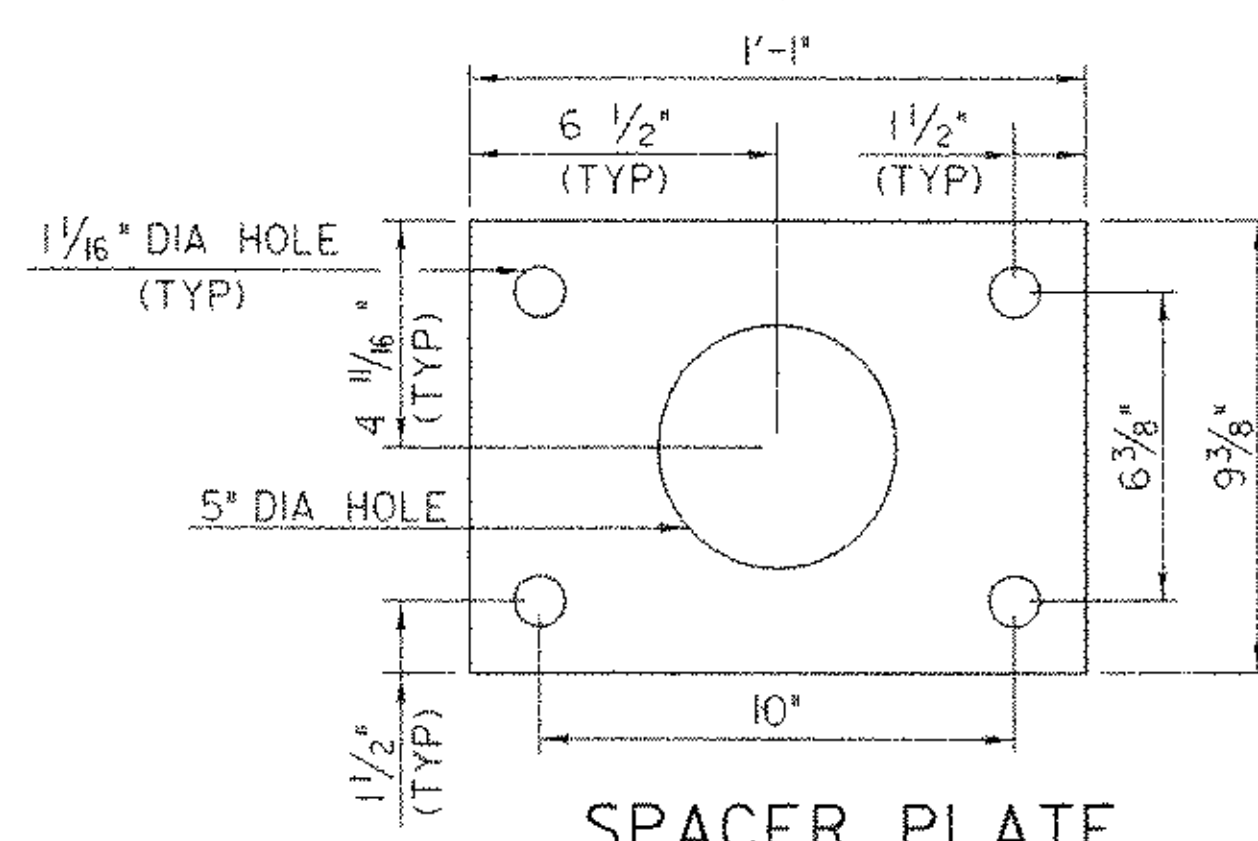
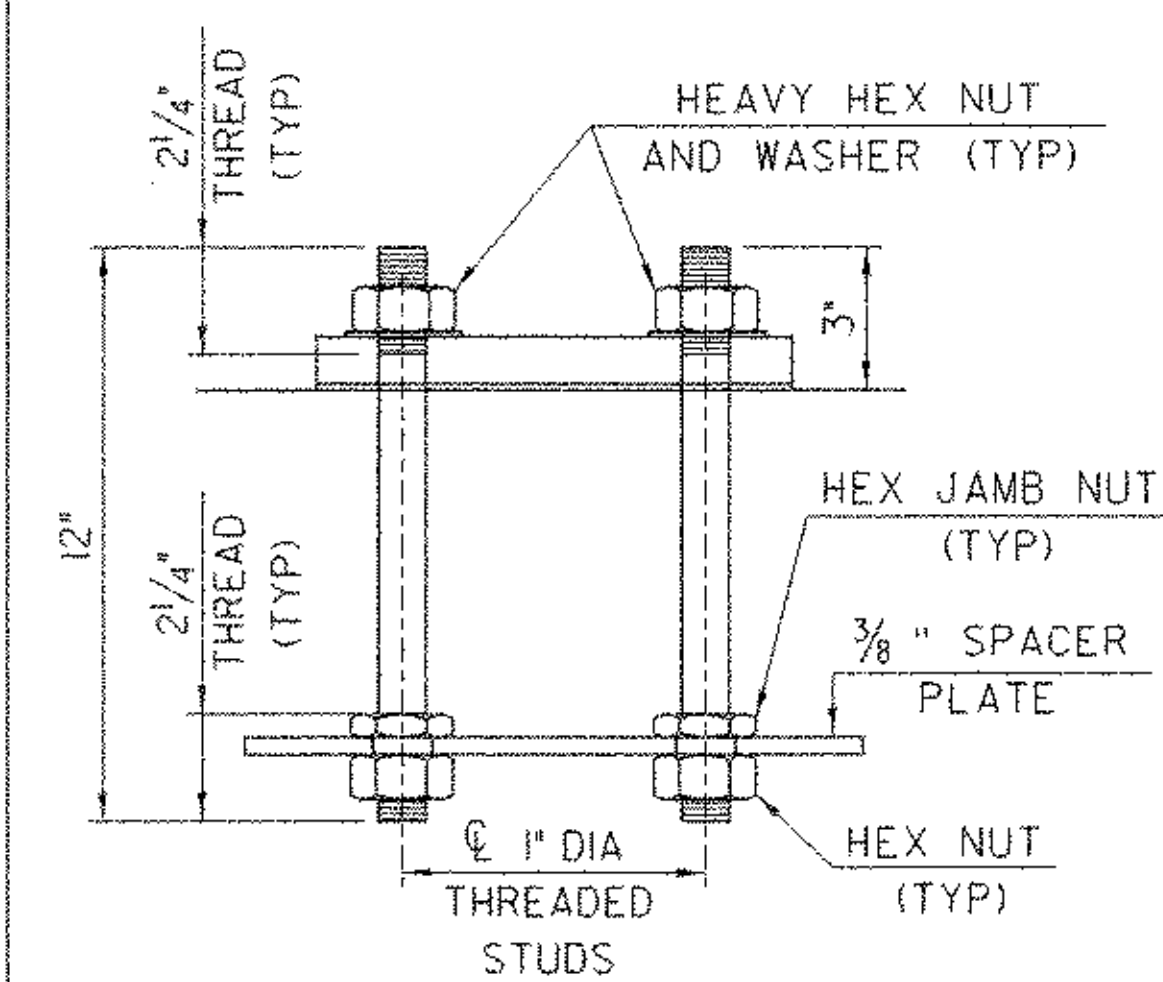


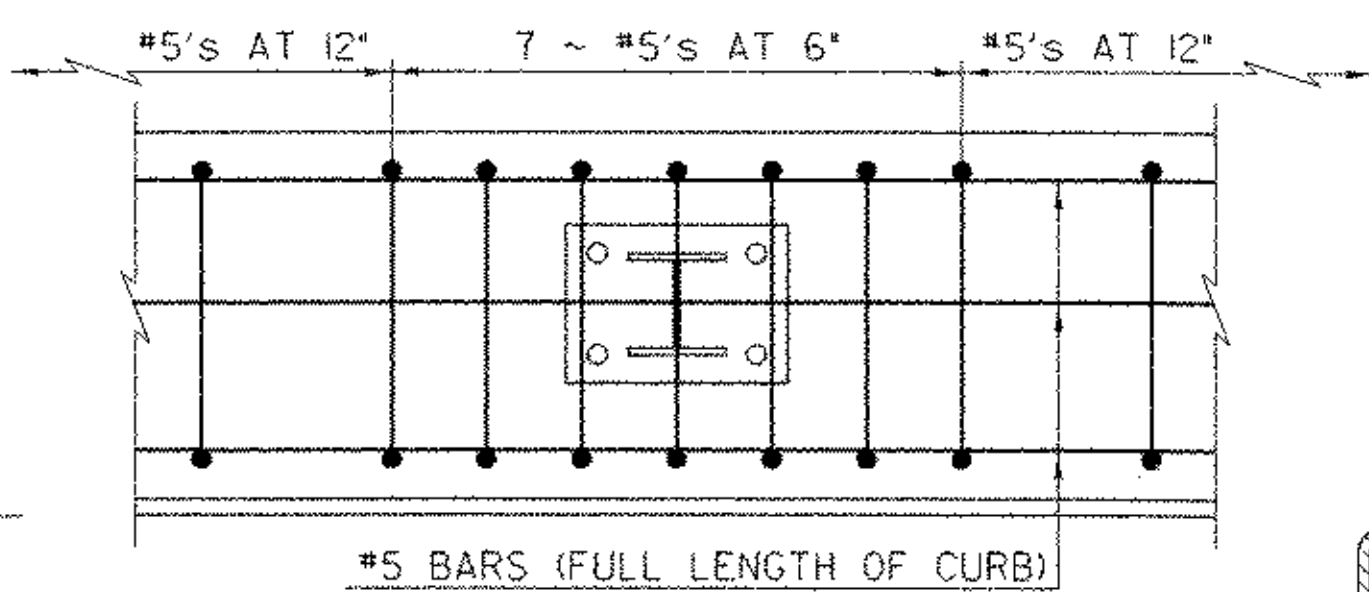
BRIDGE RAILING ELEVATION



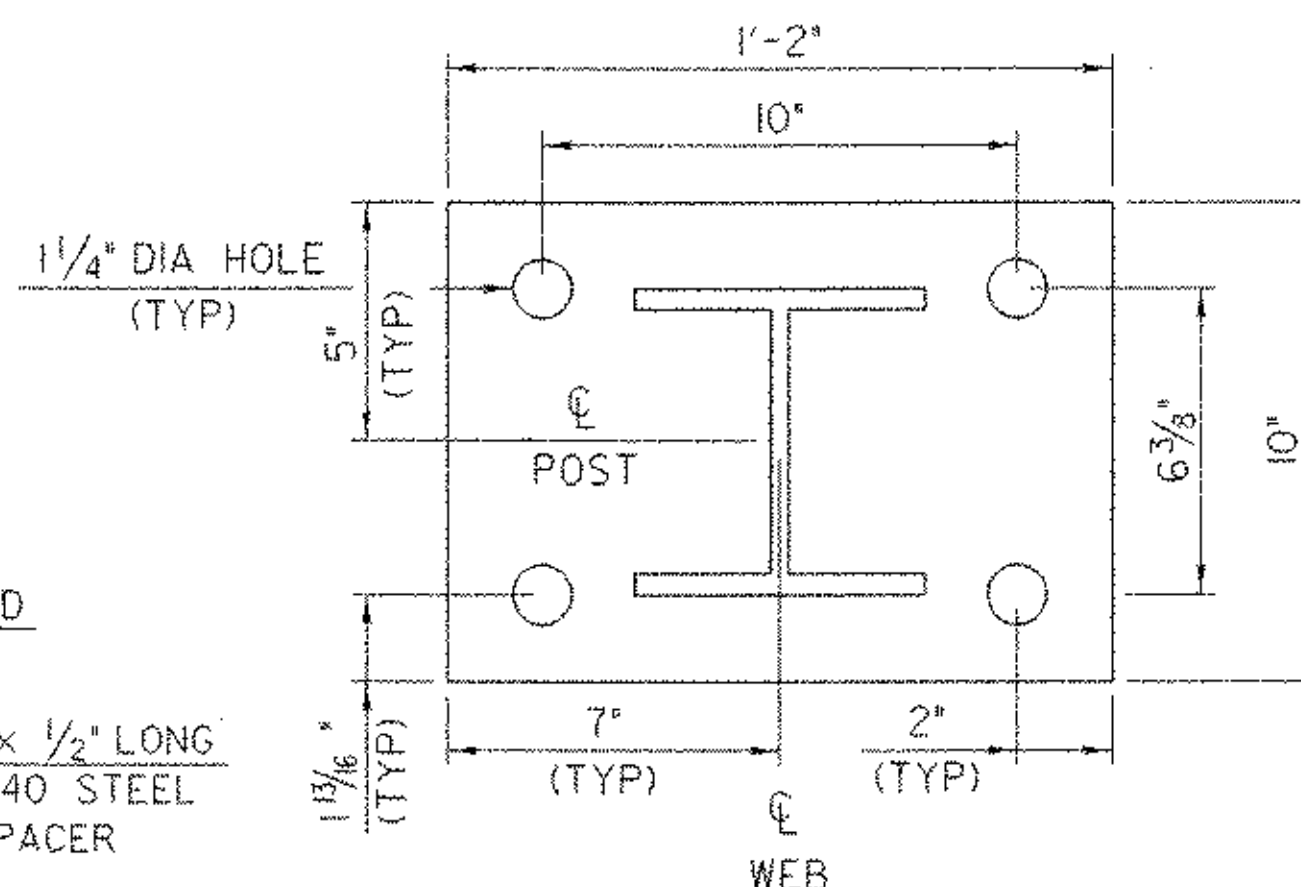
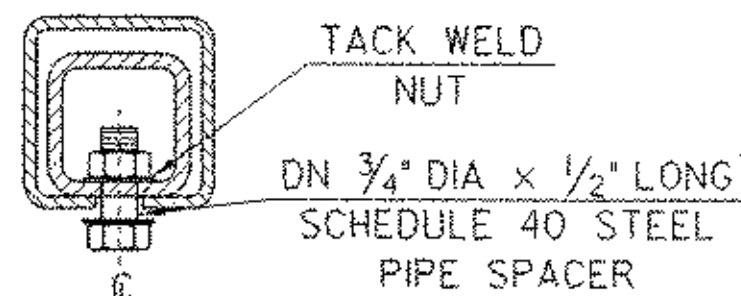
SPACER PLATE



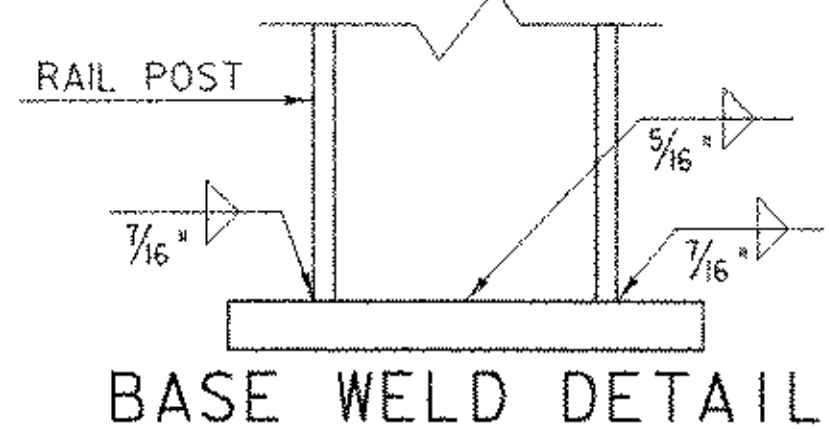
RAIL POST ANCHORAGE



CURB REINFORCING PLAN



POST AND BASE PLATE

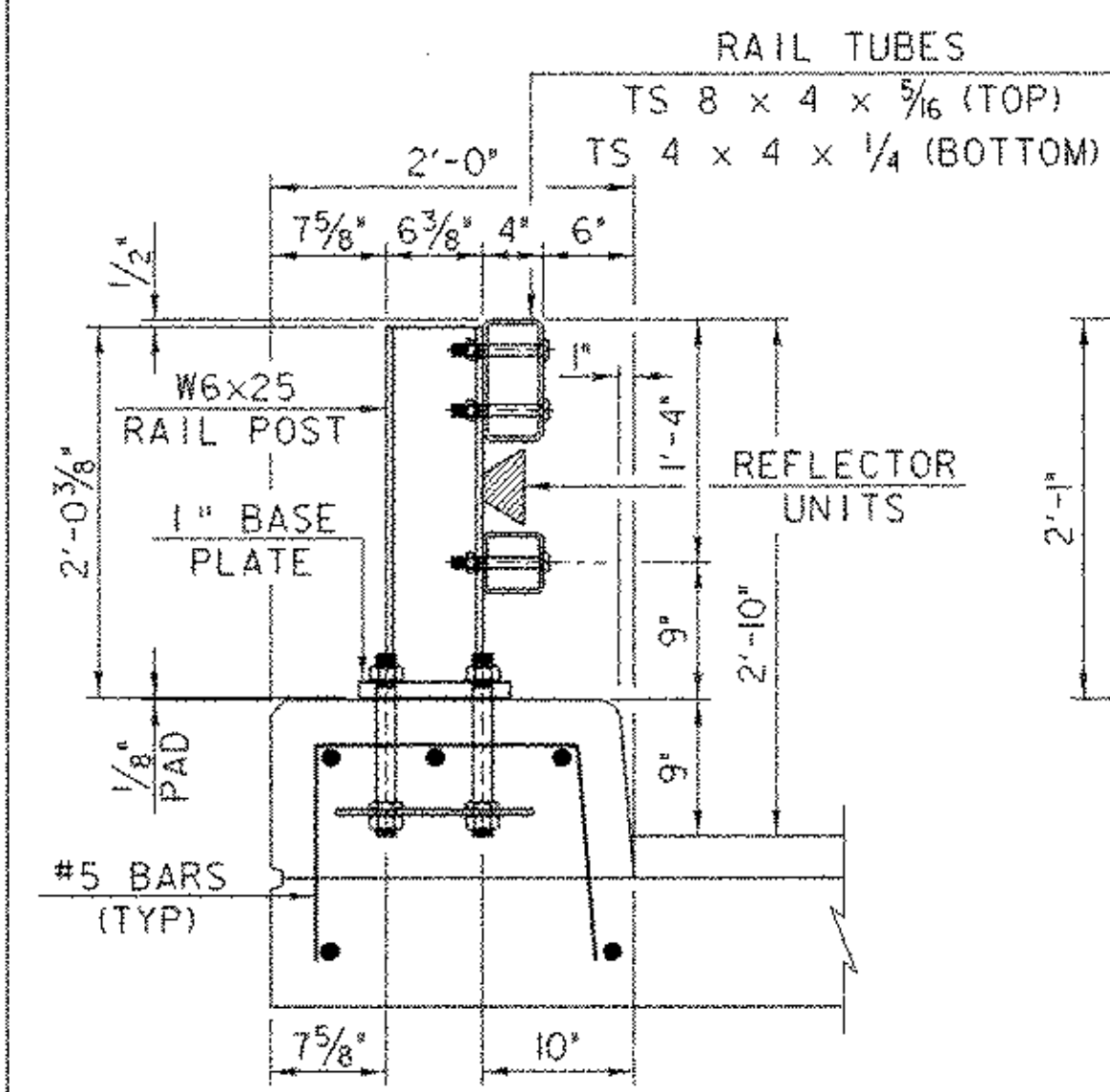


BASE WELD DETAIL

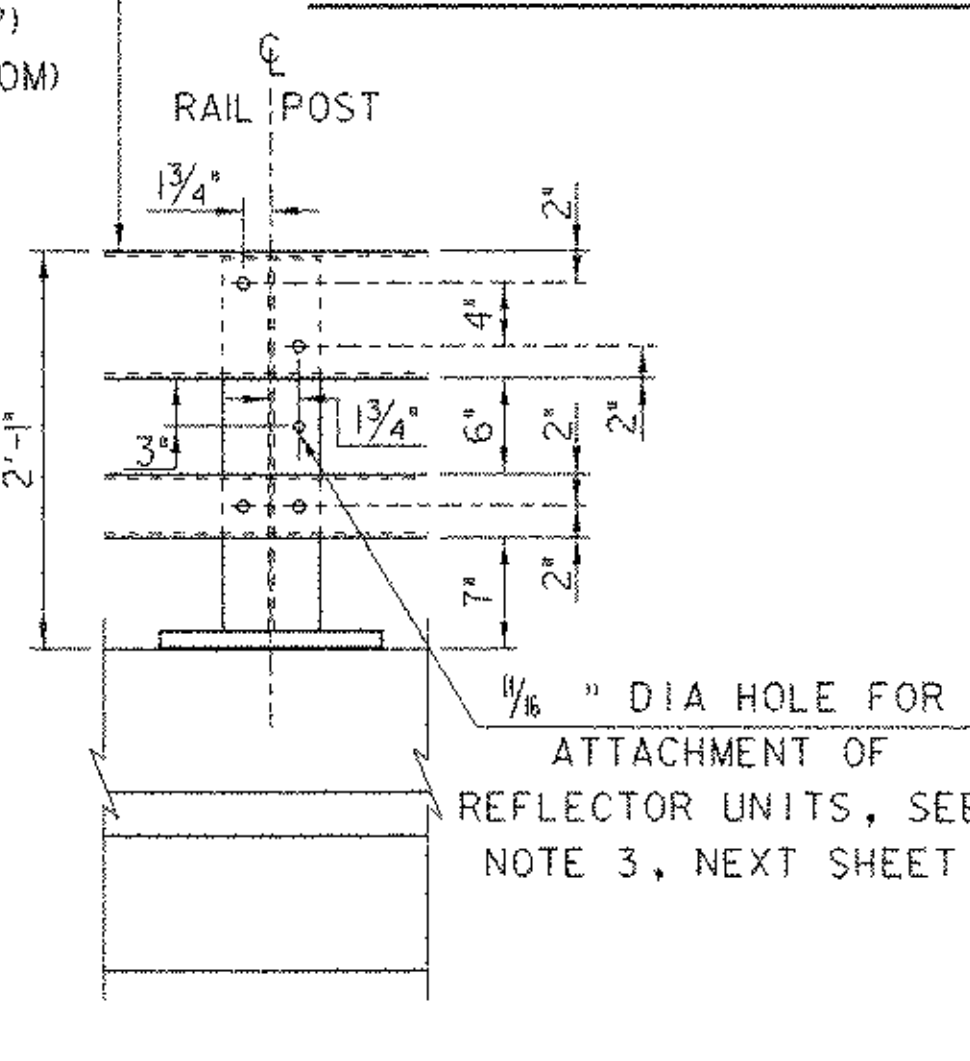
5/8" DIA TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER
EXPANSION JOINT SECTION
 FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION."

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	--	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"
>4" <6 1/2"	5 1/2"	2 3/8"	3 1/2"	23 3/4"	4"
>6 1/2" <9"	6 1/2"	3 3/8"	9"*	27 3/4"	5"
>9" <13"	8 1/2"	4 3/8"	11"*	33 3/4"	7"

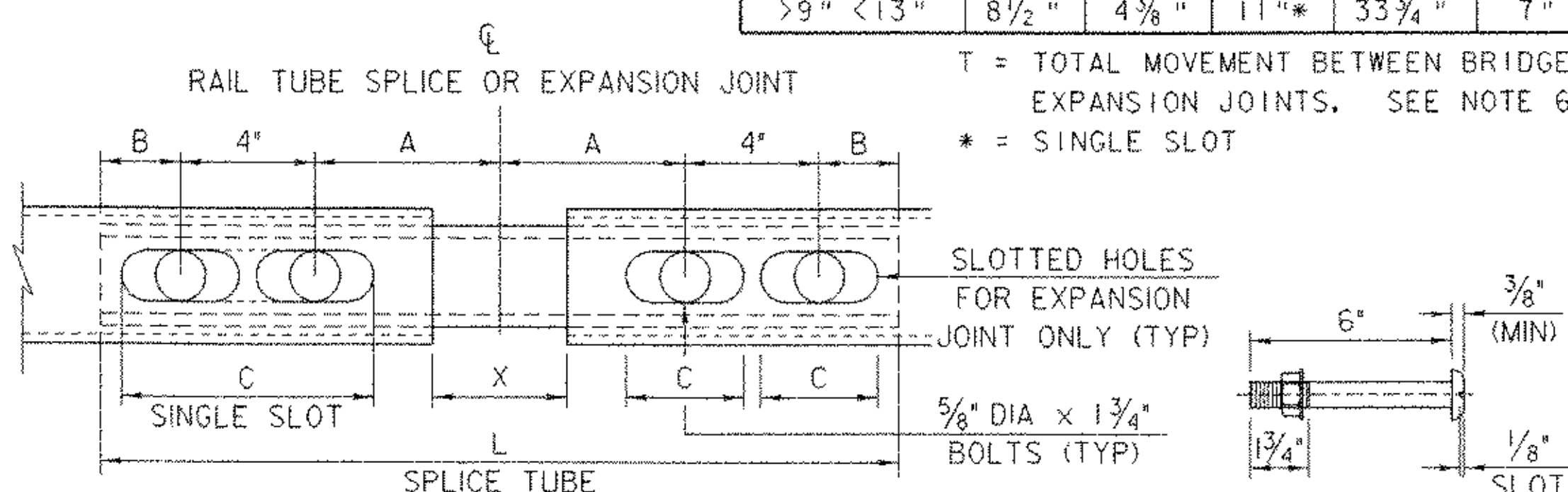
T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6.
 * = SINGLE SLOT



TYPICAL SECTION



ELEVATION



RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL (BOTTOM VIEW)

3/4" DIA M164 (TYPE 1) ROUND HEAD BOLT
 (WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT) (SEE NOTE #9)
 ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.

NOTES

- ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 - "RAILINGS" OF THE STANDARD SPECIFICATION FOR CONSTRUCTION.
- TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732 - "RAILING MATERIALS" OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING SHOWN ON THIS SHEET.
- ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
- RAIL POSTS SHALL BE SET NORMAL TO GRADE.
- SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
- RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
- ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232.
- RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
- RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
- HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED SEALER PRIOR TO ERECTION.
- IF THERE IS A CONFLICT BETWEEN THE DETAILS SHOWN ON THIS SHEET AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.
- ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
- THE FABRICATOR SHALL SUBMIT FABRICATION DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 506.04 OF THE STANDARD SPECIFICATIONS. ALL WELDING SHALL CONFORM WITH SUBSECTION 506.10.
- RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A-370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN.

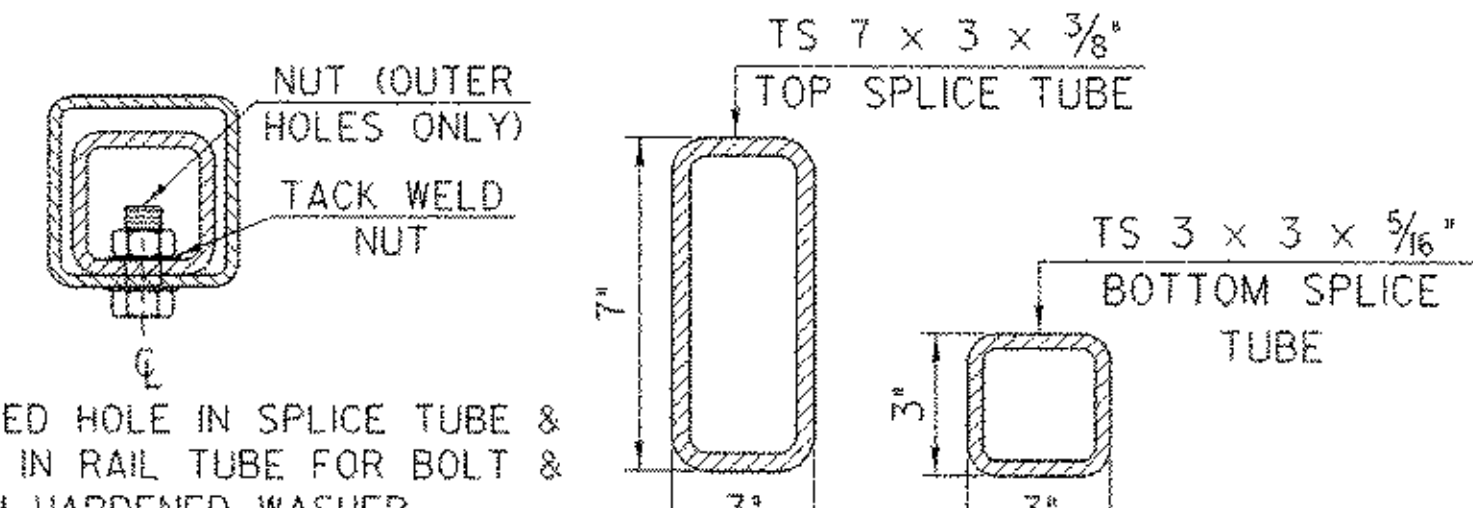
MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501
 RAIL POSTS AND BASE PLATES.....ASTM A709/A709M, GRADE 50
 ALL OTHER SHAPES AND PLATES.....ASTM A709/A709M, GRADE 36
 ANCHOR STUDS.....ASTM A449
 ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164, TYPE 1

NUTS FOR AASHTO M164 BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASHTO M291 (ASTM A563).

WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFICATIONS.

1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.



RAIL TUBE SPLICE SECTION

SHEET NAME: NETC BRIDGE RAIL DETAILS (1)	
PROJECT NAME: READING	HIGHWAY NO.: VT 44
PROJECT NUMBER: BRS 0148(6)S	BRIDGE NO.: 1
	OVER: THE MILL BROOK
FILE NAME: PW/856034/Structures/se034rail.dgn	PLOT DATE: 17-FEB-2006
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: C. CARLSON	IPARM NAME: se034rd.l
BRIDGE SHEET NUMBER:	SHEET 50 OF 83