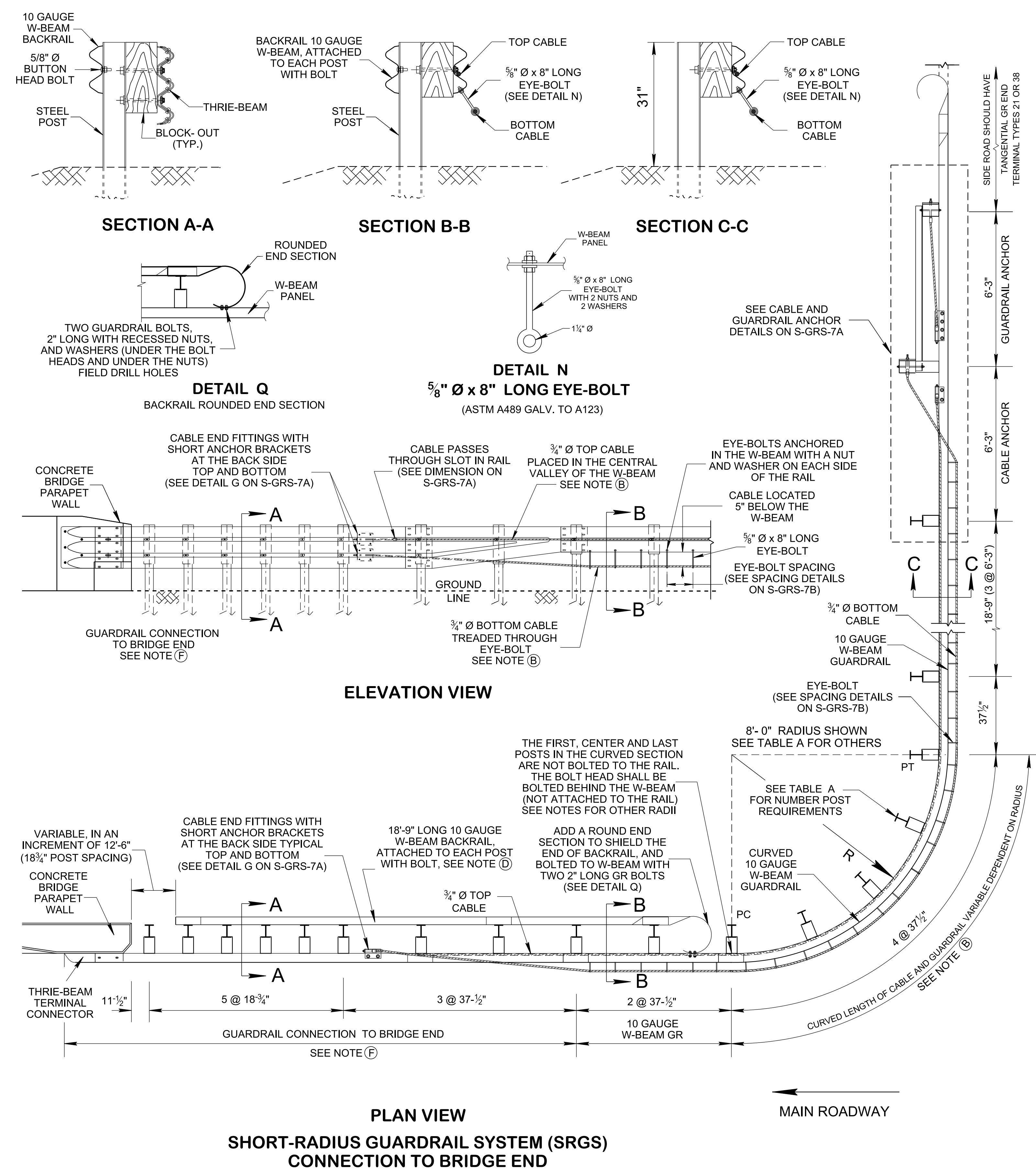


4/3/2024 10:34:41 AM P:\StandDraw\DESIGN STANDARDS\Standards Drawings\Standard Roadway Drawings - CURRENT\In Progress\10-107.00 Safety Design and Guardrails IP\107.06 Guardrail (Special Cases) IP\SRGS7-202



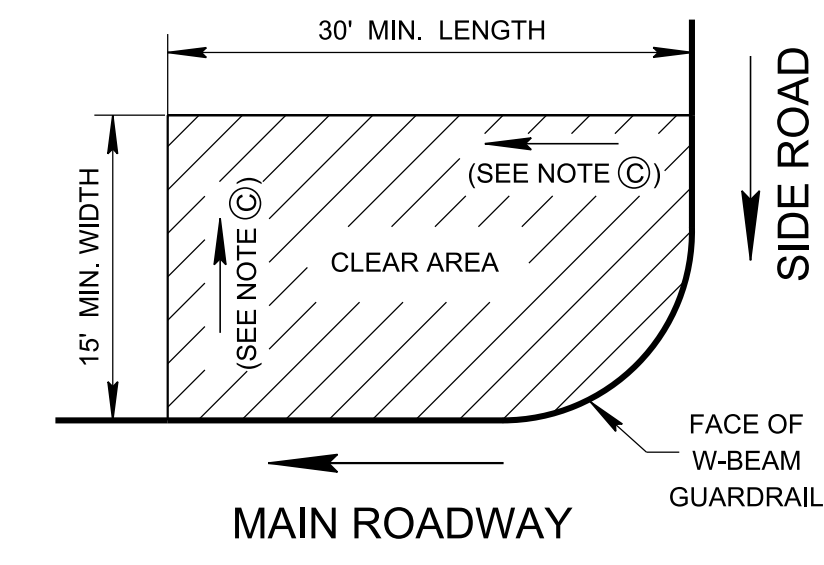
NOTES: IN THE CURVED SECTION, THE CENTER POST, THE FIRST POST, THE LAST POST AND EVERY OTHER POST SHALL NOT BE CONNECTED TO THE RAIL.
IN THE CURVED SECTION, THE RADIUS AND POST SPACING ARE MEASURED FROM INSIDE OF THE RAIL, AND THE INSTALLATION LENGTHS OF GUARDRAIL AND CABLES ARE MEASURED ALONG TRAFFIC SIDE.

REV. 01-09-2024: REVISED THE DESCRIPTION OF THE STANDARD DRAWING, EYE-BOLT SPACING AND NOTES, AND GENERAL NOTES (A), (C) AND (L). ADDED NEW ITEM NUMBERS 705-06.14 THRU 705-06.19. ADDED CABLE LENGTH ON TABLE A, AND ADDED DETAILS Q AND N. REMOVED SRGS CONNECTION TO STANDARD GR DRAWING.

TABLE A

GUARDRAIL RADIUS	NUMBER OF POSTS	CABLE LENGTH	
		TOP	BOTTOM
8'	5	59'	62'
16'	9	72'	75'
24'	13	85'	88'
32'	17	98'	101'
40'	21	111'	114'
48'	25	124'	127'

NOTE: CABLE LENGTH SHOULD BE CHECKED PRIOR TO INSTALLATION.



NOTE TO DESIGNER

THIS STANDARD TO BE USED ON ROADWAYS ON THE NATIONAL HIGHWAY SYSTEM. FOR NON NATIONAL HIGHWAY SYSTEM FACILITIES, USE S-GRA-4.
FOR ROAD INTERSECTION ANGLE LESS THAN 90°, REFER TO STANDARD SECTION FOR FURTHER GUIDANCE.

GENERAL NOTES

- (A) THE INTENT OF THIS STANDARD DRAWING IS TO OFFER A MASH TL-3 CRASHWORTHY CURVED GUARDRAIL SYSTEM INSTALLATION AT SIDE ROAD INTERSECTIONS AND DRIVEWAY ENTRANCES IN THE VICINITY OF THE BRIDGE. THE DESIGNER IS TO VERIFY THAT THE ENTIRE GUARDRAIL LENGTH CAN BE CONSTRUCTED WITHIN THE PROPOSED RIGHT-OF-WAY. FOR INSTALLATIONS WHERE THE GUARDRAIL RADIUS IS NOT INCLUDED IN TABLE A, THE DESIGNER IS TO ROUND UP.
- (B) THE TOP AND BOTTOM CABLES SHALL BE 3/4" DIAMETER CLASS A GALVANIZED 3x7 CABLES WITH A MINIMUM BREAKING STRENGTH OF 39 KIPS. THE FINISHED CABLE ASSEMBLY WILL BE INSTALLED SO THAT THE CABLE ASSEMBLY IS PUT IN TENSION UNTIL ALL SLACK IS REMOVED. FURNISHING AND INSTALLING CABLES, CABLE ANCHORS, ANCHOR BRACKET ASSEMBLIES, HARDWARE INCLUDING THREADED RODS, BOLTS, NUTS WASHERS AND ALL PLATES SHALL BE INCLUDED TO THE SRGS ITEM.
- (C) THIS SYSTEM WILL OFFER THE BEST ENGINEERING PRACTICE AT LOCATIONS WHERE GRADED SLOPE IS 10:1 OR MORE. CLEAR ZONE MAY NOT BE ACHIEVABLE DUE TO THE EXTREME SITE CONDITIONS. SEE STANDARD DRAWING S-PL-6 FOR SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE DETAILS.
- (D) AN ADDITIONAL 18'-9" LONG 10 GAUGE W-BEAM IS ATTACHED TO THE BACK OF THE THRIE-BEAM. THIS W-BEAM BACKRAIL IS DIRECTLY CONNECTED TO THE POSTS WITHOUT BLOCKOUTS. FURNISHING AND INSTALLING W-BEAM BACKRAIL, ROUNDED END SECTION, HARDWARE INCLUDING BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE SRGS ITEM.
- (E) REFER TO STANDARD DRAWING S-GR31 SERIES FOR POSTS, RAIL, AND HARDWARE STANDARDS FOR CONSTRUCTION.
- (F) REFER TO STANDARD DRAWING S-GRC SERIES FOR CONNECTING TO BRIDGE RAIL OR OTHER CONCRETE BARRIER FOR DETAILS.
- (G) REFER TO STANDARD DRAWINGS S-GRS-7A FOR CABLE AND GUARDRAIL ANCHOR DETAILS AND S-GRS-7B FOR EYE-BOLT SPACING DETAILS.
- (H) THE CLEAR AREA BEHIND THE GUARDRAIL SHALL REMAIN UNOBSTRUCTED AND UNENCUMBERED TO ALLOW THE GUARDRAIL TO FUNCTION PROPERLY. OBSTACLES (I.E., ENDWALLS, SIGNS, DITCHES, ETC.) WITHIN THIS AREA MUST BE REMOVED, RELOCATED, OR REDESIGNED.
- (I) W-BEAMS SHALL BE SHOP BENT AS REQUIRED.
- (J) TO DETERMINE IF A ROAD IS ON THE NATIONAL HIGHWAY SYSTEM, CONSULT THE FUNCTIONAL CLASSIFICATION MAPS MAINTAINED BY THE TDOT LONG RANGE PLANNING DIVISION. SEE TDOT LONG RANGE PLANNING WEBSITE.
- (K) THE SHORT- RADIUS GUARDRAIL SYSTEM (SRGS) WAS DEVELOPED AND COMPLETED UNDER NCHRP PROJECT 15-53: ROADSIDE BARRIER DESIGN NEAR BRIDGE ENDS WITH RESTRICTED RIGHTS-OF-WAY.
- (L) PAYMENT FOR SHORT- RADIUS GUARDRAIL SYSTEM (SRGS) SHALL INCLUDE ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AND SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBERS:

705-06.14	SHORT- RADIUS GUARDRAIL SYSTEM (8FT RADIUS) MASH TL-3	EACH
705-06.15	SHORT- RADIUS GUARDRAIL SYSTEM (16FT RADIUS) MASH TL-3	EACH
705-06.16	SHORT- RADIUS GUARDRAIL SYSTEM (24FT RADIUS) MASH TL-3	EACH
705-06.17	SHORT- RADIUS GUARDRAIL SYSTEM (32FT RADIUS) MASH TL-3	EACH
705-06.18	SHORT- RADIUS GUARDRAIL SYSTEM (40FT RADIUS) MASH TL-3	EACH
705-06.19	SHORT- RADIUS GUARDRAIL SYSTEM (48FT RADIUS) MASH TL-3	EACH

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

SHORT- RADIUS GR SYSTEM (SRGS) CONNECTION TO BRIDGE END