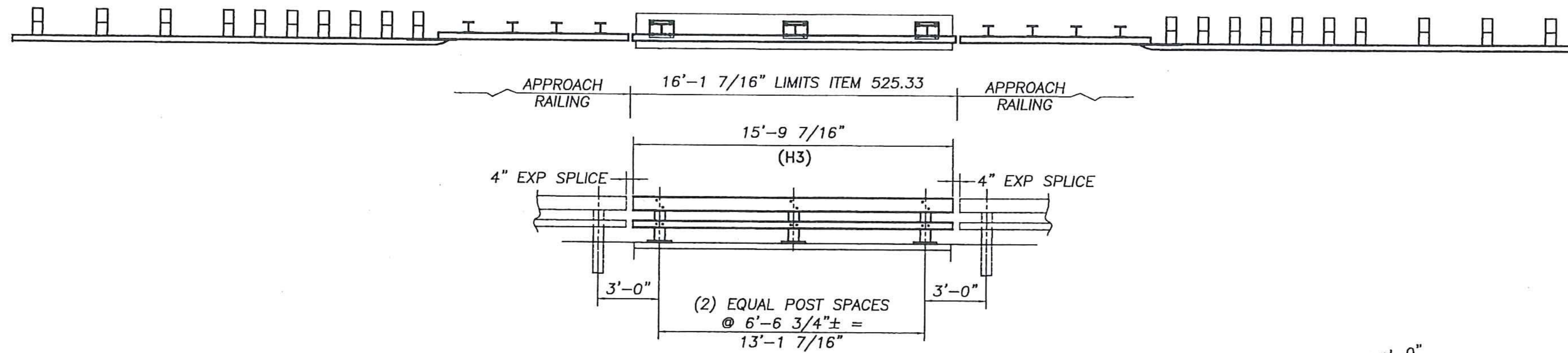
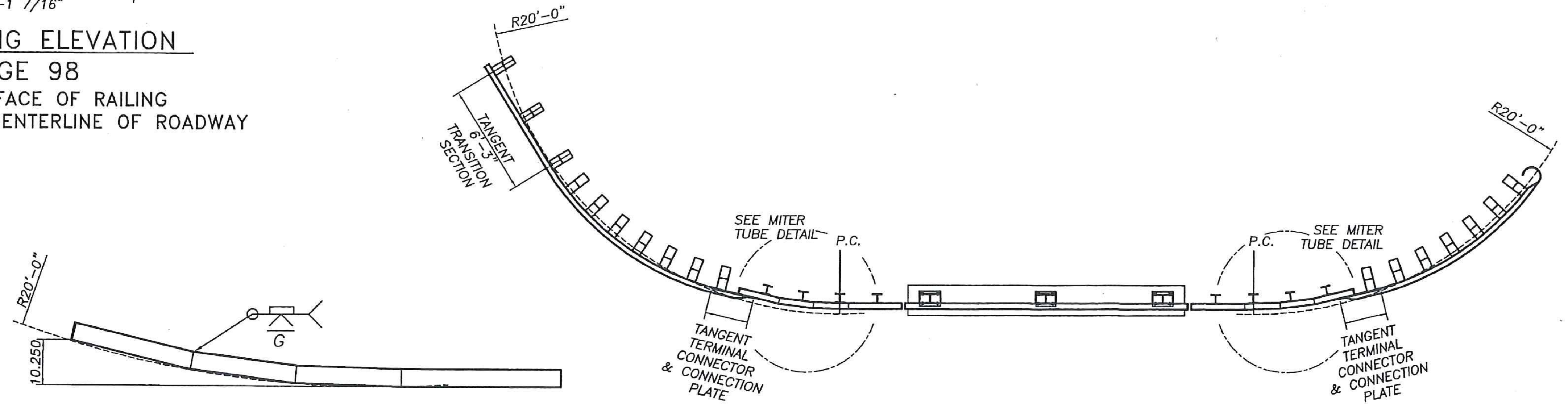


BILL OF MATERIAL
EAST AND WEST SIDE BRIDGE RAILING COMBINED

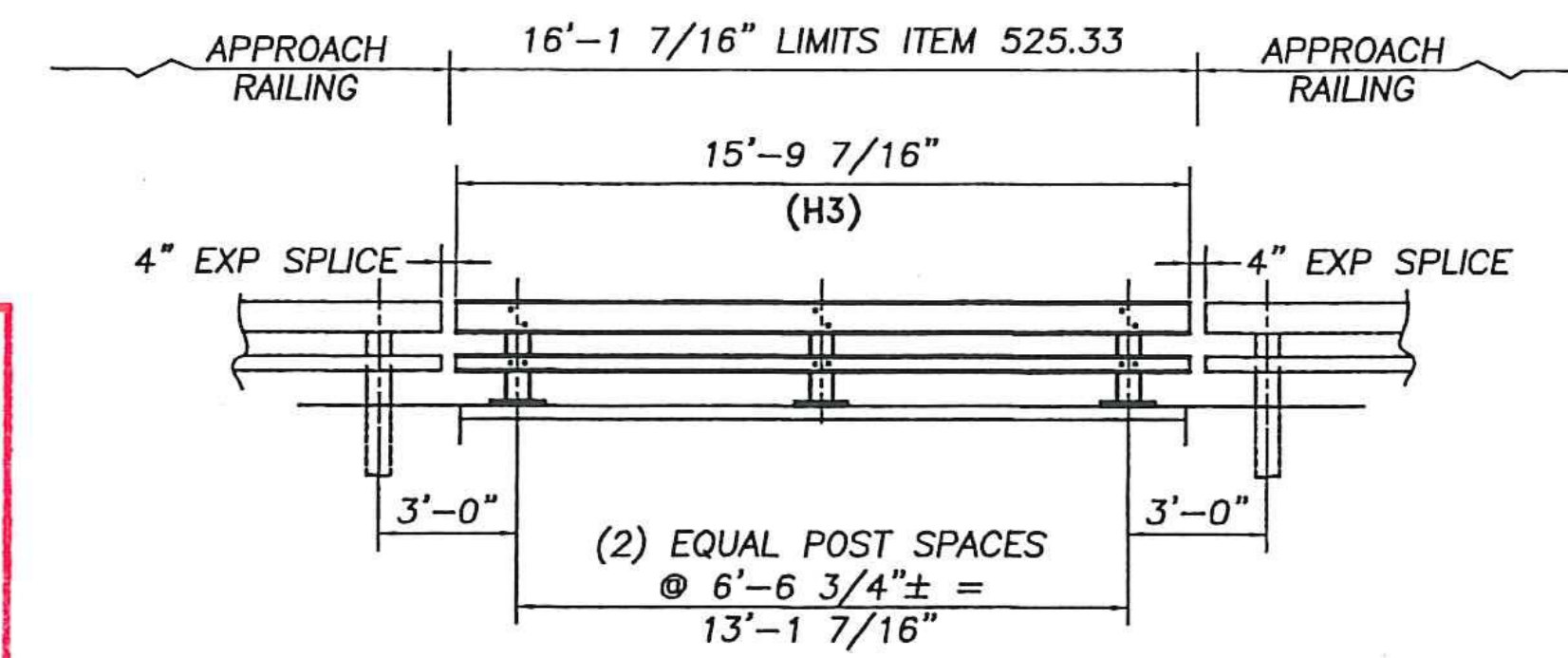


EAST RAILING ELEVATION
BRIDGE 98
LOOKING AT FACE OF RAILING
FACING EAST FROM CENTERLINE OF ROADWAY

Qty	mk	Description	Spec.
6		BRIDGE RAILING POST W6 x 25 x 2'-2.375" OAH WITH 1 x 10 x 14 BASE PLATE (GLV)	A709 gr 50
2	H3	UPPER RAIL TUBE 8 x 4 x 5/16 x 15'-9.4375" OAL EXP SLOTS BOTH ENDS	A500 gr B
2	H3	LOWER RAIL TUBE 4 x 4 x 1/4 x 15'-9.4375" OAL EXP SLOTS BOTH ENDS	A500 gr B
6		ANCHOR SPACER PLATE PL 0.375 x 13.000 x 9.375	A709 gr 36
24		ANCHOR STUD DBL END PART THREAD - 1" DIA x 12.000 w/ 2.250" THD EACH END (GLV)	A449
48		HEAVY HEX NUT 1" (GLV)	A563 DH
24		ROUND WASHER (SAE) - 1" DIA SMALL (GLV)	F436
24		JAM NUT 1" (GLV)	A563 DH
24		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 6" LG. FULL BODY (GLV)	A449 / A325
24		LOCK NUT 3/4" (GLV)	A563 DH
24		ROUND WASHER (SAE) 3/4" (GLV)	F436
6		BEARING PAD 0.125" THICK x 10.000 x 14.000 (NEOPRENE 80 duro +/-10)	aashto M251



MITER CUT & WELD DETAIL
APPROACH RAIL TUBE - WEST SIDE



WEST RAILING ELEVATION
BRIDGE 98
LOOKING AT FACE OF RAILING
FACING WEST FROM CENTERLINE OF ROADWAY

BILL OF MATERIAL
APPROACH RAILING

Qty	mk	Description	Spec.
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
2		UPPER RAIL APPROACH TUBE HSS 8x4x5/16 x 9'-4.000" w/ 3,500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
2		LOWER RAIL APPROACH TUBE HSS 4x4x1/4 x 9'-4.000" w/ 3,500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
2	SBW	UPPER RAIL APPROACH TUBE HSS 8x4x5/16 x 9'-4.000" w/ 3,500 SLOTS FOR 4" EXP GAP (GALV) C&W 20FT RADIUS	A500 gr B
2	SBW	LOWER RAIL APPROACH TUBE HSS 4x4x1/4 x 9'-4.000" w/ 3,500 SLOTS FOR 4" EXP GAP (GALV) C&W 20 FT RADIUS	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
31		WOOD POST (WP) 8 x 8 x 7'-0"	TIMBER
31		WOOD BLOCKOUT (WB) 8 x 8 x 1'-0"	TIMBER
3		WOOD POST (WP) 8 x 8 x 7'-0"	TIMBER
3		WOOD BLOCKOUT (WB) 8 x 8 x 1'-0"	TIMBER
3		WOOD POST (WP) 8 x 8 x 7'-0"	TIMBER
3		WOOD BLOCKOUT (WB) 8 x 8 x 1'-2"	TIMBER
4		THREE FLAT LP BRIDGE SHOE (MODIFIED) 10 GA. GALV	aashto M180 B2
3		THREE TRANSITION PANEL 8'3" / 2'-1 1/2" 10 GA. GALV	aashto M180 B2
4		THREE PANEL 12'6" / 1'-0 3/4" 12 GA. GALV	aashto M180 A2
2	SW	THREE PANEL 12'6" / 1'-0 3/4" 12 GA. GALV. (CURVED FOR 20 FT RADIUS)	aashto M180 A2
2	NW	THREE PANEL 9'4 1/2" / 1'-0 3/4" 12 GA. GALV. (CURVED FOR 20 FT RADIUS)	aashto M180 A2
1		THREE BUFFER END SECTION 10 GA	aashto M180 B2
02		ROUND HEAD POST BOLTS slot or wrench head - no shoulder 3/4" DIA x 6" LG. (GLV) w/ LOCK NUT & FLAT WASHER	A449
4		ROUND HEAD POST BOLTS 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
03		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
32		HEX HEAD BOLT 5/8 x 1-3/4" (GALV) w/ FLAT WASHER	A325
120		PANEL SPLICE BOLT 5/8 x 1-1/4" (GALV) w/ DOUBLE RECESSED NUT	A307
71		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" LDNG (GLV)	A53 gr B

SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

REJECTED REVISE AND RESUBMIT FURNISH AS CORRECTED

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THIS CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE 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 HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

Vanasse Hangen Brustlin, Inc.
7056 US Route 7
North Ferrisburgh, VT 05473.
802.425.7788

HUBBARDTON ER STP 0161 (26)
Job Number: **ER STP 0161 (27)**
Reviewed By: **S.G. FARMER**
Date: **9/18/2012**

32.24

ER STP 0161 (27) BRIDGE #98
ITEM 525.33 BRIDGE RAIL GALVANIZED 2 RAIL BOX BEAM = 32 LF
ITEM 621.72 GUARDRAIL APPROACH SECTION 2 RAIL BOX BEAM = 4 UNITS

DITTO FROM sheet 1 of 5

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 NETC 2 RAIL BRIDGE RAILING (S-360A)
ITEM 621.72 NETC 2 RAIL APPROACH RAILING (S-360B)
HUBBARDTON, VERMONT BRIDGE 96 & 98
ER STP 0161 (26) & ER STP 0161 (27)

GENERAL CONTRACTOR: **LAFAYETTE**

CERTIFIED FABRICATOR

HSC JOB NO. **1896**
SHEET NO. **2 of 5**

DATE: 09-10-12 SCALE: NONE SIZE: D

No.	Remarks	Date
0	Initial submittal	
REVISIONS		