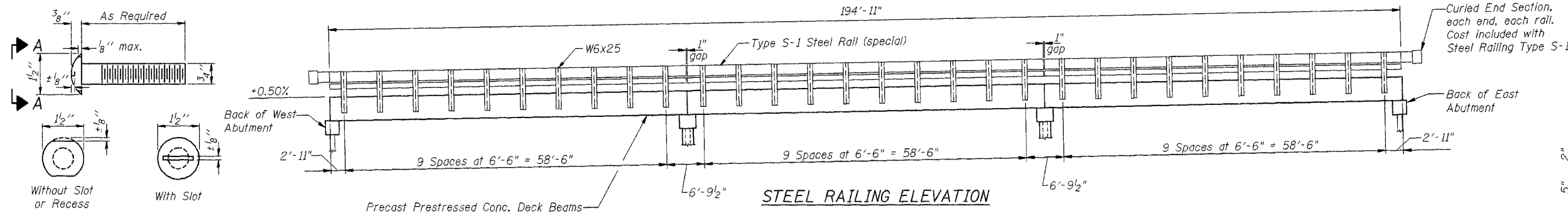


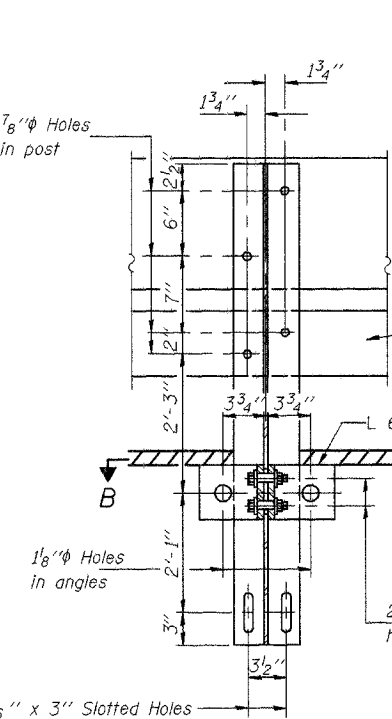
ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL
TR 447	*	Vermilion	16	11
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

\*00-03128-00-BR

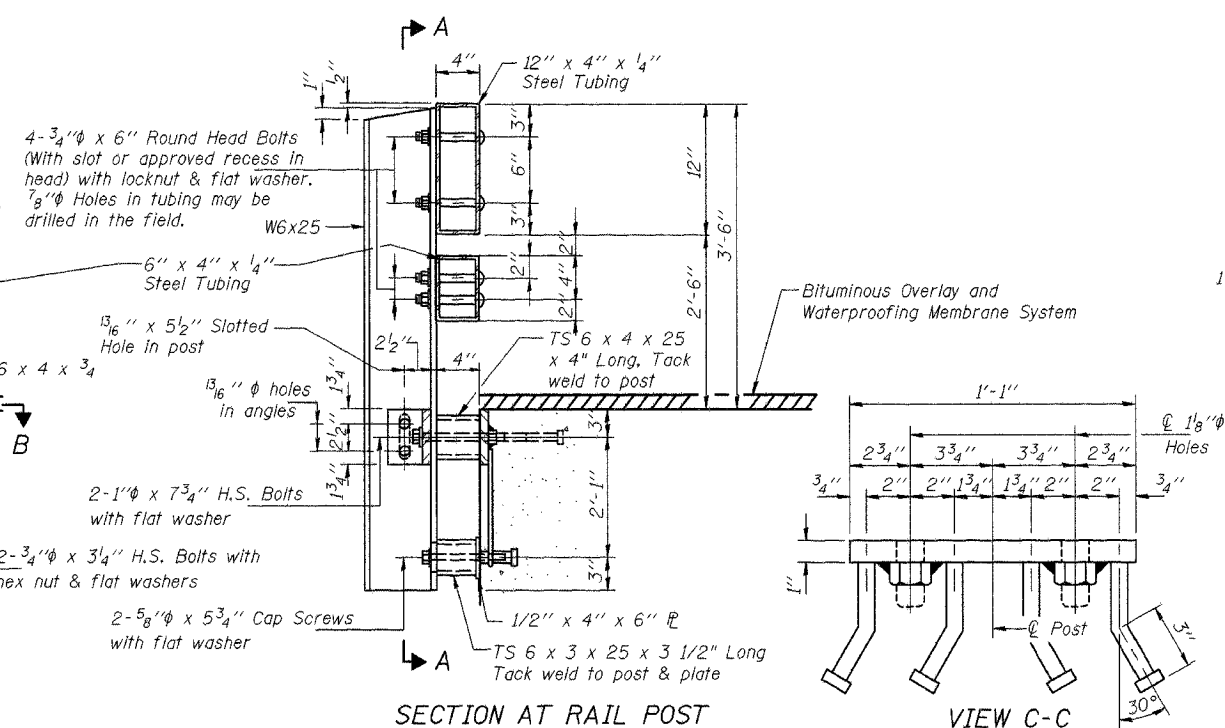


STEEL RAILING ELEVATION

VIEW A-A  
ROUND HEAD BOLT

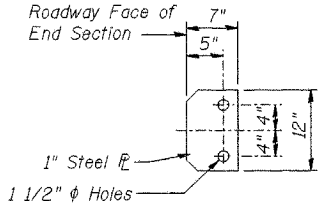


SECTION A-A

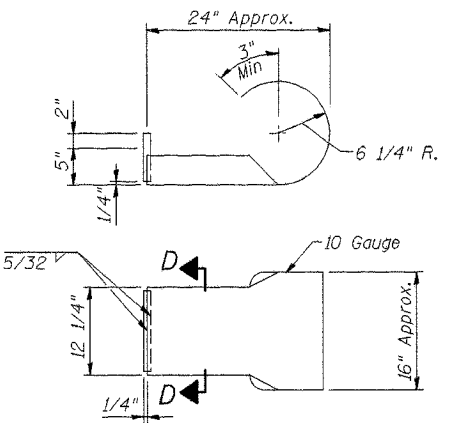


SECTION AT RAIL POST

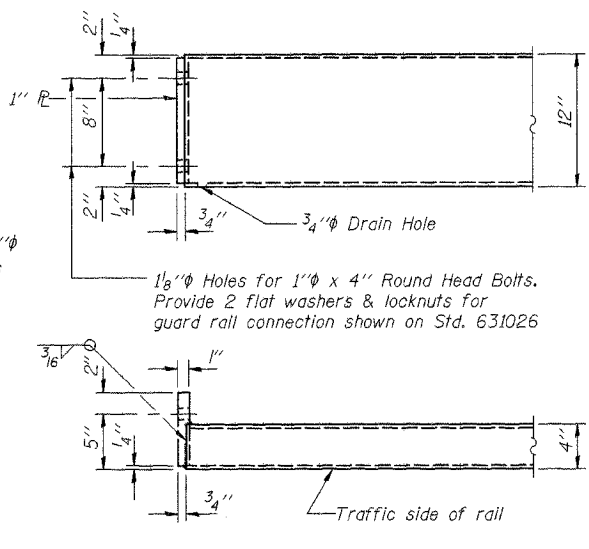
VIEW C-C



SECTION D-D



CURLED END SECTION DETAIL



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 S-1.

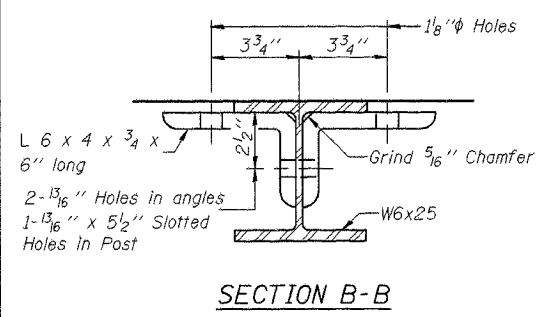
All field drilled holes shall be coated with an approved zinc rich paint before erection.

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 1/2" fabric bearing pad between the post and concrete.

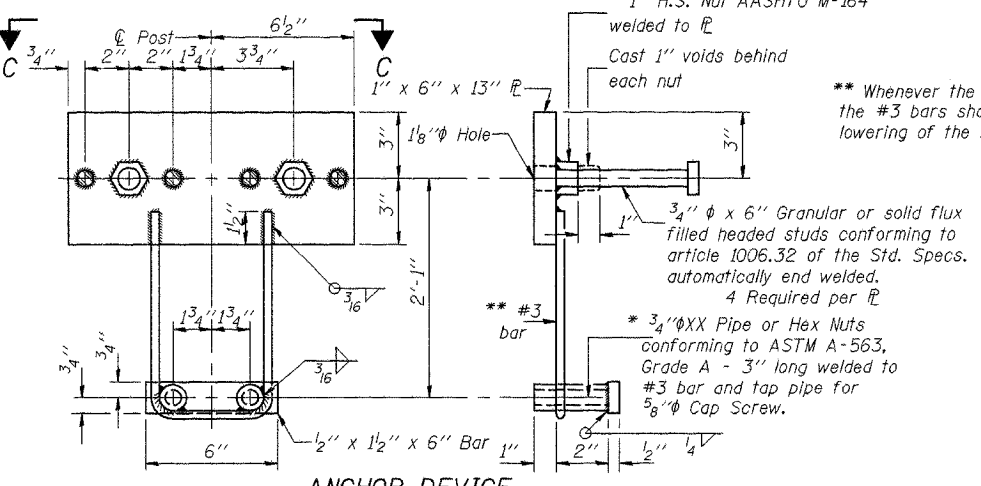
The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 505.04(f)(3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn.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

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing Type S-1 (Special)	Foot	390



SECTION B-B



ANCHOR DEVICE

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

DSGN	R.T. Mumm				
DR	R.T. Mumm				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

FRAUENHÖFFER

Frauenhoffer and Associates, P.C. Consulting Engineers  
3002 Crossing Court Champaign, IL 61822 217-351-6268

STEEL RAILING TYPE S-1 (SPECIAL)

CARROLL ROAD DISTRICT  
SECTION 00-03128-00-BR  
VERMILION COUNTY

SHEET	11
DWG NO.	car-s1.dgn
DATE	APR 2004
PROJ NO.	3080