

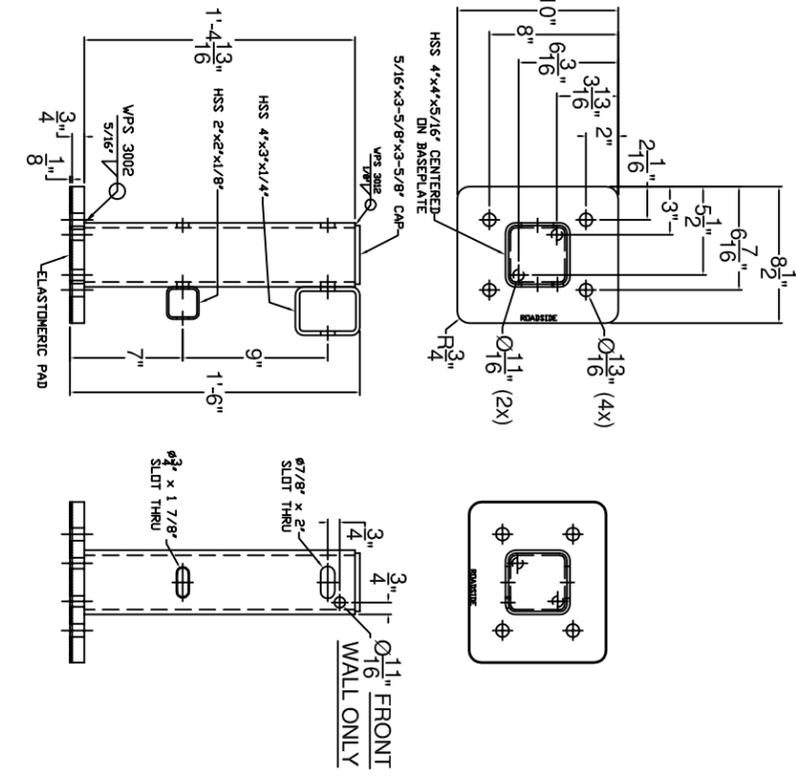
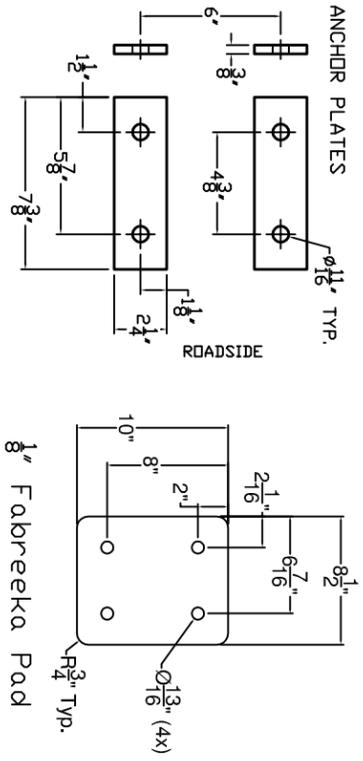
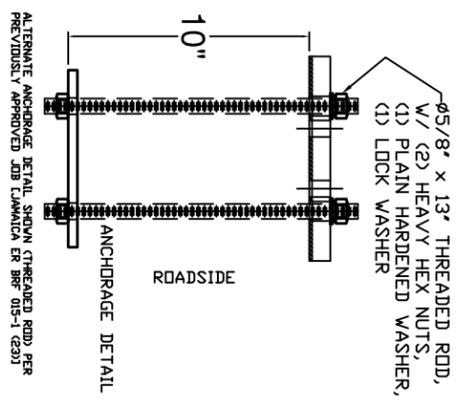
Vermont Agency of Transportation

RECEIVED

ON: **March 11, 2014**

and Checked for
CONFORMANCE

BY: **Jennifer Fitch** DATE: **03/19/2014**



ITEM #	QTY	PART #	DESCRIPTION	ASTM DESIGNATION
1	34	0033.90017	TWD RAIL POST & BASEPLATE ASSEMBLY	A572 Gr. 50
2	2	0033.91070	4" X 3" X 1/4" RAIL @ 19'-10 9/16" W/ END PLATES (EAST RAIL)	A500 Gr. B
3	2	0033.91071	4" X 3" X 1/4" RAIL @ 19'-11 1/2" W/ END PLATES (WEST RAIL)	A500 Gr. B
4	4	0033.91072	4" X 3" X 1/4" RAIL @ 19'-0"	A500 Gr. B
5	2	0033.91073	4" X 3" X 1/4" RAIL @ 21'-8 1/8"	A500 Gr. B
6	2	0033.91074	2" X 2" X 1/8" RAIL @ 19'-10 9/16" W/ END PLATES (EAST RAIL)	A500 Gr. B
7	2	0033.91075	2" X 2" X 1/8" RAIL @ 19'-11 1/2" W/ END PLATES (WEST RAIL)	A500 Gr. B
8	4	0033.91076	2" X 2" X 1/8" RAIL @ 19'-0"	A500 Gr. B
9	2	0033.91077	2" X 2" X 1/8" RAIL @ 21'-8 1/8"	A500 Gr. B
10	4	0033.90069	1-1/2" X 1-1/2" FIX. SPL BAR @ 2' 4"	A572 Gr. 50
11	4	0033.90328	1-1/2" X 1-1/2" EXP. SPL BAR @ 2' 4"	A572 Gr. 50
12	4	0033.90071	2-1/4" X 3-1/4" FIX. SPL. BAR @ 2' 4"	A572 Gr. 50
13	4	0033.90072	2-1/4" X 3-1/4" EXP. SPL. BAR @ 2' 4"	A572 Gr. 50
14	68	0033.00295	3/8" X 2 1/4" X 7 3/8" ANCHOR PLATES	A36
15	136	0042.05813	5/8" X 13" ANCHOR STUDS	A449
16	272	0080.15901	5/8" HEAVY HEX NUTS	A563
17	136	0080.15911	5/8" FLAT WASHERS	F 436
18	136	0080.15920	5/8" LOCK WASHERS	ASME D18.2
19	34	0080.05560	5/8" X 7 1/2" ROUND HEAD BOLT, F.W., & L.W.	A325, A563, F436, & ASME D18.2
20	34	0080.05585	3/4" X 8 1/2" ROUND HEAD BOLT, NUT, F.W., & L.W.	A325, A563, F436, & ASME D18.2
21	32	0080.05275	5/8" X 3" HEX BOLT, NUT, F.W., & L.W.	A325, A563, F436, & ASME D18.2
22	32	0080.07330	7/8" X 5 1/2" HEX BOLT, NUT, F.W., & L.W.	A325, A563, F436, & ASME D18.2
23	34	0033.90068	1/8" ELASTOMERIC PAD	D2240

NOTES:

- ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
- PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
- ALL POSTS SHALL BE SET NORMAL TO GRADE.
- SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
- HOLES IN RAILS FOR TUBE ATTACHMENT, MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
- BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT.-LB.).
- RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A449 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE.
- SEE STANDARD DRAWING G-1 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.
- AEHTHETIC TREATMENT TYPE SHALL BE APPLIED AS SPECIFIED IN THE CONTRACT PLANS. IF NONE IS SPECIFIED IT SHALL NOT BE USED. AEHTHETIC TREATMENT DETAILED ON THIS SHEET MAY ALSO BE APPLIED ON THE FASCIA SIDE OF THE RAIL, IF SPECIFIED IN THE CONTRACT PLANS.
- BRIDGE RAILING SHALL HAVE A RUBBED FINISH IN ACCORDANCE WITH SECTION 501.
- THIS RAILING MEETS THE REQUIREMENTS FOR A NCHRP REPORT 350 TL-4 SERVICE LEVEL.
- HOLES FOR MOUNTING DELINEATORS TO BE FIELD DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
- ALL STEEL COMPONENTS SHALL BE POWDER COATED BLACK AFTER GALVANIZING. COLOR SHALL CONFORM TO FEDERAL STANDARD NO. 595, COLOR CHIP NO. 27038

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.
- REVISE AND RESUBMIT
- FURNISH AS CORRECTED
- REJECT

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.

VHB
 Job Number: 57438
 Reviewed By: KZS
 Date: 3/18/2014

ITEM #: 900.640

FR Lafayette - MIDDLEBURY, (2014)

SHEET 1 OF 2

APPROVED BY:

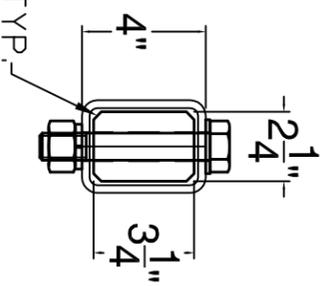
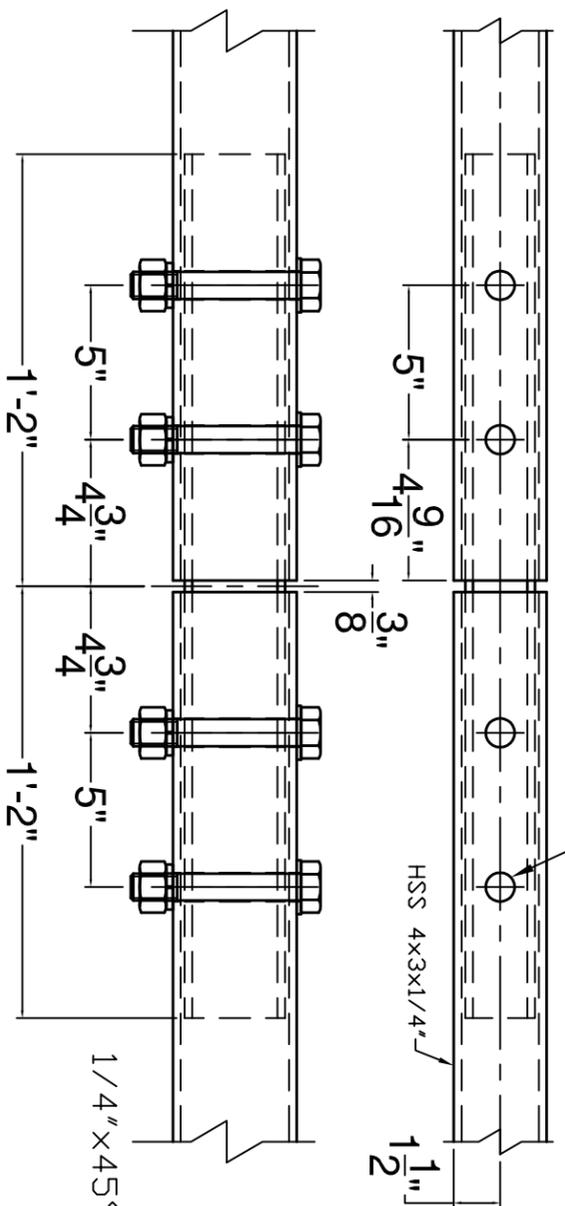
BRIDGE RAIL DETAILS SHEET

TOWN OF MIDDLEBURY, ADDISON COUNTY, VT RTE 125 (MAJOR COLLECTOR), BRIDGE NO. 13		EM13-252 MIDDLEBURY RS 0174 (B)	
R.NO.	DATE	BY	NO.
E		E	
V		V	
DRAWN		E.P.	
CHECKED		D.L.	
APPROVED		3/10/14	
SCALE		SCHEMATIC	
DRAWING NO. FRL - MIDDLEBURY			

ELDERLEE, INC.
 OAKS CORNERS, NEW YORK 14518
 E-Mail: dlong@elderlee.com / speek@elderlee.com
 Tel: 315-799-6670 Fax: 315-789-8615

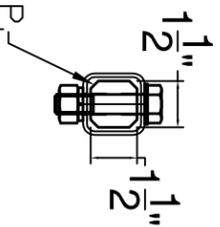
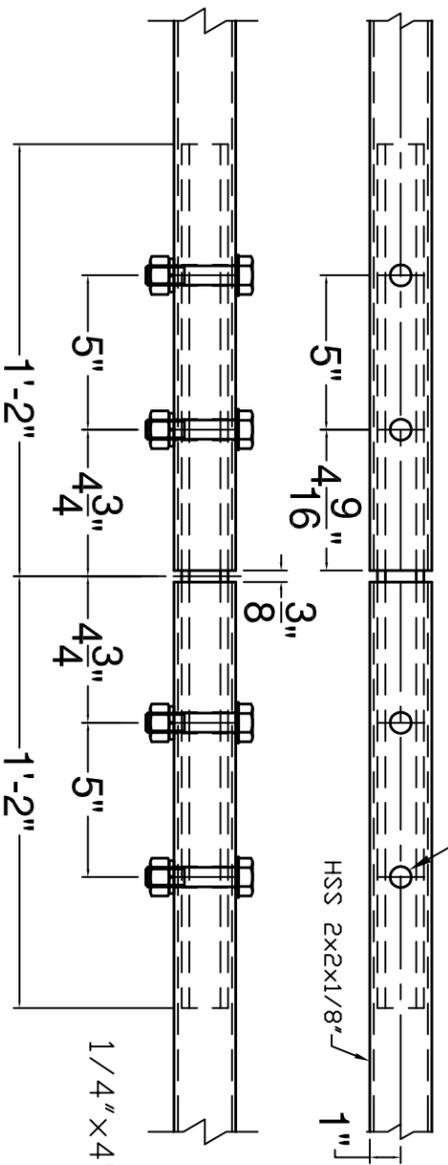
Ø15/16" THRU TUBE & SPLICE BAR,
 Ø7/8"X5 1/2" HEX BOLT & NUT,
 W/ (1) PLAIN HARDENED WASHER &
 (1) LOCK WASHER (4 PLACES)

TOP RAIL FIXED SPLICE DETAIL



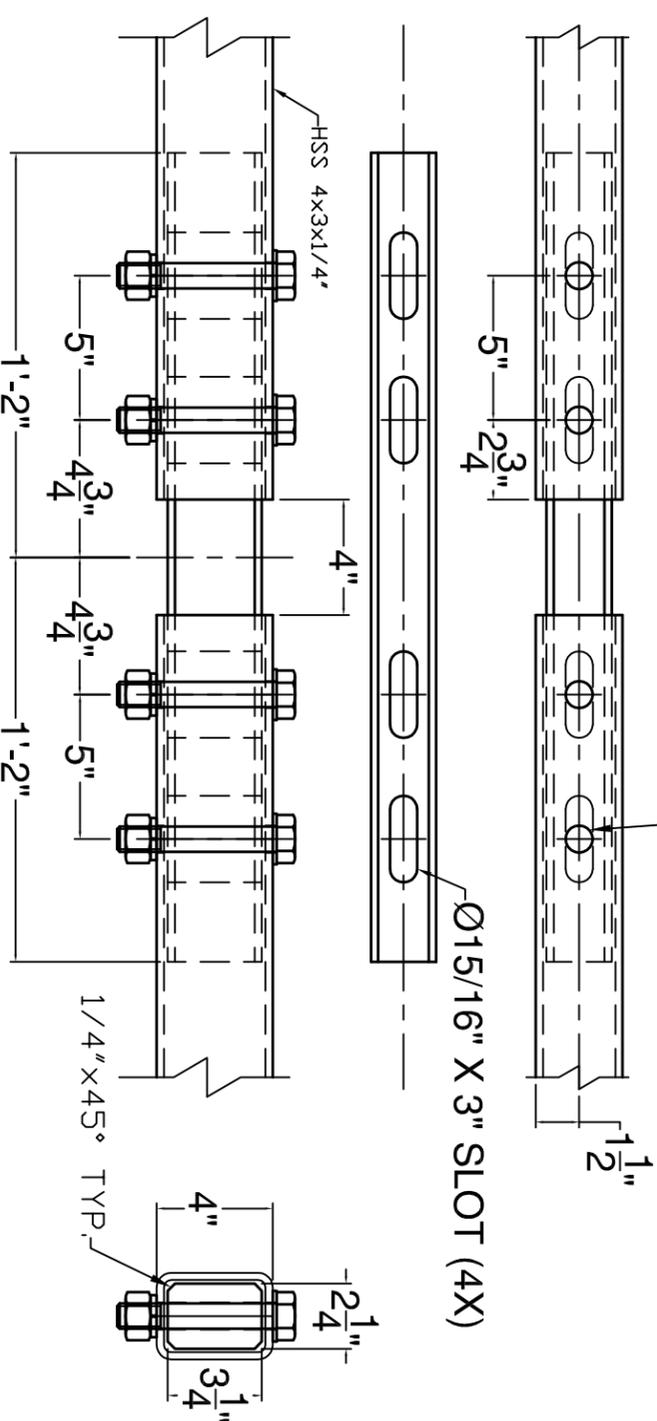
Ø11/16" THRU TUBE & SPLICE BAR,
 Ø5/8"X3" HEX BOLT & NUT,
 W/ (1) PLAIN HARDENED WASHER &
 (1) LOCK WASHER (4 PLACES)

BOTTOM RAIL FIXED SPLICE DETAIL



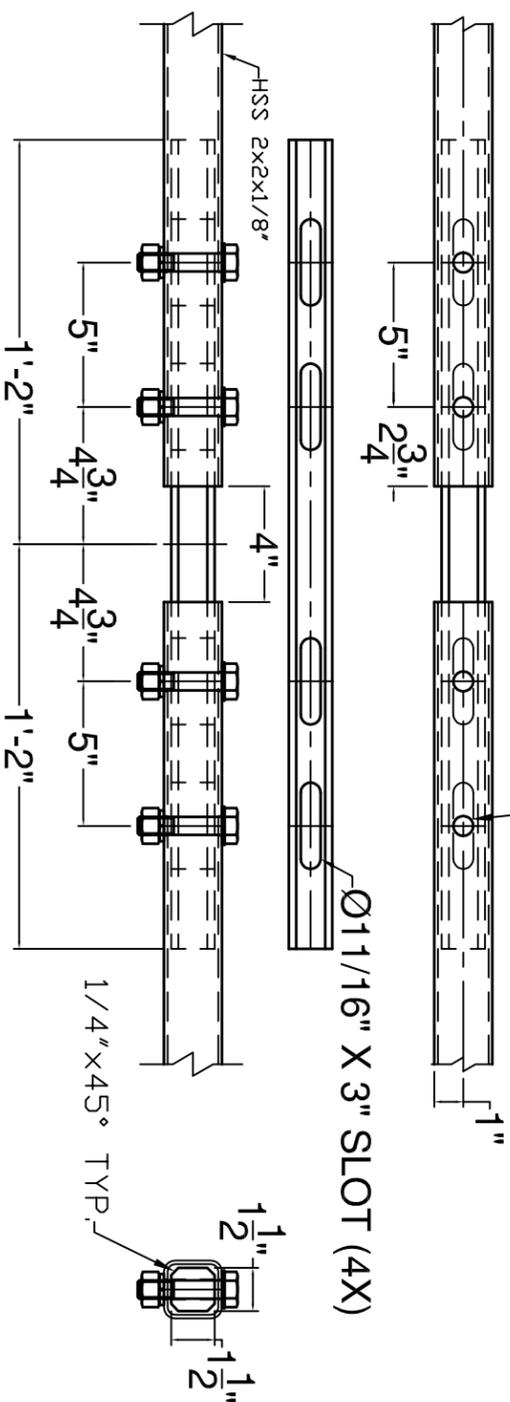
Ø15/16" THRU TUBE & Ø15/16" X 3" SLOT THRU SPLICE
 BAR, Ø7/8"X5 1/2" HEX BOLT & NUT, W/ (1) PLAIN
 HARDENED WASHER & (1) LOCK WASHER (4 PLACES)

TOP RAIL EXPANSION
 SPLICE DETAIL



Ø11/16" THRU TUBE & Ø11/16" X 3" SLOT THRU
 SPLICE BAR, Ø5/8"X3" HEX BOLT & NUT, W/ (1) PLAIN
 HARDENED WASHER & (1) LOCK WASHER (4 PLACES)

BOTTOM RAIL EXPANSION
 SPLICE DETAIL



Vermont Agency of Transportation

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ON: **March 11, 2014**

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BY: Jennifer Fitch DATE: 03/19/2014

SHOP DRAWING REVIEW

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REVISE AND RESUBMIT

FINISH AS CORRECTED

REJECTED

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Job Number: 57438
 Reviewed By: KZS
 Date: 3/18/2014



ITEM #: 900.640

APPROVED BY:

FR Lafayette - MIDDLEBURY, (2014)

SHEET 2 OF 2

BRIDGE RAIL DETAILS SHEET

EM13-252, MIDDLEBURY RS 0174 (8)

TOWN OF MIDDLEBURY, ADDISON COUNTY, VT RTE 125 (MAJOR COLLECTOR), BRIDGE NO : 13

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

ELDERLEE, INC.

OAKS CORNERS, NEW YORK 14518

E-Mail: dlong@elderlee.com / speek@elderlee.com
 Tel: 315-799-6670 Fax: 315-789-8615



DRAWN	CHECKED	APPROVED	SCALE
E.P.	D.L.		
3/7/14	3/10/14		

DRAWING NO. FRL - MIDDLEBURY

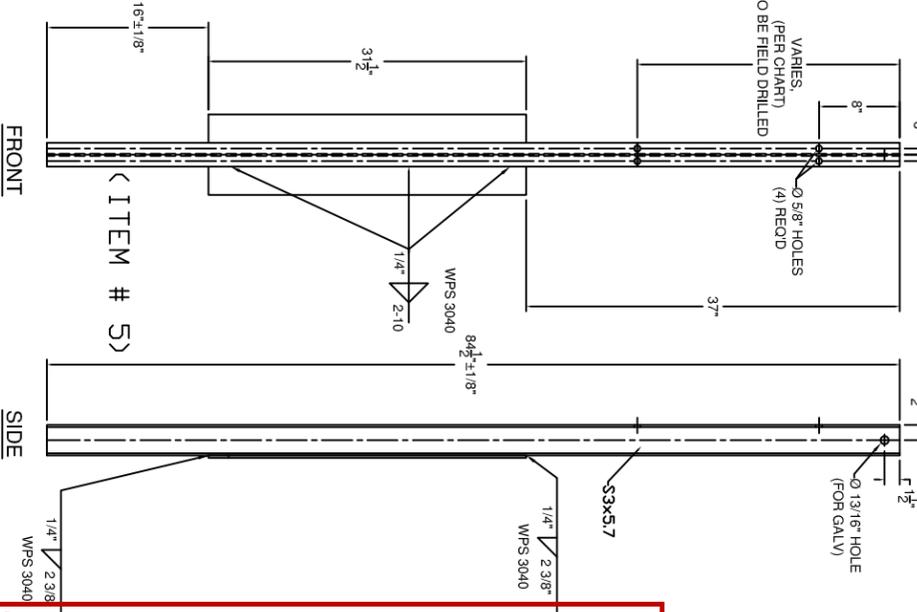
BILL OF MATERIALS, WW 1

ITEM #	QTY.	COMPONENT #	DESCRIPTION	MATERIAL (ASTM)
1	3	0013.57021	3" I-POST, PUNCH 8" W/SPD @ 63" LG	ASTM A572 Gr. 50
2	3	0013.57025	3" I-POST, PUNCH 8", & 20" W/SPD @ 63" LG	ASTM A572 Gr. 50
3	2	0013.57060	3" I-END POST W/SPD @ 3'-8" LG	ASTM A572 Gr. 50
4	4	M6X9 POST @ 7" W/SPD & 5/8" HOLES @ VARIOUS	ASTM A572 Gr. 50	
5	4	3" I-POST, PUNCH 8" & VARIOUS" W/8X32" SPAPE @ 7'	ASTM A572 Gr. 50	
7	1	0033.00640	HSS 5X5 TUBE SPLICE @ 27" LG W/ 1/4" SHIMS	ASTM A572 Gr. 50
10	19	0054.00050	REG BB SHELF ANGLES @ 4'-1 1/2"	ASTM A36
12	1	HSS 5X5 DBL BEND TUBE SPL @ 27" LG & 42" ANGLE	ASTM A572 Gr. 50	
13	8	0054.00543	KX6" TRANS. TUBE B/D @ 6" LG	ASTM A572 Gr. 50
15	1	KX6" BB @ 30" KICKBACK, W/ CAP & 2" ANGLE	ASTM A572 Gr. B / A36	
16	1	KX6" BB @ 17'-1 1/2" DRILL 3" CC, W/ 19'-6" RADIUS	ASTM A572 Gr. B	
17	1	KX6" BB TOP TRANS @ 24'-9 3/4" LG W/EXP END, & 19'-6" RAD.	ASTM A572 Gr. B	
18	1	KX6" BB BTM TRANS @ 25'-3 1/4" LG W/EXP END & 19'-6" RAD.	ASTM A572 Gr. B	
19	18	0080.00355	3/8" X 7 1/2" BOLT, NUT, & 2" F.W.	A307, A563, F436
20	19	0080.04100	1/2" X 1-1/2" BOLT, NUT, & F.W.	A307, A563, F436
21	16	0080.04120	1/2" X 1-1/2" BOLT, NUT, 2" F.W. & L.W.	A307, A563, F436
23	14	0080.06340	3/4" X 7-1/2" BOLT, NUT, 2" F.W. & L.W.	A325, A563, F436
24	8	0080.06370	3/4" X 8" CARR BOLT, NUT, F.W. & L.W.	A307, A563, F436
26	1	0080.06370	PARAPET WALL CONNECTIONS, LEFT-TRAILING	ASTM A572 Gr. 50, A615 Gr. 60, A709

Confirm member size

HARDWARE NOTES

ITEM #	FUNCTION
19	BOLT RAIL TO SHELF ANGLE (ITEM # 10) TO POST
20	BOLT SHELF ANGLE (ITEM # 10) TO POST
21	BOLT BLOCK-OUTS (ITEM # 13) TO HEAVY POST (ITEM # 4)
23	SPLICE TUBING (ITEM #S 7 & 12), & (4) PER PARAPET WALL CONNECTION (ITEM # 26)
24	BOLT RAIL ITEMS #S 17, & 18 TO BLOCK-OUTS (ITEM # 13)



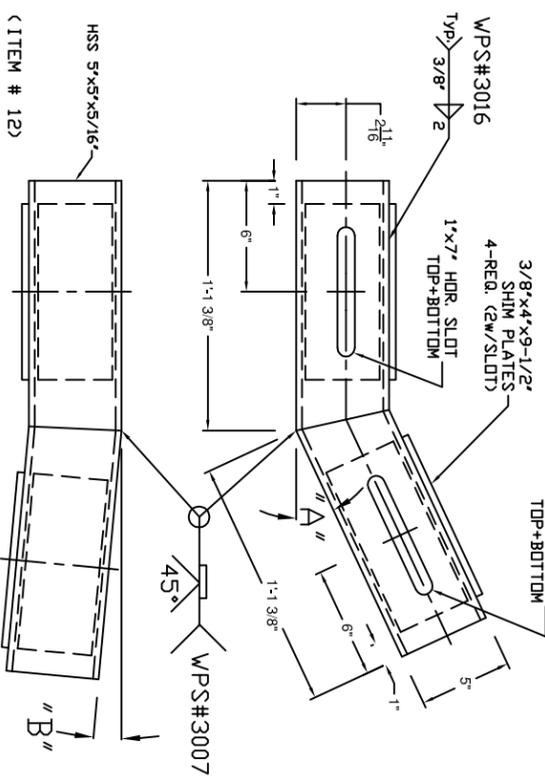
SHOP DRAWING REVIEW

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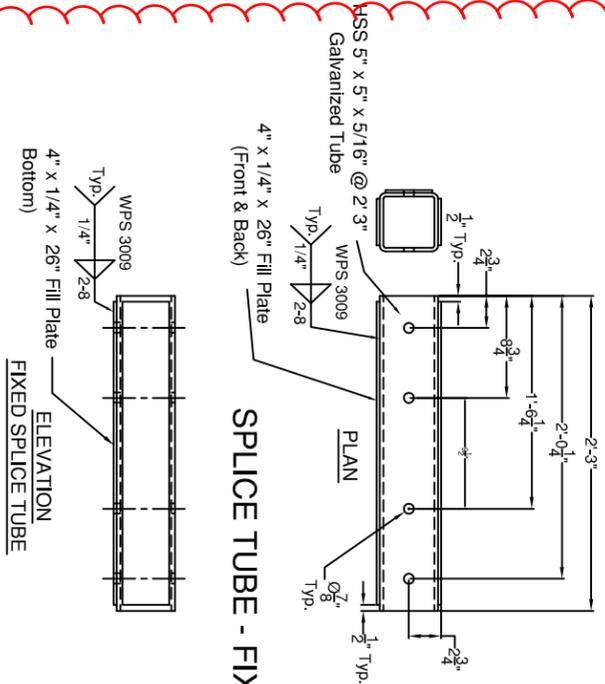
REJECTED REVISE AND RESUBMIT FURNISH AS CORRECTED

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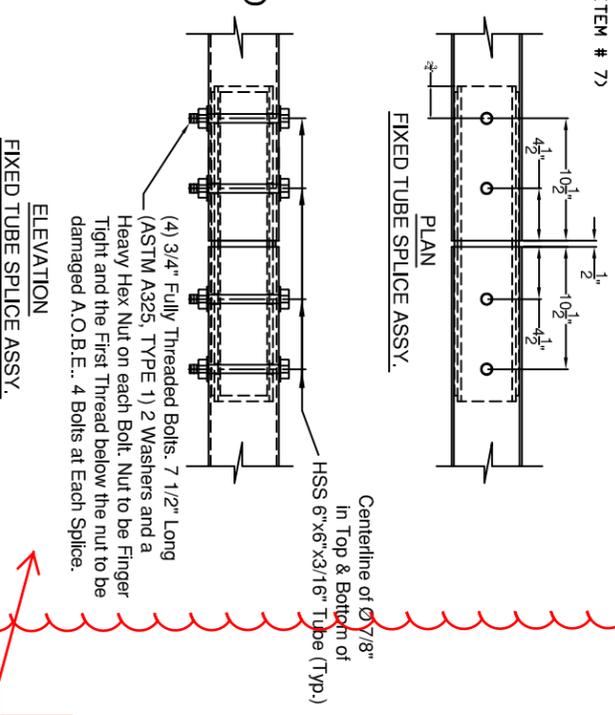
Job Number: 57438
Reviewed By: KZS
Date: 3/18/2014



SPLICE TUBE - FIXED

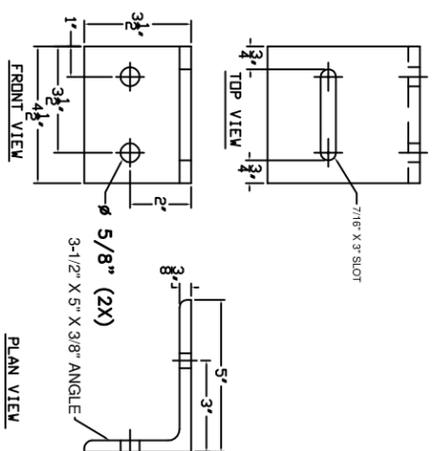


(ITEM # 7)

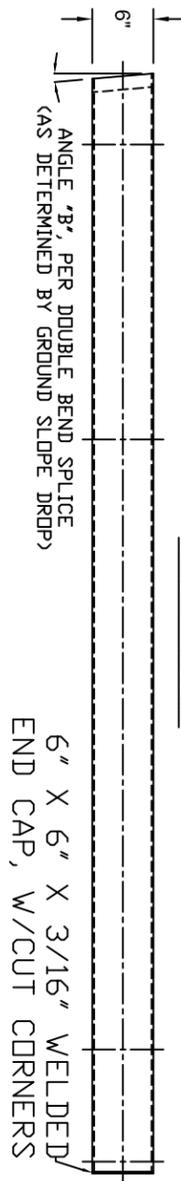


Revise splice connection to match Standard G-1b

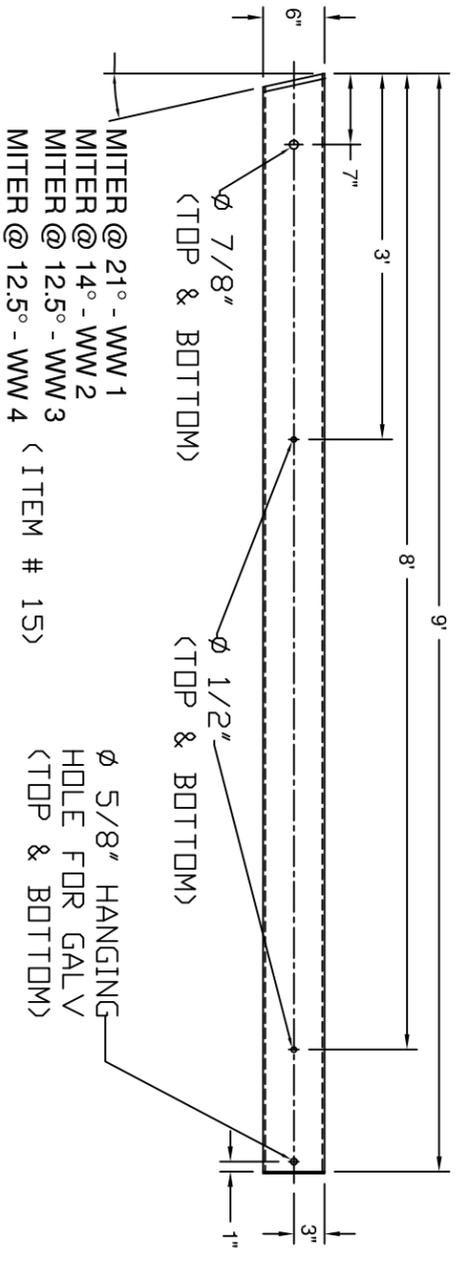
(ITEM # 10)



BACK VIEW



TOP VIEW



RECEIVED

ON: March 11, 2014
and Checked for CONFORMANCE
BY: Jennifer Fitch DATE: 03/19/2014

Vermont Agency of Transportation

GENERAL NOTES:

- 1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 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. RADIUS GREATER THAN 16' TO BE CURVED ON A TUBE BENDING MACHINE. RADIUS LESS THAN 16' TO BE "PILE CUT" AND WELDED. CURVED RAILING WILL HAVE AN 18" LENGTH ON EACH END STRAIGHT TO ACCOMMODATE SPLICES.

ITEM #: 900.620 GEN CONTR: FR Latayette - MIDDLEBURY, (2014) SHEET 2 OF 8

APPROVED BY:

Calvanized 2-Rail Bar Beam Guardrail Approach Section

TOWN OF MIDDLEBURY, ADDISON COUNTY, VT. RTE 125 (MAJOR COLLECTOR), BRIDGE NO.: 13

R.N.O.	DATE	DESCRIPTION	BY	R.N.O.	DATE	DESCRIPTION	BY

EM3-252, MIDDLEBURY RS 0174 (B)
Elderee, Inc.
OAKS CORNERS, NEW YORK 14518
E-Mail: dlong@elderee.com / speek@elderee.com
Tel.: 315-789-6670 Fax: 315-789-6615



PLAN VIEW



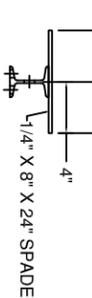
(ITEM # 1)

PLAN VIEW



(ITEM # 2)

PLAN VIEW

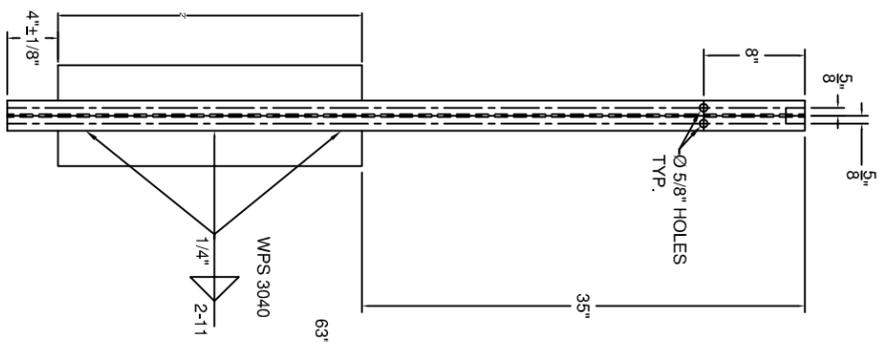


(ITEM # 3)

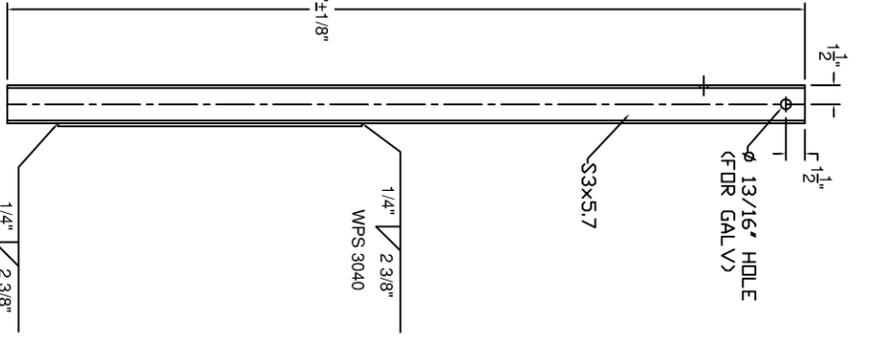
PLAN VIEW



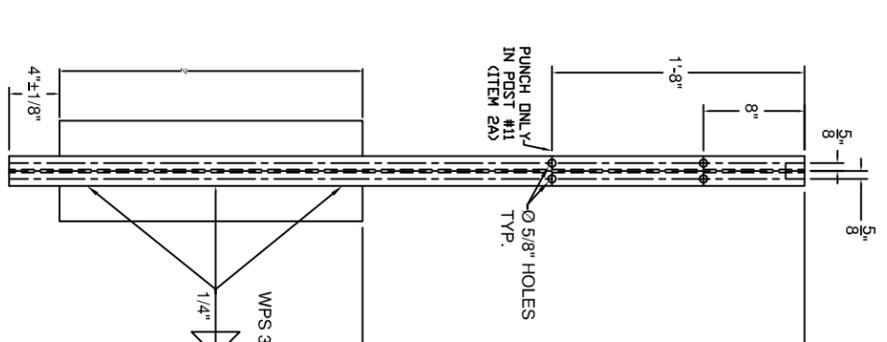
HOLE POSITION	POST	LENGTH
1	1-6 13/16"	
2	1-6 5/16"	
3	1-5 13/16"	
4	1-5 3/8"	



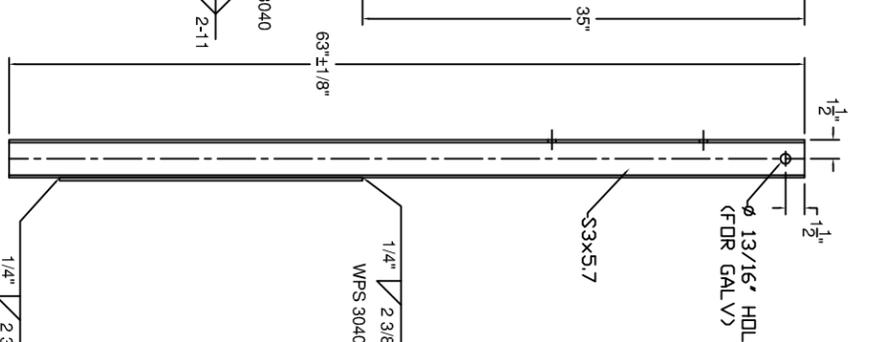
FRONT **5/16**



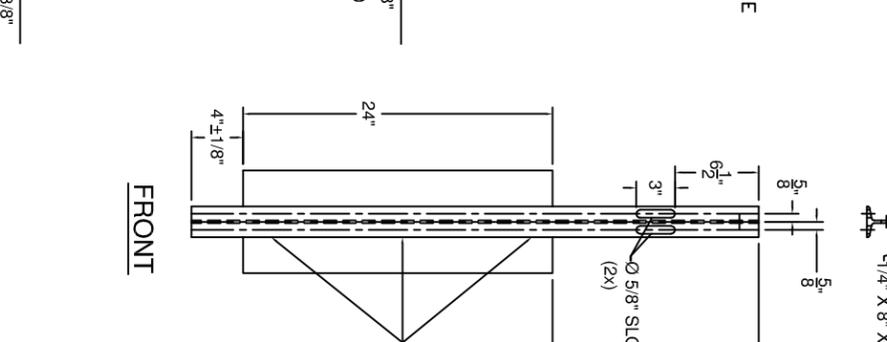
SIDE



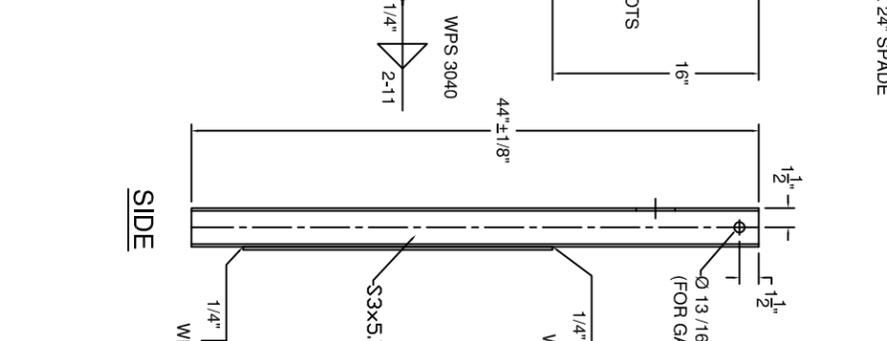
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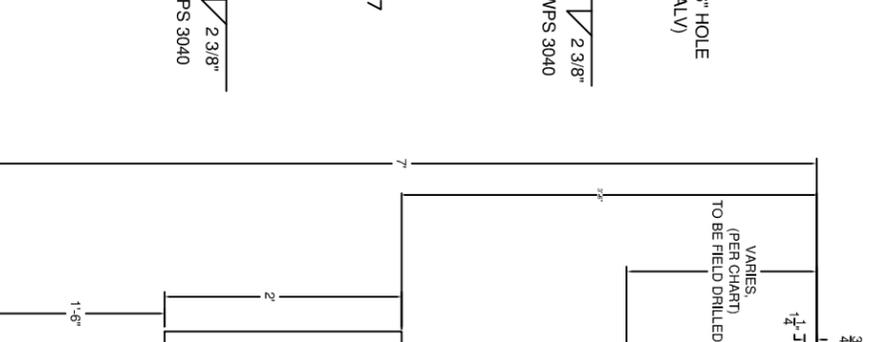
SIDE **5/16**



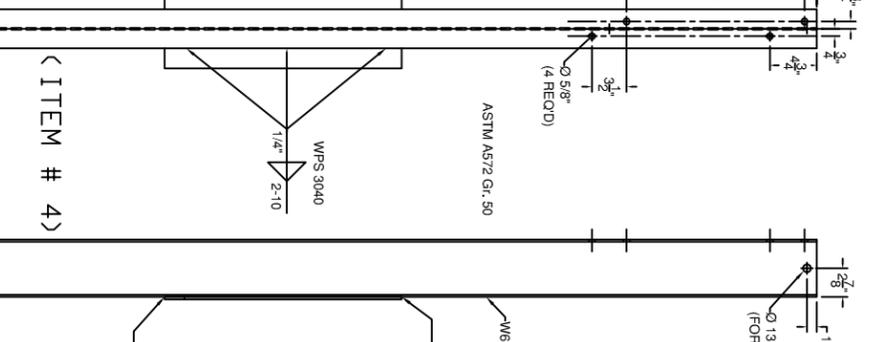
FRONT



SIDE

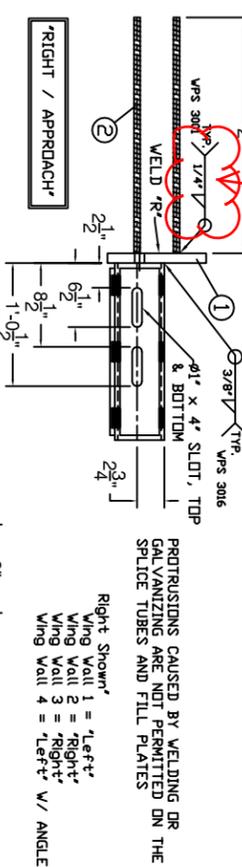


FRONT



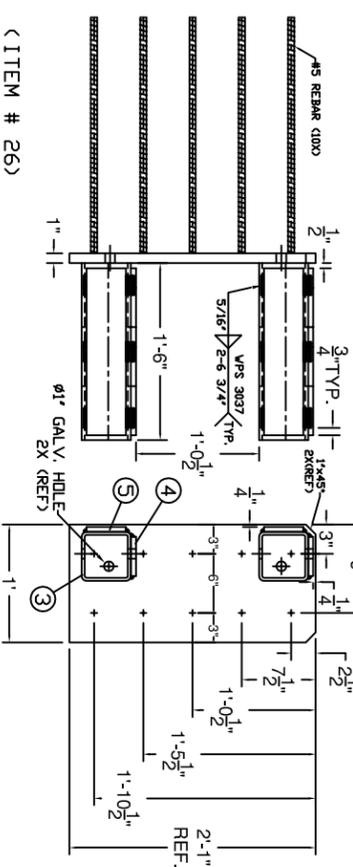
SIDE

ITEM #	QTY	DESCRIPTION	ASTM #
1	1	DBL. TUBE VAL. PLATE - 1' X 12' X 25'	ASTM A572 Gr. 50
2	10	RAV. #5/8" REBAR @ 24"	A615 Gr. 60
3	2	5' X 5' X 5/16" TUBE W/ SLOTS @ 18"	ASTM A500 Gr. B
4	2	SHIM PL. 1/2" X 4' X 17' (V/D SLOTS)	ASTM A36/ASTM A709 Gr. 36/50
5	2	SHIM PL. 1/2" X 4' X 17' (V/D SLOTS)	ASTM A36/ASTM A709 Gr. 36/50



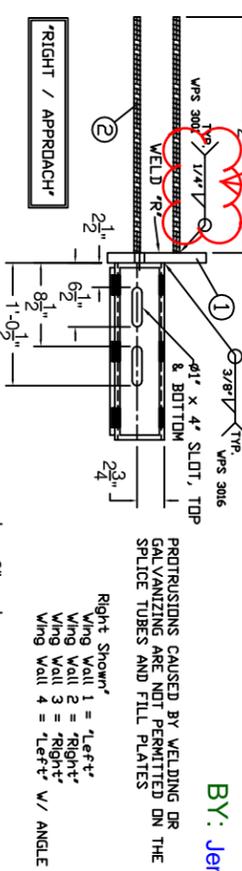
PROTRUSIONS CAUSED BY WELDING OR THE GALVANIZING ARE NOT PERMITTED ON THE SPLICE TUBES AND FILL PLATES

Right Spawn'
 Wing Wall 1 = 'Left'
 Wing Wall 2 = 'Right'
 Wing Wall 3 = 'Right'
 Wing Wall 4 = 'Left' w/ ANGLE



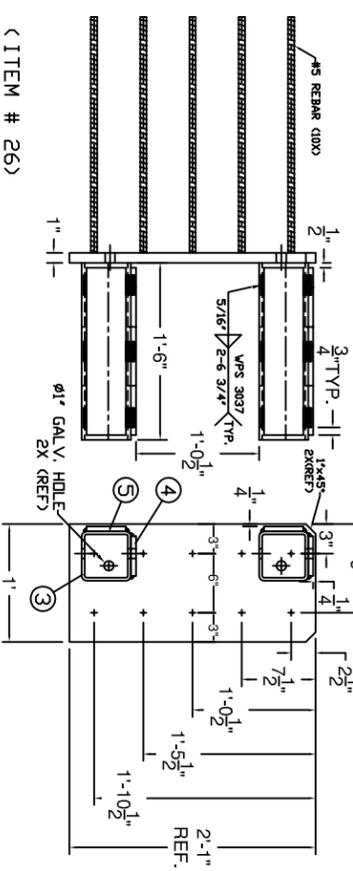
(ITEM # 26)

ITEM #	QTY	DESCRIPTION	ASTM #
1	1	DBL. TUBE VAL. PLATE - 1' X 12' X 25'	ASTM A572 Gr. 50
2	10	RAV. #5/8" REBAR @ 24"	A615 Gr. 60
3	2	5' X 5' X 5/16" TUBE W/ SLOTS @ 18"	ASTM A500 Gr. B
4	2	SHIM PL. 1/2" X 4' X 17' (V/D SLOTS)	ASTM A36/ASTM A709 Gr. 36/50
5	2	SHIM PL. 1/2" X 4' X 17' (V/D SLOTS)	ASTM A36/ASTM A709 Gr. 36/50



PROTRUSIONS CAUSED BY WELDING OR THE GALVANIZING ARE NOT PERMITTED ON THE SPLICE TUBES AND FILL PLATES

Right Spawn'
 Wing Wall 1 = 'Left'
 Wing Wall 2 = 'Right'
 Wing Wall 3 = 'Right'
 Wing Wall 4 = 'Left' w/ ANGLE



(ITEM # 26)

Vermont Agency of Transportation
RECEIVED
 ON: **March 11, 2014**
 and Checked for
CONFORMANCE
 BY: Jennifer Fitch DATE: 03/19/2014

ITEM #: 900.620
 APPROVED BY:

GEN CONTR: FR Latayette - MIDDLEBURY, (2014)

SHEET 3 OF 8

Calumized 2-Rail Bar Beam Guardrail Approach Section

TOWN OF MIDDLEBURY, ADDISON COUNTY, VT. RTE 125 (MAJOR COLLECTOR), BRIDGE NO.: 13

R. NO.	DATE	DESCRIPTION	BY	R. NO.	DATE	DESCRIPTION	BY

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

ACCERTIFIED FABRICATOR

DRAWN	E.P.	3/7/14
CHECKED	D.L.	3/7/14
APPROVED	M.V.	
SCALE	SCHEMATIC	
DRAWING NO.	FR L - MIDDLEBURY 2014	

SHOP DRAWING REVIEW

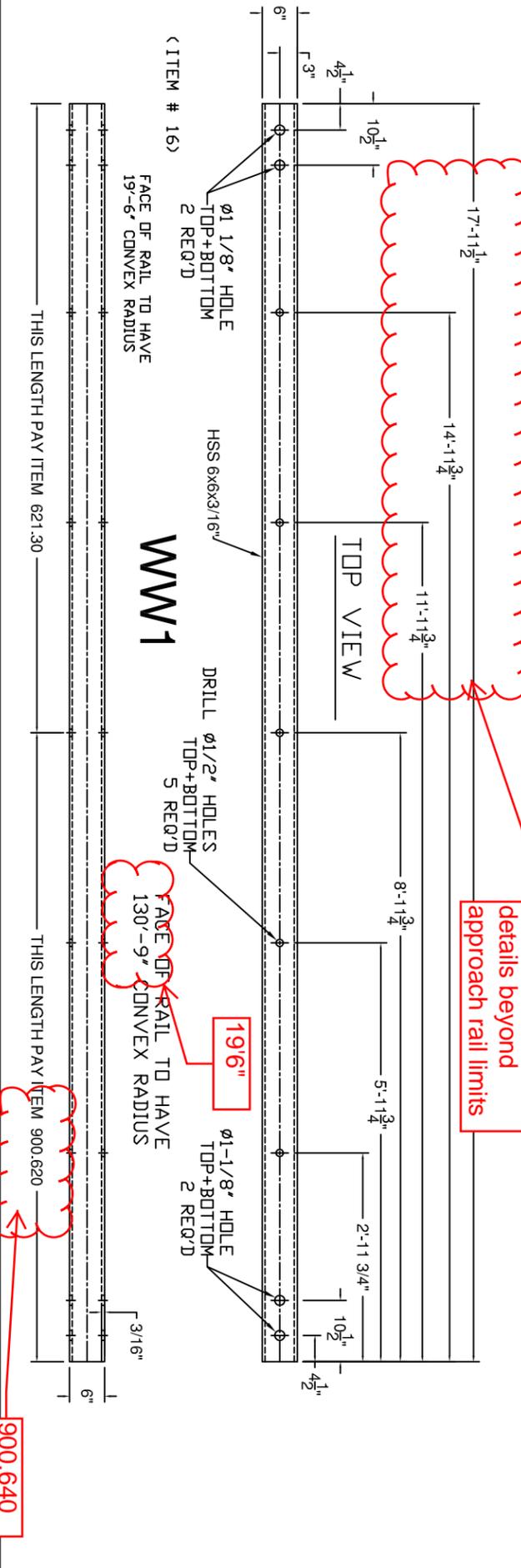
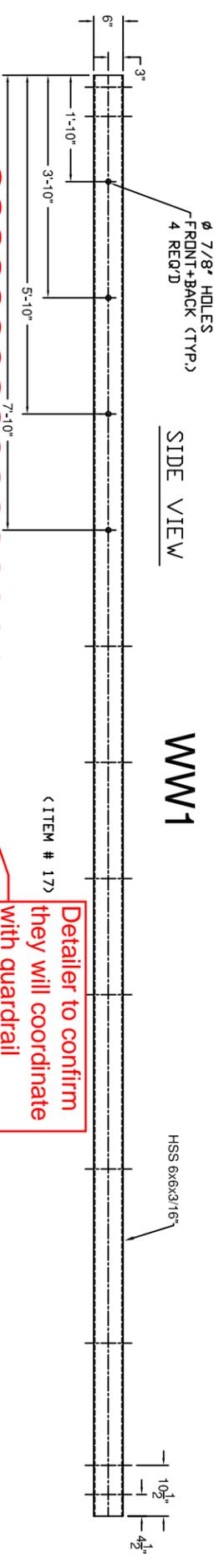
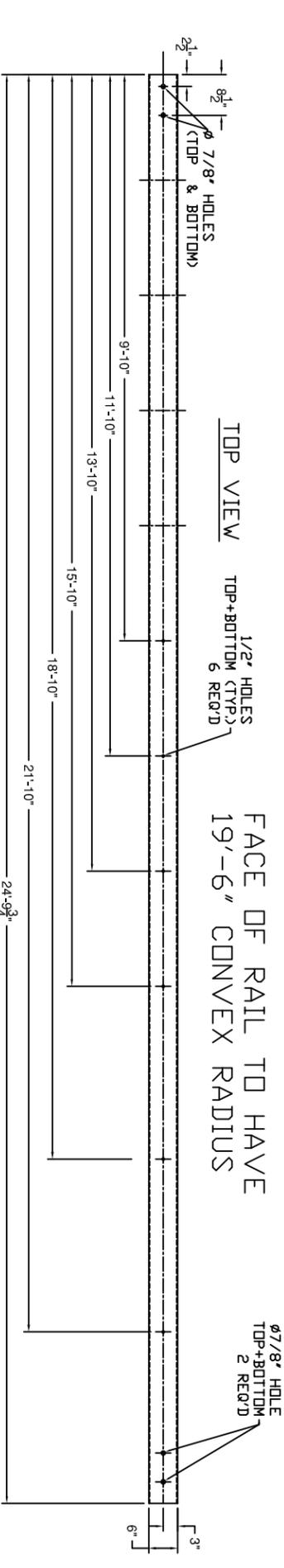
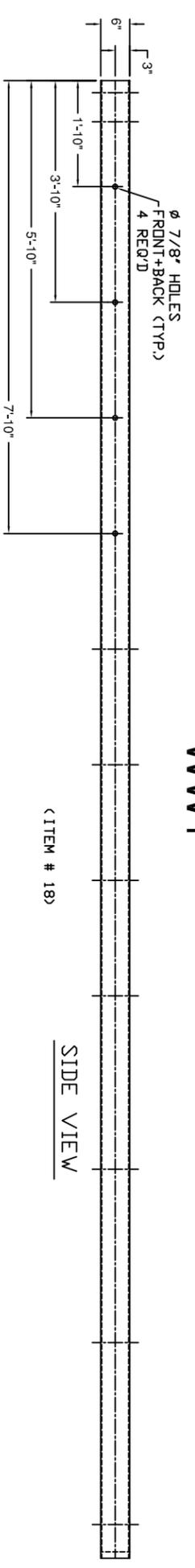
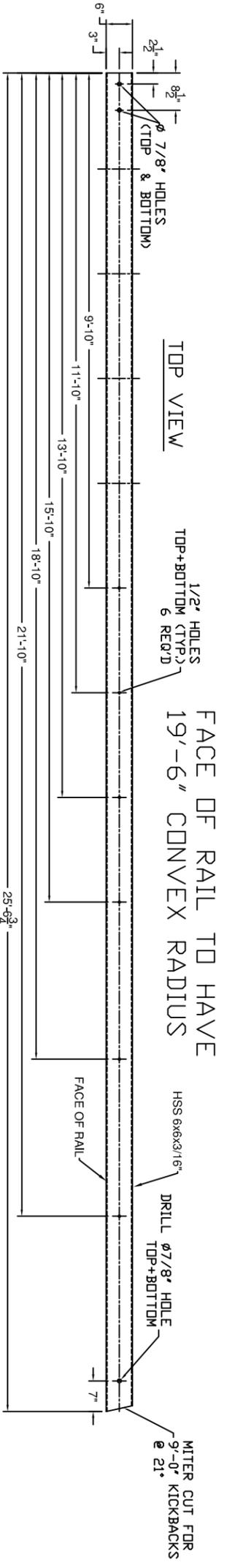
REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK, AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

REFLECTED

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 CORRECTING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND REFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

VHB
 Job Number: 57438
 Reviewed By: KZS
 Date: 3/18/2014



Detailer to confirm they will coordinate with guardrail details beyond approach rail limits

19'6"

900.640

ITEM #: 900.620 GEN CONTR: FR Latayette - MIDDLEBURY, (2014) SHEET 4 OF 8

APPROVED BY: *Calvinized 2-Rail Bar Beam Guardrail Approach Section*

TOWN OF MIDDLEBURY, ADDISON COUNTY, VT RTE 125 (MAJOR COLLECTOR), BRIDGE NO.: 13

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

EM13-252, MIDDLEBURY RS 0174 (B)

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

APPROVED: *[Signature]* DATE: 3/7/14
DRAWN: E.P. DATE: 3/7/14
CHECKED: D.L. DATE: 3/7/14
APPROVED: M.V.
SCALE: SCHEMATIC
DRAWING NO: FR L - MIDDLEBURY 2014

SHOP DRAWING REVIEW

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REVISE AND RESUBMIT

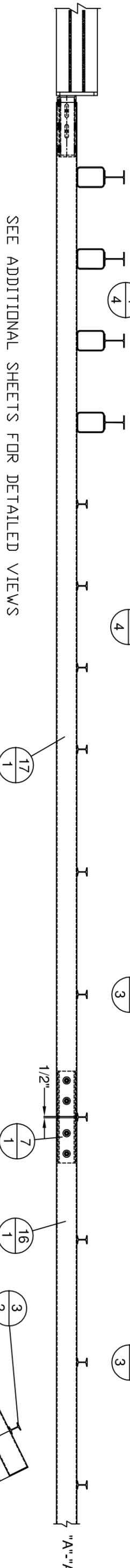
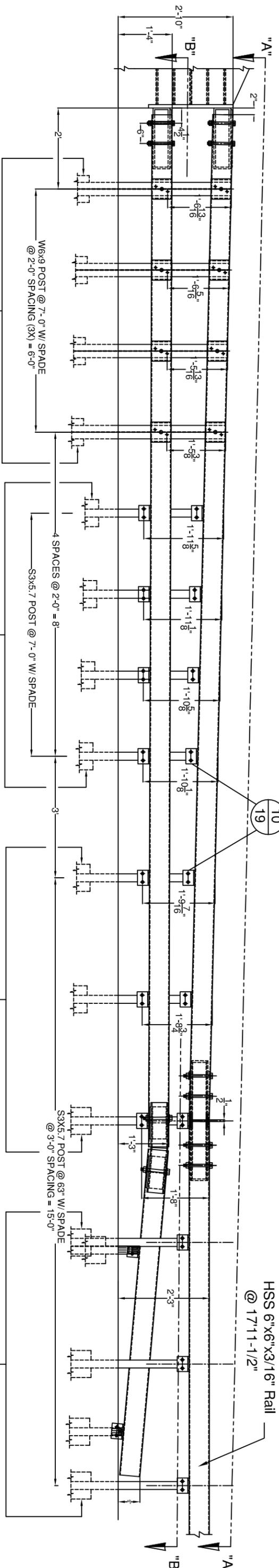
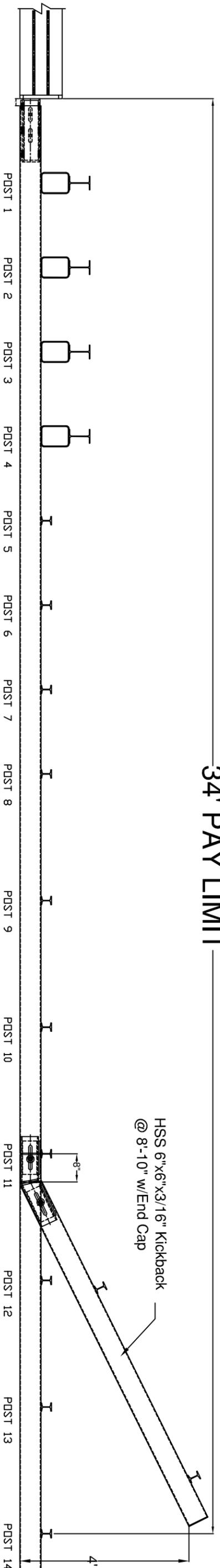
FINISH AS CORRECTED

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VHB Job Number: 57438
Reviewed By: KZS
Date: 3/18/2014

Vermont Agency of Transportation
RECEIVED
ON: **March 11, 2014**
and Checked for
CONFORMANCE
BY: Jennifer Fitch DATE: 03/19/2014

34' PAY LIMIT



SEE ADDITIONAL SHEETS FOR DETAILED VIEWS

GUARD RAIL TO BRIDGE RAIL TRANSITION WW2 & WW3



Vermont Agency of Transportation

RECEIVED

ON: **March 11, 2014**

and Checked for

CONFORMANCE

BY: Jennifer Fitch DATE: 03/19/2014

SHOP DRAWING REVIEW

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REFLECT REVISE AND RESUBMIT

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VHB
Reviewed By: KZS
Date: 3/18/2014

ITEM #: 900.620

GEN CONTR: FR Latayette - MIDDLEBURY, (2014)

SHEET 5 OF 8

APPROVED BY:

Calumized 2-Rail Bar Beam Guardrail Approach Section

EM13-252, MIDDLEBURY RS 0174 (8)

BRIDGE NO.: 13

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

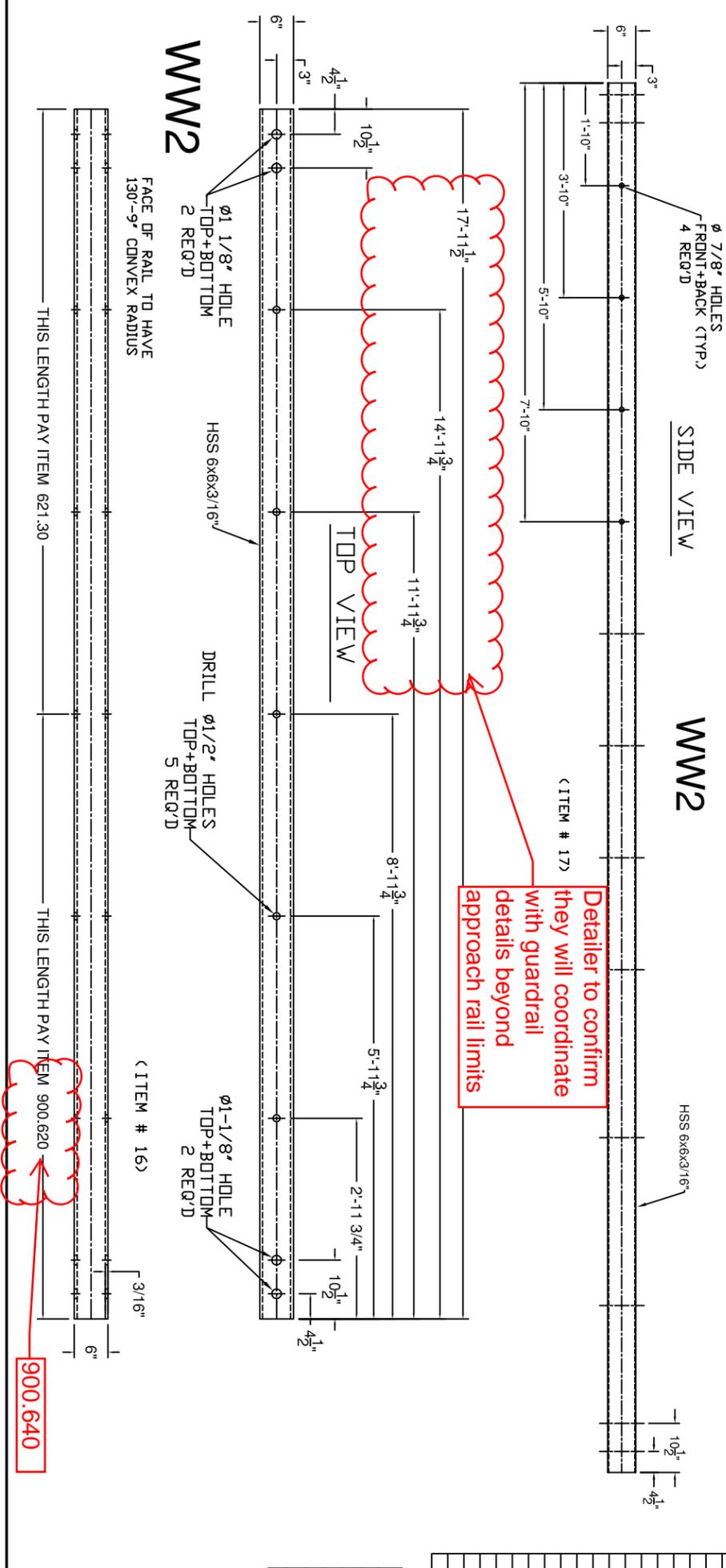
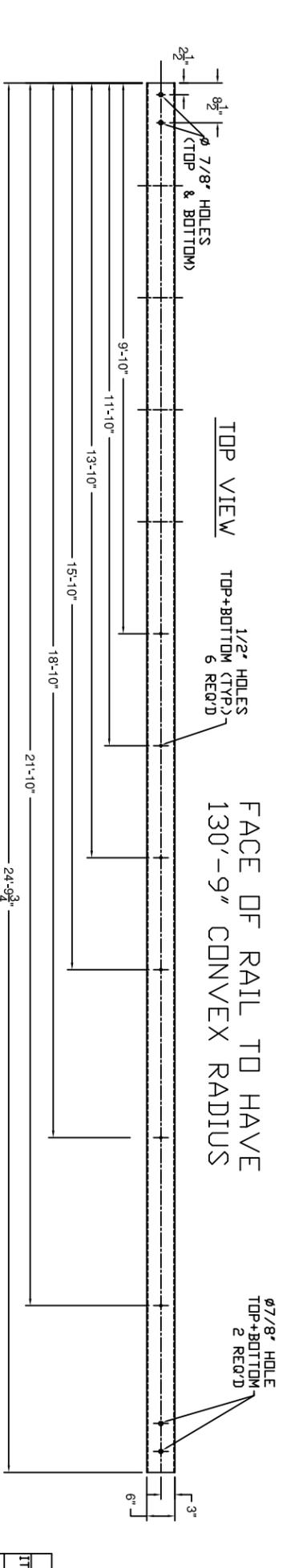
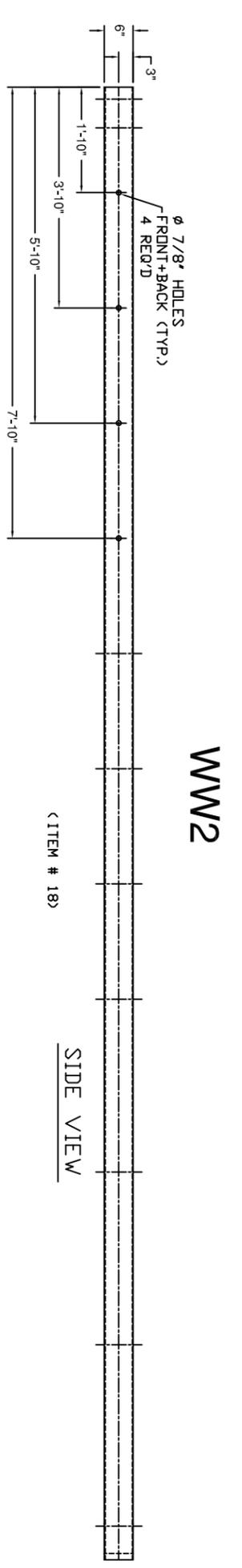
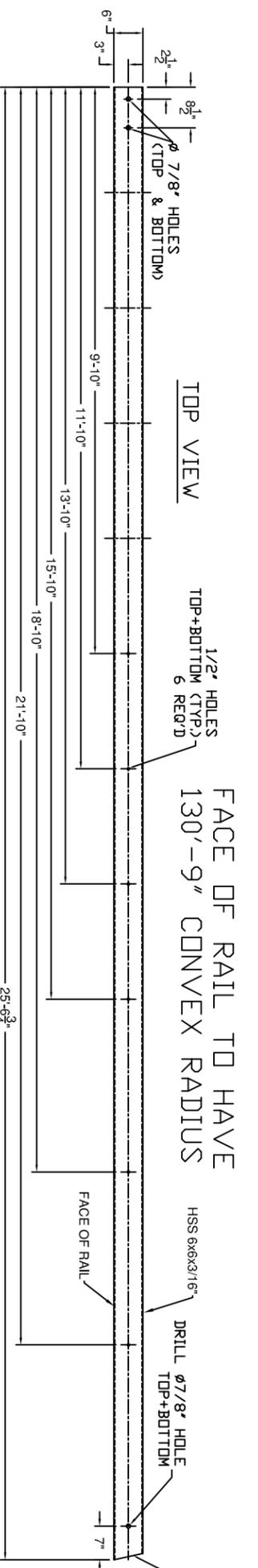
ELDERLEE, INC.

CERTIFIED FABRICATOR

OAKS CORNERS, NEW YORK 14518

E-Mail: diong@elderlee.com / epete@elderlee.com
Tel: 315-789-6670 Fax: 315-789-6615

DRAWN: E.P. 3/7/14
CHECKED: D.L. 3/10/14
APPROVED: M.V.
SCALE: SCHEMATIC
DRAWING NO: FR L - MIDDLEBURY 2014



Detailer to confirm they will coordinate with guardrail details beyond approach rail limits

confirm member size

SHOP DRAWING REVIEW

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

REJECTED

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Job Number: **57438**
 Reviewed By: **KZS**
 Date: **3/18/2014**

Vermont Agency of Transportation
RECEIVED
 ON: **March 11, 2014**
 and Checked for
CONFORMANCE
 BY: **Jennifer Fitch** DATE: **03/19/2014**

BILL OF MATERIALS, WV 2

ITEM #	QTY.	COMPONENT #	DESCRIPTION	MATERIAL (ASTM)
1	3	001357021	3" I-POST, PUNCH 8" W/SPD @ 63" LG	ASTM A572 Gr. 50
2	3	001357025	3" I-POST, PUNCH 8" & 20" W/SPD @ 63" LG	ASTM A572 Gr. 50
3	2	001357060	3" I-END POST W/SPD @ 3'-8" LG	ASTM A572 Gr. 50
4	4	001309001	W6X9 POST @ 7' W/SPD & 5/8" HOLES	ASTM A572 Gr. 50
5	4	001357010	3" I-POST PUNCH 8" & 20" W/8X32" SPADE @ 7'	ASTM A572 Gr. 50
7	1	0033300640	HSS 5X5 TUBE SPLICE @ 27' LG W/ 1/4" SHIMS	A500 Gr. B / A572 Gr. 50
10	1	005400050	REG BR SHELF ANGLES @ 4-1/2'	ASTM A36
12	1	HSS 5X5 TBL	BEND TUBE SPL @ 27' LG & 28" ANGLE	A500 Gr. B / A572 Gr. 50
13	8	005400563	6X8" TRANS. TUBE B/D @ 6" LG	A500 Gr. B
15	1	6X6" RB @ 9'-0"	KICKBACK, W/ CAP & 14" ANGLE	A500 Gr. B / A36
16	1	6X6" RB @ 17'-11 1/2"	DRILL 3" CC, W/ 130'-9" RADIUS	A500 Gr. B
17	1	6X6" RB TOP TRANS @ 24'-9 3/4"	LG W/EXP END, & 130'-9" RAD.	A500 Gr. B
18	1	6X6" RB BTM TRANS @ 25'-6 3/4"	LG W/EXP END & 130'-9" RAD.	A500 Gr. B
19	18	008003355	3/8" X 7 1/2" BOLT, NUT, & 2 F.W.	A307, A563, F436
20	19	008004100	1/2" X 1-1/2" BOLT, NUT, & F.W.	A307, A563, F436
21	16	008004120	1/2" X 1-1/2" BOLT, NUT, 2 F.W. & LV	A307, A563, F436
23	14	008006340	3/4" X 7-1/2" BOLT, NUT, 2 F.W.	A325, A563, F436
24	8	008006370	3/4" X 8" CARB BOLT, NUT, F.W. & LV	A307, A563, F436
26	1		PARAPET WALL CONNECTIONS	A572 Gr. 50, A615 Gr. 60, A709

HARDWARE NOTES

ITEM #	FUNCTION
19	BOLT RAIL TO SHELF ANGLE (ITEM #10)
20	BOLT SHELF ANGLE (ITEM # 10) TO POST
21	BOLT BLOCK-OUTS (ITEM # 13) TO HEAVY POST (ITEM # 4)
23	SPLICE TUBING (ITEM #S 7 & 12), & (4) PER PARAPET WALL CONNECTION (ITEM # 26)
24	BOLT RAIL (ITEMS #S 17, & 18 TO BLOCK-OUTS (ITEM # 13)

ITEM #: 900.620 GEN CONTR: FR Latayette - MIDDLEBURY, (2014) SHEET 6 OF 8

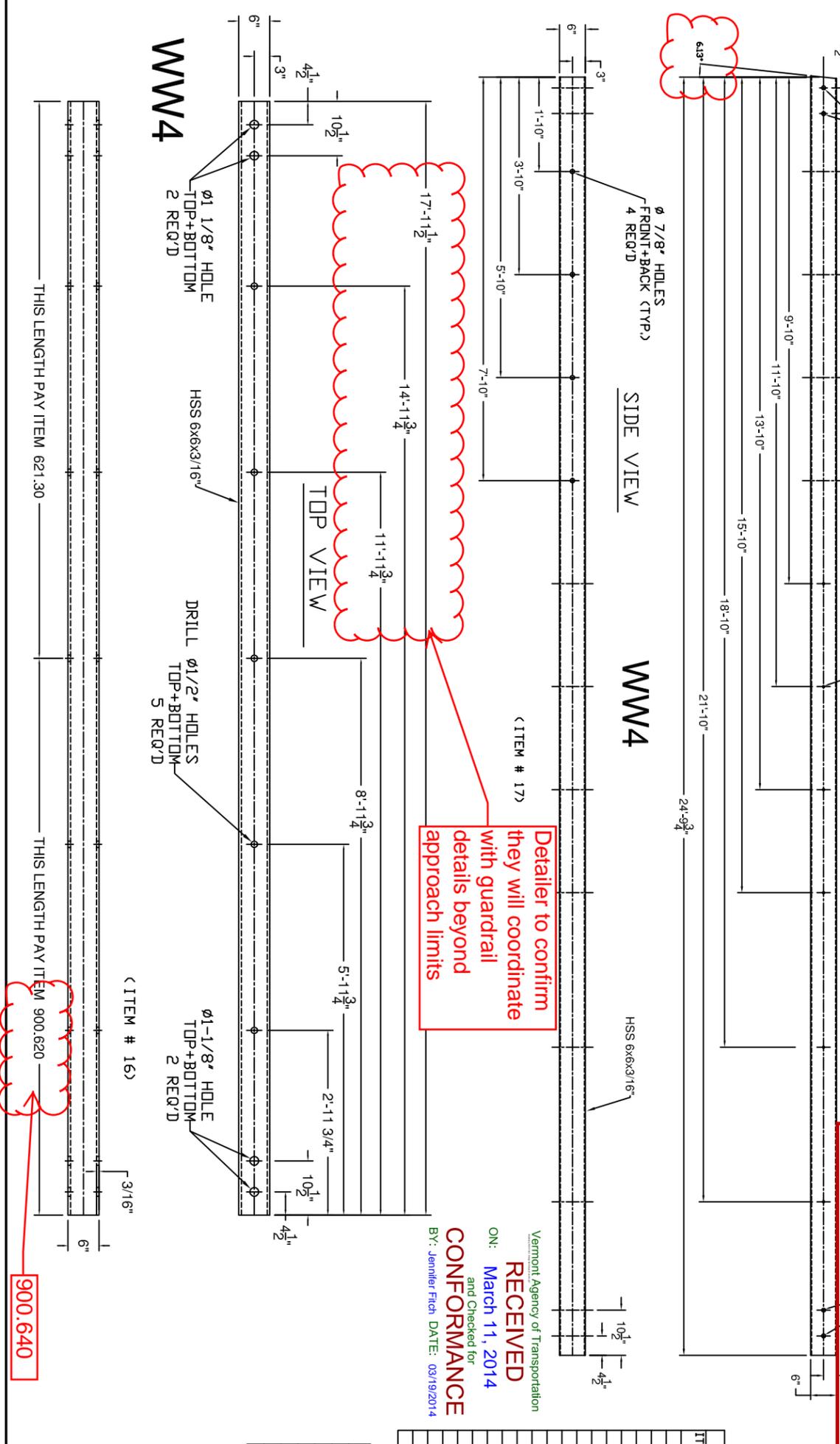
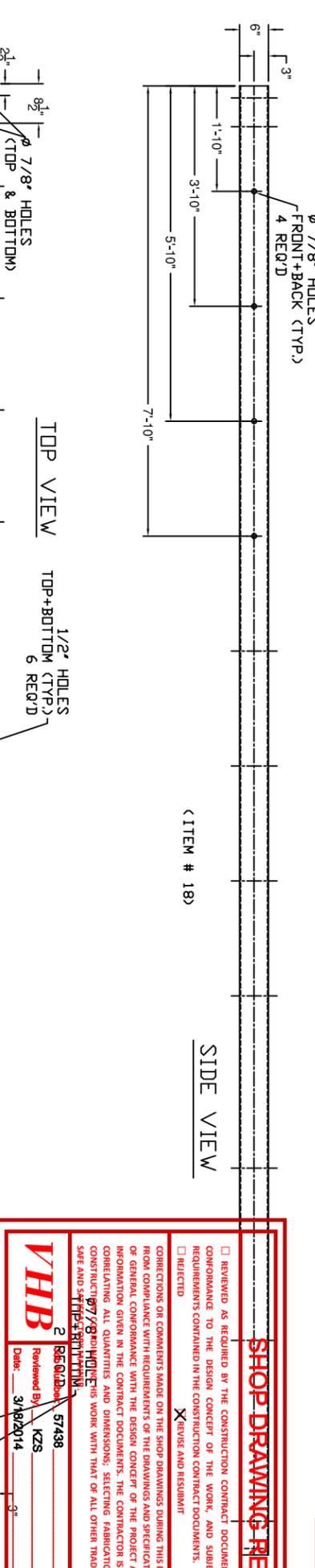
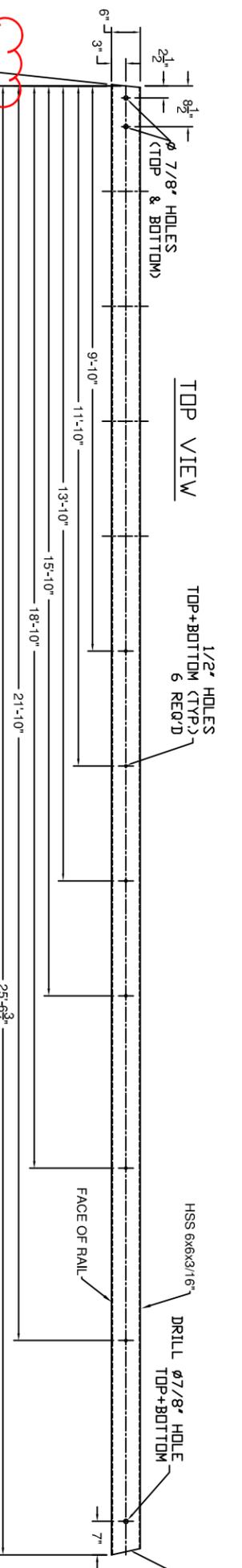
APPROVED BY: *Calumized 2-Rail Bar Beam Guardrail Approach Section*

TOWN OF MIDDLEBURY, ADDISON COUNTY, VT RTE 128 (MAJOR COLLECTOR), BRIDGE NO. : 13
 EM13-252, MIDDLEBURY RS 0174 (8)

R.N.O.	DATE	DESCRIPTION	BY	R.N.O.	DATE	DESCRIPTION	BY

ELDERLEE, INC.
 OAKS CORNERS, NEW YORK 14518
 E-Mail: diong@elderlee.com / epc@elderlee.com
 Tel: 315-789-8670 Fax: 315-789-6615

DRAWN: E.P. 3/7/14
 CHECKED: D.L. 3/10/14
 APPROVED: M.V.
 SCALE: _____
 DRAWING NO: FR L - MIDDLEBURY 2014



Detailer to confirm they will coordinate with guardrail approach limits

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.

REVERSE AND RESUBMIT

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'S RESPONSIBILITY FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, AND PERFORMING HIS WORK IN A SAFE AND SOUND MANNER REMAINS UNCHANGED.

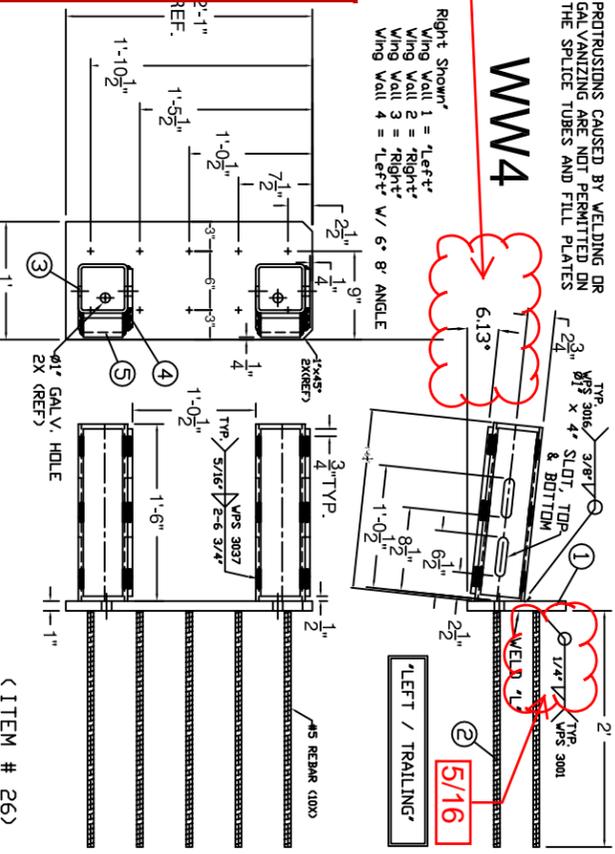
VHB
 2 57438
 Reviewed By: KZS
 Date: 3/19/2014

confirm angle (typ.)

confirm member size

BILL OF MATERIALS

ITEM #	QTY	DESCRIPTION	ASTM #
1	1	DRILL TUBE WALL PLATE - 1" X 12" X 25"	ASTM A572 Gr. 50
2	10	RAV. 65/8" REBAR @ 24"	A615 Gr. 60
3	2	5" X 5" X 5/16" TUBE W/ SLOTS @ 18"	ASTM A500 Gr. B
4	2	SHIM PL 1/2" X 4" X 17" W/ SLOTS	ASTM A36/ASTM A709 Gr. 36/CVN
5	2	SHIM PL 1/2" X 4" X 17" (C/W/ SLOTS)	ASTM A36/ASTM A709 Gr. 36/CVN



BILL OF MATERIALS, WV 4

ITEM #	QTY	COMPONENT #	DESCRIPTION	MATERIAL (ASTM)
1	3	001357021	3" I-POST, PUNCH 8" W/SPD @ 63" LG	ASTM A572 Gr. 50
2	3	001357025	3" I-POST, PUNCH 8" & 20" W/SPD @ 63" LG	ASTM A572 Gr. 50
3	2	001357060	3" I-END POST W/SPD @ 3'-8" LG	ASTM A572 Gr. 50
4	4	001309001	W6X9 POST @ 7' W/SPD & 5/8" HOLES	ASTM A572 Gr. 50
5	4	001357010	3" I-POST, PUNCH 8" & 20" W/8X32" SPADE @ 7'	ASTM A572 Gr. 50
7	1	0033300640	HSS 5X5 TUBE SPLICE @ 27' LG W/ 1/4" SHIMS	ASTM A36
10	19	005400050	RED BRG SHELF ANGLES @ 4'-1/2"	ASTM A36
12	1	HSS 5X5 DBL BEND TUBE SPL @ 27' LG & 25" ANGLE	A500 Gr. B / A572 Gr. 50	
13	8	005400563	6X8" TRANSV. TUBE B/D @ 6" LG	A500 Gr. B
15	1	6X6" BR @ 3'-0" KICKBACK, W/ CAP & 12 1/2" ANGLE	A500 Gr. B / A36	
16	1	6X6" BR @ 17'-11 1/2" DRILL 3" CC	A500 Gr. B	
17	1	6X6" BR TOP TRANS @ 24'-9 3/4" LG W/EXP END & 6" 8" ANGLE	A500 Gr. B	
18	1	6X6" BR BTM TRANS @ 25'-6 3/4" LG W/EXP END & 6" 8" ANGLE	A500 Gr. B	
19	18	008003355	3/8" X 7 1/2" BOLT, NUT, & 2" FW	A307, A563, F436
20	19	008004100	1/2" X 1-1/2" BOLT, NUT, & FW	A307, A563, F436
21	16	008004120	1/2" X 1-1/2" BOLT, NUT, 2" FW & LV	A307, A563, F436
23	14	008006340	3/4" X 7-1/2" BOLT, NUT, 2" FW	A325, A563, F436
24	8	008006370	3/4" X 8" CARB BOLT, NUT, FW & LV	A307, A563, F436
25	1	PARAPET WALL CONNECTIONS W/ 6" 18" ANGLE	A572 Gr. 50, A615 Gr. 60, A709	

HARDWARE NOTES

ITEM #	DESCRIPTION	FUNCTION
19	BOLT RAIL TO SHELF ANGLE (ITEM #10)	
20	BOLT SHELF ANGLE (ITEM # 10) TO POST	
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24	BOLT RAIL (ITEMS #S 17, & 18 TO BLOCK-OUTS (ITEM # 13)	

ITEM #: 900.620 **GEN CONTR:** FR Latayette - MIDDLEBURY, (2014) **SHEET 8 OF 8**

APPROVED BY: *Calumized 2-Rail Bar Beam Guardrail Approach Section*

TOWN OF MIDDLEBURY, ADDISON COUNTY, VT RTE 128 (MAJOR COLLECTOR), BRIDGE NO. 13
 EM13-259, MIDDLEBURY RS 0174 (8)

R.N.O.	DATE	DESCRIPTION	BY	R.N.O.	DATE	DESCRIPTION	BY

ELDERLEE, INC.
 OAKS CORNERS, NEW YORK 14518
 E-Mail: diong@elderlee.com / epetee@elderlee.com
 Tel: 315-789-8670 Fax: 315-789-6615

CERTIFIED FABRICATOR

DRAWN: E.P. 3/7/14
 CHECKED: D.L. 3/10/14
 APPROVED: M.V.
 SCALE: SCHEMATIC
 DRAWING NO: FR L - MIDDLEBURY 2014