



GENERAL NOTES:

- 1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 621 OF THE STANDARD SPECIFICATIONS.
- 2) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
- 3) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
- 4) BOX BEAM TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
- 5) ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT, RADIi GREATER THAN 16' TO BE CURVED ON A TUBE BENDING MACHINE, RADIi EQUAL OR LESS THAN 16' TO BE "PIE CUT" AND WELDED. CURVED RAILING WILL HAVE AN 18" LENGTH ON EACH END STRAIGHT TO ACCOMADATE SPLICES. "PIE CUTS ARE LOCATED SO AS TO NOT CONFLICT WITH POST FASTENING HOLES. PIE CUTS WILL BE WELDED ACCORDING TO PROCEDURE WPS-3026.

BILL OF MATERIALS (EACH CORNER)				
ITEM #	QTY.	COMPONENT #	DESCRIPTION	MATERIAL (ASTM)
1	3	0013.57021	S3 X 5.7 POST, PUNCH 8' W/SPD @ 63' LG	ASTM A572 Gr. 50
2	3	0013.57025	S3 X 5.7 POST, PUNCH 8', & 20' W/SPD @ 63' LG	ASTM A572 Gr. 50
3	2	0013.57060	S3 X 5.7 END POST W/SPD @ 3'-8" LG	ASTM A572 Gr. 50
4	4	0013.09001	W6 X 9 POST @ 7' W/SPD @ 5/8" HOLES	ASTM A572 Gr. 50
5	4	0013.57010	S3 X 5.7 POST, PUNCH 8' & 20', W/8X32" SPADE @ 7'	ASTM A572 Gr. 50
7	1	0033.00640	HSS 5X5 TUBE SPLICE @ 27' LG W/ 1/4" SHIMS	A500 Gr. B / A572 Gr 50
8	2	0033.00730	HSS 5x5 EXP TUBE SPLICE @ 36' LG W/ 1/4" SHIMS	A500 Gr. B / A572 Gr 50
10	19	0054.00050	REG BB SHELF ANGLES @ 4-1/2"	ASTM A36
12	1	0054.00074	HSS 5 X 5 X 5/16" DBL BEND TUBE SPL @ 27' LG,	A500 Gr. B / A572 Gr 50
13	8	0054.00563	6 X 8 X 1/4" TRANS. TUBE B/D @ 6' LG	A500 Gr. B
15	1	0054.09000	6 X 6 X 3/16" BB @ 9'-0" KICKBACK, W/ CAP, & 13" MITER	A500 Gr. B / A36
16	1/2	0054.18000	6 X 6 X 3/16" BB @ 9'-0" THIS PAY ITEM, DRILL 3" CC	A500 Gr. B
17	1	0054.90092	6 X 6 X 3/16" BB TOP TRANS @ 20'-9 5/8" LG W/EXP END	A500 Gr. B
18	1	0054.90093	6 X 6 X 3/16" BB BTM TRANS @ 21'-4 5/8" LG W/EXP END	A500 Gr. B
19	17	0080.03355	3/8" X 7 1/2" BOLT, NUT, & 2 FW	A307, A563 DH, F436
20	19	0080.04100	1/2" x 1-1/2" BOLT, NUT, & FW	A307, A563 DH, F436
21	16	0080.04120	1/2" x 1-1/2" BOLT, NUT, 2 FW & LW	A307, A563 DH, F436
23	14	0080.06340	3/4" X 7-1/2" BOLT, NUT, 2 FW	A325, A563 DH, F436
24	4	0080.06370	3/4" X 8" CARR BOLT, NUT, FW & LW	A307, A563 DH, F436

HARDWARE NOTES	
ITEM #	FUNCTION
19	BOLT RAIL TO SHELF ANGLE (ITEM #10)
20	BOLT SHELF ANGLE (ITEM #'S 10 & 11) TO POST
21	BOLT BLOCK-OUTS (ITEM #'S 13 & 14) TO HEAVY POST
23	(4) PER SPLICE TUBING (ITEM #'S 7 & 8) & (2) (ITEM # 2)
24	BOLT RAIL (ITEMS #'S 6,17, & 18 TO BLOCK-OUTS (ITEM #'S 13 & 14) WHERE FASTENED)

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND SUBJECT TO THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS. SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING THEIR WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING THEIR WORK IN A SAFE AND SATISFACTORY MANNER.

REJECTED
 REVISE AND RESUBMIT
 APPROVED AS NOTED

CD Consulting Engineers
 240 Commercial Street
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 603-488-9223

Job Number: 150223
 Reviewed by: S.BEAUMONT
 Date: 02/28/2017

APPLICABLE NOTES IN THE BRIDGE RAIL DRAWING SHALL ALSO BE APPLICABLE ON THESE DRAWINGS

ITEM #: 900.620

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET
 STATE NUMBERED ROUTE 73 (TH #3) (MAJOR COLLECTOR) - BR NO. 4
 TOWN OF ORWELL, ADDISON COUNTY, VT

R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY
E					E				
V					V				

DRAWN	D.K.	12/14/16
CHECKED	E.P.	12/14/16
APPROVED	D.L.	12/14/16
SCALE	SCHEMATIC	
DRAWING NO. FR LAlayette - ORWELL-T		



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CERTIFIED FABRICATOR
 ORTHOGRAPHIC PROJECTION

RECEIVED

February 14, 2017

CK'D BY: CLD
 OK'D BY: CLD
 RESUBMIT No Approved AsNoted
 BY: Kristin Higgins DATE: 2/28/2017