

**NOTES**

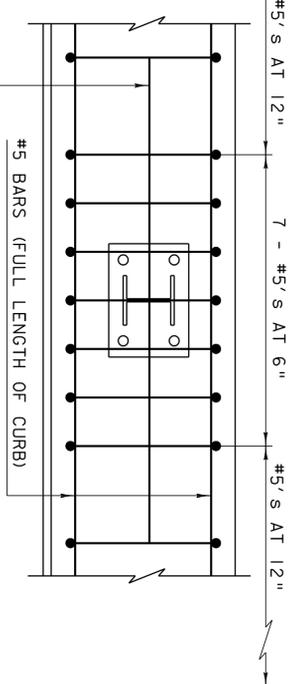
1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
2. RAILING MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 732.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE RAIL POSTS AND PREFERABLY TO AT LEAST FOUR POSTS.
6. RAIL TUBE EXPANSION JOINTS 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 "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
7. RAIL POSTS 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 A 449 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/8" LARGER THAN THE BOLT SIZE.
9. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
10. ANY BENDING OF RAIL SHALL BE DONE AT A FABRICATION PLANT, ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
11. THE FABRICATOR SHALL SUBMIT FABRICATION DRAWINGS INCLUDING WELDING PROCEDURES IN ACCORDANCE WITH SECTION 105.

**SPLICE TABLE**

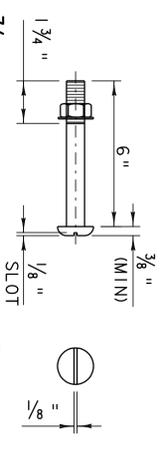
T	A	B	C	L	X
N/A	4"	2"	--	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"
>4" <6 1/2"	5 1/2"	2 3/8"	3 1/2"	23 3/4"	4"
>6 1/2" <9"	6 1/2"	3 3/8"	9"*	27 3/4"	5"
>9" <13"	8 1/2"	4 3/8"	11"*	33 3/4"	7"

T = TOTAL MOVEMENT AT RAIL EXPANSION JOINT AS SHOWN IN THE CONTRACT PLANS. (SEE NOTE #6)  
\* = SINGLE SLOT

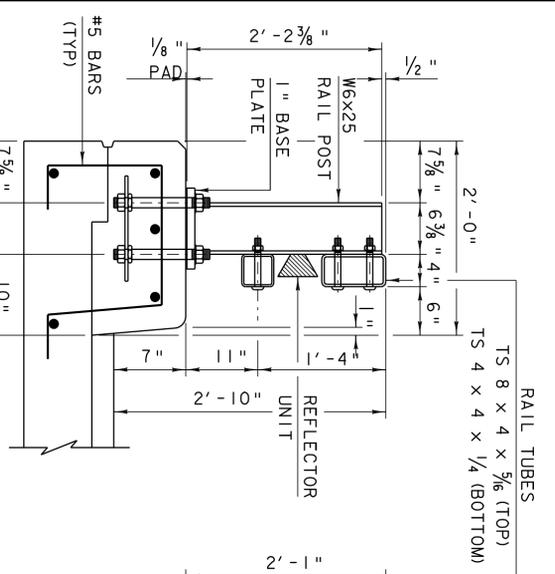
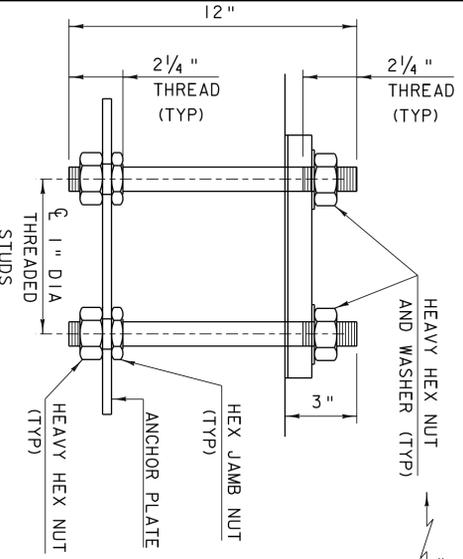
**CURB REINFORCING PLAN**



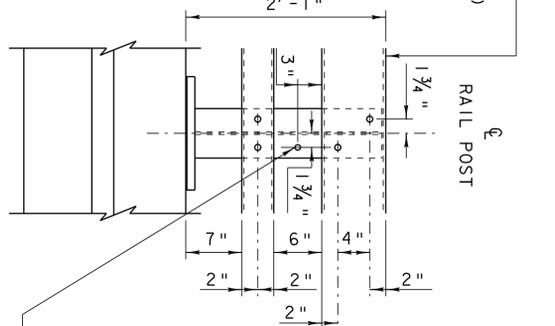
**ROUND HEAD BOLT**



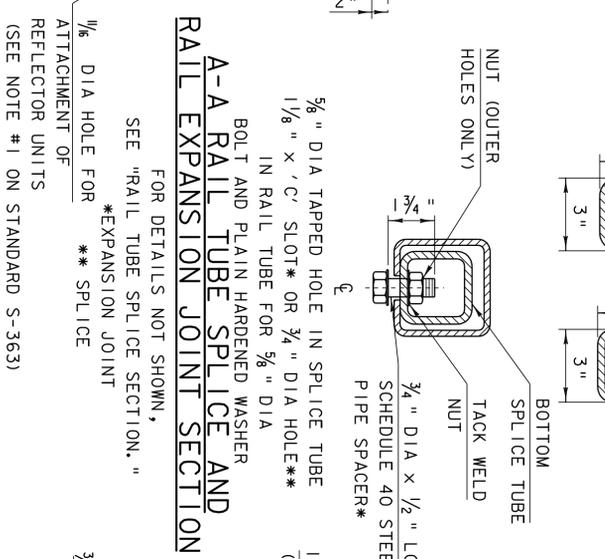
**RAIL POST ANCHORAGE**



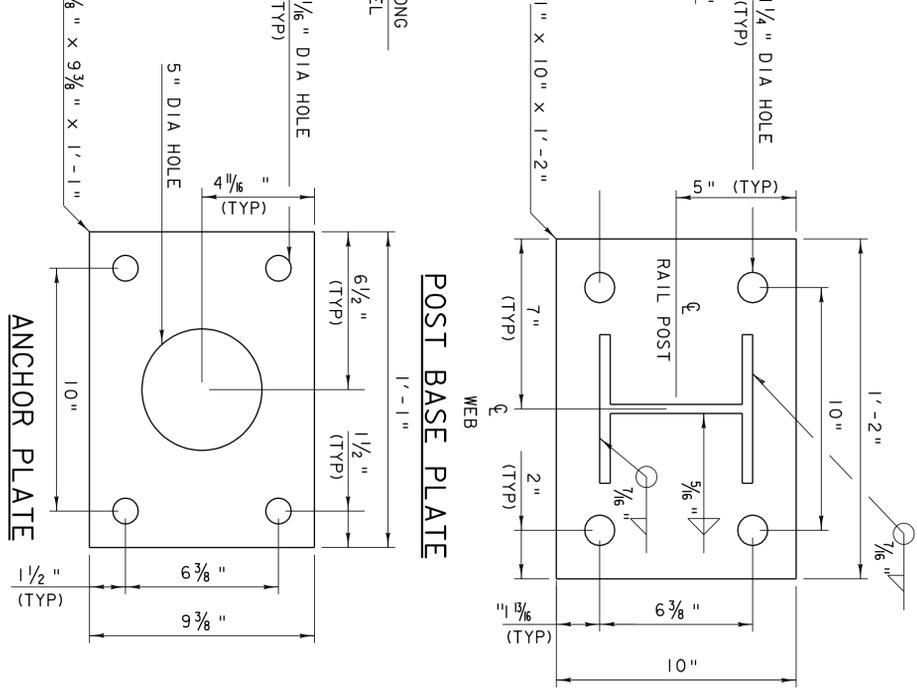
**ELEVATION**



**A-A RAIL TUBE SPLICE AND RAIL EXPANSION JOINT SECTION**



**POST BASE PLATE**



**ANCHOR PLATE**



REVISIONS AND CORRECTIONS  
MMM DD, YYYY - ORIGINAL APPROVAL DATE

APPROVED  
STRUCTURES ENGINEER  
DIRECTOR OF PROGRAM DEVELOPMENT  
FEDERAL HIGHWAY ADMINISTRATION

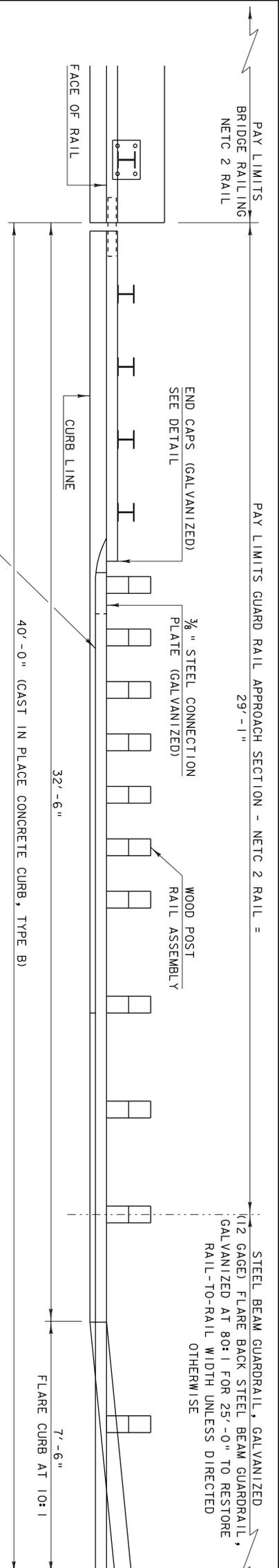
**BRIDGE RAILING,  
GALVANIZED NETC 2 RAIL**

VERMONT AGENCY OF TRANSPORTATION  
**STANDARD  
S-360a**

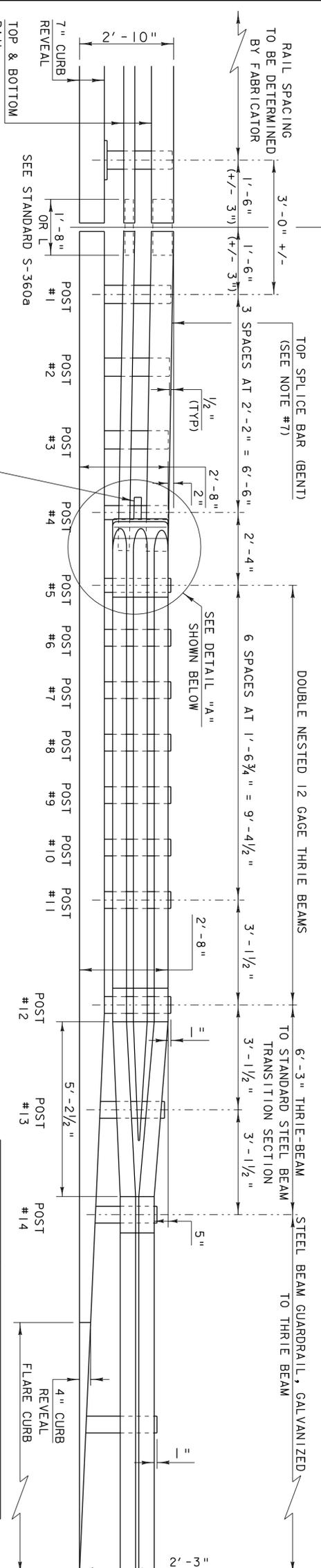
**RECEIVED**  
Vermont Agency of Transportation  
CK'D BY KMH OK'D BY RSY  
December 23, 2012  
RESUBMIT No Approved AsNoted  
By Rob Young DATE 01/04/2013  
OTHER STANDARDS REQUIRED: S-363

**MATERIALS**

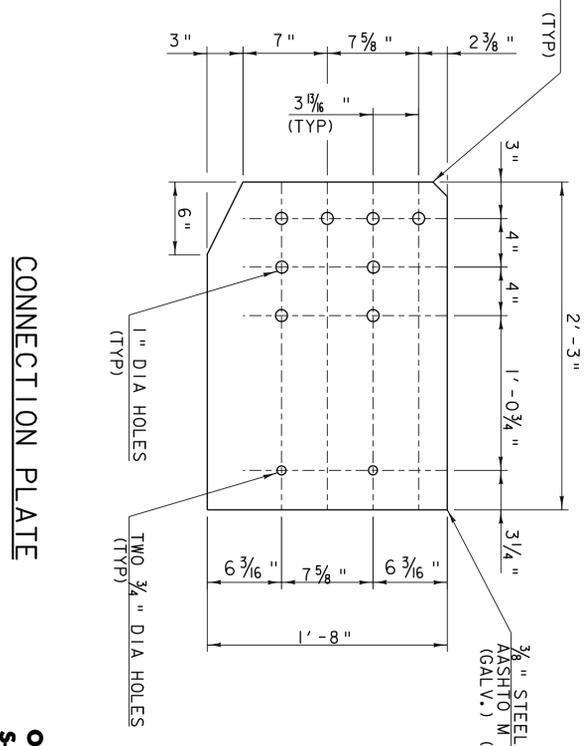
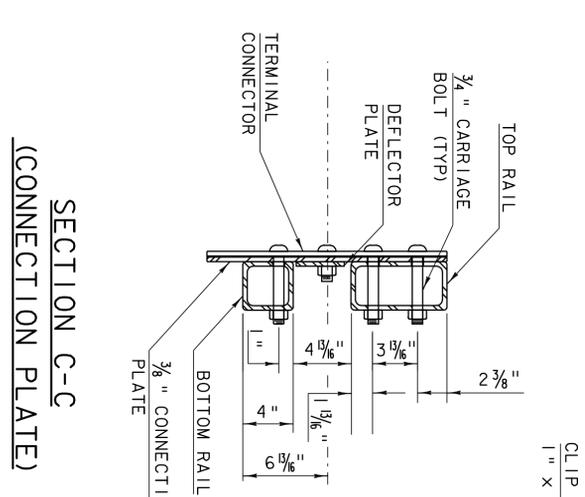
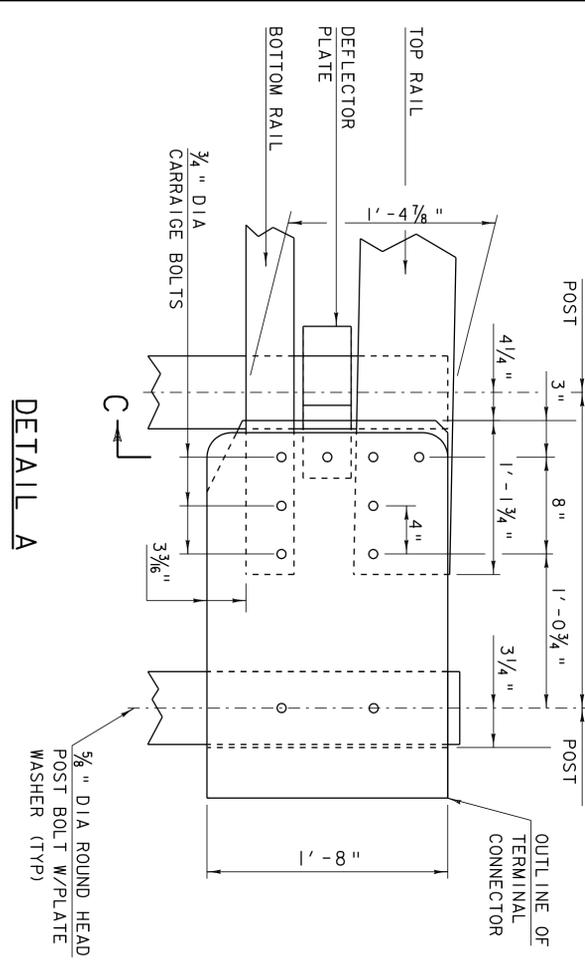
1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.



**RAILING TRANSITION PLAN**

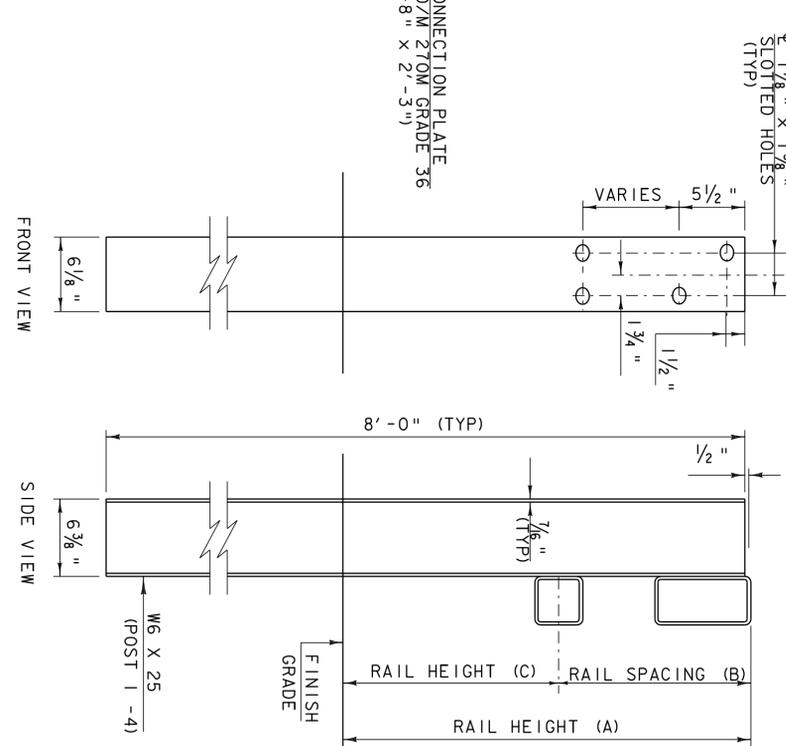


POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	RAIL HEIGHT (C)
1	2' - 9 1/2"	1' - 3 3/4"	1' - 5 3/4"
2	2' - 9"	1' - 3 1/2"	1' - 5 1/2"
3	2' - 8 1/2"	1' - 3 3/8"	1' - 5 5/8"
4	2' - 8"	1' - 2 7/8"	1' - 5 1/8"



**OTHER STDS. REQUIRED:**  
S-360a, S-363

**RAIL POST SECTION (POSTS 1-4)**



- NOTES**
- REFER TO STANDARD S-360a FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
  - PAYMENT FOR GUARD RAIL APPROACH SECTION - GALVANIZED NETC 2 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
  - RETROREFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE A 0.063" ALUMINUM BACKING WHITE/YELLOW REFLECTOR. YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT AND WHITE ON HER RIGHT.
  - ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
  - TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
  - APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM A563 GRADE A OR BETTER) (GALVANIZED). WASHERS SHALL BE ASTM F844.
  - WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).

REVISIONS AND CORRECTIONS  
MMM DD, YYYY - ORIGINAL APPROVAL DATE

APPROVED  
STRUCTURES ENGINEER  
DIRECTOR OF PROGRAM DEVELOPMENT  
FEDERAL HIGHWAY ADMINISTRATION

**GUARDRAIL APPROACH SECTION,  
GALVANIZED NETC 2 RAIL**

VERMONT AGENCY OF TRANSPORTATION  
**STANDARD**  
**S-360b**