

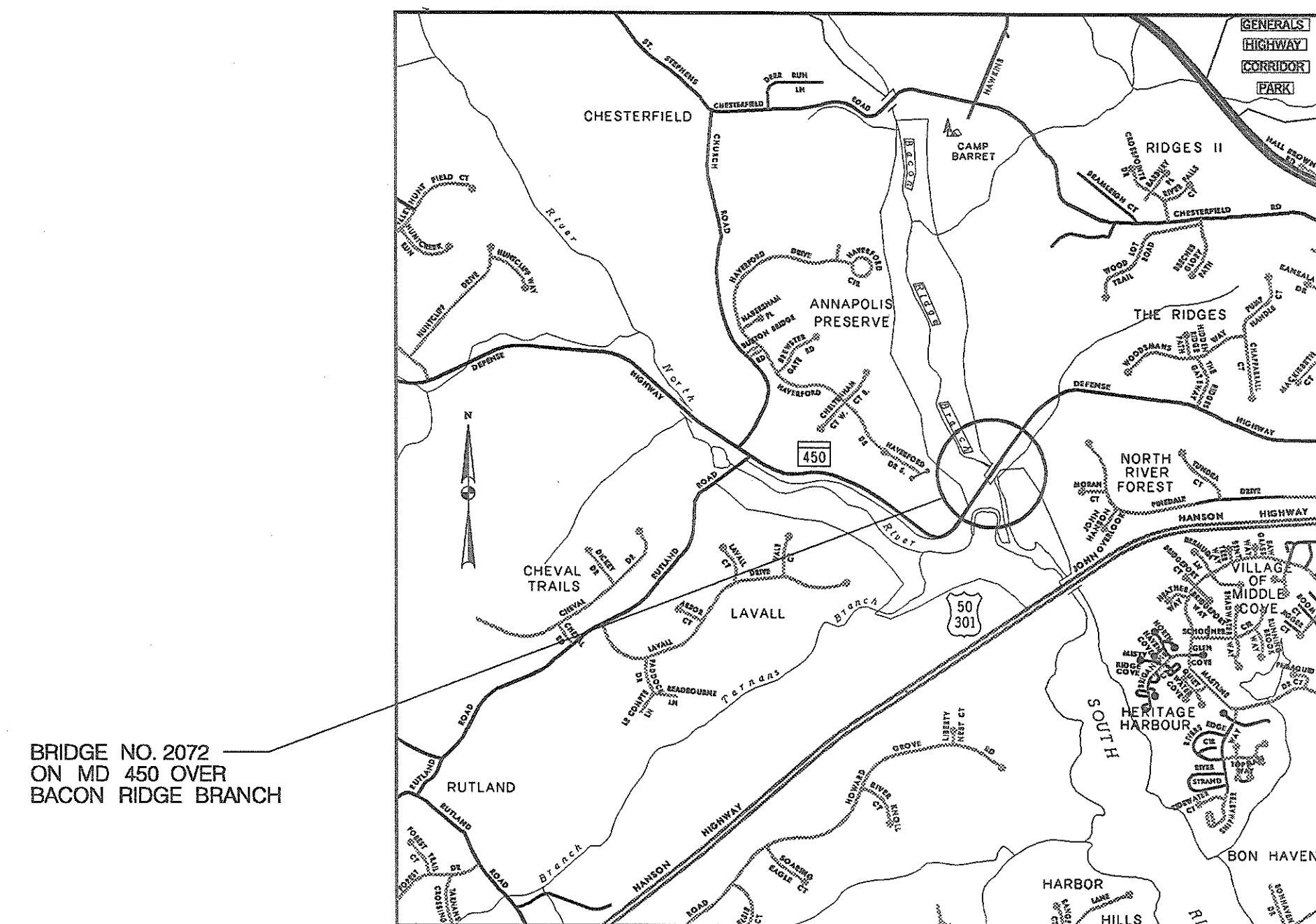
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION

PLANS FOR REPLACEMENT OF TWO BRIDGES
BRIDGE NO. 10016 ON MARYLAND ROUTE 28
OVER WASHINGTON RUN
AND
BRIDGE NO. 02072 ON MARYLAND ROUTE 450
OVER BACON RIDGE BRANCH

S.H.A. CONTRACT NO. AX4695180
 F.A.P. CONTRACT NO. AC-BR-HFL-000A(273)E

ADDENDUMS AND RED LINE REVISIONS

- 1 RED LINE NO. 1 4/9/08
 B.R. 1066 10016: SHEET Nos. 12 TO 15, 53A.
 B.R. 1066 02072: SHEET Nos. 4, 7, 8, 14, 16, 17, 18, 19,
 20, 21, 22, 42, AND 63.
- 2 RED LINE NO. 2
 SHEETS NO. 1, 4, 4.01, 6, 15 - 17, 19, 20 6/26/08

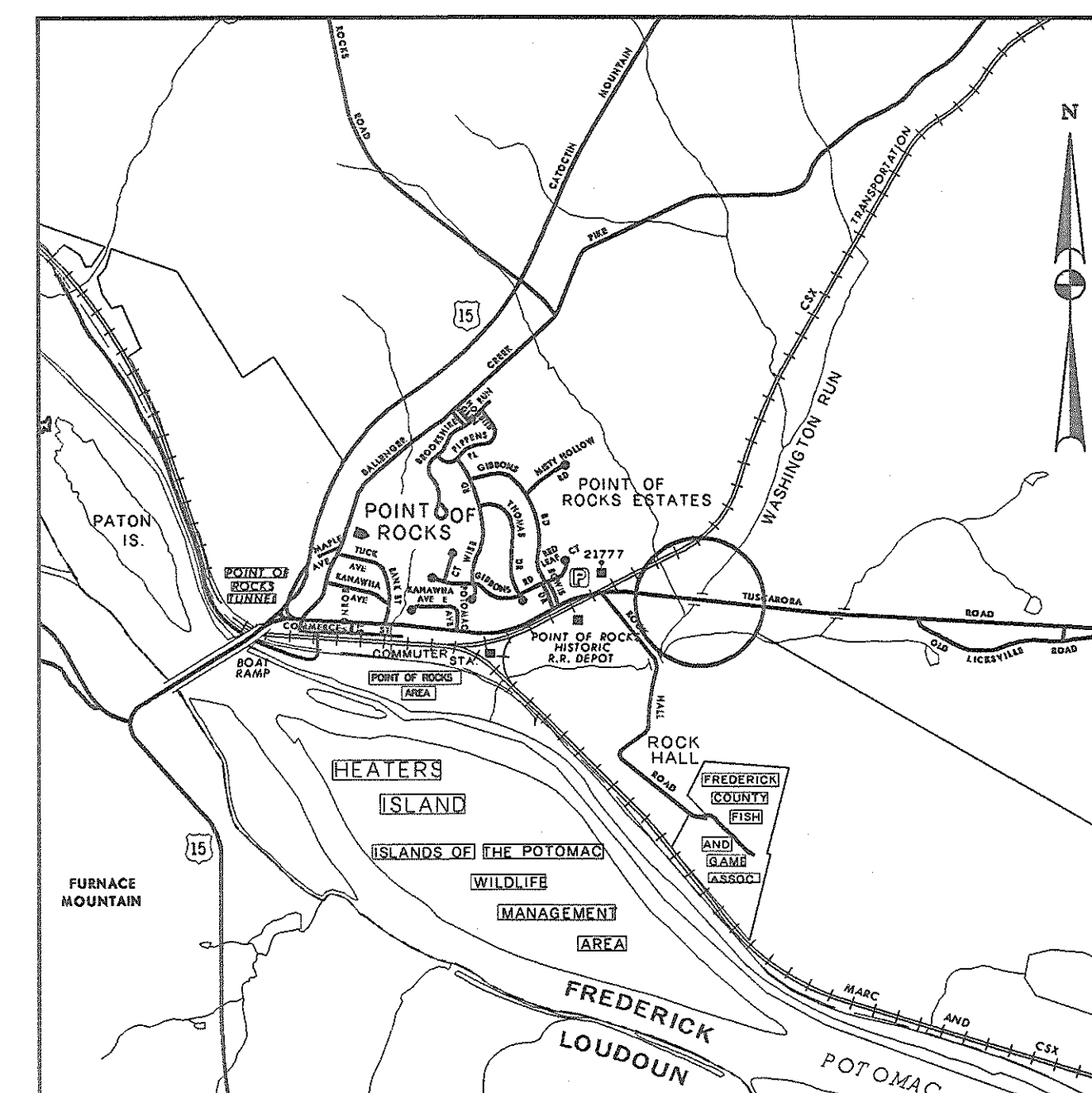


BRIDGE NO. 2072
 ON MD 450 OVER
 BACON RIDGE BRANCH

ANNE ARUNDEL COUNTY
 LOCATION MAP
 SCALE: 1" = 2000'
 PROJECT LENGTH = 0.260 MILES

**MD 450
 DESIGN TRAFFIC DATA**

	2006	2026(EST.)
A.D.T.	8,000	9,900
D.H.V.	11 %	11 %
DIRECTIONAL DISTRIBUTION	56 %	56 %
PERCENT TRUCKS-A.D.T.	5 %	5 %
PERCENT TRUCKS-D.H.V.	4 %	4 %
DESIGN SPEED	50 M.P.H.	50 M.P.H.



BRIDGE NO. 10016 ON
 MARYLAND ROUTE 28
 OVER WASHINGTON RUN

FREDERICK COUNTY
 LOCATION MAP
 SCALE: 1" = 2000'
 PROJECT LENGTH = 0.067 MILES

**MD 28
 DESIGN TRAFFIC DATA**

	2005	2025(EST.)
A.D.T.	3,250	6,300
D.H.V.	11 %	11 %
DIRECTIONAL DISTRIBUTION	74 %	74 %
PERCENT TRUCKS-A.D.T.	7 %	7 %
PERCENT TRUCKS-D.H.V.	4 %	4 %
DESIGN SPEED	50 M.P.H.	50 M.P.H.

REVIEWED AND APPROVAL RECOMMENDED

Sam Dawson 11/20/07
 CHIEF BRIDGE DESIGN DIVISION

APPROVAL RECOMMENDED
E. F. Friedman 11/20/07
 DIRECTOR, OFFICE OF BRIDGE DEVELOPMENT

APPROVED
[Signature] 11/20/07
 DEPUTY ADMINISTRATOR FOR PLANNING AND ENGINEERING

INDEX OF SHEETS

1. TITLE SHEET
2. TYPICAL SECTIONS
3. TYPICAL SECTIONS
4. GEOMETRIC LAYOUT
5. ROADWAY PLAN
6. ROADWAY PROFILE
7. ROADWAY PROFILE
8. DETOUR PLAN
9. DETOUR DETAILS
10. DETOUR DETAILS
11. SIGN LEGEND
12. EROSION AND SEDIMENT CONTROL NOTES
13. EROSION AND SEDIMENT CONTROL PHASE I
14. EROSION AND SEDIMENT CONTROL PHASE II
15. EROSION AND SEDIMENT CONTROL PHASE III
16. MAINTENANCE OF STREAM FLOW - DETAILS
17. GENERAL NOTES AND PROPOSALS
18. SIGNING AND PAVEMENT MARKING PLAN
19. GRADING TABLE
20. GENERAL PLAN AND ELEVATION
21. HYDRAULIC AND HYDROLOGIC DATA
22. GEOMETRIC DATA
23. ABUTMENT A - PLAN AND ELEVATION
24. ABUTMENT A - PILE PLAN
25. ABUTMENT A - FOOTING REINFORCING
26. ABUTMENT B - PLAN AND ELEVATION
27. ABUTMENT B - PILE PLAN
28. ABUTMENT B - FOOTING REINFORCING
29. ABUTMENT DETAILS
30. ABUTMENT PILE PLACEMENT DETAILS
31. ABUTMENT DETAILS
32. WING WALL ELEVATIONS
33. WING WALL DETAILS
34. WING WALL DETAILS
35. RIPRAP SCOUR PROTECTION
36. RIPRAP SCOUR PROTECTION DETAILS
37. TYPICAL SECTION
38. SLAB LAYOUT
39. 4'-0" EXTERIOR SLAB NO. 1 DETAILS
40. 4'-0" INTERIOR SLAB DETAILS
41. 4'-0" EXTERIOR SLAB NO. 10 DETAILS
42. SUPERSTRUCTURE DETAILS
43. SUPERSTRUCTURE DETAILS
44. FINISHED DECK ELEVATIONS
45. RAIL POST SPACING DETAILS
46. RAILING DETAILS
47. DETAILS
48. DETAILS
49. REINFORCING DETAILS
50. REINFORCING DETAILS
51. REINFORCING DETAILS
52. REINFORCING DETAILS
53. FOUNDATION TEST BORINGS
- 53A. LANDSCAPE PLAN
- XS-01 ROADWAY CROSS SECTION SHEET
- XS-02 ROADWAY CROSS SECTION SHEET
- XS-03 ROADWAY CROSS SECTION SHEET
- XS-04 ROADWAY CROSS SECTION SHEET

FOR THE CONVENIENCE AND INFORMATION OF BIDDERS PRINTS OF PLANS OF EXISTING PERTINENT STRUCTURE(S) ARE INCLUDED WITH THIS CONTRACT. NO RESPONSIBILITY FOR THEIR ACCURACY OR COMPLETENESS IS ASSUMED BY THE STATE HIGHWAY ADMINISTRATION. DIMENSIONS, DETAILS, ETC., AS SHOWN THEREON MAY NOT BE AS BUILT.

INCLUDED FOR YOUR USE ARE:
THERE ARE NO PLANS AVAILABLE FOR THE EXISTING BRIDGE.

STATE HIGHWAY ADMINISTRATION

PLANS FOR REPLACEMENT OF BRIDGE NO. 10016 ON MARYLAND ROUTE 28 OVER WASHINGTON RUN PORTION OF PROJECT

S.H.A. CONTRACT NO. AX4695180
F.A.P. CONTRACT NO. AC-BR-HFL-000A(273)E

MD 28 SURVEY BOOK NO. 13837

HORIZONTAL DATUM: NAD 83/91
VERTICAL DATUM: NAVD 88

RIGHT-OF-WAY PLAY NOS.
MD 28 - 57364

SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE STRICTLY ENFORCED DURING CONSTRUCTION.

ENVIRONMENTAL INFORMATION:
MD 28 MDE PROJECT NO. 08-SF-0023

ALL STORMWATER MANAGEMENT FACILITIES CONSTRUCTED FOR CONTRACT NO. AX4695180 SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE STATE HIGHWAY ADMINISTRATION'S BEST MANAGEMENT PRACTICES (BMP) INSPECTION AND REMEDIATION PROGRAM.

OWNERS / DEVELOPERS CERTIFICATION :
I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS.

STANDARD STABILIZATION NOTE:
FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN (14) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

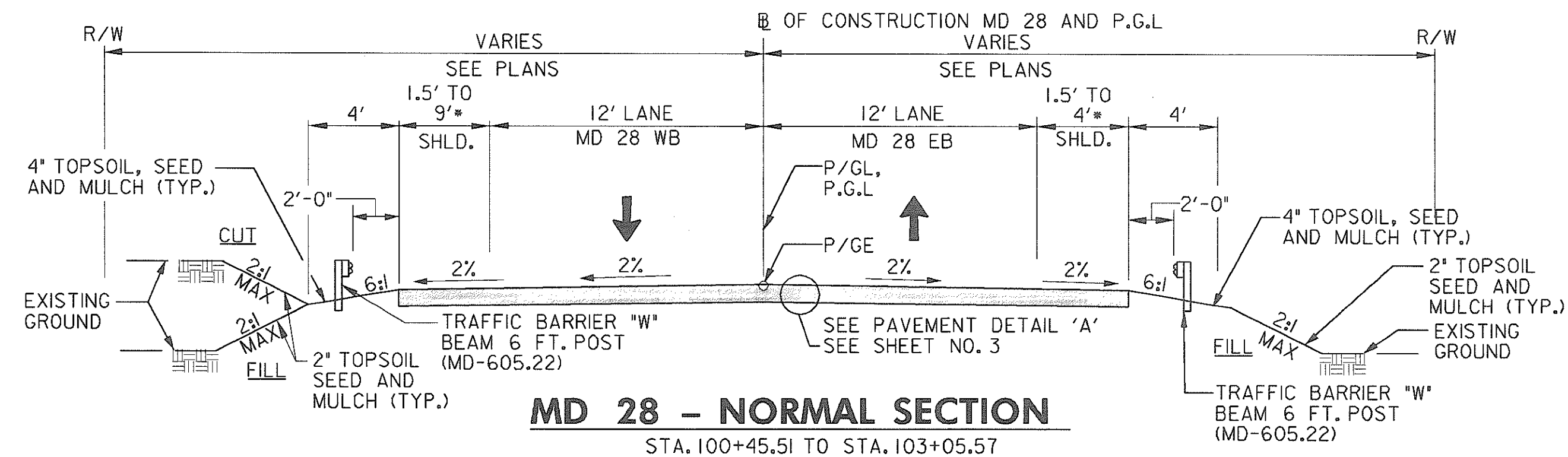
THE STATE HIGHWAY ADMINISTRATION SHALL ONLY BE RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS OBTAINED DIRECTLY FROM THE STATE HIGHWAY ADMINISTRATION CASHIER'S OFFICE. FAILURE TO ATTACH ADDENDA MAY CAUSE THE BID TO BE IRREGULAR.

RIGHT-OF-WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL FEE RIGHT OF WAY AND EASEMENT INFORMATION, SEE APPROPRIATE RIGHT OF WAY PLAN.

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS.

CONVENTIONAL SIGNS

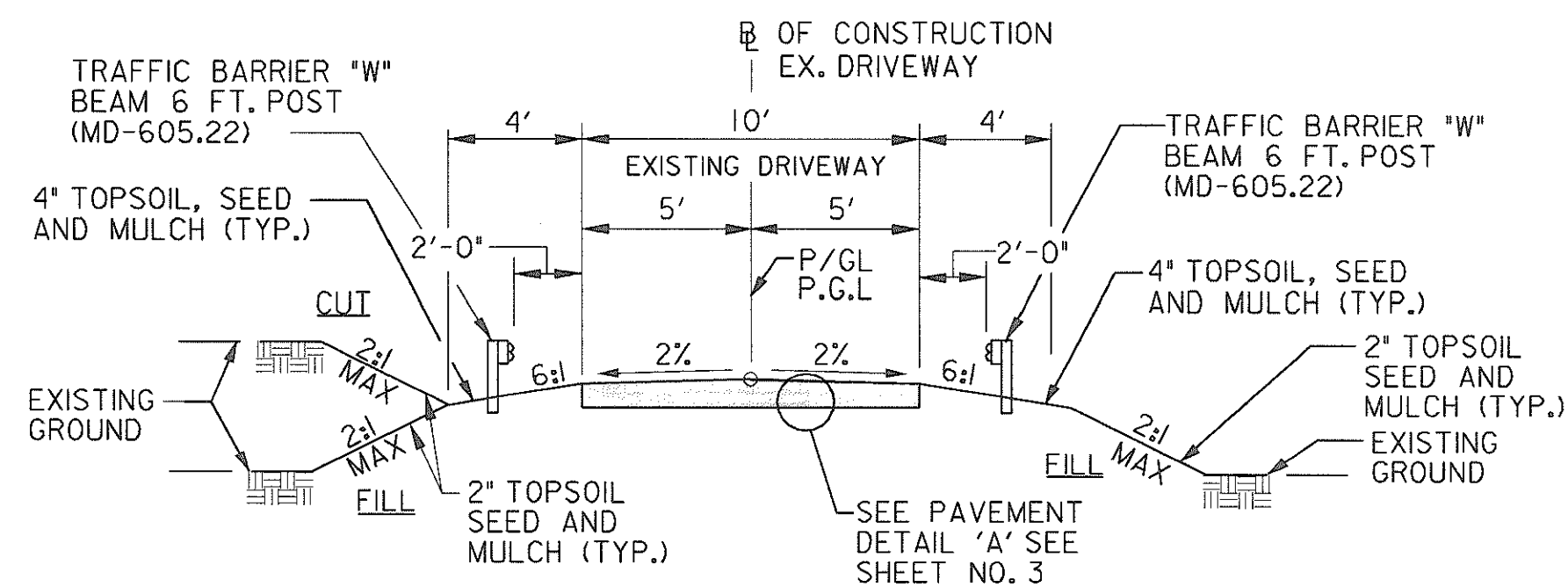
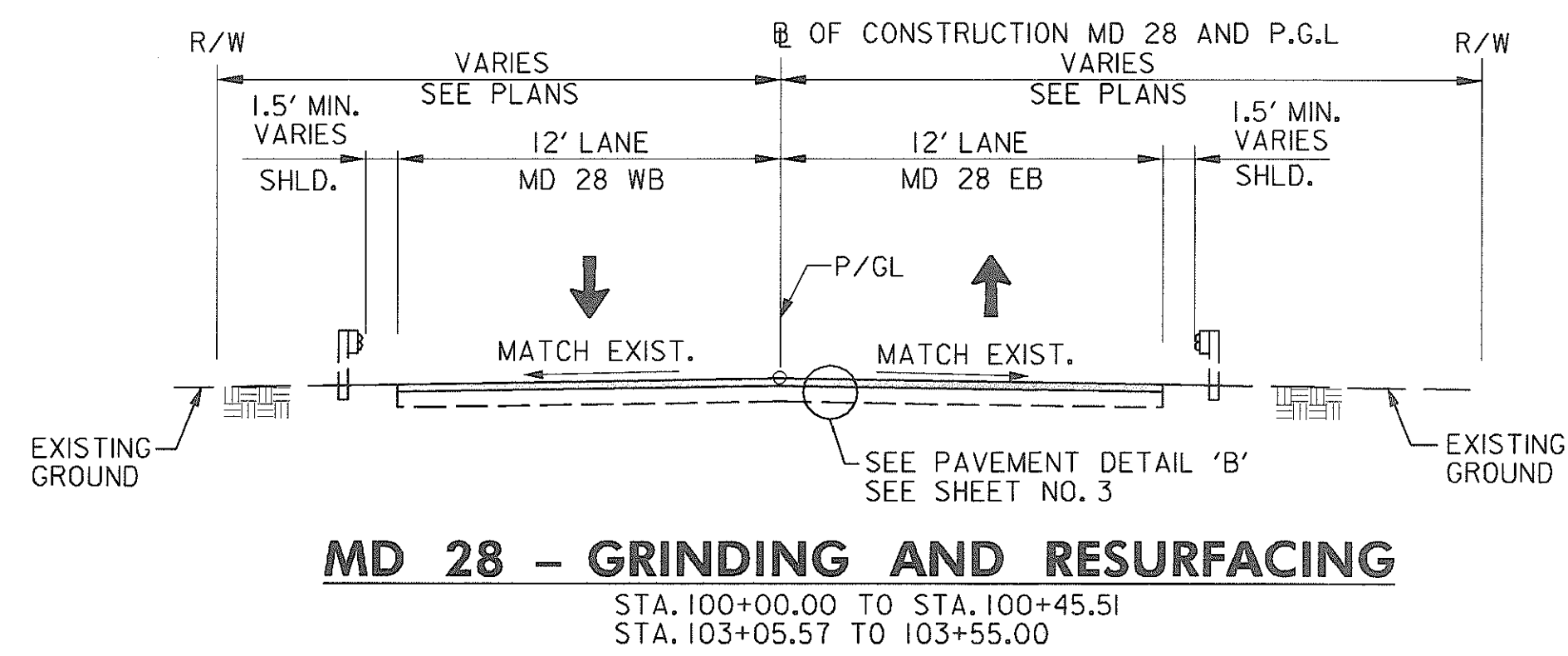
STATE, COUNTY OR CITY LINES		INTERCEPTOR BERM	
PROPOSED TRAFFIC BARRIER		TEMPORARY BERM	
EXISTING TRAFFIC BARRIER		TEMPORARY SLOPE DRAIN	
FENCE LINE		CHANNEL SILT FENCE	
RIGHT OF WAY LINE		SLOPE SILT FENCE	
EXISTING ROADWAY		SUPER SILT FENCE	
RAILROAD		STRAW BALE STRUCTURE	
BASE OR SURVEY LINE		PLACED RIPRAP DITCH	
FIRE HYDRANT		TEMPORARY STONE OUTLET STRUCTURE	
PROPOSED CULVERT		GABIONS	
EXISTING CULVERT		TEMPORARY SEDIMENT TRAP WITH SILT FENCE	
EXISTING DROP INLET		TEMPORARY SEDIMENT TRAP WITH STRAW BALES	
UTILITY POLE		TEMPORARY SEDIMENT TRAP WITH STONE OUTLET STRUCTURE	
MARSH		TEMPORARY SEDIMENT TRAP WITH RIPRAP OUTLET STRUCTURE	
HEDGE			
INLET SEDIMENT TRAP			
GROUND ELEVATION			
GRADE ELEVATION			



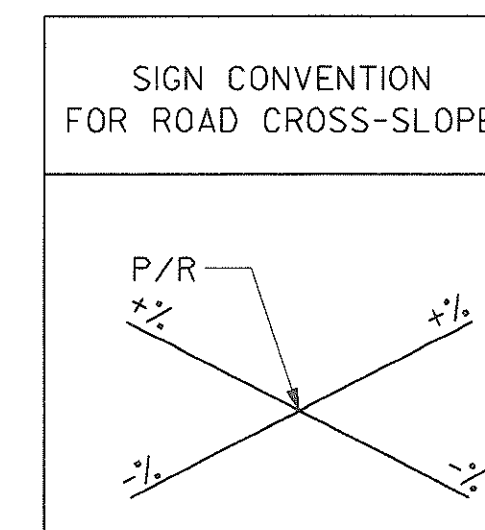
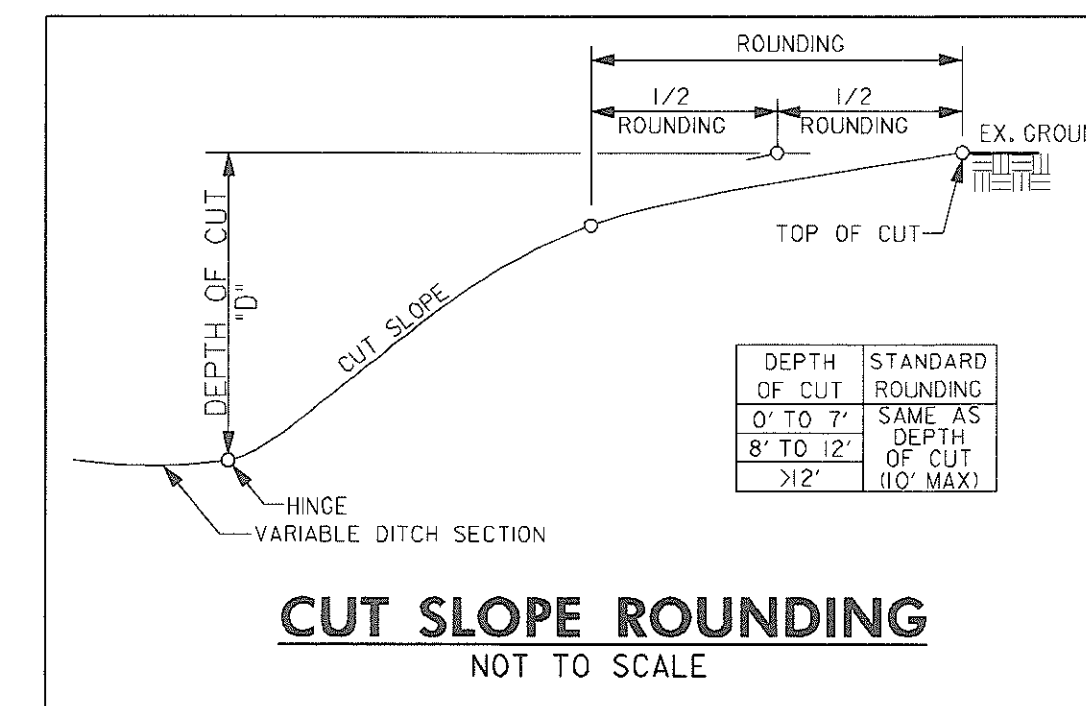
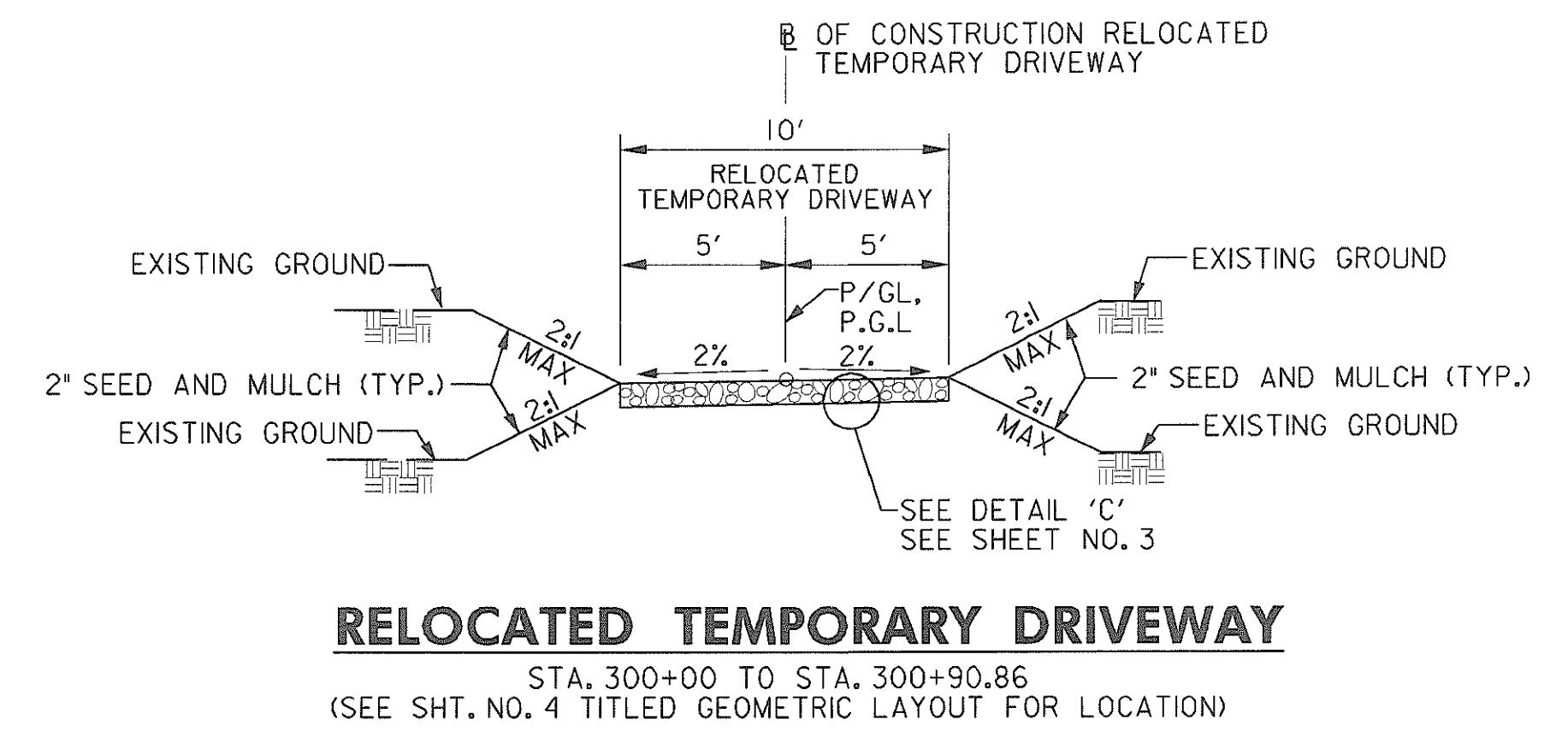
PROPOSED PAVEMENT WIDTH TABLE		
STATION	WB	EB
100+00.00	12' WITH 1.5' SHLD.	12' WITH 1.5' SHLD.
100+45.51	12' WITH 1.5' SHLD.	12' WITH 1.5' SHLD.
101+00.00	12' WITH 9' SHLD.	12' WITH 4' SHLD.
102+75.00	12' WITH 9' SHLD.	12' WITH 4' SHLD.
103+25.00	12' WITH 1.5' SHLD.	12' WITH 1.5' SHLD.
103+55.00	12' WITH 1.5' SHLD.	12' WITH 1.5' SHLD.

* SHOULDER WIDTH VARIES STA. 100+45.51 LT/RT TO 101+00 LT/RT,
 STA. 102+75 LT/RT TO 103+25 LT/RT.

NOTE: FOR TRAFFIC BARRIER LOCATIONS ON BRIDGE
 SEE BRIDGE PLANS AND BRIDGE TYPICALS.



NOTE:
 ANY DISTURBED AREAS 3:1 OR FLATTER AND NOT
 PAVED SHALL RECEIVE 4" TOPSOIL, SEEDING, AND
 MULCHING UNLESS OTHERWISE NOTED. DISTURBED
 AREAS STEEPER THAN 3:1 SHALL RECEIVE 2" TOPSOIL,
 SEEDING, AND MULCHING UNLESS OTHERWISE NOTED.



SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION
 PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
 MD RTE. 28 OVER WASHINGTON RUN

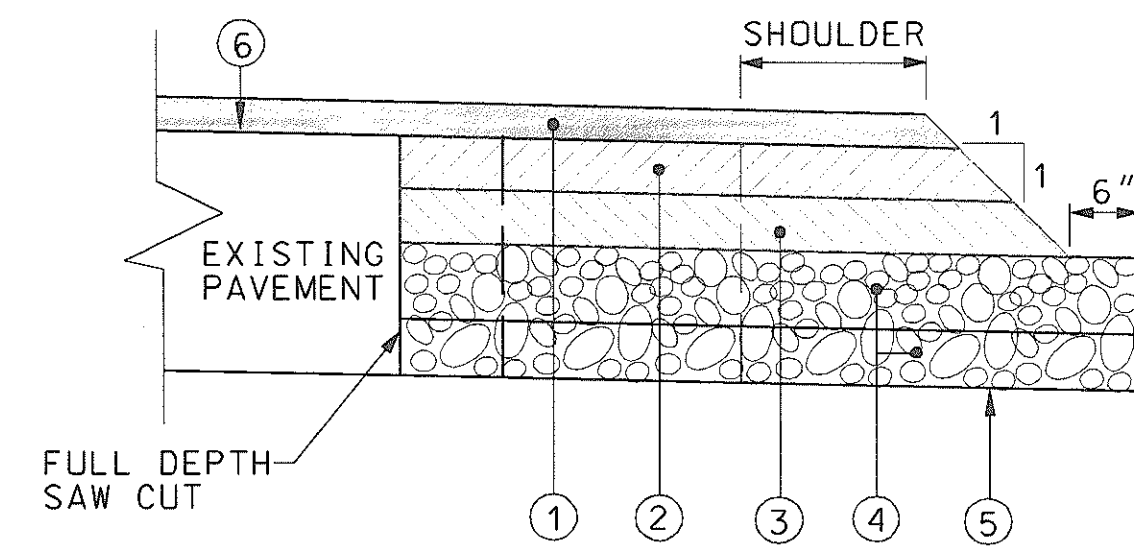
CROSS REFERENCE	R / W PLAT NUMBER	REVISIONS
ITEM SHEET Nos.		
TYPICAL SHEETS	2,3	
GEOMETRIC LAYOUT SHEETS	4	
ROADWAY PLAN SHEETS	5	
ROADWAY PROFILE SHEETS	6,7	
EROSION & SEDIMENT CONTROL	12-16	
SIGNING & MARKING PLANS	17,18	
GRADE TABLE	19	

TYPICAL SECTIONS		
SCALE 1"=5'	DATE NOVEMBER, 2007	CONTRACT NO. AX4695180
DESIGNED BY T.B.	COUNTY FREDERICK	
DRAWN BY T.G.P.	LOGMILE	
CHECKED BY R.D.	HORIZONTAL SCALE	
F.A.P. NO.	VERTICAL SCALE	
DRAWING NO. TS-01	OF 02	SHEET NO. 2 OF 53

BY: gpearson

SABRA, WANG & ASSOCIATES, INC.
 1504 JOH AVENUE
 SUITE 160
 BALTIMORE, MD 21227
 (410) 737-6564
 WWW.SABRA-WANG.COM

**MD 28 – MAIN LINE BRIDGE APPROACH,
TIE-IN TO EXISTING DRIVEWAY, INCLUDING SHOULDERS
NEW CONSTRUCTION AND BASE WIDENING**



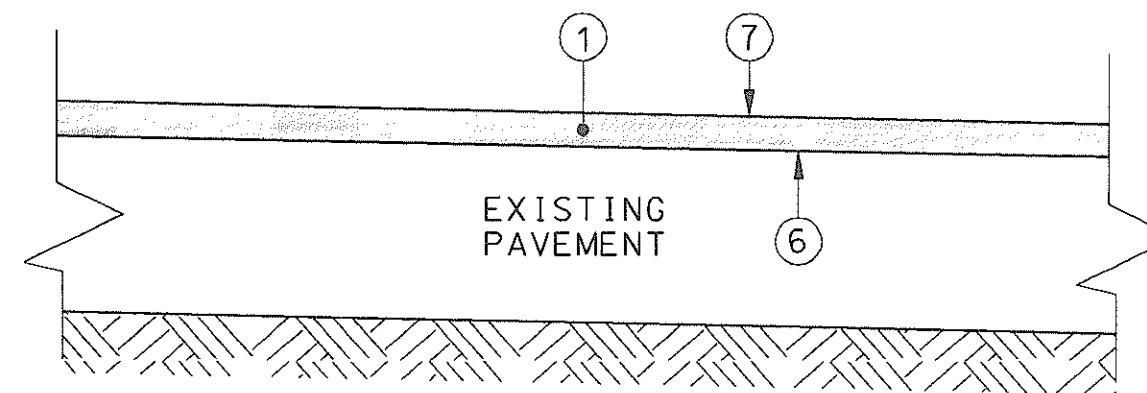
- ① 1.5" HOT MIX ASPHALT SUPERPAVE 9.5 MM FOR SURFACE, PG64-22, LEVEL-2
- ② 2.0" HOT MIX ASPHALT SUPERPAVE 19.0 MM FOR BASE, PG64-22, LEVEL-2
- ③ 3.5" HOT MIX ASPHALT SUPERPAVE 19.0 MM FOR BASE, PG 64-22, LEVEL 2
- ④ 6.0" BASE COURSE USING GRADED AGGREGATE
- ⑤ TOP OF SUBGRADE AND LIMIT OF CLASS 1 EXCAVATION
- ⑥ TOP OF EXISTING HMA PAVEMENT AFTER 1.5" GRINDING

PAVEMENT DETAIL 'A'

NOTES:

- 1. SAWCUT SHALL BE INCIDENTAL TO CLASS 1 EXCAVATION.
- 2. USE THE FOLLOWING ITEM FOR WEDGE AND LEVEL COURSE AS DIRECTED BY THE ENGINEER: HOT MIX ASPHALT SUPERPAVE 9.5 mm FOR WEDGE/LEVEL PG64-22, LEVEL 2 (1.0" MINIMUM LIFT, 2.0" MAXIMUM LIFT).
- 3. BASED ON ROADWAY CORES AND CONSTRUCTION HISTORY, THE PAVEMENT THICKNESS OF MD 28 IS APPROXIMATELY 4" OF HMA OVER 6.5 OF JRCP.

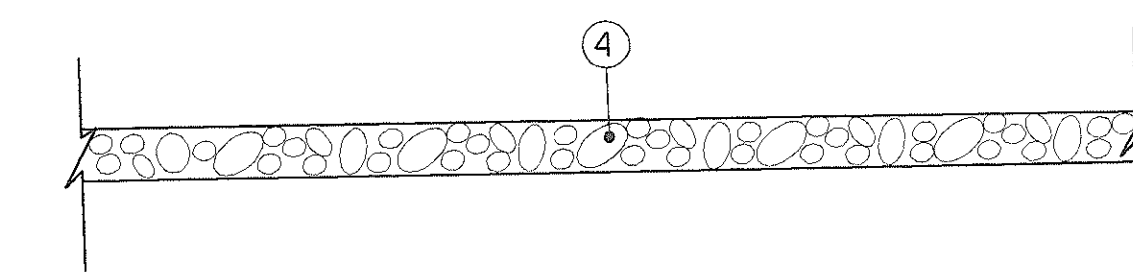
MD 28 – GRINDING AND RESURFACING



- ① 1.5" HOT MIX ASPHALT SUPERPAVE 9.5 MM FOR SURFACE, PG64-22, LEVEL-2
- ⑥ TOP OF EXISTING HMA PAVEMENT AFTER 1.5" GRINDING
- ⑦ TOP OF PAVEMENT AFTER 1.5" RESURFACING

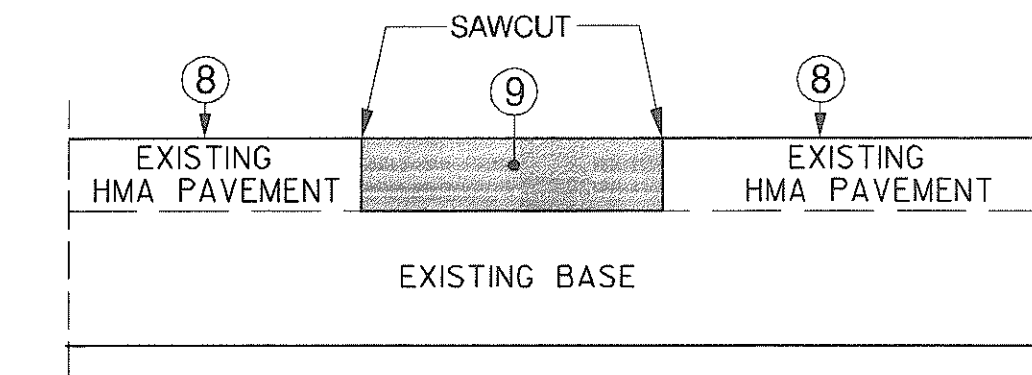
PAVEMENT DETAIL 'B'

MD 28 – RELOCATED TEMPORARY DRIVEWAY



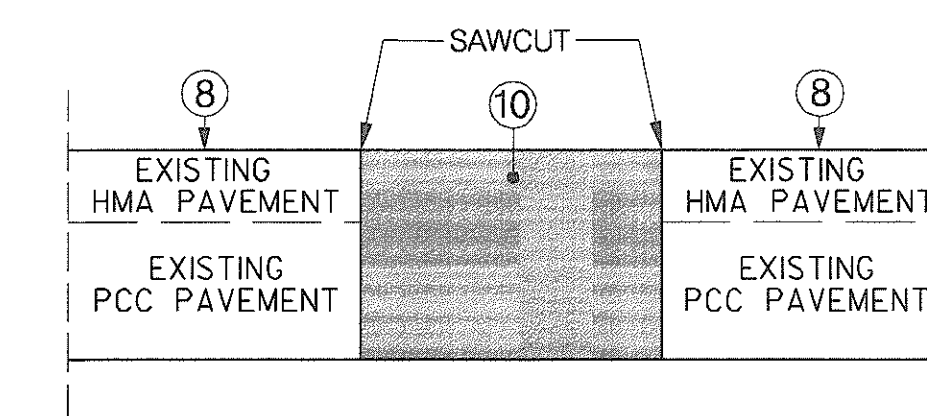
- ④ 6.0" BASE COURSE USING GRADED AGGREGATE
DETAIL 'C'

MD 28 – PARTIAL DEPTH PATCHING



- ⑧ TOP OF EXISTING PAVEMENT PRIOR TO GRINDING
- ⑨ 4" HOT MIX ASPHALT SUPERPAVE 19.0 MM FOR PARTIAL-DEPTH PATCHING – PG 64-22, LEVEL 2 (2" MIN. LIFT THICKNESS AND 4" MAX. LIFT THICKNESS)

MD 28 – FULL DEPTH PATCHING



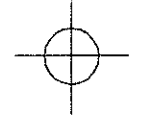
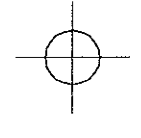
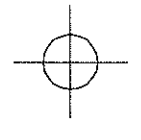
- ⑧ TOP OF EXISTING PAVEMENT PRIOR TO GRINDING
- ⑩ VARIABLE DEPTH HOT MIX ASPHALT SUPERPAVE 19.0 MM FOR FULL-DEPTH PATCHING – PG 64-22, LEVEL 2 (2" MIN. LIFT, 4" MAX. LIFT THICKNESS) (SEE NOTE 3)

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION
 PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
 MD RTE 28 OVER WASHINGTON RUN

CROSS REFERENCE		R / W PLAT NUMBER	REVISIONS
ITEM	SHEET NOs.		
TYPICAL SHEETS	2,3		
GEOMETRIC LAYOUT SHEETS	4		
ROADWAY PLAN SHEETS	5		
ROADWAY PROFILE SHEETS	6,7		
EROSION & SEDIMENT CONTROL	12-16		
SIGNING & MARKING PLANS	17,18		
GRADE TABLE	19		

TYPICAL SECTIONS			
SCALE	N.T.S.	DATE	NOVEMBER, 2007
CONTRACT NO.	AX4695180		
DESIGNED BY	T.B.	COUNTY	FREDERICK
DRAWN BY	T.G.P.	LOGMILE	
CHECKED BY	R.D.	HORIZONTAL SCALE	
F.A.P. NO.		VERTICAL SCALE	
DRAWING NO.	TS-02	OF	02
SHEET NO.	3	OF	53

BY:
SABRA, WANG & ASSOCIATES, INC.
 1504 JOH AVENUE
 SUITE 160
 BALTIMORE, MD 21227
 (410) 737-6564
 WWW.SABRA-WANG.COM



**LIMIT OF WORK
MD 28
STA. 100+00.00
CONTRACT NO. AX4695180**

**LIMIT OF WORK
EXISTING DRIVEWAY
STA. 200+53.00
CONTRACT NO. AX4695180**

**LIMIT OF WORK
RELOCATED TEMPORARY
DRIVEWAY
STA. 300+90.86
CONTRACT NO. AX4695180**

**LIMIT OF WORK
MD 28
STA. 103+55.00
CONTRACT NO. AX4695180**

MD 28 - TRAVERSE COORDINATE DATA			
DATA POINT	NORTH	EAST	ELEV
TRAVERSE 5	586292.7946	1164356.7614	240.67
TRAVERSE 25	586407.3166	1164437.6886	238.35
TRAVERSE 26	586313.3657	1164371.2980	238.37
TRAVERSE 27	586252.0920	1164336.6564	237.86

BASE LINE CONTROL COORDINATES			
POINT NUMBER	CONTROL POINT	NORTH	EAST
MD 28			
1001	P.O.T. STA. 100+00.0000	586300.5943	1164133.3639
1002	P.O.T. STA. 103+55.0000	586262.3114	1164486.2937
RELOCATED TEMPORARY DRIVEWAY			
1003	P.O.T. STA. 300+00.0000	586270.7735	1164408.2812
1004	P.C. STA. 300+15.2597	586285.9439	1164409.9301
1005	P.I. STA. 300+31.7451	586302.3327	1164411.7114
1006	P.R.C. STA. 300+47.8690	586318.2889	1164407.5680
1007	P.I. STA. 300+69.7693	586339.4862	1164402.0637
1008	P.T. STA. 300+89.1778	586357.9536	1164413.8357
1009	P.O.T. STA. 300+90.8624	586359.3742	1164414.7412
EXISTING DRIVEWAY			
1010	P.O.T. STA. 200+00.0000	586275.6115	1164363.6797
1011	P.O.T. STA. 200+53.00	586321.1076	1164390.8663

CURVE COORDINATE DATA							
CURVE NO.	Δ	Dc	R	T	L	E	C
C-1	20° 45' 34.9" LT.	63° 39' 43.1"	90.00'	16.48'	32.61'	1.50'	32.43'
C-2	47° 04' 18.9" RT	113° 57' 04.2"	50.28'	21.90'	41.31'	4.56'	40.16'

**PLAN
GEOMETRIC LAYOUT**
SCALE: 1" = 20'

CROSS REFERENCE	R / W PLAT NUMBER	REVISIONS
ITEM	SHEET NOs.	
TYPICAL SHEETS	2,3	
GEOMETRIC LAYOUT SHEETS	4	
ROADWAY PLAN SHEETS	5	
ROADWAY PROFILE SHEETS	6,7	
EROSION & SEDIMENT CONTROL	12-16	
SIGNING & MARKING PLANS	17,18	
GRADE TABLE	19	

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
MD RTE. 28 OVER WASHINGTON RUN

GEOMETRIC LAYOUT		
SCALE 1" = 20'	DATE NOVEMBER, 2007	CONTRACT NO. AX4695180
DESIGNED BY T.B.	COUNTY FREDERICK	
DRAWN BY T.G.P.	LOGMILE	
CHECKED BY R.D.	HORIZONTAL SCALE	
F.A.P. NO.	VERTICAL SCALE	
DRAWING NO. GS-01	OF 01	SHEET NO. 4 OF 53

BY: gpearson

SABRA, WANG & ASSOCIATES, INC.
1504 JOH. AVENUE
SUITE 160
BALTIMORE, MD 21227
(410) 737-6564
WWW.SABRA-WANG.COM

HORIZONTAL DATUM: NAD 83/91
VERTICAL DATUM: NAVD 88

PIPE SCHEDULE						
NO.	SIZE/TYPE	LENGTH	SLOPE	INV. IN	INV. OUT	CLASS
P-1	18" RCP	56'	1.00%	236.00	235.44	IV
STATION 102+22, 42' LT. TO 102+78, 30' LT.						

DITCH LOCATIONS		
STATION	OFFSET	ELEV.
100+80	26' LT.	237.18
101+00	31' LT.	237.22
101+50	32' LT.	236.79
101+85	41' LT.	236.72

REMOVE AND DISPOSE EXISTING TRAFFIC BARRIER "W" BEAM

STA. 100+45.51 RT. TO STA. 101+46 RT. - 101 LF
 STA. 100+45.51 LT. TO STA. 101+58 LT. - 113 LF
 STA. 101+94 RT. TO STA. 103+06 RT. - 112.5 LF
 STA. 102+06 LT. TO STA. 102+27 LT. - 26 LF

INSTALL TRAFFIC BARRIER "W" BEAM END TREATMENT TYPE 'C' - MD STD. 605.03

STA. 102+62 LT. TO STA. 103+06 LT. - 1 EA

GRINDING HOT MIX ASPHALT 1-1/2" DEPTH

STA. 100+00 LT./RT. TO STA. 100+45.51 LT./RT. - 170 SY
 STA. 103+05.57 LT./RT. TO STA. 103+55 LT./RT. - 180 SY

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION						
NO.	TYPE	RIPRAP	APRON (Length)	APRON (Width)	S.Y.	STATION
ROP-1	I	CLASS I	10'	12'	10	102+10, 45' LT.
ROP-2	I	CLASS I	10'	12'	10	101+88, 42' LT.

SEE DWG. EP-05 FOR DETAIL

INSTALL TRAFFIC BARRIER "W" BEAM - MD STD. 605.22

STA. 100+45.51 RT. TO STA. 101+26 RT. - 87.5 LF
 STA. 100+45.51 LT. TO STA. 101+46 LT. - 100 LF
 STA. 102+43 RT. TO STA. 103+25 RT. - 87.5 LF
 STA. 102+36 LT. TO STA. 102+41 LT. - 6 LF
 STA. 102+62 LT. TO STA. 102+65 LT. - 12.5 LF

INSTALL TRAFFIC BARRIER "W" BEAM END TREATMENT TYPE 'K' - MD STD. 605.10

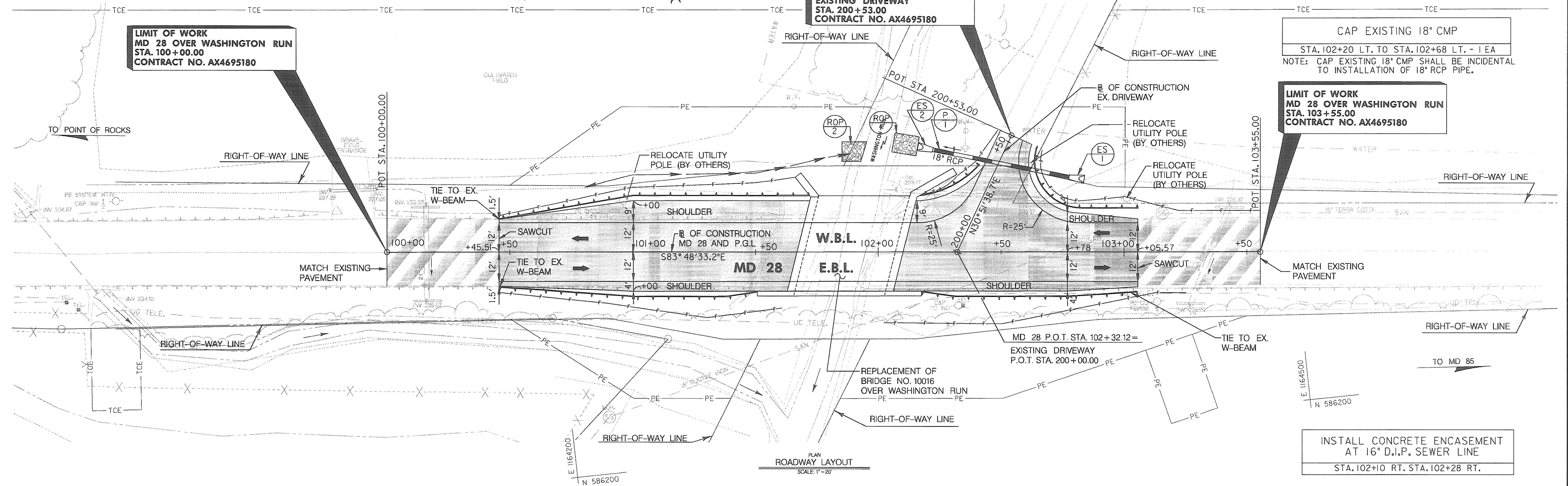
STA. 102+41 LT. - 1 EA
 STA. 102+65 LT. - 1 EA

FULL DEPTH PAVING

STA. 100+45.51 LT./RT. TO STA. 101+67 LT./RT. - 465 SY
 STA. 102+10 LT./RT. TO STA. 103+05.57 LT./RT. - 300 SY
 STA. 200+20 LT./RT. TO STA. 200+53 LT./RT. - 145 SY

END SECTION SCHEDULE			
NO.	SIZE/TYPE	MD STD. NO.	STATION
ES-1	18" RCP	368.01	102+80, 29' LT.
ES-2	18" RCP	368.01	102+12, 45' LT.

DITCH TRIMMING	
STATION	L.F.
100+80 TO 101+85 LT.	105'



LEGEND	
[Symbol]	CONSTRUCT FULL DEPTH PAVEMENT
[Symbol]	GRIND AND RESURFACE
[Symbol]	PERPETUAL EASEMENT
[Symbol]	TEMPORARY CONSTRUCTION EASEMENT

- NOTES:
- THE CONTRACTOR SHALL NOTIFY DUSWM (PAUL PEARL AT 301-514-1479) 24 HOURS PRIOR TO PERFORMING WORK ON OR WITHIN 3 FT. OF EXISTING WATER AND SEWER MAINS.
 - FOR "RELOCATED TEMPORARY DRIVEWAY" TYPICAL SECTIONS, GEOMETRIC DATA, AND LAYOUT REFER TO SHEETS NO. 2, 4 & 13.
 - THE CONTRACTOR SHALL REMOVE "RELOCATED TEMPORARY DRIVEWAY" AND REGRADE TO ENSURE POSITIVE DRAINAGE PRIOR TO OPENING ROADWAY TO TRAFFIC.

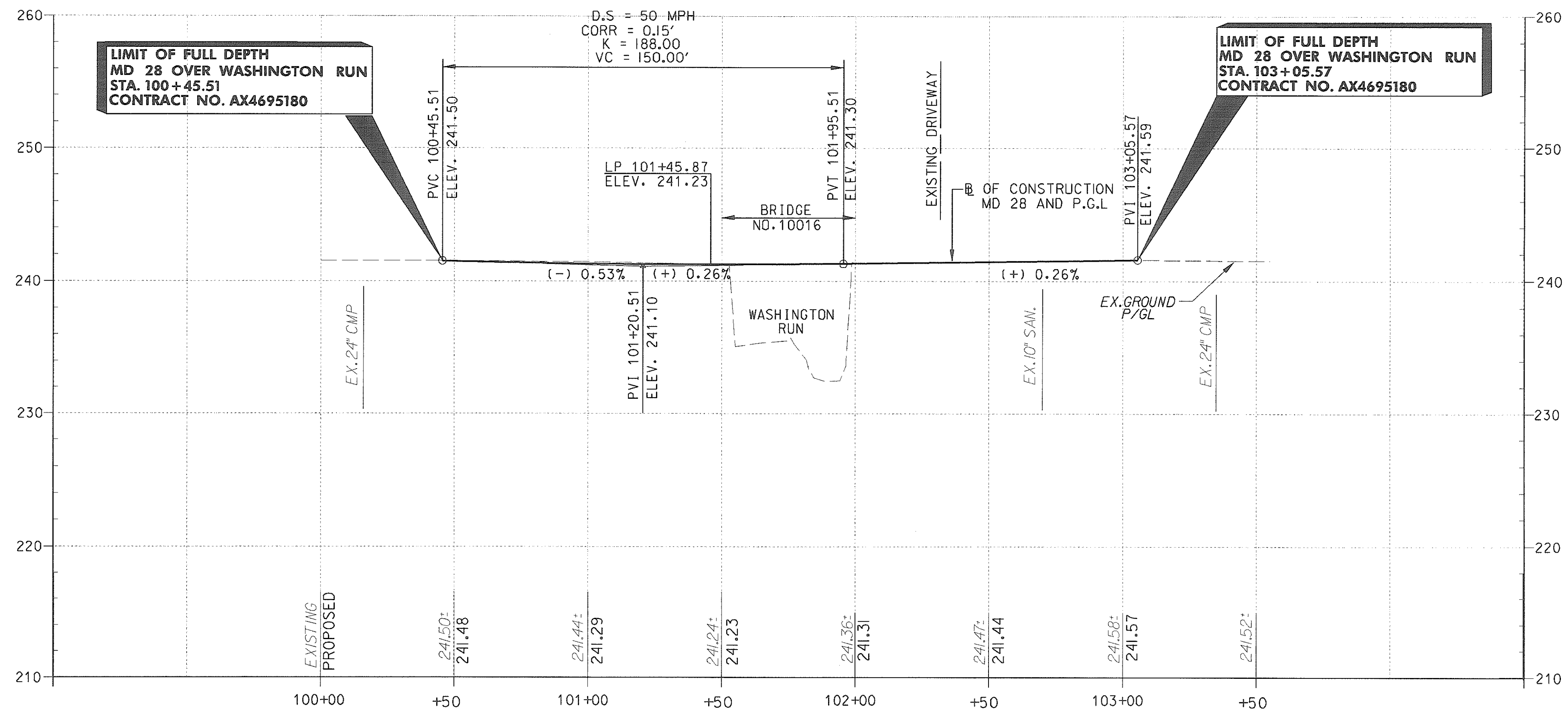
SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION

PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON MD RTE. 28 OVER WASHINGTON RUN

CROSS REFERENCE	R / W PLAT NUMBER	REVISIONS
ITEM SHEET NOS.		
TYPICAL SHEETS		2,3
GEOMETRIC LAYOUT SHEETS		4
ROADWAY PLAN SHEETS		5
ROADWAY PROFILE SHEETS		6,7
EROSION & SEDIMENT CONTROL		12-16
SIGNING & MARKING PLANS		17,18
GRADE TABLE		19

ROADWAY PLAN		
SCALE 1" = 20'	DATE NOVEMBER, 2007	CONTRACT NO. AX4695180
DESIGNED BY T.B.	COUNTY FREDERICK	
DRAWN BY T.G.P.	LOGMILE	
CHECKED BY R.D.	HORIZONTAL SCALE	
F.A.P. NO.	VERTICAL SCALE	
DRAWING NO. PS-01	OF 01	SHEET NO. 5 OF 53

SABRA, WANG & ASSOCIATES, INC.
 1504 JOH AVENUE
 SUITE 160
 BALTIMORE, MD 21227
 (410) 737-6564
 WWW.SABRA-WANG.COM



MD 28 - PROFILE OVER WASHINGTON RUN
 SCALE: 1"=30' HORIZ.
 1"=6' VERT.

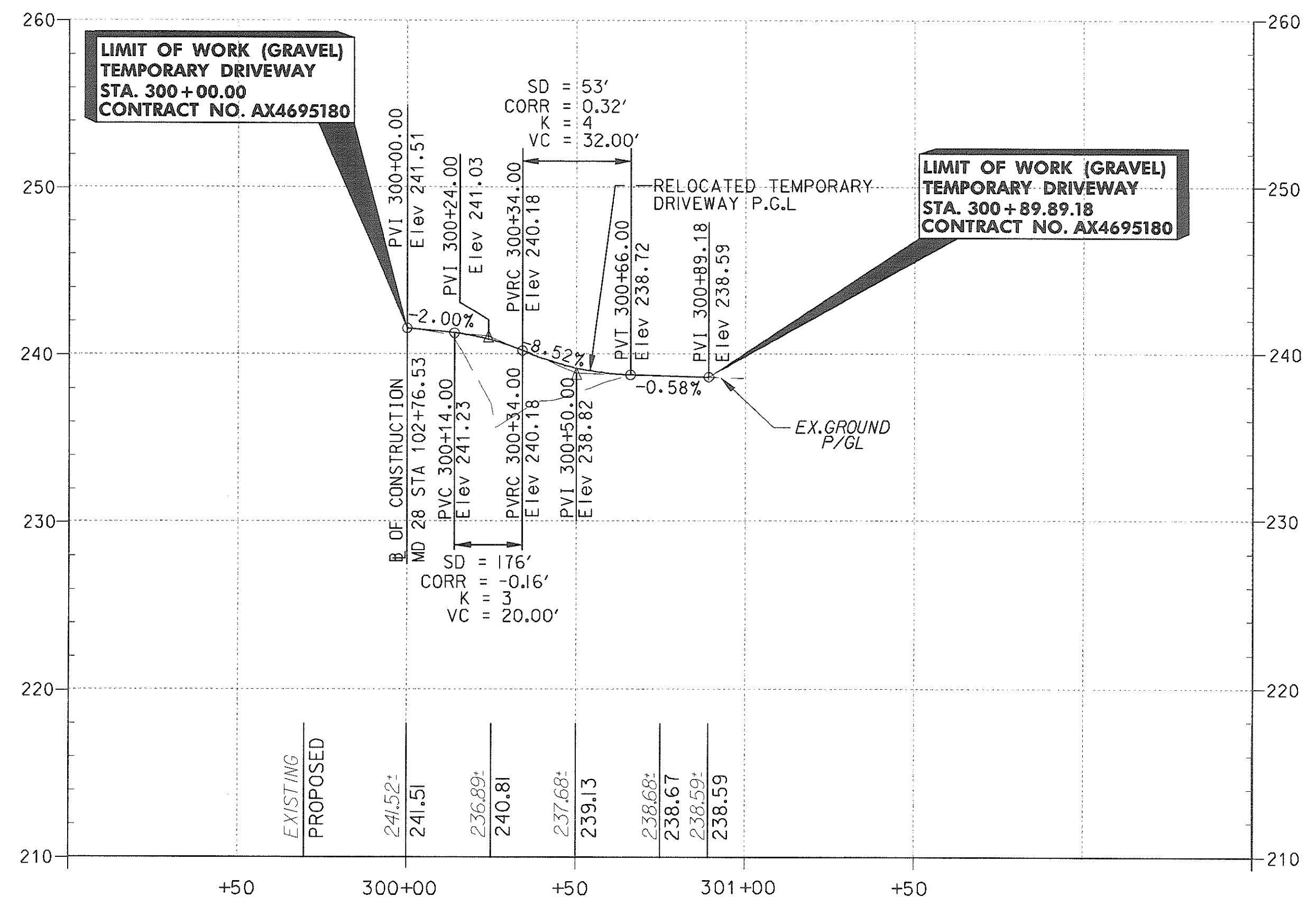
SUA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION

PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
 MD RTE. 28 OVER WASHINGTON RUN

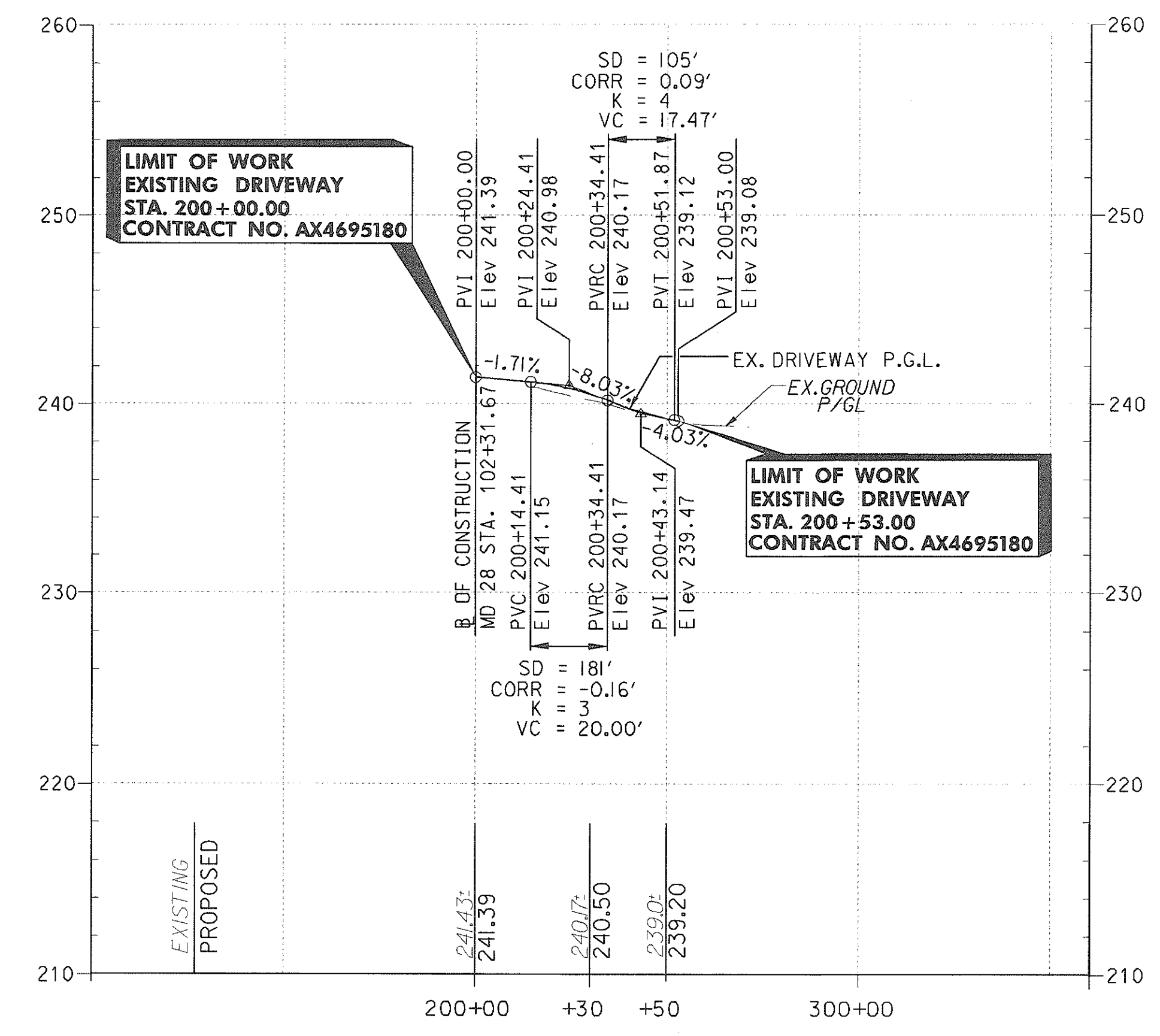
CROSS REFERENCE	R / W PLAT NUMBER	REVISIONS																
<table border="1"> <thead> <tr> <th>ITEM</th> <th>SHEET Nos.</th> </tr> </thead> <tbody> <tr><td>TYPICAL SHEETS</td><td>2,3</td></tr> <tr><td>GEOMETRIC LAYOUT SHEETS</td><td>4</td></tr> <tr><td>ROADWAY PLAN SHEETS</td><td>5</td></tr> <tr><td>ROADWAY PROFILE SHEETS</td><td>6,7</td></tr> <tr><td>EROSION & SEDIMENT CONTROL</td><td>12-16</td></tr> <tr><td>SIGNING & MARKING PLANS</td><td>17,8</td></tr> <tr><td>GRADE TABLE</td><td>19</td></tr> </tbody> </table>	ITEM	SHEET Nos.	TYPICAL SHEETS	2,3	GEOMETRIC LAYOUT SHEETS	4	ROADWAY PLAN SHEETS	5	ROADWAY PROFILE SHEETS	6,7	EROSION & SEDIMENT CONTROL	12-16	SIGNING & MARKING PLANS	17,8	GRADE TABLE	19		E. S. F. JAN 0 8 2008
ITEM	SHEET Nos.																	
TYPICAL SHEETS	2,3																	
GEOMETRIC LAYOUT SHEETS	4																	
ROADWAY PLAN SHEETS	5																	
ROADWAY PROFILE SHEETS	6,7																	
EROSION & SEDIMENT CONTROL	12-16																	
SIGNING & MARKING PLANS	17,8																	
GRADE TABLE	19																	

ROADWAY PROFILE		
SCALE	DATE NOVEMBER, 2007	CONTRACT NO. AX4695180
DESIGNED BY T.B.	COUNTY FREDERICK	
DRAWN BY T.G.P.	LOGMILE	
CHECKED BY R.D.	HORIZONTAL SCALE 1"=30'	
F.A.P. NO.	VERTICAL SCALE 1"=6'	
DRAWING NO. PR-01 OF 02	SHEET NO. 6 OF 53	

SABRA, WANG & ASSOCIATES, INC.
 1504 JOH. AVENUE
 SUITE 160
 BALTIMORE, MD 21227
 (410) 737-8564
 WWW.SABRA-WANG.COM



MD28 - RELOCATED TEMPORARY DRIVEWAY PROFILE
 SCALE: 1"=30' HORIZ.
 1"=6' VERT.



MD 28 - EXISTING DRIVEWAY PROFILE
 SCALE: 1"=30' HORIZ.
 1"=6' VERT.

SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION
 PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
 MD RTE 28 OVER WASHINGTON RUN

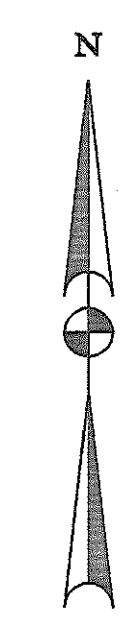
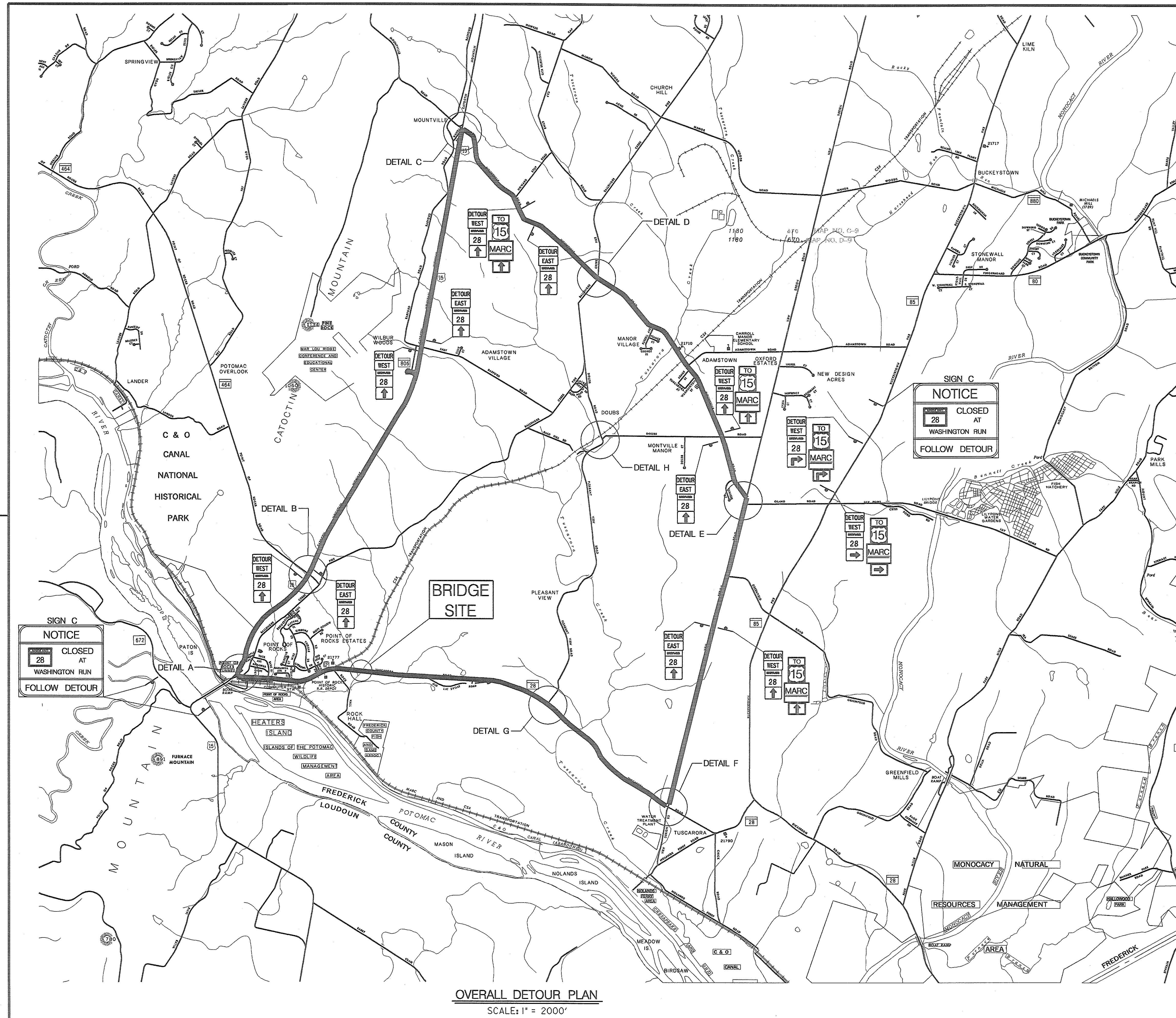
CROSS REFERENCE		R / W PLAT NUMBER	REVISIONS
ITEM	SHEET Nos.		
TYPICAL SHEETS	2,3		
GEOMETRIC LAYOUT SHEETS	4		
ROADWAY PLAN SHEETS	5		
ROADWAY PROFILE SHEETS	6,7		
EROSION & SEDIMENT CONTROL	12-16		
SIGNING & MARKING PLANS	17,18		
GRADE TABLE	19		

ROADWAY PROFILE			
SCALE	DATE	NOVEMBER, 2007	CONTRACT NO. AX4695180
DESIGNED BY	T.B.	COUNTY	FREDERICK
DRAWN BY	T.G.P.	LOGMILE	
CHECKED BY	R.D.	HORIZONTAL SCALE	1"=30'
F.A.P. NO.		VERTICAL SCALE	1"=6"
DRAWING NO.	PR-02 OF 02	SHEET NO.	7 OF 53

PLOTTED: Sunday, November 18, 2007 AT 09:02 AM
 FILE: P:\2003\22_BCS_2002-2003_WMA_Bridge\Task 11\DWG\PR-002_md28.dgn

SABRA, WANG & ASSOCIATES, INC.
 1504 JOH AVENUE
 SUITE 160
 BALTIMORE, MD 21227
 (410) 737-6564
 WWW.SABRA-WANG.COM

BY: gpearson



NOTE:
 THE SIGNS DEPICTED ALONG THE DETOUR ROUTE HAVE BEEN PLACED IN APPROXIMATE LOCATIONS FOR BIDDING PURPOSES, PRIOR TO PLACING SIGNS IN THE FIELD THE CONTRACTOR SHALL MEET WITH THE ENGINEER AND DETERMINE THE EXACT LOCATION FOR SIGN PLACEMENT.

ALL ADVANCE DETOUR ARROW SIGNS FOR A TURN SHALL BE PLACED 200'-800' FEET IN ADVANCE OF THE TURN. SIGNS WITH STRAIGHT DIRECTIONAL ARROWS SHALL BE PLACED 0 TO 50 FEET IN ADVANCE OF THE TURN.

ALL SIGNS WILL BE SUPPLIED AND PLACED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER.

ALL SIGNING AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO LATEST REQUIREMENTS OF NCHRP REPORT 350 AND THE MUTCD.

TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE FLOURESCENT ORANGE, HIGH PERFORMANCE WIDE ANGLE SHEETING.

THE CONTRACTOR MUST NOTIFY THE FOLLWING AGENCIES AT LEAST TWO WEEKS IN ADVANCE OF THE ROAD CLOSURE:

- I. MARYLAND STATE HIGHWAY'S OFFICE OF COMMUNICATIONS AT 1-800-323-6742. A PRESS RELEASE FORM SHOULD BE FILLED OUT AND SHOULD BE FORWARDED TO THE OFFICE OF COMMUNICATIONS AT LEAST 3 WEEKS IN ADVANCE OF THE CLOSURE.
- II. FREDERICK COUNTY SCHOOL TRANSPORTATION DIVISION. THE CONTACT PERSON IS MS. BARBARA SCOTTO AT (301)-644-5375.
- III. FREDERICK COUNTY FIRE AND RESCUE SERVICES DIVISION. THE CONTACT PERSON IS DAWN METCALF AT (301)-694-1536.
- IV. MARYLAND STATE POLICE. THE CONTACT PERSON IS SGT. IRA CLICK AT (301)-644-4151.
- V. FREDERICK COUNTY'S SHERIFF'S OFFICE. THE CONTACT PERSON IS LT. TOM WINEBRENNER AT (301)-631-3626.
- VI. RESIDENT MAINTENANCE ENGINEER (RME) OF MARYLAND STATE HIGHWAY ADMINISTRATION. THE CONTACT PERSON IS MR. RANDY HOUCK, RME AT (301)-624-8251.
- VII. FREDERICK COUNTY DEPARTMENT OF PUBLIC WORKS. THE CONTACT PERSON IS MR. ROBERT SHEN AT (301)-696-2928.
- VIII. MARYLAND STATE HIGHWAY ADMINISTRATION, DISTRICT 7, TRAFFIC DIVISION. THE CONTACT PERSON IS MR. JOHN M. CONCANNON, ADE-T, AT (301)-624-8140.
- IX. MARC CONTACT: ALAN YINGLING AT (410)-977-1915 OR BRIAN BOLGER AT (410)-454-7222.

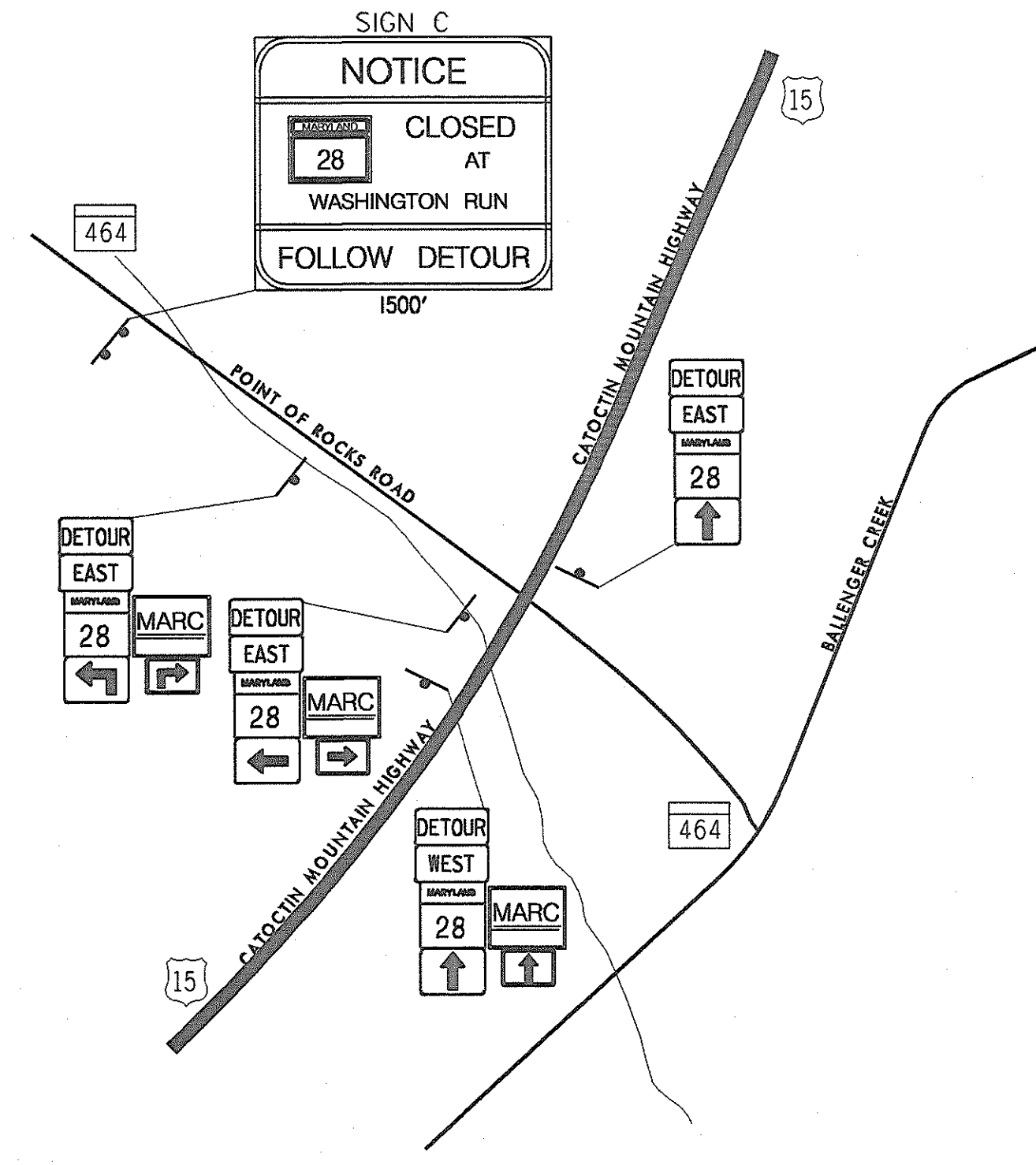
SIGN C
NOTICE
 CLOSED AT
 WASHINGTON RUN
 FOLLOW DETOUR

SIGN C
NOTICE
 CLOSED AT
 WASHINGTON RUN
 FOLLOW DETOUR

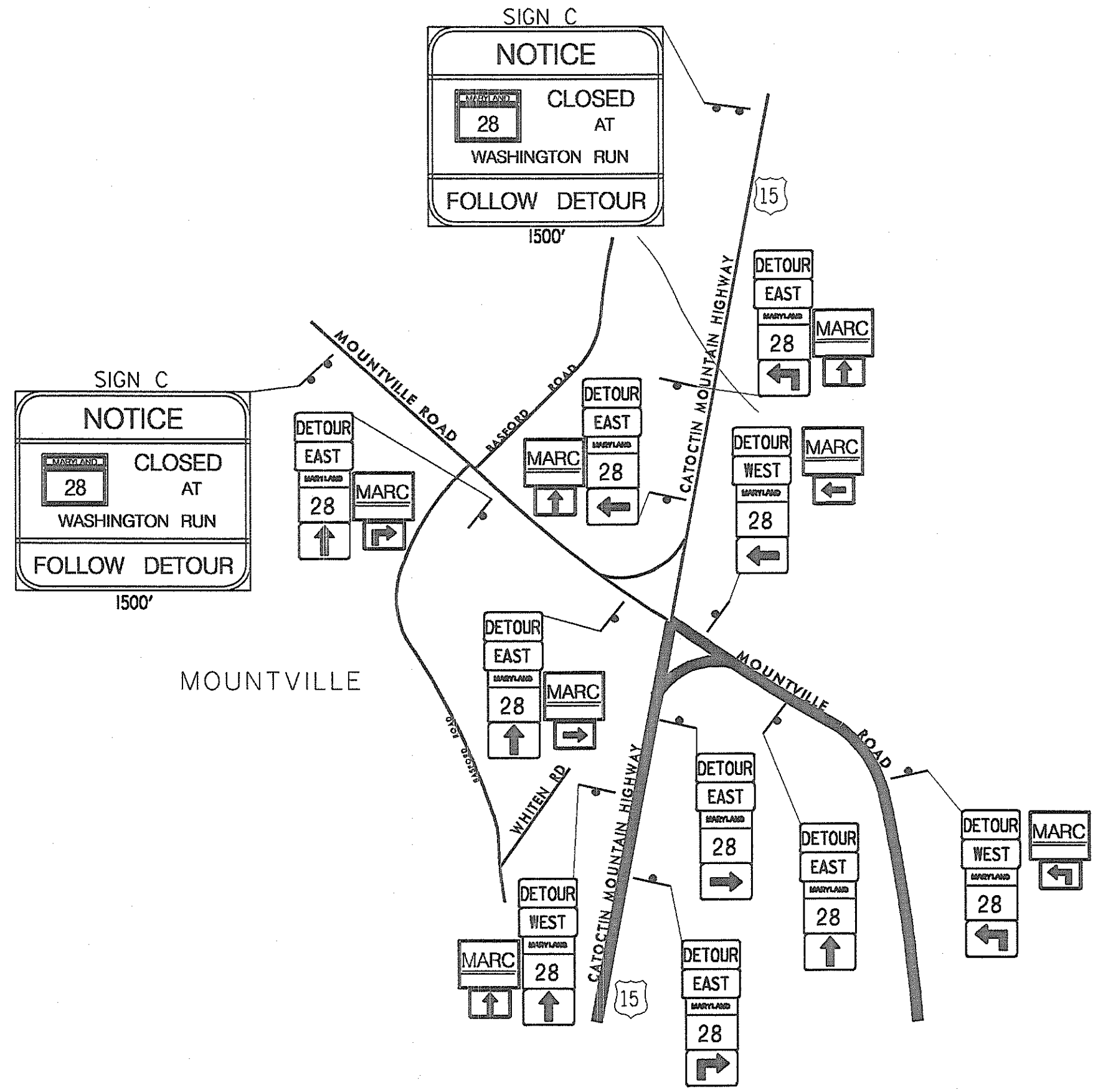
BRIDGE SITE

OVERALL DETOUR PLAN
 SCALE: 1" = 2000'

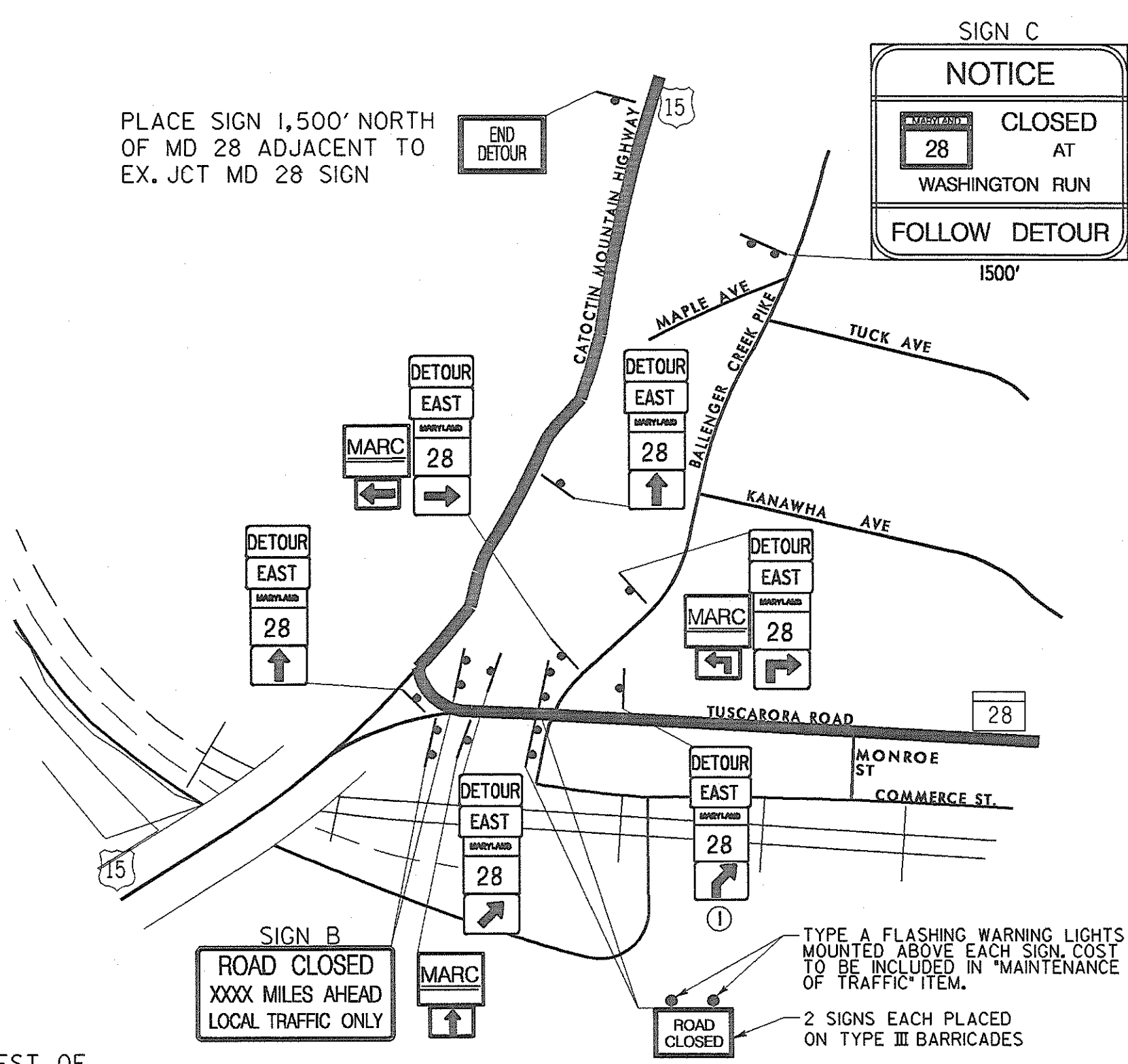
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN DETOUR PLAN		
	SCALE	AS SHOWN	DATE CONTRACT AX4695180
	DESIGNED BY	J.W.N.	
	DRAWN BY	J.MOHR	
	CHECKED BY	E.S.F.	
		JAN 08 2008	
			SHEET NO. 8 OF 53



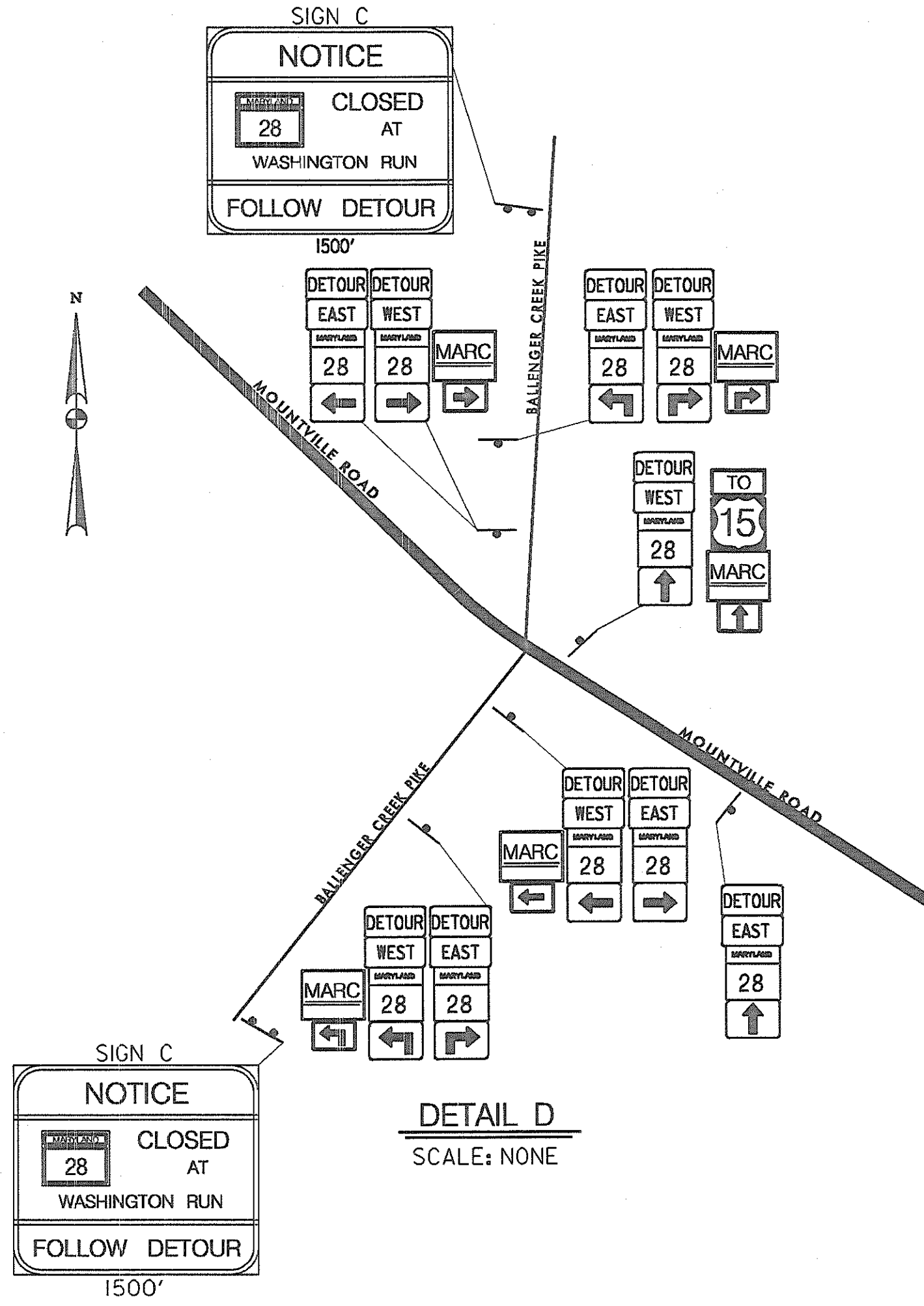
DETAIL B
SCALE: NONE



DETAIL C
SCALE: NONE



DETAIL A
SCALE: NONE



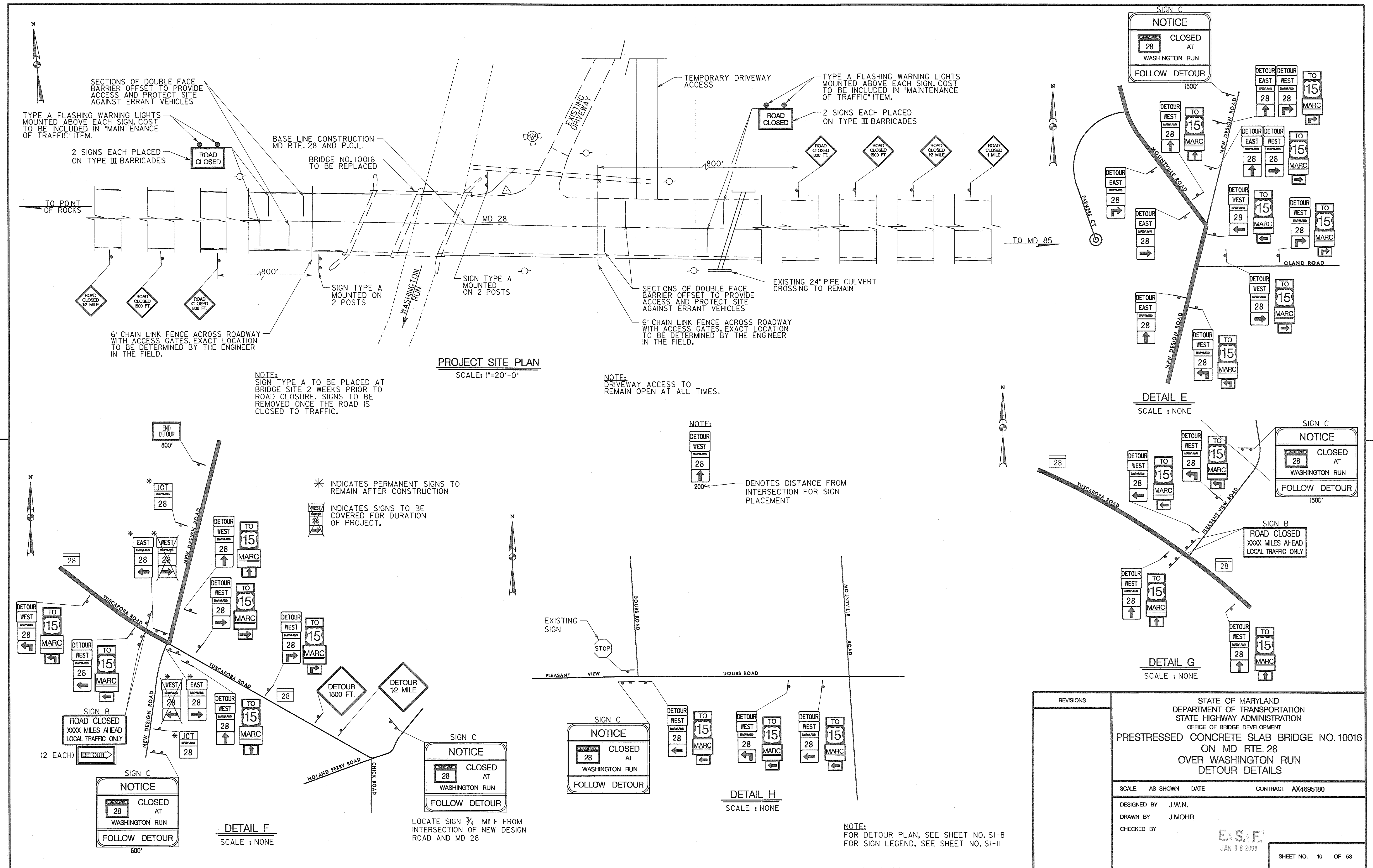
DETAIL D
SCALE: NONE

NOTE:
① PLACE SIGN JUST WEST OF
BALENGER CREEK PIKE.

TYPE A FLASHING WARNING LIGHTS
MOUNTED ABOVE EACH SIGN, COST
TO BE INCLUDED IN MAINTENANCE
OF TRAFFIC ITEM.
2 SIGNS EACH PLACED
ON TYPE III BARRICADES

NOTE:
FOR DETOUR PLAN, SEE SHEET NO. SI-8
FOR SIGN LEGEND, SEE SHEET NO. SI-II

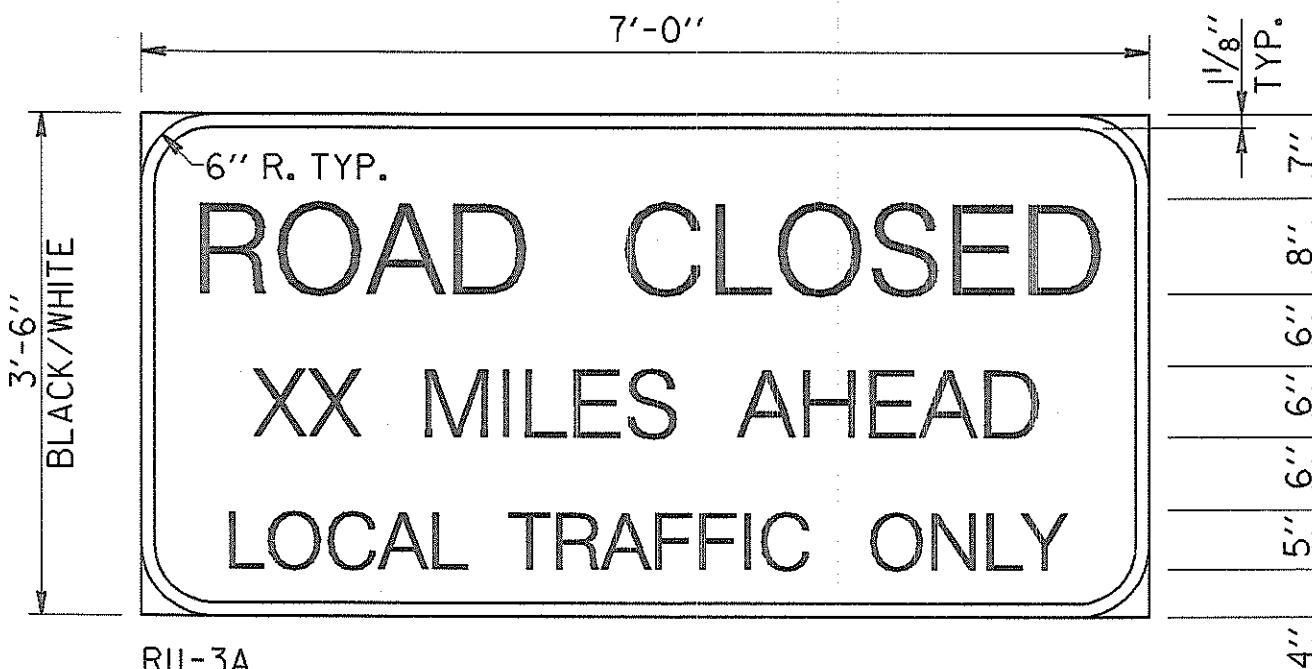
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN DETOUR DETAILS	
	SCALE AS SHOWN	DATE CONTRACT AX4695180
	DESIGNED BY J.W.N.	
	DRAWN BY J.MOHR	
	CHECKED BY	
	E. S. F. JAN 0 8 2008	
	SHEET NO. 9	OF 49



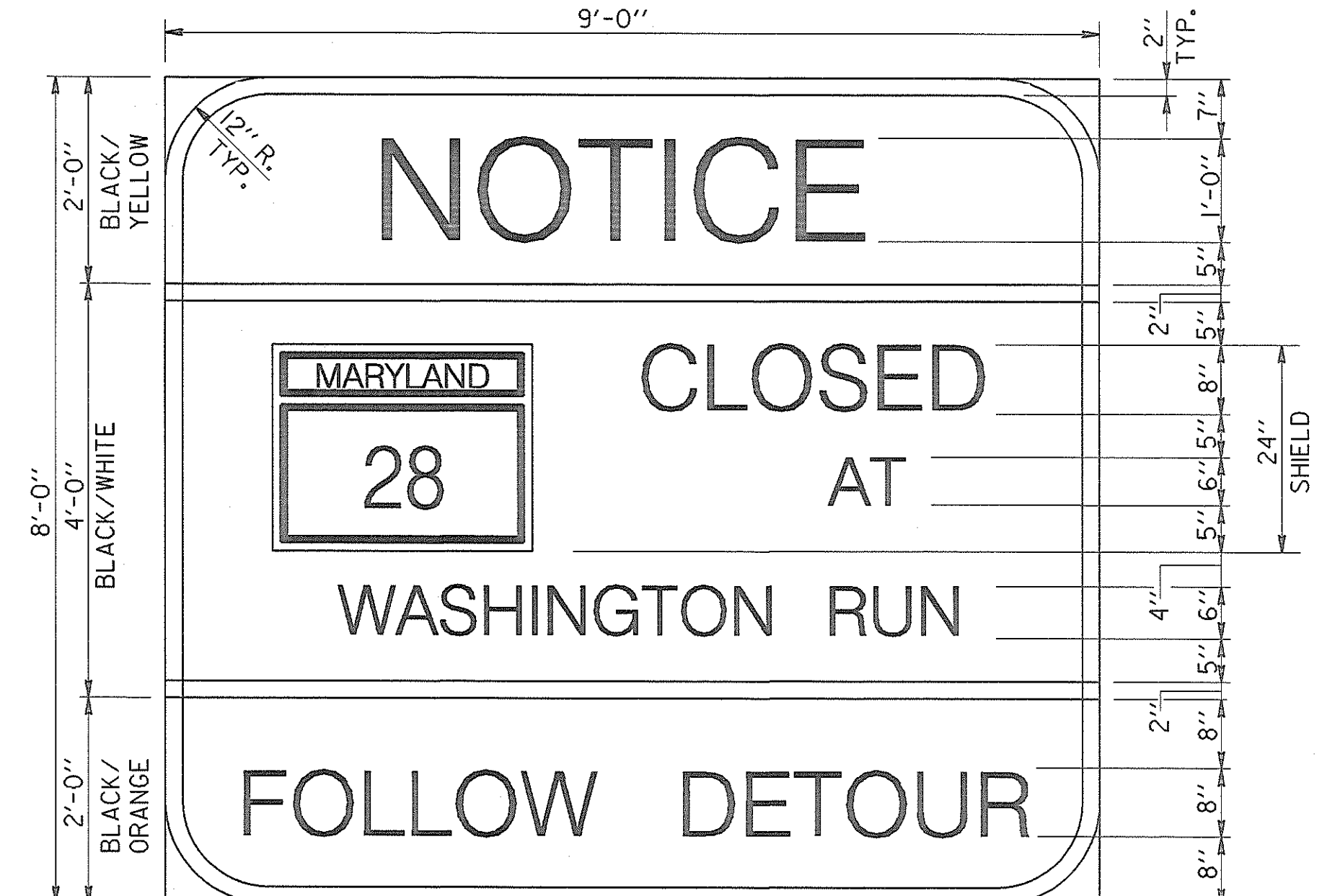
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN DETOUR DETAILS
	SCALE AS SHOWN DATE CONTRACT AX4695180
	DESIGNED BY J.W.N. DRAWN BY J.MOHR CHECKED BY
	E.S.F. JAN 0 8 2006
	SHEET NO. 10 OF 53



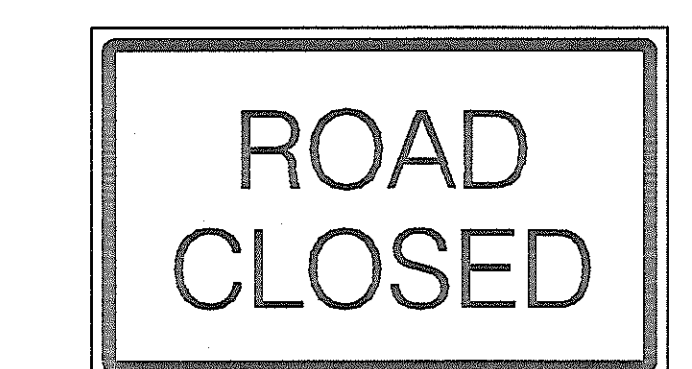
G-95-2
SIGN A
SCALE: 3/4" = 1'-0"



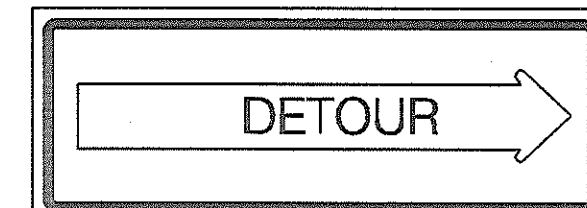
R11-3A
SIGN B
SCALE: 3/4" = 1'-0"



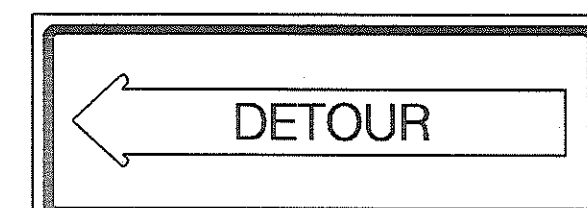
G-95-2 (MODIFIED)
SIGN C
SCALE: 3/4" = 1'-0"



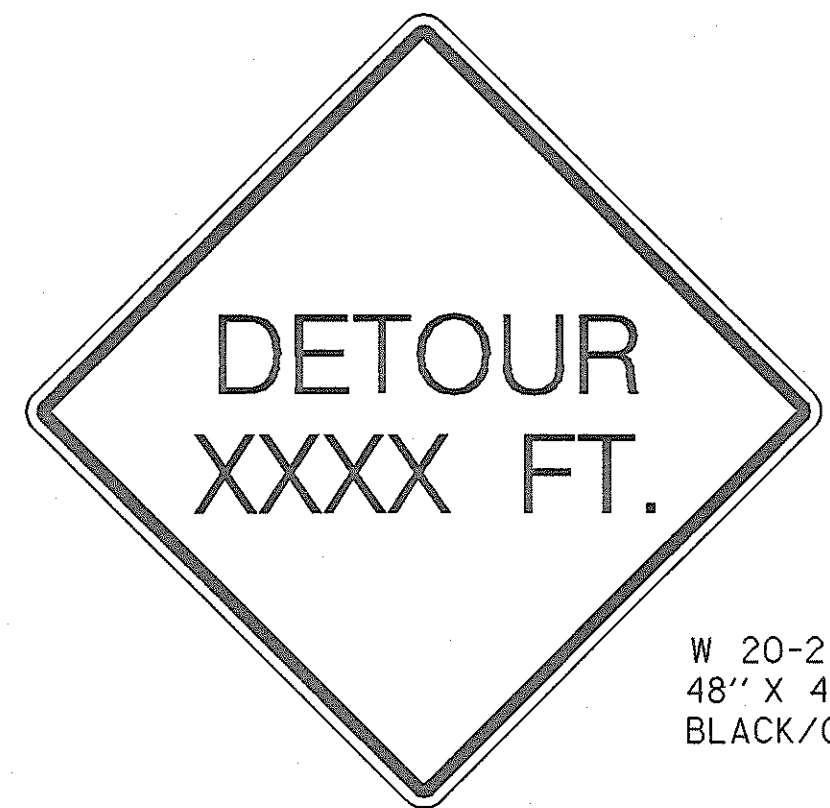
R 11-2
48" X 30"
BLACK/WHITE



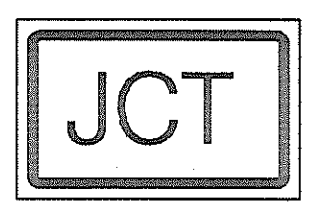
M 4-10 (R)
48" X 18"
BLACK/ORANGE



M 4-10 (L)
48" X 18"
BLACK/ORANGE



W 20-2
48" X 48"
BLACK/ORANGE



M 2-1
21" X 15"
BLACK/WHITE



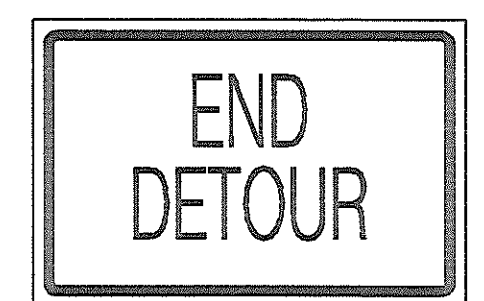
M4-5
24" X 12"
BLACK/WHITE



W 20-3
48" X 48"
BLACK/ORANGE



M 1-5
24" X 24"
BLACK/WHITE



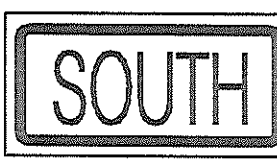
M 4-8a
36" X 24"
BLACK/ORANGE



M 3-1
24" X 12"
BLACK/WHITE



M 3-2
24" X 12"
BLACK/WHITE



M 3-3
24" X 12"
BLACK/WHITE



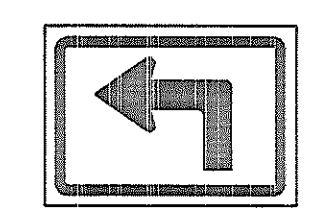
M 3-4
24" X 12"
BLACK/WHITE



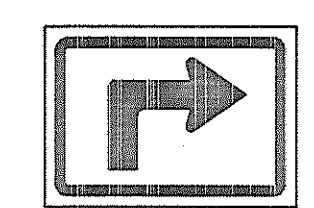
M 4-8
24" X 12"
BLACK/ORANGE



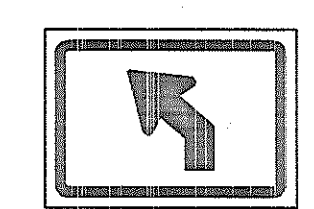
MI-4A
24" X 24"
BLACK/WHITE



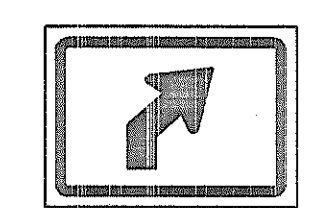
M 5-1 L
21" X 15"
BLACK/WHITE



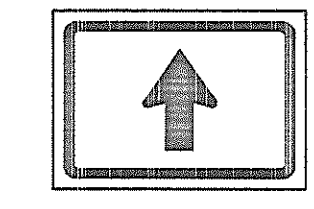
M 5-1 R
21" X 15"
BLACK/WHITE



M 5-2 L
21" X 15"
BLACK/WHITE



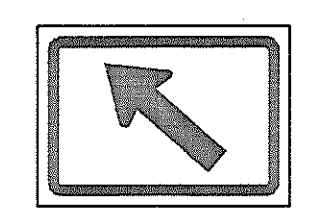
M 5-2 R
21" X 15"
BLACK/WHITE



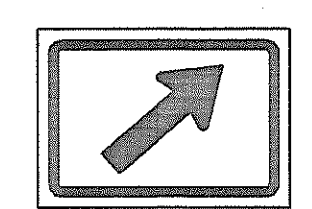
M 6-3
21" X 15"
BLACK/WHITE



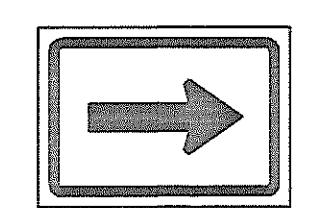
I-95-14
24" X 30"
WHITE/BLUE



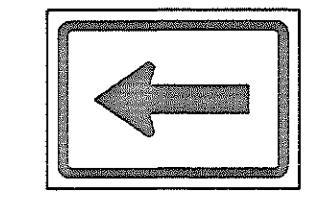
M 6-2 L
21" X 15"
BLACK/WHITE



M 6-2 R
21" X 15"
BLACK/WHITE



M 6-1 R
21" X 15"
BLACK/WHITE



M 6-1 L
21" X 15"
BLACK/WHITE

SIGN LEGEND
SCALE: 3/4" = 1'-0"

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN SIGN LEGEND	
	SCALE AS SHOWN	DATE CONTRACT AX4695180
	DESIGNED BY J.W.N.	
	DRAWN BY J.MOHR	
	CHECKED BY	
	E. S. F. JAN 6 2008	
	SHEET NO. 11	OF 53

EROSION AND SEDIMENT CONTROL - GENERAL NOTES

1. MDE NOTIFICATION

IF AN EROSION AND SEDIMENT CONTROL PERMIT IS ISSUED FOR THIS PROJECT, THE CONTRACTOR, UPON APPROVAL FROM SHA, MUST NOTIFY MDE IN WRITING AND/OR BY TELEPHONE AT (410) 537-3510 AT THE FOLLOWING POINTS:

- PRE-CONSTRUCTION MEETING
- EROSION AND SEDIMENT CONTROL MEETING (MINIMUM 7 WORKING DAYS PRIOR TO COMMENCING EARTH DISTURBING ACTIVITIES)
- FOLLOWING INSTALLATION OF INITIAL SEDIMENT CONTROL MEASURES
- DURING INSTALLATION OF MAJOR SEDIMENT CONTROL BASINS/TRAPS
- PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S)
- PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES
- PRIOR TO FINAL ACCEPTANCE BY SHA

2. STANDARDS AND SPECIFICATIONS

THIS PLAN IS DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II AND THE MARYLAND DEPARTMENT OF ENVIRONMENT EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REGULATIONS, AND ALL REVISIONS THERE OF, AND AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL KEEP A COPY OF THE 1994 "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ON THE SITE AT ALL TIMES.

3. INGRESS / EGRESS CONTROLS

THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ON PUBLIC ROADS. ALL MATERIALS DEPOSITED ON PUBLIC ROADS SHALL BE MECHANICALLY REMOVED IMMEDIATELY. THE FLUSHING OF ROAD SURFACES IS PROHIBITED.

TYPICALLY, ALL INGRESS AND EGRESS POINTS SHALL BE CONTROLLED THROUGH THE USE OF A "STABILIZED CONSTRUCTION ENTRANCE."

4. INSPECTION

THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES.

5. SHUTDOWNS AND OR PENALTIES

TOTAL COMPLIANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS EXPECTED AT ALL TIMES. IN CASES WHERE THE CONTRACTOR IS FOUND TO BE IN NON-COMPLIANCE SHA MAY TAKE STEPS TO IMPOSE SELECTED OR TOTAL SHUTDOWNS AND IMPOSE PER DAY PENALTIES FOR NON-COMPLIANCE.

THE DISTRICT ENGINEER CAN IMPOSE A TOTAL OR PARTIAL SHUTDOWN IF THE PROJECT MAY ADVERSELY IMPACT THE WATERS OF THE STATE.

6. RECORD KEEPING

THE PROJECTS' APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, APPROVED CHANGE REQUESTS, DAILY LOG BOOKS AND TEST REPORTS WILL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MDE.

7. EROSION AND SEDIMENT CONTROL EXCAVATION

SILT REMOVED FROM CONTROL DEVICES SHALL BE PLACED IN AN APPROVED WASTE SITE EITHER ON OR OFF THE PROJECT. MATERIAL STORED ON SITE MAY BE REUSED ONCE IT IS DRIED AND IF IT MEETS SHA REQUIREMENTS FOR EMBANKMENT OR ANY UNSPECIFIED NEED.

8. OFF-SITE UTILITY WORK

SEDIMENT CONTROL FOR UTILITY CONSTRUCTION IN AREAS OUTSIDE OF DESIGNED CONTROLS SHALL FOLLOW THESE ADDITIONAL BEST MANAGEMENT PRACTICES:

- (a) CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK
- (b) EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
- (c) TRENCHES FOR UTILITY INSTALLATIONS SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY, WHEN THIS IS NOT POSSIBLE, THE AREA SHALL CONFORM TO (a).
- (d) TEMPORARY SILT FENCES SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.

9. SENSITIVE AREAS

NO CONSTRUCTION ACTIVITIES SHALL BE UNDERTAKEN WITHIN SPECIFIED SENSITIVE AREAS OF THE PROJECT WITHOUT PRIOR NOTIFICATION OF THE ENGINEER. ALL WORK IN THESE AREAS SHALL BE MONITORED BY A RESPONSIBLE PARTY DESIGNATED BY THE CONTRACTOR TO ASSURE THAT REASONABLE CARE IS TAKEN IN OR ADJACENT TO THESE AREAS. AREAS CONSIDERED SENSITIVE ARE DEFINED AS: FLOODPLAINS, WETLANDS (TIDAL, NONTIDAL AND ASSOCIATED BUFFERS) CRITICAL AREAS, FORESTED AREAS, ARCHEOLOGICAL SITES, HISTORIC SITES, PARKLAND AND OPEN WATER.

10. STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOURTEEN DAYS (14) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

11. SITE INFORMATION (NOT FOR BIDDING PURPOSES)

TOTAL AREA OF SITE 0.43 ACRES
 AREA DISTURBED 0.64 ACRES
 AREA TO BE ROOFED OR PAVED 0.19 ACRES
 TOTAL CUT 555 CU. YDS.
 TOTAL FILL 370 CU. YDS.
 OFFSITE WASTE/BORROW _____ ACRES
 AREA LOCATION (IF KNOWN) _____ ACRES

12. INCREMENTAL STABILIZATION

REFER TO THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR THE INCREMENTAL STABILIZATION OF CUT AND FILLS.

13. DEWATERING PRACTICES

THE CONTRACTOR IS ALERTED THAT MDE CONSIDERS DEWATERING PRACTICES TO BE ELECTIVE IN NATURE. DEWATERING PRACTICES ARE TO BE LOCATED AND OPERATED IN A MANNER THAT DOES NOT DISCHARGE SEDIMENT INTO ANY WATERWAY. NO VISIBLE CHANGES TO STREAM CLARITY ARE PERMITTED.

14. MODIFICATIONS

THE CONTRACTOR SHALL SUBMIT MODIFICATIONS TO THE EROSION AND SEDIMENT CONTROLS TO SHA FOR APPROVAL PRIOR TO SUBMISSION TO MDE. NO MODIFICATIONS SHALL BE IMPLEMENTED UNTIL ALL APPROVALS FROM SHA AND MDE ARE OBTAINED.

STANDARD SYMBOLS

EARTH DIKE	
TEMPORARY SWALE	
PERIMETER DIKE/SWALE	
STONE CHECK DAM	
STONE OUTLET STRUCTURE	
SILT FENCE	
SUPER SILT FENCE	
STRAW BALES	
STANDARD INLET PROTECTION	
AT GRADE INLET PROTECTION	
CURB INLET PROTECTION	
MEDIAN INLET PROTECTION	
GABION INFLOW PROTECTION	
RIPRAP INFLOW PROTECTION	
SUMP PIT	
REMOVABLE PUMPING STATION	
PORTABLE SEDIMENT TANK	
INTERCEPTOR BERM	
TEMPORARY BERM	
PIPE SLOPE DRAIN	
STABILIZED CONSTRUCTION ENTRANCE	
SOIL STABILIZATION MATTING	
PLACED RIPRAP DITCH	
GABIONS	
CONCRETE GUTTER	
STONE OUTLET SEDIMENT TRAP	
RIPRAP OUTLET SEDIMENT TRAP	
STONE/RIPRAP OUTLET SEDIMENT TRAP	
PIPE OUTLET SEDIMENT TRAP	
LIMIT OF DISTURBANCE	
EXISTING CONTOURS	
PROPOSED CONTOURS	

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REGULATIONS.

Ziad A. Sabra
 NAME
 18560
 MARYLAND REGISTRATION NUMBER.
 (P.E., R.L.S. OR R.L.A. (circle))
 SIGNATURE
 02/11/2008
 DATE

PROFESSIONAL CERTIFICATION

"I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY PROFESSIONAL ENGINEER UNDER THE LAW OF

STATE OF MARYLAND, LICENSE No. 18560

EXPIRATION DATE 01-14-09



SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION
 PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
 MD. RTE. 28 OVER WASHINGTON RUN

EROSION AND SEDIMENT CONTROL NOTES

SCALE N.T.S. DATE NOVEMBER 2007 CONTRACT NO. AK4685180

DESIGNED BY T.B. COUNTY FREDERICK
 DRAWN BY T.G.P. LOCALITY
 CHECKED BY R.D. HORIZONTAL SCALE
 F.A.P. NO. VERTICAL SCALE

DRAWING NO. EP-01 OF 05 SHEET NO. 12 OF 53

CROSS REFERENCE	R/W PLAT NUMBER	REVISIONS
ITEM SHEET NO.		
TYPICAL SHEETS 2,3		ADD CERT. J.M.N. 4/10/08
GEOMETRIC LAYOUT SHEETS 4		
ROADWAY PLAN SHEETS 5		
ROADWAY PROFILE SHEETS 6,7		
EROSION & SEDIMENT CONTROL 12-16		
SIGNING & MARKING PLANS 17,18		
GRADE TABLE 19		

PLOTTED: Monday, February 11, 2008 AT 09:15 AM
 FILE: R:\00002\02_0525_2002-2002_WMA_BK46851801\Task11\DWG\U05-1001_1208.dwg

BY: gpearson

 SABRA, WANG & ASSOCIATES, INC.
 1504 JOH. AVENUE
 SUITE 100
 BALTIMORE, MD 21227
 (410) 737-5584
 WWW.SABRA-WANG.COM

ITEM	STATION	QUANTITY
SCE 1-1	100+55 RT	30 TONS
SCE 1-2	102+90 LT	30 TONS
SCE 1-3	102+80 LT	30 TONS

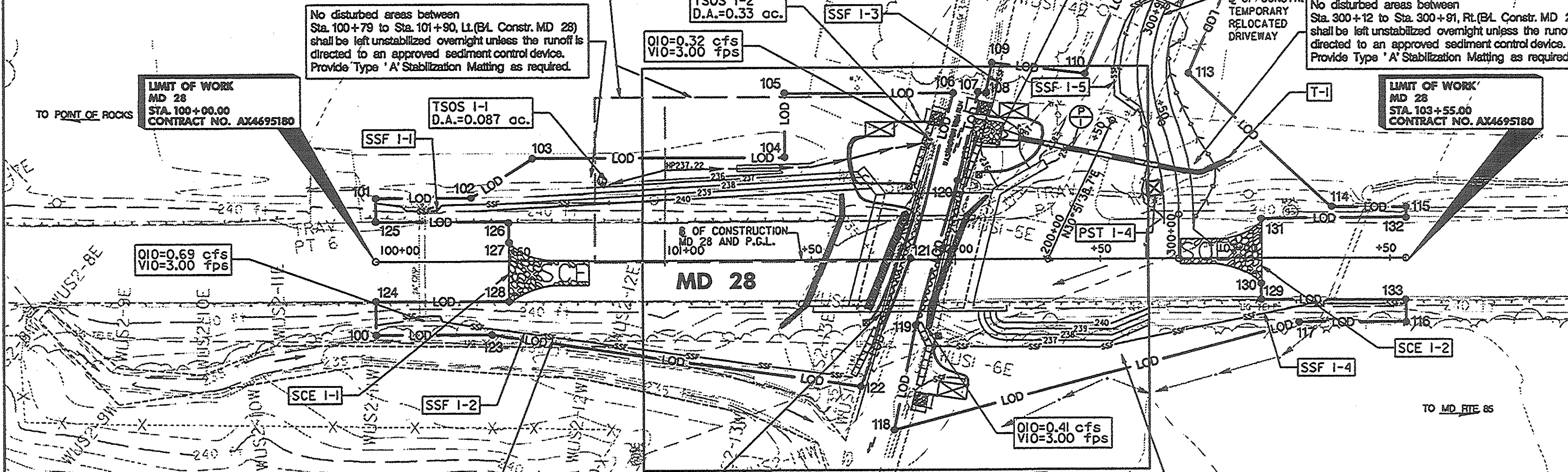
ITEM	FROM STATION	TO STATION	LENGTH
TSOS 1-1	100+78, 27' LT.	102+95, LT.	12 LF
TSOS 1-2	101+93, 42' LT.	-	3 TONS

ITEM	FROM STATION	TO STATION	LENGTH
T-1	102+90, LT.	102+95, LT.	12 LF

ITEM	STATION	OFFSET
TSOS 1-1	100+78, 27' LT.	- 3 TONS
TSOS 1-2	101+93, 42' LT.	- 3 TONS

ITEM	QUANTITY	DESCRIPTION
PST 1-1	1 EA	DISCHARGE ANY CLEAN WATER FROM THE PST TO A FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE
PST 1-2	1 EA	
PST 1-3	1 EA	
PST 1-4	1 EA	

THE LOCATIONS OF THE PORTABLE SEDIMENT TANKS ARE FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR WILL MOVE SEDIMENT TANKS TO DEWATERING LOCATIONS AS NEEDED.



SEQUENCE OF CONSTRUCTION - PHASE I:

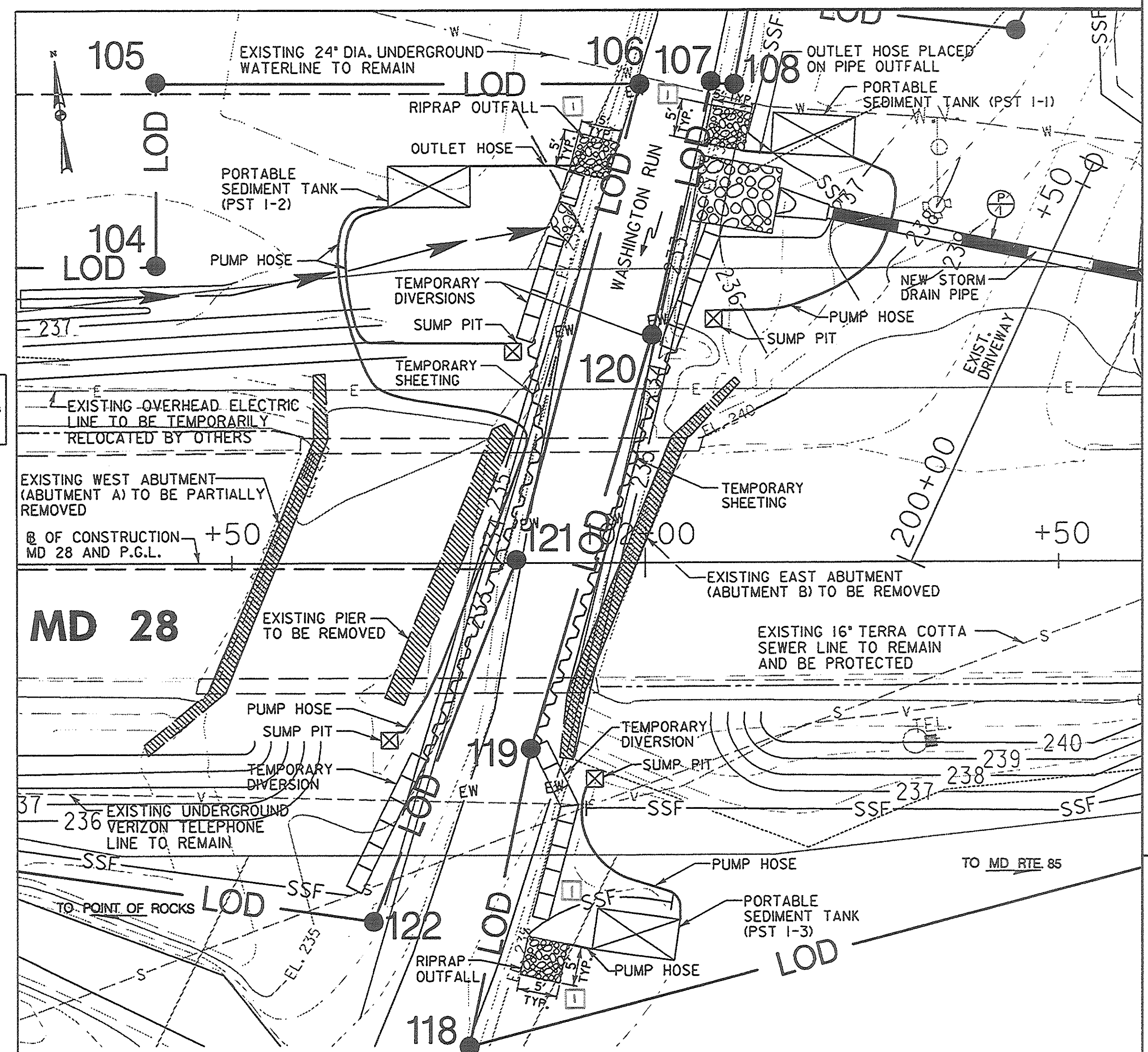
1. THE CONTRACTOR MUST NOTIFY THE MDE COMPLIANCE INSPECTOR IN WRITING AND/OR BY TELEPHONE AT (410)537-5510 AT LEAST SEVEN (7) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND FIVE (5) DAYS AFTER THE WORK ENDS.
2. THIS PHASE OF CONSTRUCTION WILL BE LIMITED TO THE REMOVAL OF THE EXISTING BRIDGE, BEGINNING OF THE APPROACH ROADWAY CONSTRUCTION, AND CONSTRUCTION OF THE TEMPORARY RELOCATED DRIVEWAY. THE LIMIT OF DISTURBANCE (LOD) SHOWN ON THIS PLAN IS APPLICABLE FOR ALL PHASES OF CONSTRUCTION.
3. PRIOR TO BEGINNING ANY WORK IN THE AREA OF THE STREAM AND CLOSURE OF THE ROADWAY, ALL PERIMETER SEDIMENT AND EROSION CONTROL DEVICES (INCLUDES SUPER SILT FENCES, SILT FENCES, AND TSOS) SHALL BE IN PLACE AS DEPICTED ON THE SEDIMENT AND EROSION CONTROL PLANS. THESE ELEMENTS SHALL BE IN PLACE TO THE GREATEST EXTENT POSSIBLE WITHOUT IMPACTING ROADWAY TRAFFIC. UPON CLOSING THE ROADWAY TO TRAFFIC, THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED AS SHOWN. CONTRACTOR TO REMOVE PAVEMENT IN AREA OF SCE PRIOR TO INSTALLATION.
4. AFTER THE PERIMETER CONTROLS ARE IN PLACE AND FUNCTIONING, INSTALLATION OF THE PERMANENT 18 INCH RCP STORM DRAIN PIPE SHALL BE PERFORMED. CONSTRUCT THE PERMANENT PIPE FIRST. GRADE TO ESTABLISH POSITIVE DRAINAGE AT THE TEMPORARY PIPE LOCATION. INSTALL PORTABLE SEDIMENT TANKS, HOSES AND ASSOCIATED OUTFALLS. OUTLET PROTECTION SHALL BE INSTALLED AT TIME OF PIPE INSTALLATION. CONNECT THE PERMANENT PIPE TO THE TEMPORARY PIPE. SECURE THE CONNECTION IN PLACE WITH SANDBAGS. WITH THE PIPES IN PLACE, CONTRACTOR SHALL CONSTRUCT THE TEMPORARY RELOCATED DRIVEWAY. ENSURE SUMP PITS ARE GRADED TO COLLECT RUNOFF BEHIND DIVERSION WALL, AS NO SEDIMENT LADEN RUNOFF IS TO FLOW TO WASHINGTON RUN.
5. ONCE THE ROADWAY IS CLOSED TO TRAFFIC, THE CONTRACTOR CAN BEGIN THE REMOVAL OF THE BRIDGE SUPERSTRUCTURE. IF SAW CUTTING IS USED FOR THE REMOVAL OPERATION, THE CONTRACTOR WILL BE REQUIRED TO COLLECT ALL WASTE SLURRY WATER AND PASS IT THROUGH A DEWATERING DEVICE. AT NO TIME WILL THE SLURRY WATER OR ANY PORTION OF THE BRIDGE BE ALLOWED TO FALL DIRECTLY INTO THE WATERWAY.
6. AFTER THE REMOVAL OF THE SUPERSTRUCTURE IS COMPLETE FOR THE EXISTING BRIDGE, THE CONTRACTOR CAN BEGIN THE PLACEMENT OF THE TEMPORARY DIVERSIONS AND STEEL SHEETING AS DEPICTED TO MAINTAIN STREAM FLOW. THE OPERATION SHALL BEGIN ON THE UPSTREAM SIDE OF THE WORK SITE AND PROCEED IN THE DOWNSTREAM DIRECTION.
7. THE PIER AND THE EXISTING EAST ABUTMENT (ABUTMENT B) SHALL BE REMOVED IN THEIR ENTIRETY INCLUDING THE FOOTINGS. THE VOID REMAINING FROM THE FOOTINGS SHALL BE BACKFILLED WITH CLASS 1 RIPRAP OR BROKEN CONCRETE FROM THE EXISTING BRIDGE PROVIDED IT MEETS THE CLASS 1 RIPRAP REQUIREMENTS, TO MATCH THE EXISTING GROUNDLINE ADJACENT TO THE PIER AND ABUTMENT. THE EXISTING WEST ABUTMENT (ABUTMENT A) NEED NOT BE REMOVED IN ITS ENTIRETY BUT TO AT LEAST 2'-0" BELOW THE FINISHED GROUNDLINE OR TO THE BOTTOM OF THE NEW ROADWAY PAVEMENT SUBGRADE. THE COST OF ALL EXCAVATION AND RIPRAP BACKFILL ASSOCIATED WITH THE REMOVAL OF THE STRUCTURE WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCIDENTAL TO THE 'REMOVAL OF EXISTING BRIDGE' ITEM.
8. ALL WORK SHALL TAKE PLACE BEHIND THE DIVERSIONS AND SHEETING AWAY FROM THE STREAM IN DIVERTED AREAS AND THE WATER SHALL BE PASSED THROUGH THE PORTABLE SEDIMENT TANK BEFORE BEING ALLOWED TO RE-ENTER THE CREEK. AT NO TIME SHALL EXCESS MATERIAL OR DEBRIS BE DISPOSED OF INTO WASHINGTON RUN. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT AN APPROVED SITE.
9. ALL PERIMETER SEDIMENT AND EROSION CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED IN GOOD CONDITION UNTIL PERMISSION FOR THEIR REMOVAL IS GRANTED BY THE MDE INSPECTOR.
10. THE IN-STREAM CONSTRUCTION PROHIBITION FOR THE PROJECT IS FROM MARCH 1ST TO JUNE 15TH, INCLUSIVE ANY YEAR.
11. PROCEED TO PHASE II CONSTRUCTION.

AT THE CONTRACTOR'S OPTION AN ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE PROPOSED. HOWEVER, THE PHASES OF CONSTRUCTION MUST REMAIN AS SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING THE APPROPRIATE PLANS AND REQUEST IN WRITING FOR A CHANGE TO THESE PLANS. ALL CHANGES SHALL BE SUBMITTED THROUGH THE ADMINISTRATION FOR THEIR REVIEW, AND FORWARDING FOR APPROVAL BY THE APPLICABLE PERMITTING AGENCIES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS CAUSED BY THE REVIEW AND APPROVAL PROCESS NOR WILL ADDITIONAL COMPENSATION BE ALLOWED IF ANY PROPOSED CHANGE IS REJECTED. THE ADMINISTRATION AND PERMITTING AGENCIES SHALL DETERMINE WHETHER ANY PROPOSED ALTERNATE SEQUENCE IS ACCEPTABLE. IF NO ALTERNATE IS FOUND ACCEPTABLE THE SEQUENCE DEPICTED ON THESE PLANS SHALL BE FOLLOWED. (REFER TO SECTION 308.03.35)

WATERS OF THE US /WETLAND / BUFFER RESTRICTIONS

1. ALL EXCESS FILL MATERIAL, CONSTRUCTION MATERIALS, AND DEBRIS SHALL BE REMOVED TO AN APPROVED UPLAND DISPOSAL SITE OUTSIDE THE 100 YEAR FLOODPLAIN ABOVE ELEVATION 243.00. AT NO TIME SHALL ANY OF THESE MATERIALS BE STORED OR DISPOSED OF IN THE 100 YEAR FLOODPLAIN BELOW ELEVATION 243.00. ALL STORAGE AREAS SHALL BE APPROVED IN WRITING PRIOR TO THEIR USE.
2. NO CONSTRUCTION MATERIALS SHALL BE STORED OR PLACED IN AN AREA THAT WILL ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE WETLAND AREA.
3. ANY ADDITIONAL BACKFILL OR BORROW MATERIAL SHALL CONFORM TO THE SPECIFICATIONS AND SHALL BE FREE OF WASTE METAL, DEBRIS, TOXIC MATERIALS OR DELETERIOUS SUBSTANCES.
4. AT NO TIME SHALL HEAVY EQUIPMENT BE PLACED IN A WETLAND OR ADJACENT BUFFER AREA OUTSIDE THE LIMITS OF THE ROADWAY PAVING.
5. NO TEMPORARY FILLS MAY BE PLACED IN THE WATERS OF THE US, WETLANDS OR BUFFER AREAS.
6. ALL STABILIZATION OF DISTURBED AREAS IN THE WATERS OF THE US, WETLAND AND/OR BUFFER AREA SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. ALL OTHER AREAS SHALL BE SEEDED AND MULCHED FOR STABILIZATION AND TO INITIATE REVEGETATION.

SABRA, WANG & ASSOCIATES, INC.
 1504 JOH AVENUE
 SUITE 160
 BALTIMORE, MD 21227
 (410) 737-8564
 WWW.SABRA-WANG.COM



PHASE I - MAINTENANCE OF STREAM FLOW
SCALE: 1" = 10'

ALL PHASES: EROSION AND SEDIMENT CONTROL GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR MUST NOTIFY THE MDE COMPLIANCE INSPECTOR IN WRITING AND/OR BY TELEPHONE AT (410)537-5510 AT LEAST SEVEN (7) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND FIVE (5) DAYS AFTER THE WORK ENDS.
2. MAINTAIN ALL SEDIMENT CONTROL PRACTICES ACCORDING TO THE MARYLAND 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION SEDIMENT CONTROL.
3. THE EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONING PRIOR TO ANY CLEARING FOR CONSTRUCTION. CLEAR AND GRUB FOR EROSION AND SEDIMENT CONTROL MEASURES OR DEVICES ONLY.
4. STAGING AND STOCKPILING AREAS SHALL BE LOCATED WITHIN THE LOD AS DETERMINED BY THE ENGINEER AND CONTRACTOR AND WITH THE MDE INSPECTOR'S APPROVAL ON AN AS NEEDED BASIS DURING CONSTRUCTION.
5. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
6. PLACE TOPSOIL, SEED AND MULCH ON ALL UNPAVED AREAS CONSTRUCTED AS DIRECTED BY THE ENGINEER.
7. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED BY VEGETATION GROWTH AND MDE APPROVES THEIR REMOVAL.
8. CONSTRUCTION SHALL OCCUR DURING PERIODS OF LOW FLOW. A PERIOD OF LOW FLOW IS ONE IN WHICH THERE HAS BEEN AT LEAST 3 DAYS FROM A PREVIOUS RAIN EVENT AND AT LEAST 5 DAYS BEFORE A PREDICTED RAIN.
9. REQUEST APPROVAL FROM MDE FOR THE REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES. UPON APPROVAL BY MDE, REMOVE EROSION AND SEDIMENT CONTROL DEVICES AND STABILIZE ALL REMAINING DISTURBED AREAS.

POINT NO.	STATION	OFFSET
100	100+00	25' RT.
101	100+00	22' LT.
102	100+32	22' LT.
103	100+54	36' LT.
104	101+40	36' LT.
105	101+41	58' LT.
106	101+99	58' LT.
107	102+08	58' LT.
108	102+10	58' LT.
109	102+12	64' LT.
110	102+44	64' LT.
111	102+70	122' LT.
112	103+00	108' LT.
113	102+80	64' LT.
114	103+29	18' LT.
115	103+55	18' LT.
116	103+55	22' RT.
117	103+18	22' RT.
118	101+78	59' RT.
119	101+48	23' RT.
120	102+00	28' LT.
121	101+84	00' LT/RT.
122	101+67	44' RT.

POINT NO.	STATION	OFFSET
123	100+39	25' RT.
124	100+00	14' RT.
125	100+00	14' LT.
126	100+46	14' LT.
127	100+46	5' LT.
128	100+46	14' RT.
129	103+05	14' RT.
130	103+05	9' RT.
131	103+05	14' LT.
132	103+55	14' LT.
133	103+55	14' RT.

- LEGEND:**
- SSF - INDICATES SUPER SILT FENCE
 - S - INDICATES 16" TERRA COTTA SEWER LINE TO REMAIN AND BE PROTECTED
 - E - INDICATES EXISTING OVERHEAD ELECTRIC LINE TO BE TEMPORARILY RELOCATED BY OTHERS
 - V - INDICATES EXISTING UNDERGROUND VERIZON TELEPHONE LINE
 - W - INDICATES EXISTING 24" WATER LINE
 - EW - INDICATES APPROXIMATE EXISTING EDGE OF WATER (WATERS OF THE U.S.)
 - RW - INDICATES APPROXIMATE RIGHT-OF-WAY
 - - DENOTES EXISTING BRIDGE ABUTMENTS AND PIERS TO BE REMOVED
 - - INDICATES TEMPORARY DIVERSION
 - - INDICATES TEMPORARY SHEETING

SHA STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION
 PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
 MD RTE. 28 OVER WASHINGTON RUN

CROSS REFERENCE	R / W PLAT NUMBER	REVISIONS
ITEM	SHEET NO.	
TYPICAL SHEETS	2,3	
GEOMETRIC LAYOUT SHEETS	4	
ROADWAY PLAN SHEETS	5	
ROADWAY PROFILE SHEETS	6,7	
EROSION & SEDIMENT CONTROL	12-16	
SIGNING & MARKING PLANS	17,18	
GRADE TABLE	19	

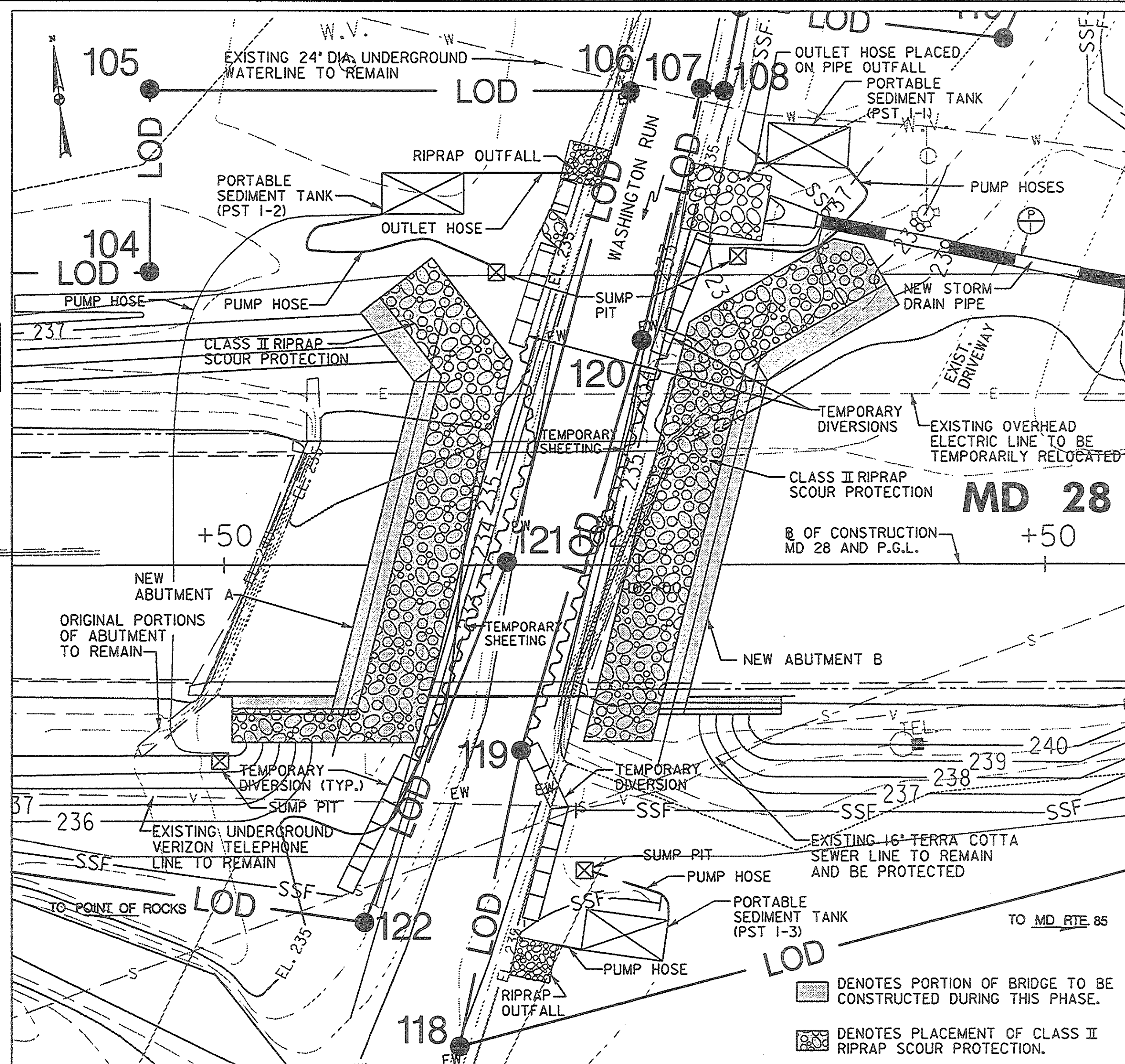
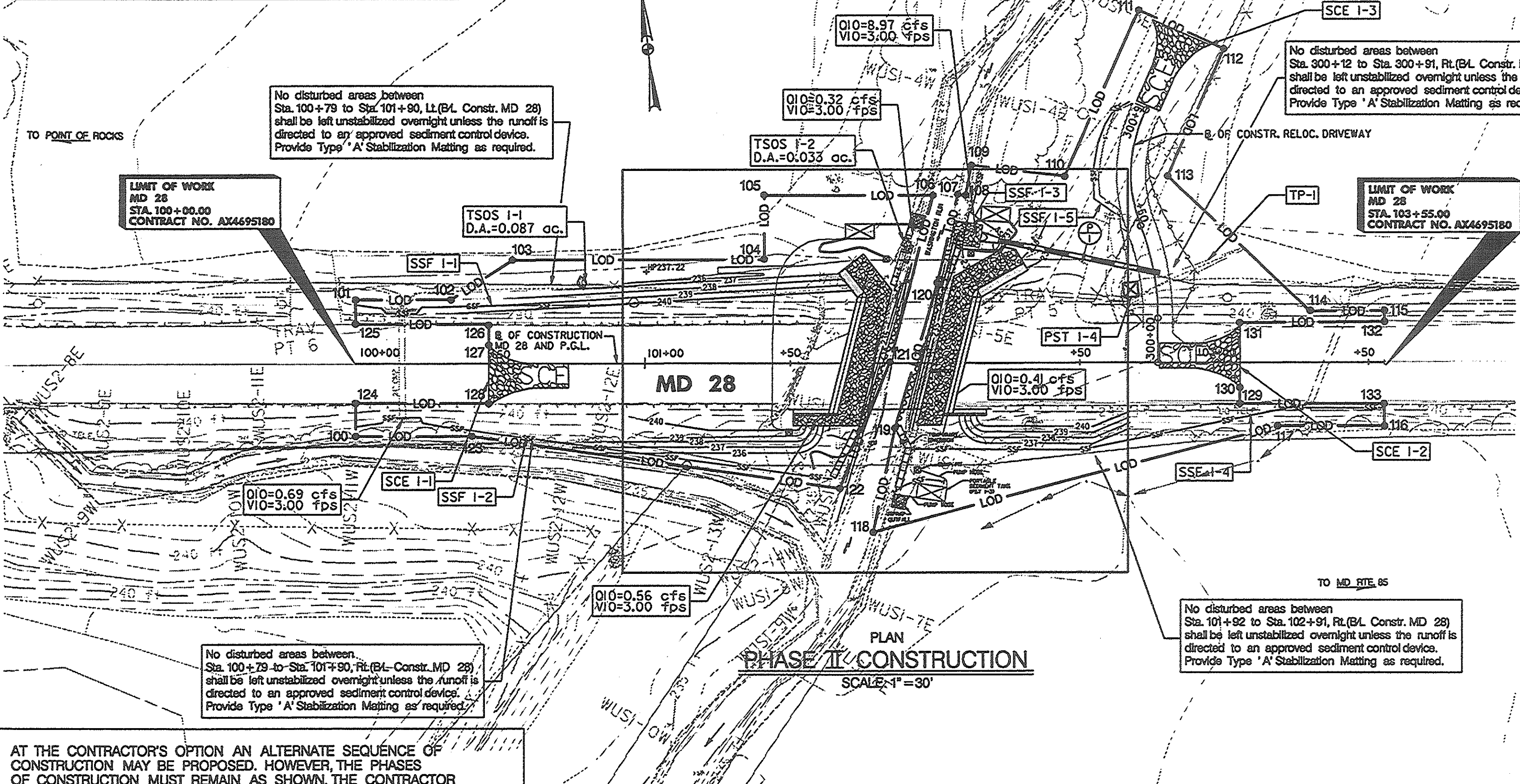
SCALE	DATE	CONTRACT NO.
1" = 30'	NOVEMBER, 2007	AX4695180
DESIGNED BY	T.B.	COUNTY
DRAWN BY	T.G.P.	FREDERICK
CHECKED BY	R.D.	LOGMILE
F.A.P. NO.		HORIZONTAL SCALE
		VERTICAL SCALE
DRAWING NO.	EP-02 OF 05	SHEET NO. 13 OF 53

SUPER SILT FENCE (SSF) #			
ITEM	FROM STATION	TO STATION	LENGTH
SSF 1-1	100+00, 22' LT	100+55, 52' LT	80 LF
SSF 1-2	100+00, 22' RT	101+64, 40' RT	165 LF
SSF 1-3	102+12, 40' LT	102+16, 67' LT	20 LF
SSF 1-4	101+85, 44' RT	103+55, 10' RT	100 LF
SSF 1-5	102+63, 51' LT	102+68, 50' LT	47 LF

TEMPORARY STONE OUTLET STRUCTURE (TSOS) #		
ITEM	STATION	OFFSET
TSOS 1-1	100+78	21' LT.
TSOS 1-2	101+80	40' LT.

STABILIZED CONSTRUCTION ENTRANCE (SCE) #		
ITEM	STATION	QUANTITY
SCE 1-1	100+55 RT	30 TONS
SCE 1-2	102+90 LT	30 TONS
SCE 1-3	102+80 LT	30 TONS

TYPE 'A' SOIL STABILIZATION MATTING			
STATION	S.Y.	REMARKS	
STA. 103+12, RT. TO STA. 103+91, RT.	40	RELOC. DRIVEWAY ISLOPE PROTECTION	
STA. 102+53, LT. TO STA. 102+90, LT.	140	MD 28 ISLOPE & CHANNEL PROTECTION AFTER REMOVAL OF RELOC. DRIVEWAY	
STA. 100+79, LT. TO STA. 101+91, LT.	120	RELOC. DRIVEWAY ISLOPE PROTECTION	
STA. 101+92, RT. TO STA. 102+91, RT.	120	RELOC. DRIVEWAY ISLOPE PROTECTION	



AT THE CONTRACTOR'S OPTION AN ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE PROPOSED. HOWEVER, THE PHASES OF CONSTRUCTION MUST REMAIN AS SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING THE APPROPRIATE PLANS AND REQUEST IN WRITING FOR A CHANGE TO THESE PLANS. ALL CHANGES SHALL BE SUBMITTED THROUGH THE ADMINISTRATION FOR THEIR REVIEW AND FORWARDING FOR APPROVAL BY THE APPLICABLE PERMITTING AGENCIES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS CAUSED BY THE REVIEW AND APPROVAL PROCESS NOR WILL ADDITIONAL COMPENSATION BE ALLOWED IF ANY PROPOSED CHANGE IS REJECTED. THE ADMINISTRATION AND PERMITTING AGENCIES SHALL DETERMINE WHETHER ANY PROPOSED ALTERNATE SEQUENCE IS ACCEPTABLE. IF NO ALTERNATE IS FOUND ACCEPTABLE THE SEQUENCE DEPICTED ON THESE PLANS SHALL BE FOLLOWED. (REFER TO SECTION 308.03.35)

- SEQUENCE OF CONSTRUCTION - PHASE II:**
- THE CONTRACTOR MUST NOTIFY THE MDE COMPLIANCE INSPECTOR IN WRITING AND/OR BY TELEPHONE AT (410)837-3810 AT LEAST SEVEN (7) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND FIVE (5) DAYS AFTER THE WORK ENDS.
 - THIS PHASE OF CONSTRUCTION WILL BE LIMITED TO THE CONSTRUCTION OF THE NEW BRIDGE ABUTMENTS AND PLACEMENT OF THE RIPRAP SCOUR PROTECTION.
 - AFTER THE REMOVAL OF THE EXISTING STRUCTURE IS COMPLETE, THE CONTRACTOR SHALL IMMEDIATELY BEGIN CONSTRUCTION OF THE NEW ABUTMENTS, THE DIVERSIONS AND SHEETING SHALL BE MAINTAINED IN LIKE-NEW CONDITION DURING ALL OPERATIONS THAT INVOLVE EXCAVATION AND CONSTRUCTION IN THE AREA OF THE RUN. THE DIVERSIONS AND SHEETING SHALL REMAIN IN PLACE UNTIL ALL WORK IS COMPLETE ON THE CONSTRUCTION OF THE NEW ABUTMENTS. THIS WORK SHALL INCLUDE THE REMOVAL OF THE EXISTING ABUTMENTS, CONSTRUCTION OF THE NEW ABUTMENTS, PLACEMENT OF THE RIPRAP SCOUR PROTECTION, FINAL GRADING AROUND THE ABUTMENT SLOPES, AND ANY CHANNEL GRADING LOCATED WITHIN THE DEWATERED AREA OF THE DIVERSIONS. THE CONSTRUCTION OF THE NEW ABUTMENTS SHALL TAKE PLACE SIMULTANEOUSLY ONCE THE DIVERSIONS AND SHEETING ARE IN PLACE AS DESCRIBED ABOVE.
 - ALL WORK SHALL TAKE PLACE IN DEWATERED AREAS AND THE WATER SHALL BE PASSED THROUGH THE PORTABLE SEDIMENT TANK BEFORE BEING ALLOWED TO RE-ENTER THE RUN.
 - IN CONJUNCTION WITH THE CONSTRUCTION OF THE NEW ABUTMENTS, THE CONTRACTOR SHALL PROCEED WITH THE CONSTRUCTION OF THE APPROACH ROADWAY FILLS AND GRADING OF THE PROJECT SITE. ALL PERIMETER SEDIMENT AND EROSION CONTROLS SHALL BE IN PLACE DURING THIS WORK AND SHALL BE MAINTAINED IN LIKE-NEW CONDITION. NO DISTURBANCES SHALL OCCUR OUTSIDE THESE AREAS, NOR SHALL ANY MATERIAL BE ALLOWED TO BE STORED OUTSIDE OF SEDIMENT CONTROLS.
 - AT NO TIME SHALL EXCESS MATERIAL OR DEBRIS BE DISPOSED OF INTO WASHINGTON RUN. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT AN APPROVED SITE.
 - ALL PERIMETER SEDIMENT AND ALL CONTRIBUTING AREA COMPLETELY STABILIZED AND EROSION CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED IN GOOD CONDITION UNTIL PERMISSION FOR THEIR REMOVAL IS GRANTED BY THE MDE INSPECTOR.
 - THE IN-STREAM CONSTRUCTION PROHIBITION FOR THE PROJECT IS FROM MARCH 1ST TO JUNE 15TH, INCLUSIVE ANY YEAR. WORK MAY BE DONE WITHIN THE DIVERSION DURING THIS PERIOD.
 - ONCE THE ABUTMENTS AND GRADING ARE COMPLETE, PROCEED TO PHASE III CONSTRUCTION.

- WATERS OF THE US / WETLAND / BUFFER RESTRICTIONS**
- ALL EXCESS FILL MATERIAL, CONSTRUCTION MATERIALS, AND DEBRIS SHALL BE REMOVED TO AN APPROVED UPLAND DISPOSAL SITE OUTSIDE THE 100 YEAR FLOODPLAIN ABOVE ELEVATION 243.00. AT NO TIME SHALL ANY OF THESE MATERIALS BE STORED OR DISPOSED OF IN THE 100 YEAR FLOODPLAIN BELOW ELEVATION 243.00. ALL STORAGE AREAS SHALL BE APPROVED IN WRITING PRIOR TO THEIR USE.
 - NO CONSTRUCTION MATERIALS SHALL BE STORED OR PLACED IN AN AREA THAT WILL ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE WETLAND AREA.
 - ANY ADDITIONAL BACKFILL OR BORROW MATERIAL SHALL CONFORM TO THE SPECIFICATIONS AND SHALL BE FREE OF WASTE METAL, DEBRIS, TOXIC MATERIALS OR DELETERIOUS SUBSTANCES.
 - AT NO TIME SHALL HEAVY EQUIPMENT BE PLACED IN A WETLAND OR ADJACENT BUFFER AREA OUTSIDE THE LIMITS OF THE ROADWAY PAVING.
 - NO TEMPORARY FILLS MAY BE PLACED IN THE WATERS OF THE US, WETLANDS OR BUFFER AREAS.
 - ALL STABILIZATION OF DISTURBED AREAS IN THE WATERS OF THE US, WETLAND AND/OR BUFFER AREA SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. ALL OTHER AREAS SHALL BE SEEDED AND MULCHED FOR STABILIZATION AND TO INITIATE REVEGETATION.

LIMIT OF DISTURBANCE (LOD)		
POINT NO.	STATION	OFFSET
100	100+00	25' RT.
101	100+00	22' LT.
102	100+32	22' LT.
103	100+54	35' LT.
104	101+40	35' LT.
105	101+41	58' LT.
106	101+99	58' LT.
107	102+08	58' LT.
108	102+10	58' LT.
109	102+44	64' LT.
110	102+70	122' LT.
111	102+70	122' LT.
112	103+00	109' LT.
113	102+80	64' LT.
114	103+29	18' LT.
115	103+55	18' LT.
116	103+55	22' RT.
117	103+18	22' RT.
118	101+78	59' RT.
119	101+86	23' RT.
120	102+00	28' LT.
121	101+84	00' LT./RT.
122	101+67	44' RT.

LIMIT OF DISTURBANCE (LOD)		
POINT NO.	STATION	OFFSET
123	100+39	25' RT.
124	100+00	14' RT.
125	100+00	14' LT.
126	100+46	14' LT.
127	100+46	6' LT.
128	100+46	14' RT.
129	103+05	14' RT.
130	103+05	9' RT.
131	103+05	14' LT.
132	103+55	14' LT.
133	103+55	14' RT.

CROSS REFERENCE	R/W PLAT NUMBER	REVISIONS
ITEM	SHEET No.	
TYPICAL SHEETS	2,3	
GEOMETRIC LAYOUT SHEETS	4	
ROADWAY PLAN SHEETS	5	
ROADWAY PROFILE SHEETS	6	
EROSION & SEDIMENT CONTROL	15-18	
SIGNING & MARKING PLANS	17,18	
GRADE TABLE	19	

LEGEND:

- SSF - INDICATES SUPER SILT FENCE
- S - INDICATES 16" TERRA COTTA SEWER LINE TO REMAIN AND BE PROTECTED
- E - INDICATES EXISTING OVERHEAD ELECTRIC LINE TO BE TEMPORARILY RELOCATED
- V - INDICATES EXISTING UNDERGROUND VERIZON TELEPHONE LINE
- W - INDICATES EXISTING UG 24" WATER LINE
- EW - INDICATES APPROXIMATE EXISTING EDGE OF WATER (WATERS OF THE U.S.)
- EW - INDICATES APPROXIMATE RIGHT-OF-WAY
- DENOTES EXISTING BRIDGE ABUTMENTS AND PIER TO BE REMOVED
- DENOTES PORTION OF BRIDGE TO BE CONSTRUCTED DURING THIS PHASE.
- DENOTES PLACEMENT OF CLASS II RIPRAP SCOUR PROTECTION.
- INDICATES TEMPORARY DIVERSION
- INDICATES TEMPORARY SHEETING

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
MD RTE. 28 OVER WASHINGTON RUN

EROSION & SEDIMENT CONTROL PHASE II

SCALE: 1" = 30' DATE: NOVEMBER, 2007 CONTRACT NO.: AX468180

DESIGNED BY: T.B. COUNTY: FREDERICK
DRAWN BY: T.G.P. LOGMILE:
CHECKED BY: R.D. HORIZONTAL SCALE:
F.A.P. NO. VERTICAL SCALE:

DRAWING NO. EP-03 OF 05 SHEET NO. 14 OF 53

BY: gpearson

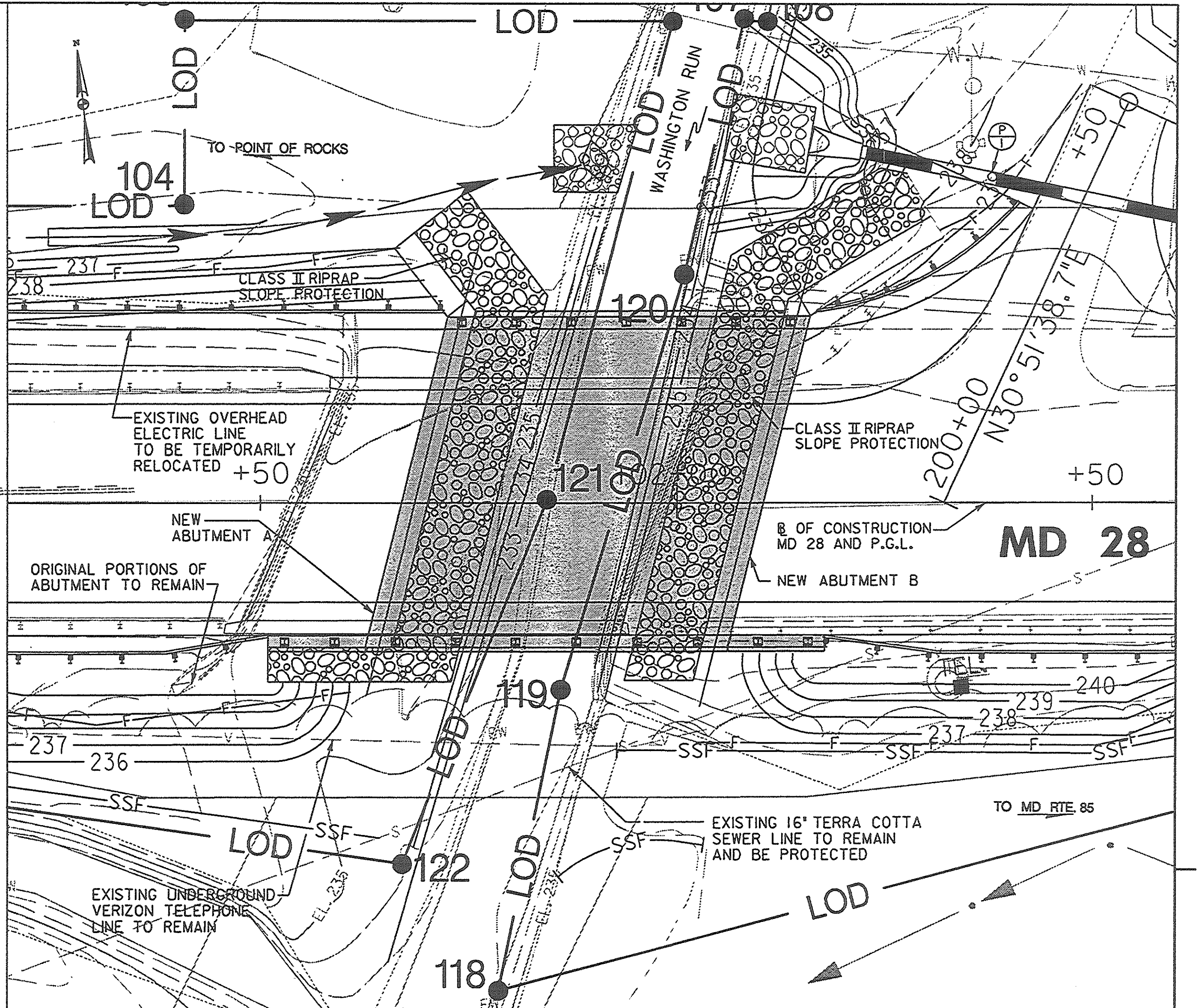
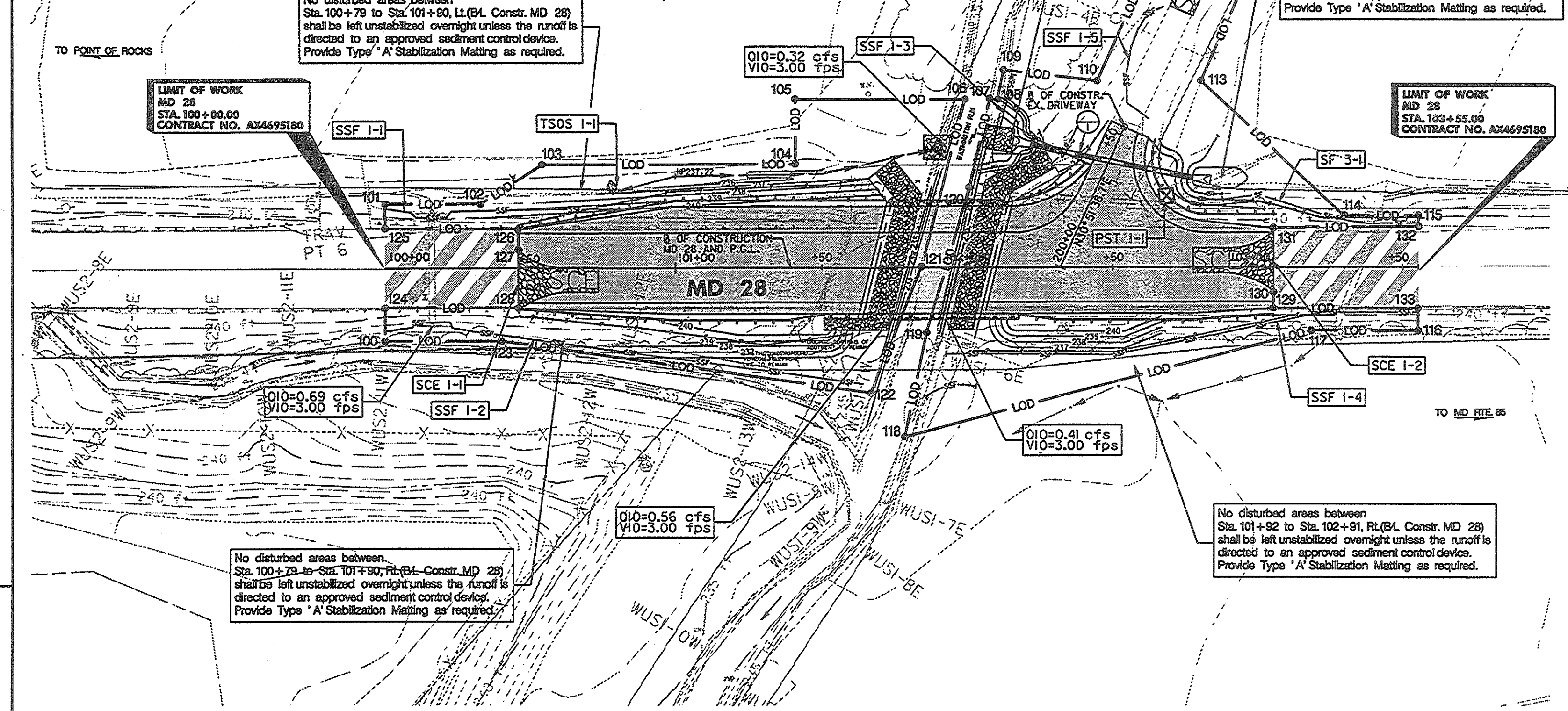
SABRA, WANG & ASSOCIATES, INC.
1504 JOH A YENUE
SUITE 160
BALTIMORE, MD 21227
(410) 737-6564
WWW.SABRA-WANG.COM

SILT FENCE (SF)			
ITEM	FROM STATION	TO STATION	LENGTH
SF 3-1	102+88, 23' LT	103+55.5, 16' LT	69 LF

SUPER SILT FENCE (SSF)			
ITEM	FROM STATION	TO STATION	LENGTH
SSF 1-1	100+00, 20' LT	100+55, 52' LT	80 LF
SSF 1-2	100+00, 22' RT	101+64, 40' RT	165 LF
SSF 1-3	102+12, 48' LT	102+16, 67' LT	20 LF
SSF 1-4	101+86, 44' RT	103+55, 16' RT	180 LF
SSF 1-5	102+63, 51' LT	102+68, 90' LT	47 LF

STABILIZED CONSTRUCTION ENTRANCE (SCE)		
ITEM	STATION	QUANTITY
SCE 1-1	100+55 RT	30 TONS
SCE 1-2	102+90 LT	30 TONS
SCE 1-3	102+80 LT	30 TONS

TEMPORARY STONE OUTLET STRUCTURE (TSOS)		
ITEM	STATION, OFFSET	
TSOS 1-1	100+78, 27' LT.	
TSOS 1-2	101+80, 40' LT.	



AT THE CONTRACTOR'S OPTION AN ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE PROPOSED. HOWEVER, THE PHASES OF CONSTRUCTION MUST REMAIN AS SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING THE APPROPRIATE PLANS AND REQUEST IN WRITING FOR A CHANGE TO THESE PLANS. ALL CHANGES SHALL BE SUBMITTED THROUGH THE ADMINISTRATION FOR THEIR REVIEW AND FORWARDING FOR APPROVAL BY THE APPLICABLE PERMITTING AGENCIES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS CAUSED BY THE REVIEW AND APPROVAL PROCESS NOR WILL ADDITIONAL COMPENSATION BE ALLOWED IF ANY PROPOSED CHANGE IS REJECTED. THE ADMINISTRATION AND PERMITTING AGENCIES SHALL DETERMINE WHETHER ANY PROPOSED ALTERNATE SEQUENCE IS ACCEPTABLE. IF NO ALTERNATE IS FOUND ACCEPTABLE THE SEQUENCE DEPICTED ON THESE PLANS SHALL BE FOLLOWED. (REFER TO SECTION 308.03.35)

PLAN PHASE III CONSTRUCTION
SCALE: 1" = 30'

PLAN PHASE III - MAINTENANCE OF STREAM FLOW
SCALE: 1" = 10'

WATERS OF THE US / WETLAND / BUFFER RESTRICTIONS

- ALL EXCESS FILL, MATERIAL, CONSTRUCTION MATERIALS, AND DEBRIS SHALL BE REMOVED TO AN APPROVED UPLAND DISPOSAL SITE OUTSIDE THE 100 YEAR FLOODPLAIN ABOVE ELEVATION 248.00. AT NO TIME SHALL ANY OF THESE MATERIALS BE STORED OR DISPOSED OF IN THE 100 YEAR FLOODPLAIN BELOW ELEVATION 248.00. ALL STORAGE AREAS SHALL BE APPROVED IN WRITING PRIOR TO THEIR USE.
- NO CONSTRUCTION MATERIALS SHALL BE STORED OR PLACED IN AN AREA THAT WILL ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE WETLAND AREA.
- ANY ADDITIONAL BACKFILL OR BORROW MATERIAL SHALL CONFORM TO THE SPECIFICATIONS AND SHALL BE FREE OF WASTE METAL, DEBRIS, TOXIC MATERIALS OR DELETERIOUS SUBSTANCES.
- AT NO TIME SHALL HEAVY EQUIPMENT BE PLACED IN A WETLAND OR ADJACENT BUFFER AREA OUTSIDE THE LIMITS OF THE ROADWAY PAVING.
- NO TEMPORARY FILLS MAY BE PLACED IN THE WATERS OF THE US, WETLANDS OR BUFFER AREAS.
- ALL STABILIZATION OF DISTURBED AREAS IN THE WATERS OF THE US, WETLAND AND/OR BUFFER AREA SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. ALL OTHER AREAS SHALL BE SEEDED AND MULCHED FOR STABILIZATION AND TO INITIATE REVEGETATION.

SEQUENCE OF CONSTRUCTION - PHASE III:

- THE CONTRACTOR MUST NOTIFY THE MDE COMPLIANCE INSPECTOR IN WRITING AND/OR BY TELEPHONE AT (410)537-3510 AT LEAST SEVEN (7) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AND FIVE (5) DAYS AFTER THE WORK ENDS.
- THIS PHASE OF CONSTRUCTION WILL BE LIMITED TO THE REMOVAL OF THE TEMPORARY DIVERSIONS AND SHEETING, COMPLETION OF THE NEW BRIDGE SUPERSTRUCTURE, AND COMPLETION OF THE APPROACH ROADWAYS.
- ONCE THE NEW ABUTMENTS ARE COMPLETE AND THE ADJACENT SLOPES GRADED AND STABILIZED, THE CONTRACTOR CAN PROCEED WITH THE REMOVAL OF THE TEMPORARY DIVERSIONS AND SHEETING. THE REMOVAL OPERATION SHALL TAKE PLACE DURING A PERIOD OF LOW FLOW IN THE WATERWAY AND SHALL BE COMPLETED BY BEGINNING ON THE DOWNSTREAM SIDE OF THE SITE AND WORKING IN THE UPSTREAM DIRECTION. THE DIVERSIONS SHALL BE REMOVED IN THEIR ENTIRETY.
- UPON REMOVAL OF THE DIVERSIONS AND SHEETING AND STABILIZATION OF THE ASSOCIATED DISTURBED AREAS, THE CONTRACTOR CAN PROCEED WITH THE PLACEMENT OF THE SUPERSTRUCTURE SLAB UNITS AND COMPLETE THE CONSTRUCTION OF THE BRIDGE INCLUDING THE PLACEMENT OF THE CURB, OVERLAY AND BRIDGE RAILING.
- IN CONJUNCTION WITH COMPLETING THE CONSTRUCTION OF THE BRIDGE, THE CONTRACTOR SHALL PROCEED WITH THE PLACEMENT OF THE FINAL APPROACH ROADWAY PAVING AND TRAFFIC BARRIERS. THIS WORK SHALL BE COMPLETED IN A CONTINUOUS OPERATION AND ALL DISTURBED AREAS SHALL BE STABILIZED AS SOON AS THE AREAS ARE BROUGHT TO THEIR FINAL GRADE.
- ONCE THE FINAL ROADWAY PAVING AND THE NEW ENTRANCE TO EXISTING DRIVEWAY HAVE BEEN COMPLETED, THE TEMPORARY RELOCATED DRIVEWAY SHALL BE REMOVED. THE CONTRACTOR SHALL THEN REMOVE THE TEMPORARY PIPE AND SET THE PERMANENT END SECTION ES-1. GRADE THE DITCH TO DRAIN TOWARDS THE PROPOSED PIPE AT THE END SECTION. STABILIZE THE NEWLY GRADED AREA WITH TYPE 'A' MATTING. GRADE THE REMAINING PROPOSED DITCHES AS SHOWN ON THE PLANS.
- AT NO TIME SHALL EXCESS MATERIAL OR DEBRIS BE DISPOSED OF INTO WASHINGTON RUN. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT AN APPROVED SITE.
- ALL PERIMETER SEDIMENT AND EROSION CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED IN GOOD CONDITION UNTIL PERMISSION FOR THEIR REMOVAL IS GRANTED BY THE MDE INSPECTOR. ONCE ALL DISTURBED AREAS HAVE BEEN STABILIZED, REMOVE ALL SEDIMENT AND EROSION CONTROL DEVICES UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.
- THE IN-STREAM CONSTRUCTION PROHIBITION FOR THE PROJECT IS FROM MARCH 1ST TO JUNE 15TH, INCLUSIVE ANY YEAR. WORK MAY BE DONE WITHIN THE DIVERSION DURING THIS PERIOD.
- OPEN THE NEW BRIDGE AND ROADWAY TO TRAFFIC AND PROCEED WITH FINAL SITE CLEANUP.

DENOTES CLASS II RIPRAP SCOUR PROTECTION PLACED DURING PHASE II.
 DENOTES PORTION OF BRIDGE SUPERSTRUCTURE, CURB AND RAILING TO BE CONSTRUCTED DURING THIS PHASE.

LIMIT OF DISTURBANCE (LOD)		
POINT NO.	STATION	OFFSET
100	100+00	25' RT.
101	100+00	22' LT.
102	100+32	22' LT.
103	100+54	36' LT.
104	101+40	36' LT.
105	101+41	58' LT.
106	101+99	58' LT.
107	102+08	58' LT.
108	102+10	58' LT.
109	102+12	68' LT.
110	102+44	64' LT.
111	102+70	122' LT.
112	103+00	108' LT.
113	102+80	64' LT.
114	103+23	18' LT.
115	103+55	18' LT.
116	103+55	22' RT.
117	103+18	22' RT.
118	101+78	59' RT.
119	101+86	23' RT.
120	102+00	28' LT.
121	101+84	00' LT./RT.
122	101+67	44' RT.

LIMIT OF DISTURBANCE (LOD)		
POINT NO.	STATION	OFFSET
123	100+39	25' RT.
124	100+00	14' RT.
125	100+00	14' LT.
126	100+46	14' LT.
127	100+46	6' LT.
128	100+46	14' RT.
129	103+05	14' RT.
130	103+05	9' RT.
131	103+05	14' LT.
132	103+55	14' LT.
133	103+55	14' RT.

LEGEND:

- SSF - INDICATES SUPER SILT FENCE
- S - INDICATES 16" TERRA COTTA SEWER LINE TO REMAIN AND BE PROTECTED
- E - INDICATES EXISTING OVERHEAD ELECTRIC LINE TO BE TEMPORARILY RELOCATED
- V - INDICATES EXISTING UNDERGROUND VERIZON TELEPHONE LINE
- W - INDICATES EXISTING UG 24" WATER LINE
- BW - INDICATES APPROXIMATE EXISTING EDGE OF WATER (WATERS OF THE U.S.)
- RW - INDICATES APPROXIMATE RIGHT-OF-WAY
- ▨ - DENOTES EXISTING BRIDGE ABUTMENTS AND PIER TO BE REMOVED
- ▭ - INDICATES TEMPORARY DIVERSION
- ~~~~~ - INDICATES TEMPORARY SHEETING

BY: **SABRA, WANG & ASSOCIATES, INC.**
 1504 JOH AVE
 SUITE 100
 BALTIMORE, MD 21227
 (410) 737-6564
 WWW.SABRA-WANG.COM

CROSS REFERENCE	SHEET No.	R/W PLAT NUMBER	REVISIONS
TYPICAL SHEETS	2,3		
GEOMETRIC LAYOUT SHEETS	4		
ROADWAY PLAN SHEETS	6		
ROADWAY PROFILE SHEETS	6,7		
EROSION & SEDIMENT CONTROL	12-16		
SIGNING & MARKING PLANS	17,18		
GRADE TABLE	19		

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 HIGHWAY DESIGN DIVISION

PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON MD RTE. 28 OVER WASHINGTON RUN

EROSION & SEDIMENT CONTROL PHASE III

SCALE: 1" = 30' DATE: NOVEMBER, 2007 CONTRACT NO.: AX4695180

DESIGNED BY: T.B. COUNTY: FREDERICK
 DRAWN BY: T.G.P. LOGMILE: _____
 CHECKED BY: R.D. HORIZONTAL SCALE: _____
 F.A.P. NO. VERTICAL SCALE: _____

DRAWING NO. **EP-04** OF **05** SHEET NO. 15 OF 53

PLOTTED: Monday, February 11, 2008 AT 02:11 PM
 FILE: R:\2007\28 2007-08\10016 Bridge\15 DWG\15-03-D01_M28.dwg

SANDBAG / STONE DIVERSION

I. DESCRIPTION

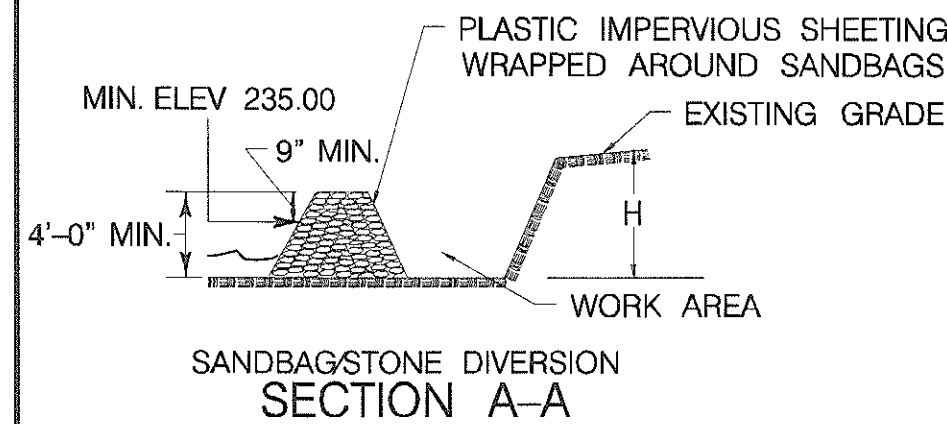
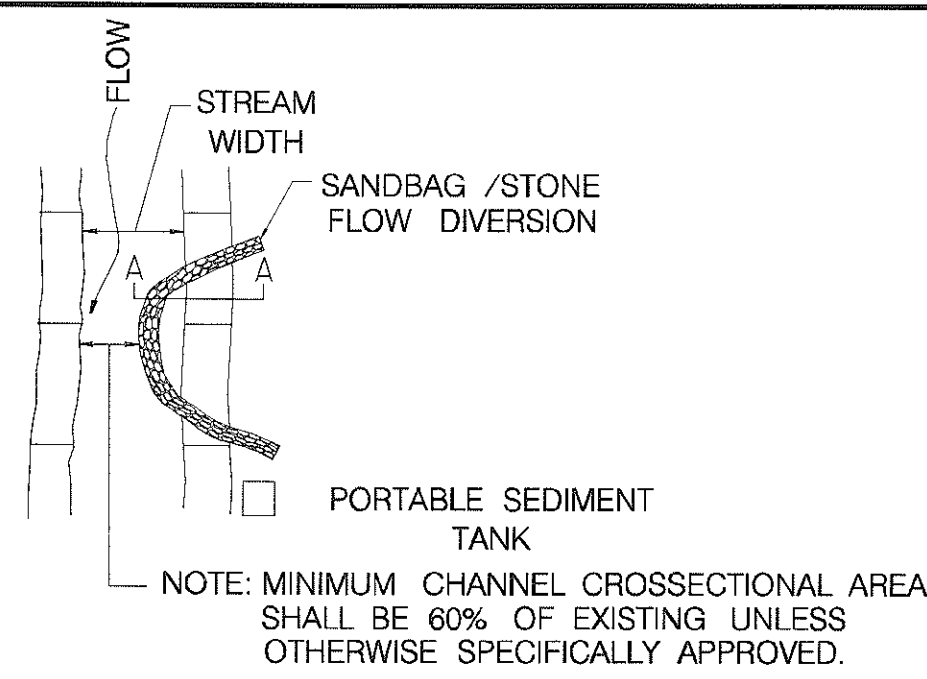
THE WORK SHALL CONSIST OF INSTALLING FLOW DIVERSIONS FOR THE PURPOSE OF EROSION CONTROL WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS BANK STABILIZATION OR BRIDGE ABUTMENT CONSTRUCTION.

II. MATERIAL SPECIFICATIONS

- SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (I.E., SAND, FINE GRAVEL, ETC.).
- STONE: STONE SHALL BE WASHED AND HAVE A MINIMUM DIAMETER OF 6 INCHES.
- PLASTIC SHEETING: PLASTIC SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.

III. CONSTRUCTION REQUIREMENTS

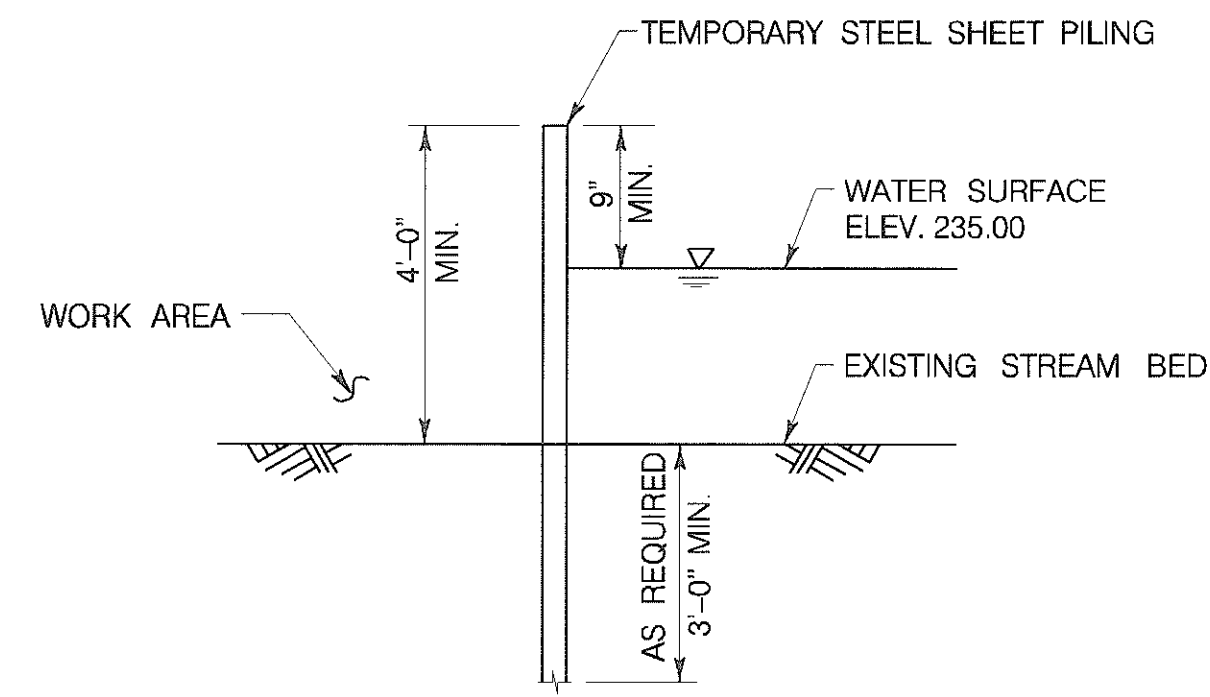
- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK.
- THE DIVERSION STRUCTURE SHALL BE INSTALLED FROM UPSTREAM TO DOWNSTREAM.
- THE HEIGHT OF THE DIVERSION STRUCTURE SHALL BE AS SHOWN.
- ALL EXCAVATION MATERIALS SHALL BE DISPOSED OF IN AN APPROVED DISPOSAL AREA OUTSIDE THE 100-YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED ON THE PLANS.
- ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A PORTABLE SEDIMENT TANK PRIOR TO RE-ENTERING THE STREAM.
- SHEETING SHALL BE OVERLAPPED SUCH THAT THE UPSTREAM PORTION COVERS THE DOWNSTREAM PORTION WITH AT LEAST AN 18-INCH OVERLAP.
- SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.



NOTE: IN SMALL CHANNELS (NOT COVERED BY A WATERWAY CONSTRUCTION PERMIT) THE HEIGHT OF THE DIVERSION WILL BE ONE FOOT HIGHER THAN THE LOWEST BANK ELEVATION.

DIVERSION DETAIL USING SANDBAG OPTION

SCALE: NONE



SECTION DIVERSION DETAIL USING TEMPORARY SHEETING OPTION

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

NOTE: THE CONTRACTOR SHALL HAVE THE OPTION OF USING ANY OF THE DIVERSIONS SHOWN IF THE CONTRACTOR ELECTS TO USE ONE DIVERSION METHOD AND IS UNABLE TO DEWATER THE SITE SUCCESSFULLY THERE WILL NOT BE COMPENSATION FOR CHANGING TO AN ALTERNATE METHOD.

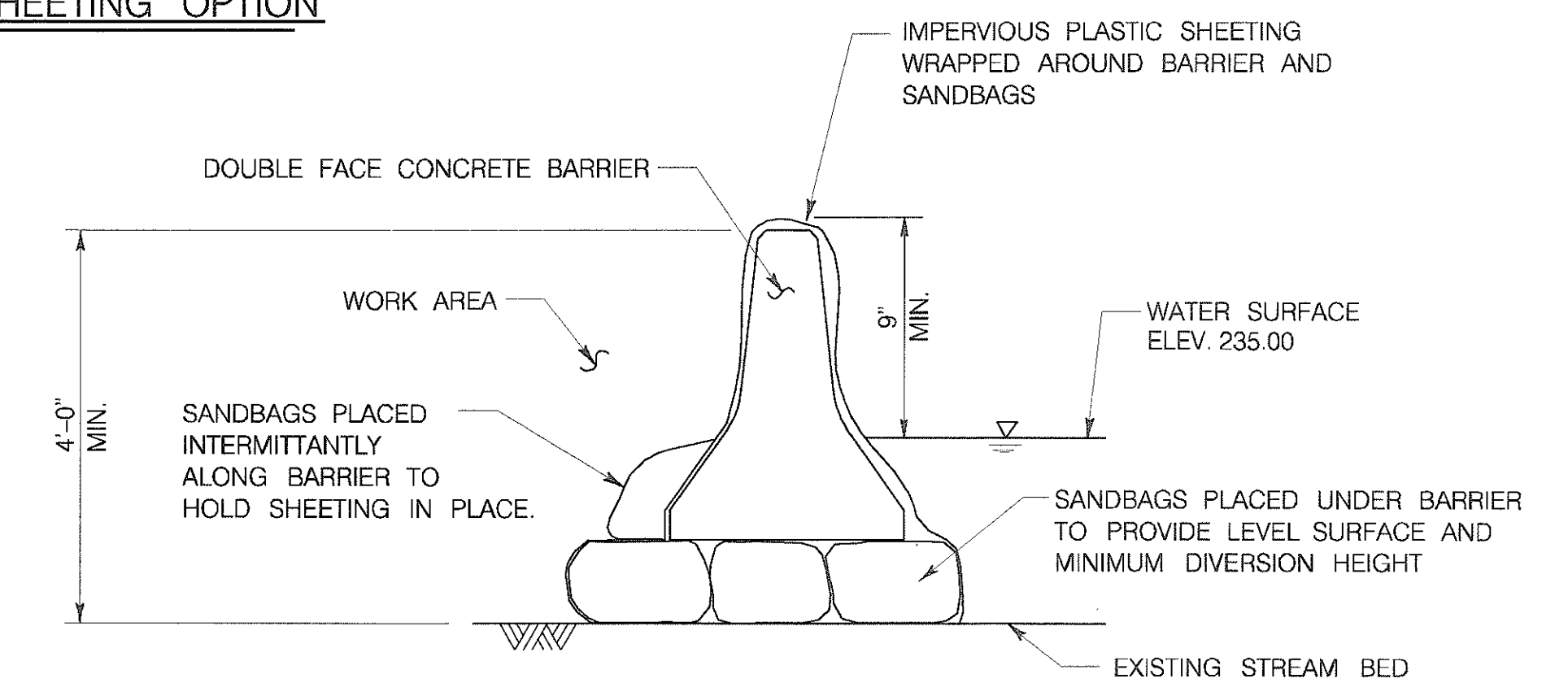
THE CHOICE OF DIVERSION AND DEWATERING METHOD SHALL BE AT THE CONTRACTOR'S RISK AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CONTRACTOR'S INABILITY TO ADEQUATELY DEWATER THE AREA UNDER CONSTRUCTION. (REFER TO SP. 308.03.35)

NOTE:

THE DIVERSION SHALL BE PLACED SO THAT IT IS LOCATED WITHIN THE EXISTING SHA RIGHT-OF-WAY AND ALLOWS CONSTRUCTION WITHIN THE DIVERSION AREA, TO BE COMPLETED IN THE DRY.

THE DIVERSION IS NOT INTENDED TO BLOCK HIGH WATER EVENTS FROM FLOODING THE DEWATERED AREAS.

ALL SHEETING SHALL BE IN NEW OR LIKE NEW CONDITION. ALL JOINTS BETWEEN ADJACENT SHEETS SHALL PROVIDE A POSITIVE CONNECTION AND WATER TIGHT SEAL. EITHER HOT ROLLED OR COLD FORMED STEEL SHEET PILING MAY BE USED.



SECTION DIVERSION DETAIL USING CONCRETE BARRIER OPTION

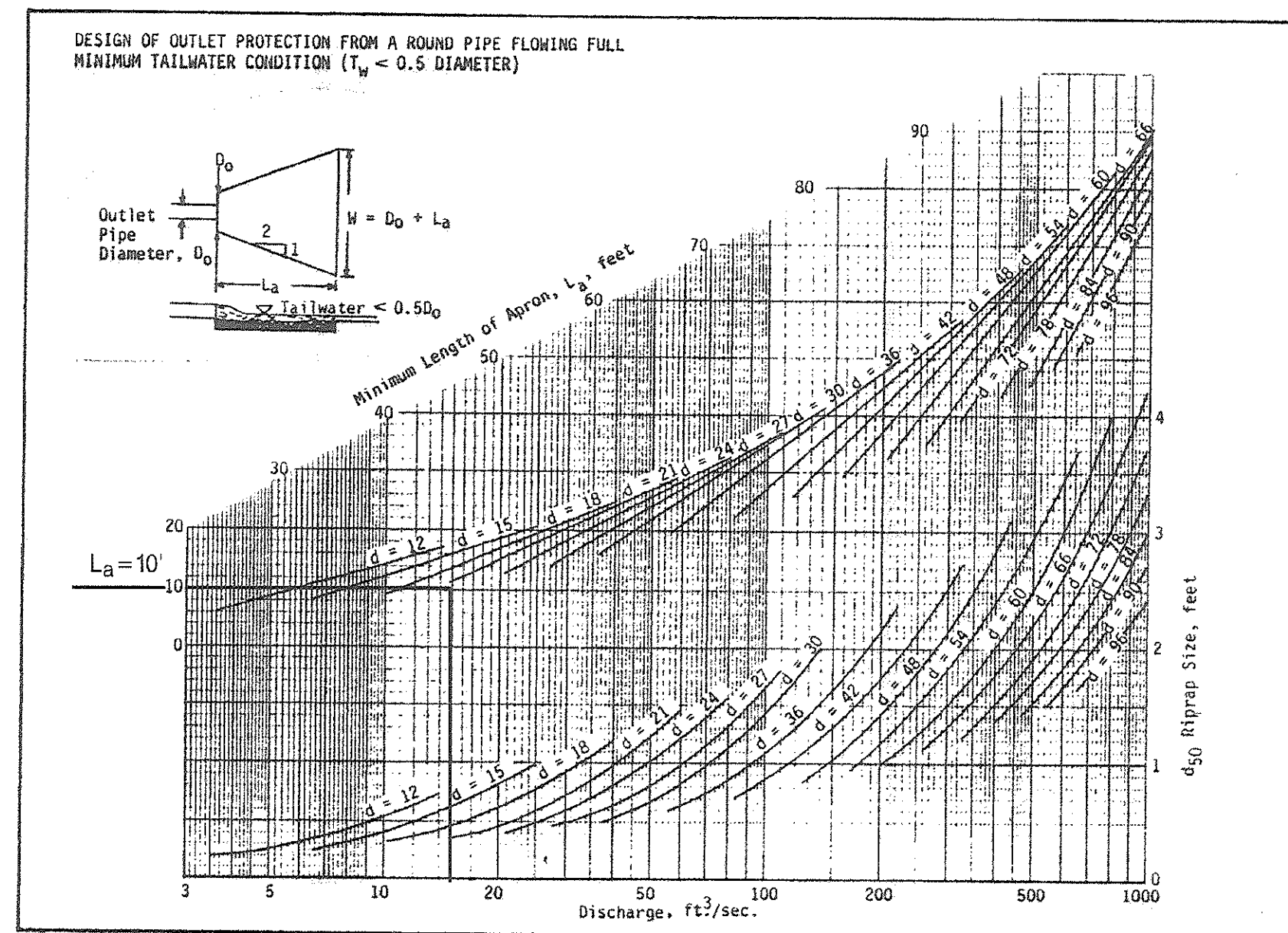
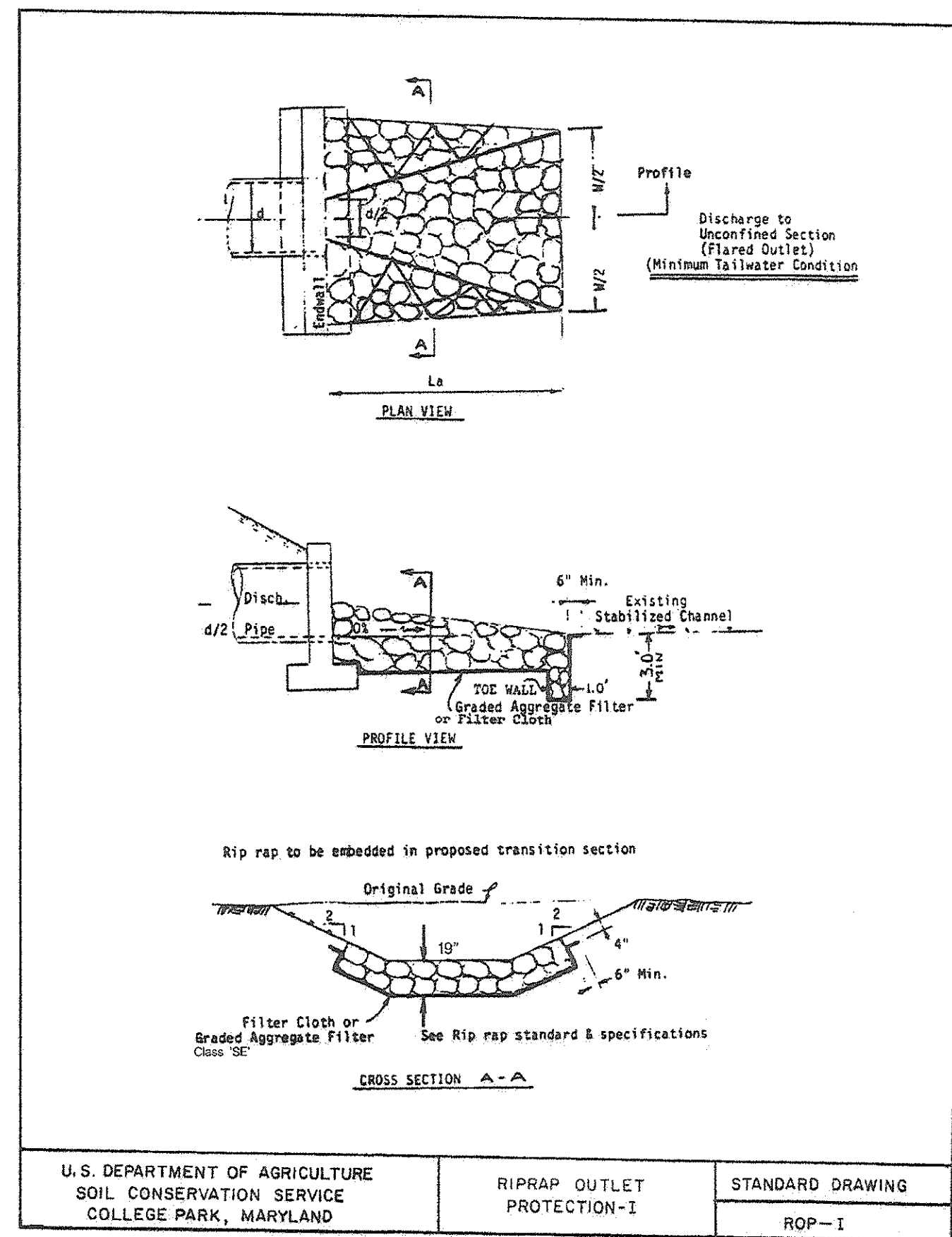
SCALE: 3/8" = 1'-0"

NOTES:

- FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S1-1
- FOR MAINTENANCE OF STREAM FLOW, SEE SHEET NO'S. 13,14,15
- FOR PORTABLE SEDIMENT TANK DETAILS, REFER TO THE LATEST MDE DESIGN STANDARDS.
- PORTABLE SEDIMENT TANK WILL NOT BE MEASURED AND PAID FOR ON AN INDIVIDUAL BASIS BUT SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR THE "MAINTENANCE OF STREAM FLOW" ITEM.

AT THE CONTRACTOR'S OPTION AN ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE PROPOSED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING THE APPROPRIATE PLANS INCLUDING M.O.T. AND STREAM FLOW AND REQUEST IN WRITING FOR A CHANGE TO THESE PLANS. ALL CHANGES SHALL BE SUBMITTED THROUGH THE ADMINISTRATION FOR THEIR REVIEW AND APPROVAL BY THE APPLICABLE PERMITTING AGENCIES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS CAUSED BY THE REVIEW AND APPROVAL PROCESS NOR WILL ADDITIONAL COMPENSATION BE ALLOWED IF ANY PROPOSED CHANGE IS REJECTED. THE ADMINISTRATION AND PERMITTING AGENCIES SHALL BE THE SOLE JUDGE AS TO WHETHER ANY PROPOSED ALTERNATE SEQUENCE IS ACCEPTABLE. IF NO ALTERNATE IS FOUND ACCEPTABLE THE SEQUENCE DEPICTED ON THESE PLANS SHALL BE FOLLOWED. (REFER TO SP. 308.03.35)

TEMPORARY DIVERSION DEVICE OPTIONS



SUA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
MD RTE. 28 OVER WASHINGTON RUN

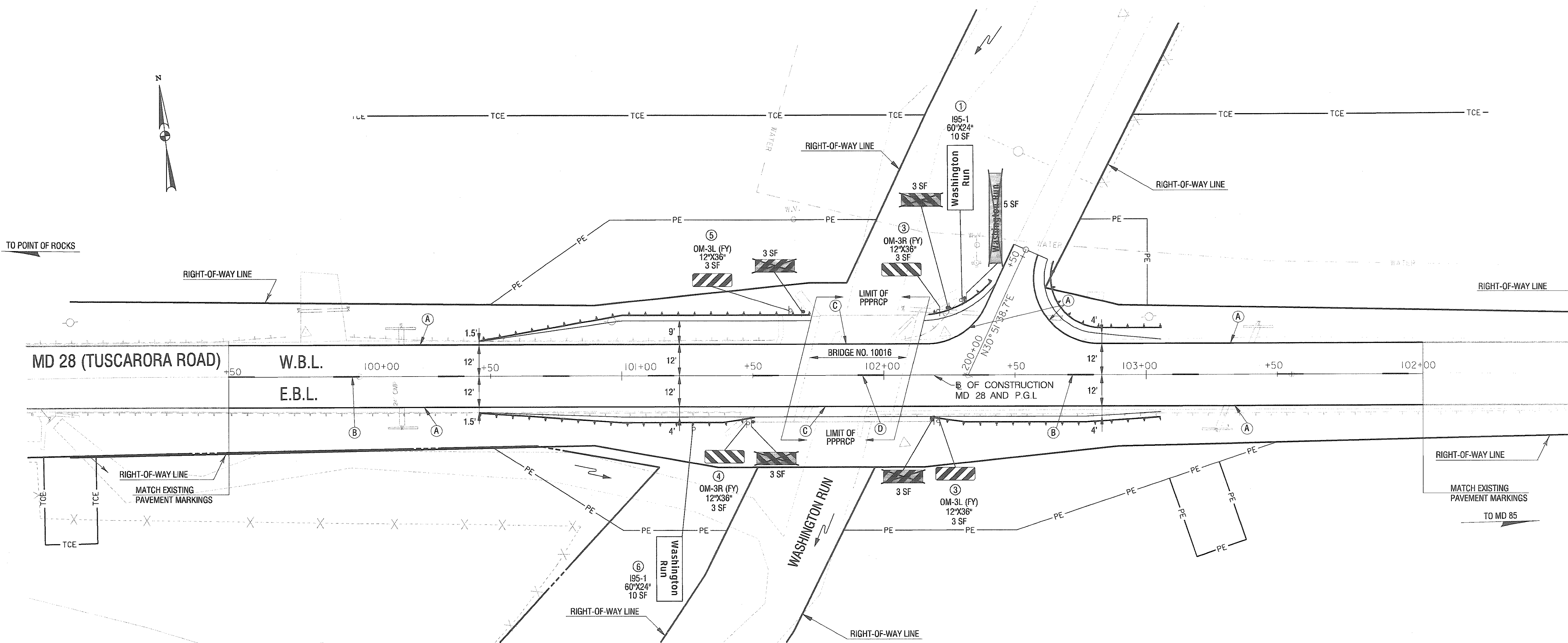
CROSS REFERENCE		R / W PLAT NUMBER	REVISIONS
ITEM	SHEET Nos.		
TYPICAL SHEETS	2,3		
GEOMETRIC LAYOUT SHEETS	4		
ROADWAY PLAN SHEETS	5		
ROADWAY PROFILE SHEETS	6,7		
EROSION & SEDIMENT CONTROL	12-16		
SIGNING & MARKING PLANS	17,18		
GRADE TABLE	19		

E. S. F.
JAN 08 2008

MAINTENANCE OF STREAM FLOW - DETAILS		
SCALE	DATE NOVEMBER, 2007	CONTRACT NO. AX4685180
DESIGNED BY T.B.	COUNTY FREDERICK	
DRAWN BY T.G.P.	LOGMILE	
CHECKED BY R.D.	HORIZONTAL SCALE	
F.A.P. NO.	VERTICAL SCALE	
DRAWING NO. EP-05 OF 05	SHEET NO. 16 OF 53	

BY: gpearson

SABRA, WANG & ASSOCIATES, INC.
1504 JOH AVENUE
SUITE 160
BALTIMORE, MD 21227
(410) 737-6564
WWW.SABRA-WANG.COM



PLAN
SIGNING AND PAVEMENT MARKINGS
SCALE: 1" = 20'

SIGN NO.	REMARKS	SUPPORTS	CODE NUMBERS *							
			1	2	3	4	5	6	7	
1	195-1 (60'x24")	TWO WOOD SIGN SUPPORT 4'x4"	10		30					
2	OM-3R (FY) (12'x36")	ONE WOOD SIGN SUPPORT 4'x4"	3		13					
3	OM-3L (FY) (12'x36")	ONE WOOD SIGN SUPPORT 4'x4"	3		13					
4	OM-3R (FY) (12'x36")	ONE WOOD SIGN SUPPORT 4'x4"	3		13					
5	OM-3L (FY) (12'x36")	ONE WOOD SIGN SUPPORT 4'x4"	3		13					
6	195-1 (60'x24")	TWO WOOD SIGN SUPPORT 4'x4"	10		30					
REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS				17						
PAVEMENT MARKINGS					830	110	90	20		
TOTAL			32	17	112	830	110	90	20	

* CODE NUMBER, DESCRIPTION, UNIT AND CATEGORY CODE.

CODE NO.	DESCRIPTION	UNIT	CAT. CODE
1	SHEET ALUMINUM SIGNS	SF	801605
2	REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS	SF	801711
3	WOOD SIGN SUPPORTS 4 INCH X 4 INCH	LF	801104
4	5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	585405
5	5 INCH YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	585407
6	5 INCH WHITE PERMANENT PREFORMED PATTERNED REFLECTIVE CONTRAST PAVEMENT MARKING TAPE (PPPRCP)	LF	585601
7	5 INCH YELLOW PERMANENT PREFORMED PATTERNED REFLECTIVE CONTRAST PAVEMENT MARKING TAPE (PPPRCP)	LF	585603

NOTE: ALL OBJECT MARKERS (OM-3 SERIES) SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5'-0" TO THE BOTTOM OF SIGN.

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION
PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
MD RTE. 28 OVER WASHINGTON RUN

SIGNING & PAVEMENT MARKING PLAN

SCALE 1" = 20'	DATE NOVEMBER, 2007	CONTRACT NO. AX4685180
DESIGNED BY S.N-SANG	COUNTY FREDERICK	
DRAWN BY S.N-SANG	LOGMILE	
CHECKED BY K. RINKER	HORIZONTAL SCALE	
F.A.P. NO.	VERTICAL SCALE	
DRAWING NO. SN-2.1	OF 2.1	SHEET NO. 18 OF 53

PAVEMENT MARKING LEGEND

- (A) 5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS-SOLID
- (B) 5 INCH YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS-10' LINE, 30' GAP
- (C) 5 INCH WHITE PERMANENT PREFORMED PATTERNED REFLECTIVE CONTRAST PAVEMENT MARKING TAPE (PPPRCP)
- (D) 5 INCH YELLOW PERMANENT PREFORMED PATTERNED REFLECTIVE CONTRAST PAVEMENT MARKING TAPE (PPPRCP)

SIGNING LEGEND

- EXISTING SIGN AND SUPPORT TO REMAIN
- EXISTING SIGN AND SUPPORT TO BE REMOVED
- PROPOSED SIGN
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN

SABRA, WANG & ASSOCIATES, INC.
1504 JOH AVENUE
SUITE 160
BALTIMORE, MD 21227
(410) 737-8964
WWW.SABRA-WANG.COM

GRADING TABLE

LOCATION		EXCAVATION																			EMBANKMENT FILL FROM X-SECTIONS ⑳ C.Y.	COMMENTS		
		CLASS 1											CLASS 2											
FROM ①	TO ②	XSECTS ③ C.Y.	TOPSOIL		ROOTMAT		TOTAL ⑧ C.Y.	UNUSABLE CUT UNDER EX. ROADWAY ⑨ C.Y.	SUITABLE FOR EMBANK. ⑩ C.Y.	SHRINK/SWELL FACTOR ⑪ C.Y.	AVAIL. FOR EMBANK. ⑫ C.Y.	CLASS 1A (ASSUMED) C.Y.	TOTAL FROM X-SECTS ⑬ C.Y.	TOPSOIL		ROOTMAT		TOTAL ⑱ C.Y.	SUITABLE FOR EMBANK. ⑲ C.Y.	SHRINK/SWELL FACTOR ⑳ C.Y.	AVAIL. FOR EMBANK. ㉑ C.Y.			
			CUT ④ C.Y.	FILL ⑤ C.Y.	CUT ⑥ C.Y.	FILL ⑦ C.Y.								CUT ⑭ C.Y.	FILL ⑮ C.Y.	CUT ⑯ C.Y.	FILL ㉒ C.Y.							
MD 28 / EXIST. DW / RELOC. TEMP. DW		515	0	0	0	0	515	320	195	85%	166	50	0	0	0	0	0	0	0	0	0	0	370	
TOTALS		515	0	0	0	0	515	320	195	85%	166	50	0	0	0	0	0	0	0	0	0	0	370	

SUMMARY OF EARTHWORK

CLASS '1' EXCAVATION

CUT FROM CROSS-SECTIONS ③	515 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL ⑤	+0 C.Y.
PLUS ROOTMAT REMOVED UNDER FILL ⑦	+0 C.Y.
TOTAL CLASS '1' EXCAVATION ⑧	515 C.Y.
MINUS TOPSOIL REMOVED IN CUT ④	-0 C.Y.
MINUS TOPSOIL REMOVED UNDER FILL ⑤	-0 C.Y.
MINUS ROOTMAT REMOVED IN CUT ⑥	-0 C.Y.
MINUS ROOTMAT REMOVED UNDER FILL ⑦	-0 C.Y.
MINUS UNUSABLE CUT UNDER EX. ROADWAY ⑨	-320 C.Y.
TOTAL CLASS '1' EXCAVATION ⑩	195 C.Y.
SUITABLE FOR EMBANKMENT	
TOTAL ADJUSTED CLASS '1' EXCAVATION ⑫	166 C.Y.
AVAILABLE FOR EMBANKMENT (SHRINKAGE FACTOR 85%*)	

CLASS '2' EXCAVATION

CUT FROM CROSS-SECTIONS ⑬	0 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL ⑮	+0 C.Y.
PLUS ROOTMAT REMOVED UNDER FILL ⑰	+0 C.Y.
TOTAL CLASS '2' EXCAVATION ⑱	0 C.Y.
MINUS TOPSOIL REMOVED IN CUT ⑭	-0 C.Y.
MINUS TOPSOIL REMOVED UNDER FILL ⑮	-0 C.Y.
MINUS ROOTMAT REMOVED IN CUT ⑯	-0 C.Y.
MINUS ROOTMAT REMOVED UNDER FILL ⑰	-0 C.Y.
TOTAL CLASS '2' EXCAVATION ㉑	0 C.Y.
SUITABLE FOR EMBANKMENT	
TOTAL ADJUSTED CLASS '2' EXCAVATION ㉒	0 C.Y.
AVAILABLE FOR EMBANKMENT (SHRINKAGE FACTOR 85%*)	

EXCAVATION AVAILABLE FOR EMBANKMENT

TOTAL CLASS '1' EXCAVATION AVAILABLE FOR EMBANKMENT ⑫	166 C.Y.
TOTAL CLASS '2' EXCAVATION AVAILABLE FOR EMBANKMENT ㉒	+0 C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	+166 C.Y.

EMBANKMENT REQUIRED

FILL FROM CROSS-SECTIONS ㉓	370 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL (CLASS '1' EXCAVATION) ⑤	+0 C.Y.
PLUS ROOTMAT REMOVED UNDER FILL (CLASS '1' EXCAVATION) ⑦	+0 C.Y.
PLUS TOPSOIL REMOVED UNDER FILL (CLASS '2' EXCAVATION) ⑮	+0 C.Y.
PLUS ROOTMAT REMOVED UNDER FILL (CLASS '2' EXCAVATION) ⑰	+0 C.Y.
TOTAL EMBANKMENT REQUIRED	370 C.Y.
TOTAL EXCAVATION (AVAILABLE FOR EMBANKMENT)	-166 C.Y.
BORROW REQUIRED	204 C.Y.
BORROW, DENSIFICATION (1%)	39 C.Y.
TOTAL BORROW REQUIRED	243 C.Y.

PROPOSAL QUANTITIES

CLASS 1 EXCAVATION	515 C.Y.
REMOVAL OF 'RELOCATED TEMPORARY DRIVEWAY'	40 C.Y.
TOTAL CLASS 1 EXCAVATION	555 C.Y.
CLASS 1A EXCAVATION	50 C.Y.
COMMON BORROW	243 C.Y.

NOTES:

1. ALL BORROW SHALL CONFORM TO SECTION 203.
2. TOPSOIL SHALL BE FURNISHED FOR USE ON THIS PROJECT.
3. CLASS '1' EXCAVATION INCLUDES ALL EXCAVATION WHERE THE WIDTH OF THE BOTTOM OF THE CUT IS 15 FT OR MORE.
4. CLASS '1-A' EXCAVATION IS ASSUMED AND, IF REQUIRED, SHALL BE BACKFILLED WITH GEOSYNTHETIC STABILIZED SUBGRADE USING GRADED AGGREGATE BASE CONFORMING TO SECTION 211 OR OTHER SUITABLE MATERIAL FROM CLASS 1 EXCAVATION AS APPROVED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
5. THE CONTRACTOR SHALL REMOVE 'RELOCATED TEMPORARY DRIVEWAY' AND REGRADE TO ENSURE POSITIVE DRAINAGE PRIOR TO OPENING ROADWAY TO TRAFFIC.



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

PRESTRESSED CONCRETE SLAB BRIDGE No. 10016 ON
MD RTE 28 OVER WASHINGTON RUN

GRADING TABLE

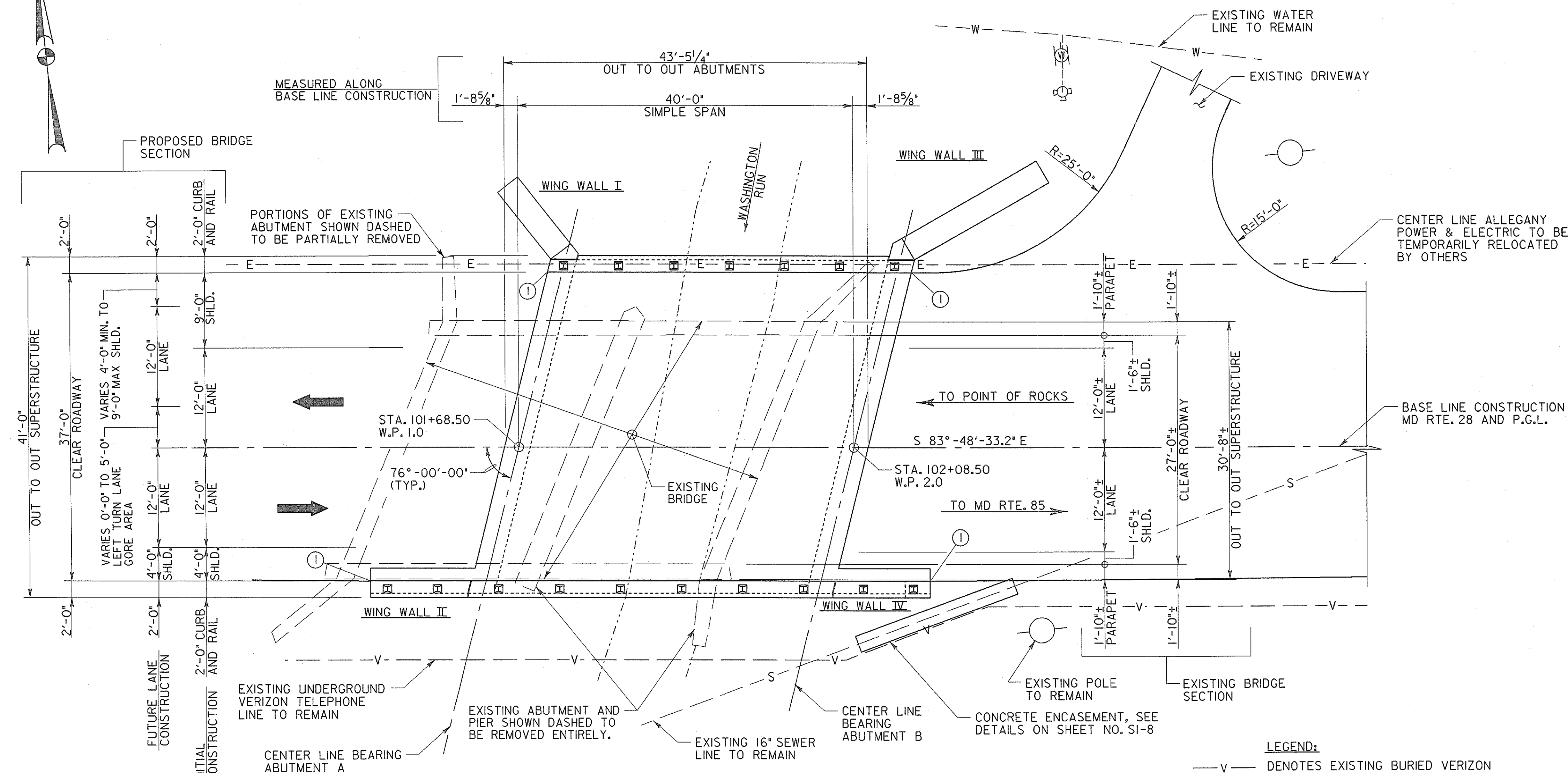
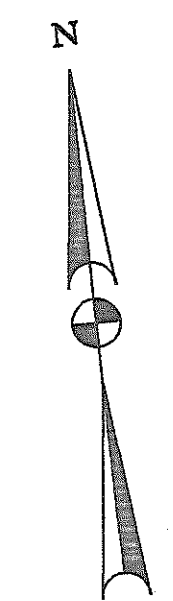
SCALE N.T.S. DATE NOVEMBER, 2007 CONTRACT NO. AX4685180

DESIGNED BY T.B.	COUNTY FREDERICK
DRAWN BY T.G.P.	LOGMILE
CHECKED BY R.D.	HORIZONTAL SCALE
F.A.P. NO.	VERTICAL SCALE

DRAWING NO. **GT-01** OF **01** SHEET NO. 19 OF 53

E. S. E!
JAN 08 2008

SABRA, WANG & ASSOCIATES, INC.
1504 JOH. AVENUE
SUITE 160
BALTIMORE, MD 21227
(410) 737-6564
WWW.SABRA-WANG.COM



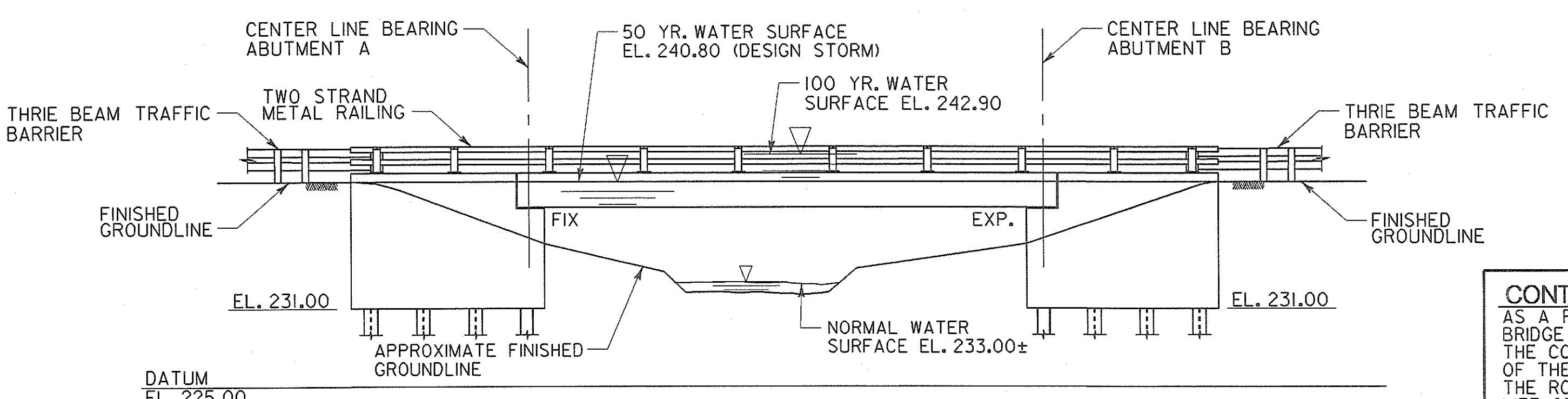
PLAN
SCALE: 1/8" = 1'-0"

① PLACE THREE BEAM TRAFFIC BARRIER AT THESE LOCATIONS IN ACCORDANCE WITH STANDARD NO. MD-605.41-01.

- LEGEND:**
- V — DENOTES EXISTING BURIED VERIZON LINE TO REMAIN
 - - W - - DENOTES EXISTING WATERLINE TO REMAIN
 - - S - - DENOTES EXISTING SEWER TO REMAIN
 - - E - - DENOTES EXISTING ELECTRIC TO BE RELOCATED BY OTHERS

MD RTE. 28 TO BE CLOSED TO TRAFFIC DURING CONSTRUCTION

NOTE:
FOR VERTICAL CURVE DATA, SEE SHEET NO. SI-3
FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27
FOR GEOMETRIC LAYOUT, SEE SHEET NO. SI-3
FOR RIPRAP SCOUR PROTECTION, SEE SHEET NO. SI-16 AND 17



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

NOTE:
EXISTING BRIDGE NOT SHOWN FOR CLARITY.
RIPRAP SCOUR PROTECTION NOT SHOWN FOR CLARITY.

GENERAL NOTES

SPECIFICATIONS:

- SHA SPECIFICATIONS DATED JANUARY, 2001
- REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.
- AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 2002, INCLUDING ALL INTERIM SPECIFICATIONS THROUGH 2005.
- CONCRETE DESIGN: SERVICE LOAD DESIGN METHOD
f_c = 1200 PSI FOR CONCRETE OTHER THAN PRESTRESSED CONCRETE.
- REINFORCING STEEL DESIGN: f_s = 24,000 PSI (NONPRETENSIONING STEEL)

LOADING: HS-25 WITH PROVISIONS FOR 2" FUTURE WEARING SURFACE.

RATINGS: RATINGS ARE BASED ON LOAD FACTOR DESIGN METHOD UTILIZING LOADINGS NOTED ABOVE.

LFD INVENTORY	LFD OPERATING
HS - 48.5 TONS	HS - 81.6 TONS

CAST-IN-PLACE CONCRETE:

- CAST-IN-PLACE CURBS ON SUPERSTRUCTURE SHALL BE MIX NO. 6 (4500 PSI)
- SUPERSTRUCTURE OVERLAY SHALL BE MIX NO. 8 CONCRETE (4000 PSI)
- ALL OTHER CAST-IN-PLACE STRUCTURE CONCRETE SHALL BE MIX NO. 3 (3500 PSI)

PRESTRESSED CONCRETE: ALLOWABLE STRESS DESIGN.
THE MINIMUM COMPRESSIVE STRENGTH FOR PRESTRESSED CONCRETE AT THE AGE OF 28 DAYS SHALL BE f'_c = 7,000 psi. THE MINIMUM COMPRESSIVE STRENGTH AT THE TRANSFER OF PRESTRESS SHALL BE f'_{ci} = 5,800 psi.

PRETENSIONING STEEL: PRETENSIONING STEEL SHALL CONSIST OF 1/2" DIAMETER 7-WIRE LOW RELAXATION STRANDS CONFORMING TO THE REQUIREMENTS OF M 203 GRADE 270 LOW RELAXATION. EACH 1/2" STRAND SHALL BE PRETENSIONED TO 30,980 lbs (0.75 f'_s), AFTER ESTIMATED LOSSES OF 23,500 psi. THE FINAL EFFECTIVE PRESTRESS FORCE PER STRAND IS 27,000 lbs. CAMBER GROWTH IN PRETENSIONED SLABS BETWEEN THE TIME OF STRESSING AND THE TIME OF SLAB PLACEMENT IS ASSUMED TO BE 80% FOR CAMBER CALCULATIONS.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A 615 OR A 706, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED, AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM OF THE ABUTMENT PILE CAP WHICH SHALL HAVE A 3" MINIMUM COVER.

FOR TIES AND STIRRUPS: STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL ACI BENDING TOLERANCES.

ONLY GRADE 60 CAN BE USED ON THIS PROJECT.

REINFORCING STEEL IN THE FOLLOWING AREAS SHALL BE EPOXY COATED:

- ENTIRE SUPERSTRUCTURE OVERLAY INCLUDING CURBS
- ENTIRE PRECAST SLABS EXCEPT PRESTRESSING STEEL
- ABUTMENT BRIDGE SEAT AREAS
- CURBS ON WING WALLS

ALL KEYS ARE NOMINAL SIZE.

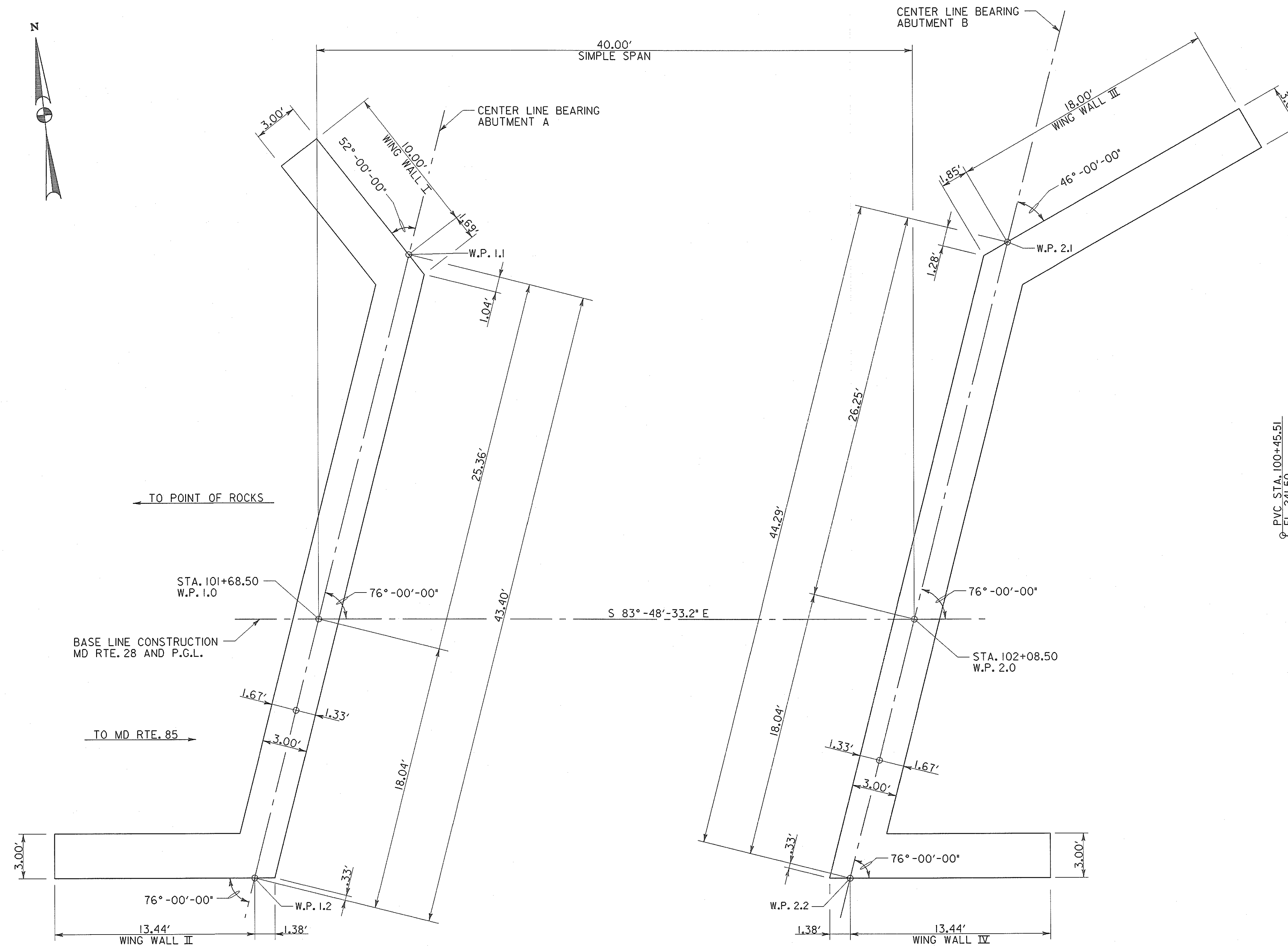
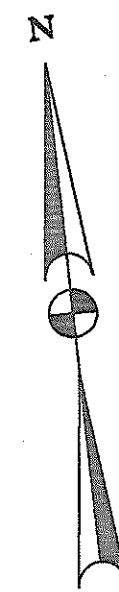
KEYS: PORTIONS OF THE EXISTING STRUCTURE WHICH ARE IN CONFLICT WITH THE NEW CONSTRUCTION NEED TO BE COMPLETELY REMOVED. THIS INCLUDES THE FULL SUPERSTRUCTURE AND ALL PORTIONS OF THE PIER AND EAST ABUTMENT (ABUTMENT B). THE WEST ABUTMENT (ABUTMENT A) ONLY NEEDS TO BE REMOVED TO A MINIMUM OF 2'-0" BELOW THE FINISHED GROUND OR TO THE BOTTOM OF THE ROADWAY SUBGRADE, WHICHEVER IS LOWER. ALL OTHER PORTIONS CAN REMAIN IN PLACE.

HYDROLOGICAL & HYDRAULIC DATA: FOR HYDROLOGIC AND HYDRAULIC DATA, SEE SHEET NO. SI-2

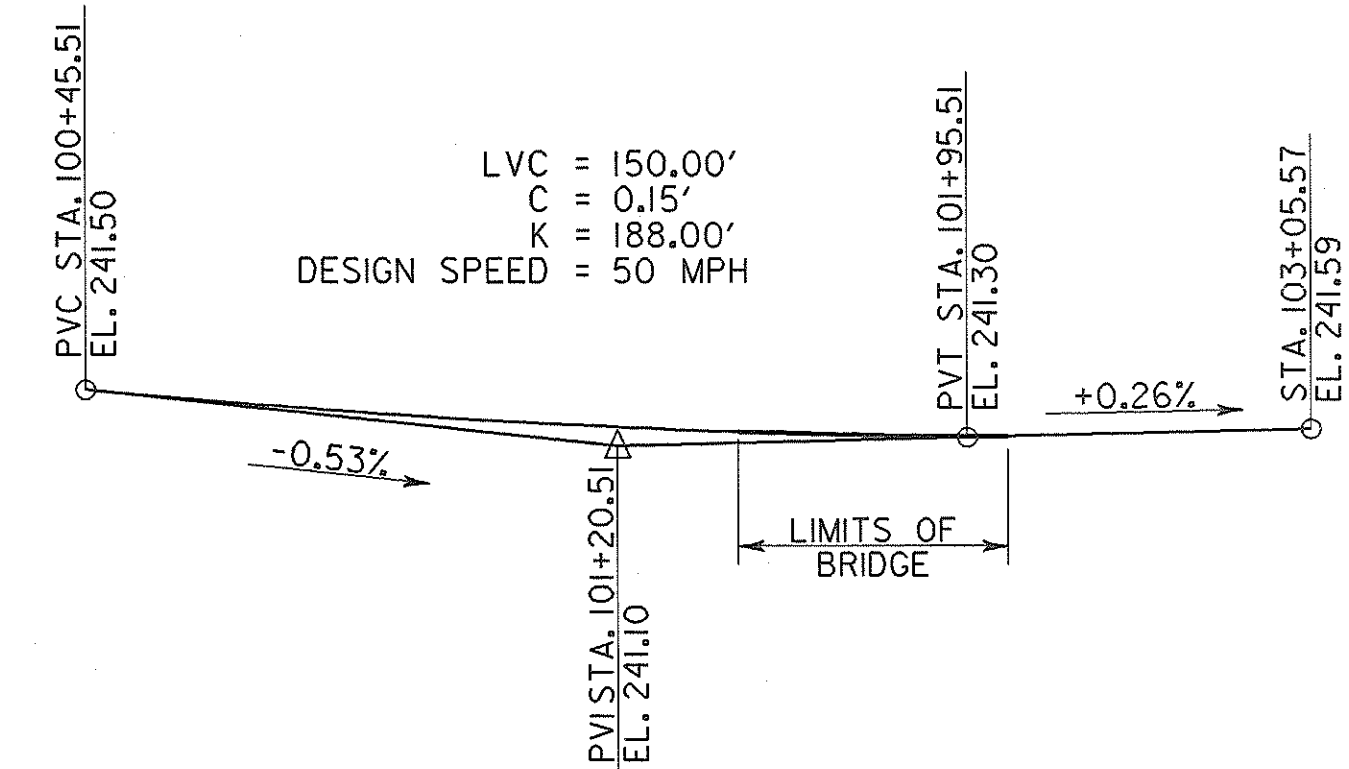
SHEET NO. SI-1

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN GENERAL PLAN AND ELEVATION		
SCALE	AS SHOWN	DATE	CONTRACT AX4695180
DESIGNED BY	J.W.N.		
DRAWN BY	J.MOHR		
CHECKED BY			
E. S. E. JAN 8 2008			
	SHEET NO. 20	OF 53	

CONTRACTOR'S NOTE:
AS A FIRST ORDER OF WORK BEFORE ANY DEMOLITION OF THE EXISTING BRIDGE IS PERFORMED OR EXCAVATION IS STARTED FOR THE NEW BRIDGE, THE CONTRACTOR SHALL CONTRACT "MISS UTILITY" TO MARK THE LOCATION OF THE EXISTING SEWER LINE WITH FLAGGING AND PAINT MARKINGS ALONG THE ROADWAY. THESE MARKINGS SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE CONTRACT. ONCE THE LOCATION OF THE SEWER LINE IS MARKED THE CONTRACTOR SHALL TEST PIT THE AREAS TO BE EXCAVATED TO ACCURATELY IDENTIFY THE LOCATION OF THE SEWER LINE. AND PRIOR TO MOVING FORWARD WITH ANY BRIDGE CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ENCASE THE SEWER LINE WITH CONCRETE FROM STA. 102+10 TO STA. 102+28 RT. ANY DAMAGE TO THE SEWER LINE SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF FREDERICK COUNTY DUSWM AT NO ADDITIONAL COST TO THE OWNER OR THE ADMINISTRATION.



GEOMETRIC LAYOUT
SCALE: 1/4" = 1'-0"

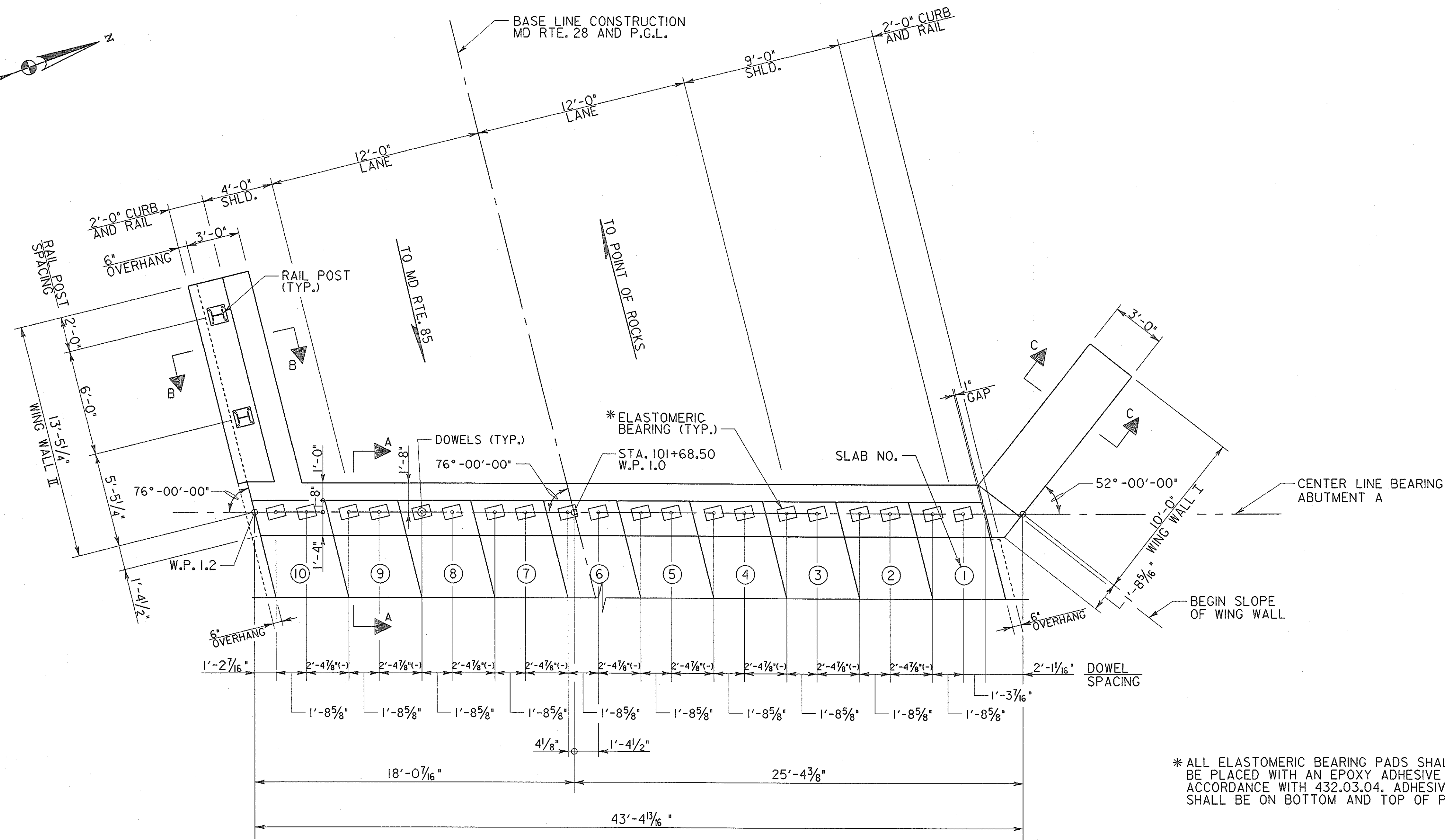
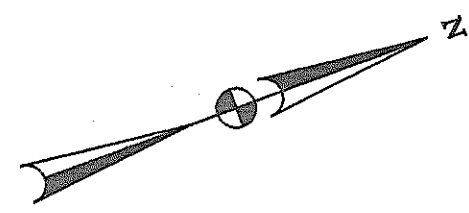


MD RTE. 28 - VERTICAL GRADE DATA
SCALE: NONE

NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S1-1
FOR ABUTMENT A PLAN AND ELEVATION, SEE SHEET NO. S1-4
FOR ABUTMENT B PLAN AND ELEVATION, SEE SHEET NO. S1-7

SHEET NO. S1-3

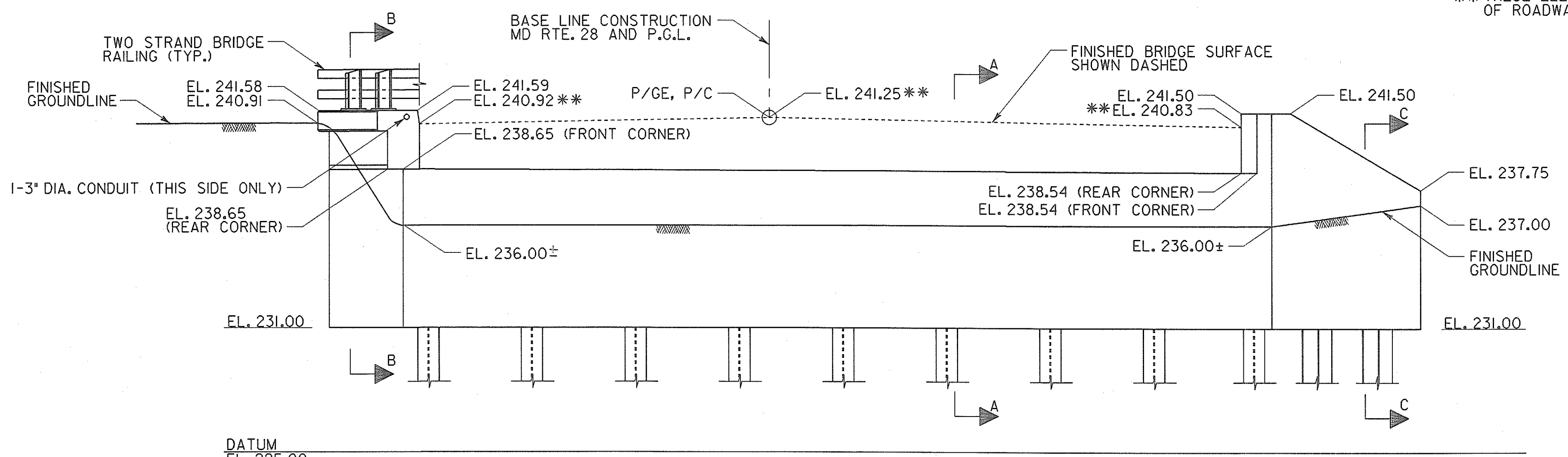
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN GEOMETRIC DATA		
	SCALE AS SHOWN	DATE	CONTRACT AX4695180
	DESIGNED BY	J.W.N.	
	DRAWN BY	J.MOHR	
	CHECKED BY	E. S. E. JAN 08 2008	
		SHEET NO. 22	OF 53



ABUTMENT A - PLAN
SCALE: 1/4" = 1'-0"

* ALL ELASTOMERIC BEARING PADS SHALL BE PLACED WITH AN EPOXY ADHESIVE IN ACCORDANCE WITH 432.03.04. ADHESIVE SHALL BE ON BOTTOM AND TOP OF PAD.

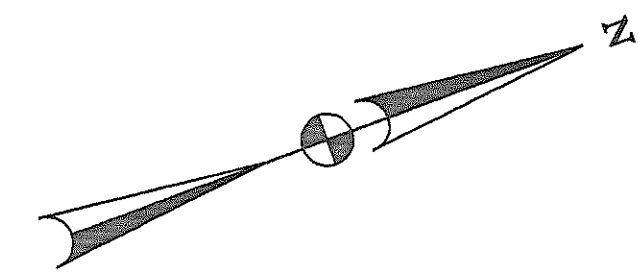
** THESE ELEVATIONS LOCATED ON REAR FACE OF ROADWAY ANGLE AT END OF BRIDGE.



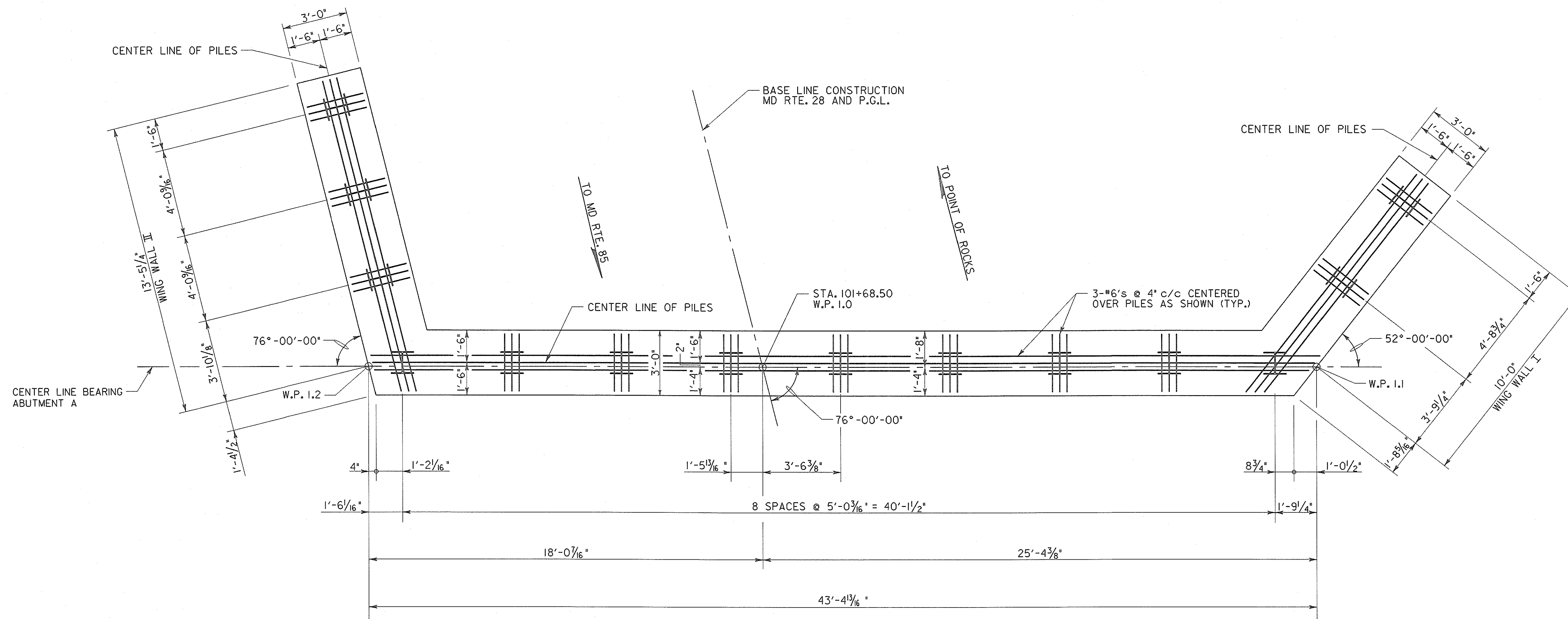
ABUTMENT A - ELEVATION
SCALE: 1/4" = 1'-0"

NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR GEOMETRIC LAYOUT, SEE SHEET NO. SI-3
FOR PILE PLAN, SEE SHEET NO. SI-5
FOR ABUTMENT SECTIONS, SEE SHEET NO. SI-10 TO 12
FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27
FOR ELASTOMERIC BEARING PAD DETAILS, SEE SHEET NO. SI-24

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT A - PLAN AND ELEVATION	
	SCALE AS SHOWN	DATE CONTRACT AX4695180
	DESIGNED BY J.W.N.	
	DRAWN BY J.MOHR	
	CHECKED BY	
	E. S. F. JAN 08 2008	
	SHEET NO. 23	OF 53



PILE DATA					
SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	DESIGN BEARING VALUE	MIN. PENETRATION ELEVATION	ESTIMATED TIP ELEVATION	AVE. ACTUAL MIN. TIP ELEV.	AVE. ACTUAL MAX. TIP ELEV.
ABUTMENT A	70 TONS	215.00	215.00		



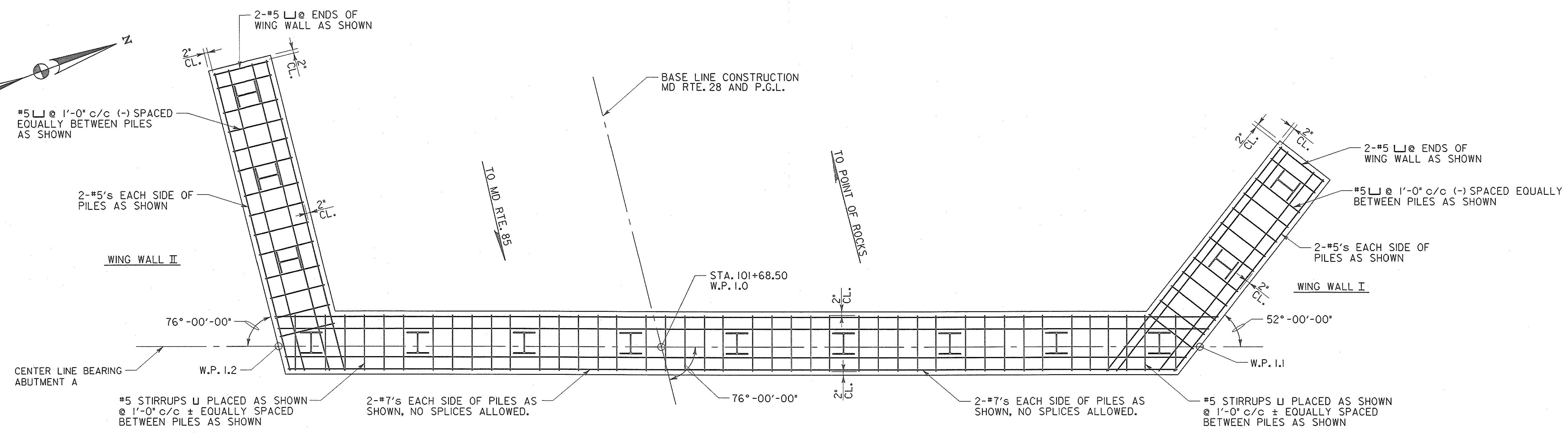
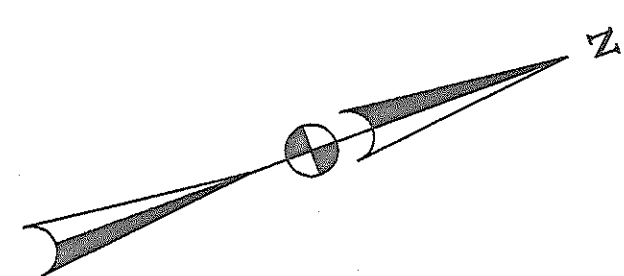
ABUTMENT A - PILE PLAN
SCALE: 3/8" = 1'-0"

NOTE:
ALL PILES TO BE PLACED IN PRE-AUGURED HOLES AND CONCRETED IN PLACE. NO PILE DRIVING IS REQUIRED.

NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR ABUTMENT A PLAN AND ELEVATION, SEE SHEET NO. SI-4
FOR ABUTMENT DETAILS, SEE SHEET NO. SI-10 TO 12
FOR WING WALL ELEVATIONS, SEE SHEET NO. SI-13
FOR WING WALL DETAILS, SEE SHEET NO. SI-14 AND 15

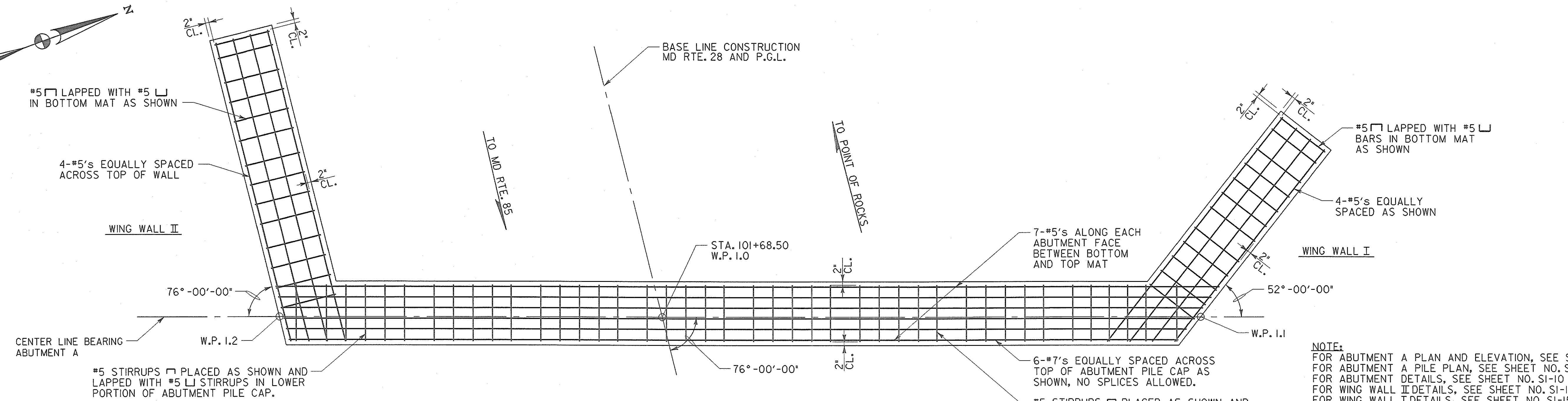
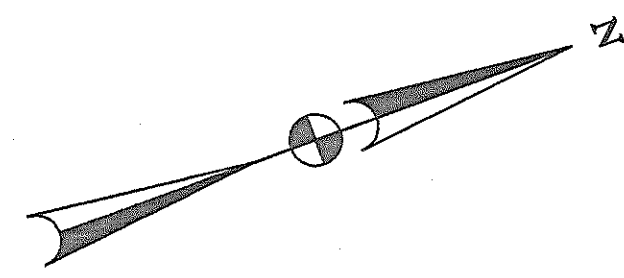
NOTE:
ALL PILES TO BE HP 12 x 53 PILES
PLUMB PILE DENOTED THUS: \perp
FOR EXACT PLACEMENT OF PILES IN AUGERED HOLES, SEE SHEET NO. SI-11
SHOP PLANS SHALL SHOW HOW REBARS ARE TO BE TIED AS WELL AS HOW THEY WILL BE HELD IN PLACE ABOVE PILING WHILE POUR IS BEING MADE.
FOR ADDITIONAL PILE DETAILS, SEE SHEET NO. SI-11
FOR BORINGS AND DRIVE TESTS, SEE SHEET NO. SI-34

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT A - PILE PLAN	
	SCALE AS SHOWN	DATE CONTRACT AX4695180
DESIGNED BY	J.W.N.	E. S. E. JAN 8 2008
DRAWN BY	J.MOHR	
CHECKED BY		
S:\CADD\OBD\1001600\10016app.dgn PRINT DATE: Wednesday, November 14, 2007 at 1:37:24 PM		SHEET NO. 24 OF 53



PLAN
ABUTMENT A PILE CAP - BOTTOM MAT REINFORCING
 SCALE: 3/8" = 1'-0"

NOTE:
 REINFORCING MAT OVER
 PILES NOT SHOWN.



PLAN
ABUTMENT A PILE CAP - TOP MAT REINFORCING
 SCALE: 3/8" = 1'-0"

NOTE:
 FOR ABUTMENT A PLAN AND ELEVATION, SEE SHEET NO. SI-4
 FOR ABUTMENT A PILE PLAN, SEE SHEET NO. SI-5
 FOR ABUTMENT DETAILS, SEE SHEET NO. SI-10 TO 12
 FOR WING WALL II DETAILS, SEE SHEET NO. SI-14
 FOR WING WALL I DETAILS, SEE SHEET NO. SI-15

SHEET NO. SI-6

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT A - PILE CAP REINFORCING
	SCALE AS SHOWN DATE CONTRACT AX4695180
	DESIGNED BY J.W.N. DRAWN BY J.MOHR CHECKED BY
	E'S&E JAN 03 2008
	SHEET NO. 25 OF 53

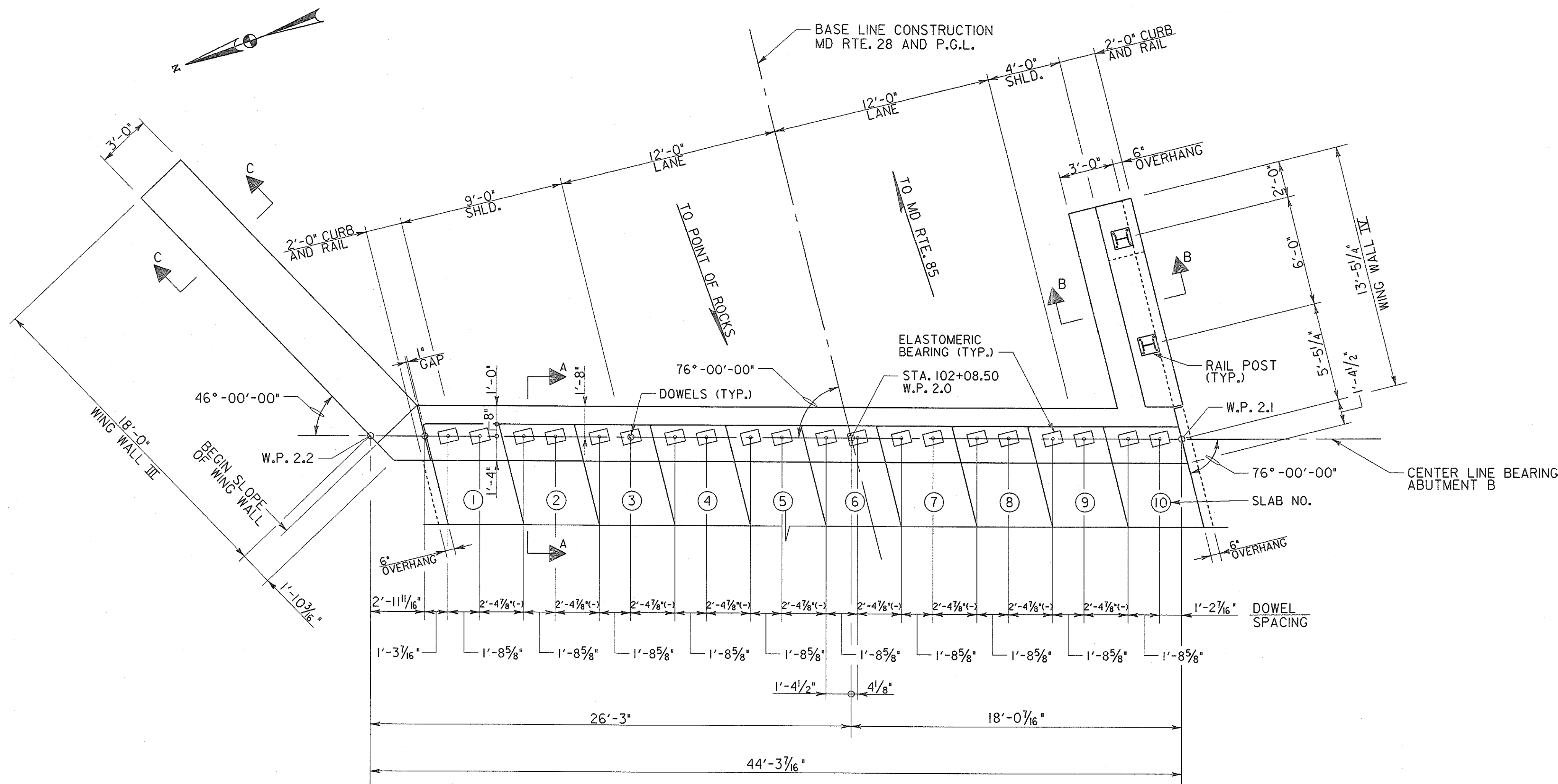
OTHER CONTRACTS FOR THIS STRUCTURE _____

STRUCTURE INVENTORY NO. 1001600

SURVEY BOOK NO.

S:\CADD\OBD\1001600\10016afr.dgn
 PRINT DATE: Monday, December 10, 2007 at 12:27:05 PM

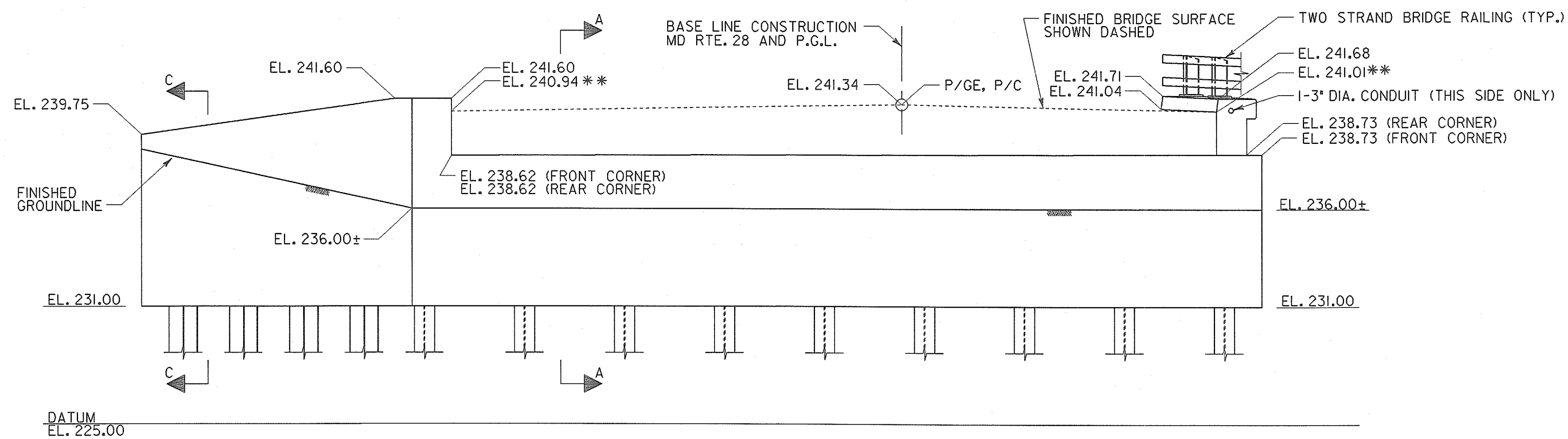
INDEXED



ABUTMENT B - PLAN
SCALE: 1/4" = 1'-0"

* ALL ELASTOMERIC BEARING PADS SHALL BE PLACED WITH AN EPOXY ADHESIVE IN ACCORDANCE WITH 432.03.04. ADHESIVE SHALL BE ON BOTTOM AND TOP OF PAD.

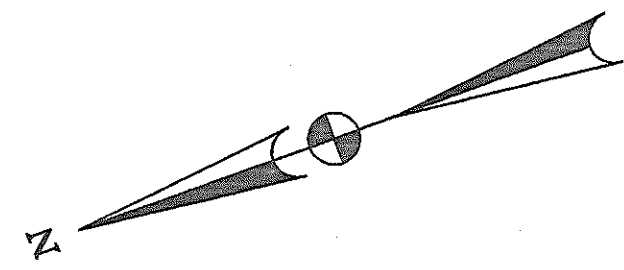
** THESE ELEVATIONS LOCATED ON REAR FACE OF ROADWAY ANGLE AT END OF BRIDGE.



ABUTMENT B - ELEVATION
SCALE: 1/4" = 1'-0"

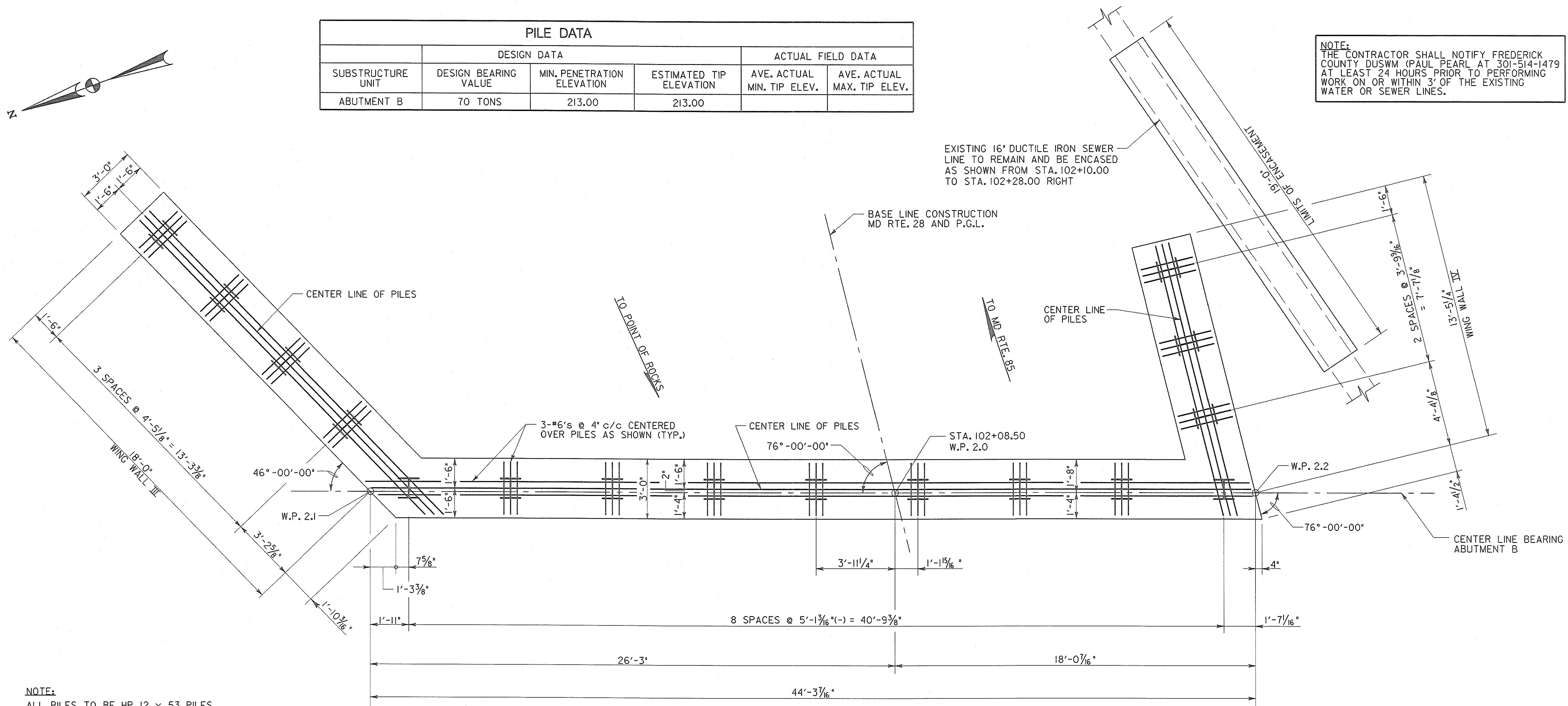
NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR GEOMETRIC LAYOUT, SEE SHEET NO. SI-3
FOR PILE PLAN, SEE SHEET NO. SI-8
FOR ABUTMENT SECTIONS, SEE SHEET NO. SI-10 TO 12
FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27
FOR ELASTOMERIC BEARING PAD DETAILS, SEE SHEET NO. SI-24

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT B - PLAN AND ELEVATION
	SCALE AS SHOWN DATE CONTRACT AX4695180
	DESIGNED BY J.W.N. DRAWN BY J.MOHR CHECKED BY
	E. S. F. JAN 03 2008
	SHEET NO. 26 OF 53



SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	DESIGN BEARING VALUE	MIN. PENETRATION ELEVATION	ESTIMATED TIP ELEVATION	AVE. ACTUAL MIN. TIP ELEV.	AVE. ACTUAL MAX. TIP ELEV.
ABUTMENT B	70 TONS	213.00	213.00		

NOTE:
THE CONTRACTOR SHALL NOTIFY FREDERICK COUNTY DUSWM (PAUL PEARL AT 301-514-1479) AT LEAST 24 HOURS PRIOR TO PERFORMING WORK ON OR WITHIN 3' OF THE EXISTING WATER OR SEWER LINES.

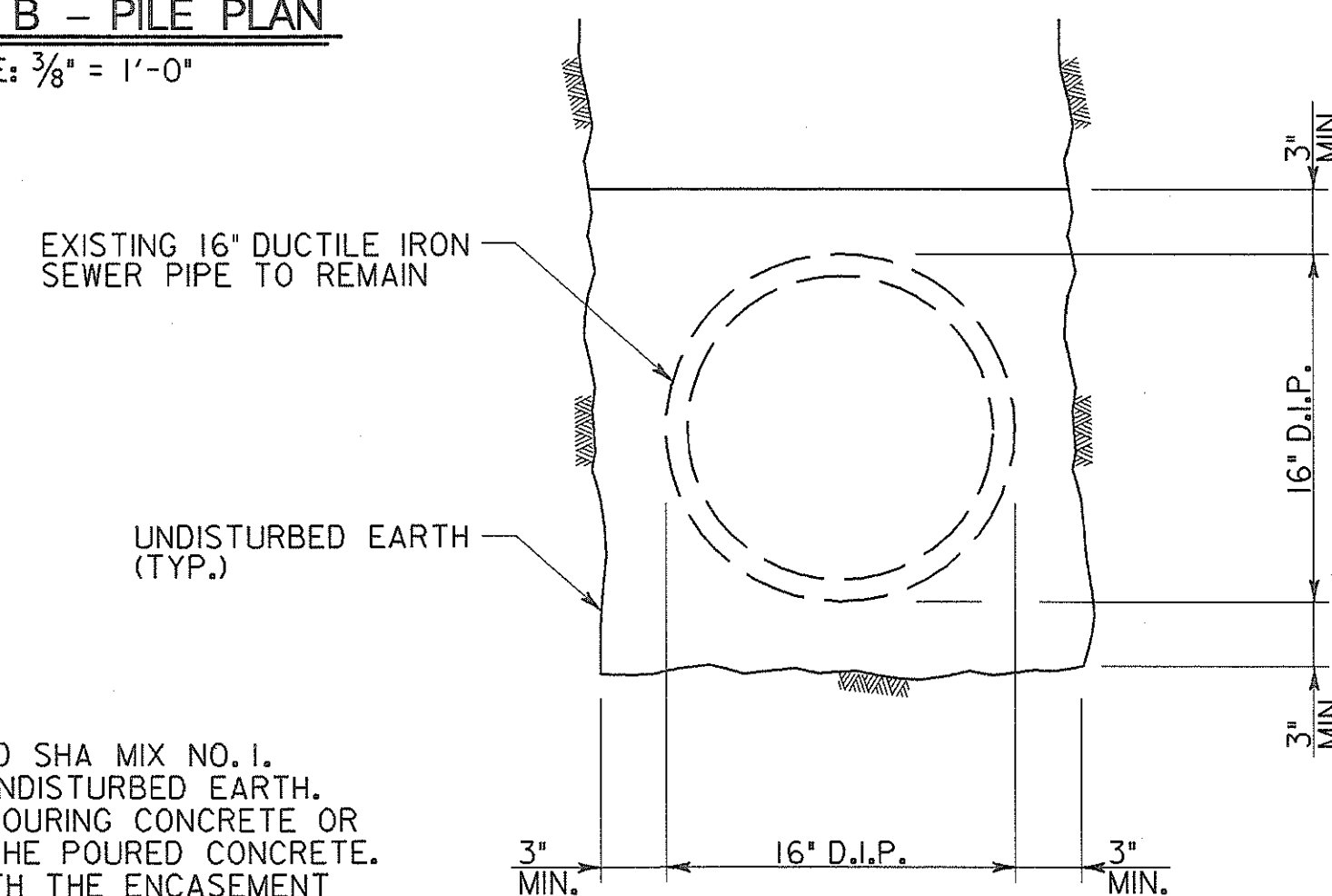


NOTE:
ALL PILES TO BE HP 12 x 53 PILES
PLUMB PILE DENOTED THUS: \perp
FOR EXACT PLACEMENT OF PILES IN AUGERED HOLES, SEE SHEET NO. S1-11
SHOP PLANS SHALL SHOW HOW REBARS ARE TO BE TIED AS WELL AS HOW THEY WILL BE HELD IN PLACE ABOVE PILING WHILE POUR IS BEING MADE.
FOR ADDITIONAL PILE DETAILS, SEE SHEET NO. S1-11
FOR BORINGS AND DRIVE TESTS, SEE SHEET NO. S1-34

NOTE:
ALL PILES TO BE PLACED IN PRE-AUGERED HOLES AND CONCRETED IN PLACE. NO PILE DRIVING IS REQUIRED.

CONTRACTOR'S NOTE:
AS A FIRST ORDER OF WORK BEFORE ANY DEMOLITION OF THE EXISTING BRIDGE IS PERFORMED OR EXCAVATION IS STARTED FOR THE NEW BRIDGE, THE CONTRACTOR SHALL CONTRACT "MISS UTILITY" TO MARK THE LOCATION OF THE EXISTING SEWER LINE WITH FLAGGING AND PAINT MARKINGS ALONG THE ROADWAY. THESE MARKINGS SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE CONTRACT. ONCE THE LOCATION OF THE SEWER LINE IS MARKED THE CONTRACTOR SHALL TEST PIT THE AREAS TO BE EXCAVATED TO ACCURATELY IDENTIFY THE LOCATION OF THE SEWER LINE PRIOR TO ANY EXCAVATION ACTIVITIES. UPON LOCATING THE SEWER LINE, AND PRIOR TO MOVING FORWARD WITH ANY BRIDGE CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ENCASE THE SEWER LINE WITH CONCRETE FROM STA. 102+10 TO STA. 102+28 RT. ANY DAMAGE TO THE SEWER LINE SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF FREDERICK COUNTY DUSWM AT NO ADDITIONAL COST TO THE OWNER OR THE ADMINISTRATION.

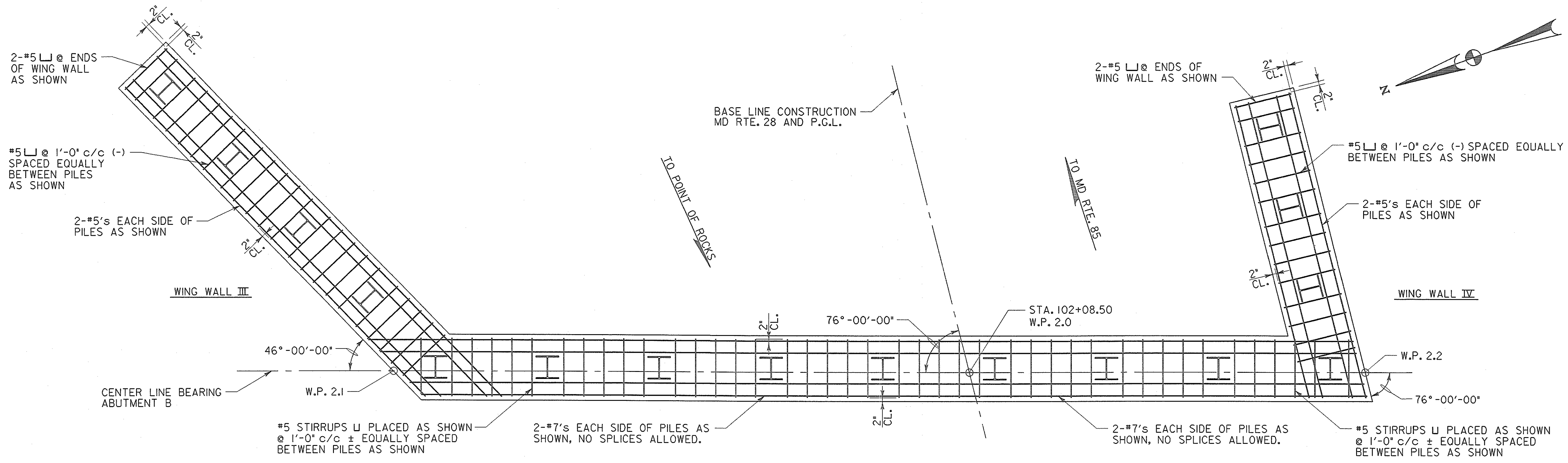
ABUTMENT B - PILE PLAN
SCALE: $\frac{3}{8}" = 1'-0"$



NOTE:
1. ALL CONCRETE SHALL BE MD SHA MIX NO. 1.
2. POUR CONCRETE AGAINST UNDISTURBED EARTH. REMOVE SHEETING BEFORE POURING CONCRETE OR PULL SHEETING UP ABOVE THE POURED CONCRETE.
3. ALL COSTS ASSOCIATED WITH THE ENCASEMENT OF THE EXISTING SEWER INCLUDING EXCAVATION, SHEETING, CONCRETE, ETC. SHALL BE INCLUDED IN THE LUMP SUM PRICE BID ON THE "CONCRETE ENCASEMENT" ITEM.

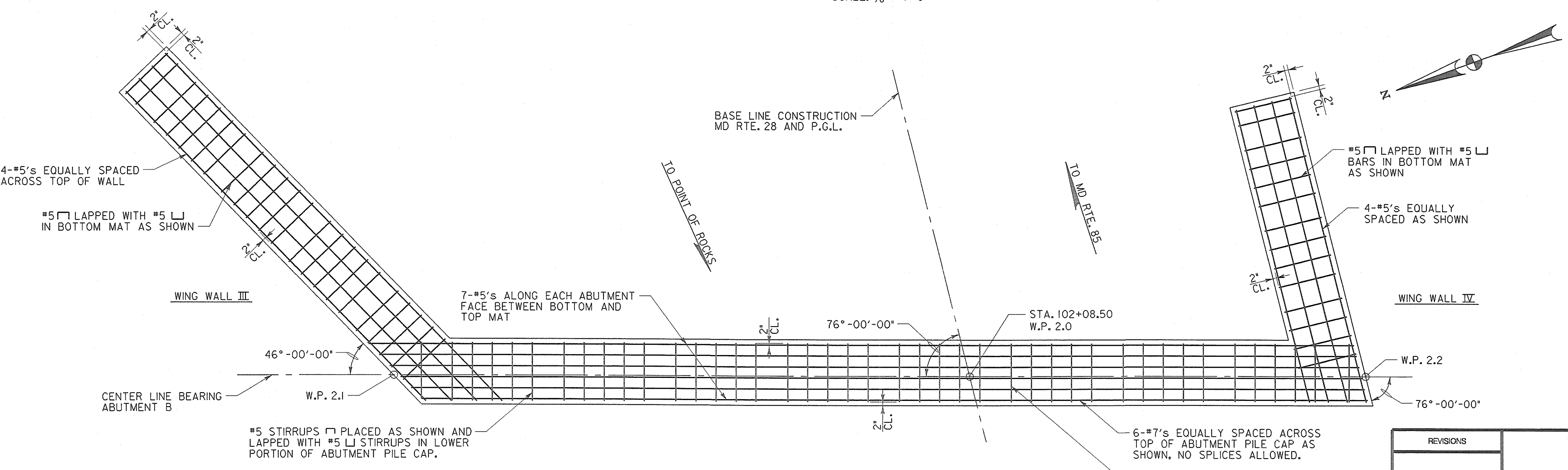
NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S1-1
FOR ABUTMENT B PLAN AND ELEVATION, SEE SHEET NO. S1-7
FOR ABUTMENT DETAILS, SEE SHEET NO. S1-10 TO 12
FOR WING WALL ELEVATIONS, SEE SHEET NO. S1-13
FOR WING WALL DETAILS, SEE SHEET NO. S1-14 AND 15

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT B - PILE PLAN
	SCALE AS SHOWN DATE CONTRACT AX4695180
	DESIGNED BY J.W.N. DRAWN BY J.MOHR CHECKED BY
	E.S.E. JAN 0 8 2004
	SHEET NO. 27 OF 53



PLAN
 ABUTMENT B PILE CAP - BOTTOM MAT REINFORCING
 SCALE: 3/8" = 1'-0"

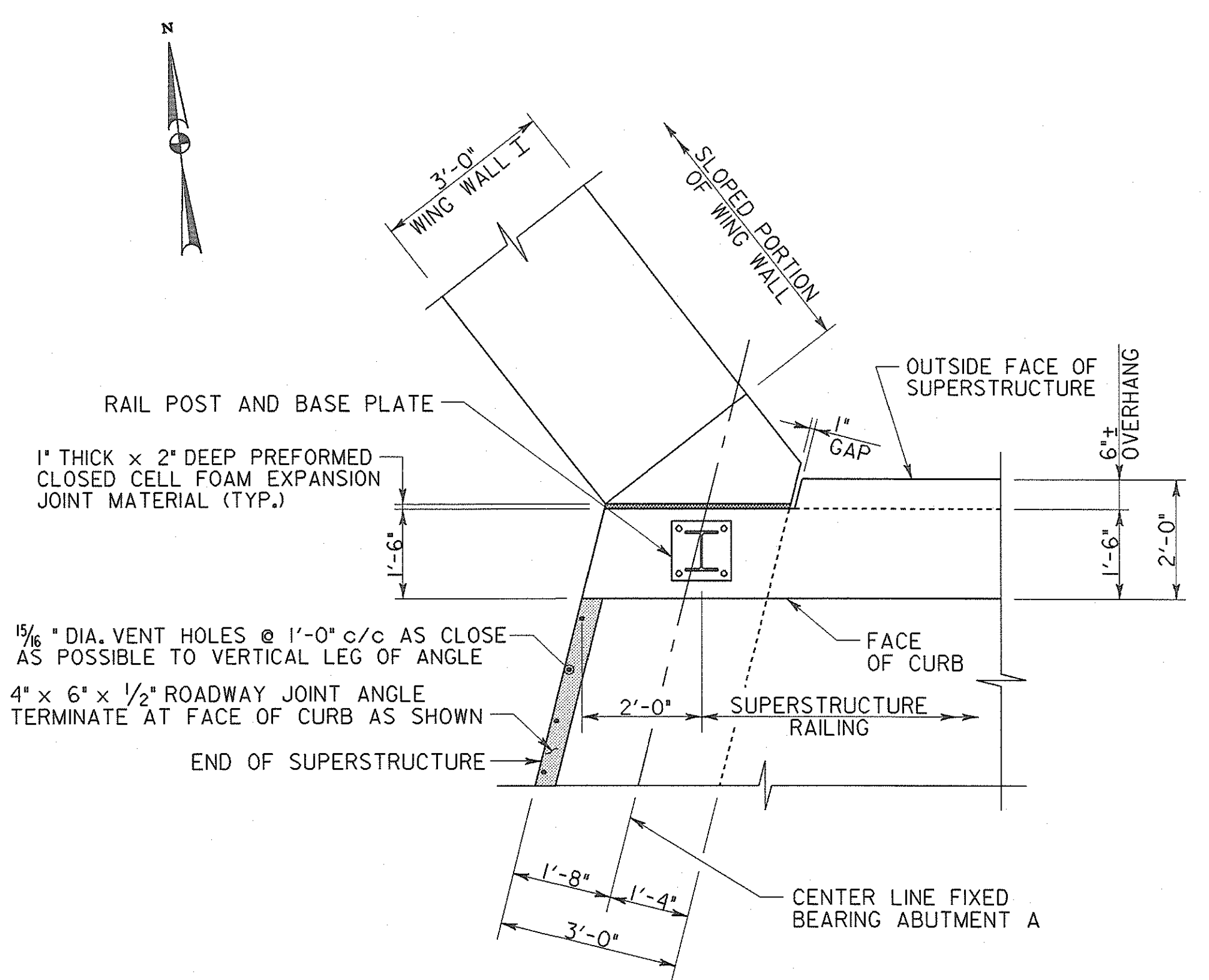
NOTE:
 REINFORCING MAT
 OVER PILES NOT SHOWN.



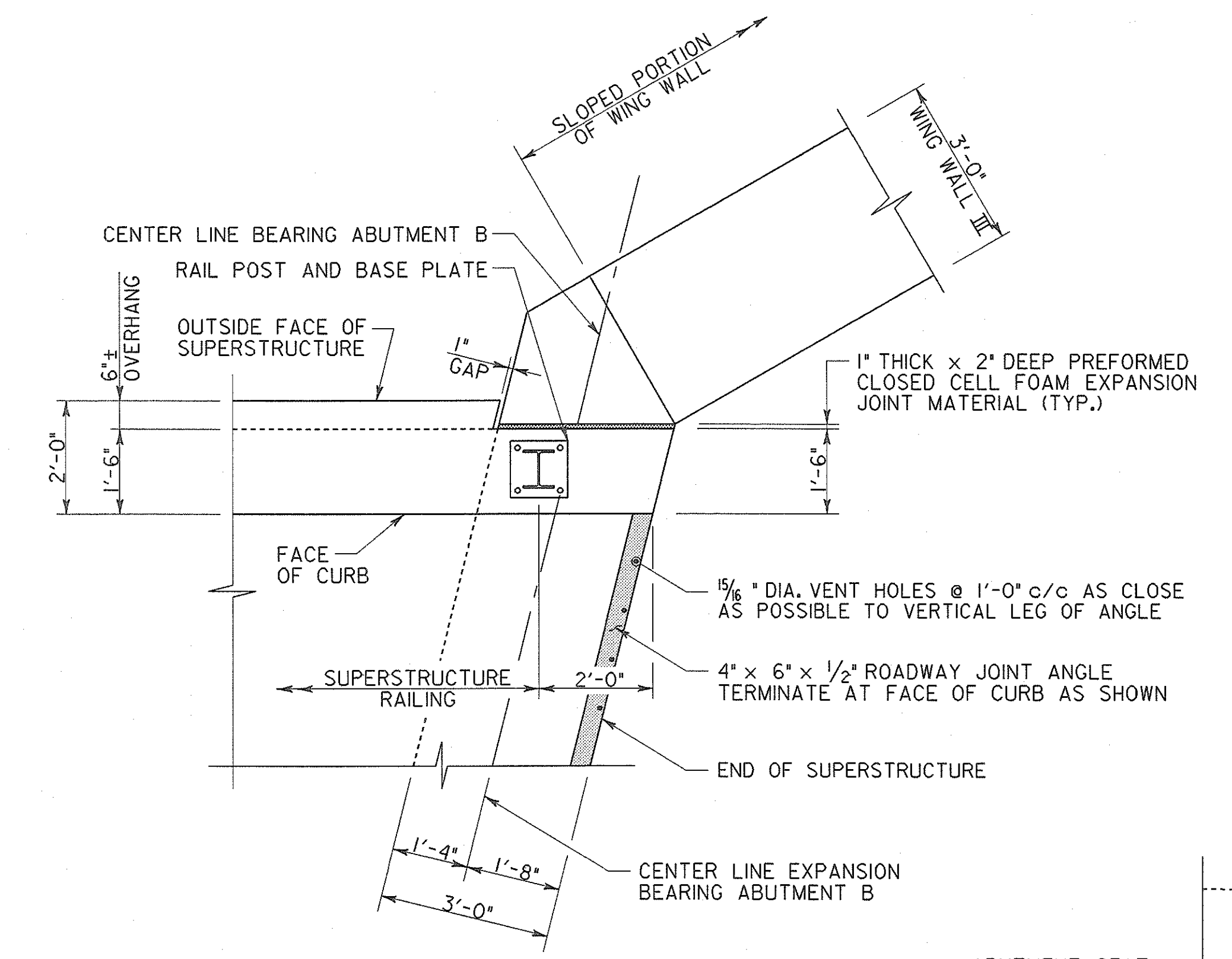
PLAN
 ABUTMENT B PILE CAP - TOP MAT REINFORCING
 SCALE: 3/8" = 1'-0"

NOTE:
 FOR ABUTMENT B PLAN AND ELEVATION, SEE SHEET NO. SI-7
 FOR ABUTMENT B PILE PLAN, SEE SHEET NO. SI-8
 FOR ABUTMENT DETAILS, SEE SHEET NO. SI-10 AND 12
 FOR WING WALL III DETAILS, SEE SHEET NO. SI-15
 FOR WING WALL IV DETAILS, SEE SHEET NO. SI-14

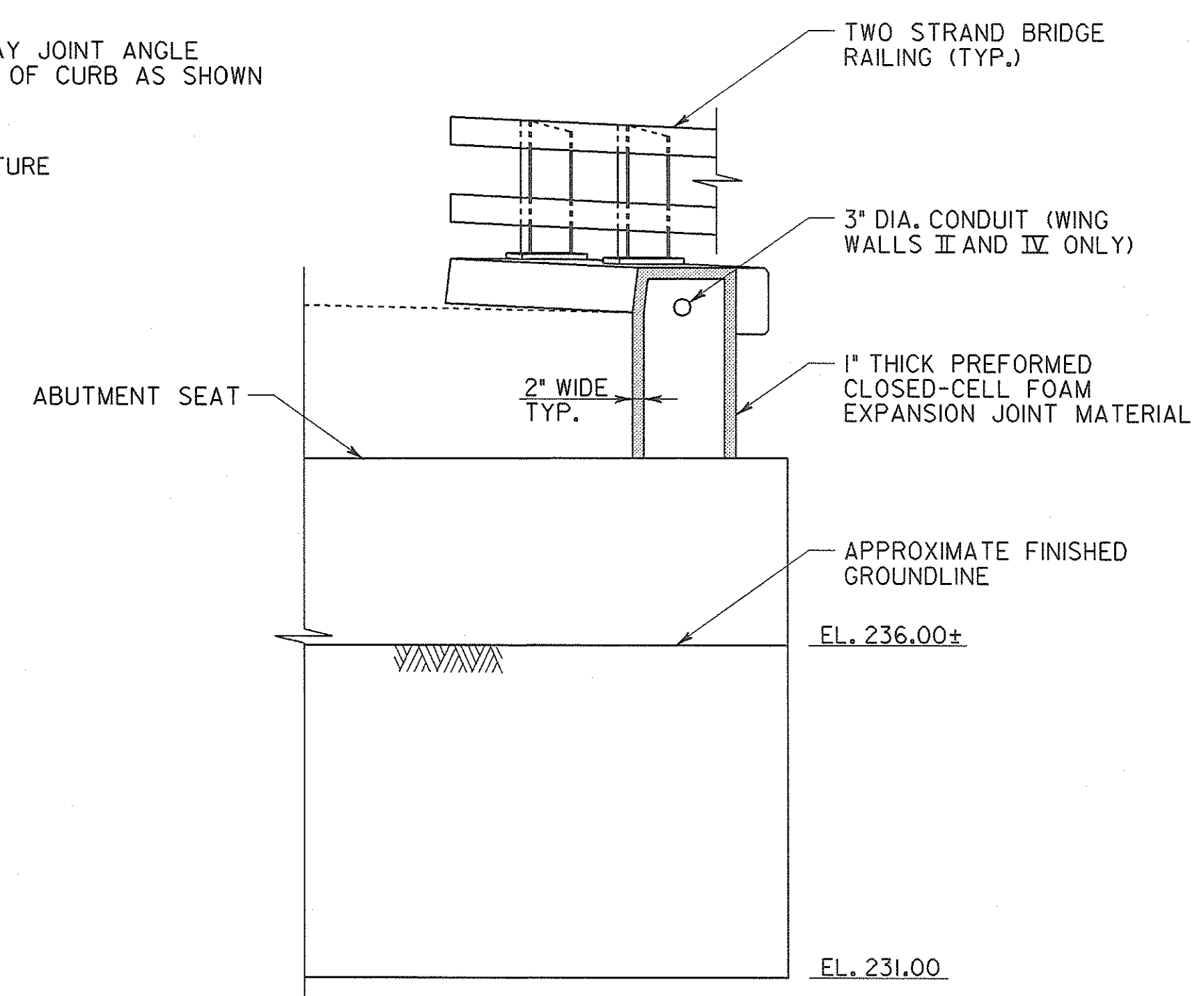
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT B - FOOTING REINFORCING		
	SCALE	AS SHOWN	DATE
	DESIGNED BY J.W.N.		CONTRACT AX4695180
DRAWN BY J.MOHR			
CHECKED BY		E. S. F. JAN 08 2008	
		SHEET NO. 28 OF 53	



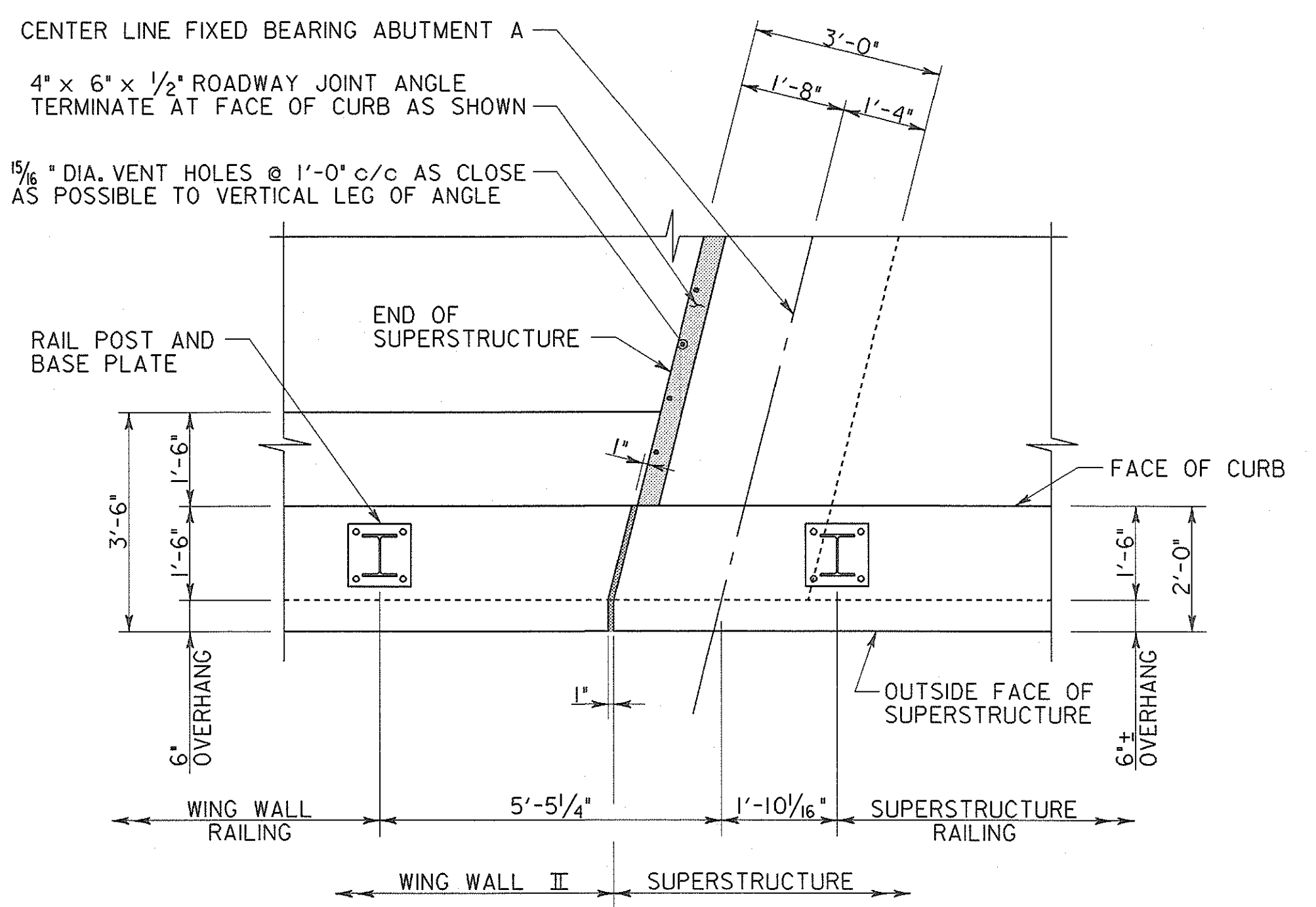
PLAN
WING WALL I - CORNER DETAIL
SCALE: 1/2" = 1'-0"



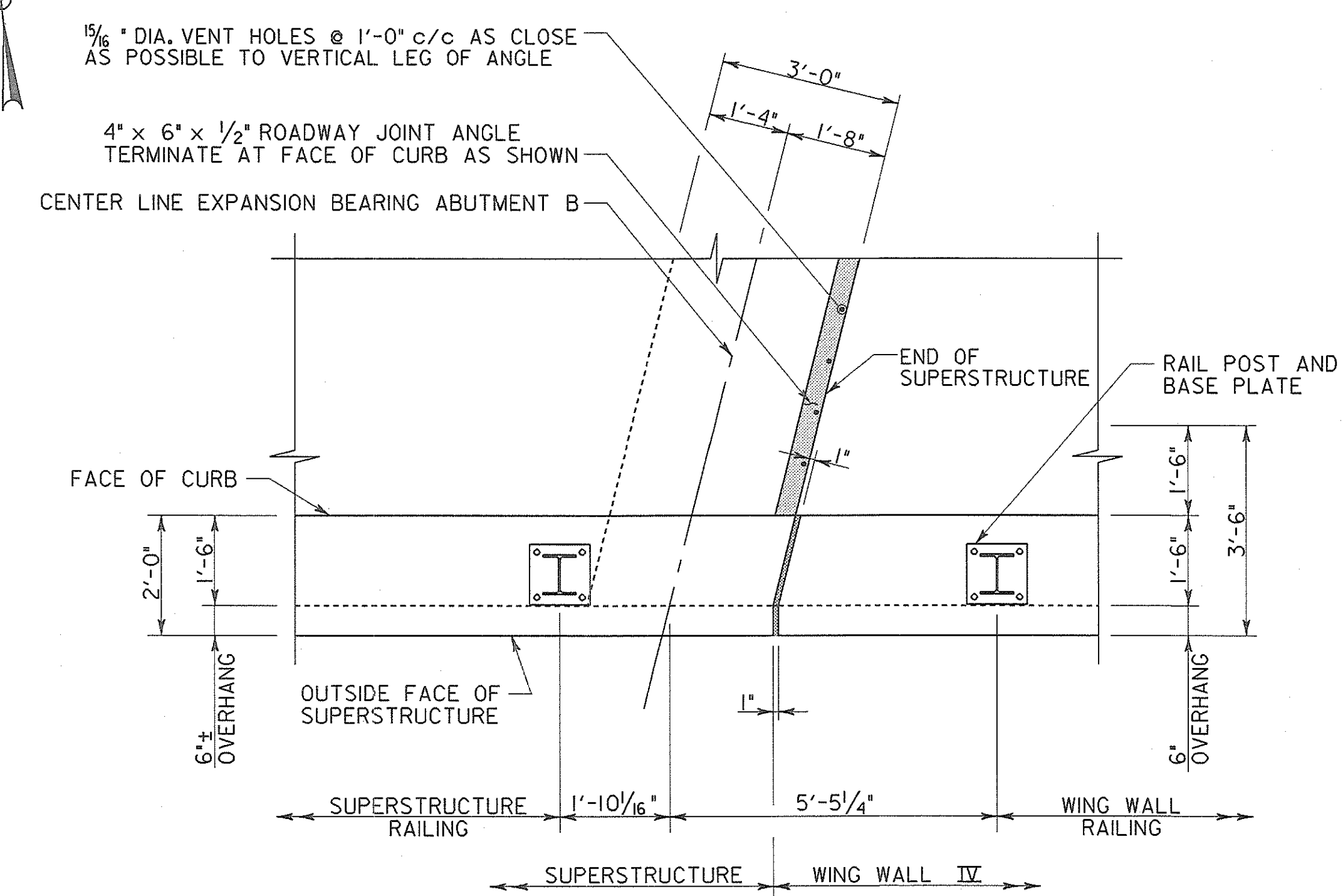
PLAN
WING WALL III - CORNER DETAIL
SCALE: 1/2" = 1'-0"



END VIEW
JOINT AT FACE OF CURB
SCALE: 1/2" = 1'-0"



PLAN
WING WALL II - CORNER DETAIL
SCALE: 1/2" = 1'-0"



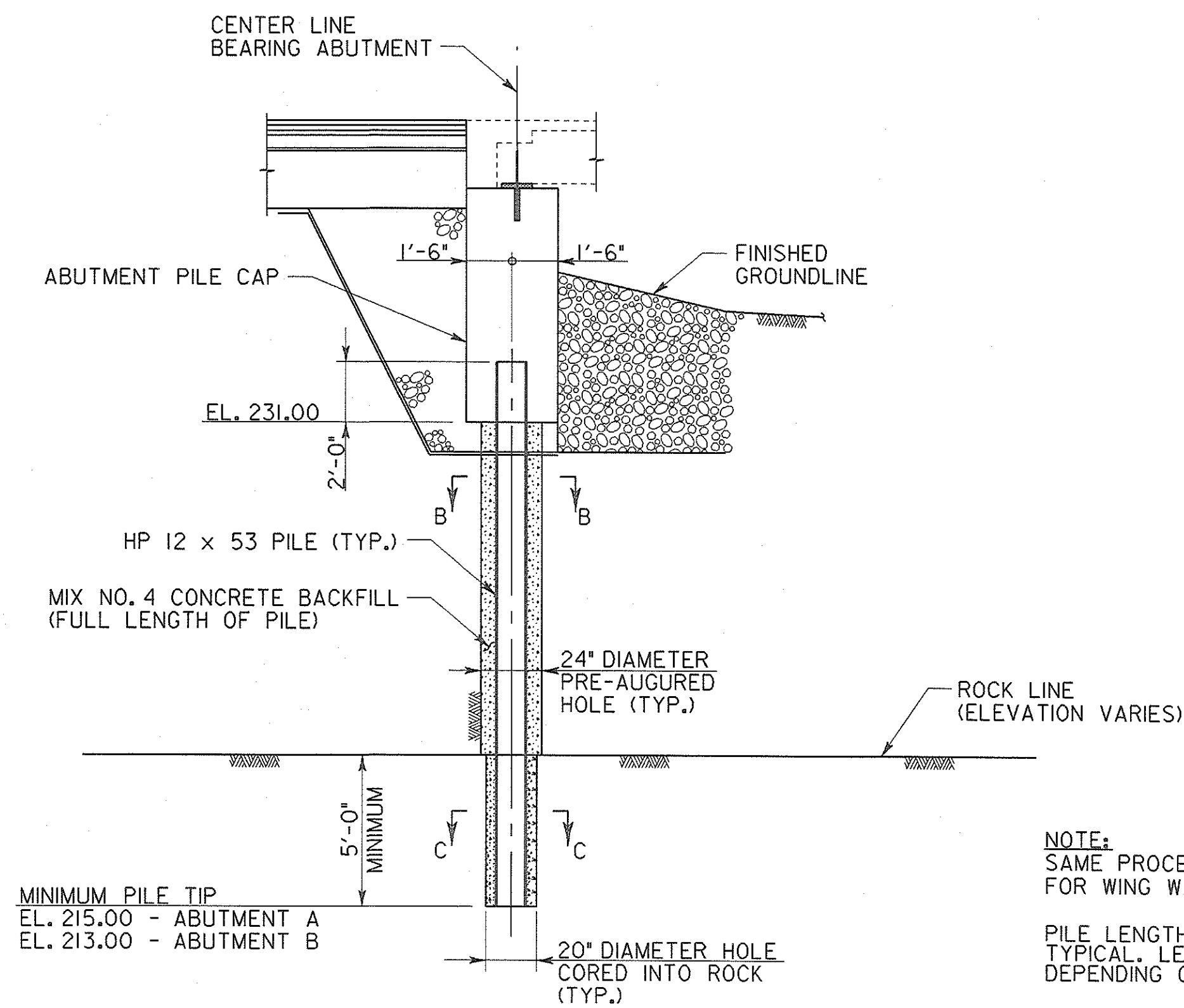
PLAN
WING WALL IV - CORNER DETAIL
SCALE: 1/2" = 1'-0"

NOTE:
HORIZONTAL RAIL ELEMENTS
NOT SHOWN FOR CLARITY.

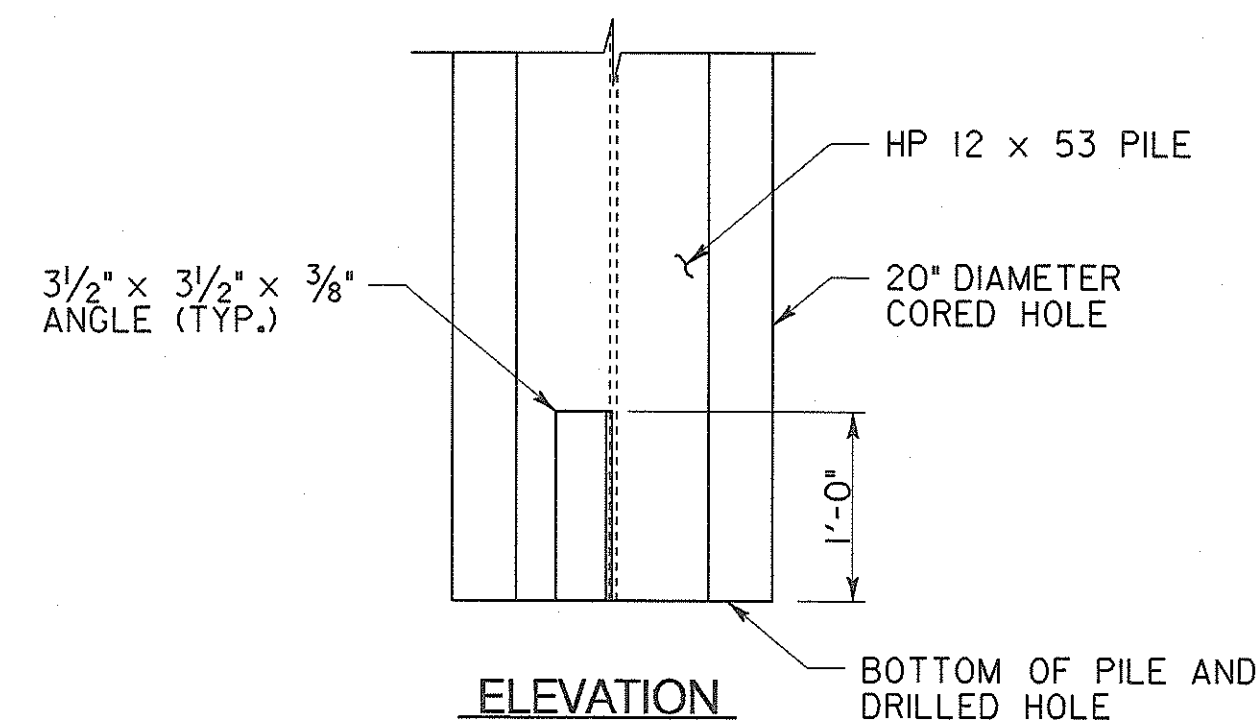
NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR ABUTMENT A PLAN AND ELEVATION, SEE SHEET NO. SI-4
FOR ABUTMENT B PLAN AND ELEVATION, SEE SHEET NO. SI-7
FOR ABUTMENT DETAILS, SEE SHEET NO. SI-10 TO 12
FOR WING WALL DETAILS, SEE SHEET NO. SI-13 TO 15
FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27

SHEET NO. SI-10

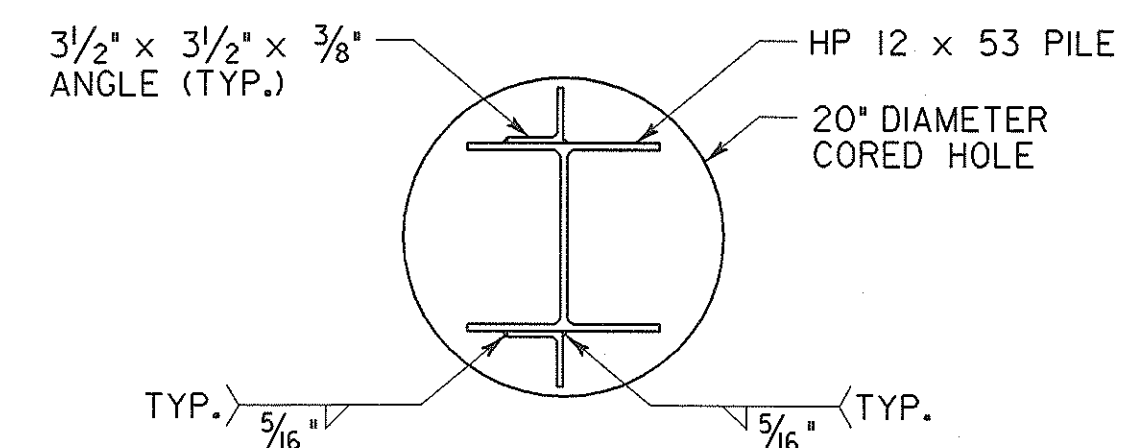
REVISIONS		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT DETAILS	
SCALE	AS SHOWN	DATE	CONTRACT AX4695180
DESIGNED BY	J.W.N.		
DRAWN BY	J.MOHR		
CHECKED BY			
		 JAN 08 2008	
		SHEET NO. 29 OF 53	



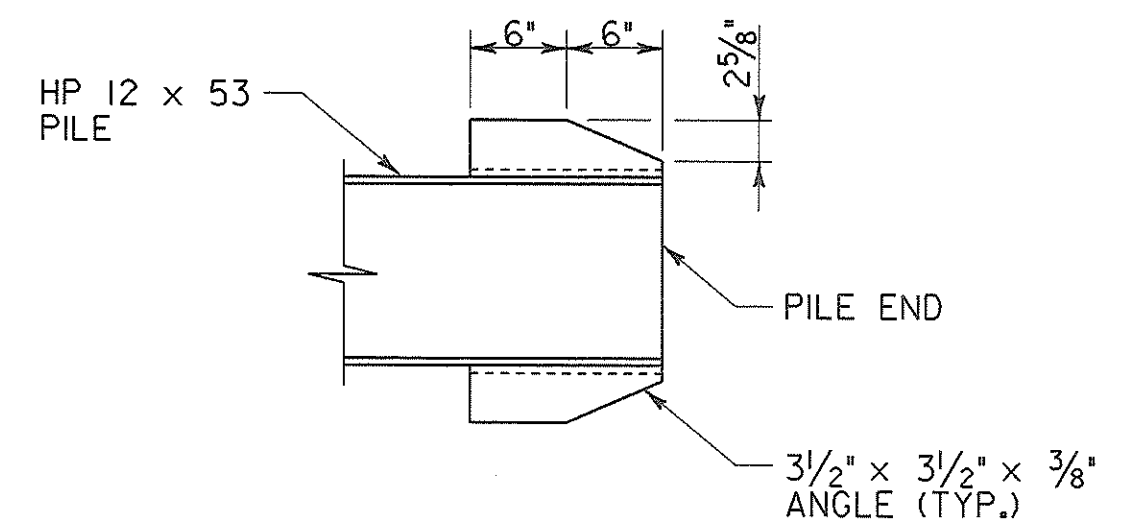
SECTION
ABUTMENT - PILE PLACEMENT DETAIL
SCALE: 1/4" = 1'-0"



ELEVATION



PLAN VIEW

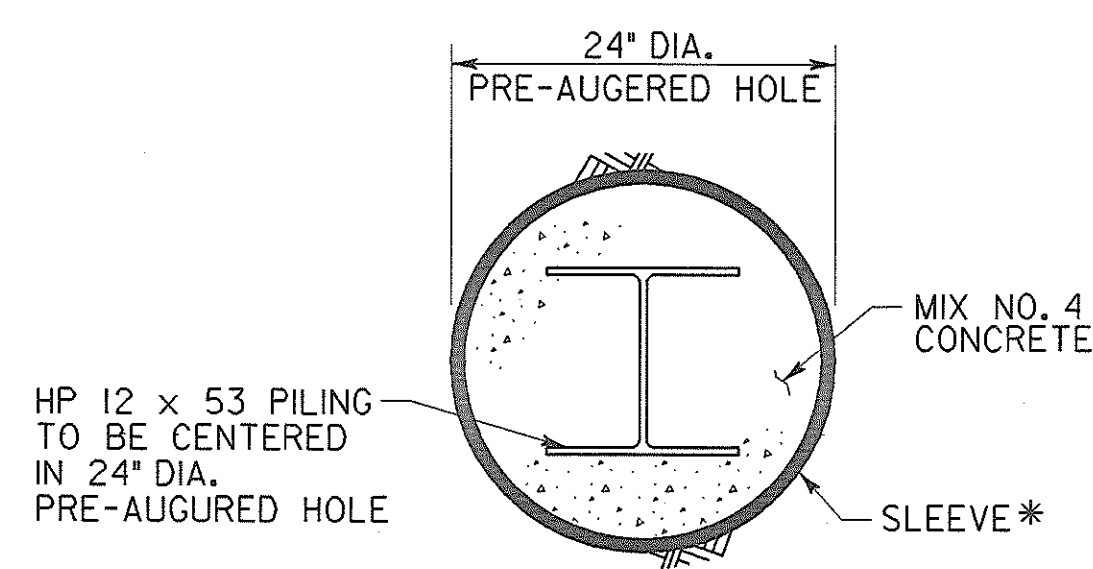


PILE ELEVATION

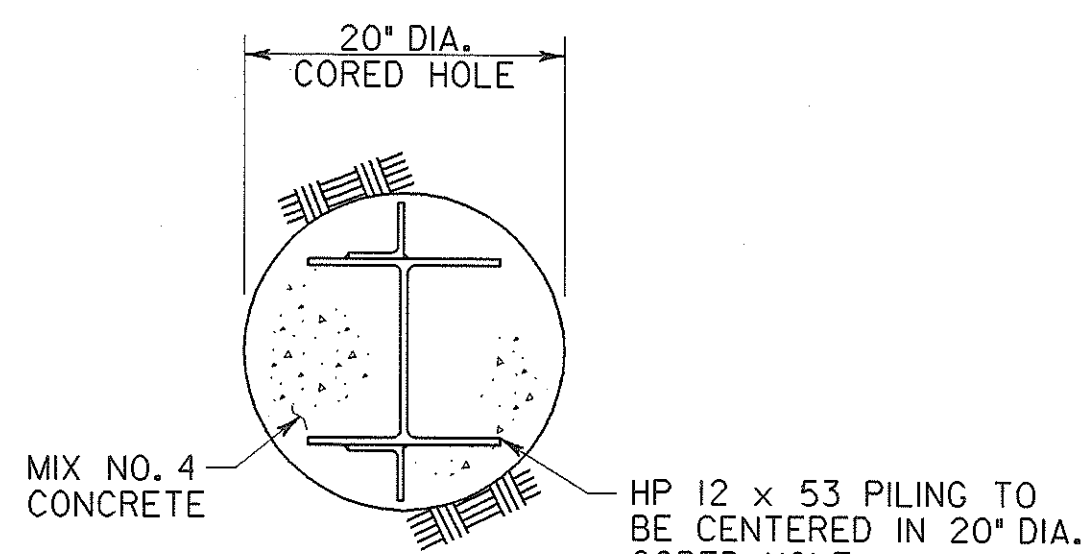
PILE CENTERING DEVICE
SCALE: 1" = 1'-0"

NOTE:
SAME PROCEDURE SHALL BE USED FOR WING WALL PILE PLACEMENT.
PILE LENGTHS SHOWN MAY NOT BE TYPICAL. LENGTHS WILL VARY DEPENDING ON ROCK LINE ELEVATION.

NOTE:
IN LIEU OF USING ANGLES THE CONTRACTOR MAY USE 1/2" STEEL PLATES.



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



SECTION C-C
SCALE: 1" = 1'-0"

PILE PLACEMENT PROCEDURE:

- 1) THE CONTRACTOR SHALL PRE-AUGER A 24" DIAMETER HOLE AT EACH PILE LOCATION UNTIL ROCK IS ENCOUNTERED. A SLEEVE SHALL BE INSTALLED, IF REQUIRED, AND LEFT IN PLACE UNTIL THE PILE IS IN PLACE AND THE CONCRETE IS POURED. THE SLEEVE SHALL BE EXTRACTED AS THE CONCRETE IS POURED SO THAT THE ENTIRE VOID IS FILLED AND CONCRETE IS IN CONTACT WITH SIDE OF THE HOLE. HOLES SHALL CONFORM TO THE APPLICABLE PORTIONS OF 412.03.04. THE SERVICES OF A GEOTECHNICAL ENGINEER WILL NOT BE REQUIRED.
- 2) AFTER AUGERING THE HOLE TO ROCK, THE CONTRACTOR SHALL CORE A 20" DIAMETER SOCKET A MINIMUM OF 5 FEET INTO THE ROCK LAYER OR TO A MINIMUM TIP ELEVATION OF 215.00 AT ABUTMENT A AND ELEVATION 213.00 AT ABUTMENT B, WHICHEVER IS LOWER. THE MINIMUM PILE TIP ELEVATION IS ACCEPTABLE IF AT LEAST 5 FEET OF THE BOTTOM OF PILE HAS BEEN CORED INTO ROCK.
- 3) UPON COMPLETING THE 5 FEET OF ROCK CORING, THE CONTRACTOR SHALL PLACE 2'-0" OF CONCRETE IN THE BOTTOM OF THE HOLE, PLACE A PILE TO THE BOTTOM OF THE CORED HOLE PRIOR TO THE CONCRETE SETTING OR BECOMING NON-PLASTIC, AND BACKFILL THE REMAINDER OF THE HOLE WITH MIX NO. 4 CONCRETE TO THE BOTTOM OF FOOTING AS SHOWN IN THE PILE PLACEMENT DETAIL. THE TOP OF THE PILE SHALL BE SUPPORTED AS NEEDED TO MAINTAIN THE FINAL ALIGNMENT OF THE PILES IN THE PILE CAP. IF A SLEEVE WAS INSTALLED FOR AUGERING THE 24" HOLE, IT SHALL BE EXTRACTED WHILE THE CONCRETE IS BEING POURED (NOTE: THE SLEEVE MUST BE EXTRACTED, UNDER NO CIRCUMSTANCES IS THE SLEEVE TO REMAIN IN PLACE).

NOTES:

THE COST OF PRE-AUGERING THE HOLE, INSTALLING SLEEVES AS NECESSARY, CORING THE ROCK, BACKFILLING THE HOLE WITH CONCRETE, REMOVING THE SLEEVES, AND ALL OTHER PROCEDURES REQUIRED TO INSTALL THE PILES WILL NOT BE MEASURED FOR PAYMENT BUT THE COST WILL BE INCIDENTAL TO THE PRICE PER LINEAR FOOT FOR THE PERTINENT PILING ITEM. THE LINEAR FOOT PRICE WILL INCLUDE ALL MATERIAL, PILE CENTERING DEVICES, LABOR, SETUPS, AUGERING, CORING, REMOVAL AND DISPOSAL OF EXCAVATED MATERIAL, PILING, SLEEVING, CONCRETE, ETC. TO COMPLETE THE PILE PLACEMENT AS SHOWN. THERE WILL BE NO SEPERATE PAY ITEM FOR THE ROCK SOCKET.

* THE 24" DIAMETER PRE-AUGERED HOLE MAY REQUIRE THE USE OF A SLEEVE DURING THE AUGERING OPERATION TO PREVENT THE SOIL FROM CAVING-IN. IF A SLEEVE IS USED, IT SHALL BE REMOVED DURING THE CONCRETE PLACEMENT OPERATION.

DURING THE PLACEMENT OF CONCRETE THE FOLLOWING PROCEDURE SHALL BE USED:

1. CLEAN ALL LOOSE DEBRIS FROM BOTTOM OF HOLE.
2. PLACE 2'-0" CONCRETE IN BOTTOM OF HOLE.
3. SET PILE IN PLACE, CENTERED IN HOLE.
4. PLACE REMAINDER OF CONCRETE TO TOP OF HOLE.

NOTE:

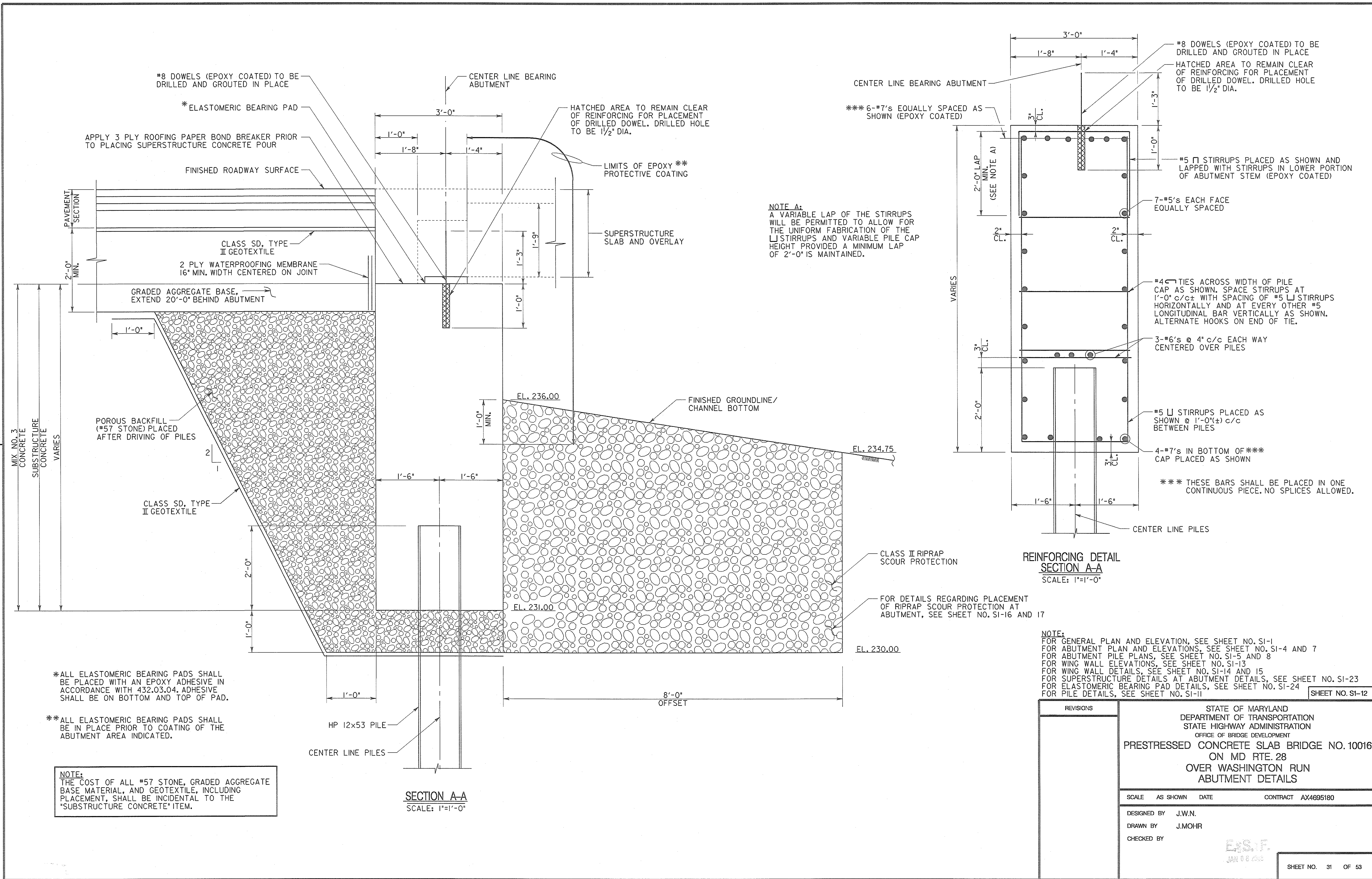
CONTRACTOR SHALL USE STANDOFFS, ETC. TO MAINTAIN PILE LOCATION IN CENTER OF HOLE DURING CONCRETE PLACEMENT. THESE DEVICES SHALL BE INDICATED ON SHOP DRAWINGS AND SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.

NOTE:

FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR ABUTMENT PLAN AND ELEVATIONS, SEE SHEET NO. SI-4 AND 7
FOR ABUTMENT PILE PLANS, SEE SHEET NO. SI-5 AND 8
FOR WING WALL ELEVATIONS, SEE SHEET NO. SI-13
FOR WING WALL DETAILS, SEE SHEET NO. SI-14 AND 15

SHEET NO. SI-11

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT PILE PLACEMENT DETAILS		
	SCALE	AS SHOWN	DATE
	DESIGNED BY		J.W.N.
DRAWN BY		J.MOHR	
CHECKED BY			
E. S. F. JAN 0 8 2008			SHEET NO. 30 OF 53



#8 DOWELS (EPOXY COATED) TO BE DRILLED AND GROUTED IN PLACE

* ELASTOMERIC BEARING PAD

APPLY 3 PLY ROOFING PAPER BOND BREAKER PRIOR TO PLACING SUPERSTRUCTURE CONCRETE POUR

FINISHED ROADWAY SURFACE

PAVEMENT SECTION

2'-0" MIN.

CLASS SD, TYPE II GEOTEXTILE

2 PLY WATERPROOFING MEMBRANE 16" MIN. WIDTH CENTERED ON JOINT

GRADED AGGREGATE BASE, EXTEND 20'-0" BEHIND ABUTMENT

MIX. NO. 3 CONCRETE SUBSTRUCTURE CONCRETE VARIES

POROUS BACKFILL (*#57 STONE) PLACED AFTER DRIVING OF PILES

CLASS SD, TYPE II GEOTEXTILE

*ALL ELASTOMERIC BEARING PADS SHALL BE PLACED WITH AN EPOXY ADHESIVE IN ACCORDANCE WITH 432.03.04. ADHESIVE SHALL BE ON BOTTOM AND TOP OF PAD.

*ALL ELASTOMERIC BEARING PADS SHALL BE IN PLACE PRIOR TO COATING OF THE ABUTMENT AREA INDICATED.

NOTE:
THE COST OF ALL *#57 STONE, GRADED AGGREGATE BASE MATERIAL, AND GEOTEXTILE, INCLUDING PLACEMENT, SHALL BE INCIDENTAL TO THE *SUBSTRUCTURE CONCRETE* ITEM.

CENTER LINE BEARING ABUTMENT

3'-0"

1'-0"

1'-8"

1'-4"

HATCHED AREA TO REMAIN CLEAR OF REINFORCING FOR PLACEMENT OF DRILLED DOWEL. DRILLED HOLE TO BE 1/2" DIA.

LIMITS OF EPOXY ** PROTECTIVE COATING

1'-3"

1'-0"

1'-0" MIN.

EL. 236.00

FINISHED GROUNDLINE/ CHANNEL BOTTOM

EL. 234.75

EL. 231.00

EL. 230.00

CLASS II RIPRAP SCOUR PROTECTION

FOR DETAILS REGARDING PLACEMENT OF RIPRAP SCOUR PROTECTION AT ABUTMENT, SEE SHEET NO. S1-16 AND 17

8'-0" OFFSET

HP 12x53 PILE

CENTER LINE PILES

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

NOTE A:
A VARIABLE LAP OF THE STIRRUPS WILL BE PERMITTED TO ALLOW FOR THE UNIFORM FABRICATION OF THE LJ STIRRUPS AND VARIABLE PILE CAP HEIGHT PROVIDED A MINIMUM LAP OF 2'-0" IS MAINTAINED.

CENTER LINE BEARING ABUTMENT

3'-0"

1'-8"

1'-4"

#8 DOWELS (EPOXY COATED) TO BE DRILLED AND GROUTED IN PLACE

HATCHED AREA TO REMAIN CLEAR OF REINFORCING FOR PLACEMENT OF DRILLED DOWEL. DRILLED HOLE TO BE 1/2" DIA.

1'-3"

1'-0"

*** 6-#7's EQUALLY SPACED AS SHOWN (EPOXY COATED)

2'-0" LAP MIN. (SEE NOTE A)

2" CL.

2" CL.

VARIES

3" CL.

2'-0"

#5 LJ STIRRUPS PLACED AS SHOWN AND LAPPED WITH STIRRUPS IN LOWER PORTION OF ABUTMENT STEM (EPOXY COATED)

#5 LJ STIRRUPS PLACED AS SHOWN @ 1'-0" (±) c/c BETWEEN PILES

4-#7's IN BOTTOM OF *** CAP PLACED AS SHOWN

*** THESE BARS SHALL BE PLACED IN ONE CONTINUOUS PIECE. NO SPLICES ALLOWED.

3-#6's @ 4" c/c EACH WAY CENTERED OVER PILES

#4 TIES ACROSS WIDTH OF PILE CAP AS SHOWN. SPACE STIRRUPS AT 1'-0" c/c± WITH SPACING OF #5 LJ STIRRUPS HORIZONTALLY AND AT EVERY OTHER #5 LONGITUDINAL BAR VERTICALLY AS SHOWN. ALTERNATE HOOKS ON END OF TIE.

7-#5's EACH FACE EQUALLY SPACED

1'-6"

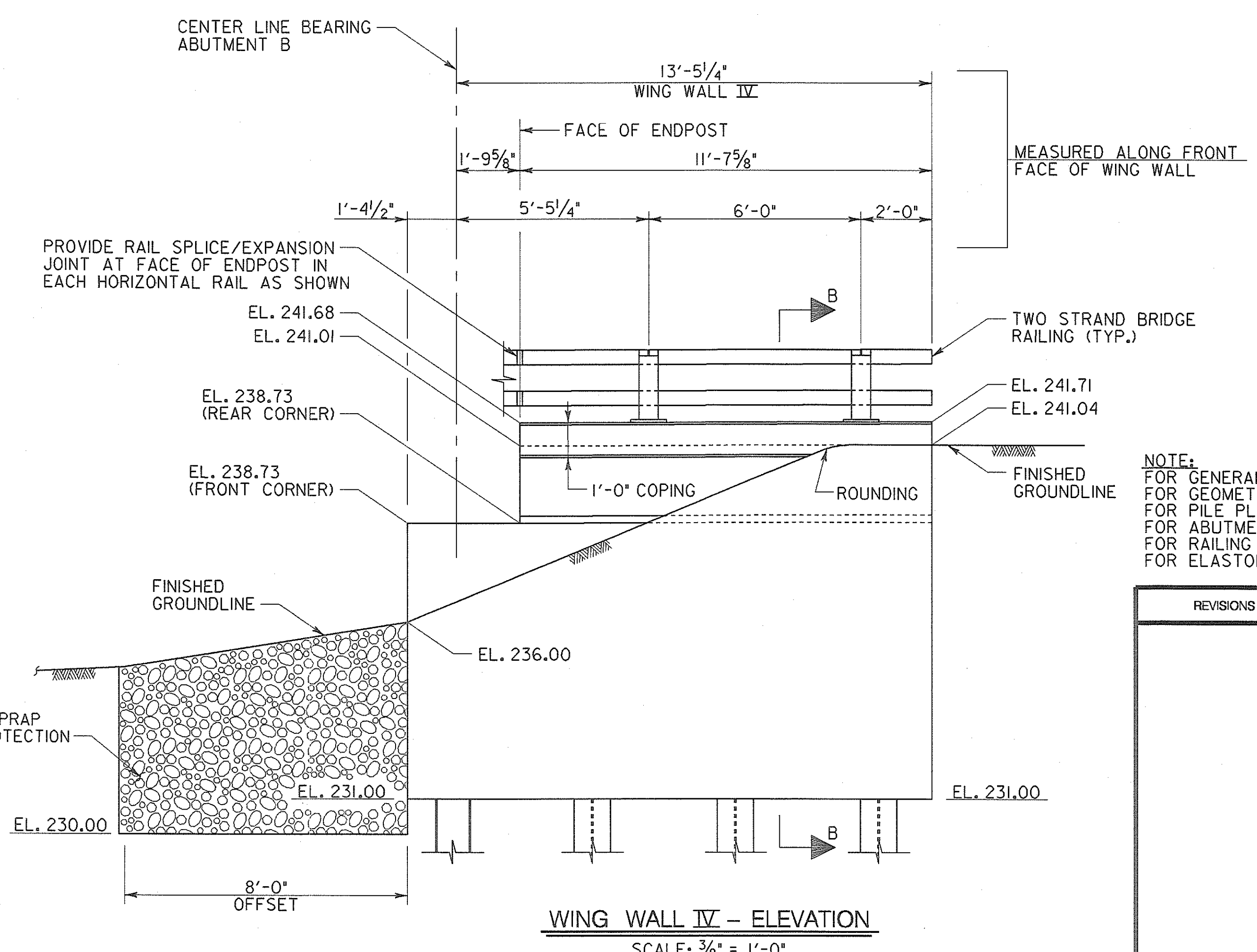
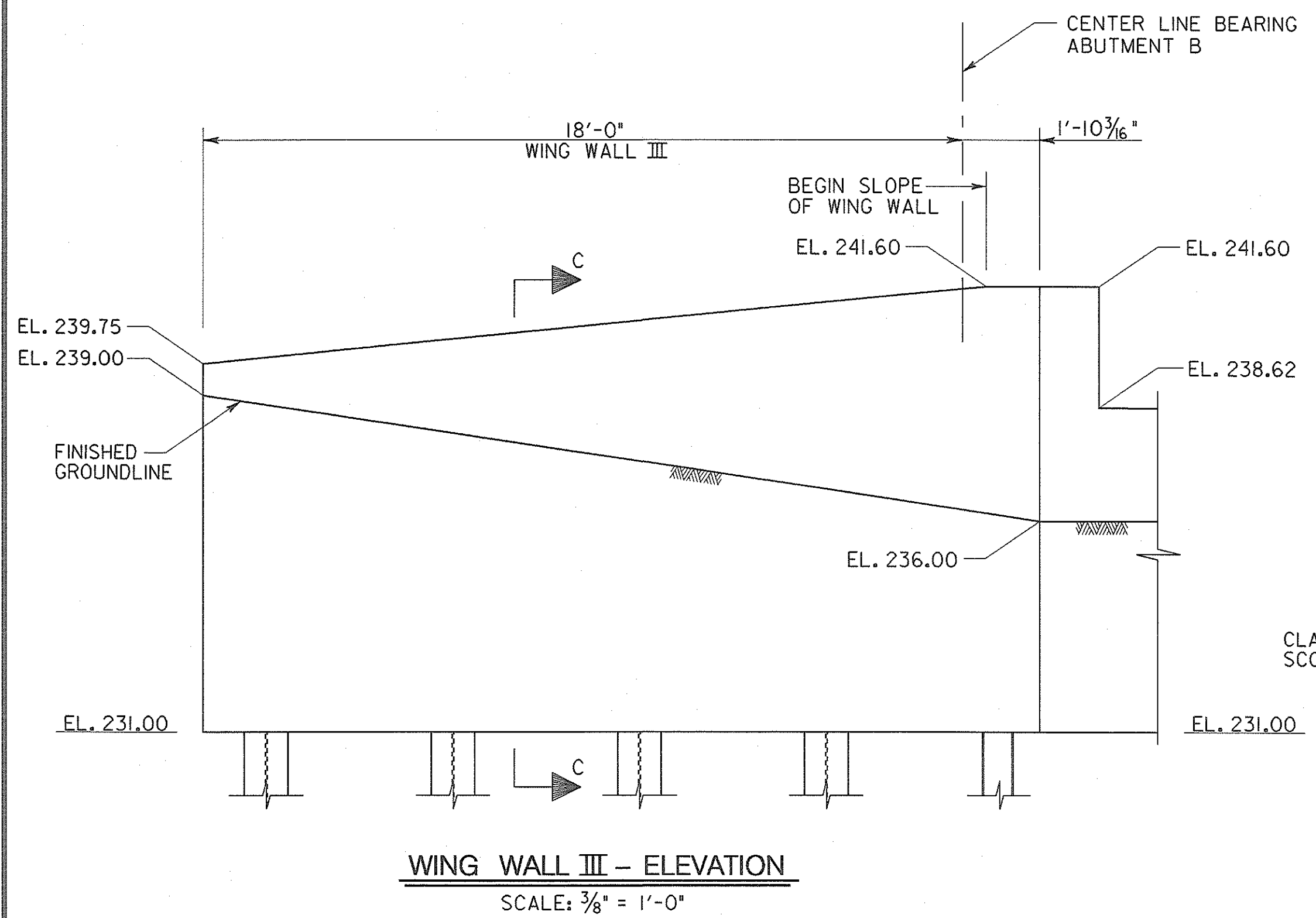
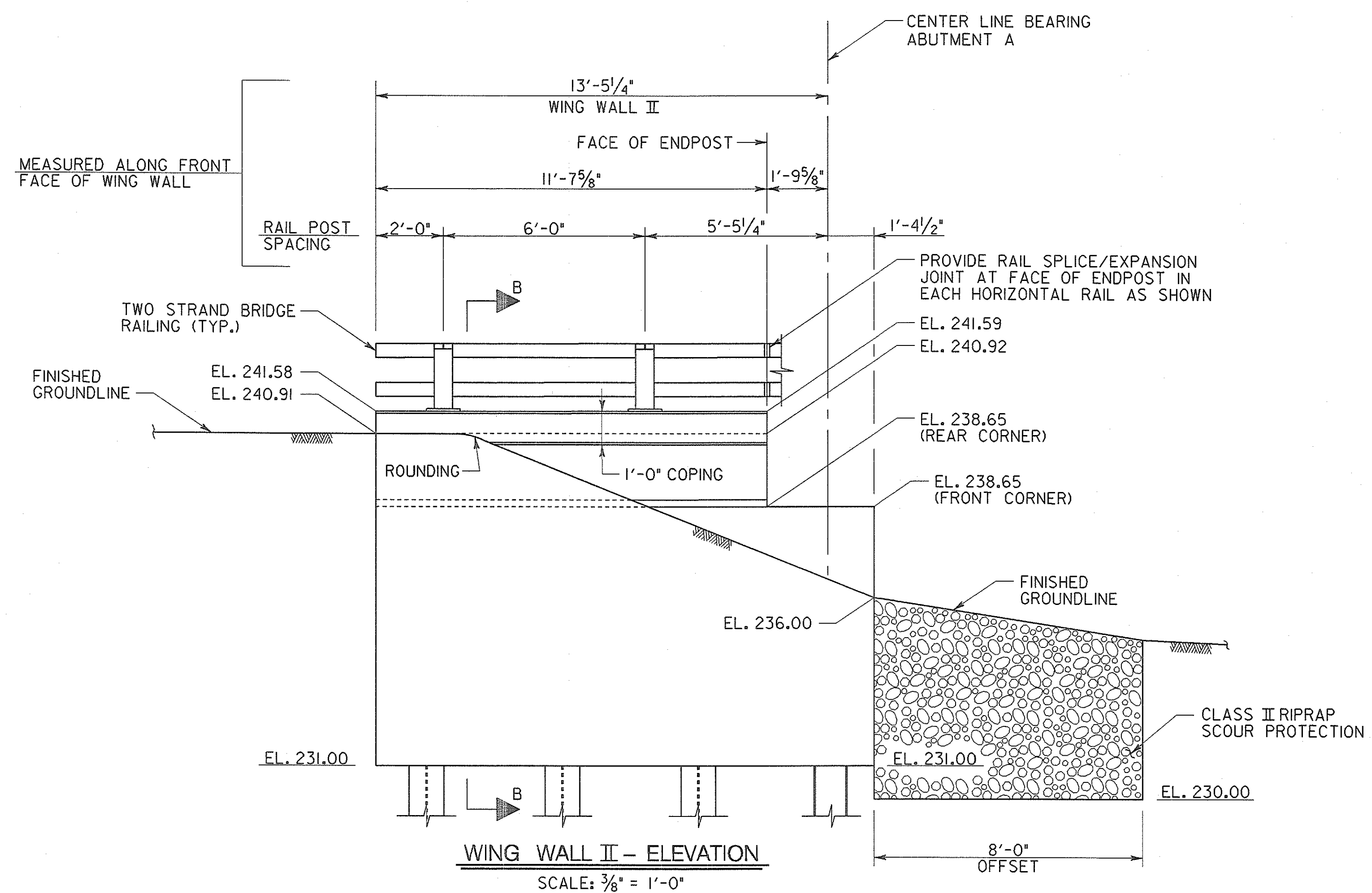
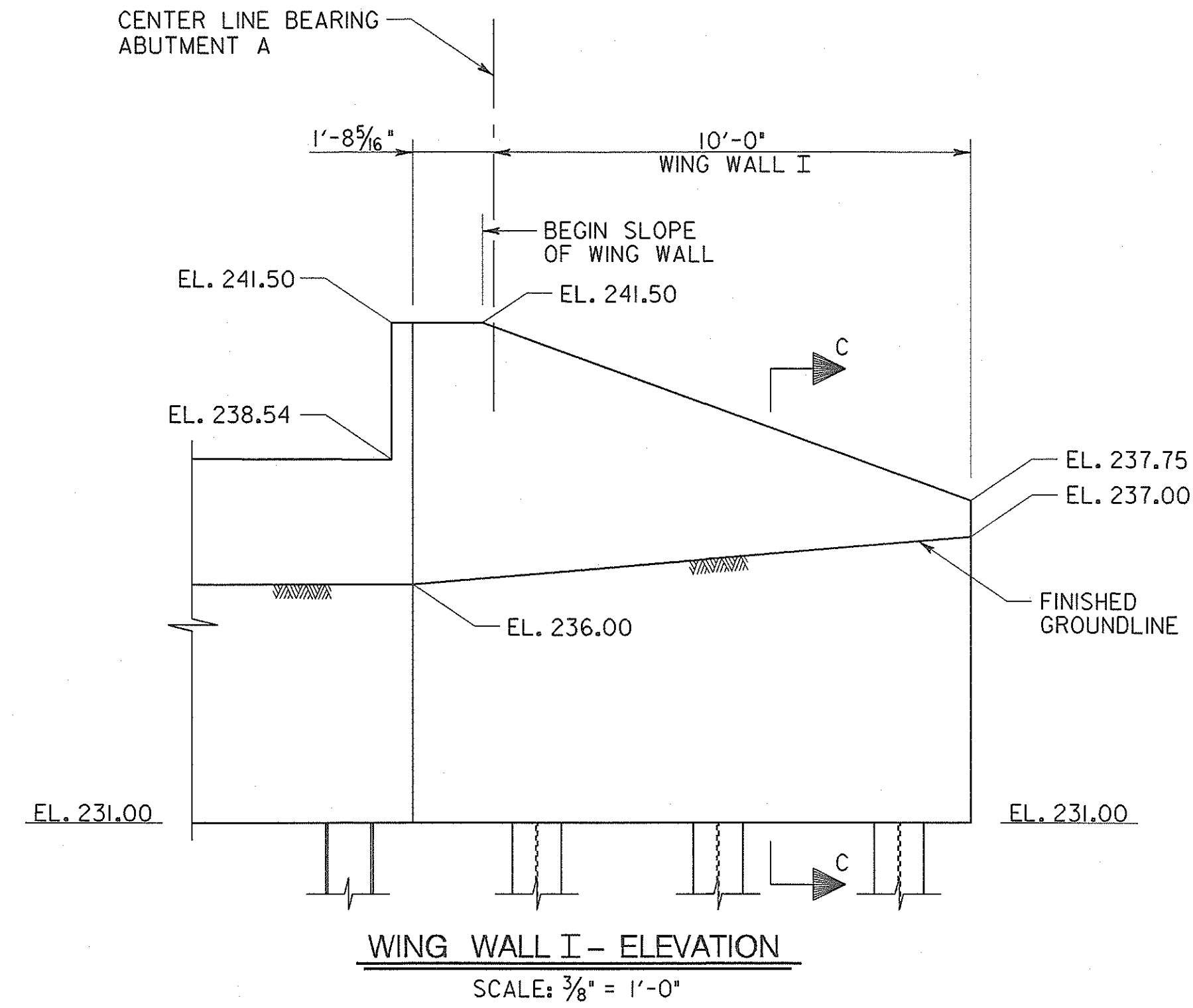
1'-6"

CENTER LINE PILES

REINFORCING DETAIL SECTION A-A
SCALE: 1"=1'-0"

NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S1-1
FOR ABUTMENT PLAN AND ELEVATIONS, SEE SHEET NO. S1-4 AND 7
FOR ABUTMENT PILE PLANS, SEE SHEET NO. S1-5 AND 8
FOR WING WALL ELEVATIONS, SEE SHEET NO. S1-13
FOR WING WALL DETAILS, SEE SHEET NO. S1-14 AND 15
FOR SUPERSTRUCTURE DETAILS AT ABUTMENT DETAILS, SEE SHEET NO. S1-23
FOR ELASTOMERIC BEARING PAD DETAILS, SEE SHEET NO. S1-24
FOR PILE DETAILS, SEE SHEET NO. S1-11

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN ABUTMENT DETAILS		
	SCALE	AS SHOWN	DATE CONTRACT AX4695180
DESIGNED BY	J.W.N.		
DRAWN BY	J.MOHR		
CHECKED BY			
E.S.I.F. JAN 08 2008			
SHEET NO. 31 OF 53			INDEXED



NOTE:
 FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S1-1
 FOR GEOMETRIC LAYOUT, SEE SHEET NO. S1-3
 FOR PILE PLAN, SEE SHEET NO. S1-5 AND 8
 FOR ABUTMENT SECTIONS, SEE SHEET NO. S1-10 TO 12
 FOR RAILING DETAILS, SEE SHEET NO. S1-26 AND 27
 FOR ELASTOMERIC BEARING PAD DETAILS, SEE SHEET NO. S1-24

REVISIONS		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
		PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN WING WALL ELEVATIONS	
SCALE	AS SHOWN	DATE	CONTRACT AX4695180
DESIGNED BY	J.W.N.		
DRAWN BY	J.MOHR		
CHECKED BY		E. S. F. JAN 08 2008	
		SHEET NO. 32	OF 53

OTHER CONTRACTS FOR THIS STRUCTURE

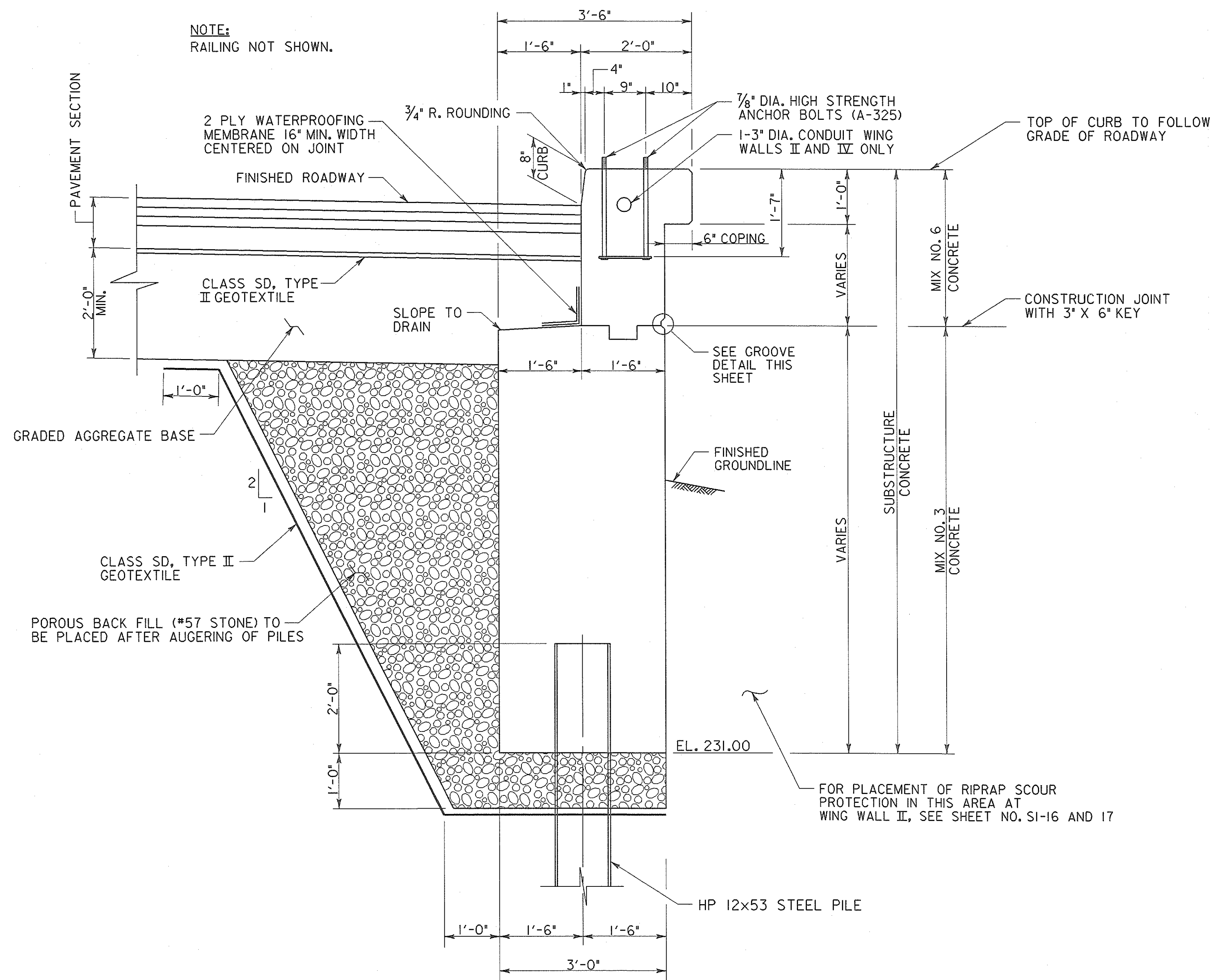
STRUCTURE INVENTORY NO. 1001600

SURVEY BOOK NO.

S:\CADD\OBD\1001600\10016wwe.dgn
 PRINT DATE: Wednesday, November 14, 2007 at 11:10:46 AM

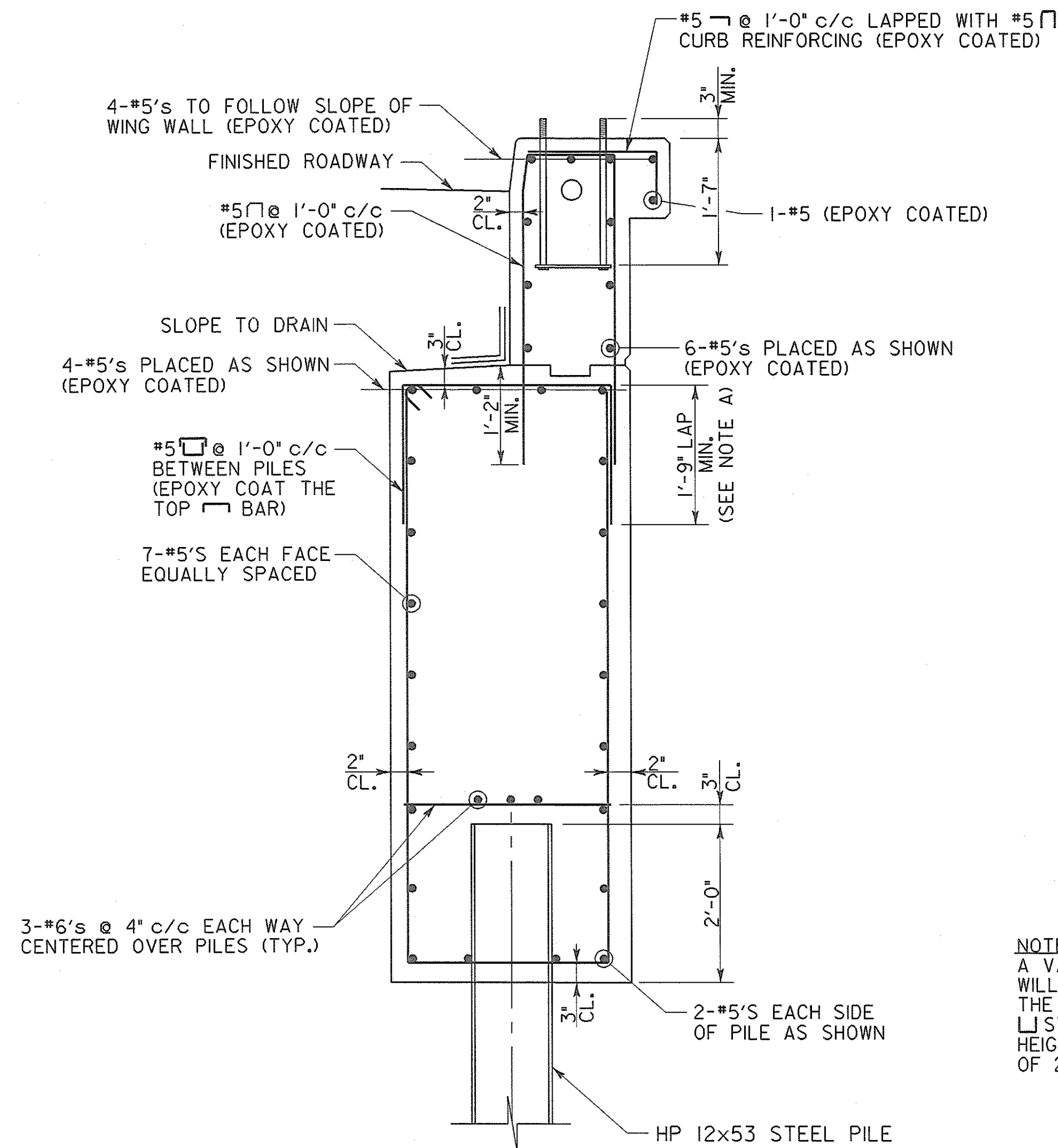
INDEXED

NOTE:
RAILING NOT SHOWN.

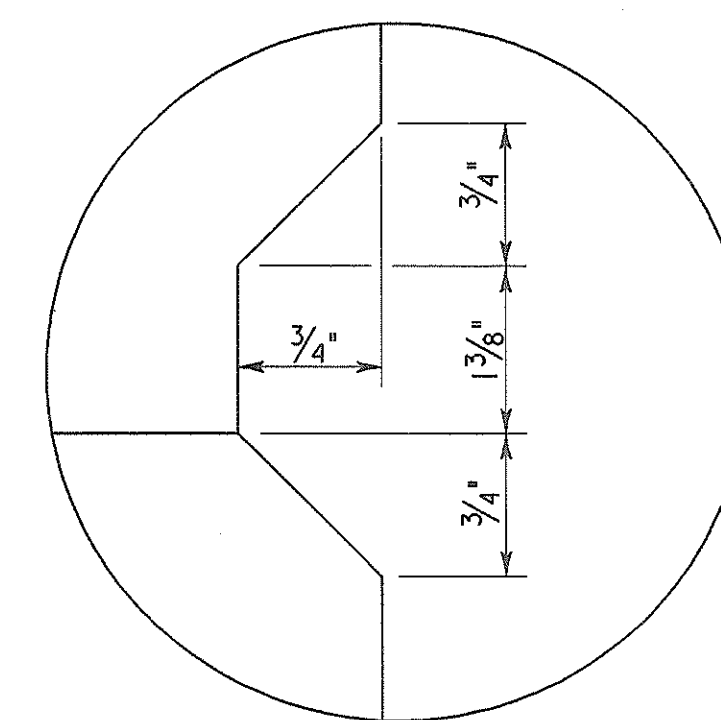


SECTION B-B
SCALE: 3/4" = 1'-0"

NOTE:
THE COST OF ALL #57 STONE, GRADED AGGREGATE BASE MATERIAL, AND GEOTEXTILE, INCLUDING PLACEMENT, SHALL BE INCIDENTAL TO THE "SUBSTRUCTURE CONCRETE" ITEM.



REINFORCING DETAIL
SECTION B-B
SCALE: 3/4" = 1'-0"



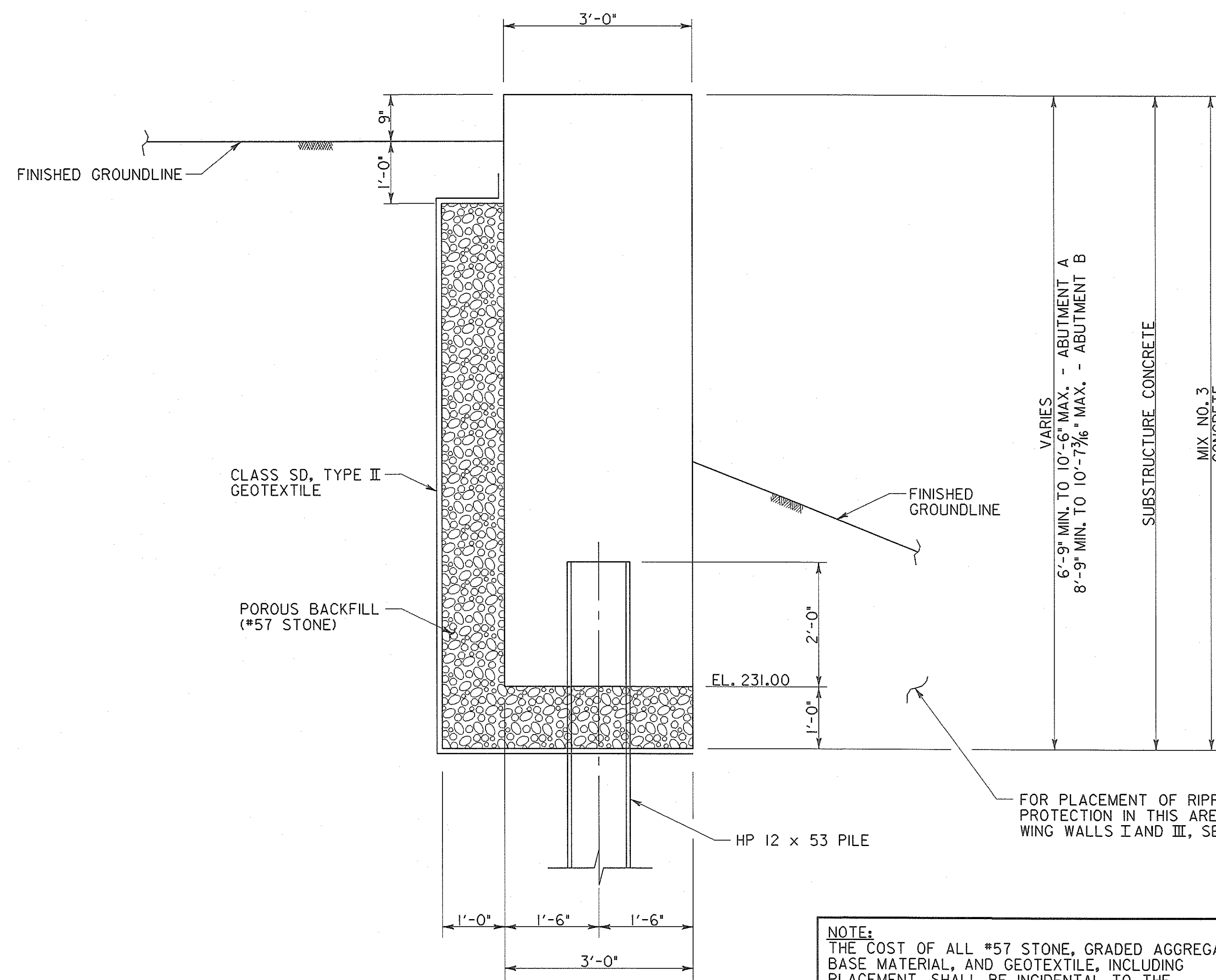
GROOVE DETAIL
SCALE: FULL

NOTE A:
A VARIABLE LAP OF THE STIRRUPS WILL BE PERMITTED TO ALLOW FOR THE UNIFORM FABRICATION OF THE L STIRRUPS AND VARIABLE WALL HEIGHT PROVIDED A MINIMUM LAP OF 2'-0" IS MAINTAINED.

NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S1-1
FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET NO. S1-4 AND 7
FOR ABUTMENT DETAILS, SEE SHEET NO. S1-10 TO 13
FOR WING WALL ELEVATIONS, SEE SHEET NO. S1-13
FOR RAILING DETAILS, SEE SHEET NO. S1-27
FOR PILE DETAILS, SEE SHEET NO. S1-11

SHEET NO. S1-14

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN WING WALL DETAILS		
SCALE	AS SHOWN	DATE	CONTRACT AX4695180
DESIGNED BY	J.W.N.		
DRAWN BY	J.MOHR		
CHECKED BY			
E. S. F. JAN 07 2006			
SHEET NO. 33 OF 53			INDEXED



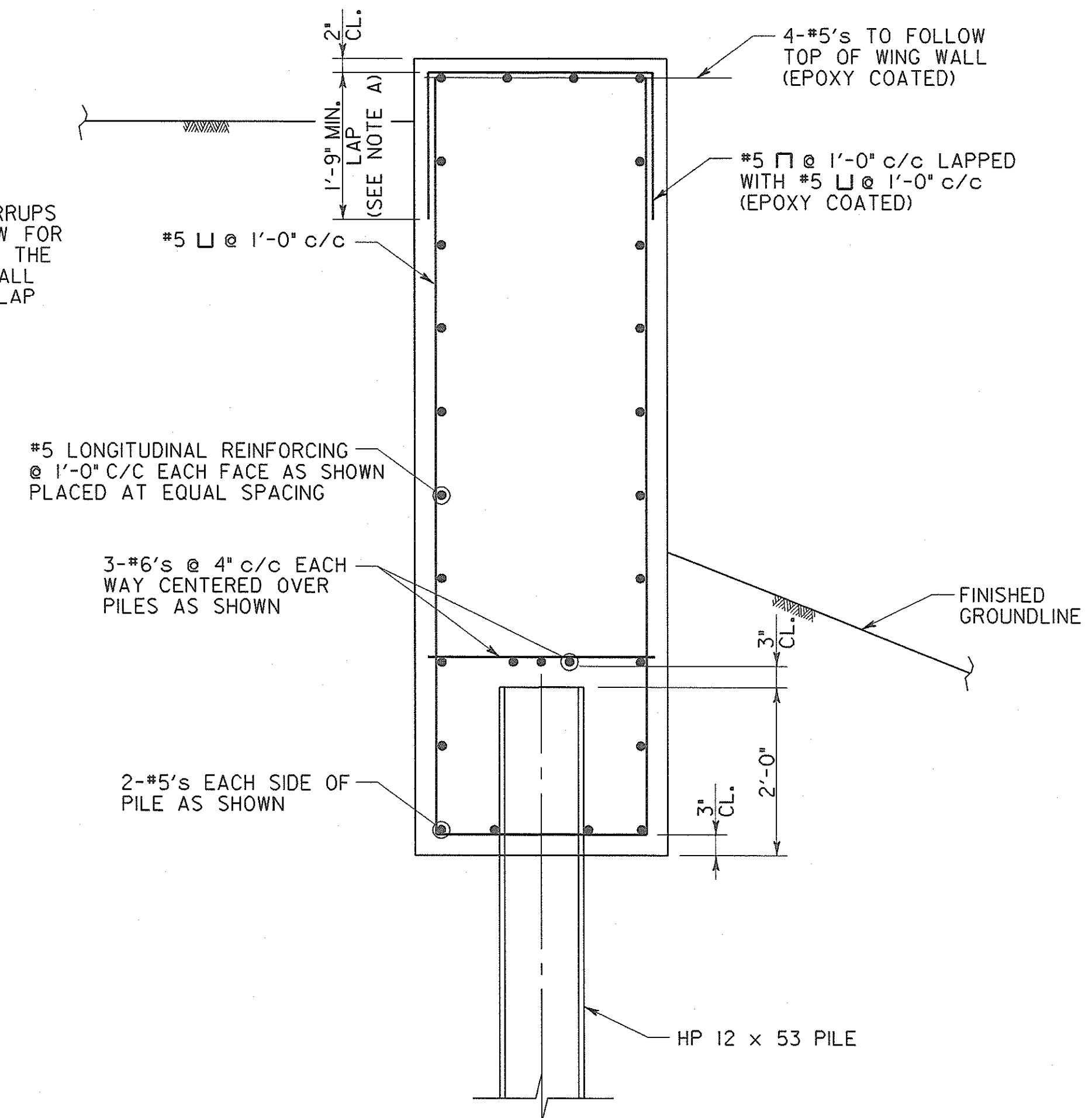
SECTION C-C
SCALE: 3/4" = 1'-0"

NOTE:
THE COST OF ALL #57 STONE, GRADED AGGREGATE BASE MATERIAL, AND GEOTEXTILE, INCLUDING PLACEMENT, SHALL BE INCIDENTAL TO THE "SUBSTRUCTURE CONCRETE" ITEM.

FOR PLACEMENT OF RIPRAP SCOUR PROTECTION IN THIS AREA AT WING WALLS I AND III, SEE SHEET NO. SI-16 AND 17

VARIES
6'-9" MIN. TO 10'-6" MAX. - ABUTMENT A
8'-9" MIN. TO 10'-7 1/2" MAX. - ABUTMENT B
SUBSTRUCTURE CONCRETE
MIX NO. 3
CONCRETE

NOTE A:
A VARIABLE LAP OF THE STIRRUPS WILL BE PERMITTED TO ALLOW FOR THE UNIFORM FABRICATION OF THE L J STIRRUPS AND VARIABLE WALL HEIGHT PROVIDED A MINIMUM LAP OF 2'-0" IS MAINTAINED.



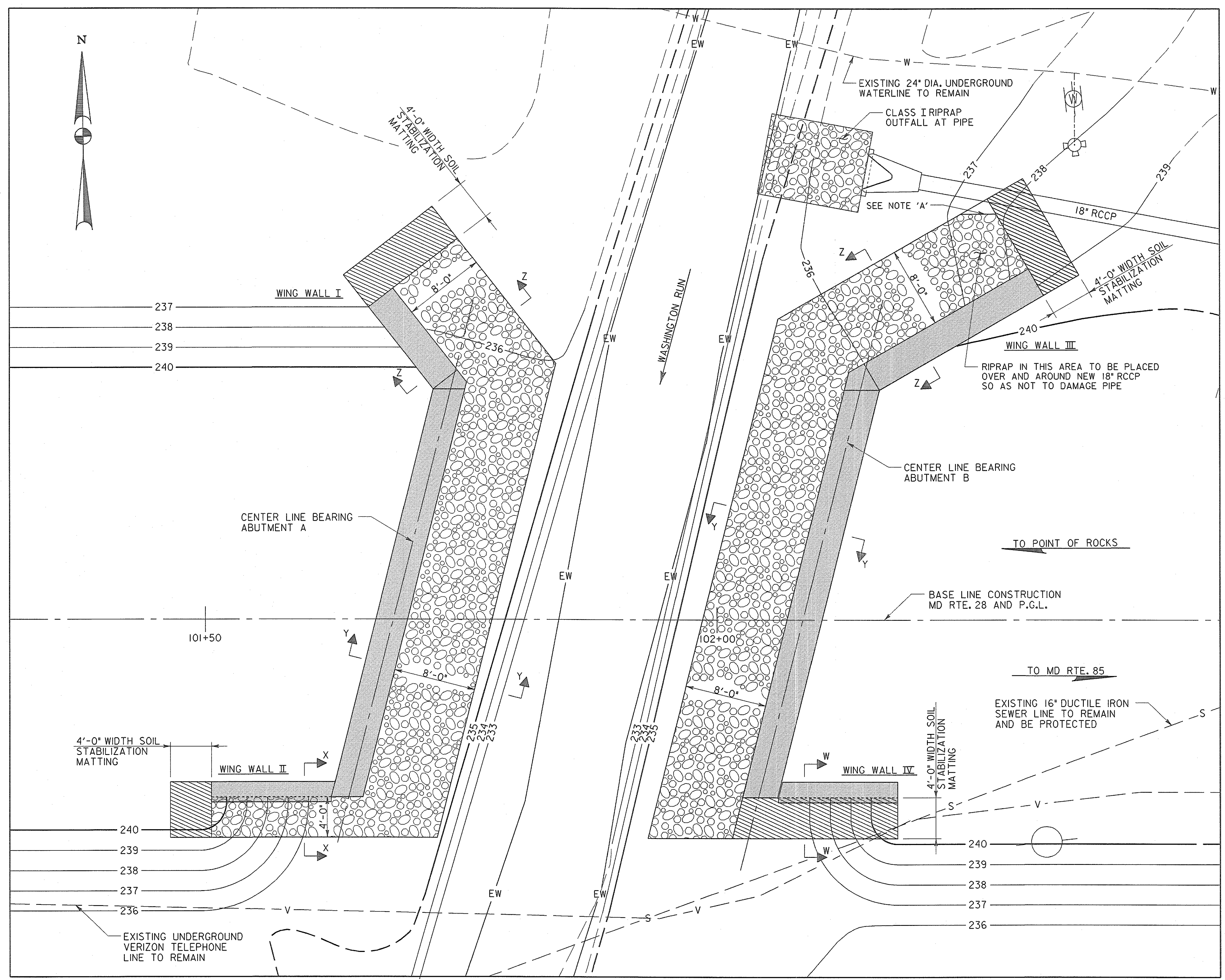
REINFORCING SECTION C-C
SCALE: 3/4" = 1'-0"

NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET NO. SI-4 AND 7
FOR ABUTMENT DETAILS, SEE SHEET NO. SI-10 TO 12
FOR WING WALL DETAILS, SEE SHEET NO. SI-13 TO 15
FOR PILE DETAILS, SEE SHEET NO. SI-11

SHEET NO. SI-15

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN WING WALL DETAILS	
	SCALE AS SHOWN	DATE CONTRACT AX4695180
DESIGNED BY	J.W.N.	E. S. E. JAN 08 2008
DRAWN BY	J.MOHR	
CHECKED BY		

SHEET NO. 34 OF 53



NOTE 'A':
 TRIM CORNER OF RIPRAP AS NEEDED
 TO AVOID CONFLICT WITH 18" RCP.

NOTE:
 1. ALL RIPRAP FOR SCOUR PROTECTION AS DEPICTED
 ON THIS PLAN SHALL MEET THE REQUIREMENTS
 OF CLASS II RIPRAP.
 2. PAYMENT FOR "CLASS II RIPRAP FOR SCOUR
 PROTECTION" WILL BE IN ACCORDANCE WITH 312.04.

NOTE:

- DENOTES NEW ABUTMENTS TO BE CONSTRUCTED.
- DENOTES CLASS II RIPRAP SCOUR PROTECTION.
- DENOTES 4'-0" WIDTH SOIL STABILIZATION MATTING.
- DENOTES APPROXIMATE EXISTING EDGE OF WATER.

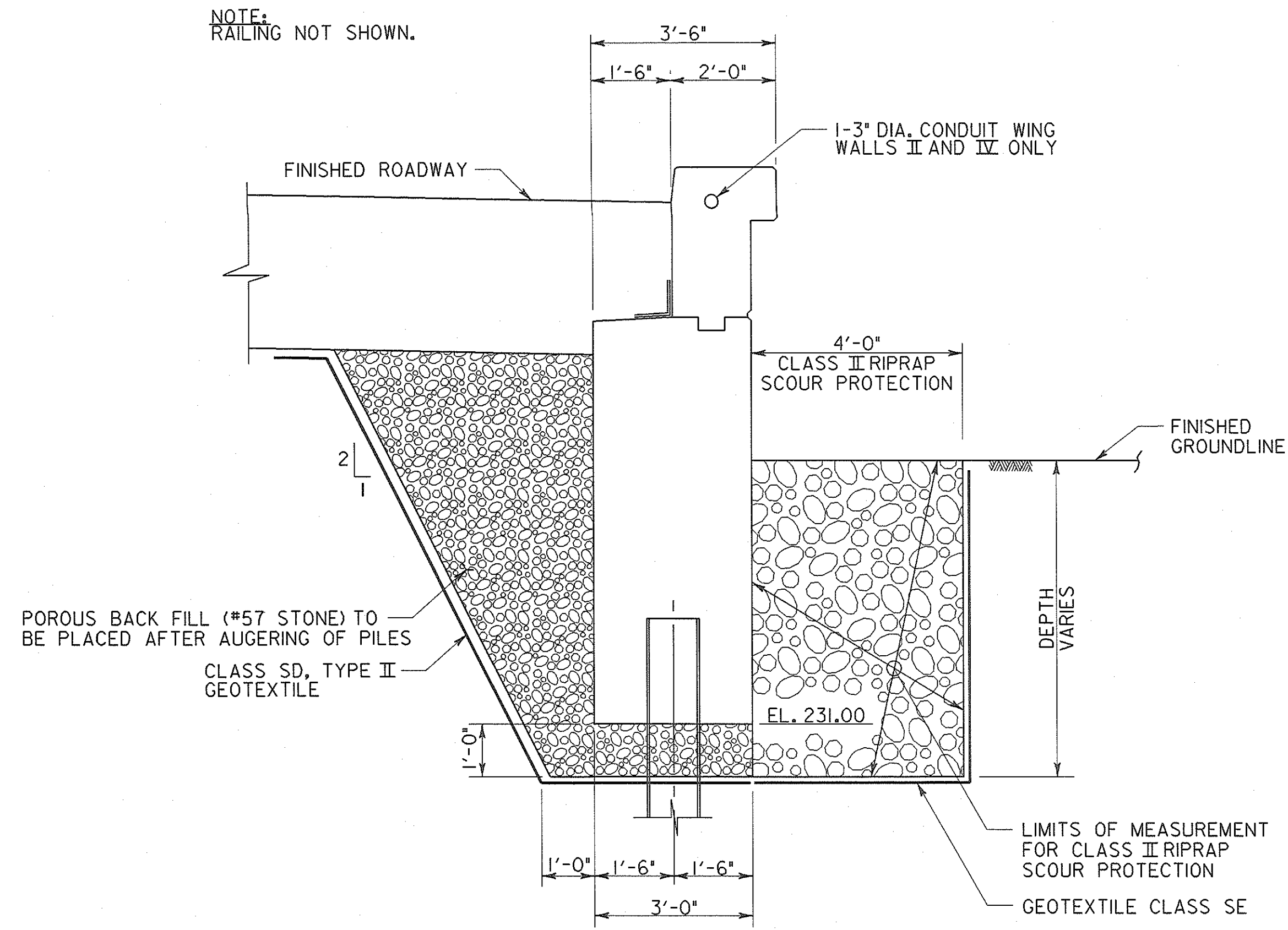
NOTE:
 FOR ABUTMENT A PLAN AND ELEVATION, SEE SHEET NO. SI-4
 FOR ABUTMENT B PLAN AND ELEVATION, SEE SHEET NO. SI-7
 FOR DETAILS OF RIPRAP SCOUR PROTECTION, SEE SHEET NO. SI-17

SHEET NO. SI-16

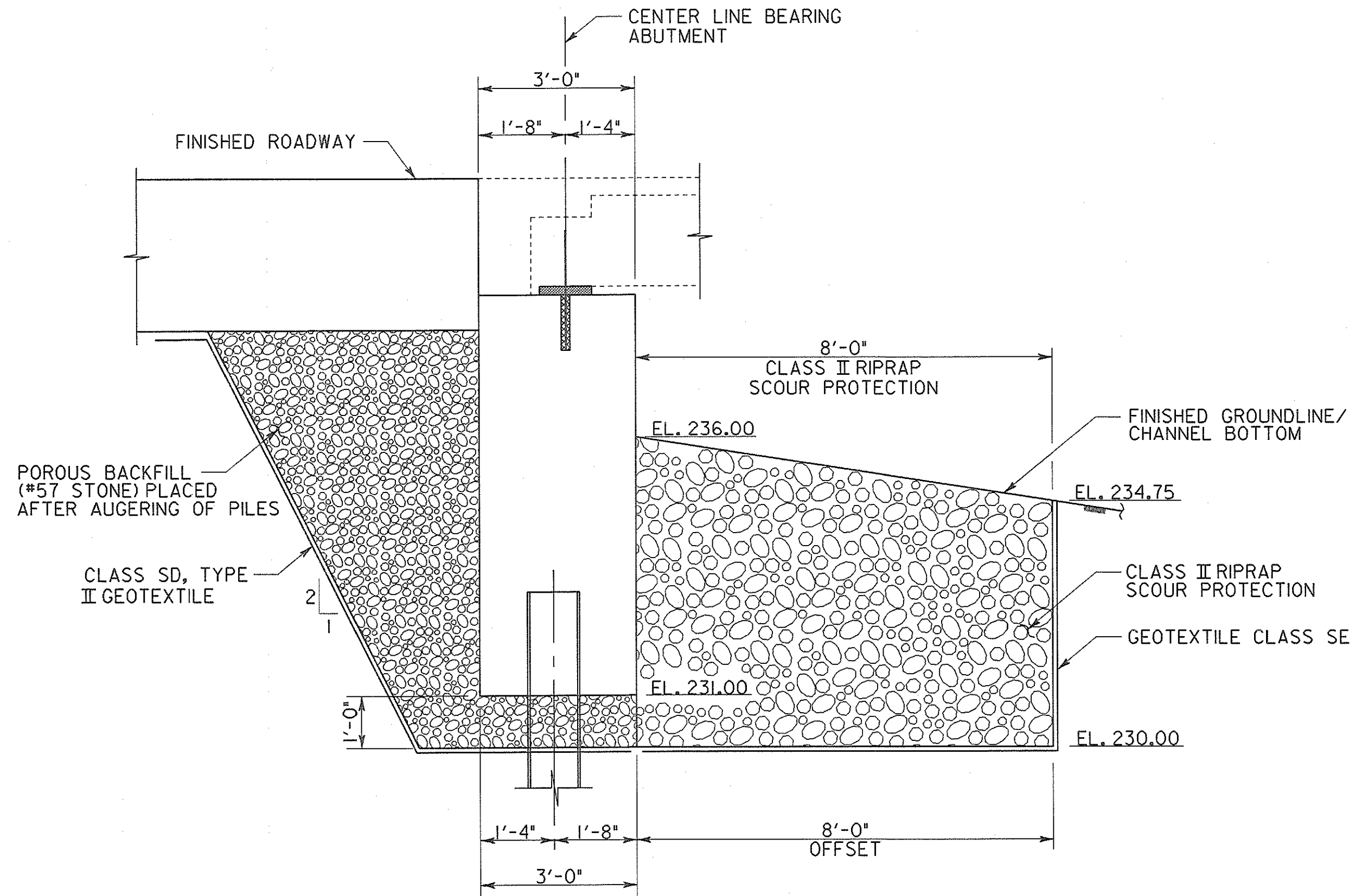
PLAN
RIPRAP SCOUR PROTECTION AT ABUTMENTS
 SCALE: 3/16" = 1'-0"

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN RIPRAP SCOUR PROTECTION
	SCALE AS SHOWN DATE CONTRACT AX4695180
	DESIGNED BY J.W.N. DRAWN BY J.MOHR CHECKED BY
	E.S.F. JAN 9 8 2008
	SHEET NO. 35 OF 53

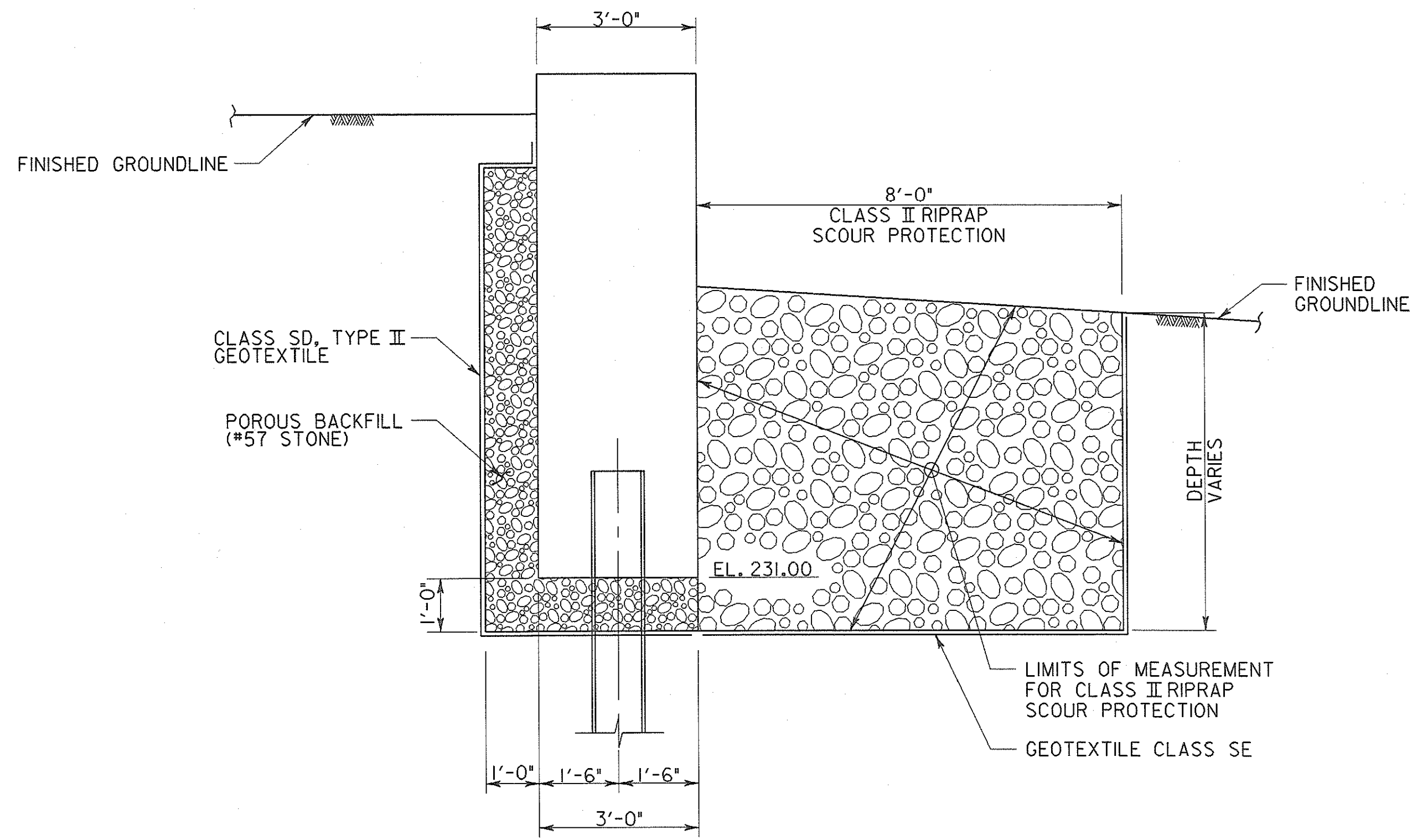
NOTE:
RAILING NOT SHOWN.



SECTION X-X
SCALE: 1/2" = 1'-0"

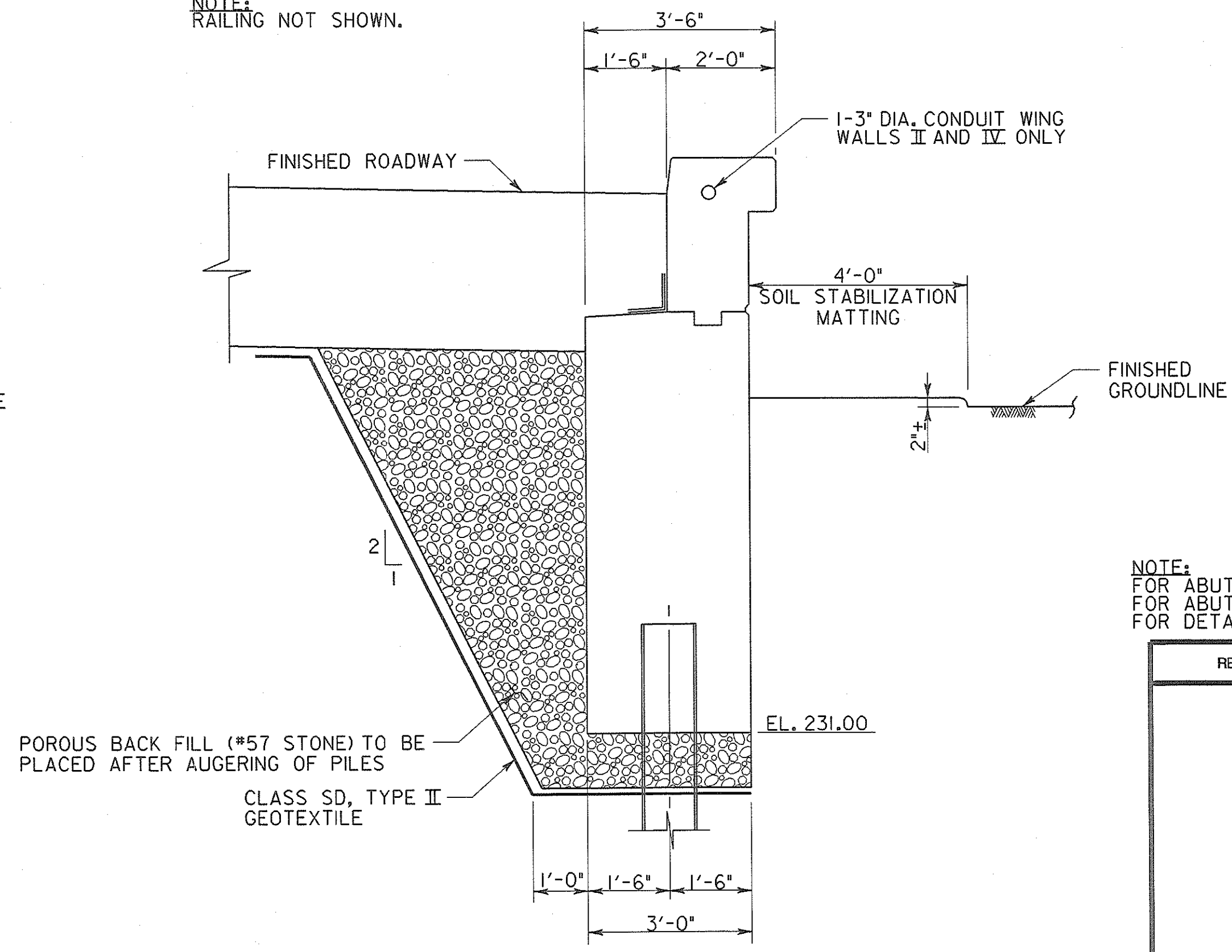


SECTION Y-Y
SCALE: 1/2" = 1'-0"



SECTION Z-Z
SCALE: 1/2" = 1'-0"

NOTE:
RAILING NOT SHOWN.

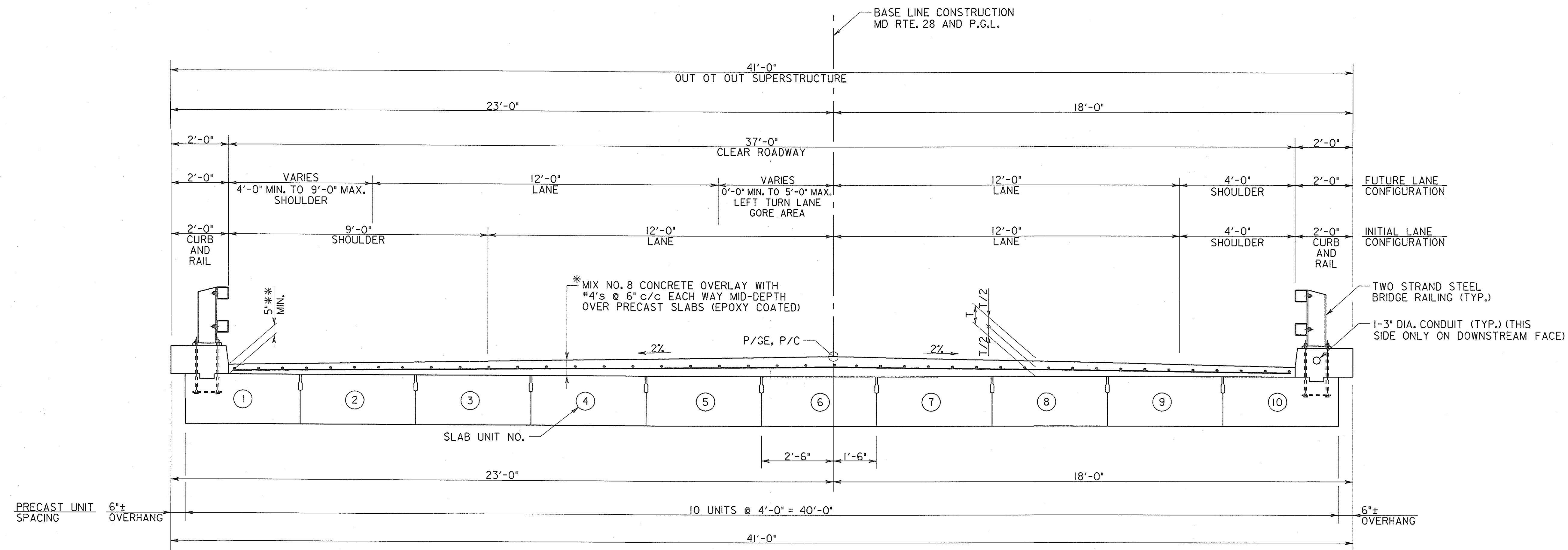


SECTION W-W
SCALE: 1/2" = 1'-0"

- NOTE:
1. ALL RIPRAP SCOUR PROTECTION AS DEPICTED ON THIS PLAN SHALL MEET THE REQUIREMENTS OF CLASS II RIPRAP.
 2. PAYMENT FOR "CLASS II RIPRAP FOR SCOUR PROTECTION" SHALL BE IN ACCORDANCE WITH 312.04 AND SHALL INCLUDE GEOTEXTILE.

NOTE:
FOR ABUTMENT A PLAN AND ELEVATION, SEE SHEET NO. S1-4
FOR ABUTMENT B PLAN AND ELEVATION, SEE SHEET NO. S1-7
FOR DETAILS OF RIPRAP SCOUR PROTECTION, SEE SHEET NO. S1-16

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN RIPRAP SCOUR PROTECTION DETAILS		
	SCALE AS SHOWN	DATE	CONTRACT AX4695180
	DESIGNED BY	J.W.N.	
	DRAWN BY	J.MOHR	
	CHECKED BY		
	E. S. F. JAN 08 2008		
	SHEET NO. 36	OF 53	

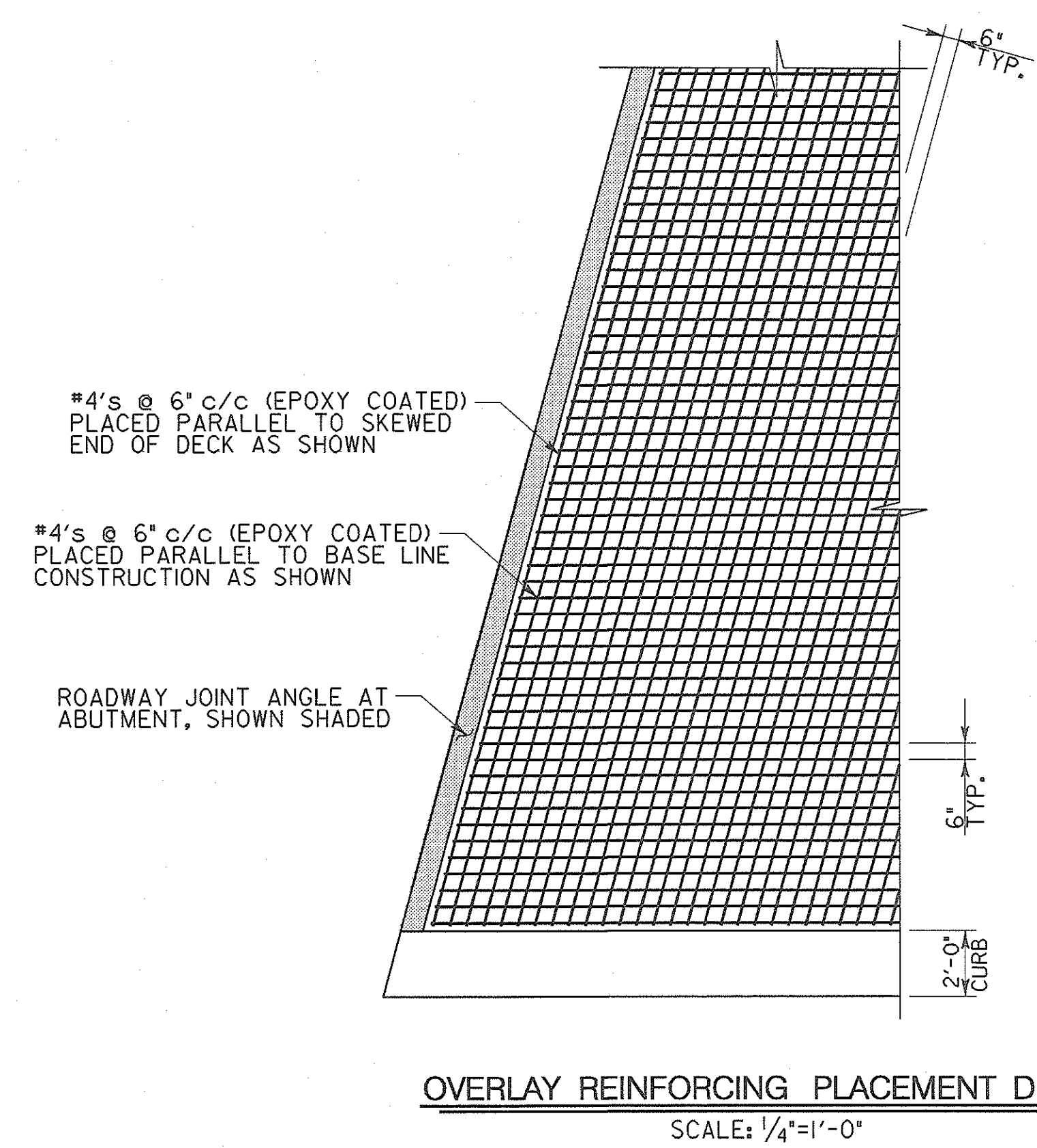


TYPICAL SECTION
SCALE: 1/2"=1'-0"

*THE COST OF ALL REINFORCING AND CONCRETE IN THE OVERLAY SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR THE "SUPERSTRUCTURE CONCRETE" ITEM.

**DEPTH OF OVERLAY TO VARY TO COMPENSATE FOR VERTICAL VARIATION OF ROADWAY OVER THE PLANE OF THE TOP OF THE SLAB UNITS.

NOTE:
THE ENTIRE CONCRETE OVERLAY SHALL BE MADE IN ONE CONTINUOUS POUR FROM ABUTMENT TO ABUTMENT. REFER TO 440.03.21 FOR SLAB SURFACE PREPARATION PRIOR TO PLACING MIX NO. 8 CONCRETE OVERLAY. SECTION SHOWN LOOKING STATIONS AHEAD.



CONCRETE OVERLAY SEQUENCE OF OPERATIONS

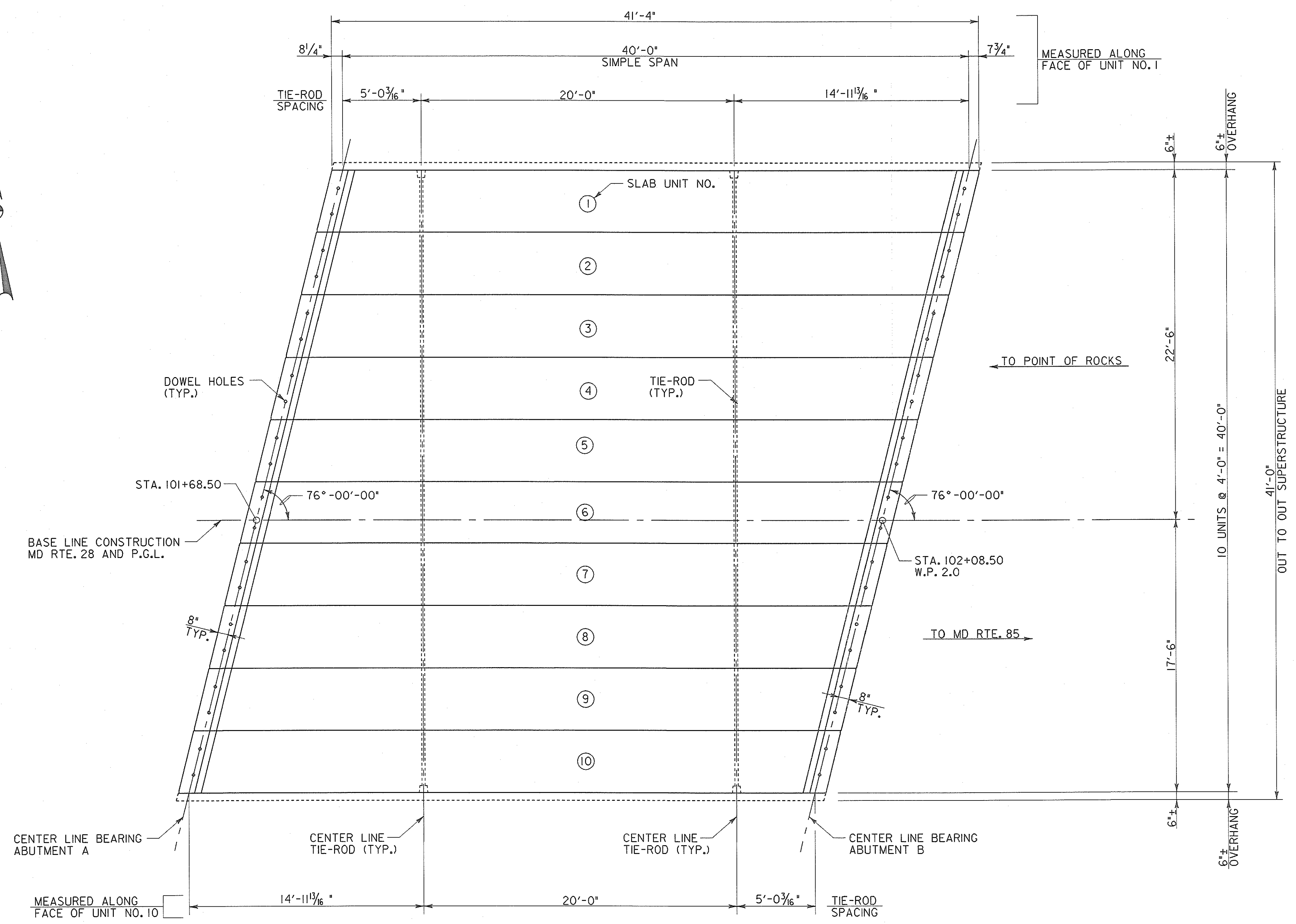
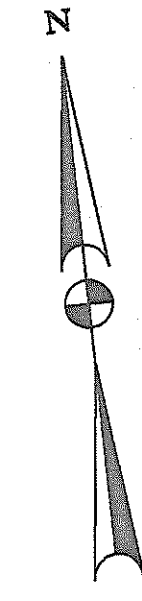
IN PREPARATION FOR THE PLACEMENT OF THE MIX NO. 8 CONCRETE OVERLAY OVER THE PRECAST CONCRETE SLAB UNITS, THE CONTRACTOR SHALL FOLLOW THE FOLLOWING SEQUENCE OF OPERATIONS:

1. THERE SHALL BE A MINIMUM OF 48 HOURS BETWEEN THE PLACEMENT OF THE CONCRETE CURBS OR PARAPETS AND THE TENSIONING OF THE TIE RODS AND GROUTING OF THE SHEAR KEYS.
2. PLACEMENT OF THE OVERLAY MAY OCCUR ONCE THE PARAPETS AND CURBS HAVE MET THE CURING REQUIREMENTS.
3. THE OVERLAY REINFORCING MAT MAY BE ASSEMBLED ON OR OFF THE STRUCTURE. HOWEVER, THE MATS MUST BE ASSEMBLED IN UNITS THAT CAN BE LIFTED ON AND OFF THE STRUCTURE PRIOR TO PLACING THE OVERLAY. REINFORCING UNITS SHALL BE ASSEMBLED WITH PROPER BAR LAP LENGTHS TO TIE REINFORCING UNITS TOGETHER. TEMPORARY SUPPORTS ATTACHED TO THE MATS, SUCH AS DIAGONAL REBARS OR SIMILAR SUPPORT STEEL SUCH AS STEEL ANGLES, MAY BE REQUIRED TO PREVENT RACKING OF THE MAT DURING LIFTING OPERATIONS. NO WELDING WILL BE ALLOWED.
4. TO LOCATE THE REINFORCING MAT IN THE CENTER OF THE DECK OVERLAY, THE CONTRACTOR SHALL PLACE AND TIE THE SUPPORT CHAIRS TO THE UNDERSIDE OF THE REINFORCING MAT.
5. THE FINISHING SCREED SHALL BE SET-UP AND A DRY RUN OF THE FINISHING OPERATION MADE TO VERIFY THAT THE REINFORCING IS PROPERLY LOCATED AND THE FINISHED DECK ELEVATIONS SHOWN ON THE PLANS CAN BE ACHIEVED.
6. THE REINFORCING MAT, INCLUDING CHAIRS, SHALL BE LIFTED OFF OF THE BRIDGE JUST PRIOR TO THE PLACEMENT OF THE OVERLAY TO PERMIT THE ENTIRE DECK TO BE CLEANED IN ACCORDANCE WITH SECTION 440.03.21.
7. PRIOR TO BEGINNING THE PLACEMENT OF THE OVERLAY, THE CONTRACTOR SHALL FLOAT THE CEMENT SLURRY ACROSS THE BRIDGE DECK AS DESCRIBED IN THE SPECIFICATIONS AND WORK IT INTO THE TOP OF THE SLAB UNITS.
8. KEEPING THE SLURRY MOIST WITH A MISTING OPERATION, THE REINFORCING MAT SHALL BE PLACED BACK ON TOP OF THE PRECAST SLAB UNITS, SEGMENTS TIED TOGETHER AND RESTING ON CHAIRS, AND THE PLACEMENT OF THE MIX NO. 8 CONCRETE OVERLAY SHALL COMMENCE IMMEDIATELY. IT IS IMPERATIVE THAT THE OVERLAY SHALL BE PLACED WHILE THE SLURRY IS IN A NON-SET CONDITION.

NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR GENERAL NOTES, SEE SHEET NO. SI-1
FOR SLAB LAYOUT, SEE SHEET NO. SI-19
FOR SLAB DETAILS, SEE SHEET NO. SI-20 TO 22
FOR ADDITIONAL SUPERSTRUCTURE DETAILS, SEE SHEET NO. SI-23 AND 24
FOR CURB DETAILS, SEE SHEET NO. SI-23
FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27

SHEET NO. SI-18

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN TYPICAL SECTION	
SCALE AS SHOWN	DATE CONTRACT AX4695180
DESIGNED BY J.W.N.	
DRAWN BY J.MOHR	
CHECKED BY	
 JAN 8 2007	
SHEET NO. 37 OF 53	



CONTRACTOR'S NOTE:
 AFTER THE PRESTRESSED SLABS HAVE BEEN FABRICATED, AND PRIOR TO SHIPPING THEM TO THE BRIDGE SITE, THE FABRICATOR SHALL ERECT THE SLABS IN SUCH A MANNER AS TO DUPLICATE THE FIELD CONDITIONS TO VERIFY THAT THEY CAN BE PLACED AS INTENDED AND THAT ALL TIE-ROD HOLES ALIGN WITH EACH OTHER. SHOULD THE SLAB UNITS NOT ALLOW FOR THE PLACEMENT OF THE TIE-RODS THE FABRICATOR WILL BE REQUIRED TO RECAST THE SLAB UNITS WHICH ARE IN ERROR. NO DRILLING OR CORING OF THE SLAB UNITS WILL BE ALLOWED TO CORRECT ANY MISPLACEMENT OF THE TIE-ROD HOLES. ANY COSTS ASSOCIATED WITH THE RECASTING OF SLAB UNITS WILL BE AT NO ADDITIONAL COST TO THE ADMINISTRATION.

PRESTRESSED CONCRETE SLAB LAYOUT
 SCALE: 1/4" = 1'-0"

NOTE:
 THE CONTRACTOR WILL BE ALLOWED TO PLACE EQUIPMENT ON THE SLABS PRIOR TO PLACING THE OVERLAY PROVIDED THAT ALL SLAB UNITS ARE IN PLACE, THE TIE-RODS HAVE BEEN TENSIONED, AND THE JOINTS HAVE BEEN GROUTED FOR A MINIMUM PERIOD OF TWO DAYS.

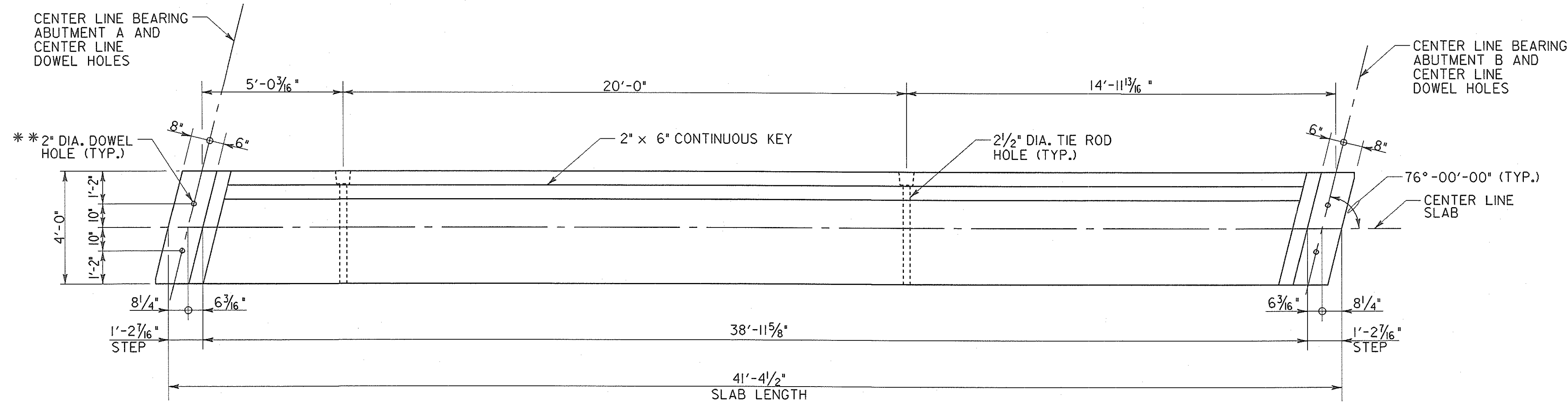
ALL SLAB SURFACES SHALL BE CLEANED IN ACCORDANCE WITH THE SPECIFICATIONS IMMEDIATELY PRIOR TO PLACING OVERLAY.

NO OTHER TIE-ROD LAYOUTS WILL BE ALLOWED FOR THIS PROJECT. TIE-RODS WILL NOT BE ALLOWED TO BE PLACED PARALLEL TO CENTER LINE OF BEARING.

NOTE:
 FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
 FOR GENERAL NOTES, SEE SHEET NO. SI-1
 FOR ABUTMENT DETAILS, SEE SHEET NOS. SI-4 TO 15
 FOR DETAILS OF SUPERSTRUCTURE SLABS, SEE SHEET NOS. SI-20 TO 22
 FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27
 FOR TIE-ROD DETAILS, SEE SHEET NO. SI-24

SHEET NO. SI-19

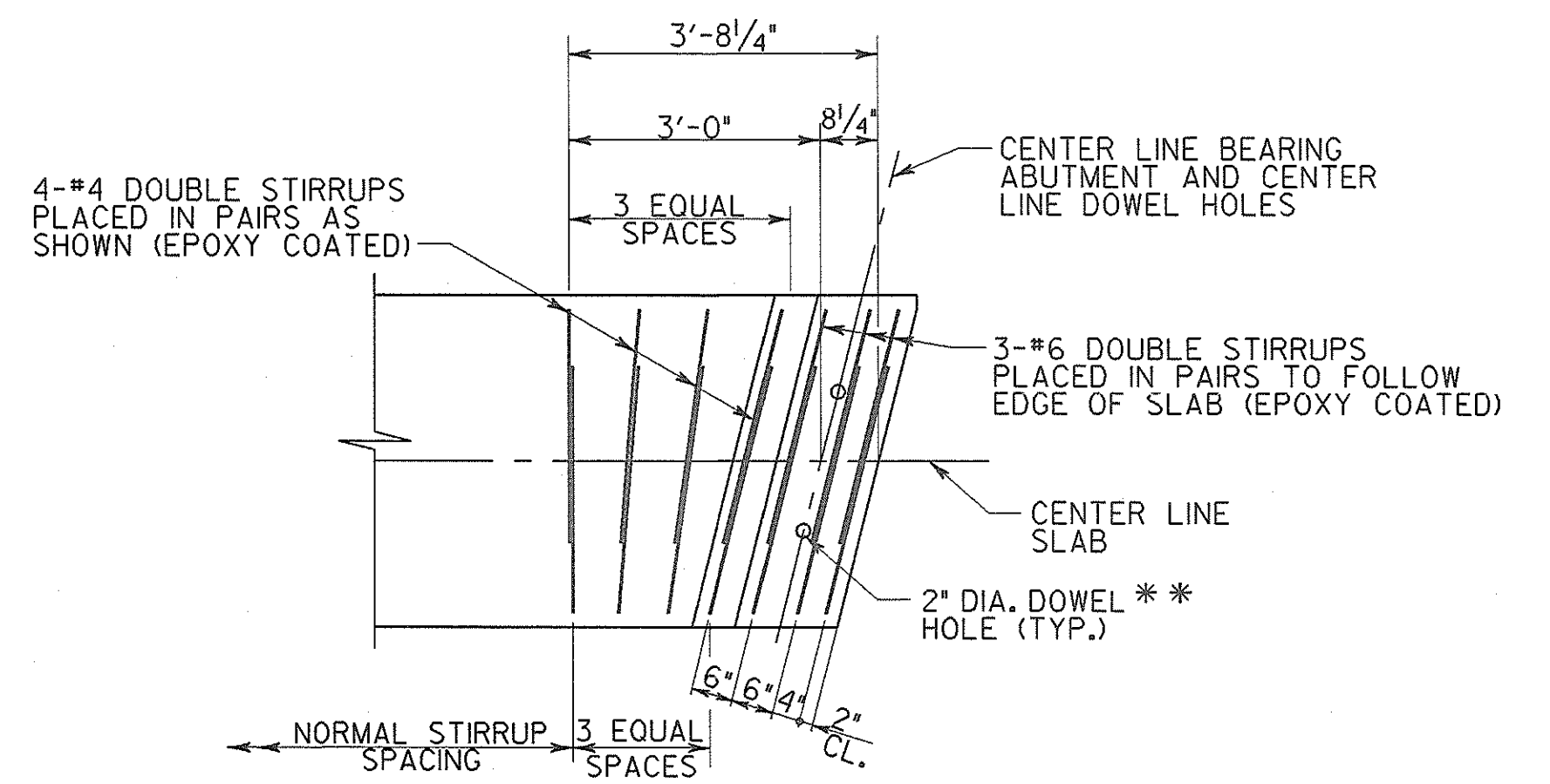
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN SLAB LAYOUT		
	SCALE	AS SHOWN	DATE
		CONTRACT	AX4695180
	DESIGNED BY	J.W.N.	
	DRAWN BY	J.MOHR	
	CHECKED BY		
E. S. F. JAN 08 2008			
	SHEET NO.	38	OF 53



4'-0" EXTERIOR SLAB NO. 1 PLAN

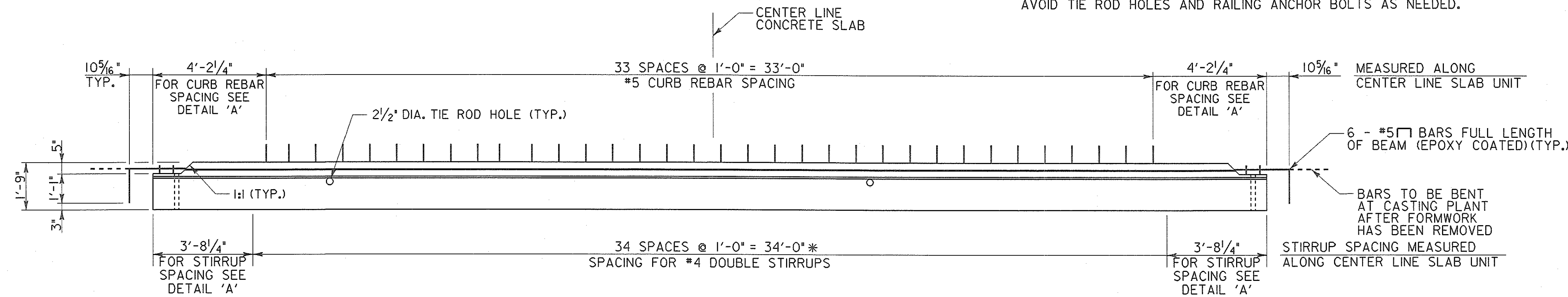
SCALE: 3/8" = 1'-0"

*ADJUST CURB REBAR AND SHEAR STIRRUP SPACING AS NEEDED TO AVOID TIE ROD HOLES AND RAILING ANCHOR BOLTS AS NEEDED.



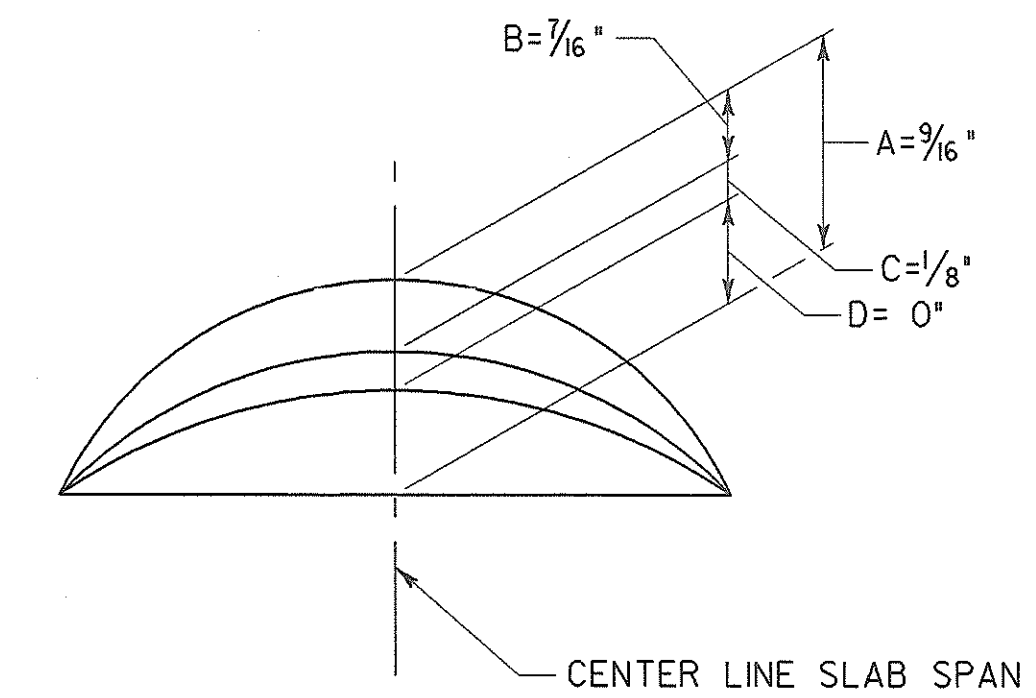
DETAIL 'A'

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



4'-0" EXTERIOR SLAB NO. 1 ELEVATION

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



CAMBER DIAGRAM

SCALE: NONE

A = ESTIMATED CAMBER DUE TO PRESTRESS.
 B = DEFLECTION DUE TO DEAD LOAD OF PRECAST PRESTRESSED SLABS.
 C = DEFLECTION DUE TO DEAD LOAD OF CAST-IN-PLACE CONCRETE OVERLAY, CURBS, AND RAILING.
 D = NET FINAL CAMBER.

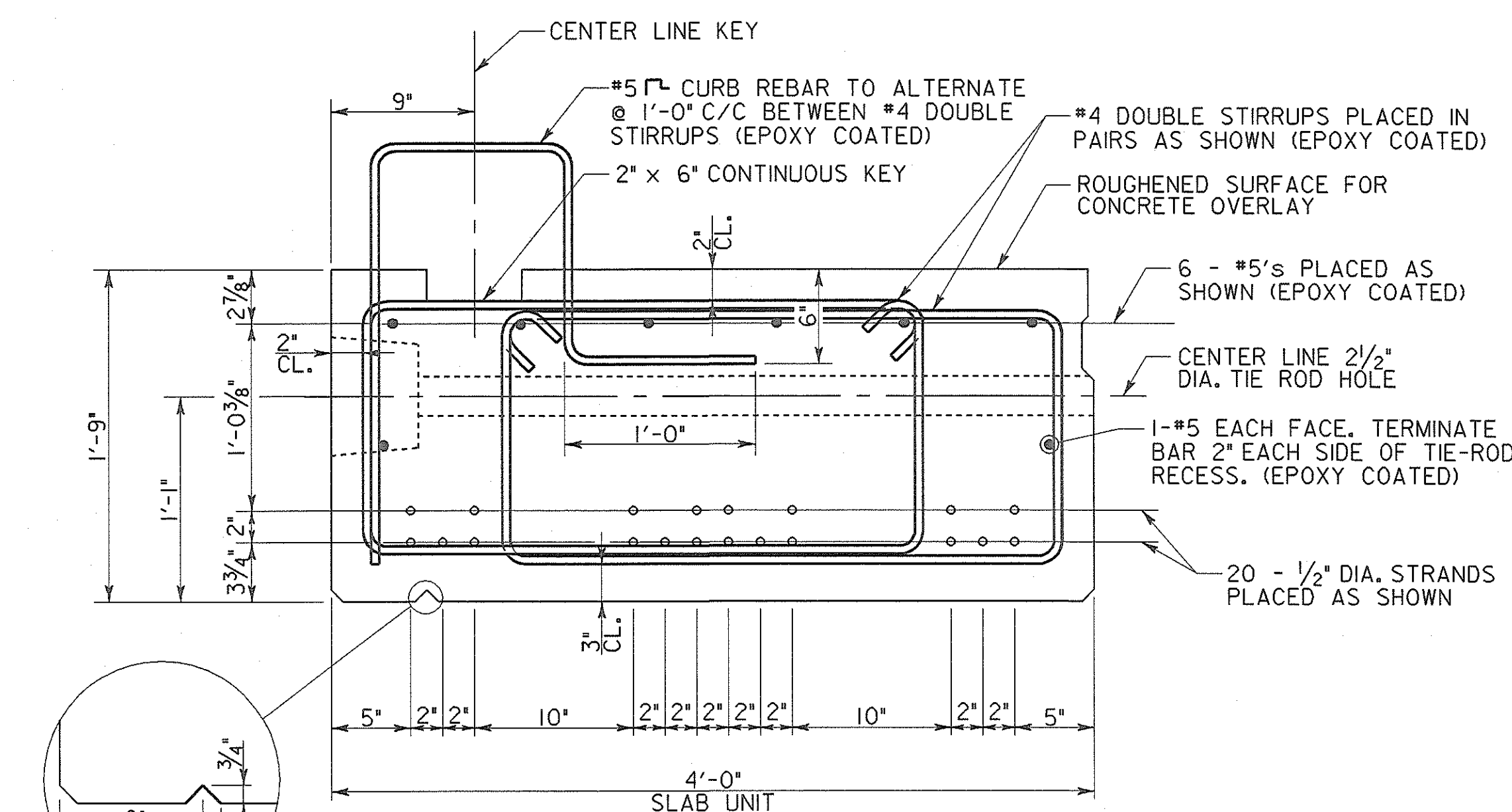
CAMBER NOTES:

CAMBER VALUES SHOWN IN INCHES.
 CAMBER DUE TO PRESTRESS PLUS SLAB DEAD LOAD TO BE CHECKED IN THE FIELD.
 THE THICKNESS OF THE CONCRETE OVERLAY SHALL BE VARIED TO COMPENSATE FOR ANY INACCURACIES IN THE CAMBER OF SLABS.
 PRESTRESS CAMBER AND DEAD LOAD DEFLECTION DATA SHOWN IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESSING CONDITIONS AND PRESTRESS LOSSES.
 CAMBER IN SLABS WILL INCREASE DUE TO CONCRETE CREEP DURING STORAGE. PRECAUTIONS SHALL BE TAKEN BY LOADING OR OTHER MEANS TO PREVENT ADDITIONAL CAMBER FROM DEVELOPING DURING STORAGE OF PRESTRESSED SLABS.

NOTE:

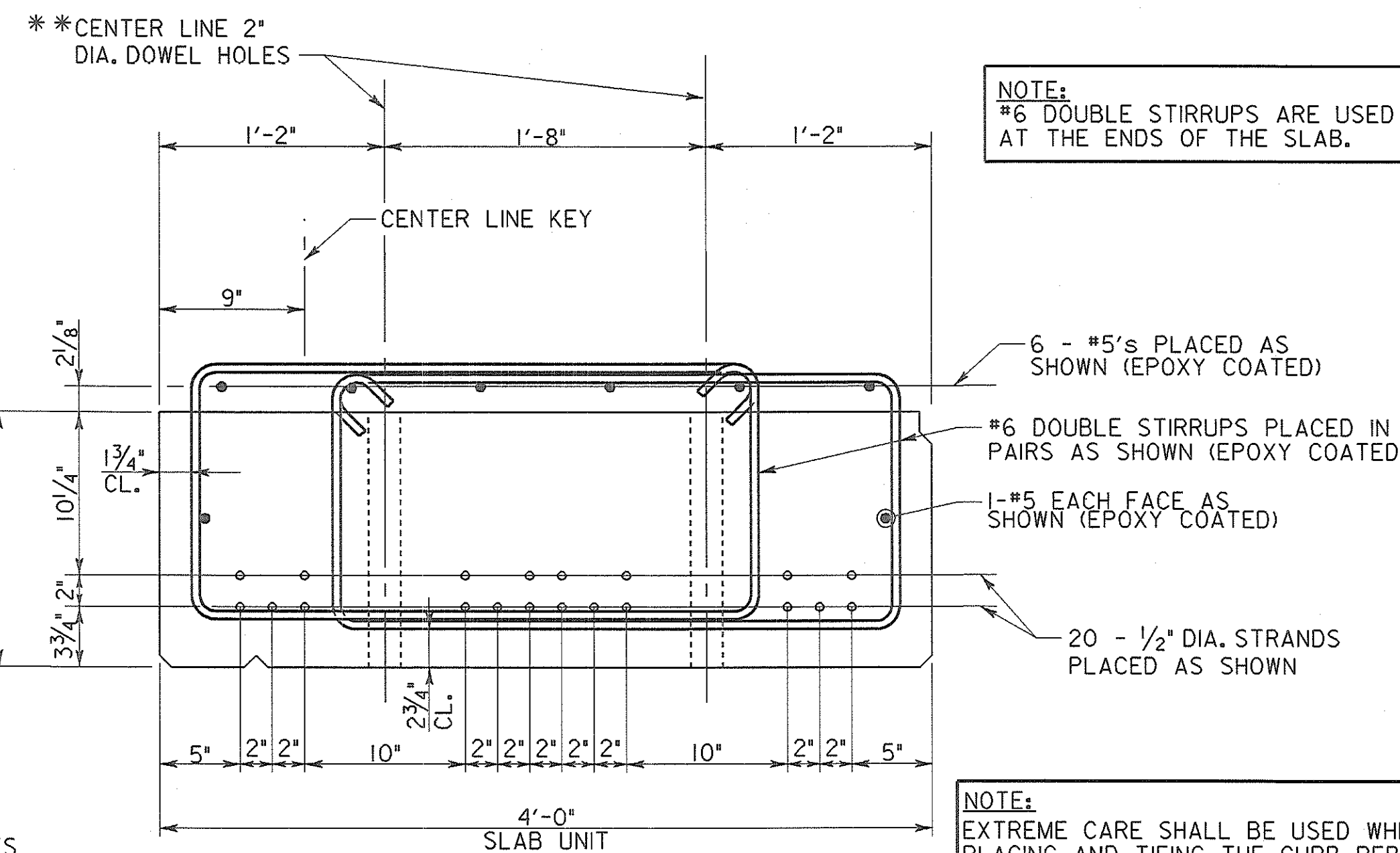
FOR ADDITIONAL SLAB DETAILS, SEE SHEET NOS. SI-23 AND 24
 FOR SLAB LAYOUT DETAIL, SEE SHEET NO. SI-19
 FOR ELASTOMERIC BEARING PAD DETAIL, SEE SHEET NO. SI-24

SHEET NO. SI-20



SECTION SLAB DETAIL BETWEEN ENDS

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



SECTION SLAB DETAIL AT ENDS

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

NOTE:
 FOR LOCATION OF ANCHOR BOLTS AND PLATES TO BE CAST IN SLAB FOR TRAFFIC RAIL, SEE CURB DETAIL ON SHEET NO. SI-23 AND RAILING DETAILS ON SHEET NO. SI-26 TO 27.

NOTE:
 #6 DOUBLE STIRRUPS ARE USED AT THE ENDS OF THE SLAB.

NOTE:
 EXTREME CARE SHALL BE USED WHEN PLACING AND TIEING THE CURB REBAR AND ANCHOR BOLTS TO PROVIDE FOR THE REQUIRED CLEARANCES. ANY MISPLACED REBAR OR ANCHOR BOLTS WILL BE CAUSE FOR REJECTION OF THE PRECAST SLAB UNIT.

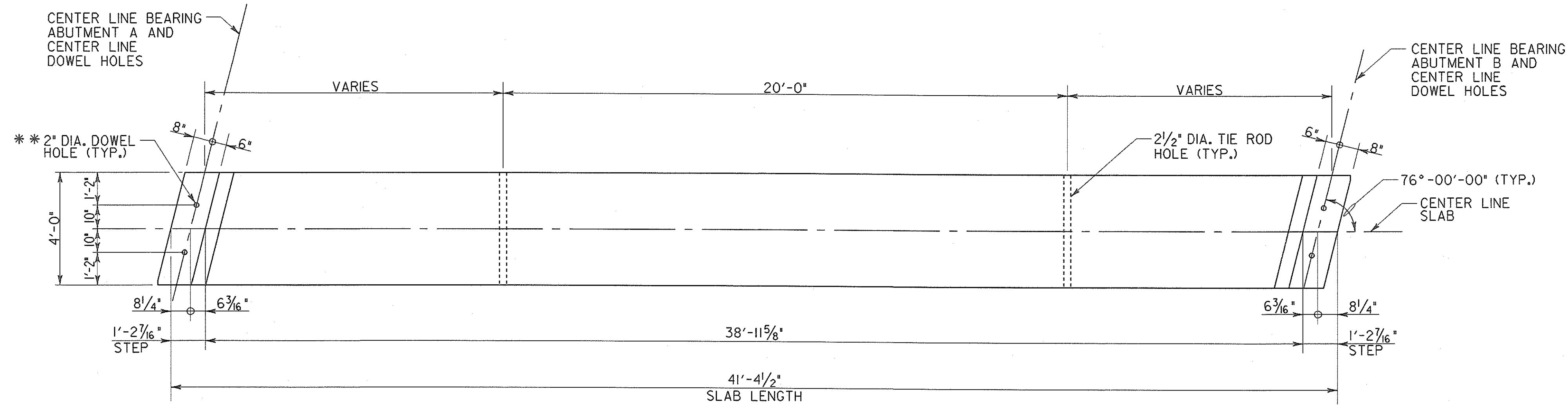
TIE-ROD HOLE NOTE:
 EXTREME CARE SHALL BE USED IN LOCATING TIE ROD HOLES DURING THE CASTING OPERATION. CONTRACTOR SHALL ASSEMBLE THE SLAB UNITS FOR THE ENTIRE BRIDGE WIDTH AT THE CASTING PLANT TO ENSURE THAT THERE IS NO MISALIGNMENT PRIOR TO SHIPPING SLAB UNITS TO THE SITE. ANY MISALIGNMENT OF THE HOLES WILL BE CAUSE FOR REJECTION OF THE SLAB UNIT. NO DRILLING OR CORING OF THE SLABS WILL BE PERMITTED.

** THESE HOLES SHALL NOT BE MOVED FOR ANY REASON.

** CENTER LINE 2" DIA. DOWEL HOLES

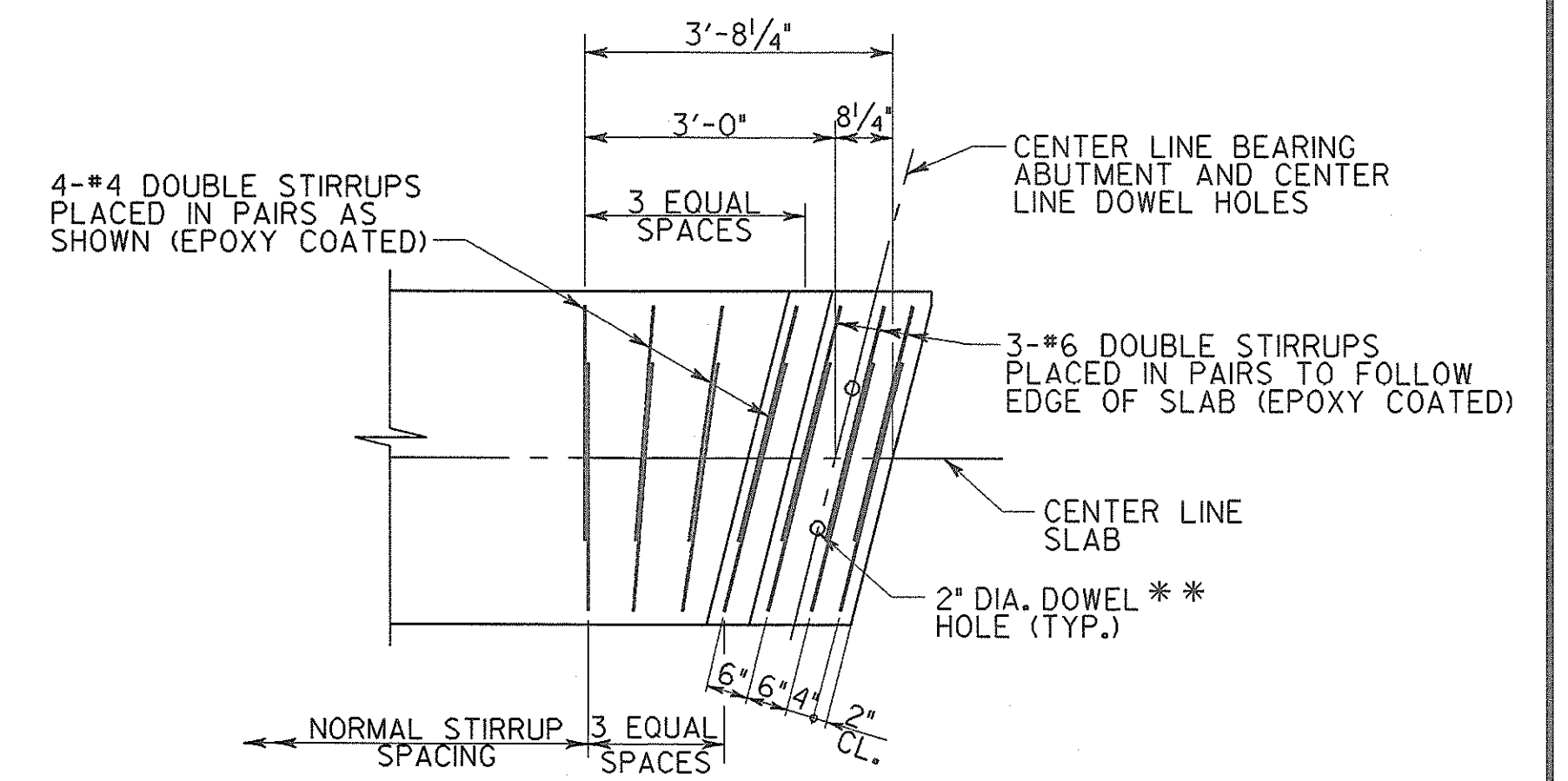
DRIP GROOVE DETAIL

SCALE: NONE

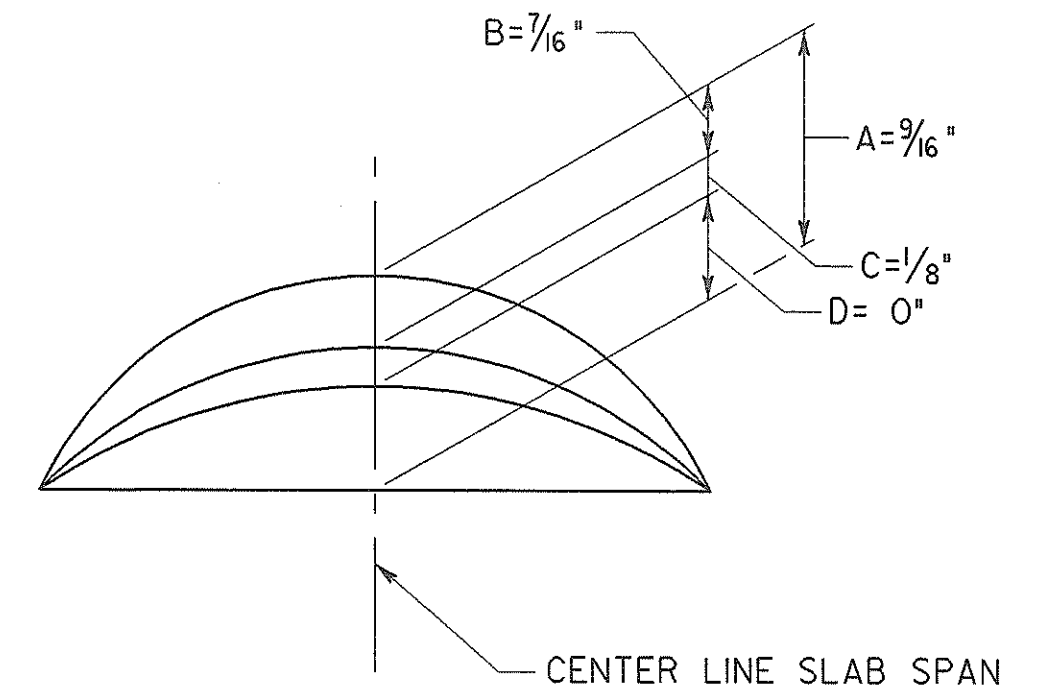


4'-0" INTERIOR SLAB PLAN
SCALE: 3/8" = 1'-0"

*ADJUST SHEAR STIRRUP SPACING AS NEEDED TO AVOID TIE ROD HOLES.



DETAIL 'A'
SCALE: 1/2" = 1'-0"



CAMBER DIAGRAM
SCALE: NONE

A = ESTIMATED CAMBER DUE TO PRESTRESS.
B = DEFLECTION DUE TO DEAD LOAD OF PRECAST PRESTRESSED SLABS.
C = DEFLECTION DUE TO DEAD LOAD OF CAST-IN-PLACE CONCRETE OVERLAY, CURBS, AND RAILING.
D = NET FINAL CAMBER.

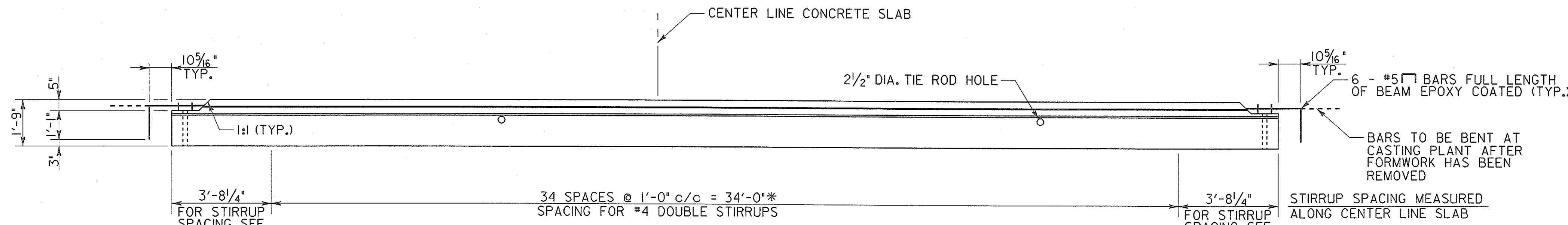
CAMBER NOTES:

CAMBER VALUES SHOWN IN INCHES.
CAMBER DUE TO PRESTRESS PLUS SLAB DEAD LOAD TO BE CHECKED IN THE FIELD.
THE THICKNESS OF THE CONCRETE OVERLAY SHALL BE VARIED TO COMPENSATE FOR ANY INACCURACIES IN THE CAMBER OF SLABS.
PRESTRESS CAMBER AND DEAD LOAD DEFLECTION DATA SHOWN IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESSING CONDITIONS AND PRESTRESS LOSSES.
CAMBER IN SLABS WILL INCREASE DUE TO CONCRETE CREEP DURING STORAGE. PRECAUTIONS SHALL BE TAKEN BY LOADING OR OTHER MEANS TO PREVENT ADDITIONAL CAMBER FROM DEVELOPING DURING STORAGE OF PRESTRESSED SLABS.

NOTE:
FOR ADDITIONAL SLAB DETAILS, SEE SHEET NO. SI-23 AND 24
FOR SLAB LAYOUT DETAIL, SEE SHEET NO. SI-19
FOR ELASTOMERIC BEARING PAD DETAIL, SEE SHEET NO. SI-24

SHEET NO. SI-21

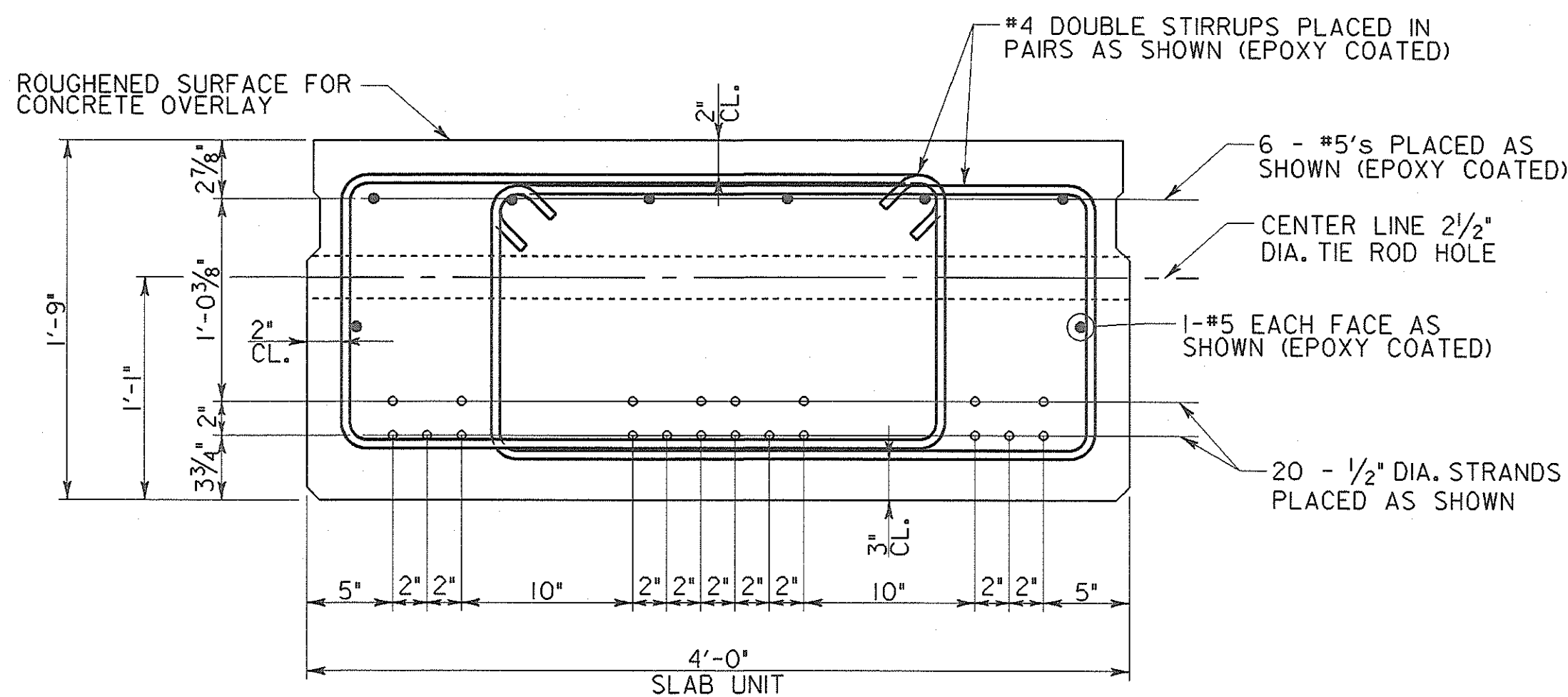
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN 4'-0" INTERIOR SLAB DETAILS
	SCALE AS SHOWN DATE CONTRACT AX4695180
	DESIGNED BY J.W.N. DRAWN BY J.MOHR CHECKED BY
	E. S. F. JAN 08 2008
	SHEET NO. 40 OF 53



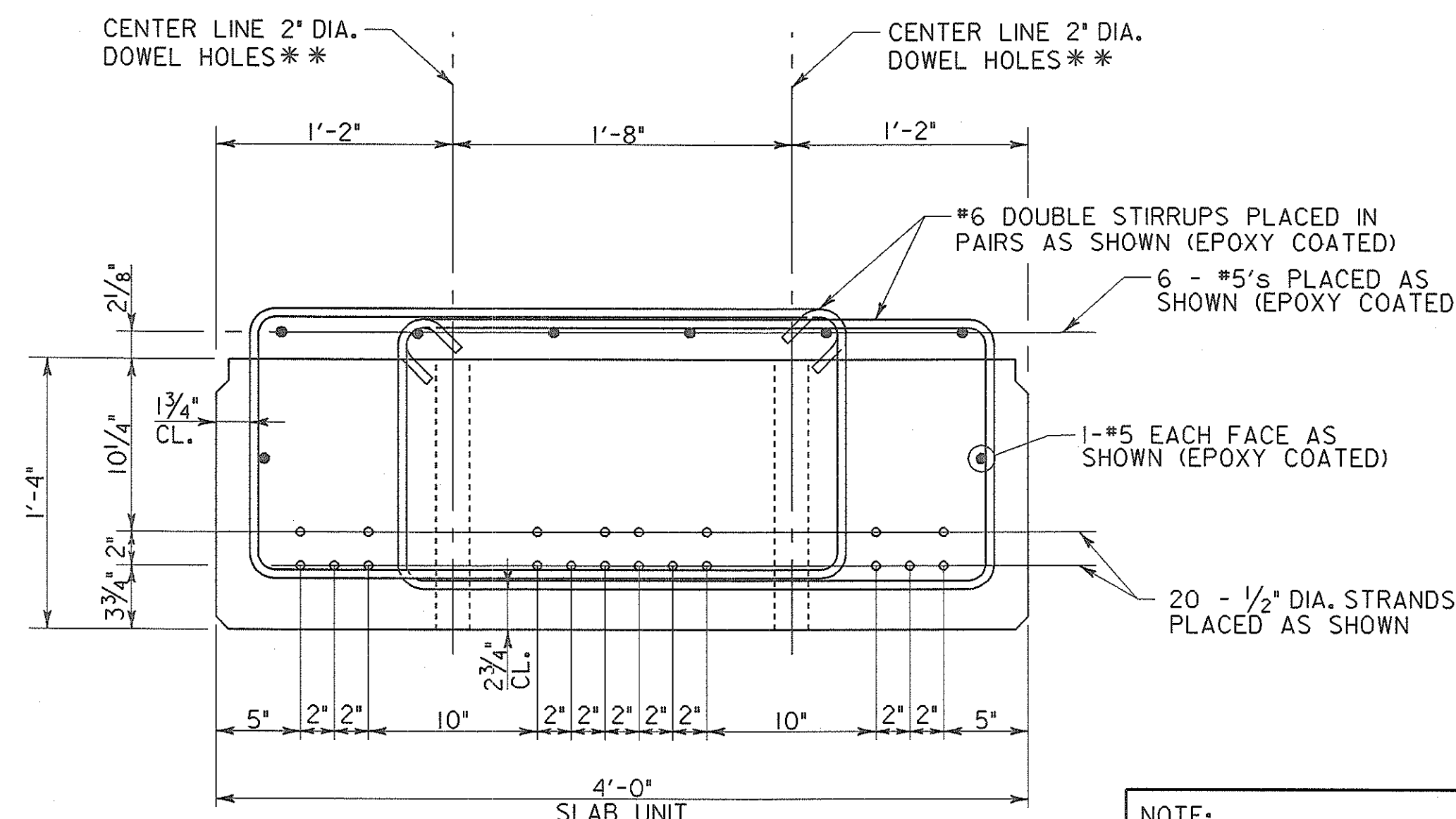
4'-0" INTERIOR SLAB ELEVATION
SCALE: 3/8" = 1'-0"

TIE-ROD HOLE NOTE:
EXTREME CARE SHALL BE USED IN LOCATING TIE ROD HOLES DURING THE CASTING OPERATION. CONTRACTOR SHALL ASSEMBLE THE SLAB UNITS FOR THE ENTIRE BRIDGE WIDTH AT THE CASTING PLANT TO ENSURE THAT THERE IS NO MISALIGNMENT PRIOR TO SHIPPING SLAB UNITS TO THE SITE. ANY MISALIGNMENT OF THE HOLES WILL BE CAUSE FOR REJECTION OF THE SLAB UNIT. NO DRILLING OR CORING OF THE SLABS WILL BE PERMITTED.

**THESE HOLES SHALL NOT BE MOVED FOR ANY REASON.

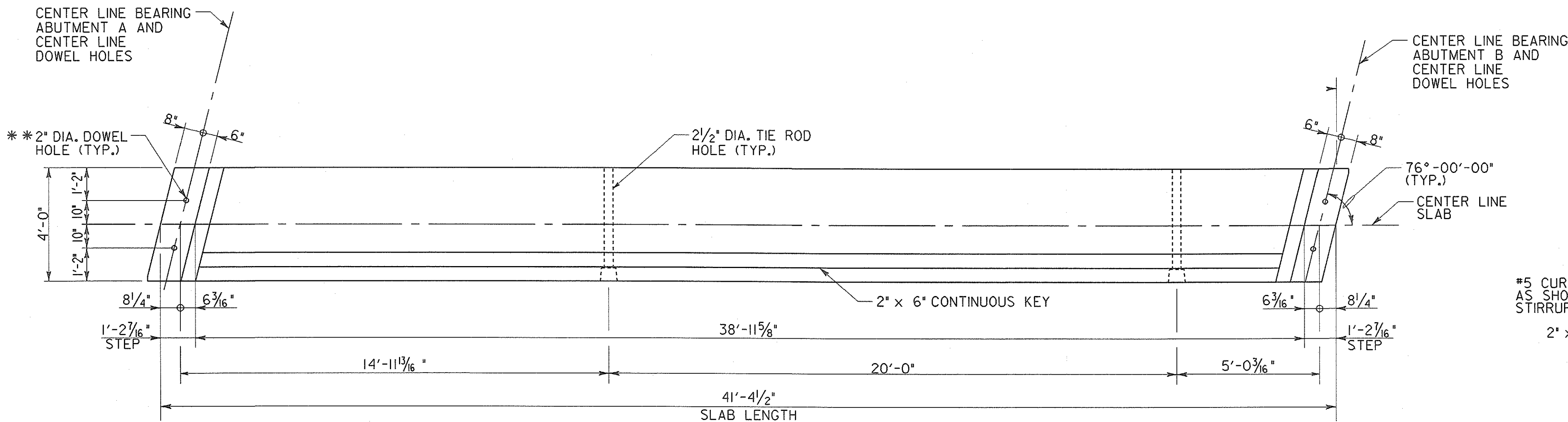


SECTION SLAB DETAIL BETWEEN ENDS
SCALE: 1 1/2" = 1'-0"

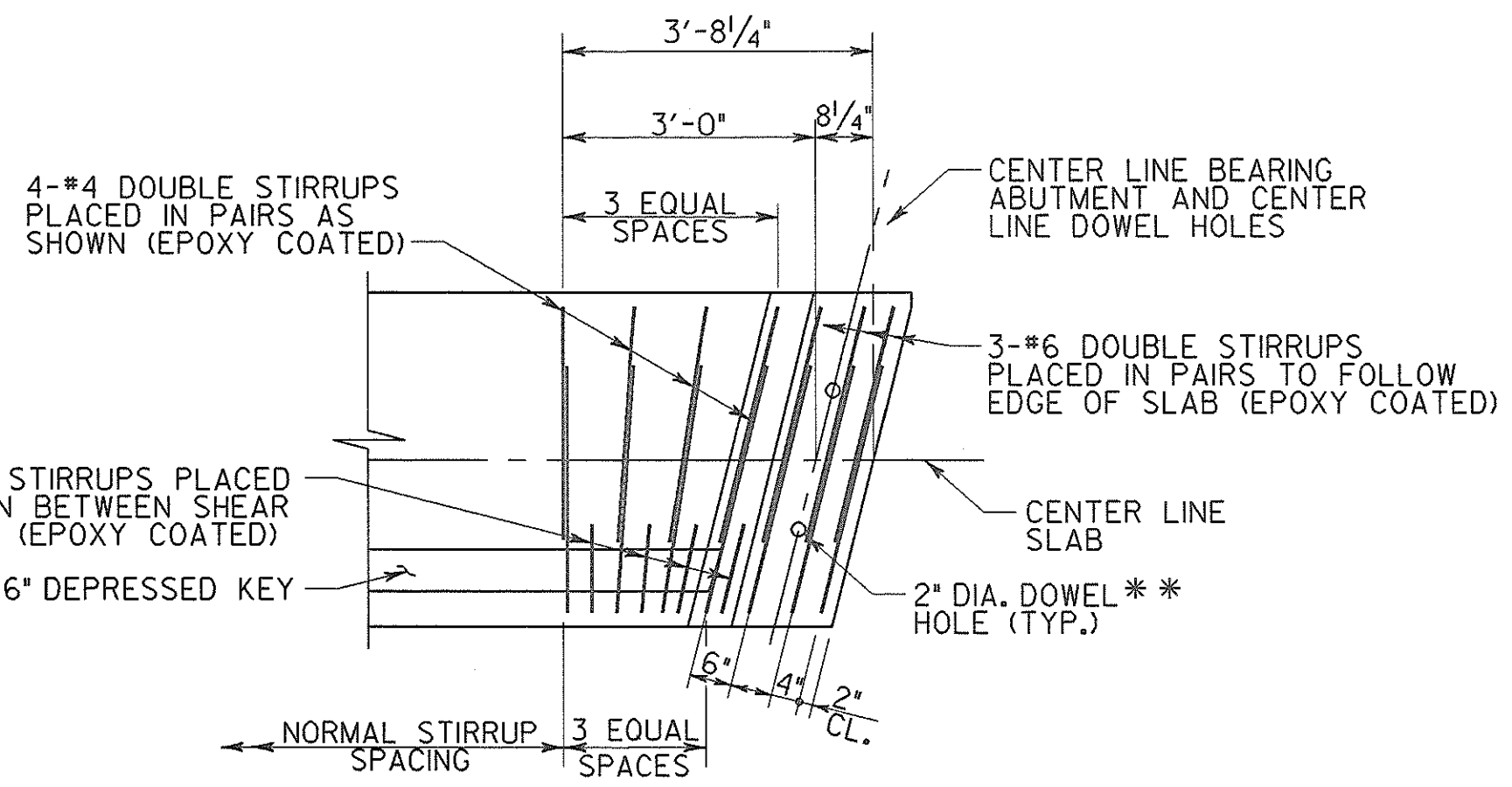


SECTION SLAB DETAIL AT ENDS
SCALE: 1 1/2" = 1'-0"

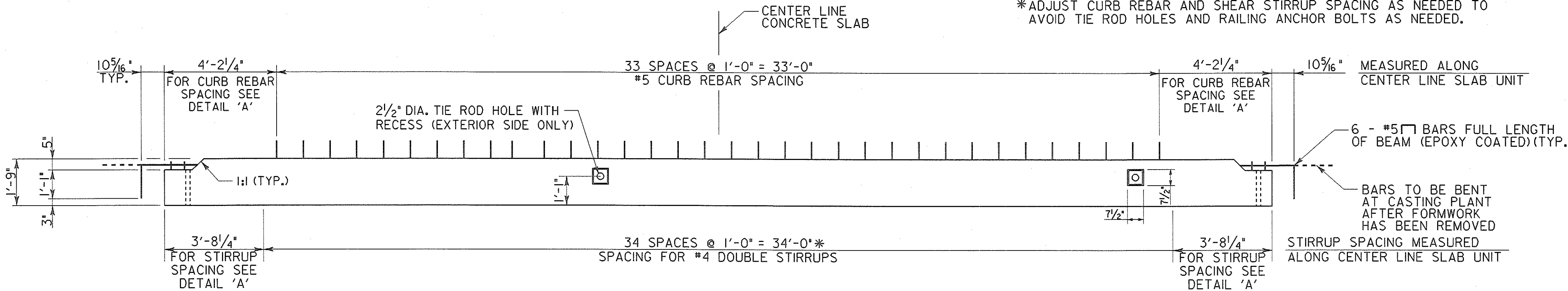
NOTE:
#6 DOUBLE STIRRUPS ARE USED AT THE ENDS OF THE SLAB.



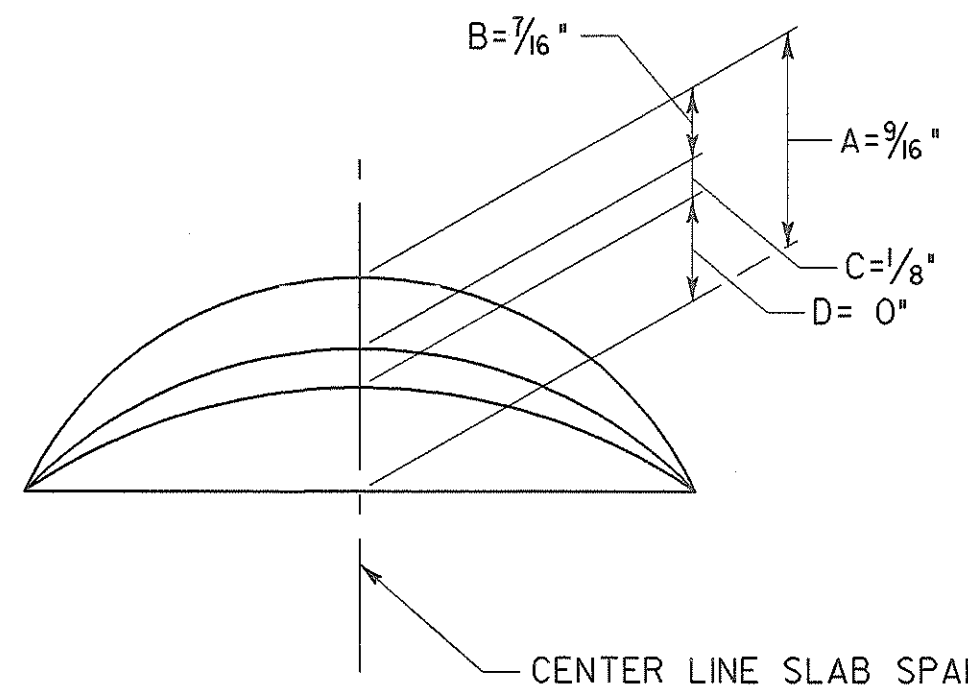
4'-0" EXTERIOR SLAB NO. 10 PLAN
SCALE: 3/8" = 1'-0"



DETAIL 'A'
SCALE: 1/2" = 1'-0"



4'-0" EXTERIOR SLAB NO. 10 ELEVATION
SCALE: 3/8" = 1'-0"

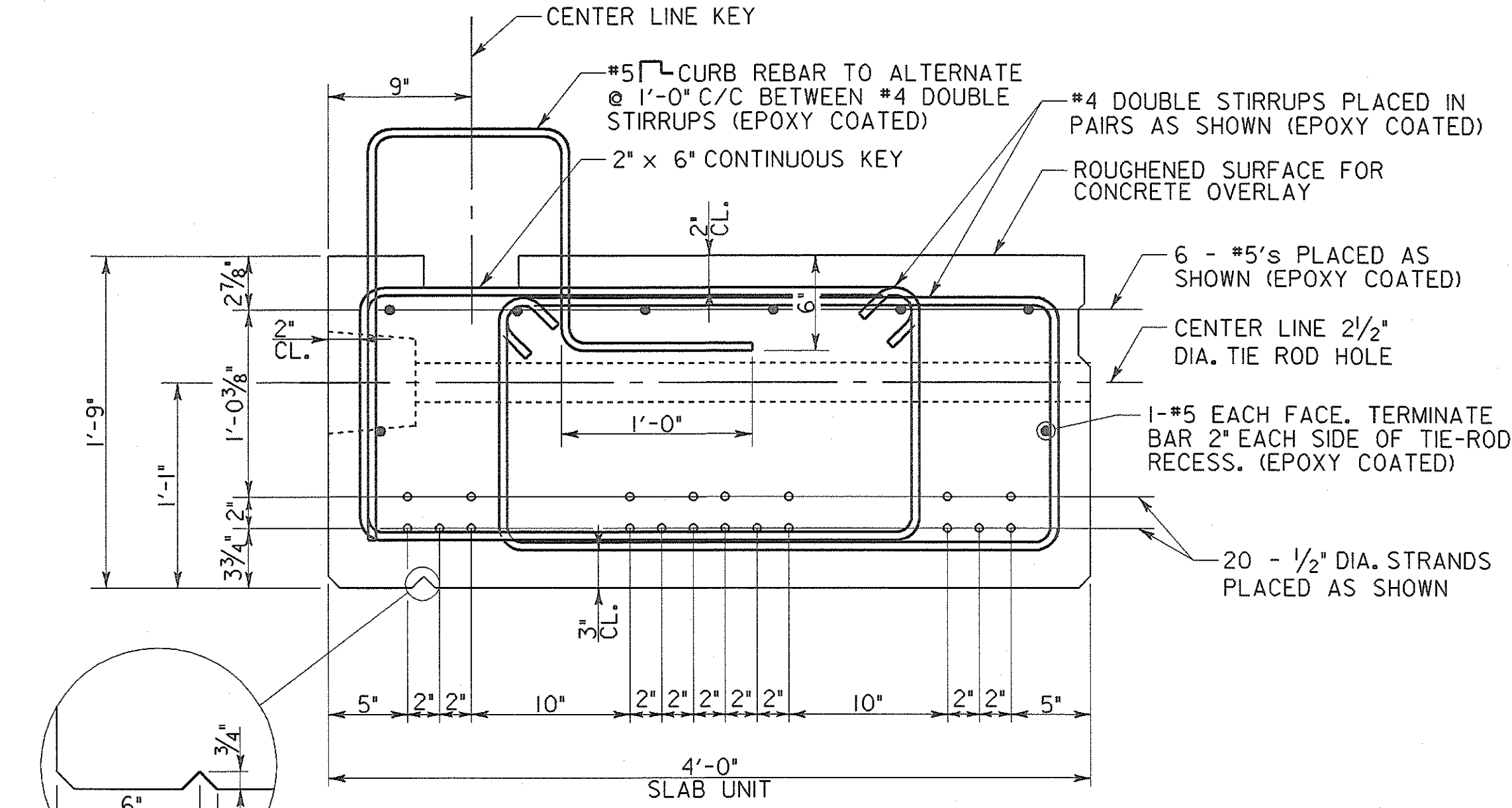


CAMBER DIAGRAM
SCALE: NONE

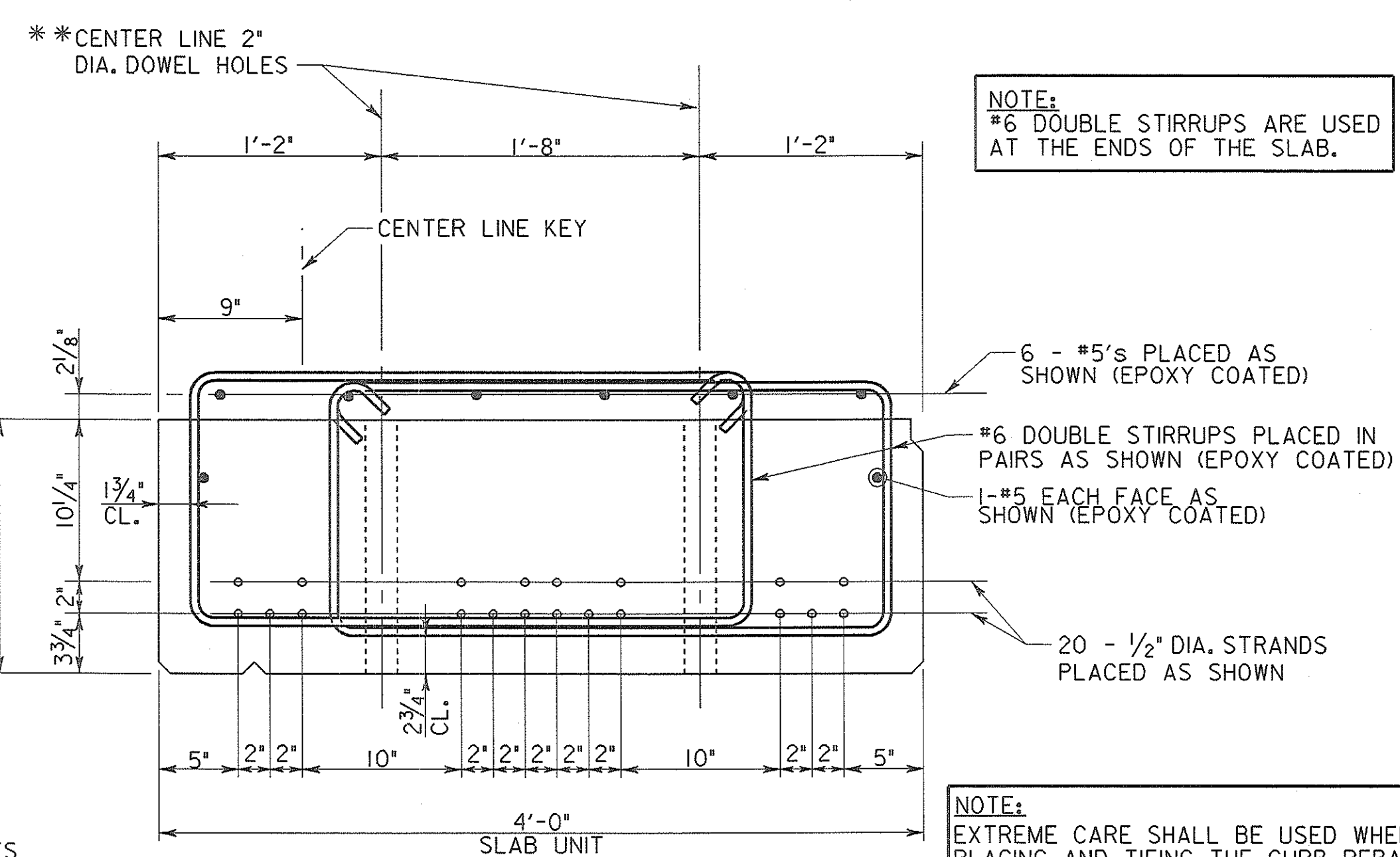
TIE-ROD HOLE NOTE:
EXTREME CARE SHALL BE USED IN LOCATING TIE ROD HOLES DURING THE CASTING OPERATION. CONTRACTOR SHALL ASSEMBLE THE SLAB UNITS FOR THE ENTIRE BRIDGE WIDTH AT THE CASTING PLANT TO ENSURE THAT THERE IS NO MISALIGNMENT PRIOR TO SHIPPING SLAB UNITS TO THE SITE. ANY MISALIGNMENT OF THE HOLES WILL BE CAUSE FOR REJECTION OF THE SLAB UNIT. NO DRILLING OR CORING OF THE SLABS WILL BE PERMITTED.

** THESE HOLES SHALL NOT BE MOVED FOR ANY REASON.

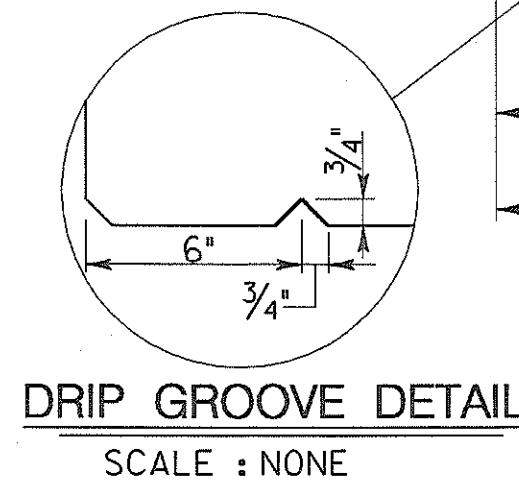
CAMBER NOTES:
CAMBER VALUES SHOWN IN INCHES.
CAMBER DUE TO PRESTRESS PLUS SLAB DEAD LOAD TO BE CHECKED IN THE FIELD.
THE THICKNESS OF THE CONCRETE OVERLAY SHALL BE VARIED TO COMPENSATE FOR ANY INACCURACIES IN THE CAMBER OF SLABS.
PRESTRESS CAMBER AND DEAD LOAD DEFLECTION DATA SHOWN IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESSING CONDITIONS AND PRESTRESS LOSSES.
CAMBER IN SLABS WILL INCREASE DUE TO CONCRETE CREEP DURING STORAGE. PRECAUTIONS SHALL BE TAKEN BY LOADING OR OTHER MEANS TO PREVENT ADDITIONAL CAMBER FROM DEVELOPING DURING STORAGE OF PRESTRESSED SLABS.



SECTION SLAB DETAIL BETWEEN ENDS
SCALE: 1/2" = 1'-0"



SECTION SLAB DETAIL AT ENDS
SCALE: 1/2" = 1'-0"



DRIP GROOVE DETAIL
SCALE: NONE

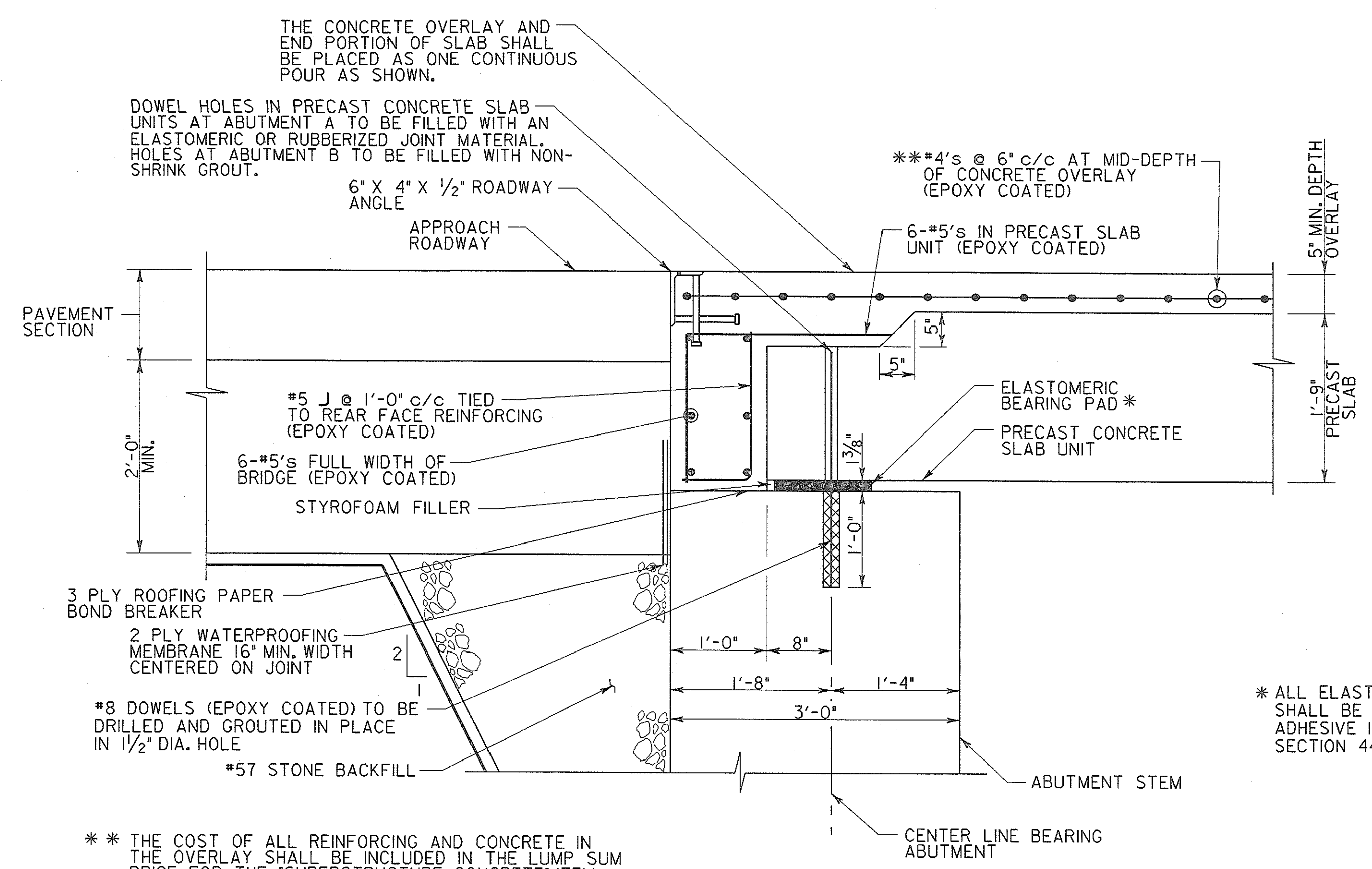
NOTE:
FOR LOCATION OF ANCHOR BOLTS AND PLATES TO BE CAST IN SLAB FOR TRAFFIC RAIL, SEE CURB DETAIL ON SHEET NO. S1-23 AND RAILING DETAILS ON SHEET NO. S1-26 TO 27.

NOTE:
#6 DOUBLE STIRRUPS ARE USED AT THE ENDS OF THE SLAB.

NOTE:
EXTREME CARE SHALL BE USED WHEN PLACING AND TIEING THE CURB REBAR AND ANCHOR BOLTS TO PROVIDE FOR THE REQUIRED CLEARANCES. ANY MISPLACED REBAR OR ANCHOR BOLTS WILL BE CAUSE FOR REJECTION OF THE PRECAST SLAB UNIT.

NOTE:
FOR ADDITIONAL SLAB DETAILS, SEE SHEET NO. S1-23 AND 24 FOR SLAB LAYOUT DETAIL, SEE SHEET NO. S1-19 FOR ELASTOMERIC BEARING PAD DETAIL, SEE SHEET NO. S1-24

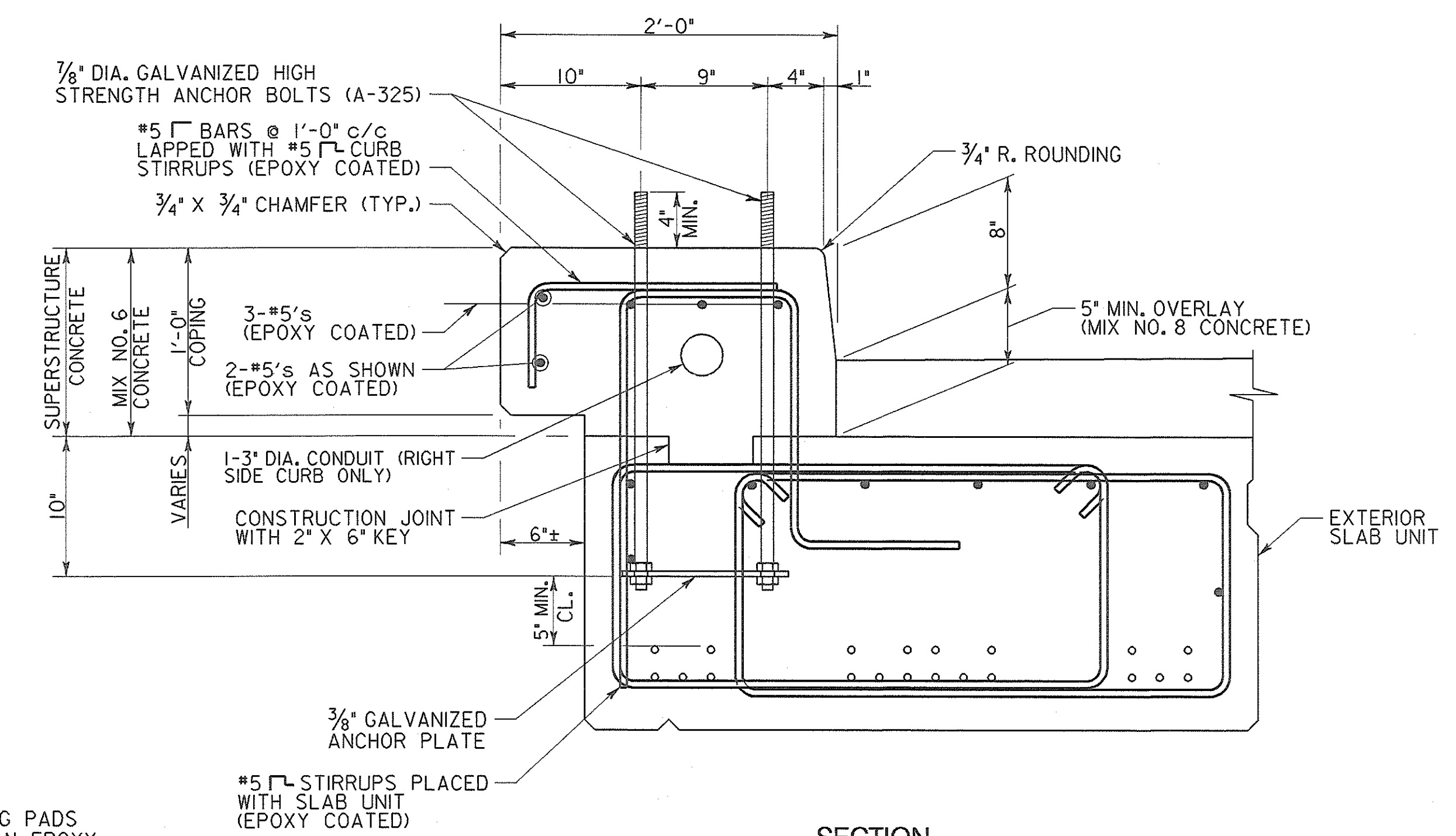
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN 4'-0" EXTERIOR SLAB NO. 10 DETAILS	
SCALE AS SHOWN	DATE CONTRACT AX4695180
DESIGNED BY J.W.N.	
DRAWN BY J.MOHR	
CHECKED BY	
E.S.T. JAN 28 2006	
SHEET NO. 41 OF 53	



**SECTION
SLAB DETAIL AT ABUTMENT**
SCALE: 1"=1'-0"

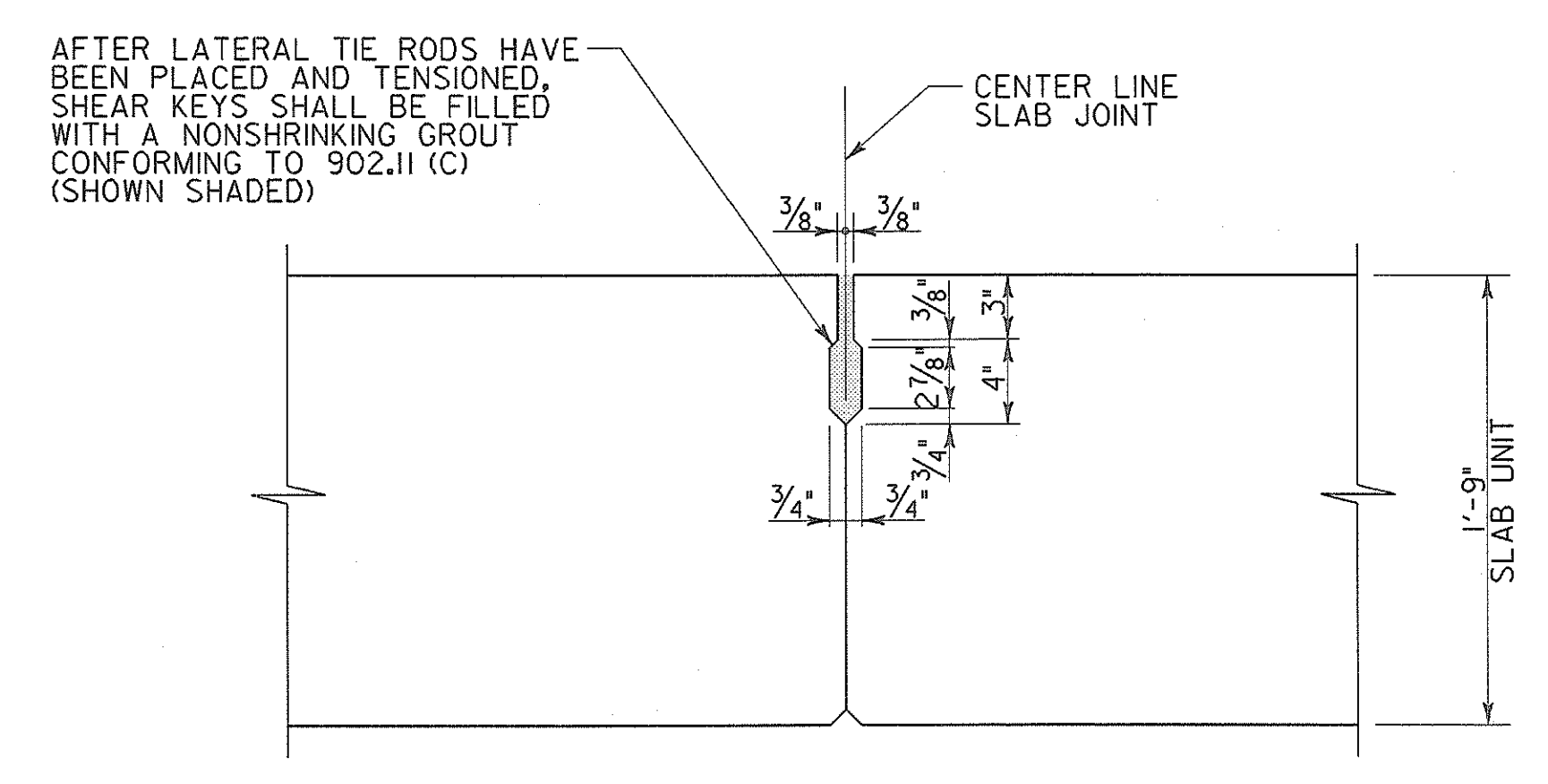
** THE COST OF ALL REINFORCING AND CONCRETE IN THE OVERLAY SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR THE 'SUPERSTRUCTURE CONCRETE' ITEM.

* ALL ELASTOMERIC BEARING PADS SHALL BE PLACED WITH AN EPOXY ADHESIVE IN ACCORDANCE WITH SECTION 440.03.20



**SECTION
CURB DETAIL**
SCALE: 1/2" = 1'-0"

NOTE:
THE COST OF THE SLAB OVERLAY & CURB INCLUDING REINFORCING WILL BE PAID FOR UNDER THE 'SUPERSTRUCTURE CONCRETE' ITEM.
THE COST OF ANCHOR BOLTS WILL BE PAID FOR UNDER THE 'METAL RAILING TWO STRAND' ITEM.
AT THE CONTRACTOR'S OPTION THE CURB ELEMENT MAY BE PLACED AT THE TIME THE SLAB UNITS ARE CAST AT THE PRE-CASTING PLANT. THE CONTRACTOR AND HIS PRECASTER SHALL BE RESPONSIBLE FOR PLACING THE CURB AT THE PROPER HEIGHT TO ACCOMMODATE THE CAMBER OF THE SLAB UNIT AND THE VARIABLE THICKNESS OF THE OVERLAY, AS WELL AS THE PROPER POSITIONING OF THE ANCHOR BOLTS FOR THE RAILING.

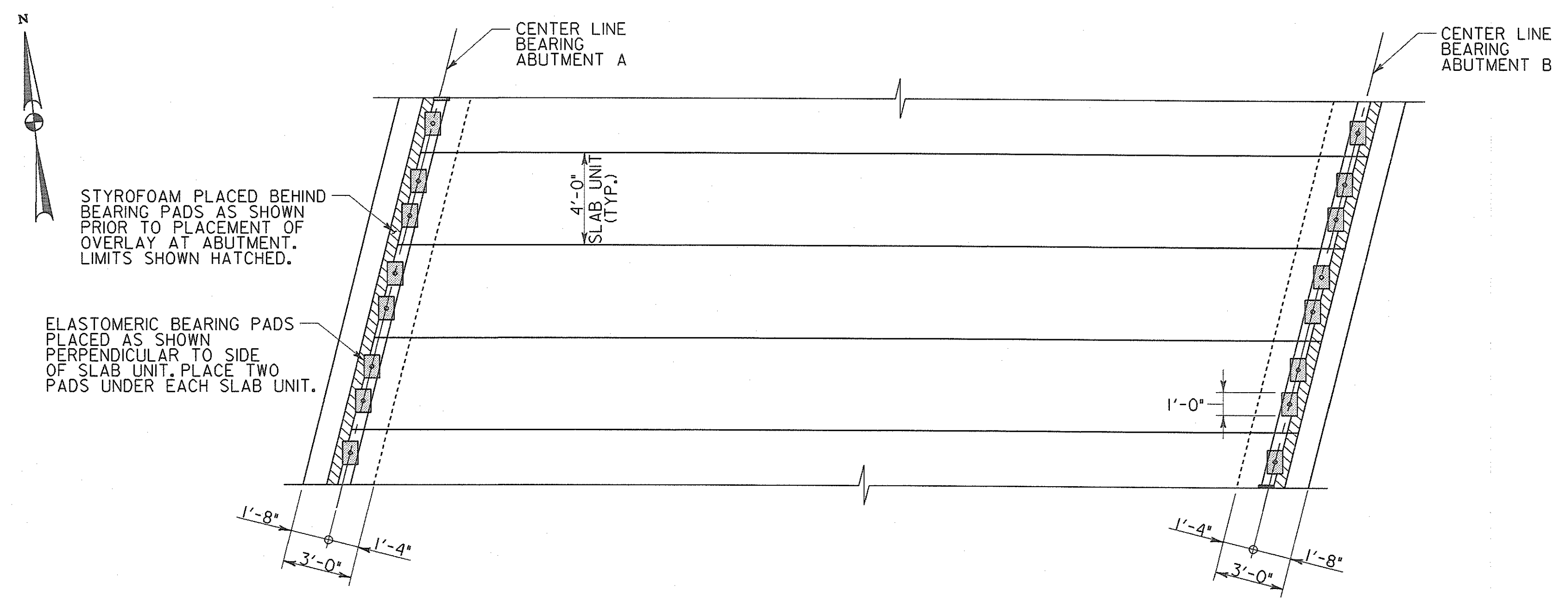


**SECTION
SHEAR KEY DETAIL**
SCALE: 1/2"=1'-0"

NOTE:
THE SHEAR KEY SHALL NOT BE PLACED ON THE EXPOSED FACE OF THE EXTERIOR SLAB UNITS.

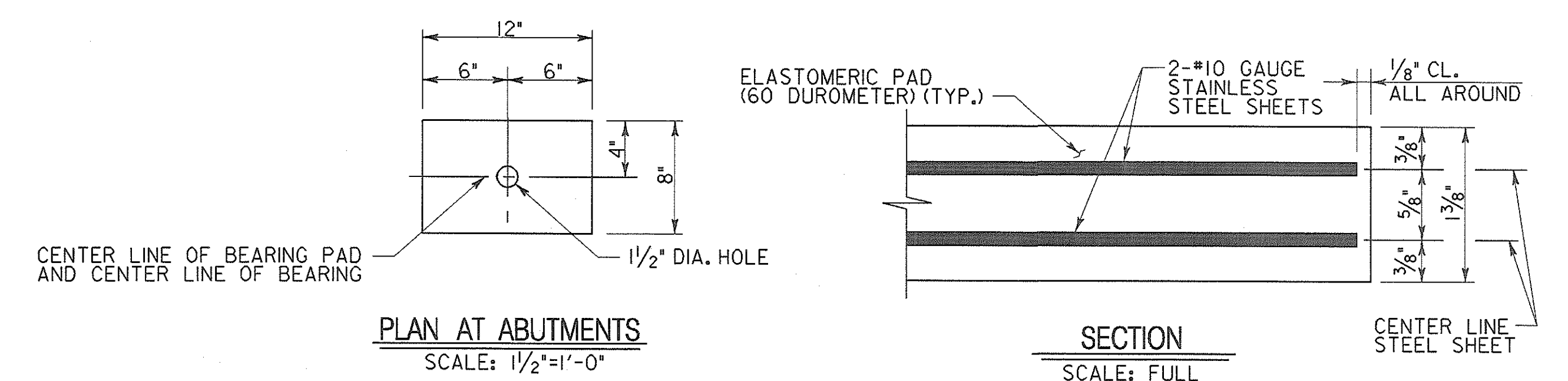
NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR GEOMETRIC LAYOUT AND VERTICAL GRADE DATA, SEE SHEET NO. SI-3
FOR TYPICAL SECTION, SEE SHEET NO. SI-18
FOR ADDITIONAL SLAB DETAILS, SEE SHEET NO. SI-20 TO 22
FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27
FOR ABUTMENT DETAILS, SEE SHEET NO. SI-4 TO 15
FOR ELASTOMERIC BEARING PAD DETAILS, SEE SHEET NO. SI-24

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN SUPERSTRUCTURE DETAILS
SCALE AS SHOWN	DATE CONTRACT AX4695180
DESIGNED BY J.W.N.	
DRAWN BY J.MOHR	
CHECKED BY	E. S. E. JAN 0 8 2008
	SHEET NO. 42 OF 53

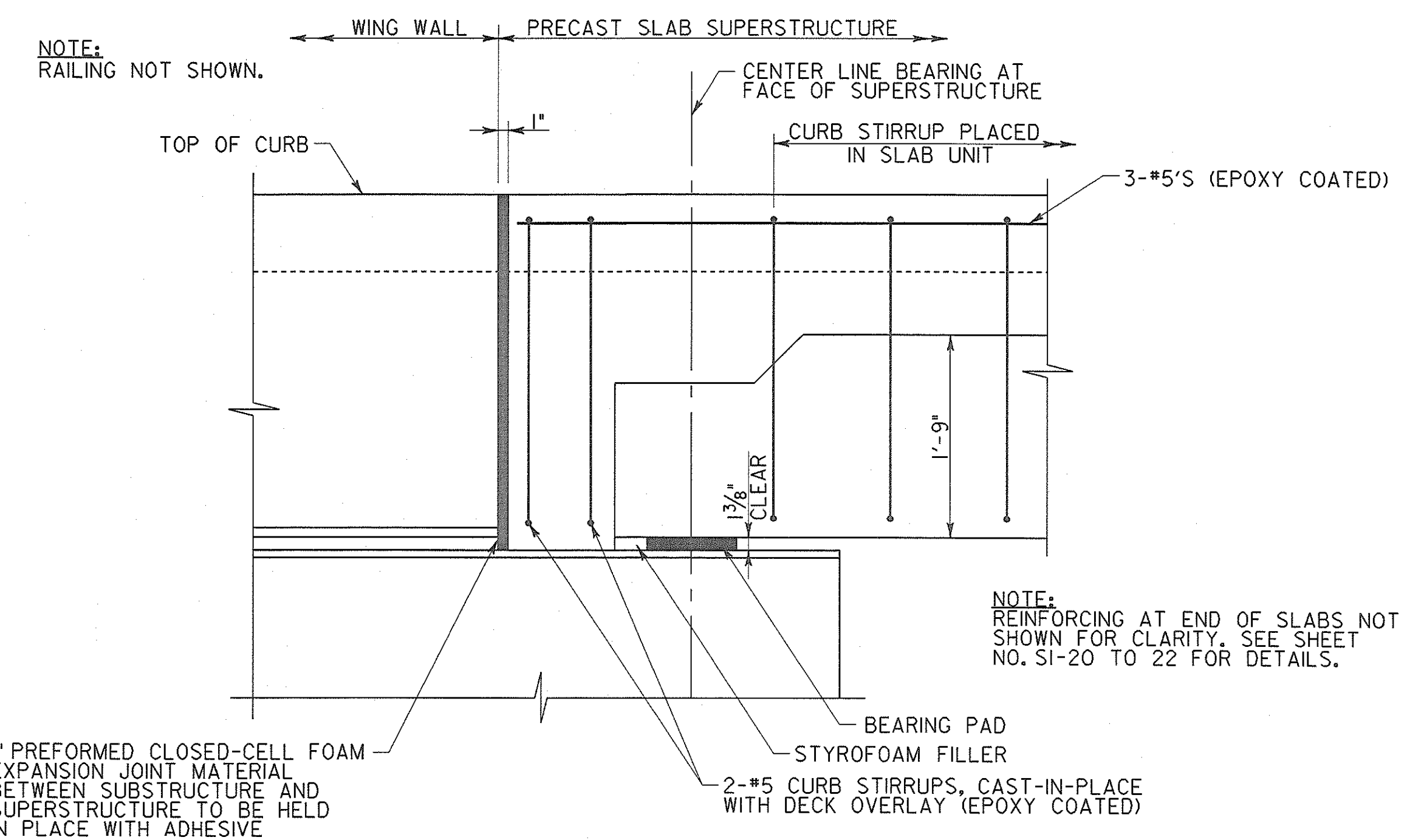


BEARING ORIENTATION PLAN
SCALE: 1/4"=1'-0"

NOTE:
FOR TESTING PURPOSES THE DESIGN LOAD FOR 8" x 12" ELASTOMERIC BEARING PADS IS 31 KIPS.
PLACE TWO BEARING PADS AT EACH END OF 4'-0" SLABS AT ABUTMENTS.

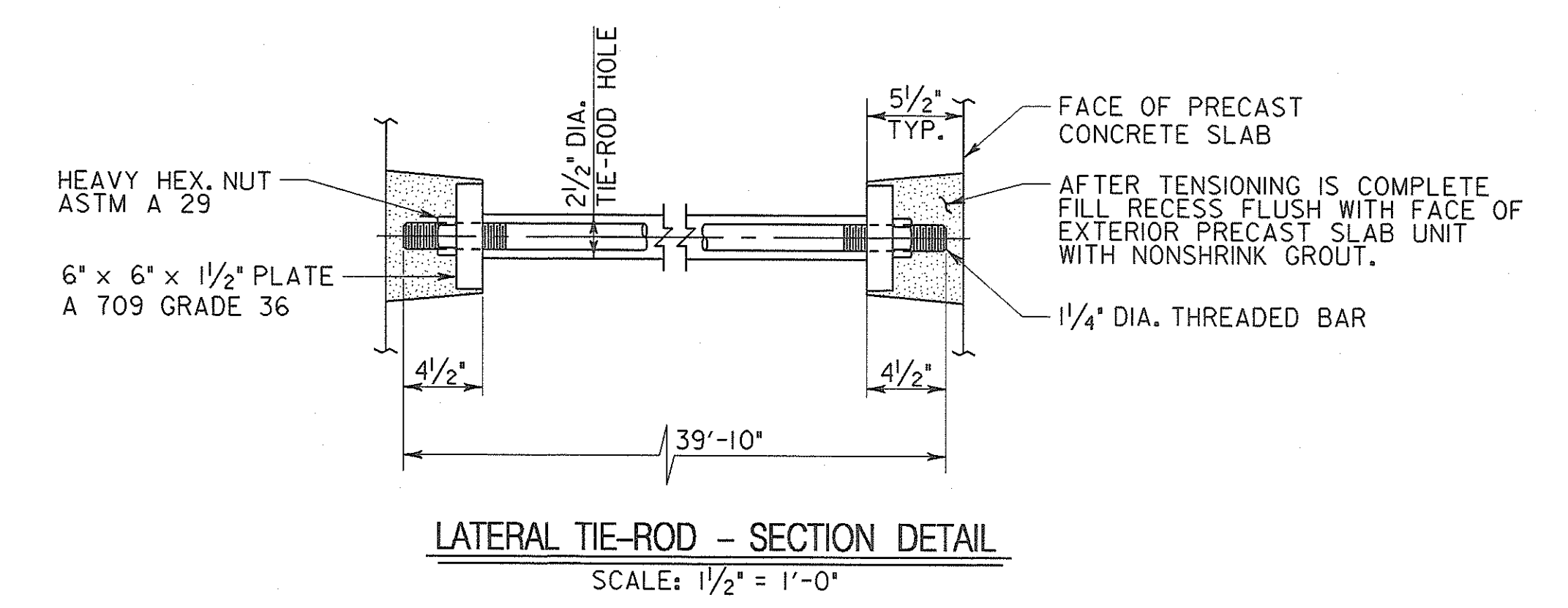


LAMINATED ELASTOMERIC BEARING PADS

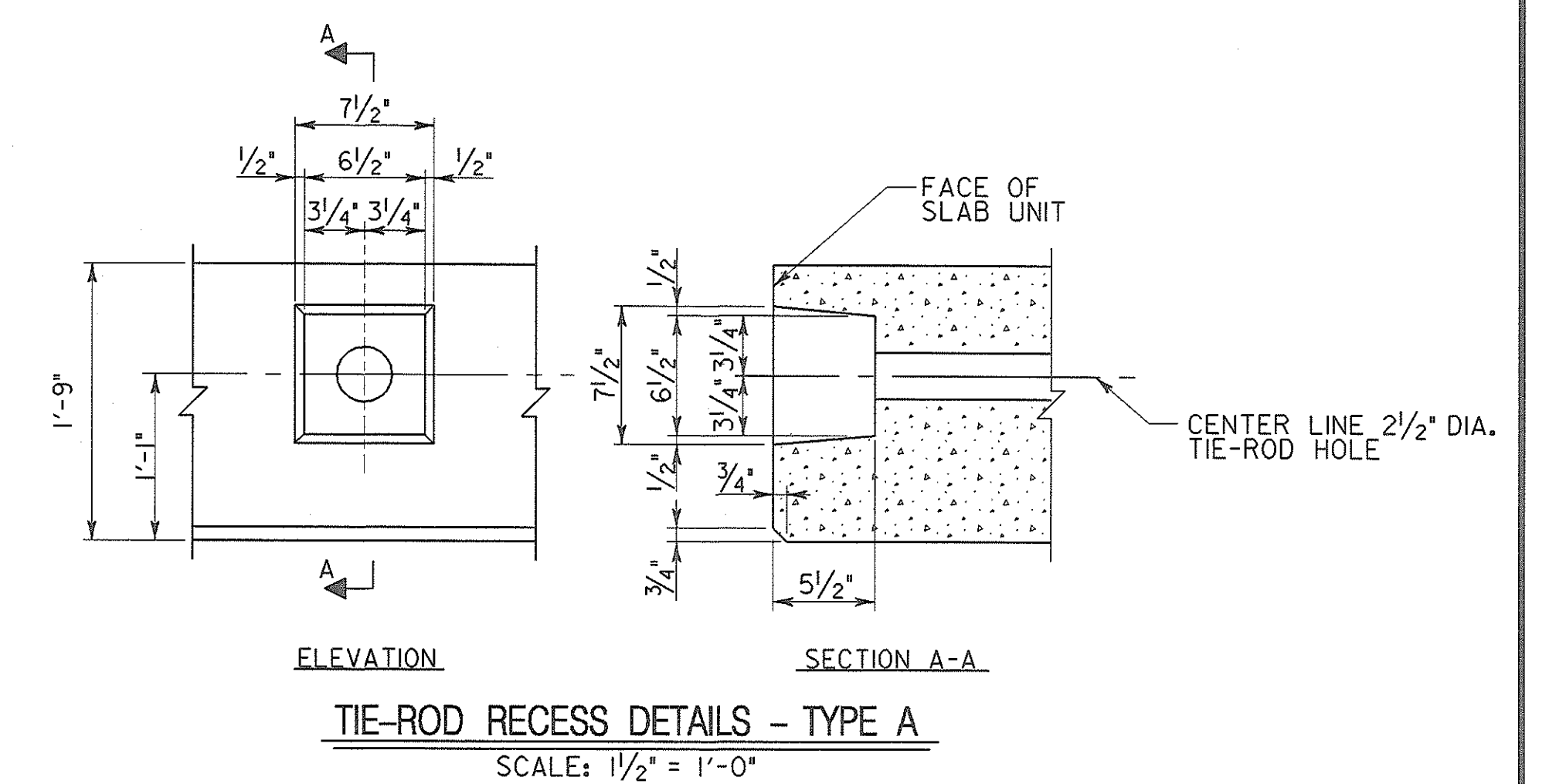


CURB JOINT DETAIL - ELEVATION
SCALE: 1"=1'-0"

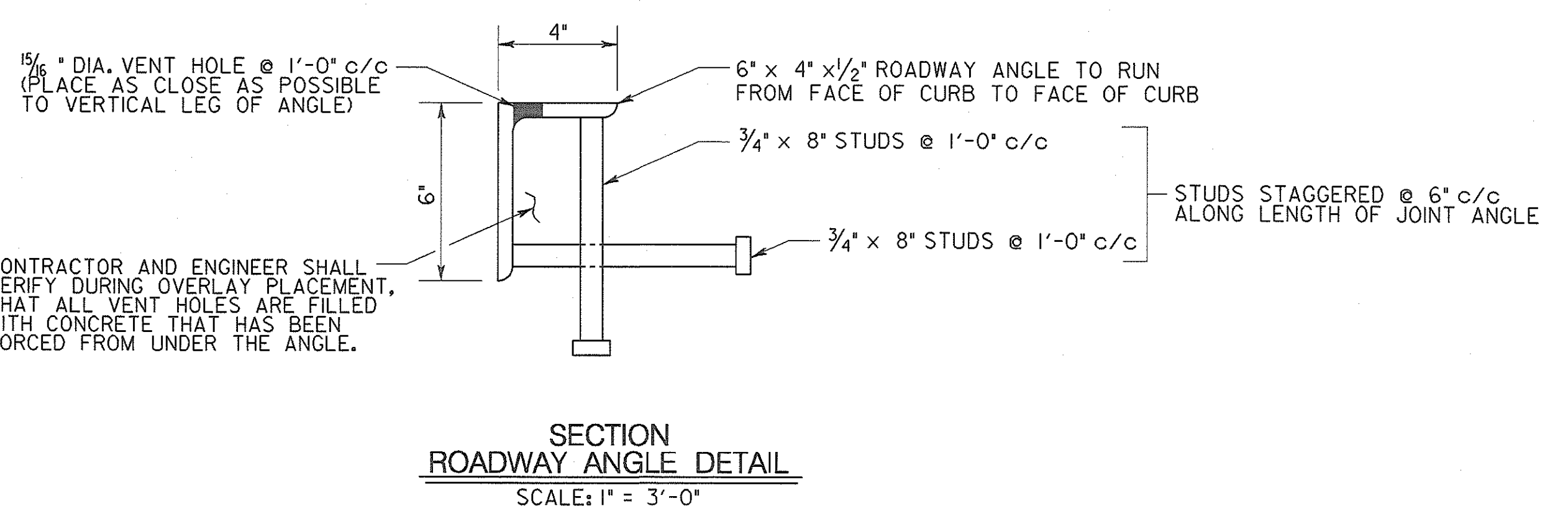
- GENERAL TIE-ROD NOTES:**
- TIE-ROD MATERIALS:
 - TIE-ROD = 1/4" DIA. THREADED BAR WITH A MINIMUM NET AREA THRU THREADS = 0.91 IN. WITH A MINIMUM TENSILE STRENGTH OF 150 KSI. BARS TO BE HOT ROLLED AND COLD STRESSED ALLOY STEEL CONFORMING TO ASTM A 722, TYPE I.
 - HEAVY HEX NUTS AND COUPLERS = SUPPLIED BY THE TIE-ROD MANUFACTURER, SHALL PROVIDE FULL TENSILE STRENGTH OF TIE-ROD.
 - BEARING PLATE = ASTM A 709 GRADE 36.
 - ALL MATERIAL FOR TIE-RODS, PLATES, NUTS AND WASHERS SHALL BE HOT DIPPED GALVANIZED.
 - THE TIE-ROD SHALL BE INSTALLED WITH A LOADING APPARATUS, IN CONFORMANCE WITH 440.03.19, CAPABLE OF APPLYING A TENSION OF 120 KIPS PRIOR TO FILLING THE SHEAR KEYS AND PLACING THE OVERLAY, CURBS AND RAILING.
 - AFTER TENSIONING IS COMPLETE, FILL RECESS ON EXTERIOR UNITS FLUSH WITH FACE OF EXTERIOR PRECAST SLAB UNIT WITH NONSHRINK GROUT. ALL NONSHRINK GROUT SHALL CONFORM TO 902.11 (C).
 - NO ALTERNATIVES WILL BE ALLOWED FOR THE TIE-ROD.



LATERAL TIE-ROD - SECTION DETAIL
SCALE: 1/2" = 1'-0"

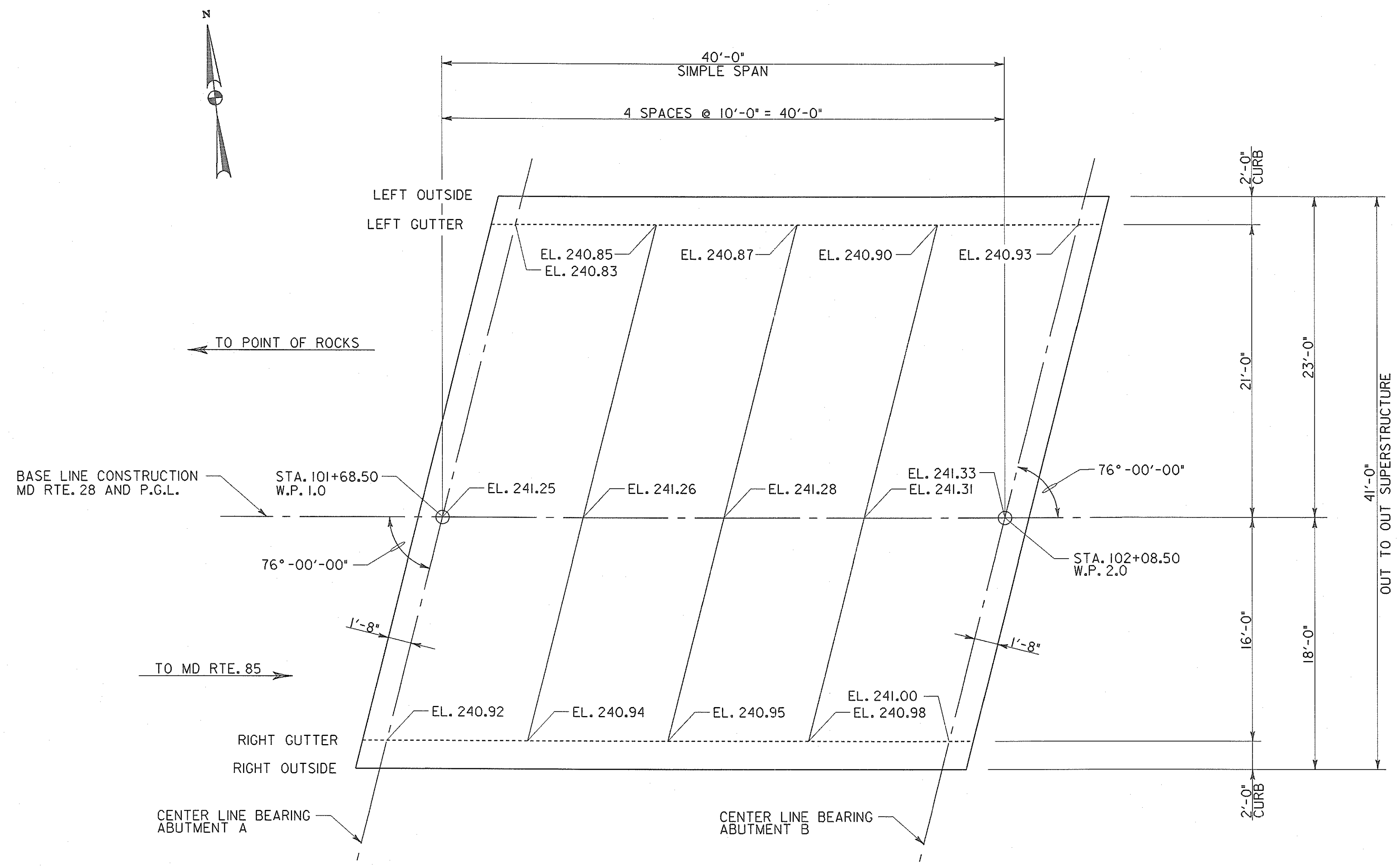


TIE-ROD RECESS DETAILS - TYPE A
SCALE: 1/2" = 1'-0"



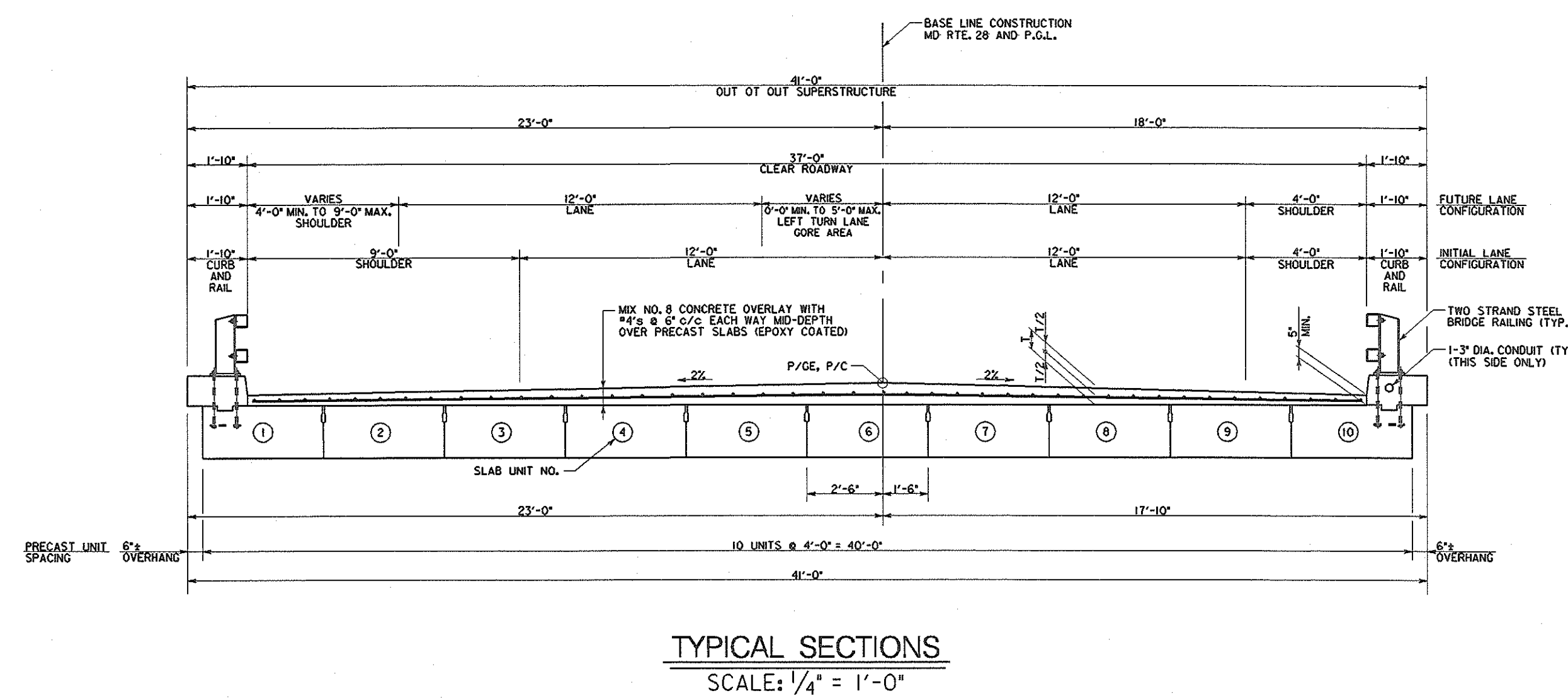
SECTION ROADWAY ANGLE DETAIL
SCALE: 1" = 3'-0"

REVISIONS STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN SUPERSTRUCTURE DETAILS		SHEET NO. SI-24		
SCALE	AS SHOWN	DATE	CONTRACT	AX4695180
DESIGNED BY	J.W.N.			
DRAWN BY	J.MOHR			
CHECKED BY	 JAN 08 2003			
NOTE: FOR TYPICAL SECTION, SEE SHEET NO. SI-18 FOR ADDITIONAL SLAB DETAILS, SEE SHEET NO. SI-20 TO 22 FOR ABUTMENT DETAILS, SEE SHEET NO. SI-4 TO 15 FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27				SHEET NO. 43 OF 53



FINISHED DECK ELEVATIONS
SCALE: 3/16" = 1'-0"

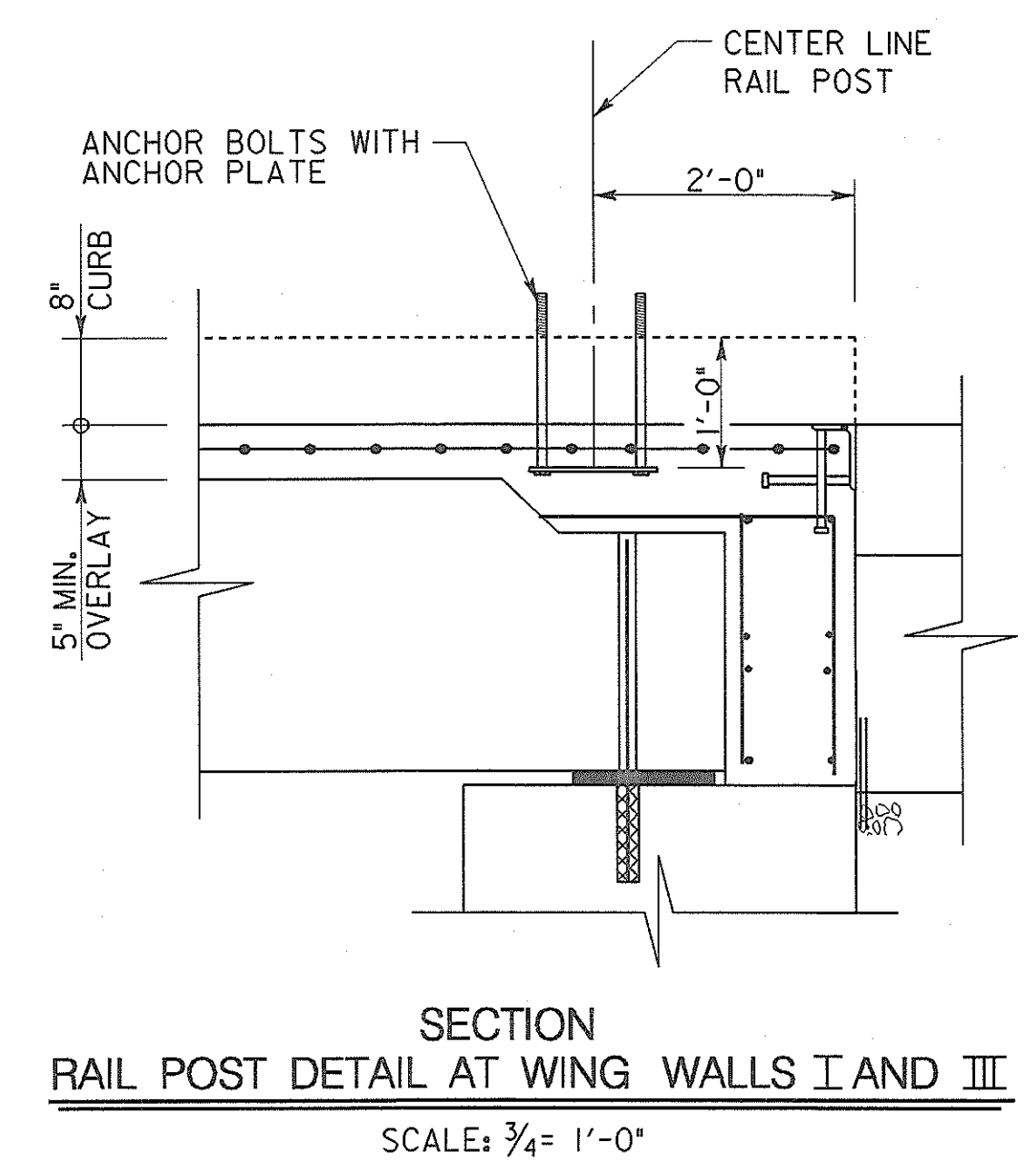
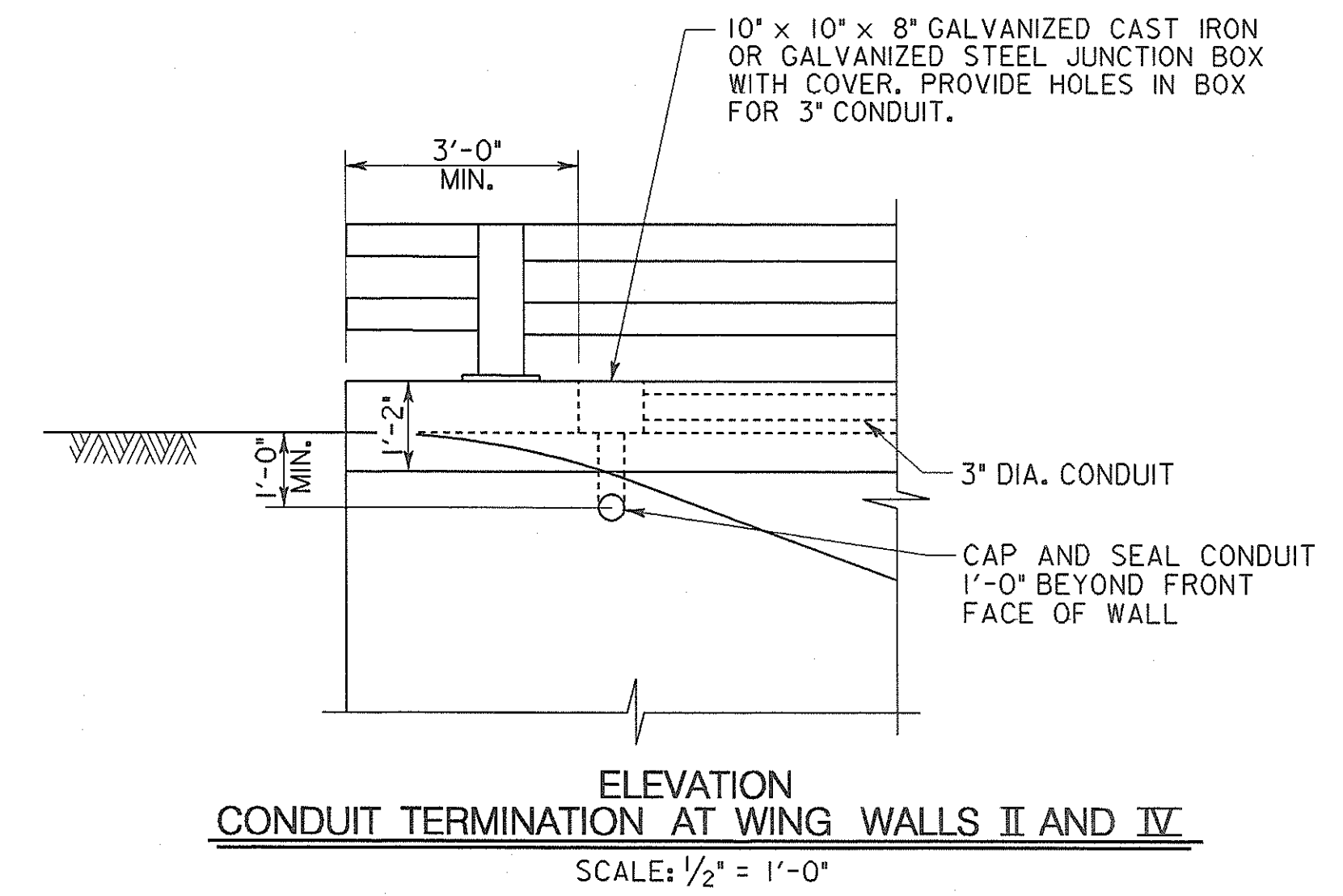
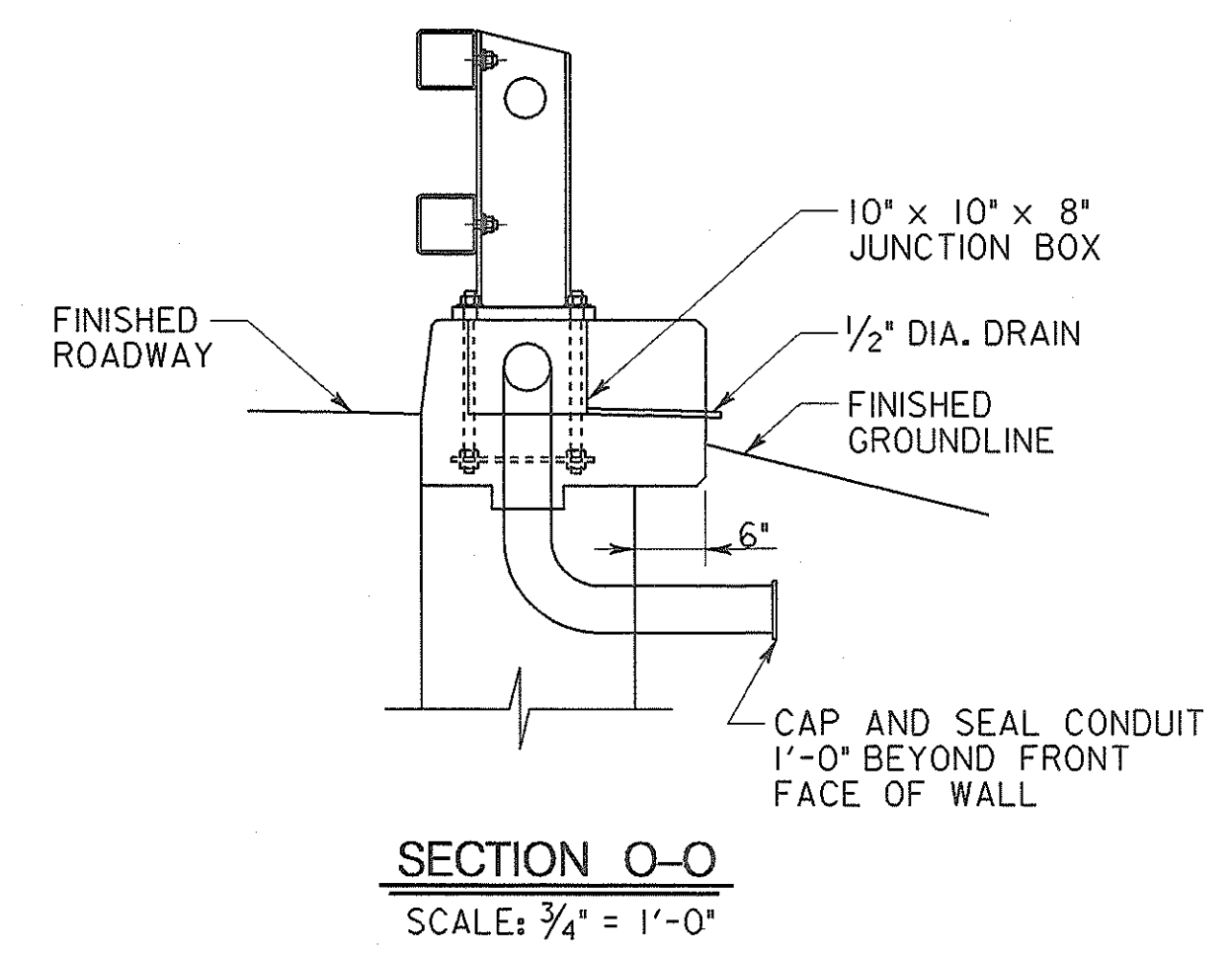
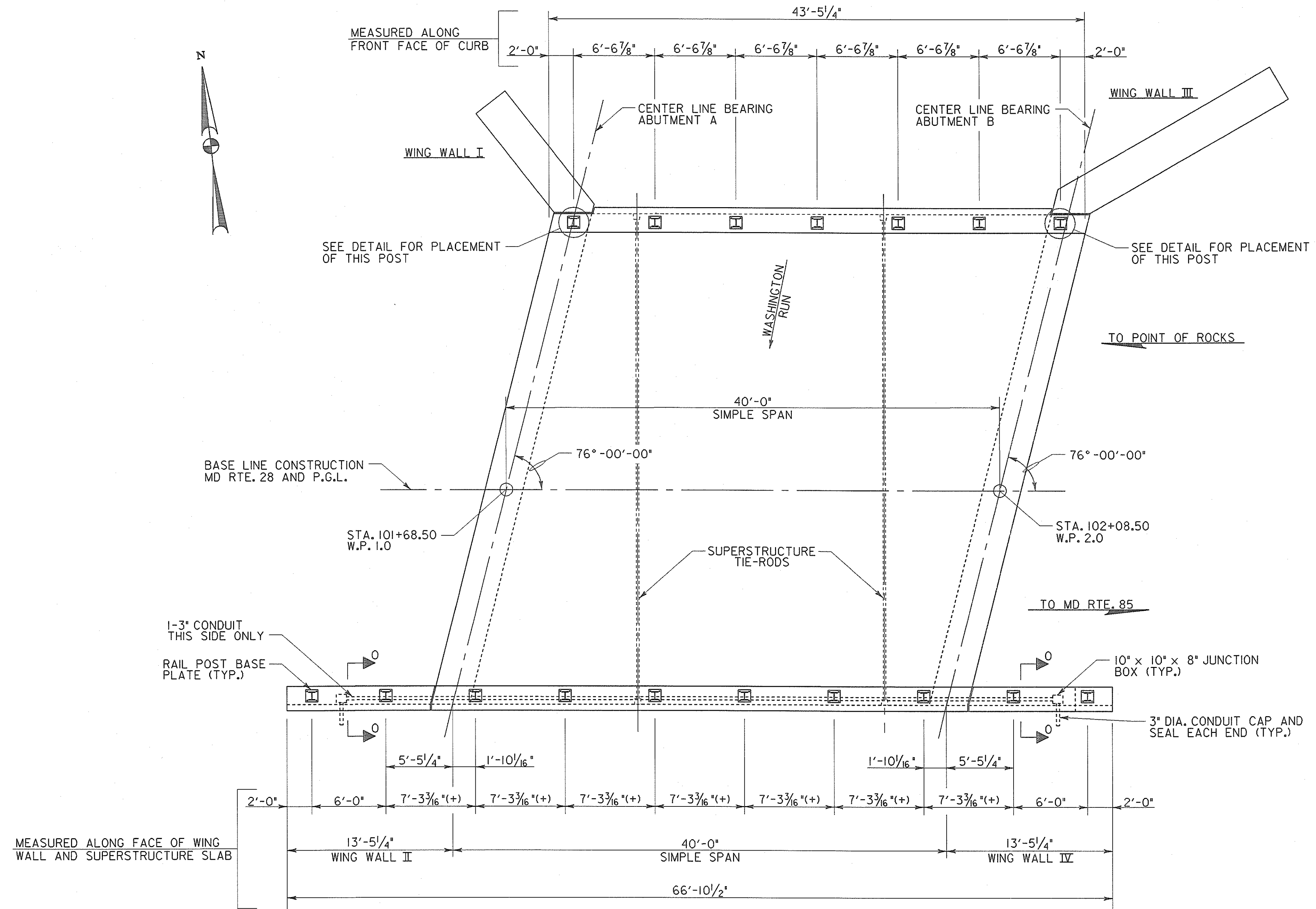
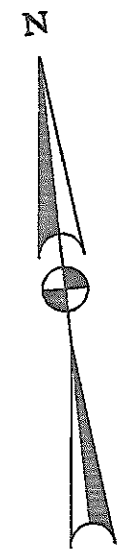
NOTE:
THE ENTIRE CONCRETE OVERLAY SHALL BE MADE IN ONE CONTINUOUS POUR FROM ABUTMENT TO ABUTMENT.
REFER TO 440.03.21 FOR SLAB SURFACE PREPARATION PRIOR TO PLACING MIX NO. 8 CONCRETE OVERLAY.



TYPICAL SECTIONS
SCALE: 1/4" = 1'-0"

NOTE:
FOR GENERAL NOTES, SEE SHEET NO. SI-1
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. SI-1
FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET NO. SI-4 AND 7
FOR DETAILS OF SUPERSTRUCTURE, SEE SHEET NO. SI-18 TO 24
FOR RAILING DETAILS, SEE SHEET NO. SI-26 AND 27

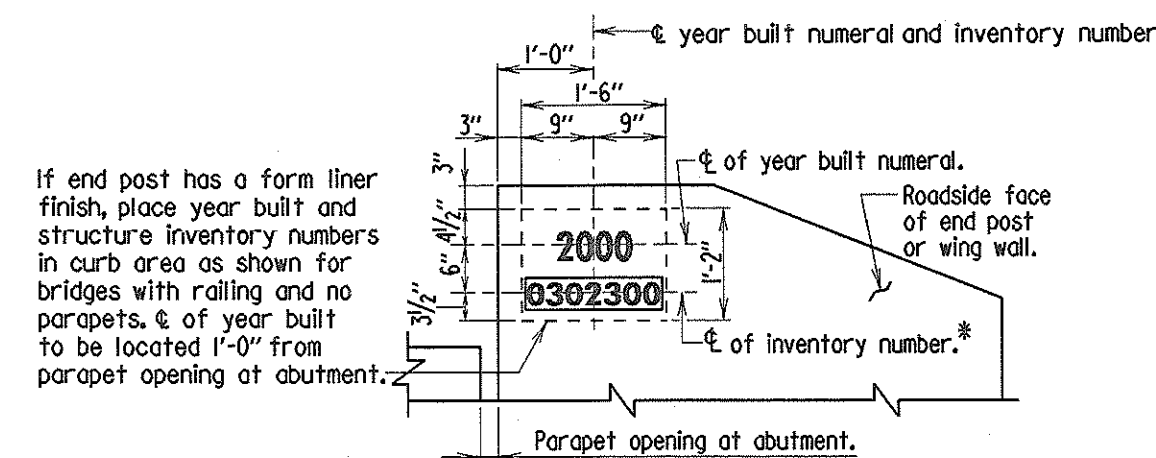
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN FINISHED DECK ELEVATIONS		
	SCALE AS SHOWN	DATE	CONTRACT AX4695180
	DESIGNED BY	J.W.N.	
	DRAWN BY	J.MOHR	
	CHECKED BY	E. S. F. JAN 08 2008	
		SHEET NO. 44	OF 53



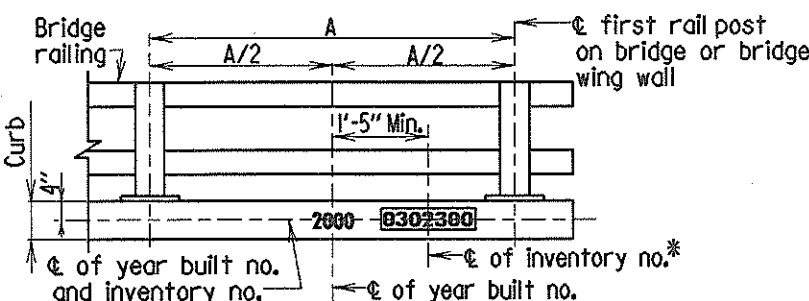
NOTE:
ANCHOR BOLT ASSEMBLY TO BE PLACED WITH OVERLAY PRIOR TO PLACEMENT OF CURB.
THIS DETAIL TO BE USED AT END OF SLAB NEAR WING WALLS I AND III. ALL OTHER ANCHOR BOLTS TO BE CAST WITH SLAB UNIT.

NOTE:
FOR GENERAL PLAN AND ELEVATION, SEE SHEET NO. S1-1
FOR WING WALL DETAILS, SEE SHEET NO. S1-14 AND 15
FOR SUPERSTRUCTURE CURB AND RAIL DETAIL, SEE SHEET NO. S1-23
FOR RAILING DETAILS, SEE SHEET NO. S1-27

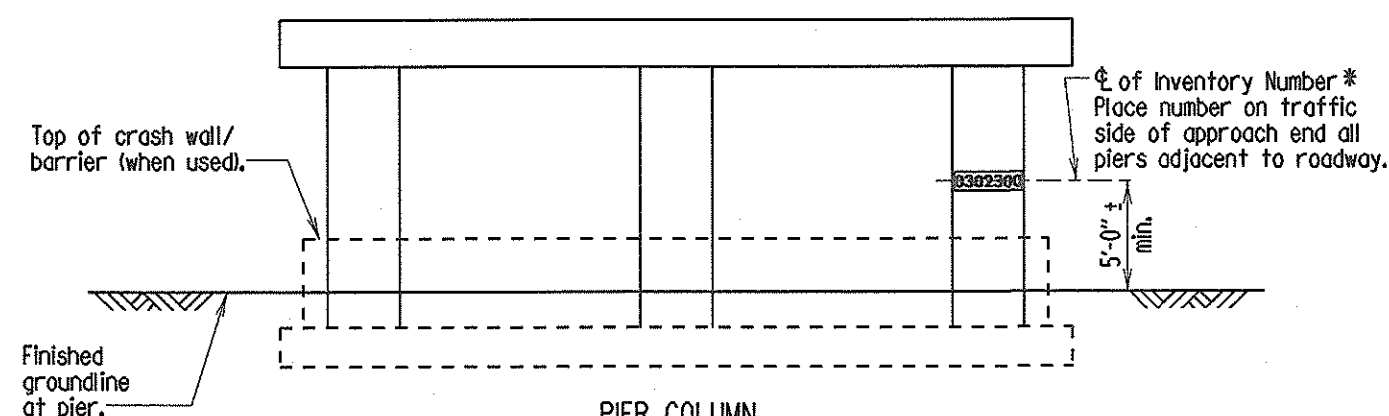
REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN RAIL POST SPACING DETAILS	
	SCALE AS SHOWN	DATE CONTRACT AX4695180
	DESIGNED BY J.W.N.	
	DRAWN BY J.MOHR	
	CHECKED BY	
	E.S.F. JAN 08 2007	
	SHEET NO. 45 OF 58	



BRIDGES WITH PARAPET
 Location: Dual Bridges-Each Approach End (Outside Shoulder), Single Bridge - Approach End - North or East corner. Where bridge has a concrete parapet and no definitive end post, place year built marking and structure inventory number on face of parapet as close to center line of bearing at abutment as practical.



BRIDGES WITH RAILING AND NO PARAPETS

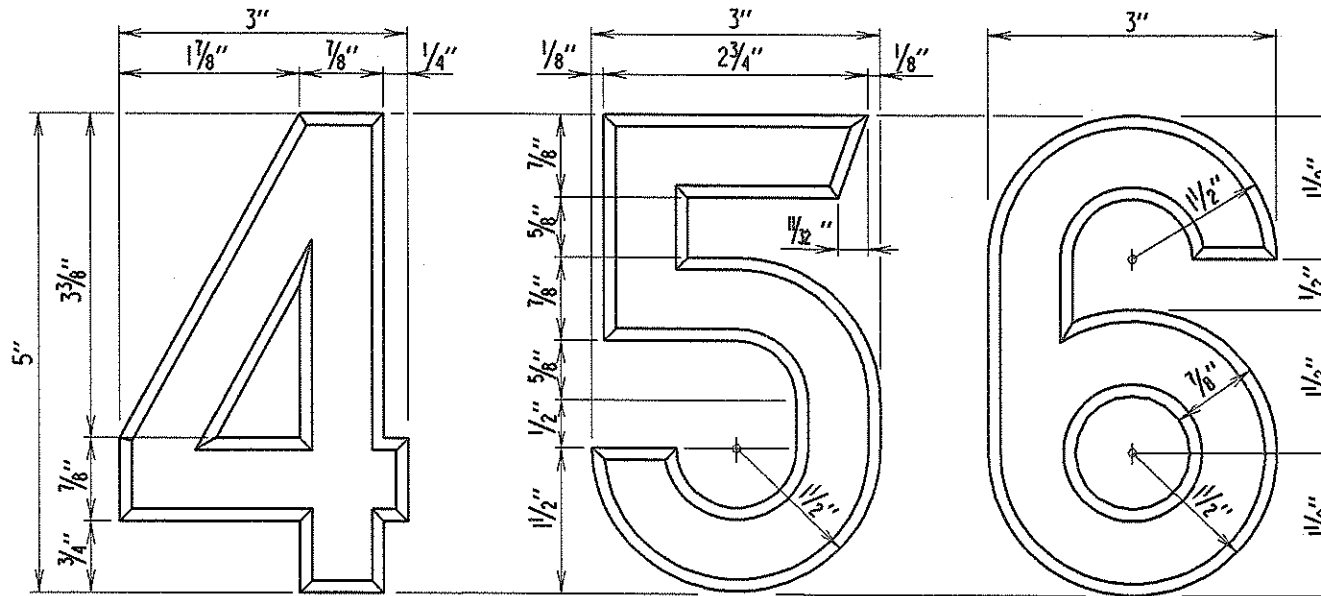
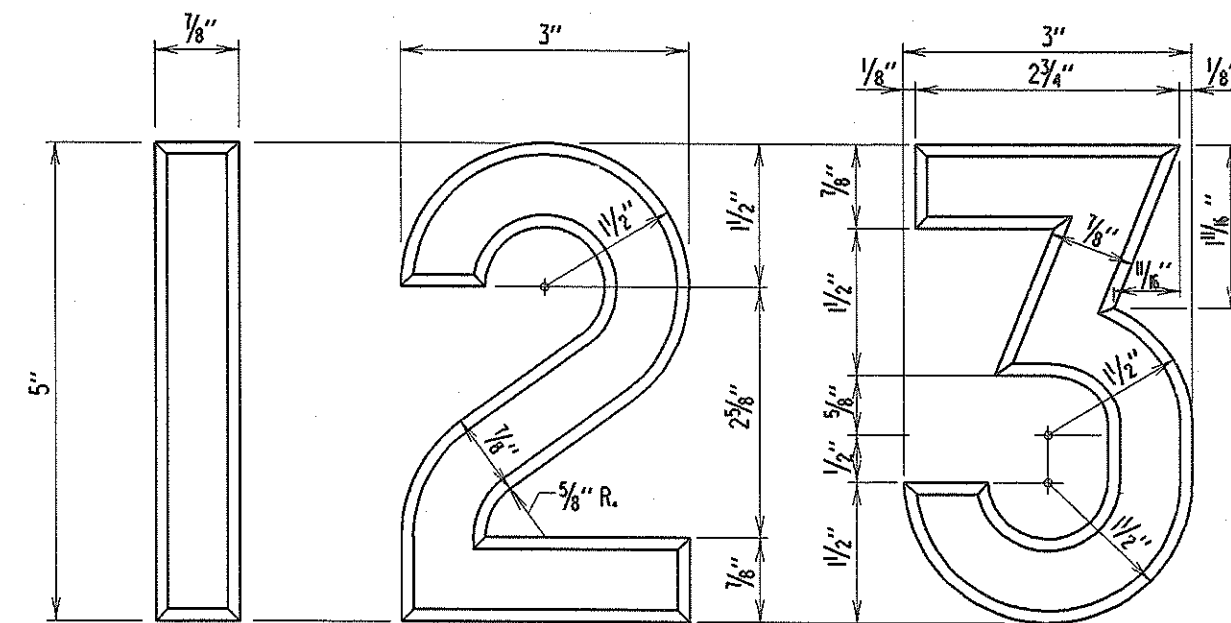


PIER COLUMN
 ONLY ON ROAD OVER ROAD BRIDGES

* Black numbers 3" high on a painted white background, 15" x 17".

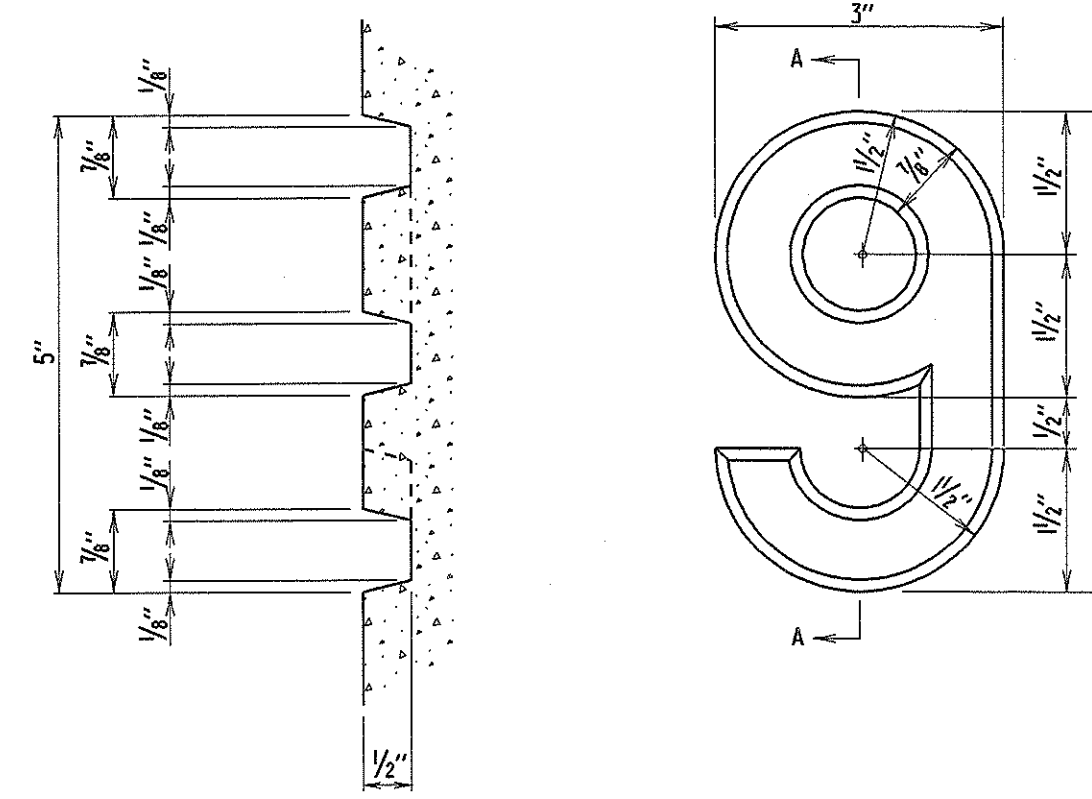
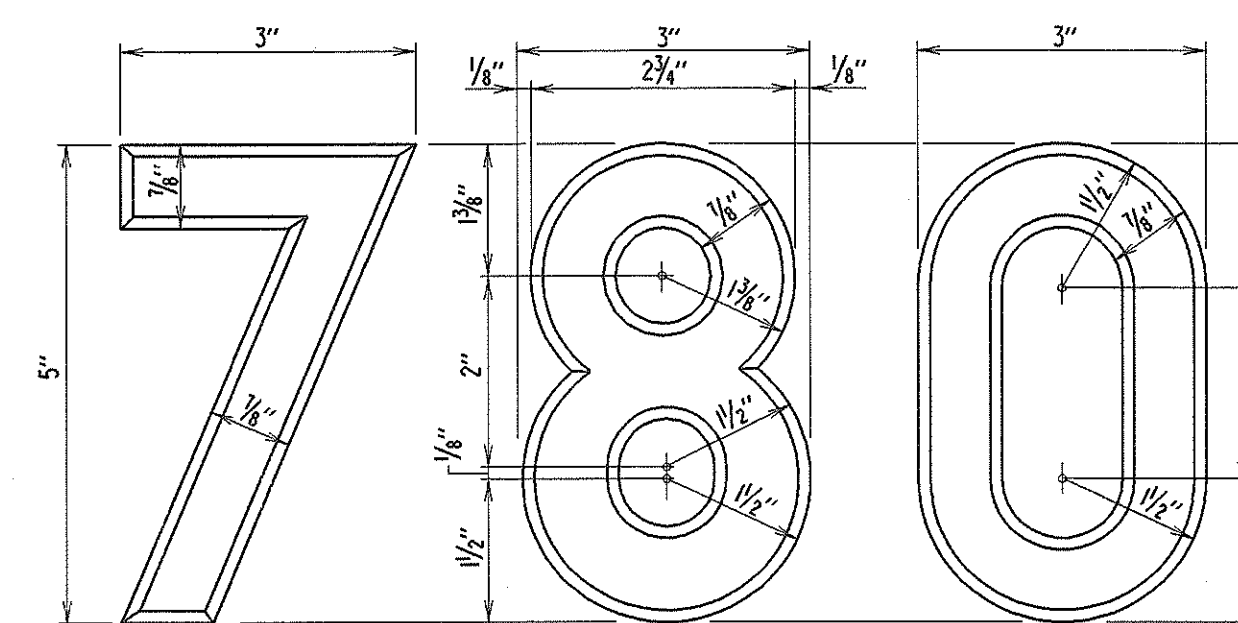
- Notes:**
 1. For existing structures, where a year built is shown on the structure and structure is to be rehabilitated, the marking should read 1942-2000 (old year - first - new year).
 2. For existing structures with no year built contact the Office of Bridge Development for old year.
 3. For Year Built Numerals refer to Standard No. MD.07-99-334.

APPROVAL	STATE OF MARYLAND
DESIGNED BY	DEPARTMENT OF TRANSPORTATION
CHECKED BY	STATE HIGHWAY ADMINISTRATION
DATE	OFFICE OF BRIDGE DEVELOPMENT
REVISIONS	
NO.	NO. MD.041-99-331
DATE	SHEET 1 OF 1



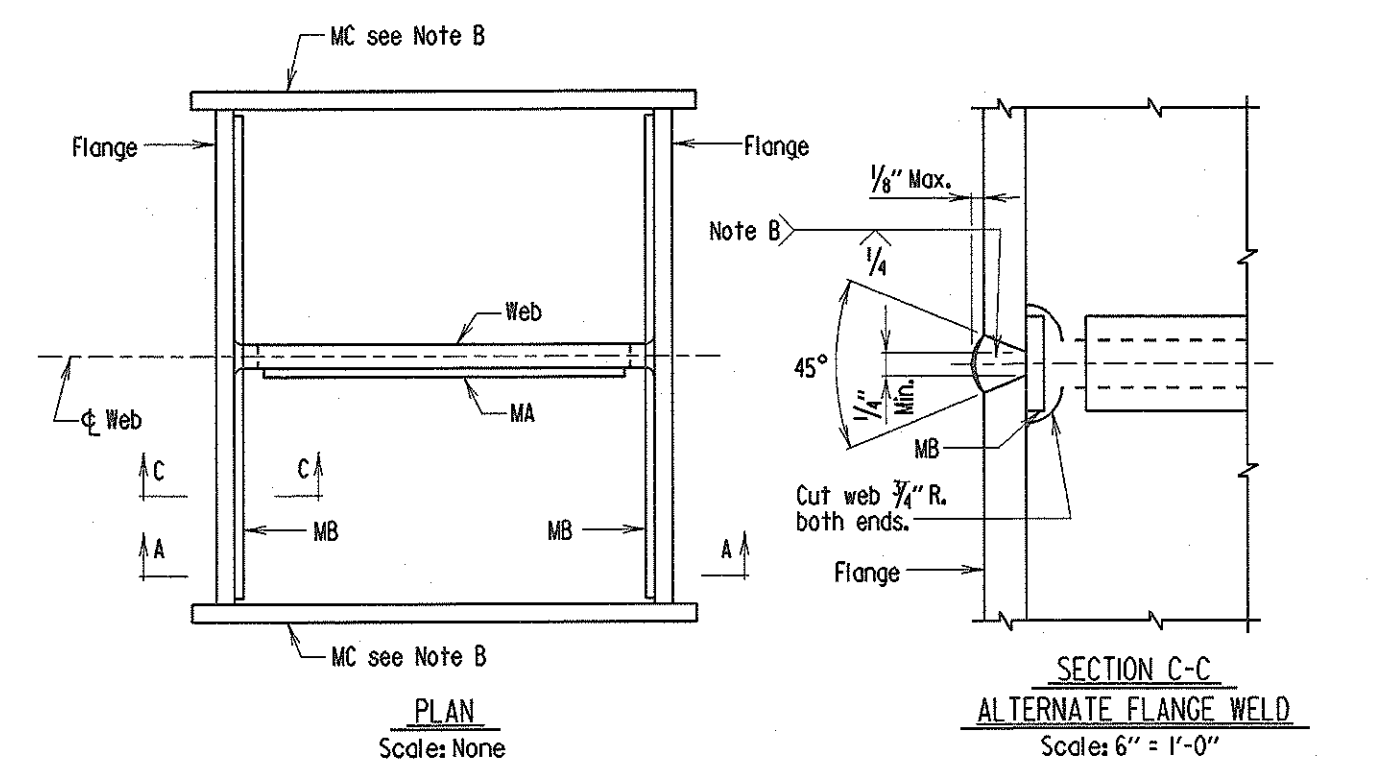
- Notes:**
 Year built numerals to be indented into concrete (unpainted) - as indicated on Standard Nos. MD.041-99-331, MD.051-99-332 and MD.061-99-333.

APPROVAL	STATE OF MARYLAND
DESIGNED BY	DEPARTMENT OF TRANSPORTATION
CHECKED BY	STATE HIGHWAY ADMINISTRATION
DATE	OFFICE OF BRIDGE DEVELOPMENT
REVISIONS	
NO.	NO. MD.071-99-334
DATE	SHEET 1 OF 2



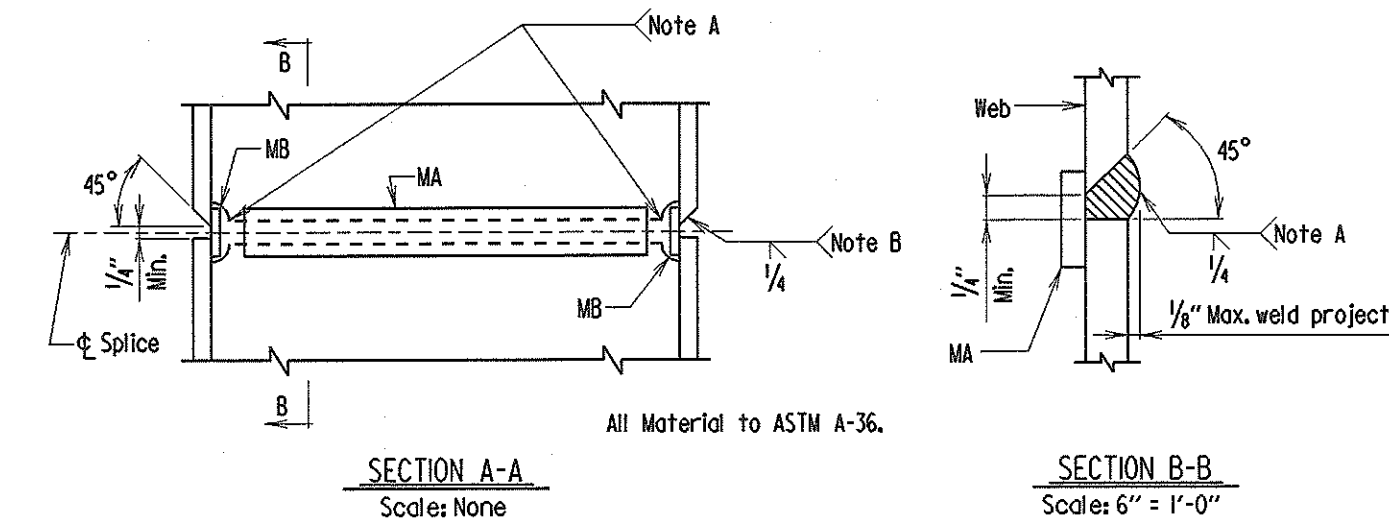
SECTION A-A

APPROVAL	STATE OF MARYLAND
DESIGNED BY	DEPARTMENT OF TRANSPORTATION
CHECKED BY	STATE HIGHWAY ADMINISTRATION
DATE	OFFICE OF BRIDGE DEVELOPMENT
REVISIONS	
NO.	NO. MD.071-99-334
DATE	SHEET 2 OF 2



PLAN
 Scales: None

SECTION C-C
 Scales: 6" = 1'-0"



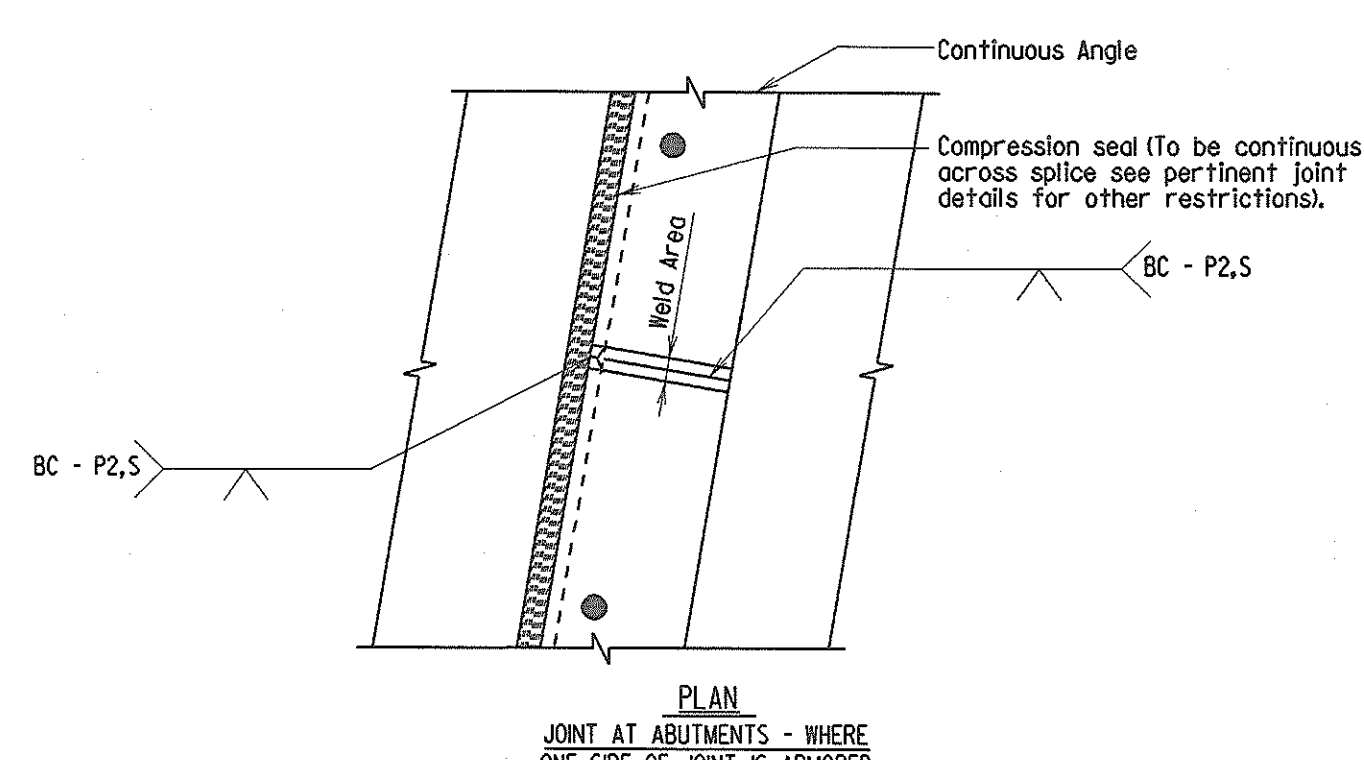
SECTION A-A
 Scales: None

SECTION B-B
 Scales: 6" = 1'-0"

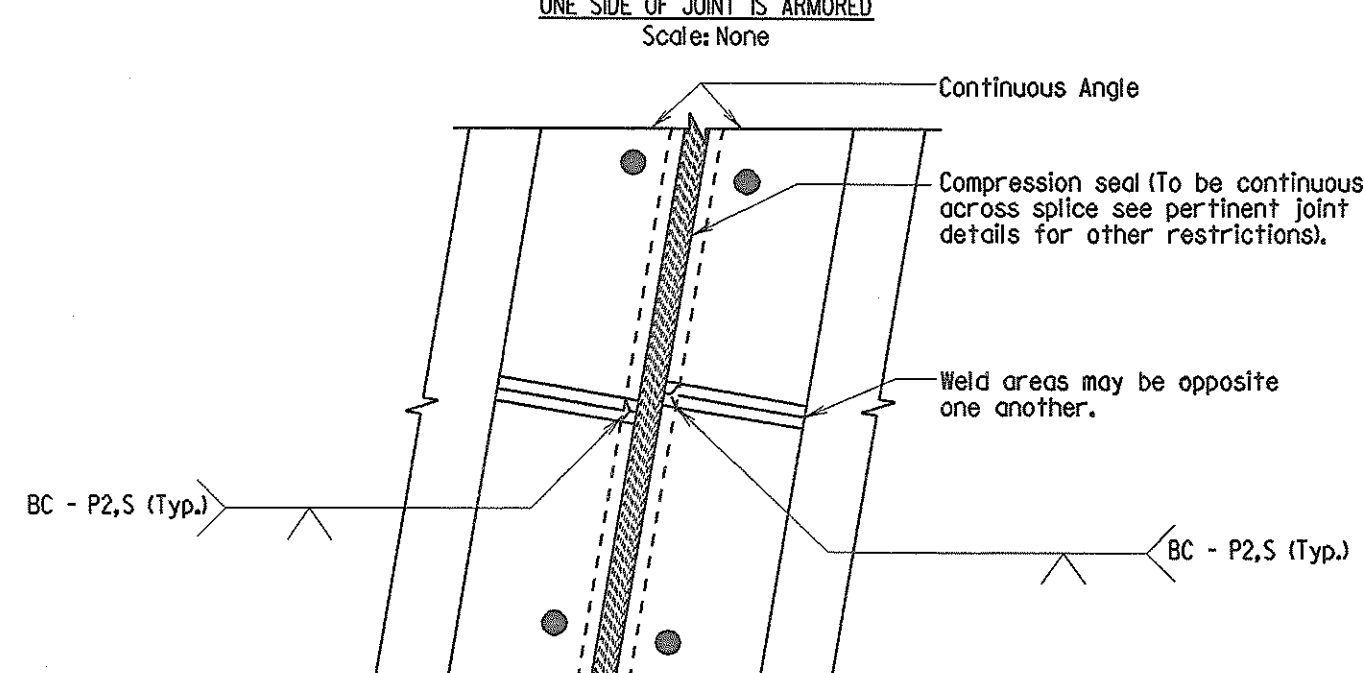
- Material Required:**
 1 Bar MA 1" x 3/8" x 17/4"
 For HP 10 Piles 2 Bars MB 1" x 3/8" x 10"
 2 Bars MC 3" x 3/8" x 11"
 1 Bar MA 1" x 3/8" x 9 3/4"
 For HP 12 Piles 2 Bars MB 1" x 3/8" x 1'-0"
 2 Bars MC 3" x 3/8" x 11"
 1 Bar MA 1" x 3/8" x 1'-0"
 For HP 14 Piles 2 Bars MB 1" x 3/8" x 1-2 1/2"
 2 Bars MC 3" x 3/8" x 1'-3"

- Note A:**
 End of weld to be smooth and flush with web cut, 1/4" min. effective throat.
Note B:
 Bar MC to be tack welded to flange at splice to back up end of flange weld, remove MC after weld is completed. End of weld must be smooth and flush with edge of flange. Grind weld smooth with edge of flange if pile is unsupported in weld area such as in air, water, or soft mud, 1/4" min. effective throat.
Note C:
 Let welds cool to air temperature before driving piles.
Note D:
 No pile splicing to be allowed on any portion of pile that is to remain exposed or to be above finished groundline in completed structure.

APPROVAL	STATE OF MARYLAND
DESIGNED BY	DEPARTMENT OF TRANSPORTATION
CHECKED BY	STATE HIGHWAY ADMINISTRATION
DATE	OFFICE OF BRIDGE DEVELOPMENT
REVISIONS	
NO.	NO. BR-FD10.011-75-15
DATE	SHEET 1 OF 1



PLAN
 Scales: None



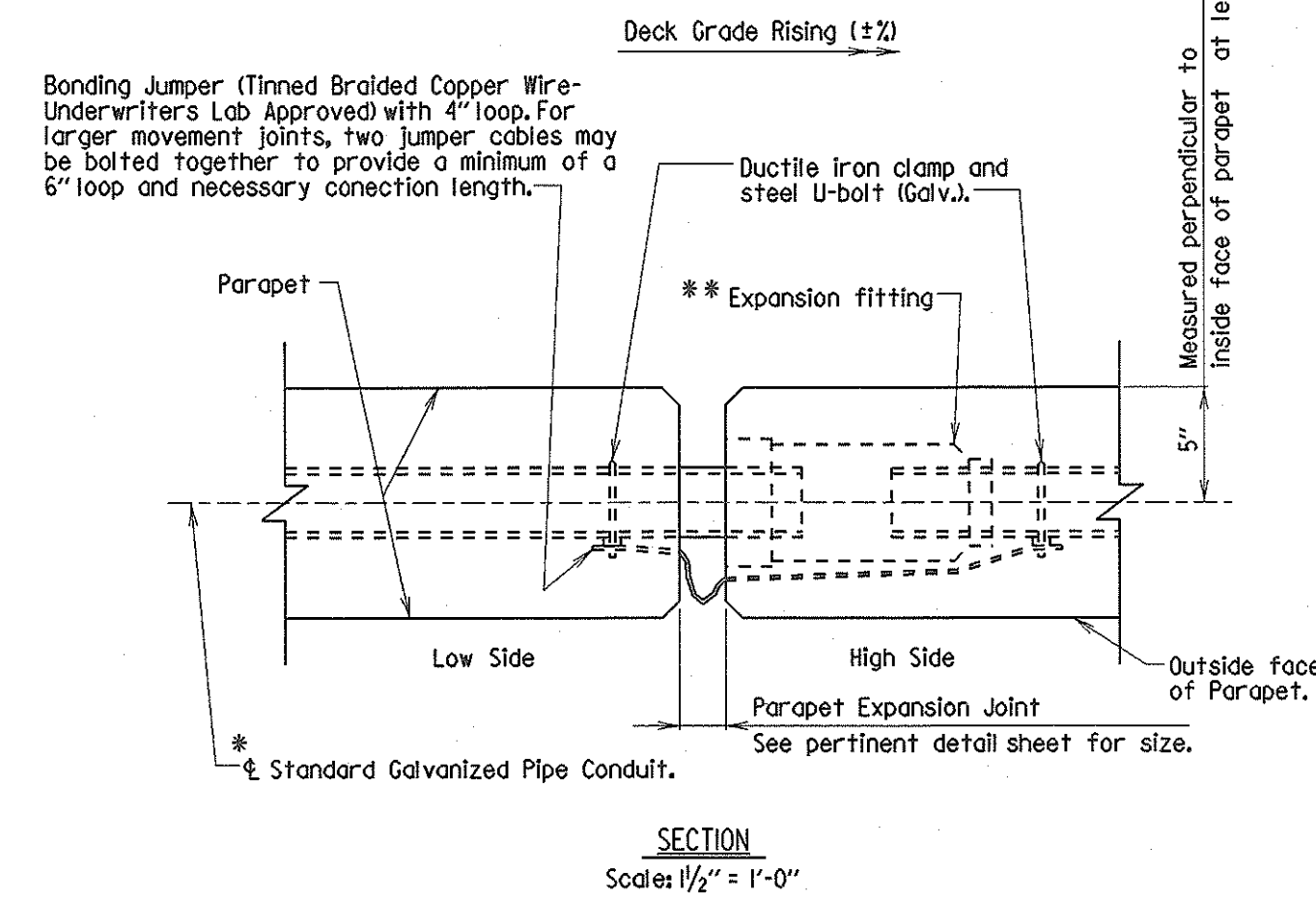
PLAN
 Scales: None

- Note:**
 Whenever possible the need for this splice should be limited. Preferably, the minimum spacing between joints shall be 40'. If there are breaks in the crown or if the joint is skewed, splices may be made at all breaks in slope and may follow the direction of centerline of bridge instead of being perpendicular to center line of bearing.

APPROVAL	STATE OF MARYLAND
DESIGNED BY	DEPARTMENT OF TRANSPORTATION
CHECKED BY	STATE HIGHWAY ADMINISTRATION
DATE	OFFICE OF BRIDGE DEVELOPMENT
REVISIONS	
NO.	STANDARD NO. BR-S517.151-86-198
DATE	SHEET 1 OF 1

SHEET NO. S1-28

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN DETAILS
SCALE	AS SHOWN DATE CONTRACT AX4695180
DESIGNED BY	J.W.N.
DRAWN BY	J.MOHR
CHECKED BY	
	SHEET NO. 47 OF 53

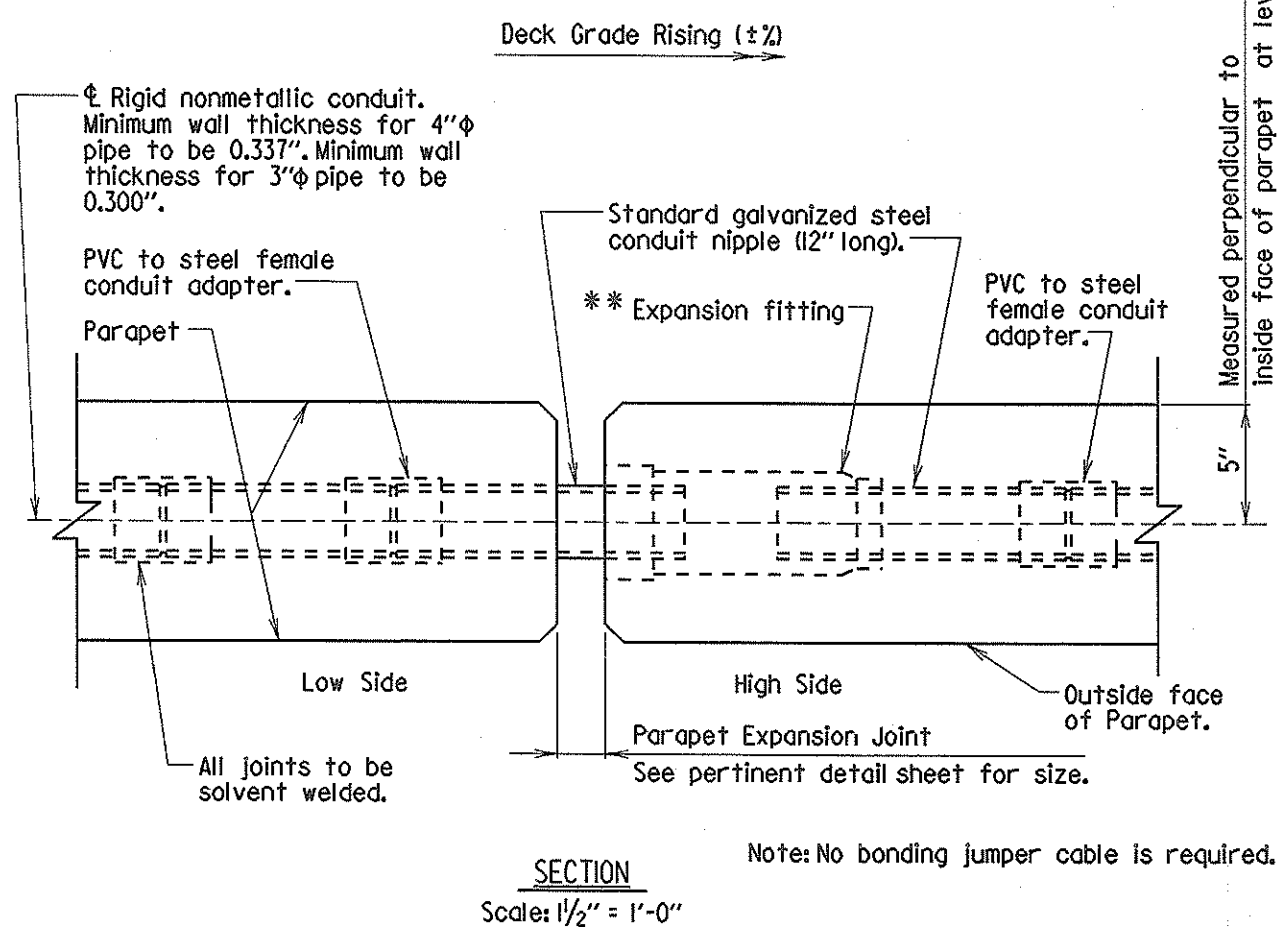


* For conduit size see Superstructure "Typical Section" sheet. Vertical location of $\frac{1}{2}$ of this conduit shall be at least 4" below bottom of railing or fencing anchorage systems.

** Expansion fittings for use with rigid galvanized steel conduit shall consist of a malleable iron head and steel sleeve which shall be hot-dipped galvanized and assembled with a watertight packing gland, an insulated bushing, pressure ring and gasket and a tinned-copper bond to assure continuity of ground. The fitting shall provide, unless otherwise noted on the plans, 4" of movement for all compression and roadway joints and 8" of movement for all other roadway joints, such as steel finger joints.

Notes:
 1. Place expansion joint in pipe conduit and parapet at every expansion joint at supports in bridge deck.
 2. #10 galvanized pull wire to be provided for full length of conduit and left in place.
 3. Contractor may furnish either PVC conduit as shown on sheet 2 of 2 or material shown on this detail. However only one type can be used throughout a structure.

APPROVAL Z. J. [Signature] CHIEF BRIDGE DEVELOPER DATE: 6/20/75	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
REVISIONS 1-5-83 11-29-85 3-1-83 11-29-85	EXPANSION JOINT FOR CONDUIT IN PARAPET
DATE: 3-24-76 1-22-81	STANDARD NO. BR-SS(0,01)-75-13 SHEET 1 OF 2

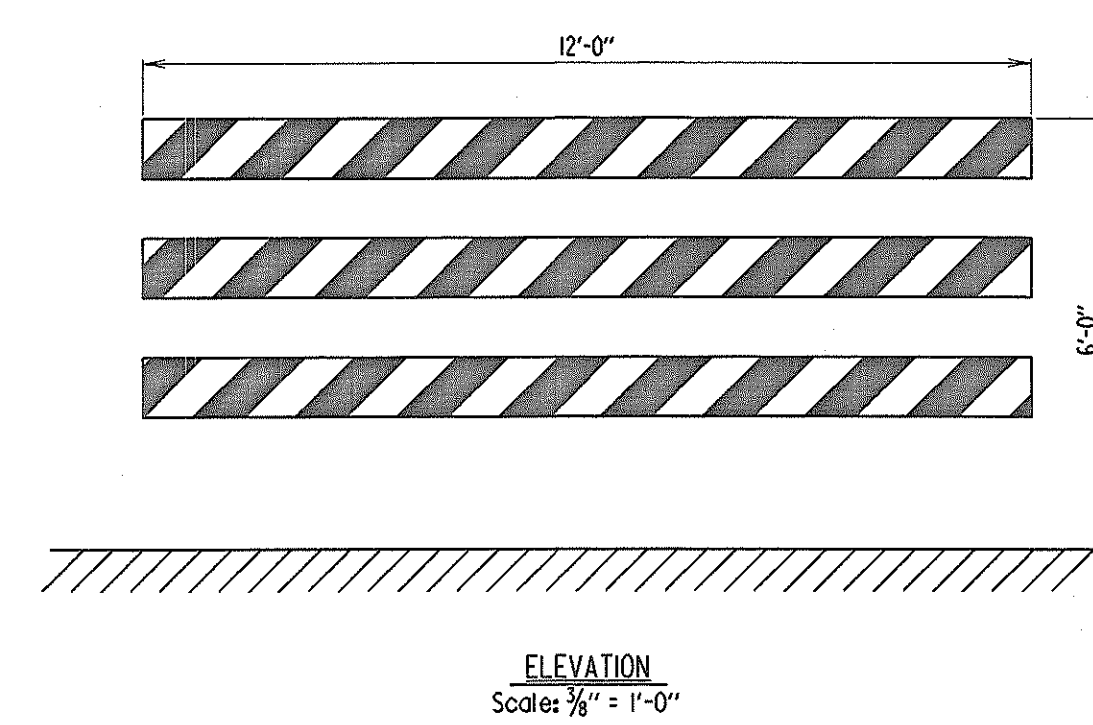


* For conduit size see Superstructure "Typical Section" sheet. Vertical location of $\frac{1}{2}$ of this conduit shall be at least 4" below bottom of railing or fencing anchorage systems.

** Expansion fittings for use with rigid galvanized steel conduit shall consist of a malleable iron head and steel sleeve which shall be hot-dipped galvanized and assembled with a watertight packing gland, an insulated bushing, pressure ring and gasket and a tinned-copper bond to assure continuity of ground. The fitting shall provide, unless otherwise noted on the plans, 4" of movement for all compression and roadway joints and 8" of movement for all other roadway joints, such as steel finger joints.

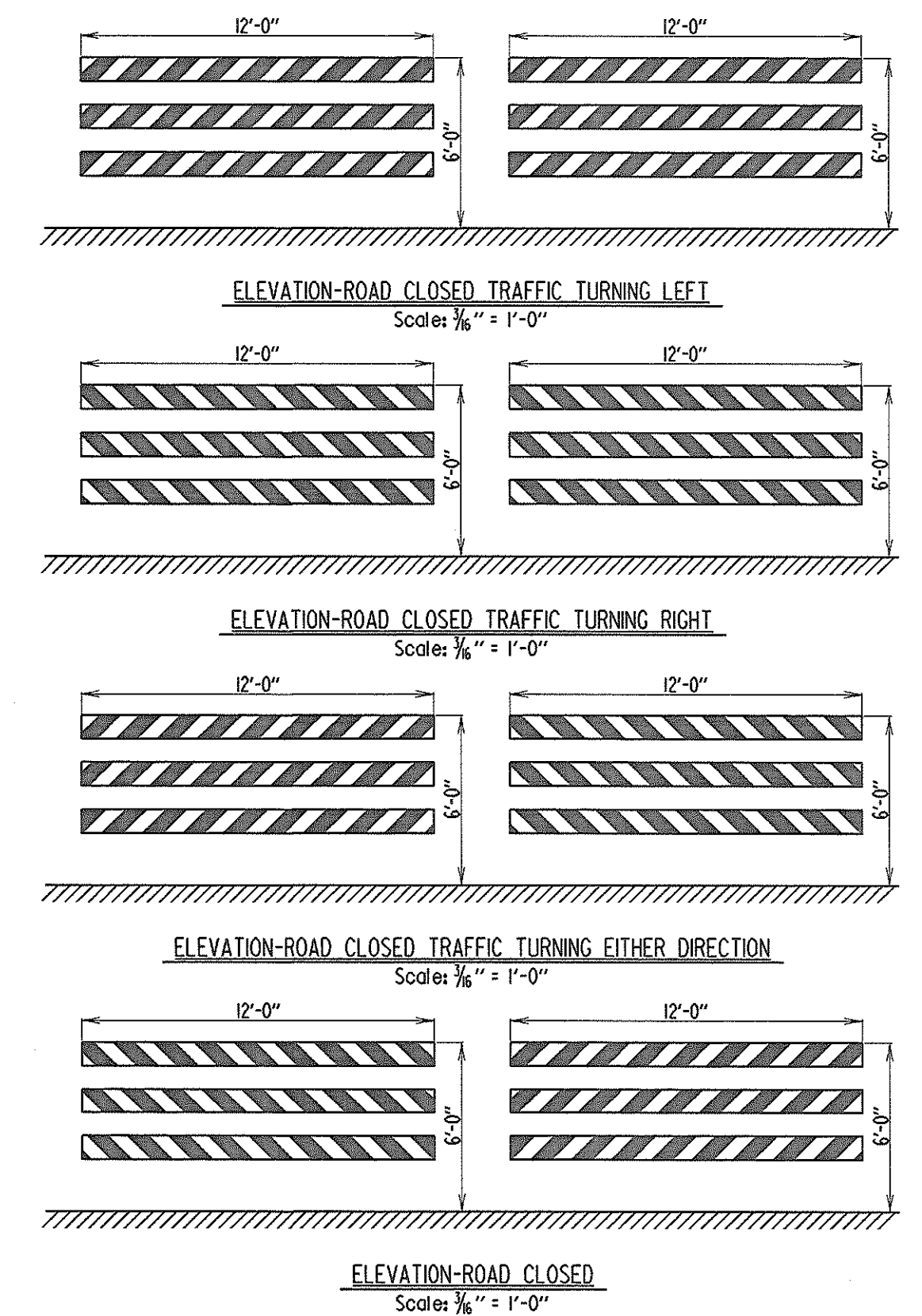
Notes:
 1. Place expansion joint in pipe conduit and parapet at every expansion joint at supports in bridge deck.
 2. #10 galvanized pull wire to be provided for full length of conduit and left in place.
 3. All pipe and expansion joint must be U.L. approved for encasement in concrete.
 4. Fittings to be PVC, except for expansion joint.
 5. Nonmetallic conduit shall conform to 921.07.02.

APPROVAL Z. J. [Signature] CHIEF BRIDGE DEVELOPER DATE: 9/27/83	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
REVISIONS 1-4-84 1-1-85 5-28-92	EXPANSION JOINT FOR CONDUIT IN PARAPET
DATE: 11-29-85 1-22-91	NO. BR-SS(0,01)-75-13 SHEET 2 OF 2



Notes:
 1. Type III Barricade shall conform to NCHRP Report 350 and the MUTCD except that all barricades to close structures shall be 12 ft. long by 6 ft. high.
 2. Striping shall be reflectorized alternate orange and white colors. Right (R) Barricade shown. (L) barricade shall have stripes sloping in opposite direction.
 3. Barricade shall be lighted if required by location.
 4. Type III Barricades shall be selected from the Preapproved List maintained by the Office of Materials and Technology. Procedures for adding products to the prequalified list may be obtained from the Office of Materials and Technology.

APPROVAL Z. J. [Signature] DIRECTOR OFFICE OF BRIDGE DEVELOPMENT DATE: 8/31/79	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
REVISIONS 12-12-05 1-6-06	TEMPORARY MOVABLE BARRICADE
DATE: 1-16-80	STANDARD NO. M5,081-79-82 SHEET 1 OF 2



APPROVAL Z. J. [Signature] DIRECTOR OFFICE OF BRIDGE DEVELOPMENT DATE: 1/6/06	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
REVISIONS 12-12-05 1-6-06	TEMPORARY MOVABLE BARRICADE
DATE:	STANDARD NO. M5,081-79-82 SHEET 2 OF 2

SHEET NO. S1-29

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN DETAILS
SCALE AS SHOWN DATE CONTRACT AX4695180	
DESIGNED BY J.W.N. DRAWN BY J.MOHR CHECKED BY	
E. S. F. JAN 08 2008	
	SHEET NO. 48 OF 53

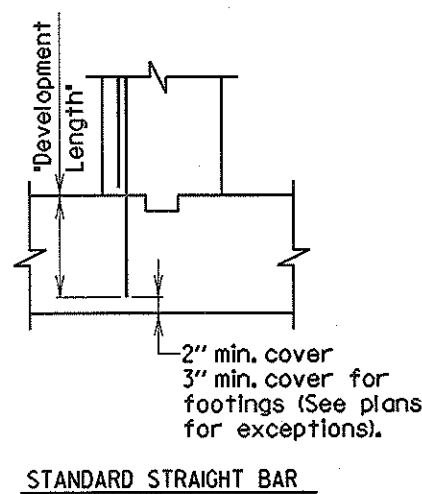
BAR SIZE	* LOCATION CATEGORY		
	A	B	C
#4	2'-5"	1'-9"	1'-5"
#5	3'-0"	2'-2"	1'-9"
#6	3'-7"	2'-7"	2'-1"
#7	4'-10"	3'-6"	2'-10"
#8	6'-5"	4'-7"	3'-8"
#9	8'-1"	5'-9"	4'-8"
#10	10'-3"	7'-4"	5'-11"
#11	12'-7"	9'-0"	7'-3"

* LOCATION CATEGORY

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6" or more apart.

Notes:
 1. When bar lap is not specified on the Plans, the above dimensions shall be used.
 2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND		
DESIGNED BY	DEPARTMENT OF TRANSPORTATION		
CHECKED BY	STATE HIGHWAY ADMINISTRATION		
DATE	4/30/05		
REVISIONS	OFFICE OF BRIDGE DEVELOPMENT		
NO.	DATE	BY	DESCRIPTION
1	2-10-05	JWA	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING
2	11-23-03		
3	11-23-03		
FINAL APPROVAL	NO. M6.071-81-127	SHEET 1 OF 3	
DATE	9-20-05		



BAR SIZE	* LOCATION CATEGORY		
	A	B	C
#4	1'-5"	1'-0"	1'-0"
#5	1'-9"	1'-3"	1'-0"
#6	2'-2"	1'-6"	1'-3"
#7	2'-11"	2'-1"	1'-8"
#8	3'-9"	2'-9"	2'-2"
#9	4'-9"	3'-5"	2'-9"
#10	6'-1"	4'-4"	3'-6"
#11	7'-5"	5'-4"	4'-3"

* LOCATION CATEGORY:

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6" or more apart.

Notes:
 1. When development length is not specified on the Plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."
 4. If depth of member does not allow bar development length indicated in Categories A, B, and C then hook shall be added to all bars not conforming, as per D, E, and F per Std. No. M6.081-86-178.

APPROVAL	STATE OF MARYLAND		
DESIGNED BY	DEPARTMENT OF TRANSPORTATION		
CHECKED BY	STATE HIGHWAY ADMINISTRATION		
DATE	2/2/90		
REVISIONS	OFFICE OF BRIDGE DEVELOPMENT		
NO.	DATE	BY	DESCRIPTION
1	2-10-02	JWA	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING
2	11-23-03		
3	11-23-03		
FINAL APPROVAL	NO. M6.141-90-214	SHEET 1 OF 3	
DATE	9-20-05		

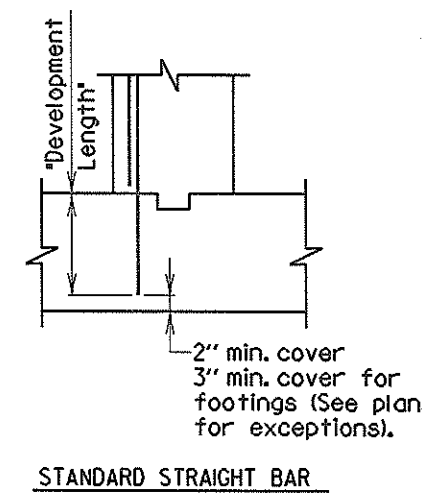
BAR SIZE	* LOCATION CATEGORY			3 Times Bar Diameter	6 Times Bar Diameter = c/c Spacing
	A	B	C		
#4	2'-11"	2'-7"	2'-1"	1/2"	3"
#5	3'-8"	3'-3"	2'-7"	1 1/4"	3 3/4"
#6	4'-5"	3'-10"	3'-1"	2 1/4"	4 1/2"
#7	5'-11"	5'-3"	4'-2"	2 5/8"	5 1/4"
#8	7'-9"	6'-10"	5'-6"	3"	6"
#9	9'-10"	8'-8"	6'-11"	3 3/8"	6 3/4"
#10	12'-5"	11'-0"	8'-10"	3 3/4"	7 1/2"
#11	15'-3"	13'-6"	10'-10"	4 1/4"	8 1/2"

* LOCATION CATEGORY

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6" or more apart.

Notes:
 1. When bar lap is not specified on the Plans, the above dimensions shall be used.
 2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND		
DESIGNED BY	DEPARTMENT OF TRANSPORTATION		
CHECKED BY	STATE HIGHWAY ADMINISTRATION		
DATE	2/2/90		
REVISIONS	OFFICE OF BRIDGE DEVELOPMENT		
NO.	DATE	BY	DESCRIPTION
1	2-10-02	JWA	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.1
2	11-23-03		
3	11-23-03		
FINAL APPROVAL	NO. M6.071-81-127	SHEET 2 OF 3	
DATE	9-20-05		



BAR SIZE	* LOCATION CATEGORY			3 Times Bar Diameter	6 Times Bar Diameter = c/c Spacing
	A	B	C		
#4	1'-9"	1'-6"	1'-3"	1/2"	3"
#5	2'-2"	1'-11"	1'-6"	1 1/4"	3 3/4"
#6	2'-7"	2'-3"	1'-10"	2 1/4"	4 1/2"
#7	3'-6"	3'-1"	2'-6"	2 5/8"	5 1/4"
#8	4'-7"	4'-1"	3'-3"	3"	6"
#9	5'-9"	5'-1"	4'-11"	3 3/8"	6 3/4"
#10	7'-4"	6'-6"	5'-2"	3 3/4"	7 1/2"
#11	9'-0"	7'-11"	6'-4"	4 1/4"	8 1/2"

* LOCATION CATEGORY:

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6" or more apart.

Notes:
 1. When development length is not specified on the Plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND		
DESIGNED BY	DEPARTMENT OF TRANSPORTATION		
CHECKED BY	STATE HIGHWAY ADMINISTRATION		
DATE	2/2/90		
REVISIONS	OFFICE OF BRIDGE DEVELOPMENT		
NO.	DATE	BY	DESCRIPTION
1	2-10-02	JWA	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.1
2	11-23-03		
3	11-23-03		
FINAL APPROVAL	NO. M6.141-90-214	SHEET 2 OF 3	
DATE	9-20-05		

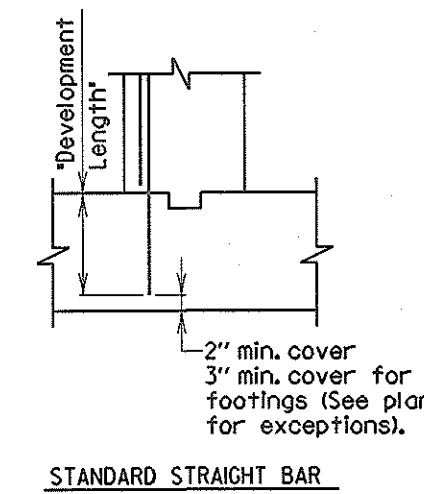
BAR SIZE	* LOCATION CATEGORY		
	A	B	C
#4	2'-11"	2'-1"	1'-8"
#5	3'-7"	2'-7"	2'-1"
#6	4'-4"	3'-1"	2'-6"
#7	5'-9"		3'-4"
#8	7'-7"	Does Not Exist	4'-4"
#9	9'-7"		5'-6"
#10	12'-2"		7'-0"
#11	14'-11"		8'-7"

* LOCATION CATEGORY

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6" or more apart.

Notes:
 1. When bar lap is not specified on the Plans, the above dimensions shall be used.
 2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND		
DESIGNED BY	DEPARTMENT OF TRANSPORTATION		
CHECKED BY	STATE HIGHWAY ADMINISTRATION		
DATE	2/2/90		
REVISIONS	OFFICE OF BRIDGE DEVELOPMENT		
NO.	DATE	BY	DESCRIPTION
1	2-10-02	JWA	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.2
2	11-23-03		
3	11-23-03		
FINAL APPROVAL	NO. M6.071-81-127	SHEET 3 OF 3	
DATE	9-20-05		



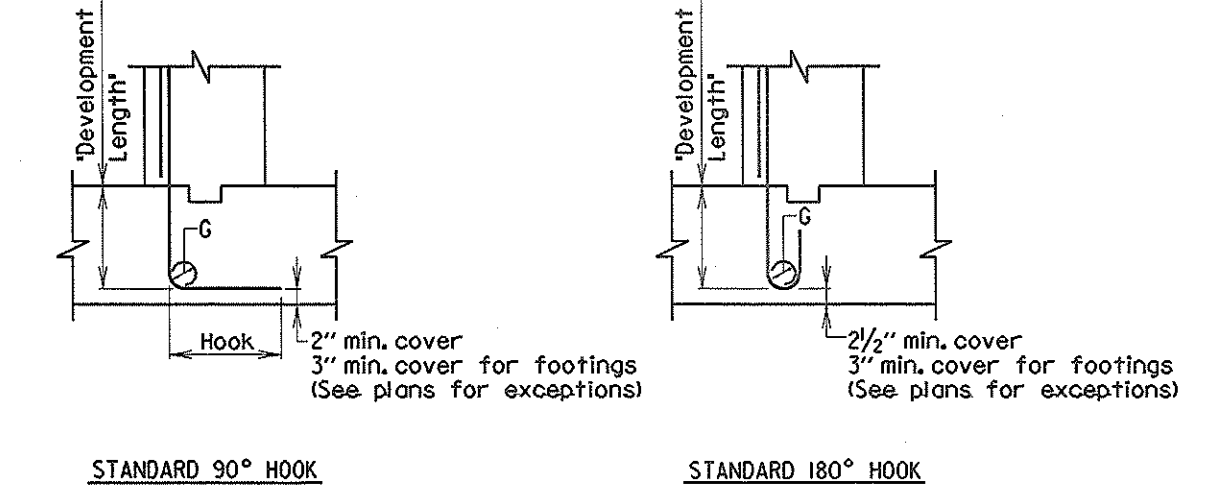
BAR SIZE	* LOCATION CATEGORY		
	A	B	C
#4	1'-9"	1'-3"	1'-0"
#5	2'-2"	1'-6"	1'-3"
#6	2'-7"	1'-10"	1'-6"
#7	3'-5"		2'-0"
#8	4'-6"	Does Not Exist	2'-7"
#9	5'-7"		3'-3"
#10	7'-2"		4'-1"
#11	8'-10"		5'-1"

* LOCATION CATEGORY:

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6" or more apart.

Notes:
 1. When development length is not specified on the Plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND		
DESIGNED BY	DEPARTMENT OF TRANSPORTATION		
CHECKED BY	STATE HIGHWAY ADMINISTRATION		
DATE	2/2/90		
REVISIONS	OFFICE OF BRIDGE DEVELOPMENT		
NO.	DATE	BY	DESCRIPTION
1	2-10-02	JWA	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.2
2	11-23-03		
3	11-23-03		
FINAL APPROVAL	NO. M6.141-90-214	SHEET 3 OF 3	
DATE	9-20-05		



BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	8"	11"	9"
#5	9"	11"	11"
#6	11"	14"	11"
#7	11"	14"	11"
#8	11"	14"	11"
#9	11"	14"	11"
#10	11"	14"	11"
#11	11"	14"	11"

BAR SIZE	RECOMMENDED END HOOKS ALL GRADES		
	Finished bend diameter 6 in.	180 Degree hooks	90 Degree hooks
#4	3"	6"	8"
#5	3 3/4"	7"	10"
#6	4 1/4"	8"	10"
#7	5 1/4"	10"	11"
#8	6"	11"	11"
#9	6 3/4"	11"	11"
#10	10 1/4"	11"	11"
#11	11"	11"	11"

* LOCATION CATEGORY:

D - All bars terminating with a standard 180-degree hook with side cover (normal to plane of hook) not less than 2 1/2", and for 90-degree hook, cover on bar extension beyond hook not less than 2".
 E - All bars not in Category D.
 F - All bars with hook enclosed vertically or horizontally within ties or stirrups tied spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Notes:

1. When development length is not specified on the Plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."
 4. If depth of member does not allow bar development length indicated in Categories A, B, and C Std. No. M6.141-90-214 then hook shall be added to all bars not conforming, as per D, E & F.

APPROVAL	STATE OF MARYLAND		
DESIGNED BY	DEPARTMENT OF TRANSPORTATION		
CHECKED BY	STATE HIGHWAY ADMINISTRATION		
DATE	4/1/05		
REVISIONS	OFFICE OF BRIDGE DEVELOPMENT		
NO.	DATE	BY	DESCRIPTION
1	2-22-03		DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE
2	11-23-03		
3	11-23-03		
FINAL APPROVAL	NO. M6.081-86-178	SHEET 1 OF 1	
DATE	9-20-05		

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN REINFORCING DETAILS
SCALE AS SHOWN	DATE CONTRACT AX4695180
DESIGNED BY J.W.N.	
DRAWN BY J.MOHR	
CHECKED BY E.S.F.	
	JAN 6 2006
	SHEET NO. 49 OF 53

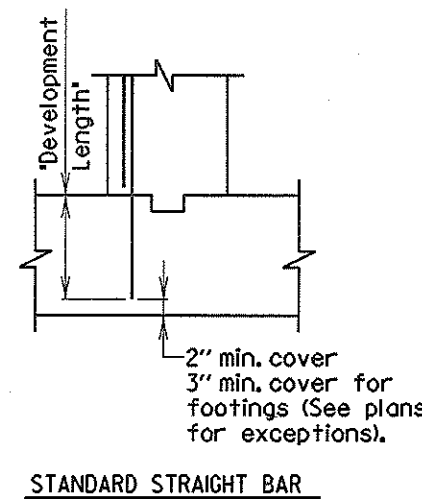
BAR SIZE	* LOCATION CATEGORY		
	A	B	C
#4	2'-5"	1'-9"	1'-5"
#5	3'-0"	2'-2"	1'-9"
#6	3'-7"	2'-7"	2'-1"
#7	4'-4"	3'-1"	2'-6"
#8	5'-8"	4'-1"	3'-3"
#9	7'-2"	5'-1"	4'-1"
#10	9'-1"	6'-6"	5'-2"
#11	11'-1"	7'-11"	6'-4"

* LOCATION CATEGORY

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6 inches apart.
 C - All bars not in Category A spaced 6 inches or more apart.

Notes:
 1. When bar lap is not specified on the plans, the above dimensions shall be used.
 2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING
DATE	NO. M6.05)-80-122
REVISIONS	
NO.	DATE
1	2-2-90
2	2-11-92
3	11-23-93
FINAL APPROVAL	
DATE	6-8-90



BAR SIZE	* LOCATION CATEGORY		
	A	B	C
#4	1'-5"	1'-0"	1'-0"
#5	1'-9"	1'-3"	1'-0"
#6	2'-2"	1'-6"	1'-3"
#7	2'-7"	1'-10"	1'-6"
#8	3'-4"	2'-5"	1'-11"
#9	4'-3"	3'-0"	2'-5"
#10	5'-4"	3'-10"	3'-1"
#11	6'-7"	4'-8"	3'-9"

* LOCATION CATEGORY:

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6 inches or more apart.

Notes:
 1. When development length is not specified on the plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING
DATE	NO. M6.16)-90-216
REVISIONS	
NO.	DATE
1	2-10-92
2	11-23-93
FINAL APPROVAL	
DATE	

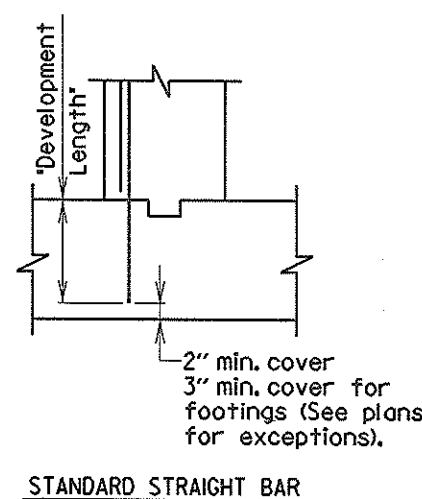
BAR SIZE	* LOCATION CATEGORY			3 Times Bar Diameter	6 Times Bar Diameter = c/c Spacing
	A	B	C		
#4	2'-11"	2'-7"	2'-11"	1 1/2"	3"
#5	3'-8"	3'-3"	2'-7"	1 3/4"	3 3/4"
#6	4'-5"	3'-10"	3'-11"	2 1/4"	4 1/2"
#7	5'-3"	4'-7"	3'-8"	2 5/8"	5 1/4"
#8	6'-10"	6'-1"	4'-10"	3"	6"
#9	8'-8"	7'-8"	6'-11"	3 3/8"	6 3/4"
#10	11'-0"	9'-8"	7'-9"	3 3/4"	7 3/8"
#11	13'-6"	11'-11"	9'-6"	4 1/4"	8 1/2"

* LOCATION CATEGORY

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6 inches apart.
 C - All bars not in Category A spaced 6 inches or more apart.

Notes:
 1. When bar lap is not specified on the plans, the above dimensions shall be used.
 2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.1
DATE	NO. M6.05)-80-122
REVISIONS	
NO.	DATE
1	2-10-92
2	11-23-93
FINAL APPROVAL	
DATE	



BAR SIZE	* LOCATION CATEGORY			3 Times Bar Diameter	6 Times Bar Diameter = c/c Spacing
	A	B	C		
#4	1'-9"	1'-8"	1'-3"	1 1/2"	3"
#5	2'-2"	1'-11"	1'-6"	1 3/4"	3 3/4"
#6	2'-7"	2'-3"	1'-10"	2 1/4"	4 1/2"
#7	3'-11"	2'-9"	2'-2"	2 5/8"	5 1/4"
#8	4'-11"	3'-7"	2'-10"	3"	6"
#9	5'-11"	4'-6"	3'-7"	3 3/8"	6 3/4"
#10	6'-6"	5'-9"	4'-7"	3 3/4"	7 3/8"
#11	7'-11"	7'-0"	5'-7"	4 1/4"	8 1/2"

* LOCATION CATEGORY:

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6 inches or more apart.

Notes:
 1. When development length is not specified on the plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.1
DATE	NO. M6.16)-90-216
REVISIONS	
NO.	DATE
1	2-10-92
2	11-23-93
FINAL APPROVAL	
DATE	

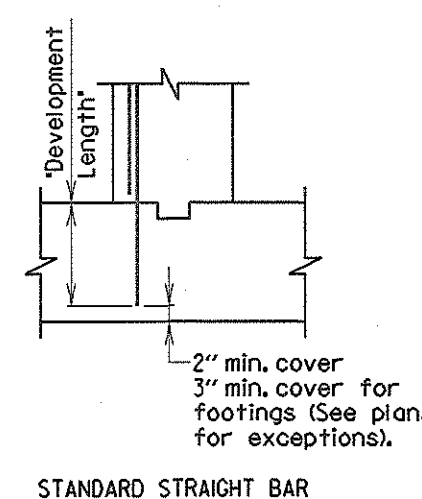
BAR SIZE	* LOCATION CATEGORY		
	A	B	C
#4	2'-9"	2'-0"	1'-7"
#5	3'-6"	2'-6"	2'-0"
#6	4'-2"	3'-0"	2'-5"
#7	4'-11"		2'-10"
#8	6'-6"	Does Not Exist	3'-9"
#9	8'-2"		4'-8"
#10	10'-5"		6'-0"
#11	12'-9"		7'-4"

* LOCATION CATEGORY

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6 inches apart.
 C - All bars not in Category A spaced 6 inches or more apart.

Notes:
 1. When bar lap is not specified on the plans, the above dimensions shall be used.
 2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.2
DATE	NO. M6.05)-80-122
REVISIONS	
NO.	DATE
1	2-10-92
2	11-23-93
FINAL APPROVAL	
DATE	



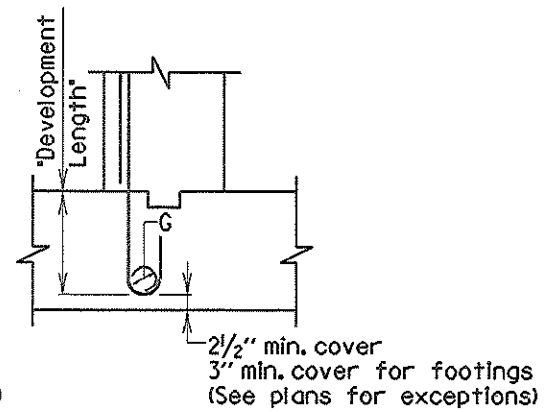
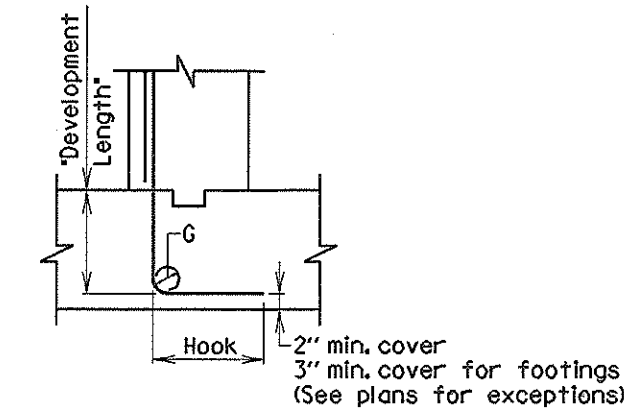
BAR SIZE	* LOCATION CATEGORY		
	A	B	C
#4	1'-8"	1'-2"	1'-0"
#5	2'-1"	1'-6"	1'-2"
#6	2'-5"	1'-9"	1'-5"
#7	2'-11"		1'-8"
#8	3'-10"	Does Not Exist	2'-3"
#9	4'-10"		2'-9"
#10	6'-2"		3'-6"
#11	7'-6"		4'-4"

* LOCATION CATEGORY:

A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" apart.
 C - All bars not in Category A spaced 6 inches or more apart.

Notes:
 1. When development length is not specified on the plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.2
DATE	NO. M6.16)-90-216
REVISIONS	
NO.	DATE
1	2-10-92
2	11-23-93
FINAL APPROVAL	
DATE	



BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	7"	9"	8"
#5	8"	1'-0"	9"
#6	10"	1'-2"	11"
#7	11"	1'-4"	1'-1"
#8	1'-1"	1'-6"	1'-3"
#9	1'-3"	1'-9"	1'-5"
#10	1'-4"	1'-11"	1'-7"
#11	1'-6"	2'-2"	1'-9"

BAR SIZE	RECOMMENDED END HOOKS ALL GRADES		
	Finished Bend diameter G in.	180 Degree hooks	90 Degree hooks
#4	3"	6"	8"
#5	3 1/2"	7"	10"
#6	4 1/2"	8"	1'-0"
#7	5 1/4"	10"	1'-2"
#8	6"	11"	1'-4"
#9	9 1/4"	1'-3"	1'-7"
#10	10 1/4"	1'-5"	1'-10"
#11	1'-0"	1'-7"	2'-0"

* LOCATION CATEGORY:

D - All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2 1/2" and for 90° hook, cover on bar extension beyond hook not less than 2".
 E - All bars not in Category D.
 F - All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Notes:
 1. When development length is not specified on the plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."
 4. If depth of member does not allow bar development length indicated in Categories A, B, and C Std. No. M6.16)-90-216; then hook shall be added to all bars not conforming, as per D, E, and F.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 6 (4500 P.S.I.) CONCRETE
DATE	NO. M6.10)-86-180
REVISIONS	
NO.	DATE
1	2-22-93
2	11-23-93
FINAL APPROVAL	
DATE	

SHEET NO. S1-31

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN REINFORCING DETAILS
SCALE	AS SHOWN DATE CONTRACT AX4695180
DESIGNED BY	J.W.N.
DRAWN BY	J.MOHR
CHECKED BY	E. S. E. JAN 08 2008
SHEET NO.	50 OF 53

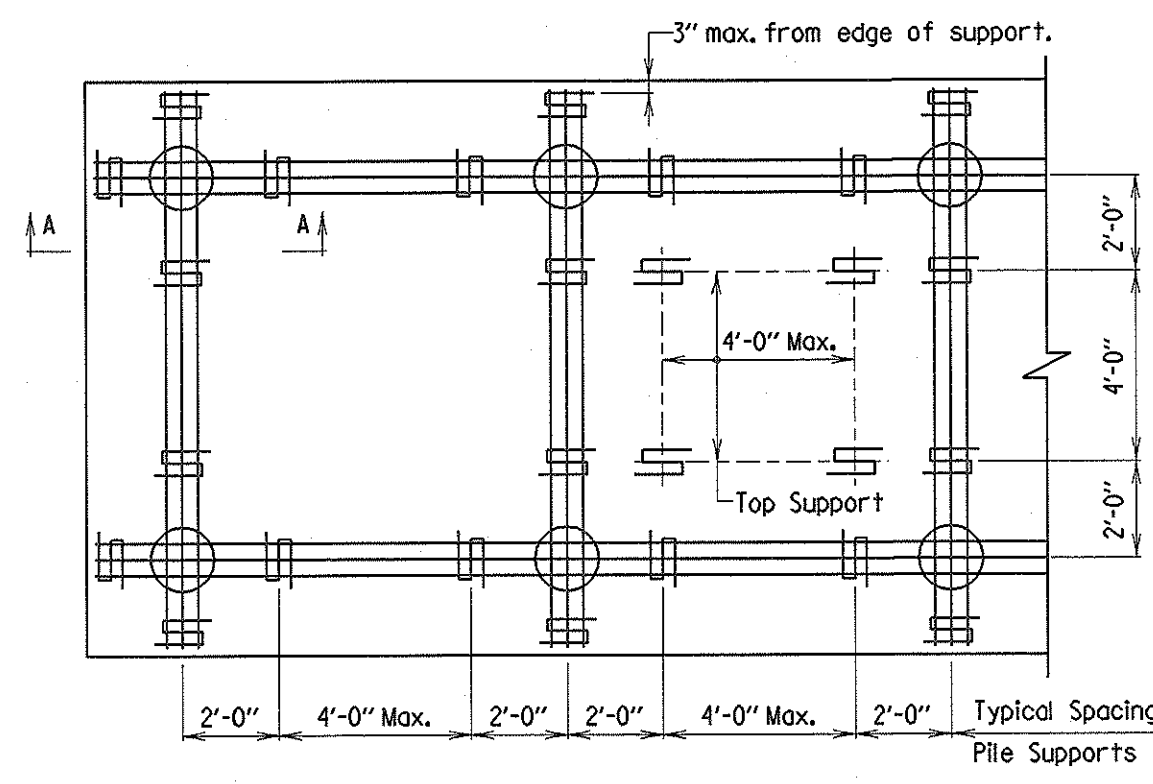
OTHER CONTRACTS FOR THIS STRUCTURE

STRUCTURE INVENTORY NO. 1001600

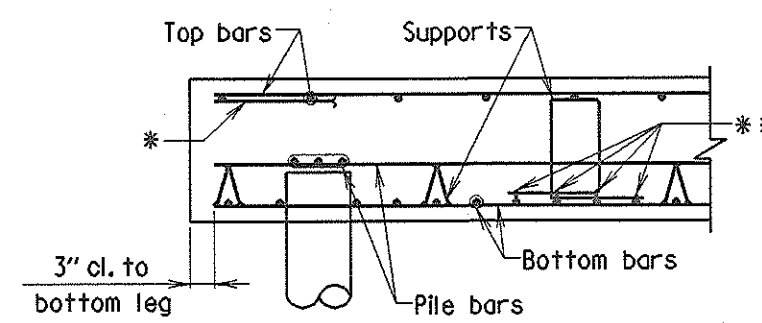
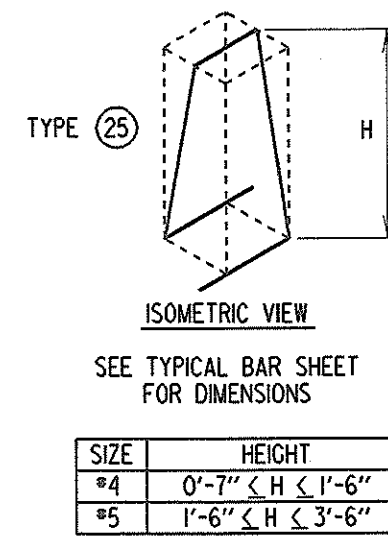
SURVEY BOOK NO.

S:\CADD\OBD\1001600\10016s14.dgn
 PRINT DATE: Wednesday, November 14, 2007 at 1:11:16 PM

INDEXED



PLAN - PILES (SHOWING MAXIMUM SPACING OF BAR SUPPORTS)
Scale: 1/4" = 1'-0"



SECTION A-A
Scale: None

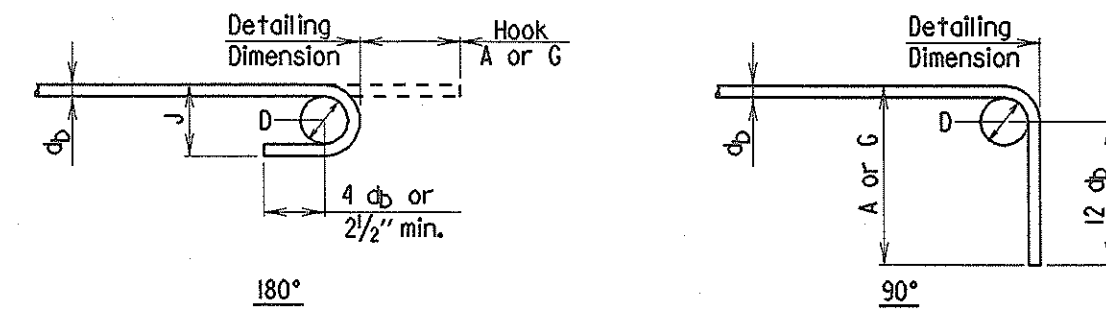
DIMENSIONS AND QUANTITIES TO BE SUPPLIED BY CONTRACTOR

* Top bar cannot be dropped to act as a support bar. If support bar is required, separate #5 bars are to be used.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DATE: 3/1/99	
REVISIONS	
SHA	FRWA
FRWA APPROVAL	NO. REBAR-PLU(01)-91-251 SHEET 1 OF 1

HOOKS
TABLE I
REFERENCES

1. ACI Types I thru 26
2. SHA Standard Pin Bending
3. SHA Radius Bending



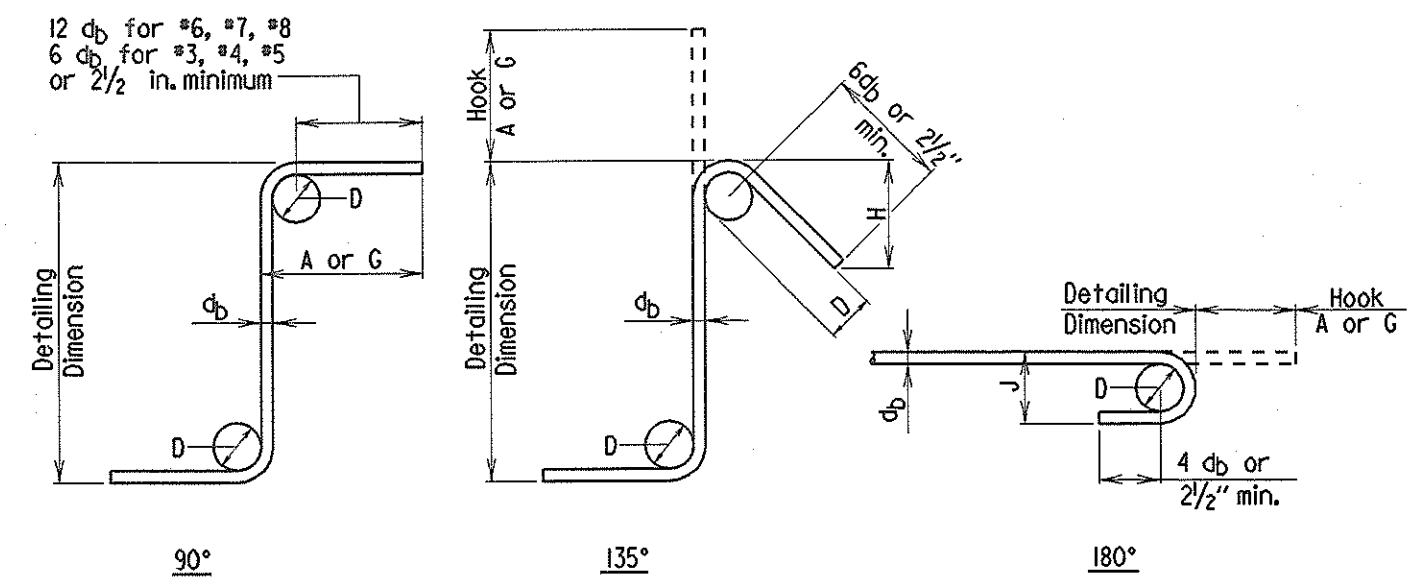
BAR SIZE	Finished bend diameter D, in.	180 - deg hook		90 - deg hook
		A or G in	J, in.	A or G in
#3	2 1/4	5	3	6
#4	3	6	4	8
#5	3 3/4	7	5	10
#6	4 1/2	8	6	1-0
#7	5 1/4	10	7	1-2
#8	6	11	8	1-4
#9	6 3/4	1-3	1 1/4	1-7
#10	10 3/4	1-5	1-1/4	1-10
#11	12	1-7	1-2 1/4	2-0
#16	18 1/4	2-3	1-3 1/4	2-7
#18	24	3-0	2-4 1/2	3-5

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DATE: 8/17/97	
REVISIONS	
SHA	FRWA
FRWA APPROVAL	NO. REBAR-BD(9,05)-97-320 SHEET 1 OF 2

HOOKS
TABLE II
REFERENCES

1. ACI Types S1 thru S11
2. ACI Types T1 thru T8
3. SHA Ties and Stirrups

Note: Tie and stirrup types supplied in sizes #3-#8



BAR SIZE	D, in.	90 - deg hook		135 - deg hook	
		A or G	H, approx	A or G	H, approx
#3	1 1/2	4	4	4	2 1/2
#4	2	4 1/2	4 1/2	5	3
#5	2 1/2	5	5 1/2	5 1/2	3 1/2
#6	3	5 1/2	6	6	4
#7	3 1/2	6	7	7	4 1/2
#8	4	7	8	8	5

BAR SIZE	Finished bend diameter D, in.	180 - deg hook	
		A or G in	J, in.
#3	2 1/4	5	3
#4	3	6	4
#5	3 3/4	7	5
#6	4 1/2	8	6
#7	5 1/4	10	7
#8	6	11	8

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DATE: 12-19-97	
REVISIONS	
SHA	FRWA
FRWA APPROVAL	NO. REBAR-BD(9,05)-97-320 SHEET 2 OF 2

SHEET NO. S1- 32

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT	
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN REINFORCING DETAILS	
	SCALE AS SHOWN	DATE CONTRACT AX4695180
	DESIGNED BY J.W.N.	
	DRAWN BY J.MOHR	
	CHECKED BY	
	E.S.F. JAN 0 8 2003	
	SHEET NO. 51 OF 53	

OTHER CONTRACTS FOR THIS STRUCTURE

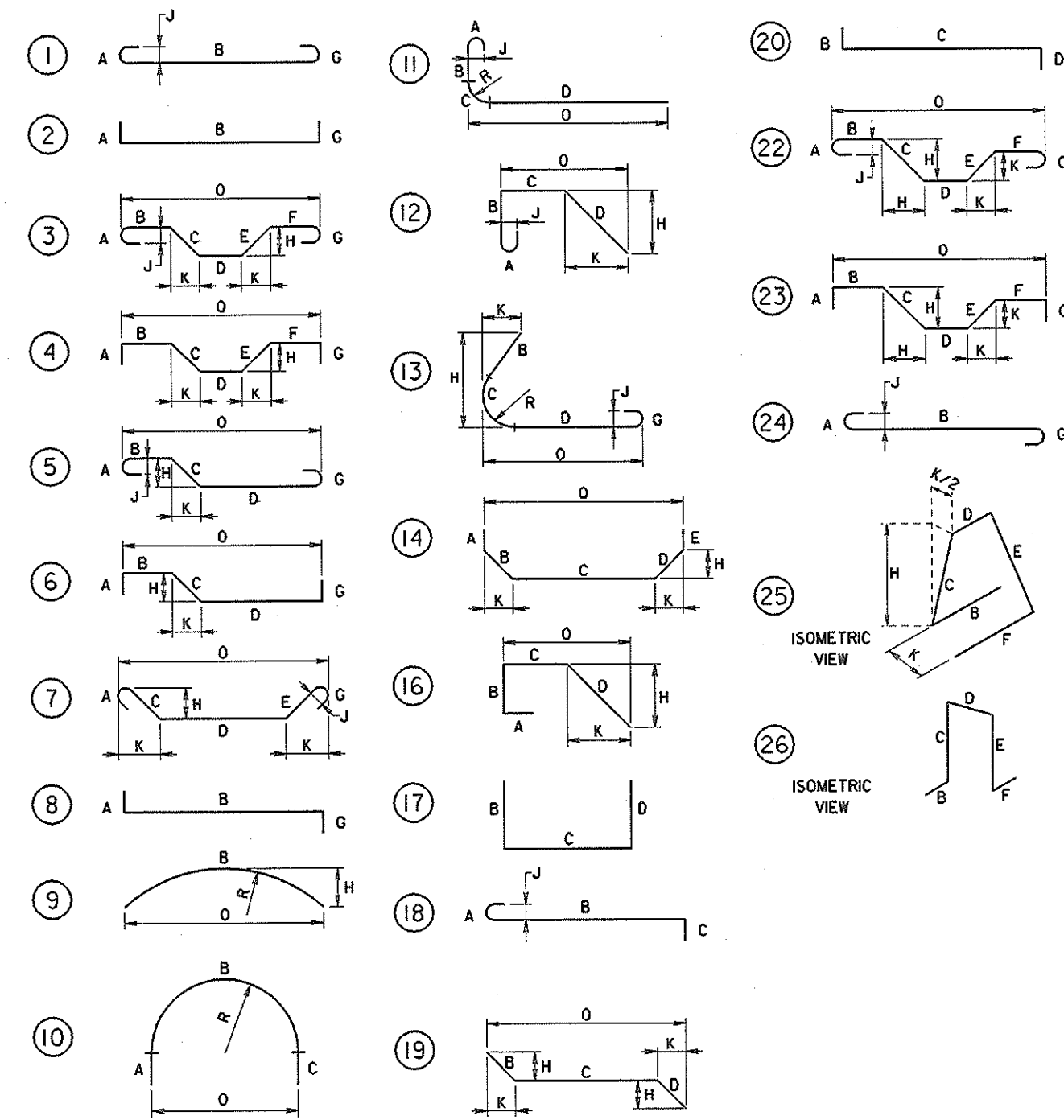
STRUCTURE INVENTORY NO. 1001600

SURVEY BOOK NO.

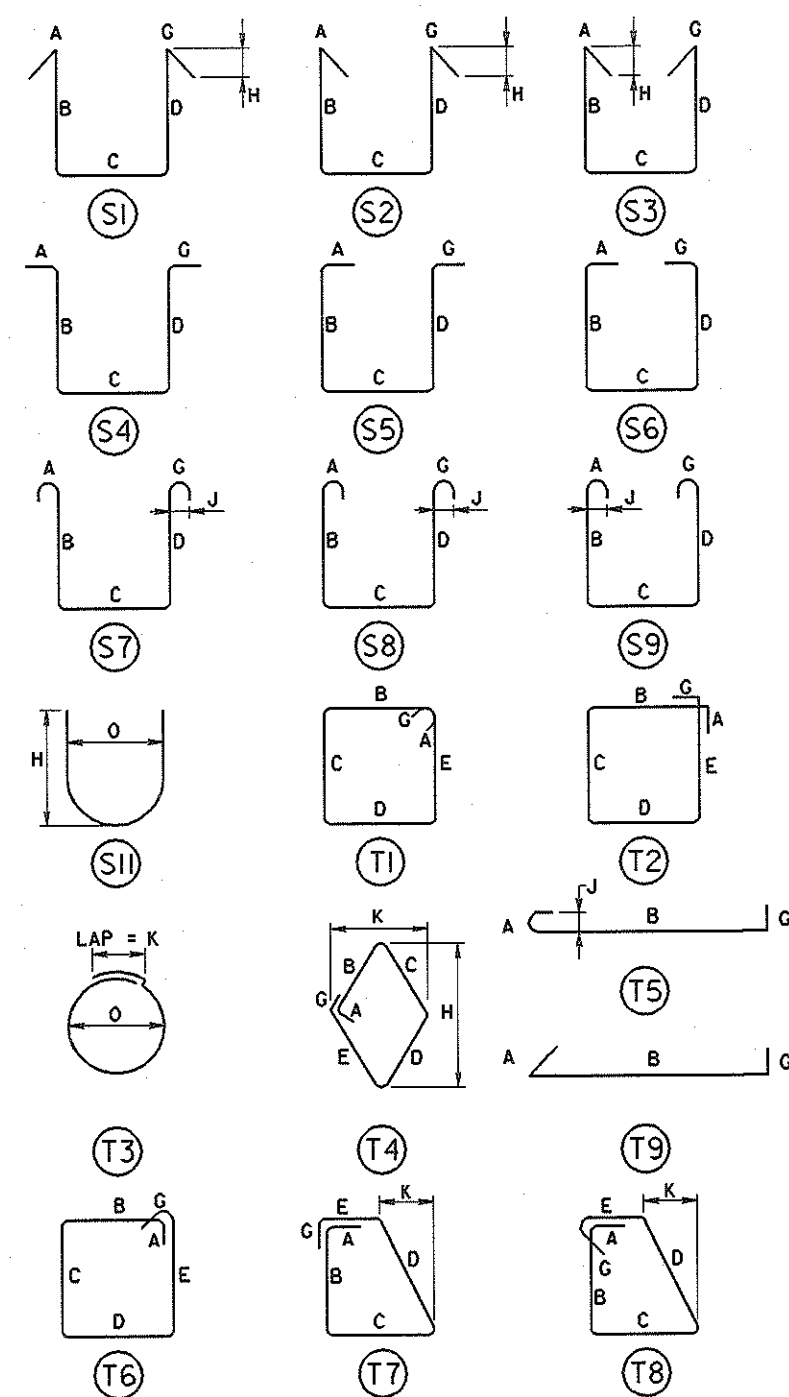
S:\CADD\OBD\1001600\10016s12.dgn
PRINT DATE: Wednesday, November 14, 2007 at 1:11:38 PM

INDEXED

ACI TYPICAL BAR BENDS



STANDARD PIN BENDING

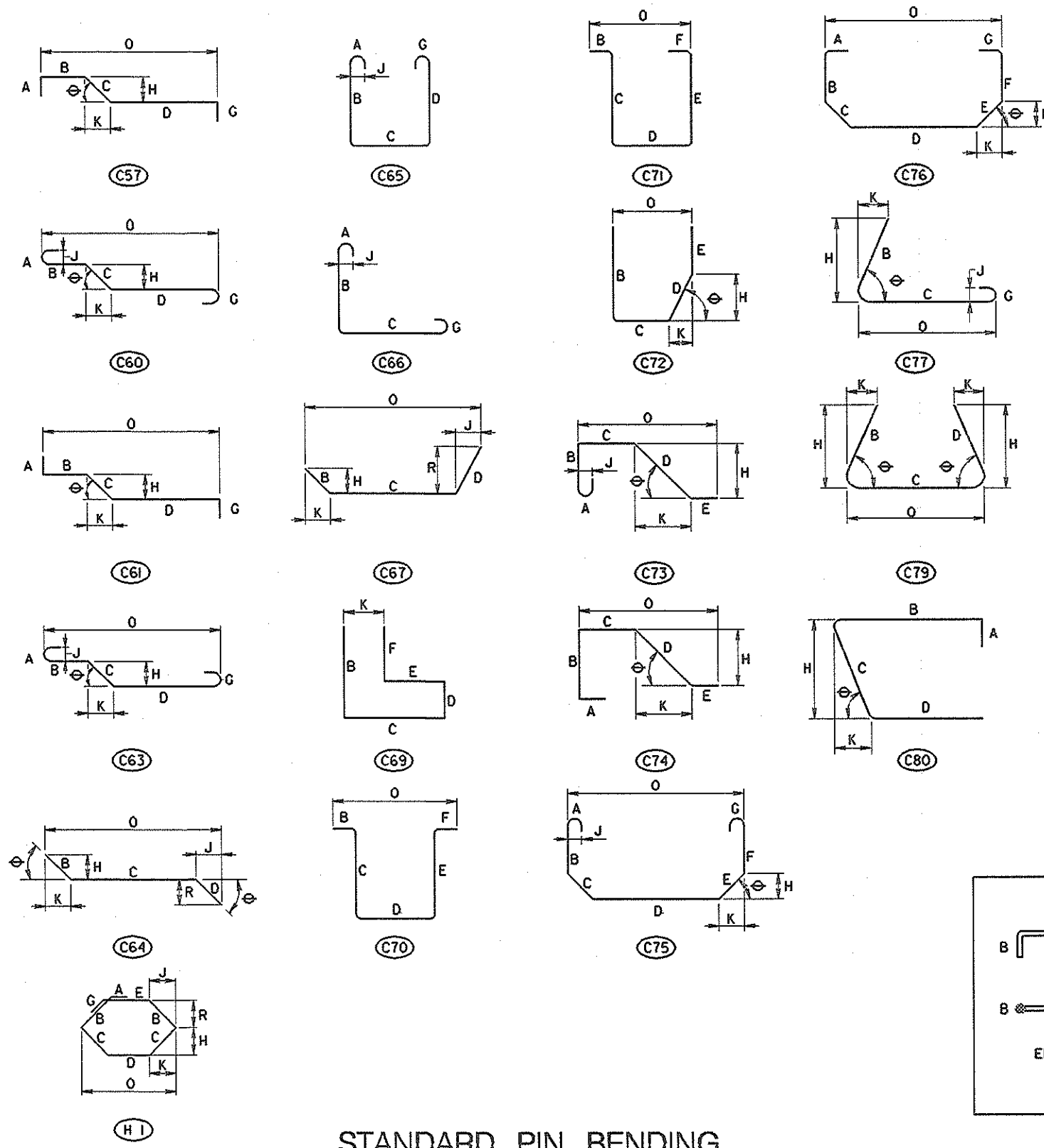


NOTE TO FABRICATOR

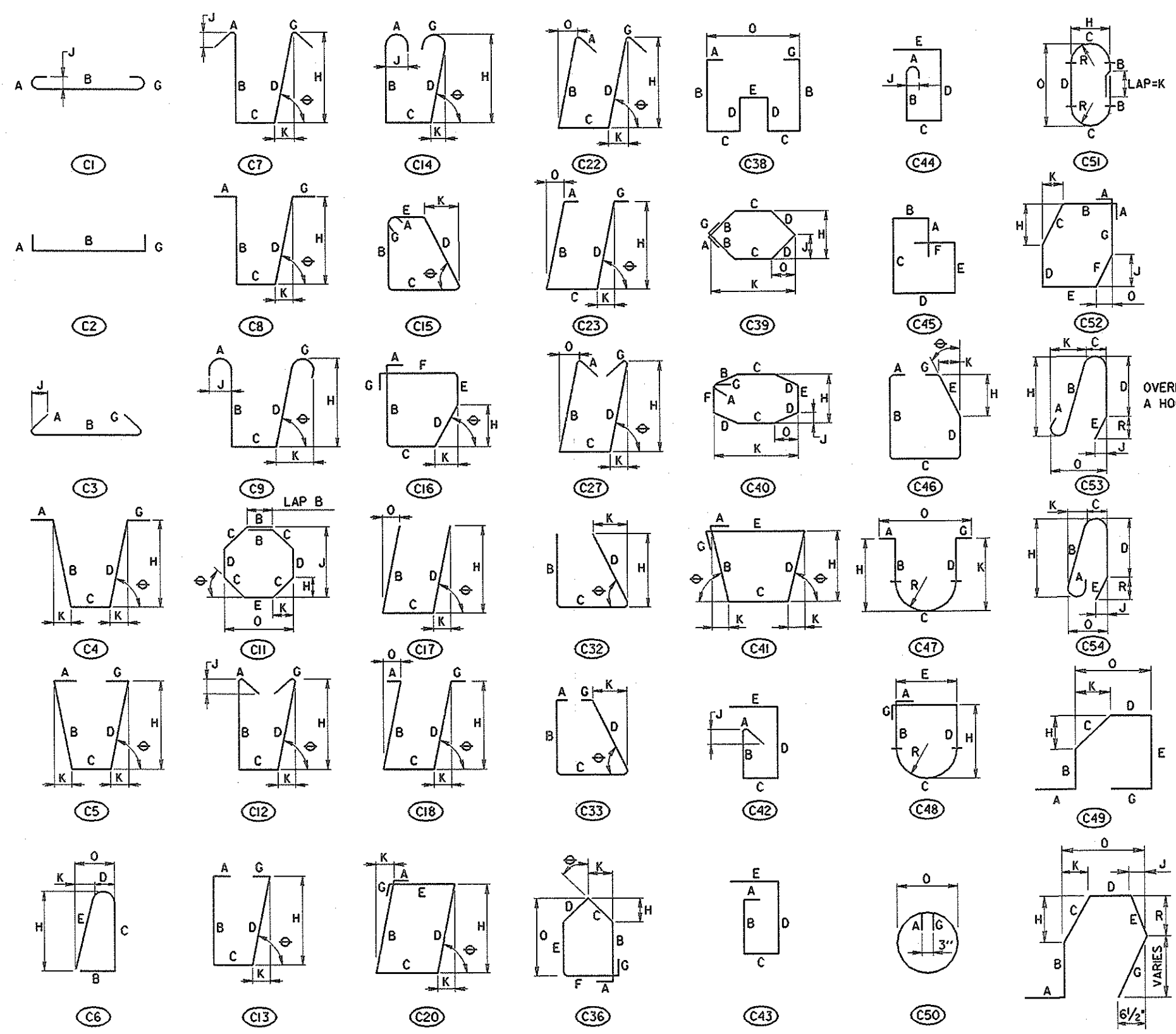
BENDING TOLERANCE NOTE
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

TIES AND STIRRUPS

SHA TYPICAL BAR BENDS



STANDARD PIN BENDING

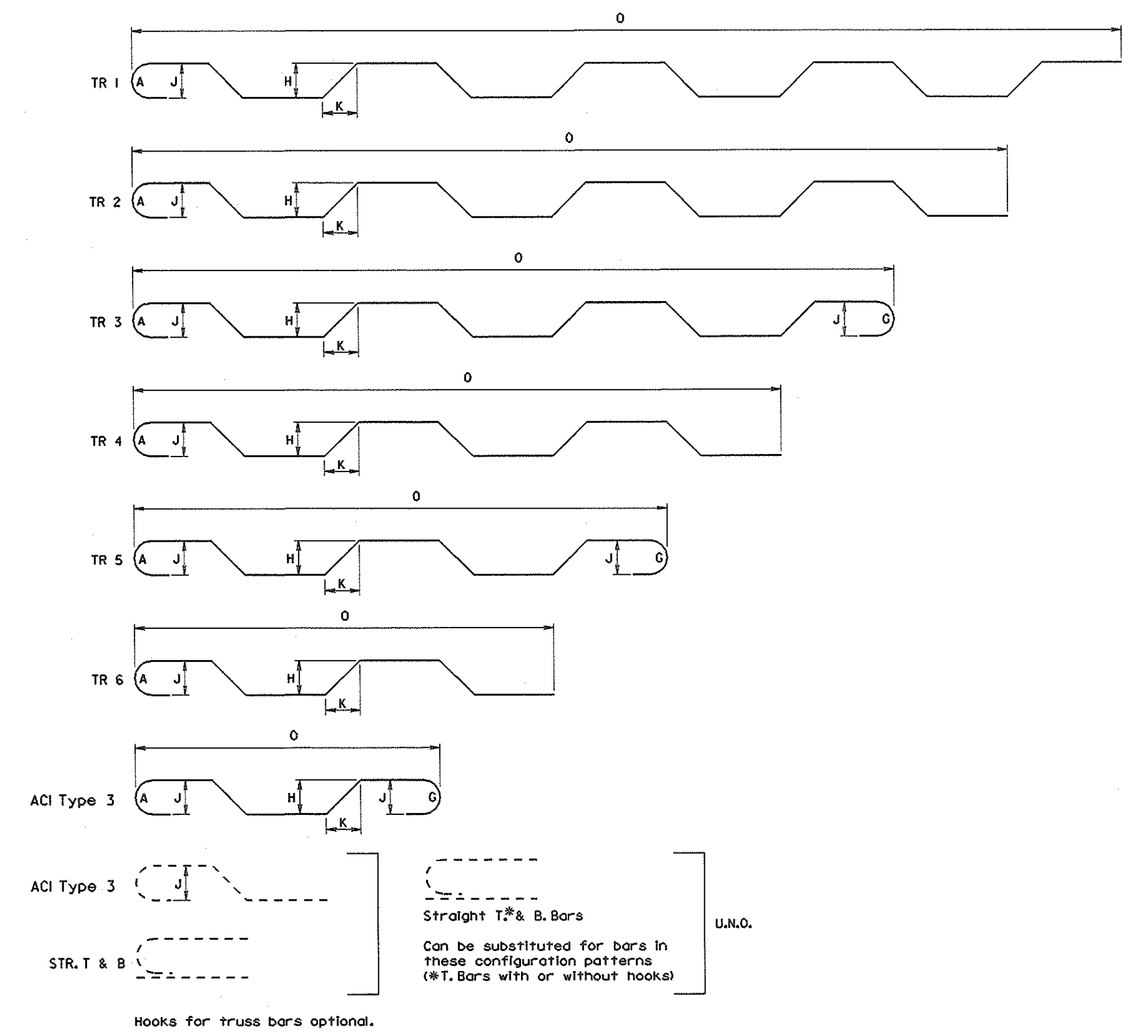
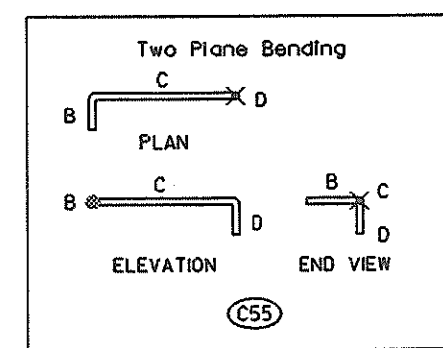


TIES AND STIRRUPS

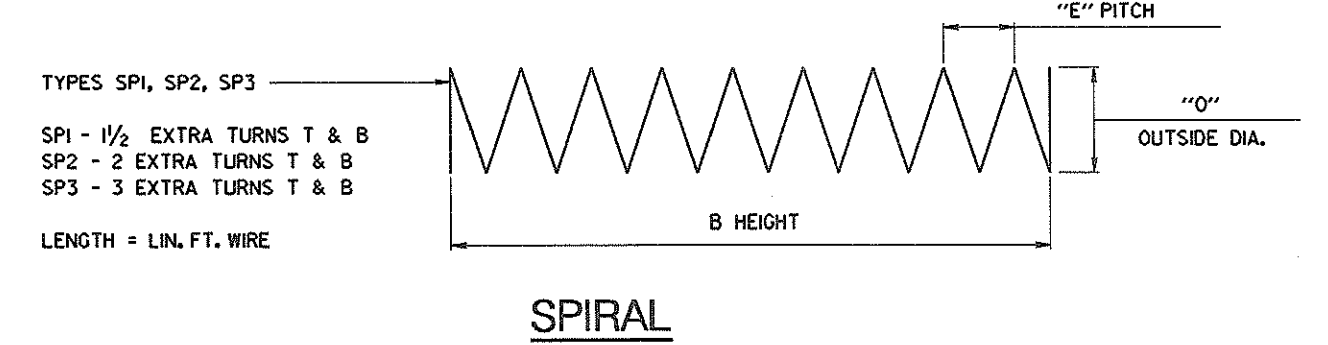
NOTE TO FABRICATOR

BENDING TOLERANCE NOTE
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

RADIUS BENDING

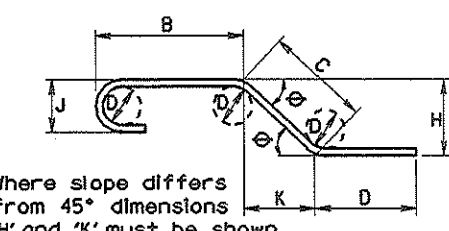


TRUSS BAR CONFIGURATION



SPIRAL

Unless otherwise noted diameter D is the same for all bends and hooks on a bar



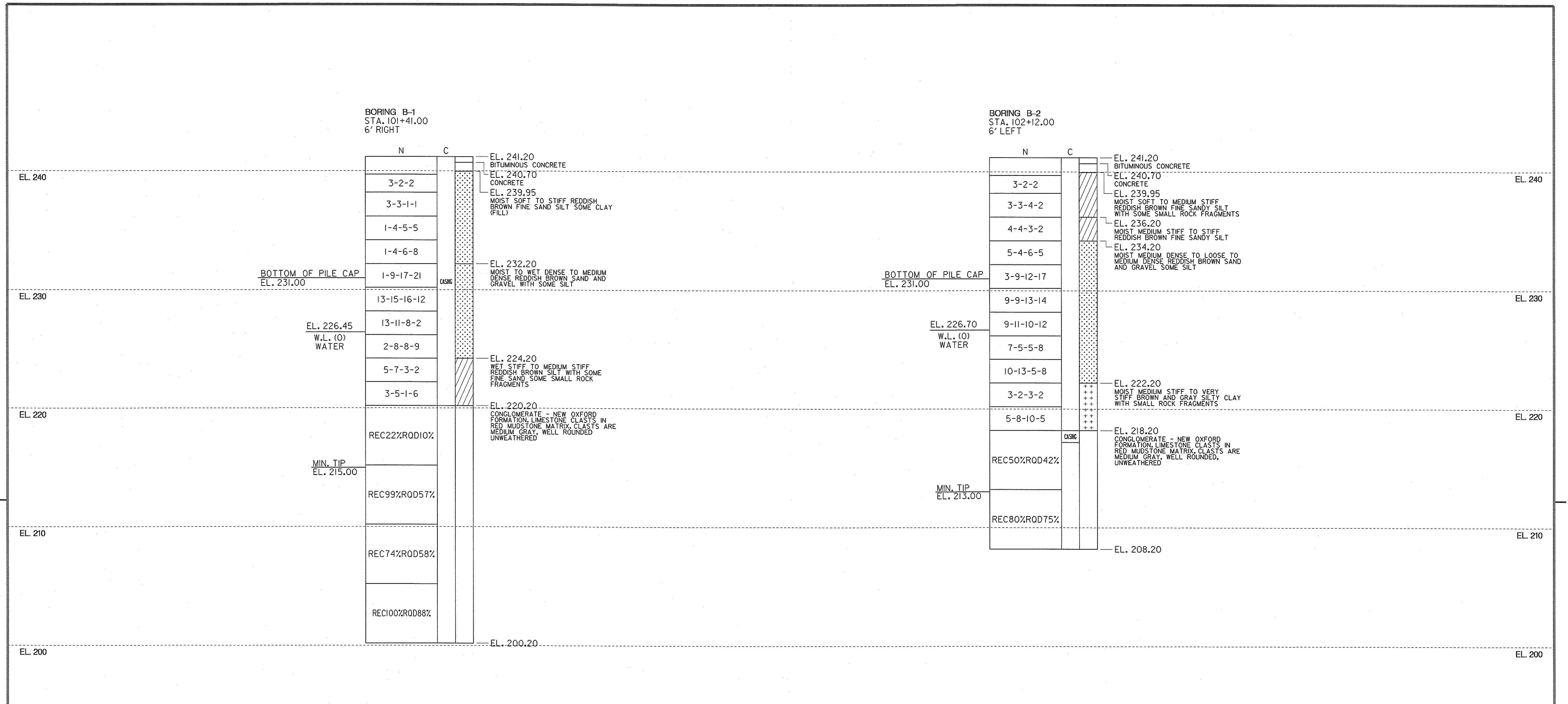
ENLARGED VIEW SHOWING BAR BENDING DETAILS

- Notes:
1. All dimensions are out to out of bar or to tangent points for 135° and 180° hooks.
 2. "J" dimensions on 180° hooks to be shown only where necessary to restrict hook size. Otherwise standard hooks are to be used.
 3. Where "J" is not shown, "J" will be kept equal to or less than "H" on truss bars, where "J" can exceed "H" it should be shown.
 4. "H" dimension on stirrups to be shown where necessary to fit within concrete.
 5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.

GENERAL NOTES

SHEET NO. S1-33

REVISIONS		STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN REINFORCING DETAILS	
SCALE	AS SHOWN	DATE	CONTRACT AX4695180
DESIGNED BY	J.W.N.	DRAWN BY	J.MOHR
CHECKED BY			
		E. S. E. JAN 0 8 2008	
		SHEET NO. 52 OF 53	

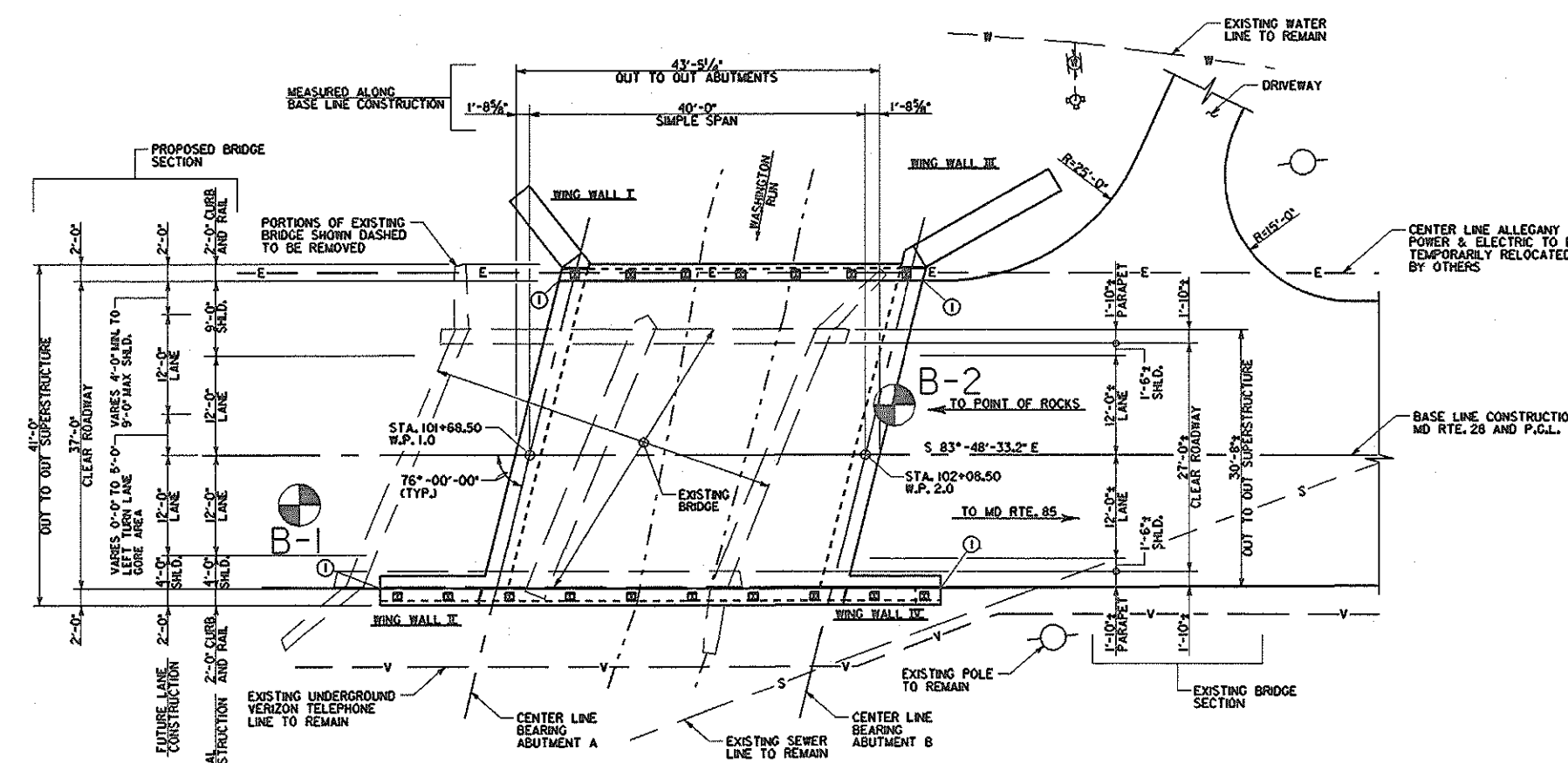


DATUM EL. 195

DATUM EL. 195

BORINGS AND DRIVE TESTS

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



BORINGS AND DRIVE TESTS LOCATION PLAN

SCALE: 1" = 20'-0"

NOTES:

1. THE BORINGS AND DRIVE TESTS WERE TAKEN IN JUNE, 2005 BY THE STATE HIGHWAY ADMINISTRATION.
2. THE SOIL SYMBOLS REFLECT ONLY THE MAJOR SOIL CONSTITUENT, FOR MORE COMPLETE SOIL CHARACTERISTIC REFER TO THE SOIL DESCRIPTIVE TEXT.
3. THE FIELD BORING LOGS RECORD SAMPLE SPOON RECOVERY. THE LOGS ARE AVAILABLE UPON REQUEST. THE MATERIAL RECOVERED FROM THE SITE INVESTIGATION IS AVAILABLE FOR REVIEW. CONTACT THE GEOTECHNICAL EXPLORATIONS DIVISION AT 1-800-637-1290.
4. THE FOLLOWING BORINGS WERE RELOCATE DUE TO GUARDRAIL AND UTILITY. THE ORIGINAL BORING LOCATIONS WERE: B-1 101+41.00, 10 FT. RT.; B-2 102+12.00, 12 FT. LT.
5. N = BLOWS ON A 2 INCH OD SAMPLING SPOON BY 140 LB. DRIVE-WEIGHT FALLING 30 INCHES INDICATING SUCCESSIVE 6 INCH INCREMENTS OF PENETRATION IN LIEU OF BLOWS PER FOOT.
6. REC = ROCK CORE RECOVERY, ROD = ROCK QUALITY DESIGNATION. THE CORE BARREL TYPE = M SERIES, 2 INCH OD; GIVING A 1 3/8 INCH CORE DIAMETER.
7. C = DEPTH OF BW FLUSHJOINT CASING 2 3/8 INCH ID.
8. W.L. = WATER LEVEL READING. THE FIGURE IN PARENTHESIS INDICATES THE READING IN HOURS AFTER COMPLETION OF BORING.
9. BORINGS AND SAMPLINGS CONFORM TO AASHTO DESIGNATION T-206.
10. THE SOIL HAS BEEN CLASSIFIED VISUALLY BY THE DRILLER.
11. THE ROCK HAS BEEN CLASSIFIED BY A GEOLOGIST.

SHEET NO. S1- 34

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT		
	PRESTRESSED CONCRETE SLAB BRIDGE NO. 10016 ON MD RTE. 28 OVER WASHINGTON RUN FOUNDATION TEST BORINGS		
SCALE	AS SHOWN	DATE	CONTRACT AX4695180
DESIGNED BY	J.W.N.		
DRAWN BY	J.MOHR		
CHECKED BY		E.S.F. JAN 8 2005	
			SHEET NO. 53 OF 53

OTHER CONTRACTS FOR THIS STRUCTURE

STRUCTURE INVENTORY NO. 1001600

SURVEY BOOK NO.

S:\CADD\OBD\1001600\10016bor.dgn
PRINT DATE: Wednesday, November 14, 2007 at 1:12:49 PM

INDEXED

BORDER REV. DATE: March 27, 2007

DRILL HOLES

DRILL HOLES

DRILL HOLES

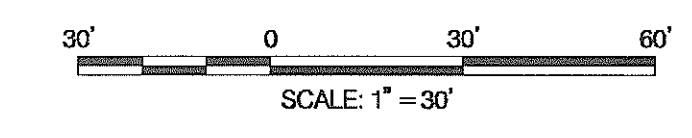
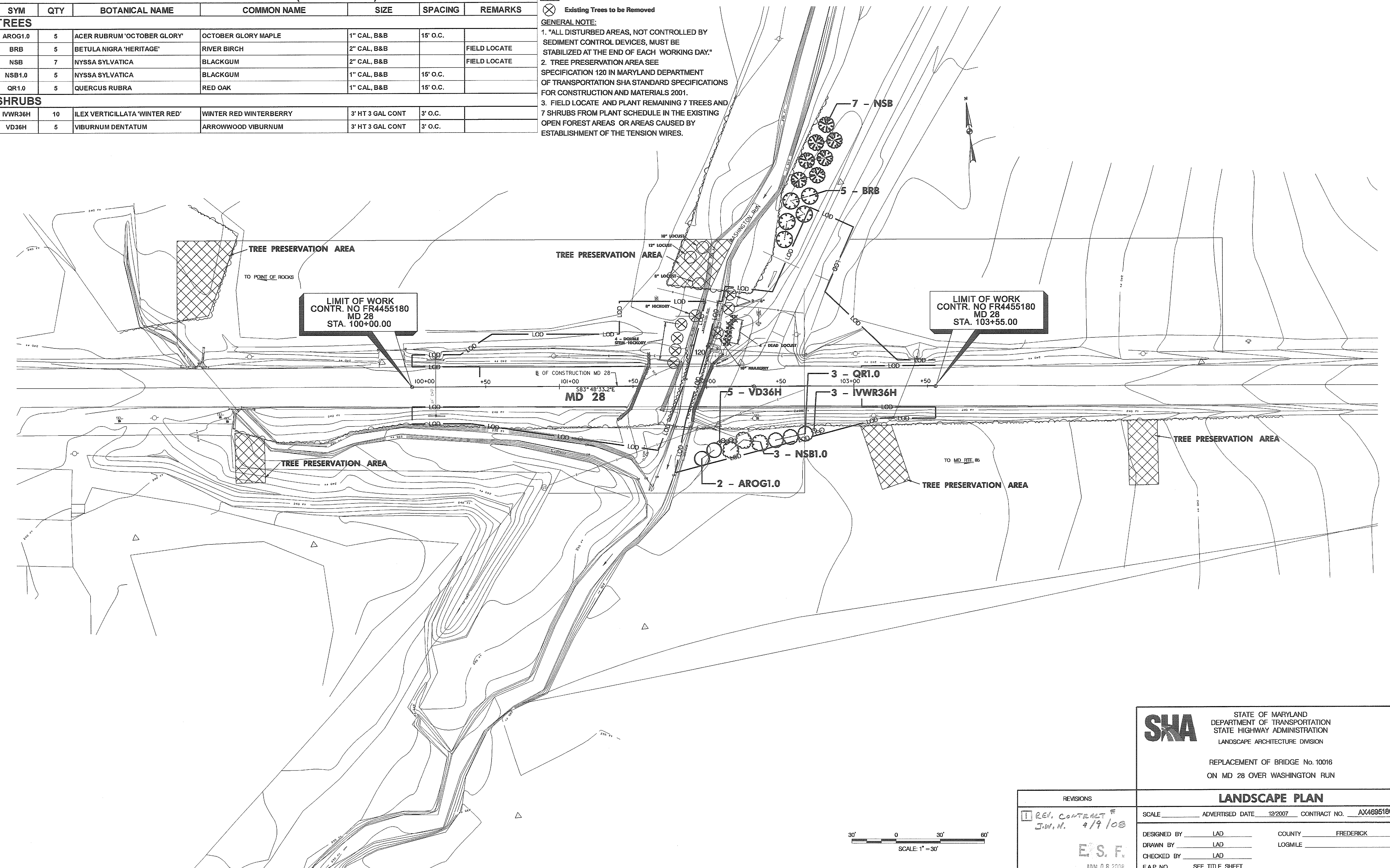
BY: \$USER\$

PLANTING SCHEDULE (THIS SHEET)

SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
AROG1.0	5	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY MAPLE	1" CAL, B&B	15' O.C.	
BRB	5	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	2" CAL, B&B		FIELD LOCATE
NSB	7	NYSSA SYLVATICA	BLACKGUM	2" CAL, B&B		FIELD LOCATE
NSB1.0	5	NYSSA SYLVATICA	BLACKGUM	1" CAL, B&B	15' O.C.	
QR1.0	5	QUERCUS RUBRA	RED OAK	1" CAL, B&B	15' O.C.	
SHRUBS						
IVWR36H	10	ILEX VERTICILLATA 'WINTER RED'	WINTER RED WINTERBERRY	3' HT 3 GAL CONT	3' O.C.	
VD36H	5	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3' HT 3 GAL CONT	3' O.C.	

- Tree Preservation Area
- Existing Trees to be Removed

GENERAL NOTE:
 1. "ALL DISTURBED AREAS, NOT CONTROLLED BY SEDIMENT CONTROL DEVICES, MUST BE STABILIZED AT THE END OF EACH WORKING DAY."
 2. TREE PRESERVATION AREA SEE SPECIFICATION 120 IN MARYLAND DEPARTMENT OF TRANSPORTATION SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS 2001.
 3. FIELD LOCATE AND PLANT REMAINING 7 TREES AND 7 SHRUBS FROM PLANT SCHEDULE IN THE EXISTING OPEN FOREST AREAS OR AREAS CAUSED BY ESTABLISHMENT OF THE TENSION WIRES.



THIS SHEET FOR PLANTING PURPOSES ONLY

SHA	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION LANDSCAPE ARCHITECTURE DIVISION	
	REPLACEMENT OF BRIDGE No. 10016 ON MD 28 OVER WASHINGTON RUN	
LANDSCAPE PLAN		
SCALE _____	ADVERTISED DATE 12/2007	CONTRACT NO. AX4695180
DESIGNED BY _____ LAD _____	COUNTY _____	FREDERICK _____
DRAWN BY _____ LAD _____	LOGMILE _____	
CHECKED BY _____ LAD _____		
F.A.P. NO. _____	SEE TITLE SHEET	
DRAWING NO. LD-01	OF 01	SHEET NO. 53A OF 53

REVISIONS
1 REV. CONTRACT # J.W.N. 4/9/08
E.S.F. JAN 08 2008

PLOTTED: Thursday, January 03, 2008 at 12:41:05 PM
 FILE: SFILES