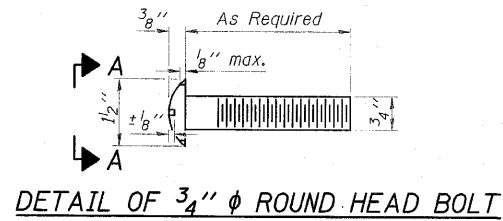
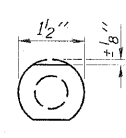
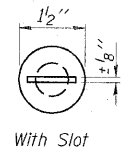


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

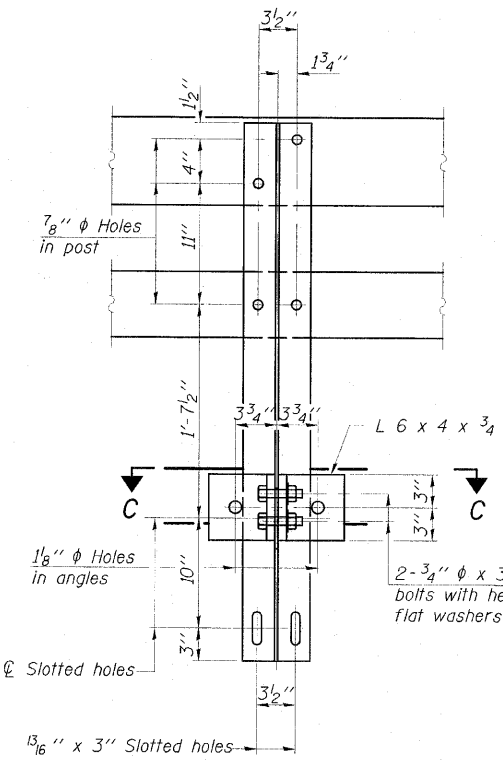


DETAIL OF  $\frac{3}{4}$ "  $\phi$  ROUND HEAD BOLT

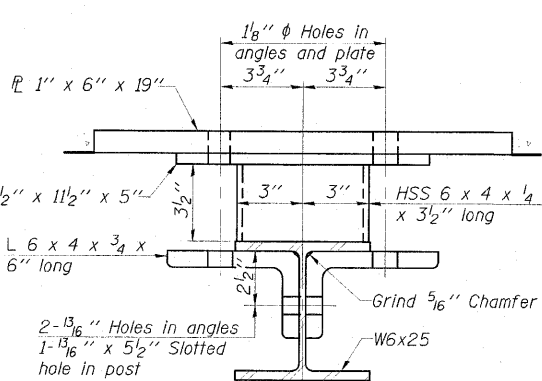


VIEW A-A

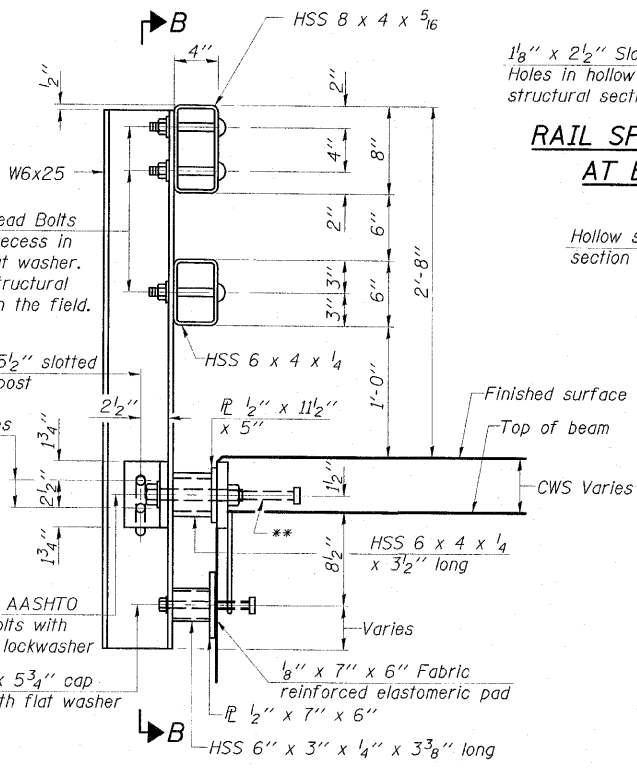
4- $\frac{3}{4}$ "  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer.  $\frac{7}{8}$ "  $\phi$  holes in hollow structural section may be drilled in the field.



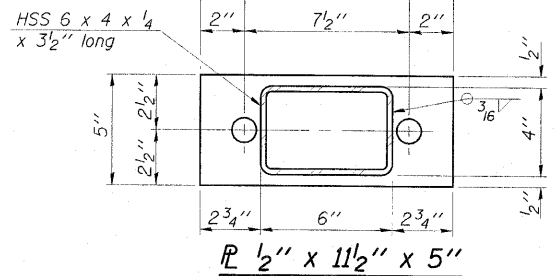
SECTION B-B



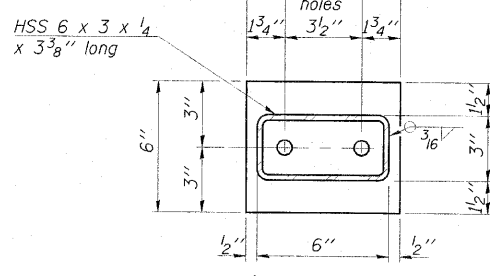
SECTION C-C



SECTION AT RAIL POST

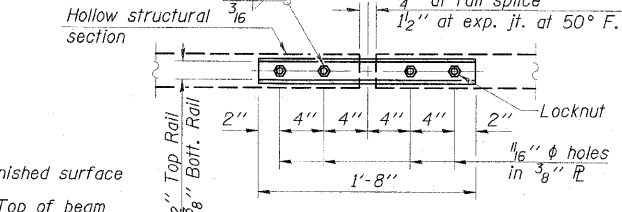
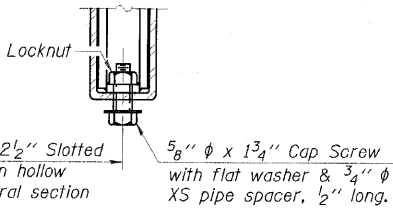


ANCHOR DEVICE

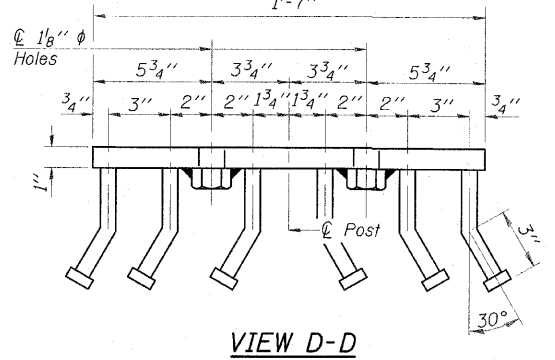


ANCHOR DEVICE

RAIL SPLICE CONNECTION  
AT EXPANSION JT.

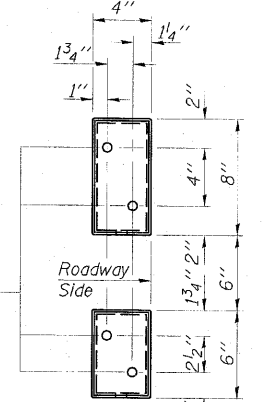


PLAN-BOTT. SPLICE TYPICAL

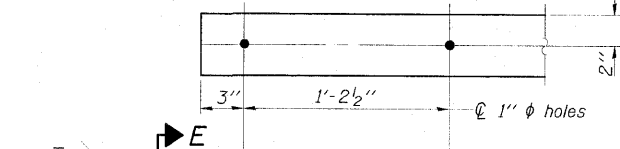


VIEW D-D

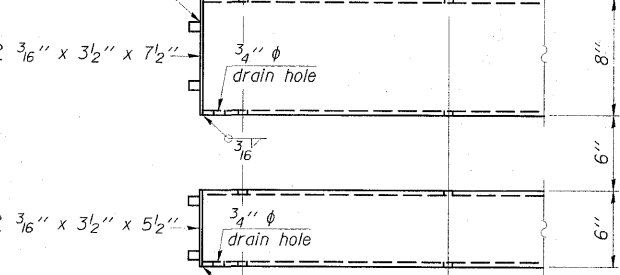
SECTION AT  
RAIL SPLICE



SECTION AT RAIL SPLICE



END OF RAIL DETAILS



END OF RAIL DETAILS

Notes:  
All field drilled holes shall be coated with an approved zinc rich paint before erection.  
For multi-span bridges, sufficient  $\frac{1}{4}$ " x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.  
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.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	332

STEEL RAILING, TYPE SM  
WITH CONCRETE WEARING SURFACE  
STRUCTURE NO. 077-0016

SHEET NO. 10 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2936	14BR-1	PULASKI	68	25
CONTRACT NO. 78071					
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

**ESCA**  
CONSULTANTS, INC.  
DESIGNED BY: MTD 01/10  
DRAWN BY: KAH 01/10  
CHECKED BY: MTD 01/10  
APPROVED BY: RDP 05/10

R-34CWS (6'-3" Maximum Post Spacing) (5" minimum to 7 $\frac{1}{8}$ " maximum CWS thickness) 11-1-09

\*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.