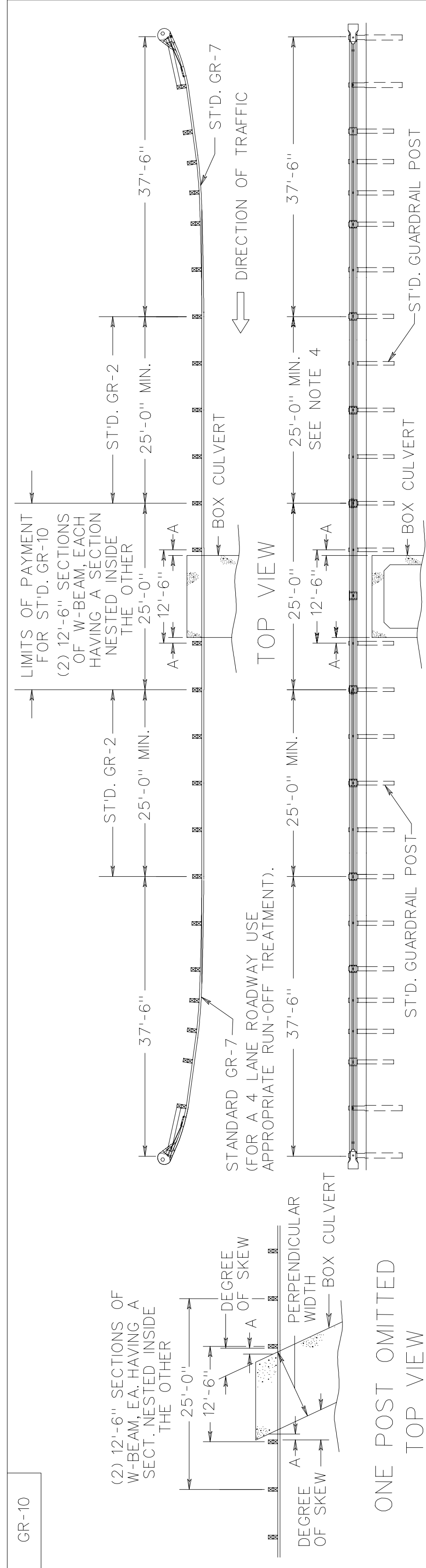


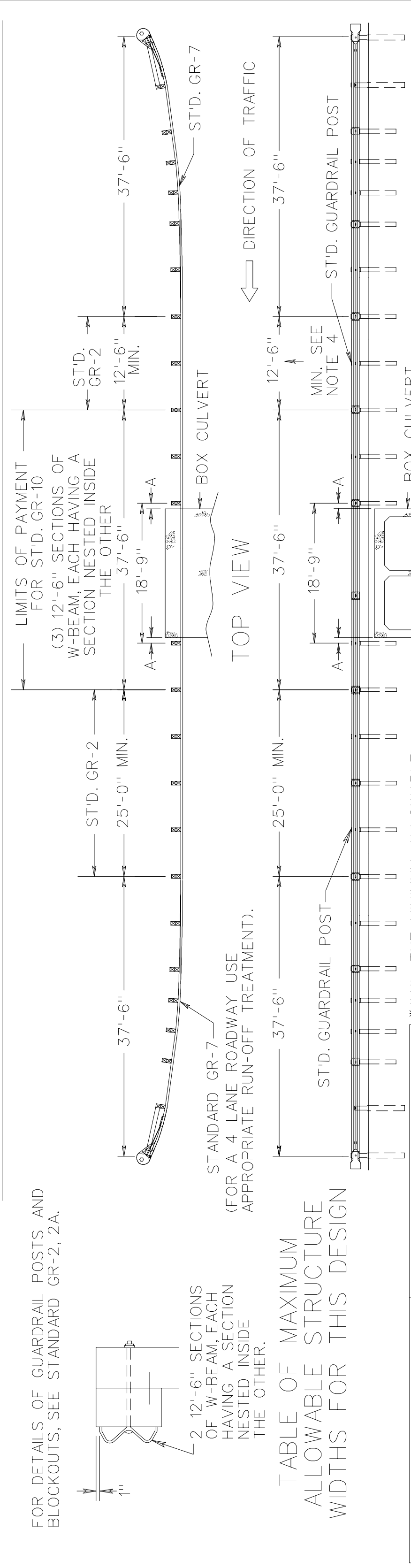
SURVEYED BY -----  
SUPERVISED BY -----  
DESIGNED BY -----

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

STATE	FEDERAL AID		STATE		SHEET NO.
	PROJECT	ROUTE	PROJECT		



TYPE I-ONE POST OMITTED



TYPE II-TWO POSTS OMITTED

NOTES:

- THIS SHEET IS APPLICABLE WHEN GUARDRAIL IS REQUIRED AND THE DEPTH OF FILL ABOVE THE TOP SLAB OF THE BOX CULVERT IS LESS THAN 4'-0".
- GUARDRAIL INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 505 OF THE SPECIFICATIONS. MATERIAL REQUIREMENT FOR COMPONENTS SHALL BE IN ACCORDANCE WITH SECTION 221 OF THE SPECIFICATIONS.
- GUARDRAIL POST SPACING SHALL BE IN ACCORDANCE WITH STANDARD GR-2.
- THIS DISTANCE SHALL BE IN ACCORDANCE WITH VDOT POLICY ON DETERMINING THE LENGTH OF NEED FOR GUARDRAIL WITH A MINIMUM DISTANCE AS SHOWN.
- ALL SPLICES IN NESTED W-BEAM SECTIONS MUST COINCIDE AT A COMMON POINT AND BE BOLTED TOGETHER USING ONE SET OF BOLTS AT EACH SPLICE.

TYPE I-ONE POST OMITTED	TYPE II-TWO POSTS OMITTED				
SKEW A*	MAX. PERPENDICULAR WIDTH (FEET)				
0°	9"	10.5	0°	9"	16.75
5°	9"	10.4	5°	9"	16.6
10°	9"	10.2	10°	9"	16.4
15°	9"	10.0	15°	9"	16.0
20°	9"	9.6	20°	9"	15.5
25°	9"	9.2	25°	9"	14.9
30°	9"	8.8	30°	9"	14.2
35°	9"	8.2	35°	9"	13.2
40°	9"	7.6	40°	9"	12.4
45°	9"	7.0	45°	9"	11.4

\* "A" THE MINIMUM ALLOWABLE DISTANCE BETWEEN CLOSEST POINT OF POST TO STRUCTURE.

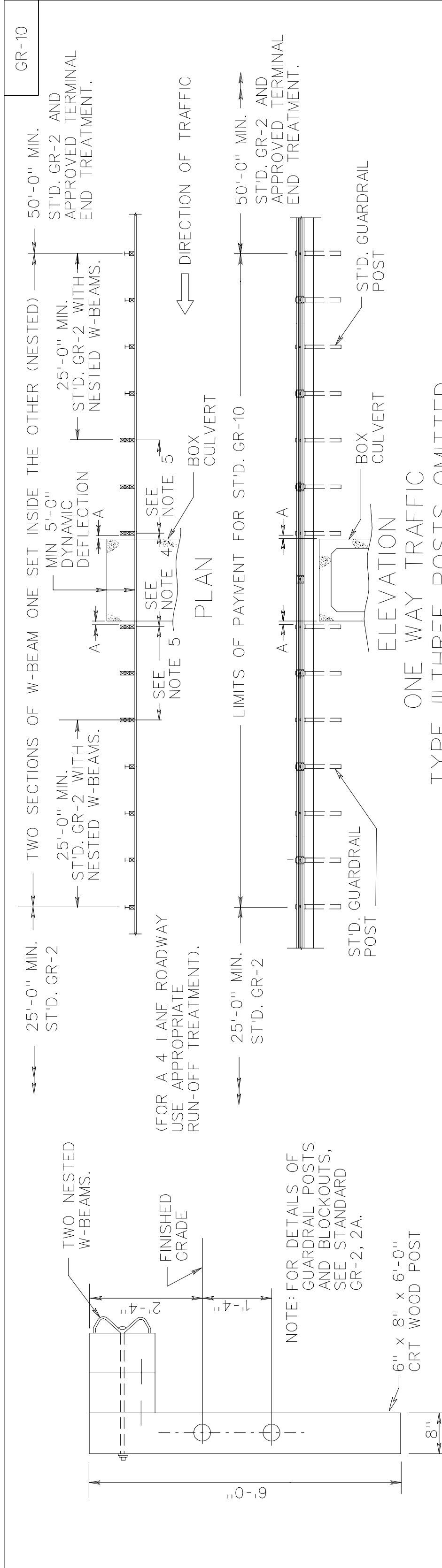
SHEET 1 OF 2

## GUARDRAIL AT LOW-FILL CULVERTS

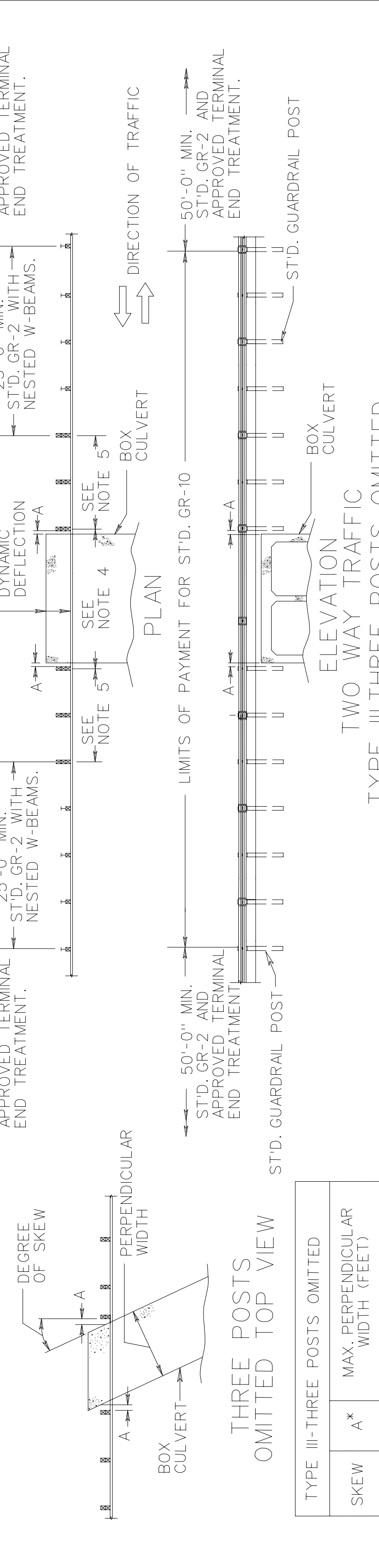
VIRGINIA DEPARTMENT OF TRANSPORTATION

REV. 9/06  
501.19

SPECIFICATION REFERENCE  
221  
505



TYPE III-THREE POSTS OMITTED



TYPE III-THREE POSTS OMITTED

NOTES:

- THIS SHEET IS APPLICABLE WHEN GUARDRAIL IS REQUIRED AND THE DEPTH OF FILL ABOVE THE TOP SLAB OF THE BOX CULVERT IS LESS THAN 4'-0".
- GUARDRAIL INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 505 OF THE SPECIFICATIONS. MATERIAL REQUIREMENT FOR COMPONENTS SHALL BE IN ACCORDANCE WITH SECTION 221 OF THE SPECIFICATIONS.
- GUARDRAIL POST SPACING SHALL BE IN ACCORDANCE WITH STANDARD GR-2.
- TWO NESTED W-BEAM GUARDRAILS. SEE TABLE FOR ALLOWABLE WIDTHS (25'-0" MAXIMUM).
- TWO NESTED W-BEAM GUARDRAILS, CRT WOODPOST, 6'-3" SPACING, WITH TWO 6"x8"x14" WOOD OR RECYCLED MATERIAL BLOCKOUTS.
- ALL SPLICES IN NESTED W-BEAM SECTIONS MUST COINCIDE AT A COMMON POINT AND BE BOLTED TOGETHER USING ONE SET OF BOLTS AT EACH SPLICE.

TYPE III-THREE POSTS OMITTED	MAX. PERPENDICULAR WIDTH (FEET)	
0°	9"	23.00
5°	9"	22.90
10°	9"	22.60
15°	9"	22.10
20°	9"	21.40
25°	9"	20.60
30°	9"	19.60
35°	9"	18.40
40°	9"	17.10
45°	9"	15.60

\* "A" THE MINIMUM ALLOWABLE DISTANCE BETWEEN CLOSEST POINT OF POST TO STRUCTURE.

SHEET 2 OF 2

## GUARDRAIL AT LOW-FILL CULVERTS

VIRGINIA DEPARTMENT OF TRANSPORTATION

REV. 9/06  
501.20

SPECIFICATION REFERENCE  
221  
505

PLAN NO.	PROJECT	FILE NO.	SHEET NO.
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