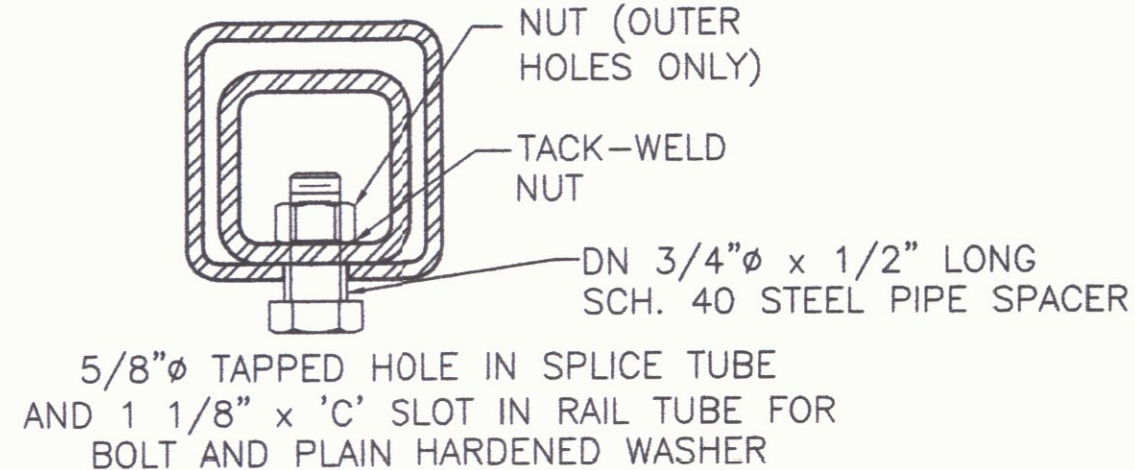
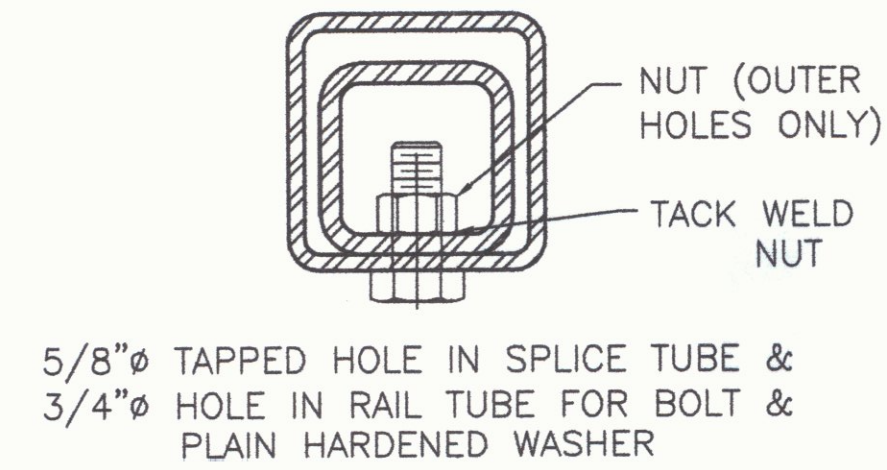


BRIDGE RAILING ELEVATION

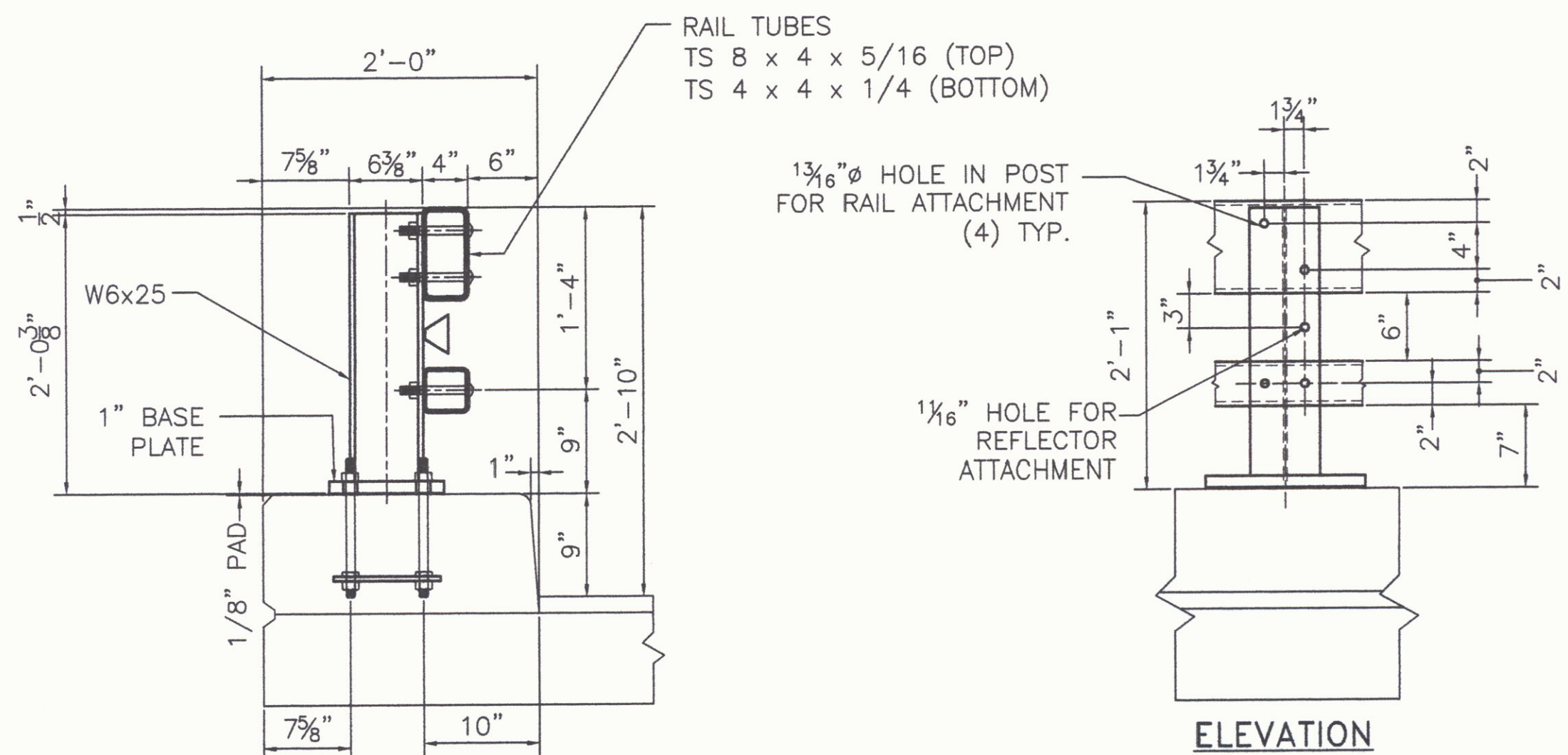


EXPANSION JOINT SECTION

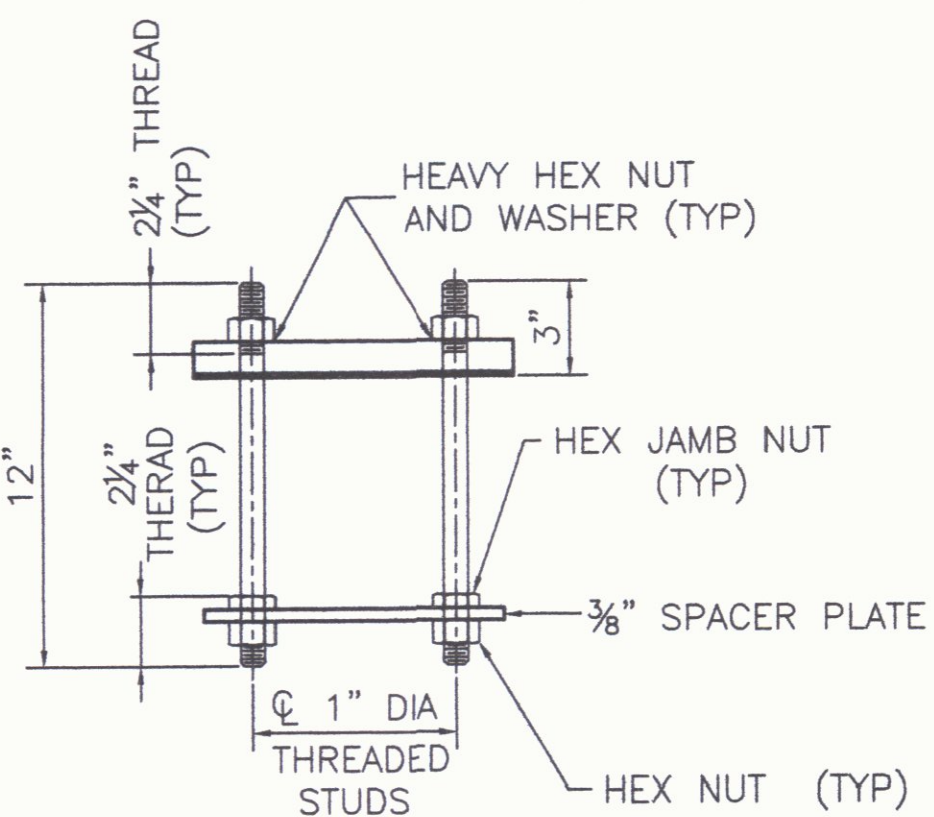
FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION."



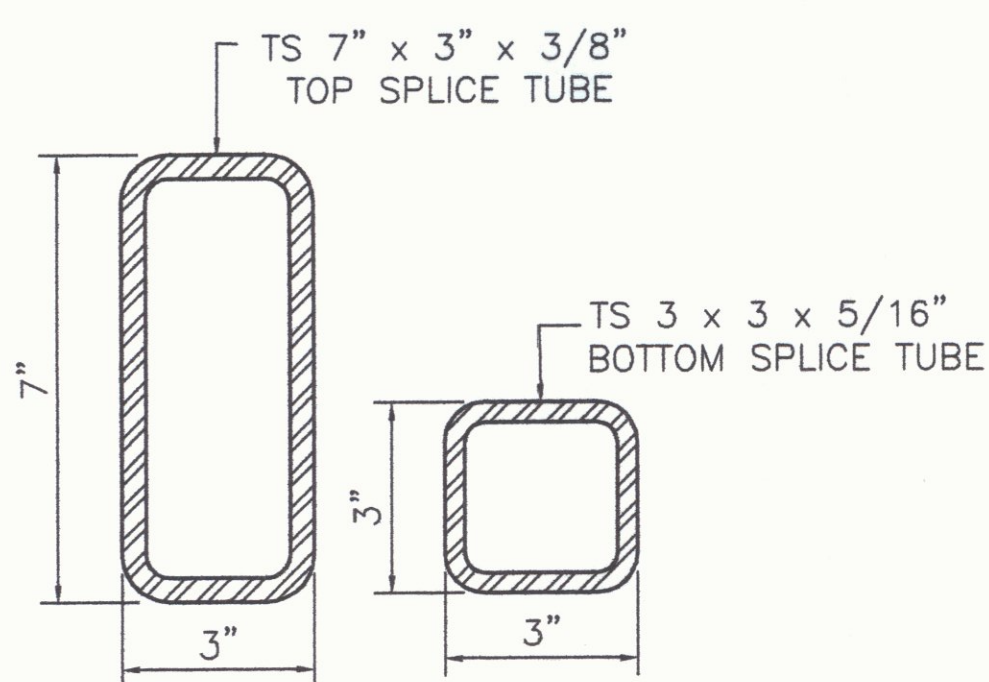
5/8" TAPPED HOLE IN SPLICE TUBE & 3/4" HOLE IN RAIL TUBE FOR BOLT & PLAIN HARDENED WASHER



TYPICAL SECTION



RAIL POST ANCHORAGE

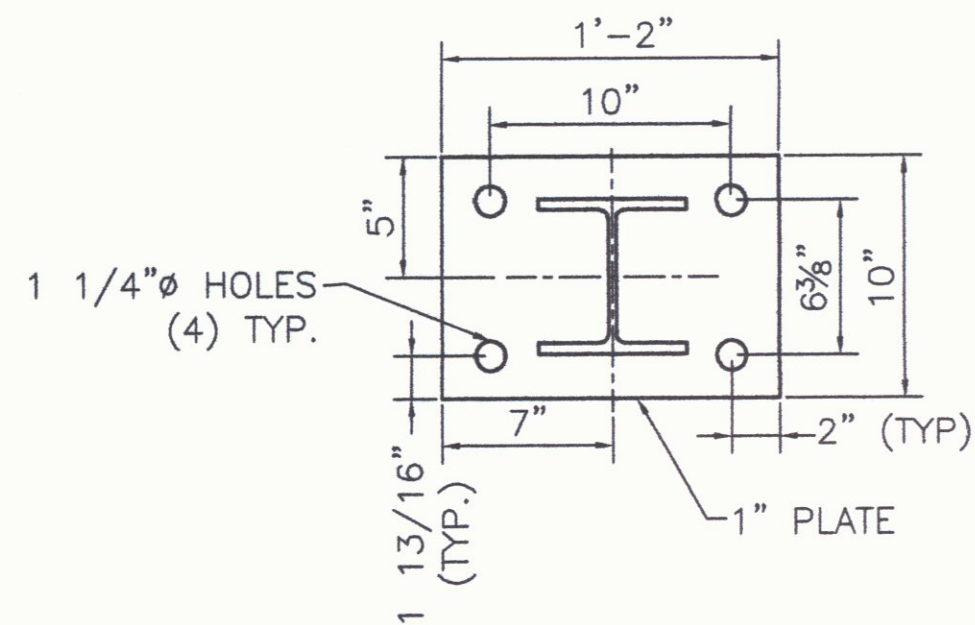


RAIL TUBE SPLICE SECTION

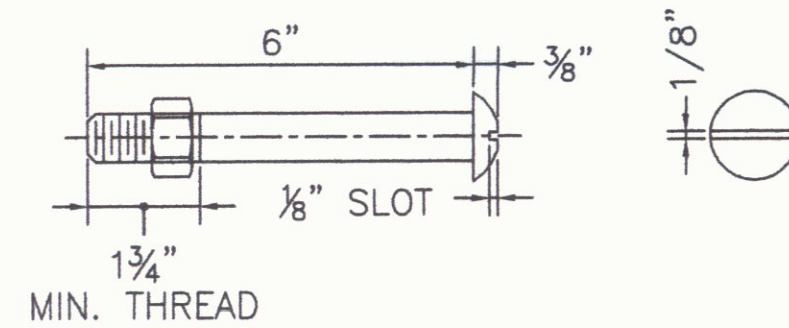
1 3/16" HOLE IN POST FOR RAIL ATTACHMENT (4) TYP.

1 1/8" HOLE FOR REFLECTOR ATTACHMENT

ELEVATION

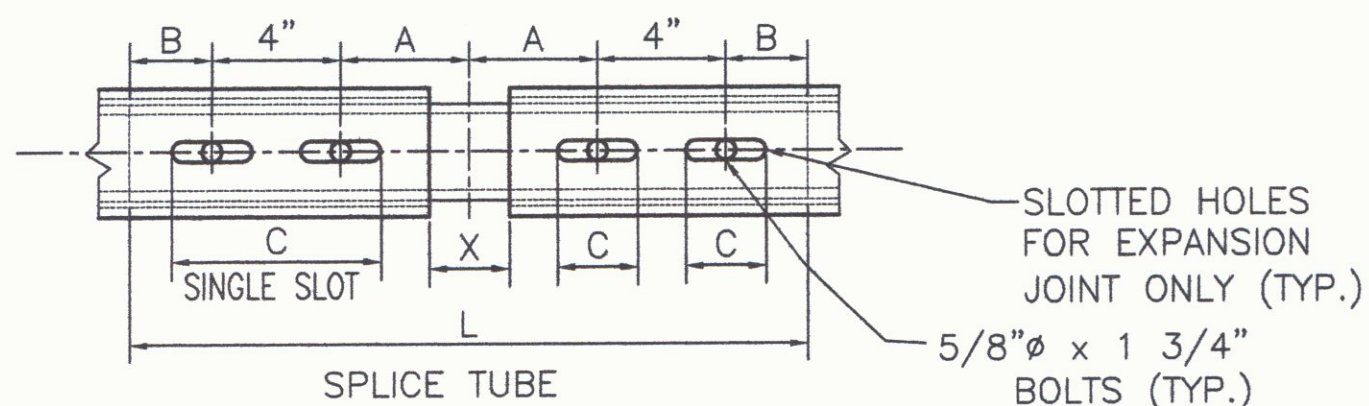


POST AND BASE PLATE

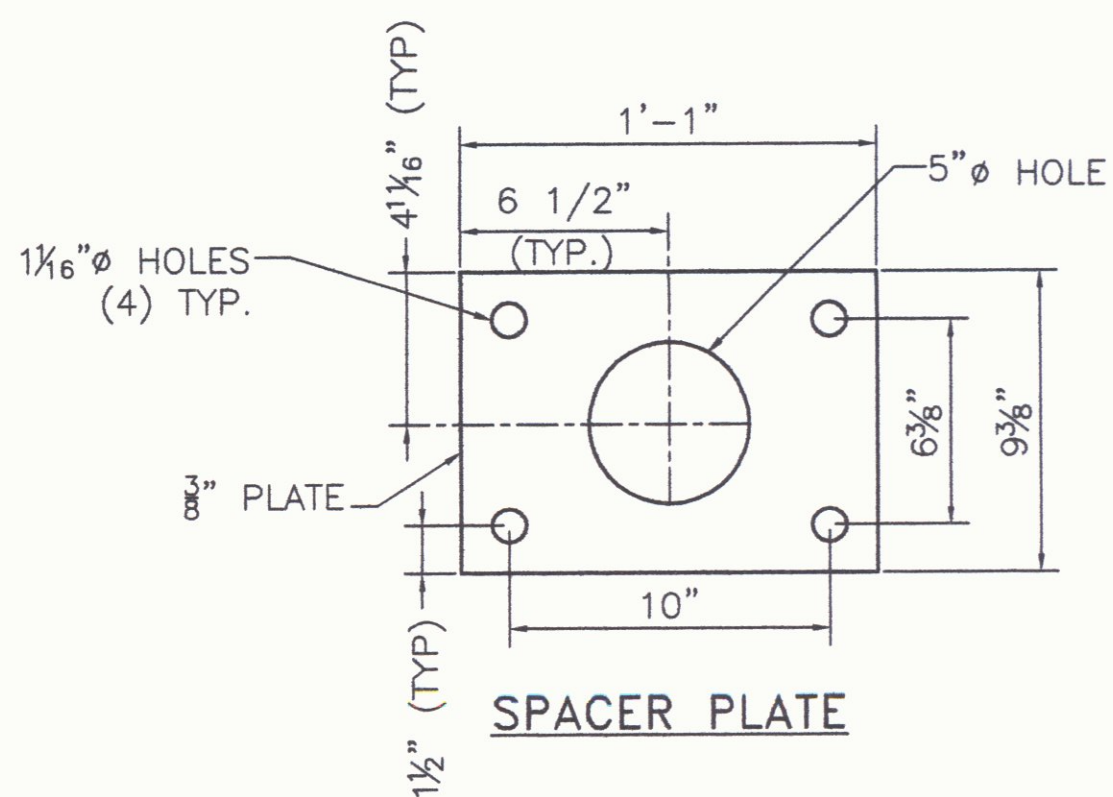


3/4" DIA. M164 (TYPE 1) ROUND HEAD BOLT

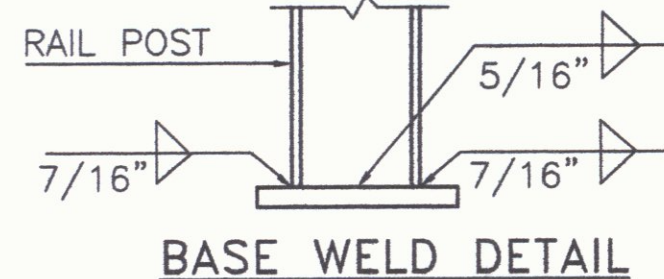
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT) (SEE NOTE #8) ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL



SPACER PLATE



BASE WELD DETAIL

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"

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 5

NOTES:

- ALL RAILINGS AND MATERIALS SHALL CONFORM TO THE PROVISION OF SECTION 525, "MATERIAL RAILINGS" OF THE STANDARD SPECIFICATION FOR CONSTRUCTION.
- PRIOR TO GALVANIZING, 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 JOINT 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 M111M/M 111, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232M/M 232.
- 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 BOLT 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 SHALL BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT 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 SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES ENGINEER FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 525.03. 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.
- REFLECTORS AND REFLECTOR HARDWARE PROVIDED BY OTHERS.

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.

**HIGHWAY SAFETY CORP**  
 GLASTONBURY, CT  
 860-633-9445

ITEM 525.33 BRIDGE RAILING - NETC 2 RAIL  
 US RT 5 OVER I-91, BRIDGE 19A  
 TOWN OF PUTNEY COUNTY OF WINDHAM, VT  
 PROJECT NUMBER: IM 091-1(31)

CERTIFIED FABRICATOR

GENERAL CONTRACTOR  
 SUB CONTRACTOR  
 DRAWN  
 CHECKED  
 DATE  
 SCALE  
 SIZE

F.R. LAFAYETTE, INC.  
 6/7/2010  
 NONE  
 D

1752  
 3 of 4

REVISIONS		
No.	Remarks	Date