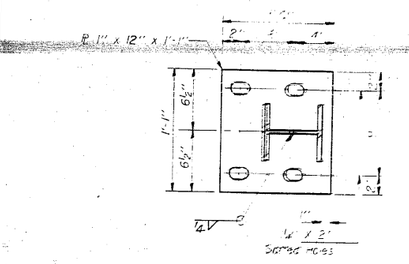
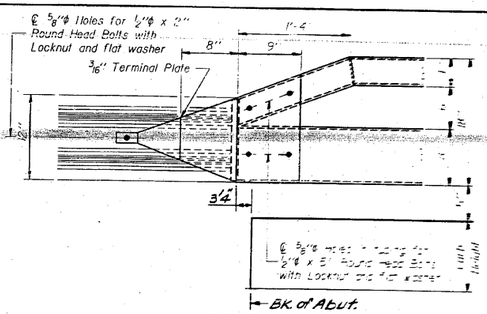
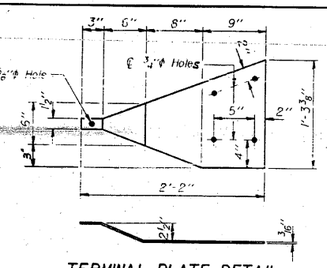


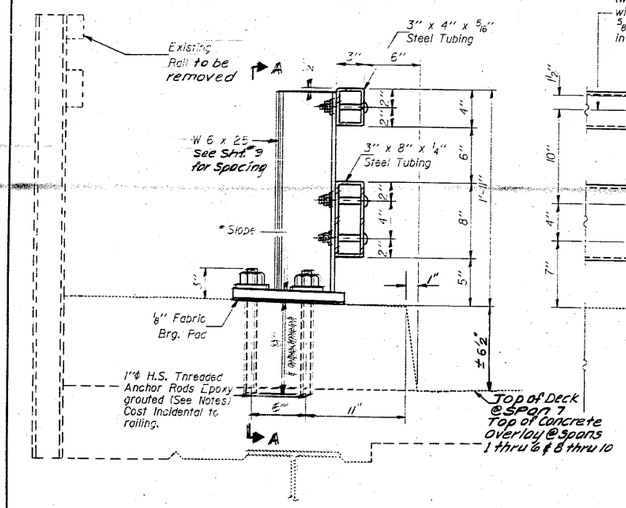
BASE PLATE DETAIL



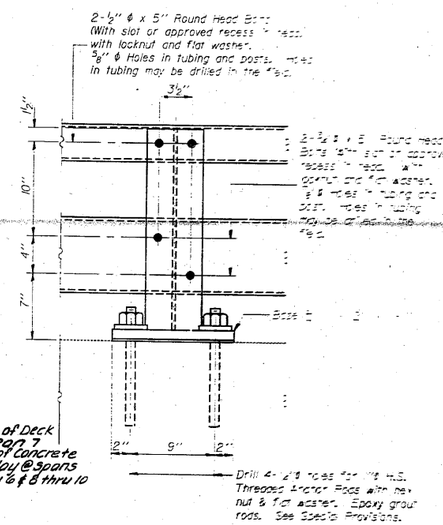
ELEVATION



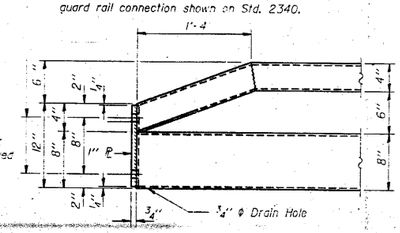
TERMINAL PLATE DETAIL
(Cost incidental to railing.)

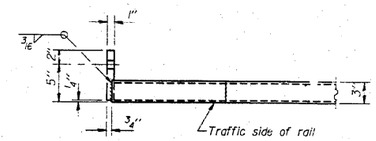


SECTION AT RAIL POST

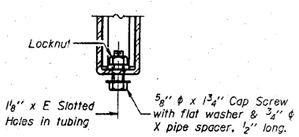


SECTION A-A





END OF RAIL DETAILS



RAIL SPLICE CONNECTION AT EXPANSION JT.

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500, Grade B, Structural Steel Tubing.

All other steel shapes and plates shall conform to the requirements of AASHTO M-183 except posts shall conform to AASHTO M-223, Grade 50.

Bolts, cap screws and nuts shall conform to the requirements of ASTM designation A-307 except that threaded rods, nuts and washers 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 and anchor rods 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 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAIL RETROFIT.

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

Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.

STEEL RAIL RETROFIT expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.

Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.

Expansion joint width shall be "D" at 50° F and shall be adjusted for other temperatures according to Article 503.07(c) of the Standard Specifications.

The Contractor shall load test 5% of the 1" diameter threaded anchor rods in the presence of the Engineer. The equipment and method used shall meet the approval of the Engineer. Pull out load shall be 16,500 lbs. per rod after epoxy has set. For each anchor that fails the test, two (2) more anchors, selected by the Engineer, shall be tested. Each anchor that fails shall be reset in epoxy and retested until it passes the test. (See Bridge Special Provision for Epoxy Grouting of Anchor Rods and Bolts.)

Nuts for 1"ϕ threaded rods connecting the base plate to the concrete shall be tightened to a snug fit and given an additional 1/8 turn.

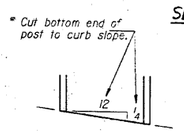
BILL OF MATERIAL

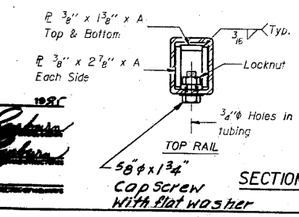
Item	Unit	Quantity
Steel Rail Retrofit	Lin. Ft.	1807

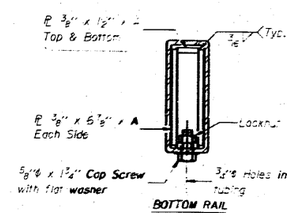
SPLICE DIMENSIONS

T	D	A	B	C	E
≤4"	2½"	1'-8"	2"	4"	2½"
>4" ≤6½"	3¾"	2'-0"	2½"	5½"	3½"
>6½" ≤9"	5"	2'-4"	3½"	6½"	9"
>9" ≤13"	7"	2'-10"	4½"	8½"	11"
Rail Splice	1"	1'-8"	2"	4"	—

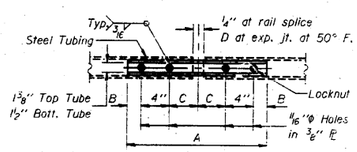
T = Total movement at expansion joint as shown on the design plans.







SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE PL TYPICAL

DESIGNED
CHECKED
DRAWN LH
CHECKED DG

Feb. 4, 1980

STEEL RAIL RETROFIT
FA. RTE. 14 SEC. 64 IVBI
ST. CLAIR COUNTY
STA. 281+07.13

FOR INFORMATION ONLY

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

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CB JOB NO 09021	PLOT DATE = 8/5/2010	DATE - / /	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 082-0030 PLANS
(REHABILITATION PLANS)

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	64-IVBR	ST. CLAIR	259	158
		CONTRACT NO. 76882		
		ILLINOIS FED. AID PROJECT		