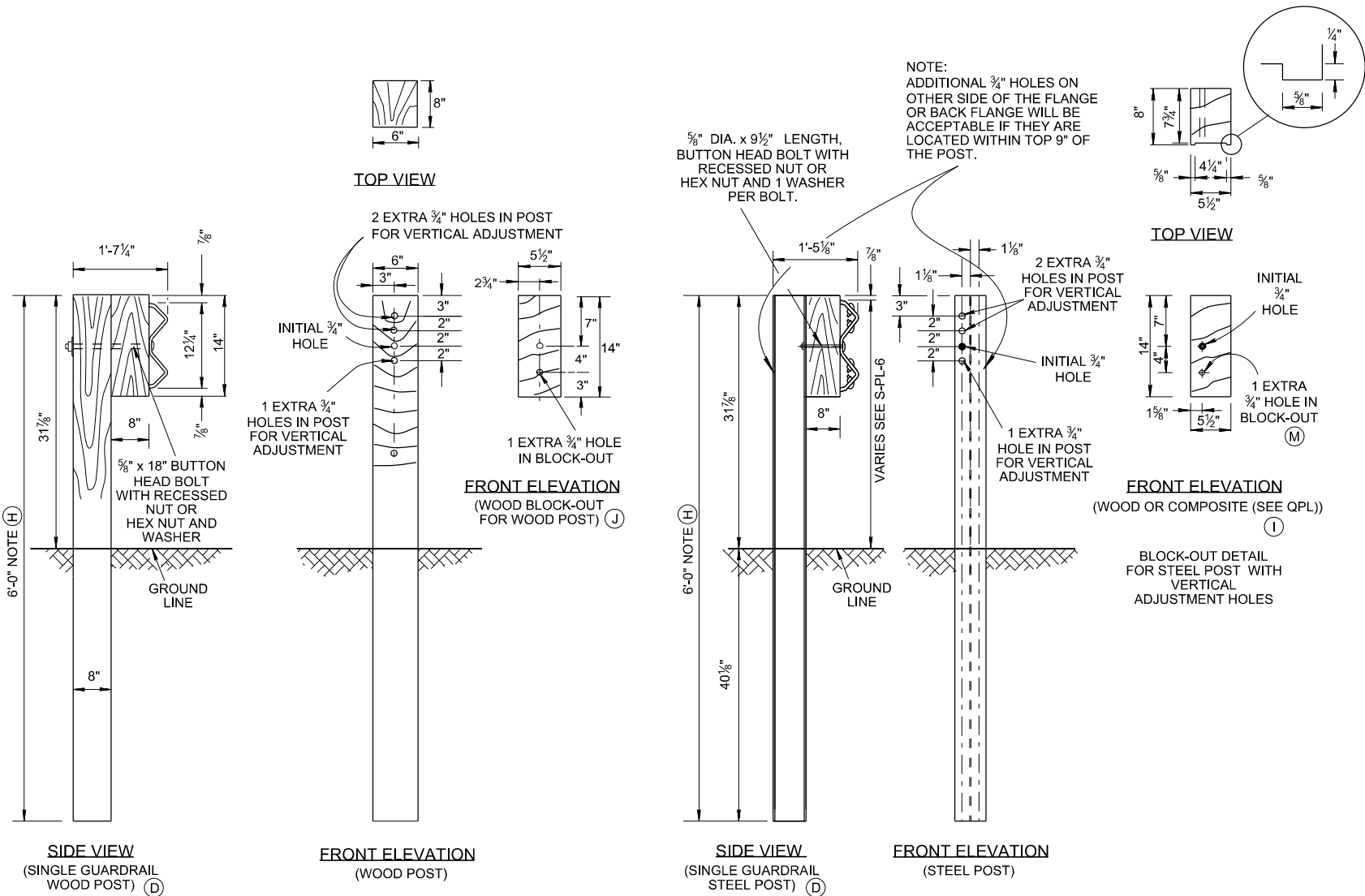


FRONT ELEVATION "W"-BEAM



GENERAL NOTES

METAL BEAM

- (A) METAL BEAMS SHALL CONFORM TO AASHTO M 180: TYPE 2, CLASS "A" UNLESS OTHERWISE NOTED ON THE PLANS.
- (B) WHERE GUARDRAIL IS PLACED ON A CURVE WITH A RADIUS LESS THAN 150 FEET, THE RAIL IS TO BE SHOP-FORMED TO THE REQUIRED RADIUS.
- (C) AT THE OPTION OF THE CONTRACTOR THE RAIL ELEMENTS FOR THE GUARDRAIL MAY BE FURNISHED IN EITHER 12'-6" OR 25' NOMINAL LENGTHS WITH POST BOLT SLOTS FOR CONNECTION TO POSTS.

POSTS

- (D) THE CONTRACTOR MAY HAVE THE CHOICE OF EITHER HOT ROLLED OR WELDED STEEL W6 X 8.5 OR W6 X 9 OR 8" X 6" WOOD POST. EXCEPT AS NOTED:
- (1) THE MIXING OF ANY POST TYPES ON A GIVEN PROJECT WILL BE AVOIDED IF AT ALL POSSIBLE.
- (2) SHOULD IT BECOME NECESSARY TO MIX POST TYPES ON A GIVEN PROJECT POSTS SHALL NOT BE MIXED ON A SINGLE RUN OF GUARDRAIL EXCEPT AS NECESSARY AT END TERMINALS.
- (3) W6 X 15 IS USED WITH GUARDRAIL CONNECTION TO STRUCTURES.
- (E) STEEL POSTS SHALL CONFORM TO ASTM A36 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A123. BOLT HOLES SHALL BE APPROXIMATELY CENTERED BETWEEN WEB AND EDGE OF FLANGE OF SPACERS AND POSTS.
- (F) WOOD POSTS SHALL CONFORM WITH TDOT CONSTRUCTION STANDARD SPECIFICATIONS.
- (G) WELDED STEEL POSTS SHALL CONFORM TO ASTM A769 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A123, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- (H) ON STEEP SLOPES, WHEN GUARDRAIL IS PLACED AT SLOPE BREAK, MINIMUM POST LENGTH SHALL BE BASED ON TABLE ON STANDARD DRAWING S-PL-6. ADDITIONAL EXPENSE TO BE INCLUDED IN THE COST OF THE RUN OF GUARDRAIL.

BLOCK OUTS

- (I) BLOCK OUTS SHALL BE WOOD CONFORMING TO THE REQUIREMENTS OF TDOT CONSTRUCTION STANDARD SPECIFICATIONS OR PLASTIC GUARDRAIL BLOCK OUTS LISTED ON THE TDOT QUALIFIED PRODUCT LIST.
- (J) ONLY WOODEN BLOCK OUTS MAY BE USED WITH WOODEN POSTS, PLASTIC OR WOODEN BLOCK OUTS MAY BE USED WITH STEEL POSTS.
- (K) ALL BLOCK OUTS SHALL MEET MASH GUIDELINES.
- (L) MIXING THE BLOCK OUT MATERIAL ON A GIVEN PROJECT SHOULD BE AVOIDED. IF MIXING OF BLOCK OUT MATERIAL IS NECESSARY, BLOCK OUTS SHALL NOT BE MIXED ON A SINGLE RUN OF GUARDRAIL

FUTURE ADJUSTMENTS

- (M) BLOCK OUTS SHALL HAVE ONE ADDITIONAL 3/4" HOLE, FOUR INCHES BELOW THE INITIAL HOLE FOR FUTURE ADJUSTMENT.
- (N) INITIAL INSTALLATION REQUIRES ONE BOLT CONNECTION, EACH ADJUSTMENT THEREAFTER REQUIRES TWO BOLT CONNECTIONS.

END TREATMENTS

- (O) ALL RUNS OF GUARDRAIL WILL BEGIN AND END WITH AN ANCHOR SYSTEM (SEE S-GRA-SERIES).
- (P) GUARDRAIL ENDS THAT ARE INSIDE THE CLEAR ZONE AND EXPOSED TO ONCOMING TRAFFIC SHALL HAVE A CRASH WORTHY END TERMINAL AS NOTED:
- (1) ANY ROAD WITH SUITABLE BACK SLOPES SHALL USE END TERMINALS BURIED IN BACK SLOPE (SEE S-GRT-1).
- (2) ALL HIGHWAY SYSTEM ROADS WITHOUT SUITABLE BACK SLOPES SHALL USE TANGENTIAL END TERMINALS (SEE S-GRT-2).
- (3) ALL OTHER ROADS WITH POSTED SPEED < 45 MPH SHALL USE MASH TL-2 END TERMINALS UNLESS OTHERWISE NOTED (SEE S-GRT-3).

DESIGN

- (Q) 4 FEET BEHIND GUARDRAIL SHALL BE CLEAR OF OBSTRUCTIONS FOR DEFLECTION.
- (R) REFER TO SAFETY PLAN STANDARDS FOR HOW TO DETERMINE THE BEGINNING AND END.

PAYMENT

- (S) PAYMENT FOR GUARDRAIL WILL BE UNDER ITEM:
- 705-06.01 W BEAM GUARDRAIL (TYPE 2) (MASH TL-3) PER LF
- (T) PAYMENT FOR SPECIAL CONNECTIONS AND GUARDRAIL SECTIONS REQUIRED FOR END TREATMENTS WILL BE AS NOTED ON THOSE DRAWINGS.
- (U) FOR W-GR BEAM INSTALLATION, LOCATION, AND DEFLECTION NOTES SEE S-PL-6.

- REV. 12-1-14: REVISED NOTE (L)
- REV.4-4-16: REVISED NOTES.
- REV. 10-20-16: ADDED NOTE TO ADDRESS ADDITIONAL HOLES.
- REV. 3-28-17: REMOVED NOTE (1) CHANGED PAY ITEM NUMBER IMPROVED POST SIDE VIEWS AND FRONT ELEVATION VIEWS.

SHEET NOT TO SCALE

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

W-BEAM
GUARDRAIL

7-11-13 S-GR31-1