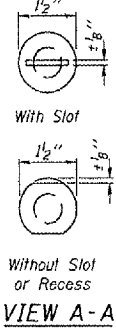
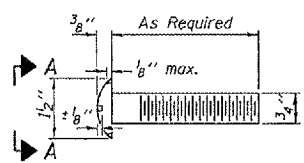


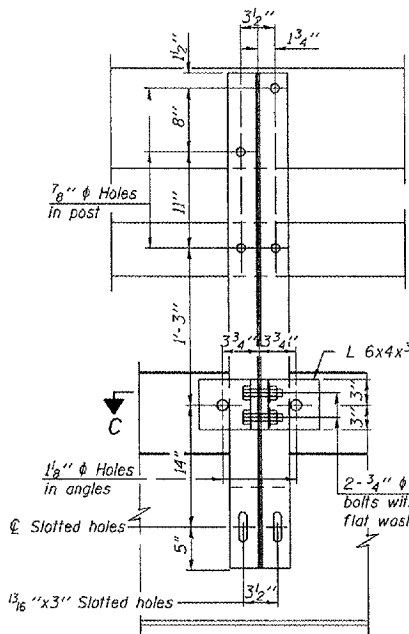
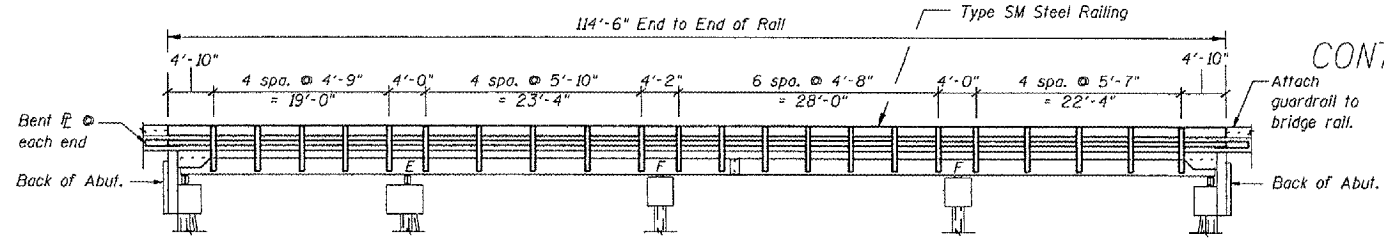
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAS 1384	*	Fulton	21	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. ROAD PROJECT	*07-00117-03-BR	

CONTRACT 89466

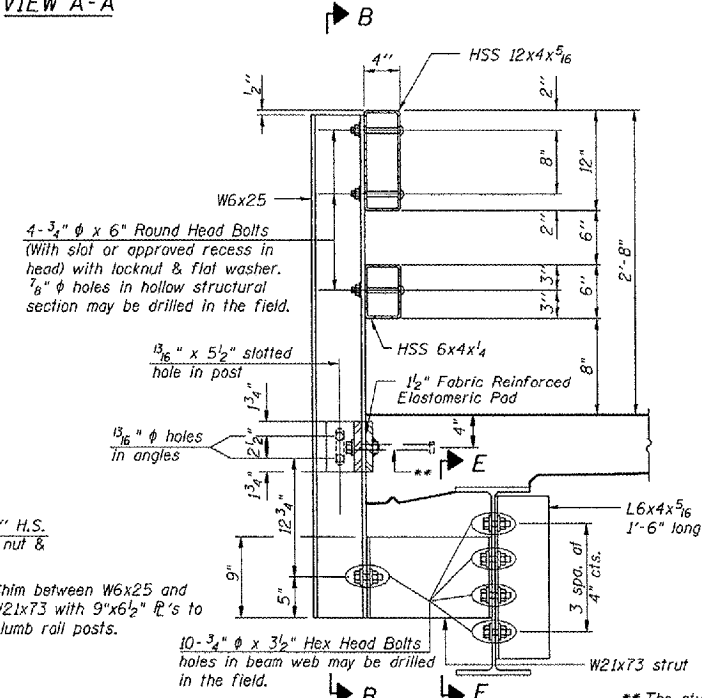
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



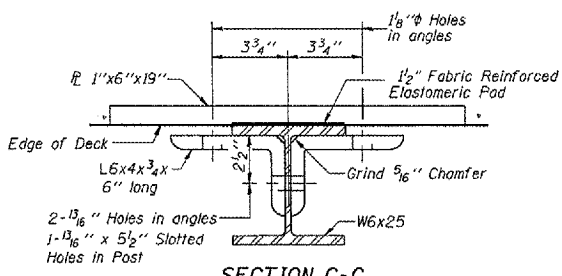
STEEL RAILING ELEVATION



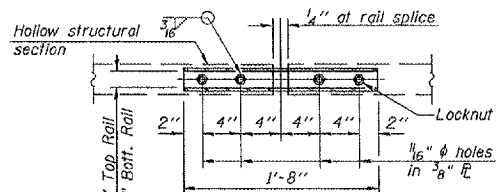
SECTION B-B



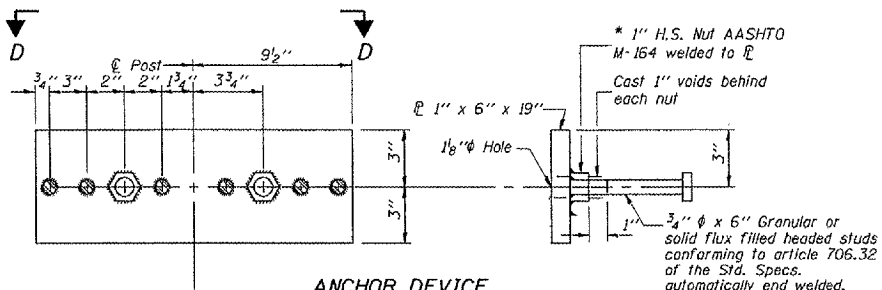
SECTION AT RAIL POST



SECTION C-C

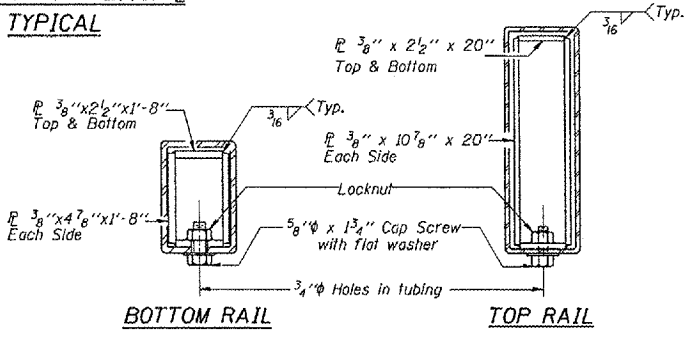


PLAN-BOTT. SPLICE R
TYPICAL

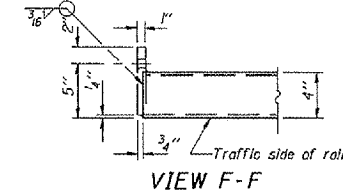


ANCHOR DEVICE

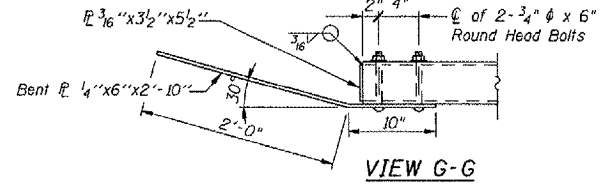
* Threaded areas shall be plugged or blocked off during casting of the deck. Devices shall be galvanized after fabrication.



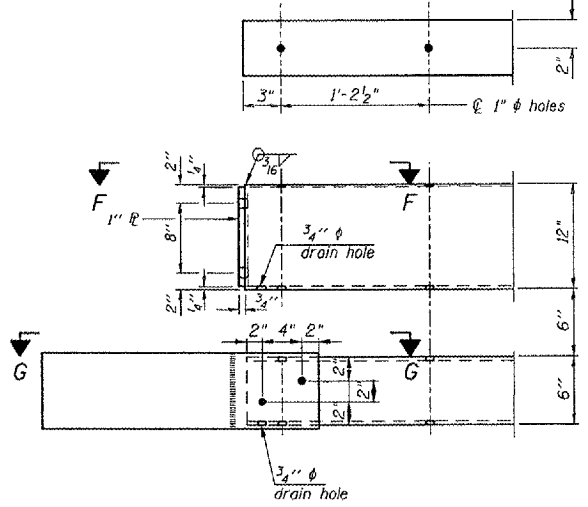
SECTIONS AT RAIL SPLICE



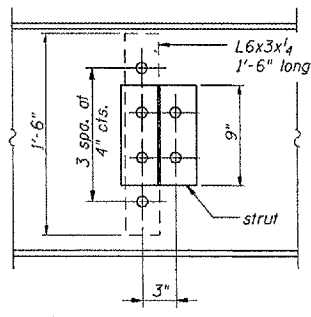
VIEW F-F



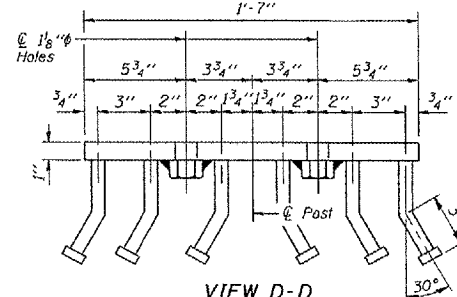
VIEW G-G



END OF RAIL DETAILS



VIEW E-E



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing Type SM	Foot	229

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 CVW 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 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 Railing, Type SM.

Steel rail elements shall be galvanized according to Article 1006.34 of the Standard Specifications.

DSGN	K.J. Hoffmann				
DR	K. J. Hoffmann				
CHK	J.R. Wolf				
APVD	J.A.Frauenhoffer	NO.	DATE	REVISION	BY

FRAUENHOFER

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

STEEL RAILING, TYPE SM

FAS 1384 (C.H. 27)
SECTION 07-00117-03-BR
FULTON COUNTY

SHEET	15
DWG NO.	7022-sm.dgn
DATE	OCT 2007
PROJ NO.	7022