COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219 2000

Gregory A. Whirley
Commissioner

July 29, 2013

MEMORANDUM

To: All Holders of the Virginia Department of Transportation's 2008 Road and Bridge Standards

The following is a list of sheets contained in the 2008 Road and Bridge Standards that have been revised. Please add these pages to your copy of the standards. An interim standard sheet will not be required in plan assemblies for the following sheets only. Changes to these sheets will not affect the basis of payment or estimates.

PAGE	REVISION
300.01	Revised index voiding page 303.01 Standard WP-1
303.01	Void - Standard WP-1 Method of Widening Bridge Approach Pavement
503.02	Corrected center detail for Metal Post to show the 6" dimension from the top of post to the top of the fence.

The following is a list of revised standards to the 2008 Road and Bridge Standards that ***require*** an interim standard sheet to be in included in your plan assembly until the next edition of the standards is published. Please add these pages to your copy of the standards. The respective interim standard sheet number has been placed with the revised standard. The interim standard sheets are available on VDOT's web site, on the FTP server, and in Falcon DMS for VDOT personnel. These interim standard sheets will be required in plan assemblies for Tier 1 projects advertised November 26, 2013 (Non Federally Eligible), December 10, 2013 (Federally Eligible) and later, along with Tier 2 projects advertised March 11, 2014 and later.

PAGE	INTERIM	STANDARD	REVISION
201.08	IIS02_06	MC-4	CLARIFIED THE SECTION DETAIL TO SHOW THE DIFFERENCE IN THE PAVED SHOULDER DEPTH AND THE PAVING UNDER GUARDRAIL DEPTH

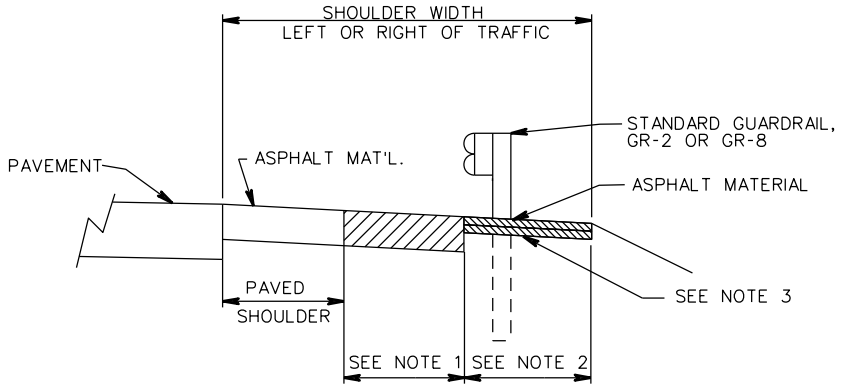
PAGE	INTERIM	STANDARD	REVISION
304.02	IIS03_04	RS-3	REVISED NOTE 7 REMOVED STATEMENT "*IN ASPHALT CONCRETE PAVEMENT THAT IS BEEN IN PLACE MORE THAN ONE YEAR*".
304.03	IIS03_05	RS-4	REVISED NOTE 4 REMOVED STATEMENT "*IN ASPHALT CONCRETE PAVEMENT THAT IS BEEN IN PLACE MORE THAN ONE YEAR*".
502.01	IIS05_18	MB-3	REVISED FLARE RATE TABLE TO MATCH THE RDM AND AASHTO
1005.10	1005.10	BCQ-10	UPDATED SHEET TO SHOW WINGWALL DESIGNATIONS
1324.10	IIS13_04	OSS-1	THE ELEVATION DRAWINGS WERE UPDATED INCREASING THE PROJECTION ABOVE GRADE FOR FOUNDATIONS AND NOTE 7 AND 8 WERE ADDED
1324.13	IIS13_41	OSS-1	FOOTING DETAIL UPDATED INCREASING THE PROJECTION ABOVE GRADE FOR FOUNDATIONS

If you have any questions or comments regarding this revision, please contact Chuck Patterson P.E., at (804) 786-1805, of the Standards and Special Design Section.

Sincerely,

Signature on file: July 29, 2013

B. A. Thrasher, P.E.
State Location & Design Engineer



ASPHALT PAVING UNDER GUARDRAIL

(FOR USE WHERE ASPHALT CURB IS NOT REQUIRED)

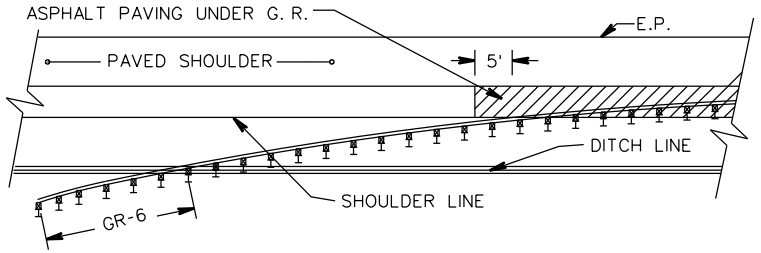
NOTES:

1. TO BE CONSTRUCTED WITH THE SAME MATERIAL AND TO THE SAME DEPTH AS THE ROADWAY PAVED SHOULDER.
2. TO BE CONSTRUCTED WITH THE SAME ASPHALT MATERIALS AS THE PAVED SHOULDER TO THE FOLLOWING DEPTHS:

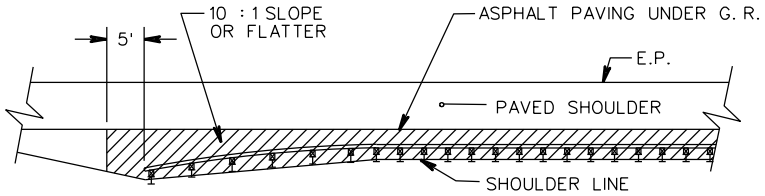
   ALLOWABLE DEPTHS OF ASPHALT MATERIAL

IM-19.0A OR IM-19.0D	2" MIN
BM-25.0	3" MIN

3. DEPTH OF ASPHALT MATERIAL MAY BE EXTENDED AT THE CONTRACTOR'S OPTION TO COINCIDE WITH THE BOTTOM OF THE PAVED SHOULDER COURSE AT NO INCREASE IN THE QUANTITY OF ASPHALT MATERIAL COMPUTED USING THE ABOVE SPECIFIED DEPTH.
4. ADDITIONAL 5 FEET ASPHALT PAVING BEYOND POINT WHERE GUARDRAIL CROSSES SHOULDER LINE.
5. FOR ADDITIONAL DESIGN AND PLACEMENT INFORMATION SEE SHEET 1 OF 2.



GR-6 TERMINAL



GR-7 & GR-9 TERMINALS

METHODS FOR BEGINNING & ENDING ASPHALT PAVING UNDER GUARDRAIL AND GUARDRAIL INSTALLATION SITE PREPARATION REQUIREMENTS FOR GR-7 AND GR-9 SEE STANDARD.

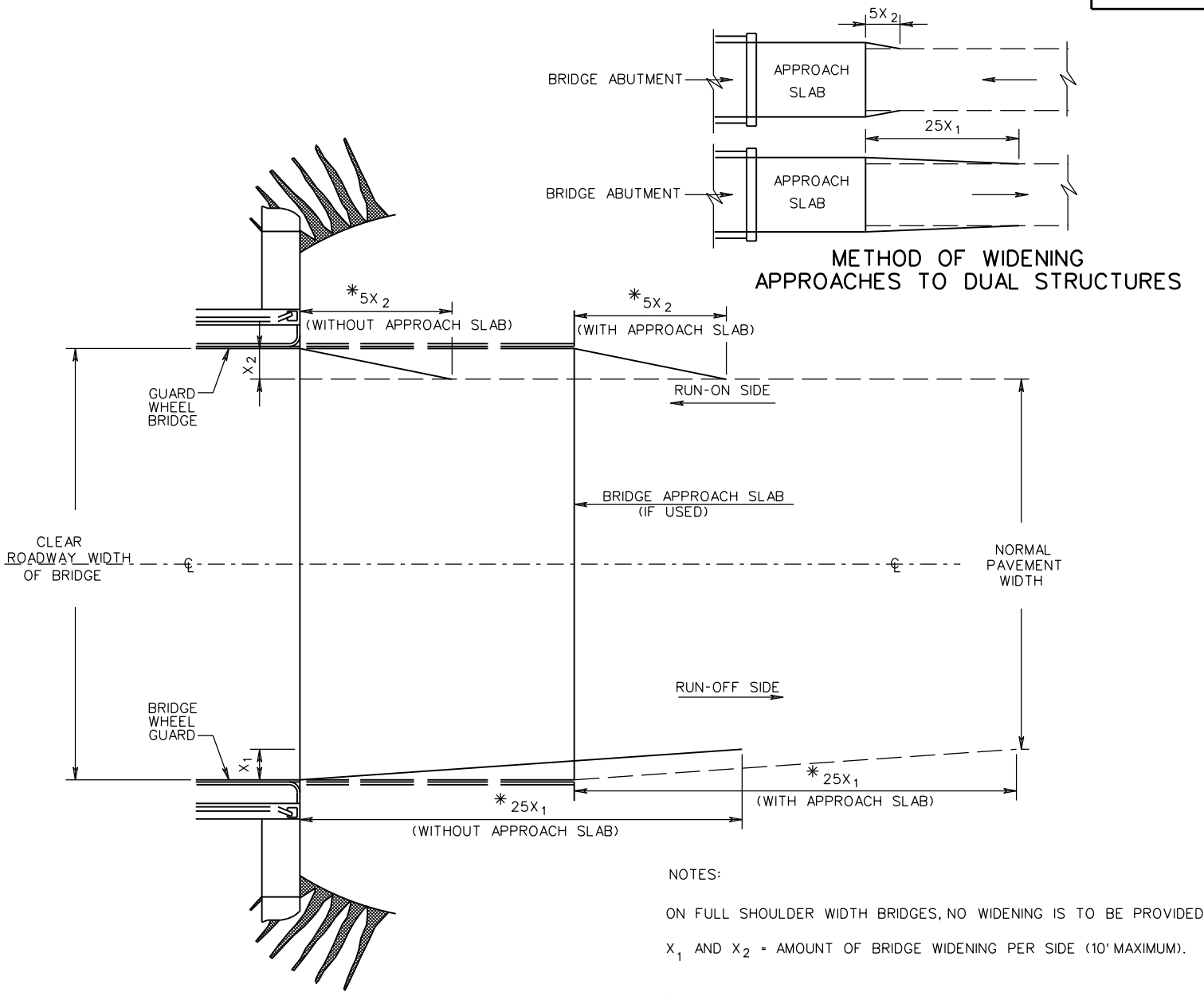
STANDARD	TITLE	PAGE
PR-2	PLAIN AND REINFORCED CONCRETE PAVEMENT SHOWING REINFORCEMENT, LONGITUDINAL AND TRANSVERSE JOINTS	301.01
	PLAIN AND REINFORCED CONCRETE PAVEMENT SHOWING REINFORCEMENT, LONGITUDINAL AND TRANSVERSE JOINTS	301.02
	PLAIN AND REINFORCED CONCRETE PAVEMENT SHOWING REINFORCEMENT, LONGITUDINAL AND TRANSVERSE JOINTS	301.03
	STANDARD LOAD TRANSFER ASSEMBLY CONTRACTION JOINT	301.04
	STANDARD LOAD TRANSFER ASSEMBLY EXPANSION JOINT	301.05
PR-3	~~8" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (WIRE MESH REINFORCEMENT)~~ THIS STANDARD IS VOID	~~301.06~~
	8" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (STEEL BAR REINFORCEMENT)	301.07
	8" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (FOR USE WITH BAR OR WIRE MESH REINFORCEMENT)	301.08
	8" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (LEAVE OUT JOINT DETAIL)	301.09
PR-4	9" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (STEEL BAR REINFORCEMENT)	301.10
	9" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (FOR USE WITH BAR REINFORCEMENT ONLY)	301.11
	9" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (LEAVE OUT JOINT DETAIL)	301.12
PR-5	9" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.13
	9" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.14
	9" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.15
PR-6	10" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.16
	10" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.17
	10" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.18
PR-7	11" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.19
	11" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.20
	11" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.21
PR-8	12" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.22
	12" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.23
	12" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.24
PR-9	13" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.25
	13" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.26
	13" CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 14 FOOT TRAVEL LANE	301.27
XJ-1	BRIDGE APPROACH EXPANSION JOINT (FOR WIDENING OR MAINTENANCE OF EXISTING XJ-1 ONLY)	302.01
	BRIDGE APPROACH EXPANSION JOINT (INSTALLATION CRITERIA)	302.02
WP-1	~~METHOD OF WIDENING BRIDGE APPROACH PAVEMENT~~ THIS STANDARD IS VOID	~~303.01~~
WP-2	PAVEMENT WIDENING	303.02
RS-1	CONTINUOUS SHOULDER RUMBLE STRIPS	304.01
RS-3	CENTERLINE RUMBLE STRIPS	304.02
RS-4	CONTINUOUS SHOULDER RUMBLE STRIPES	304.03
RS-5	INTERMITTENT SHOULDER RUMBLE STRIPS	304.04
ACOT-1	ASPHALT CONCRETE OVERLAY TRANSITIONS (REPLACES THE STANDARD TPT-1 TRANSVERSE PAVEMENT TIE-IN)	305.01

INDEX OF SHEETS
SECTION 300-PAVEMENT ITEMS

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT
ROAD AND BRIDGE STANDARDS

REVISION DATE	SHEET 1 OF 1
7/13	300.01



NOTES:

ON FULL SHOULDER WIDTH BRIDGES, NO WIDENING IS TO BE PROVIDED.

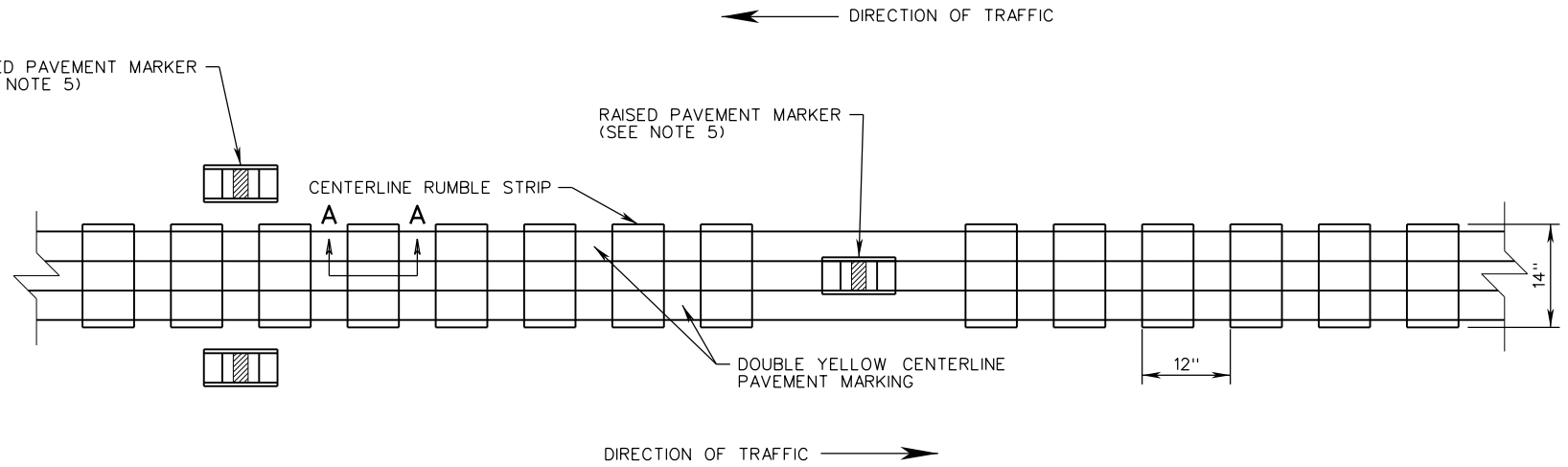
X_1 AND X_2 = AMOUNT OF BRIDGE WIDENING PER SIDE (10' MAXIMUM).

* IF BRIDGE DRAINAGE APRONS ARE REQUIRED THE PAVEMENT WIDENING IS TO BE APPLIED AT THE END OF THE DRAINAGE APRON FARTHEST FROM THE ABUTMENT BACKWALL.

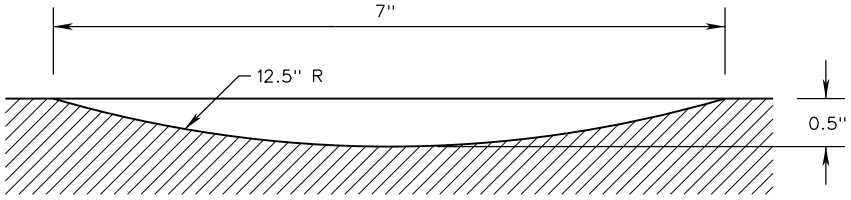
THIS DRAWING WAS VOID WITH THE JULY 2013 R&B STANDARDS REVISION

SPECIFICATION REFERENCE	METHOD OF WIDENING BRIDGE APPROACH PAVEMENT	VDOT ROAD AND BRIDGE STANDARDS
NONE	VOID VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE 7/12 · SHEET 1 OF 1 · 303.01

RS-3



PLAN VIEW



SECTION A-A

NOTES

1. CENTERLINE RUMBLE STRIPS SHALL NOT BE INSTALLED WITHIN THE LIMITS OF BRIDGES.
2. CENTERLINE RUMBLE STRIPS SHALL NOT BE INSTALLED ON SUBDIVISION STREETS OR IN NARROW UNMARKED ROAD SECTIONS WITHOUT PAVEMENT MARKINGS.
3. CENTERLINE RUMBLE STRIPS SHALL NOT BE INSTALLED WITHIN THE LIMITS OF CENTER TWO-WAY TURN LANES.
4. CENTERLINE RUMBLE STRIPS SHALL NOT BE INSTALLED IN PASSING ZONES EXCEPT AS DIRECTED BY THE TRAFFIC ENGINEER. THE DEPTH OF CENTERLINE RUMBLE STRIPS IN PASSING ZONES SHALL BE $\frac{3}{8}$".
5. USE OF RAISED PAVEMENT MARKERS IS OPTIONAL. SEE STANDARD PM-9 FOR DETAILS ON RAISED PAVEMENT MARKER PLACEMENT. WHEN NECESSARY TO ACCOMODATE THE PM-9 STANDARD TWO GROOVES SHALL BE OMITTED EVERY 40' TO ALLOW FOR A CENTERLINE RAISED PAVEMENT MARKER.
6. WHERE A LEFT-TURN LANE IS MARKED, THE CONTINUOUS CENTERLINE RUMBLE STRIPS SHALL FOLLOW THE DOUBLE YELLOW MARKINGS OF THE OPPOSING LANES AND SHALL STOP 50 FEET FROM THE EDGE OF THE INTERSECTING DRIVEWAY OR ROADWAY.
7. FOLLOWING CUTTING AND CLEANING DEPRESSIONS OF WASTE MATERIAL, THE ENTIRE RUMBLE STRIP AREA SHALL BE COATED WITH LIQUID ASPHALT COATING (EMULSION) USING A PRESSURE DISTRIBUTOR AT AN APPROXIMATE RATE OF 0.1 GALLON PER SQUARE YARD. OVERSPRAY SHALL NOT EXTEND MORE THAN 2 INCHES BEYOND THE WIDTH OF CUT AND/OR SHALL NOT COME IN CONTACT WITH PAVEMENT MARKINGS.
8. PAVEMENT MARKINGS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

VDOT
ROAD AND BRIDGE STANDARDS

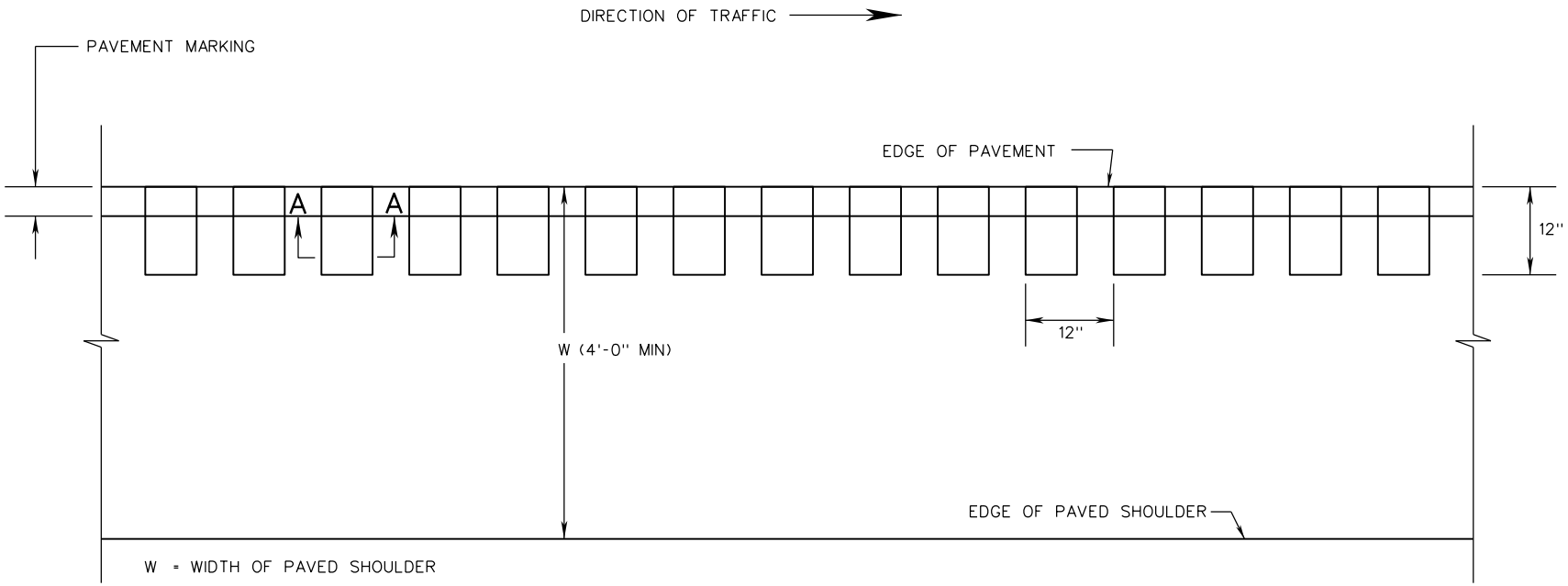
CENTERLINE RUMBLE STRIPS

VIRGINIA DEPARTMENT OF TRANSPORTATION

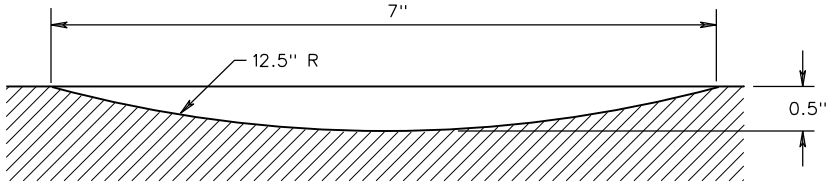
SHEET 1 OF 1	REVISION DATE
304.02	7/13

SPECIFICATION REFERENCE

310
315



PLAN VIEW



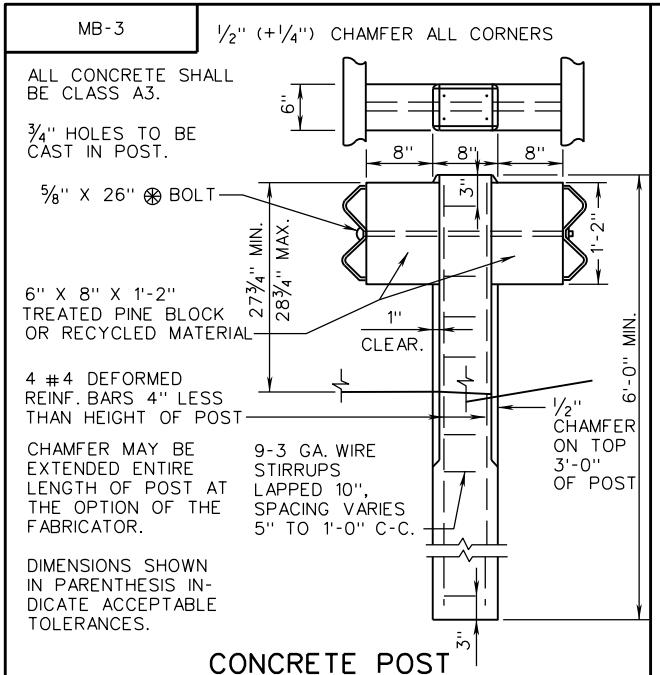
SECTION A-A

NOTES

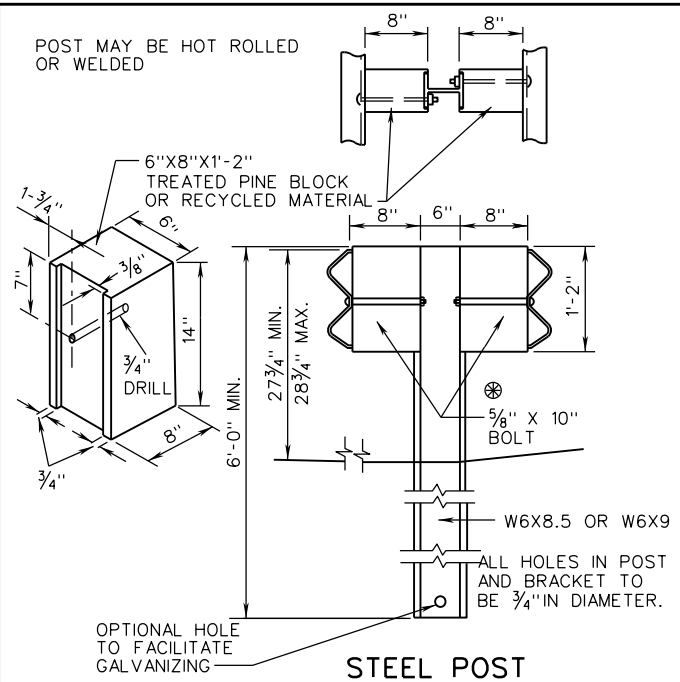
1. RUMBLE STRIPES SHALL BE PLACED CONTINUOUSLY AS DIRECTED BY THE ENGINEER.
2. RUMBLE STRIPES SHALL NOT BE PLACED WITHIN LIMITS OF BRIDGE DRAINAGE APRONS OR SPECIAL DESIGN SHOULDER SLOT INLETS.
3. RUMBLE STRIPES SHALL BE PLACED ON MAINLINE SHOULDERS ONLY.
4. FOLLOWING CUTTING AND CLEANING DEPRESSIONS OF WASTE MATERIAL, THE ENTIRE RUMBLE STRIP AREA SHALL BE COATED WITH LIQUID ASPHALT COATING (EMULSION) USING A PRESSURE DISTRIBUTOR AT AN APPROXIMATE RATE OF 0.1 GALLON PER SQUARE YARD. OVERSPRAY SHALL NOT EXTEND MORE THAN 2 INCHES BEYOND THE WIDTH OF CUT AND/OR SHALL NOT COME IN CONTACT WITH PAVEMENT MARKINGS.
5. RUMBLE STRIPES SHALL NOT BE PLACED WITHIN 50 FEET OF ANY INTERSECTION, TURN LANE, ACCELERATION/DECELERATION LANE OR GORE AREA.
6. PAVEMENT MARKINGS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

SPECIFICATION REFERENCE	A COPY OF THE ORIGINAL SEALED AND SIGNED STANDARD DRAWING IS ON FILE IN THE CENTRAL OFFICE	VDOT ROAD AND BRIDGE STANDARDS	
310 315	# CONTINUOUS SHOULDER RUMBLE STRIPES VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE 7/13	SHEET 1 OF 1 304.03

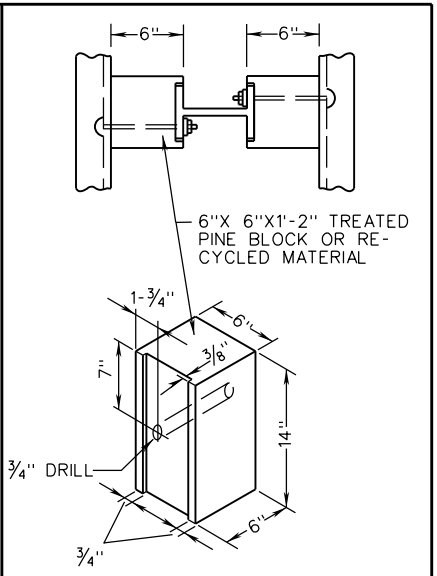
MB-3



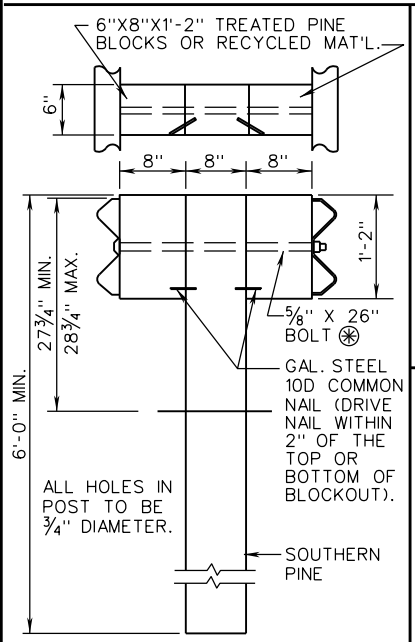
CONCRETE POST



STEEL POST



BLOCKOUT FOR MAINTENANCE REPAIR ONLY



6X8 WOOD POST

NOTES:

STANDARD MB-3 POST SPACING IS 6'-3".

FOR DETAILS OF RAIL ELEMENT, RAIL SPLICE JOINT, W BEAM BACK UP PLATE, AND ASSOCIATED HARDWARE SEE SHEET NO. 501.01.

ALTERNATE TYPE POSTS AND BLOCKOUTS MAY BE INTERCHANGED ON ANY ONE PROJECT WITH THE RESTRICTION THAT THE SAME TYPE OF POST AND BLOCKOUT MUST BE USED IN ANY SINGLE RUN OF MEDIAN BARRIER.

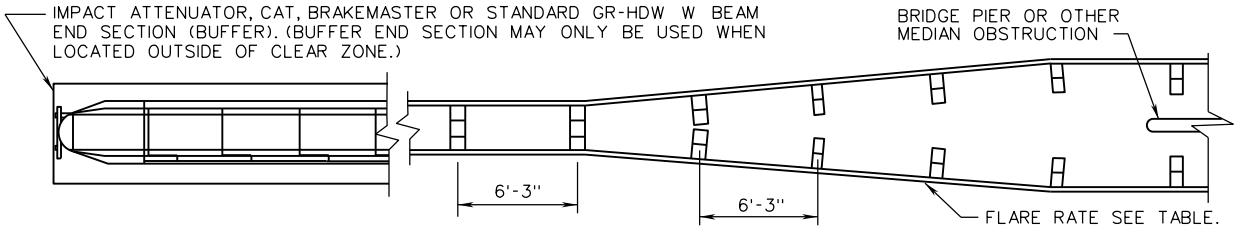
ALL BOLTS, NUTS, WASHERS, STEEL POSTS, BENT PLATE POST, AND BLOCKOUTS ARE TO BE GALVANIZED.

THE GUARDRAIL AND MEDIAN BARRIER COMPONENTS DEPICTED IN A.R.T.B.A. TECHNICAL BULLETIN NUMBER 268B MAY BE SUBSTITUTED IF INTERCHANGEABLE WITH THE STANDARDS FOR GUARDRAIL (GR) OR MEDIAN BARRIER (MB) AND APPROVED BY THE ENGINEER.

⊛ STANDARD WASHERS ARE TO BE USED ON LAST 50' OF RUN OFF END ONLY.

FLARE RATES			
DESIGN SPEED	INSIDE SHY LINE		BEYOND SHY LINE
MPH	SHY LINE LS	FLARE RATE	FLARE RATE
70	9'	30:1	15:1 *
60	8'	26:1	14:1 *
50	6.5'	21:1	11:1 *
40	5'	16:1	8:1 *
30	4'	13:1	7:1 *

* SUGGESTED MAXIMUM FLARE RATE FOR SEMI-RIGID BARRIER SYSTEMS.



METHOD OF TREATMENT AT BRIDGE PIER OR MEDIAN OBSTRUCTION

VDOT
ROAD AND BRIDGE STANDARDS

BLOCKED-OUT W-BEAM MEDIAN BARRIER

VIRGINIA DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 1	REVISION DATE
502.01	7/13

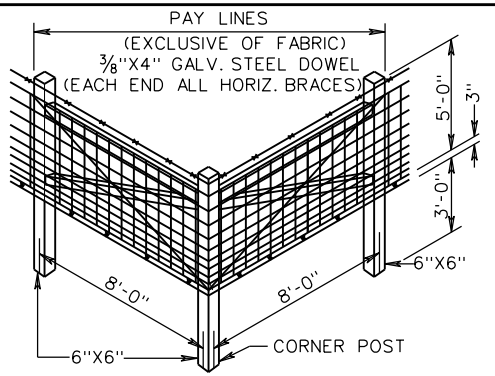
SPECIFICATION REFERENCE

221
505

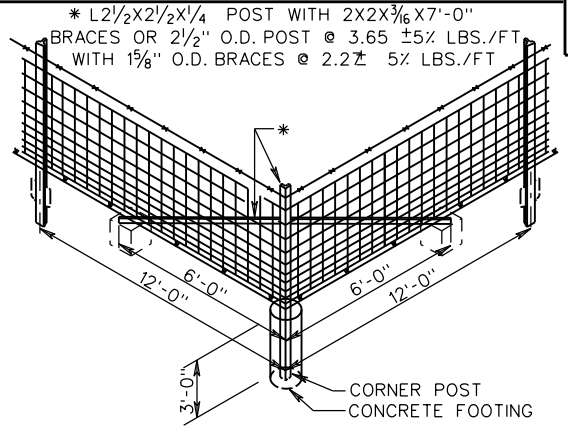
FE-W1,W2

CORNER BRACE

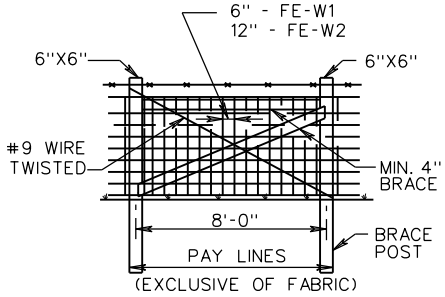
WOOD POST



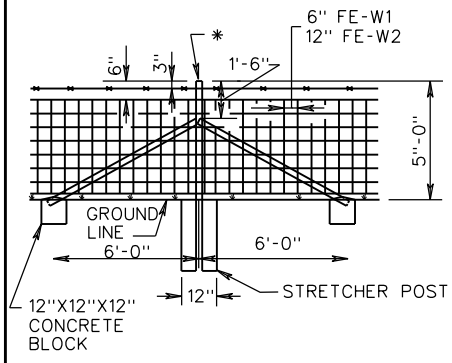
METAL POST



LINE BRACE

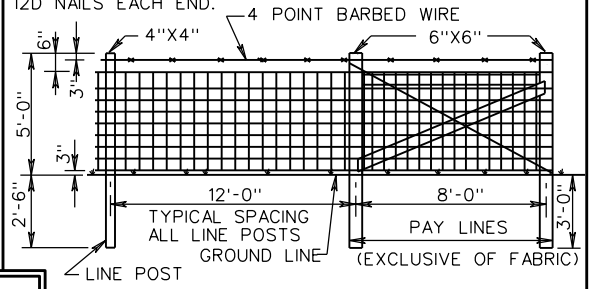


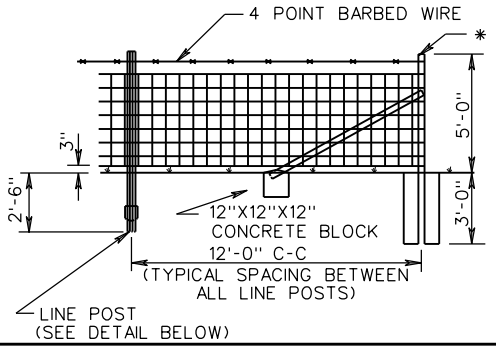
IF NOT OTHERWISE NOTED DIMENSIONS AND DESCRIPTIONS SHOWN ON ONE DRAWING APPLY TO OTHER DETAILS WITH THE SAME POST TYPE.



LINE BRACE AT END LOCATION

THE BRACE WIRE TO BE PLACED AROUND POSTS WITH ONE WIRE ON EACH SIDE OF BRACE. WIRE TO BE DRAWN TAUT BY TWISTING BETWEEN BRACE AND EACH POST. THIS APPLIES TO ALL BRACE WIRES.
DIAGONAL 4" BRACES TO BE PLACED IN DIRECTION OF PULL. POST TO BE NOTCHED FOR DIAGONAL 4" BRACES. ALL 4" DIAGONAL BRACES TO HAVE TWO GALVANIZED 12D NAILS EACH END.





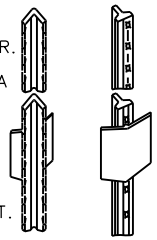
NOTES:

SEE GENERAL NOTES-FENCING FOR ADDITIONAL DETAILS AND INSTRUCTIONS.

LINE POSTS ARE TO BE OF THE TYPES SHOWN OR EQUIVALENT MEETING THE APPROVAL OF THE ENGINEER.

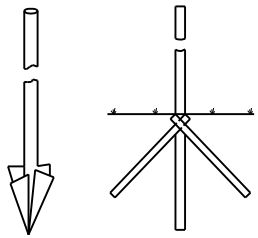
ALL POSTS ARE TO HAVE A MINIMUM WEIGHT OF 1.25 LBS./FT.

A MINIMUM OF FIVE CLAMPS FOR ATTACHING FABRIC TO POST ARE TO BE INCLUDED IN COST OF EACH LINE POST.



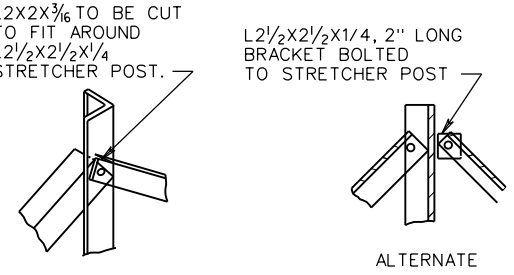
FLANGED TYPE "U" FLANGE TYPE "T"

METAL LINE POST



FOR USE IN LIEU OF SETTING POSTS IN CONCRETE.
DEVICES SHOWN ARE REPRESENTATIONAL ONLY, SEE GENERAL NOTES.

ALTERNATE ANCHOR DEVICES



METHOD OF ATTACHING ANGLE BRACES TO STRETCHER POSTS

VDOT
ROAD AND BRIDGE STANDARDS

STANDARD FENCE
WOVEN WIRE FABRIC
VIRGINIA DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 1	REVISION DATE
503.02	7/13

SPECIFICATION REFERENCE
242
507
236

FOR TYPICAL SECTION, NOTES AND OTHER DETAILS, REFER TO STANDARD BCQ-DT.

SPAN	HGHT	REINFORCING STEEL												QUAN./LF		HEADWALLS								
		BTI														G	HWI							
(FT.)	(FT.)	SIZE	SPACING c-c	a	b	c	d	e	f	g	LENGTH	NO. BL1 #4 BARS	NO. BL2 #3 BARS	REINFORCING STEEL (LBS/LONG. JT)	CONCRETE CLASS A4 (CY/LF)	REINFORCING STEEL (LBS/LF)	HEADWALL LENGTH	SIZE	LENGTH	NO. HW2 BARS	NO. HW3 BARS	INLET CONCRETE CL. A4 (CY)	INLET REINFORCING STEEL (LBS)	OUTLET CONCRETE CL. A4 (CY)	OUTLET REINFORCING STEEL (LBS)	WINGWALL
3	3	4	12"	2'- 8⅞"	0'- 4½"	1'- 6⅝"	0'- 5⅞"	0'- 3¾"	14'-11⅞"	1'- 5⅞"	15'- 9"	60	20	57.160	1.284	141.899	16'-10"	6	16'- 6"	3	12	2.222	137.876	2.191	99.132	A
3	4	4	12"	2'- 8⅞"	0'- 4½"	1'- 6⅝"	0'- 5⅞"	0'- 3¾"	14'-11⅞"	1'- 5⅞"	15'- 9"	60	30	60.690	1.406	152.339	16'-10"	6	16'- 6"	3	15	2.333	148.230	2.284	99.132	C
4	3	4	12"	3'- 6½"	0'- 4½"	1'-11½"	0'- 5⅞"	0'- 3¾"	19'- 0"	2'- 1"	19'- 9"	76	20	70.520	1.479	168.508	20'-10"	6	20'- 6"	3	12	2.626	161.908	2.609	123.164	A
4	4	4	12"	3'- 6½"	0'- 4½"	1'-11½"	0'- 5⅞"	0'- 3¾"	19'- 0"	2'- 1"	19'- 9"	76	30	74.050	1.602	178.948	20'-10"	6	20'- 6"	3	15	2.738	172.262	2.702	123.164	C
4	5	4	12"	3'- 6½"	0'- 4½"	1'-11½"	0'- 5⅞"	0'- 3¾"	19'- 0"	2'- 1"	19'- 9"	76	40	77.580	1.724	189.388	20'-10"	6	20'- 6"	3	18	2.849	182.616	2.794	123.164	E
4	6	4	12"	3'- 6½"	0'- 4½"	1'-11½"	0'- 5⅞"	0'- 3¾"	19'- 0"	2'- 1"	19'- 9"	76	50	81.110	1.847	199.828	20'-10"	6	20'- 6"	3	21	2.960	192.970	2.887	123.164	G
5	3	4	12"	4'- 4⅛"	0'- 4½"	2'- 4¼"	0'- 5⅞"	0'- 3¾"	23'- 0"	2'- 8¼"	23'- 9"	92	20	83.880	1.675	195.339	24'-10"	6	24'- 6"	3	12	3.031	185.940	3.027	147.196	A
5	4	4	12"	4'- 4⅛"	0'- 4½"	2'- 4¼"	0'- 5⅞"	0'- 3¾"	23'- 0"	2'- 8¼"	23'- 9"	92	30	87.410	1.797	205.779	24'-10"	6	24'- 6"	3	15	3.142	196.294	3.120	147.196	C
5	5	4	12"	4'- 4⅛"	0'- 4½"	2'- 4¼"	0'- 5⅞"	0'- 3¾"	23'- 0"	2'- 8¼"	23'- 9"	92	40	90.940	1.920	216.219	24'-10"	6	24'- 6"	3	18	3.254	206.648	3.212	147.196	E
5	6	4	12"	4'- 4⅛"	0'- 4½"	2'- 4¼"	0'- 5⅞"	0'- 3¾"	23'- 0"	2'- 8¼"	23'- 9"	92	50	94.470	2.043	226.659	24'-10"	6	24'- 6"	3	21	3.365	217.002	3.305	147.196	G
5	7	4	12"	4'- 4⅛"	0'- 4½"	2'- 4¼"	0'- 5⅞"	0'- 3¾"	23'- 0"	2'- 8¼"	23'- 9"	92	60	98.000	2.165	237.099	24'-10"	6	24'- 6"	3	24	3.476	227.356	3.398	147.196	I
6	4	4	12"	5'- 1¾"	0'- 4½"	2'- 9"	0'- 5⅞"	0'- 3¾"	27'- 0"	3'- 3½"	27'- 9"	108	30	100.770	1.991	253.889	28'-10"	6	28'- 6"	3	15	3.547	220.326	3.537	171.228	C
6	5	4	12"	5'- 1¾"	0'- 4½"	2'- 9"	0'- 5⅞"	0'- 3¾"	27'- 0"	3'- 3½"	27'- 9"	108	40	104.300	2.114	264.643	28'-10"	6	28'- 6"	3	18	3.658	230.680	3.630	171.228	E
6	6	4	12"	5'- 1¾"	0'- 4½"	2'- 9"	0'- 5⅞"	0'- 3¾"	27'- 0"	3'- 3½"	27'- 9"	108	50	107.830	2.236	275.397	28'-10"	6	28'- 6"	3	21	3.770	241.034	3.723	171.228	G
6	7	4	12"	5'- 1¾"	0'- 4½"	2'- 9"	0'- 5⅞"	0'- 3¾"	27'- 0"	3'- 3½"	27'- 9"	108	60	111.360	2.359	287.512	28'-10"	6	28'- 6"	3	24	3.881	251.388	3.816	171.228	I
6	8	4	12"	5'- 1¾"	0'- 4½"	2'- 9"	0'- 5⅞"	0'- 3¾"	27'- 0"	3'- 3½"	27'- 9"	108	70	114.890	2.482	299.627	28'-10"	6	28'- 6"	3	27	3.992	261.742	3.908	171.228	K
7	4	4	12"	5'-11⅜"	0'- 4½"	3'- 1⅞"	0'- 5⅞"	0'- 3¾"	31'- ⅛"	3'-10⅝"	31'-10"	124	30	114.130	2.187	276.214	32'-10"	6	32'- 6"	3	15	3.952	244.358	3.955	195.260	C
7	6	4	12"	5'-11⅜"	0'- 4½"	3'- 1⅞"	0'- 5⅞"	0'- 3¾"	31'- ⅛"	3'-10⅝"	31'-10"	124	50	121.190	2.432	299.219	32'-10"	6	32'- 6"	3	21	4.174	265.066	4.141	195.260	G
7	8	4	12"	5'-11⅜"	0'- 4½"	3'- 1⅞"	0'- 5⅞"	0'- 3¾"	31'- ⅛"	3'-10⅝"	31'-10"	124	70	128.250	2.677	324.059	32'-10"	6	32'- 6"	3	27	4.397	285.774	4.326	195.260	K
7	10	4	11"	5'-11⅜"	0'- 4½"	3'- 1⅞"	0'- 5⅞"	0'- 3¾"	31'- ⅛"	3'-10⅝"	31'-10"	124	90	135.310	2.920	374.109	32'-10"	6	32'- 6"	3	33	4.620	306.482	4.512	195.260	O
8	4	4	11"	6'- 8¾"	0'- 4¾"	3'- 6⅜"	0'- 6¼"	0'- 4"	34'-11⅞"	4'- 5⅝"	35'-10"	140	30	127.490	2.435	333.672	36'-10"	6	36'- 6"	3	15	4.334	268.390	4.351	219.292	C
8	6	4	11"	6'- 8⅝"	0'- 5"	3'- 6⅛"	0'- 6½"	0'- 4¼"	34'-11⅞"	4'- 5⅜"	35'-10"	140	50	134.550	2.735	345.357	36'-10"	6	36'- 6"	3	21	4.534	289.098	4.514	219.292	G
8	8	4	10"	6'- 8⅝"	0'- 5"	3'- 6⅛"	0'- 6½"	0'- 4¼"	34'-11⅞"	4'- 5⅜"	35'-10"	140	70	141.610	2.979	386.268	36'-10"	6	36'- 6"	3	27	4.757	309.806	4.700	219.292	K
8	10	4	9"	6'- 8½"	0'- 5¼"	3'- 5⅞"	0'- 6⅞"	0'- 4½"	34'-11⅞"	4'- 5⅛"	35'-11"	140	90	148.670	3.276	447.410	36'-10"	6	36'- 6"	3	33	4.957	330.514	4.863	219.292	O
9	4	4	9"	7'- 6"	0'- 5½"	3'-10½"	0'- 7¼"	0'- 4¾"	39'- 0"	5'- 0"	40'- 0"	156	30	140.850	2.812	451.848	40'-10"	6	40'- 6"	3	15	4.659	292.422	4.689	243.324	C
9	6	4	9"	7'- 5⅞"	0'- 5¾"	3'-10¼"	0'- 7⅝"	0'- 5"	39'- 0"	4'-11¾"	40'- 0"	156	50	147.910	3.119	459.598	40'-10"	6	40'- 6"	3	21	4.875	313.130	4.868	243.324	H
9	8	4	9"	7'- 5¾"	0'- 6"	3'-10"	0'- 8"	0'- 5¼"	39'- 0"	4'-11½"	40'- 1"	156	70	154.970	3.424	492.432	40'-10"	6	40'- 6"	3	27	5.072	333.838	5.028	243.324	L
9	10	4	9"	7'- 5¾"	0'- 6"	3'-10"	0'- 8"	0'- 5¼"	39'- 0"	4'-11½"	40'- 1"	156	90	162.030	3.666	554.516	40'-10"	6	40'- 6"	3	33	5.295	354.546	5.213	243.324	P
9	12	4	8"	7'- 5⅝"	0'- 6¼"	3'- 9¾"	0'- 8⅜"	0'- 5½"	39'- 0"	4'-11¼"	40'- 2"	156	110	169.090	3.970	599.804	40'-10"	6	40'- 6"	3	39	5.492	375.254	5.373	243.324	T
10	4	4	8"	8'- 3¼"	0'- 6¼"	4'- 2½"	0'- 8⅜"	0'- 5½"	43'- 0"	5'- 6½"	44'- 2"	172	30	154.210	3.229	519.693	44'-10"	6	44'- 6"	3	15	4.985	316.454	5.028	267.356	D
10	6	4	8"	8'- 3⅛"	0'- 6½"	4'- 2¼"	0'- 8⅝"	0'- 5¾"	43'- 0"	5'- 6¼"	44'- 2"	172	50	161.270	3.541	540.827	44'-10"	6	44'- 6"	3	21	5.179	337.162	5.185	267.356	H
10	8	4	8"	8'- 3"	0'- 6¾"	4'- 2"	0'- 9"	0'- 6"	43'- 0"	5'- 6"	44'- 3"	172	70	168.330	3.853	574.370	44'-10"	6	44'- 6"	3	27	5.373	357.870	5.342	267.356	L
10	10	4	8"	8'- 3"	0'- 6¾"	4'- 2"	0'- 9"	0'- 6"	43'- 0"	5'- 6"	44'- 3"	172	90	175.390	4.094	649.612	44'-10"	6	44'- 6"	3	33	5.595	378.578	5.527	267.356	P
10	12	5	10"	8'- 2⅞"	0'- 7⅛"	4'- 1¾"	0'- 9½"	0'- 6¼"	43'- 0"	5'- 5¾"	44'- 3"	172	110	182.450	4.405	688.264	44'-10"	6	44'- 6"	3	39	5.790	399.286	5.684	267.356	T
12	6	6	12"	9'- 9½"	0'- 8½"	4'-10⅛"	0'-11⅜"	0'- 7½"	51'- ⅛"	6'- 6⅞"	52'- 6"	204	50	187.990	4.575	735.821	52'-10"	6	52'- 6"	3	21	5.696	385.226	5.728	315.420	H
12	8	6	11"	9'- 9½"	0'- 8½"	4'-10⅛"	0'-11⅜"	0'- 7½"	51'- ⅛"	6'- 6⅞"	52'- 6"	204	70	195.050	4.818	787.944	52'-10"	6	52'- 6"	3	27	5.918	405.934	5.914	315.420	L
12	10	5	9"	9'- 9⅜"	0'- 8⅝"	4'- 9⅞"	0'-11⅝"	0'- 7¾"	51'- ⅛"	6'- 6⅝"	52'- 7"	204	90	202.110	5.142	811.072	52'-10"	6	52'- 6"	3	33	6.106	426.642	6.065	315.420	P
12	12	5	9"	9'- 9¼"	0'- 8⅞"	4'- 9⅝"	1'- 0"	0'- 8"	51'- ⅛"	6'- 6⅜"	52'- 8"	204	110	209.170	5.464	873.156	52'-10"	6	52'- 6"	3	39	6.294	447.350	6.215	315.420	T

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

SPECIFICATION REFERENCE

QUADRUPLE BOX CULVERTS

5 TO 10 FT. FILLS

VIRGINIA DEPARTMENT OF TRANSPORTATION

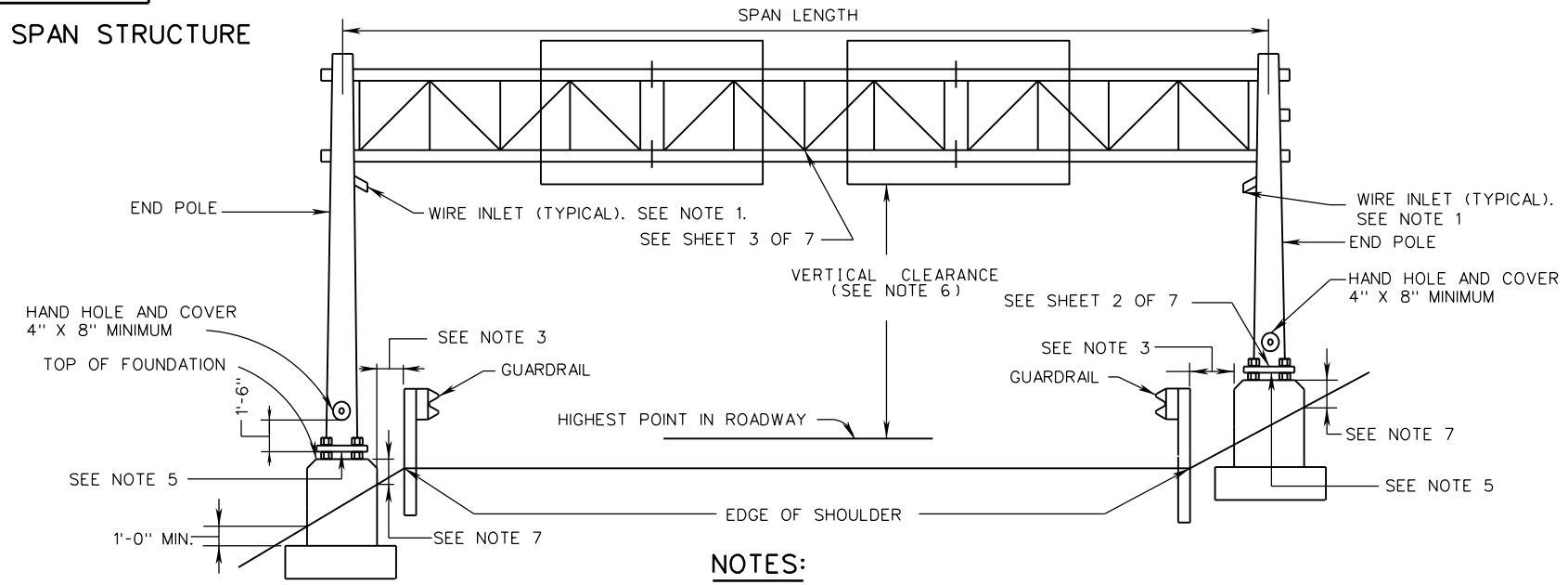
VDOT

ROAD AND BRIDGE STANDARDS

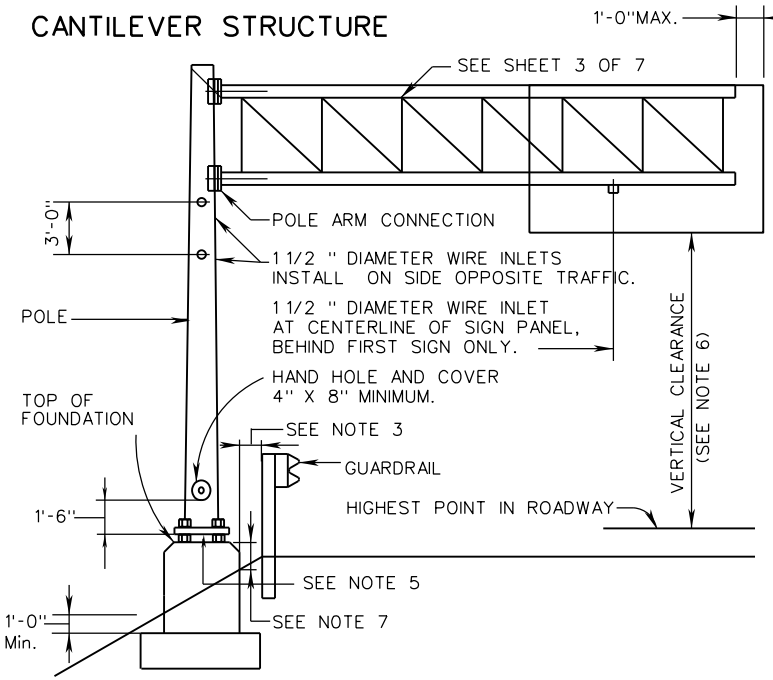
REVISION DATE 07/13

OSS-1

SPAN STRUCTURE



CANTILEVER STRUCTURE



NOTES:

1. 1 1/2" DIAMETER WIRE INLETS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:
   - A. ON SPAN STRUCTURES ON THE FRONT LEG OF END POLE 12" BELOW BOTTOM CHORD.
   - B. ON CANTILEVER STRUCTURES ON POLE 12" BELOW BOTTOM CHORD.
   - C. ON SPAN STRUCTURES BELOW BOTTOM CHORD AT CENTERLINE BEHIND FIRST SIGN PANEL FROM EACH END POLE.
   - D. ON CANTILEVER STRUCTURES BELOW BOTTOM CHORD AT CENTERLINE BEHIND FIRST SIGN PANEL FROM POLE.
2. ALL UNUSED WIRE INLETS SHALL BE CAPPED WATER TIGHT.
3. DISTANCE SHALL BE NO LESS THAN THE MINIMUM INDICATED IN GUARDRAIL STANDARDS.
4. NO MORTAR, GROUT, OR CONCRETE SHALL BE PLACED BETWEEN BOTTOM OF BASE PLATE AND TOP OF PEDESTAL.
5. THE MAXIMUM SPACE BETWEEN THE BOTTOM OF THE BASE PLATE AND THE TOP OF THE FOUNDATION SHALL BE NO MORE THAN THE DIAMETER OF THE ANCHOR BOLT PLUS ONE INCH.
6. VERTICAL CLEARANCE FOR OVERHEAD SIGN STRUCTURES SHALL BE NO LESS THAN 19 FEET 0 INCH AND NO MORE THAN 21 FEET 0 INCH FROM THE BOTTOM OF THE LOWEST MOUNTED SIGN PANEL TO THE HIGHEST POINT OF THE ROADWAY, UNLESS OTHERWISE SPECIFIED ON THE PLANS. LUMINAIRE ASSEMBLIES SHALL HAVE A VERTICAL CLEARANCE OF NO LESS THAN 17 FEET 6 INCHES FROM THE BOTTOM OF THE ASSEMBLY TO THE HIGHEST POINT OF THE ROADWAY.
7. TOP OF FOUNDATIONS SHALL BE 2'-0" MINIMUM ABOVE FINISHED GRADE. FOR FOUNDATIONS ADJACENT OR WITHIN A SIDEWALK, TOP OF FOUNDATIONS SHALL BE A MINIMUM OF 3" ABOVE FINISHED GRADE.
8. FOUNDATIONS SHALL NOT BE LOCATED IN A DRAINAGE DITCH.

VDOT
ROAD AND BRIDGE STANDARDS

SHEET 1 OF 7 | REVISION DATE 7/13
1324.10

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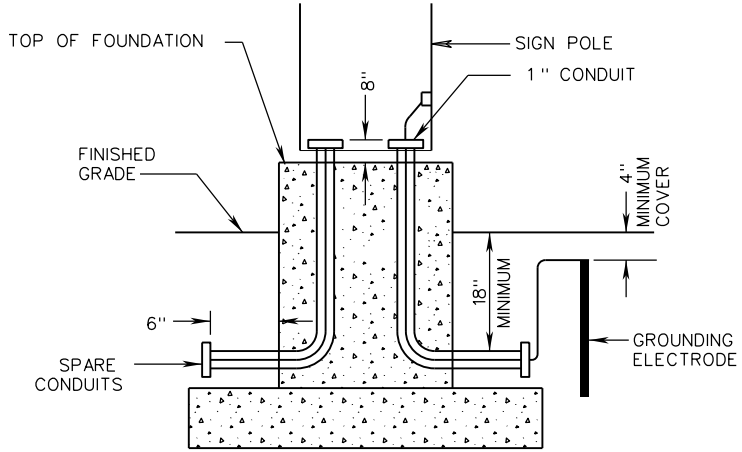
OVERHEAD SIGN STRUCTURE

TYPICAL DETAILS

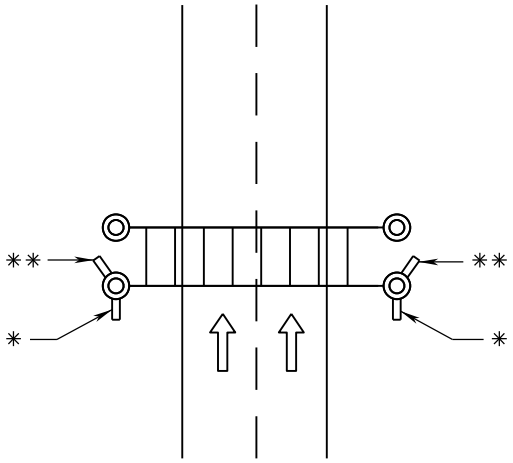
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
700

TYPICAL SIGN FOOTING DETAIL WITH CONDUIT



LOCATION OF FUTURE USE CONDUITS FOR DOUBLE END POLE STRUCTURES



* FUTURE USE CONDUITS PLACED PARALLEL TO THE ROADWAY

** FUTURE USE CONDUITS PLACED AT AN ANGLE TO MISS THE BACK FOUNDATION OR ANCHOR BOLTS IN A SPREAD FOOTING FOUNDATION.

NOTES:

THE TYPE, SIZE, NUMBER AND ORIENTATION OF CONDUITS ENTERING AND EXITING FOOTINGS MAY VARY PER SIGN LOCATION.

IN ADDITION TO THE CONDUITS SPECIFIED ON THE PLANS, ONE - 1 " CONDUIT REQUIRED FOR GROUND WIRE AND TWO - 2" PVC HEAVY WALL CONDUITS REQUIRED FOR FUTURE USE. FUTURE USE CONDUITS SHALL BE STUBBED OUT AND CAPPED. FUTURE USE CONDUITS SHALL BE ORIENTED TO RUN PARALLEL TO THE ROADWAY. FOR LOCATION OF FUTURE USE CONDUITS IN FOUNDATIONS FOR DOUBLE END POLE STRUCTURES, SEE DRAWING AT RIGHT.

EACH FOUNDATION SHALL BE PERMANENTLY MARKED TO INDICATE ALL SIDES FROM WHICH CONDUITS PASS. THIS MARK SHALL BE MADE WITH A TROWEL WHEN FINISHING THE CONCRETE AND SHALL BE 1/4 " DEEP AND 4" TO 6" LONG. LOCATIONS OF EMPTY CONDUITS SHALL HAVE AN ADDITIONAL 2" LONG MARK MADE PERPENDICULAR TO AND CENTERED ON THIS MARK.

FOUNDATIONS ABOVE FINISHED GRADE SHALL BE CHAMFERED ¾" ON ALL EDGES.

GROUNDING BUSHINGS SHALL BE INSTALLED ON EACH END OF METAL CONDUITS.

BELL ENDS SHALL BE INSTALLED ON EACH END OF PVC CONDUITS.

BELL ENDS & BUSHINGS OF EMPTY CONDUITS SHALL BE PLUGGED TO PREVENT MOISTURE AND RODENT ENTRY.

VOIDS REMAINING AFTER CONDUCTORS EXIT OR ENTER BELL ENDS OR BUSHINGS OF CONDUITS SHALL BE SEALED WITH SILICONE TO PREVENT MOISTURE AND RODENT ENTRY.

NO MORTAR, GROUT, OR CONCRETE SHALL BE PLACED BETWEEN BOTTOM OF BASE PLATE AND TOP OF FOUNDATION.

SPECIFICATION REFERENCE	A COPY OF THE ORIGINAL SEALED AND SIGNED STANDARD DRAWING IS ON FILE IN THE CENTRAL OFFICE	VDOT ROAD AND BRIDGE STANDARDS
700	OVERHEAD SIGN STRUCTURE FOUNDATION DETAILS VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE 7/13
		SHEET 4 OF 7
		1324.13