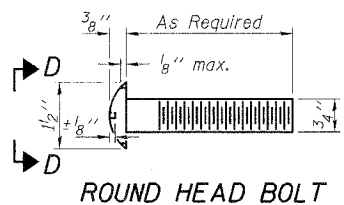
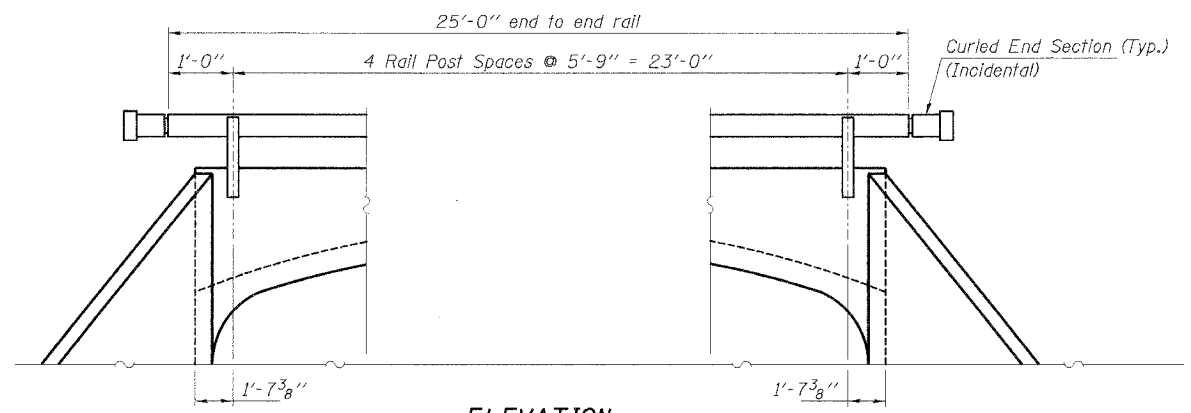


ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
T.R. 158	03-05123-00-BR	MOULTRIE	13	11
FED. ROAD DIST. NO.		FED. ROAD PROJECT		

CONTRACT NO. 91318

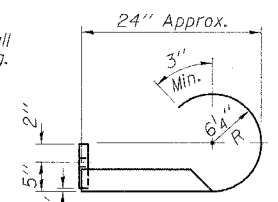


ROUND HEAD BOLT

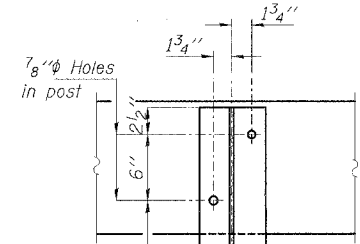


ELEVATION

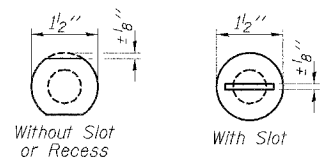
Note: Cost of curled end sections shall be incidental to the Steel Railing.
(4 Required)



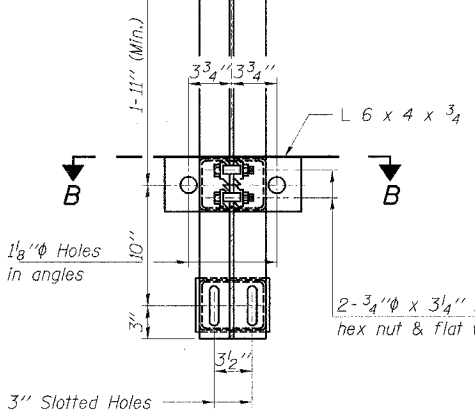
SECTION E-E CURLED END SECTION DETAILS



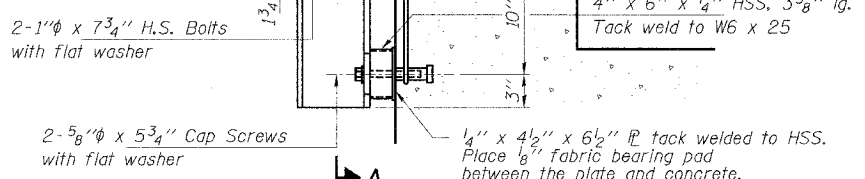
VIEW D-D



2-3/4" φ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" φ Holes in hollow structural section may be drilled in the field.

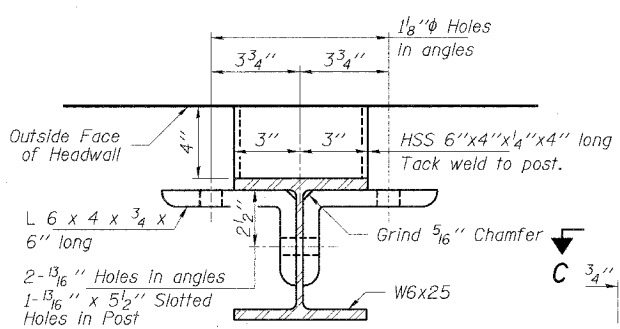


SECTION A-A

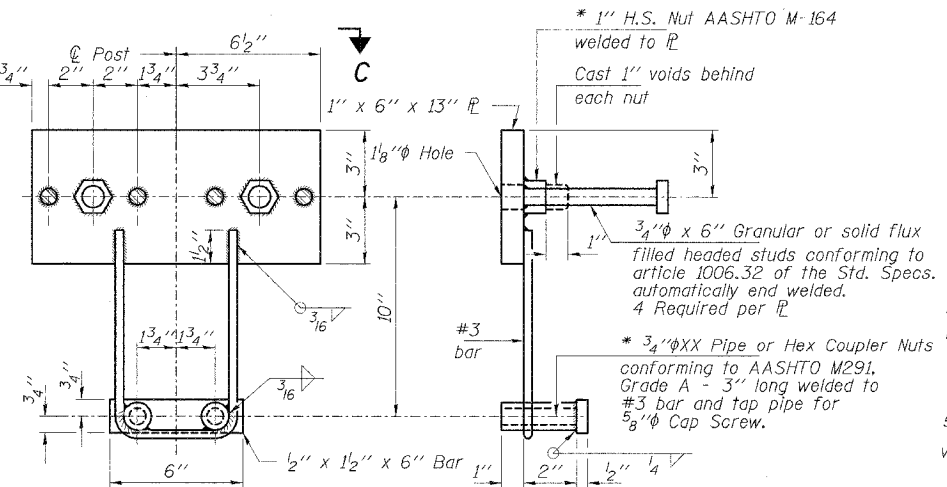


SECTION AT RAIL POST

Reinforcement bars in the top of the headwall may be placed with a 1/2" minimum clearance in the area of the rail post anchor devices. 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.

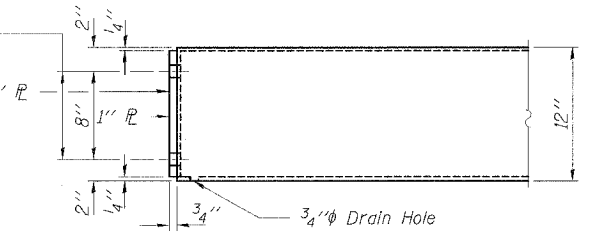


SECTION B-B

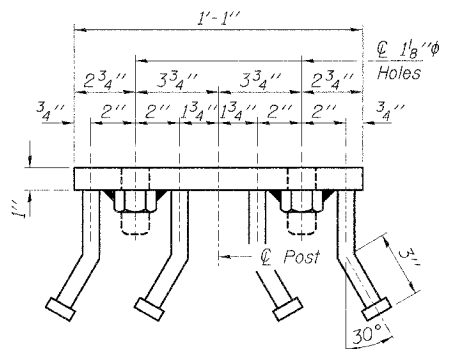
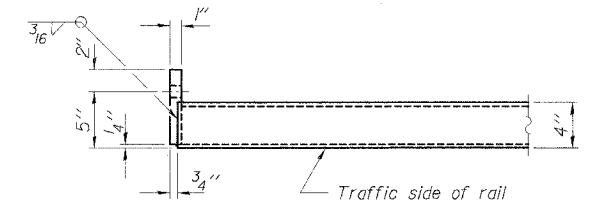


ANCHOR DEVICE

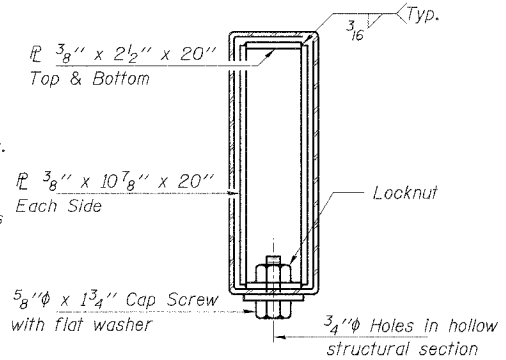
* Threaded areas shall be plugged or blocked off during casting of beam.



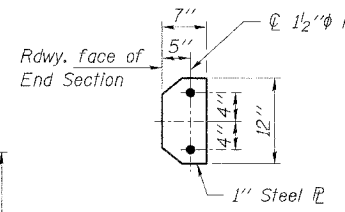
END OF RAIL DETAILS



VIEW C-C



SECTION AT RAIL SPLICE



NOTES

Hollow structural sections shall conform to the requirements of A.S.T.M. designation A-500 Grade B Structural Steel Tubing.

All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. designation M-270 Grade 36 except posts and angles shall conform to A.A.S.H.T.O. designation M-270 Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. designation M-164.

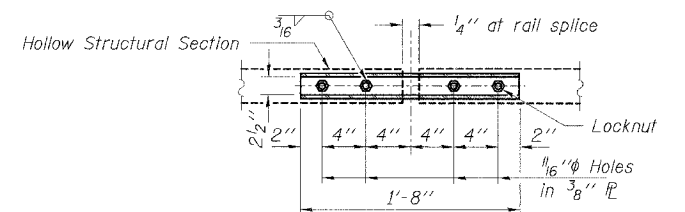
All bolts, nuts, cap screws, washers and lockwashers shall be galvanized in accordance with A.A.S.H.T.O. designation M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.S.T.M. A-385 and A.A.S.H.T.O. M-111. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per foot for STEEL RAILING, TYPE S1.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

The 3/4" φ high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Art. 505.04(FX2) of the Standard Specifications. The 1" φ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" φ cap screws in bottom of posts shall be tightened to a snug fit only.



PLAN-BOTT. SPLICE R TYPICAL

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	50

HLR

Rice, Berry and Associates
A Division of Hampton,
Lenzini and Renwick, Inc.
Civil & Structural Engineers
801 S. Durkin Drive
Springfield, Illinois 62704
217-546-3400

Account Number
12-T2-0016-1
Date: 11/01/04
DESIGNED: T.P.L. CHECKED: M.C.B. DRAWN: D.T.M.

RAILING DETAILS
SECTION 03-05123-00-BR
LOWE ROAD DISTRICT
MOULTRIE COUNTY
STATION 10+01