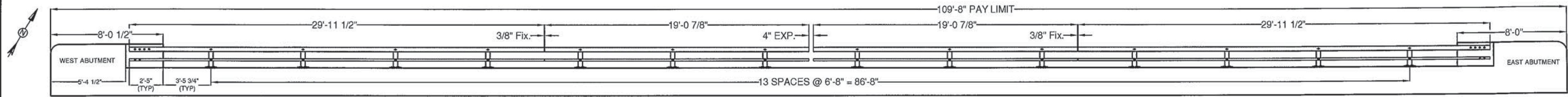
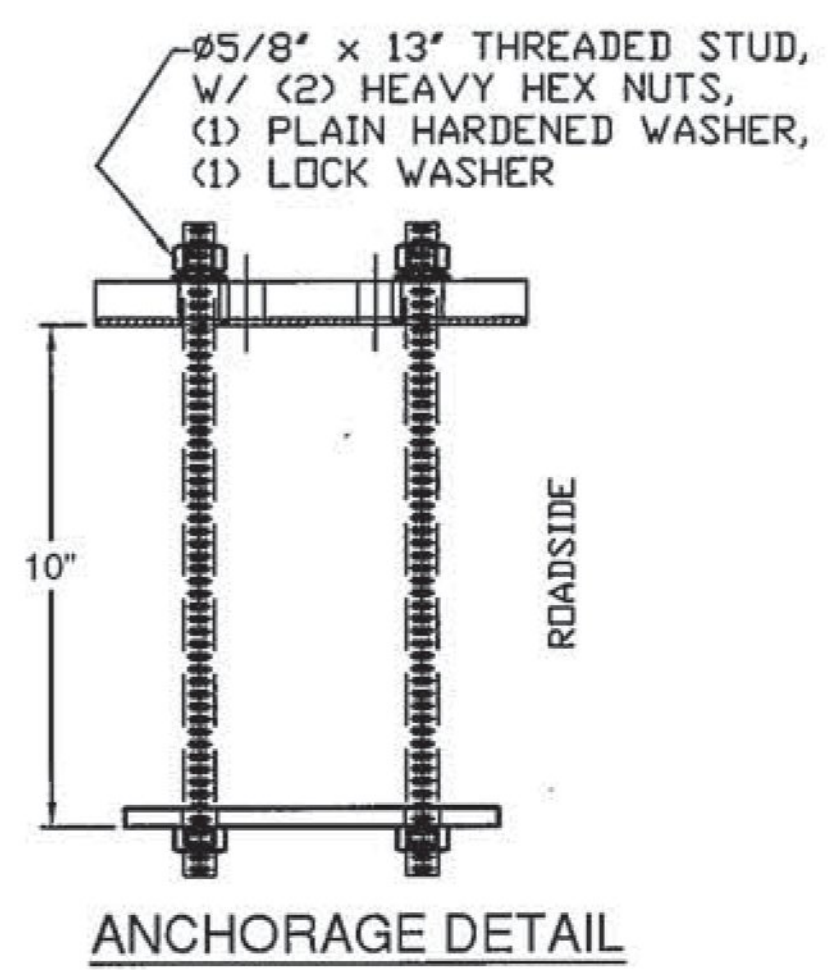


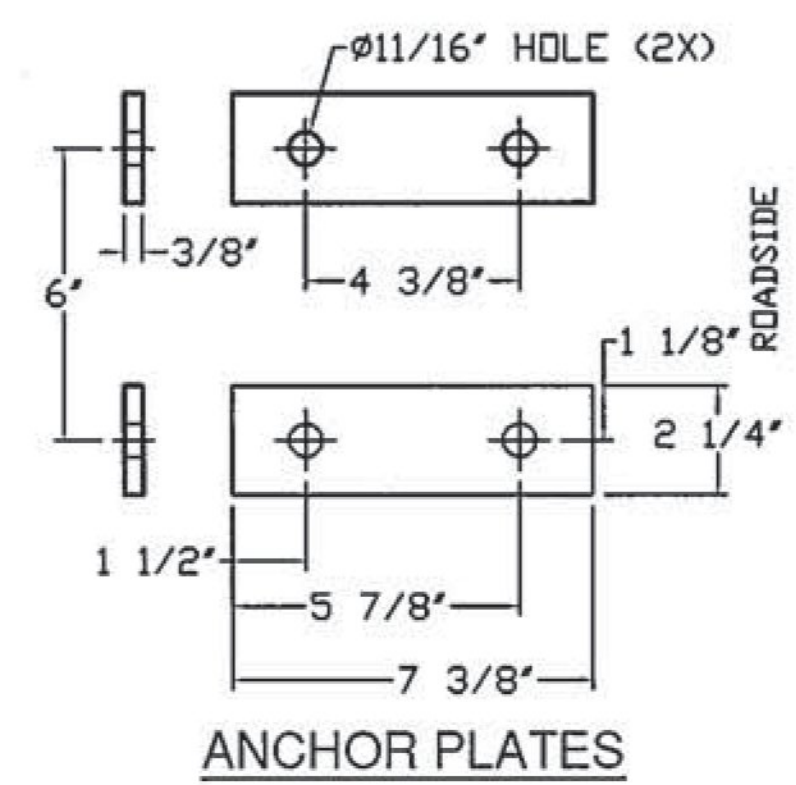
SOUTH RAILING, FACING SOUTH



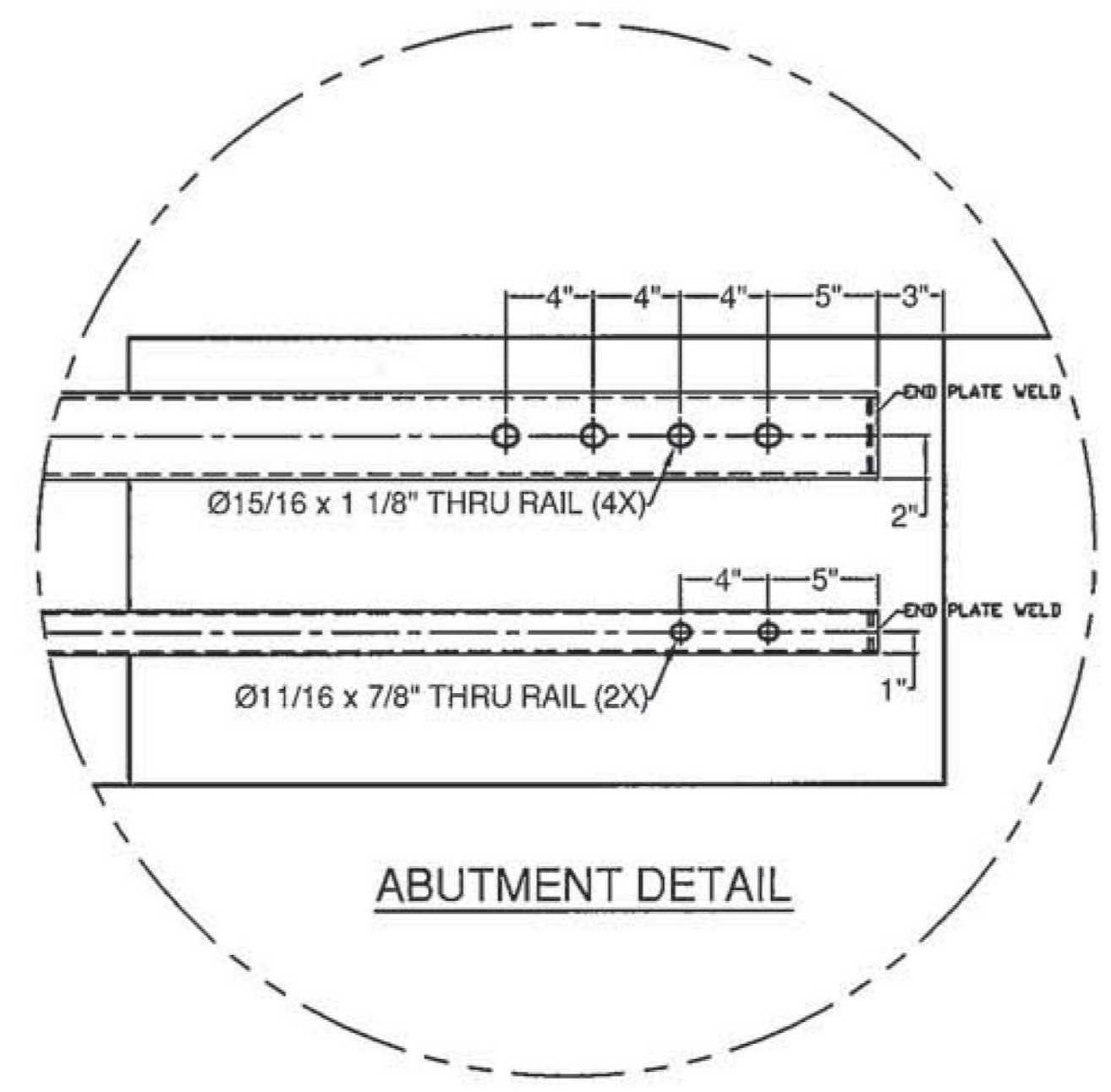
NORTH RAILING, FACING NORTH



ANCHORAGE DETAIL



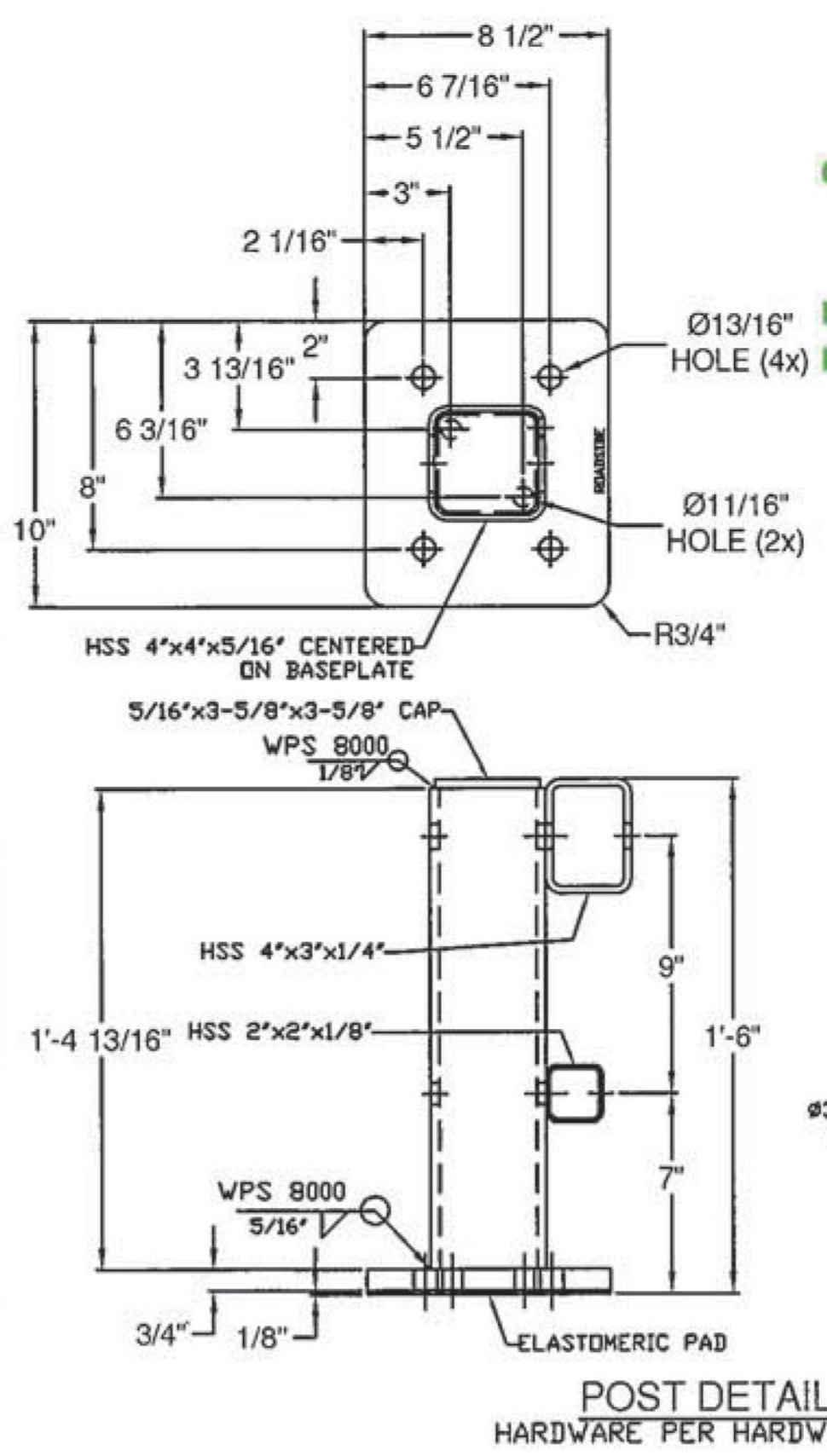
ANCHOR PLATES



ABUTMENT DETAIL

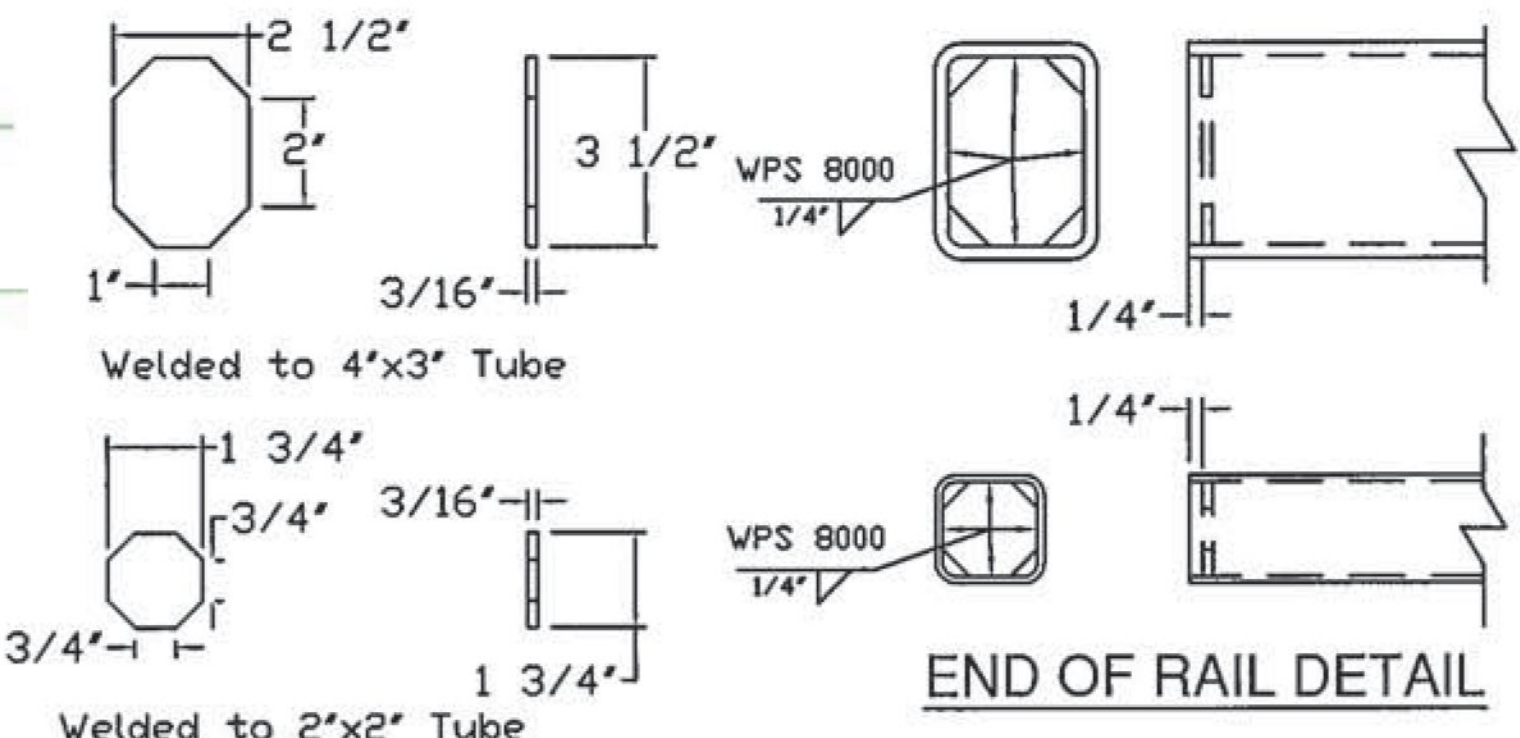
BILL OF MATERIAL				
ITEM #	QTY	PART #	DESCRIPTION	ASTM DESIGNATION
1	28	0033.90017	TWO RAIL POST & BASE PLATE ASSEMBLY	A572 Gr. 50, A500 Gr. B
2	4	-	2' X 2' X 1/8" RAIL @ 29'-11 1/2" W/ END PLATES	A500 Gr. B
3	4	-	2' X 2' X 1/8" RAIL @ 19'-0 7/8"	A500 Gr. B
4	4	-	4' X 3' X 1/4" RAIL @ 29'-11 1/2" W/ END PLATES	A500 Gr. B
5	4	-	4' X 3' X 1/4" RAIL @ 19'-0 7/8" W/ END PLATES	A500 Gr. B
6	4	0033.90069	1-1/2' X 1-1/2' FIX. SPL. BAR @ 2' 4"	A572 Gr. 50
7	2	0033.90328	1-1/2' X 1-1/2' EXP. SPL. BAR @ 2' 4"	A572 Gr. 50
8	4	0033.90071	2-1/4' X 3-1/4' FIX. SPL. BAR @ 2' 4"	A572 Gr. 50
9	2	0033.90072	2-1/4' X 3-1/4' EXP. SPL. BAR @ 2' 4"	A572 Gr. 50
10	28	0033.00295	3/8" X 2 1/4" X 7 3/8" ANCHOR PLATES	A36
11	114*	0042.05813	Ø 5/8" X 13" ANCHOR STUDS	A449
12	226*	0080.15901	Ø 5/8" HEAVY HEX NUTS	A563
13	112	0080.15911	Ø 5/8" FLAT WASHERS	F436
14	112	0080.15920	Ø 5/8" LOCK WASHERS	ASME B18.21.1
15	28	0080.05565	Ø 5/8" X 7 1/2" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.	A449, A563 DH, F436, & ASME D18.21.1
16	28	0080.06410	Ø 3/4" X 8 1/2" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.	A449, A563 DH, F436, & ASME D18.21.1
17	24	0080.05275	Ø 5/8" X 3" HEX BOLT, NUT, F.W., & L.W.	A325, A563 DH, F436, & ASME D18.21.1
18	24	0080.07330	Ø 7/8" X 5 1/2" HEX BOLT, NUT, F.W., & L.W.	A325, A563 DH, F436, & ASME D18.21.1
19	8	0080.05760	Ø 5/8" X 13" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.	A449, A563 DH, F436, & ASME D18.21.1
20	16	0080.07710	Ø 7/8" X 14" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.	A449, A563 DH, F436, & ASME D18.21.1
21	28	0033.00053	1/8" ELASTOMERIC PAD	D2240
22	2	0054.900015	APPROACH, END WALL CONNECTORS	PER BOM
23	2	0054.900016	TRAILING, END WALL CONNECTORS	PER BOM

*-2 EXTRA FOR VOAT TESTING



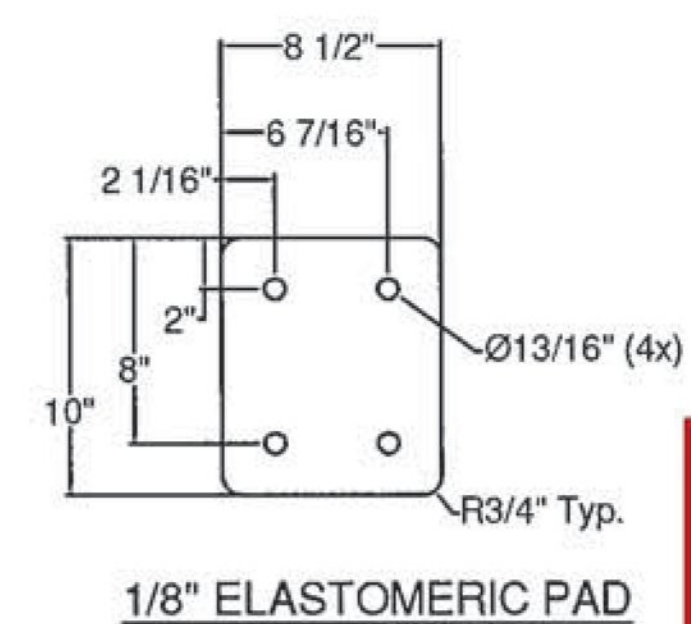
POST DETAIL
HARDWARE PER HARDWARE NOTES

Vermont Agency of Transportation
RECEIVED
CK'D BY VHB OK'D BY TAS
March 14, 2017
RESUBMIT APPROVED YES
BY T Sumner DATE 3/14/17



END OF RAIL DETAIL

- NOTES:
- 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, WILL BE SHOP-DRILLED AND 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 FULL DIAMETER BODY ASTM A449 (TYPE I) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE.
 - SEE STANDARD DRAWING G-I 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.
 - AESTHETIC TREATMENT TYPE SHALL BE APPLIED AS SPECIFIED IN THE CONTRACT PLANS. IF NONE IS SPECIFIED IT SHALL NOT BE USED. AESTHETIC 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 OF BRIDGE RAILING AND BOX BEAM GUARDRAIL, INCLUDING THE RAIL CONNECTION TO THE BRIDGE RAIL SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
 - ALL EXPOSED GALVANIZED STEEL COMPONENTS TO BE POWDER COATED BLACK 27038 PER FEDERAL STANDARD NO 595, & PER ASTM D7803



1/8" ELASTOMERIC PAD

HARDWARE NOTES	
ITEM #	FUNCTION
15	BOLT BOTTOM RAIL TO POST (ITEM #1)
16	BOLT TOP RAIL TO POST (ITEM #1)
17	BOLT BOTTOM SPLICE BARS (ITEM #6) TO BOTTOM RAIL
18	BOLT TOP SPLICE BARS (ITEM #7) TO TOP RAIL
19	BOLT BOTTOM RAIL TO END ABUTMENT
20	BOLT TOP RAIL TO END ABUTMENT

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.

40 IDX Drive
Building 100, Suite 200
South Burlington, VT 05403
802.497.6100

Job Number: BRF.025-1(42)
Reviewed By: E.F. LAWES
Date: MARCH 14, 2017

ITEM #: 900.640
STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
email: dong@elderlee.com / epsk@elderlee.com
Tel: 315-789-6670 Fax: 315-789-6615

ORTHOGONAL PROJECTION

DRN	D.K.	12/12/16
CHKD	E.P.	12/12/16
APPRD	D.L.	12/12/16
SCALE	SCHEMATIC	
DRAWING NO. FR LAFAYETTE - LUDLOW		