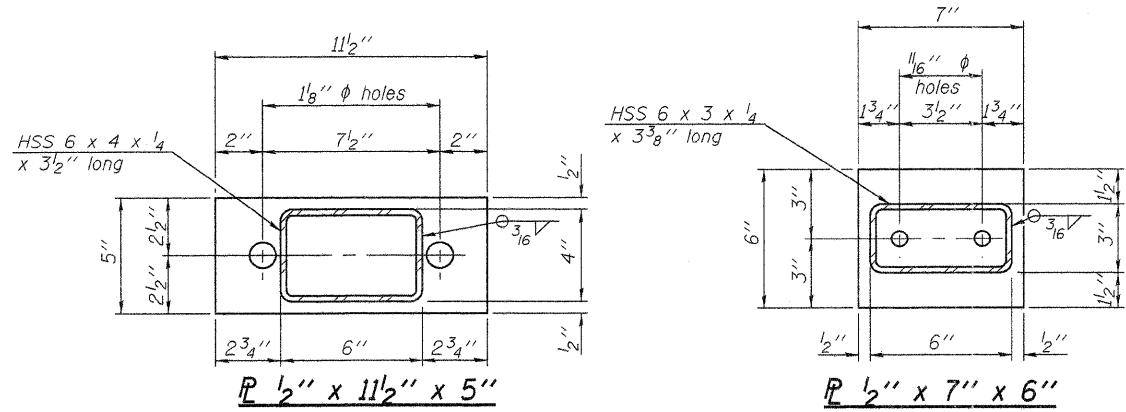
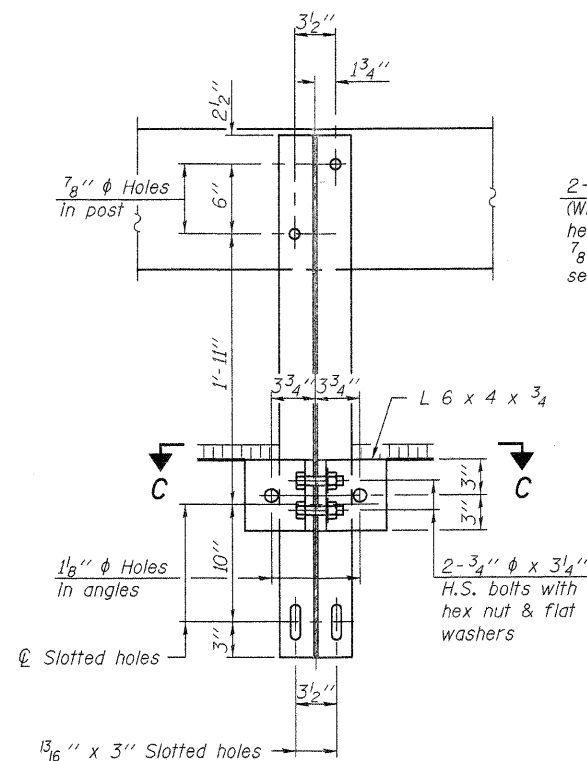


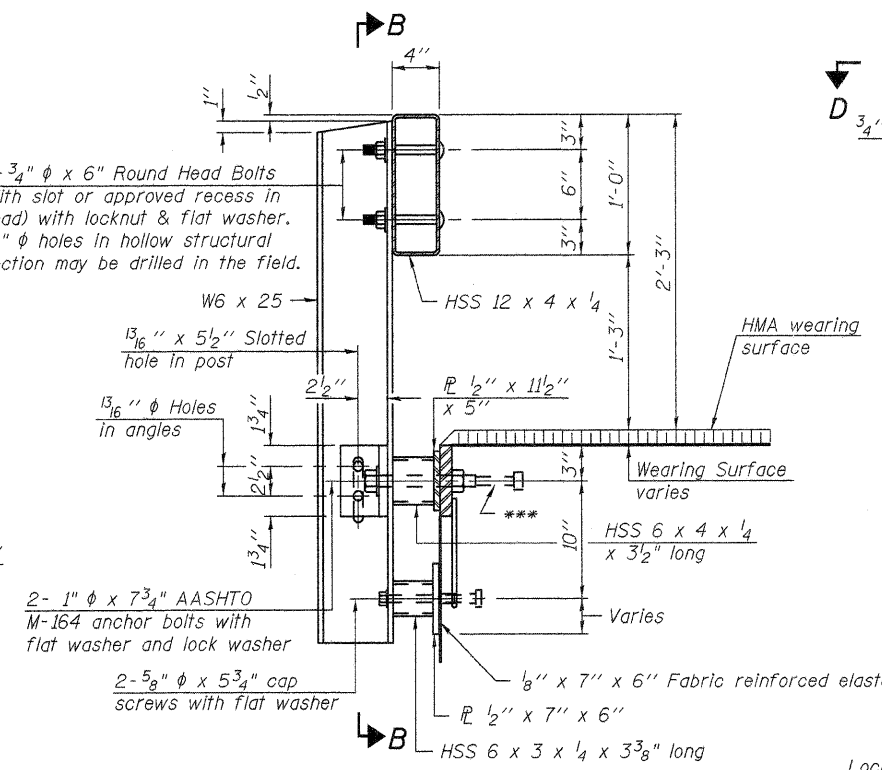
**VIEW A-A
ROUND HEAD BOLT**



SECTION AT RAILING POST
 P 1/2" x 11 1/2" x 5"
 P 1/2" x 7" x 6"

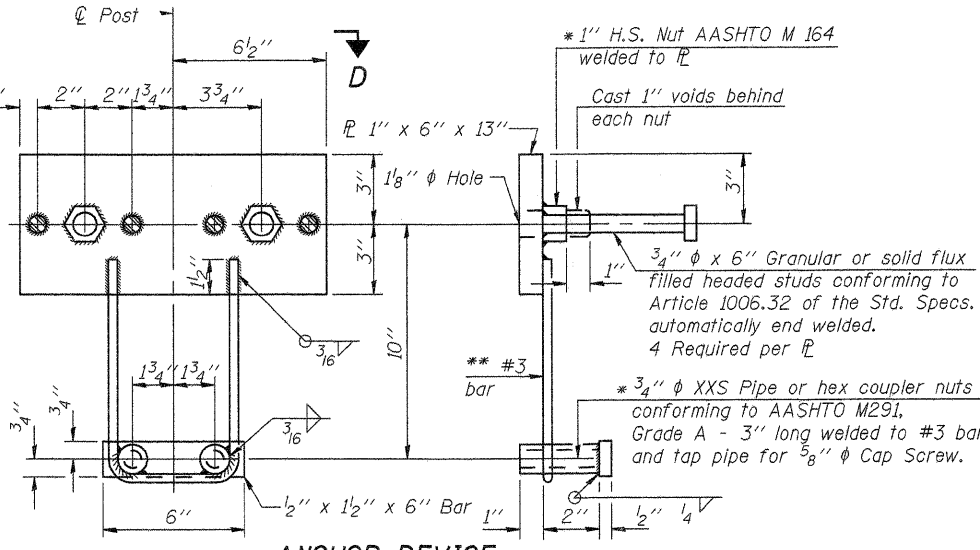


SECTION B-B



SECTION AT RAILING POST

See Sheet -- for Post Spacing.

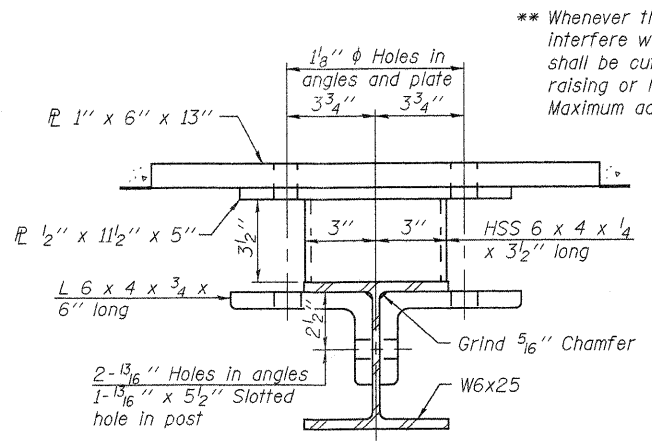


ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

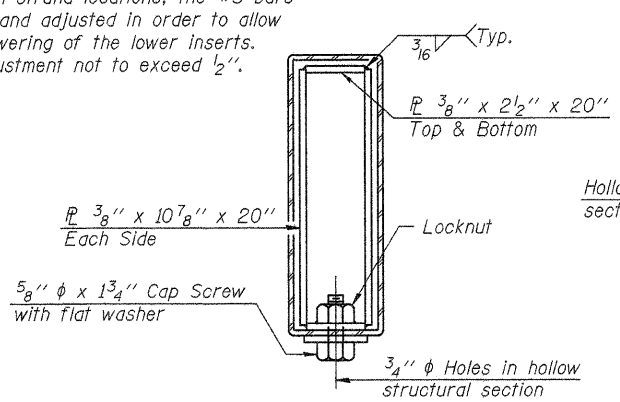
Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 All steel rail elements shall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

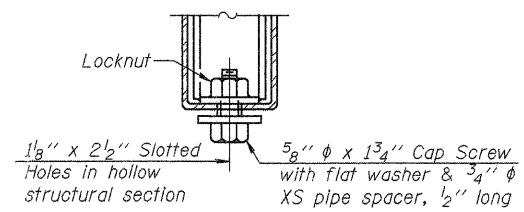


SECTION C-C

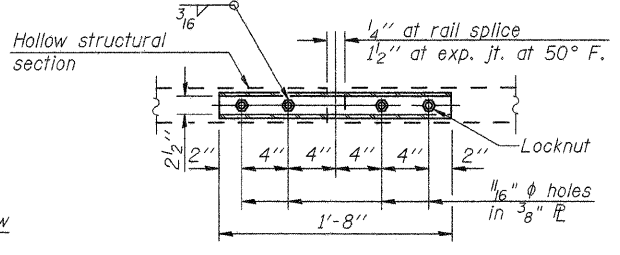
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



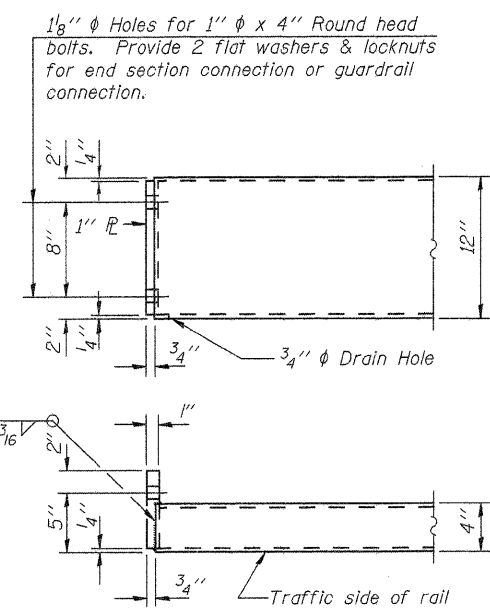
SECTIONS AT RAIL SPLICE



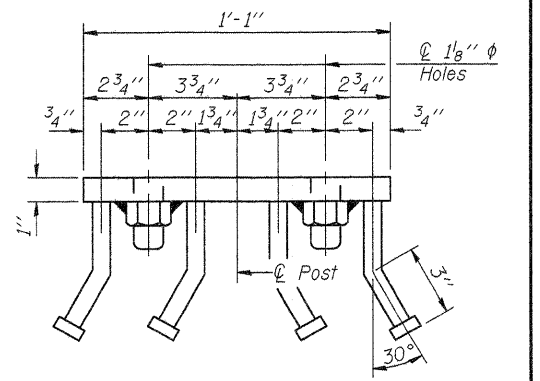
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE P TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	180

Work this Sheet with Sheet 10.

R-23A 7-1-10 (10'-9" Maximum Post Spacing)

FILE NAME = 18-273.RAIL.DGN	USER NAME = S.A.P.	DESIGNED - A.L.S.	REVISED -
		CHECKED - A.R.K.	REVISED -
	PLOT SCALE = XXX	DRAWN - S.A.P.	REVISED -
	PLOT DATE = 04/19/11	CHECKED - A.L.S. & A.R.K.	REVISED -

FEHR-GRAHAM & ASSOCIATES, LLC
 ENGINEERING AND SCIENCE CONSULTANTS
 FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL

STEEL RAILING, TYPE S-1
 S.N. 084-3443

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
48	08-00095-00-BR	SANGAMON	18	9

CONTRACT NO. 084558
 ILLINOIS FED. AID PROJECT