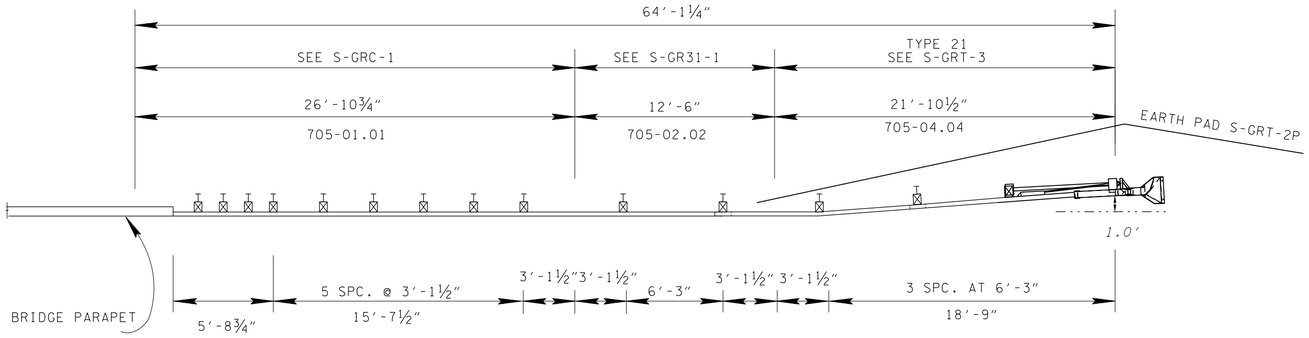
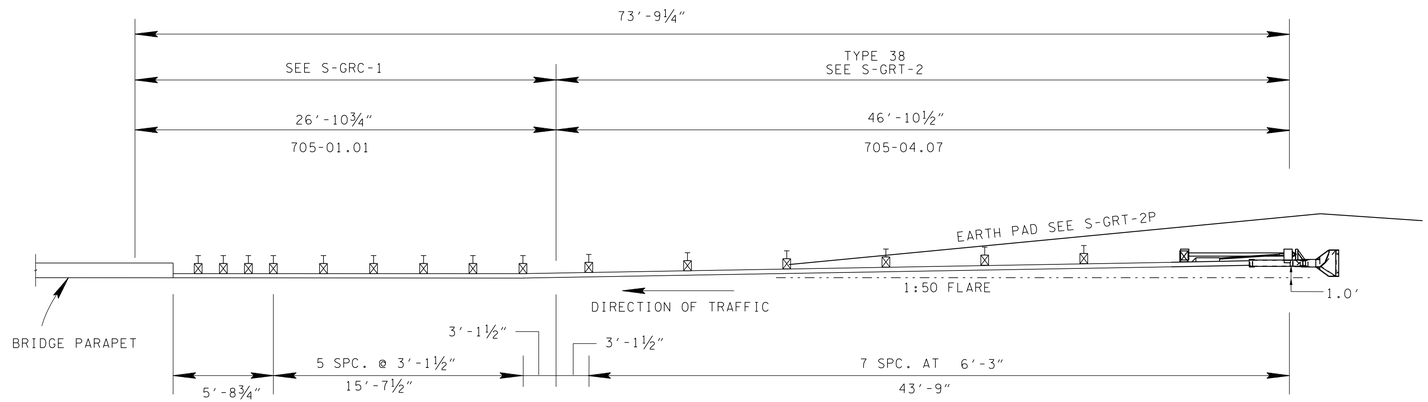
REV. 10-10-16: UPDATED REFERENCES TO OTHER STANDARD DRAWINGS. UPDATED LENGTH OF TYPE 38 TERMINAL AND MODIFIED PLAN VIEW FOR TYPE 38 TERMINAL.




## PLAN FOR TYPE 21
## MINIMUM INSTALLATION LENGTH FOR TL-2 GUARDRAIL TERMINAL (FOR LOW SPEED FACILITIES V < 45 MPH)

SAFETY PERFORMANCE OF SLOTTED GUARDRAIL TERMINAL IS ACCEPTABLE ACCORDING TO THE TL-2 EVALUATION CRITERIA SPECIFIED IN NCHRP 350. SLOTTED GUARDRAIL TERMINAL MAY BE USED ON ALL LOW SPEED ROADS ON THE NATIONAL HIGHWAY SYSTEM WHEN THE CURRENT DESIGN SPEED IS LESS THAN 45 MPH. EARTH PAD IS REQUIRED AS SHOWN ON S-GRT-2P. FOR LOW SPEED LOCAL ROADS WITH ADT<2000 VEH/DAY, S-GRC-2 MAY BE USED.




## PLAN FOR TYPE 38
## MINIMUM INSTALLATION LENGTH FOR TANGENTIAL GUARDRAIL END TERMINAL

SAFETY PERFORMANCE OF TANGENTIAL GUARDRAIL TERMINAL END SHALL MEET THE TL-3 EVALUATION CRITERIA SPECIFIED IN NCHRP 350 OR AASHTO MASH. ONLY TERMINALS LISTED ON QPL LIST 17 SHALL BE USED. EARTH PAD IS REQUIRED AS SHOWN ON S-GRT-2P AS DESCRIBED ON THE DRAWING.

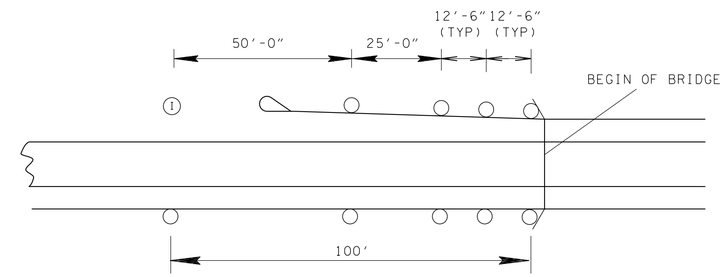
### GENERAL NOTES

(A) THIS DRAWING SHALL BE USED FOR BRIDGE ENDS OR RIGID CONCRETE BARRIER WALL ENDS ONLY. FOR OTHER HAZARDS, S-PL-1 SHALL BE USED TO DETERMINE LENGTH OF NEED FOR GUARDRAIL.

(B) SEE S-GRC-1 FOR DETAILS AND SPECIFICATIONS REGARDING INSTALLATION OF PROTECTIVE GUARDRAIL AT BRIDGE ENDS. TO BE PAID FOR UNDER ITEM NO. 705-01.01 GUARDRAIL AT BRIDGE ENDS.

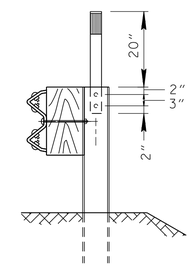
(C) IF A FIELD EVALUATION DISCOVERS A SECONDARY HAZARD, THEN S-PL-1 SHALL BE USED TO DETERMINE LENGTH OF NEED.

(D) LOCATIONS WHERE THE ABOVE SHOWN MINIMUM TRANSITION AND GUARDRAIL TERMINAL ANCHOR CANNOT BE INSTALLED DUE TO A SIDE ROAD OR DRIVEWAY, OTHER ALTERNATIVES SHALL BE CONSIDERED SUCH AS CURVED GUARDRAIL (S-PL-2) OR INTRODUCING A NON-GATING ATTENUATOR.




## MIN. DELINEATOR PLACEMENT AT BRIDGE APPROACHES INSTALLED ON GUARDRAIL POSTS

LEGEND: "o" DENOTES GUARDRAIL DELINEATORS. (SHOULDER LINES AND GUARDRAIL POSTS NOT SHOWN FOR CLARITY.)




## STEEL POST

### FLEXIBLE DELINEATOR GENERAL NOTES

(A) DELINEATORS SHALL CONFORM TO NOTES AND DETAILS SPECIFIED ON STANDARD DRAWING T-S-11,

(B) DELINEATORS SHALL BE INSTALLED ACROSS BRIDGES ONLY WHEN GUARDRAIL IS CONTINUOUS ACROSS BRIDGES. DELINIATOR SPACING ON BRIDGES SHALL BE AT 12'-6" INTERVALS.

(C) THE COLOR OF DELINEATORS SHALL CONFORM TO THE COLOR OF EDGELINES STIPULATED IN SECTION 3B.06 OF THE MUTCD (CURRENT EDITION).

(D) DELINEATORS SHALL BE FACED TOWARD THE APPROACHING TRAFFIC IN THE LANE ADJACENT TO THE GUARDRAIL AT ALL LOCATIONS.

(E) DELINEATORS SHALL BE FIRMLY SECURED TO THE POST BY TWO CONNECTIONS.

(F) THE TWO HOLES IN THE STEEL GUARDRAIL POSTS ARE USED TO ATTACH THE DELINEATOR POST IN THE FIELD. THE HOLES SHALL BE ¼" IN DIAMETER. IF THE HOLES ARE SHOP DRILLED, THEY SHALL BE DRILLED PRIOR TO GALVANIZING THE POST. IF THE HOLES ARE FIELD DRILLED, THEY SHALL BE THOROUGHLY PAINTED WITH A TOUCH-UP GALVANIZING SPRAY PAINT PRIOR TO ATTACHING THE DELINEATOR POST.

(G) THE COST OF FURNISHING AND INSTALLING THESE BRIDGE APPROACH GUARDRAIL DELINEATORS SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEMS OF GUARDRAIL TO WHICH THE DELINEATORS ARE ATTACHED.

(H) ONLY DELINEATORS LISTED ON THE QPL, LIST 1. SECTION G.2 GUARDRAIL POST DELINEATION, MAY BE USED.

(I) DELINEATORS ARE NOT REQUIRED IF GUARDRAIL IS TERMINATED PRIOR TO INDICATED LOCATION.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SAFETY PLAN: MINIMUM INSTALLATION AT BRIDGE ENDS

7-11-13 | S-PL-3

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