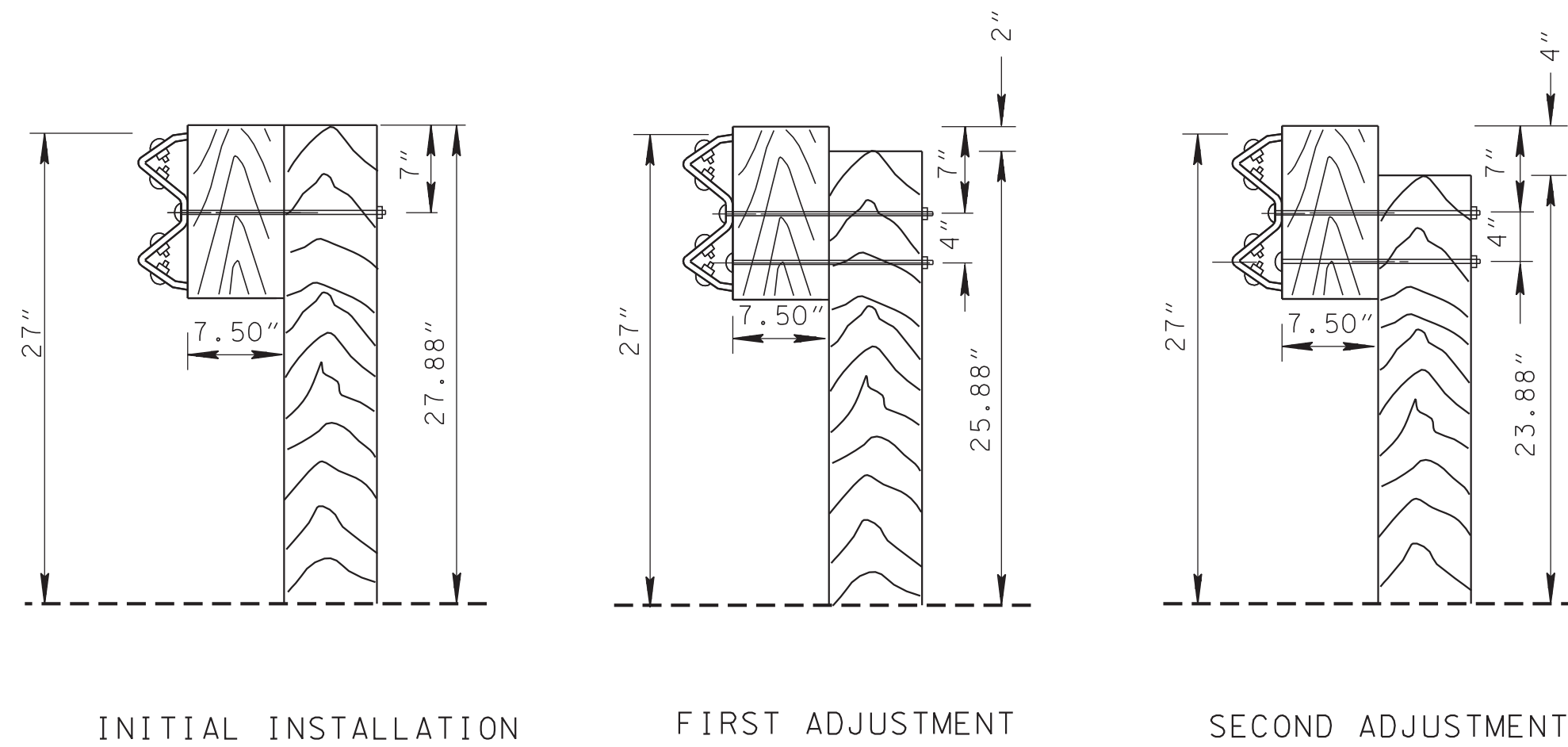
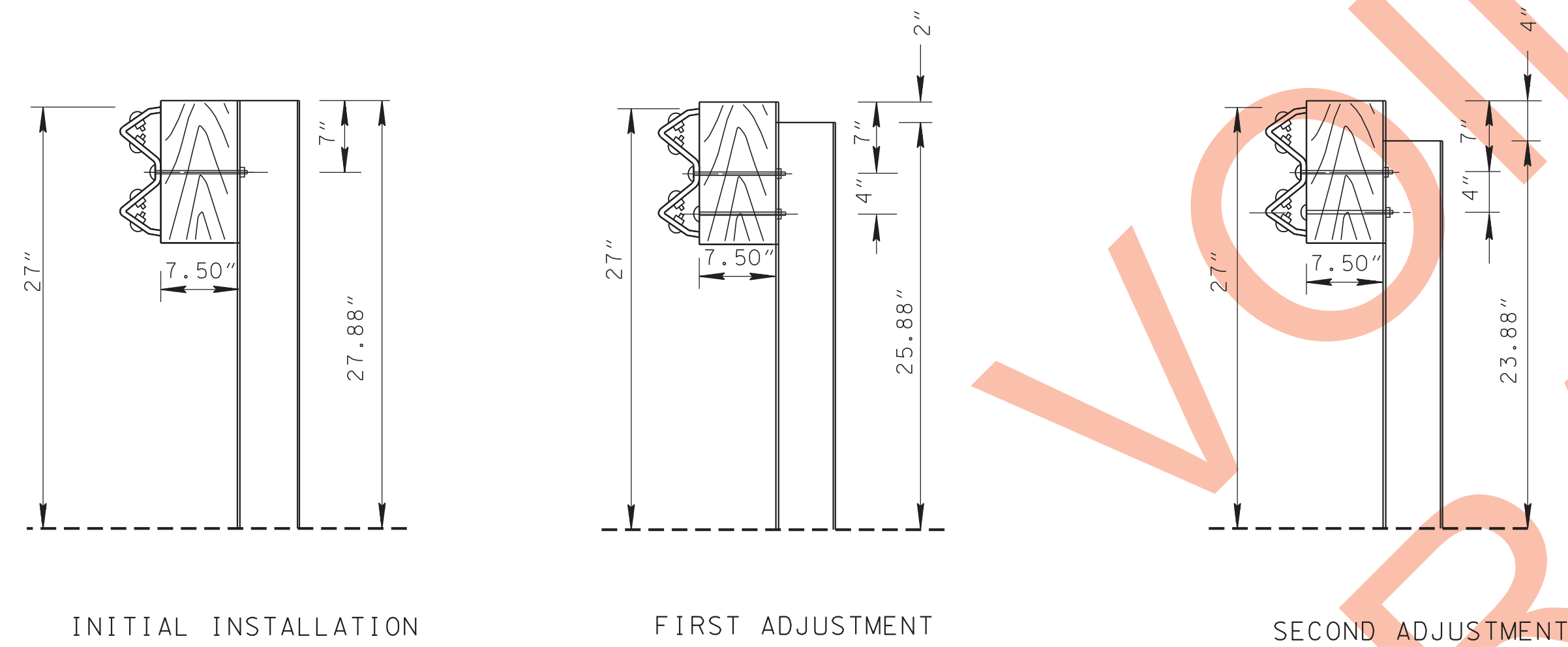


DETAILS SHOWING HOLES REQUIRED IN POSTS AND BLOCK-OUTS
(FOR USE IN FUTURE RAIL ADJUSTMENT)



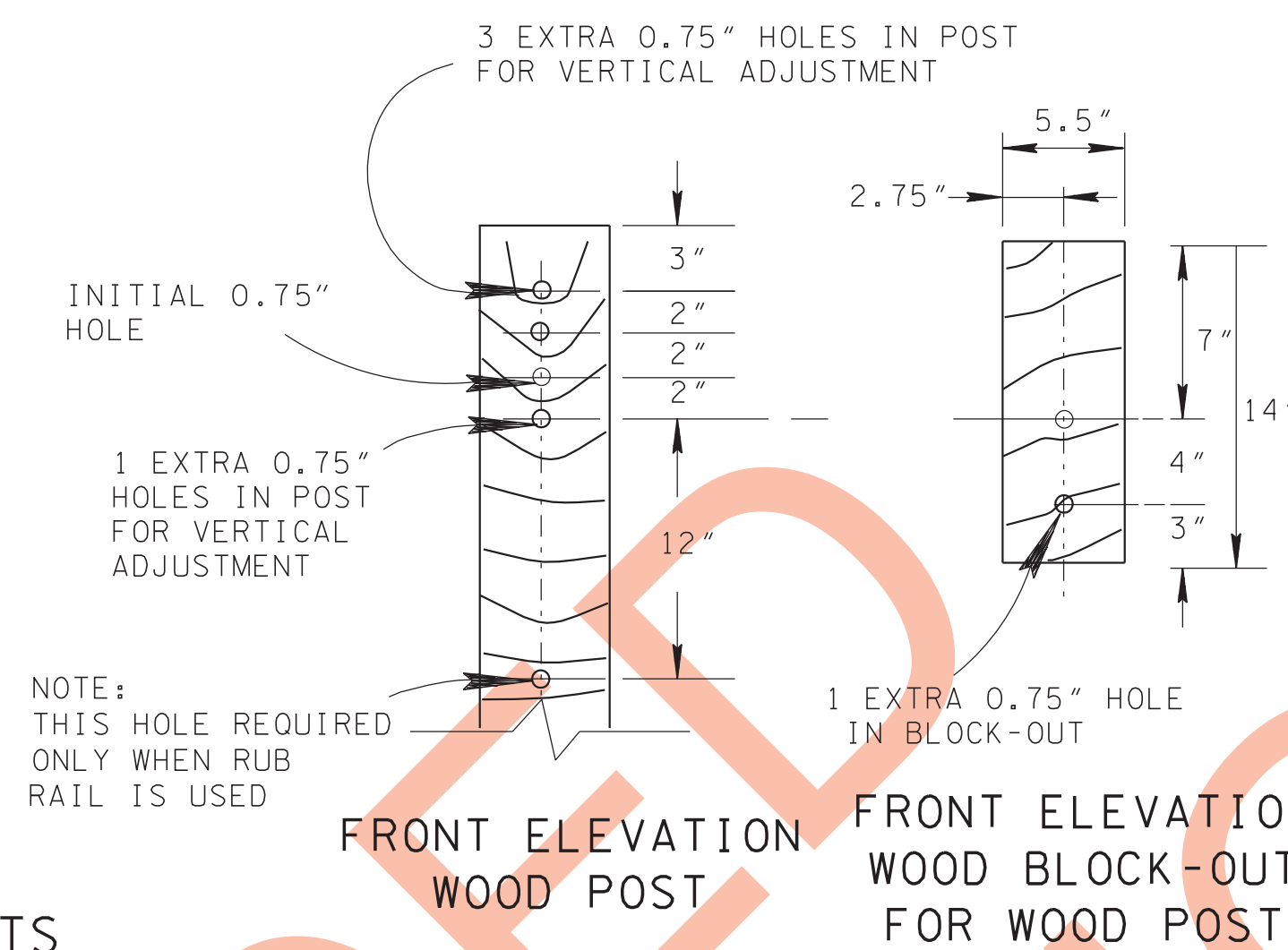
INITIAL INSTALLATION FIRST ADJUSTMENT SECOND ADJUSTMENT

ADJUSTABLE WOOD POSTS AND BLOCK-OUTS AT VARIOUS ADJUSTMENTS



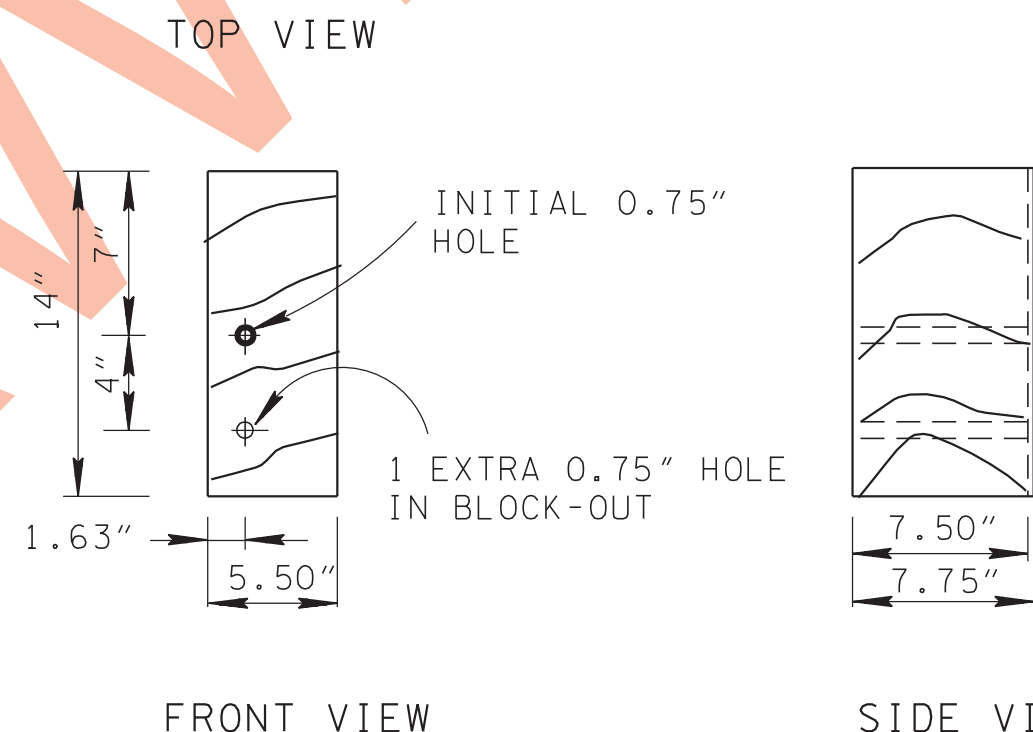
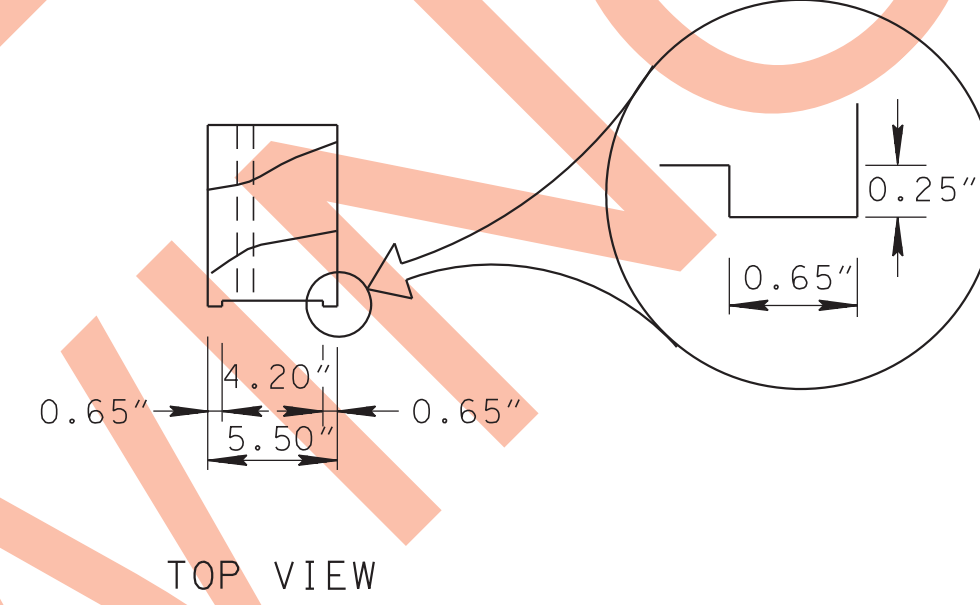
INITIAL INSTALLATION FIRST ADJUSTMENT SECOND ADJUSTMENT

ADJUSTABLE STEEL POSTS AND BLOCK-OUTS AT VARIOUS ADJUSTMENTS

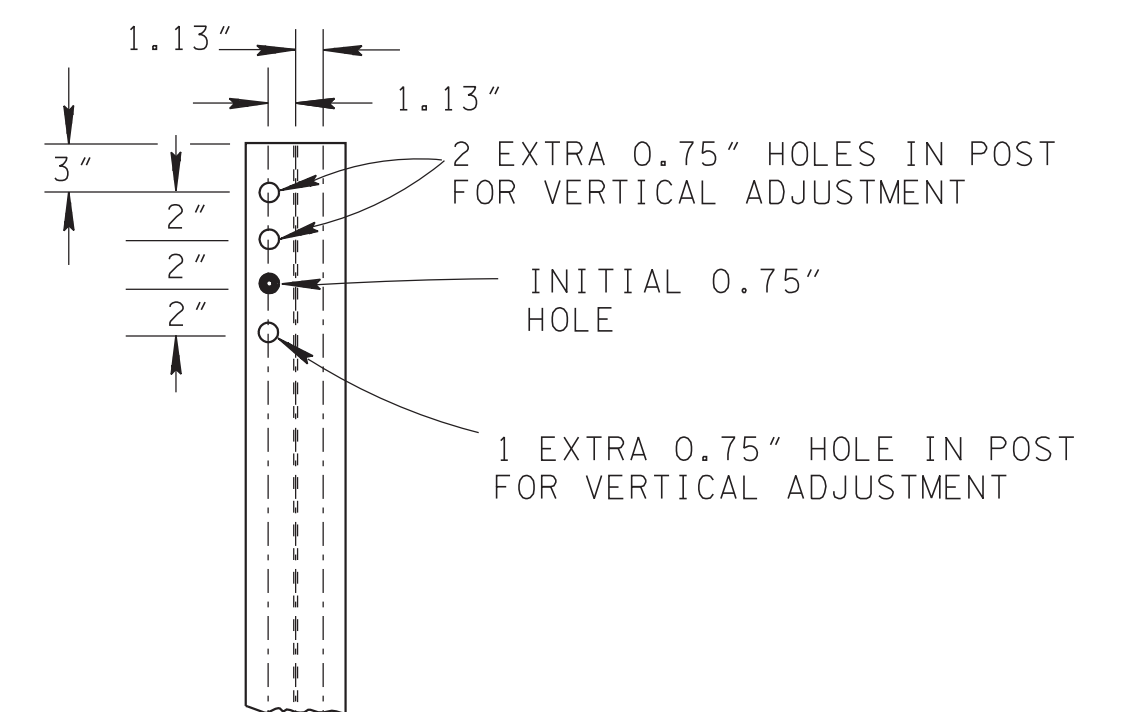


NOTE: THIS HOLE REQUIRED ONLY WHEN RUB RAIL IS USED

FRONT ELEVATION WOOD POST FRONT ELEVATION WOOD BLOCK-OUT FOR WOOD POST



WOOD BLOCK-OUT DETAIL FOR STEEL POST WITH VERTICAL ADJUSTMENT HOLES



FRONT ELEVATION STEEL POST

WOOD BLOCK-OUT FOR WOOD POST INSTALLATION NOTES

(B1) THE INITIAL INSTALLATION WILL REQUIRE ONE 5/8" DIAMETER X 18" LONG BUTTON HEAD BOLT WITH ROUND STEEL WASHER.

(B2) THE FIRST ADJUSTMENT AND THE SECOND ADJUSTMENT WILL REQUIRE ONE 5/8" DIAMETER X 18" LONG BUTTON HEAD BOLT AND ONE 5/8" DIAMETER X 18" LONG HEX HEAD BOLT. EACH WILL HAVE ONE ROUND STEEL WASHER.

INSTALLATION NOTES FOR BLOCK-OUTS WITH VERTICAL ADJUSTMENT HOLES

(B1) THE INITIAL INSTALLATION WILL REQUIRE ONE 5/8" DIAMETER X 9 1/2" LONG BUTTON HEAD BOLT WITH ROUND STEEL WASHER.

(B2) THE FIRST ADJUSTMENT AND THE SECOND ADJUSTMENT WILL REQUIRE ONE 5/8" DIAMETER X 9 1/2" LONG BUTTON HEAD BOLT AND ONE 5/8" DIAMETER X 9 1/2" LONG HEX HEAD BOLT. EACH WILL HAVE ONE ROUND STEEL WASHER.

GENERAL NOTES

(A) SEE STANDARD DRAWING S-GR-12 FOR ADDITIONAL POST DETAILS AND SPECIFICATIONS.

(B) SEE STANDARD DRAWING S-GR-14 FOR ADDITIONAL BOLT, WASHER AND NUT DETAILS AND SPECIFICATIONS.

(C) SEE STANDARD DRAWING S-GR-13A FOR BLOCK-OUTS WITH HORIZONTAL ADJUSTMENT HOLES AND MOUNTING DETAILS.

(D) RECYCLED PLASTIC GUARDRAIL BLOCKOUTS LISTED ON THE TENNESSEE DEPARTMENT OF TRANSPORTATIONS QUALIFIED PRODUCTS LIST MAY BE SUBSTITUTED FOR WOOD BLOCKOUTS. THE USE OF RECYCLED PLASTIC GUARDRAIL BLOCKOUTS ARE SUBJECT TO THE FOLLOWING STIPULATIONS:

- (1) THE MIXING OF BLOCKOUTS ON A GIVEN PROJECT WILL BE AVOIDED IF POSSIBLE.
- (2) SHOULD IT BECOME NECESSARY TO CHANGE THE BLOCKOUT TYPE ON A GIVEN PROJECT, THE BLOCKOUTS SHOULD NOT BE MIXED ON A GIVEN RUN OF GUARDRAIL.
- (3) BLOCKOUTS SHALL MEET NCHRP-350 GUIDELINES.

REV. 9-15-82: NEW DWG. WITH DETAILS FROM OTHER OLD S-GR-SERIES DWGS.

REV. 7-1-84: ADDED ANCHOR DETAILS. ADDED OR CORRECTED NOTES FOR CLARIFICATION. CHANGED DIMENSION ON WOOD POST & BLOCK-OUT.

REV. 9-1-86: CHANGED ITEM DESCRIPTION.

REV. 9-5-87: REPLACED W6x16 OR W6x15.5 WITH W6x15. DELETED WELDED SOIL PLATE AND CONCRETE BASE OPTIONS. REVISED GUARDRAIL DETAILS AND NOTES.

REV. 11-4-87: DELETED AND CORRECTED NOTES.

REV. 7-5-89: DELETED ANCHOR DETAIL

REV. 7-29-93: REDREW, REVISED AND REORGANIZED SHEET. MODIFIED GENERAL NOTES.

REV. 5-27-96: ADDED NOTE TO W-BEAM WITH RUB-RAIL DETAIL.

REV. 6-10-96: CHANGED HEIGHT OF WOOD BLOCK-OUT FROM 15" TO 14".

REV. 7-29-98: ADDED WOOD BLOCK-OUT DETAILS FOR STEEL POST. MODIFIED WOOD BLOCK-OUT DETAILS FOR WOOD POST. MOVED RAIL ELEMENT JOINT DETAILS, IRREGULAR SHOULDER LINE DETAIL AND GENERAL NOTES (C), D, AND (E) TO STANDARD DRAWING S-GR-18.

REV. 9-5-98: GENERAL REVISION THROUGHOUT DRAWING. CHANGED DRAWING NO. FROM S-GR-12 TO S-GR-13.

REV. 5-27-03: ADDED GENERAL NOTES (C) AND (D). CHANGED SHEET NAME.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BARRIER RAIL MOUNTING POST BLOCK-OUTS WITH VERTICAL ADJUSTMENT HOLES

7-29-98 S-GR-13