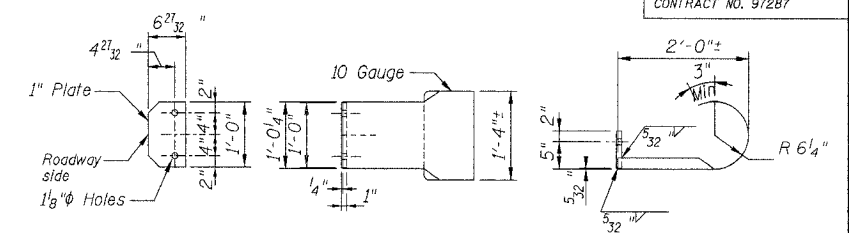
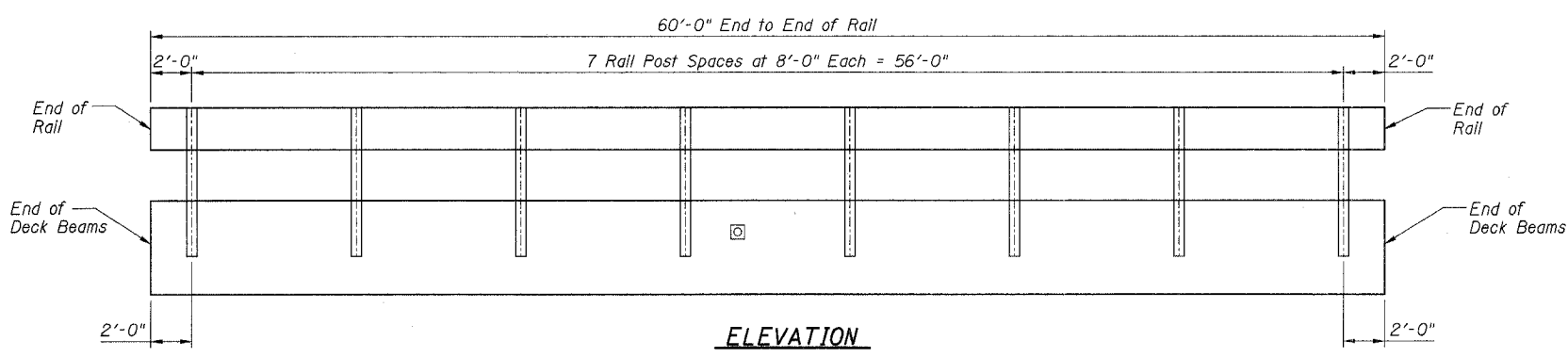
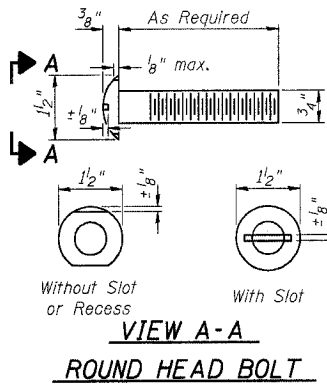
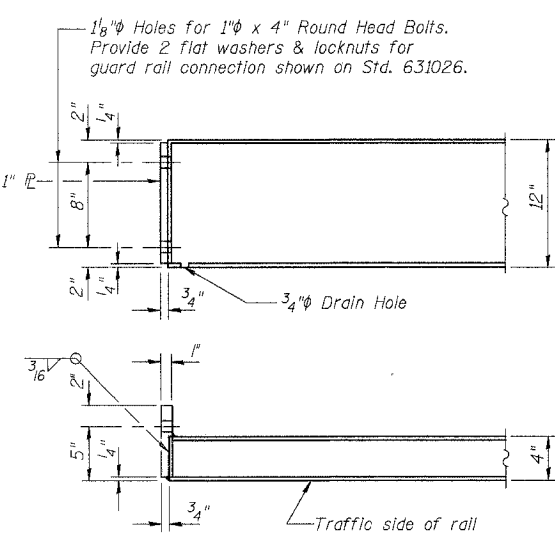
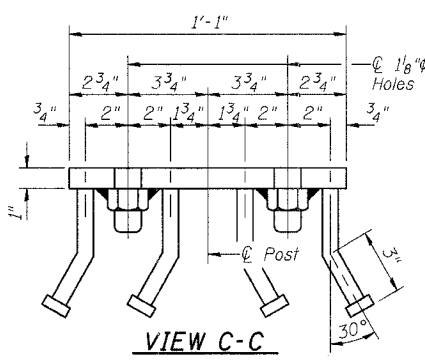
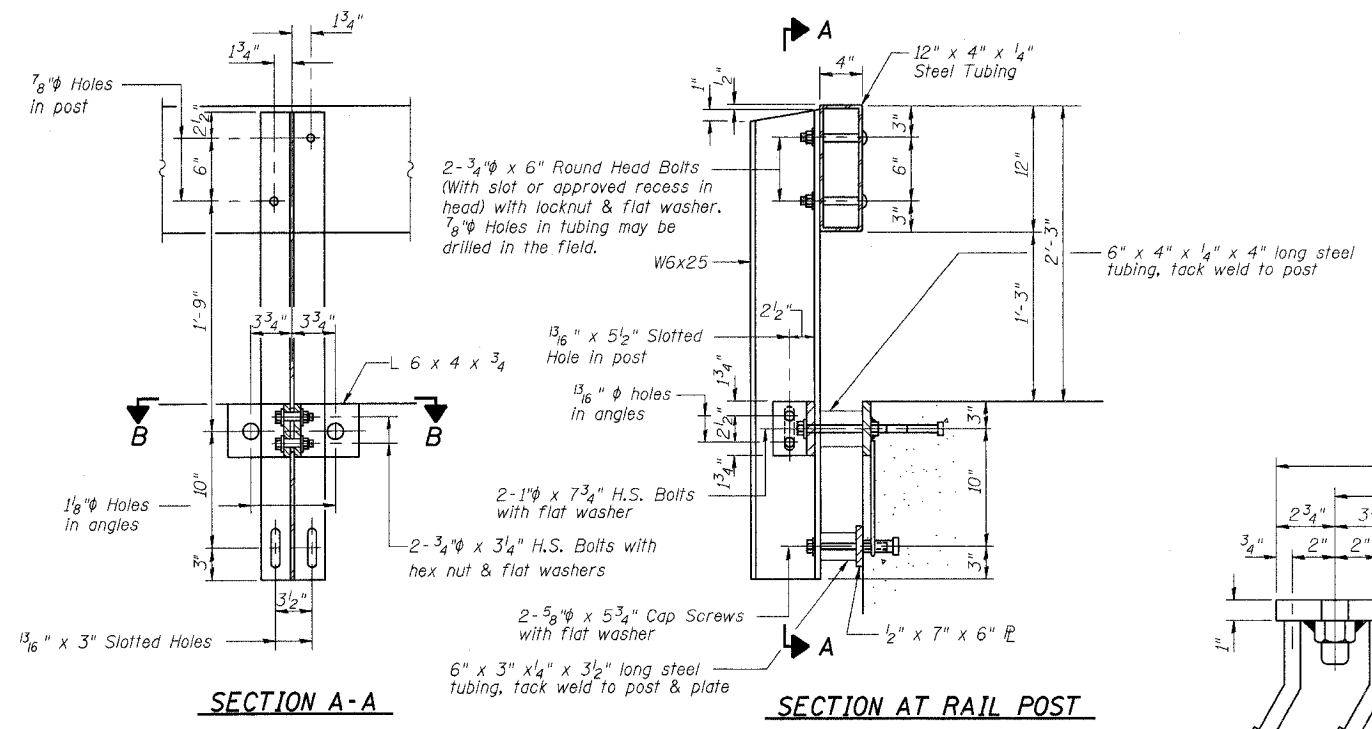


ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 16	00-00115-00-BR	MARION	14	13
		ILLINOIS	FEDERAL AID PROJECT	
CONTRACT NO. 97287				

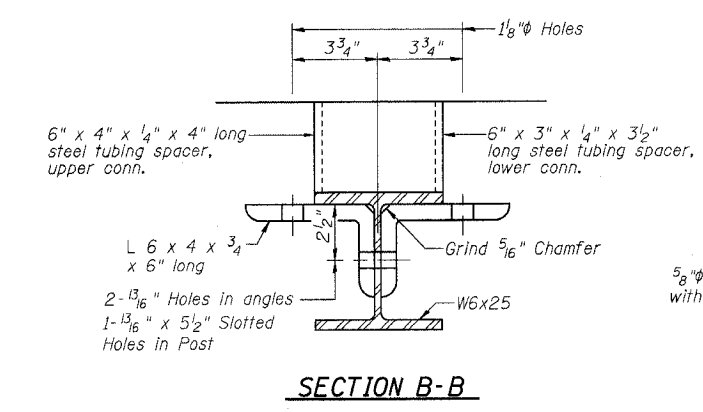


**CURLLED END SECTION DETAILS**  
 The cost of the Curled End Section shall be included in the cost of the "STEEL RAILING, TYPE S1", and no additional compensation will be allowed.  
 Curled End Sections only installed on the two (2) departure corners of bridge.

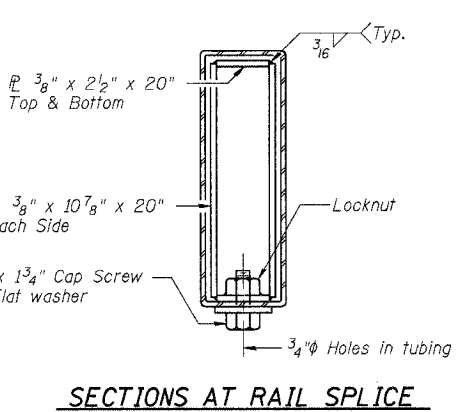


**END OF RAIL DETAILS**

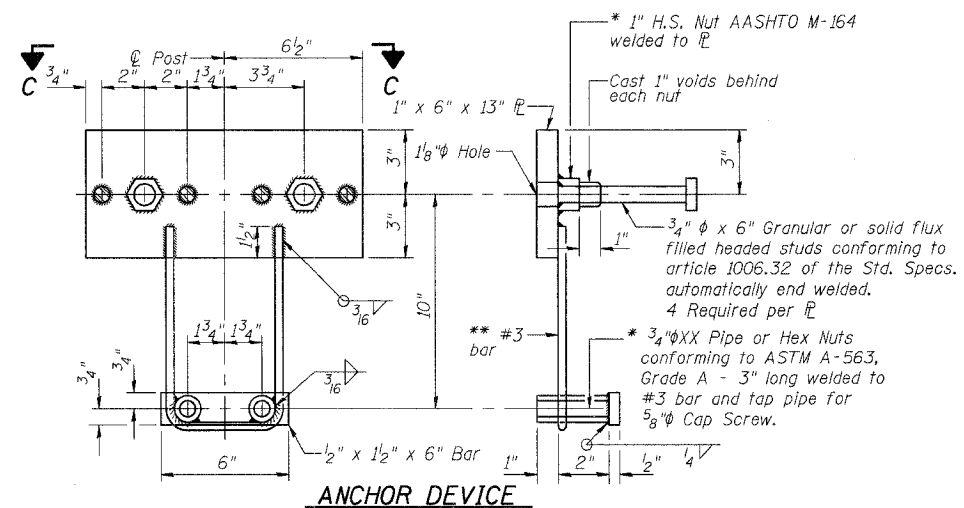
**NOTES**  
 Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.  
 All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts and angles shall conform to AASHTO M-270, Grade 50.  
 Bolts, cap screws, and nuts shall conform to the requirement 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 in accordance with AASHTO M-232.  
 All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.  
 Railing shall be in accordance with 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 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 inch fabric bearing pad between the post and concrete.  
 The 3/4 inch high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 505.04(f)(2) of the Standard Specifications. The 1 inch 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 inch cap screws in bottom of posts shall be tightened to a snug fit only.  
 Sufficient 1/4 inch x 6 inch x 1'-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.



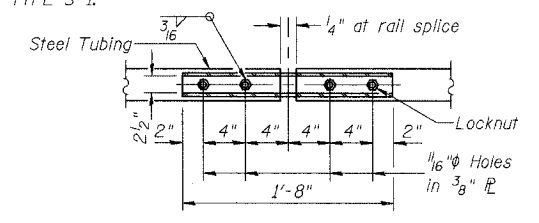
**SECTION B-B**



**SECTIONS AT RAIL SPLICE**



**ANCHOR DEVICE**



**PLAN-BOTT. SPLICE P TYPICAL**

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S1	Foot	120

**STEEL RAILING, TYPE S1 DETAILS**  
**PROPOSED BRIDGE CARRYING CH 16**  
**OVER CROOKED CREEK**  
**SECTION 00-00115-00-BR**  
**MARION COUNTY, ILLINOIS**

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

10/13/2006