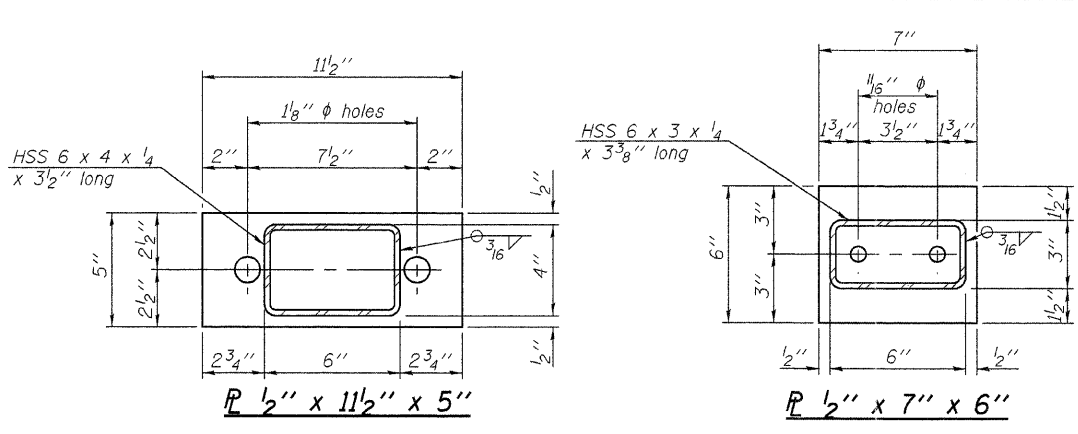
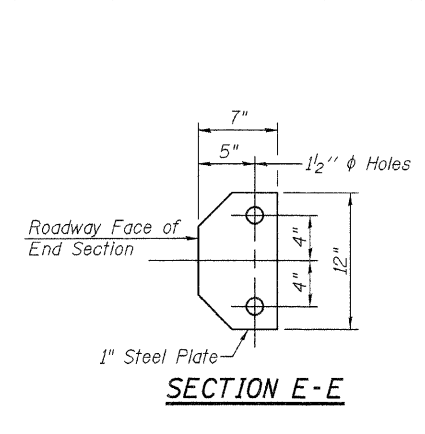


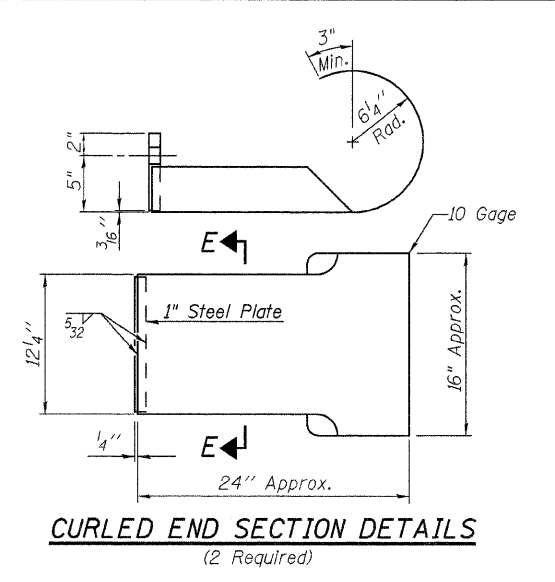
ROUND HEAD BOLT



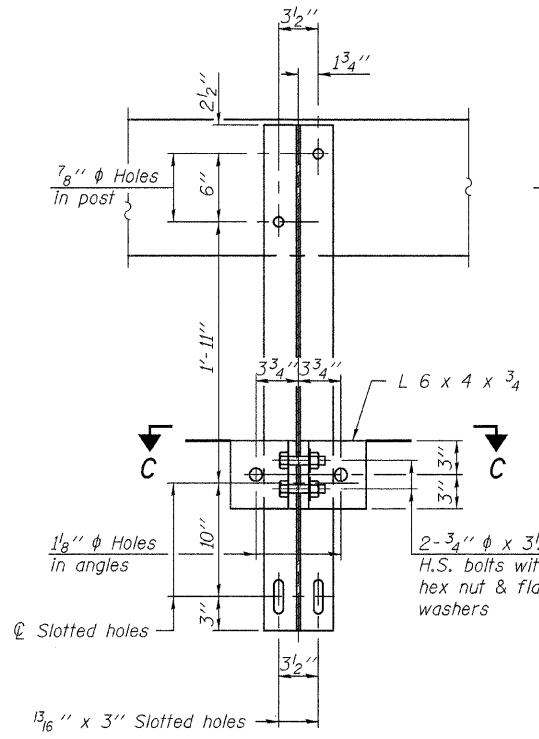
SECTION B-B



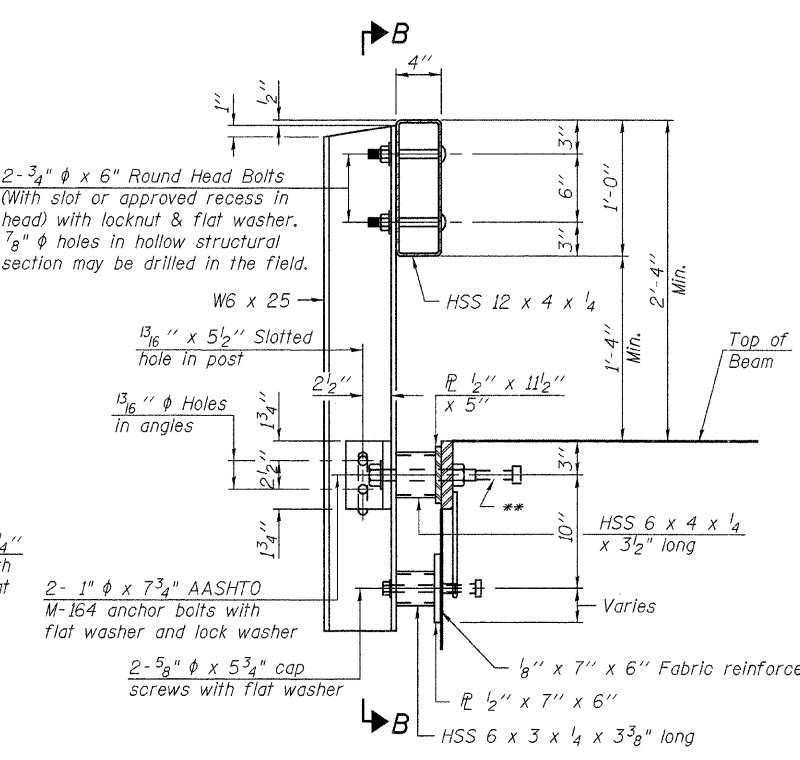
SECTION E-E



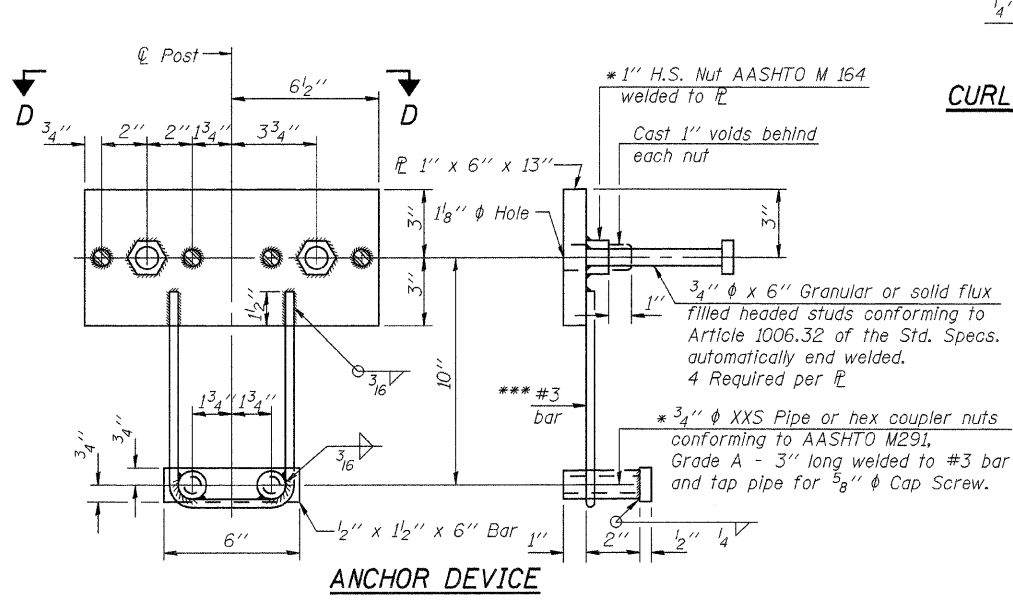
CURLED END SECTION DETAILS
(2 Required)



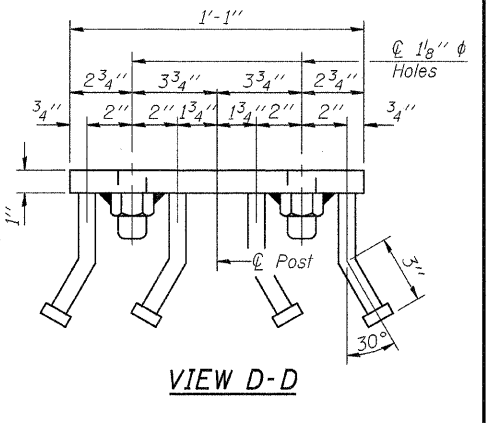
SECTION C-C



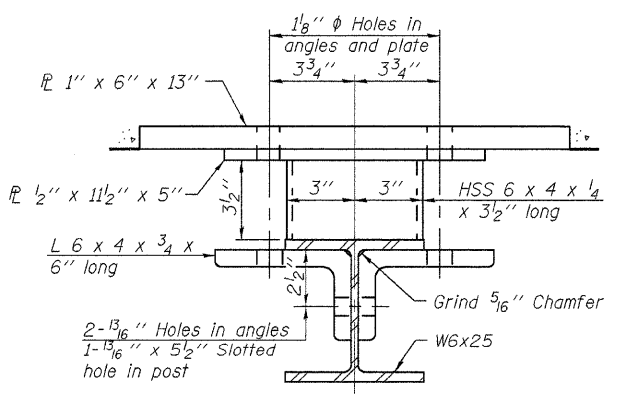
SECTION AT RAILING POST



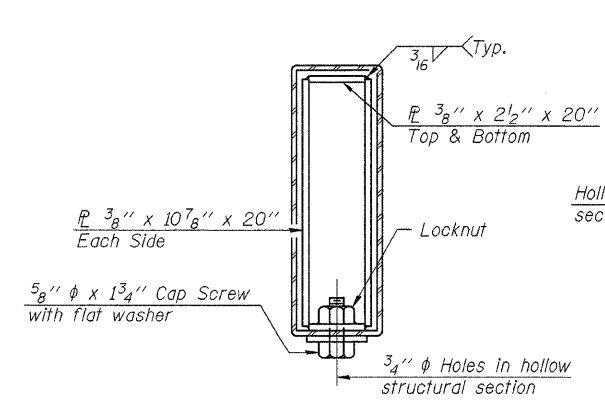
ANCHOR DEVICE



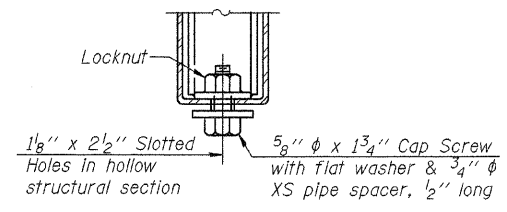
VIEW D-D



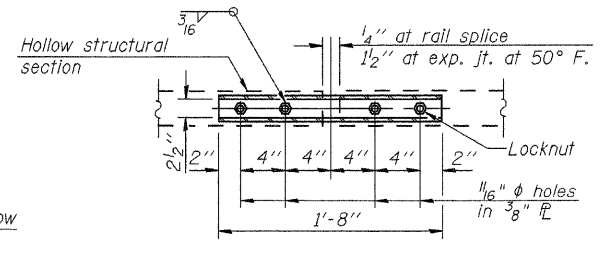
SECTION C-C



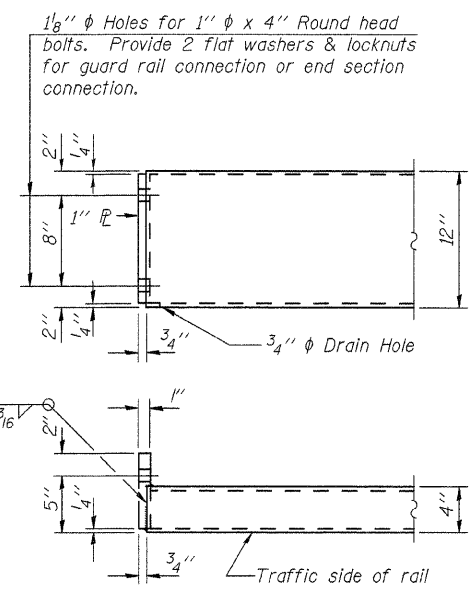
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL



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 1/4 inch x 6 inch 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.
 * Threaded areas of nuts or pipes used for anchor devices shall be plugged or blocked off during casting of beam.
 ** 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.
 *** 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 inch.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	388

Note: See Sheets 6 & 7 for Rail Post Spacing.

(10'-9" Maximum Post Spacing)

FILE NAME = 11-540_RAIL.DGN	USER NAME = S.A.P.	DESIGNED - A.L.S.	REVISED -
		CHECKED - A.R.K. & J.A.M.	REVISED -
		DRAWN - S.A.P.	REVISED -
		CHECKED - 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. 021-4546

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
151	07-02122-01-BR	DOUGLAS	23	12
			CONTRACT NO. 91473	
			ILLINOIS BOURBON ROAD DISTRICT	