"	STR							
EW4340	4	16	3'-6"	STR							
EW4341	4	32	3'-6"	STR							
EW4342	4	16	3'-6"	STR							
EW5301	5	44	3'-2"	10	1'-1"	1'-2"					
EW5302	5	33	3'-2"	11	1'-1"	2'-1"					
EW7142	7	26	VARIES	STR							VARIES BY 3/4" FROM 23'-0 1/2" TO 24'-7 1/4"
EW7143	7	25	15'-0"	STR							
EW7151	7	21	15'-4"	STR							
EW7152	7	23	13'-11"	STR							
WING BARRIERS											
EC4304	4	77	8'-1"	39	3'-0"	4"	3"	4"			F = 4 1/8"; G = 6 3/4"; H = 5"
EC4305	4	27	8'-1"	37	2'-9"	4"	3 3/8"	3 5/8"	VARIES	2"	A VARIES 2'-9 1/2" TO 1'-11 1/2"
EC4331	4	14	6'-1" TO 8'-0"	37	VARIES	4"	3 7/8"	3 5/8"	VARIES	2"	E VARIES 2'-7 3/4" TO 1'-9 3/4" G VARIES 6 1/8" TO 2 3/4" I VARIES 3 3/8" TO 0" F = 4 1/8"; H = 5"
EC4332	4	10	6'-10"	STR							
EC4333	4	2	6'-11"	11	5'-5 5/8"	1'-5"	4 1/4"				
EC5301	5	6	31'-8"	STR							
EC5302	5	6	21'-7"	STR							
EC5303	5	6	19'-4"	STR							
EC5312	5	6	12'-6"	STR							
EC5332	5	3	10'-7"	STR							
EC5333	5	3	10'-5"	11	3'-7"	6'-10"	7 1/4"				
EC6301	6	4	31'-8"	STR							
EC6302	6	8	21'-7"	STR							
EC6303	6	8	19'-4"	STR							
EC6311	6	4	12'-6"	STR							
EC6332	6	4	11'-4"	11	4'-4"	7'-0"	10"				

- E PREFIX INDICATES EPOXY COATED.
- ALL DIMENSIONS ARE OUT TO OUT.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES DENOTE TYPE.
- Fy = 60 KSI
- DO NOT USE RAIL STEEL (A 616/A 616M) IN BRIDGE PIERS, ABUTMENTS, SHEAR BLOCKS, BEAMS, FOOTINGS, PILES AND WHERE BENDING OR WELDING OF THE REINFORCEMENT IS INDICATED.
- ** DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.

- SHEET NOTES:
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR ABUTMENT 1 PLAN, SEE SHEET 7.
 - FOR ABUTMENT 1 ELEVATION, SEE SHEET 8.
 - FOR ABUTMENT 1 FOOTING REBAR PLAN, SEE SHEET 10.
 - FOR WING A ELEVATION, SEE SHEET 15.
 - FOR WING B ELEVATION, SEE SHEET 18.



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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
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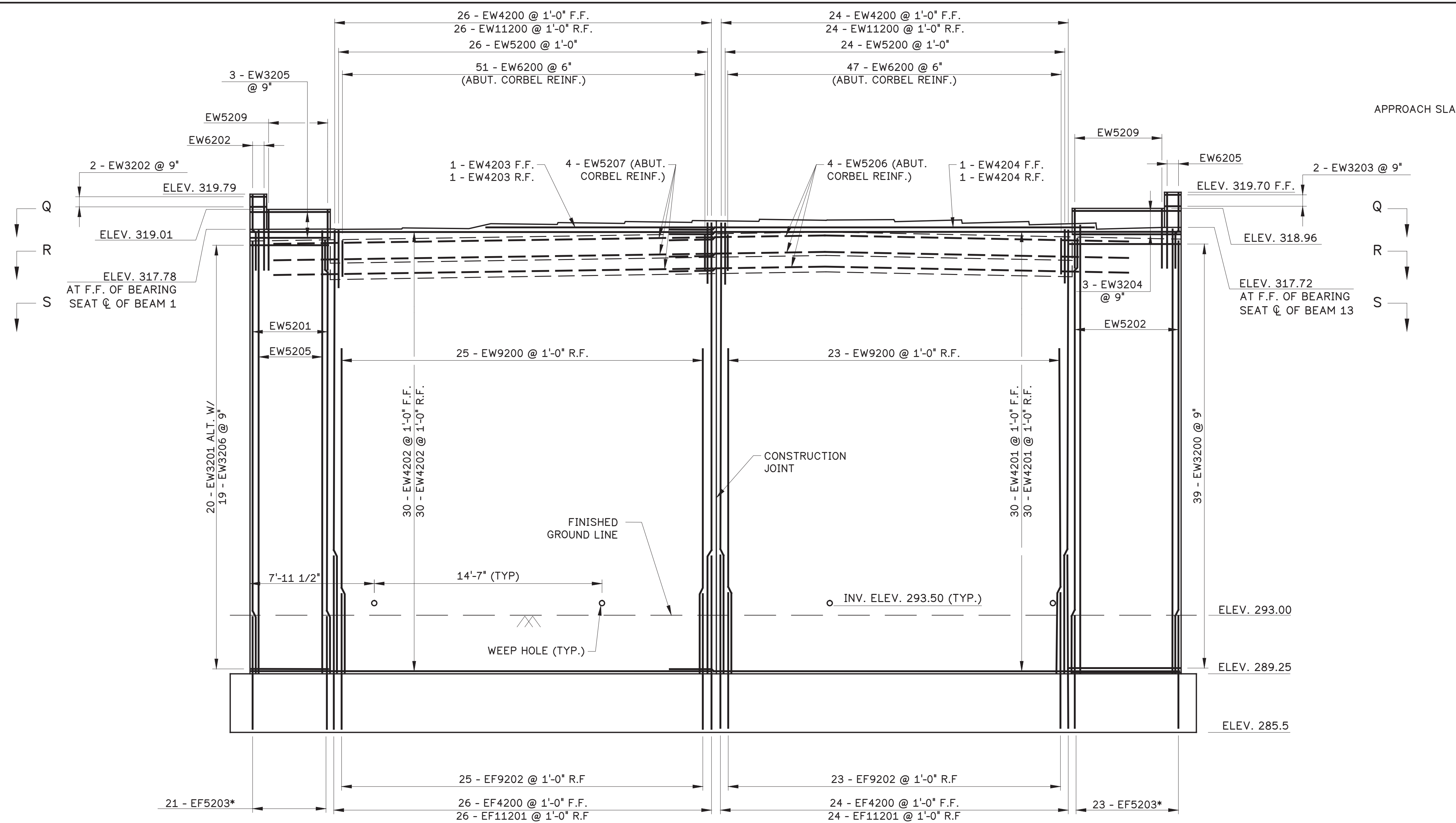
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
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OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

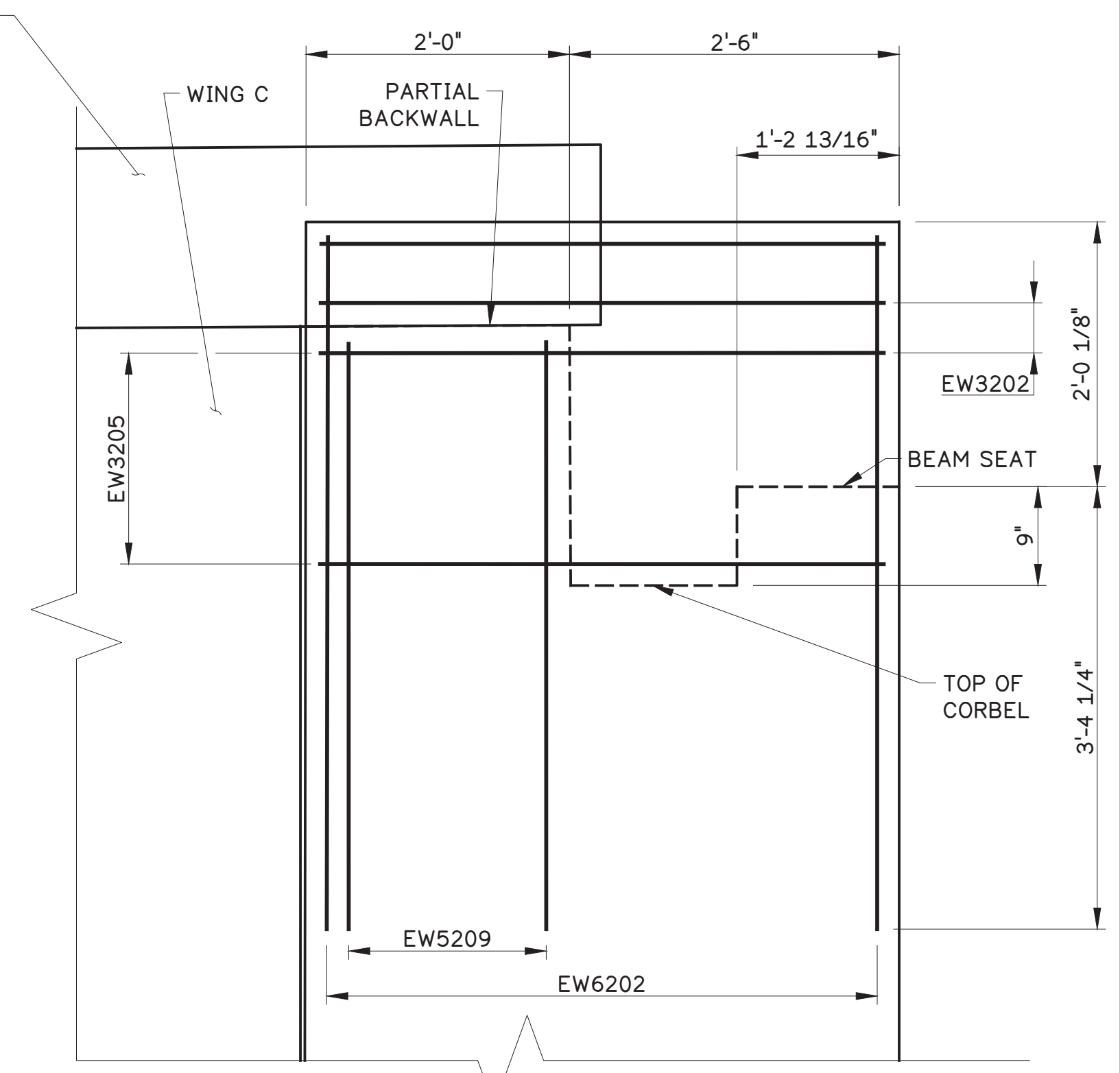
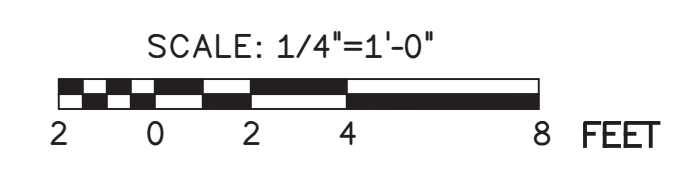
ABUTMENT 1 REINFORCEMENT BAR SCHEDULE

RECOMMENDED <u>05 / 04 / 2026</u>	SHEET <u>20</u> OF <
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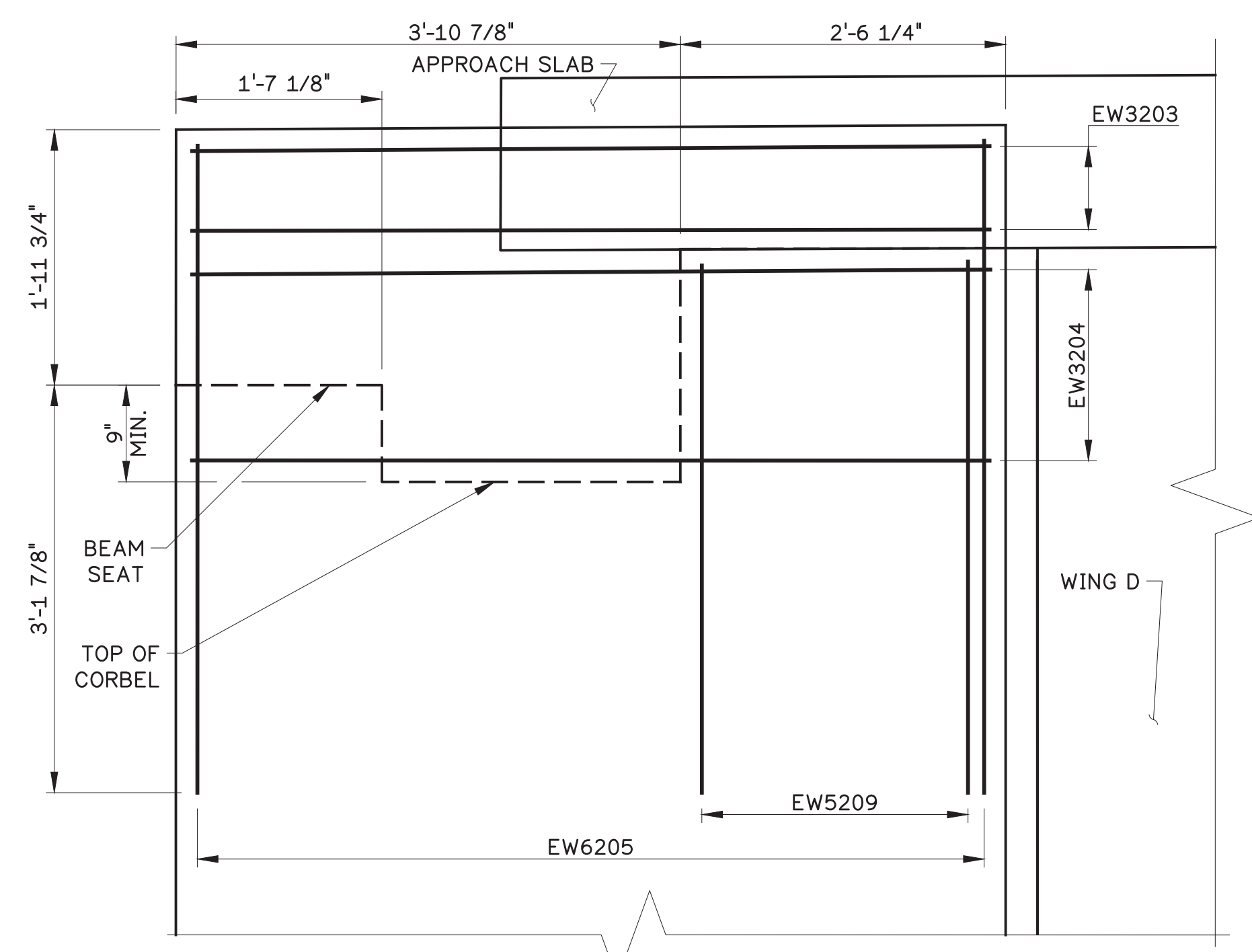
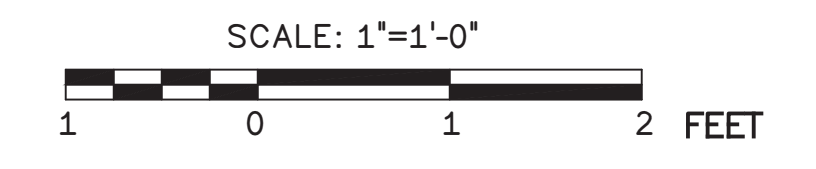
- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR STAKEOUT PLAN, SEE SHEET 6.
 - FOR ABUTMENT 2 PLAN, SEE SHEET 21.
 - FOR ABUTMENT 2 SECTIONS, SEE THIS SHEET AND SHEET 23.
 - FOR WING C ELEVATION, SEE SHEET 28.
 - FOR WING D ELEVATION, SEE SHEET 29.



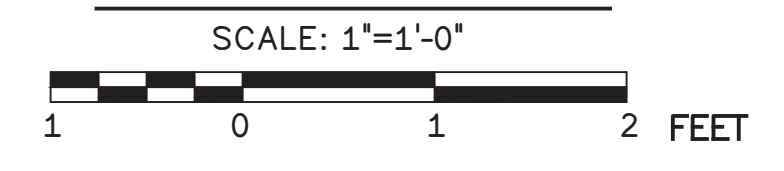
ABUTMENT 2 ELEVATION



CHEEKWALL WING C SECTION AG-AG



CHEEKWALL WING D SECTION AH-AH

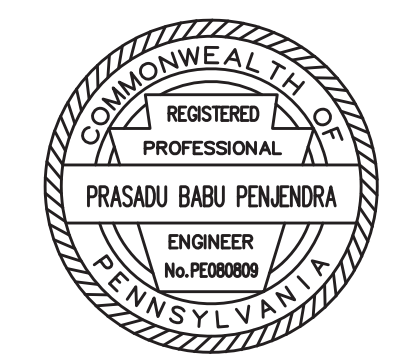


REINFORCING NOTE:
 * WHERE VERTICAL REINFORCEMENT ORIGINATING FROM PILE CAP INTERFERES WITH PILES, STAGGER ON EITHER SIDE OF PILE AND PROVIDE TOTAL NUMBER OF VERTICAL BARS CALLED OUT ON ELEVATION VIEW

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

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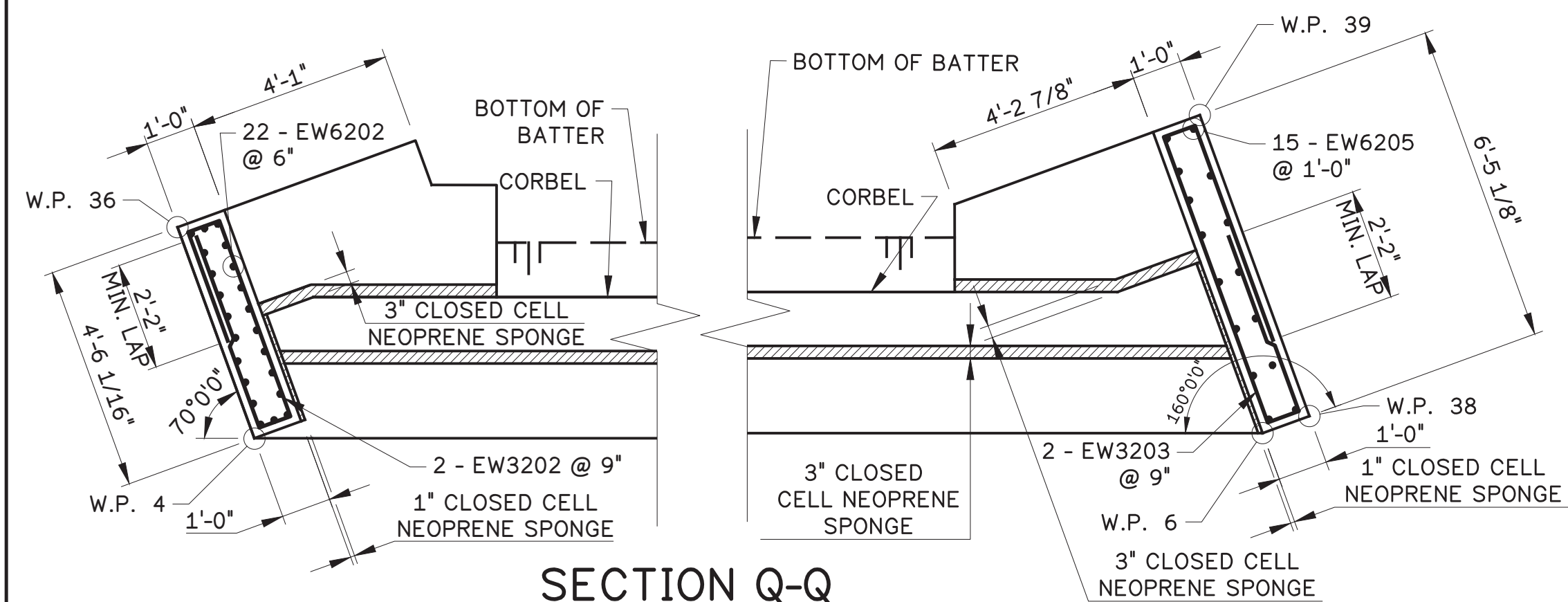
COMMONWEALTH OF PENNSYLVANIA
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ABUTMENT 2 ELEVATION



RECOMMENDED 05 / 04 / 2026 SHEET 22 OF 61

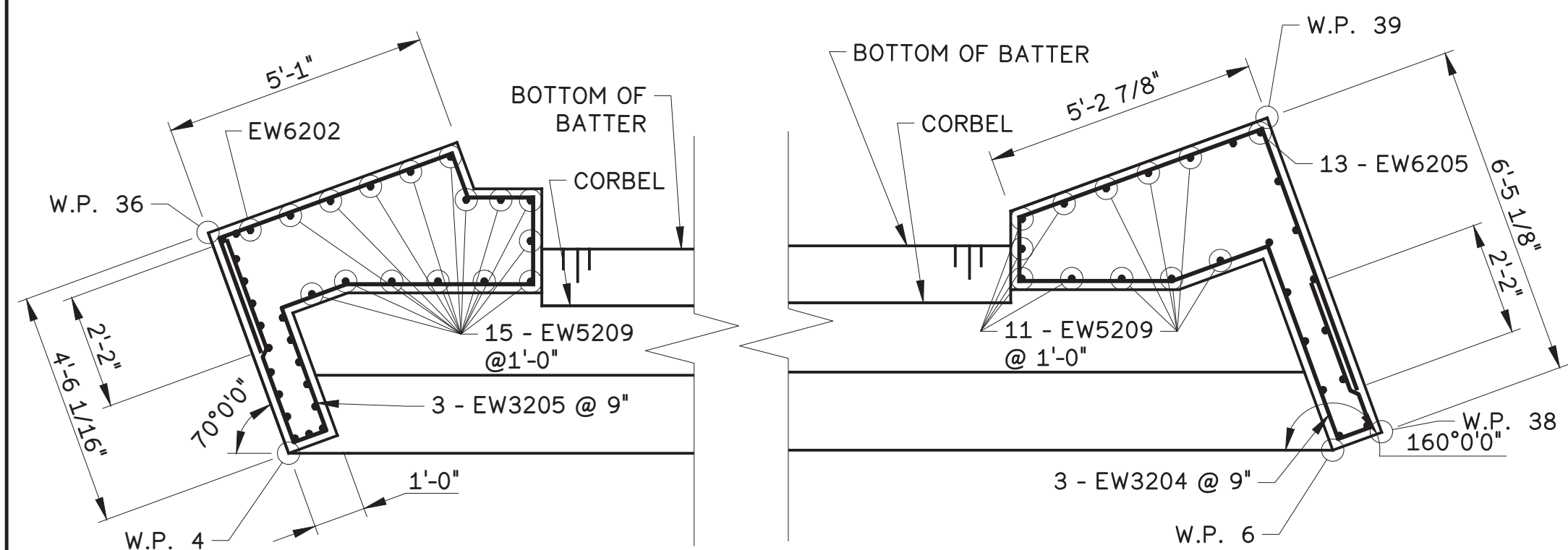
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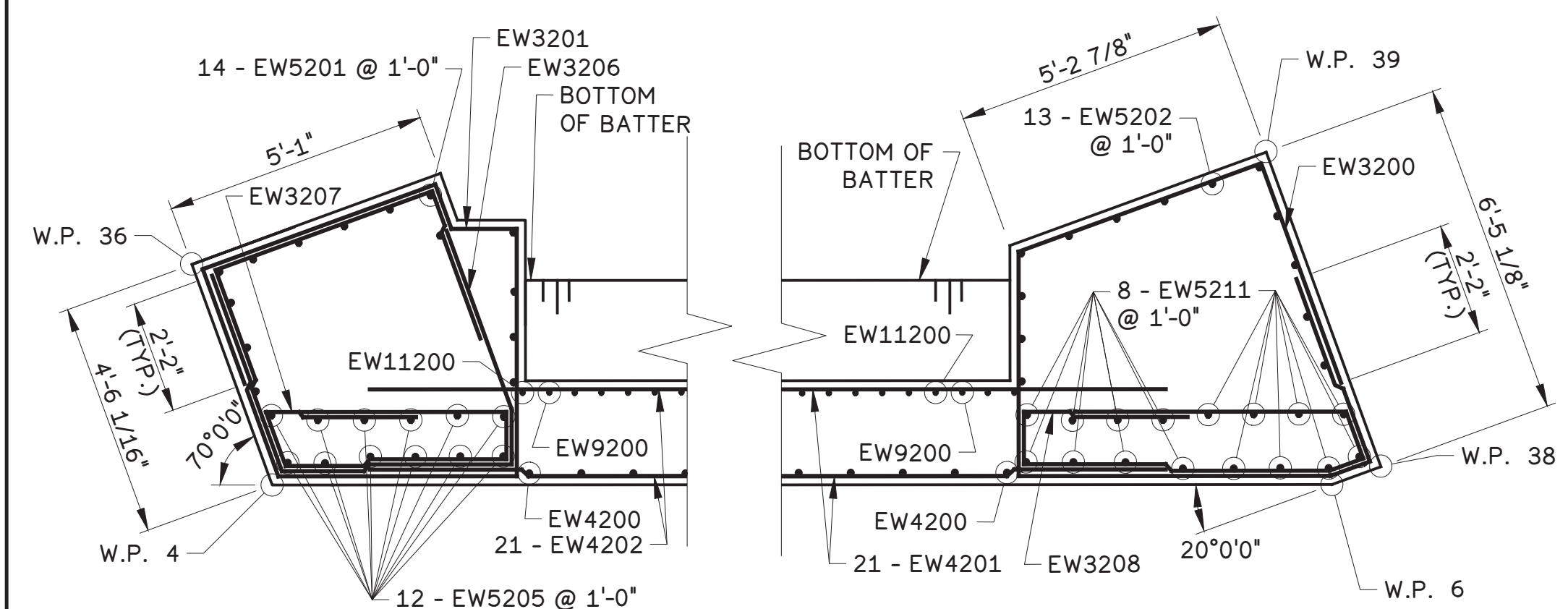
SECTION Q-Q

SCALE: 3/8"=1'-0"
1 0 1 2 4 FEET



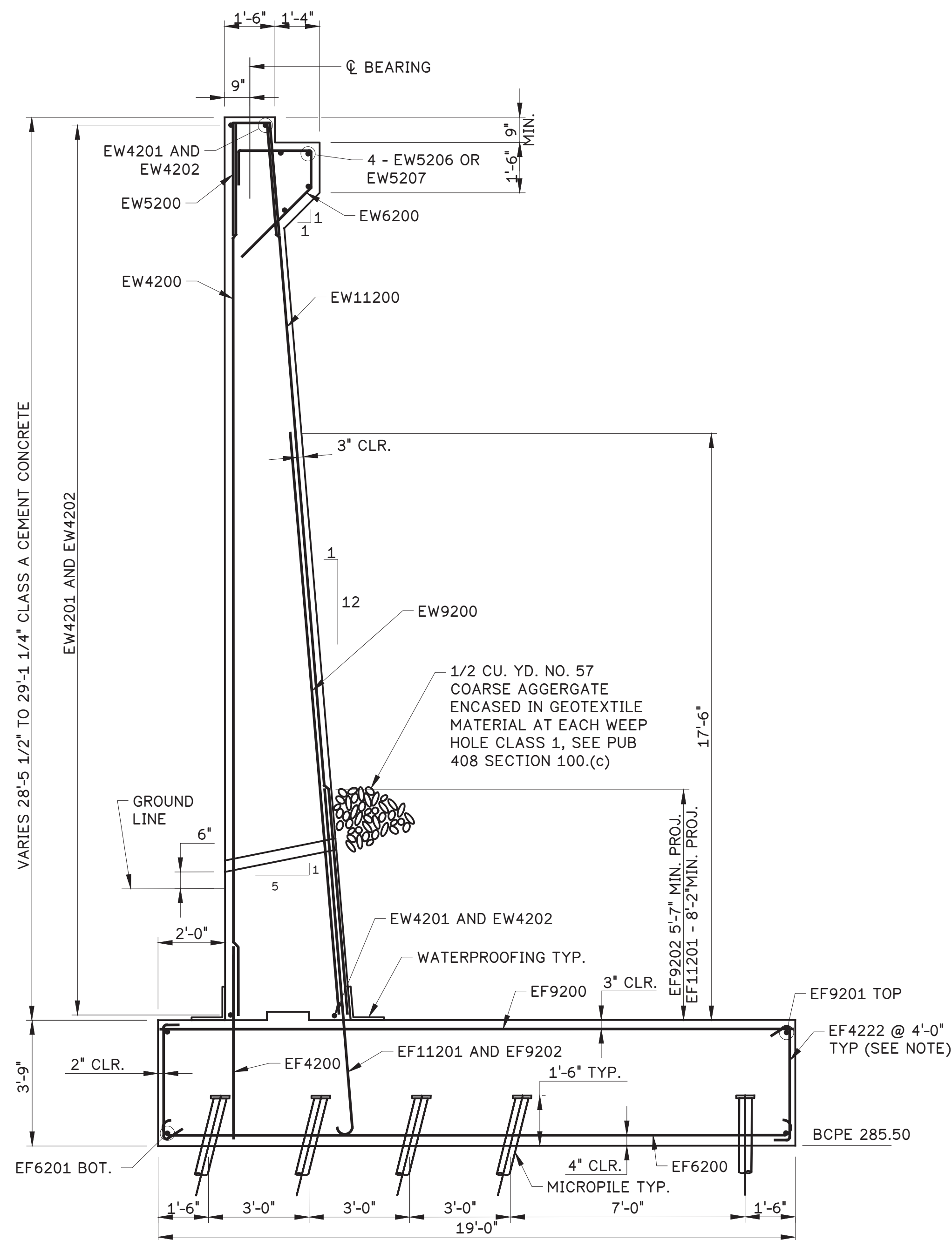
SECTION R-R

SCALE: 3/8"=1'-0"
1 0 1 2 4 FEET



SECTION S-S

SCALE: 3/8"=1'-0"
1 0 1 2 4 FEET



ABUTMENT 2 TYPICAL SECTION

SCALE: 3/8"=1'-0"
1 0 1 2 4 FEET

REINFORCING NOTE:

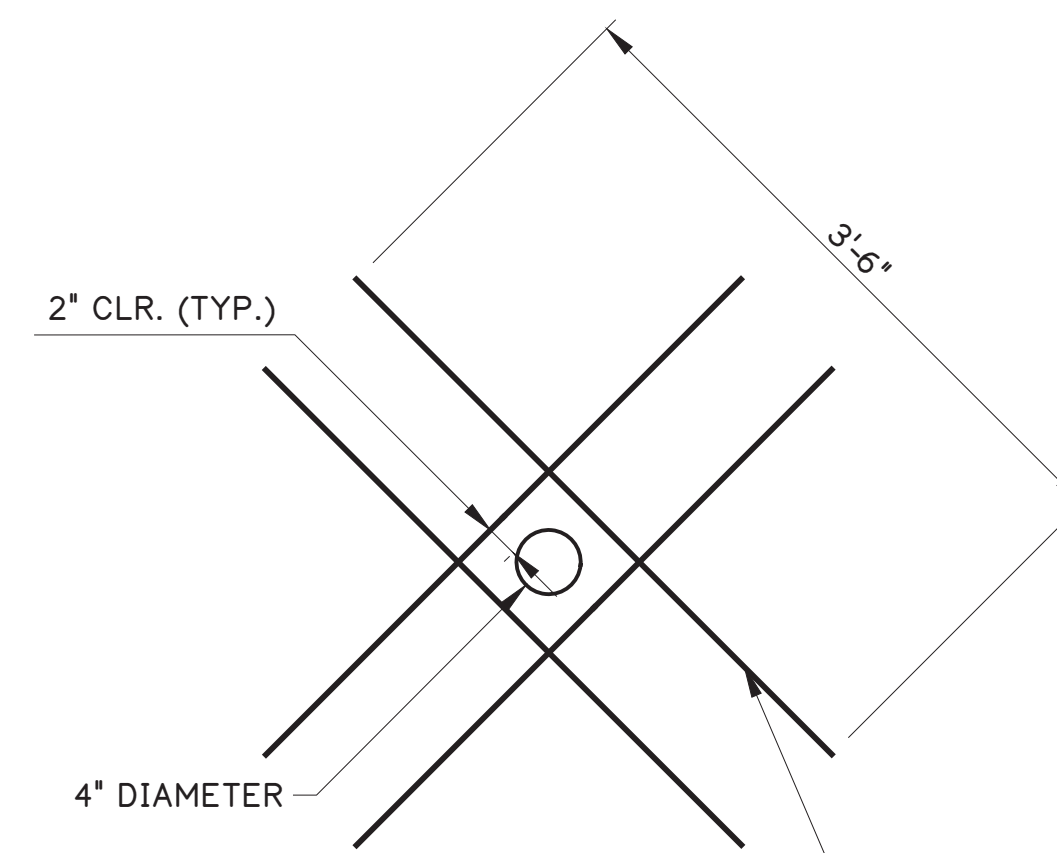
- TIE TOP AND BOTTOM LAYERS OF REINFORCING STEEL WITH EF4222 TIE BARS AT A MAXIMUM SPACING OF 4'-0" IN BOTH DIRECTIONS. PROVIDE TIE BARS WITH 90° HOOK AT ONE END AND 135° HOOK AT THE OTHER END. ALTERNATE 90° AND 135° HOOKS AT TOP IN ALTERNATE TIES.

WATERPROOFING NOTE:

- INSTALL 2'-0" WIDE WATERPROOFING MEMBRANE TO FIT STEM AND TOP OF FOOTING AS SHOWN. USE AN ADHESIVE BACKED, PREFORMED WATERPROOFING MEMBRANE SYSTEM PER PUB. 408, SECTION 680.2 (B). MEMBRANE TO BE RUN CONTINUOUS FROM WINGWALL STEM TO ABUTMENT STEM.

SHEET NOTES:

- FOR GENERAL NOTES, SEE SHEET 3.
- FOR STAKEOUT PLAN, SEE SHEET 6.
- FOR ABUTMENT 2 PLAN, SEE SHEET 21.
- FOR ABUTMENT 2 ELEVATION, SEE SHEET 22.
- FOR WING C ELEVATION AND TYPICAL SECTION, SEE SHEET 28.
- FOR WING D ELEVATION AND TYPICAL SECTION, SEE SHEET 30.



- 1-EW4254 EACH SIDE OF EACH PIPE, EACH FACE, WING D EXT (TYP.)
- 1-EW4255 EACH SIDE OF EACH PIPE, EACH FACE, WING D EXT-I (TYP.)
- 1-EW4256 EACH SIDE OF EACH PIPE, EACH FACE, WING D EXT-II (TYP.)
- 1-EW4257 EACH SIDE OF EACH PIPE, EACH FACE, WING D EXT-III (TYP.)
- 1-EW4205 EACH SIDE OF EACH PIPE, EACH FACE, ABUTMENT STEM (TYP.)
- 1-EW4222 EACH SIDE OF EACH PIPE, EACH FACE, WING C (TYP.)

WEEP HOLE REINFORCEMENT

SCALE: 1"=1'-0"
1 0 1 2 FEET

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

ABUTMENT 2 TYPICAL SECTIONS & DETAILS

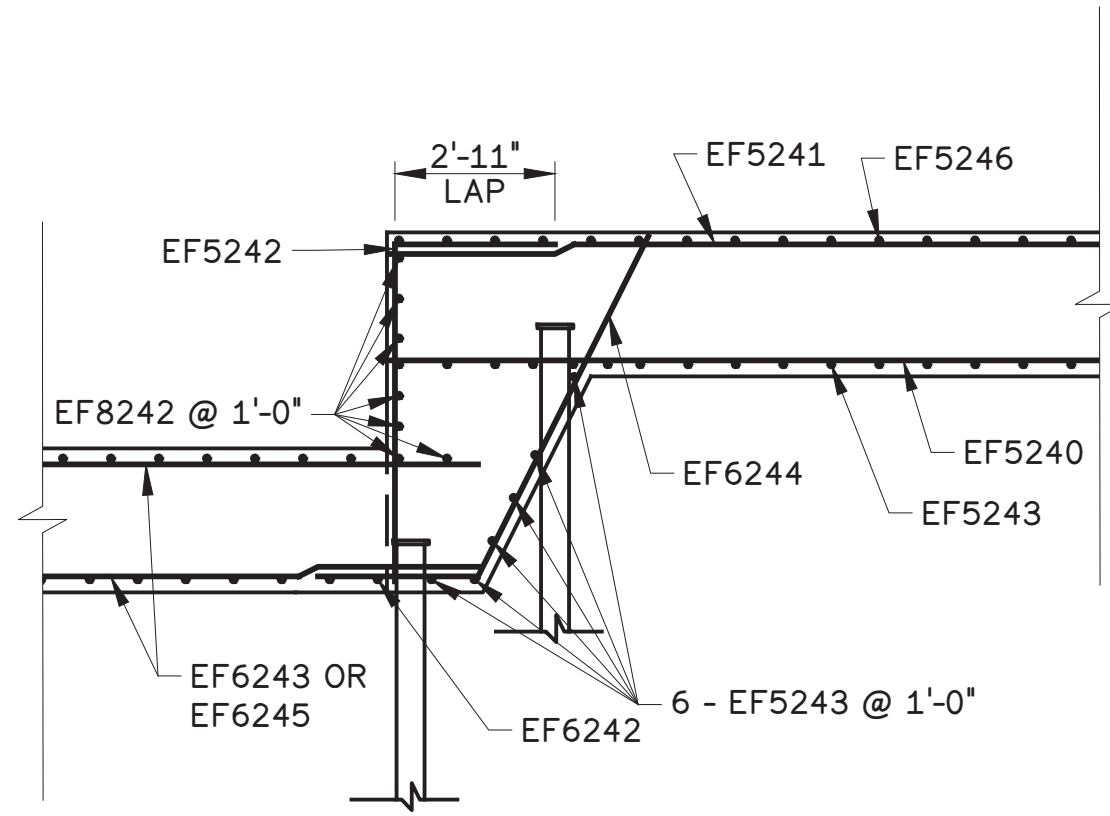
RECOMMENDED 05 / 04 / 2026

SHEET 23 OF 61

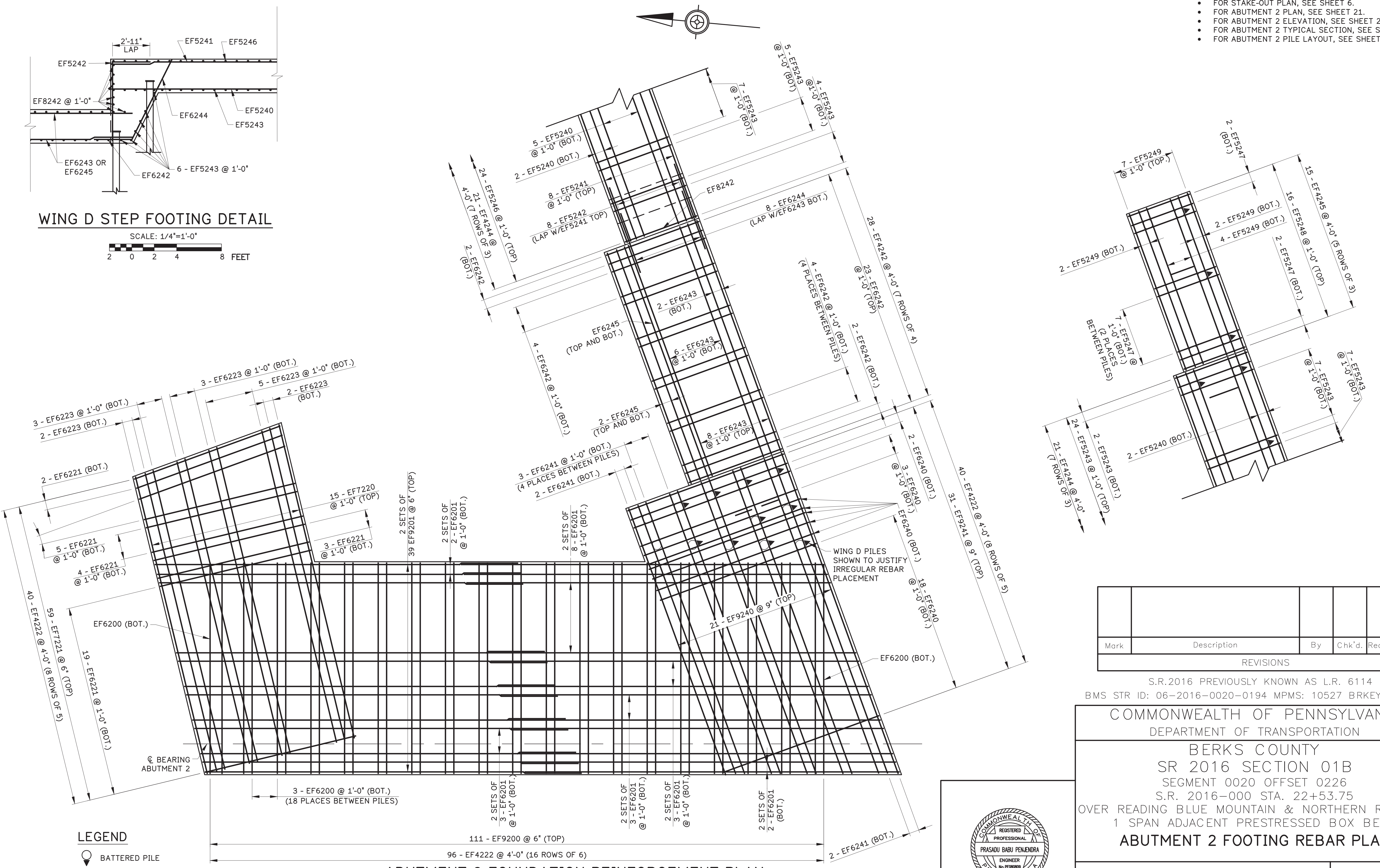
S-41964



- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR STAKE-OUT PLAN, SEE SHEET 6.
 - FOR ABUTMENT 2 PLAN, SEE SHEET 21.
 - FOR ABUTMENT 2 ELEVATION, SEE SHEET 22.
 - FOR ABUTMENT 2 TYPICAL SECTION, SEE SHEET 23.
 - FOR ABUTMENT 2 PILE LAYOUT, SEE SHEET 25.



WING D STEP FOOTING DETAIL
SCALE: 1/4"=1'-0"
2 0 2 4 8 FEET



- LEGEND**
- BATTERED PILE
 - STRAIGHT PILE

ABUTMENT 2 FOUNDATION REINFORCEMENT PLAN
SCALE: 1/4"=1'-0"
2 0 2 4 8 FEET

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

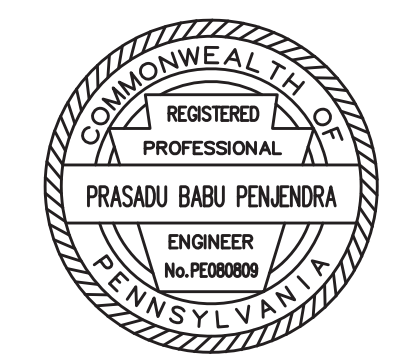
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 2 FOOTING REBAR PLAN

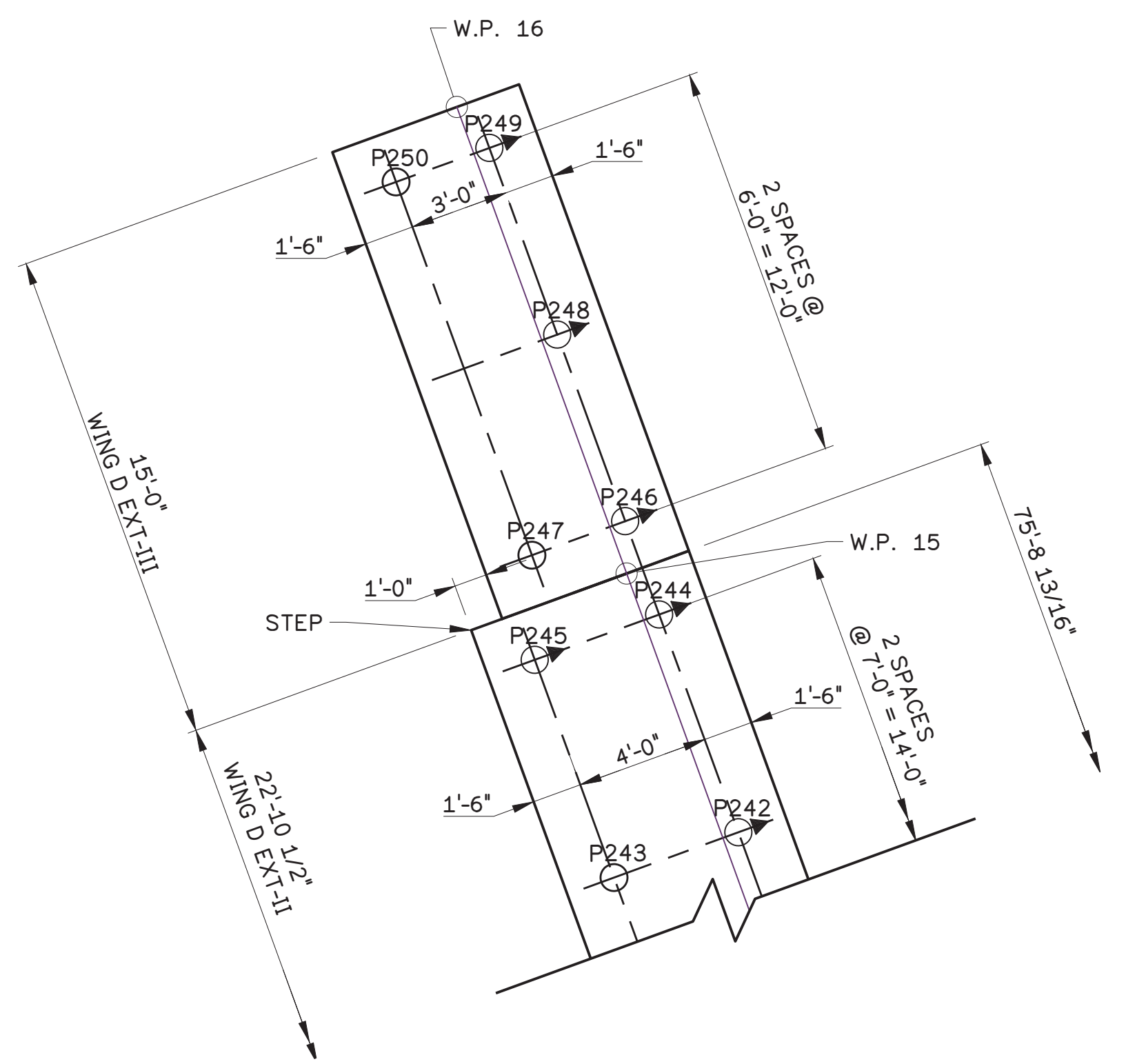
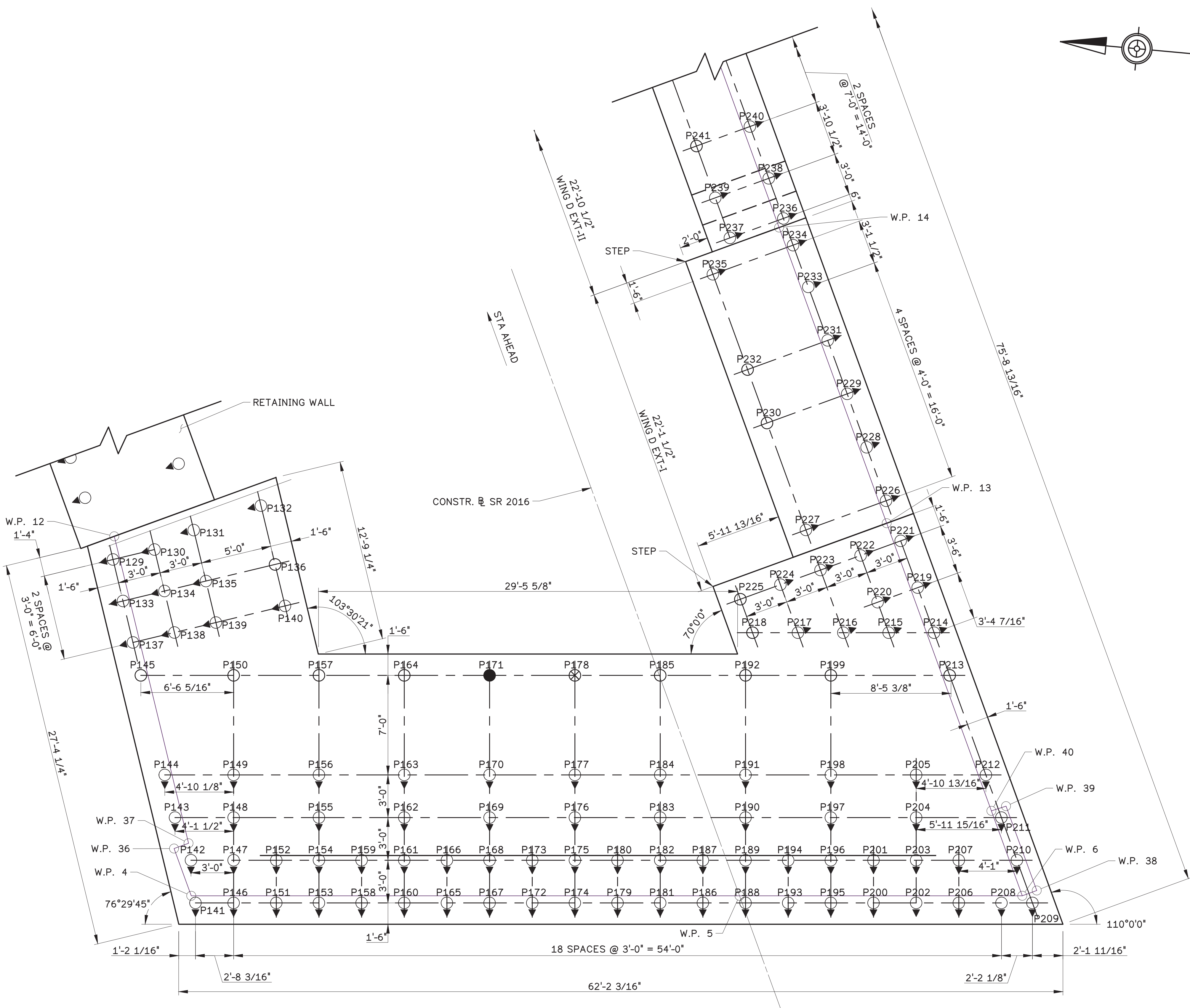
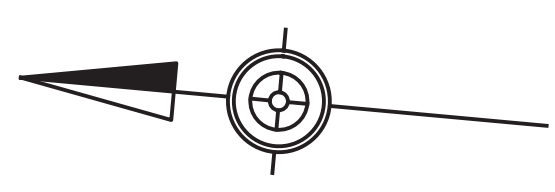
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- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR ABUTMENT 1 STAKEOUT PLAN, SEE SHEET 6.
 - FOR MICRO PILE DETAILS, SEE SHEET 12.
 - FOR ABUTMENT 2 ELEVATION, SEE SHEET 22.
 - FOR ABUTMENT 2 TYPICAL SECTION, SEE SHEET 23.
 - FOR ABUTMENT 2 PILE TABLES, SEE SHEET 26.

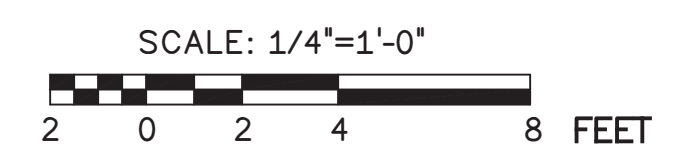
Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

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 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

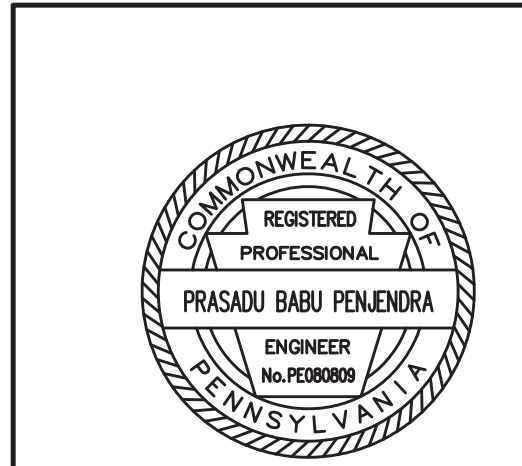
COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION
 BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 2 PILE LAYOUT

MICROPILE LOADINGS:
 MAXIMUM AXIAL FACTORED RESISTANCE (STRENGTH): 200.0 KIPS.
 MAXIMUM AXIAL FACTORED LOAD (STRENGTH I): 154.8 KIPS.
 MAXIMUM LATERAL FACTORED RESISTANCE (STRENGTH): 48.5 KIPS. (HORIZONTAL COMPONENT OF BATTER ONLY)
 MAXIMUM LATERAL FACTORED LOAD (STRENGTH): 43.23 KIPS.
 MAXIMUM AXIAL SERVICE LOAD (SERV I): 112.5 KIPS.
 MAXIMUM LATERAL SERVICE LOAD (SERV I): 28.9 KIPS.

ABUTMENT 2 FOOTING PILE LAYOUT



- LEGEND:**
- - MICROPILE
 - with arrow - MICROPILE BATTERED: 3H:12V IN DIRECTION OF ARROWHEAD
 - ⊗ - VERIFICATION LOAD TEST LOCATION
 - - PROOF LOAD TEST LOCATION

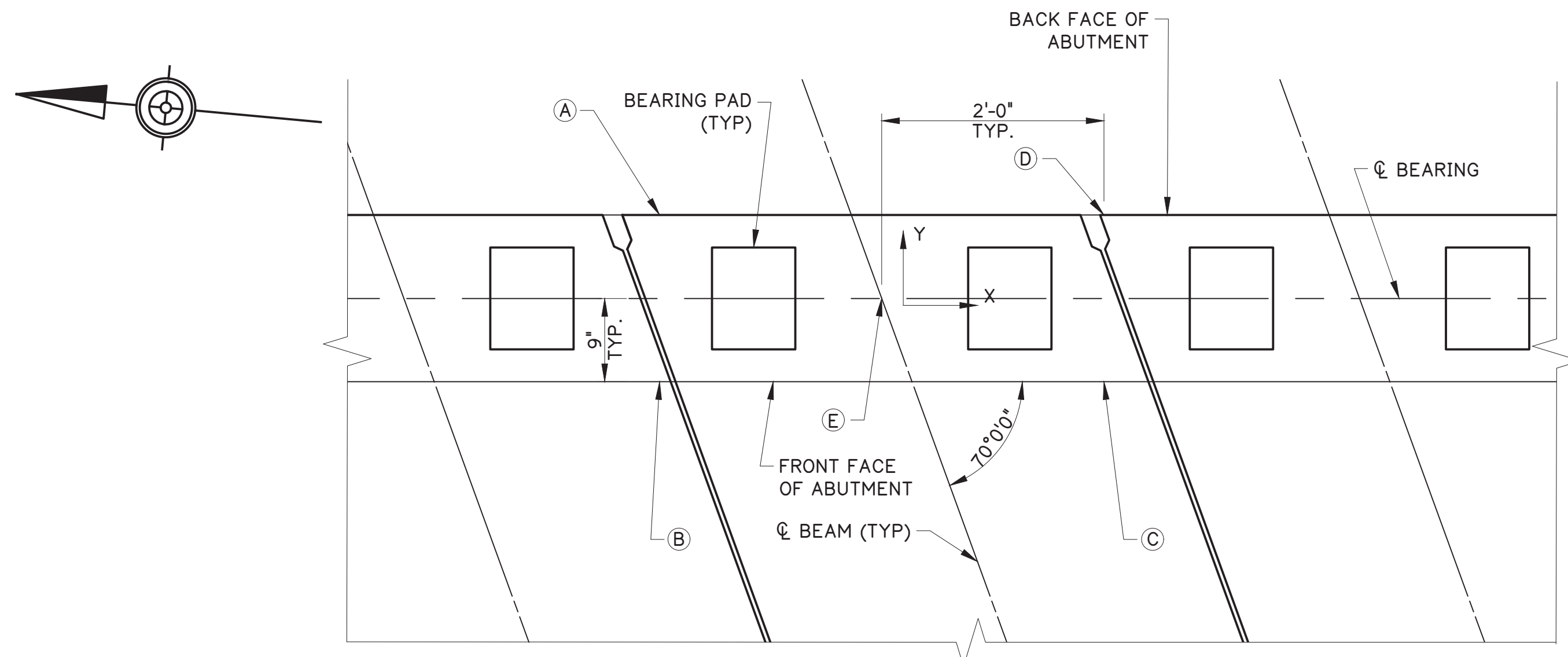


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SHEET 25 OF 61

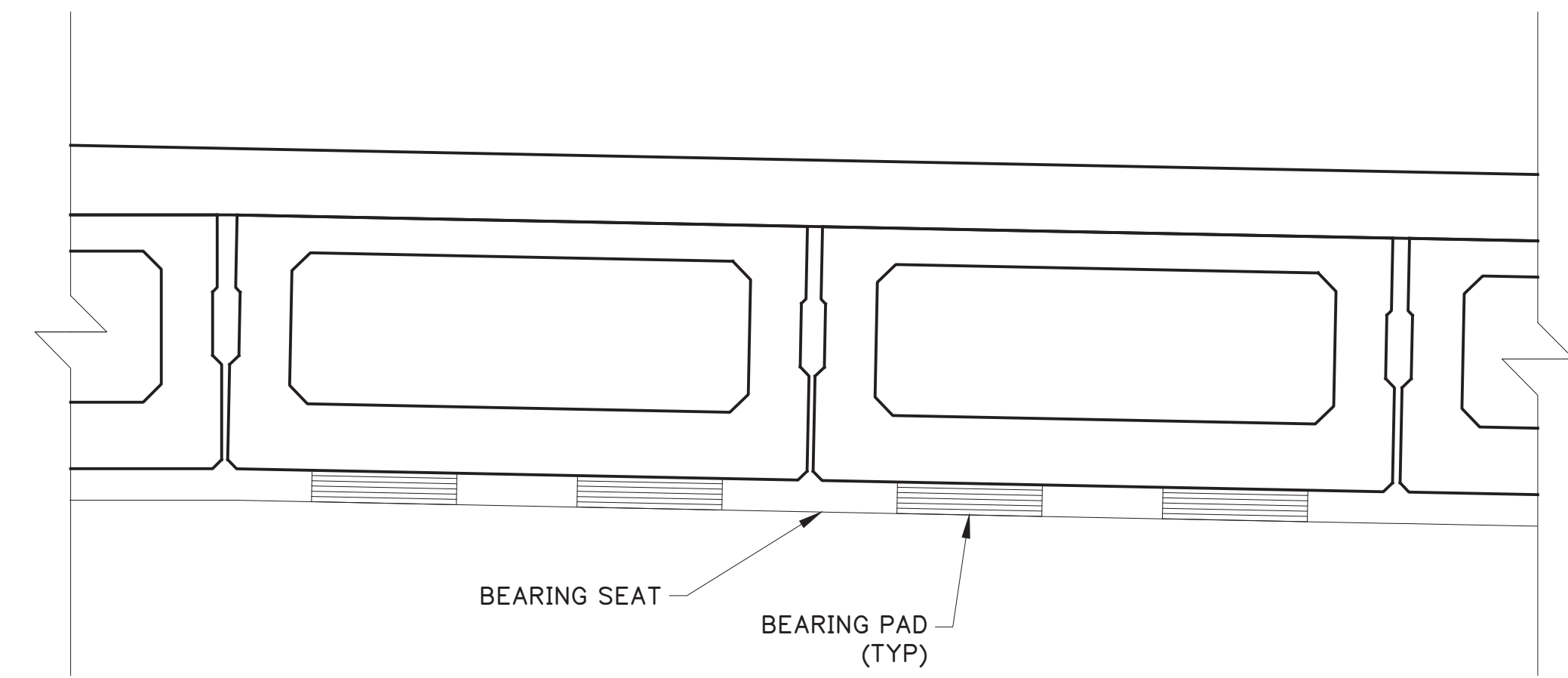
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BEARING SEAT PLAN VIEW

SCALE: 1"=1'-0"
1 0 1 2 FEET



BEARING SEAT ELEVATION VIEW

SCALE: 1"=1'-0"
1 0 1 2 FEET

ABUTMENT 2 BEARING SEAT LOCATION AND ELEVATION TABLE

BEAM NO.	CL BEAM OFFSET	BEAM ANGLE	BRG. SEAT SLOPE		A	B	C	D	E
			X	Y	ELEV.	ELEV.	ELEV.	ELEV.	ELEV.
1	-33.15	70	0.57%	-0.21%	317.82	317.82	317.84	317.84	317.83
2	-29.10	70	0.58%	-0.21%	317.82	317.82	317.85	317.84	317.83
3	-25.06	70	2.55%	-0.93%	317.63	317.64	317.74	317.73	317.68
4	-19.75	70	2.52%	-0.92%	317.72	317.73	317.83	317.82	317.78
5	-15.71	70	2.45%	-0.89%	318.00	318.01	318.11	318.09	318.05
6	-11.67	70	2.49%	-0.91%	318.06	318.08	318.18	318.16	318.12
7	-7.63	70	2.52%	-0.92%	318.13	318.14	318.24	318.23	318.19
8	-3.58	70	2.56%	-0.93%	318.19	318.21	318.31	318.30	318.25
9	0.49	70	0.73%	-0.26%	318.24	318.24	318.27	318.27	318.26
10	4.56	70	-1.13%	0.41%	318.22	318.22	318.17	318.18	318.20
11	8.60	70	-1.04%	0.38%	318.12	318.11	318.07	318.08	318.10
12	12.65	70	-1.00%	0.36%	318.02	318.01	317.97	317.98	318.00
13	16.69	70	-0.96%	0.35%	317.91	317.91	317.87	317.87	317.89

SHEET NOTES:

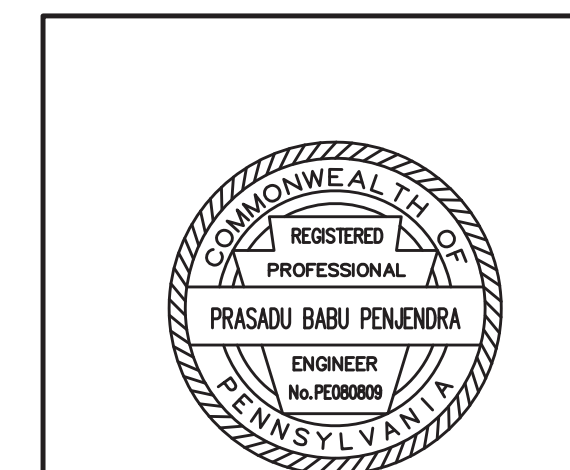
- FOR ABUTMENT 2 ELEVATION, SEE SHEET 22.
- FOR ABUTMENT 2 TYPICAL SECTION, SEE SHEET 23.

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 2 BEARING SEAT ELEVATIONS

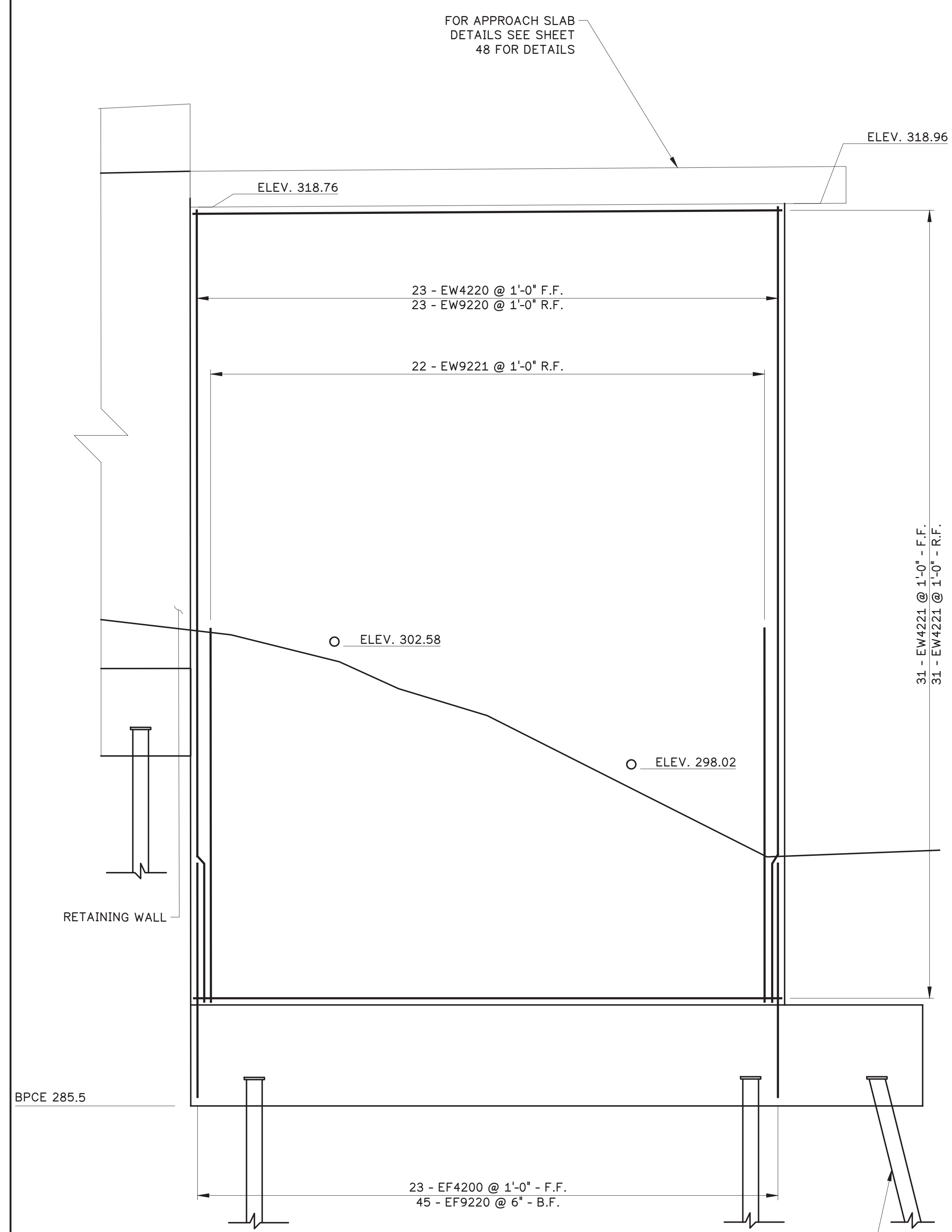


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SHEET 27 OF 61

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h:\16800\2016 over drawing files\3 STRIG sheets\28 WING C PLAN & ELEVATION.dwg, 4/17/2026 10:10 AM, AutoCAD PDF (General Documentation).pc3



WING C ELEVATION
SCALE: 3/8"=1'-0"
1 0 1 2 4 FEET

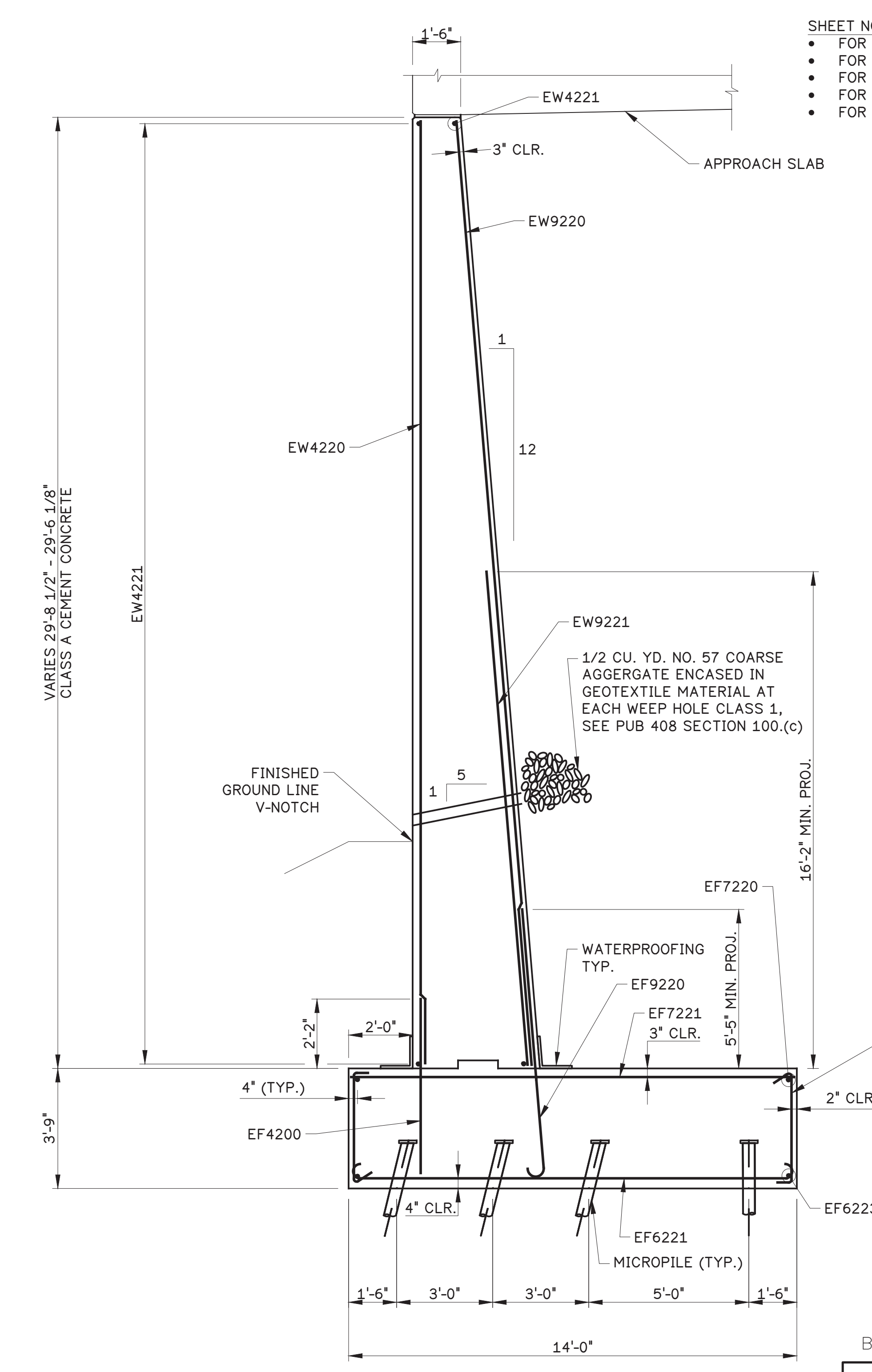
DES: PP DWG: GJT CKD: PP

REINFORCING NOTE:

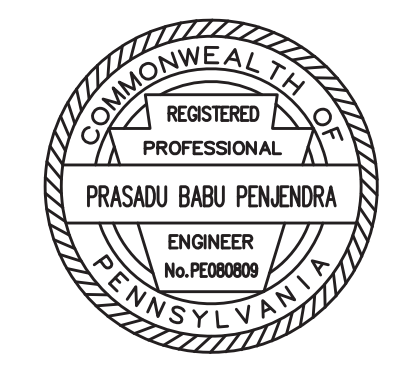
- TIE TOP AND BOTTOM LAYERS OF REINFORCING STEEL WITH EF4222 TIE BARS AT A MAXIMUM SPACING OF 4'-0" IN BOTH DIRECTIONS. PROVIDE TIE BARS WITH 90° HOOK AT ONE END AND 135° HOOK AT THE OTHER END. ALTERNATE 90° AND 135° HOOKS AT TOP IN ALTERNATE TIES.

WATERPROOFING NOTE:

- INSTALL 2'-0" WIDE WATERPROOFING MEMBRANE TO FIT STEM AND TOP OF FOOTING AS SHOWN. USE AN ADHESIVE BACKED, PREFORMED WATERPROOFING MEMBRANE SYSTEM PER PUB. 408, SECTION 680.2 (B). MEMBRANE TO BE RUN CONTINUOUS FROM WINGWALL STEM TO ABUTMENT STEM.



WING C TYPICAL SECTION
SCALE: 3/8"=1'-0"
1 0 1 2 4 FEET



SHEET NOTES:

- FOR GENERAL NOTES, SEE SHEET 3.
- FOR ABUTMENT 2 PLAN, SEE SHEET 21.
- FOR WING C TYPICAL SECTIONS, SEE SHEET 28.
- FOR ABUTMENT 2 REINFORCEMENT BAR SCHEDULE, SEE SHEET 31.
- FOR APPROACH SLAB DETAILS, SEE SHEETS 44-49.

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

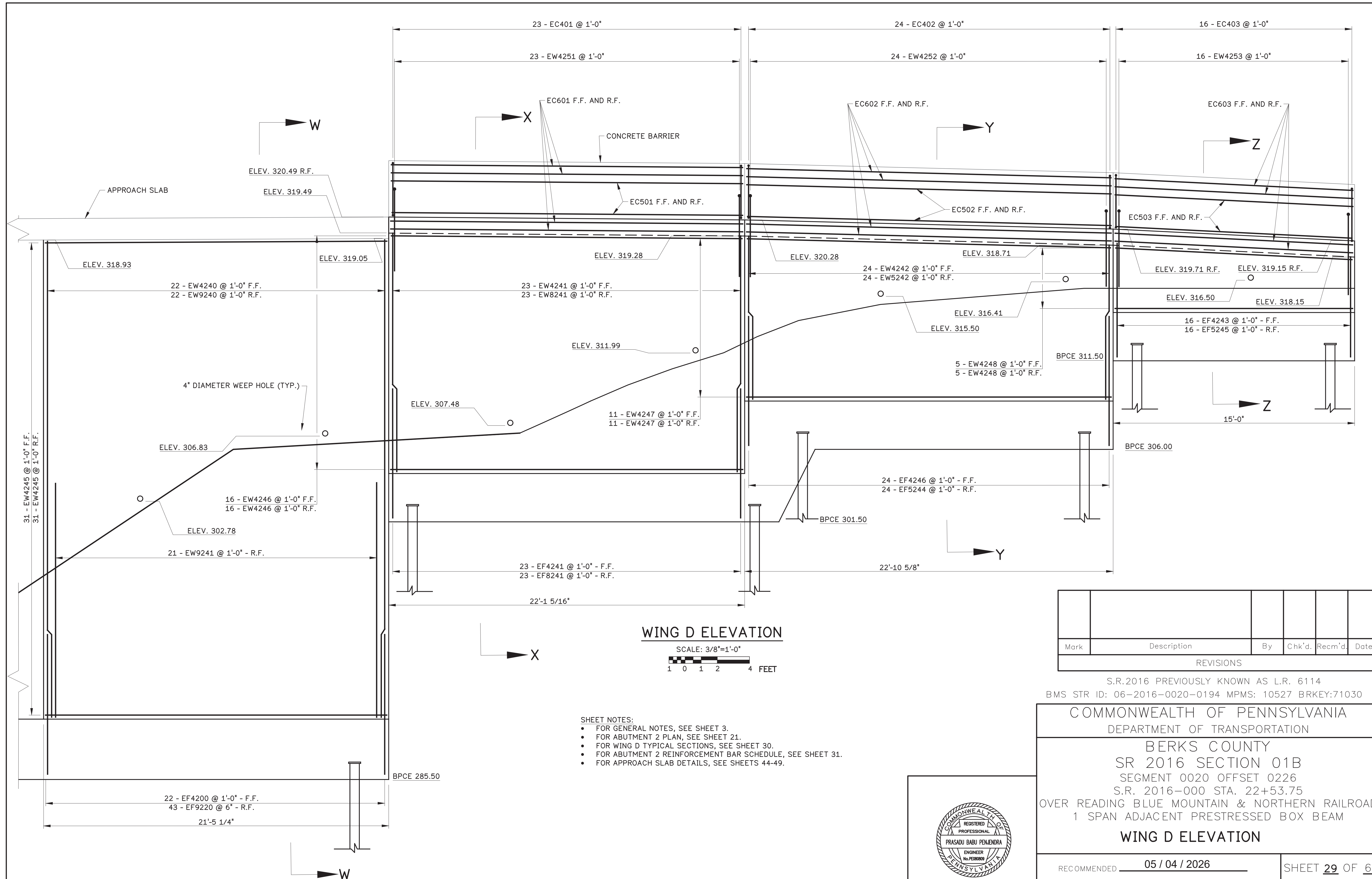
S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
WING C ELEVATION AND TYPICAL SECTION

RECOMMENDED 05 / 04 / 2026

SHEET 28 OF 61

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WING D ELEVATION

SCALE: 3/8"=1'-0"
 1 0 1 2 4 FEET

- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR ABUTMENT 2 PLAN, SEE SHEET 21.
 - FOR WING D TYPICAL SECTIONS, SEE SHEET 30.
 - FOR ABUTMENT 2 REINFORCEMENT BAR SCHEDULE, SEE SHEET 31.
 - FOR APPROACH SLAB DETAILS, SEE SHEETS 44-49.

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

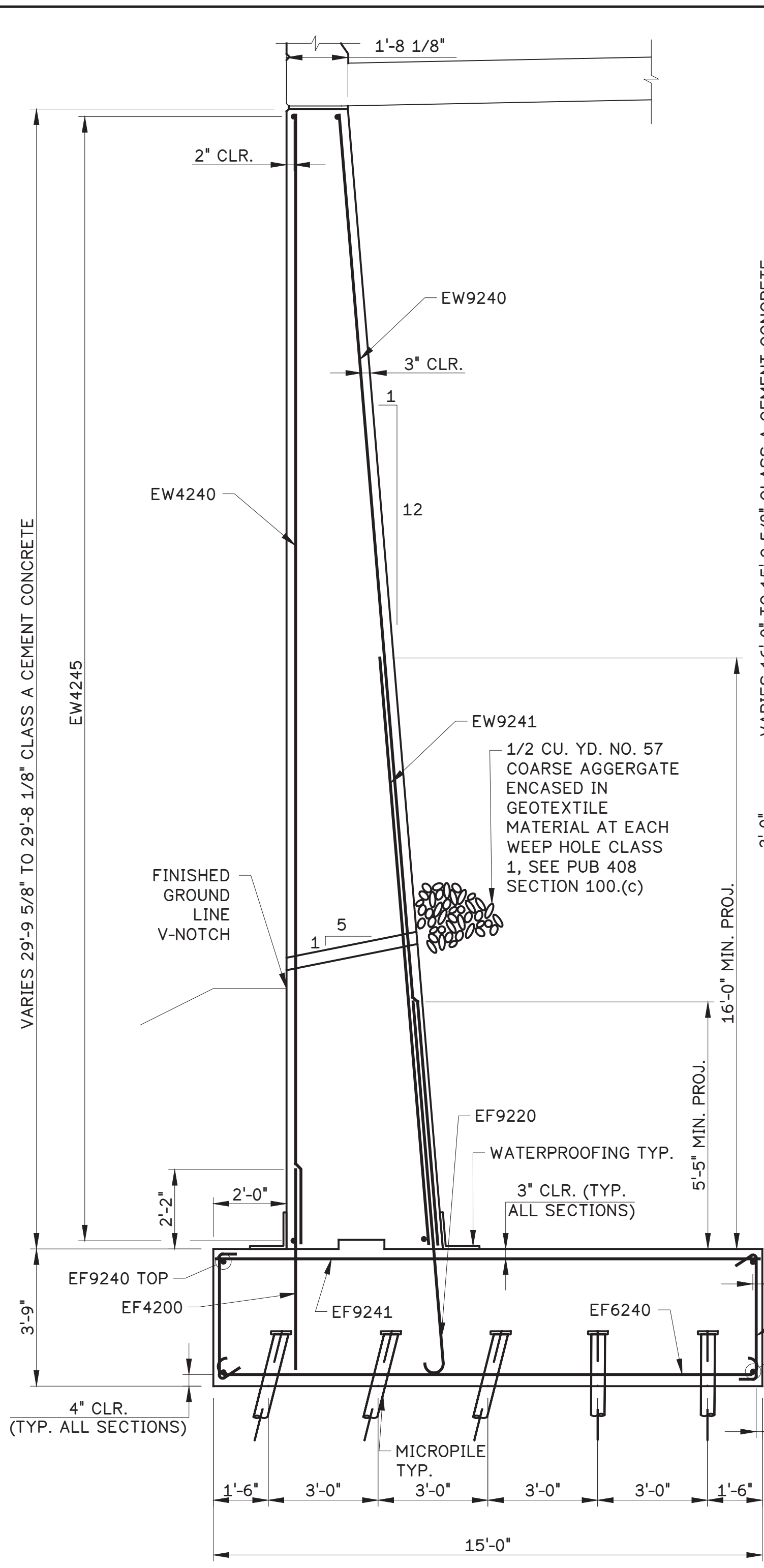
COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION
 BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
WING D ELEVATION



RECOMMENDED 05 / 04 / 2026 SHEET 29 OF 61

S-41964

h:\168003_2016 over\drawing files\3 STRIG sheets\30 WING D PLAN & ELEVATION.dwg, 4/17/2026, 10:10 AM, AutoCAD PDF (General Documentation).pc3



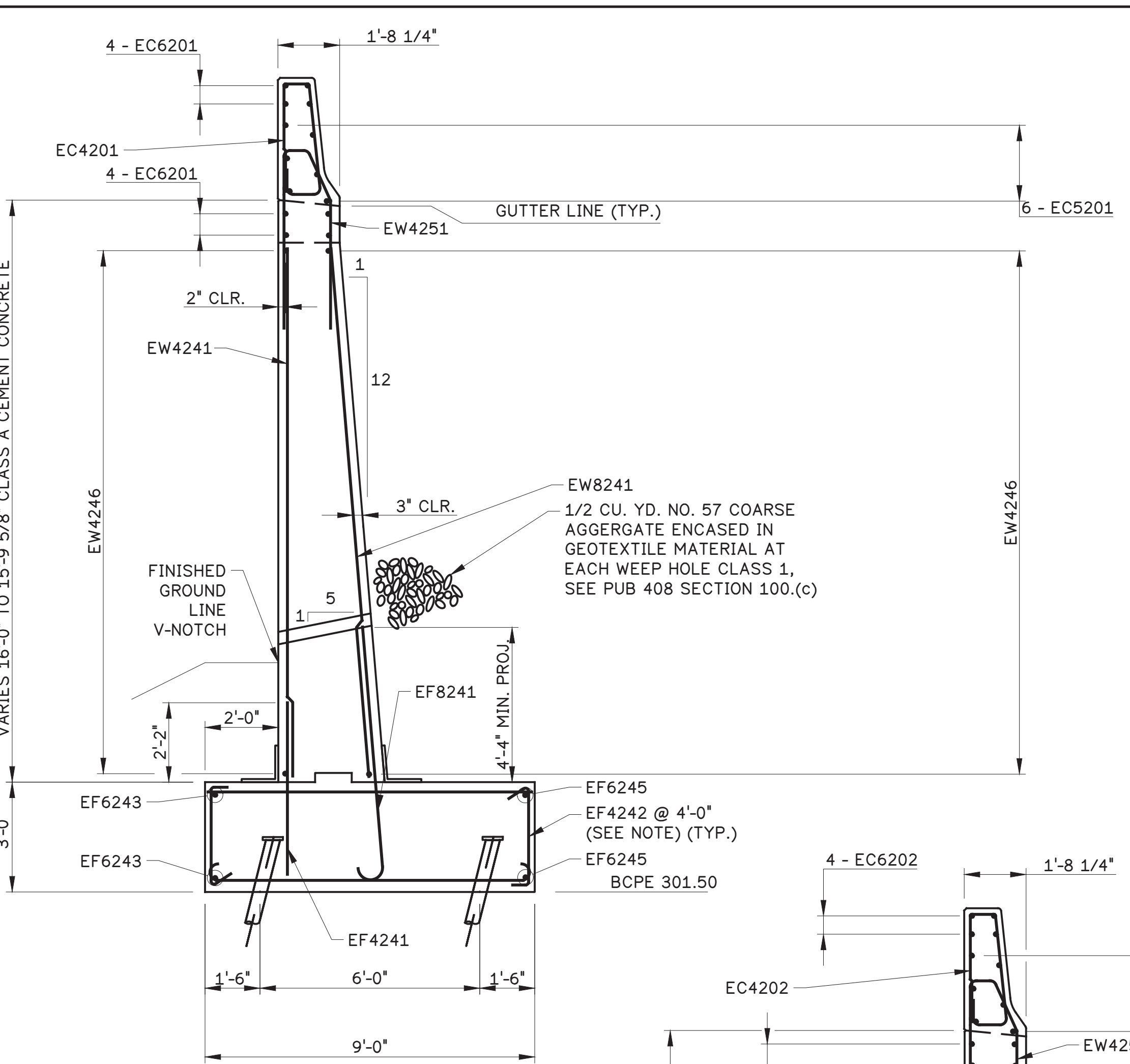
SECTION W-W

REINFORCING NOTE:

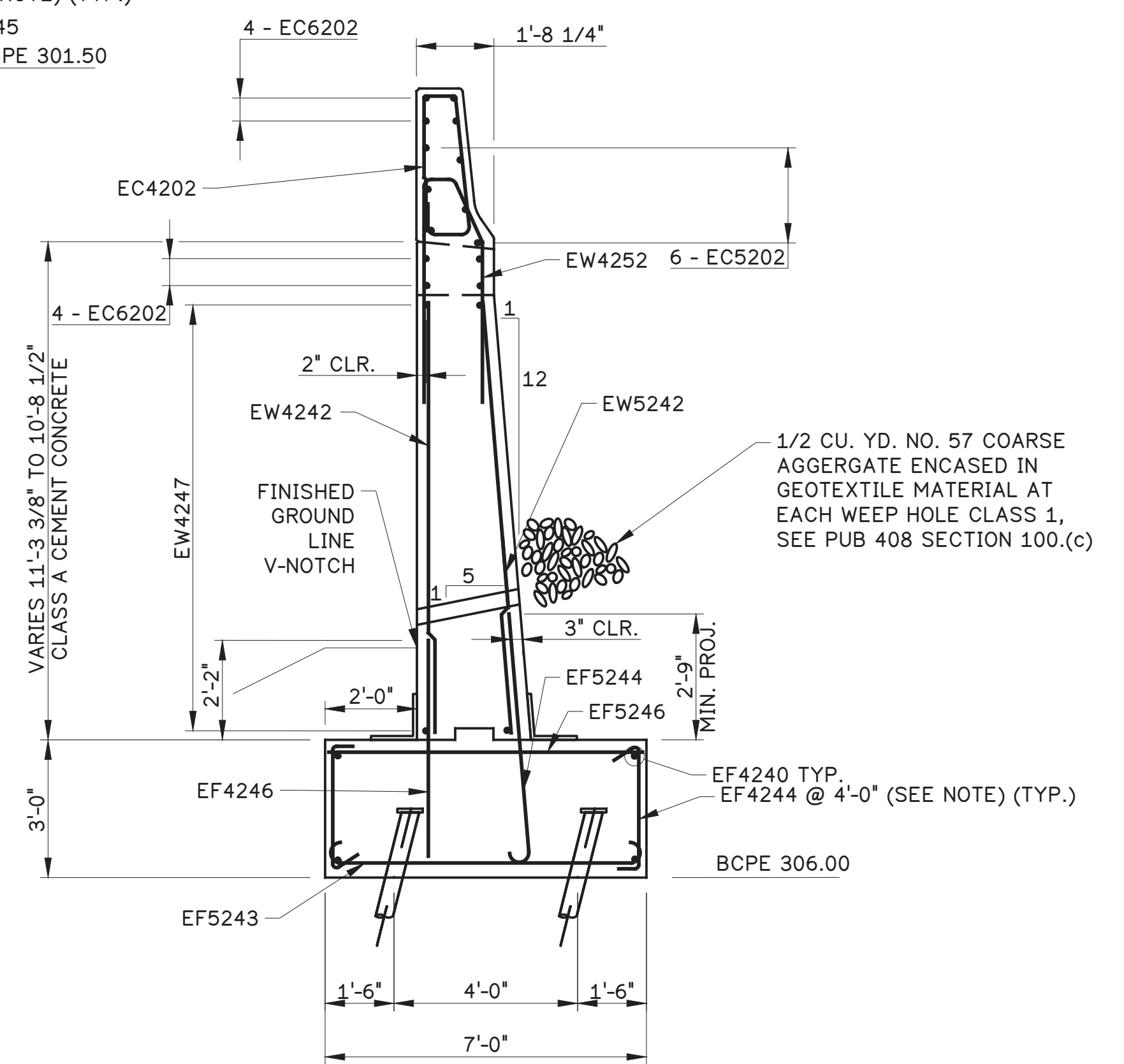
- TIE TOP AND BOTTOM LAYERS OF REINFORCING STEEL WITH EF4105, EF4154, OR EF4164 TIE BARS AT A MAXIMUM SPACING OF 4'-0" IN BOTH DIRECTIONS. PROVIDE TIE BARS WITH 90° HOOK AT ONE END AND 135° HOOK AT THE OTHER END. ALTERNATE 90° AND 135° HOOKS AT TOP IN ALTERNATE TIES.

WATERPROOFING NOTE:

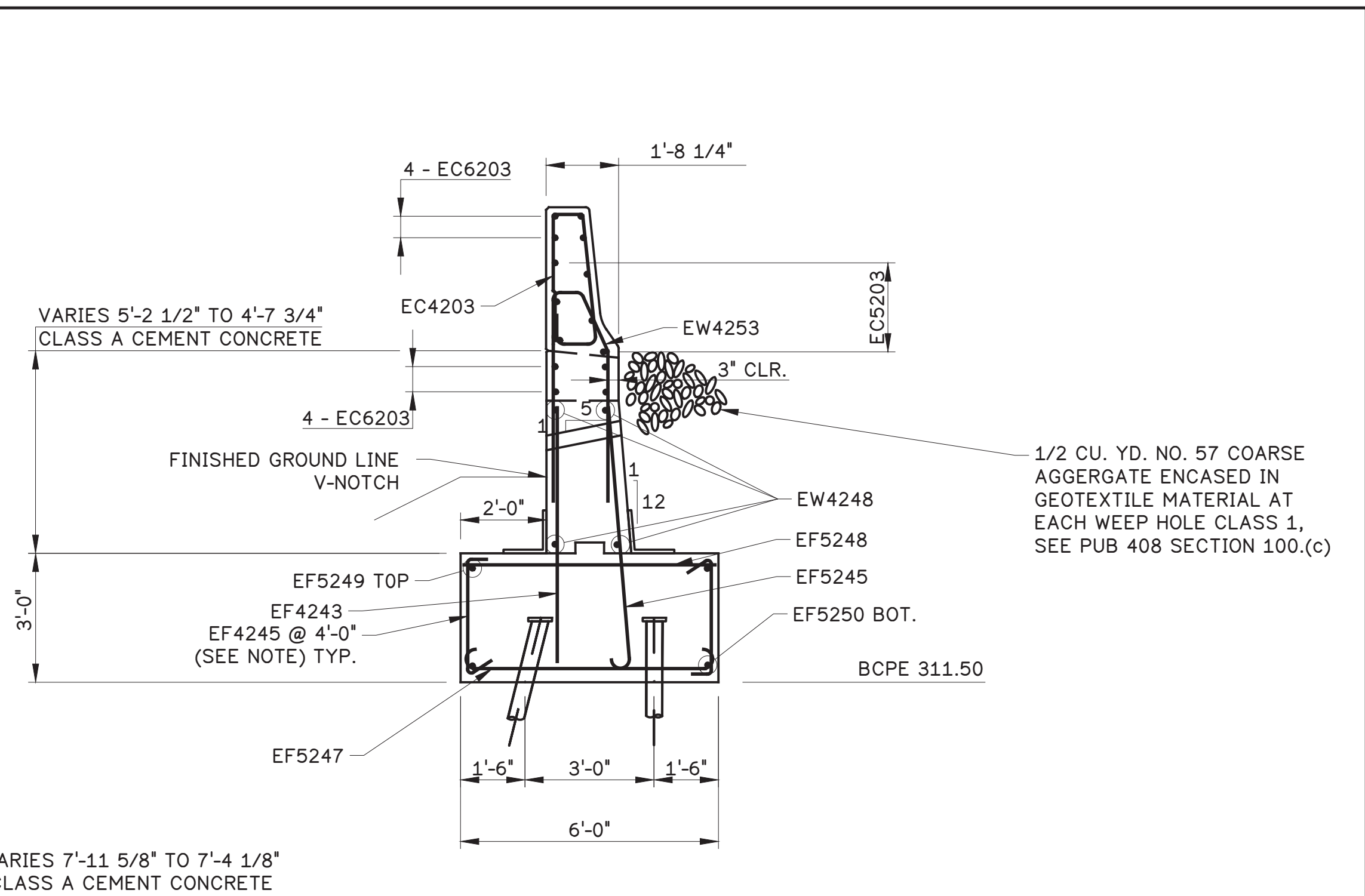
- INSTALL 2'-0" WIDE WATERPROOFING MEMBRANE TO FIT STEM AND TOP OF FOOTING AS SHOWN. USE AN ADHESIVE BACKED, PREFORMED WATERPROOFING MEMBRANE SYSTEM PER PUB. 408, SECTION 680.2 (B). MEMBRANE TO BE RUN CONTINUOUS FROM WINGWALL STEM TO ABUTMENT STEM.



SECTION X-X



SECTION Y-Y



SECTION Z-Z

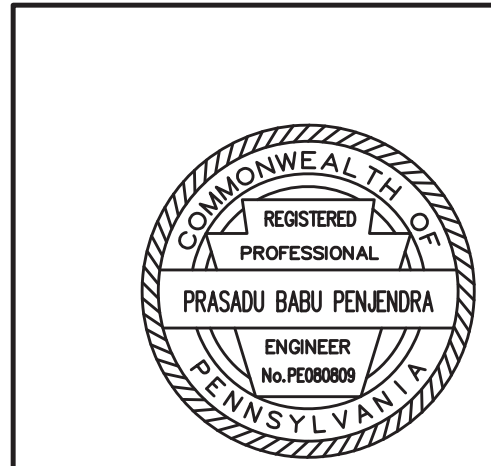
SHEET NOTES:

- FOR GENERAL NOTES, SEE SHEET 3.
- FOR ABUTMENT 2 PLAN, SEE SHEET 21.
- FOR ABUTMENT 2 REINFORCEMENT BAR SCHEDULE, SEE SHEET 31.
- FOR APPROACH SLAB DETAILS, SEE SHEETS 44-49.

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

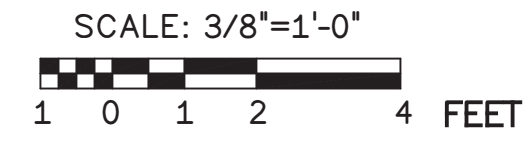
S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION
 BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
WING D TYPICAL SECTIONS



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WING D TYPICAL SECTIONS



h:\16803 - 2016 over-drawing files\3 STR\6 sheets\2 REINFORCEMENT BAR SCHEDULE.dwg, 4/17/2026 10:01 AM, AutoCAD PDF (General Documentation).pc3

ABUTMENT 2 - REINFORCEMENT BAR SCHEDULE												
MARK	SIZE	QTY	LENGTH	TYPE	A	B	C	D	E	R	REMARKS	
FOOTING												
EF4200	4	95	5'-7"	STR								
EF4222	4	176	3'-11"	26	4 1/2"	3'-2"	4 1/2"				1"	
EF4241	4	23	4'-10"	STR								
EF4242	4	28	3'-2"	26	4 1/2"	2'-5"	4 1/2"				1"	
EF4243	4	16	6'-8"	STR								
EF4244	4	21	3'-2"	26	4 1/2"	2'-5"	4 1/2"				1"	
EF4245	4	15	3'-2"	26	4 1/2"	2'-5"	4 1/2"				1"	
EF4246	4	24	4'-10"	STR								
EF5203	5	44	6'-2"	STR								
EF5240	5	9	22'-6"	STR								
EF5241	5	8	22'-6"	STR								
EF5242	5	8	9'-10"	10	6'-11"	2'-11"						
EF5243	5	31	7'-8"	15	7"	6'-8"		5"				
EF5244	5	24	6'-1"	14	7"	5'-5"		5"				
EF5245	5	15	6'-10"	14	7"	6'-3"		5"				
EF5246	5	24	6'-8"	STR								
EF5247	5	18	6'-10"	15	7"	5'-8"		5"				
EF5248	5	16	5'-8"	STR								
EF5249	5	15	14'-8"	STR								
EF6200	6	56	20'-0"	15	8"	18'-8"		6"				
EF6201	6	42	33'-4"	STR								
EF6221	6	33	15'-0"	15	8"	13'-8"		6"				
EF6223	6	15	VARIES	STR								VARIES BY 1 1/4" FROM 28'-6" TO 26'-10 1/2"
EF6240	6	28	16'-0"	15	8"	14'-8"		6"				
EF6241	6	16	VARIES	STR								VARIES BY 4 3/8" FROM 30'-5" TO 24'-11 3/8"
EF6242	6	20	10'-0"	15	8"	8'-8"		6"				
EF6243	6	16	23'-5"	STR								
EF6244	6	8	10'-5"	11	2'-9"	3'-5"	6'-9"					
EF6245	6	6	21'-7"	STR								
EF7220	7	15	VARIES	STR								VARIES BY 1 1/4" FROM 28'-6" TO 27'-0"
EF7221	7	59	13'-8"	STR								
EF8241	8	23	7'-6"	14	1'-0"	6'-6"		8"				
EF8242	8	7	6'-8"	STR								
EF9200	9	111	18'-8"	STR								
EF9201	9	78	34'-5"	STR								
EF9202	9	48	12'-5"	14	1'-3"	10'-6"		11 3/4"				
EF9220	9	90	12'-5"	14	1'-3"	10'-6"		11 3/4"				
EF9240	9	21	VARIES	STR								VARIES BY 3 1/4" FROM 30'-5" TO 25'-0"
EF9241	9	31	14'-8"	STR								
EF11201	11	50	16'-1"	14	1'-7"	13'-9"		1'-2 3/4"				
ABUTMENT STEM												
EW3200	3	20	24'-3"	STR								
EW3201	3	39	22'-8"	STR								
EW3202	3	4	11'-11"	STR								
EW3203	3	4	23'-0"	STR								
EW3204	3	2	15'-9"	STR								
EW3205	3	3	24'-0"	STR								
EW3206	3	19	21'-0"	STR								
EW4200	4	50	28'-1"	STR								
EW4201	4	60	32'-6"	STR								
EW4202	4	60	29'-6"	STR								
EW4203	4	2	14'-4"	STR								
EW4204	4	2	26'-10"	STR								
EW4205	4	32	3'-6"	STR								
EW5200	5	50	7'-9"	1	3'-3"	1'-1"	3'-3"	3"				
EW5201	5	21	27'-4"	STR								
EW5202	5	23	27'-4"	STR								
EW5204	5	4	5'-8"	STR								
EW5205	5	12	28'-2"	STR								
EW5206	5	4	28'-9"	STR								
EW5207	5	4	27'-6"	STR								
EW5209	5	26	4'-11"	STR								
EW5211	5	8	28'-2"	STR								
EW6200	6	98	7'-2"	27	2'-11"	1'-1"	2'-4"	1'-0"				H = 2'-0"
EW6202	6	22	6'-5"	STR								
EW6205	6	15	6'-5"	STR								
EW9200	9	48	17'-6"	STR								
EW11200	11	50	28'-2"	STR								

ABUTMENT 2 - REINFORCEMENT BAR SCHEDULE												
MARK	SIZE	QTY	LENGTH	TYPE	A	B	C	D	E	R	REMARKS	
WINGWALL C												
EW4220	4	24	29'-4"	STR								
EW4221	4	62	20'-8"	STR								
EW4222	4	16	3'-6"	STR								
EW9220	9	24	29'-5"	STR								
EW9221	9	23	16'-2"	STR								
WINGWALL D												
EW4240	4	22	29'-5"	STR								
EW4241	4	23	14'-7"	STR								
EW4242	4	24	9'-8"	STR								
EW4245	4	62	21'-1"	STR								
EW4246	4	32	21'-9"	STR								
EW4247	4	22	22'-6"	STR								
EW4248	4	10	14'-6"	STR								
EW4251	4	23	11'-3"	40	5'-1 1/2"	4"	3"	2 1/2"	1'-4 3/8"	2"		F = 3'-11"; G = 0"; H = 8 5/8"
EW4252	4	24	11'-3"	40	5'-1 1/2"	4"	3"	2 1/2"	1'-4 3/8"	2"		F = 3'-11"; G = 0"; H = 8 5/8"
EW4253	4	16	11'-3"	40	5'-1 1/2"	4"	3"	2 1/2"	1'-4 3/8"	2"		F = 3'-11"; G = 0"; H = 8 5/8"
EW4254	4	16	3'-6"	STR								
EW4255	4	16	3'-6"	STR								
EW4256	4	16	3'-6"	STR								
EW4257	4	8	3'-6"	STR								
EW5242	5	24	9'-8"	STR								
EW8241	8	23	14'-7"	STR								
EW9241	9	22	29'-7"	STR								
EW9241	9	21	16'-0"	STR								
BARRIER												
EC4201	4	23	8'-1"	40	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	2"		F = 4 1/8"; G = 6 3/4"; H = 5"; I = 3 3/8"
EC4202	4	24	8'-1"	40	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	2"		F = 4 1/8"; G = 6 3/4"; H = 5"; I = 3 3/8"
EC4203	4	16	8'-1"	40	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	2"		F = 4 1/8"; G = 6 3/4"; H = 5"; I = 3 3/8"
EC5201	5	6	21'-9"	STR								
EC5202	5	6	22'-6"	STR								
EC5203	5	6	14'-8"	STR								
EC6201	6	8	21'-9"	STR								
EC6202	6	8	22'-6"	STR								
EC6203	6	8	14'-8"	STR								

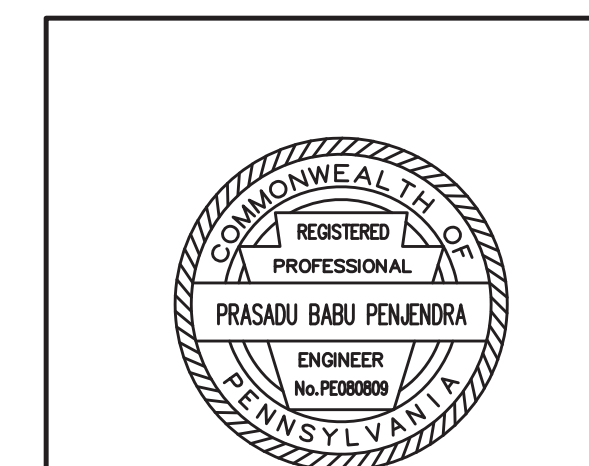
- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR ABUTMENT 2 PLAN, SEE SHEET 21.
 - FOR ABUTMENT 2 ELEVATION, SEE SHEET 22.
 - FOR ABUTMENT 2 FOOTING REBAR PLAN, SEE SHEET 24.
 - FOR WING C ELEVATION AND TYPICAL SECTION, SEE SHEET 28.
 - FOR WING D ELEVATION AND TYPICAL SECTION, SEE SHEET 29.

- E PREFIX INDICATES EPOXY COATED.
- ALL DIMENSIONS ARE OUT TO OUT.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES DENOTE TYPE.
- Fy = 60 KSI
- DO NOT USE RAIL STEEL (A 616/A 616M) IN BRIDGE PIERS, ABUTMENTS, SHEAR BLOCKS, BEAMS, FOOTINGS, PILES AND WHERE BENDING OR WELDING OF THE REINFORCEMENT IS INDICATED.
- ** DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.

Mark	Description	By	Chk'd.	Recm'd.	Date
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S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

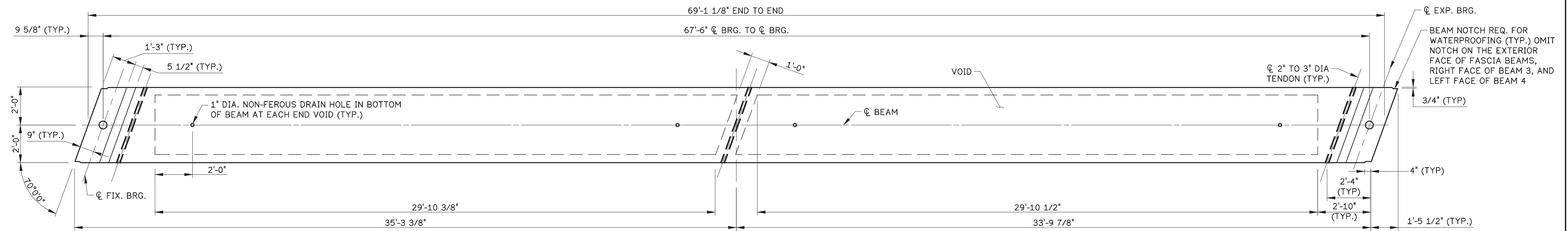
COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION
 BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 2 REINFORCEMENT BAR SCHEDULE



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SHEET 31 OF 61

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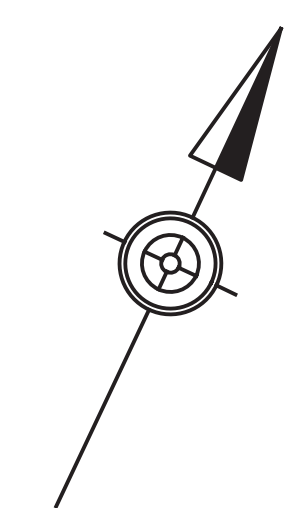
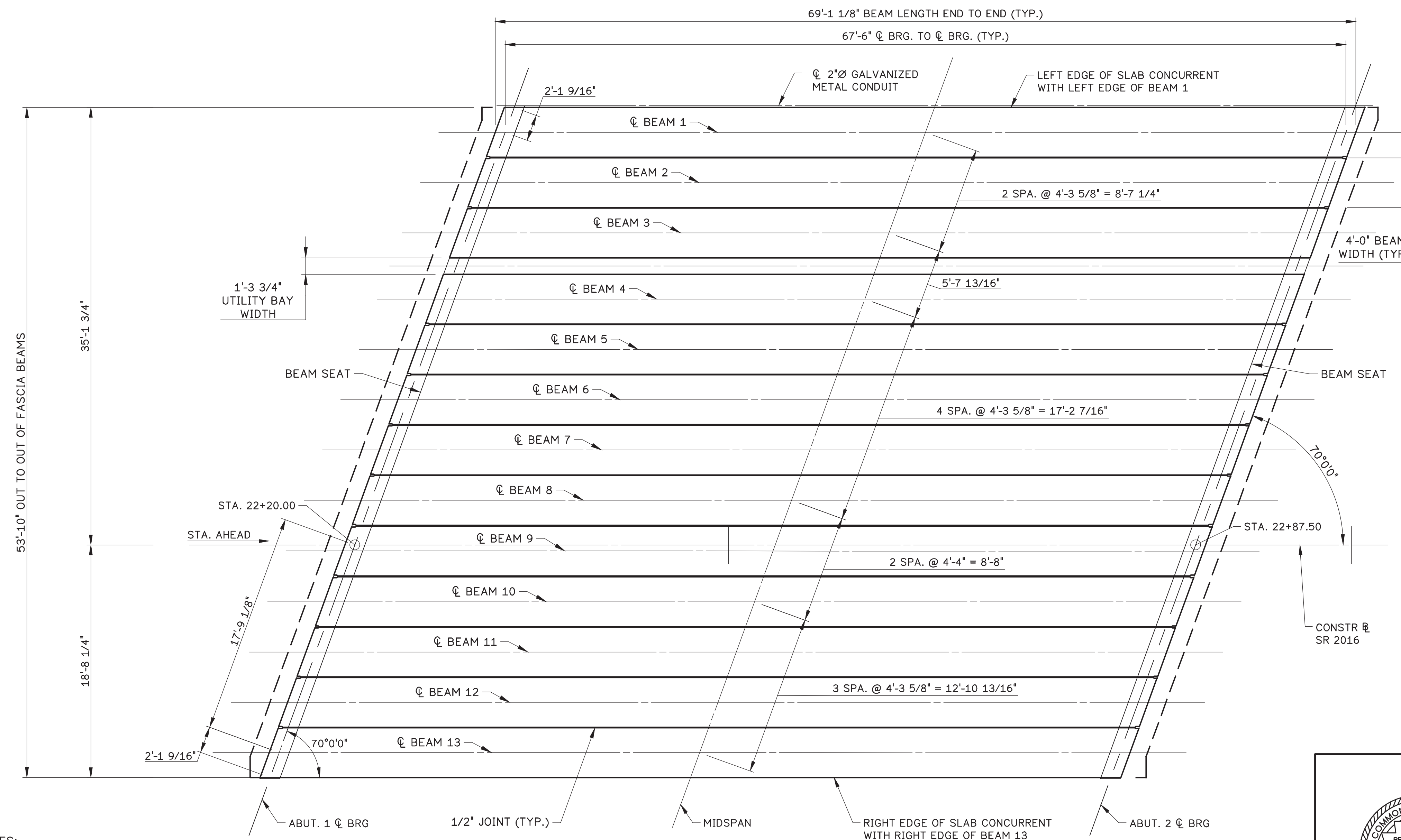


BEAM PLAN

SCALE: 3/8"=1'-0"

 1 0 1 2 4 FEET

BEAM PLAN NOTE:
 • TENDONS ARE NOT CONTINUOUS ACROSS UTILITY BAY.



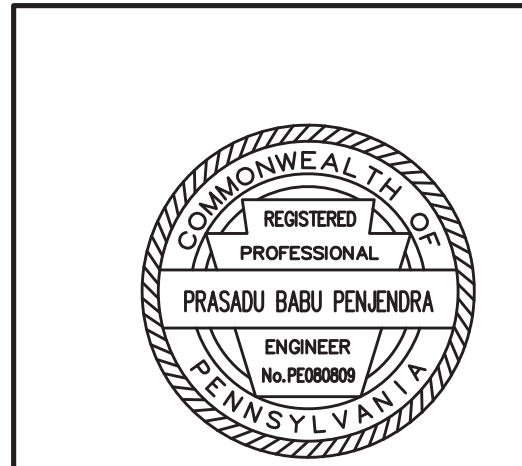
BEAM INFORMATION			
BEAM NO.	BEAM ANGLE	BEAM LENGTH \bar{C} - \bar{C} BRG. *	BEAM LENGTH TOTAL *
1 - 13	70°	67'-6"	69'-1 $\frac{1}{8}$ "

* HORIZONTAL DIMENSION MEASURE ALONG \bar{C} OF BEAM

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 1 SPAN ADJACENT PRESTRESSED BOX BEAM
BEAM FRAMING PLAN



- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR DECK REINFORCEMENT PLAN, SEE SHEET 33.
 - FOR DECK AND DIAPHRAGM SECTION DETAILS, SEE SHEET 35.
 - FOR BEAM FABRICATION DETAILS, SEE SHEET 38.
 - FOR BEAM END & BEARING DETAILS, SEE SHEET 43.

FRAMING PLAN

SCALE: 3/16"=1'-0"

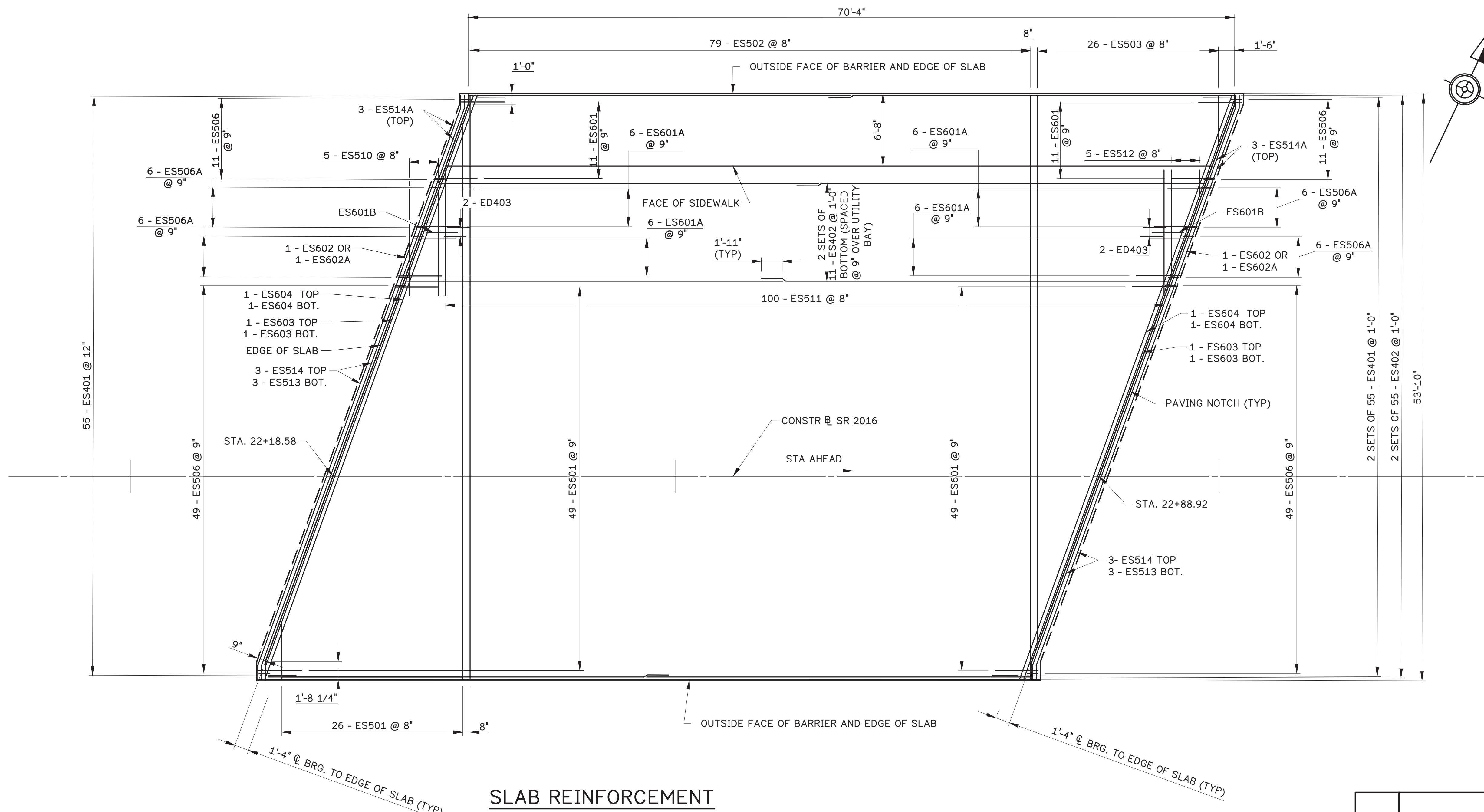
 2 0 2 4 8 FEET

RECOMMENDED 05 / 04 / 2026

SHEET 32 OF 61

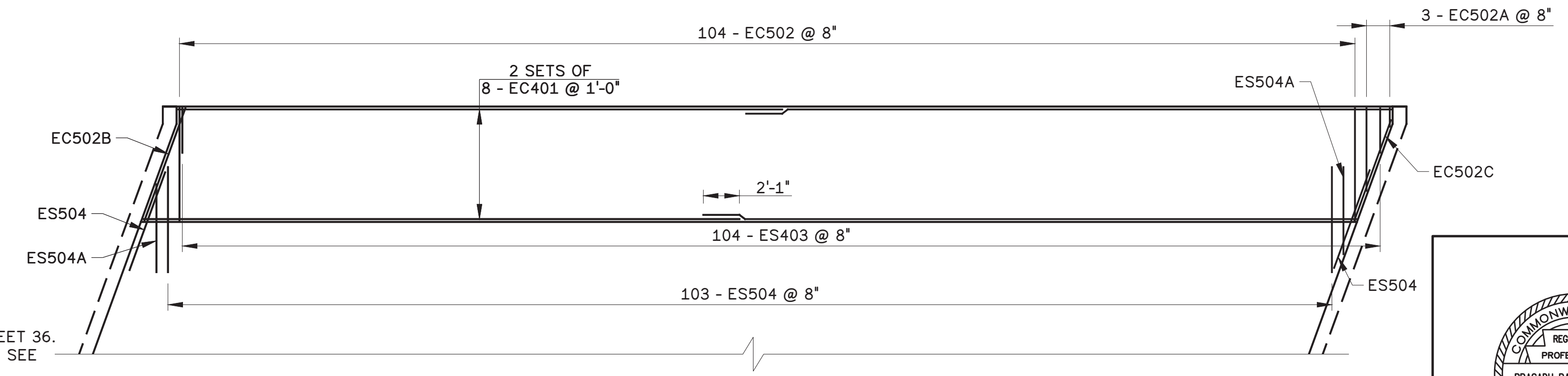
S-41964

H:\16803 SR 2016 over RBD\Drawing Files\2 STN\PP sheets\33 BEAM FRAMING PLAN.dwg, 4/29/2025 12:47 PM, CDW - DWG To PDF.pc3



SLAB REINFORCEMENT PLAN

SCALE: 1/8"=1'-0"
 4 0 4 8 16 FEET



SIDEWALK REINFORCEMENT PLAN

SCALE: 1/8"=1'-0"
 4 0 4 8 16 FEET

- SHEET NOTES:**
- FOR BEAM FRAMING PLAN, SEE SHEET 33.
 - FOR SLAB REINFORCEMENT SECTION, SEE SHEET 35.
 - FOR DECK AND DIAPHRAGM SECTION DETAILS, SEE SHEET 36.
 - FOR SUPERSTRUCTURE SIDEWALK & BARRIER DETAILS, SEE SHEET 37.
 - FOR DECK REBAR SCHEDULE, SEE SHEET 38.

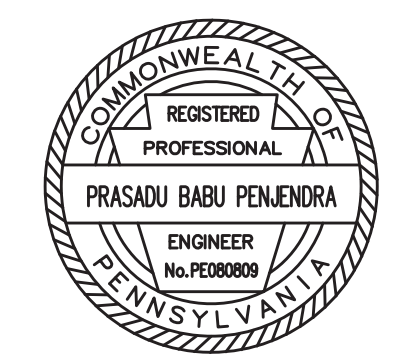
Mark	Description	By	Chk'd.	Recm'd.	Date
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 1 SPAN ADJACENT PRESTRESSED BOX BEAM

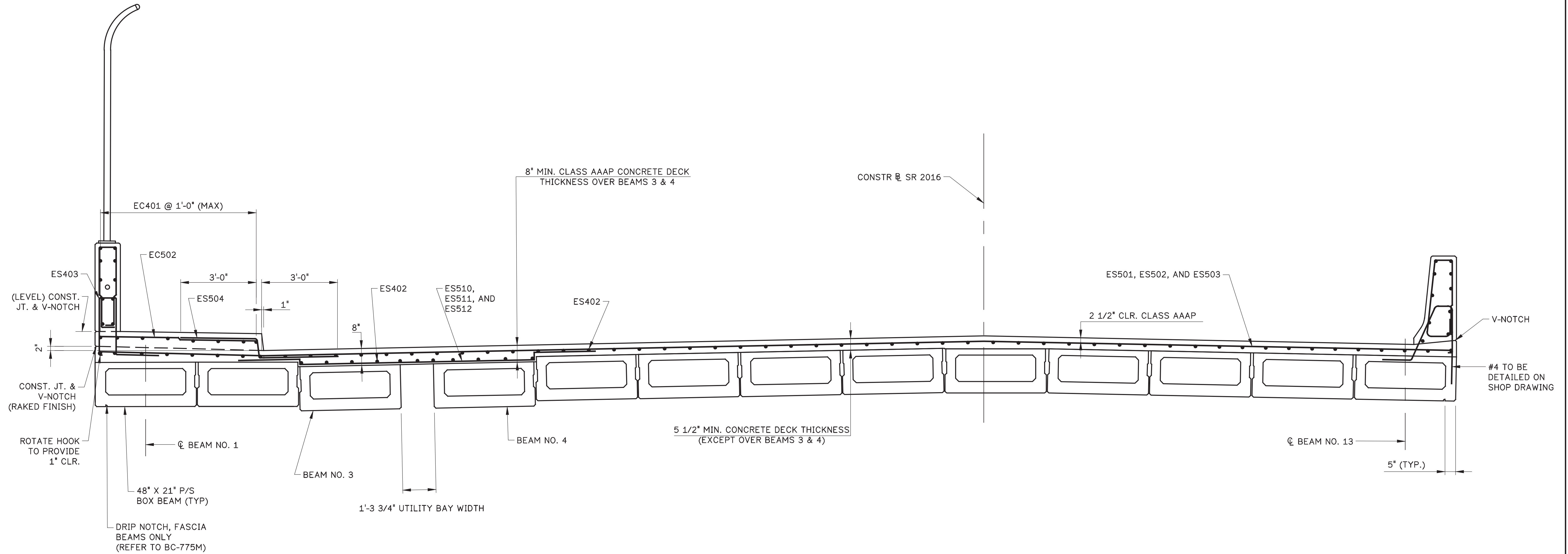
DECK REINFORCEMENT PLAN



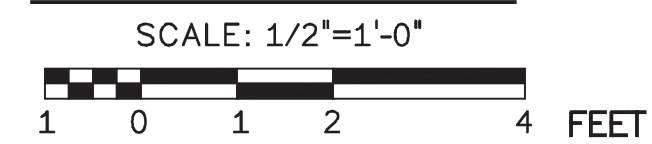
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SHEET 33 OF 61

S-41964



SLAB SECTION



SLAB SECTION NOTES:

- THE 42" F SHAPE CONCRETE BARRIER IS DESIGNATED AS MASH TL-4 WHEN AN OVERLAY IS PLACED ON THE STRUCTURE AND REDUCES THE BARRIER HEIGHT BELOW 42".
- SEE SHEET 4 FOR TYPICAL SECTION FOR DIMENSIONS.
- SEE SHEET 36 FOR BARRIER DETAILS.

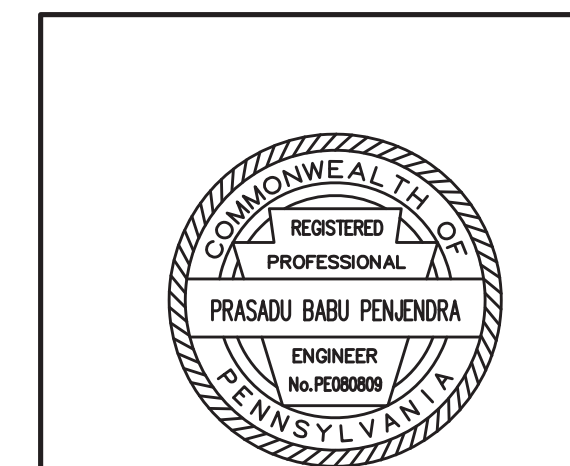
SHEET NOTES:

- FOR BEAM FRAMING PLAN, SEE SHEET 32.
- FOR DECK REINFORCEMENT PLAN, SEE SHEET 33.
- FOR DECK AND DIAPHRAGM SECTION DETAILS, SEE SHEET 35.
- FOR SUPERSTRUCTURE SIDEWALK & BARRIER DETAILS, SEE SHEET 36.
- FOR DECK REBAR SCHEDULE, SEE SHEET 37.

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

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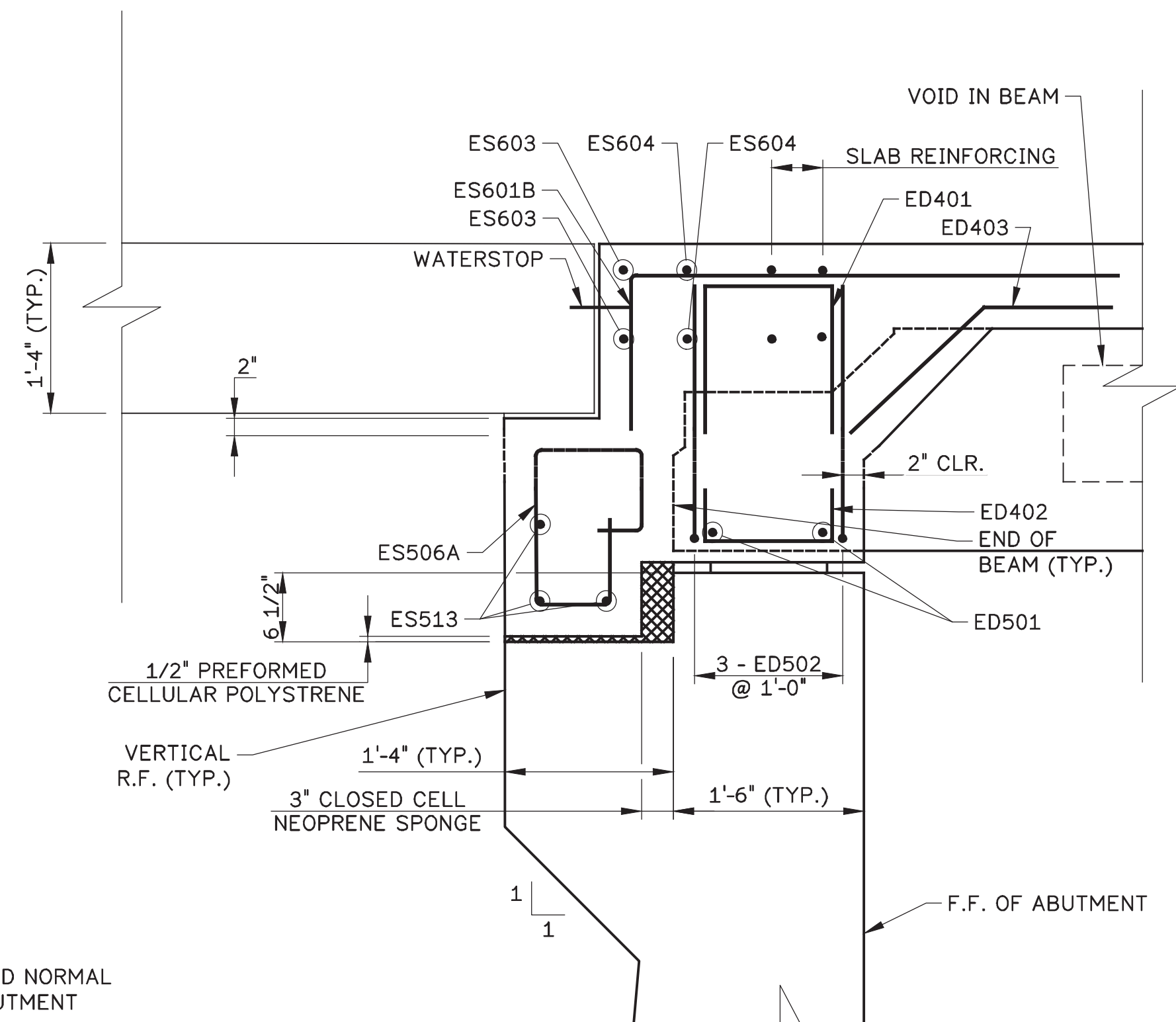
COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION
 BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
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 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
SLAB REINFORCEMENT SECTION



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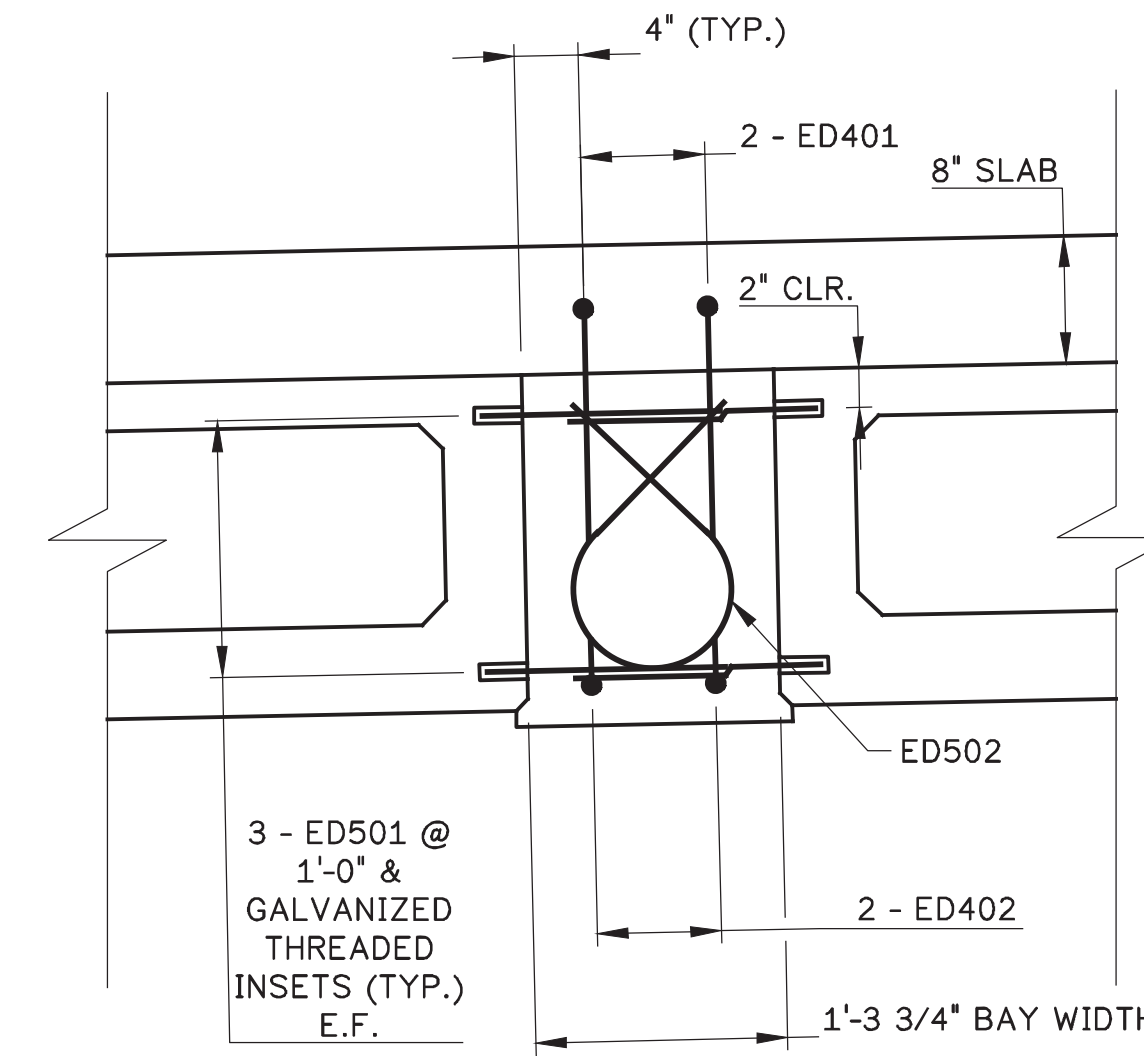
SHEET 34 OF 61

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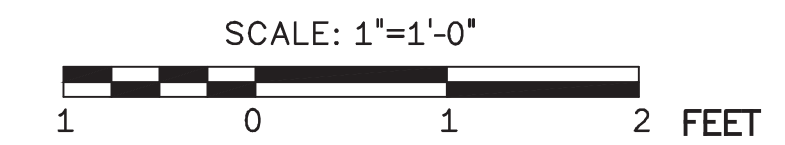


**DIAPHRAGM UTILITY SECTION
LOOKING ALONG ϕ OF BEARINGS**

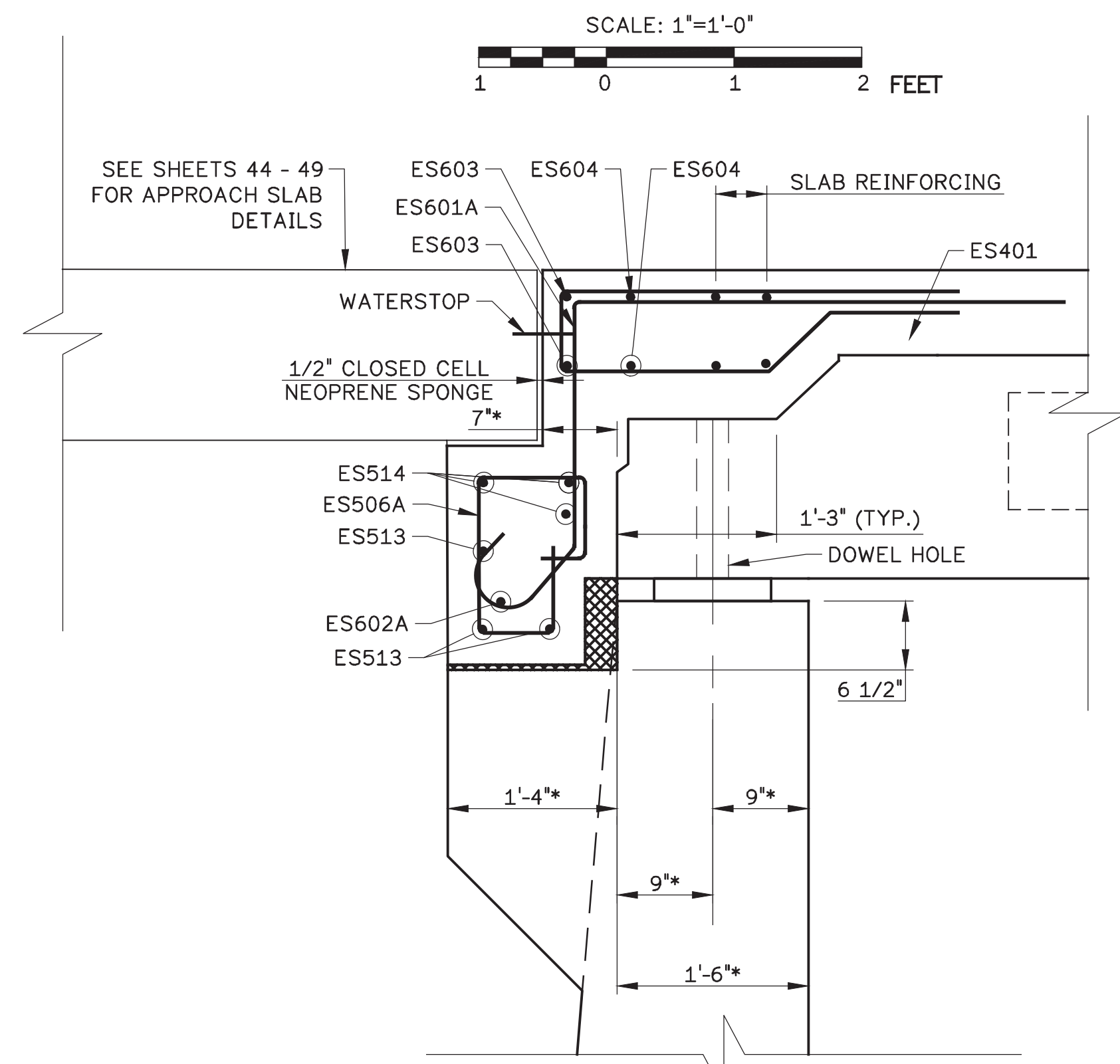
* MEASURED NORMAL TO ABUTMENT



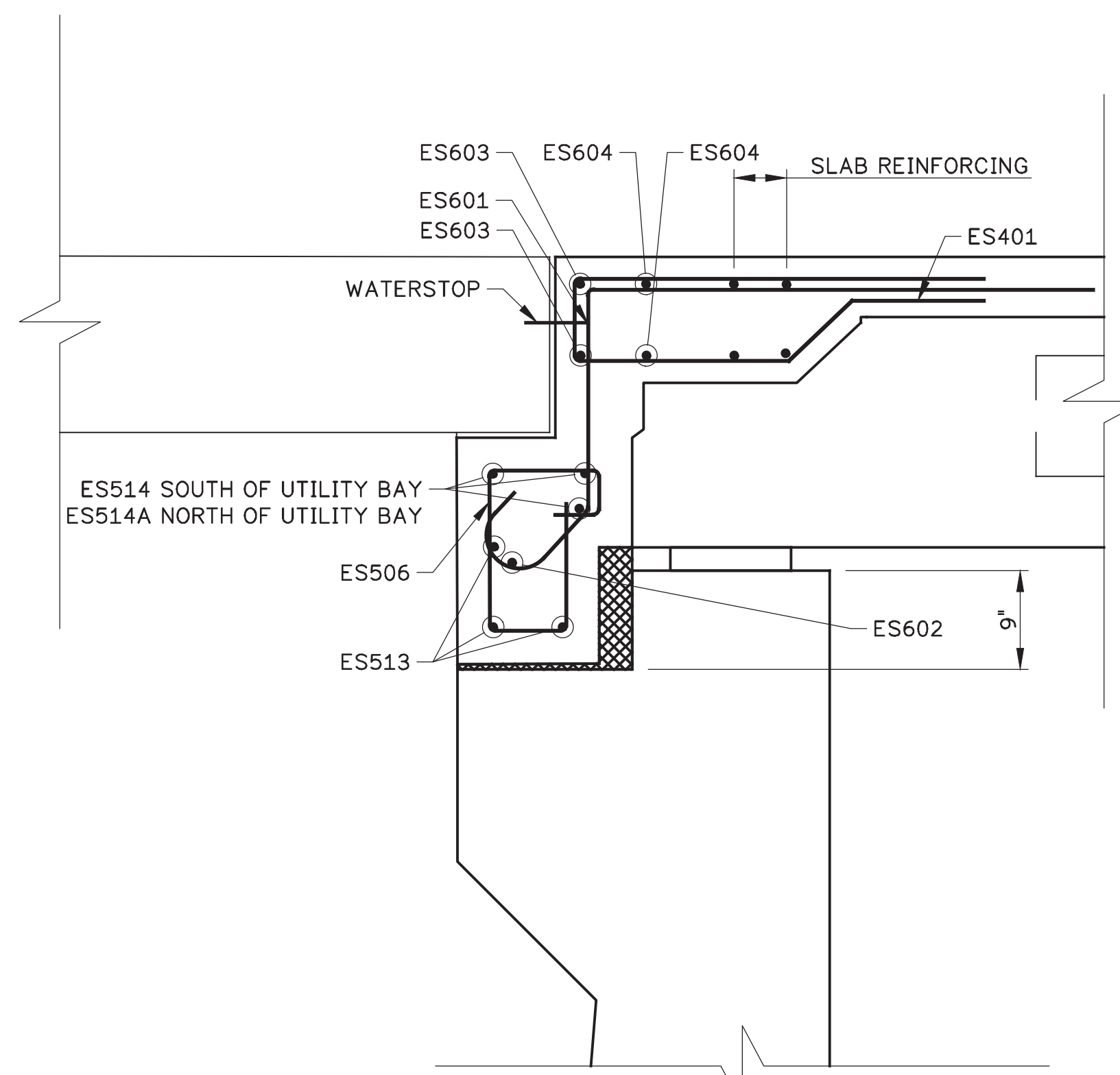
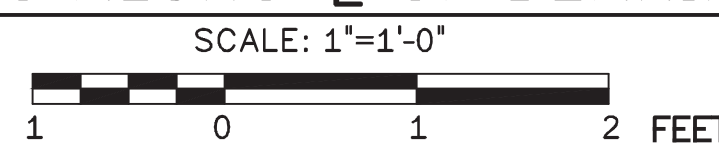
DIAPHRAGM SECTION ALONG STATION



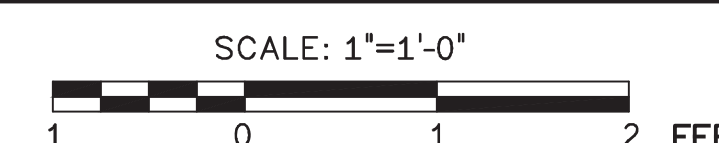
- SHEET NOTES:**
- FOR BEAM FRAMING PLAN, SEE SHEET 32.
 - FOR DECK REINFORCEMENT PLAN, SEE SHEET 33.
 - FOR SLAB REINFORCEMENT SECTION, SEE SHEET 34.
 - FOR DECK REBAR SCHEDULE, SEE SHEET 37.



**BEAM 3 AND 4 END DIAPHRAGM
LOOKING ALONG ϕ OF BEARINGS**



**APPROACH SLAB SEAT TYPICAL SECTION
LOOKING ALONG ϕ OF BEARINGS**



Mark	Description	By	Chk'd.	Recm'd.	Date
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S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
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OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

DECK AND DIAPHRAGM SECTION DETAILS

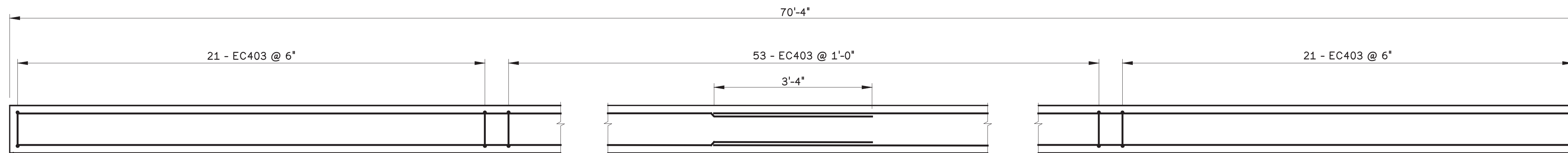
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SHEET 35 OF 61

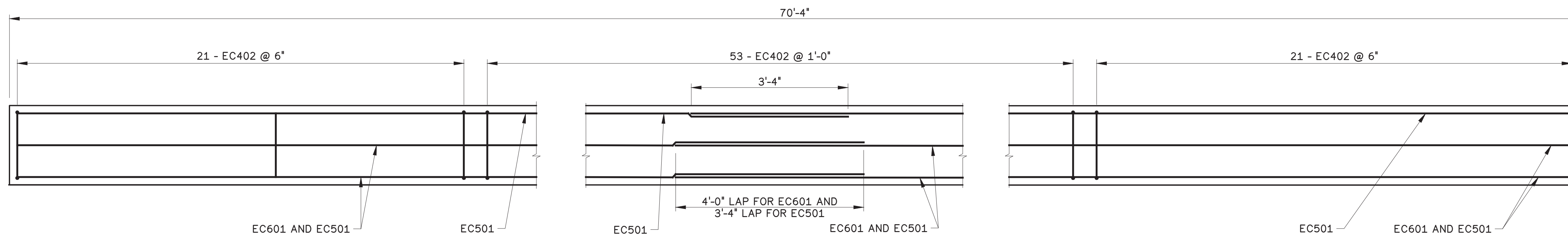
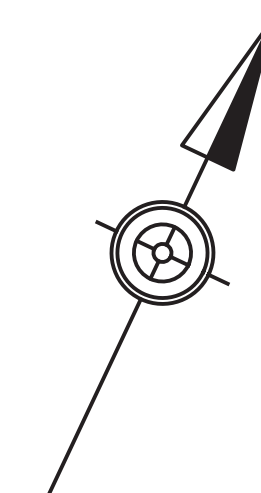
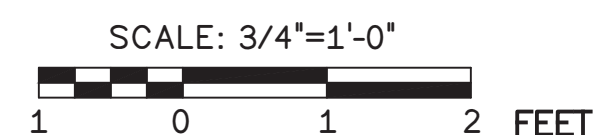
S-41964



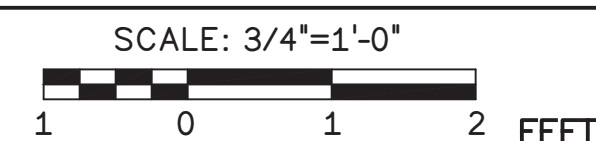
H:\16803 SR 2016 over RCDrawing Files\2 STRIP sheets\04 DECK REINFORCEMENT PLAN.dwg, 4/29/2026 1:14 PM, CDR - DWG To PDF.plt



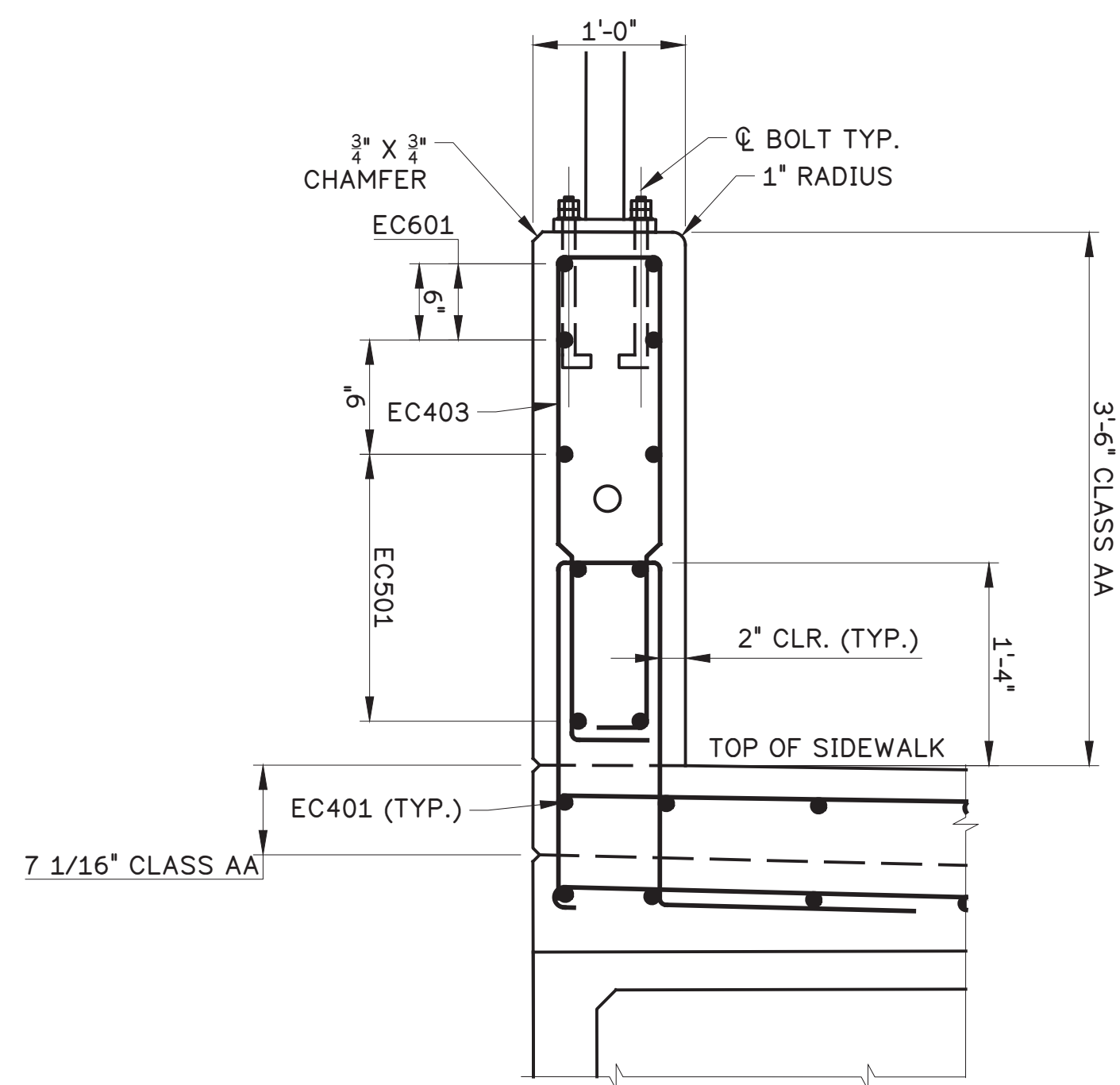
LEFT REINFORCEMENT BARRIER DETAIL



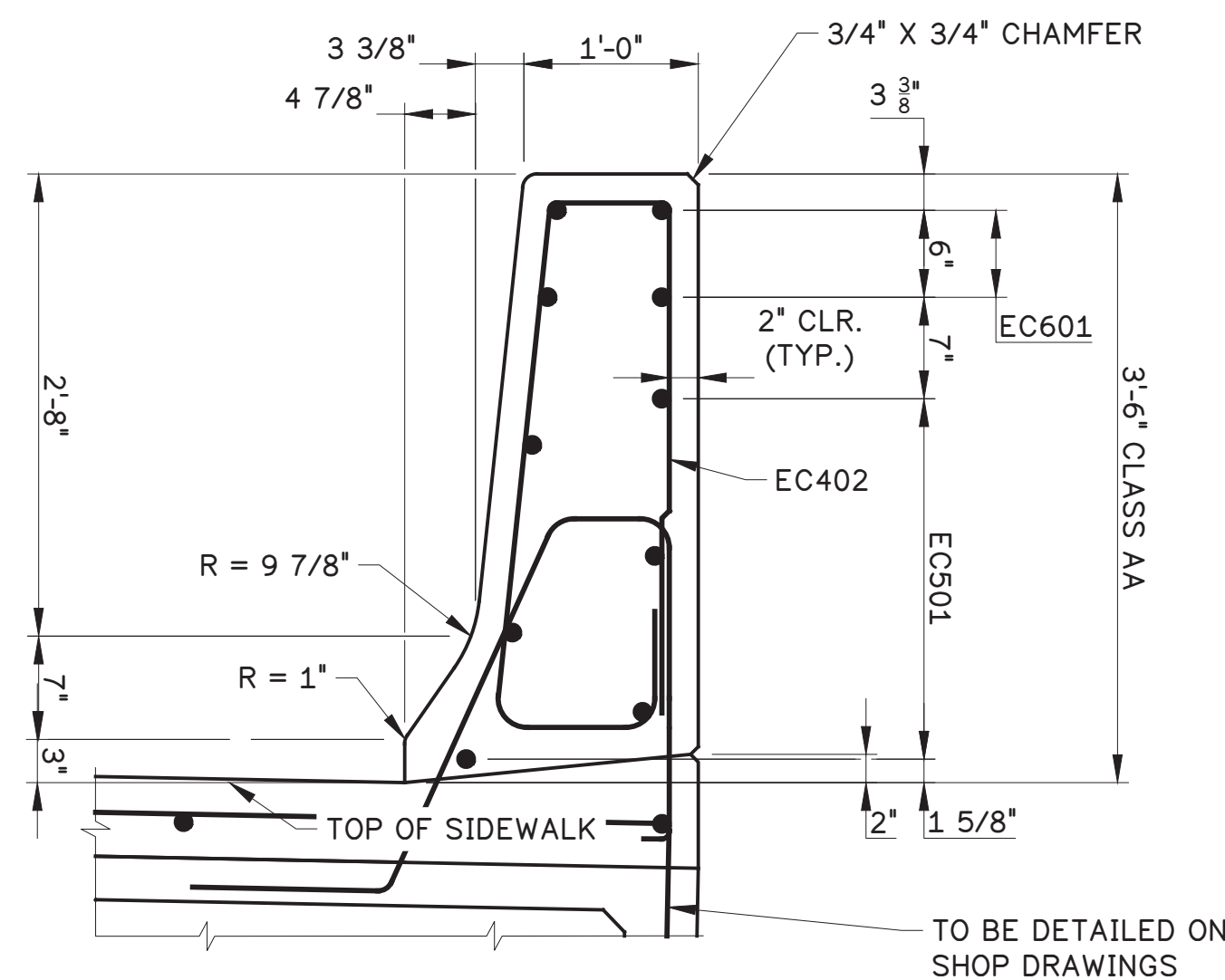
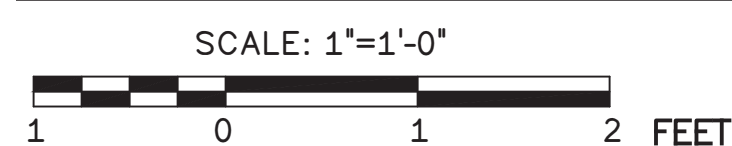
RIGHT BARRIER REINFORCEMENT DETAIL



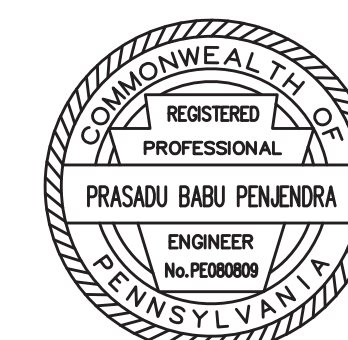
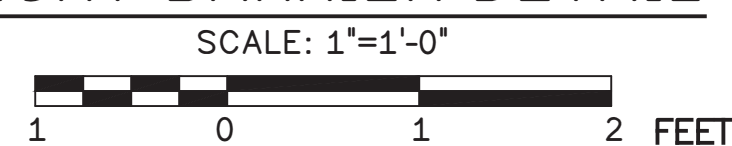
- SHEET NOTES:**
- FOR DECK REINFORCEMENT PLAN, SEE SHEET 33.
 - FOR SLAB REINFORCEMENT SECTION, SEE SHEET 34.
 - FOR DECK REBAR SCHEDULE, SEE SHEET 37.



LOOKING AHEAD STATIONS LEFT BARRIER DETAIL



LOOKING AHEAD STATIONS RIGHT BARRIER DETAIL



Mark	Description	By	Chk'd.	Recm'd.	Date
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 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

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 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
**SUPERSTRUCTURE SIDEWALK & BARRIER
 DETAILS**

RECOMMENDED 05 / 04 / 2026

SHEET 36 OF 61

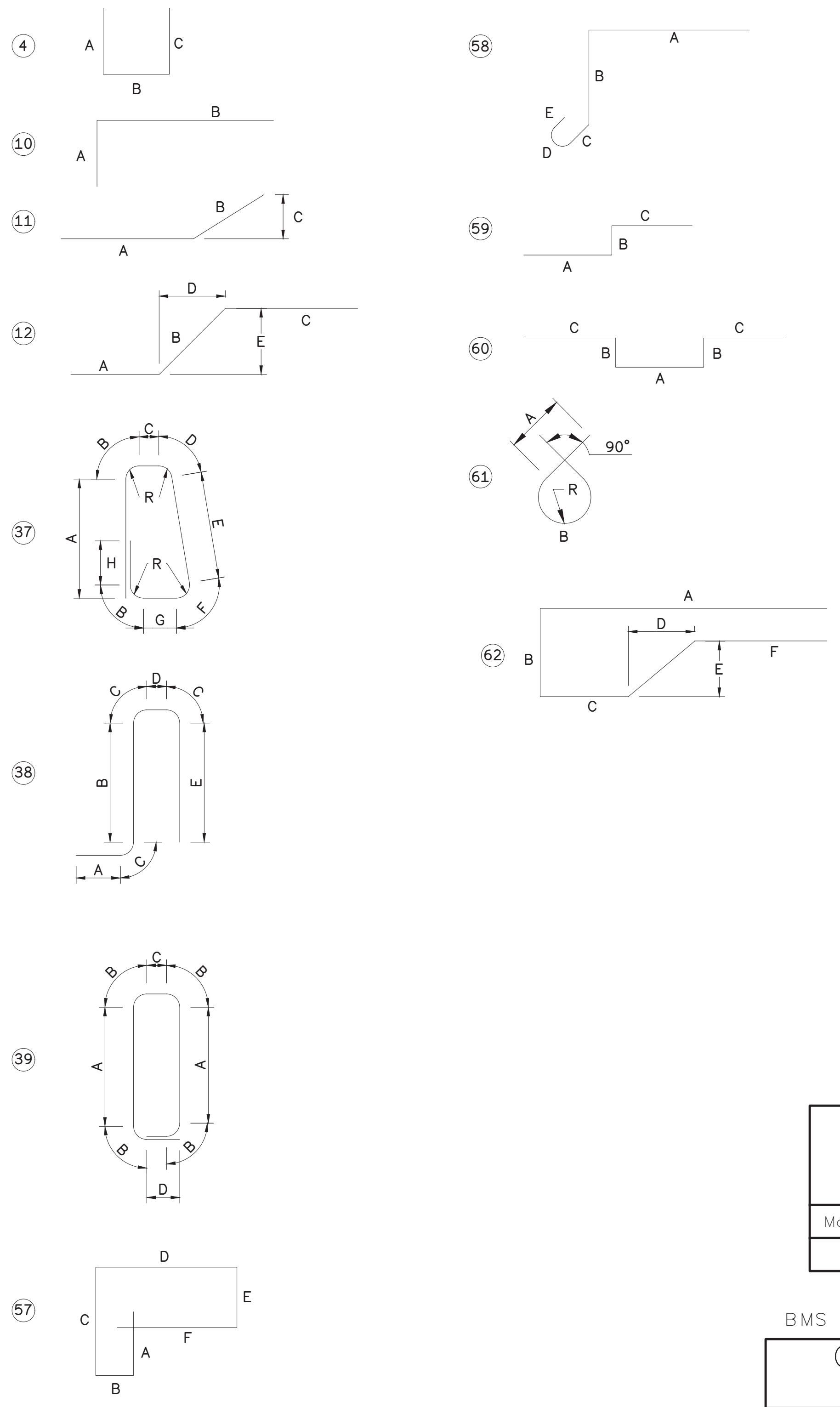
S-41964

h:\168003-2016-over-reading\drawing files\3 STR\61 sheets\2 SUPERSTRUCTURE SIDEWALK & BARRIER DETAILS.dwg, 4/17/2026, 10:11 AM, AutoCAD PDF (General Documentation).pc3

DECK REINFORCEMENT BAR SCHEDULE											
MARK	SIZE	QUANTITY	LENGTH	TYPE	A	B	C	D	E	R	REMARKS
SLAB											
ES401	4	110	5'-9"	12	3'-0"	7 1/2"	1'-7 1/2"	5 3/4"	5 1/2"		F=1'-0"
ES402	4	132	36'-0"	STR							
ES403	4	72	6'-7"	38	1'-6"	1'-10"	4"	3"	2'-1/2"	2"	
ES501	5	26	VARIES	STR							VARIES BY 1'-10 1/16" EACH. 53'-6" TO 5'-0"
ES502	5	79	53'-6"	STR							
ES503	5	26	VARIES	STR							VARIES BY 1'-10 1/16" EACH. 53'-6" TO 5'-0"
ES504	5	105	6'-10"	12	3'-0"	10"	3'-0"	1"	10"		
ES504A	5	2	5'-8"	12	3'-0"	10"	1'-10"	1"	10"		
ES505	5	6	7'-5"	57	1'-0"	7"	1'-2"	2'-4"	4"		F=2'-0"
ES506	5	120	4'-5"	57	1'-0"	7"	1'-2"	10"	4"		F=6"
ES506A	5	24	4'-8"	57	1'-0"	7"	1'-2"	10"	7"		F=6"
ES510	5	5	VARIES	59	VARIES	4"	2'-9"				A VARIES 8'-7" TO 2'-5". 9'-11" TO 3'-9"
ES511	5	100	11'-7"	60	8'-11"	4"	2'-9"				
ES512	5	5	VARIES	59	VARIES	4"	2'-9"				A VARIES 8'-7" TO 2'-5". 9'-11" TO 3'-9"
ES513	5	12	29'-6"	11	28'-4 1/2"	1'-1 1/2"	5"				
ES514	5	6	37'-7"	11	41'-10 1/2"	1'-1 1/2"	5"				
ES514A	5	6	12'-8"	11	11'-6 1/2"	1'-1 1/2"	5"				
ES601	6	120	7'-0"	58	3'-10"	1'-7 1/2"	6"	9 1/2"	3"		
ES601A	6	24	7'-3"	58	3'-10"	1'-10"	6"	10"	3"		
ES601B	6	2	5'-0"	10	3'-10"	1'-2"					
ES602	6	4	29'-9"	11	28'-7 1/2"	1'-1 1/2"	5"				
ES602A	6	2	10'-11"	60	9'-6"	2 1/2"	1'-0"				
ES603	6	8	30'-2"	11	29'-0 1/2"	1'-1 1/2"	5"				
ES604	6	8	30'-2"	11	29'-0 1/2"	1'-1 1/2"	5"				
SIDEWALK/BARRIER											
EC401	4	16	36'-4"	STR							
EC402	4	95	8'-1"	37	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	2"	F=4 1/8"; G=6 3/4"; H=5"; I=3 3/8"
EC403	4	95	7'-10"	39	2'-9"	4"	3"	5 1/2"	3"	2"	
EC501	5	24	36'-8"	STR							
EC502	5	104	6'-3"	STR							
EC502A	5	3	VARIES	STR							VARIES BY 1'-9" EACH. 4'-6" TO 1'-0"
EC502B	5	1	6'-8"	STR							
EC502C	5	1	5'-10"	STR							
EC601	6	8	37'-0"	STR							
DIAPHRAGM											
ED401	4	2	3'-6"	4	1'-2"	1'-2"	1'-2"				
ED402	4	2	1'-8"	4	3"	1'-2"	3"				
ED403	4	4	2'-5"	11	1'-0"	1'-5"	1'-0"				
ED501	5	6	1'-3"	STR							WITH THREADED INSERTS
ED502	5	2	3'-7"	61	10"	1'-11"				5"	

- E PREFIX INDICATES EPOXY COATED.
- ALL DIMENSIONS ARE OUT TO OUT.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES DENOTE TYPE.
- Fy = 60 KSI
- DO NOT USE RAIL STEEL (A 616/A 616M) IN BRIDGE PIERS, ABUTMENTS, SHEAR BLOCKS, BEAMS, FOOTINGS, PILES AND WHERE BENDING OR WELDING OF THE REINFORCEMENT IS INDICATED.

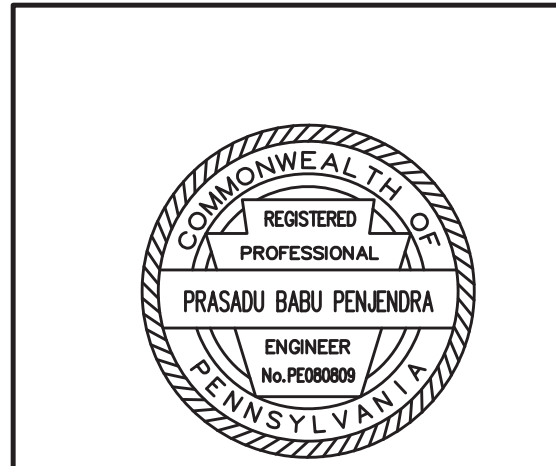
- SHEET NOTES:**
- FOR DECK REINFORCEMENT PLAN, SEE SHEET 33.
 - FOR SLAB REINFORCEMENT SECTION, SEE SHEET 34.
 - FOR DECK AND DIAPHRAGM SECTION DETAILS, SEE SHEET 35.
 - FOR SUPERSTRUCTURE SIDEWALK & BARRIER DETAILS, SEE SHEET 36.



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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

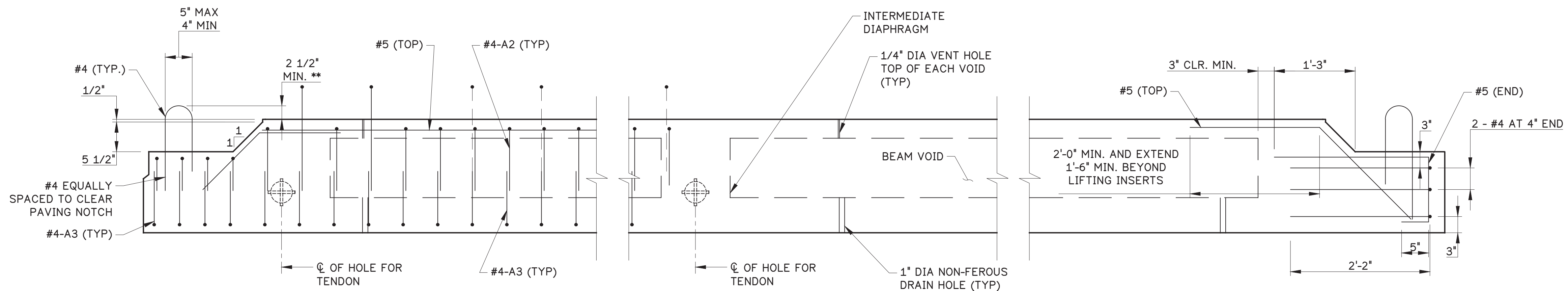
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 BERKS COUNTY
 SR 2016 SECTION 01B
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 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
DECK REBAR SCHEDULE



RECOMMENDED 05 / 04 / 2026 SHEET 37 OF 61

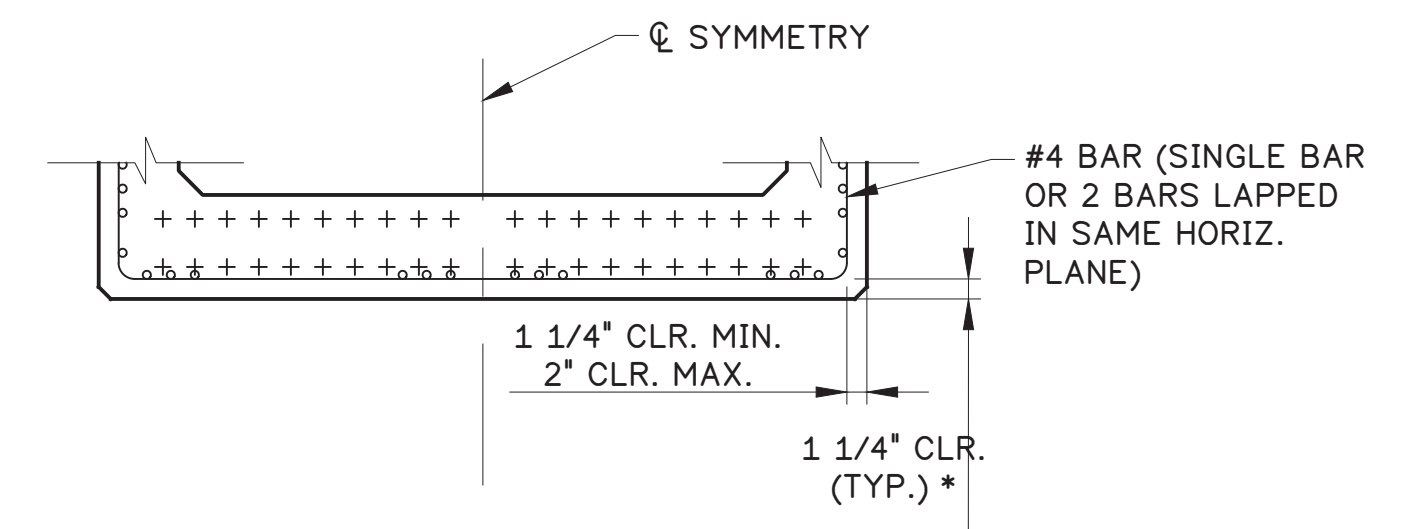
S-41964

h:\168003_2016_over-riding_files\3_STR\6_sheets\36_DECK_BAR_SCHEDULE.dwg, 4/17/2025, 10:11 AM, AutoCAD PDF (General Documentation).pc3



ADJACENT BEAM ELEVATION

SCALE: 1"=1'-0"



TYPICAL SECTION - STRAND CONFINEMENT

SCALE: 1"=1'-0"



- * SEE BEAM DAP DETAIL, SHEET 39, AND MAINTAIN 1 1/4" VERTICAL MINIMUM CLEARANCE IN THE DAP AREA.
- ** TO BE DETAILED ON THE SHOP DRAWINGS

STRAND CONFINEMENT NOTES:

- ADDITIONAL CONFINEMENT REINFORCEMENT SHALL EXTEND FOR 1/3 OF THE SPAN LENGTH.
- ADDITIONAL CONFINEMENT REINFORCEMENT SHALL NOT BE LESS THAN NO. 4 DEFORMED BARS AND MATCH WITH VERTICAL STIRRUPS WITH MAXIMUM SPACING OF 21".

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114

BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

SR 2016 SECTION 01B

SEGMENT 0020 OFFSET 0226

S.R. 2016-000 STA. 22+53.75

OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

BEAM FABRICATION DETAILS

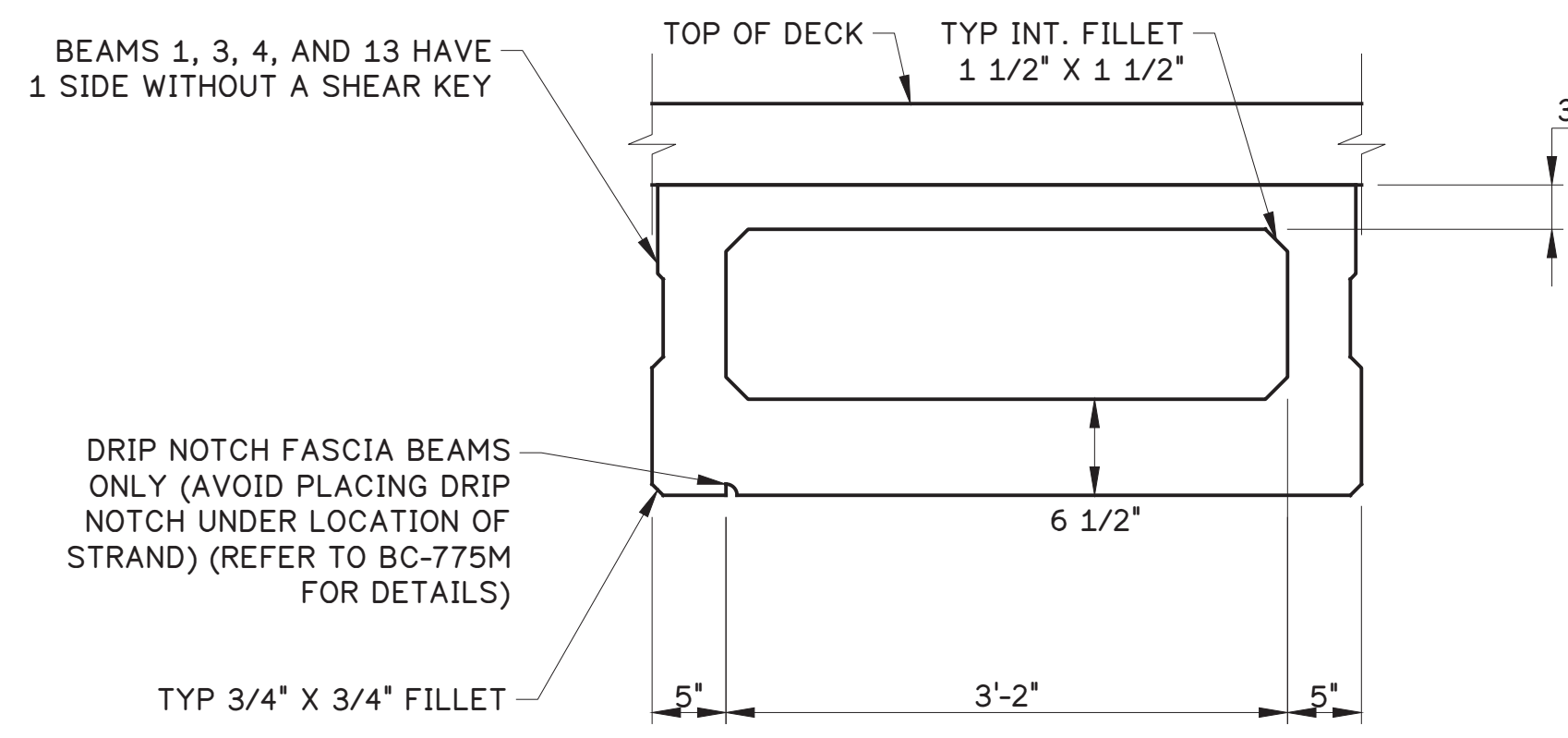
RECOMMENDED 05 / 04 / 2026

SHEET 38 OF 61

S-41964

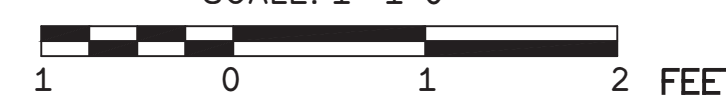
REINFORCING & PRESTRESSING NOTES:

1. P/S ADJACENT BOX BEAM SIZE = 21" X 48"
2. EPOXY COAT ALL REBARS FOR A DISTANCE OF 9'-0" FROM BEAM ENDS ADJACENT TO DECK JOINTS.
3. EPOXY COAT ALL REINFORCEMENT WHICH PROTRUDES INTO BRIDGE DECK FROM TOP OF BEAMS.
4. CALCULATE BEARING SEAT ELEVATION, SLOPE, AND HAUNCH DEPTH USING THE NET FINAL CAMBER - "C".
5. END ZONE REINFORCEMENT MAY BE INCREASED BY FABRICATOR TO REFLECT FABRICATOR'S EXPERIENCE AND/OR CONTROL CRACKING.
6. END REINFORCEMENT SPACING MAY BE REDUCED AS REQUIRED TO SATISFY SHEAR REINFORCEMENT REQUIREMENTS, BUT DO NOT REDUCE THE MINIMUM AREA TO BE REINFORCED.
7. FABRICATOR TO CHECK STABILITY FOR HANDLING AND TRANSPORTING OF THE MEMBERS.
8. MIN. COVER:
STIRRUPS = 1"
ALL OTHERS = 1 1/2"
9. PRESTRESS ZONE IS DEFINED AS THE DISTANCE FROM THE BOTTOM OF BEAM TO THE TOP ROW OF STRANDS.
10. #5 SIZE BARS MAY BE USED FOR SHEAR STIRRUPS IF THE REQUIRED SPACING FOR # 4 BARS IS LESS THAN 3".
11. TOP SURFACES OF BEAMS TO RECEIVE A "HEAVY SCORED" FINISH.
12. SHOW DESIGN AND CASTING LENGTHS ON SHOP DRAWINGS.
13. SHOW PLAN, ELEVATION, SECTIONS AND ALL REINFORCEMENT DETAILS ON SHOP DRAWINGS.
14. PRESTRESS BEAM REINFORCEMENT AND DETAILS OTHER THAN THOSE SHOWN SHALL BE SHOWN ON THE FABRICATORS SHOP DRAWINGS AND CONFORM TO THE LATEST PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REQUIREMENTS.
15. SHOW ANY MODIFICATIONS TO SPLICE AND BENDING DETAILS ON SHOP DRAWINGS.
16. SHOW THE FOLLOWING DATA ON SHOP DRAWINGS:
 - SIZE AND LOCATIONS OF TEMPORARY STORAGE SUPPORTS
 - TYPE AND LOCATIONS OF THE BRACING AND TEMPORARY SUPPORTS USED FOR THE TRANSPORTATION AND ERECTION OF THE BEAMS.
17. ADJUST REINFORCEMENT TO MISS DOWEL HOLES.



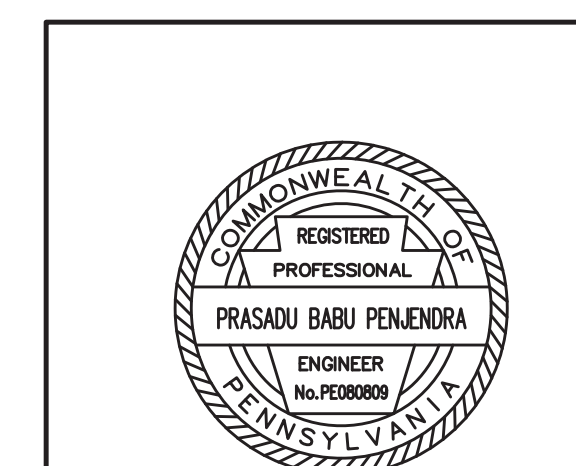
TYPICAL SECTION - CONCRETE

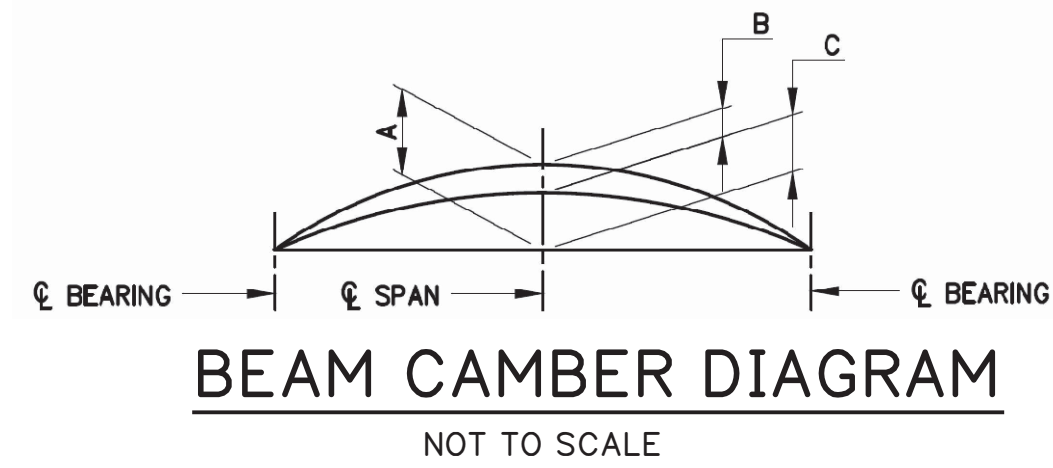
SCALE: 1"=1'-0"



SHEET NOTES:

- FOR GENERAL NOTES, SEE SHEET 3.
- FOR FRAMING PLAN, SEE SHEET 32.
- FOR BEAM CAMBER AND DAP, SEE SHEET 39.
- FOR BEAM END DETAILS, SEE SHEET 40.
- FOR BEAM RATING, SEE SHEETS 41-42.
- FOR BEAM END & BEARING DETAILS, SEE SHEET 43.





CAMBER NOTES:

- A = ESTIMATED PRESTRESS CAMBER MINUS DEFLECTION DUE TO DEAD LOAD OF BEAM TIMES CREEP FACTOR (CHECK IN FIELD).
 - B = DEFLECTION DUE TO ALL DEAD LOAD EXCEPT BEAM WEIGHT AND FUTURE WEARING SURFACE.
 - C = A-B = NET FINAL CAMBER
- THE THICKNESS OF THE CONCRETE HAUNCH SHALL BE VARIED TO ACHIEVE THE REQUIRED VERTICAL GEOMETRY AND TO COMPENSATE FOR ANY INACCURACIES IN BEAM CAMBER.

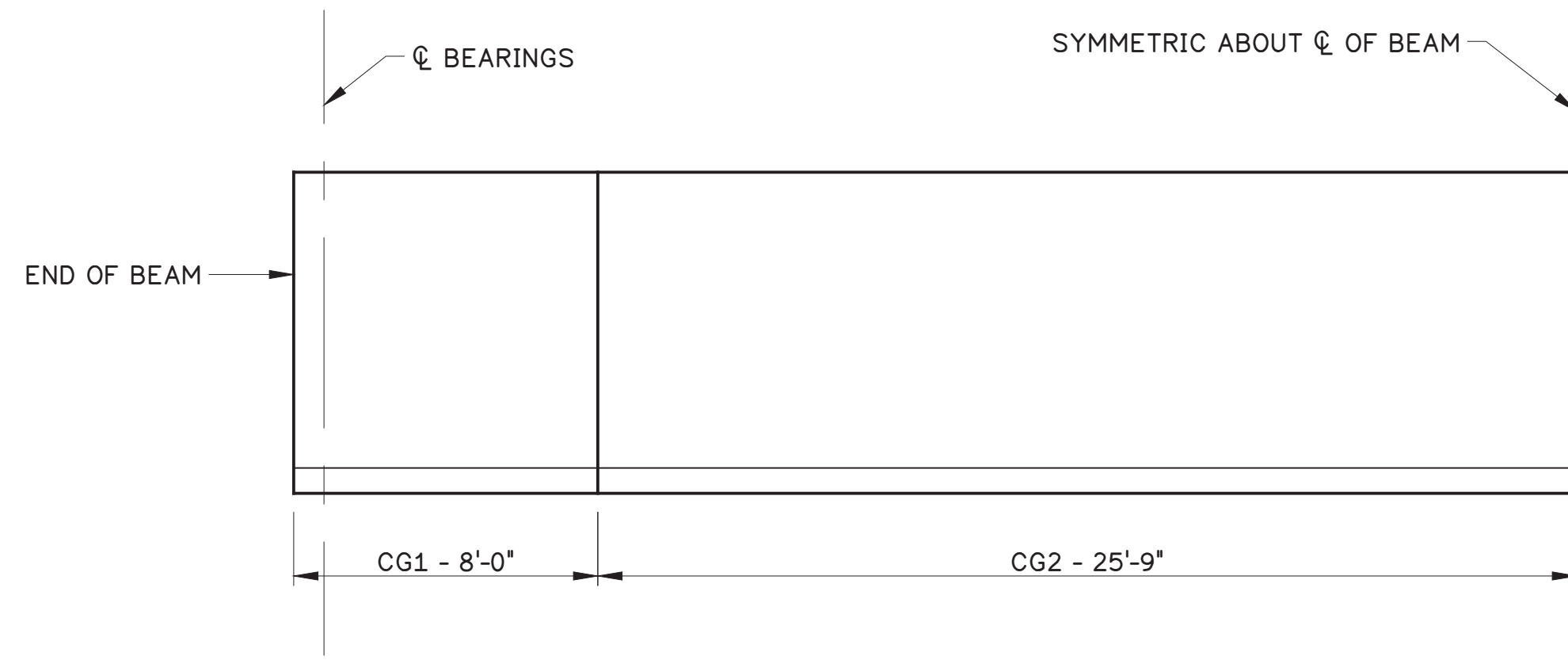
A, B AND C ARE THEORETICAL VALUES AND MAY VARY WITH ACTUAL CONCRETE STRENGTH (AGE), VARIOUS PRESTRESSING CONDITIONS, CREEP FACTOR AND PRESTRESS LOSSES.

USE A CREEP FACTOR EQUAL TO 1.60 AND P/S LOSS EQUAL TO 10%.

PRESTRESSING DATA:

- CONCRETE STRENGTH AT STRAND RELEASE = 8500 psi
 - CONCRETE STRENGTH AT 28 DAYS (f'_c) = 10000 psi
 - JACKING PRESTRESS STRESS = 202500 psi
- 270 ksi LOW RELAXATION STRANDS, $\frac{5}{8}$ " DIA., 0.217 IN² STRAND AREA

CAMBER TABLE					
BEAM NO.	TOTAL NO. OF STRANDS	JACKING PRESTRESS FORCE (LBS)	A	B	C
1	40	1757.7	4.08	1.89	2.19
2	40	1757.7	4.08	1.72	2.36
3	40	1757.7	4.11	2.08	2.03
4	40	1757.7	4.11	1.62	2.49
5	40	1757.7	4.08	1.01	3.07
6	40	1757.7	4.08	1.01	3.07
7	40	1757.7	4.08	1.01	3.07
8	40	1757.7	4.08	1.01	3.07
9	40	1757.7	4.08	1.09	2.99
10	40	1757.7	4.08	1.01	3.07
11	40	1757.7	4.08	1.37	2.71
12	40	1757.7	4.08	1.37	2.71
13	40	1757.7	4.08	1.42	2.66



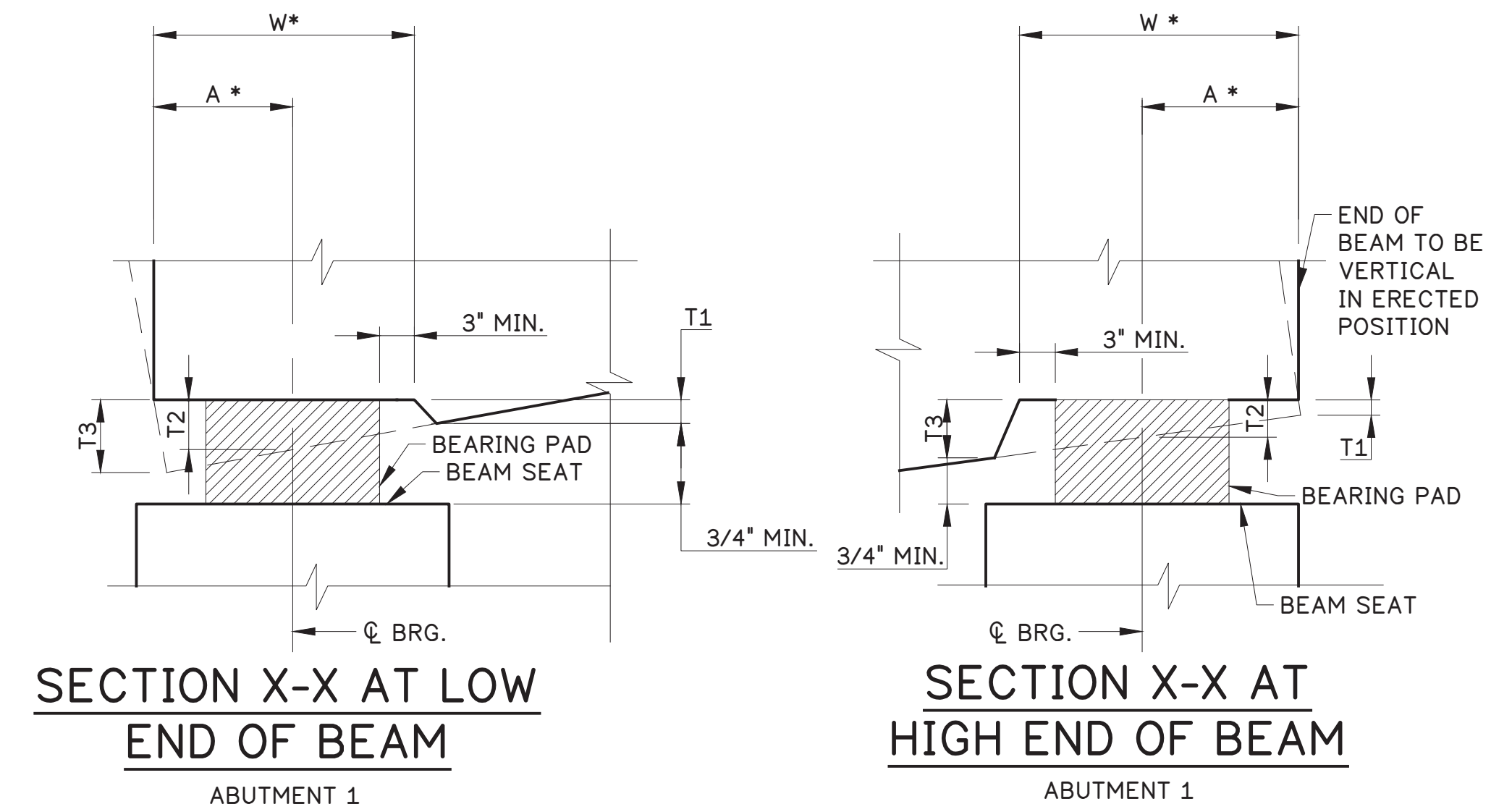
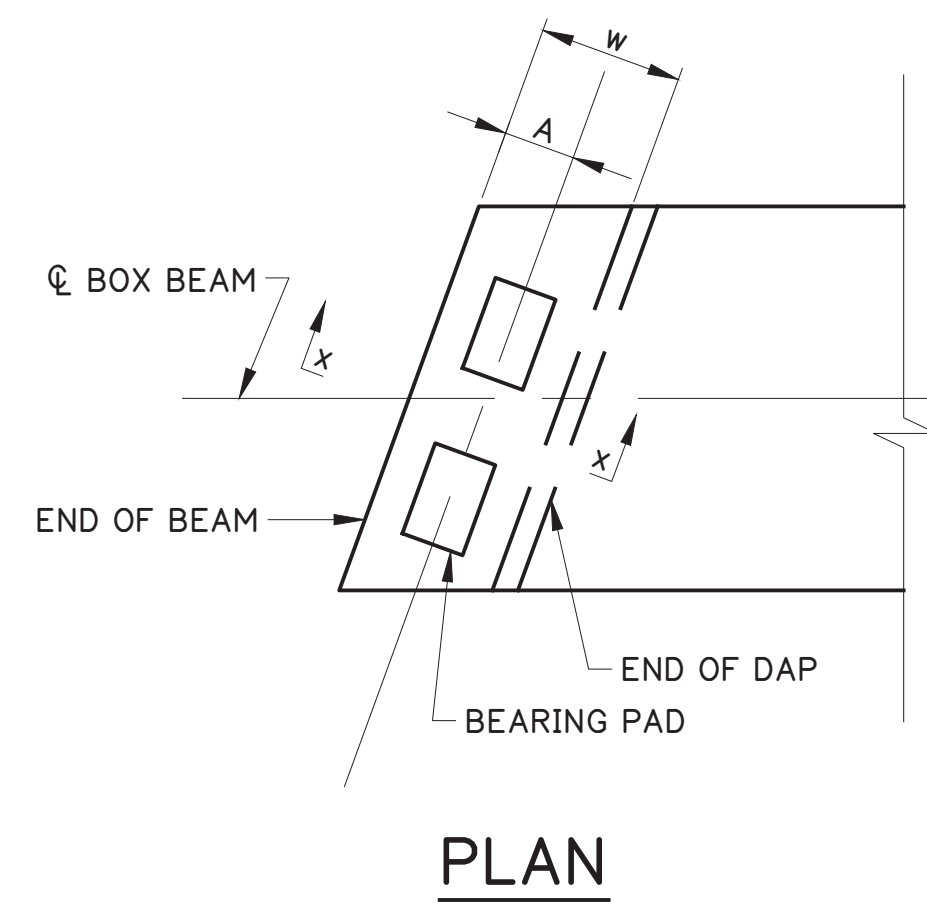
DEBONDING DETAIL

NOT TO SCALE

DEBONDING NOTES:

- DEBONDING DETAIL SHOWN ALONG ϕ OF BEAM.
- NUMBER OF DEBONDED STRANDS DOES NOT INCLUDE CRACK CONTROL DEBONDING.

STRAND BONDING INFORMATION		
	CG	NO. STRANDS BONDED
CG1	4	36
CG2	4	40

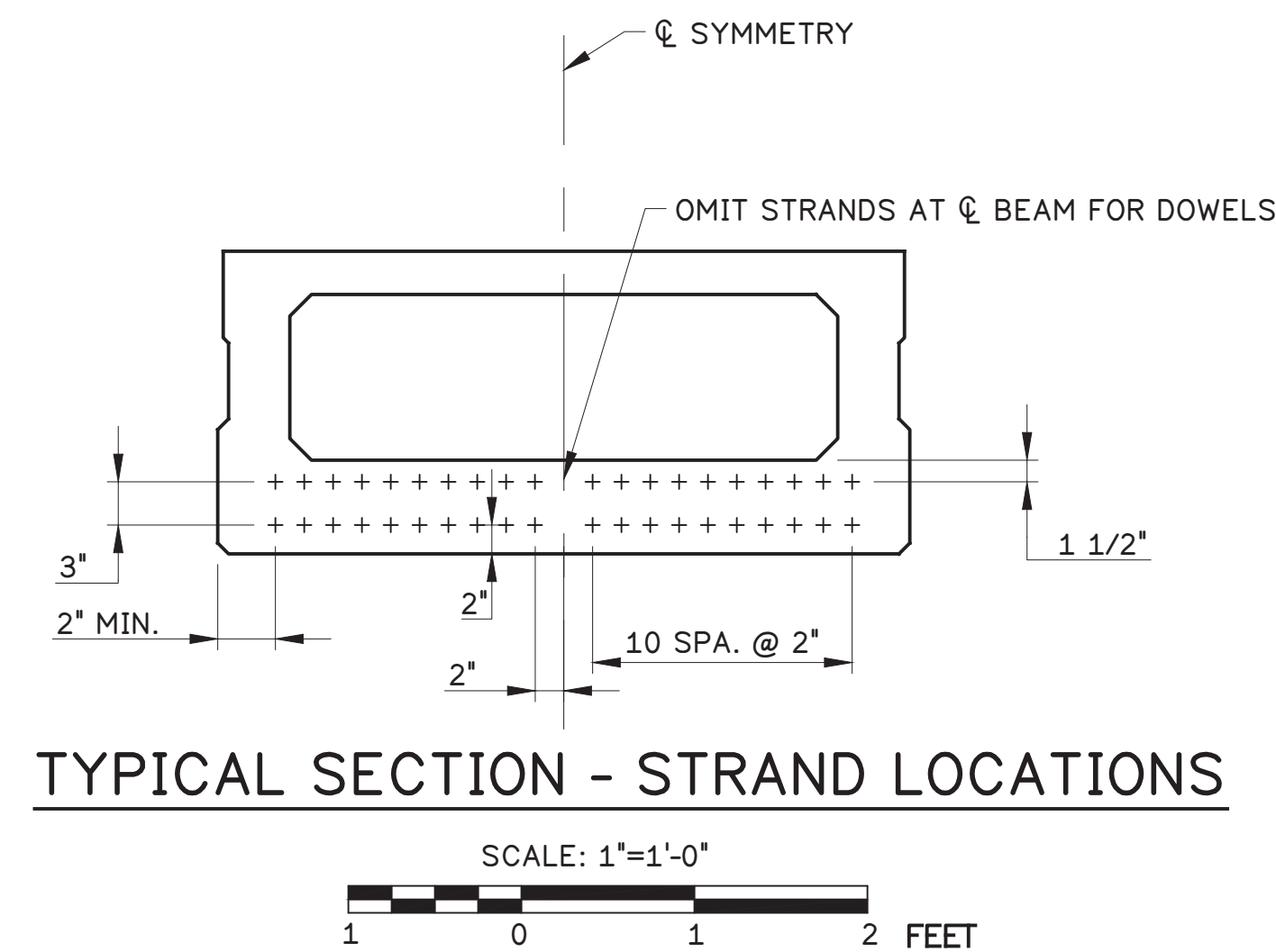
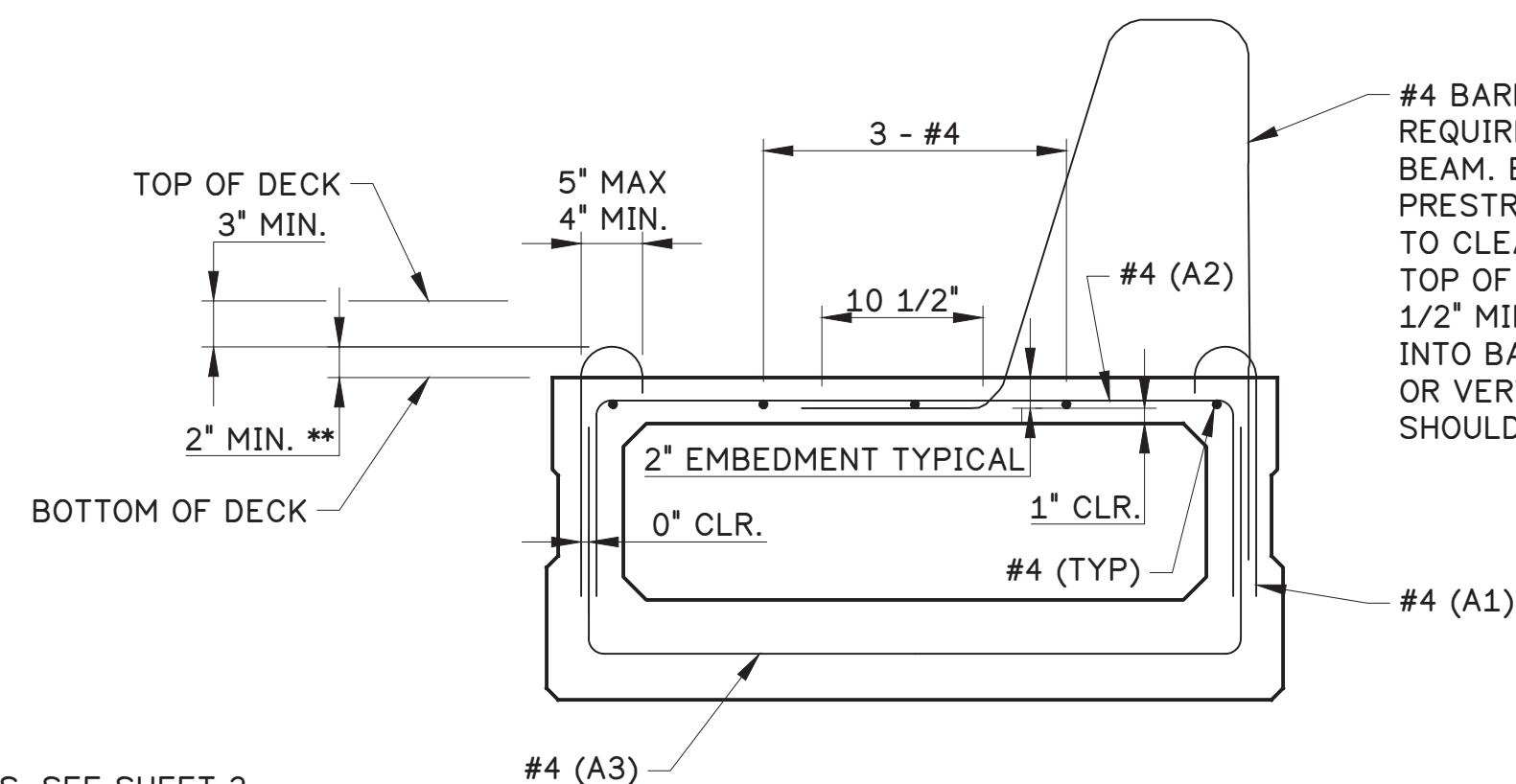


REBAR NOTES:

- * MEASURED NORMAL TO ϕ BEARING

BEAM DAP DETAILS

NOT TO SCALE



SHEET NOTES:

- FOR GENERAL NOTES, SEE SHEET 3.
- FOR FRAMING PLAN, SEE SHEET 32.
- FOR BEAM FABRICATION DETAILS, SEE SHEET 38.
- FOR BEAM END DETAILS, SEE SHEET 40.
- FOR BEAM RATING, SEE SHEETS 41-42.
- FOR BEAM END & RATING DETAILS, SEE SHEET 43.

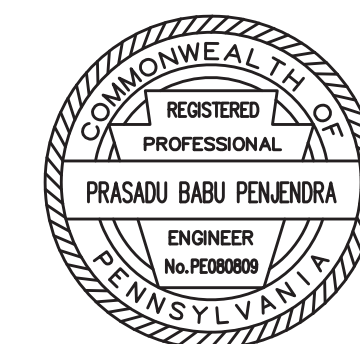
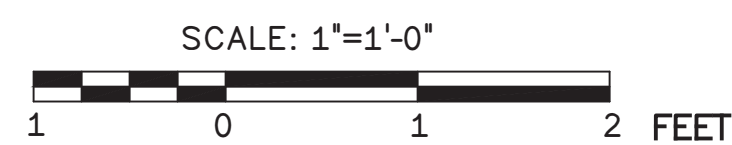
TYPICAL SECTION - REBAR

SCALE: 1"=1'-0"



REBAR NOTES:

** TO BE DETAILED ON SHOP DRAWINGS



DAP INFORMATION										
BEAM NO.	ABUTMENT 1					ABUTMENT 2				
	w	A	T1	T2	T3	W	A	T1	T2	T3
1	17.50	9.00	0.25	0.58	0.94	17.50	9.00	0.25	0.41	0.56
2	17.50	9.00	0.25	0.61	1.00	17.50	9.00	0.25	0.41	0.56
3	17.50	9.00	0.25	0.61	1.00	17.50	9.00	0.25	0.44	0.63
4	17.50	9.00	0.25	0.64	1.06	17.50	9.00	0.25	0.44	0.63
5	17.50	9.00	0.25	0.68	1.13	17.50	9.00	0.25	0.41	0.56
6	17.50	9.00	0.25	0.68	1.13	17.50	9.00	0.25	0.41	0.56
7	17.50	9.00	0.25	0.71	1.19	17.50	9.00	0.25	0.44	0.63
8	17.50	9.00	0.25	0.71	1.19	17.50	9.00	0.25	0.44	0.63
9	17.50	9.00	0.25	0.71	1.19	17.50	9.00	0.25	0.44	0.63
10	17.50	9.00	0.25	0.74	1.25	17.50	9.00	0.25	0.48	0.69
11	17.50	9.00	0.25	0.71	1.19	17.50	9.00	0.25	0.48	0.69
12	17.50	9.00	0.25	0.74	1.25	17.50	9.00	0.25	0.51	0.75
13	17.50	9.00	0.25	0.74	1.25	17.50	9.00	0.25	0.51	0.75

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

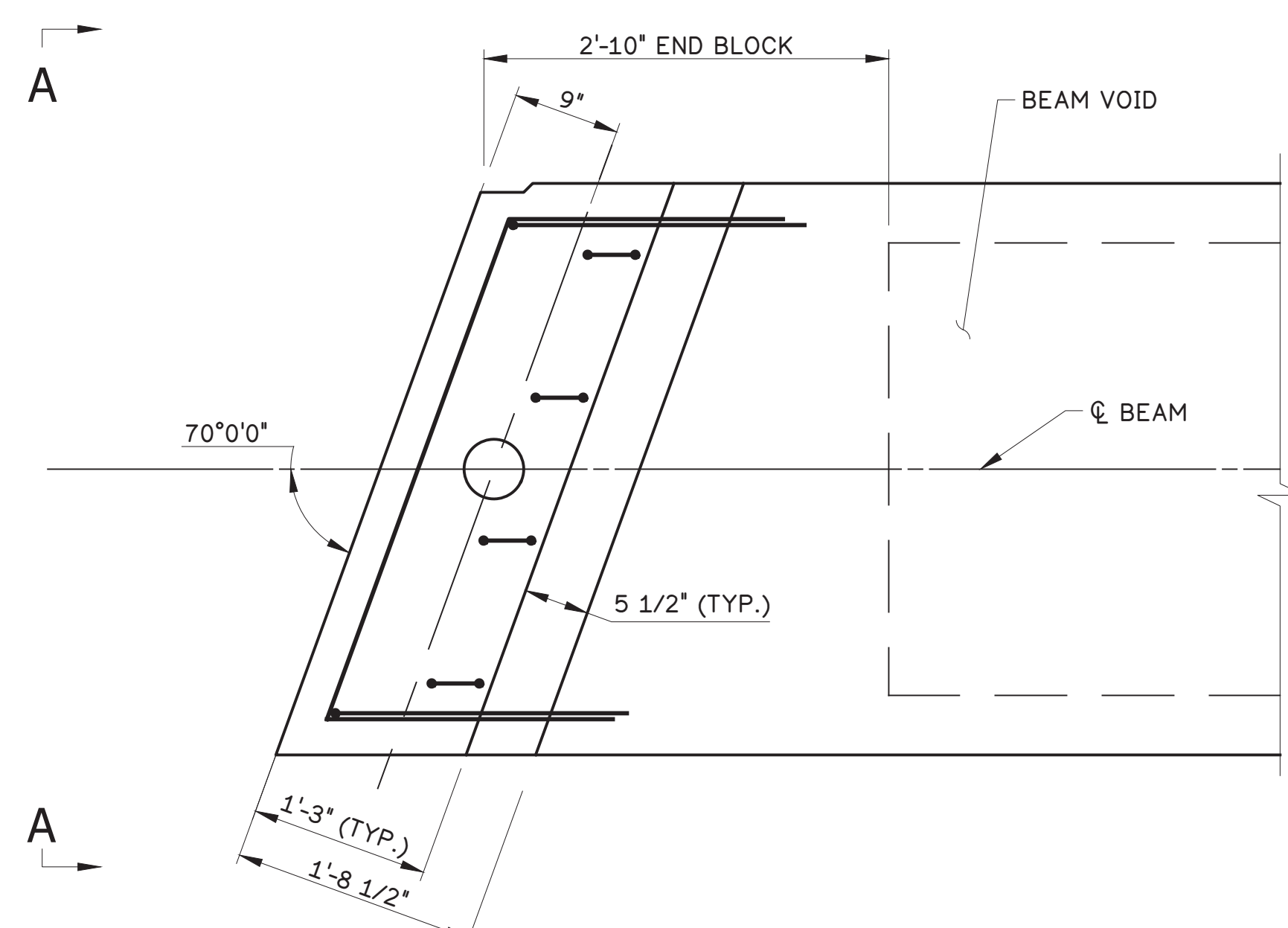
S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
BEAM CAMBER AND DAP

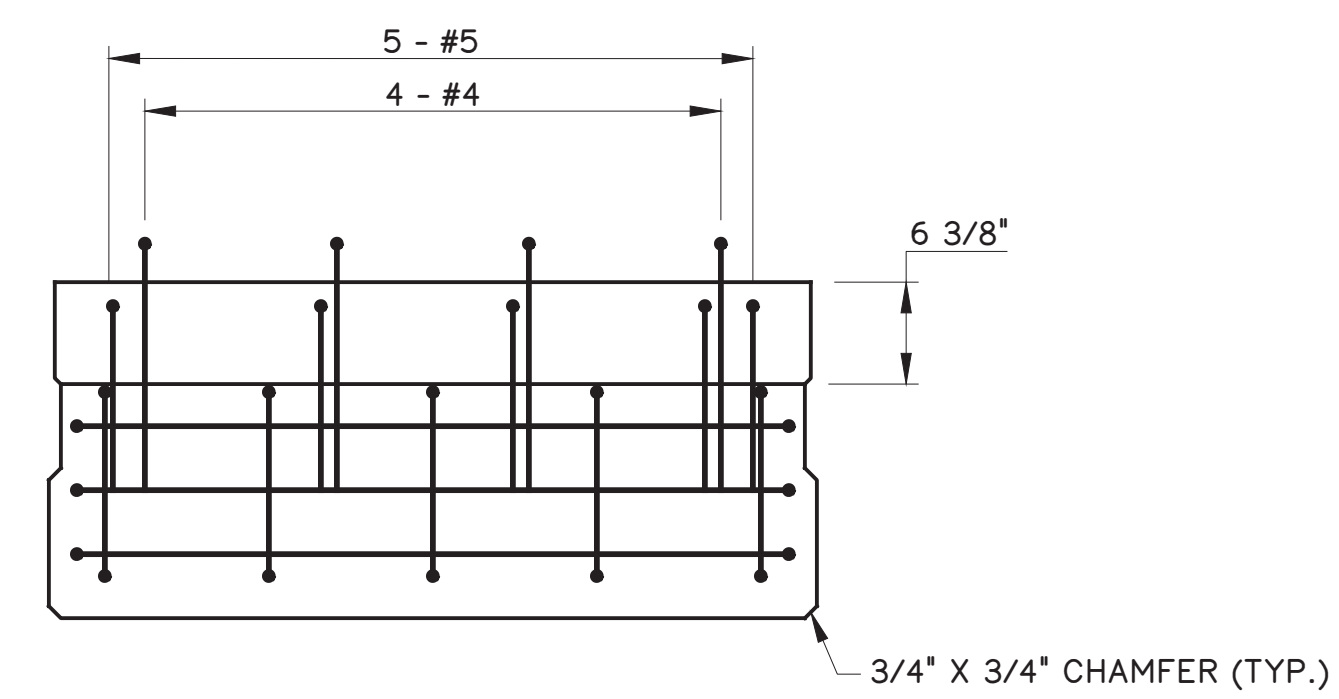
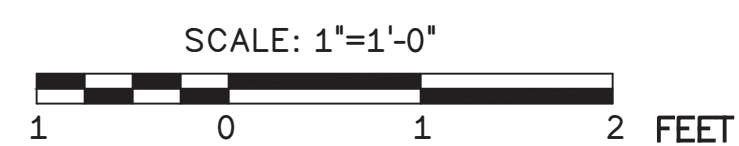
RECOMMENDED 05 / 04 / 2026

SHEET 39 OF 61

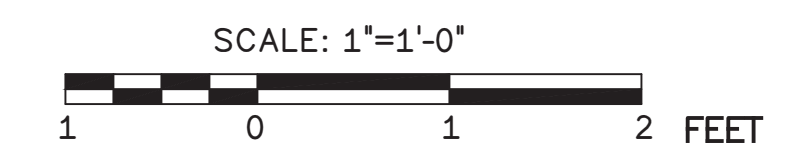
S-41964



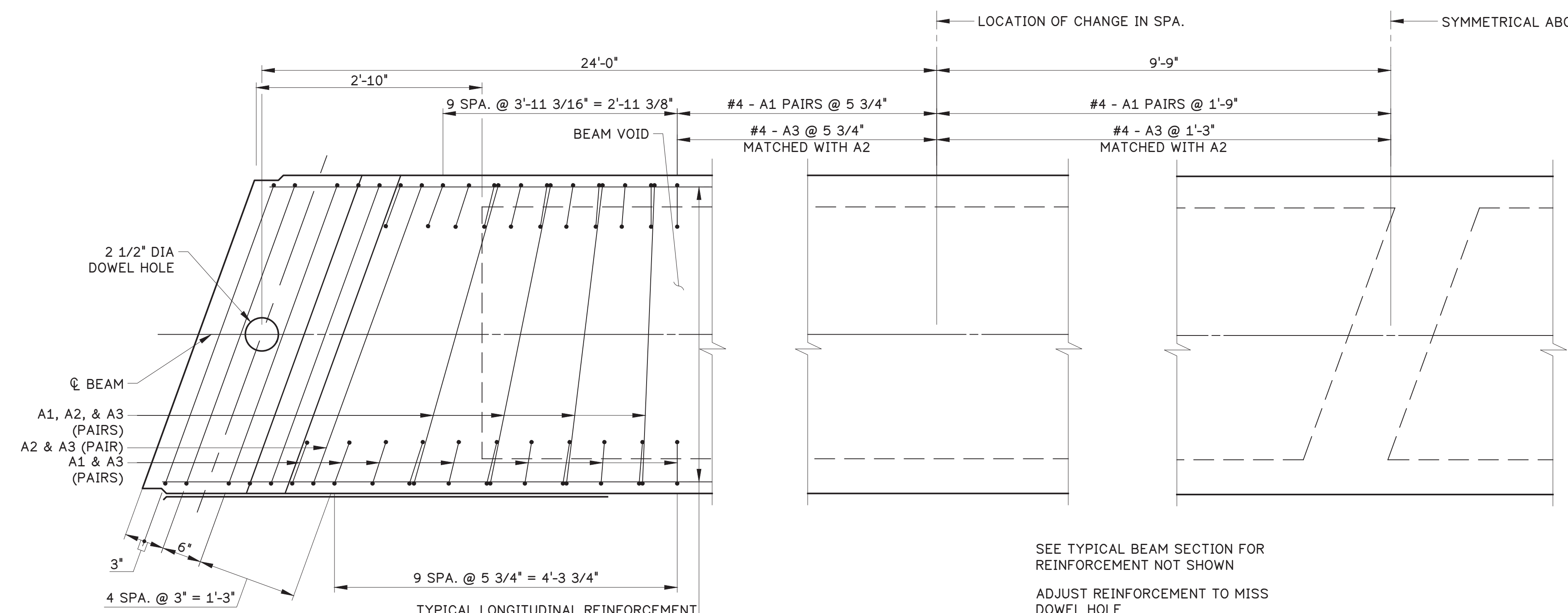
PLAN - BEAM END LONGITUDINAL REINF.



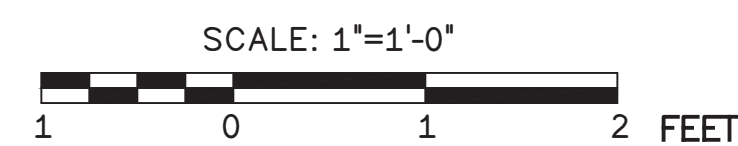
VIEW A-A



- SHEET NOTES:
- FOR BEAM FABRICATION DETAILS, SEE SHEET 38.
 - FOR BEAM CAMBER AND DAP, SEE SHEET 39.
 - FOR BEAM END & BEARING DETAILS, SEE SHEET 43.



BEAM END TRANSVERSE REINFORCEMENT



SEE TYPICAL BEAM SECTION FOR REINFORCEMENT NOT SHOWN
ADJUST REINFORCEMENT TO MISS DOWEL HOLE

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

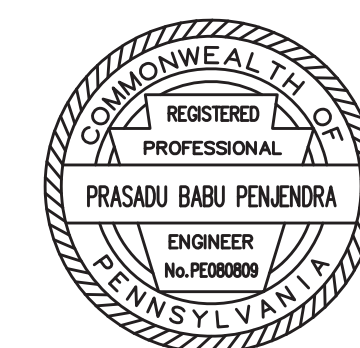
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

BEAM END DETAILS

RECOMMENDED 05 / 04 / 2026

SHEET 40 OF 61

S-41964



BEAM 1 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	TK527	PHL-93	P-82	P-2016-13
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.329	0.329	0.329	0.329	0.329	N/A	N/A
	LOCATION (ft)	33.75	33.75	33.75	33.75	33.75	N/A	N/A
	LIMIT STATE	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	N/A	N/A
	RATING FACTOR	2.31M	1.65M	1.41M	1.45M	1.52M	N/A	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.667	0.667	0.326	0.667	0.326	0.667	0.667
	LOCATION (ft)	2.42	2.42	33.75	2.42	33.75	2.42	2.42
	LIMIT STATE	STR-II	STR-II	STR-II	STR-II	STR-IA	STR-II	STR-II
	RATING FACTOR	3.60V	2.74M	2.39M	2.42V	2.07M	1.42V	1.36V
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2558.98						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		287.28						
LOCATION (ft)		6.75						
SPAN LENGTH (ft)		67.5						

BEAM 2 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	TK527	PHL-93	P-82	P-2016-13
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.329	0.329	0.329	0.329	0.329	N/A	N/A
	LOCATION (ft)	33.75	33.75	33.75	33.75	33.75	N/A	N/A
	LIMIT STATE	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	N/A	N/A
	RATING FACTOR	2.51M	1.79M	1.53M	1.58M	1.66M	N/A	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.323	0.323	0.323	0.323	0.323	0.566	0.323
	LOCATION (ft)	33.75	33.75	33.75	30.38	33.75	2.45	33.75
	LIMIT STATE	STR-II	STR-II	STR-II	STR-II	STR-IA	STR-II	STR-II
	RATING FACTOR	4.09M	2.93M	2.50M	2.57M	2.16M	1.70M	1.45M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2564.42						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		293.87						
LOCATION (ft)		10.12						
SPAN LENGTH (ft)		67.5						

BEAM 3 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	TK527	PHL-93	P-82	P-2016-13
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.385	0.385	0.385	0.385	0.385	N/A	N/A
	LOCATION (ft)	33.75	33.75	33.75	33.75	33.75	N/A	N/A
	LIMIT STATE	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	N/A	N/A
	RATING FACTOR	2.13M	1.52M	1.30M	1.34M	1.41M	N/A	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.385	0.385	0.385	0.385	0.385	0.385	0.385
	LOCATION (ft)	33.75	33.75	33.75	30.38	33.75	30.38	33.75
	LIMIT STATE	STR-II	STR-II	STR-II	STR-II	STR-IA	STR-II	STR-II
	RATING FACTOR	3.94M	2.81M	2.40M	2.47M	2.08M	1.65M	1.40M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2941.05						
LOCATION (ft)		23.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		325.78						
LOCATION (ft)		3.38						
SPAN LENGTH (ft)		67.5						

BEAM 4 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	TK527	PHL-93	P-82	P-2016-13
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.385	0.385	0.385	0.385	0.385	N/A	N/A
	LOCATION (ft)	33.75	33.75	33.75	33.75	33.75	N/A	N/A
	LIMIT STATE	SERV-III	SERV-III	SERV-III	SERV-III	SERV-III	N/A	N/A
	RATING FACTOR	3.13M	2.24M	1.91M	1.97M	1.65M	N/A	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.385	0.385	0.385	0.385	0.385	0.385	0.385
	LOCATION (ft)	33.75	33.75	33.75	30.38	33.75	30.38	33.75
	LIMIT STATE	STR - II	STR - II	STR - II	STR - II	STR - IA	STR - II	STR - II
	RATING FACTOR	4.23M	3.03M	2.58M	2.66M	2.23M	1.77M	1.50M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2941						
LOCATION (ft)		23.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		326.56						
LOCATION (ft)		3.38						
SPAN LENGTH (ft)		67.5						

NOTE:

- GIVEN DISTRIBUTION FACTOR IS THE VEHICULAR LIVE LOAD DISTRIBUTION FACTOR USED TO PRODUCE THE GIVEN RATING.
- RATING ANALYSIS IS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN METHOD.
- SEE DESIGN LIVE LOAD NOTES, THIS SHEET, FOR ADIT INFORMATION AND FOR THE DESIGN LIVE LOADING COMBINATIONS.
- THE CRITICAL BEAM IS THE EXTERIOR (FASCIA) BEAM.

SHEET NOTES:

- FOR GENERAL NOTES, SEE SHEET 3.
- FOR BEAM FRAMING PLAN, SEE SHEET 32.
- FOR BEAM FABRICATION DETAILS, SEE SHEET 38.

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

DES: PP DWG: GJT CKD: PP

BEAM 5-10 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	TK527	PHL-93	P-82	P-2016-13
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.566	0.323	0.323	0.323	0.323	N/A	N/A
	LOCATION (ft)	2.29	33.75	33.75	30.38	33.75	N/A	N/A
	LIMIT STATE	STR - I	STR - I	STR - I	STR - I	STR - I	N/A	N/A
	RATING FACTOR	3.45V	2.48M	2.11M	2.17M	1.83M	N/A	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.566	0.323	0.323	0.323	0.323	0.566	0.323
	LOCATION (ft)	33.75	30.38	33.75	30.38	33.75	30.38	33.75
	LIMIT STATE	STR - II	STR - II	STR - II	STR - II	STR - IA	STR - II	STR - II
	RATING FACTOR	4.73M	3.38M	2.89M	2.97M	2.50M	1.98M	1.68M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2564.22						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		382.51						
LOCATION (ft)		65.21						
SPAN LENGTH (ft)		67.5						

BEAM 11-12 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	TK527	PHL-93	P-82	P-2016-13
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.323	0.323	0.323	0.323	0.323	N/A	N/A
	LOCATION (ft)	33.75	33.75	33.75	30.38	33.75	N/A	N/A
	LIMIT STATE	STR - I	STR - I	STR - I	STR - I	STR - I	N/A	N/A
	RATING FACTOR	3.32M	2.38M	2.03M	2.09M	1.75M	N/A	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.323	0.323	0.323	0.323	0.323	0.323	0.323
	LOCATION (ft)	33.75	33.75	33.75	30.38	33.75	30.38	33.75
	LIMIT STATE	STR - II	STR - II	STR - II	STR - II	STR - IA	STR - II	STR - II
	RATING FACTOR	4.31M	3.08M	2.63M	2.7M	2.27M	1.8M	1.53M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2564.39						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		387.45						
LOCATION (ft)		2.39						
SPAN LENGTH (ft)		67.5						

BEAM 13 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	TK527	PHL-93	P-82	P-2016-13
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.648	0.648	0.323	0.648	0.323	N/A	N/A
	LOCATION (ft)	2.48	2.48	33.75	2.48	33.75	N/A	N/A
	LIMIT STATE	STR-I	STR-I	STR-I	STR-I	STR-I	N/A	N/A
	RATING FACTOR	2.96V	2.25V	2M	1.99V	1.73M	N/A	N/A
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.648	0.648	0.323	0.648	0.323	0.648	0.648
	LOCATION (ft)	2.48	2.48	33.75	2.48	33.75	2.48	2.48
	LIMIT STATE	STR-II	STR-II	STR-II	STR-II	STR-IA	STR-II	STR-II
	RATING FACTOR	3.83V	2.91V	2.59M	2.57V	2.24M	1.51V	1.45V
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2560.75						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		292.21						
LOCATION (ft)		3.38						
SPAN LENGTH (ft)		67.5						

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

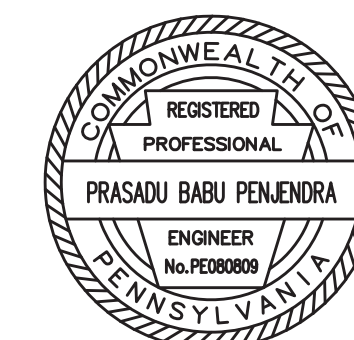
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

BEAM RATING

RECOMMENDED 05 / 04 / 2026

SHEET 41 OF 61

S-41964



BEAM 1 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	PHL-93	P-82	P-2016-13	TK527
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.329	0.329	0.329	0.329	N/A	N/A	0.329
	LOCATION (ft)	33.75	33.75	33.75	33.75	N/A	N/A	33.75
	LIMIT STATE	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	N/A	N/A	SERV-IIIIP
	RATING FACTOR	2.05M	1.47M	1.57M	1.69	N/A	N/A	1.29M
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.667	0.326	0.326	0.326	0.667	0.326	0.326
	LOCATION (ft)	2.4	33.75	33.75	33.75	2.4	33.75	30.38
	LIMIT STATE	STR-II	STR-II	STR-II	STR-IA	STR-II	STR-II	STR-II
	RATING FACTOR	3.55V	2.68M	2.28M	1.98M	1.40V	1.33M	2.36M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2559.11						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		286.57						
LOCATION (ft)		16.88						
SPAN LENGTH (ft)		67.5						

BEAM 2 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	PHL-93	P-82	P-2016-13	TK527
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.329	0.329	0.329	0.323	N/A	N/A	0.329
	LOCATION (ft)	33.75	33.75	33.75	33.75	N/A	N/A	33.75
	LIMIT STATE	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	STR-I	N/A	N/A	SERV-IIIIP
	RATING FACTOR	2.74M	1.96M	1.67M	1.77M	N/A	N/A	1.73M
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.323	0.323	0.323	0.323	0.566	0.323	0.323
	LOCATION (ft)	33.75	33.75	33.75	33.75	2.38	33.75	30.38
	LIMIT STATE	STR-II	STR-II	STR-II	STR-IA	STR-II	STR-II	STR-II
	RATING FACTOR	4.35M	3.11M	2.65M	2.29M	1.74V	1.54M	2.73M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2564.38						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		293.13						
LOCATION (ft)		10.12						
SPAN LENGTH (ft)		67.5						

BEAM 3 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	PHL-93	P-82	P-2016-13	TK527
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.385	0.385	0.385	0.385	N/A	N/A	0.385
	LOCATION (ft)	33.75	33.75	33.75	33.75	N/A	N/A	33.75
	LIMIT STATE	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	SERV-IIIIP	N/A	N/A	SERV-IIIIP
	RATING FACTOR	2.23M	1.59M	1.36M	1.47M	N/A	N/A	1.40M
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.385	0.385	0.385	0.385	0.385	0.385	0.385
	LOCATION (ft)	33.75	33.75	33.75	33.75	30.38	33.75	30.38
	LIMIT STATE	STR-II	STR-II	STR-II	STR-IA	STR-II	STR-II	STR-II
	RATING FACTOR	4.10M	2.93M	2.50M	2.16M	1.72M	1.45M	2.57M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2941.05						
LOCATION (ft)		23.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		326.17						
LOCATION (ft)		3.38						

BEAM 4 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	PHL-93	P-82	P-2016-13	TK527
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.385	0.385	0.385	0.385	N/A	N/A	0.385
	LOCATION (ft)	33.75	33.75	33.75	33.75	N/A	N/A	33.75
	LIMIT STATE	SERV-III	SERV-III	SERV-III	SERV-III	N/A	N/A	SERV-III
	RATING FACTOR	3.29M	2.35M	2.01M	1.74M	N/A	N/A	2.07M
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.385	0.385	0.385	0.385	0.385	0.385	0.385
	LOCATION (ft)	33.75	33.75	33.75	33.75	30.38	33.75	30.38
	LIMIT STATE	STR - II	STR - II	STR - II	STR - IA	STR - II	STR - II	STR - II
	RATING FACTOR	4.43M	3.16M	2.70M	2.34M	1.85M	1.57M	2.78M
MAXIMUM FACTORED MOMENT RESISTANCE (kip-ft)		2941.05						
LOCATION (ft)		23.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		327.25						
LOCATION (ft)		3.38						
SPAN LENGTH (ft)		67.5						

NOTE:

- GIVEN DISTRIBUTION FACTOR IS THE VEHICULAR LIVE LOAD DISTRIBUTION FACTOR USED TO PRODUCE THE GIVEN RATING.
- RATING ANALYSIS IS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN METHOD.
- SEE DESIGN LIVE LOAD NOTES, THIS SHEET, FOR ADTT INFORMATION AND FOR THE DESIGN LIVE LOADING COMBINATIONS.
- THE CRITICAL BEAM IS THE EXTERIOR (FASCIA) BEAM.

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

SHEET NOTES:

- FOR GENERAL NOTES, SEE SHEET 3.
- FOR BEAM FRAMING PLAN, SEE SHEET 32.
- FOR BEAM FABRICATION DETAILS, SEE SHEET 38.

BEAM 5-10 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	PHL-93	P-82	P-2016-13	TK527
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.323	0.323	0.323	0.323	N/A	N/A	0.323
	LOCATION (ft)	33.75	30.38	33.75	33.75	N/A	N/A	30.38
	LIMIT STATE	STR - I	STR - I	STR - I	STR - I	N/A	N/A	STR - I
	RATING FACTOR	3.65M	2.61M	2.23M	1.93M	N/A	N/A	2.29M
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.323	0.323	0.323	0.323	0.323	0.323	0.323
	LOCATION (ft)	33.75	30.38	33.75	33.75	30.38	33.75	30.38
	LIMIT STATE	STR - II	STR - II	STR - II	STR - IA	STR - II	STR - II	STR - II
	RATING FACTOR	4.73M	3.38M	2.89M	2.50M	1.98M	1.68M	2.97M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2564.22						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		382.51						
LOCATION (ft)		65.21						
SPAN LENGTH (ft)		67.5						

BEAM 11-12 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	PHL-93	P-82	P-2016-13	TK527
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.323	0.323	0.323	0.323	N/A	N/A	0.323
	LOCATION (ft)	33.75	33.75	33.75	33.75	N/A	N/A	30.38
	LIMIT STATE	STR - I	STR - I	STR - I	STR - I	N/A	N/A	STR - I
	RATING FACTOR	3.32M	2.52M	2.15M	1.75M	N/A	N/A	2.21M
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.323	0.323	0.323	0.323	0.323	0.323	0.323
	LOCATION (ft)	33.75	33.75	33.75	33.75	30.38	33.75	30.38
	LIMIT STATE	STR - II	STR - II	STR - II	STR - IA	STR - II	STR - II	STR - II
	RATING FACTOR	4.31M	3.27M	2.79M	2.27M	1.91M	1.62M	2.87M
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2564.39						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		387.45						
LOCATION (ft)		2.39						
SPAN LENGTH (ft)		67.5						

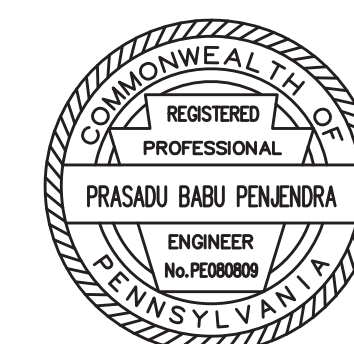
BEAM 13 WITH FWS SIMPLE SPAN		P/S ADJACENT BOX BEAM 48/21						
		H20	HS20	ML-80	PHL-93	P-82	P-2016-13	TK527
INVENTORY RATING (IR)	DISTRIBUTION FACTOR	0.648	0.648	0.323	0.323	N/A	N/A	0.648
	LOCATION (ft)	2.48	2.48	33.75	33.75	N/A	N/A	2.48
	LIMIT STATE	STR-I	STR-I	STR-I	STR-I	N/A	N/A	STR-I
	RATING FACTOR	2.96V	2.25V	2.12M	1.84M	N/A	N/A	1.99V
OPERATING RATING (OR)	DISTRIBUTION FACTOR	0.648	0.648	0.323	0.323	0.648	0.648	0.648
	LOCATION (ft)	2.48	2.48	33.75	33.75	2.48	2.48	2.48
	LIMIT STATE	STR-II	STR-II	STR-II	STR-IA	STR-II	STR-II	STR-II
	RATING FACTOR	3.83V	2.91V	2.59M	2.24M	1.51V	1.45V	2.57V
MAXIMUM FACOTRED MOMENT RESISTANCE (kip-ft)		2560.75						
LOCATION (ft)		50.62						
MAXIMUM FACTORED SHEAR RESISTANCE (kip-ft)		292.21						
LOCATION (ft)		3.38						
SPAN LENGTH (ft)		67.5						

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

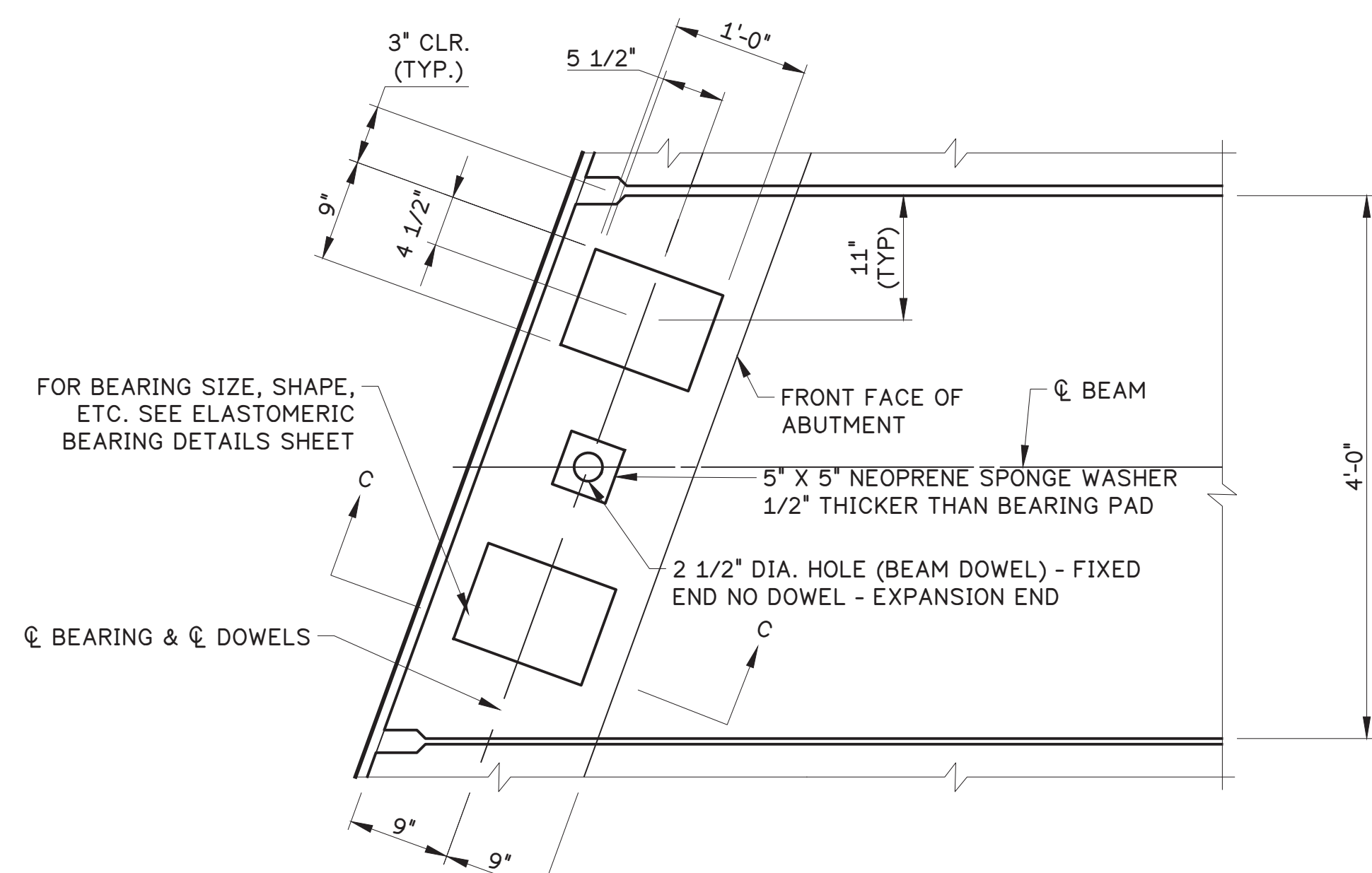
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
BEAM RATING CONTINUED



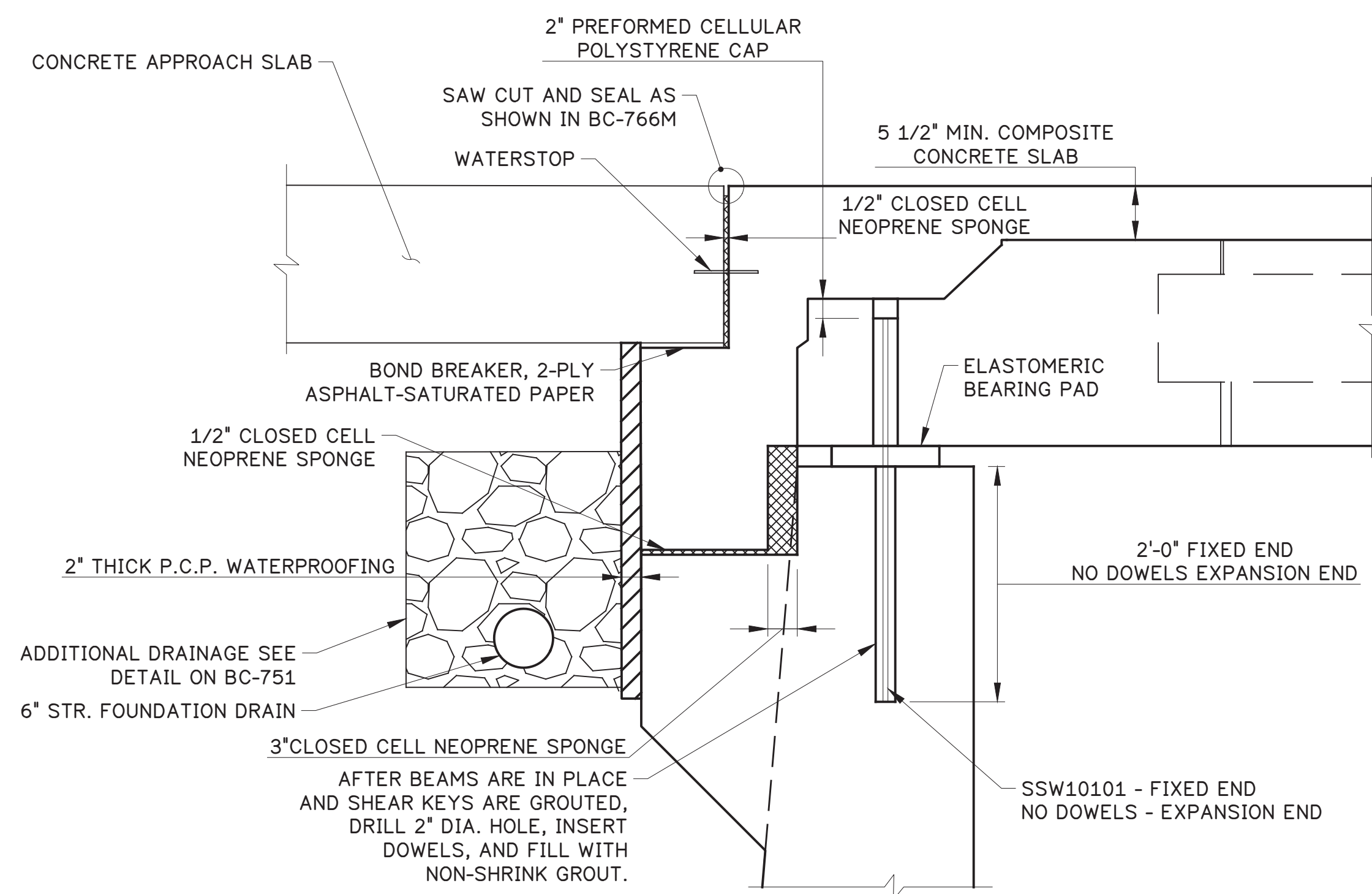
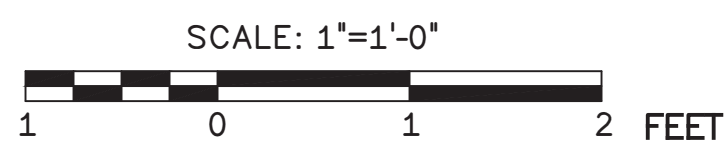
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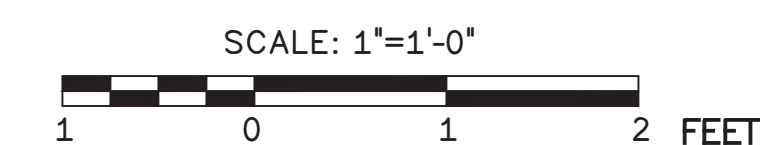
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BEARING PAD PLACEMENT



SECTION C-C

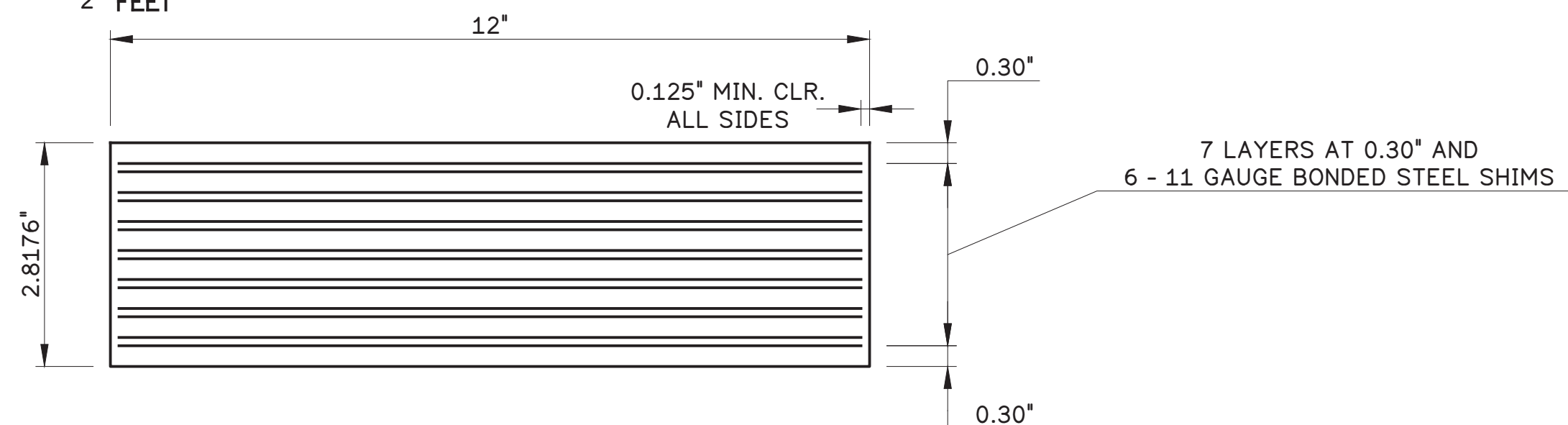


BEARING PAD NOTES:

- SMOOTH CUT AND DEBURR METAL SHIMS.
- GRIT BLAST AND DEGREASE METAL SHIMS.
- MANUFACTURE ALL BEARINGS IN ACCORDANCE WITH THE COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PLANS AND SPECIFICATIONS (PUB. 408) SECTION 1113.02 AND DESIGN MANUAL - PART 4.
- ALL BEARING PADS ARE TO BE MOLDED TO DESIGN DIMENSIONS. CUTTING TO SIZE AFTER FABRICATION IS PROHIBITED.
- PROVIDE NEOPRENE 50 +/- 5 DUROMETER.
- PROVIDE INTERNAL SHIMS AS PER ASTM A36 GRADE 36.
- VULCANIZE PATCH PIN GROOVES.
- BEARING PADS WILL BE SAMPLED FOR TESTING ACCORDING TO PTM = 312.
- FABRICATOR MAY USE CONTRACT DRAWINGS TO FABRICATE BEARING PADS.

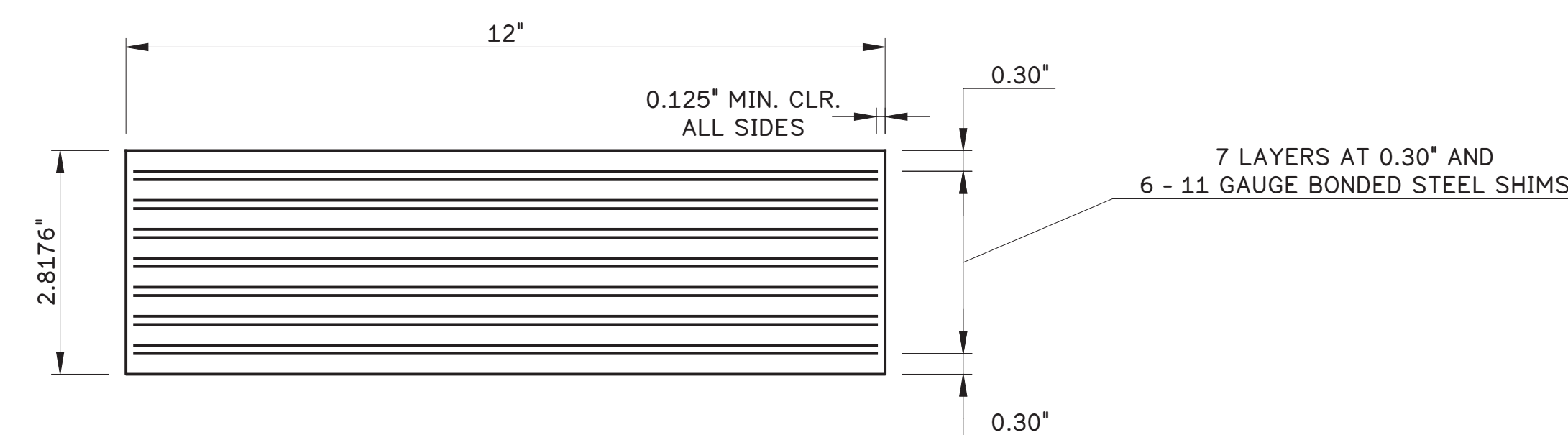
DESIGN CRITERIA:

- BEARING PADS DESIGNED USING AASHTO METHOD = A
- EXPANSION LENGTH = 67'-6"
- TEMPERATURE RANGE FOR BEARING DESIGN = 80° F
- TEMPERATURE RANGE FOR SUBSTRUCTURE DESIGN = 58° F
- LL ROTATION ABOUT TRANSVERSE AXIS OF PAD = 0.00375 RADIANS
- LL ROTATION ABOUT LONGITUDINAL AXIS OF PAD = 0.00136 RADIANS
- CONSTRUCTION TOLERANCE ABOUT TRANSVERSE AXIS OF PAD = 0.00300
- CONSTRUCTION TOLERANCE ABOUT LONGITUDINAL AXIS OF PAD = 0.00000
- DL1 ROTATION MOVEMENT = 0.287"
- DL2 ROTATION MOVEMENT = 0.056"
- LL ROTATION MOVEMENT = 0.085"
- MAXIMUM DL REACTION = 79.55 kip
- MINIMUM DL REACTION = 50.37 kip
- MAXIMUM LL REACTION (W/O IMPACT) = 62.12 kip
- MINIMUM LL REACTION (W/O IMPACT) = 0 kip



ELASTOMERIC BEARING PAD SECTION - FIXED

NOT TO SCALE



ELASTOMERIC BEARING PAD SECTION - EXPANSION

NOT TO SCALE

SHEET NOTES:

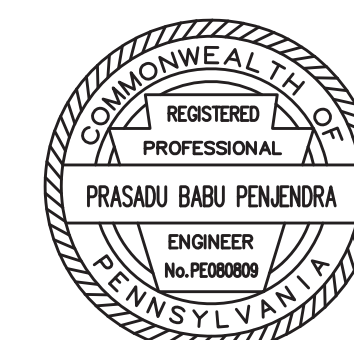
- FOR GENERAL NOTES, SEE SHEET 3.
- FOR ABUTMENT 1 PLAN, SEE SHEET 7.
- FOR ABUTMENT 2 PLAN, SEE SHEET 21.
- FOR BEAM FRAMING PLAN, SEE SHEET 32.
- FOR BEAM FABRICATION DETAILS, SEE SHEET 38.
- FOR BEAM CAMBER AND DAP, SEE SHEET 39.
- FOR BEAM END DETAILS, SEE SHEET 40.

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

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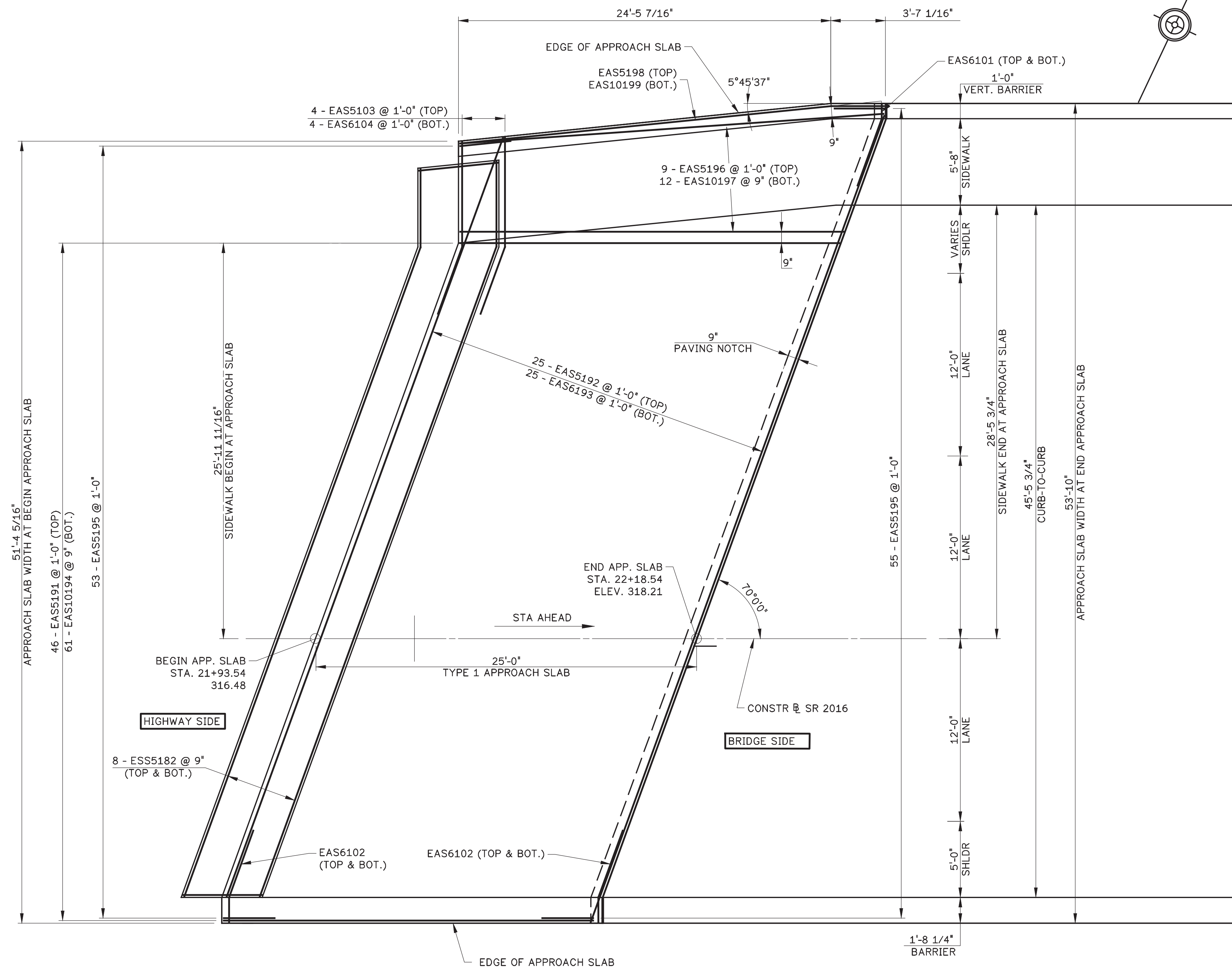
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
BEAM END & BEARING DETAILS



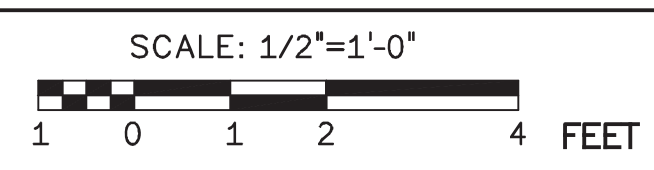
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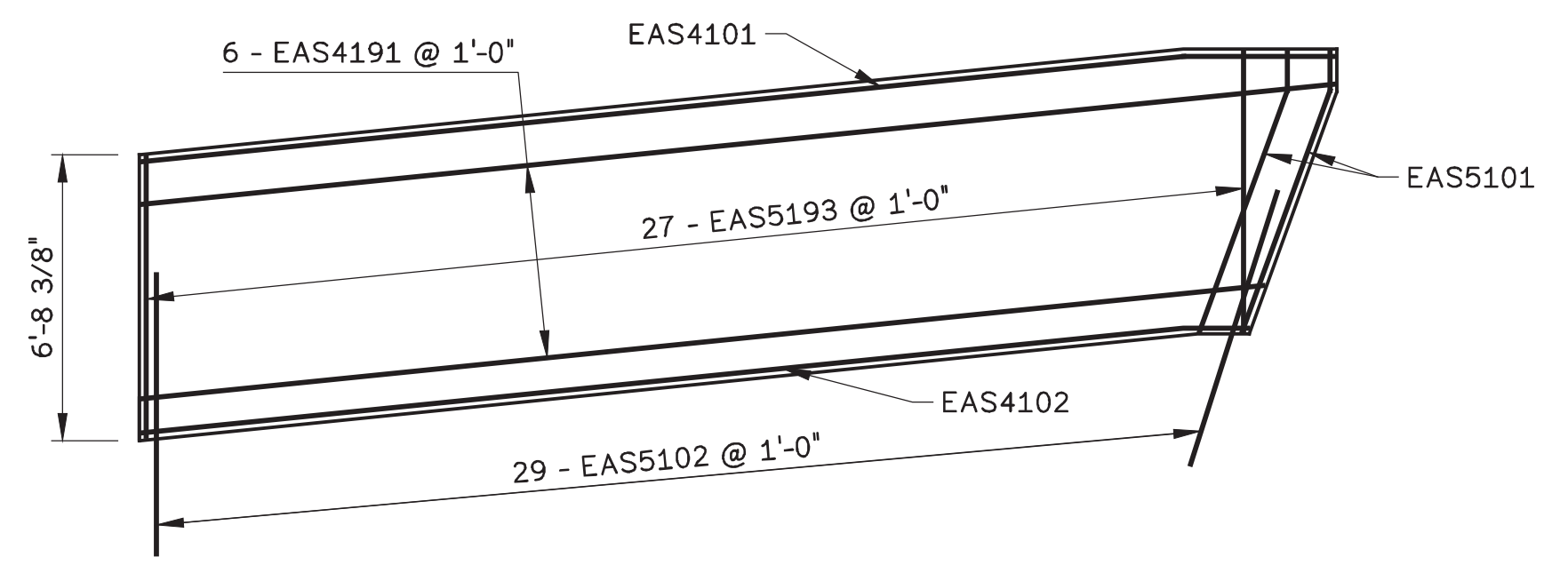
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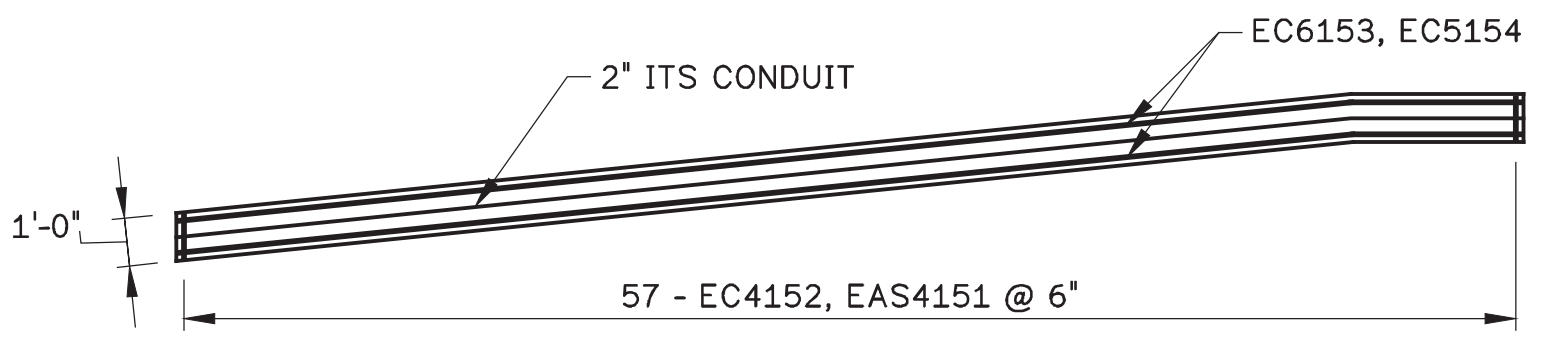
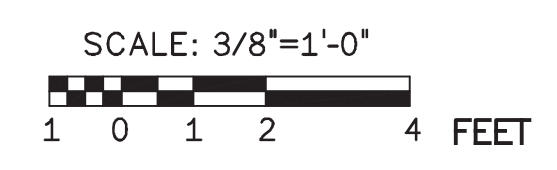
ABUTMENT 1 - APPROACH SLAB



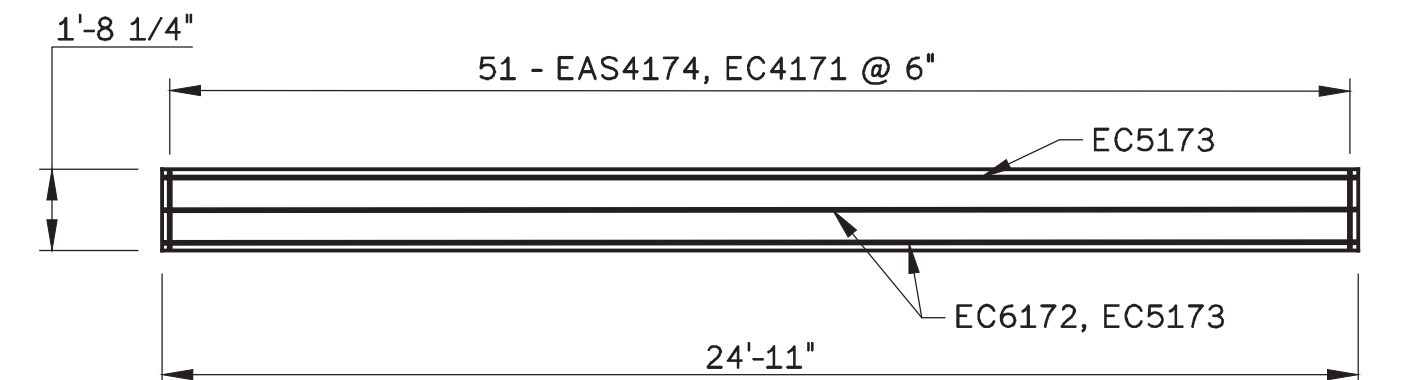
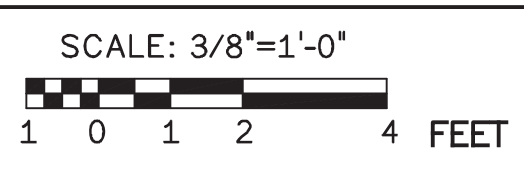
- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR TYPICAL SECTION & ELEVATION TABLES, SEE SHEET 4.
 - FOR STAKE-OUT PLAN SEE SHEET 6.
 - FOR ABUTMENT 1 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS, SEE SHEET 45.
 - FOR APPROACH SLAB JOINT DETAILS, SEE SHEET 46.
 - FOR ABUTMENT 2 APPROACH SLAB PLAN, SEE SHEET 47.



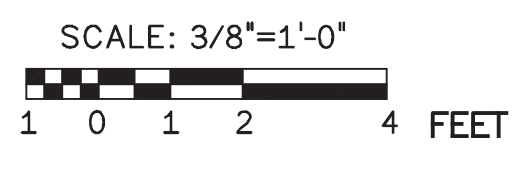
ABUTMENT 1 - APPROACH SLAB SIDEWALK



ABUTMENT 1 - APPROACH SLAB LEFT BARRIER



ABUTMENT 1 - APPROACH SLAB RIGHT BARRIER

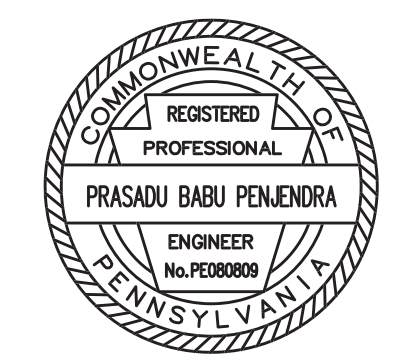


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 1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 1 APPROACH SLAB PLAN

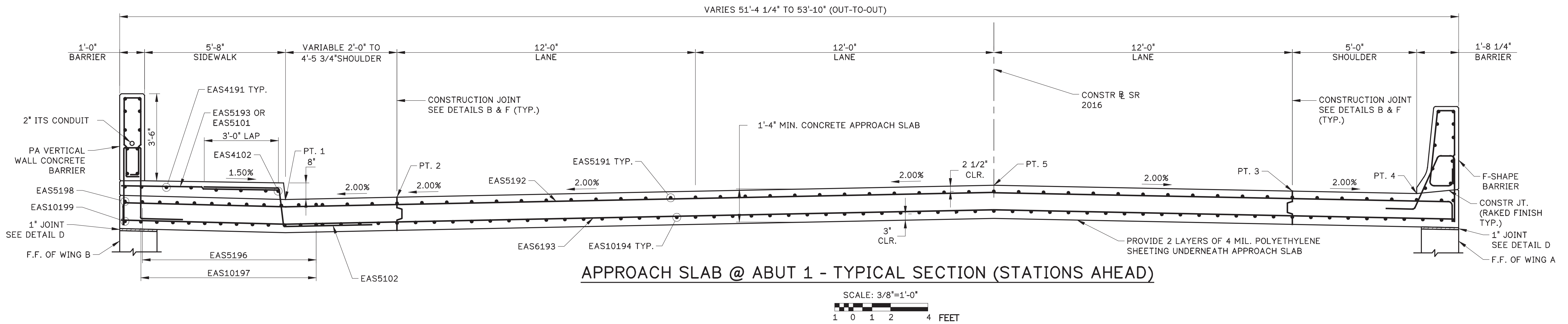


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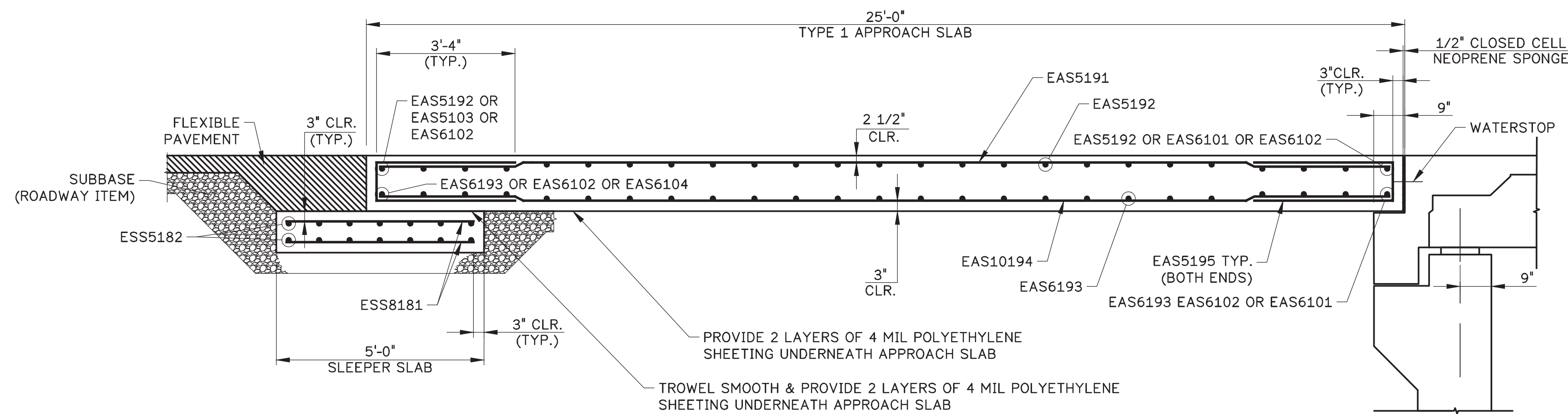
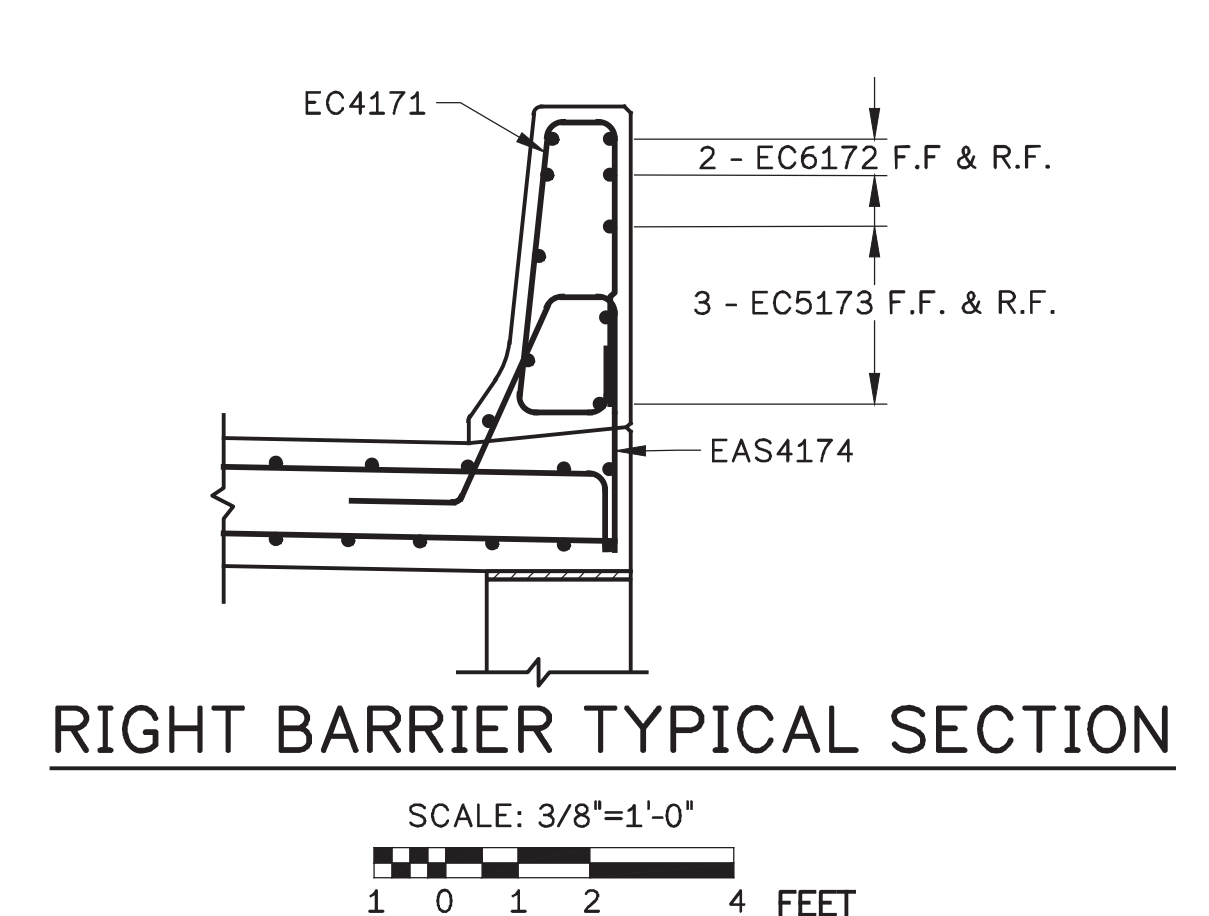
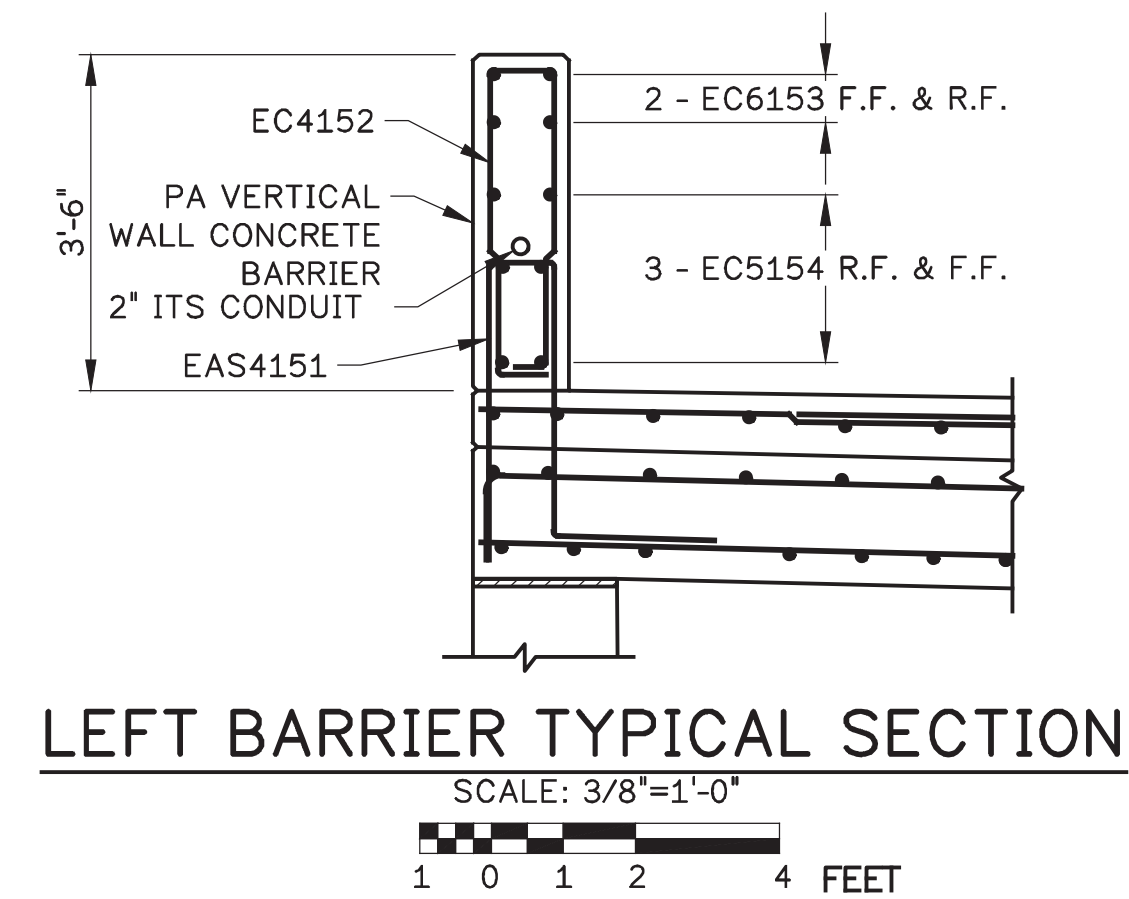
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P:\1516003_2016 Overriding Files\2_SRF\01 sheets\03 APPROACH SLAB PLAN.dwg, 4/30/2025, 10:59 AM, CDR - DWG TO PDF.plt



JOINT PREPARATION NOTES:

1. THE JOINT OPENING IS TO BE FORMED BY A TWO-STAGE SAWING OPERATION WHERE ACCESSIBLE AND FORMED ELSEWHERE. 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 BOND SURFACES TO THOROUGHLY 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.



SHEET NOTES:

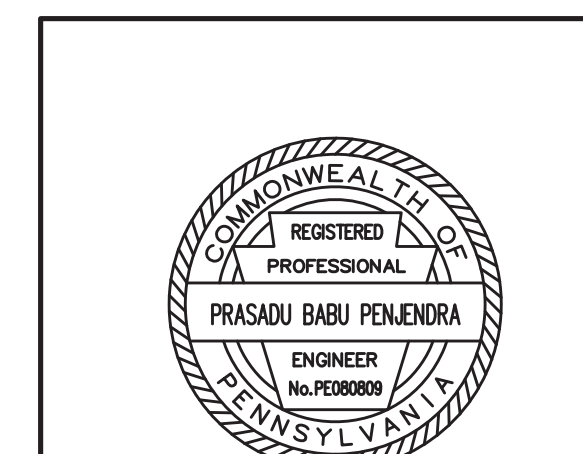
- FOR ABUTMENT 1 APPROACH SLAB PLAN, SEE SHEET 44.
- FOR ABUTMENT 1 APPROACH SLAB TYPICAL SECTION AND DETAIL, SEE SHEET 45.
- FOR APPROACH SLAB JOINT DETAILS, SEE SHEET 46.
- FOR ABUTMENT 2 APPROACH SLAB PLAN, SEE SHEET 47.
- FOR ABUTMENT 2 APPROACH SLAB TYPICAL SECTION AND DETAIL, SEE SHEET 48.
- FOR APPROACH REINFORCEMENT BAR SCHEDULE, SEE SHEET 49.

Mark	Description	By	Chk'd.	Recm'd.	Date
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COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

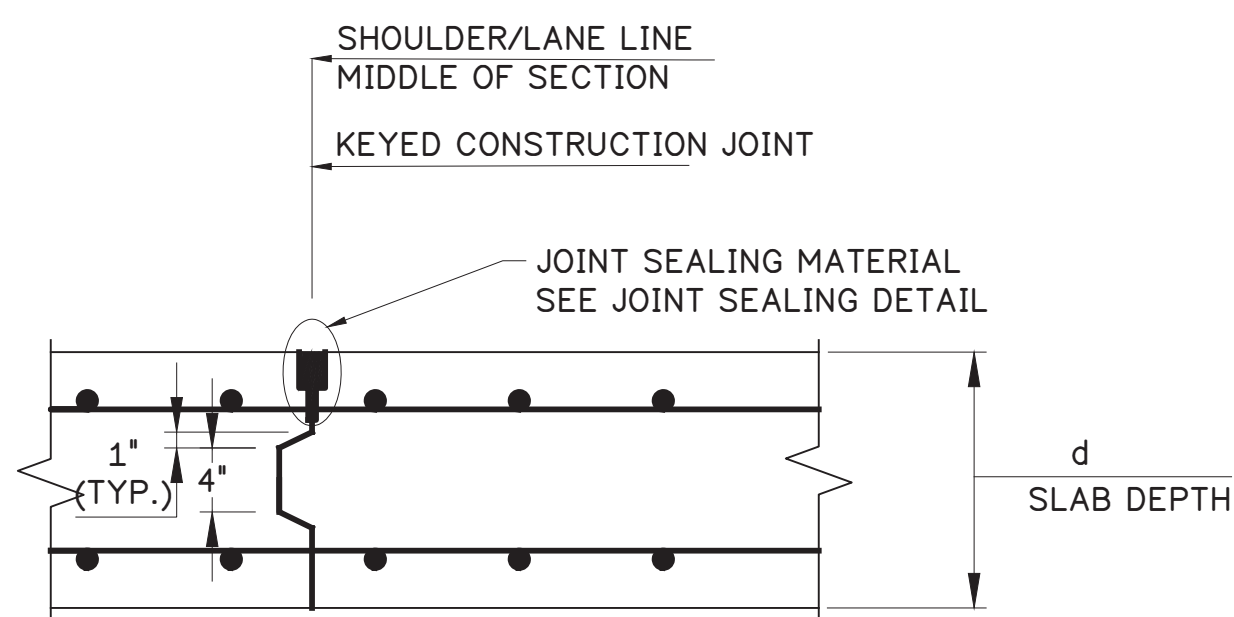
BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM
 ABUT 1 - APPROACH SLAB TYPICAL
 SECTIONS AND DETAILS



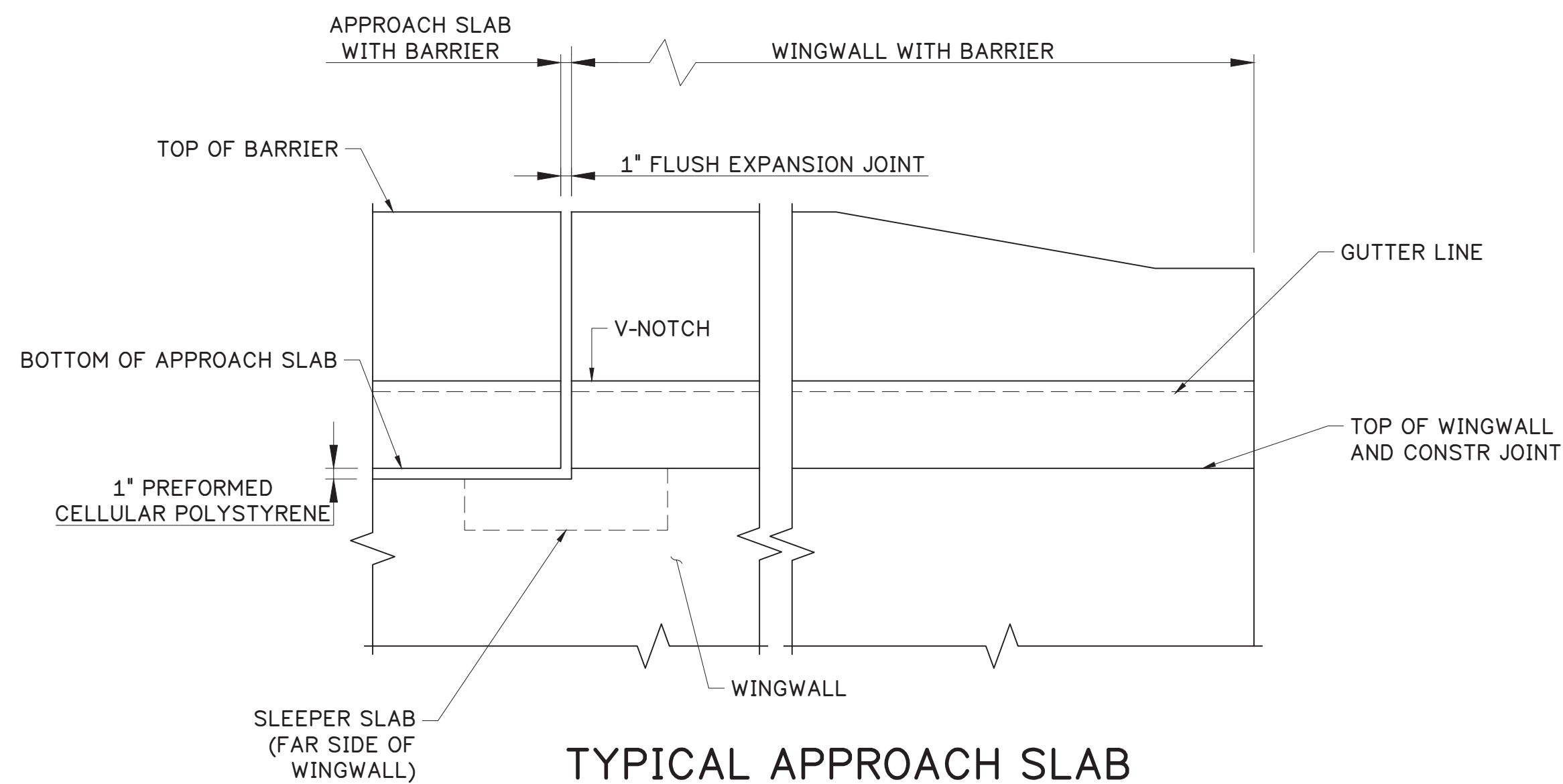
RECOMMENDED 05 / 04 / 2026

SHEET 45 OF 61

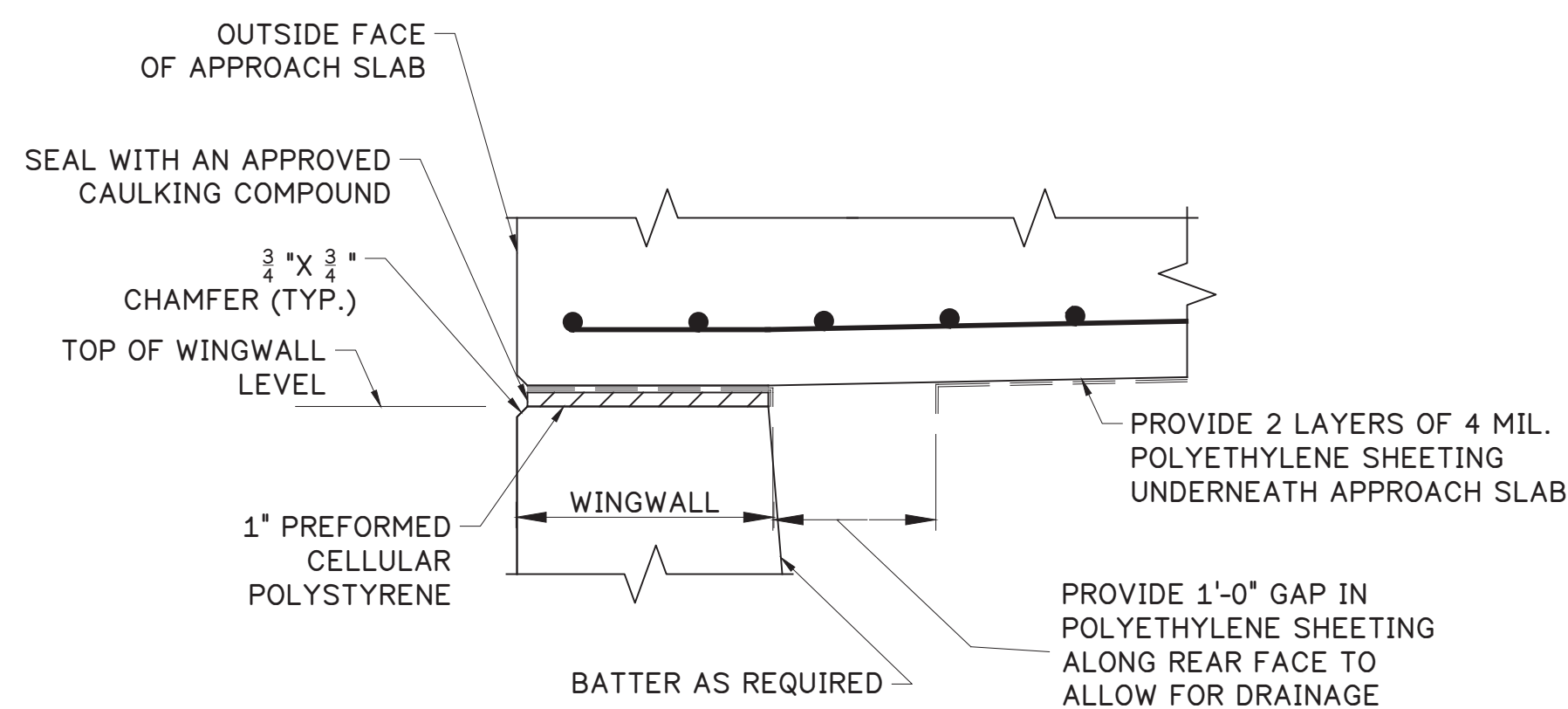
S-41964



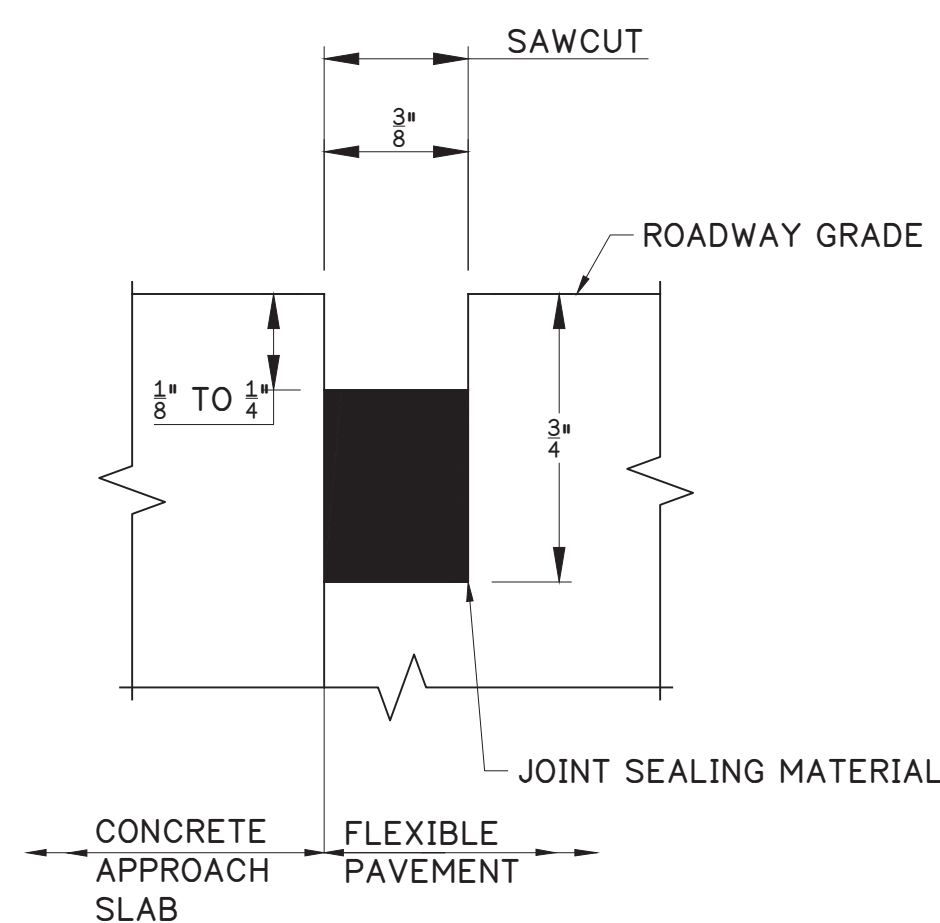
**TYPICAL APPROACH SLAB
CONSTRUCTION JOINT
DETAIL**
NOT TO SCALE (TYP)



**TYPICAL APPROACH SLAB
BARRIER JOINT DETAIL**
NOT TO SCALE (TYP)



**TYPICAL APPROACH
SLAB - WINGWALL
JOINT DETAIL**
NOT TO SCALE (TYP)



**TYPICAL APPROACH SLAB -
ROADWAY JOINT DETAIL**
NOT TO SCALE (TYP)

TYPICAL APPROACH SLAB DETAILS

SHEET NOTES:

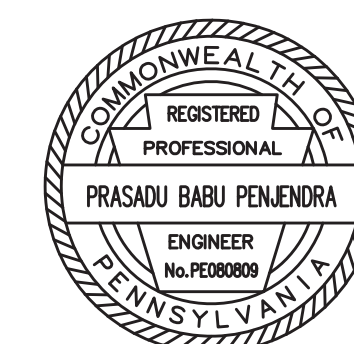
- FOR ABUTMENT 1 APPROACH SLAB PLAN, SEE SHEET 44.
- FOR ABUT 1 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS, SEE SHEET 45.
- FOR ABUTMENT 2 APPROACH SLAB PLAN, SEE SHEET 47.
- FOR ABUT 2 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS, SEE SHEET 48.
- FOR APPROACH REINFORCEMENT BAR SCHEDULE, SEE SHEET 49.

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS: 10527 BRKEY:71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

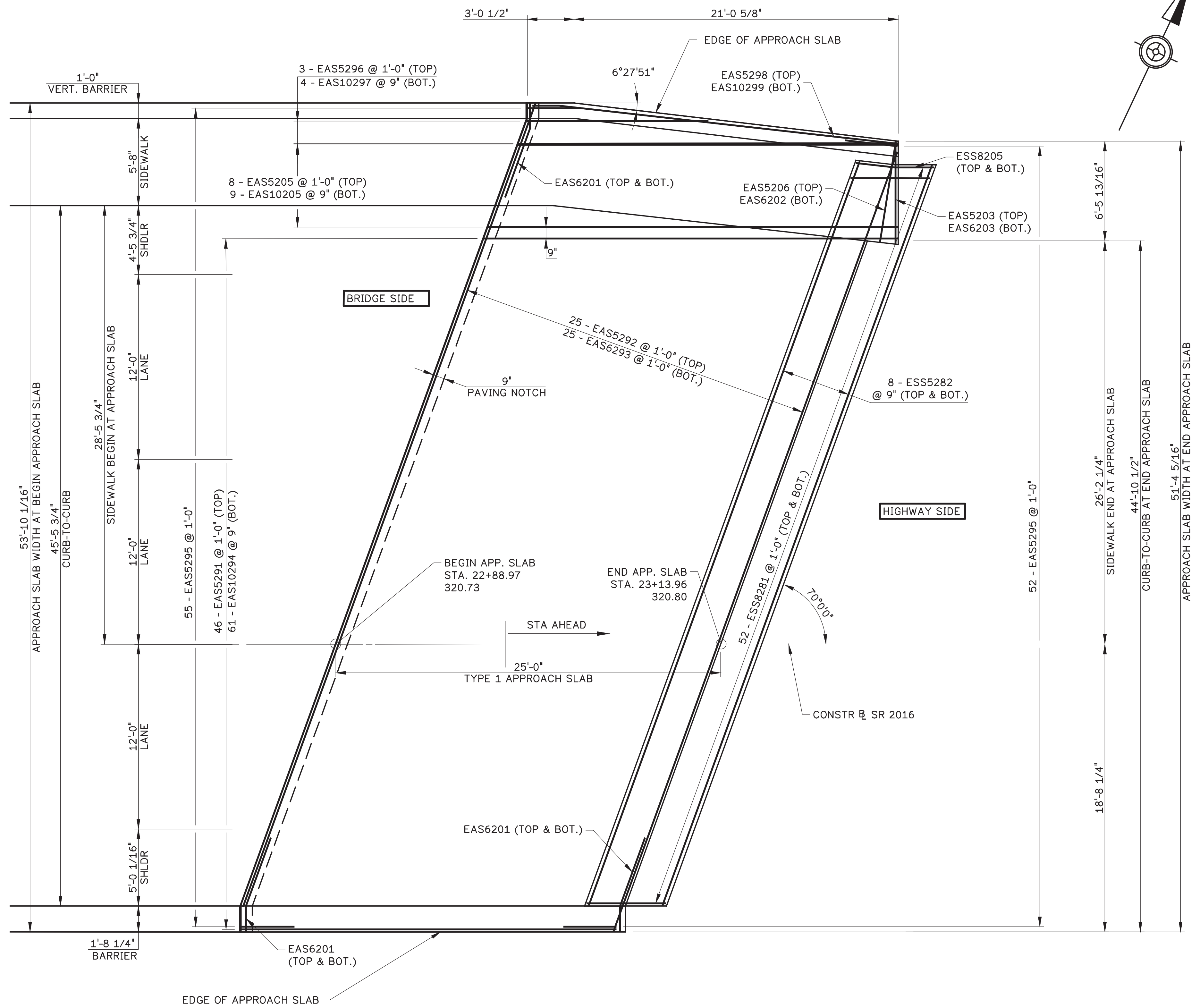
BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
APPROACH SLAB JOINT DETAILS



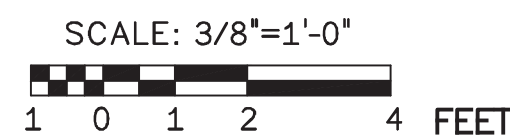
RECOMMENDED 05 / 04 / 2026

SHEET 46 OF 61

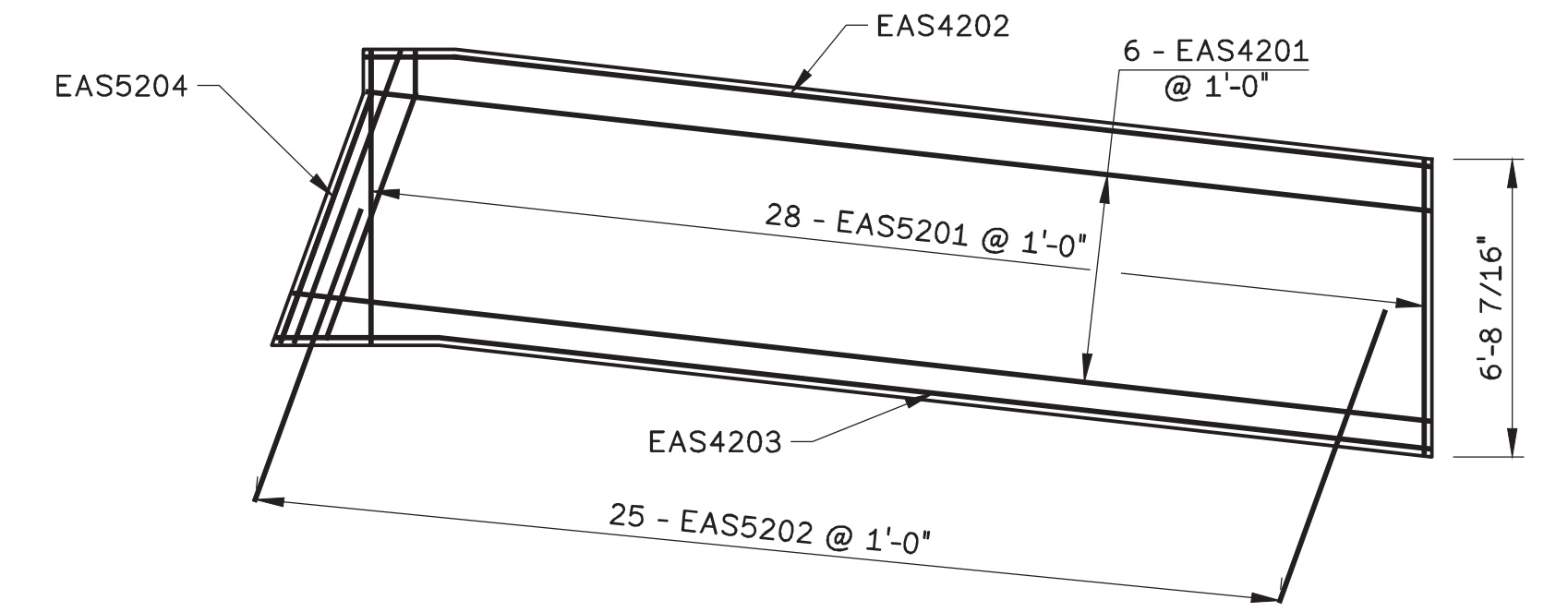
S-41964



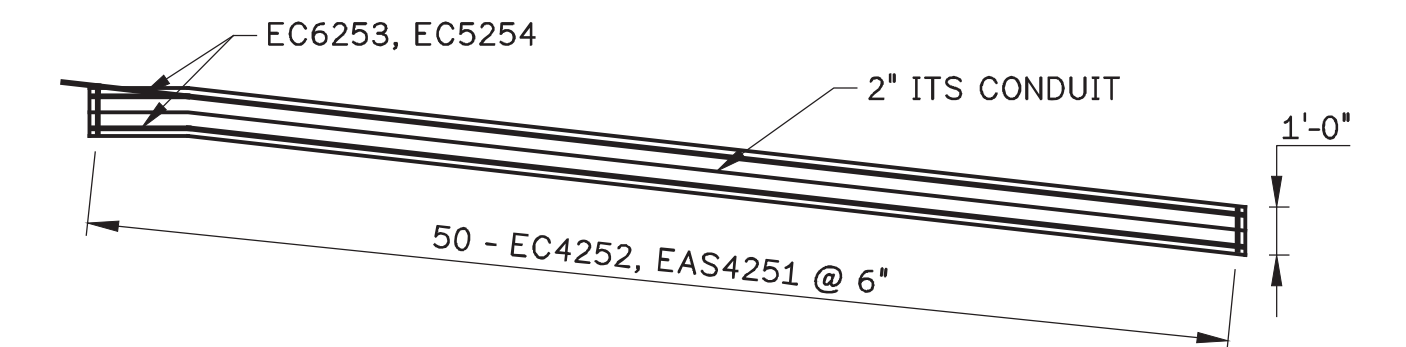
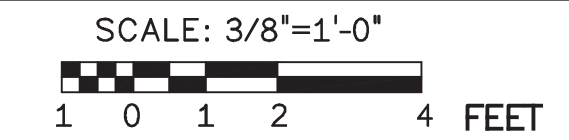
ABUTMENT 2 - APPROACH SLAB



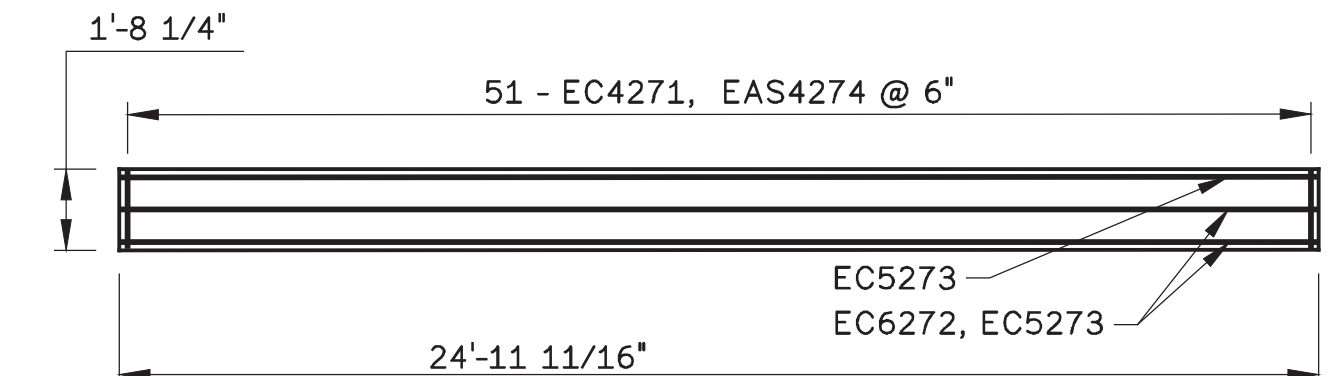
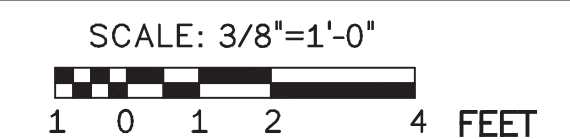
- SHEET NOTES:**
- FOR GENERAL NOTES, SEE SHEET 3.
 - FOR TYPICAL SECTION & ELEVATION TABLES, SEE SHEET 4.
 - FOR STAKE-OUT PLAN, SEE SHEET 6.
 - FOR ABUTMENT 1 APPROACH SLAB PLAN, SEE SHEET 44.
 - FOR APPROACH SLAB JOINT DETAILS, SEE SHEET 46.
 - FOR ABUT 2 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS, SEE SHEET 48.
 - FOR APPROACH REINFORCEMENT BAR SCHEDULE, SEE SHEET 49.



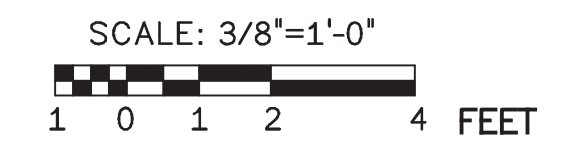
ABUTMENT 2 - APPROACH SLAB SIDEWALK



ABUTMENT 2 - APPROACH SLAB LEFT BARRIER



ABUTMENT 2 - APPROACH SLAB RIGHT BARRIER

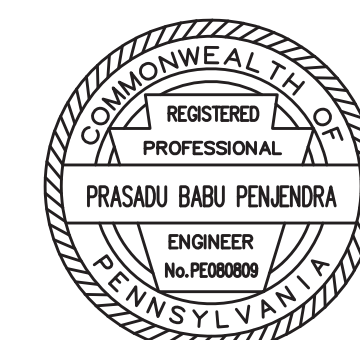


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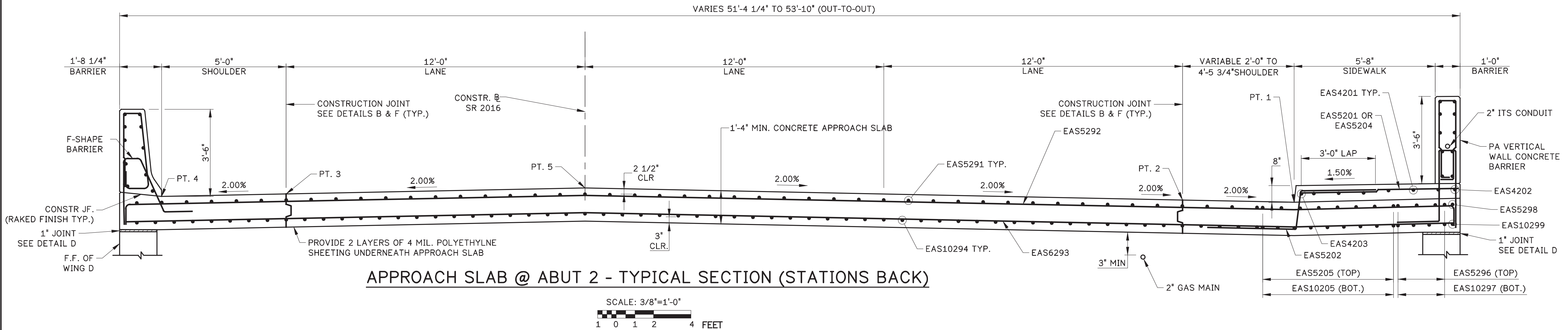
BERKS COUNTY
SR 2016 SECTION 01B
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OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUTMENT 2 APPROACH SLAB PLAN



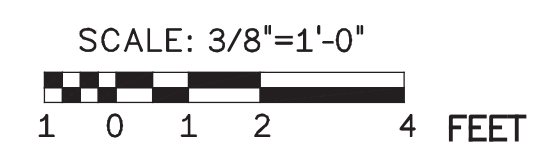
RECOMMENDED 05 / 04 / 2026

SHEET 47 OF 61

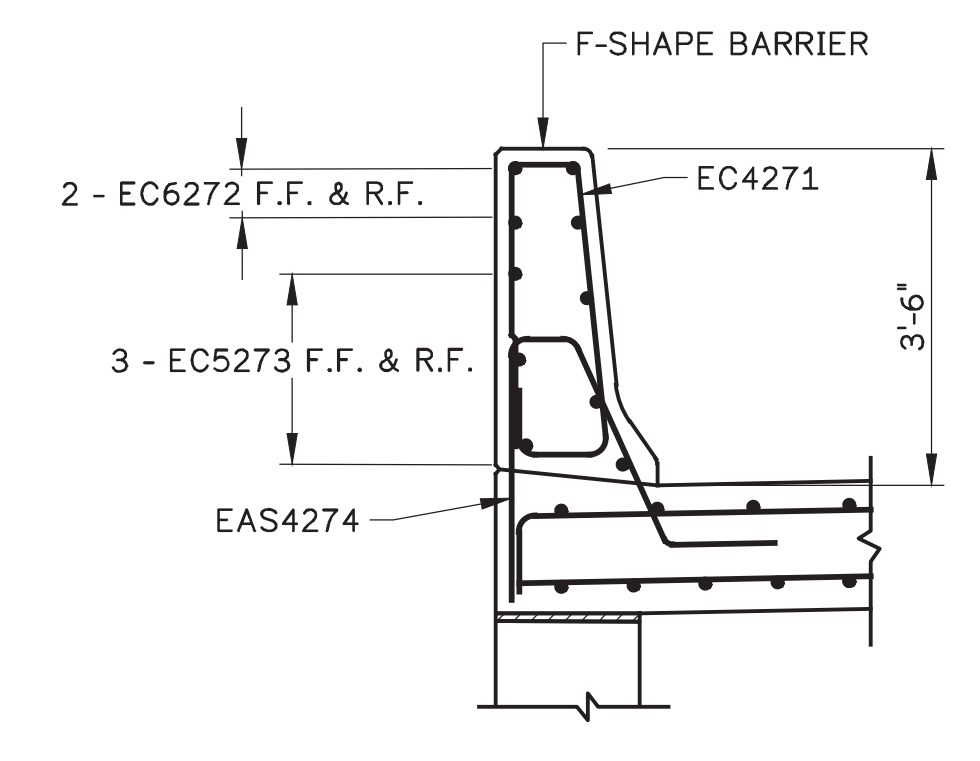
S-41964



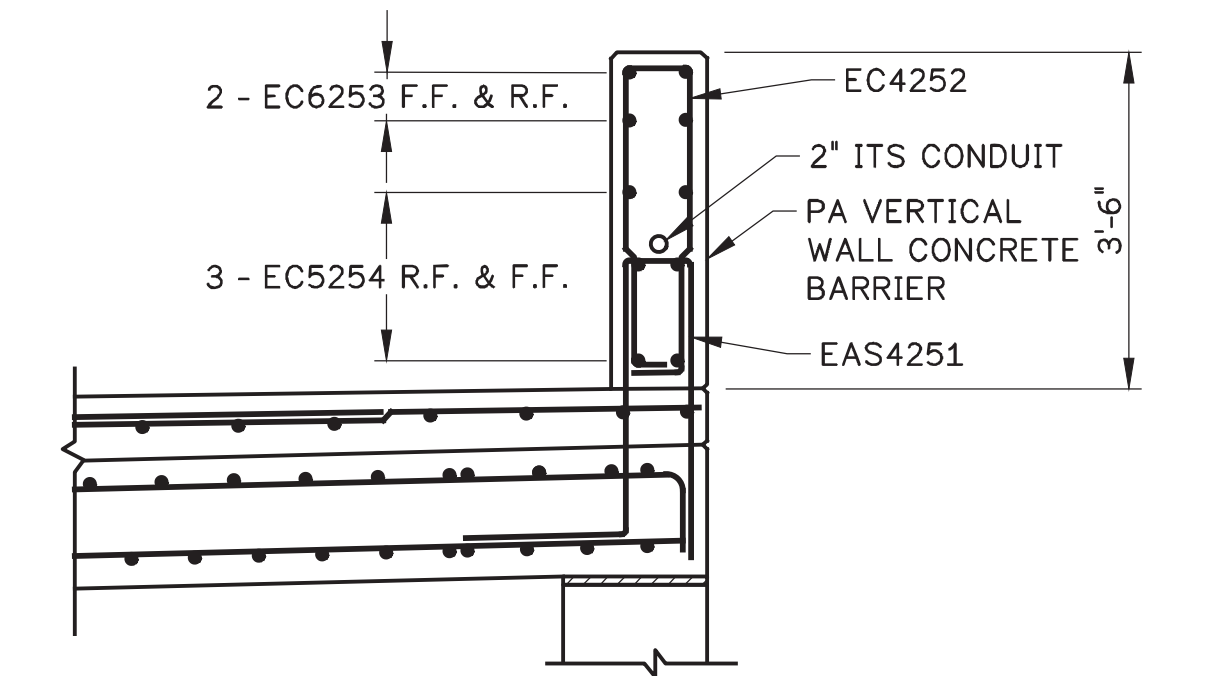
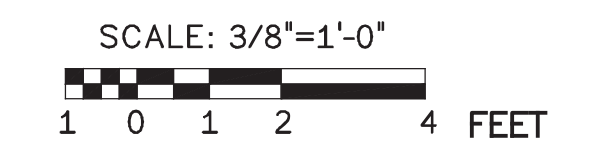
APPROACH SLAB @ ABUT 2 - TYPICAL SECTION (STATIONS BACK)



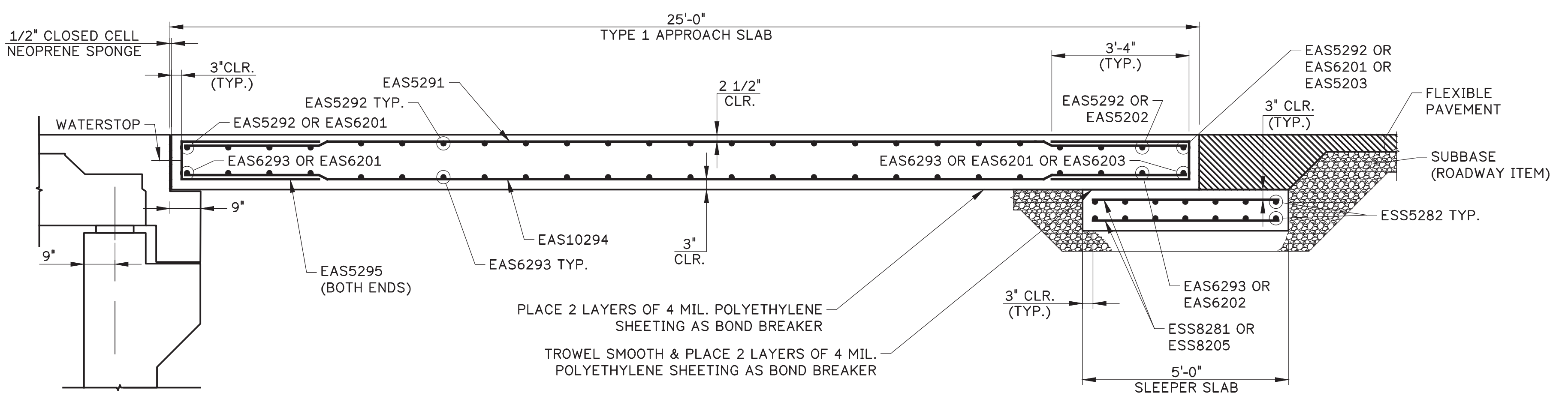
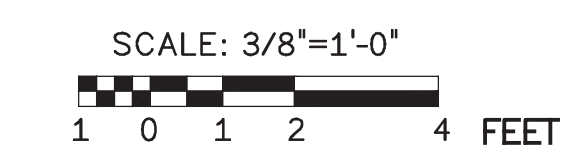
- JOINT PREPARATION NOTES:
1. THE JOINT OPENING IS TO BE FORMED BY A TWO-STAGE SAWING OPERATION WHERE ACCESSIBLE AND FORMED ELSEWHERE. THE FIRST SAW CUT IS DESIGNED TO CONTROL CRACKING. THE SECOND SAW CUT IS MADE USING A DOUBLE-BLADED WATER-COOLED SAW CAPABLE OF HOLDING A TOLERANCE OF $\pm 1/16"$ TO 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 BOND SURFACES TO THOROUGHLY 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.



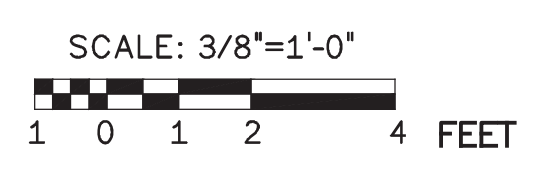
RIGHT BARRIER TYPICAL SECTION



LEFT BARRIER TYPICAL SECTION



APPROACH SLAB @ ABUT 2 - TYPICAL SECTION (LONGITUDINAL)



- SHEET NOTES:
- FOR APPROACH SLAB JOINT DETAILS, SEE SHEET 46.
 - FOR ABUTMENT 2 APPROACH SLAB PLAN, SEE SHEET 47.
 - FOR APPROACH REINFORCEMENT BAR SCHEDULE, SEE SHEET 49.

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

S.R.2016 PREVIOUSLY KNOWN AS L.R. 6114
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 BERKS COUNTY
 SR 2016 SECTION 01B
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 1 SPAN ADJACENT PRESTRESSED BOX BEAM
ABUT 2 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS

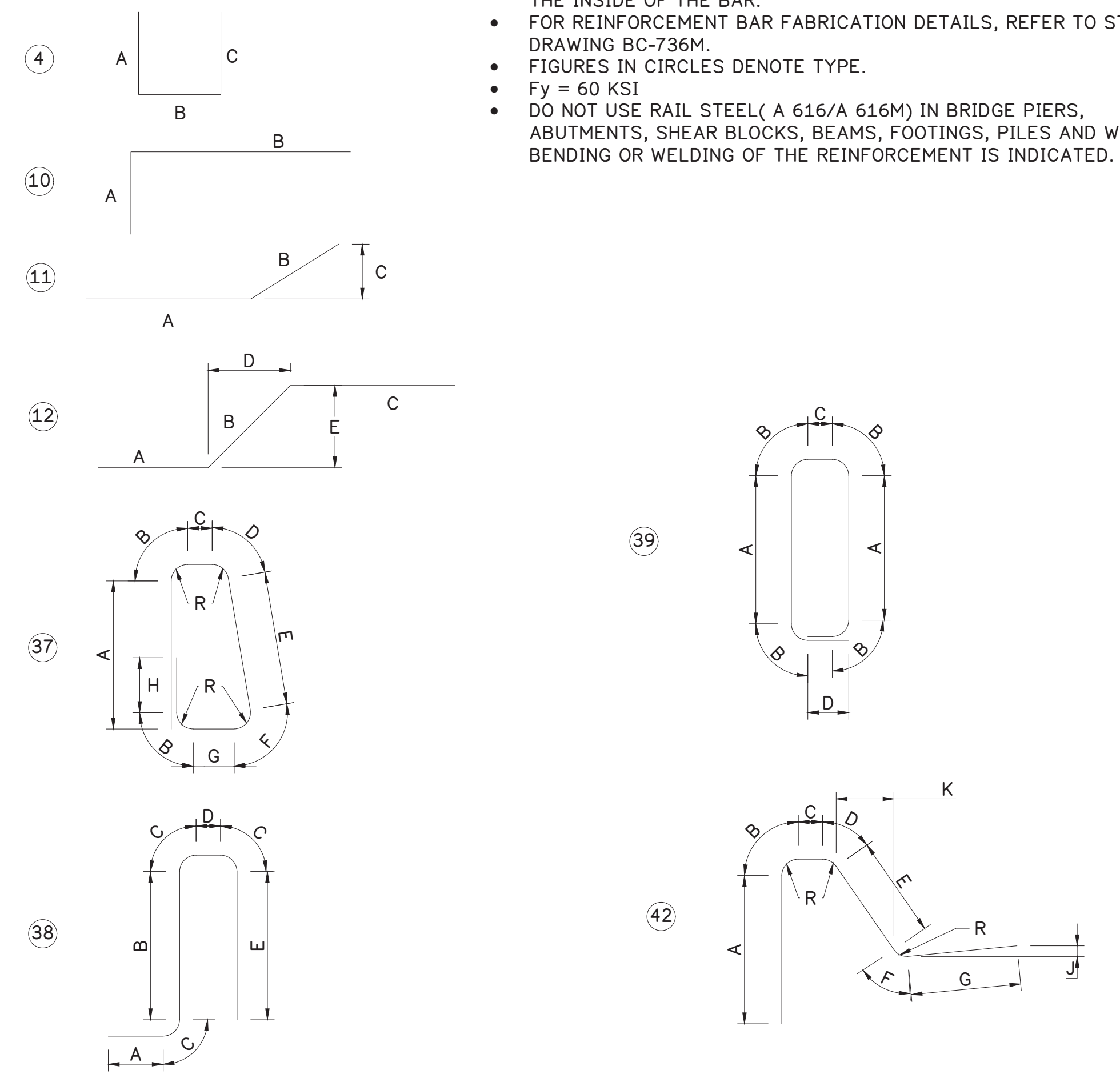


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MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	R	REMARKS
APPROACH SLAB 1											
EAS4101	4	1	27'-10 1/4"	11	24'-5 3/16"	3'-5 1/16"	4 1/16"				
EAS4102	4	1	25'-10 1/16"	11	24'-5 1/16"	1'-4 15/16"	1 11/16"				
EAS4151	4	57	10'-4"	38	1'-8"	2'-9"	4"	3"	3'-0"	2"	
EAS4174	4	47	6'-3/4"	42	2'-6"	4 1/2"	1/4"	3/16"	2'-0"	2"	F=3/16", G=1'-0", H=2 3/4", J=0"
EAS4191	4	6	28'-1" TO 26'-4 1/2"	STR							VARIES BY 1 EA. 4"
EAS5101	5	1	6'-8 5/8"	11	5'-11"	9 5/8"	3 1/4"				
EAS5102	5	29	7'-11 11/16"	12	3'-0"	1'-5 5/16"	3'-6"	2 5/8"	1'-6 1/8"		
EAS5103	5	4	11'-7"	11	6'-10 3/4"	4'-8"	1'-7"				
EAS5191	5	46	24'-7"	STR							
EAS5192	5	25	55'-6 7/8" TO 57'-2 5/8"	4	10 1/2"	VARIES	10 1/2"				B VARIES FROM 54'-7 3/8" TO 56'-3 1/8"
EAS5193	5	29	6'-6 3/8"	STR							
EAS5195	5	108	7'-6 1/4"	4	3'-4"	10 1/2"	3'-4"				
EAS5196	5	10	27'-7 3/16" TO 24'-7 7/8"	STR							VARIES BY 1 EA. 3 7/8"
EAS5198	5	1	27'-8 5/16"	11	24'-4 1/4"	3'-3 7/16"	4"				
EAS6101	6	2	5'-7"	11	4'-8"	11"	4"				
EAS6102	6	4	6'-3"	11	4'-8"	1'-7 1/4"	6 5/16"				
EAS6104	6	4	11'-7"	11	6'-10 3/4"	4'-8"	1'-7"				
EAS6193	6	25	54'-7 3/8" TO 56'-3 1/8"	STR							VARIES BY 1 EA. 13/16"
EAS10194	10	61	24'-7"	STR							
EAS10197	10	12	27'-7 3/16" TO 24'-7 7/8"	STR							VARIES BY 1 EA. 3 3/16"
EAS10199	10	1	27'-8 5/16"	11	24'-4 1/4"	3'-3 7/16"	4"				
EC4152	4	57	7'-10"	39	2'-9"	4"	3"	5 1/2"	3"	2"	
EC4171	4	47	8'-1"	37	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	2"	
EC5154	5	6	27'-10 3/16"	11	24'-5 1/16"	3'-5 1/8"	4 5/16"				
EC5173	5	6	24'-7"	STR							
EC6153	6	4	27'-10 3/16"	11	24'-5 1/16"	3'-5 1/8"	4 5/16"				
EC6172	6	4	24'-7"	STR							
ESS5182	5	8	51'-2 1/8"	11	45'-2 5/8"	5'-11 1/2"	2'-2 9/16"				
ESS8181	8	56	4'-9 13/16"	STR							
APPROACH SLAB 2											
EAS4201	4	6	25'-6 11/16" TO 23'-10 15/16"	STR							VARIES BY 1 EA. 3 15/16"
EAS4202	4	1	23'-8 9/16"	11	21'-10 15/16"	1'-9 9/16"	2 1/2"				
EAS4203	4	1	25'-6 1/16"	11	21'-10 15/16"	3'-7 1/8"	2 11/16"				
EAS4251	4	50	10'-4"	38	1'-8"	2'-9"	4"	3"	3'-0"	2"	
EAS4274	4	51	6'-3/4"	42	2'-6"	4 1/2"	1/4"	3/16"	2'-0"	2"	F=3/16", G=1'-0", H=2 3/4", J=0"
EAS5201	5	28	6'-4 7/16"	STR							
EAS5202	5	25	7'-11 11/16"	12	3'-0"	1'-5 5/16"	3'-6"	2 5/8"	1'-6 1/8"		
EAS5203	5	1	6'-4 7/16"	STR							
EAS5204	5	1	6'-8 3/16"	11	5'-9 13/16"	10'-5/16"	3 1/2"				
EAS5205	5	8	26'-10 7/8" TO 24'-8 5/8"	STR							VARIES BY 1 EA. 4 1/4"
EAS5206	5	1	6'-2 1/16"	STR							
EAS5291	5	46	24'-6"	STR							
EAS5292	5	25	55'-3" TO 53'-5"	STR							
EAS5295	5	107	7'-6 1/4"	4	3'-4"	10 1/2"	3'-4"				VARIES BY 1 EA. 6'-9 1/2"
EAS5296	5	3	24'-3" TO 10'-8"	STR							
EAS5298	5	1	23'-7"	11	22'-0"	1'-7"	2"				
EAS6201	6	6	6'-2"	11	4'-8"	1'-6"	6"				
EAS6202	6	1	6'-2"	STR							
EAS6203	6	1	6'-3"	STR							
EAS6293	6	25	57'-0" TO 55'-2"	4	10 1/2"	VARIES	10 1/2"				B VARIES FROM 55'-3" TO 53'-5"
EAS10205	5	9	26'-4" TO 24'-2"	STR							VARIES BY 1 EA. 1/4"
EAS10294	10	61	24'-6"	STR							
EAS10297	5	4	24'-3" TO 10'-8"	STR							
EAS10299	10	1	23'-7"	11	22'-0"	1'-7"	2"				
EC4252	4	50	7'-10"	39	2'-9"	4"	3"	5 1/2"	3"	2"	
EC4271	4	51	8'-1"	37	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	2"	
EC5254	5	6	23'-8 9/16"	11	21'-10 15/16"	1'-9 9/16"	2 1/2"				
EC5273	5	6	24'-7 11/16"	STR							
EC6253	6	4	23'-8 9/16"	11	21'-10 15/16"	1'-9 9/16"	2 1/2"				
EC6272	6	4	24'-7 11/16"	STR							
ESS5282	5	16	4'-8 3/4"	11	2'-4 15/16"	2'-3 43/16"	3 7/16"				
ESS8205	8	2	4'-9"	11	2'-5 1/8"	2'-4 7/16"	3"				
ESS8281	8	52	4'-10 1/8"	STR							



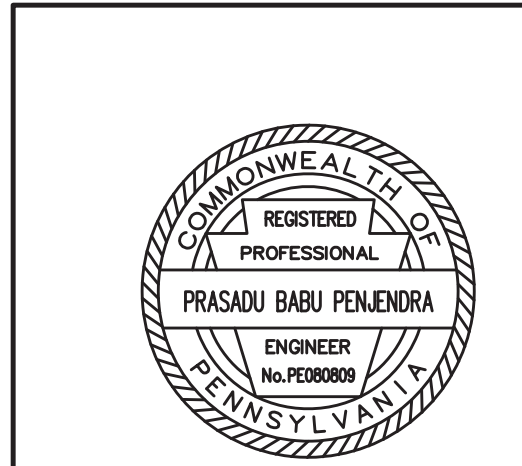
- E PREFIX INDICATES EPOXY COATED.
- "J" DIMENSIONS ON 180 HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 135DEG AND 180 DEG HOOKS, AND "R" WHICH IS SHOWN TO THE INSIDE OF THE BAR.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES DENOTE TYPE.
- Fy = 60 KSI
- DO NOT USE RAIL STEEL (A 616/A 616M) IN BRIDGE PIERS, ABUTMENTS, SHEAR BLOCKS, BEAMS, FOOTINGS, PILES AND WHERE BENDING OR WELDING OF THE REINFORCEMENT IS INDICATED.

- SHEET NOTES:
- FOR ABUTMENT 1 APPROACH SLAB PLAN, SEE SHEET 44.
 - FOR ABUT 1 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS, SEE SHEET 45.
 - FOR APPROACH SLAB JOINT DETAILS, SEE SHEET 46.
 - FOR ABUTMENT 2 APPROACH SLAB PLAN, SEE SHEET 47.
 - FOR ABUT 2 - APPROACH SLAB TYPICAL SECTIONS AND DETAILS, SEE SHEET 48.

Mark	Description	By	Chk'd.	Recm'd.	Date
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 1 SPAN ADJACENT PRESTRESSED BOX BEAM
APPROACH REINFORCEMENT BAR SCHEDULE



RECOMMENDED 05 / 04 / 2026 SHEET 49 OF 61

S-41964


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.

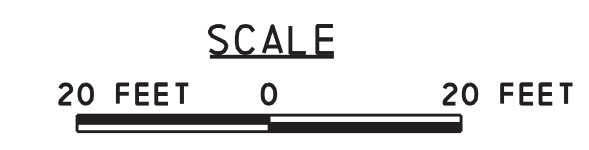
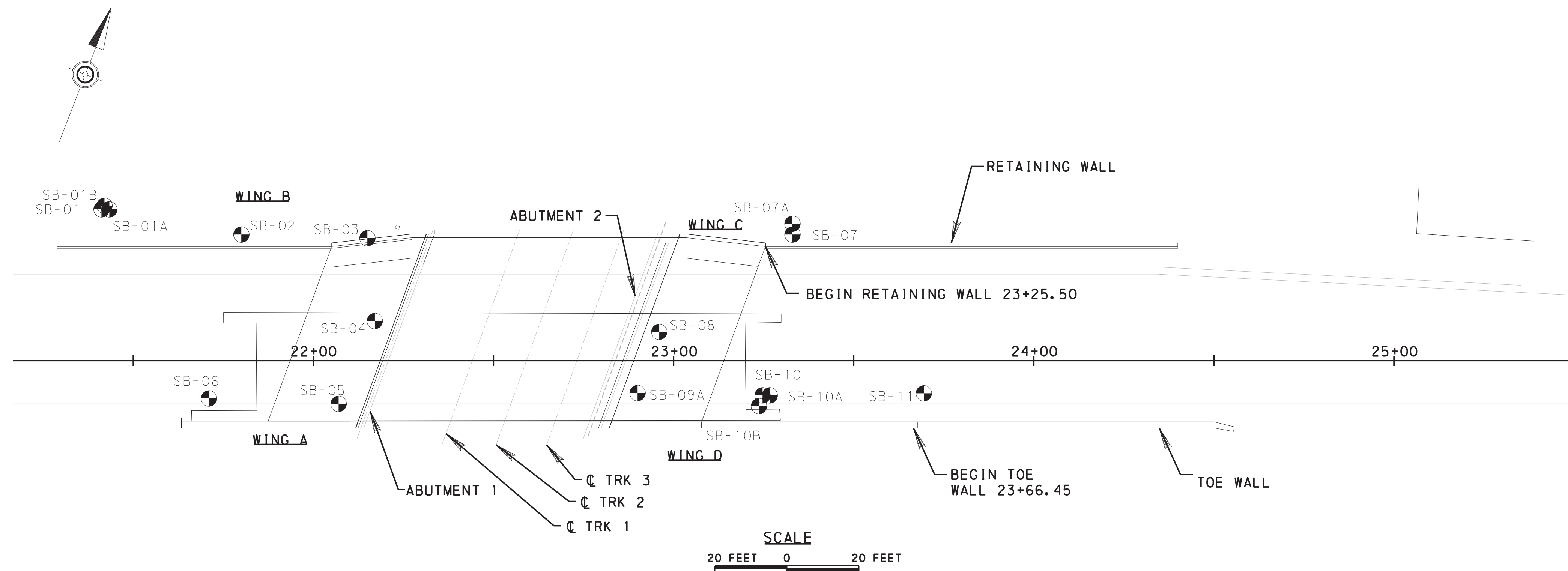
LEGEND

- BPCE BOTTOM OF PILE CAP ELEVATION (FEET)
- TOR TOP OF ROCK ELEVATION (FEET)
- TOBZ TOP OF BONDING ZONE ELEVATION (FEET)
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FEET)
- EXT EXTENSION
-  BORING LOCATION

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED. *JWR*

THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.

Jeffrey W. Rosengarten 2/22/2013
 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST DATE:



BORING LOCATIONS		
BORING	STATION	OFFSET
SB-01	21+41	42 LT
SB-01A	21+43	42 LT
SB-01B	21+42	43 LT
SB-02	21+80	35 LT
SB-03	22+15	34 LT
SB-04	22+19	6 LT
SB-05	22+12	12 RT
SB-06	21+71	7 RT
SB-07	23+33	35 LT
SB-07A	23+33	38 LT
SB-08	22+93	4.5 LT
SB-09A	22+90	9 RT
SB-10	23+27	8 RT
SB-10A	23+29	8 RT
SB-10B	23+26	11 RT
SB-11	23+70	9 RT

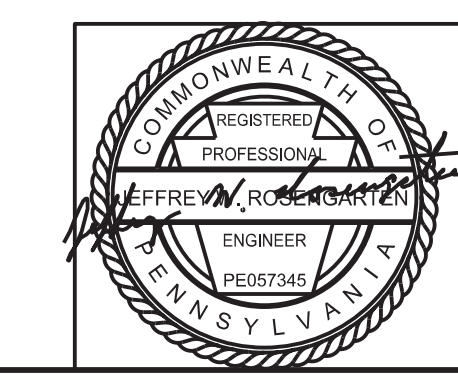
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 1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (1 OF 12)



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 1/6/2016

GENERAL NOTES

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LEGEND

- BPCE BOTTOM OF PILE CAP ELEVATION (FEET)
- TOR TOP OF ROCK ELEVATION (FEET)
- TOBZ TOP OF BONDING ZONE ELEVATION (FEET)
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FEET)
- EXT EXTENSION

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED. *JW*

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (2 OF 12)

SUBSTRUCTURE UNIT: WINGWALL B, EXTENSION 2				LOG 1 OF 1			
BORING NUMBER: SB-01B	BORING LOCATION STATION: 21+42.0 OFFSET: 43.0 FT. LT.	START: 09/23/2022 8:00 AM FINISH: 09/23/2022 9:30 AM	HAMMER: EFFICIENCY: ERa				
DRILLING METHOD AND EQUIPMENT: N/A, HAMMER-NO RECORD, ACKER XLS TRACK		SIZE OF CORE: "NO RECORD"	VERTICAL SCALE: 0 FT. 5 FT.	TOP OF BORING ELEVATION: 304.8 FT.			
DRILLING INSPECTOR: IAN VAN WAGENEN DRILLER & DRILLING COMPANY: M. SHONTS PENNSYLVANIA DRILLING COMPANY		▽ 0 HR. READING - ELAPSED TIME: Dry - 0.0 hr. ▼ 24 HR. READING - ELAPSED TIME: NR - NR 1					

ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO. #	BLOW COUNT	PP/T TSE	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇							
											⊙ Soil/Rock Rec. % ⊙							
											▲ SPT (N ₆₀) ▲							
												10	20	30	40			
303.00	BPCE	UNSAMPLED.																
		Difficult augering 1.5-5.0', had to use SSA.																
284.8		20.0'EI. 284.8																

24-hr. Water: Boring grouted upon completion.
**SAMPLE NO. shading indicates lab testing performed.

ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO. #	BLOW COUNT	PP/T TSE	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇							
											⊙ Soil/Rock Rec. % ⊙							
											▲ SPT (N ₆₀) ▲							
												10	20	30	40			
284.8		20.0'EI. 284.8																

**SAMPLE NO. shading indicates lab testing performed.

SUBSTRUCTURE UNIT: WINGWALL B, EXTENSION 2				LOG 1 OF 1			
BORING NUMBER: SB-01	BORING LOCATION STATION: 21+41.0 OFFSET: 42.0 FT. LT.	START: 09/06/2022 12:30 PM FINISH: 09/20/2022 10:30 AM	HAMMER: EFFICIENCY: 0.8 ERa				
DRILLING METHOD AND EQUIPMENT: DOUBLE TUBE WIRE LINE-NQ, AUTOMATIC, ACKER XLS TRACK		SIZE OF CORE: 1.874 IN.	VERTICAL SCALE: 0 FT. 5 FT.	TOP OF BORING ELEVATION: 304.8 FT.			
DRILLING INSPECTOR: IAN VAN WAGENEN DRILLER & DRILLING COMPANY: M. SHONTS PENNSYLVANIA DRILLING COMPANY		▽ 0 HR. READING - ELAPSED TIME: Dry - 0.0 hr. ▼ 24 HR. READING - ELAPSED TIME: Dry - 48.5 hr.					

ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/ USCS	SAMPLE DEPTH	SAMPLE NO. #	BLOW COUNT	PP/T TSE	N 60 / %RQD	REC (ft.)	REC (%)	◇ RQD % ◇							
											⊙ Soil/Rock Rec. % ⊙							
											▲ SPT (N ₆₀) ▲							
												10	20	30	40			
303.00	BPCE	GRAVEL, some Sand, trace Silt, contains slag, medium dense, moist, heterogeneous, well graded, angular, dark gray, fill. <i>Boring offset away from fiber optic line.</i>	a-1-a / gw	1.5	S-1	4-7-3	13	1.0	67									
303.00					S-2	1-2-16	24	0.8	53									
303.00					S-3	50/4'	>67	0.0	0									
303.00		GRAVEL, some Sand, some Silt, medium dense to very dense, damp, heterogeneous, poorly graded, angular, orange brown, fill. S-3, limestone fragments. <i>Auger refusal at 4.0'. S-4, continued sampling; driller stated it felt soft.</i>	a-2-4 / gm	4.0	S-4	17-9-11	27	0.7	47									
297.8		7.0'EI. 297.8			S-5	7-8-7	20	0.5	33									
297.8					S-6	3-1-1	3	1.5	100									
297.8		SILT, trace Sand, trace Gravel, soft to very stiff, moist to dry, lensed, poorly graded, angular, non-plastic, mottled orange and red brown, residuum.		10.0	S-7	WOH-WOH-3	4	1.5	100									
297.8					S-8	10-7-7	19	1.5	100									
297.8					S-9	9-10-12	29	1.5	100									
297.8					S-10	10-9-6	20	1.5	100									
297.8					S-11	5-6-9	20	1.5	100									
297.8					S-12	8-6-10	21	1.5	100									
297.8		Class on S-11 to S-12 (14.5-17.5) ML/A-4(0) N.M.C.=29.5% LL=NP, PL=NP, PI=NP.		17.5	S-13	1-4-6	13	1.5	100									
297.8					S-14	8-8-8	21	1.5	100									
297.8					S-15	WOH-3-4	9	1.5	100									
297.8					S-16	6-7-8	20	1.5	100									
297.8					S-17	5-4-5	12	1.5	100									
297.8					S-18	3-5-5	13	1.5	100									
297.8					S-19	5-5-6	15	1.5	100									
297.8					S-20	6-6-7	17	1.5	100									
297.8		S-20, sand lens.			S-21	3-4-5	12	0.8	53									
297.8		S-22, silt lens.			S-22	3-3-4	9	1.5	100									
297.8					S-23	4-5-6	15	1.5	100									
297.8					S-24	1-2-2	5	1.5	100									
297.8					S-25	WOH-1-2	4	1.5	100									
297.8					S-26	WOH-2-2	5	1.5	100									
297.8		S-27 contains limestone fragments. <i>Advanced augers to 40.0'; spoon slid down pinnacle from 40.0-42.7' (S-28 blow counts: WOH-8-4) (S-29 blow counts: 8-11-50/0.2) Auger refusal at 40.5'.</i>		40.0	S-27	7-5-5	13	1.5	100									
297.8					S-28	WOH-8-4/0'	16	0.5	100									
297.8					R-1		93%	1.3	93									
264.3	TOR	40.5'EI. 264.3																
264.3		Dry prior to coring.																
264.3		LIMESTONE, gray, medium hard, slightly weathered to fresh, massive bedding, random fractures, indistinct dip, (RQD=84%).		41.9	R-2			94%	5.0	100								
259.0	TOBZ																	
259.0		R-3, core barrel stuck in hole; removed augers and installed casing. Boring collapsed; blocked at 40.5'. Boring terminated. 0.5' tool drop at 48.7'. <i>Joint (RD=70'), tight joint opening, 49.5'.</i>		46.9	R-3			64%	2.8	85								
254.6	EMTE	50.2'EI. 254.6																

**SAMPLE NO. shading indicates lab testing performed.

PLT: KDH CKD: SV QA/QC: JWR

GENERAL NOTES

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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

- BPCE BOTTOM OF PILE CAP ELEVATION (FEET)
- TOR TOP OF ROCK ELEVATION (FEET)
- TOBZ TOP OF BONDING ZONE ELEVATION (FEET)
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FEET)
- EXT EXTENSION

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.



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

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

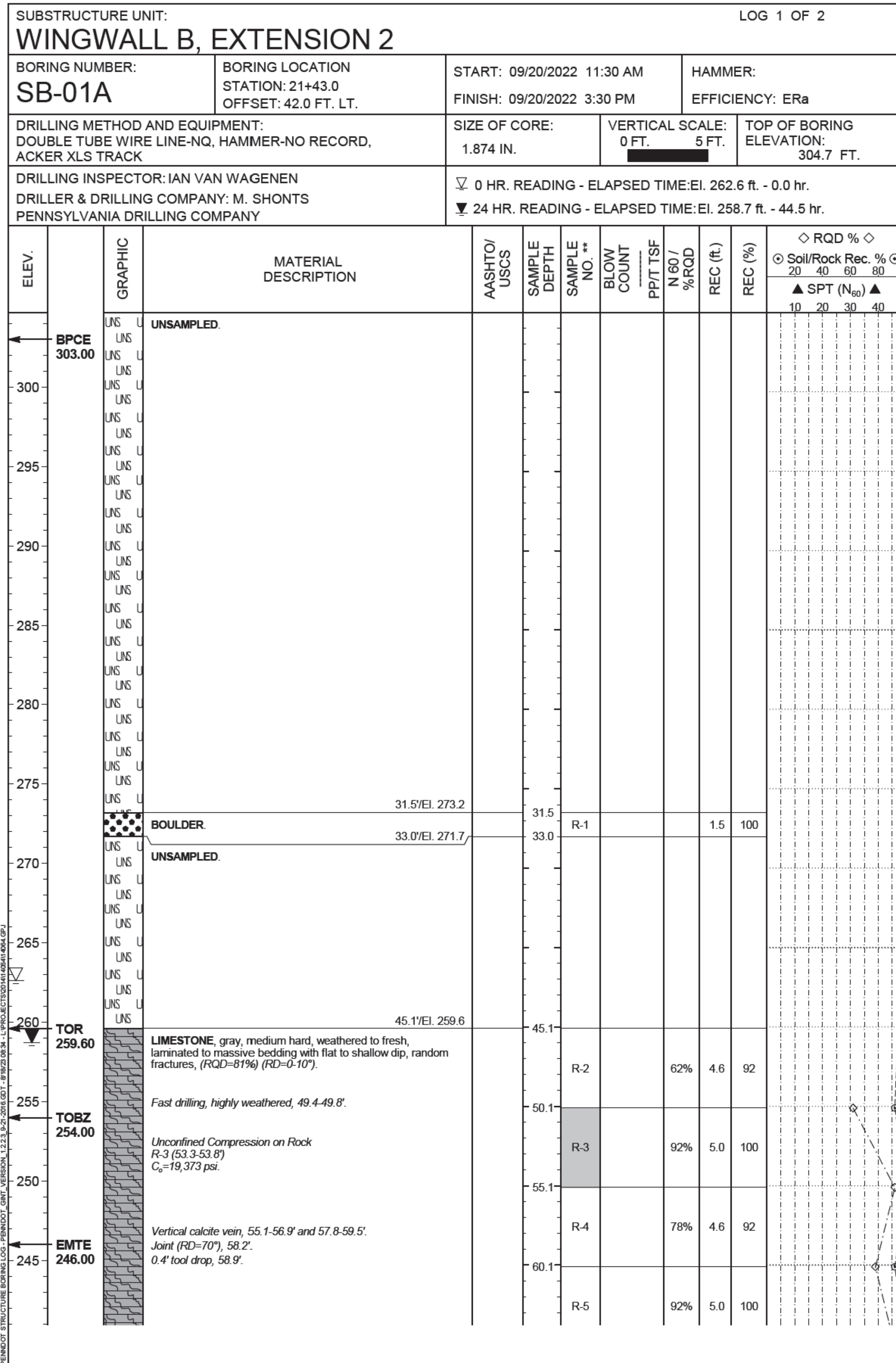
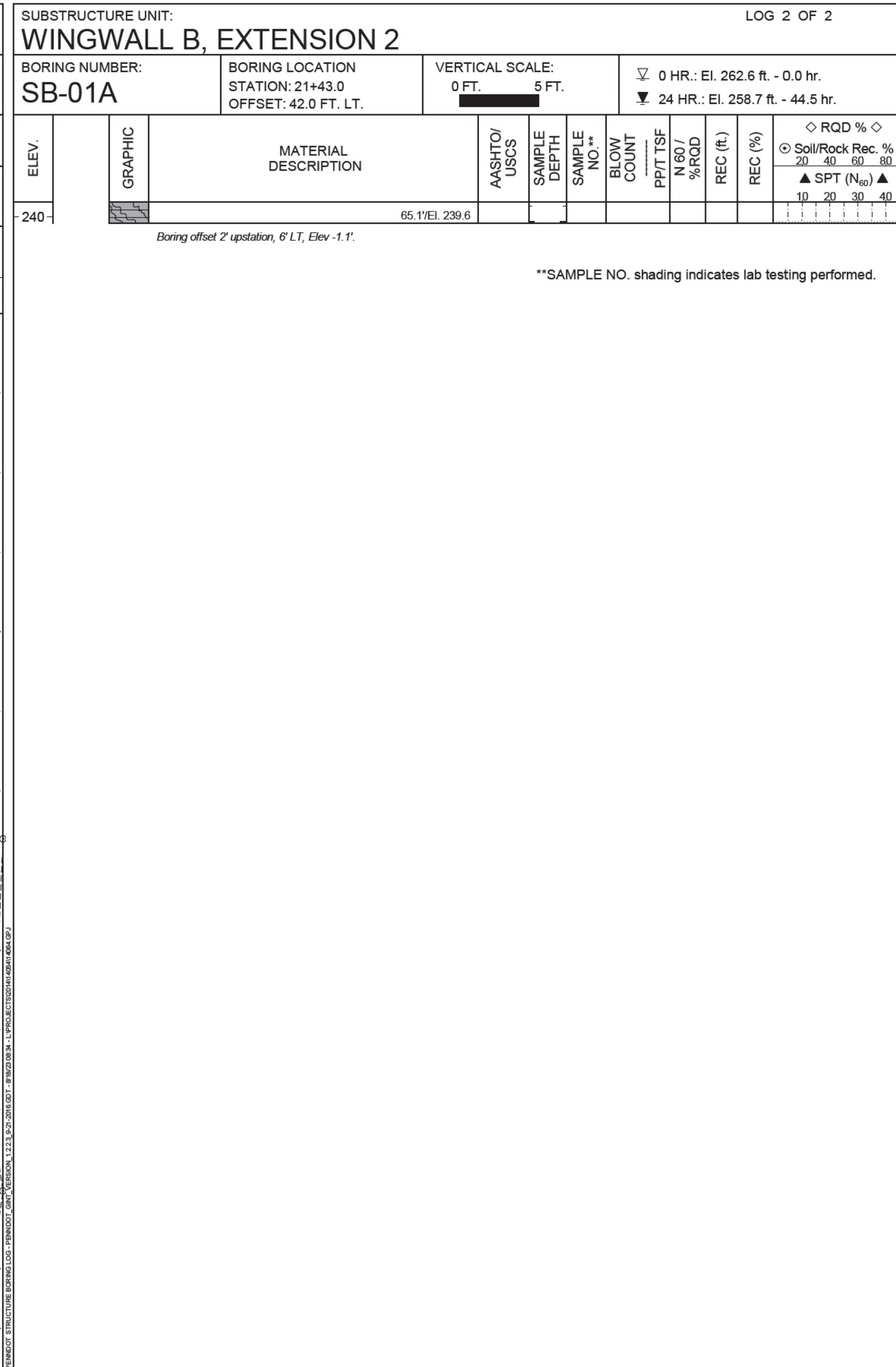
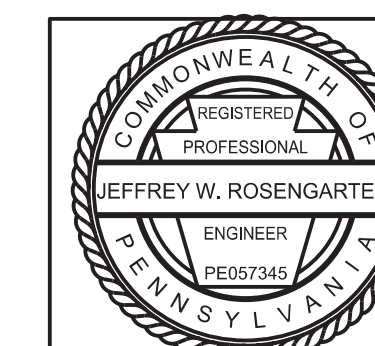
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (3 OF 12)

SHEET 52 OF 61

S-41964



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GENERAL NOTES

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THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
 BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

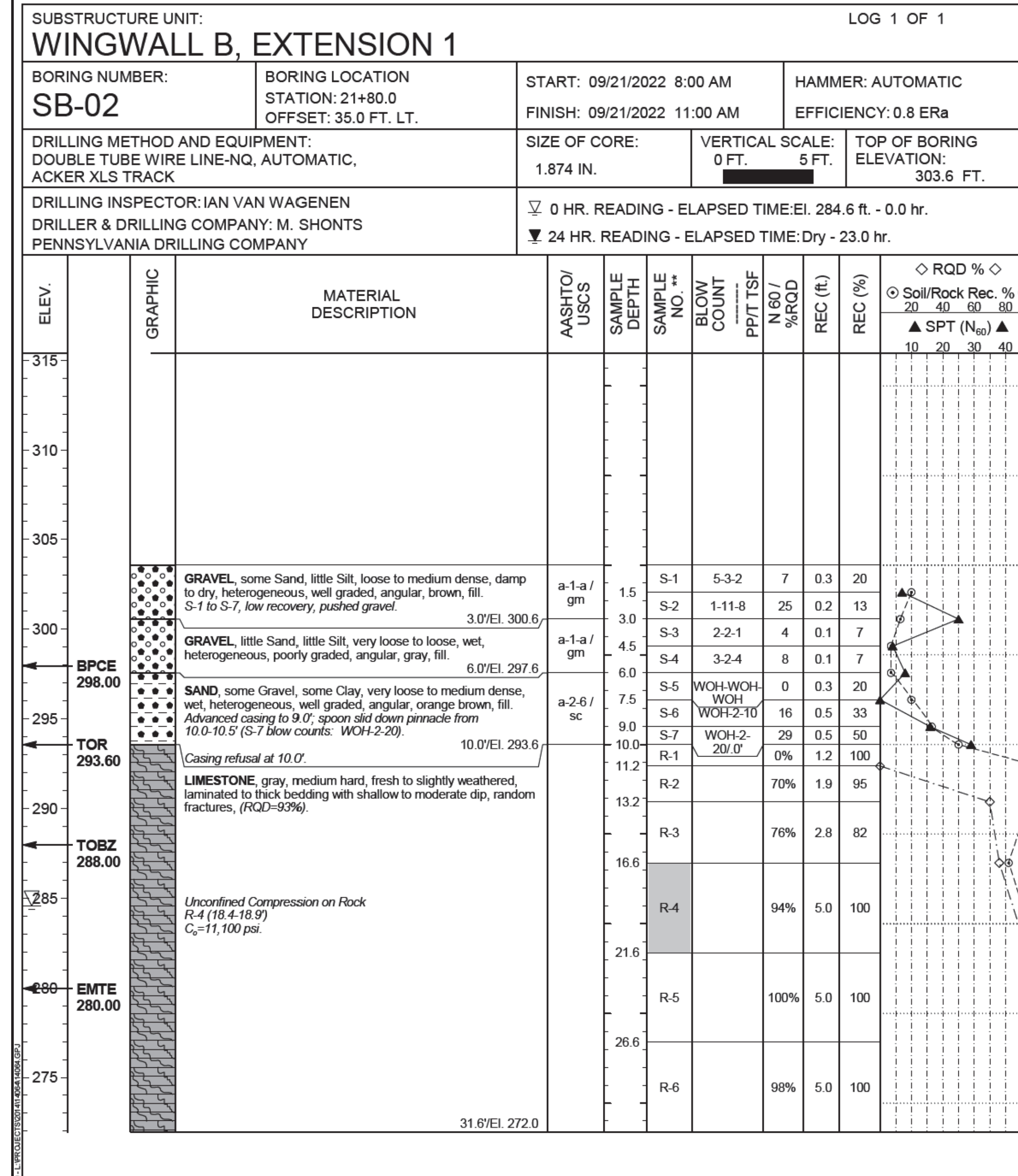
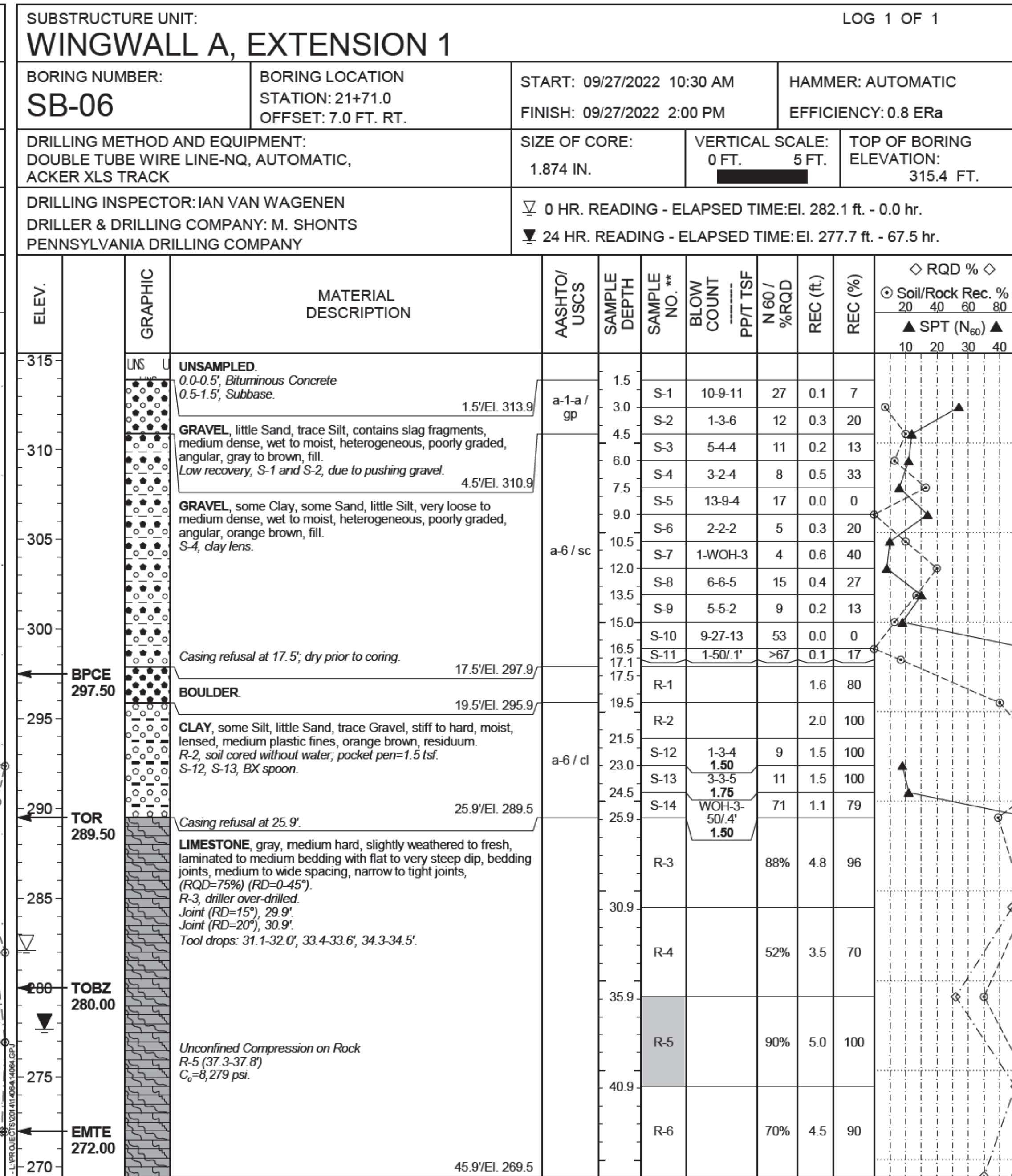
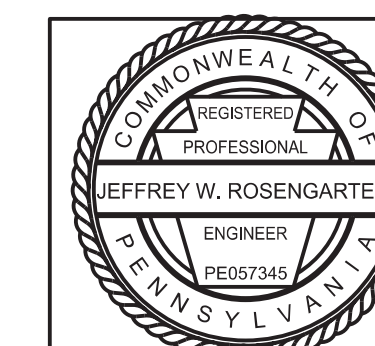
COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
 SR 2016 SECTION 01B
 SEGMENT 0020 OFFSET 0226
 S.R. 2016-000 STA. 22+53.75
 OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
 1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (4 OF 12)

SHEET 53 OF 61

S-41964



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GENERAL NOTES

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- EXT EXTENSION

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED. *JW*

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

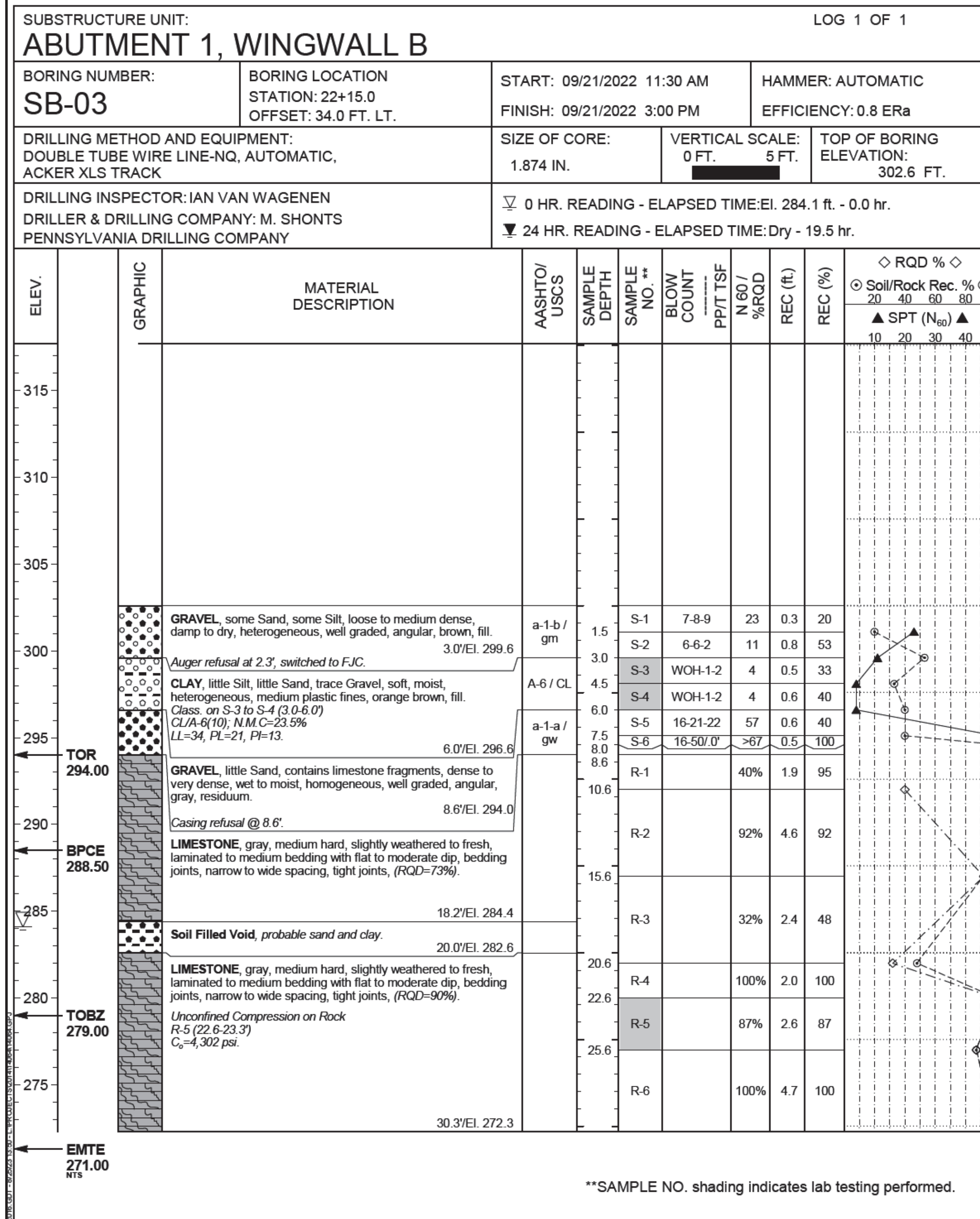
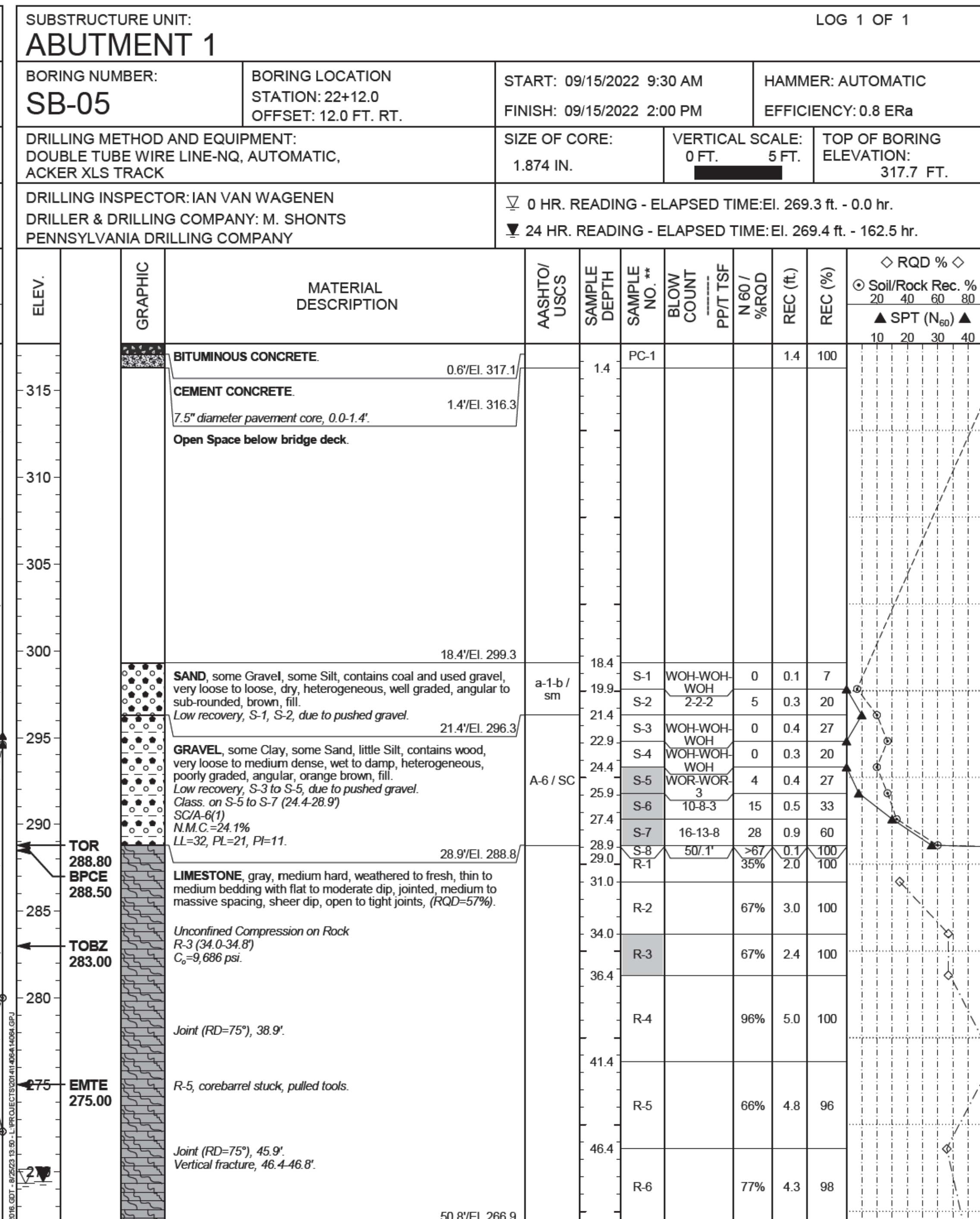
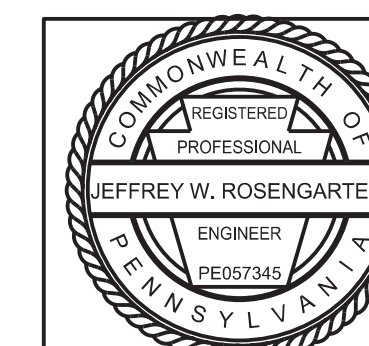
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DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
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S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (5 OF 12)

SHEET 54 OF 61

S-41964



Offset boring onto bridge (8' downstation, 4' LT, Elev +23.3').

**SAMPLE NO. shading indicates lab testing performed.

PERIODIC STRUCTURE BORING LOG - PENNDOT - CHN - VERSION 4.223 (5/2/2016) - 8/20/2016 10:30 - 11/16/2022 11:30 AM
PENNDOT PROJECT: 06-2016-0020-0194

PLT: KDH CKD: SV QA/QC: JWR

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GENERAL NOTES

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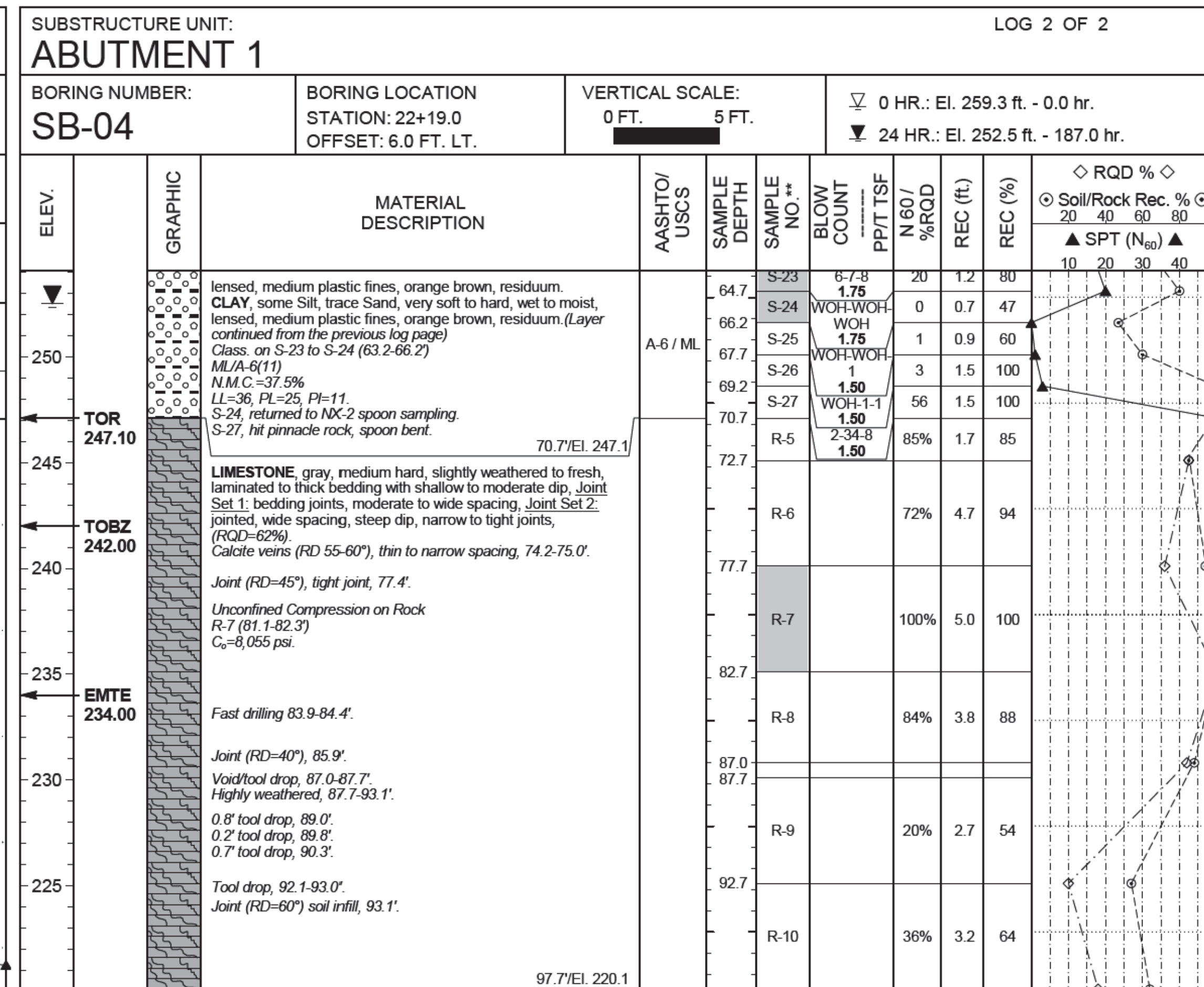
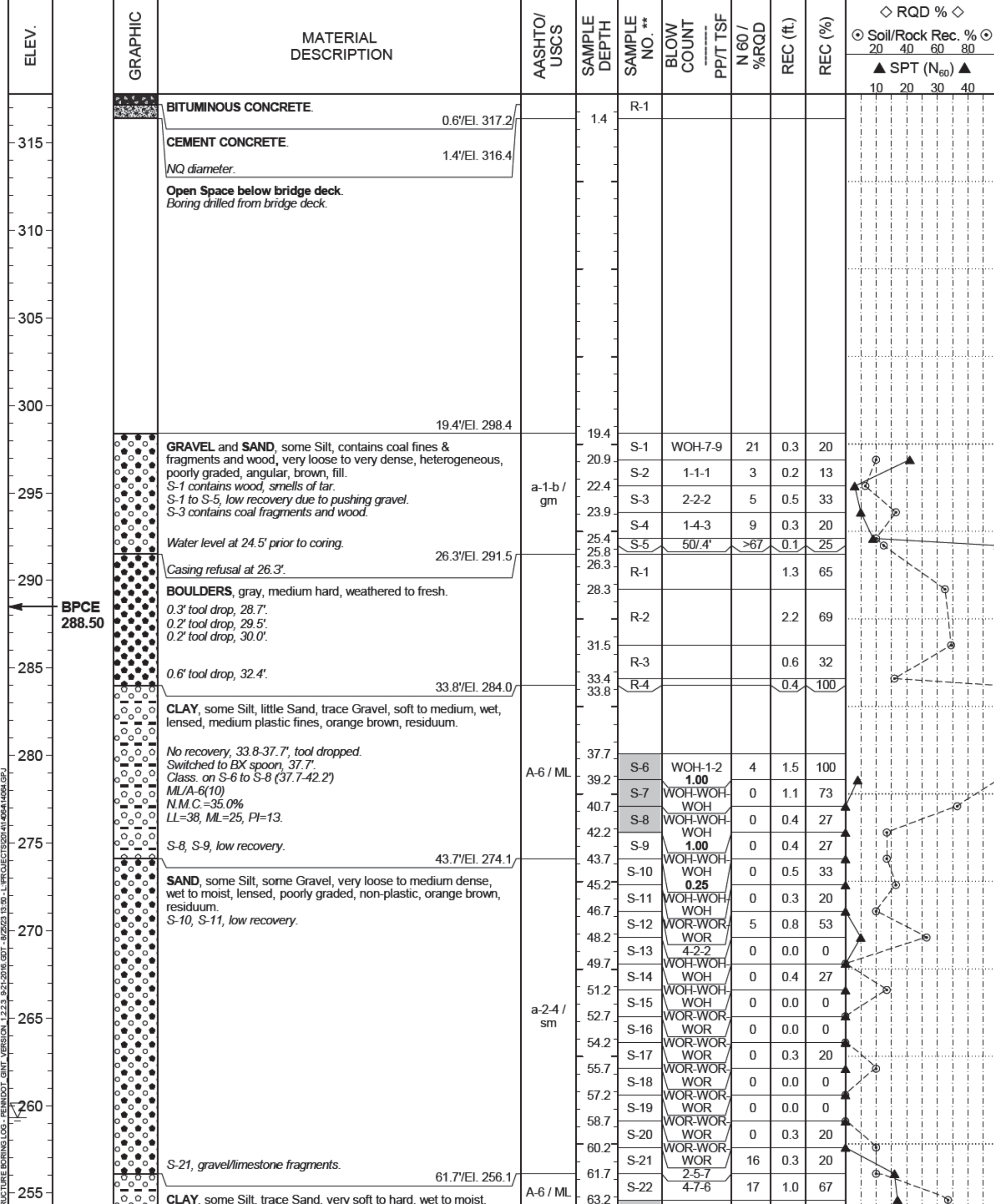
LEGEND

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- TOR TOP OF ROCK ELEVATION (FEET)
- TOBZ TOP OF BONDING ZONE ELEVATION (FEET)
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FEET)
- EXT EXTENSION

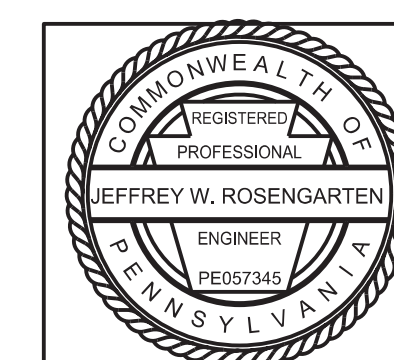
THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

JW

SUBSTRUCTURE UNIT: ABUTMENT 1				LOG 1 OF 2			
BORING NUMBER: SB-04	BORING LOCATION STATION: 22+19.0 OFFSET: 6.0 FT. LT.	START: 09/13/2022 10:00 AM FINISH: 09/14/2022 2:30 PM	HAMMER: AUTOMATIC EFFICIENCY: 0.8 ERa				
DRILLING METHOD AND EQUIPMENT: DOUBLE TUBE WIRE LINE-NQ, AUTOMATIC, ACKER XLS TRACK		SIZE OF CORE: 1.874 IN.	VERTICAL SCALE: 0 FT. 5 FT.	TOP OF BORING ELEVATION: 317.8 FT.			
DRILLING INSPECTOR: IAN VAN WAGENEN DRILLER & DRILLING COMPANY: M. SHONTS PENNSYLVANIA DRILLING COMPANY		▽ 0 HR. READING - ELAPSED TIME: El. 259.3 ft. - 0.0 hr. ▼ 24 HR. READING - ELAPSED TIME: El. 252.5 ft. - 187.0 hr.					



PLT: KDH	CKD: SV	QA/QC: JWR
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Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (6 OF 12)

SHEET 55 OF 61

S-41964

GENERAL NOTES

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- EMTE ESTIMATED MICROPILE TIP ELEVATION (FEET)
- EXT EXTENSION

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

JW

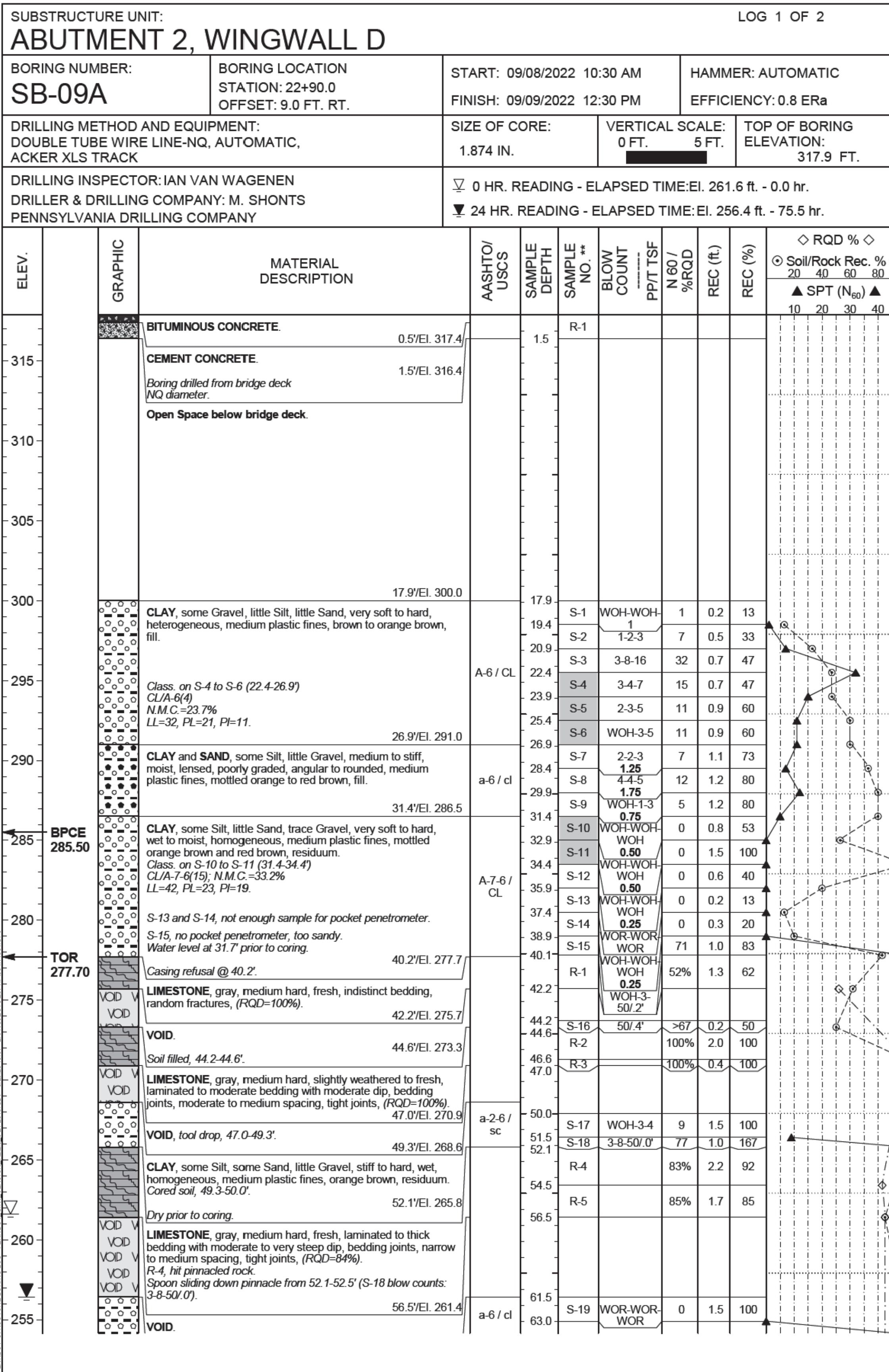
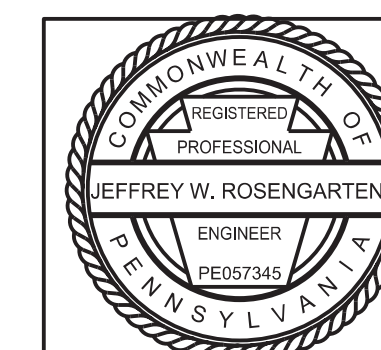
Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

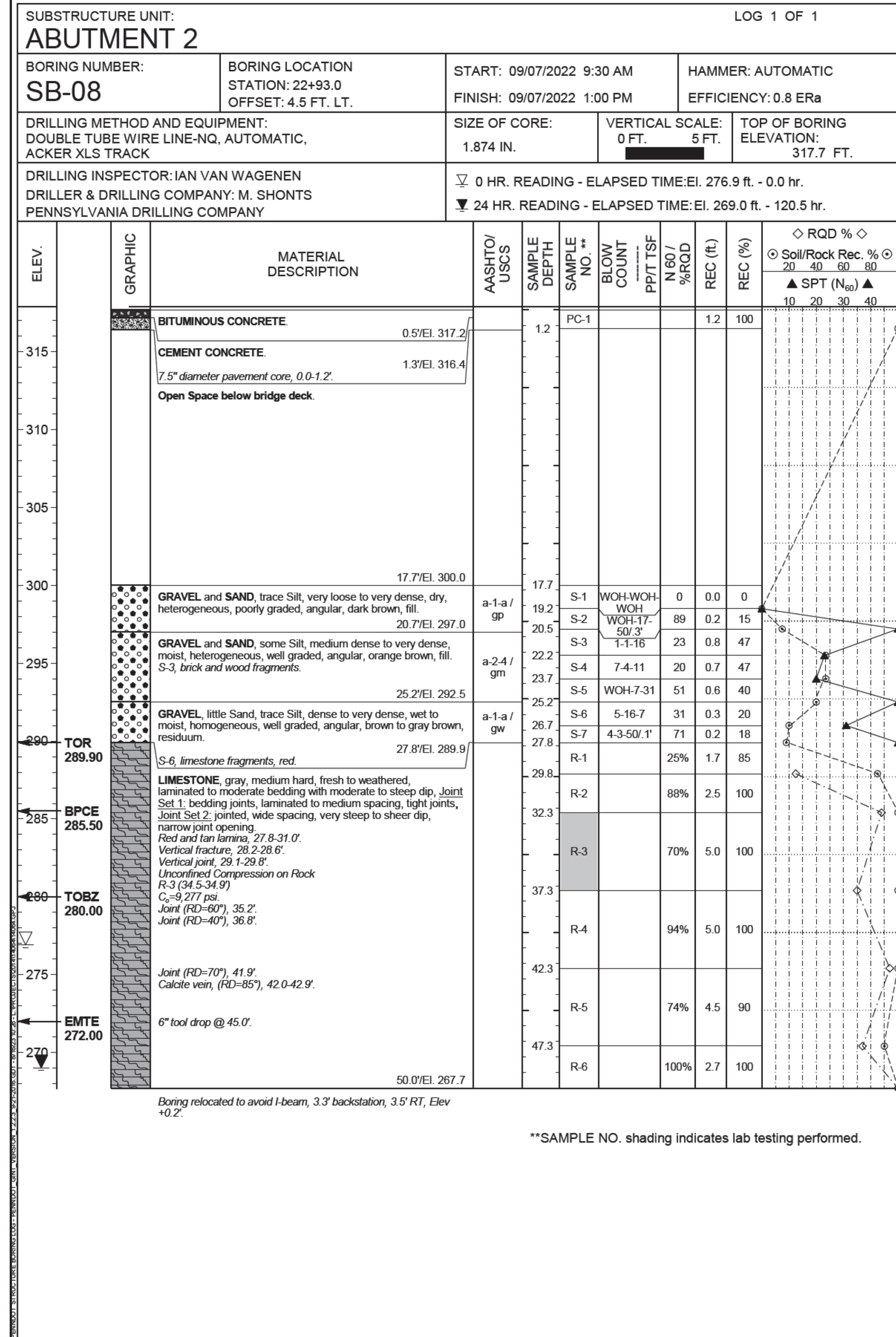
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
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S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (7 OF 12)



**SAMPLE NO. shading indicates lab testing performed.



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- EXT EXTENSION

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.



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

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

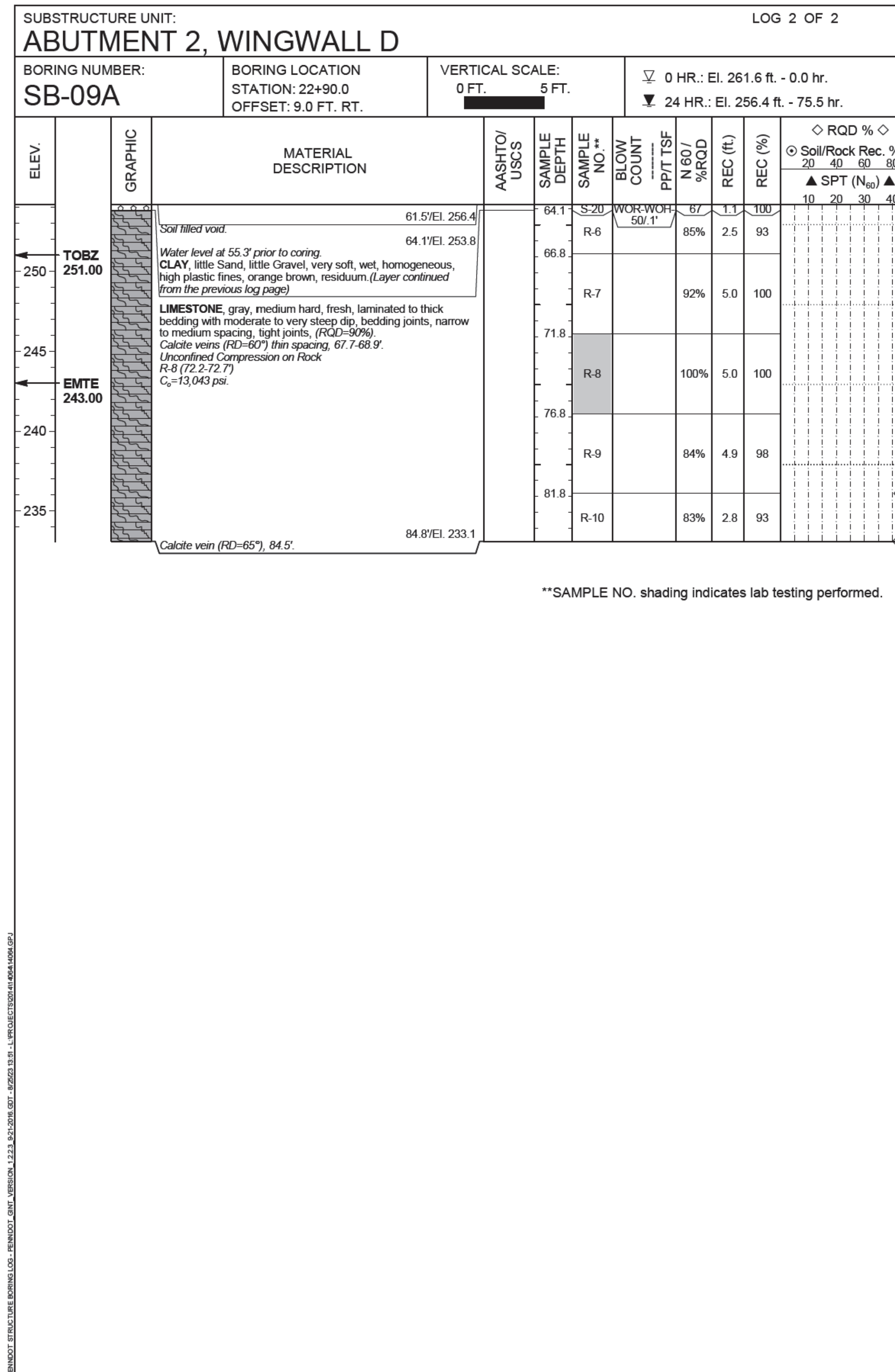
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
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OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (8 OF 12)

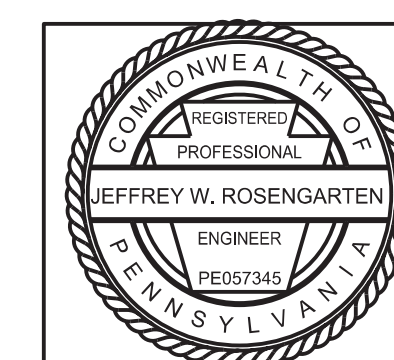
SHEET 57 OF 61

S-41964



**SAMPLE NO. shading indicates lab testing performed.

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GENERAL NOTES

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- EXT EXTENSION

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

J.W. [Signature]

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

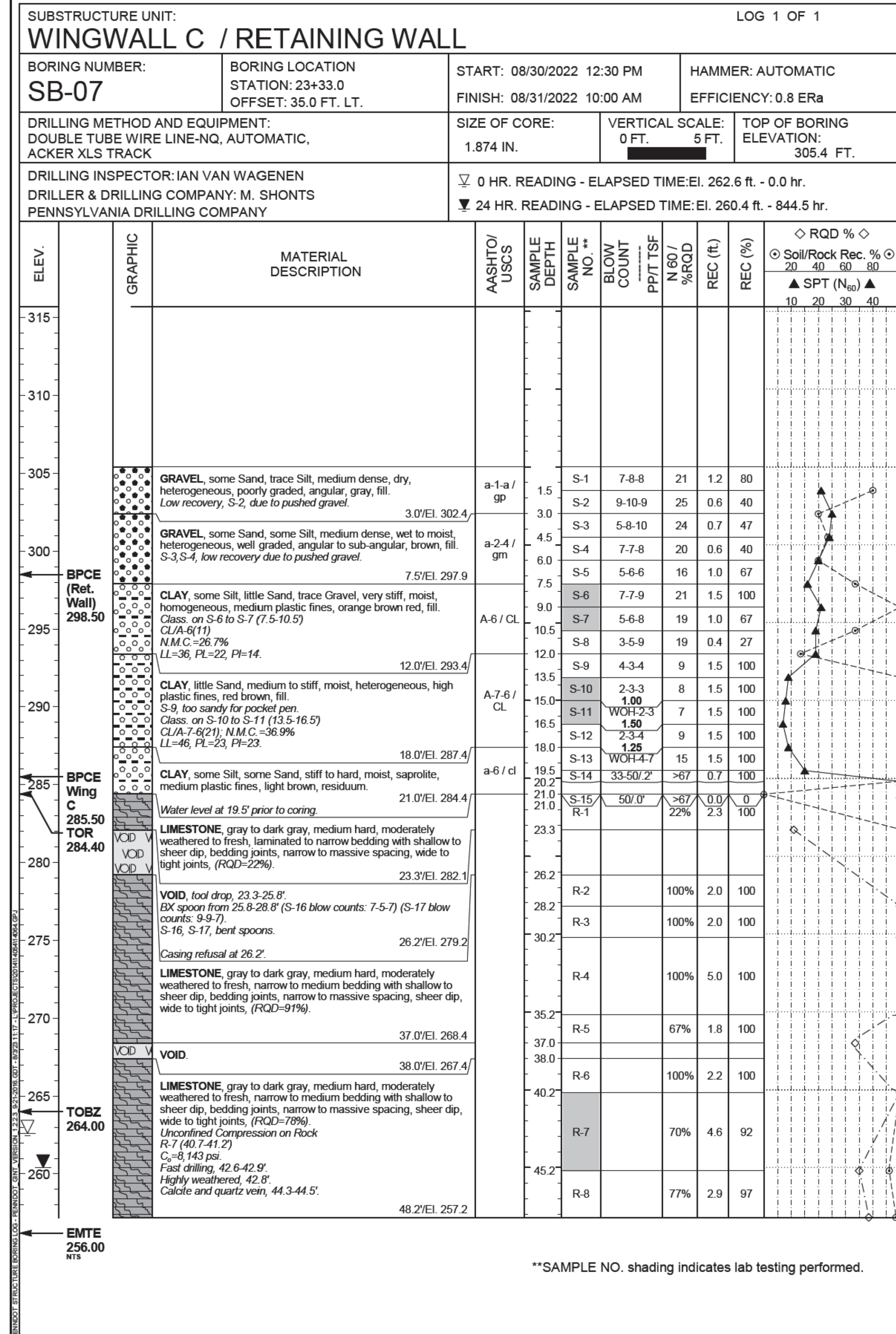
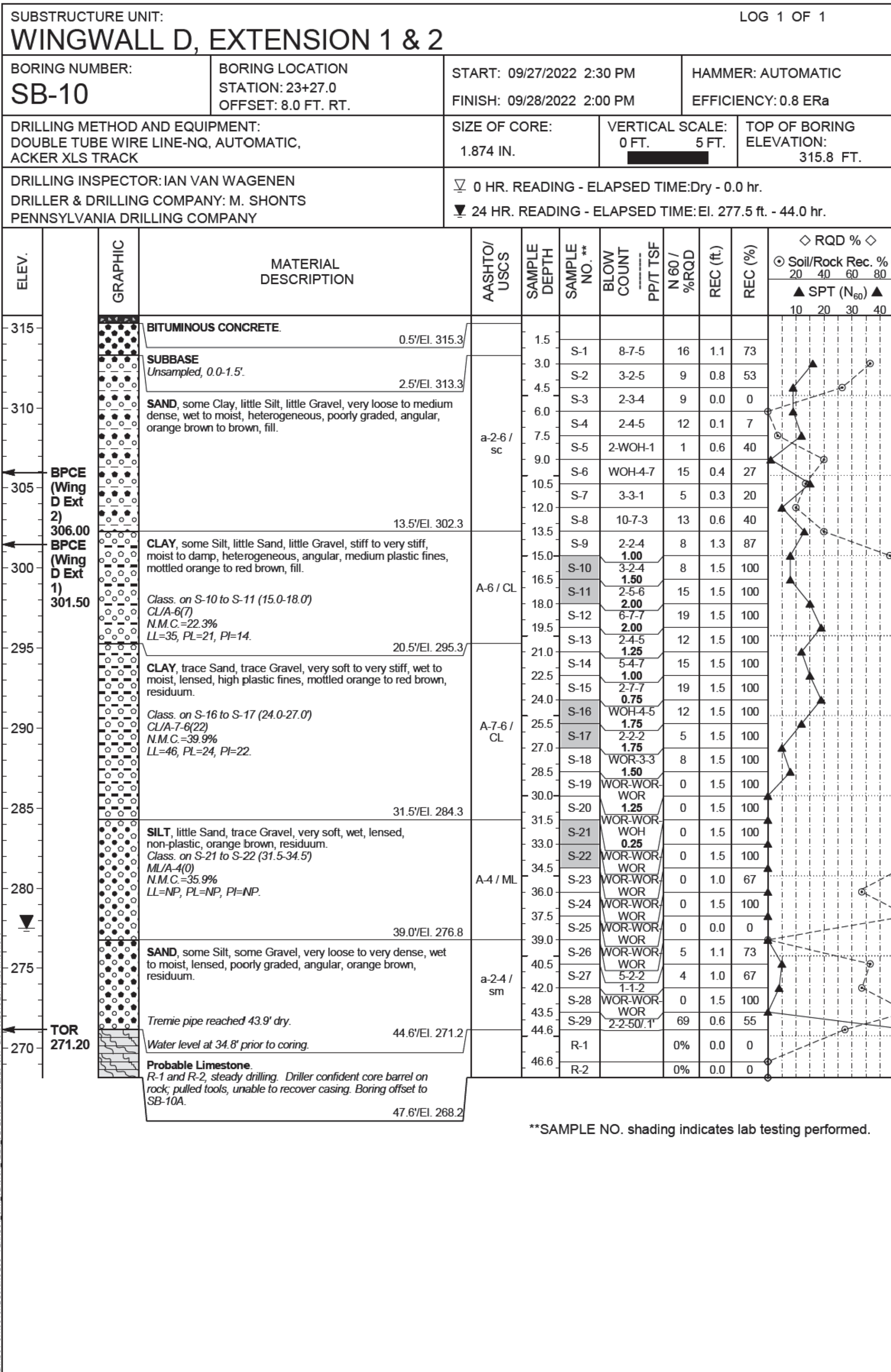
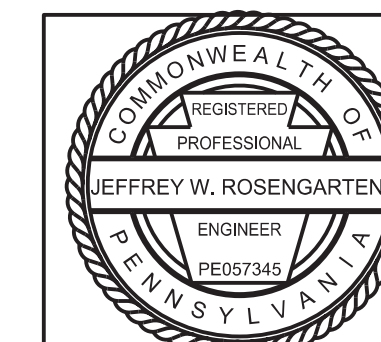
COMMONWEALTH OF PENNSYLVANIA
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BERKS COUNTY
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OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (9 OF 12)

SHEET 58 OF 61

S-41964



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 1/6/2022

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

- BPCE BOTTOM OF PILE CAP ELEVATION (FEET)
- TOR TOP OF ROCK ELEVATION (FEET)
- TOBZ TOP OF BONDING ZONE ELEVATION (FEET)
- EMTE ESTIMATED MICROPILE TIP ELEVATION (FEET)
- EXT EXTENSION

THE DESCRIPTION OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

JW

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

S.R. 2016 PREVIOUSLY KNOWN AS L.R. 6114
BMS STR ID: 06-2016-0020-0194 MPMS PROJ: 10527 BRKEY: 71030

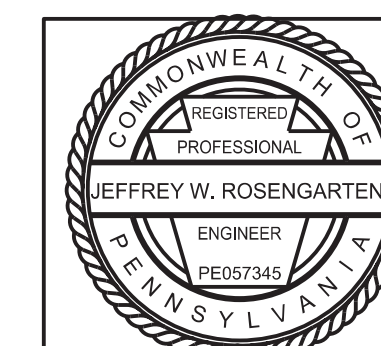
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
SR 2016 SECTION 01B
SEGMENT 0020 OFFSET 0226
S.R. 2016-000 STA. 22+53.75
OVER READING BLUE MOUNTAIN & NORTHERN RAILROAD
1 SPAN ADJACENT PRESTRESSED BOX BEAM

TEST BORINGS (11 OF 12)

SHEET 60 OF 61

S-41964



SUBSTRUCTURE UNIT: LOG 2 OF 2
WINGWALL D, EXTENSION 1 & 2

BORING NUMBER: SB-10A
BORING LOCATION STATION: 23+29.0
OFFSET: 8.0 FT. RT.

VERTICAL SCALE: 0 FT. to 5 FT.

0 HR.: El. 261.4 ft. - 0.0 hr.
24 HR.: El. 259.4 ft. - 42.0 hr.

ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PP/T TSF	N 60 / %RQD	REC (ft.)	REC (%)	Soil/Rock Rec. %	SPT (N ₆₀)
315	UNSAMPLED.											
310	UNSAMPLED.											
305	UNSAMPLED.											
301.50	BPCE (Wing D Ext 1)											
306.00	BPCE (Wing D Ext 2)											
298.8	23.0'/El. 292.8	SILT, some Gravel, little Sand, non-plastic. Shelby tube collected from 23.0-25.0' left in boring for 30 min. ST-1 crushed.	a-4 / ml	23.0	ST-1				1.2	60		
290.8	25.0'/El. 290.8	UNSAMPLED.										
288.8	33.0'/El. 282.8	SILT, little Clay, little Sand, trace Gravel, low plastic fines.	a-4 / ml	33.0	ST-2				2.0	100		
280.8	35.0'/El. 280.8											

SUBSTRUCTURE UNIT: LOG 1 OF 1
WINGWALL D, EXTENSION 1 & 2

BORING NUMBER: SB-10B
BORING LOCATION STATION: 23+26.0
OFFSET: 11.0 FT. RT.

START: 10/03/2022 12:30 PM
FINISH: 10/03/2022 3:30 PM

HAMMER: EFFICIENCY: ERA

DRILLING METHOD AND EQUIPMENT: DRILLING METHOD-NO RECORD, HAMMER-NO RECORD, ACKER XLS TRACK

SIZE OF CORE: "NO RECORD"

VERTICAL SCALE: 0 FT. to 5 FT.

TOP OF BORING ELEVATION: 315.8 FT.

DRILLING INSPECTOR: IAN VAN WAGENEN
DRILLER & DRILLING COMPANY: M. SHONTS PENNSYLVANIA DRILLING COMPANY

0 HR. READING - ELAPSED TIME: Dry - 0.0 hr.
24 HR. READING - ELAPSED TIME: Dry - 42.5 hr.

ELEV.	GRAPHIC	MATERIAL DESCRIPTION	AASHTO/USCS	SAMPLE DEPTH	SAMPLE NO.	BLOW COUNT	PP/T TSF	N 60 / %RQD	REC (ft.)	REC (%)	Soil/Rock Rec. %	SPT (N ₆₀)
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