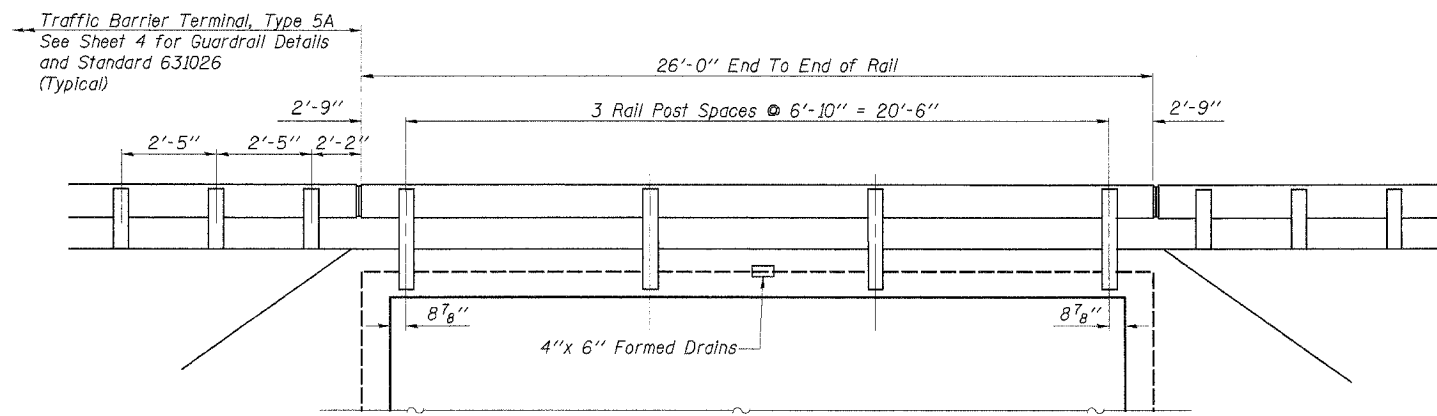
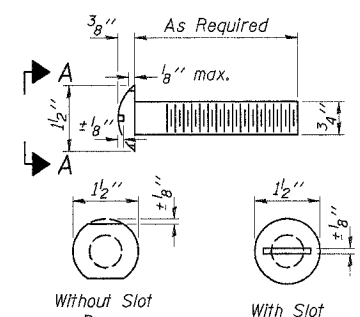


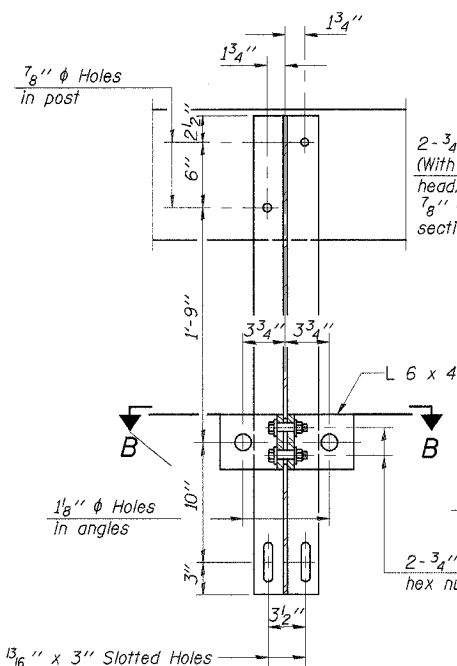
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 1	02-00076	MARSHALL	14	8
FAS 369	-00-BR			
ILLINOIS				
CONTRACT NO. 87278				



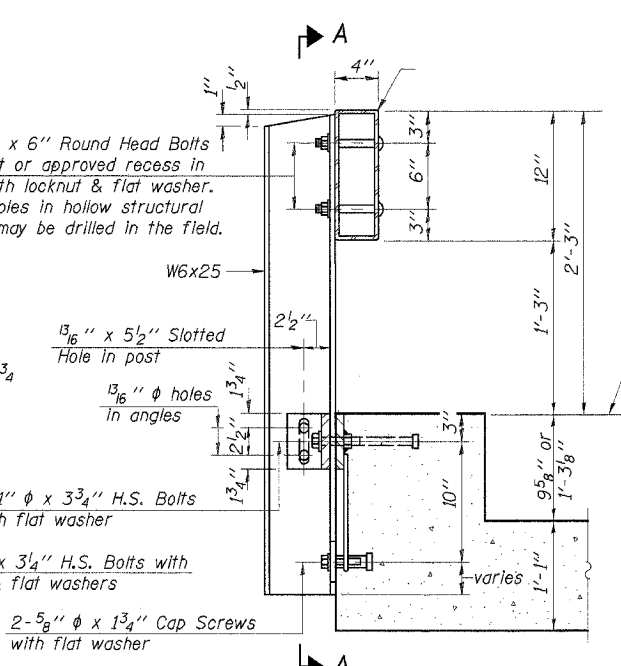
ELEVATION
Facing Culvert



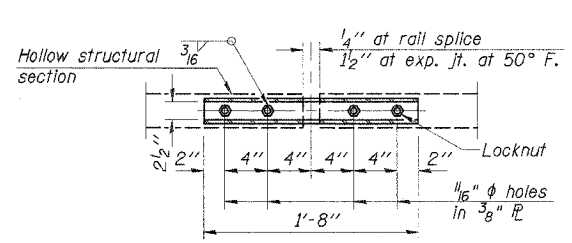
VIEW A-A
ROUND HEAD BOLT



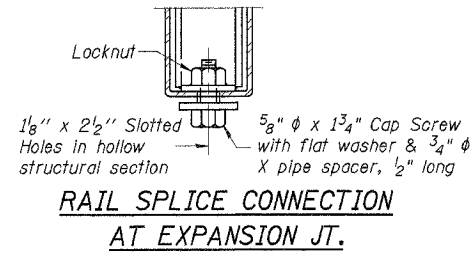
SECTION A-A



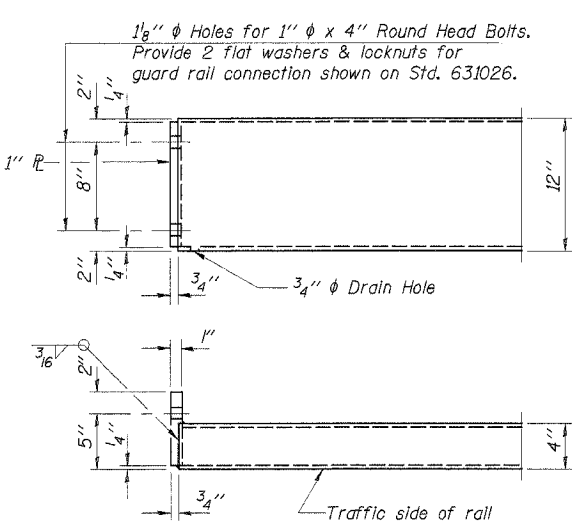
SECTION AT RAIL POST



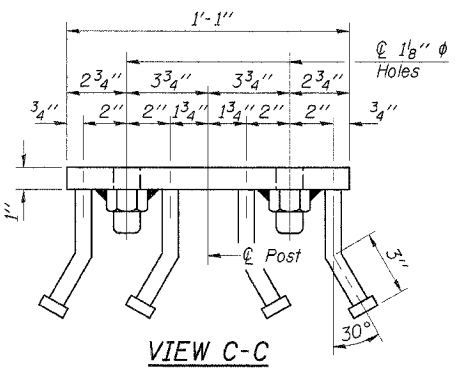
PLAN-BOTT. SPLICE R
TYPICAL



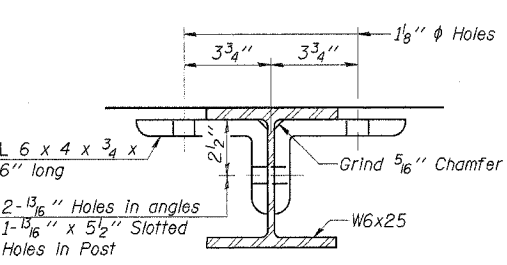
RAIL SPLICE CONNECTION
AT EXPANSION JT.



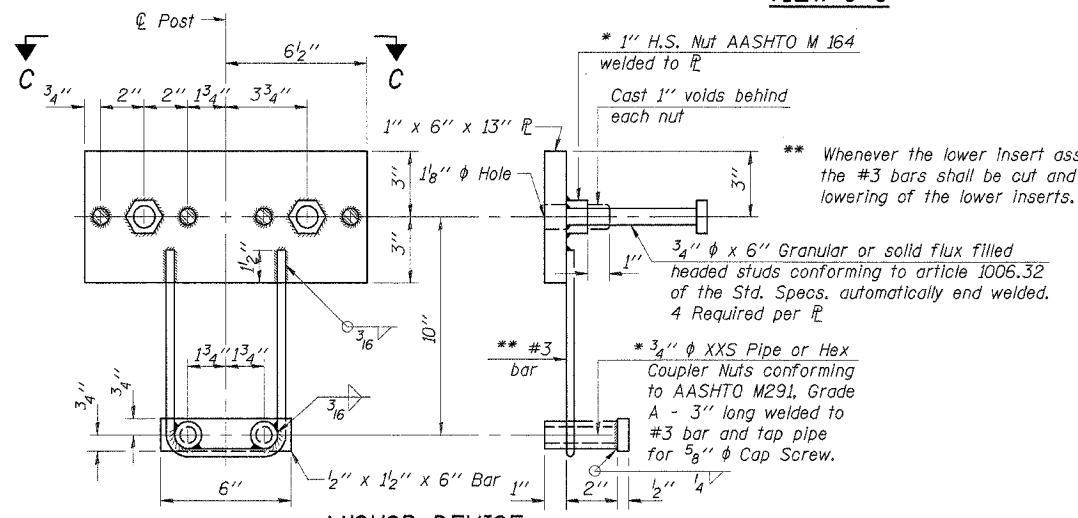
END OF RAIL DETAILS



VIEW C-C

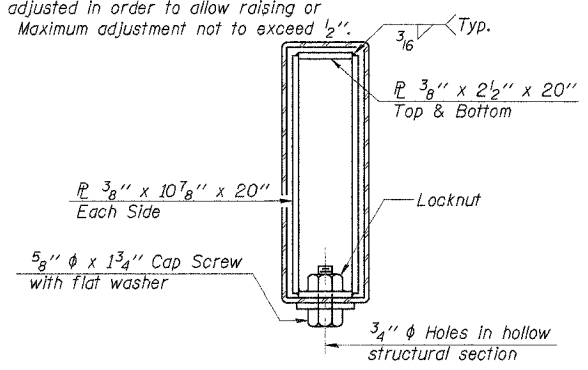


SECTION B-B



ANCHOR DEVICE

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



SECTIONS AT RAIL SPLICE

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 1/2 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.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	52

STEEL RAILING, TYPE S1

COUNTY HIGHWAY 1
SECTION 02-00076-00-BR
MARSHALL COUNTY
STATION 15+00

DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	S.F.M.
R-23A	9-01-03 (10'-9" Maximum Post Spacing)

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 993-8600 casinc@famvic.com	OZYURT AND STONE, INC. CONSULTING ENGINEERS	JOB NO.: 0412 FILE: RAIL_SI-C.DGN DATE: 12-09-04
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