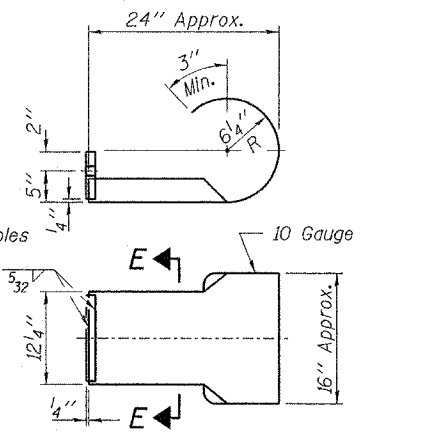


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 367	06-03113-00-BR	SHELBY	16	9
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95533	

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



**SECTION E-E CURLED END SECTION DETAILS**

**NOTES**

Hollow structural sections shall conform to the requirements of A.S.T.M. designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

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. 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-365 and A.A.S.H.T.O. M-111. Galvanized rail shall not be painted.

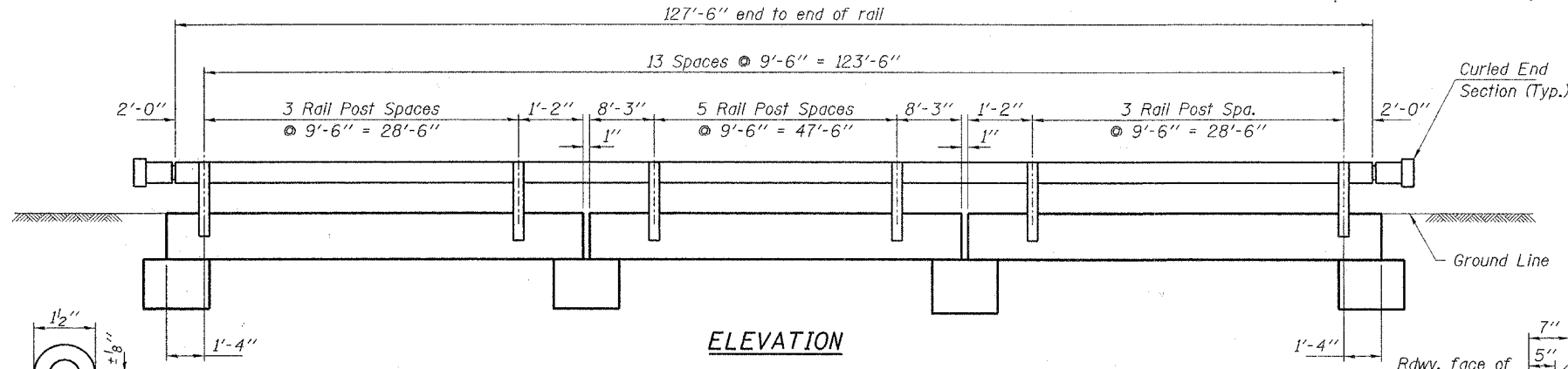
Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per foot for STEEL RAILING, TYPE S1.

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

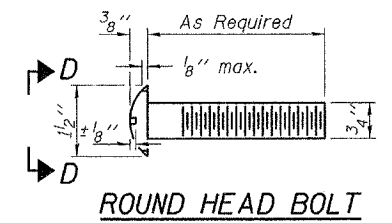
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pad between the post and concrete.

The 3/4" 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(f)(2) of the Standard Specifications. The 1" 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" cap screws in bottom of posts shall be tightened to a snug fit only.

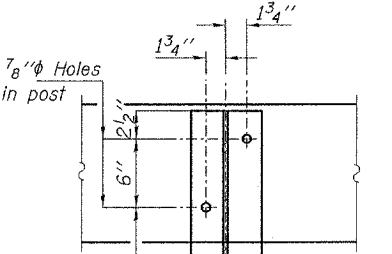
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S1.



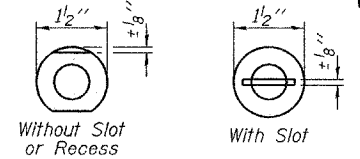
**ELEVATION**



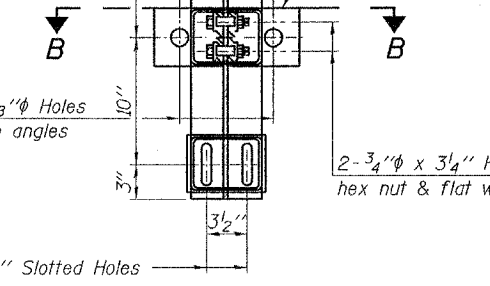
**ROUND HEAD BOLT**



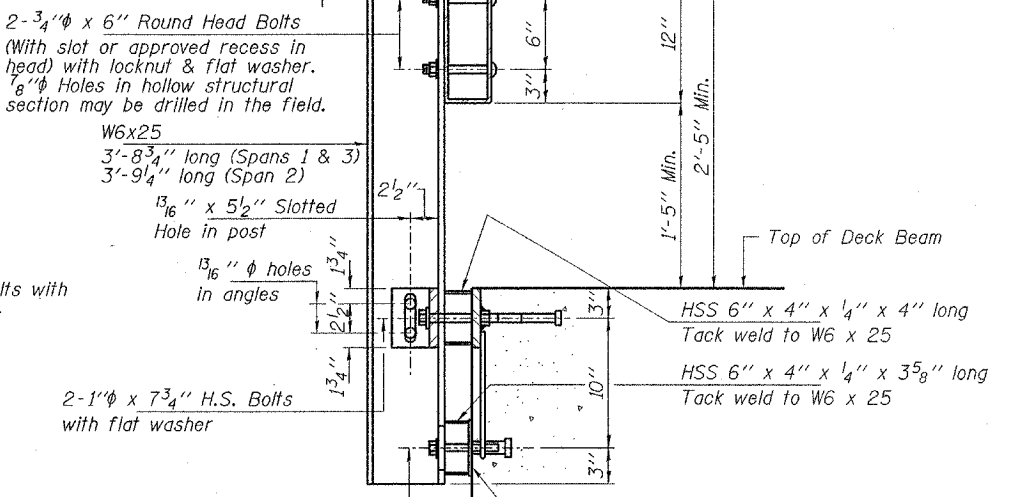
**VIEW D-D**



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

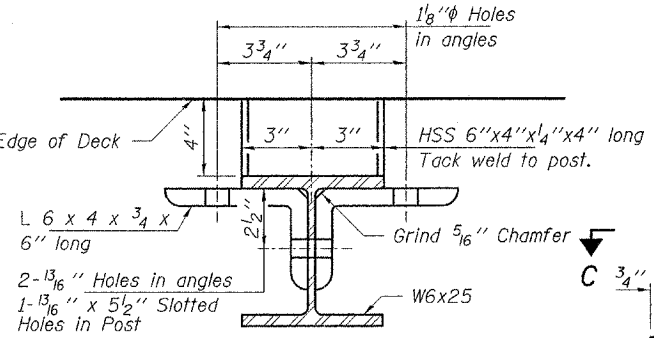


**SECTION A-A**

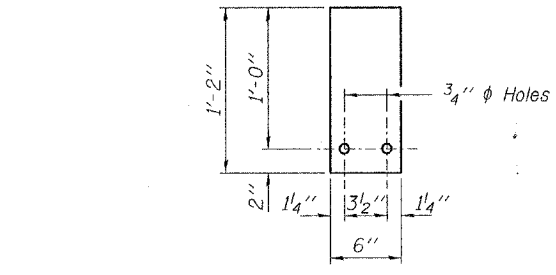


**SECTION AT RAIL POST**

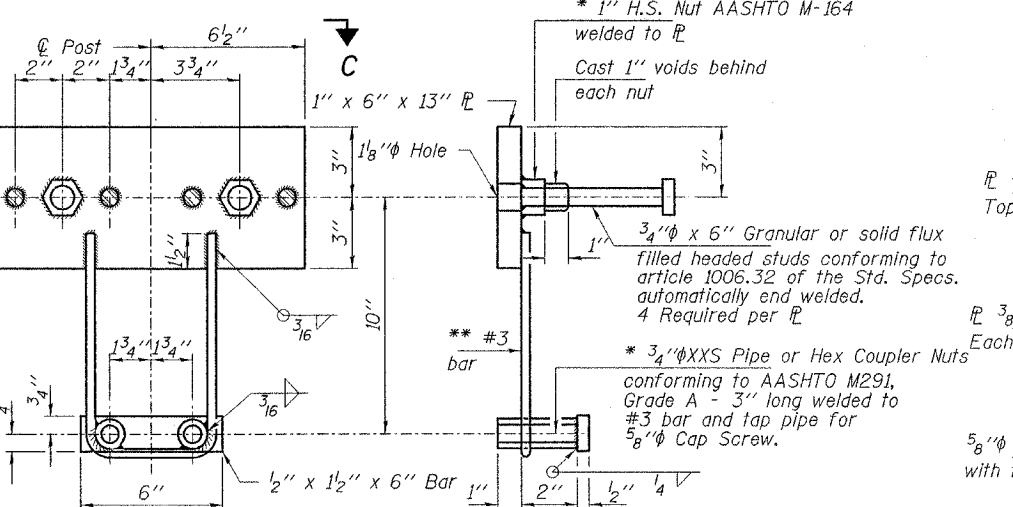
\*\* Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



**SECTION B-B**

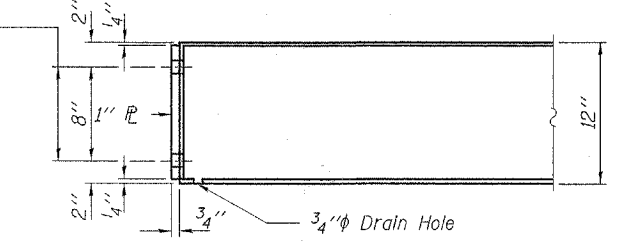


**1/4" SHIM PLATE**

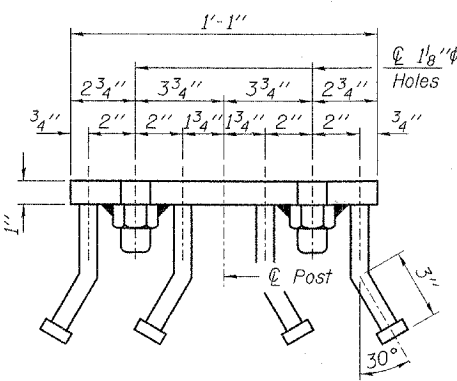


**ANCHOR DEVICE**

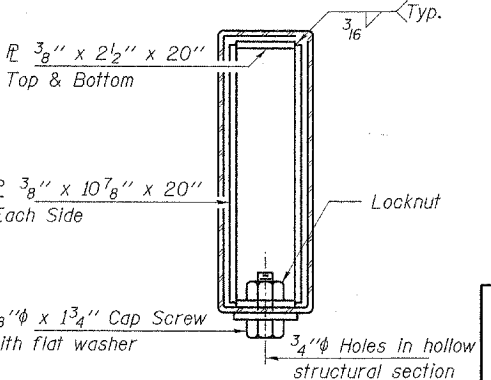
\* Threaded areas shall be plugged or blocked off during casting of beam.



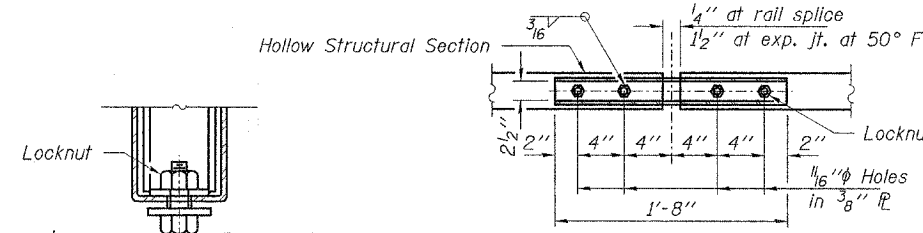
**END OF RAIL DETAILS**



**VIEW C-C**



**SECTION AT RAIL SPLICE**



**PLAN-BOTT. SPLICE P TYPICAL**

**RAIL SPLICE CONNECTION AT EXPANSION JT.**

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S1	Foot	255

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-87-0018-1 DATE: 01/23/08  
 DESIGNED: R.J.P. CHECKED: S.W.M. DRAWN: D.T.M.

**RAILING DETAILS**  
 SECTION 06-03113-00-BR  
 CLARKSBURG ROAD DISTRICT  
 SHELBY COUNTY  
 STRUCTURE NO. 087-3561 / STATION 10+00