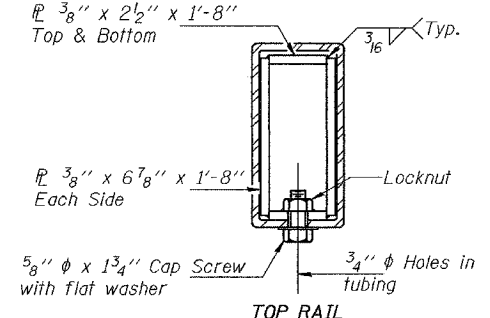
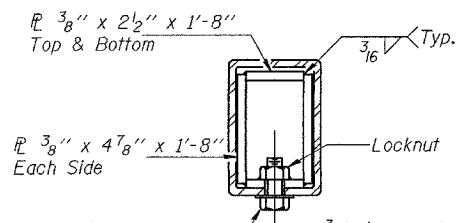
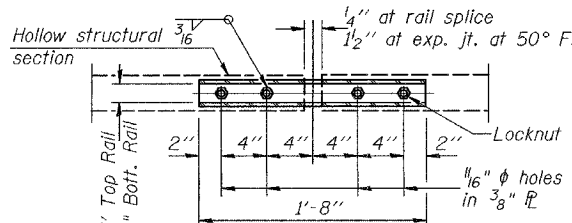
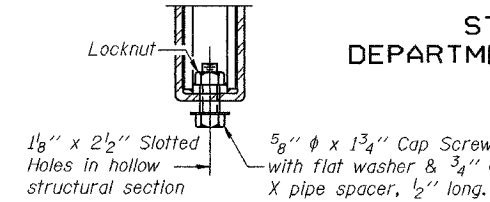
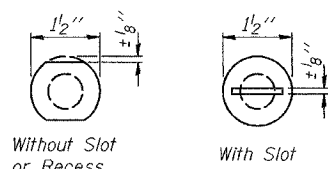
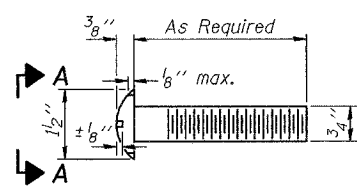


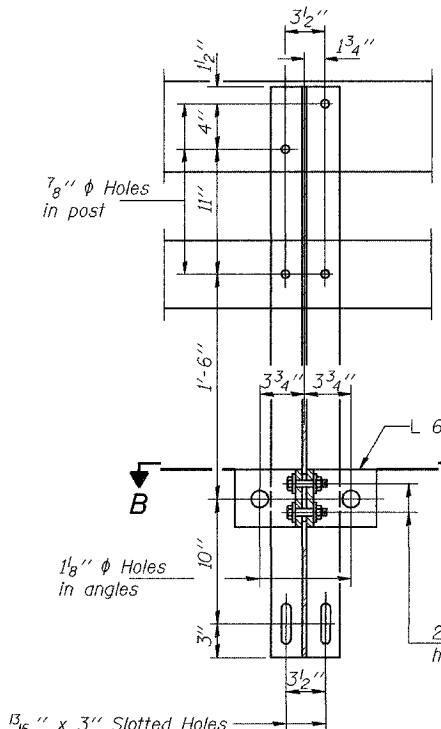
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
FAS 516	(240B) BR	CHAMPAIGN		9 SHEETS

Contract No. 70184
 \varnothing 3/8" x 2 1/2" x 1'-8"
 Top & Bottom
 Locknut
 Typ.
 \varnothing 3/8" x 2 1/2" x 1'-8"
 Top & Bottom
 Locknut
 Typ.
 \varnothing 3/8" x 6 7/8" x 1'-8"
 Each Side
 Locknut
 Typ.
 \varnothing 5/8" x 1 3/4" Cap Screw
 with flat washer
 \varnothing 3/4" Holes in tubing

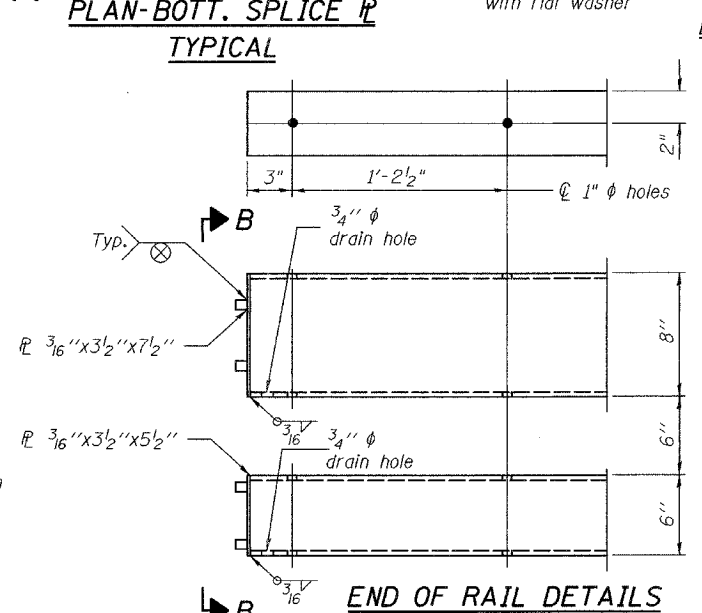
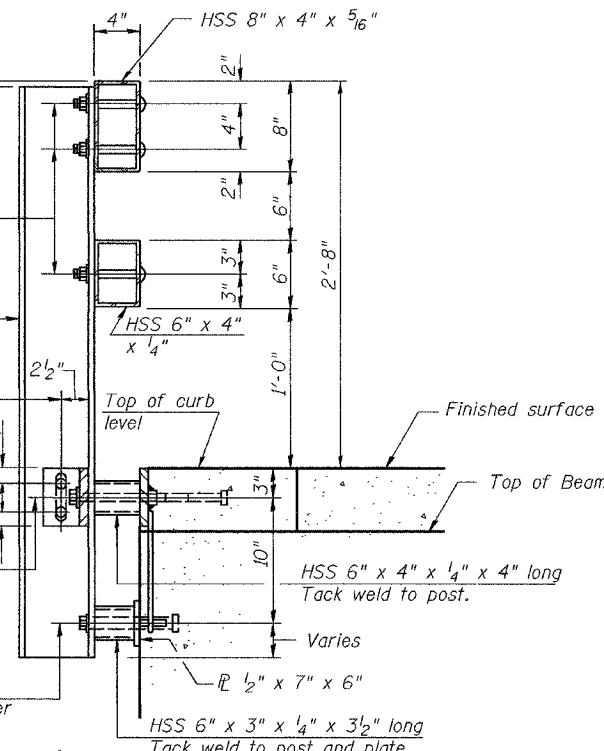


SECTIONS AT RAIL SPLICE



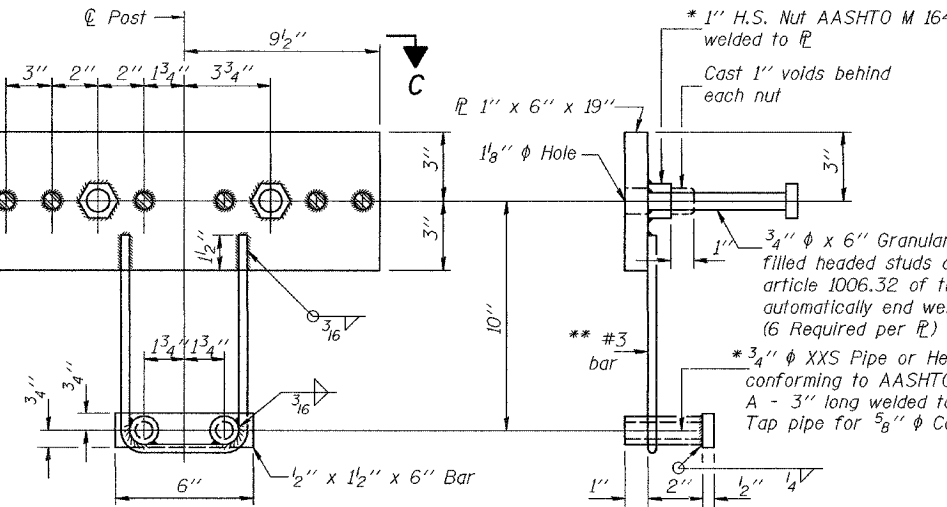
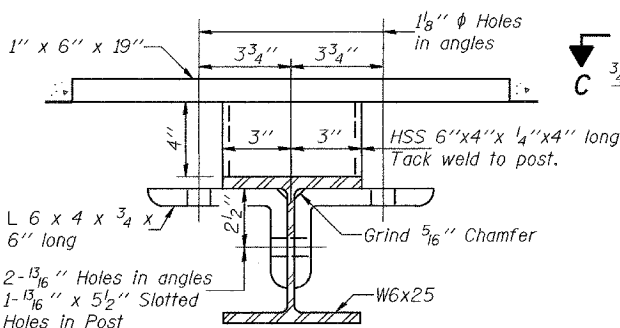
4-3/4" \varnothing x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" \varnothing holes in tubing may be drilled in the field.

2-1" \varnothing x 7 3/4" AASHTO M-164 anchor bolts with flat washer and lockwasher
 2-3/4" \varnothing x 3 1/4" H.S. Bolts with hex nut & flat washers
 2-5/8" \varnothing x 5 3/4" cap screws with flat washer



NOTES

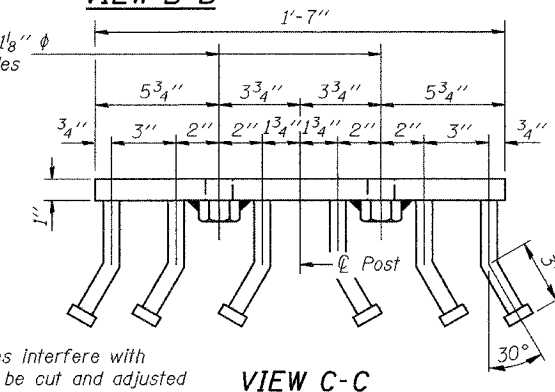
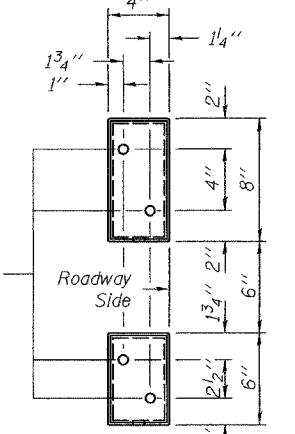
Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.
 All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and 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 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pads between the plates and concrete.
 The 3/4" \varnothing 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" \varnothing 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" \varnothing cap screws in bottom of posts shall be tightened to a snug fit only.
 For rail post spacing, see sheet 2 of 9.



\varnothing 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
 * 1" H.S. Nut AASHTO M 164 welded to \varnothing
 Cast 1" voids behind each nut
 1 3/8" \varnothing Hole
 3/4" \varnothing x 6" Granular or solid flux filled headed studs conforming to article 1006.32 of the Std. Specs. automatically end welded. (6 Required per \varnothing)
 ** #3 bar
 * 3/4" \varnothing XXS Pipe or Hex Coupler Nuts conforming to AASHTO M291, Grade A - 3" long welded to #3 bar and Tap pipe for 5/8" \varnothing Cap Screw.

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

** 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".



BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	265

TYPE SM
 STEEL BRIDGE RAIL SIDE MOUNTED
 F.A.S. ROUTE 516 - SECTION (240B)BR
 CHAMPAIGN COUNTY
 STATION 68+94.20
 STRUCTURE NO. 010-0220

DESIGNED	SMR
CHECKED	CCC
DRAWN	BECKY M. GURRY
CHECKED	SMR & CCC

January 28, 2005
 EXAMINED *Thomas Damagala*
 ENGINEER OF BRIDGE DESIGN
 PASSED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES