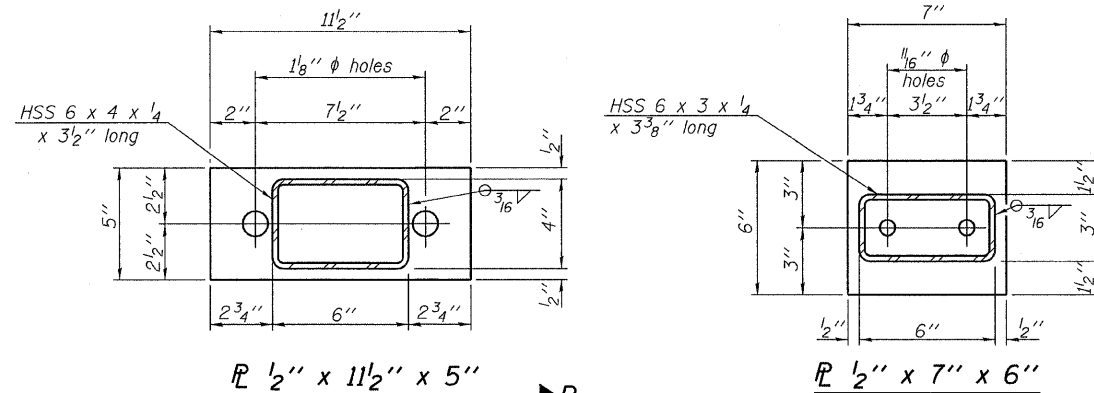
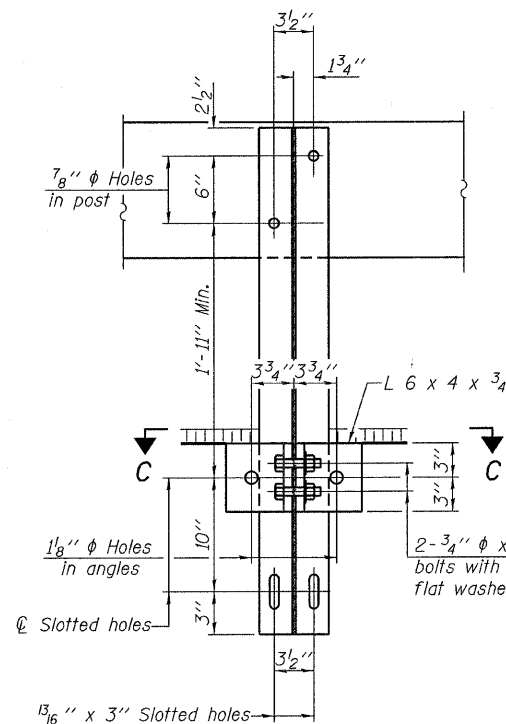


VIEW A-A ROUND HEAD BOLT

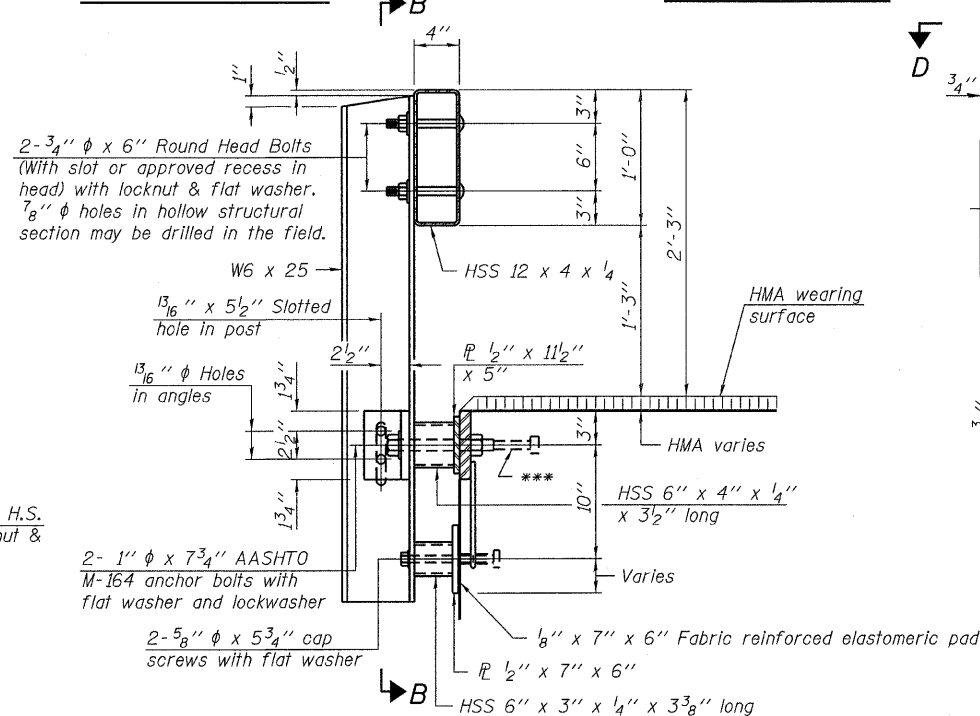


R 1/2" x 11 1/2" x 5"

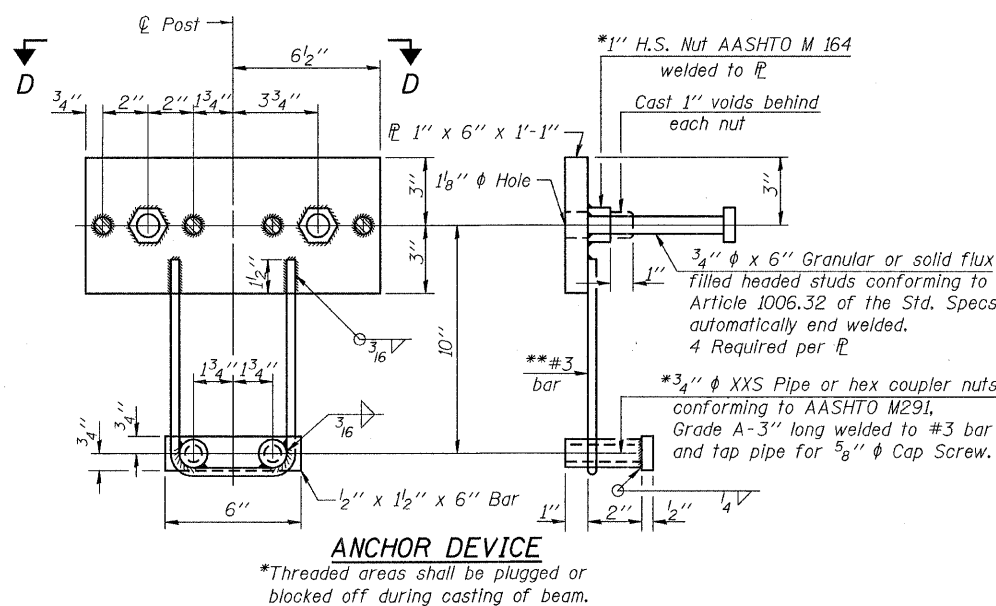
R 1/2" x 7" x 6"



SECTION B-B

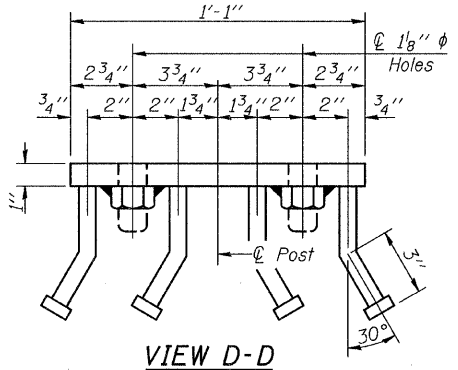


SECTION AT RAILING POST

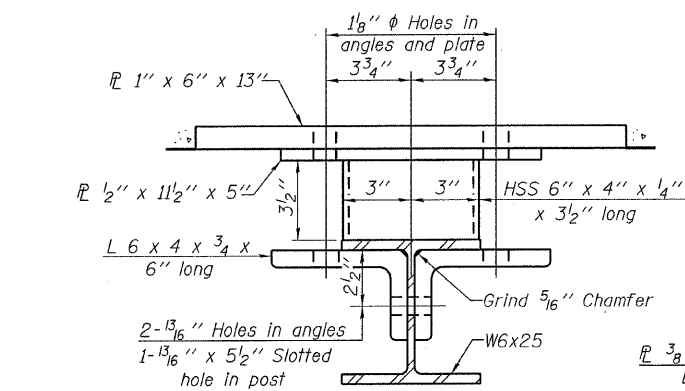


ANCHOR DEVICE

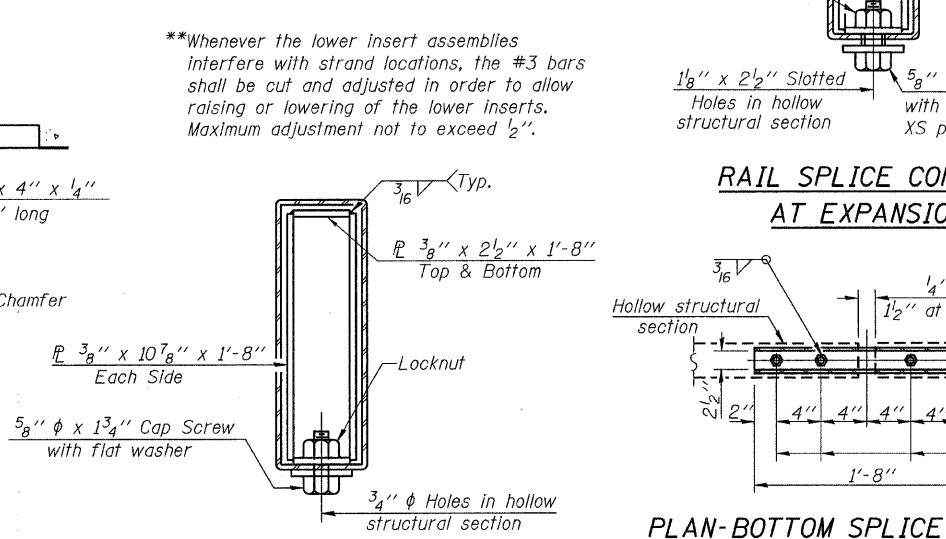
Notes:  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.  
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
 \*\*\*The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



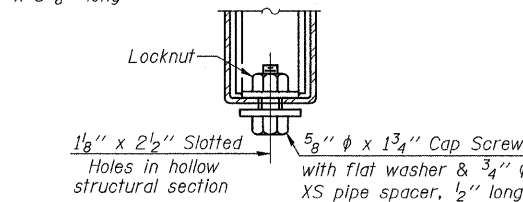
VIEW D-D



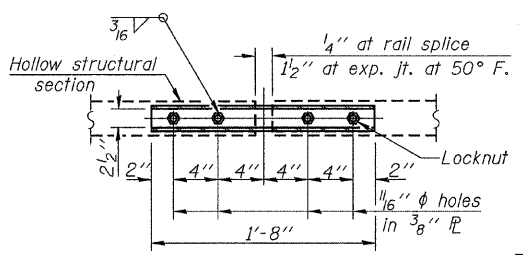
SECTION C-C



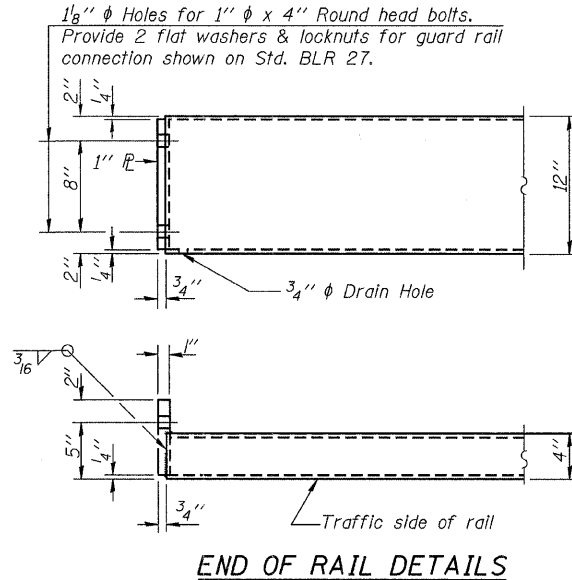
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTTOM SPLICE R TYPICAL



END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	96

STEEL RAILING, TYPE S-1  
 STRUCTURE NO. 027-3439

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

R-23A 15-16-08 (10'-9" Maximum Post Spacing)

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS  
**HLR**  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400  
 PROJECT NUMBER: 07.0435.130 DATE: 03/31/09

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	27
CONTRACT NO. 87411				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		