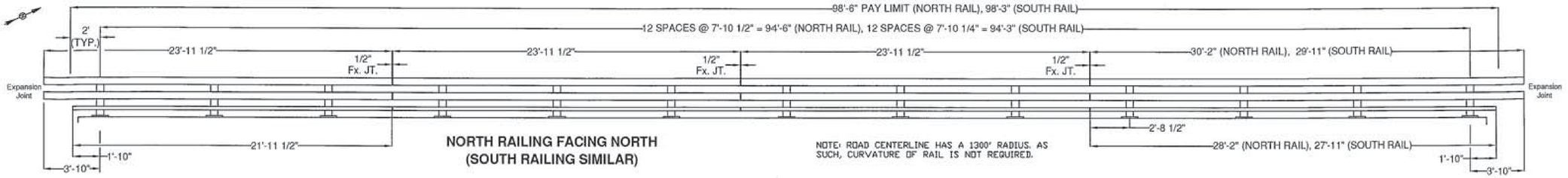
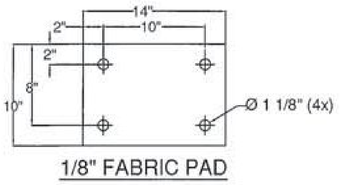
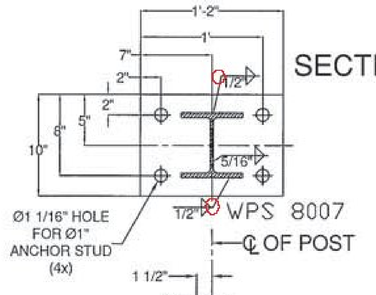


NORTH RAILING FACING NORTH
(SOUTH RAILING SIMILAR)

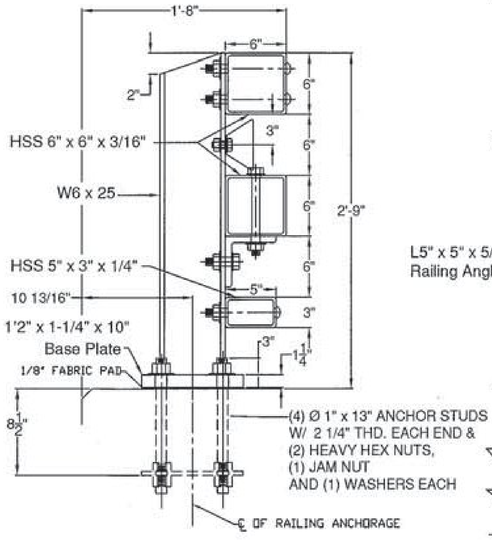
NOTE: ROAD CENTERLINE HAS A 1300' RADIUS. AS SUCH, CURVATURE OF RAIL IS NOT REQUIRED.



1/8" FABRIC PAD



SECTION A-A



SECTION

ELEVATION

STEEL BRIDGE RAILING

Vermont Agency of Transportation
RECEIVED
CK'D BY OK'D BY Rob Young
February 15, 2017
RESUBMIT No Approved
BY Rob Young DATE 02/23/2017

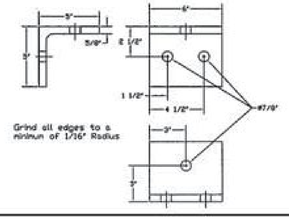
BILL OF MATERIAL

ITEM #	QTY	PART #	DESCRIPTION	ASTM DESIGNATION
1	26	0033.03610	W6x25, THREE RAIL POST @ 2'-9" DA DN 1 1/4x10x1'-2" B.P.	A572 Gr. 50
2	2	TBD	HSS 3" X 5" X 1/4" RAIL @ 21'-11 1/2"	A500 Gr. B
3	4	TBD	HSS 3" X 5" X 1/4" RAIL @ 23'-11 1/2"	A500 Gr. B
4N	1	TBD	HSS 3" X 5" X 1/4" RAIL @ 28'-2" (NORTH RAIL)	A500 Gr. B
4S	1	TBD	HSS 3" X 5" X 1/4" RAIL @ 27'-11" (SOUTH RAIL)	A500 Gr. B
5	12	TBD	HSS 6" X 6" X 3/16" RAIL @ 23'-11 1/2"	A500 Gr. B
6N	4	TBD	HSS 6" X 6" X 3/16" RAIL @ 30'-2" (NORTH RAIL)	A500 Gr. B
6S	4	TBD	HSS 6" X 6" X 3/16" RAIL @ 29'-11" (SOUTH RAIL)	A500 Gr. B
8	6	0033.00840	2-1/8" X 4-1/4" FIX. SPLICE BAR @ 2'-3"	A572 Gr. 50
9	12	0033.00640	HSS 5" X 5" X 5/16" FIX. SPLICE TUBE @ 2'-3"	A500 Gr. B, A572 Gr. 50
10	26	0033.00220	3/8" X 10" X 14" ANCHOR PLATES	A572 Gr. 50
11	26	0033.00050	1/8" X 10" X 14" FABRIC PAD	AASHTO M251
12	106*	0042.21013	Ø 1" X 13" ANCHOR STUDS, W/ 2 1/4" THD. EACH END	A449
13	210*	0080.18901	Ø 1" HEAVY HEX NUTS	A563 DH
14	104	0080.18911	Ø 1" FLAT WASHERS	F436
15	104	0080.18905	Ø 1" HEX JAM NUTS	A563 DH
16	104	0080.07500	Ø 7/8" X 8" ROUND HEAD BOLT, NUT, SQ. WASHER, L.W.	A449, A563 DH, F436, ASME D18.2
17	26	0080.06400	Ø 3/4" X 8" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563 DH, F436, & ASME D18.2
18	52	0080.06140	Ø 3/4" X 2-3/4" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563 DH, F436, & ASME D18.2
19	48	0080.06340	Ø 3/4" X 7-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563 DH, & F436
20	24	0080.06255	Ø 3/4" X 4-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563 DH, & F436
21	26	0033.00500	L5" X 5" X 5/8" RAILING ANGLE @ 6'	A572 Gr. 50
22	6	--	DELINEATORS - NOT SHOWN	(** - SUPPLIED BY CUSTOMER)

*-2 EXTRA FOR VOAT TESTING

GENERAL NOTES:

1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 OF THE STANDARD SPECIFICATIONS.
2) PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
3) ALL POST SHALL BE SET NORMAL TO GRADE. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POST IS 8'-3".
4) SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
5) RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPER STRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4"@ 68°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
6) STD. SPLICE HOLES ONLY IN BRIDGE RAIL TUBES. REST TO BE DRILLED BY CUSTOMER. FIELD DRILLED HOLES TO BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
7) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
8) SEE STANDARD DRAWING G-lb FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. 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 FOR DELINEATORS SHALL BE INCIDENTAL TO OTHER ITEMS.
9) ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
10) THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
11) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
12) THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.



ITEM #: 525.335

SHEET 1 OF 2

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

TOLERANCE UNLESS OTHERWISE NOTED:
FRACTIONS = ± 1/16"
ANGLES = ± 1/2°
DIAMETERS = ± 1/32"

BRIDGE RAIL DETAILS SHEET

TH-1, RURAL MAJOR COLLECTOR, FAS ROUTE 0211, BRIDGE # 8
TOWN OF HUNTINGTON, COUNTY OF CHITTENDEN, VT.

R E V	NO.	DATE	DESCRIPTION	BY	R E V	NO.	DATE	DESCRIPTION	BY
	1	2/8/17	REVISED PER 12/16/16 MARK-UP	EP					

ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
E-Mail: dlong@elderlee.com, epeek@elderlee.com
Tel: 315-789-6670 Fax: 315-789-6615

CERTIFIED FABRICATOR

DRAWN	E.P.	12/14/16
CHECKED	D.L.	.
APPROVED	.	.
SCALE	SCHEMATIC	

DRAWING NO. F.R.L.-HUNTINGTON-(32)