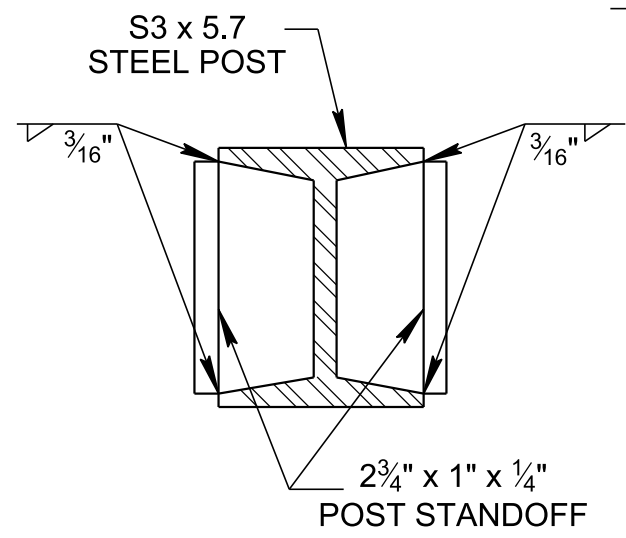
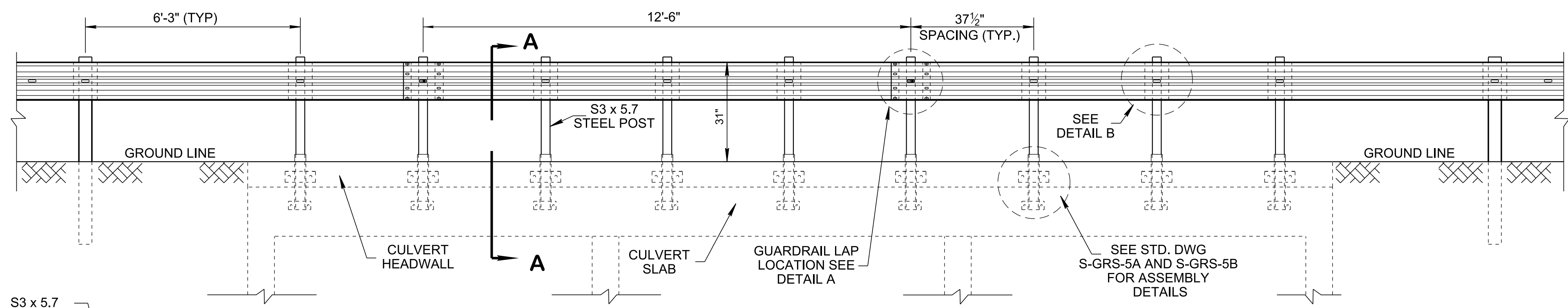
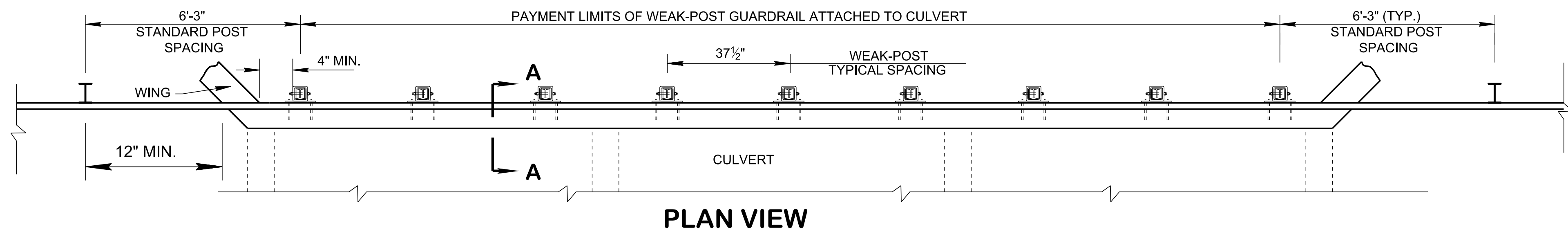
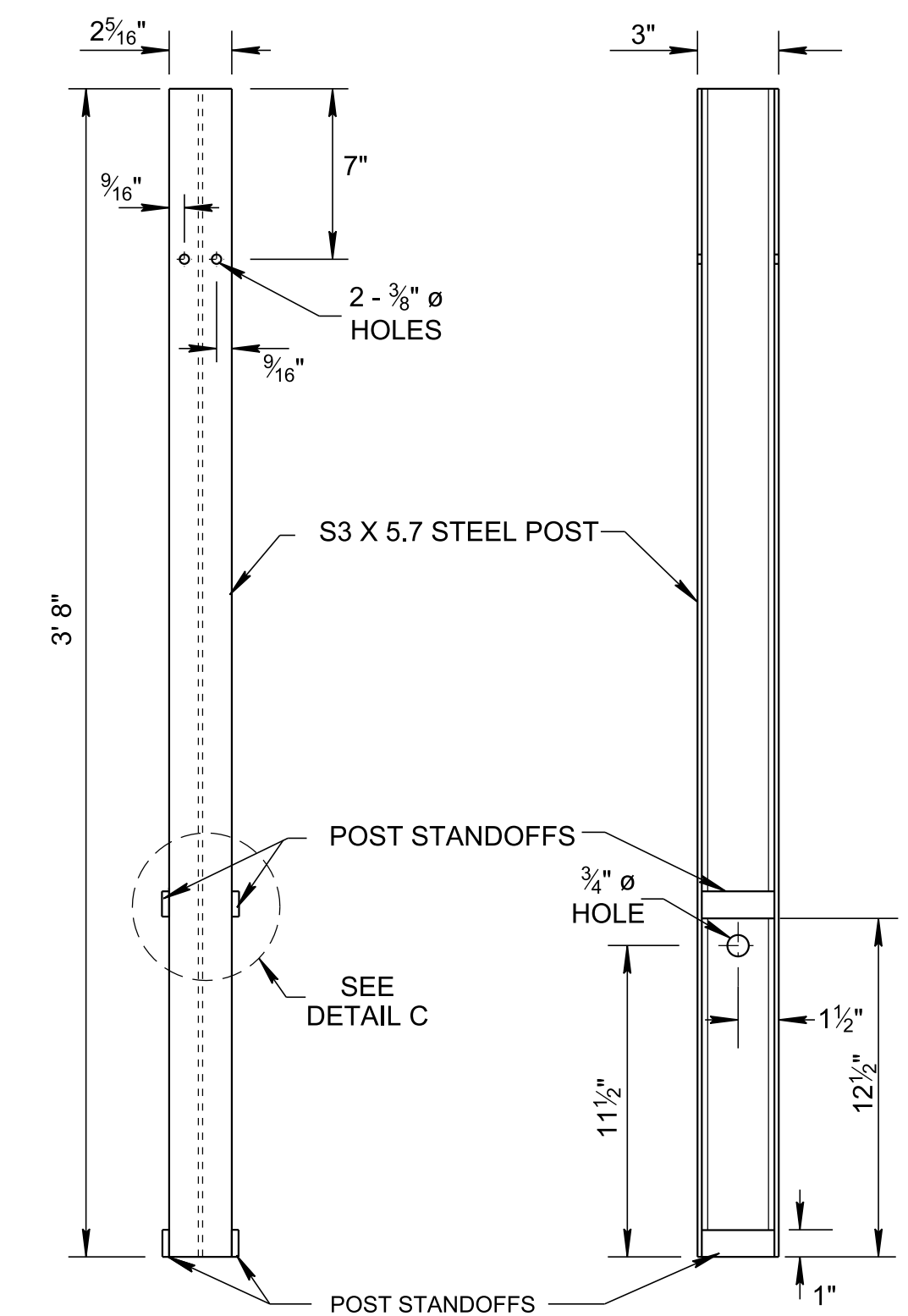


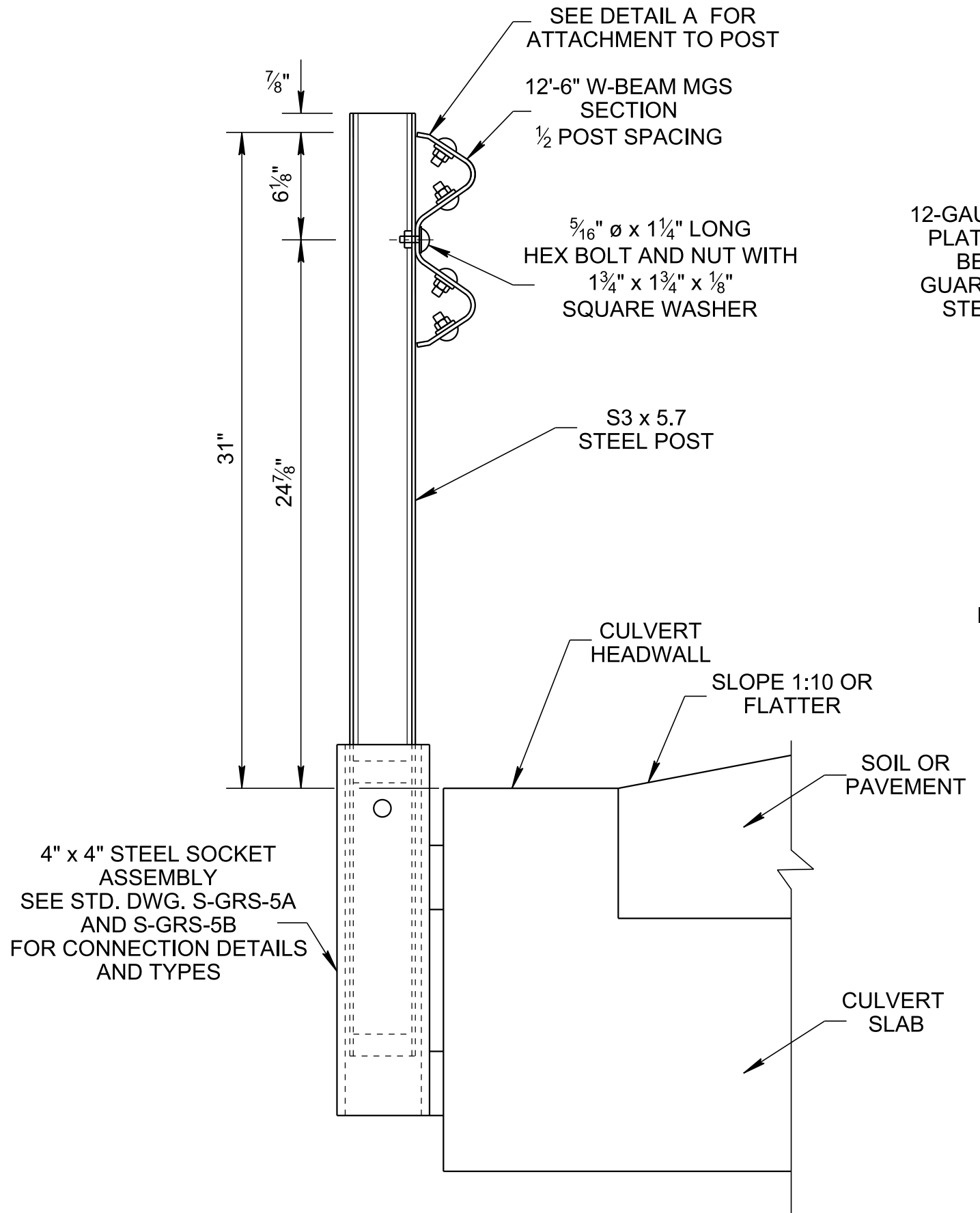
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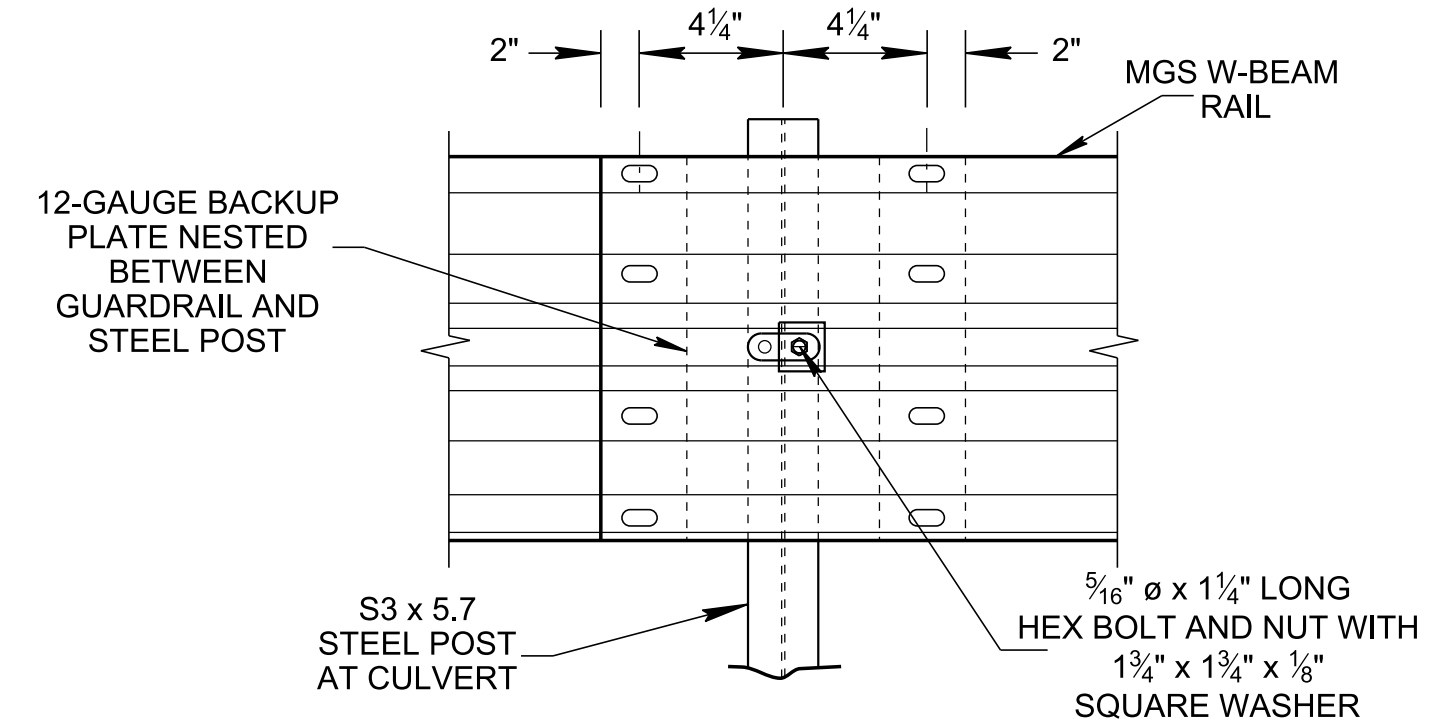
**DETAIL C
PLAN VIEW**



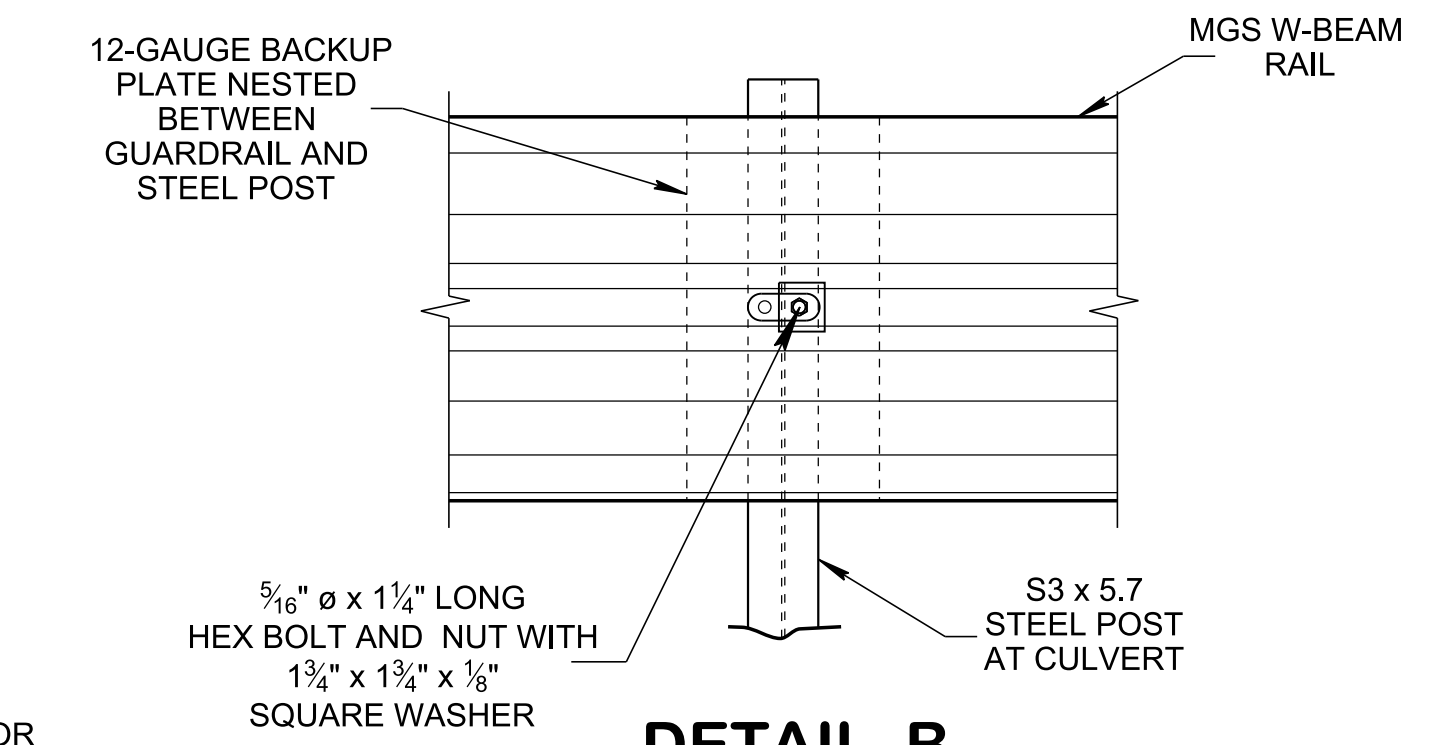
STEEL POST



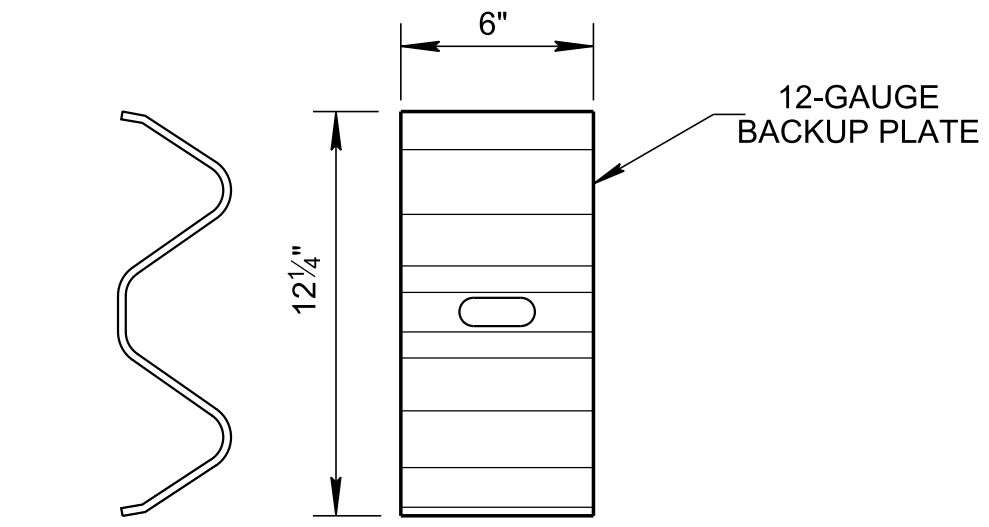
SECTION A - A



DETAIL A



DETAIL B



SIDE VIEW ELEVATION VIEW

BACKUP PLATE

GENERAL NOTES

(A) THIS DRAWING TO BE USED FOR CONNECTING GUARDRAIL TO THE OUT SIDE FACE OF CULVERT HEADWALL AND SLAB. INSTALL WEAK-POST DURING MAINTENANCE AND BRIDGE REPAIR.

(B) THE WEAK-POST GUARDRAIL TO CULVERT ATTACHMENT TYPES ARE:

TYPE 1	TOP AND BOTTOM MOUNT FOR SLAB THICKNESS < 18".
TYPE 2	SIDE AND BOTTOM MOUNT FOR MOUNTING HEIGHT < 18".
TYPE 3	SIDE MOUNT FOR MOUNTING HEIGHT ≥ 18".
TYPE 4	TOP AND SIDE MOUNT FOR MOUNTING HEIGHT ≥ 18".

(C) SEE STANDARD DRAWINGS S-GRS-5A AND S-GRS-5B FOR MOUNTING DETAILS AND TYPES.

(D) ALL STEEL WEAK -POSTS SHALL BE S3X5.7 CONFORM TO ASTM A992 GRADE 50, BE GALVANIZED AND SPACED AT 37 1/2" ON CENTERS ALONG THE CULVERT HEADWALL. BOLT HOLES SHALL BE APPROXIMATELY CENTERED BETWEEN WEB AND EDGE OF FLANGE.

(E) THE POST STANDOFF PLATE SHALL BE ASTM A36 STEEL GALVANIZED. ALL BOLTS, NUTS AND WASHERS TO BE GALVANIZED.

(F) WEAK-POST W-BEAM GUARDRAIL ATTACHED TO CULVERT HAS BEEN EVALUATED BY MIDWEST ROADSIDE SAFETY FACILITY AND MEET MASH TL-3 STANDARDS, AND THE EVALUATION HAS BEEN DOCUMENTED IN THE MIDWEST ROADSIDE MIDWEST STATES REGIONAL POOLED FUND PROGRAM RESEARCH REPORT No. TRP-03-277-14 DATED FEBRUARY 12, 2014.

(G) FOR NEW INSTALLATION, THE MINIMUM CULVERT HEADWALL REINFORCEMENT SHALL BE 4 #4 LONGITUDINAL BARS AND #4 TRANSVERSE STIRRUPS SPACED ON 12 INCH CENTERS. THE MINIMUM CULVERT SLAB REINFORCEMENT SHALL BE #5 LONGITUDINAL BAR ON 12 INCH CENTERS AND #4 TRANSVERSE REINFORCEMENT ON 18 INCH CENTERS. SEE STANDARD STRUCTURES DRAWING STD-17-SERIES FOR CULVERT HEADWALL DIMENSIONS AND DETAILS.

(H) SEE STANDARD DRAWING S-GR31-1 SERIES FOR GUARDRAIL DETAILS FOR DETAILS NOT SHOWN IN THIS SHEET.

PAYMENT

(I) FURNISHING AND INSTALLING WEAK-POST W-BEAM GUARDRAIL ELEMENTS, POSTS, SQUARE TUBE, HARDWARE INCLUDING DRILLING AND INSTALLING THREADED ROADS, NUTS AND BOLTS, WASHERS AND ALL PLATES SHALL BE PAID UNDER.

705-06.09, WEAK-POST GR. ATTACHMENT TO CULVERT (MASH TL-3) (TYPE _) PER LF.

STATE OF TENNESSEE
 STANDARD DRAWING
 DEPARTMENT OF TRANSPORTATION

**SPECIAL CASE
 WEAK-POST
 GUARDRAIL
 ATTACHMENT TO
 CULVERT**