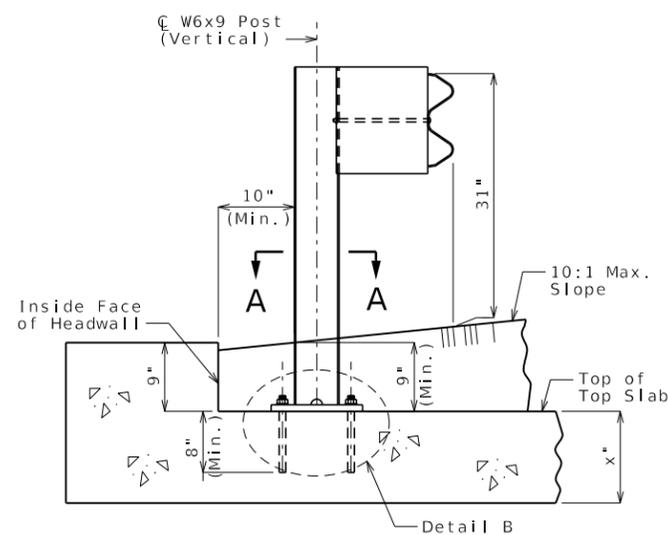
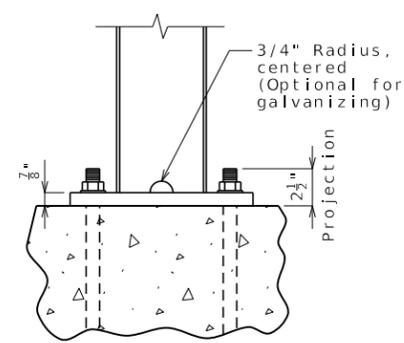


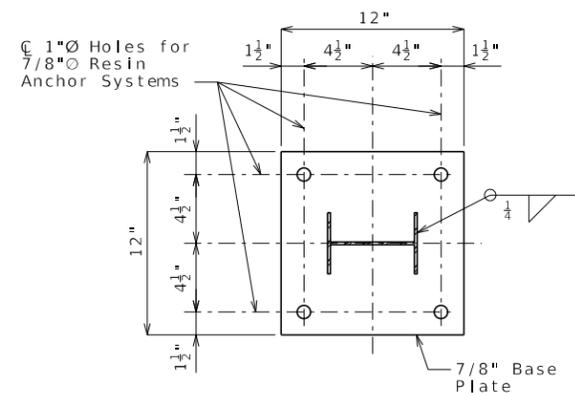
PART SECTION THRU TOP SLAB SHOWING RAIL POST ATTACHMENT (Far from headwall)



PART SECTION THRU TOP SLAB SHOWING RAIL POST ATTACHMENT (Close to headwall)



DETAIL B



SECTION A-A

**General Notes:**

Furnishing and installing posts and guardrail on culvert as shown on this sheet will be considered completely covered by the contract unit price for Bridge Guardrail (W-Beam).

Furnishing and installing posts and guardrail on culvert shall be in accordance with Sec 606 except as shown.

Rail posts shall be seated on 1/16-inch elastomeric pads having the same dimensions as the post base plate. Such pads may be any elastomeric material, plain or fibered, having hardness (durometer) of 50 or above, as certified by the manufacturer. Additional pads or half pads may be used in shimming for alignment. Post heights shown will increase by the thickness of the pad.

Posts and base plates shall be fabricated from ASTM A709 Grade 36 steel and galvanized.

Fabrication of structural steel shall be in accordance with Sec 1080.

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Bridge Guardrail (W-beam).

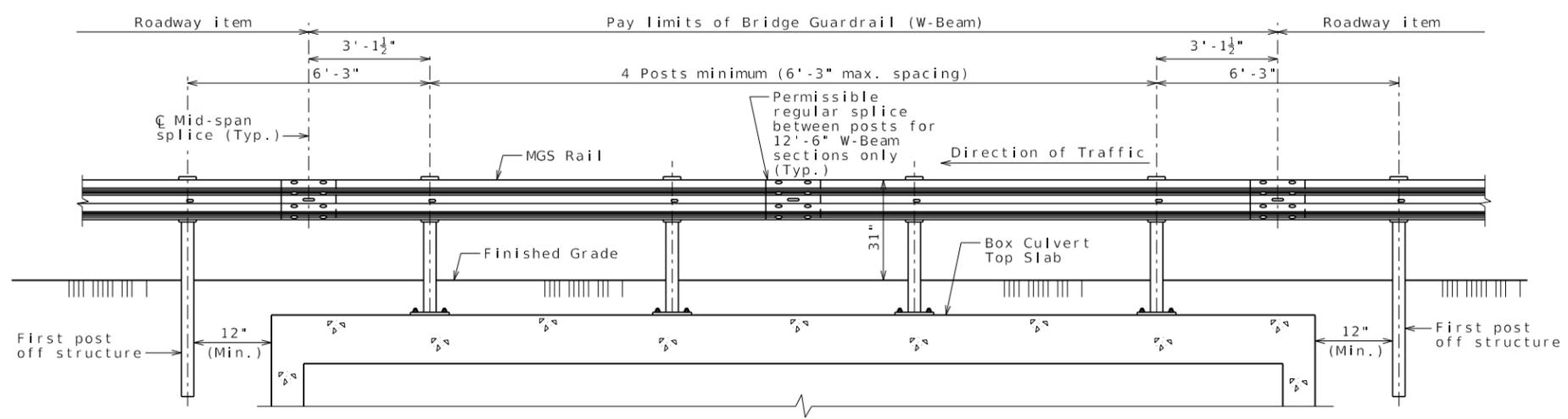
The minimum embedment depth in concrete with  $f'c = 4,000$  psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 8 inches.

See Missouri Standard Plans drawing 606.50 for details not shown.

**Standard Drawing Guidance (Do not show on plans):**

Use these details when required to connect rail posts to culvert slabs 10 inches or greater in thickness, where culvert walls interfere with bolting through slab, or when other factors make bolting thru top slab impractical.

① Culvert attachment is not required for fills over 40 inches. Instead, posts may be driven per Std. Plans 606.50.



TYPICAL ELEVATION

**MIDWEST GUARDRAIL SYSTEM (MGS) ON BOX CULVERT**

Detailed Checked

Note: This drawing is not to scale. Follow dimensions.

Sheet No. of

DATE PREPARED		5/17/2024	
ROUTE	STATE	MO	
DISTRICT	SHEET NO.	000	
COUNTY			
JOB NO.			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)