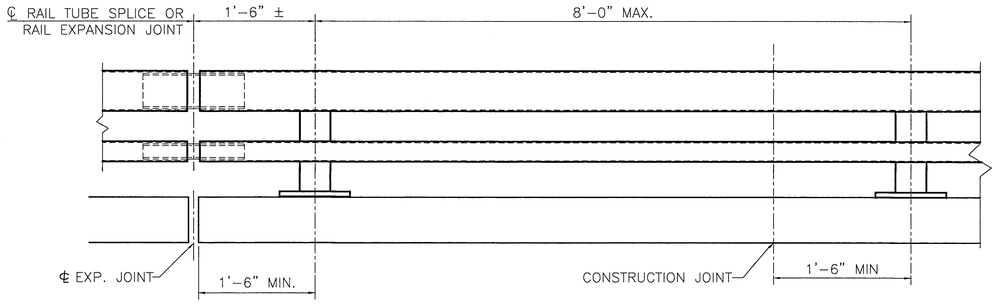
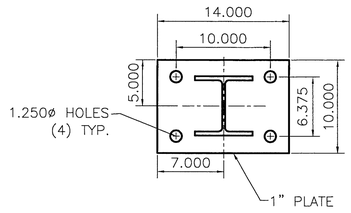
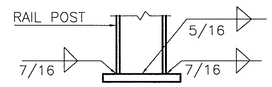


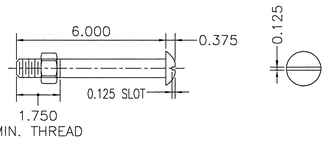
BRIDGE RAILING ELEVATION



POST AND BASE PLATE

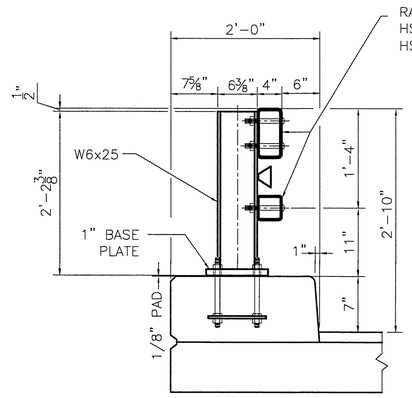


BASE WELD DETAIL

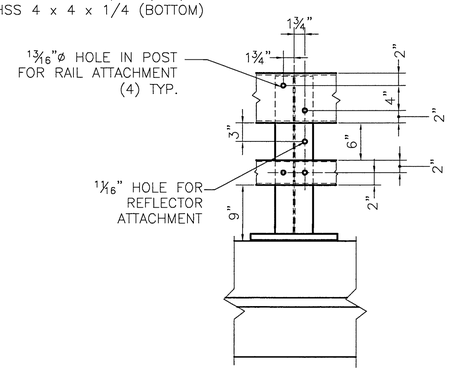


3/4" DIA. A449
ROUND HEAD BOLT

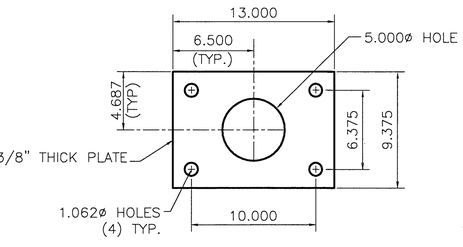
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



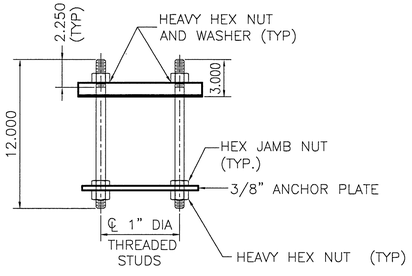
TYPICAL SECTION



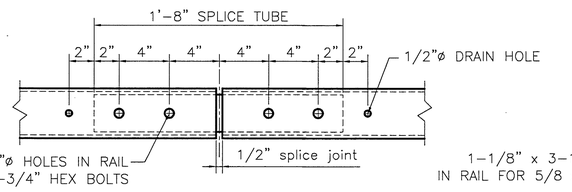
ELEVATION



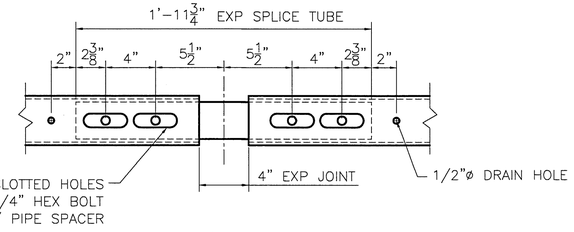
ANCHOR PLATE



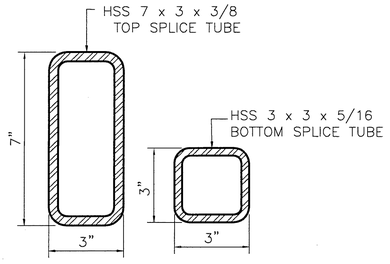
RAIL POST ANCHORAGE



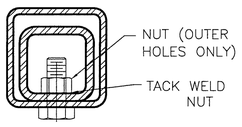
FIXED SPLICE JOINT DETAIL
BOTTOM VIEW



EXPANSION SPLICE DETAIL
BOTTOM VIEW

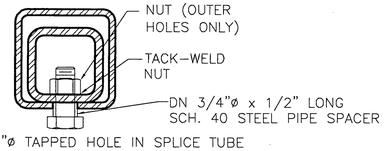


RAIL TUBE SPLICE SECTION



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

FIXED SPLICE JOINT SECTION



5/8"ø TAPPED HOLE IN SPLICE TUBE
AND 1 1/8" x 3.500 SLOT IN RAIL TUBE FOR
BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION Ⓐ

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) RAIL 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 AND APPROVED ZINC-RICH PAINT PRIOR TO 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 REQURIEMENTS 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, GARDE 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 AASTHO M291 (ASTM A563).

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

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
2048 shopdwg rev A approved.pdf
CK'D BY FDB OK'D BY HIS
May 29, 2015
RESUBMIT No Approved
BY Carolyn Carlson DATE 6/2/2015

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM (S-360A)
BRF 024-1(37)
VT ROUTE 12 - BRIDGE 77
TOWN OF MIDDLESEX, WASHINGTON COUNTY VT
GENERAL CONTRACTOR
SUB CONTRACTOR LAFAYETTE
AISC CERTIFIED FABRICATOR
HSC JOB NO. 2048
SHEET NO. 2 of 3
DRAWN PAR | CHECKED | DATE 05-07-15 | SCALE NONE | SIZE D