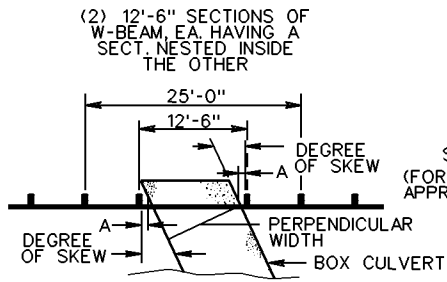
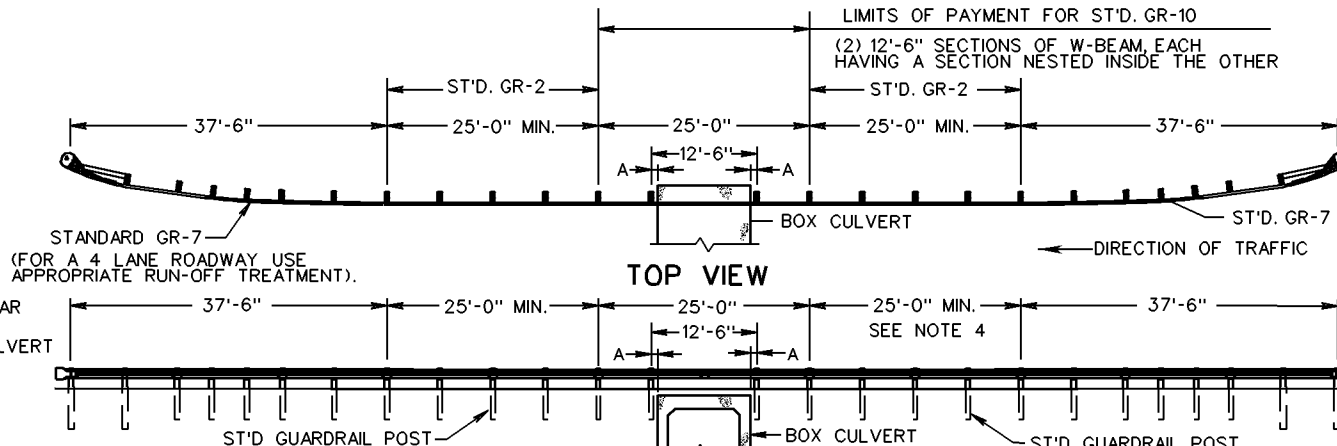


GR-10



ONE POST OMITTED TOP VIEW

FOR DETAILS OF GUARDRAIL POSTS AND BLOCKOUTS, SEE STANDARD GR-2, 2A.



ELEVATION TYPE I-ONE POST OMITTED

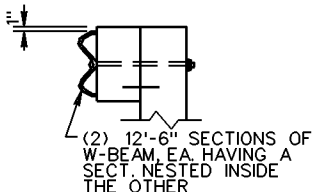
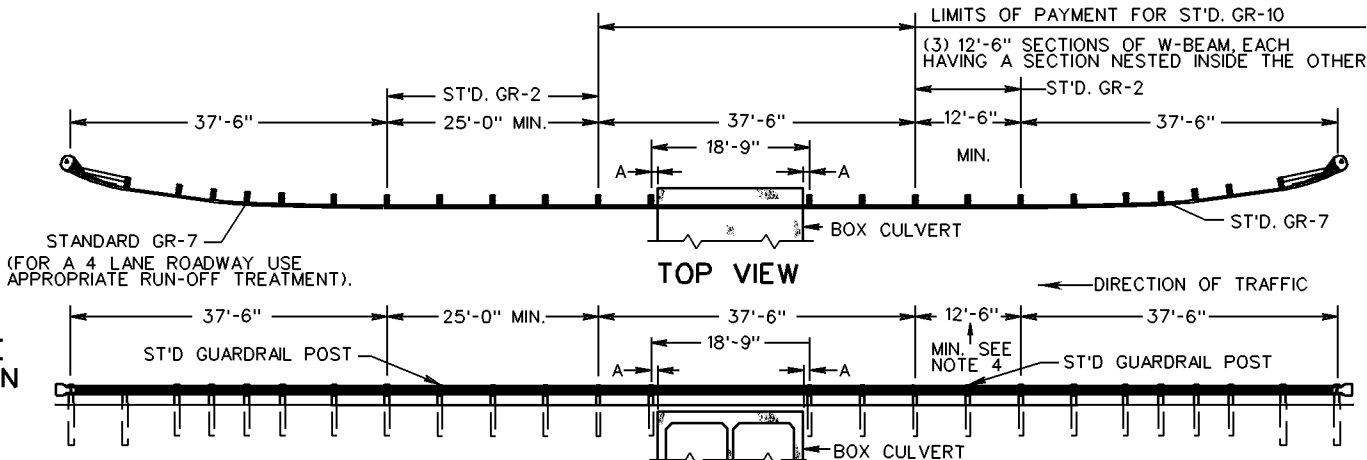


TABLE OF MAXIMUM ALLOWABLE STRUCTURE WIDTHS FOR THIS DESIGN

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



ELEVATION TYPE II-TWO POSTS OMITTED

| TYPE I- ONE POST OMITTED | | | TYPE II- TWO POST OMITTED | | |
|--------------------------|----|---------------------------------|---------------------------|----|---------------------------------|
| SKEW | A* | MAX. PERPENDICULAR WIDTH (FEET) | 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 |

- NOTES:**
1. 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".
 2. 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.
 3. GUARDRAIL POST SPACING SHALL BE IN ACCORDANCE WITH STANDARD GR-2.
 4. THIS DISTANCE SHALL BE IN ACCORDANCE WITH VDOT POLICY ON DETERMINING THE LENGTH OF NEED FOR GUARDRAIL WITH A MINIMUM DISTANCE AS SHOWN.
 5. 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.



ROAD AND BRIDGE STANDARDS

GUARDRAIL AT LOW-FILL CULVERTS

SPECIFICATION REFERENCE

SHEET 1 OF 2

REVISION DATE

501.18

08/10

VIRGINIA DEPARTMENT OF TRANSPORTATION

221
505