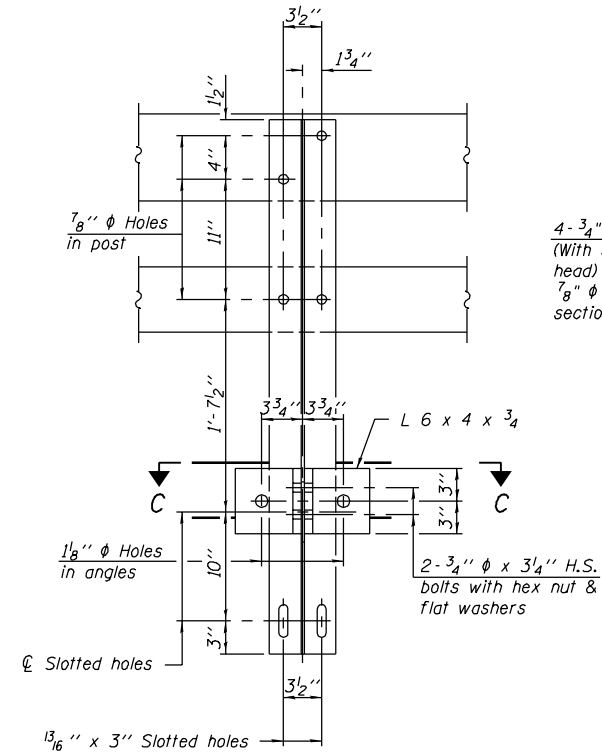
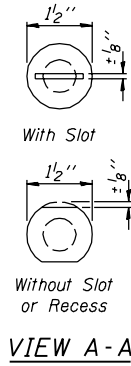
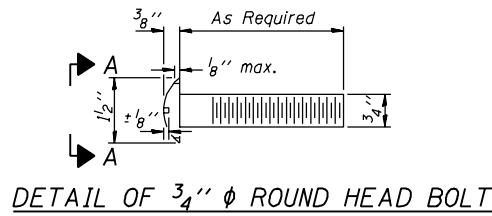


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 14 SHEETS
FAS 1671	**	DOUGLAS	181	72	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #70258    \*\*144SBR-2 & 22VBR-1



4- 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.

13/16" x 5 1/2" slotted hole in post

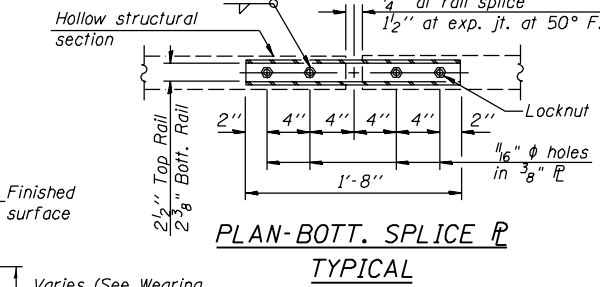
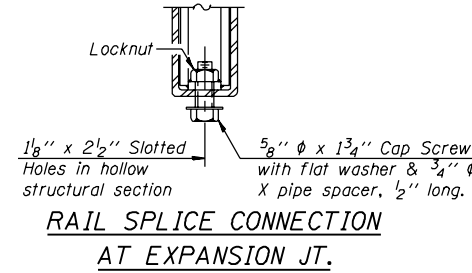
13/16"  $\phi$  holes in angles

2- 1"  $\phi$  x 7 3/4" AASHTO M-164 anchor bolts with flat washer and lockwasher

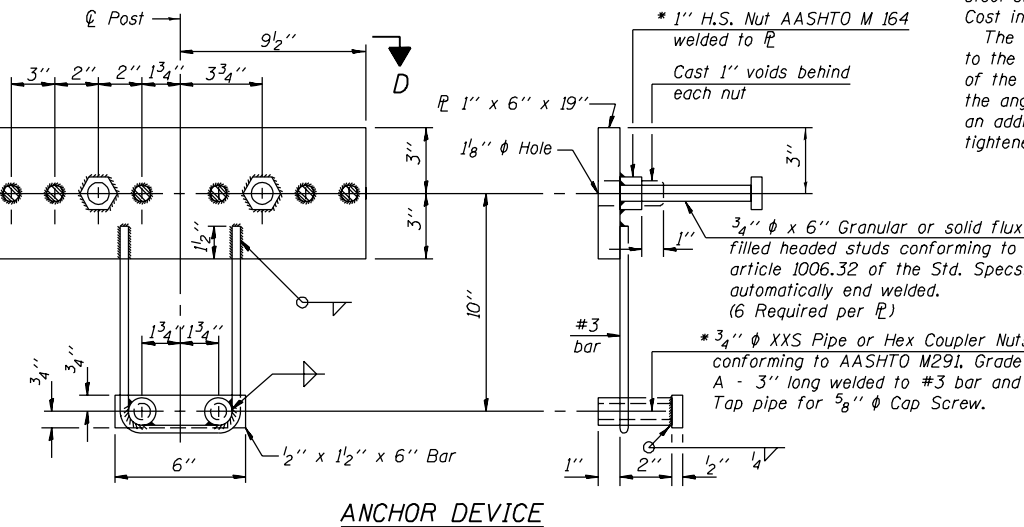
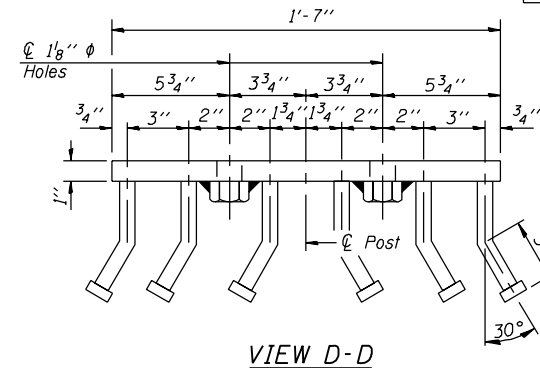
2- 5/8"  $\phi$  x 5 3/4" cap screws with flat washer

\*Prior to Grinding

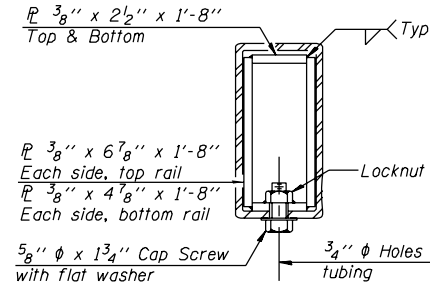
SECTION AT RAIL POST



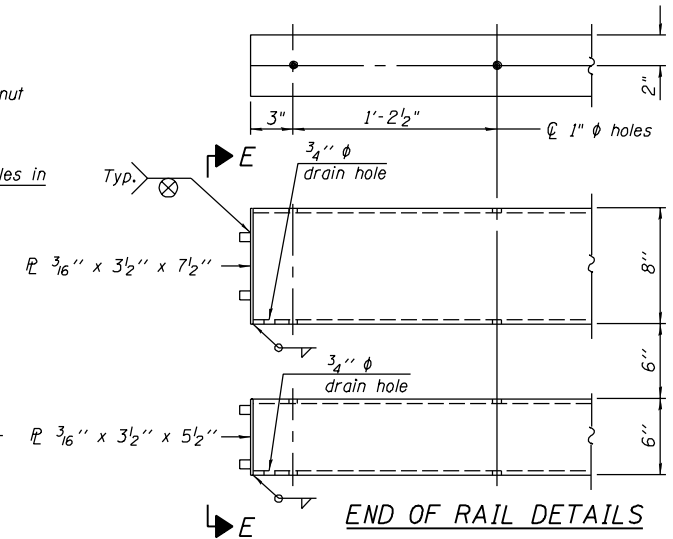
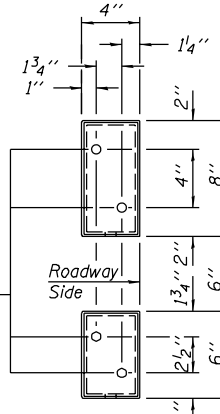
4 - 5/8" reduced base welded studs. Provide 4 - 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032



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



SECTION 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 Bridge Rail, Type SM.

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

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 Bridge Rail, Type SM.

The 3/4"  $\phi$  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"  $\phi$  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"  $\phi$  cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	205.0

TYPE SM

STEEL BRIDGE RAIL SIDE MOUNTED WITH CONCRETE WEARING SURFACE  
F.A.S. ROUTE 1671 - SECTION 144SBR-2  
DOUGLAS COUNTY  
STATION 1130+72.93  
STRUCTURE NO. 021-0062

DESIGNED	SMR
CHECKED	PRL
DRAWN	BECKY M. LEACH
CHECKED	SMR/PRL

August 4, 2006

EXAMINED *Thomas J. Domagalaki*  
ENGINEER OF BRIDGE DESIGN

PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

(6'-3" Maximum Post Spacing) (5" minimum to 7/8" maximum CWS thickness)