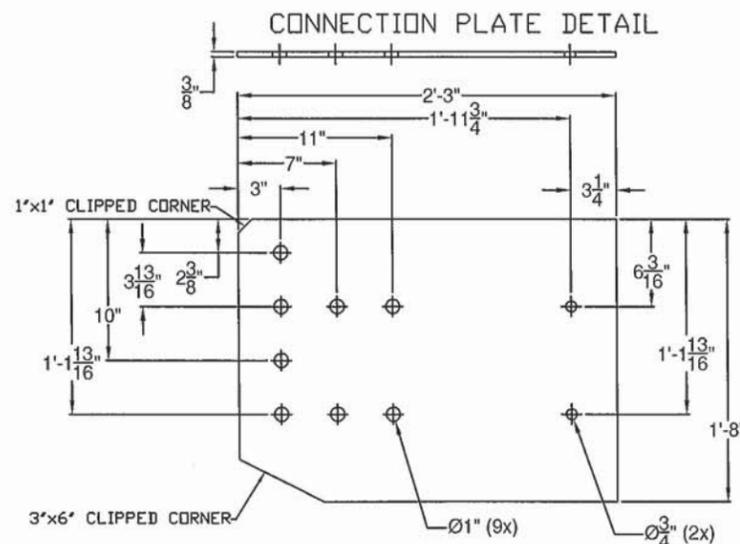
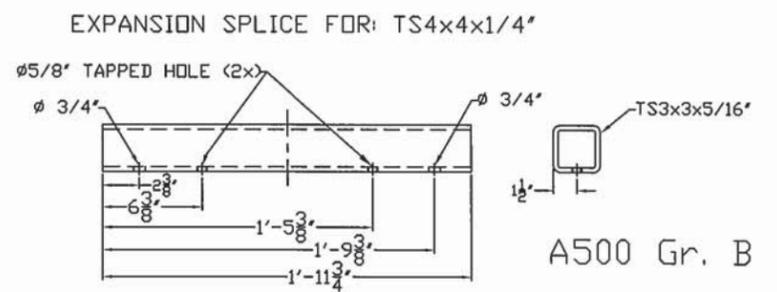
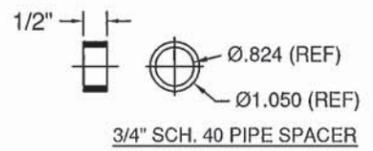
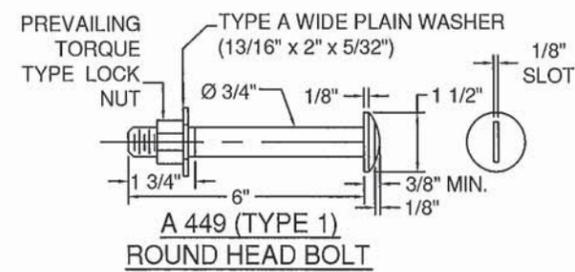
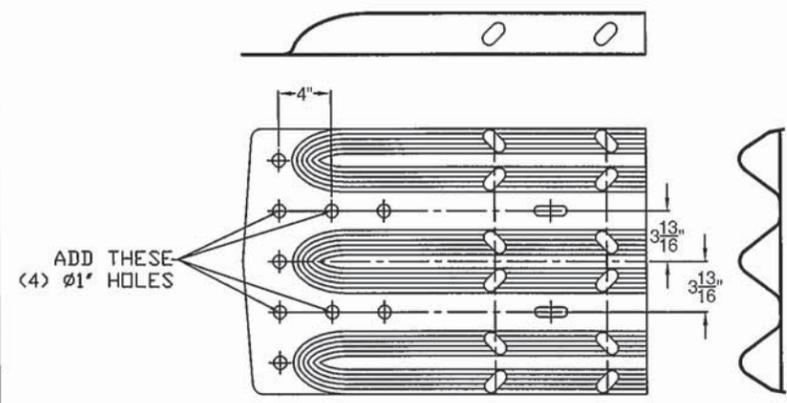


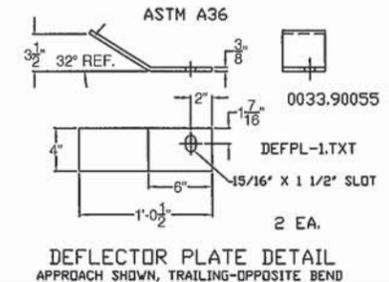
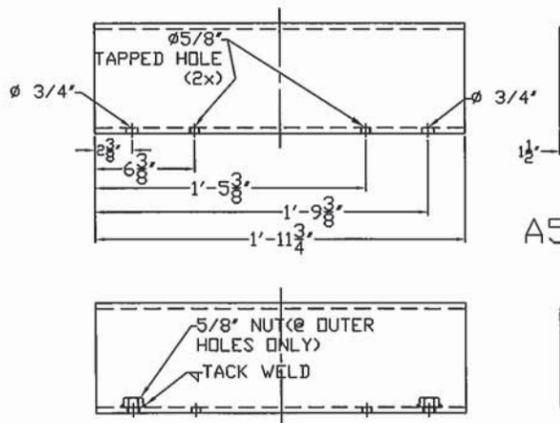
| QTY | DESCRIPTION | ASTM DESIGNATION |
|-----|--|-----------------------------------|
| 1 | THRIE BEAM TERMINAL CONNECTION (10 Ga) | AASHTO M180 |
| 1 | THRIE BEAM TRANSITION @ 7'-3 1/2' (10 Ga) | AASHTO M180 |
| 1 | CONNECTION PLATE | M270, Gr. 36 |
| 2 | 12' 6" THRIE BEAM (12Ga) | AASHTO M180 |
| 4 | W6X25 POST @ 8'-0" (PUNCHING VARIES - POST 1~4) | A572 Gr. 50 |
| 1 | DEFLECTOR PLATE (APPROACH OR TRAILING) | A36 |
| 1 | 8' X 4' X 5/16" RAIL @ 9'-4" | A500 Gr. B |
| 1 | 4' X 4' X 1/4" RAIL @ 9'-4" | A500 Gr. B |
| 1 | 8' X 4' X 1/4" END CAP | A36 |
| 1 | 4' X 4' X 1/4" END CAP | A36 |
| 1 | 7' x 3' x 3/8" SPLICE TUBE @ 1' 11 3/4" | A500 Gr. B |
| 1 | 3' x 3' x 5/16" SPLICE TUBE @ 1' 11 3/4" | A500 Gr. B |
| 8 | Ø 3/4" SCH. 40 PIPE @ 1/2" | A53 |
| 8 | Ø 5/8" X 1 3/4" HEX BOLTS | A307 |
| 8 | Ø 5/8" FLAT WASHER, HARDENED, TYPE A, PLAIN WIDE | A307 |
| 7 | Ø 3/4" X 6" CARRIAGE BOLT, & NUT | A307 |
| 1 | Ø 3/4" X 2" CARRIAGE BOLT, & NUT | A307 |
| 19 | Ø 5/8" X 1'-6" BUTTON HEAD POST BOLT, PLATE WASHER, F.W. & NUT | A307, A36, F844 or 307, & A563 |
| 32 | Ø 5/8" X 1 1/4" BUTTON HEAD SPLICE BOLT, RECESSED NUT & F.W. | A307 |
| 19 | 3/16" SPEC. PLATE WASHER @ 1 3/4" X 3" | A36 |
| 16 | Ø 3/4" X 6" SLOTTED ROUND HEAD BOLT, F.W., LOCK W. & LOCK NUT | A449, F436, ASME B18.21.1, & A563 |
| 10 | 6 X 8' WOOD POST @ 7'-0" | SUPPLIED BY OTHERS |
| 9 | 6 X 8' WOOD BLOCKOUTS @ 1'-6" | SUPPLIED BY OTHERS |
| 1 | 6 X 8' WOOD BLOCKOUTS @ 1'-2" | SUPPLIED BY OTHERS |



| QTY | DESCRIPTION | ASTM DESIGNATION | APPLICATION |
|-----|---|-----------------------------------|---|
| A | 8 Ø 5/8" X 1 3/4" HEX BOLTS | A307 | USED IN SPLICE TUBES |
| B | 8 Ø 5/8" FLAT WASHER, HARDENED, TYPE A, PLAIN WIDE | A307 | FOR SPLICE TUBES, |
| C | 7 Ø 3/4" X 6" CARRIAGE BOLT, & NUT | A307 | TERM. CONN. & CONN. PLATE TO RAIL |
| D | 1 Ø 3/4" X 2" CARRIAGE BOLT, & NUT | A307 | DEFLECTOR PLATE TO CONN. PLATE |
| E | 19 Ø 5/8" X 1'-6" BUTTON HEAD POST BOLT, PLATE WASHER, F.W. & NUT | A307, A36, F844 or A307, & A563 | THRIE BEAM, TO OFFSET BLOCK, TO 6x8" POST |
| F | 32 Ø 5/8" X 1 1/4" BUTTON HEAD SPLICE BOLT, RECESSED NUT & F.W. | A307 | FASTEN PANEL COMPONENTS TOGETHER, (THRIE, TERMINAL CONNECTOR, TRANSITION SECTION) |
| G | 19 3/16" (SPECIAL) PLATE WASHER @ 1 3/4" X 3" | A36 | USED IN PANEL VALLEY, W/ 18" BOLT |
| H | 16 Ø 3/4" X 6" ROUND HEAD BOLT, FL. WASHER, LOCK W. & NUT | A449, F436, ASME B18.21.1, & A563 | FASTEN 4X4 & 4X8 RAIL TO RAIL POST 1~4 |



EXPANSION SPLICE FOR: TS8x4x5/16"



DRAWINGS ARE FOR COMPONENTS, ASSEMBLE PER STANDARD S-360B

MODIFICATION TO P/N 5143.40056 TO CREATE P/N 5143.90056

SHOP DRAWING REVIEW

ITEM #: 621.72

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

APPROVED BY: _____

REJECTED REVISE AND RESUBMIT FURNISH AS CORRECTED

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VHB Job Number: 57527
 Reviewed By: B Masse
 Date: 6-3-14

SHEET 1 OF 4

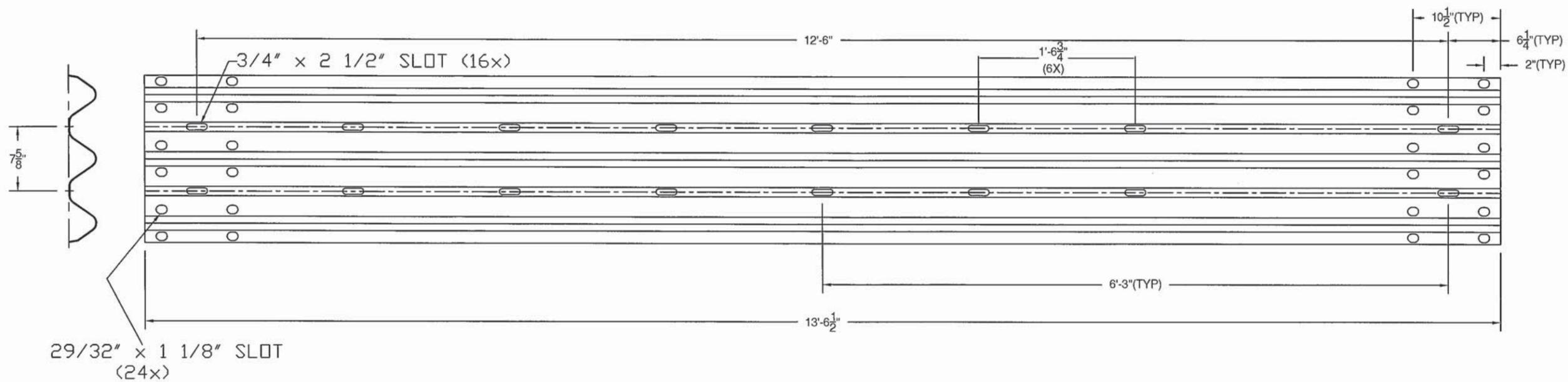
2 RAIL BRIDGE RAIL TO GUARDRAIL TRANSITION

ROCHESTER, BR# 0162 (17) VT RTE 73 (MAJOR COLLECTOR), BRIDGE NO: 16, OVER CORPORATION BROOK TOWN OF ROCHESTER, COUNTY OF WINDSOR, VT

| R NO. | DATE | DESCRIPTION | BY | R NO. | DATE | DESCRIPTION | BY |
|-------|--------|-----------------------------|------|-------|------|-------------|----|
| E 1 | 6/2/14 | REVISED PER 5/30/14 MARK-UP | E.P. | E | | | |

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

| DRAWN | E.P. | 5/15/14 |
|------------------------------------|-----------|---------|
| CHECKED | D.L. | 5/15/14 |
| APPROVED | | |
| SCALE | SCHEMATIC | |
| DRAWING NO. F.R.L. ROCHESTER, TR16 | | |



Vermont Agency of Transportation

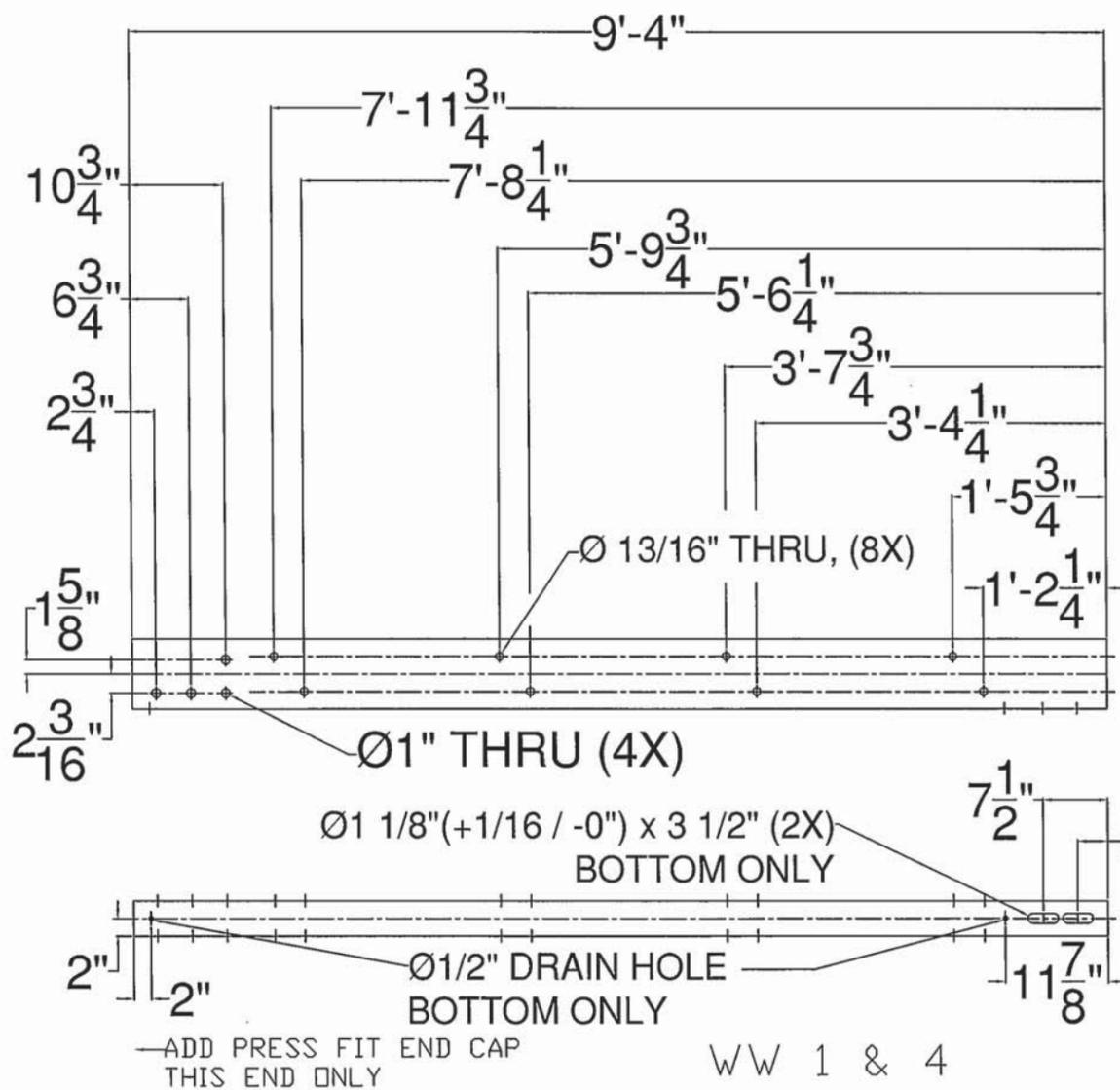
RECEIVED

ON: **June 3, 2014**

and Checked for

CONFORMANCE

BY: Jennifer Fitch DATE: 06/04/2014



TRAILING RAIL

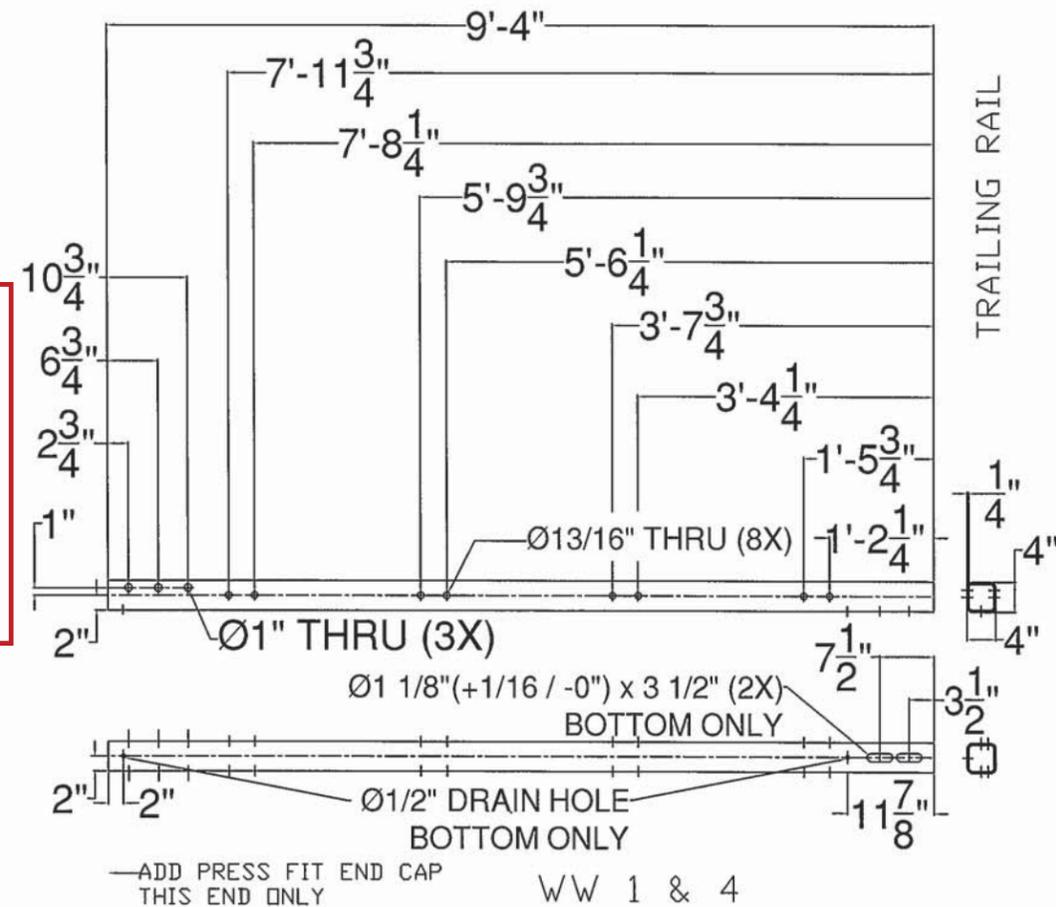
SHOP DRAWING REVIEW

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VHB Job Number: 57527
 Reviewed By: B. Masse
 Date: 6-3-14



ITEM #: 621.72

SHEET 2 OF 4

APPROVED BY:

2 RAIL BRIDGE RAIL TO GUARDRAIL TRANSITION

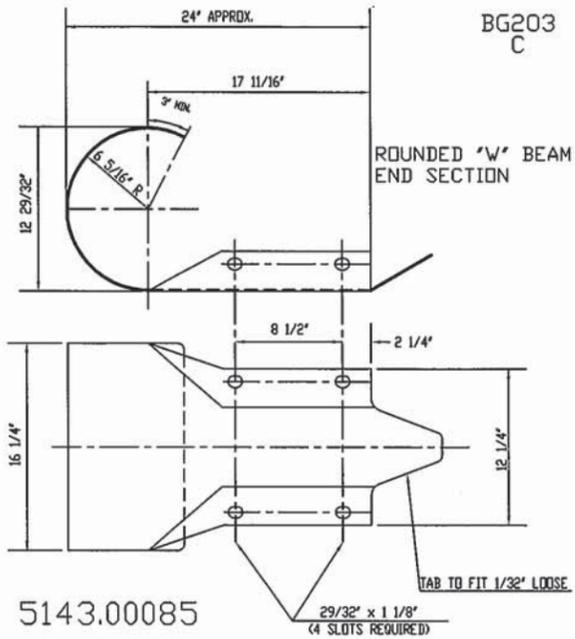
ROCHESTER, BR# 0182 (17) VT RTE 73 (MAJOR COLLECTOR), BRIDGE NO: 16, OVER CORPORATION BROOK
 TOWN OF ROCHESTER, COUNTY OF WINDSOR, VT

| R NO. | DATE | DESCRIPTION | BY | R NO. | DATE | DESCRIPTION | BY |
|-------|--------|-----------------------------|------|-------|------|-------------|----|
| E 1 | 6/2/14 | REVISED PER 5/30/14 MARK-UP | E.P. | E | | | |
| V | | | | V | | | |

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

CERTIFIED FABRICATOR

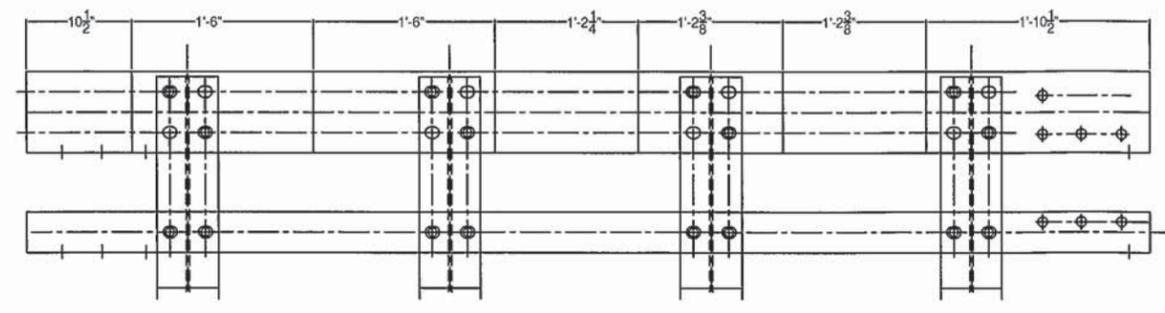
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|------------------------------------|-----------|---------|
| DRAWN | E.P. | 5/15/14 |
| CHECKED | D.L. | 5/15/14 |
| APPROVED | | |
| SCALE | SCHEMATIC | |
| DRAWING NO. F.R.L. ROCHESTER, TR16 | | |



| BILL OF MATERIAL (621.72) WW-2 | | |
|--------------------------------|--|-----------------------------------|
| QTY | DESCRIPTION | ASTM DESIGNATION |
| 1 | THRIE BEAM TERMINAL CONNECTION (10 Ga) | AASHTO M180 |
| 1 | THRIE BEAM TRANSITION @ 7'-3 1/2' (10 Ga) | AASHTO M180 |
| 1 | CONNECTION PLATE | M270, Gr. 36 |
| 2 | 12' 6" THRIE BEAM (12Ga) W/ PARTIAL 8.5' RAD. | AASHTO M180 |
| 1 | ROUNDED "W" BEAM, END SECTION | AASHTO M180 |
| 4 | W6X25 POST @ 8'-0" (PUNCHING VARIES - POST 1-4) | A572 Gr. 50 |
| 1 | DEFLECTOR PLATE (APPROACH OR TRAILING) | A36 |
| 1 | 8" X 4" X 5/16" RAIL @ 9'-4" | A500 Gr. B |
| 1 | 4" X 4" X 1/4" RAIL @ 9'-4" | A500 Gr. B |
| 1 | 8" X 4" X 1/4" END CAP | A36 |
| 1 | 4" X 4" X 1/4" END CAP | A36 |
| 1 | 7" x 3" x 3/8" SPLICE TUBE @ 1' 11 3/4" | A500 Gr. B |
| 1 | 3" x 3" x 5/16" SPLICE TUBE @ 1' 11 3/4" | A500 Gr. B |
| 8 | Ø 3/4" SCH. 40 PIPE @ 1/2" | A53 |
| 8 | Ø 5/8" X 1 3/4" HEX BOLTS | A307 |
| 8 | Ø 5/8" FLAT WASHER, HARDENED, TYPE A, PLAIN WIDE | A307 |
| 7 | Ø 3/4" X 6" CARRIAGE BOLT, & NUT | A307 |
| 1 | Ø 3/4" X 2" CARRIAGE BOLT, & NUT | A307 |
| 19 | Ø 5/8" X 1'-6" BUTTON HEAD POST BOLT, PLATE WASHER, F.W. & NUT | A307, A36, F844 or 307, & A563 |
| 36 | Ø 5/8" X 1 1/4" BUTTON HEAD SPLICE BOLT, RECESSED NUT & F.W. | A307 |
| 19 | 3/16" SPEC. PLATE WASHER @ 1 3/4" X 3" | A36 |
| 16 | Ø 3/4" X 6" SLOTTED ROUND HEAD BOLT, F.W., LOCK W. & LOCK NUT | A449, F436, ASME B18.21.1, & A563 |
| 10 | 6 X 8" WOOD POST @ 7'-0" | SUPPLIED BY OTHERS |
| 9 | 6 X 8" WOOD BLOCKOUTS @ 1'-6" | SUPPLIED BY OTHERS |

5143.00085

DETAIL SHOWING PIE CUT LOCATIONS @ WW 2, FOR 8'-6" CONVEX RAD. ON FACE OF RAIL.



SHOP DRAWING REVIEW

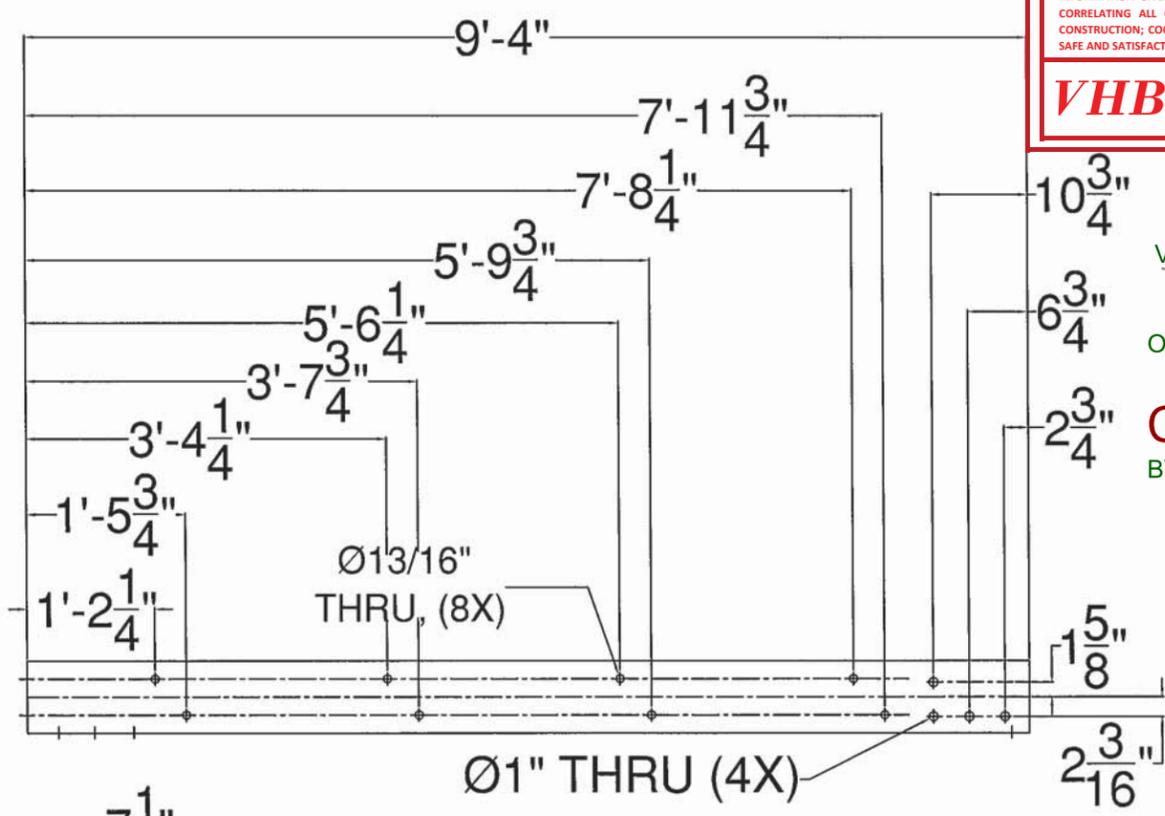
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REJECTED REVISE AND RESUBMIT FURNISH AS CORRECTED

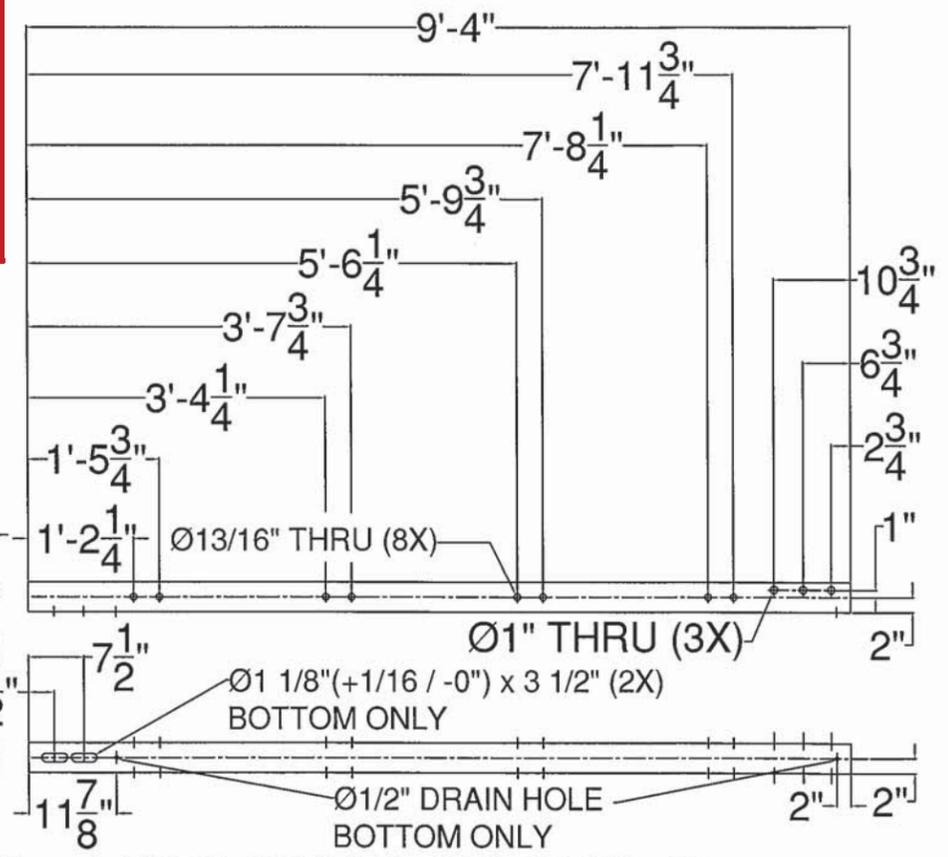
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VHB Job Number: 57527
 Reviewed By: B. Masse
 Date: 6-3-14

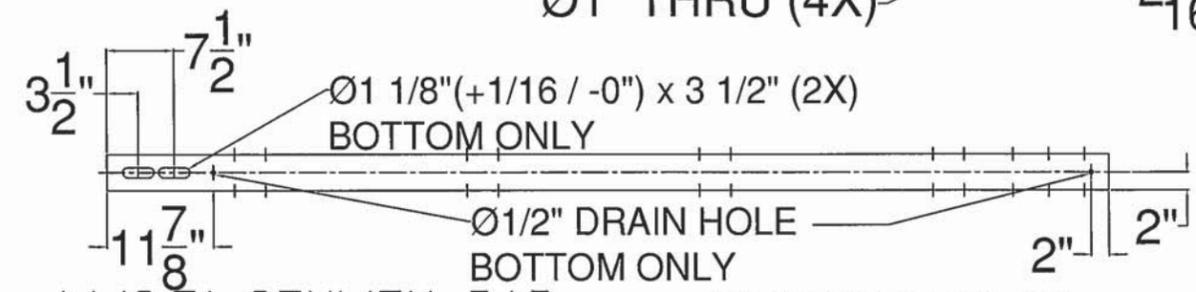
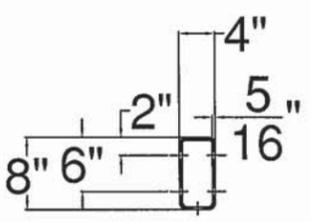
APPROACH RAIL



APPROACH RAIL



Vermont Agency of Transportation
RECEIVED
 ON: **June 3, 2014**
 and Checked for
CONFORMANCE
 BY: Jennifer Fitch DATE: 06/04/2014



WW 2 - W/8.5' CONVEX RAD. ADD PRESS FIT END CAP— THIS END ONLY
 WW 3

WW 2 - W/8.5' CONVEX RAD, ADD PRESS FIT END CAP— THIS END ONLY
 WW 3

ITEM #: 621.72

SHEET 3 OF 4

APPROVED BY: _____

2 RAIL BRIDGE RAIL TO GUARDRAIL TRANSITION

ROCHESTER, BR# 0162 (17) VT RTE 73 (MAJOR COLLECTOR), BRIDGE NO: 16, OVER CORPORATION BROOK
 TOWN OF ROCHESTER, COUNTY OF WINDSOR, VT

| R NO. | DATE | DESCRIPTION | BY | R NO. | DATE | DESCRIPTION | BY |
|-------|--------|-----------------------------|------|-------|------|-------------|----|
| 1 | 6/2/14 | REVISED PER 5/30/14 MARK-UP | E.P. | | | | |

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

| | | |
|------------------------------------|-----------|---------|
| DRAWN | E.P. | 5/15/14 |
| CHECKED | D.L. | 5/15/14 |
| APPROVED | | |
| SCALE | SCHEMATIC | |
| DRAWING NO. F.R.L. ROCHESTER, TR16 | | |

| BILL OF MATERIAL (621.72) WW-3 | | |
|--------------------------------|--|-----------------------------------|
| QTY | DESCRIPTION | ASTM DESIGNATION |
| 1 | THRIE BEAM TERMINAL CONNECTION (10 Ga) | AASHTO M180 |
| 1 | THRIE BEAM TRANSITION @ 7'-3 1/2' (10 Ga) | AASHTO M180 |
| 1 | CONNECTION PLATE | M270, Gr. 36 |
| 2 | 12' 6" THRIE BEAM (12Ga) W/ PARTIAL 8'-10' RAD. | AASHTO M180 |
| 1 | ROUNDED "W" BEAM, END SECTION | AASHTO M180 |
| 4 | W6X25 POST @ 8'-0" (PUNCHING VARIES - POST 1~4) | A572 Gr. 50 |
| 1 | DEFLECTOR PLATE (APPROACH OR TRAILING) | A36 |
| 1 | 8' X 4' X 5/16" RAIL @ 9'-4' | A500 Gr. B |
| 1 | 4' X 4' X 1/4" RAIL @ 9'-4' | A500 Gr. B |
| 1 | 8' X 4' X 1/4" END CAP | A36 |
| 1 | 4' X 4' X 1/4" END CAP | A36 |
| 1 | 7' x 3' x 3/8" SPLICE TUBE @ 1' 11 3/4' | A500 Gr. B |
| 1 | 3' x 3' x 5/16" SPLICE TUBE @ 1' 11 3/4' | A500 Gr. B |
| 8 | Ø 3/4" SCH. 40 PIPE @ 1/2" | A53 |
| 8 | Ø 5/8" X 1 3/4" HEX BOLTS | A307 |
| 8 | Ø 5/8" FLAT WASHER, HARDENED, TYPE A, PLAIN WIDE | A307 |
| 7 | Ø 3/4" X 6" CARRIAGE BOLT, & NUT | A307 |
| 1 | Ø 3/4" X 2" CARRIAGE BOLT, & NUT | A307 |
| 19 | Ø 5/8" X 1'-6" BUTTON HEAD POST BOLT, PLATE WASHER, F.W. & NUT | A307, A36, F844 or 307, & A563 |
| 36 | Ø 5/8" X 1 1/4" BUTTON HEAD SPLICE BOLT, RECESSED NUT & F.W. | A307 |
| 19 | 3/16" SPEC. PLATE WASHER @ 1 3/4" X 3" | A36 |
| 16 | Ø 3/4" X 6" SLOTTED ROUND HEAD BOLT, F.W., LOCK W. & LOCK NUT | A449, F436, ASME B18.21.1, & A563 |
| 10 | 6 X 8" WOOD POST @ 7'-0" | SUPPLIED BY OTHERS |
| 9 | 6 X 8" WOOD BLOCKOUTS @ 1'-6" | SUPPLIED BY OTHERS |
| 1 | 6 X 8" WOOD BLOCKOUTS @ 1'-2" | SUPPLIED BY OTHERS |

| BILL OF MATERIAL (621.72) WW-4 | | |
|--------------------------------|--|-----------------------------------|
| QTY | DESCRIPTION | ASTM DESIGNATION |
| 1 | THRIE BEAM TERMINAL CONNECTION (10 Ga) | AASHTO M180 |
| 1 | THRIE BEAM TRANSITION @ 7'-3 1/2' (10 Ga) | AASHTO M180 |
| 1 | CONNECTION PLATE | M270, Gr. 36 |
| 2 | 12' 6" THRIE BEAM (12Ga) | AASHTO M180 |
| 4 | W6X25 POST @ 8'-0" (PUNCHING VARIES - POST 1~4) | A572 Gr. 50 |
| 1 | DEFLECTOR PLATE (APPROACH OR TRAILING) | A36 |
| 1 | 8' X 4' X 5/16" RAIL @ 9'-4' | A500 Gr. B |
| 1 | 4' X 4' X 1/4" RAIL @ 9'-4' | A500 Gr. B |
| 1 | 8' X 4' X 1/4" END CAP | A36 |
| 1 | 4' X 4' X 1/4" END CAP | A36 |
| 1 | 7' x 3' x 3/8" SPLICE TUBE @ 1' 11 3/4' W/ 4" BEND | A500 Gr. B |
| 1 | 3' x 3' x 5/16" SPLICE TUBE @ 1' 11 3/4' W/ 4" BEND | A500 Gr. B |
| 8 | Ø 3/4" SCH. 40 PIPE @ 1/2" | A53 |
| 8 | Ø 5/8" X 1 3/4" HEX BOLTS | A307 |
| 8 | Ø 5/8" FLAT WASHER, HARDENED, TYPE A, PLAIN WIDE | A307 |
| 7 | Ø 3/4" X 6" CARRIAGE BOLT, & NUT | A307 |
| 1 | Ø 3/4" X 2" CARRIAGE BOLT, & NUT | A307 |
| 19 | Ø 5/8" X 1'-6" BUTTON HEAD POST BOLT, PLATE WASHER, F.W. & NUT | A307, A36, F844 or 307, & A563 |
| 32 | Ø 5/8" X 1 1/4" BUTTON HEAD SPLICE BOLT, RECESSED NUT & F.W. | A307 |
| 19 | 3/16" SPEC. PLATE WASHER @ 1 3/4" X 3" | A36 |
| 16 | Ø 3/4" X 6" SLOTTED ROUND HEAD BOLT, F.W., LOCK W. & LOCK NUT | A449, F436, ASME B18.21.1, & A563 |
| 10 | 6 X 8" WOOD POST @ 7'-0" | SUPPLIED BY OTHERS |
| 9 | 6 X 8" WOOD BLOCKOUTS @ 1'-6" | SUPPLIED BY OTHERS |
| 1 | 6 X 8" WOOD BLOCKOUTS @ 1'-2" | SUPPLIED BY OTHERS |

Vermont Agency of Transportation

RECEIVED

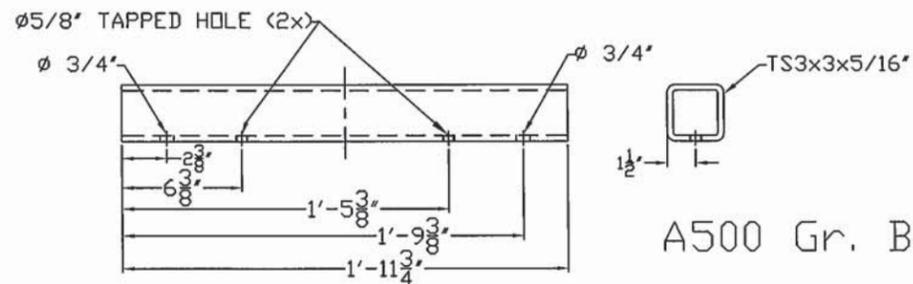
ON: **June 3, 2014**

and Checked for

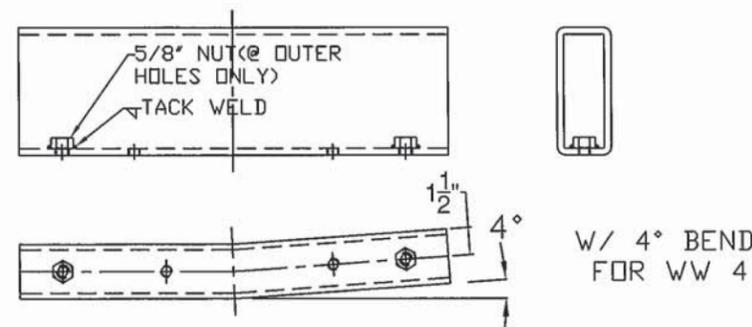
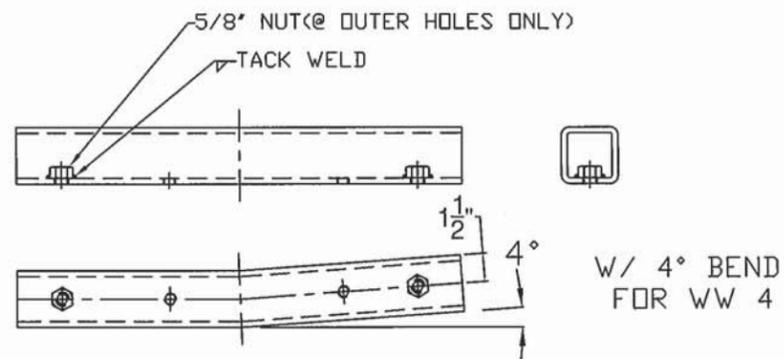
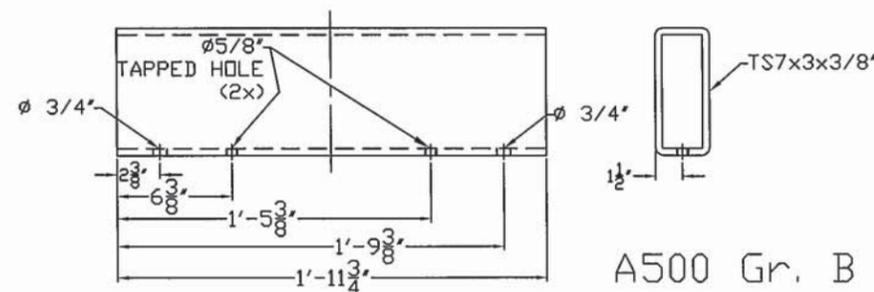
CONFORMANCE

BY: Jennifer Fitch DATE: 06/04/2014

EXPANSION SPLICE FOR: TS4x4x1/4"



EXPANSION SPLICE FOR: TS8x4x5/16"



SHOP DRAWING REVIEW

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VHB Job Number: 57527
 Reviewed By: B Masse
 Date: 6-3-14

ITEM #: 621.72

APPROVED BY:

SHEET 4 OF 4

2 RAIL BRIDGE RAIL TO GUARDRAIL TRANSITION

ROCHESTER, BR# 0162 (17) VT RTE 73 (MAJOR COLLECTOR), BRIDGE NO: 16, OVER CORPORATION BROOK
TOWN OF ROCHESTER, COUNTY OF WINDSOR, VT

| R NO. | DATE | DESCRIPTION | BY | R NO. | DATE | DESCRIPTION | BY |
|-------|--------|-----------------------------|--------|-------|------|-------------|----|
| E 1 | 6/2/14 | REVISED PER 5/30/14 MARK-UP | E.P. E | | | | |
| V | | | | V | | | |

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

CERTIFIED FABRICATOR

| | | |
|------------------------------------|-----------|---------|
| DRAWN | E.P. | 5/15/14 |
| CHECKED | D.L. | 5/15/14 |
| APPROVED | | |
| SCALE | SCHEMATIC | |
| DRAWING NO. F.R.L. ROCHESTER, TR16 | | |

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

| | | | |
|-----------------------------------|------------------------------|-----------|---------------------------|
| Material Specification | ASTM-A500-A53-GRADE B TO A36 | | |
| Welding Process | FCAW-G | | |
| Manual or Machine | SEMAUTOMATIC | | |
| Position of Welding | 1G | | |
| Filler Metal Specification | A5.29 | | |
| Filler Metal Classification | E81T1-Ni1C-JH4 | | |
| Flux | N/A | | |
| Shielding Gas | CO 2 | Dew Point | -40DEG F FLOW RATE 50 CFH |
| Single or Multiple Pass | SINGLE | | |
| Single or Multiple Arc | SINGLE | | |
| Welding Current | DC | | |
| Polarity | REVERSE ELECTRODE POSITIVE | | |
| Welding Progression | STRINGER | | |
| Root Treatment | PER D1.5 | | |
| Preheat and Interpass Temperature | PER. D1.5 | | |
| Postheat Temperature | NONE | | |
| Heat Input | Min | | Max |

WELDING PROCEDURE

| Pass no. | Electrode size | Welding Current | | Travel speed | Joint detail |
|----------|----------------|-----------------|----------|--------------|--------------|
| | | Amperes | Volts | | |
| 1 | 1/16 | 310 | 25 | 11 | |
| Variable | LIMITS | 341 | 27 | 12 | |
| | | TO 269 | TO 23 | TO 10 | |

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure No. 3012 Contractor Elderlee, Inc.
 Revision No. _____ Authorized By RANDY SCOTT
 Date 3/20/2014

Vermont Agency of Transportation

RECEIVED

ON: **June 3, 2014**

and Checked for

CONFORMANCE

BY: **Jennifer Fitch** DATE: **06/04/2014**

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.

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.

VHB Job Number: 57521
 Reviewed By: B. Masse
 Date: 6-3-14