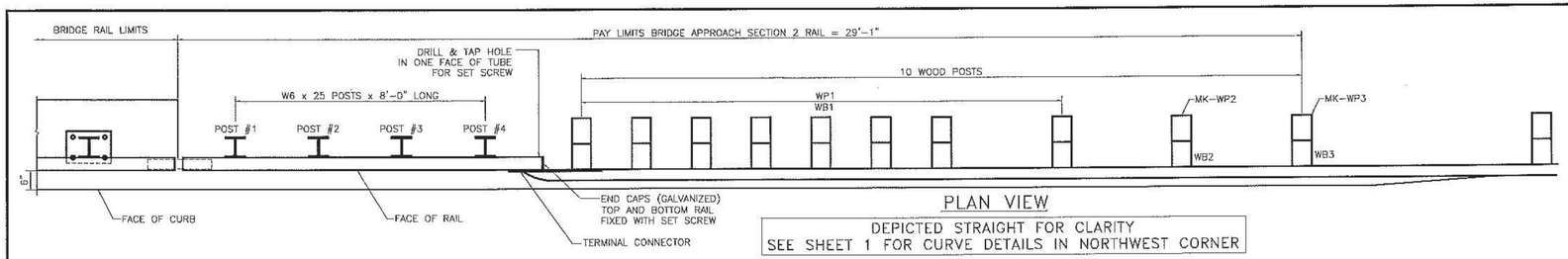
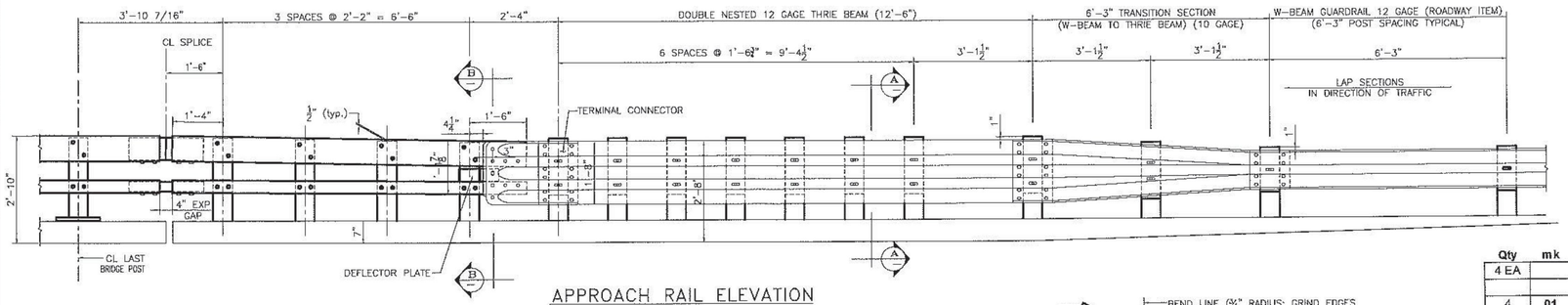


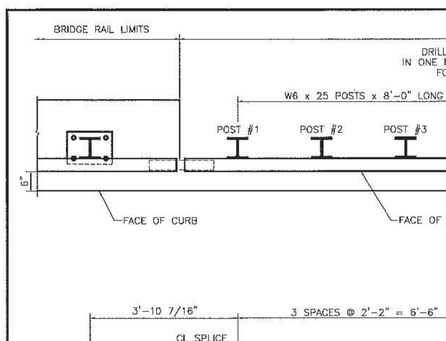
PLAN VIEW

DEPICTED STRAIGHT FOR CLARITY
SEE SHEET 1 FOR CURVE DETAILS IN NORTHWEST CORNER

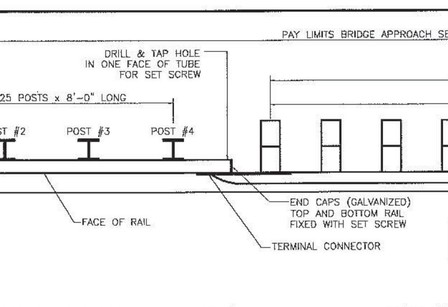


APPROACH RAIL ELEVATION

LEADING END (RIGHT) IS SHOWN (NE+SW)
DEPARTURE END (LEFT) SIMILAR BUT OPPPOSITE HAND (NW+SE)

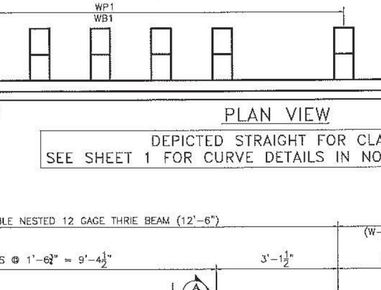


SECTION A–A



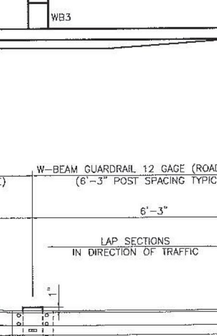
TERMINAL CONNECTOR

10 GAUGE (AASHTO M180 B2)



CONNECTION PLATE

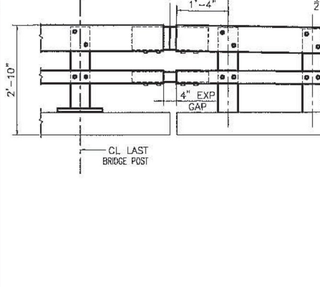
0.375 x 20.000 x 27.000 (A709 gr 36)



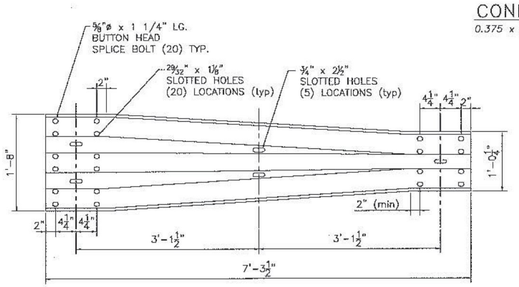
STEEL POST

STEEL POST CHART

No.	L
#1	1'-3.250"
#2	1'-3.000"
#3	1'-2.687"
#4	1'-2.375"

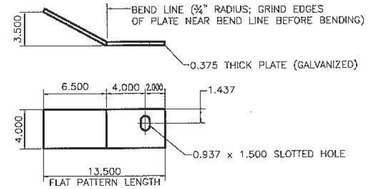


SECTION B–B



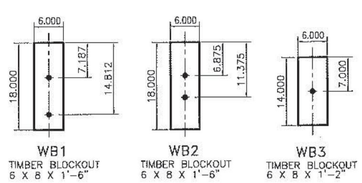
THRIE TRANSITION PANEL

10 GAUGE (AASHTO M180 B2)

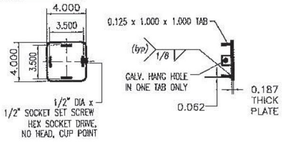


DEFLECTOR PLATE

0.375 x 4.000 x 13.500 (A709 gr 36)
RIGHT HAND APPROACH SHOWN – LEFT HAND BENT OPPOSITE

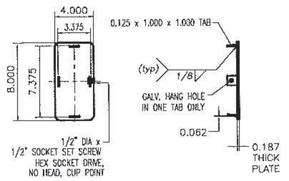


WOOD BLOCK DETAILS



END CAP (4x4)

0.187 x 4.000 x 4.000 (A709 gr 36)



END CAP (8x4)

0.187 x 4.000 x 8.000 (A709 gr 36)

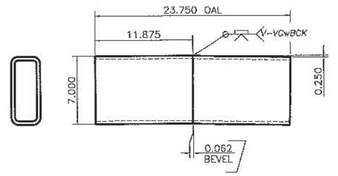
NOTES:
1. PAYMENT FOR GUARDRAIL APPROACH SECTION – GALVANIZED 2 RAIL, SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.

2. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.

3. TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL UNLESS OTHERWISE NOTED.

4. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM 563 GRADE A OR BETTER (GALVANIZED). WASHERS SHALL BE ASTM F844.

⚠5. WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2c).



ANGLED SPLICE DETAIL

HSS 7 x 3 x 3/8 – FOR UPPER RAIL SPLICE
SEE BRIDGE RAIL SHEET FOR DETAIL ON LOWER RAIL SPLICE TUBE

BILL OF MATERIAL

Qty	mk	Description	Spec.
4 EA		ITEM 621.72 GUARDRAIL APPROACH SECTION, GALVANIZED, 2 RAIL BOX BEAM	
4	01	W6x25 APPROACH POST - #1 x 8'-0" OAL (GALV)	A709 gr 50
4	02	W6x25 APPROACH POST - #2 x 8'-0" OAL (GALV)	A709 gr 50
4	03	W6x25 APPROACH POST - #3 x 8'-0" OAL (GALV)	A709 gr 50
4	04	W6x25 APPROACH POST - #4 x 8'-0" OAL (GALV)	A709 gr 50
3		UPPER RAIL APPROACH TUBE HSS 8 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
3		LOWER RAIL APPROACH TUBE HSS 4 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
1	10	UPPER TUBE HSS 8 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV) **miter cut & weld for 10'R**	A500 gr B
1	10	LOWER TUBE HSS 4 x 4 x 1/4 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV) **miter cut & weld for 10'R**	A500 gr B
4		CONNECTION PLATE PL 0.375" x 20.000" x 27.000" (GALV)	A709 gr 36
2		DEFLECTOR PLATE (RIGHT) PL 0.375 x 4.000 x 13.375 (GALV)	A709 gr 36
2		DEFLECTOR PLATE (LEFT) PL 0.375 x 4.000 x 13.375 (GALV)	A709 gr 36
4		END CAP FOR 8x4 TUBE 0.187 THICK PLATE 8.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		END CAP FOR 4x4 TUBE 0.187 THICK PLATE 4.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		(ANGLED) SPLICE TUBE (EXPANSION) FOR 8x4 UPPER RAIL HSS 7 x 3 x 3/8 x 1'-11.750" OAL (GALV)	A500 gr B
4		SPLICE TUBE (EXPANSION) FOR 4x4 LOWER RAIL HSS 3 x 3 x 5/16 x 1'-11.750" OAL (GALV)	A500 gr B
32		WOOD POST (WP1) 6 x 8 x 7'-0"	TIMBER
32		WOOD BLOCKOUT (WB1) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST (WP2) 6 x 8 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB2) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST(WP3) 6 x 8 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB3) 6 x 8 x 1'-2"	TIMBER
4		THRIE FLAT UP BRIDGE SHOE (MODIFIED) 10 GA. GALV	aashto M180 B2
4		THRIE TRANSITION PANEL 6'-3" / 3'-1 1/2" 10 GA. GALV.	aashto M180 B2
6		THRIE PANEL 12'-6" / 1'-6 3/4" 12 GA. GALV.	aashto M180 A2
2	09	THRIE PANEL 12'-6" / 1'-6 3/4" 12 GA. GALV. **(SHOP CURVE FOR 10' RADIUS CONVEX)**	aashto M180 A2
92		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 6" LG. (GLV) w/ LOCK NUT & FLAT WASHER	A449
4		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 2" LG. (GLV) w/ HEX NUT	A449
8		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
68		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-6" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
32		HEX HEAD BOLT 5/8 x 1-3/4" (GALV) w/ FLAT WASHER	A325
128		PANEL SPLICE BOLT 5/8 x 1-1/4" (GALV) w/ DOUBLE RECESSED NUT	A307
76		RECTANGULAR PLATE WASHER 0.187 x 1.750 x 3.000 (GALV)	A709 gr 36
32		SPACER PIPE - GALVANIZED 3/4" SCH. 40 x 1/2" LONG (GLV)	A53 gr B

Vermont Agency of Transportation
RECEIVED
CK'D BY SMC OK'D BY WDL
January 9, 2017
RESUBMIT BY RSY No Approved
DATE 01/31/2017

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 621.72 GUARDRAIL APPROACH, GALV 2 RAIL BOX BEAM (S-360B)
TOWN OF RICHMOND, VERMONT
US RT 2 & VT ROUTE 117 JUNCTION BRIDGE #32
BF 0284 (28)

AISC CERTIFIED FABRICATOR

GENERAL CONTRACTOR
SUB CONTRACTOR VT REC

HSC JOB NO. 2146
SHEET NO. 3 of 3

DRAWN PAR | CHECKED | DATE 12-09-16 | SCALE NONE | SIZE D