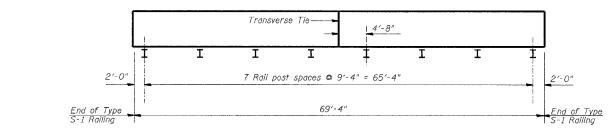


CONTRACT NO. 91342



## PLAN VIEW - EXTERIOR BEAM

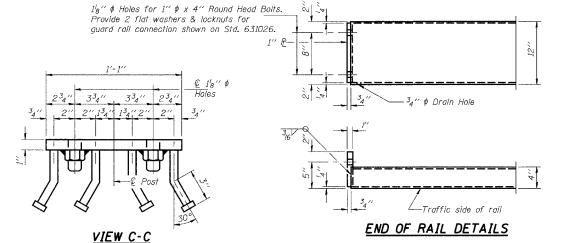
-HSS 12'' x 4'' x 1<sub>4</sub>''

HSS 6" x 4" x 1<sub>4</sub>" x 4" long

Tack weld to post.

SECTION AT RAIL POST

(Showina Rail Post Spacina)



## 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.

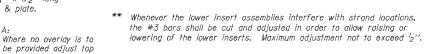
Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1.

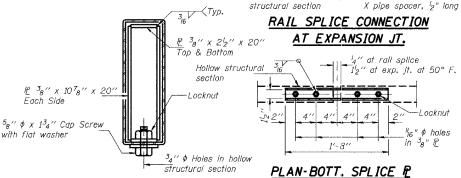
All field drilled holes shall be coated with an approved zinc rich paint before erection.

The 7"  $\times$  5"  $\times$   $\frac{1}{2}$ " plate washer in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 18" fabric bearing pad between the post and concrete.

The  $^{3}_{4}$ "  $\phi$  high strength bolts used to connect the 6 x 4 x  $^{3}_{4}$  angles to the post shall be fightened 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  $^{l}_{8}$  turn. The  $^{5}_{8}$   $^{\prime\prime}$   $\phi$  cap screws in bottom of posts shall be tightened to a snug fit only.

For multi-span bridges, sufficient 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.





evisions

## BILL OF MATERIAL

el Railing Type S-1 Foot 139

TYPE S-1 STEEL RAILING

Sheet No.

of 4

## SECTIONS AT RAIL SPLICE TYPICAL

118" x 212" Slotted

Holes in hollow

Edge of Beam  Edge of Beam $3''$
2-13 <sub>6</sub> " Holes in angles 1-13 <sub>16</sub> " x 5½" Slotted Holes in Post SECTION B-B

SECTION A-A

As Required " max.

VIEW A-A

ROUND HEAD BOLT

With Slot

-Parallel to arade

drilled in the field.

2-3/4 x 6" Round Head Bolts

(With slot or approved recess in

head) with locknut & flat washer.

W6x25-

in angles ³<sub>I6</sub> " ∮ holes

<sup>13</sup><sub>16</sub> " x 5½" Slotted

2-<sup>5</sup>8"\$ x 5<sup>3</sup>4" Cap Screws

Hole in post

2-1"\$\psi x 734" H.S. Bolts

with flat washer

with flat washer

hex nut & flat washers

2-34" \$ x 314" H.S. Bolts with

<sup>7</sup>8″¢ Holes in tubing may be

Without Slot

<sup>7</sup>8'' ∮ Holes

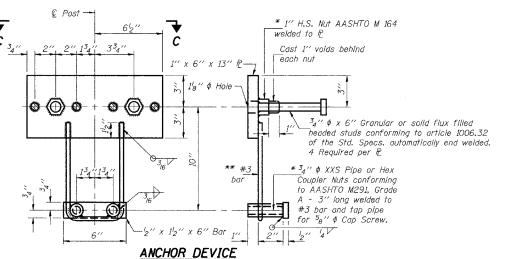
B

1 d Holes 1 d Holes 1 d Holes

1316 " x 3" Slotted Holes

in post

or Recess



Surface

of rail to lay parallel to grade 2'-5" max. above

HSS 6" x 3" x  $^{l}_{4}$ " x  $^{3l}_{2}$ " long

Tack weld to post & plate.

x 5" x ½" P washer with

13 " x 3" slotted holes.

STEEL RAILING Designed MJI C.H. 19 OVER WILLOW BRANCH SECTION 03-00181-00-BR Drawn MJF MACON COUNTY Checked KW STA. 15+62.59 PROP. STR. NO. 058-3368

<sup>5</sup>8" ♥ x 1<sup>3</sup>4" Cap Screw

- with flat washer & ¾" ø

URS 3040 North University Avenue Decatur, II. 62526 36431468

blocked off during casting of beam.