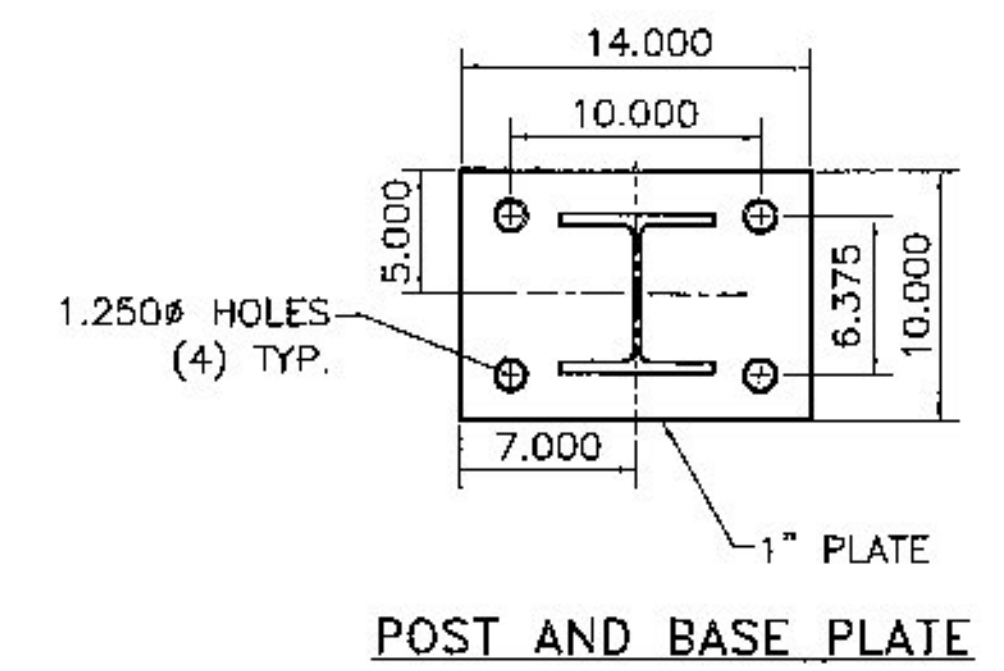
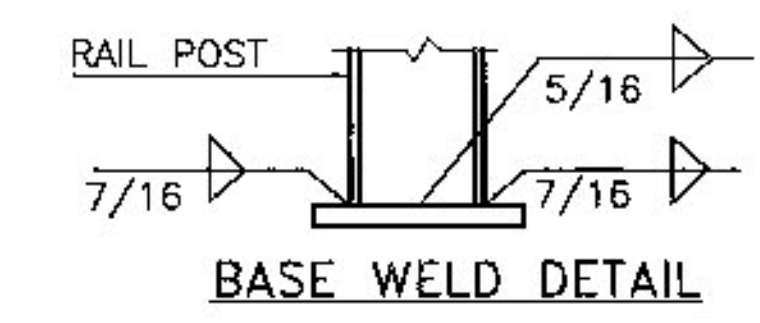


BRIDGE RAILING ELEVATION

Note: Provide Metric Dimensions



POST AND BASE PLATE



BASE WELD DETAIL

NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
2. PRIOR TO GALVANIZING, ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
3. ALL POSTS SHALL BE SET NORMAL TO GRADE.
4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
5. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
6. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT SHALL BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT DURING INSTALLATION.
7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
8. RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A449 ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
9. ANY BENDING OR CURVING OF RAIL SHALL BE DONE IN A FABRICATION PLANT IN ACCORDANCE WITH SUBMITTED PROCEDURES.
10. THE MINIMUM DISTANCE FROM A POST TO AN EXPANSION JOINT SHALL BE SUCH TO MAINTAIN MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
11. A DELINEATOR (SEE VAOT STANDARD DRAWING G-1 FOR DETAILS) SHALL BE INSTALLED AT NEAREST POST TO 30 FT SPACING. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
12. THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

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, TYPE1
- 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 POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN.

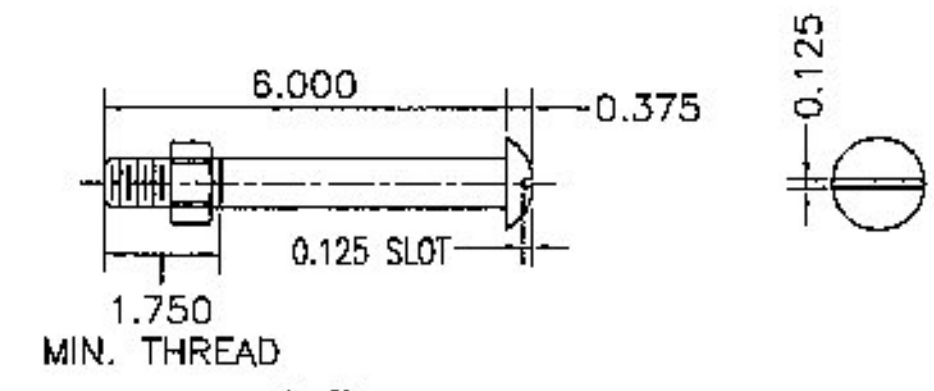
Vermont Agency of Transportation

RECEIVED

CK'D BY - OK'D BY D. Bonneau

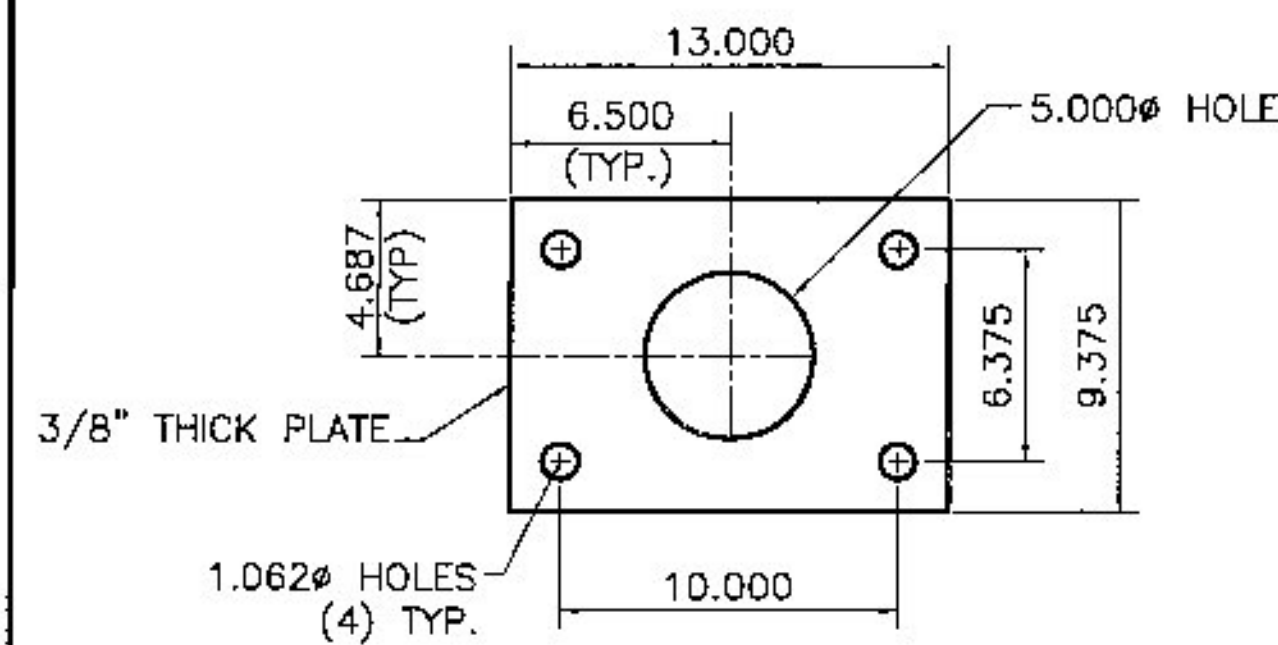
January 4, 2013

RESUBMIT No Approved BY Douglas Bonneau DATE 01/08/13

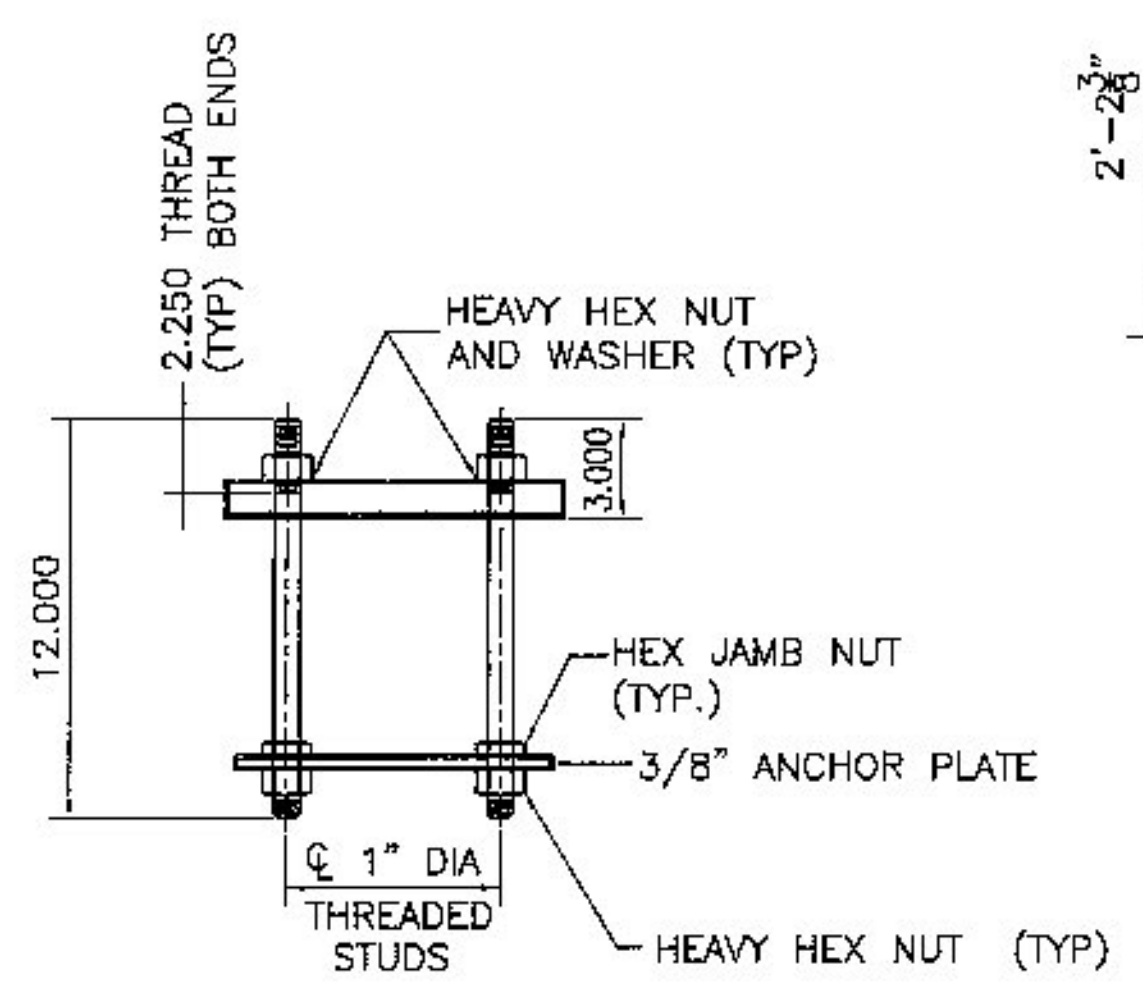


3/4" DIA. A449 ROUND HEAD BOLT

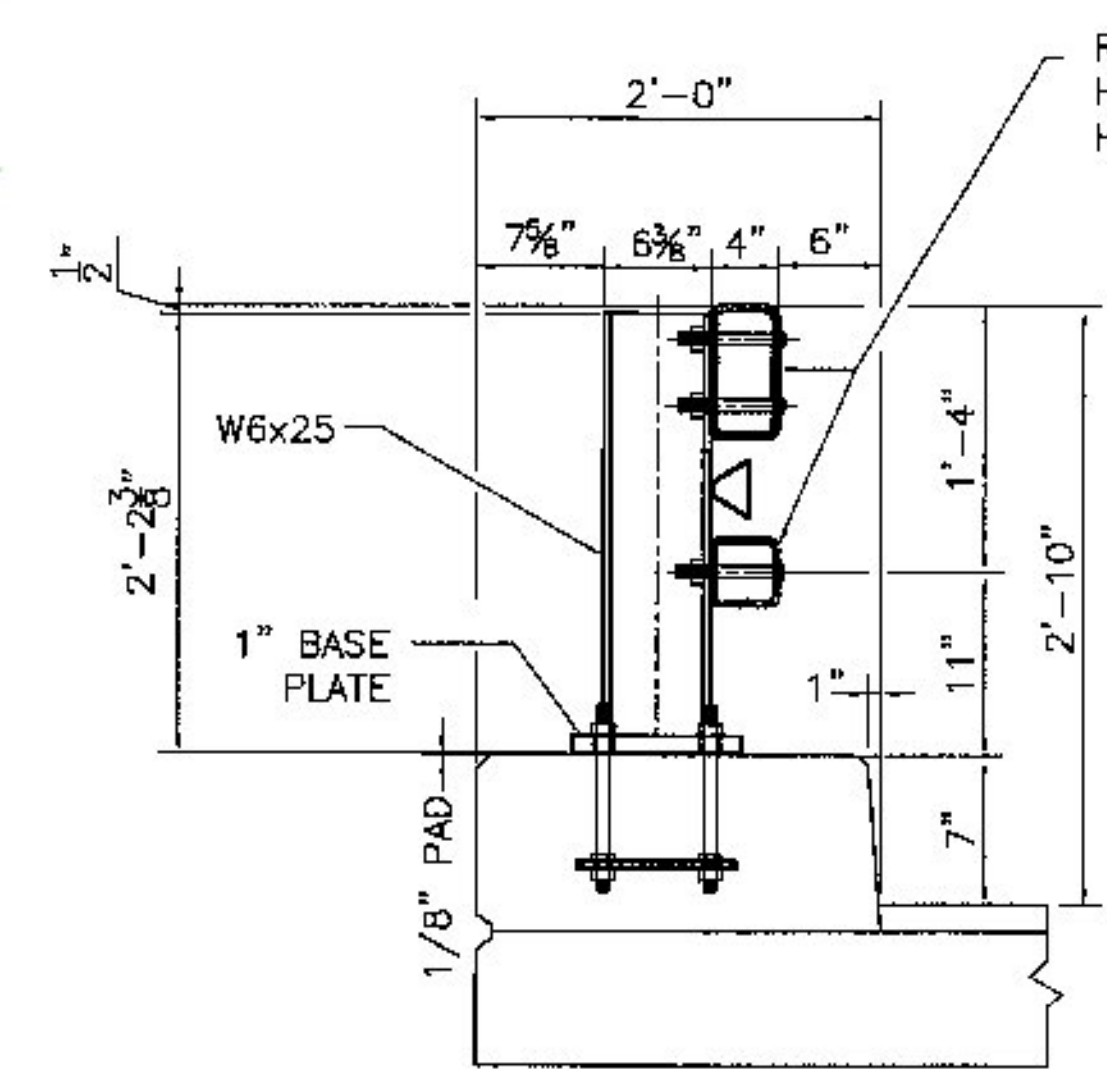
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT) (SEE NOTE #8) ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



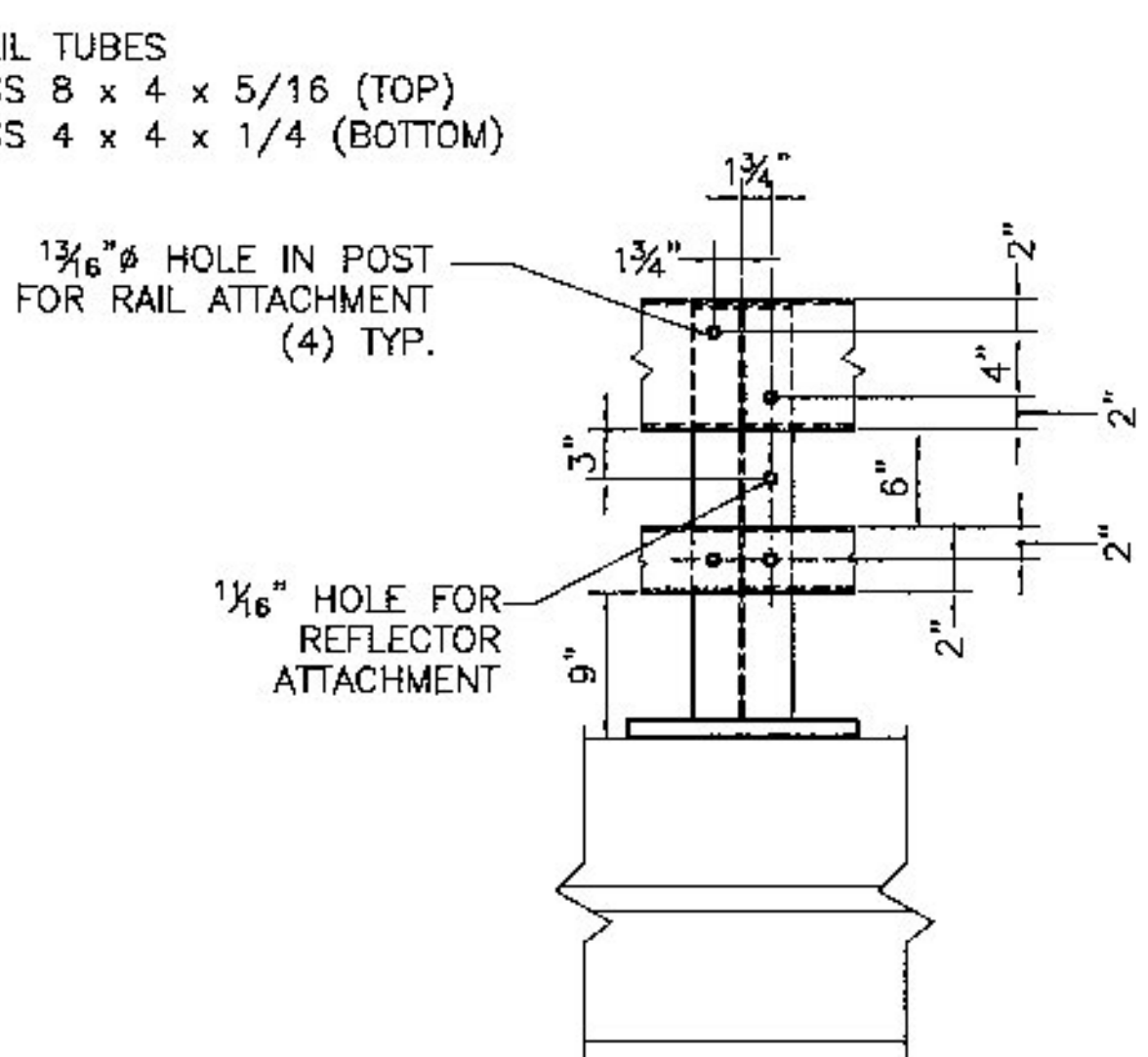
ANCHOR PLATE



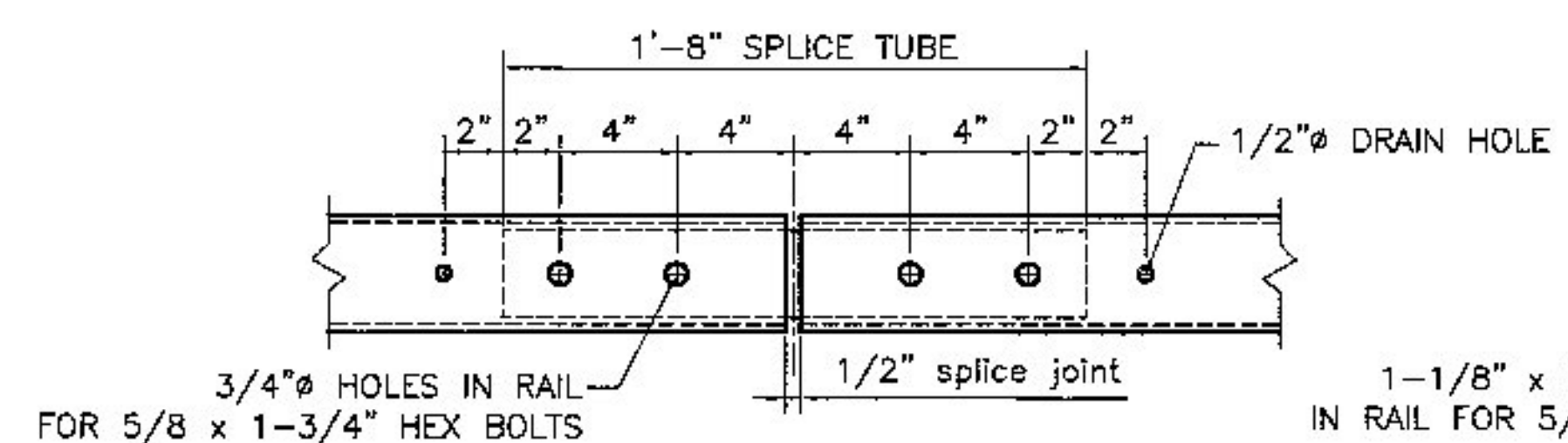
RAIL POST ANCHORAGE



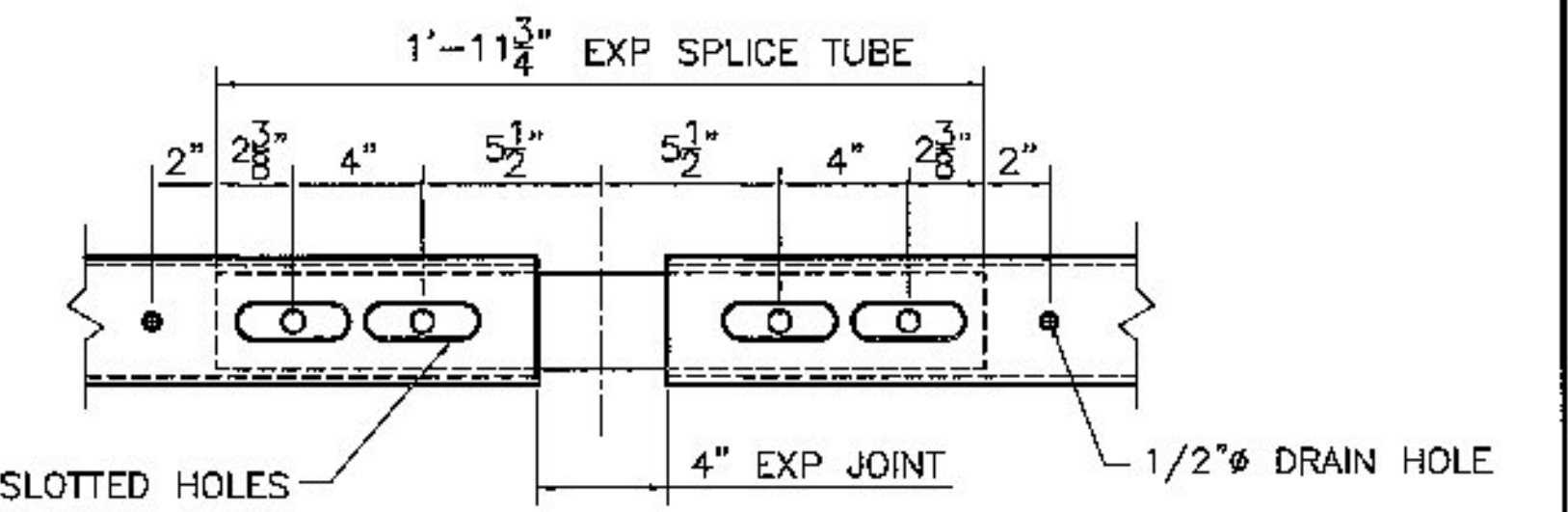
TYPICAL SECTION



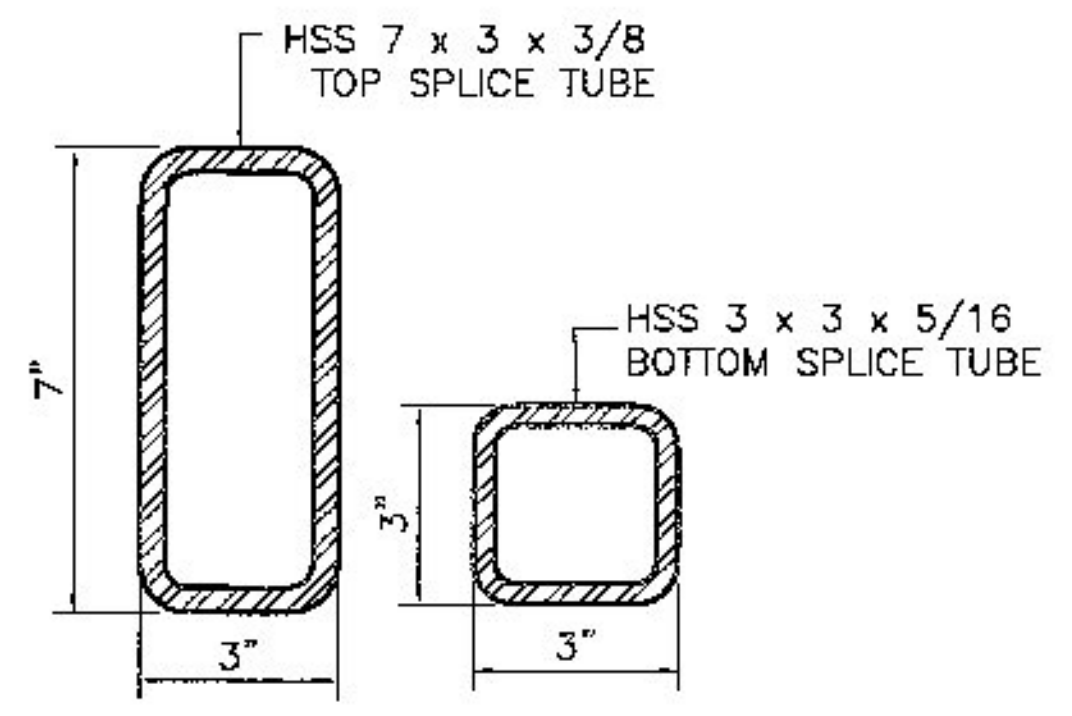
ELEVATION



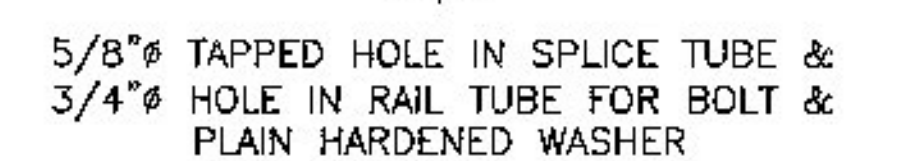
FIXED SPLICE JOINT DETAIL BOTTOM VIEW



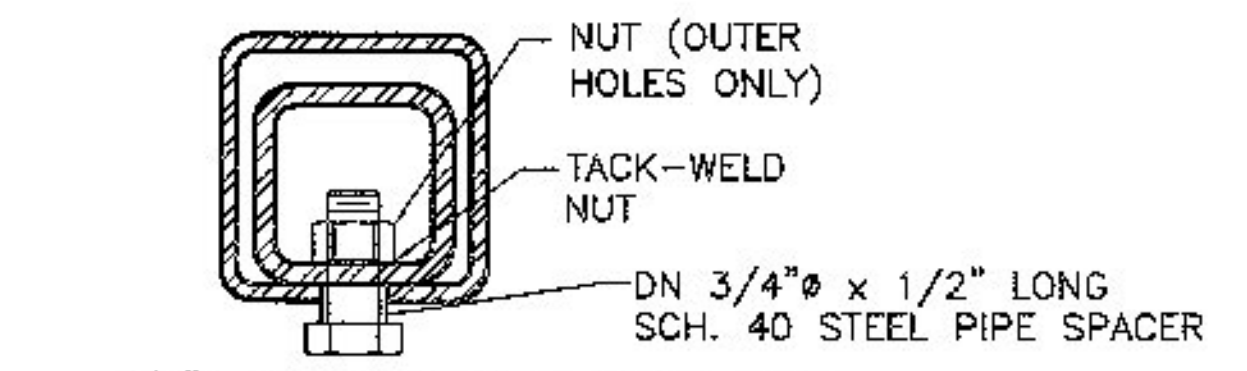
EXPANSION SPLICE DETAIL BOTTOM VIEW



RAIL TUBE SPLICE SECTION



FIXED SPLICE JOINT SECTION



EXPANSION JOINT SECTION

Reviewed Rejected * Furnish As Corrected Revise and Resubmit

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during the review do not relieve the Contractor from compliance with the requirements of the Plans and Specifications. Review of a specific item shall not include review of an assembly of which an item is a component. The Contractor is responsible for dimensions to be confirmed or corrected at the job site; information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction, coordination of the Work with that of other trades and performing all Work in a safe and satisfactory manner.

Date: January 3, 2012
By: D. Kull

McFarland Johnson

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 METC 2 RAIL BRIDGE RAILING (S-360A)

TOWN OF MORRISTOWN, VERMONT
LAMOILLE COUNTY
VT100 MINOR ARTERIAL STP F 029-1(2) C/1

GENERAL CONTRACTOR: LAFAYETTE
SHEET NO: 3 of 3

DATE: 11-28-12