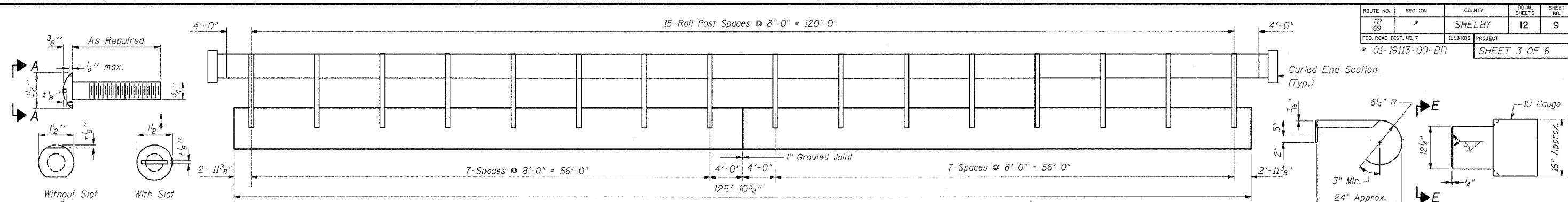
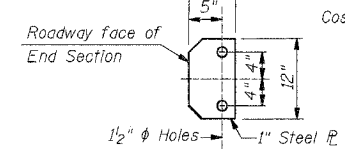


ROUTE NO. TR 69	SECTION *	COUNTY SHELBY	TOTAL SHEETS 12	SHEET NO. 9
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT	SHEET 3 OF 6	
* 01-19113-00-BR				



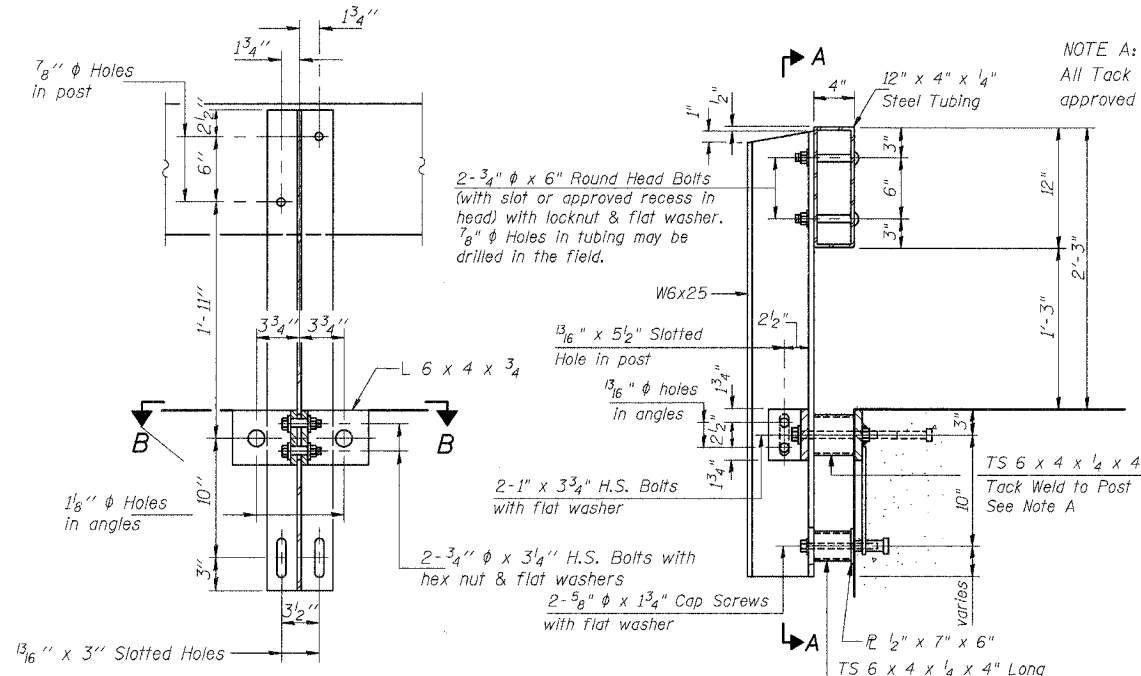
VIEW A-A
ROUND HEAD BOLT

CURLED END SECTION DETAILS



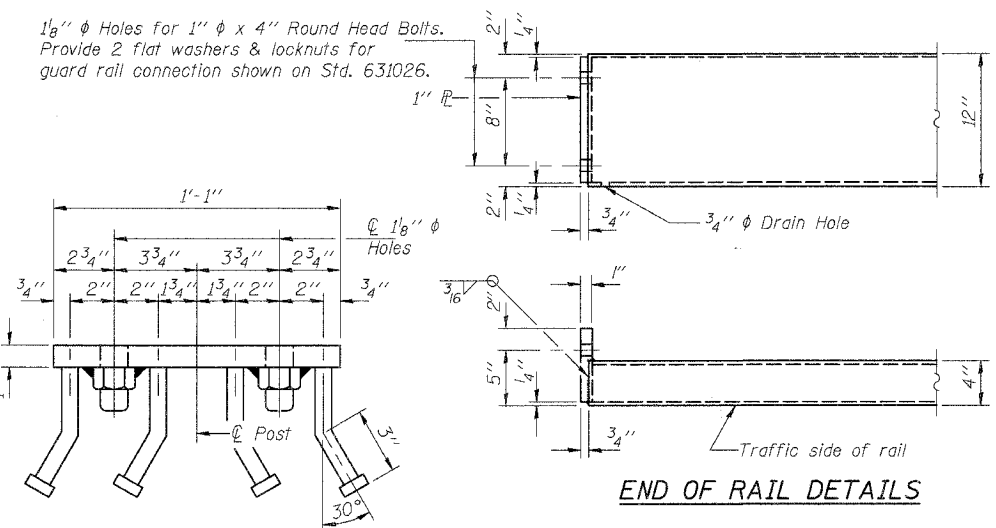
SECTION E-E

Cost to be included with STEEL RAILING, TYPE S-1



SECTION A-A

NOTE A:
All Tack Welds shall be coated with an approved Zinc Rich Paint or Galvanized.



END OF RAIL DETAILS

VIEW C-C

NOTES

Hollow structural sections shall conform to the requirements of ASTM 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 AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

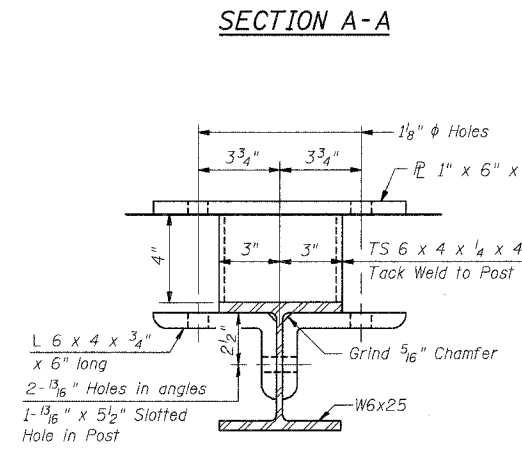
Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1.

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

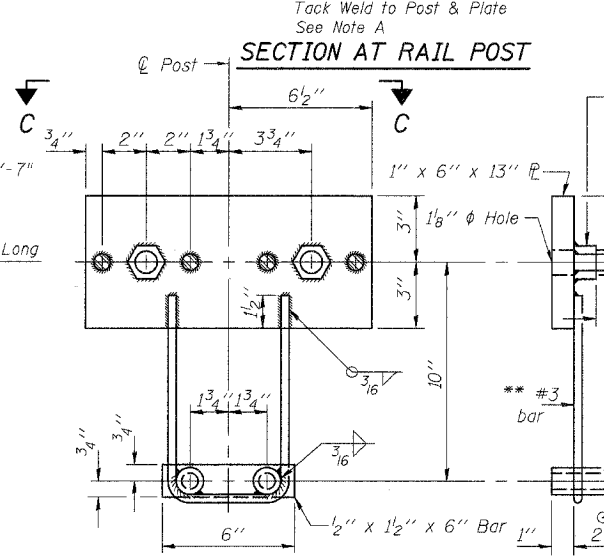
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pad between the post and concrete.

The 3/4" diameter high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1" diameter 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" diameter 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 S-1.



SECTION B-B



ANCHOR DEVICE

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

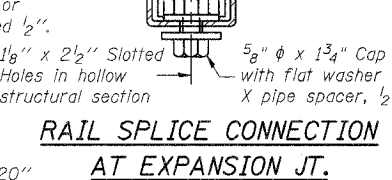
* 1" H.S. Nut AASHTO M 164 welded to PL

Cast 1" voids behind each nut

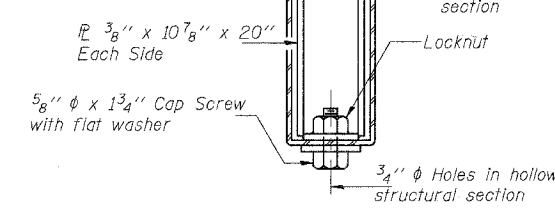
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

** #3 bar

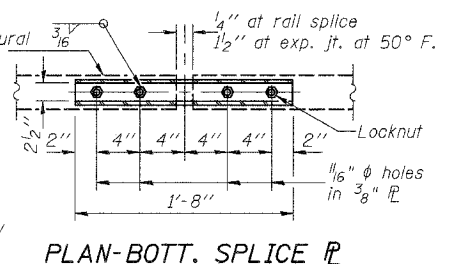
* 3/4" diameter XXS Pipe or Hex Coupler Nuts conforming to AASHTO M291, Grade A - 3" long welded to #3 bar and tap pipe for 5/8" diameter Cap Screw.



RAIL SPLICE CONNECTION AT EXPANSION JT.



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing Type S-1	Foot	256

STEEL RAILING TYPE S-1 DETAILS
T.R. 69 OVER LAKE FORK BRANCH
SEC. 01-19113-00-BR
SHELBY COUNTY
S.N. 087-3530
STA. 15+12.13

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DESIGNED BY: G.B.M.	CHECKED BY: D.R.B.	DRAWN BY: J.P.H.	DATE: March 2008
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