SEE SHEET 2 FOR INDEX OF SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

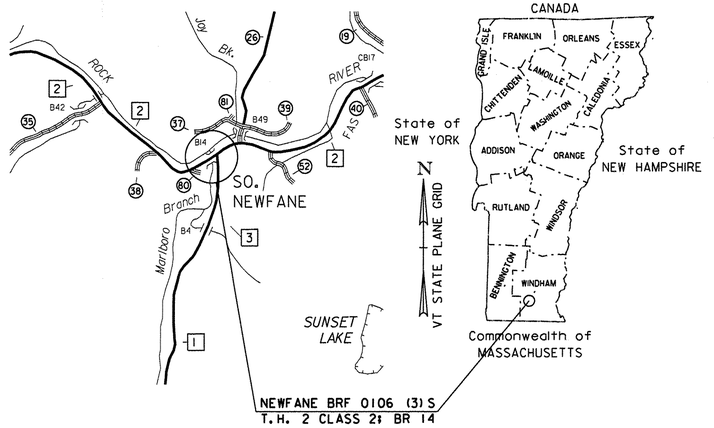
PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF NEWFANE
COUNTY OF WINDHAM

ROUTE NO : T.H. 2 CLASS 2 (MAJOR COLLECTOR) BRIDGE NO : 14

PROJECT LOCATION : BEGINNING ON TH 2 (DOVER ROAD) AT 0.14 KM WEST OF TH 3 AND PROCEEDING EAST 0.13 KM ON TH 2.

PROJECT DESCRIPTION : REPLACEMENT OF THE EXISTING BRIDGE WITH APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	37.150 METERS.
LENGTH OF ROADWAY :	89.503 METERS.
LENGTH OF PROJECT :	126.653 METERS.



LOCATION MAP
NOT TO SCALE

RECORD PLANS

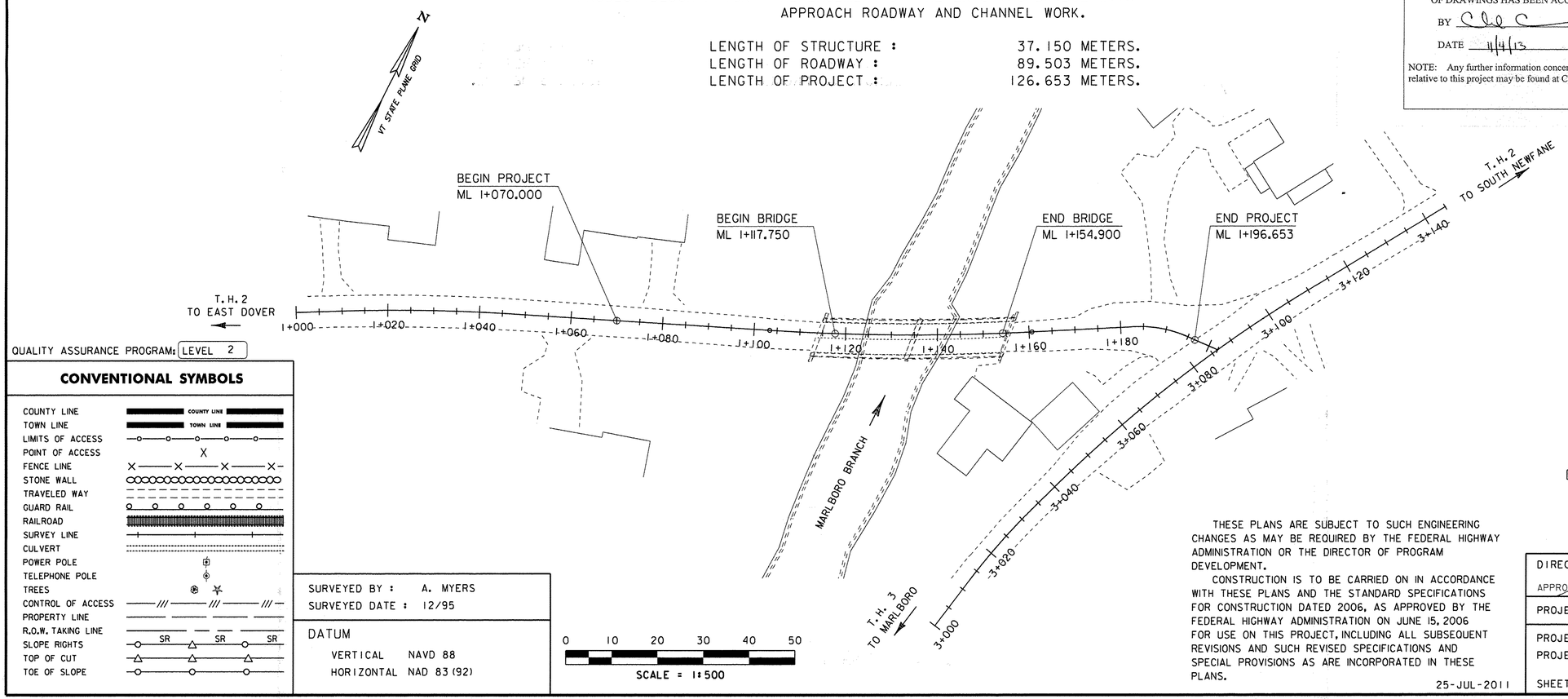
CONTRACTOR:	RENAUD BROTHERS, INC. - VERNON, VT
RESIDENT ENGINEER:	CHAD GREENWOOD
CONSTRUCTION BEGAN:	DECEMBER 19, 2011
CONSTRUCTION COMPLETE:	MAY 15, 2013
RECORD PLANS BY:	CHAD GREENWOOD & JENNA HYDE

I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER

DATE 11/4/13

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.



QUALITY ASSURANCE PROGRAM: LEVEL 2

CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS (SR SR SR)
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : A. MYERS
SURVEYED DATE : 12/95

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

0 10 20 30 40 50
SCALE = 1:500

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

25-JUL-2011

VTrans Metric

UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 7-27-11

PROJECT MANAGER : C. CARLSON

PROJECT NAME : NEWFANE
PROJECT NUMBER : BRF 0106 (3) S

SHEET 1 OF 70 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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STRUCTURES DETAILS

SD-501.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-502.00	CONCRETE DETAILS AND NOTES	6/4/2010
SD-601.00	STRUCTURAL STEEL DETAILS & NOTES	6/4/2010

STANDARD DRAWINGS

B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	7/8/2005
C-3A	SIDEWALK RAMPS	3/10/2008
C-10	CURBING	2/11/2008
D-15	PRECAST REINFORCED CONCRETE CATCH BASIN W/ CAST IRON GI	6/1/1994
	PRECAST REINFORCED CONCRETE MANHOLE W/ CAST IRON COVER	
	CAST IRON GRATE WITH FRAME, TYPE D	
	CAST IRON GRATE WITH FRAME, TYPE E	
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	5/30/2003
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-106	TRAFFIC CONTROL- MISCELLANEOUS DETAILS	3/1/2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AI	6/30/2003
E-107A	BREAKAWAY BARRICADE DETAILS	6/8/2009
E-108A	CONSTRUCTION ZONE	LONGITUDINAL DROP OFFS	FOR PAVING	6/8/2009
E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	8/8/1995
E-121	STANDARD SIGN PLACEMENT CONVENTIONAL ROAD	08/08/95
E-123	GUIDE SIGN PLACEMENT MISCELLANEOUS DETAILS	03/16/04
E-134	BRIDGE NUMBER PLAQUE	08/08/95
E-138	MILE MARKER DETAILS STATE & TOWN HIGHWAYS	05/30/03
E-140	REGULATORY SIGN DETAILS	08/30/96
E-170	TRAFFIC CONTROL SIGNALS PEDESTAL POST MOUNTED	11/04/99
E-171A	TRAFFIC CONTROL SIGNALS GENERAL NOTES & DETAILS	08/09/95
E-171B	TRAFFIC CONTROL SIGNALS MISC. DETAILS	08/09/95
E-171C	TRAFFIC CONTROL SIGNALS CANTILEVER MOUNTING DETAILS	08/09/95
E-172	VEHICLE DETECTOR LOOP DETAILS	08/09/95
E-175	POWER DROP STANCHIONS	06/08/09

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: June 27, 2008

DRAINAGE AREA : 45.6 sq km
CHARACTER OF TERRAIN : Hilly, mostly forested
STREAM CHARACTERISTICS : Perennial, low to moderate relief, sinuous and equiwidth
NATURE OF STREAMBED : Small boulders, cobbles and gravel

PEAK FLOW DATA

Q 2.33 =	25.5 cms	Q 50 =	93.4 cms
Q 10 =	56.6 cms	Q 100 =	110.4 cms
Q 25 =	77.9 cms	Q 500 =	148.0 cms

DATE OF FLOOD OF RECORD : Likely September 1938
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 3.4 m/s
ICE CONDITIONS : Light to moderate
DEBRIS: Moderate to heavy
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Possibly
IF YES, DESCRIBE: Tailwater from confluence of Rock River approx. 150 m downstream may increase water surface elevations for Q100 & Q500 flows.

WATERSHED STORAGE: 1%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: 2 span steel beam bridge with concrete deck
YEAR BUILT: 1945
CLEAR SPAN(NORMAL TO STREAM): 34.9 m (2 equal spans)
VERTICAL CLEARANCE ABOVE STREAMBED: 5.9 m (ave. low beam = 198.12 m)
WATERWAY OF FULL OPENING: 127 sq. m ±
DISPOSITION OF STRUCTURE: Remove and replace with a new bridge
TYPE OF MATERIAL UNDER SUBSTRUCTURE: unknown, E. abut. likely on ledge

WATER SURFACE ELEVATIONS AT:

Q2.33 =	193.9 m	VELOCITY =	2.6 m/s
Q10 =	194.3 m	"	3.2 m/s
Q25 =	194.6 m	"	3.4 m/s
Q50 =	194.7 m	"	3.5 m/s
Q100 =	194.9 m	"	3.7 m/s

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: > Q100
RELIEF ELEVATION: 198.6 m
DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Marlboro — DISTANCE: 3050 m
HIGHWAY# : TH 1 — STRUCTURE #: BR 7
CLEAR SPAN: 17.7 m — CLEAR HEIGHT: 2.4 m
YEAR BUILT: 1930 — FULL WATERWAY: Unknown
STRUCTURE TYPE: Steel beam bridge with concrete deck

DOWNSTREAM STRUCTURE

TOWN: N/A (Rock River Confluence) — DISTANCE:
HIGHWAY# : — STRUCTURE #:
CLEAR SPAN: — CLEAR HEIGHT:
YEAR BUILT: — FULL WATERWAY:
STRUCTURE TYPE:

LRFR - LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	32	53					
POSTED	45	74	80		68	69	85
OPERATING		88	95	107	81	83	

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2006	1400	200	58	3	60
2026	1800	250	58	5	110

20 year ESAL for flexible pavement from 2006 to 2026 : 209,000
40 year ESAL for flexible pavement from 2006 to 2046 : 542,000
Design Speed : 40 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span steel girder bridge with concrete deck

CLEAR SPAN(NORMAL TO STREAM): 27.5 m (35 m along road)
VERTICAL CLEARANCE ABOVE STREAMBED: 5.6 m
WATERWAY OF FULL OPENING: 117 sq. m ±

WATER SURFACE ELEVATIONS AT:

Q2.33 =	193.9 m	VELOCITY=	2.6 m/s
Q10 =	194.3 m	"	3.3 m/s
Q25 =	194.6 m	"	3.5 m/s
Q50 =	194.7 m	"	3.7 m/s
Q100 =	194.9 m	"	3.8 m/s

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: > Q100
RELIEF ELEVATION: 198.8 m
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 197.8 m
VERTICAL CLEARANCE: @ Q25 = 3.2 m

SCOUR: Q100 Contraction scour = 1.4 m or to ledge

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	1 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	0.5 cms	< 1m
ORDINARY HIGH WATER:	11 cms	1 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 23 m minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Elevation 195.0 m minimum
WATERWAY AREA OF FULL OPENING: 48 sq. m minimum

ADDITIONAL INFORMATION

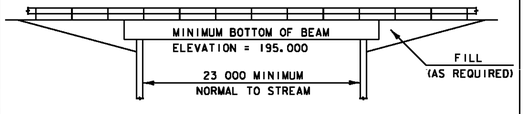
The 23 m minimum temporary bridge span is based on no fill material being placed in front of the abutments. If fill is placed in front of the abutments, the span will need to be increased.

DESIGN CRITERIA

1 DESIGN LIVE LOAD AASHTO LRFD HL-93
2 DESIGN SPAN 36.000 m
3 NOMINAL BEARING RESISTANCE ON SOIL N/A
ON LEDGE 1 500 kPa (31 ksf)
4 FACTORED DESIGN LOAD FOR PILING 1 692 kN (380 kip) Strength I
TYPE STEEL PILING HP 310x110 (HP 12x74) Fy = 345 kPa (50 ksi)
ESTIMATED LENGTH 23 m (75 ft)
5 STRUCTURAL STEEL AASHTO M270M/M270 GRADE 345W
6 REINFORCING STEEL GRADE 420 Mpa
7 CONCRETE, HIGH PERFORMANCE CLASS A f'c: 30 Mpa
CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 Mpa
8 DESIGN SOIL UNIT WEIGHT 22.00 kN/m³ (140 pcf)
9 DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 245 kPa (5 ksf)

TRAFFIC MAINTENANCE

1 IS TRAFFIC TO BE MAINTAINED YES
IF YES, ON EXISTING STRUCTU NO
OR ON TEMPORARY BRIDGE? TEMPORARY WITH PAVED APPROACHES
ONE OR TWO-WAY TRAVEL? ONE-WAY
2. TRAFFIC CONTROL SIGNALS REQUIRED? YES
3. ARE SIDEWALKS REQUIRED? NO
IF SO, ON WHAT SIDE? N/A



TEMPORARY BRIDGE DETOUR DETAIL
(NOT TO SCALE)

PROJECT NAME: **NEWFANE**
PROJECT NUMBER: **BRF 0106 (3)S**

FILE NAME: **s95j280pi.dgn** — PLOT DATE: **29-JUL-2011**
PROJECT MANAGER: **C. CARLSON** — DRAWN BY: **C. MOONEY**
DESIGNED BY: **T. LACKEY** — CHECKED BY: **G. SWEENY**
PRELIMINARY INFORMATION SHEET — SHEET **2** OF **70**

Metric

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS; AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION AND ITS LATEST REVISIONS.

2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 20 DEGREES CELSIUS, UNLESS NOTED OTHERWISE.

EARTHWORK

3. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE THE REMOVAL OF THE EXISTING SUPERSTRUCTURE AND ANY PORTION OF THE EXISTING ABUTMENTS AND PIER NOT REMOVED UNDER STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION. THE PIER SHALL BE REMOVED TO ELEVATION 192.00 (APPROXIMATELY 0.5 METERS BELOW STREAMBED).

4. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE THE REMOVAL OF THE PRIVATE SEWER LINE FROM THE EXISTING BRIDGE BETWEEN THE LIMITS OF STONE FILL AT ABUTMENT 1 AND THE EXISTING CONCRETE WALL AT ABUTMENT 2. THE CONTRACTOR SHALL SEAL THE REMAINING ENDS OF THE SEWER LINE WITH A PIPE FITTING SUITABLE FOR RECONNECTING THE LINE AND APPROVED BY THE ENGINEER. THIS WORK WILL BE INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".

5. THE CONTRACTOR MAY SUBSTITUTE SUBBASE OF DENSE GRADED CRUSHED STONE FOR THE SAND BORROW SHOWN ON THE PLANS. IF PLACEMENT OF SUBBASE IS IN LIEU OF SAND BORROW, PLACE A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 649 FOR "GEOTEXTILE FOR ROAD BED SEPARATOR" BETWEEN THE SUBGRADE AND THE SUBBASE MATERIAL. ANY SUBSTITUTED MATERIAL WILL BE PAID UNDER ITEM 203.31, "SAND BORROW". ALL COSTS ASSOCIATED WITH THE INSTALLATION OF THE GEOTEXTILE FOR ROADBED SEPARATOR SHALL BE INCIDENTAL TO ITEM 203.31, "SAND BORROW".

6. ABUTMENT STONE FILL: PLACE STONE FILL UNDER THE BRIDGE BEFORE SETTING THE STRUCTURAL STEEL.

CONCRETE

7. ITEM 514.10, "WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE, WITH THE EXCEPTION OF THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES.

8. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 BY 25, UNLESS OTHERWISE NOTED. A 12 RADIUS SHALL BE USED ON THE TOP INSIDE CORNER OF THE CURBS.

9. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

10. ALL SUPERSTRUCTURE CONCRETE (INCLUDING CONCRETE PARAPET FOR BRIDGE RAILING) AND CONCRETE PLACED INTEGRALLY WITH THE SUPERSTRUCTURE SHALL BE ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT". ALL SUBSTRUCTURE AND APPROACH SLAB CONCRETE SHALL BE ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B."

11. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".

12. ALL EPOXY REINFORCING STEEL TO BE CUT IN THE FIELD SHALL BE SAW CUT AND THE EXPOSED ENDS TREATED WITH AN APPROVED TWO-PART EPOXY REPAIR MATERIAL.

13. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

ALONG BACK FACES OF WALLS AGAINST EARTH	50
ALONG TOP SURFACE OF DECK SLAB:	60
ALONG BOTTOM SURFACE OF DECK SLAB:	40
ELSEWHERE UNLESS OTHERWISE INDICATED:	80

REINFORCEMENT STEEL PLACEMENT TOLERANCES SHALL BE:

SPACING = +/- 25
CLEARANCE = +/- 6

STRUCTURAL STEEL

14. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS TO BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.

15. CHARPY V-NOTCH TEST: TEST STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.

16. BOLTS FOR ALL BOLTED FIELD CONNECTIONS SHALL BE 22 DIAMETER HIGH STRENGTH BOLTS IN 24 DIAMETER HOLES UNLESS OTHERWISE NOTED.

17. CONNECTIONS NOT SHOWN IN THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.

18. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF BEAMS SHALL BE TAKEN UNDER DIRECTION OF THE RESIDENT ENGINEER FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS.

19. FLEMING BRACKETS OR SIMILAR FALSEWORK: SPACE FLEMING BRACKETS OR SIMILAR FALSEWORK AS REQUIRED BY DESIGN WITH A MAXIMUM SPACING OF 1200 MM. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

20. HOLES IN WEB: FILL ANY BOLT HOLES IN THE WEBS OF THE BEAMS NOT OTHERWISE FILLED WITH BUTTON HEADS OR HEX HEAD BOLTS MEETING AASHTO M 164M TYPE I. TIGHTEN THE BOLTS IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

H-PILES

21. ITEM 505.26 "STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 110". REINFORCE THE DRIVING TIP ACCORDING TO SUBSECTION 505.04(E) OF THE STANDARD SPECIFICATIONS.

22. ITEM 505.45 "DYNAMIC PILE LOADING TEST". THE PILE SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 2605 KN.

23. THE ESTIMATED PILE LENGTH TO ACHIEVE THE REQUIRED NOMINAL RESISTANCE IS EQUAL TO 6 METERS.

TRAFFIC CONTROL

24. TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION ON A ONE-WAY TEMPORARY BRIDGE WITH TEMPORARY TRAFFIC LIGHTS AND PAVED APPROACHES CONSTRUCTED DOWNSTREAM OF THE EXISTING STRUCTURE. THE ONE-WAY TEMPORARY BRIDGE WILL BE PAID FOR UNDER ITEM 528.10 "ONE-WAY TEMPORARY BRIDGE" AND THE LIGHTS WILL BE PAID FOR UNDER ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".

25. MAINTAIN FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS AT ALL TIMES. IF THE CONTRACTOR MUST RESTRICT ACCESS, THEY MUST NOTIFY THE PROPERTY OWNERS IN ADVANCE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL",

MISCELLANEOUS

26. FREDERIC LAWRENCE OWNS A WELL AT STA 1+080 LT AND LEACH FIELD AT STA 1+090 LT. THE WELL AND LEACH FIELD ARE OUTSIDE OF THE PROJECT LIMITS. IF THERE IS DAMAGE TO EITHER THE WELL AND/OR LEACH FIELD, DUE TO THE CONTRACTORS OPERATIONS, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR. PLACE ADDITIONAL PDF FENCING AROUND THE LEACH FIELD AREA. PAYMENT SHALL BE MADE UNDER ITEM 653.55, "PROJECT DEMARCATION FENCING".

ABUTMENT NO. 2 (LEDGE)

27. FOOTINGS OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.

28. UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURE FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER SHALL NOTIFY THE PROJECT MANAGER AND THE VTRANS SOILS AND FOUNDATION ENGINEER. THE SOILS AND FOUNDATION ENGINEER WILL DETERMINE IF THE BEDROCK IS COMPETENT. FIVE (5) WORKING DAYS FROM NOTIFICATION SHWLL BE ALLOWED TO MAKE THE INSPECTION AND DETEMINIATION FOR THE COMPETENCY OF THE BEDROCK.

29. WHERE COMPETENT BEDROCK IS ABOVE THE DESIGN BOTTOM OF FOOTING ELEVATION, IT SHALL BE REMOVED WITH CONTRACT PAY ITEMS OR THE CONTRACTOR SHALL PROVIDE A BEDROCK PROFILE TO THE PROJECT MANAGER TO DETERMINE WHETHER THE DESIGN BOTTOM OF FOOTING ELEVATION MAY BE RAISED. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THE DETERMINATION FOR FOOTING REPLACEMENT. FOOTING ELEVATIONS SHALL NOT BE ADJUSTED WITHOUT APPROVAL OF THE PROJECT MANAGER.

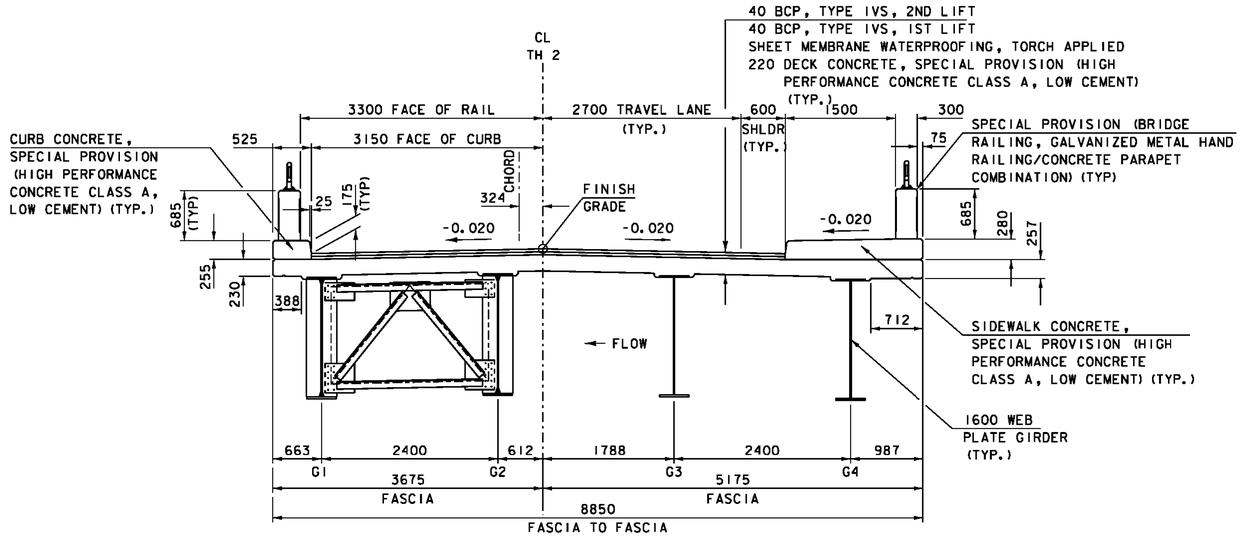
30. OVERBREAKAGE AND REPLACEMENT WITH THE FOOTING CONCRETE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTION 204.09(B) (1) WILL BE AT THE CONTRACTOR'S EXPENSE.

31. DOWELS SHALL BE DRILLED AND GROUTED INTO BEDROCK WHEN SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE DOWELS SHALL HAVE A 2'-0" MINIMUM EMBEDMENT IN THE BEDROCK AND SHALL EXTEND IN THE FOOTING OR SUBFOOTING A MINIMUM OF 1'-6", UNLESS NOTED OTHERWISE. SEE SECTION 507.06 FOR GROUTING MATERIAL.

BRIDGE RAILING NOTES

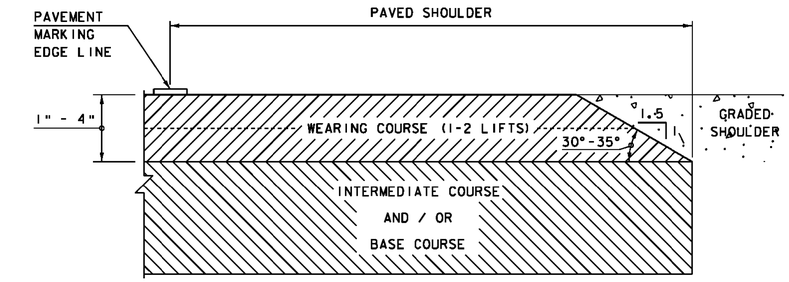
32. ALL WORK ASSOCIATED WITH THE BRIDGE RAILING SHALL BE PAID FOR UNDER ITEM 900.640 "SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION)

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280gen.dgn	PLOT DATE: 29-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: STR 3
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
PROJECT NOTES	SHEET 3 OF 70



BRIDGE TYPICAL CROSS SECTION AT MIDSPAN

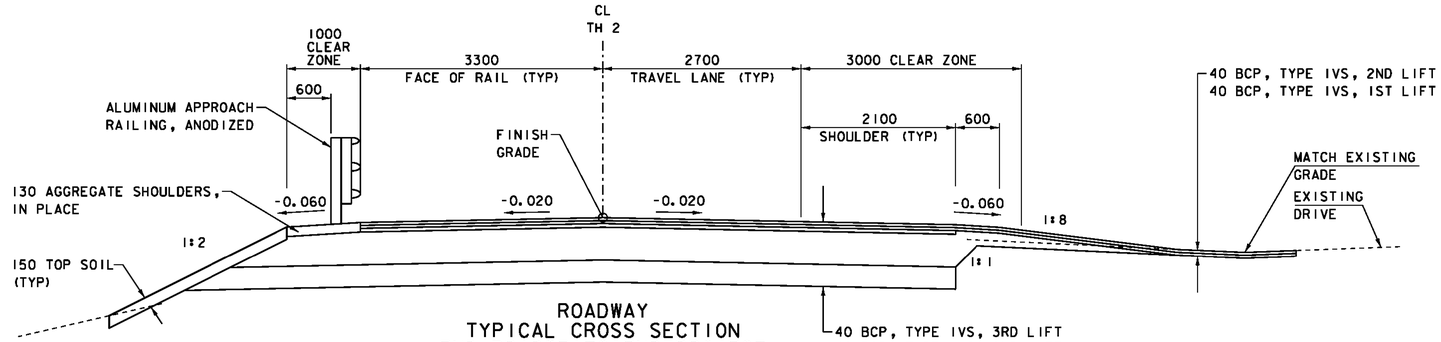
SCALE: 1:40



SAFETY EDGE DETAIL

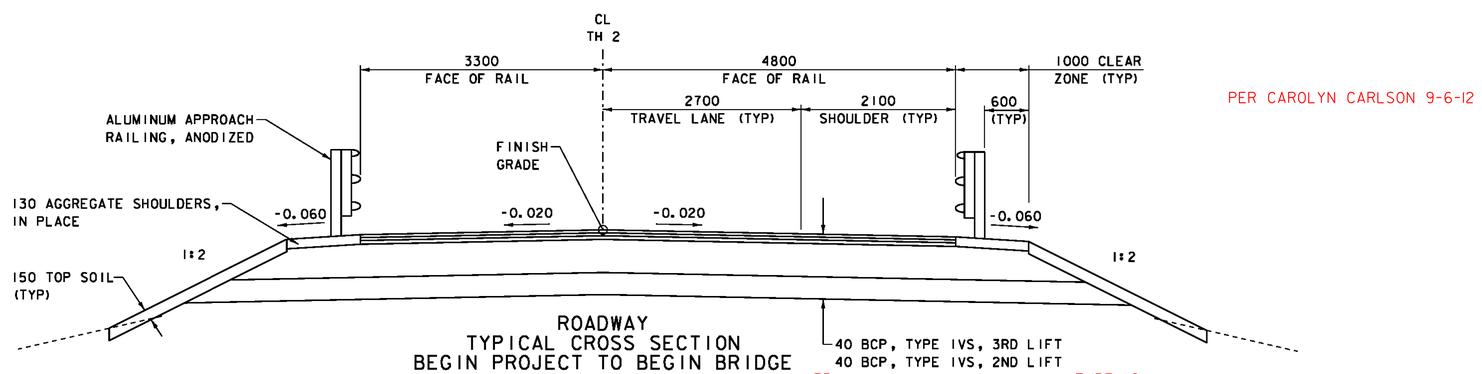
NOT TO SCALE

NOTE: LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.



ROADWAY TYPICAL CROSS SECTION END BRIDGE TO END PROJECT

SCALE: 1:40

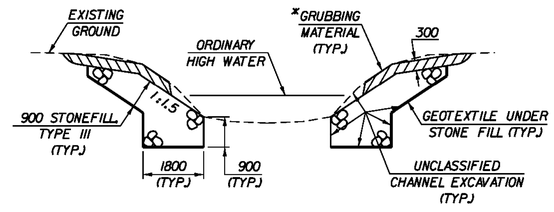


ROADWAY TYPICAL CROSS SECTION BEGIN PROJECT TO BEGIN BRIDGE

SCALE: 1:40

PER CAROLYN CARLSON 9-6-12

BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

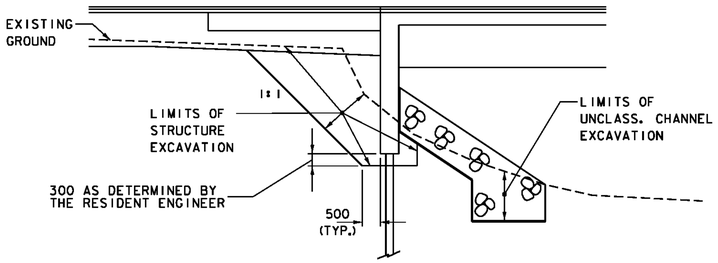
*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
AGGREGATE SURFACE COURSE	± 10 mm
BASE COURSE	± 10 mm
SUBBASE	± 30 mm
SAND BORROW	± 30 mm
~~GRANULAR BORROW~~	~~± 30 mm~~

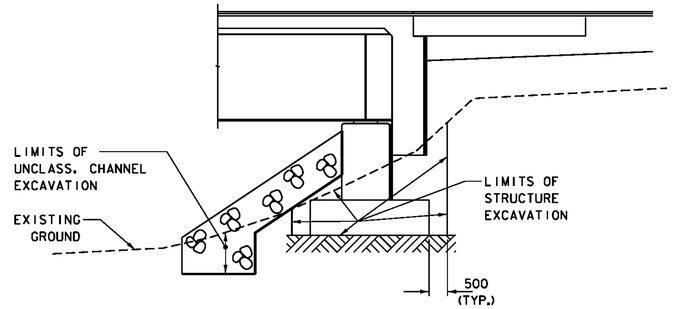
PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106 (3)S

FILE NAME: s95j280typ.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: T. LACKEY
TYPICAL SECTION SHEET

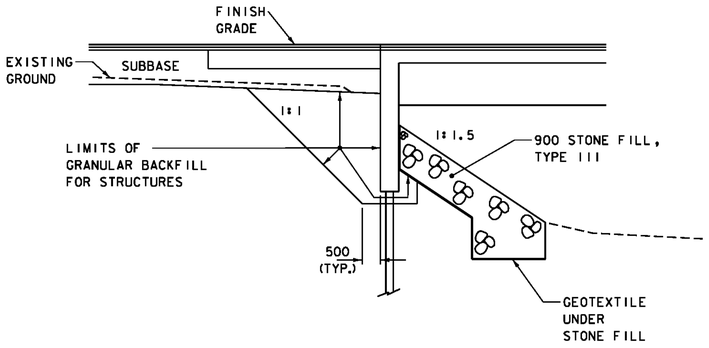
PLOT DATE: 22-JUL-2011
DRAWN BY: STR3
CHECKED BY: G. SWEENY
SHEET 4 OF 70



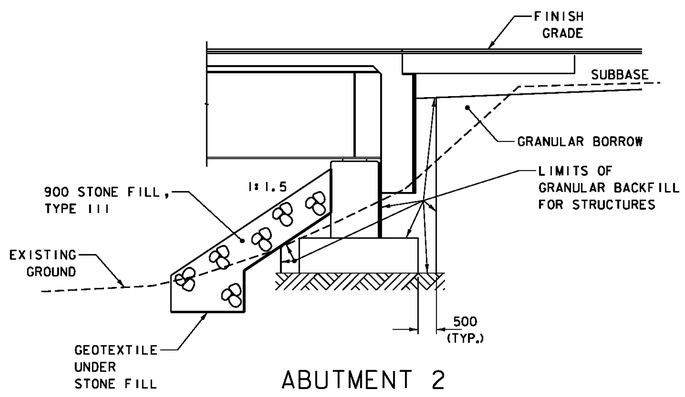
ABUTMENT 1
EXCAVATION LIMITS
(NOT TO SCALE)



ABUTMENT 2
EXCAVATION LIMITS
(NOT TO SCALE)



ABUTMENT 1
BACKFILL LIMITS
(NOT TO SCALE)



ABUTMENT 2
BACKFILL LIMITS
(NOT TO SCALE)

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280typ.dgn	PLOT DATE: 22-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: STR3
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
EARTHWORK LIMITS SHEET	SHEET 5 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	TRAINING	BRIDGE	FULL C.E. ITEMS
1				
720				
10				
			160	
220				
10				
90				
1				
1				
			190	
10			180	
860				
660				
20				
240			10	
1				
			94	
			1	
			85	
			1	
			56970	
			5010	
			26	
			21520	
			1	
			78	
			16.2	
			235	
			16.2	
			1	
			1	
			4	
8				
8				
8				
8				
1				
10				

TOTALS

GRAND TOTAL	FINAL
1	
720	
10	
160	
220	
10	
90	
1	
1	
190	
190	
860	
660	
20	
250	
1	
94	
1	
85	
1	
56970	
5010	
26	
21520	
1	
78	
16.2	
235	
16.2	
1	
1	
4	
8	
8	
8	
8	
1	
10	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CM	COMMON EXCAVATION	203.15	
CM	SOLID ROCK EXCAVATION	203.16	
CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CM	SAND BORROW	203.31	
CM	GRANULAR BORROW	203.32	
CM	TRENCH EXCAVATION OF EARTH	204.20	
CM	TRENCH EXCAVATION OF ROCK	204.21	
CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
CM	STRUCTURE EXCAVATION	204.25	
CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
CM	AGGREGATE SHOULDERS, IN PLACE	402.10	
KG	EMULSIFIED ASPHALT	404.65	
LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	
M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 110	505.26	
EACH	DYNAMIC PILE LOADING TEST	505.45	
KG	STRUCTURAL STEEL, PLATE GIRDER	506.55	
KG	REINFORCING STEEL	507.15	
M	DRILLING AND GROUTING DOWELS	507.16	
KG	EPOXY COATED REINFORCING STEEL	507.17	
LS	SHEAR CONNECTORS (732 - 22 X 175)	508.15	
L	WATER REPELLENT, SILANE	514.10	
M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	
M	JOINT SEALER, HOT POURED	524.11	
LS	ONE-WAY TEMPORARY BRIDGE (110 SM - EST.)	528.10	
EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	
EACH	BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD	531.10	
	BEGIN OPTION AA		
M	450 CSP 1.63 (68 X 12)	601.0015	
M	450 CAAP 1.52 (68 X 12)	601.0215	
M	450 PCCSP 1.63 (68 X 12)	601.0415	
M	450 CPEP	601.0915	
	END OPTION AA		
EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18	
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORK SUMMARY
		FILL REQUIRED
299	CM	COMMON FILL (1.15 * 260 CM)
		FILL AVAILABLE
360	CM	COMMON EXCAVATION (0.5 * 720 CM)
1	CM	SOLID ROCK EXCAVATION (0.1 * 10 CM)
48	CM	UNCLASSIFIED CHANNEL EXCAVATION (0.3 * 160 CM)
27	CM	TRENCH EXCAVATION OF EARTH (0.3 * 90 CM)
57	CM	STRUCTURE EXCAVATION (0.3 * 190 CM)

493	CM	TOTAL
299	CM	FILL REQUIRED
493	CM	FILL AVAILABLE

194	CM	WASTE

N.A.B.I. = NOT A BID ITEM

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280qs.xls	PLOT DATE: 07/29/2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
QUANTITY SHEET #1	SHEET 6 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

Metric

SUMMARY OF ESTIMATED QUANTITIES						TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	TRAINING	BRIDGE	FULL C.E. ITEMS		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
10						10		CM	DUST CONTROL WITH WATER	609.10				
10						10		T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
			10			10		CM	STONE FILL, TYPE I	613.10				
			390			390		CM	STONE FILL, TYPE III	613.12				
12						12		M	VERTICAL GRANITE CURB	616.21				
1.4						1.4		SM	DETECTABLE WARNING SURFACE	618.30				
5						5		EACH	ENERGY ABSORPTION ATTENUATOR	621.56				
64.6						64.6		M	ALUMINUM APPROACH RAILING, ANODIZED	621.745				
50						50		M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
100						100		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
1000						1000		HR	FLAGGERS	630.15				
				1		1		LS	FIELD OFFICE, ENGINEERS	631.10				
				1		1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
				1		1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
				3000		3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
		520				520		HR	EMPLOYEE TRAINEESHIP	634.10				
1						1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
1						1		LS	TRAFFIC CONTROL	641.10				
1260						1260		M	100 MM WHITE LINE	646.20				
900						900		M	100 MM YELLOW LINE	646.21				
7.2						7.2		M	600 MM STOP BAR	646.26				
12						12		EACH	LETTER OR SYMBOL	646.30				
100						100		EACH	LINE STRIPING TARGETS	646.76				
256						256		SM	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85				
			390			390		SM	GEOTEXTILE UNDER STONE FILL	649.31				
	40					40		SM	GEOTEXTILE FOR SILT FENCE	649.51				
	230					230		SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
	230					230		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61				
	10					10		KG	SEED	651.15				
	10					10		KG	SEED, WINTER RYE	651.17				
	100					100		KG	FERTILIZER	651.18				
	1					1		T	AGRICULTURAL LIMESTONE	651.20				
	1					1		T	HAY MULCH	651.25				
	100					100		CM	TOPSOIL	651.35				
			340			340		SM	GRUBBING MATERIAL	651.40				
	1					1		LS	EPSC PLAN	652.10				
	50					50		HR	MONITORING EPSC PLAN	652.20				
	1					1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
	670					670		SM	TEMPORARY EROSION MATTING	653.20				N.A.B.I. = NOT A BID ITEM
	10					10		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25				

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: s95j280qs.xls
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
QUANTITY SHEET #2

PLOT DATE: 07/29/2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

Metric

SUMMARY OF ESTIMATED QUANTITIES						TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	TRAINING	BRIDGE	FULL C.E. ITEMS		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
	50					50		CM	VEHICLE TRACKING PAD	653.35				
	1					1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
	100					100		M	BARRIER FENCE	653.50				
	50					50		M	PROJECT DEMARCATION FENCE	653.55				
6.44						6.44		SM	TRAFFIC SIGNS, TYPE A	675.20				
77.5						77.5		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
11						11		EACH	REMOVING SIGNS	675.50				
1						1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM	678.40				
3						3		EACH	TEMPORARY DETECTOR	678.42				
1						1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
			166			166		CM	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608				
			75.1			75.1		M	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION)	900.640				
1						1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650				
1						1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
466			341			807		T	SPECIAL PROVISION (BITUMINIOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

N.A.B.I. = NOT A BID ITEM

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: s95j280qs.xls
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
QUANTITY SHEET #3

PLOT DATE: 07/29/2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 8 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

Metric

SUMMARY OF BRIDGE QUANTITIES						TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
CAHNNEL	DECK	APP SLAB 1	APP SLAB 2	ABUT 1	ABUT 2	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
160						160	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
				60	130	190	CM	STRUCTURE EXCAVATION	204.25			
				100	80	180	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30			
	10					10	KG	EMULSIFIED ASPHALT	404.65			
		19	19	21	35	94	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
				1		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
				85		85	M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 110	505.26			
				1		1	EACH	DYNAMIC PILE LOADING TEST	505.45			
	56970					56970	KG	STRUCTURAL STEEL, PLATE GIRDER	506.55			
				3365	1645	5010	KG	REINFORCING STEEL	507.15			
					26	26	M	DRILLING AND GROUTING DOWELS	507.16			
	13400	1350	1350	3945	1475	21520	KG	EPOXY COATED REINFORCING STEEL	507.17			
	1					1	LS	SHEAR CONNECTORS (732 - 22 X 175)	508.15			
	57			10	11	78	L	WATER REPELLENT, SILANE	514.10			
				8.1	8.1	16.2	M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
	235					235	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
		8.1	8.1			16.2	M	JOINT SEALER, HOT POURED	524.11			
	1					1	LS	ONE-WAY TEMPORARY BRIDGE (110 SM - EST.)	528.10			
	1					1	EACH	PARTIAL REMOVAL OF STRUCTURE	529.20			
					4	4	EACH	BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD	531.10			
				5	5	10	CM	STONE FILL, TYPE I	613.10			
				190	200	390	CM	STONE FILL, TYPE III	613.12			
				190	200	390	SM	GEOTEXTILE UNDER STONE FILL	649.31			
340						340	SM	GRUBBING MATERIAL	651.40			
	101			26	39	166	CM	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608			
	75.1					75.1	M	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION)	900.640			
	341					341	T	SPECIAL PROVISION (BITUMINIOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680			

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: s95j280qs.xls
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
BRIDGE QUANTITY SHEET #1

PLOT DATE: 07/29/2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 9 OF 70

GPS CONTROL POINTS

HVCTRL #1

SONEW TEMP 1

NORTH = 48227.674
EAST = 482755.998
ELEV. = 202.970

STATION MARK IS A 3' METAL ROD WITH DRILL HOLE DRIVEN INTO GROUND. TO REACH FROM THE INTERSECTION OF TOWN HIGHWAY 2 AND TOWN HIGHWAY 3 AT THE POST OFFICE AND SOUTH NEWFANE GENERAL STORE, PROCEED WEST ON TOWN HIGHWAY 2 ACROSS THE BRIDGE FOR .26 MI (0.42 KM) TO THE MARK ON THE LEFT (SOUTH) . THE MARK IS 3.2 M (10.5 FT) SOUTH OF THE SOUTH EDGE OF THE ROAD, 3.5 M (11.5 FT) WEST OF THE EDGE OF A GRAVEL DRIVEWAY, AND .25 M (0.82 FT) NORTH OF A WOODEN WITNESS LABELED SONEW TEMP 1.

HVCTRL #3

SONEW TEMP 4

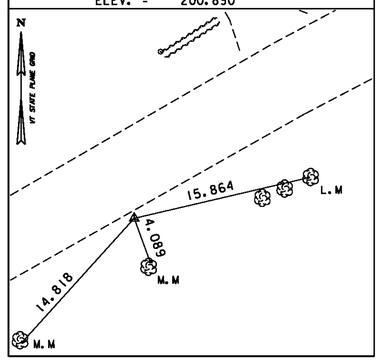
NORTH = 48451.060
EAST = 483129.349
ELEV. = 201.150

STATION MARK IS A 3' METAL ROD WITH DRILL HOLE DRIVEN INTO GROUND. THE MARK IS AT THE INTERSECTION OF TOWN HIGHWAY 2 AND TOWN HIGHWAY 3 AT THE POST OFFICE AND SOUTH NEWFANE GENERAL STORE ON THE NORTH SIDE OF THE INTERSECTION. THE MARK IS 1.0 M (3.3 FT) NORTH OF THE NORTH EDGE OF THE ROAD, 4.0 M (13.1 FT) EAST OF THE EDGE OF A GRAVEL DRIVEWAY, AND .25 M (0.82 FT) SOUTH OF A WOODEN WITNESS LABELED SONEW TEMP 4.

TRAVERSE TIES

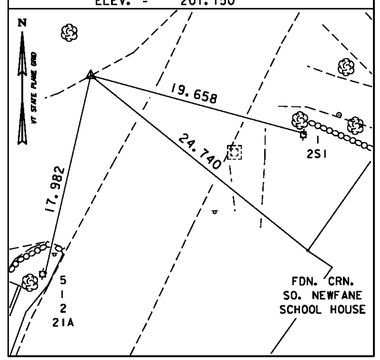
HVCTRL #2

NORTH = 48351.487
EAST = 482947.867
ELEV. = 200.890



HVCTRL #3

NORTH = 48451.060
EAST = 483129.349
ELEV. = 201.150



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

* Main Traverse Completed 09/25/96 by R.Bullock P.C. & T. Companion

ALIGNMENT DATA

Alignments Current as of 4/27/09

Main Line

	STATION	NORTHING	EASTING
POB	1+000.000	48359.8275	482954.2365
PC	1+009.257	48364.2950	482962.3443
PT	1+047.287	48381.0385	482996.4736
Radius:	400.000		
Delta:	5°26'50.35" Right		
Degree of Curvature (Arc):	4°21'57.41"		
Length:	38.029		
Tangent:	19.029		
Chord:	38.015		
Middle Ordinate:	0.452		
External:	0.452		
PC	1+103.394	48403.3289	483047.9633
PT	1+160.638	48429.0251	483099.0807
Radius:	500.000		
Delta:	6°33'34.82" Left		
Degree of Curvature (Arc):	3°29'33.93"		
Length:	57.244		
Tangent:	28.653		
Chord:	57.213		
Middle Ordinate:	0.819		
External:	0.820		
PC	1+183.007	48440.1987	483118.4589
PT	1+194.644	48443.4997	483129.5089
Radius:	25.000		
Delta:	26°40'15.18" Right		
Degree of Curvature (Arc):	69°51'18.56"		
Length:	11.637		
Tangent:	5.926		
Chord:	11.533		
Middle Ordinate:	0.674		
External:	0.693		
POE	1+215.000	48444.6704	483149.8311

Auger Brook Rd

	STATION	NORTHING	EASTING
POB	3+000.000	48362.4020	483109.5450
PC	3+012.444	48374.6503	483111.7453
PT	3+034.511	48396.0048	483117.2277
Radius:	150.000		
Delta:	8°25'44.23" Right		
Degree of Curvature (Arc):	11°38'33.09"		
Length:	22.067		
Tangent:	11.053		
Chord:	22.047		
Middle Ordinate:	0.406		
External:	0.407		
Tangent Direction:	N 10°11'03.13" E		
Radial Direction:	S 79°48'56.87" E		
Chord Direction:	N 14°23'55.25" E		
Radial Direction:	S 71°23'12.64" E		
Tangent Direction:	N 18°36'47.36" E		
PC	3+041.315	48402.4522	483119.3992
PT	3+110.276	48464.7143	483148.6955
Radius:	300.000		
Delta:	13°10'14.71" Right		
Degree of Curvature (Arc):	5°49'16.55"		
Length:	68.962		
Tangent:	34.634		
Chord:	68.810		
Middle Ordinate:	1.979		
External:	1.993		
PT	3+110.276	48464.7143	483148.6955
POE	3+145.190	48494.3922	483167.0851

DATUM

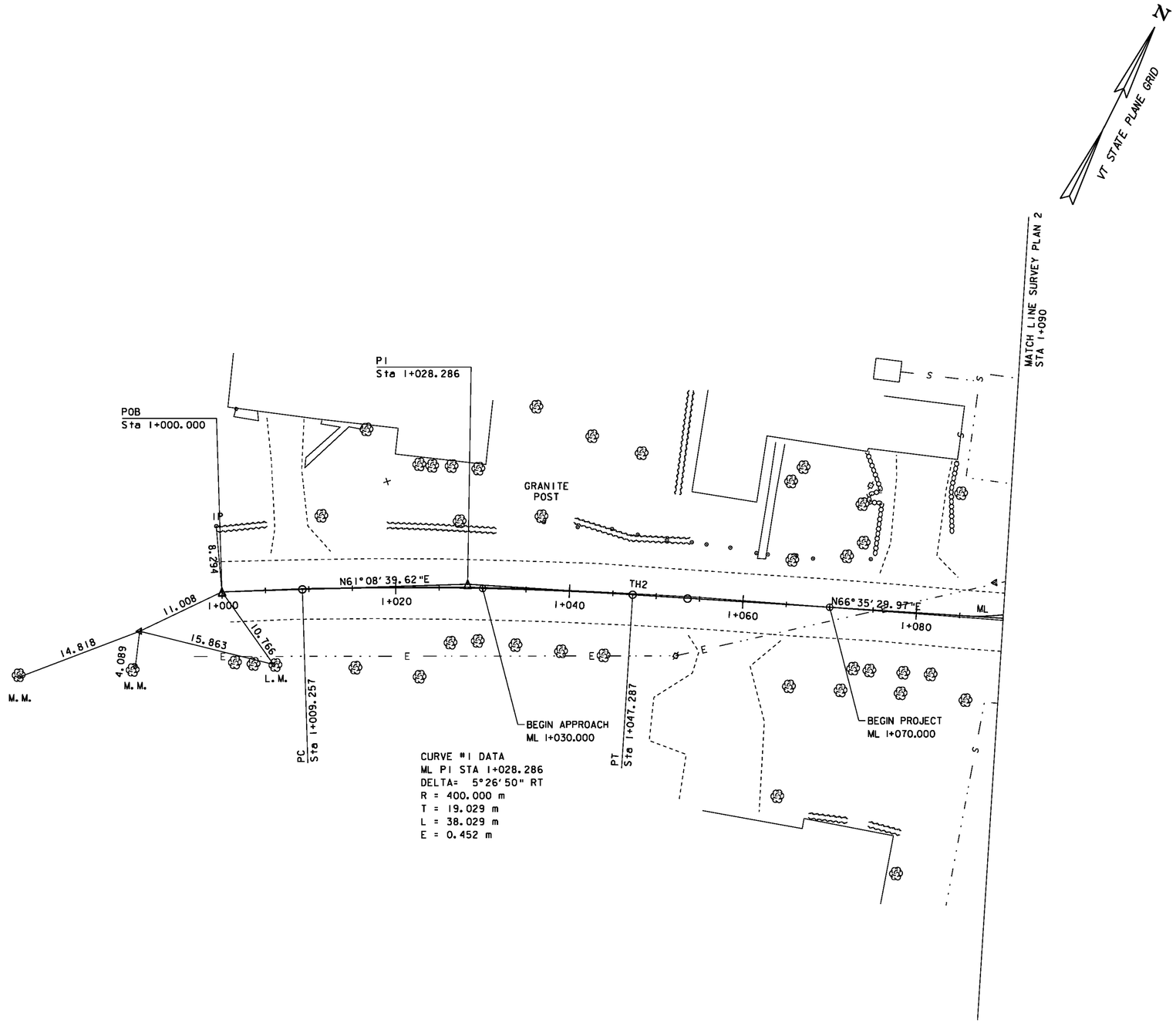
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT none

PROJECT NAME: Newfane
PROJECT NUMBER: BRF 0106 (3)S

FILE NAME: 95j280\survey\x95j280ti.dgn
PROJECT LEADER: C. Carlson
DESIGNED BY: T. Lackey
Tie Sheet

PLOT DATE: 22-JUL-2011
DRAWN BY: R. Bullock
CHECKED BY: T. Lackey
SHEET 10 OF 70

VTrans Metric



PLAN

0 10 20 30

SCALE = 1:250

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280surv.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: STR 3
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
SURVEY PLAN 1	SHEET 11 OF 70

EXISTING BRIDGE DATA

2 SPAN BRIDGE
STEEL BEAMS WITH CONCRETE DECK
CONCRETE ABUTMENTS AND PIER
OVERALL LENGTH = 42.066m (138.01ft.)
OVERALL WIDTH = 8.534m (28.00ft.)

ML PI Sta 1132.047
DELTA= 6°33'35" LT
R = 500.000 m
T = 28.653 m
L = 57.244 m
E = 0.820 m

ML 1+134.177 =
CH 2+053.077
Δ = 66°26'30.26" LT

END BRIDGE
ML 1+154.900

BEGIN BRIDGE
ML 1+117.750

MATCH LINE SURVEY PLAN 1
STA 1+090

POE
Sta 2+100.000

END PROJECT
ML 1+196.653

POST

POST

POE
Sta 3+147.190

9.872

12.063

6.550

SIGN

N31°47'02.07"E

3+140

3+120

END APPROACH
TH3 3+120.000

TH 2

3+100

POE
Sta 1+215.000

Sta 3+110.276 PT

PC
Sta 1+103.394

PTm
Sta 1+160.638

PC
Sta 1+183.007

PI
Sta 1+188.933

Sta 1+194.644 PT

CL DETOUR

19.494

21.580

20.403

10.412

9.776

17.982

15.824

15.588

19.699

14.359

5.424

18.148

24.752

N86°52'19.35"E

3+080

3+060

TH 3

PI
Sta 3+075.948

FDN. CNR.

ML 1+202.081 =
TH3 3+086.386
DELTA = 59°28'53.76" LT

ML PI STA 1+188.933
DELTA= 26°40' 15" RT
R = 25.000 m
T = 5.926 m
L = 11.637 m
E = 0.693 m

TH 3 PI STA 3+075.948
DELTA= 13°10' 15" RT
R = 300.000 m
T = 34.634 m
L = 68.962 m
E = 1.993 m

TH 2

1+100

1+120

1+140

1+160

1+180

ML N60°01'55.15"E

22.191

BM

310 CGMP

20.312

2+040

2+080

2+060

PI
Sta 1+132.047

N3°22'39.05"W

2+020

CHANNEL LINE

2+000

POB
Sta 2+000.000

PI
Sta 3+023.498

N18°36'47.36"E

16.686

6.214

3+020

3+040

Sta 3+041.315 PC

Sta 3+034.517 PT

N71°03'13.13"E

21.420

18.290

N18°11'03.13"E

POST

END APPROACH
TH3 3+030.000

POB
Sta 3+000.000

3+000

Sta 3+012.444 PC

TH 3 PI STA 3+023.498
DELTA= 8°25'44" RT
R = 150.000 m
T = 11.053 m
L = 22.067 m
E = 0.407 m

PLAN

0 10 20 30

SCALE = 1:250

VT STATE PLANE GRID

N

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280surv.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: STR 3
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
SURVEY PLAN 2	SHEET 12 OF 70

ITEM 621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
ML 1+095.2 TO 1+114.6 LT
ML 1+095.2 TO 1+112.2 RT
ML 1+157.8 TO 1+170.4 LT

ITEM 621.745 ALUMINUM APPROACH RAILING, ANODIZED
ML 1+095.0 TO 1+117.4 LT
ML 1+095.5 TO 1+117.8 RT
ML 1+154.6 TO 1+173.2 LT
ML 1+153.4 TO 1+155.9 RT

ITEM 900.640 SPECIAL PROVISION (GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION)
ML 1+117.4 TO 1+154.6 LT
ML 1+117.8 TO 1+153.4 RT

CONSTRUCT DRIVE, PAVED APRON
ML 1+060 RT
ML 1+080 LT
ML 1+170 RT
ML 1+190 LT

ITEM 616.21 VERTICAL GRANITE CURB
ML 1+190.7 LT TO ML 1+211.7 LT

ITEM 618.30 DETECTABLE WARNING SURFACE
ML 1+118 RT
ML 1+154 RT

(1) (2) ITEM 204.20 TRENCH EXCAVATION OF EARTH
REMOVE 310 CGMP & DI (1200 X 1200)
ML 1+153.0 RT 5.6 TO 1+177.7 RT 6.0

(3) ITEM 604.18 PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE, TYPE D
ML 1+160.000 RT 8.0
F.G EL. 199.940

(4) NEW 8 m - 450 PIPE OPTION
INV. IN 198.500
INV. OUT 197.900

(6) ITEM 604.18 PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE, TYPE D
ML 1+207
F.G. EL. 201.872
NEW - 375 MM CSP X 18.0 M
INV IN 200.780
INV OUT 199.732

Metric

N
VT STATE PLANE GRID

RELOCATE POLE 122 TO ML 1+114 LT 14 m NEW 4.5 m ANCHOR BY OTHERS

BEGIN BRIDGE ML 1+117.750 ELEV 199.275

ML 1+134.177 = CH 2+053.077 Δ = 66°26'30.26" LT

TEMPORARY CONSTRUCTION LIMIT

END BRIDGE ML 1+154.900 ELEV 200.185

END PROJECT BEGIN APPROACH ML 1+196.653 ELEV 201.761

MATCHLINE 3+105

TANK

LEACH FIELD

WELL

PERMANENT CONSTRUCTION LIMIT

EXISTING R.O.W.

TH2

CL DETOUR

TH 3

BEGIN APPROACH ML 1+030.000

END APPROACH BEGIN PROJECT ML 1+070.000

PUMP

STONE FILL, TYPE I (TYP)

STONE FILL, TYPE III (TYP)

EXISTING PRIVATE SEWER LINE TO BE REMOVED. SEE NOTE 4 ON SHEET 3.

MARLBORO BRANCH CHANNEL LINE

RELOCATE POLE XIA TO ML 1+146 RT 8 m NEW 2.4 m ANCHOR BY OTHERS

ML 1+202.081 = TH3 3+086.386 DELTA = 59°28'53.76" LT

TH 3 AUGER HOLE RD TO MARLBORO

END APPROACH TH3 3+030.000

END APPROACH TH3 ~~3+120.000~~ 3+130

TH 2 SOUTH NEWFANE

PLAN

0 10 20 30

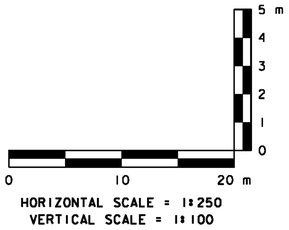
SCALE = 1:250

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280bdr.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
LAYOUT PLAN SHEET	SHEET 13 OF 70

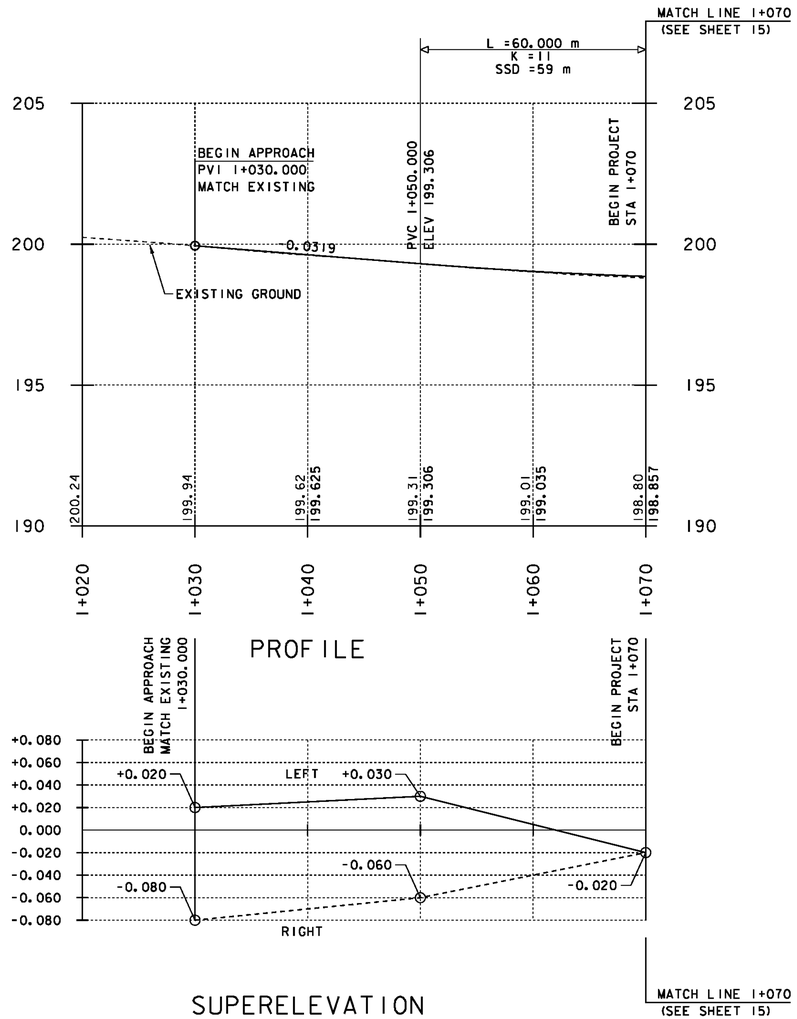
PROFILE NOTES:

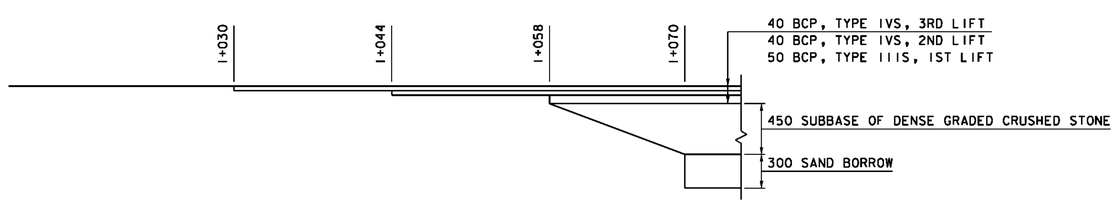
1. PROFILE ELEVATIONS ARE GIVEN ALONG THE PROPOSED CENTERLINE.
2. EXISTING ELEVATIONS ARE GIVEN TO 0.01 m.
3. FINISH GRADE ELEVATIONS ARE GIVEN TO 0.001 m.

TH #2



HORIZONTAL SCALE = 1:250
VERTICAL SCALE = 1:100





MATERIAL TRANSITION

MATERIAL TRANSITION NOTES:

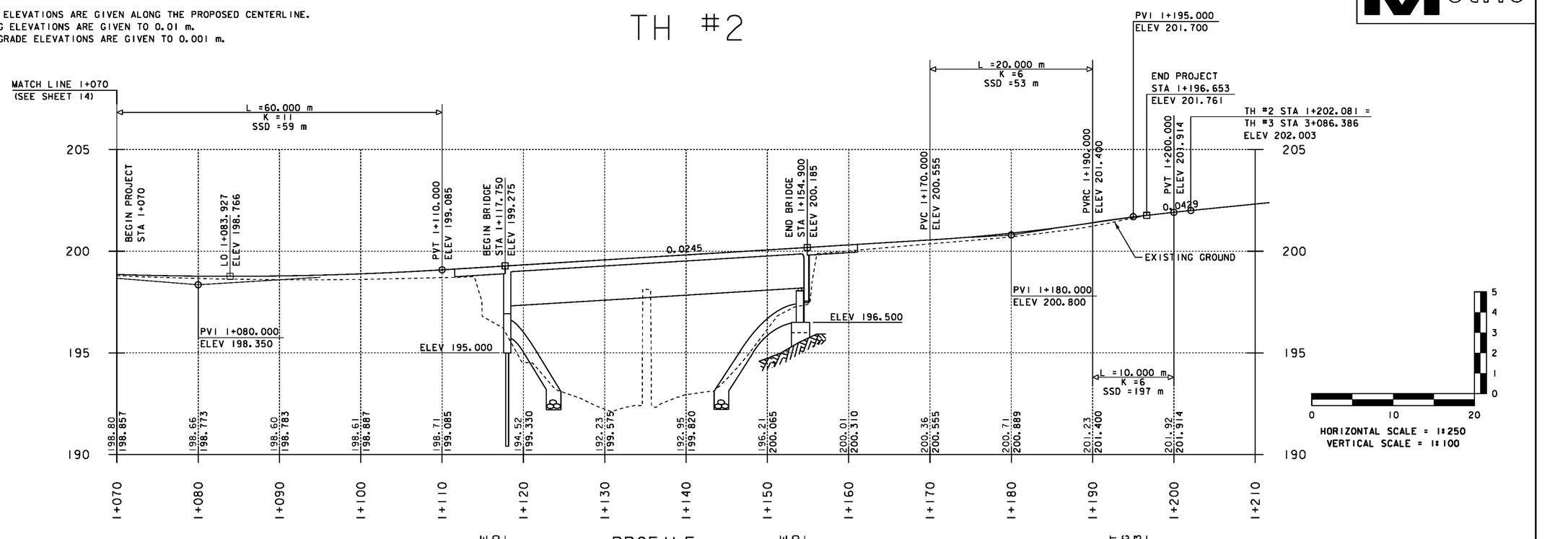
1. BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)

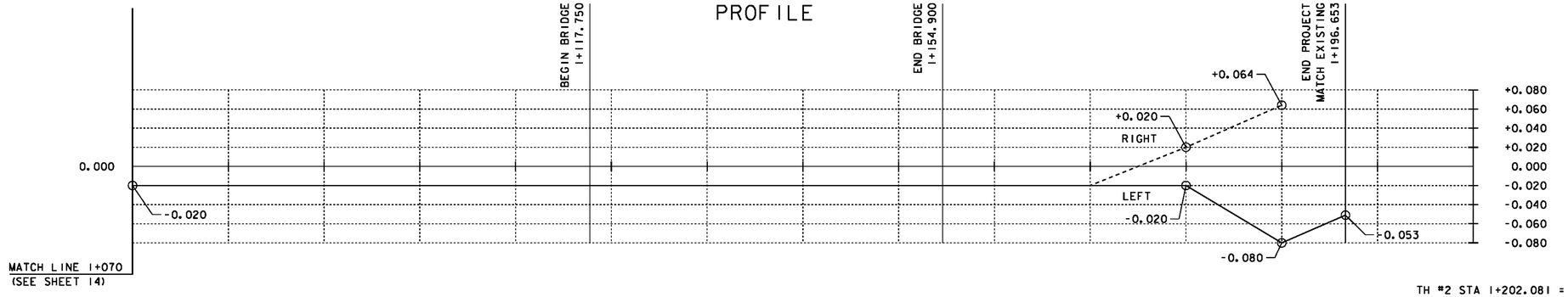
PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280xs.dgn	PLOT DATE: 22-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
PROFILE SHEET 1	SHEET 14 OF 70

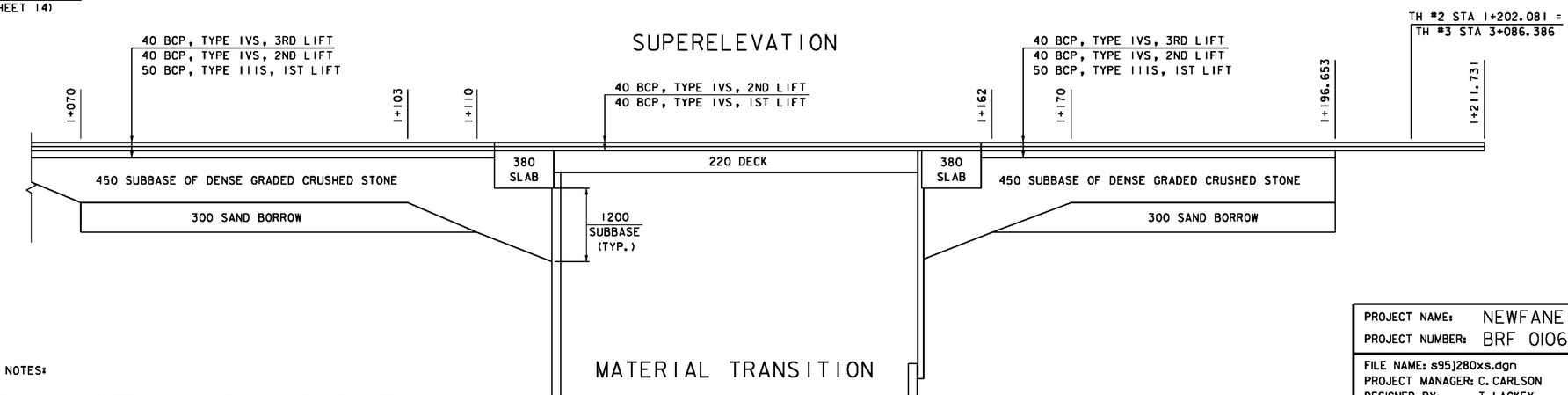
PROFILE NOTES:

1. PROFILE ELEVATIONS ARE GIVEN ALONG THE PROPOSED CENTERLINE.
2. EXISTING ELEVATIONS ARE GIVEN TO 0.01 m.
3. FINISH GRADE ELEVATIONS ARE GIVEN TO 0.001 m.

TH #2



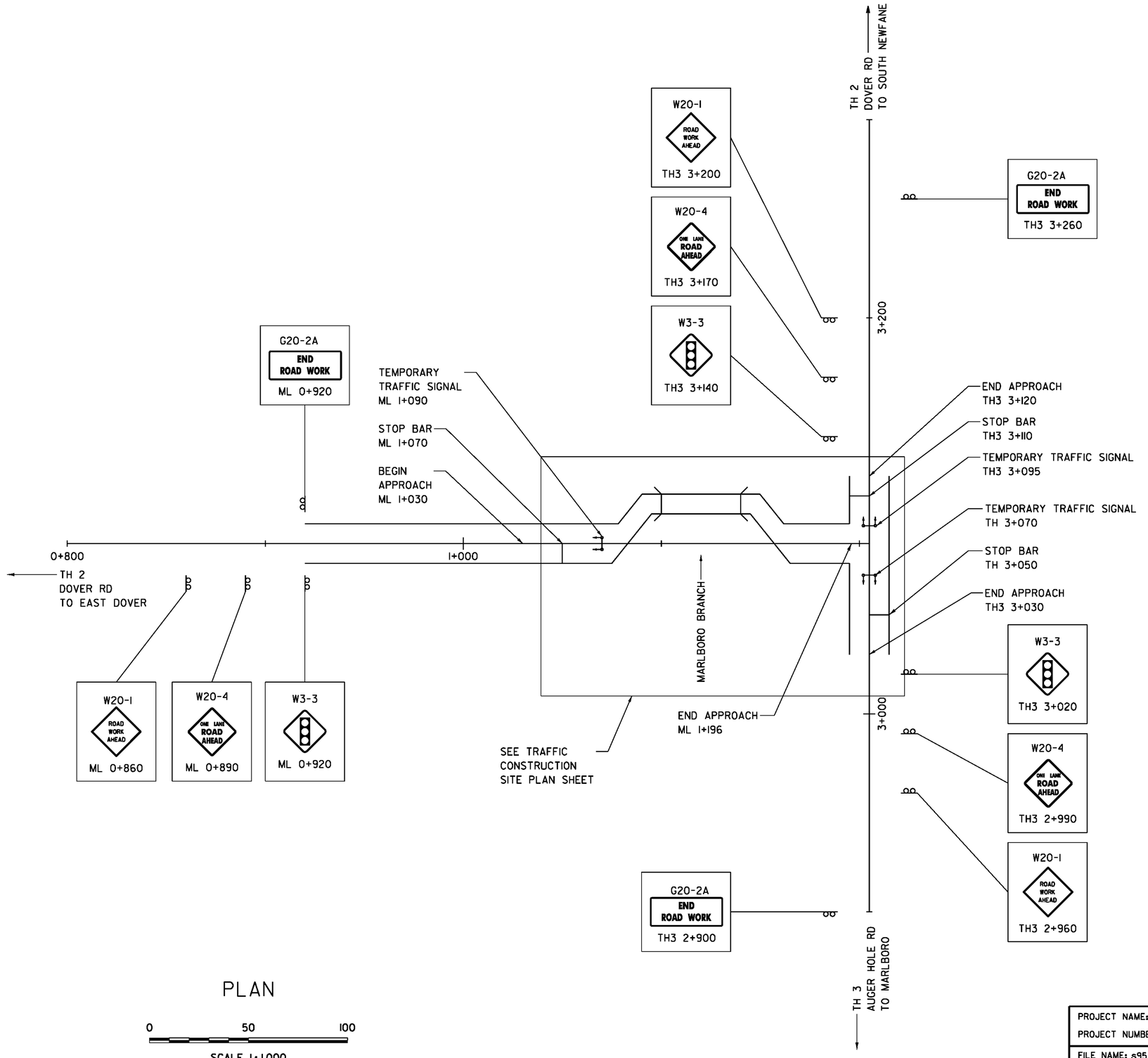




MATERIAL TRANSITION NOTES:

1. BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280xs.dgn	PLOT DATE: 22-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
PROFILE SHEET 2	SHEET 15 OF 70



PLAN

0 50 100

SCALE 1:1000

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280trf.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
TRAFFIC CONSTRUCTION AREA PLAN	SHEET 16 OF 70

NOTES:

1. TEMPORARY PAVEMENT MARKINGS WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE PAID FOR UNDER THE APPROPRIATE CONTRACT ITEM 528.10 OR 678.40 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
2. CONSTRUCTION SIGNING REQUIRED FOR THE TEMPORARY TRAFFIC SIGNAL SYSTEM WILL BE PAID FOR UNDER CONTRACT ITEM 678.40. ALL OTHER CONSTRUCTION SIGNING, DRUMS, AND BARRICADES WILL BE PAID FOR UNDER CONTRACT ITEM 641.10.
3. PAYMENT FOR TEMPORARY TRAFFIC BARRIER AS DETAILED FOR THE TEMPORARY BRIDGE APPROACHES WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 528.10.
4. PAYMENT FOR ENERGY ABSORPTION ATTENUATORS WILL BE MADE UNDER CONTRACT ITEM 621.56.
5. TEMPORARY TRAFFIC BARRIER SHOULD BE SUBSTITUTED FOR THE CHANNELIZING DEVICES SHOWN WHEN EITHER OF THE FOLLOWING IS MET: A.) THE BRIDGE RAIL IS REMOVED, OR B.) IN THE JUDGMENT OF THE RESIDENT ENGINEER, TEMPORARY BARRIER IS NEEDED. TEMPORARY BARRIER USED AS A SUBSTITUTE FOR CHANNELIZING DEVICE SHOWN SHALL MEET THE REQUIREMENTS OF SECTION 621. PAYMENT WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 641.10.

REMOVAL OF EXISTING PAVEMENT MARKINGS
ML 1+030 TO 1+105
ML 1+175 TO 1+200
TH3 3+030 TO 3+120

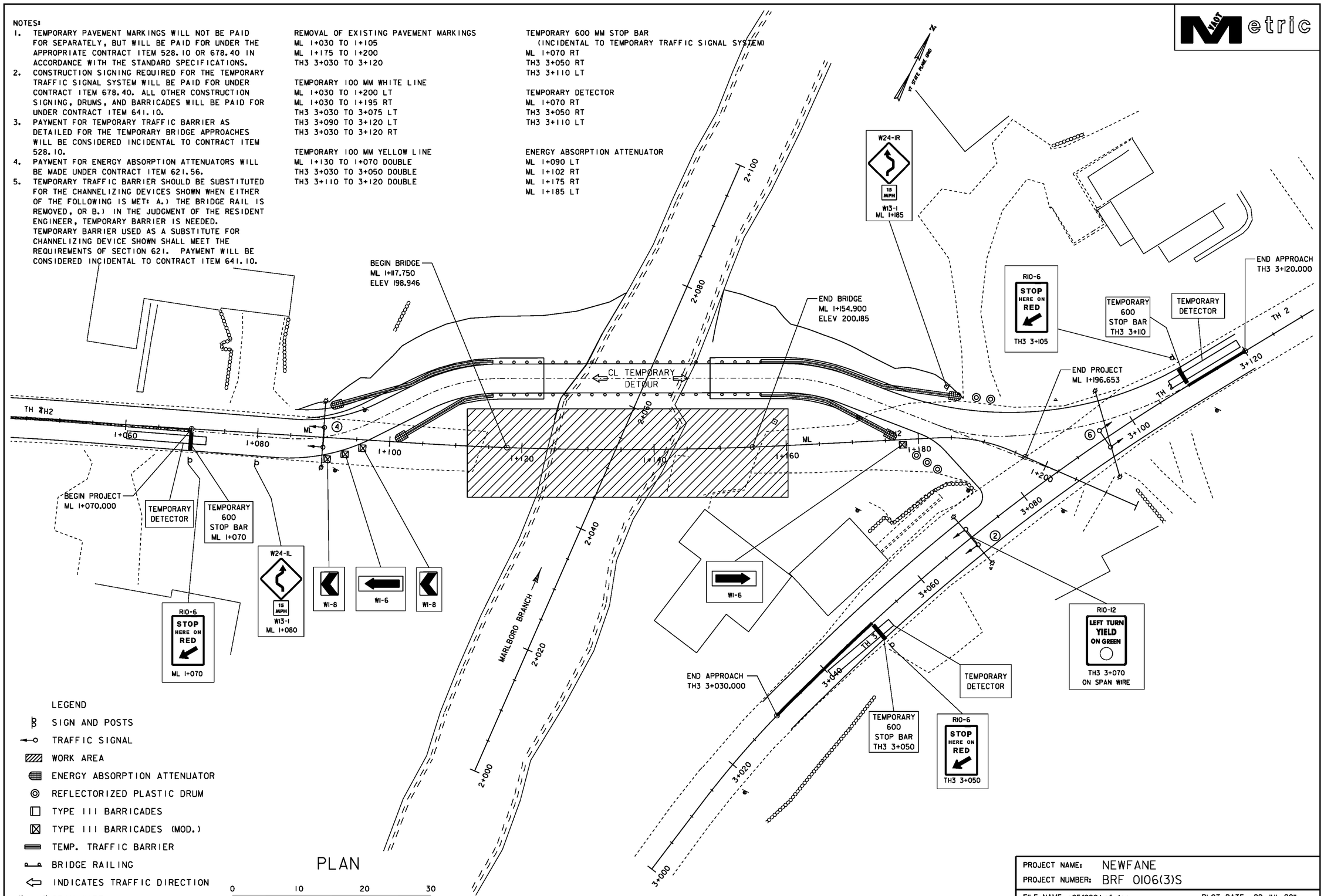
TEMPORARY 100 MM WHITE LINE
ML 1+030 TO 1+200 LT
ML 1+030 TO 1+195 RT
TH3 3+030 TO 3+075 LT
TH3 3+090 TO 3+120 LT
TH3 3+030 TO 3+120 RT

TEMPORARY 100 MM YELLOW LINE
ML 1+130 TO 1+070 DOUBLE
TH3 3+030 TO 3+050 DOUBLE
TH3 3+110 TO 3+120 DOUBLE

TEMPORARY 600 MM STOP BAR
(INCIDENTAL TO TEMPORARY TRAFFIC SIGNAL SYSTEM)
ML 1+070 RT
TH3 3+050 RT
TH3 3+110 LT

TEMPORARY DETECTOR
ML 1+070 RT
TH3 3+050 RT
TH3 3+110 LT

ENERGY ABSORPTION ATTENUATOR
ML 1+090 LT
ML 1+102 RT
ML 1+175 RT
ML 1+185 LT



LEGEND

- SIGN AND POSTS
- TRAFFIC SIGNAL
- WORK AREA
- ENERGY ABSORPTION ATTENUATOR
- REFLECTORIZED PLASTIC DRUM
- TYPE III BARRICADES
- TYPE III BARRICADES (MOD.)
- TEMP. TRAFFIC BARRIER
- BRIDGE RAILING
- INDICATES TRAFFIC DIRECTION
- SPAN WIRE

PLAN

0 10 20 30

SCALE = 1:250

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280trf.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
TRAFFIC CONSTRUCTION SITE PLAN	SHEET 17 OF 70

GENERAL TEMPORARY TRAFFIC SIGNAL SYSTEM NOTES

1. DESIGN OF THE SIGNAL SUPPORT(S) AND ANY REQUIRED GUYING IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. SIGNAL TIMING/TIMING ADJUSTMENTS REQUESTED BY THE RESIDENT ENGINEER SHALL BE ACCOMPLISHED WITHIN A 48 HOUR PERIOD. PAYMENT SHALL BE INCLIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM". THE RESIDENT ENGINEER SHALL MAKE SEVERAL TRIAL RUNS TO DETERMINE THE PROPER ALL-RED CLEARANCE INTERVAL.
3. SIGNAL FACES SHALL CONSIST OF 12" LENSES. (RED, YELLOW, AND GREEN)
4. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 16½ FEET NOR MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF A SIGNAL FACE NOT MOUNTED OVER A ROADWAY SHALL NOT BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE GROUND. CAUTION SHOULD BE USED TO INSURE COMPLIANCE WITH THE HEIGHT REQUIREMENTS IN THE EVENT THE NEW APPROACH GRADES DIFFER SIGNIFICANTLY FROM THE OLD ROAD GRADE.
5. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 8 FEET APART MEASURED HORIZONTALLY BETWEEN CENTER OF FACES.
6. SIGNAL HEADS MAY BE HUNG ON A SPAN WIRE OR ON A CANTILEVER MAST ARM. AT LEAST ONE SIGNAL HEAD SHALL BE IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. THE SECOND SIGNAL HEAD MAY BE POST MOUNTED, LOCATED AT A DISTANCE NO GREATER THAN 141/2 FEET FROM THE CENTER OF THE APPROACH LANE WHEN THE STOP BAR IS 40 FEET FROM THE SIGNAL HEAD. CONSULT THE M.U.T.C.D. FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.
7. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES.
8. THE CONTRACTOR SHALL PROVIDE AN ACTUATED CONTROLLER. THE APPROACHES NOTED SHALL HAVE A TEMPORARY VEHICLE DETECTOR. THE TYPE OF DETECTION SHALL BE AT THE OPTION OF THE CONTRACTOR. LOOPS ARE SHOWN FOR PLACEMENT PURPOSES ONLY. THE CONTROLLER, DETECTOR AND ALL OTHER SIGNAL EQUIPMENT SHALL MEET OR EXCEED ALL NEMA STANDARDS.
9. WHEN USED, VEHICLE DETECTOR LOOPS SHALL BE 4' X 40' FOR PRESENCE DETECTION AT THE STOP BAR WITH THE NEAR PORTION LOCATED 5 FEET BEYOND THE STOP BAR.
10. ON SEMI-ACTUATED SIGNAL, PARTICULARLY WITH LONG BRIDGES, THE CONTROLLER SHOULD BE LOCATED ON THE SAME SIDE OF THE BRIDGE AS THE DETECTOR.
11. INTERVAL TIMING SHOWN IN SECONDS.
12. INTERCONNECT BETWEEN SIGNAL POLES BY WHATEVER MEANS POSSIBLE OR CONVENIENT TO PROVIDE FOR A SAFE INSTALLATION PERIOD THIS WORK WILL BE INCIDENTAL TO ITEM 678.40.
13. PLACE TEMPORARY POLES BEHIND GUARDRAIL WHERE POSSIBLE.
14. POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL NOT BE PLACED TO CREATE A HAZARD TO THE TRAVELING PUBLIC.
15. ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, ETC., SHALL BELONG TO THE CONTRACTOR AT THE END OF THE PROJECT AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR REMOVAL, INCLUDING ANY TEMPORARY PAVEMENT MARKINGS, UTILITY POLES, WIRES, ETC.
16. A 250 WATT MER/150 WATT HPS LUMINAIRE AND MAST ARM SHALL BE PROVIDED ON A POLE ON EACH APPROACH AT A MOUNTING HEIGHT OF 30' ABOVE ROADWAY CENTERLINE. THE INTENT IS TO LIGHT UP THE AREA AROUND THE SIGNAL HEADS AND STOP BAR FOR INCREASED VISIBILITY. THE RESIDENT ENGINEER SHALL DETERMINE THE ADEQUACY OF THE LIGHTING AND DIRECT CHANGES IF THE LIGHTING IS INSUFFICIENT. PAYMENT SHALL BE INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".
17. STOP BARS SHALL BE LOCATED A MINIMUM OF 40' AND A MAXIMUM OF 120' FROM THE NEAREST SIGNAL HEAD.
18. SEE STD. E-121 FOR SIGN PLACEMENT.
19. SEE STD. E-171A AND STD. E-172 FOR ADDITIONAL INFORMATION ON SIGNALS AND DETECTORS.
20. APPROACH WIDTHS SHALL BE AS DETAILED IN SECTION 528.04(b) 2 TO MINIMIZE VEHICLE DELAY.
21. PAYMENT FOR REFLECTORIZED PLASTIC DRUMS AND BARRICADES SHALL BE INCIDENTAL TO ITEM 641.10 "TRAFFIC CONTROL".

ENERGY ABSORPTION ATTENUATOR NOTES

22. ENERGY ABSORPTION ATTENUATORS SHALL BE LOCATED AS SHOWN ON THE TRAFFIC CONTROL SHEETS. THE ENERGY ABSORPTION ATTENUATORS SHALL BE SUITABLE FOR A NARROW WIDTH APPLICATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THESE ATTENUATORS WILL BE PAID AS ITEM 621.56, "ENERGY ABSORPTION ATTENUATOR".
23. THE ATTENUATORS SHALL MEET THE REQUIREMENTS OF THE LATEST VERSION OF THE AASHTO "ROADSIDE DESIGN GUIDE" AND SHALL BE DESIGNED FOR A 4500 LB VEHICLE TRAVELING AT 25 MPH.

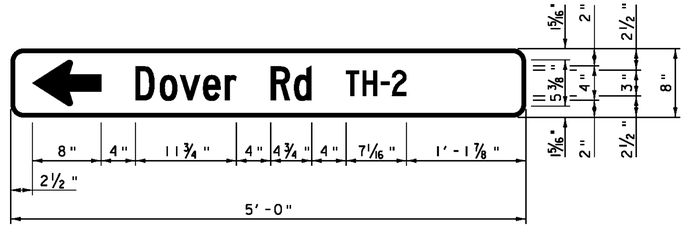
PHASING DIAGRAM AND SPECIAL NOTES FOR EACH LOCATION

PHASE	2			6			4		
MINIMUM	8			8			8		
EXTENSION	2	3	18	2	3	18	2	3	18
MAXIMUM	23			23			23		
HEAD 2	G	Y	R	G	Y	R	R	R	R
HEAD 6	G	Y	R	G	Y	R	R	R	R
HEAD 4	R	R	R	R	R	R	G	Y	R

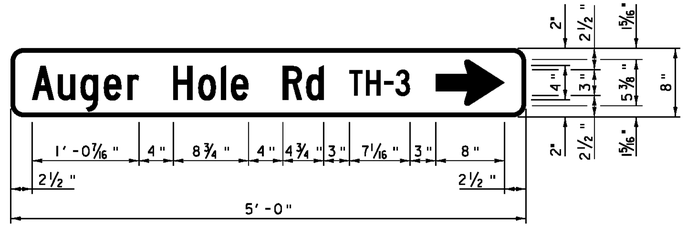
DESIGN SPEED: 40 KPH (25 MPH)

SPECIAL REQUIREMENTS

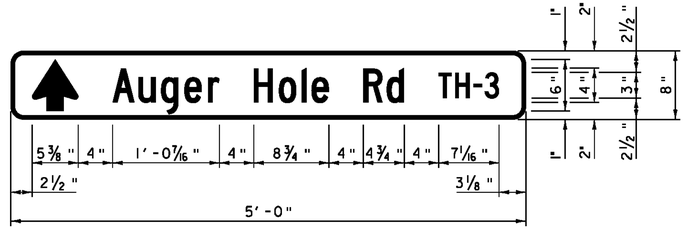
APPROACH	TEMPORARY VEHICLE DETECTOR	FLASHING BEACON ON ADVANCED WARNING SIGN
2	X	
6	X	
4	X	



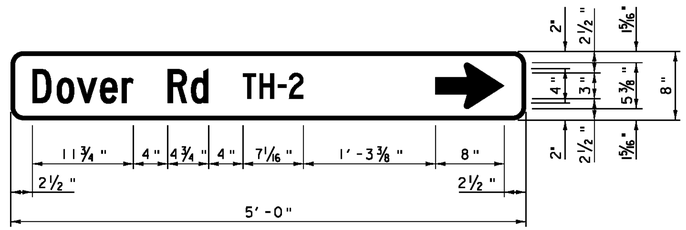
Standard Arrow Custom 8.000" X 5.375" 180; [Dover Rd TH-2] C 2K;



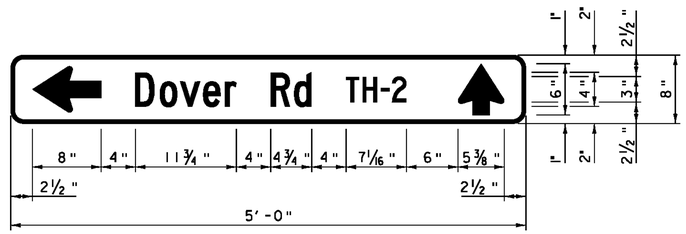
[Auger Hole Rd TH-3] C 2K; Standard Arrow Custom 8.000" X 5.375" 0;



Standard Arrow Custom 6.000" X 5.375" 90; [Auger Hole Rd TH-3] C 2K;



[Dover Rd TH-2] C 2K; Standard Arrow Custom 8.000" X 5.375" 0;



PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280trf.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
TRAFFIC CONSTRUCTION DETOUR NOTES	SHEET 18 OF 70

100 MM WHITE LINE
ML 1+030 TO 1+200 LT
ML 1+030 TO 1+195 RT
TH3 3+030 TO 3+075 LT
TH3 3+090 TO 3+120 LT
TH3 3+030 TO 3+120 RT

100 MM YELLOW LINE
ML 1+030 TO 1+193 DOUBLE
TH3 3+030 TO 3+075 DOUBLE
TH3 3+100 TO 3+120 DOUBLE

600 MM STOP BAR
ML 1+193
TH3 3+075
TH3 3+100

LETTER OR SYMBOL
ML 1+188 (STOP)
TH3 3+072 (STOP)
TH3 3+102 (STOP)

ML 1+158 LT
NEW
NEW
NEW
REM
REM

ML 1+158 LT
REM
REM

ML 1+171 LT
REM
LEGAL LOAD LIMIT 24,000 POUNDS
REM

ML 1+197 LT
REM
Dover Rd TH2
REM

TH3 3+100 LT
NEW
Auger Hole Rd TH-3
NEW
Dover Rd TH-2
NEW
STOP
NEW
ALL WAY
NEW
NEW

TH3 3+150 LT
RET
OLALIE DAYLILY GRDN. ON LEFT
RET

TH3 3+160 LT
NEW
NEW

ML 1+096 LT
REM
SPEED LIMIT 25
REM

ML 1+098 LT
NEW
SPEED LIMIT 25
NEW

BEGIN BRIDGE
ML 1+117.750
ELEV 198.946

100 WHITE LINE

100 YELLOW LINE

ML 1+193 RT
600 MM STOP BAR

END PROJECT
ML 1+196.653

TH3 3+100 RT
600 MM STOP BAR

END APPROACH
TH3 3+120.000

100 WHITE LINE

100 YELLOW LINE

RET
COVERED BRIDGE AHEAD 1.2 MILES
LIMITS
HEIGHT-11'2"
WEIGHT-20,000
RET
TH3 3+143 RT

REM
SPEED LIMIT 25
REM
LEGAL LOAD LIMIT 24,000 POUNDS
REM
TH3 3+112 RT

NEW
SPEED LIMIT 25
NEW
TH3 3+112 RT

NEW
NEW
NEW
ML 1+080 RT

REM
STOP AHEAD
REM
ML 1+092 RT

RET
VT 1958 S 100 1
ML 1+111 RT

NEW
NEW
ML 1+114 RT

END BRIDGE
ML 1+154.900
ELEV 200.185

END APPROACH
TH3 3+030.000

DETECTABLE WARNING SURFACE (YELLOW)
SEE STD. C-3A

600 MM STOP BAR
TH3 3+075 RT

REM
Auger Hole Rd TH3
REM
TH3 3+069 RT

REM
NEWFANE
BRATTLEBORO
WILLIAMSVILLE
MARLBORO
WILMINGTON RTE 9
WILMINGTON
EAST DOVER
ALCAN
REM
STOP
ML 1+189 RT

NEW
Dover Rd TH-2
NEW
STOP
NEW
ALL WAY
0106
1312
0362
NEW
NEW
TH3 3+075 RT

REM
STOP
REM
0106
1312
0262
REM
TH3 3+083 RT

REM
STOP AHEAD
REM
TH3 3+018 RT

NEW
NEW
TH3 3+018 RT

NEW
Dover Rd TH-2
NEW
Auger Hole Rd TH-3
NEW
STOP
NEW
ALL WAY
NEW
NEW
ML ~~1+189~~ RT
2+960 RT

DETECTABLE WARNING SURFACE
ML 1+118 RT
ML 1+154 RT

REMOVING SIGNS
ML 1+092 RT (1)
ML 1+096 LT (1)
ML 1+158 LT (1)
ML 1+171 LT (1)
ML 1+189 RT (9)
ML 1+197 LT (1)
TH3 3+018 RT (1)
TH3 3+069 RT (1)
TH3 3+083 RT (2)
TH3 3+112 RT (2)

TRAFFIC SIGN, TYPE A
ML 1+080 RT (1)
ML 1+098 LT (1)
ML 1+114 RT (1)
ML 1+158 LT (2)
ML 1+189 RT (4)
TH3 3+018 RT (1)
TH3 3+075 RT (4)
TH3 3+100 LT (4)
TH3 3+112 RT (1)
TH3 3+160 LT (1)

LEGEND

REM - REMOVE
SAL - SALVAGE
NEW - NEW
RET - RETAIN
B-B - BACK TO BACK

EXISTING

NEW

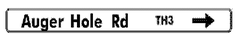
PLAN

0 10 20 30
SCALE = 1:250

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95]280trf.dgn	PLOT DATE: 27-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
TRAFFIC FINAL SITE PLAN	SHEET 19 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILE MARKER, STATION OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																						REMARKS	SIGN DETAIL	
		EACH	WIDTH (mm)	HEIGHT (mm)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POST	FLANGED CHANNEL (kg / m)			SQUARE STEEL (mm) (kg / m)			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) (kg / m)			FOUNDATION	TUBULAR STEEL Ø (mm) (kg / m)				W-SHAPE STEEL				SIGN FRAME REQUIRED		DETAIL ON SHEET NUMBER	STANDARD SHEET NUMBER
																												FTG. SIZE		WEIGHT	POST SIZE				
												1.7	3.0	4.5	3.4	3.6	5.0			1.9	2.5	2.5		11.3	13.4	16.1	21.7	600 mm	750 mm						
															44	50	63			75	100	100 MOD		75	89	100	125								
OPTION ITEMS																																				
ML 1+080 RT		1	750	750	0.56						1					X 4.57		1															W3-1		SHS
ML 1+098 LT		1	600	750	0.45						1					X 2.90		1															R2-1		SHS
ML 1+114 RT		1	150	200	0.03						1				X	2.13		1															VD-701		E-134
ML 1+158 LT		1	150	200	0.03																												VD-701		E-134
		1	150	250	0.04						1				X	1.98		1																	E-138
ML 1+189 RT		1	~~1550~~ 1525	~~300~~ 200	~~0.47~~ 0.31																												D3-1	18	
ML 1+189 RT		1	~~1150~~ 1525	~~300~~ 200	~~0.35~~ 0.31																												D3-1	18	
ML 1+189 RT		1	750	750	0.56																												R1-1		SHS
ML 1+189 RT		1	450	150	0.07						2					4.42 X 4.42		1															R1-4		SHS
												m .	m .	m .	m 6.75	m 27.7	m .		EA .	kg .	kg .	kg .		kg .	kg .	kg .	kg .								
	SUB-TOTALS				m2 ~~2.55~~ 2.36	m2 .	EA. .	m2 .				m .			m ~~34.5~~ 20.42					kg .			EA. .	kg .				EA. .	EA. .	kg .					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

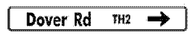
PROJECT NAME: **NEWFANE**
PROJECT NUMBER: **BRF 0106(3)S**

FILE NAME: **s95j280tss.dgn**
PROJECT MANAGER: **C. CARLSON**
DESIGNED BY: **T. LACKEY**
TRAFFIC SIGN SUMMARY SHEET 1

PLOT DATE: **29-JUL-2011**
DRAWN BY: **T. LACKEY**
CHECKED BY: **C. CARLSON**
SHEET **20** OF **70**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILE MARKER, STATION OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																						REMARKS	SIGN DETAIL	
		EACH	WIDTH (mm)	HEIGHT (mm)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POST	FLANGED CHANNEL (kg / m)			SQUARE STEEL (mm) (kg / m)			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) (kg / m)			FOUNDATION	TUBULAR STEEL Ø (mm) (kg / m)				W-SHAPE STEEL						DETAIL ON SHEET NUMBER	STANDARD SHEET NUMBER
															44	50	63			75	100	100 MOD		75	89	100	125	FTG. SIZE 600 mm	FTG. SIZE 750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED			
												1.7	3.0	4.5	3.4	3.9	5.0			1.9	2.5	2.5		11.3	13.4	16.1	21.7								
OPTION ITEMS																																			
TH3 ~~3+018~~ RT 2+960 RT		1	750	750	0.56						1					X 4.50																	W3-1		SHS
TH3 3+075 RT		1	1525 ~~1250~~	200 ~~225~~	0.31 ~~0.28~~																												D3-1	18	
TH3 3+075 RT		1	750	750	0.56																												R1-1		SHS
TH3 3+075 RT		1	600	230	0.14																												R1-4		SHS
TH3 3+075 RT		1	150	250	0.04						2				X	4.42 4.27																		E-138
TH3 3+100 LT		1	1525 ~~1500~~	200 ~~225~~	0.31 ~~0.34~~																												D3-1	18	
TH3 3+100 LT		1	1525 ~~1150~~	200 ~~225~~	0.31 ~~0.26~~																												D3-1	18	
TH3 3+100 LT		1	750	750	0.56																												R1-1		SHS
TH3 3+100 LT		1	600	230	0.14						2					4.65 X 4.72																	R1-4		SHS
TH3 3+112 RT		1	600	750	0.45						1					X 4.11																	R2-1		SHS
TH3 3+160 LT		1	750	750	0.56						1					X 4.27																	W3-1		SHS
												m .	m .	m .	m ~~7.~~	m ~~38.1~~	m .		EA .	kg .	kg .	kg .		kg .	kg .	kg .	kg .								
GRAND-TOTALS					m2 2.36 ~~6.44~~	m2 .	EA. .	m2 .				m .			m ~~77.5~~ 30.94					kg .			EA. .	kg .				EA. .	EA. .	kg .					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: **NEWFANE**
PROJECT NUMBER: **BRF 0106(3)S**

FILE NAME: **s95j280tss.dgn** PLOT DATE: **29-JUL-2011**
PROJECT MANAGER: **C. CARLSON** DRAWN BY: **T. LACKEY**
DESIGNED BY: **T. LACKEY** CHECKED BY: **C. CARLSON**
TRAFFIC SIGN SUMMARY SHEET 2 SHEET 21 OF 70

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

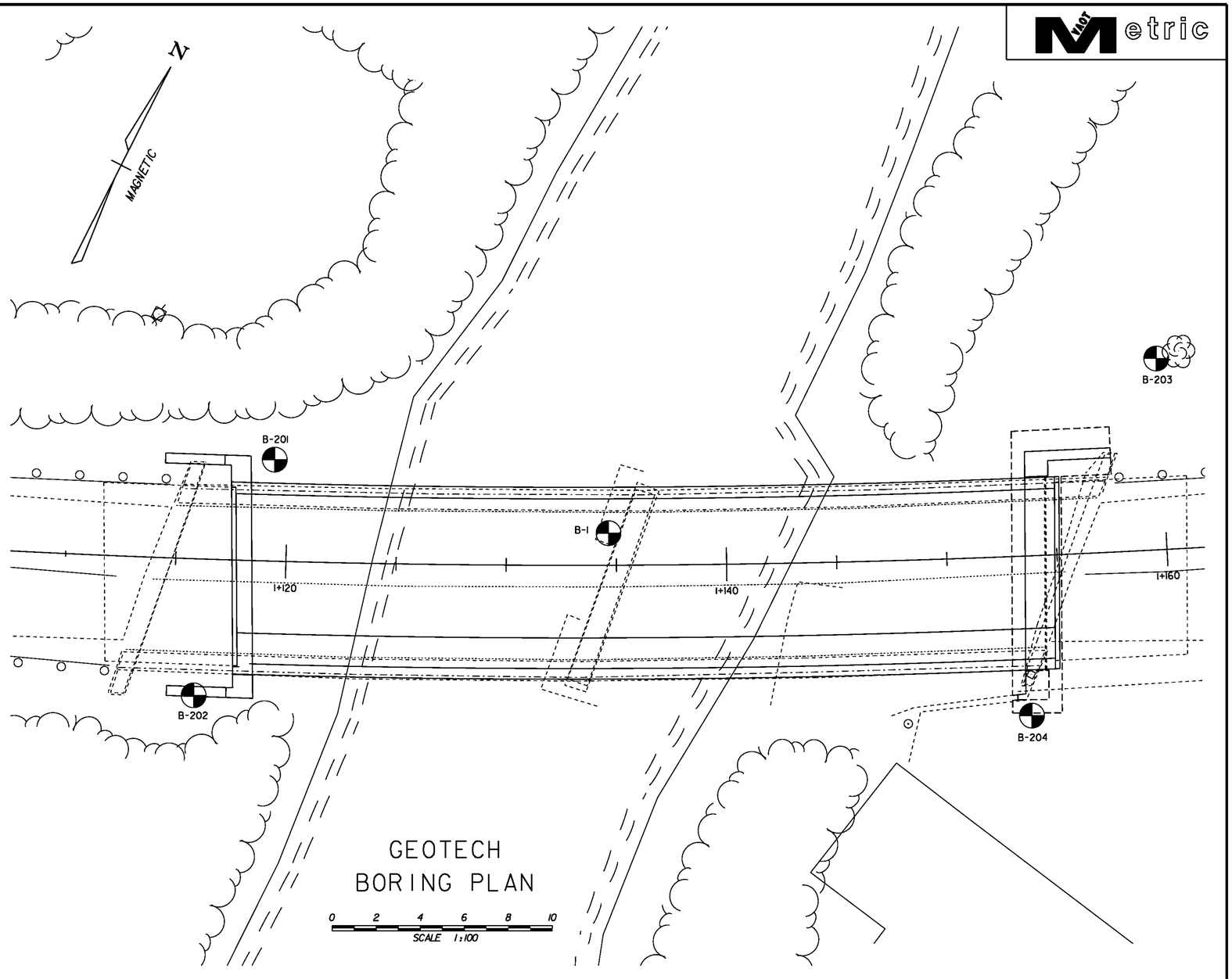
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler 35.0 mm I.D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 30.1mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		



DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 304.8 mm.

COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.

GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

SILT - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 10/22/02 and 11/04/04 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.	BEDROCK ELEV.
B-1	1+134.6	1.5 LT	192.41	184.95
B-201	1+119.4	4.6 LT	195.31	172.21
B-202	1+116.0	6.2 RT	195.30	175.80
B-203	1+160.0	8.7 LT	197.22	195.92
B-204	1+153.6	7.2 RT	199.80	196.68

PROJECT: NEWFANE

PROJECT NO.: BRF 0106(3)S

DESIGN FILE NAME: s95J280bor.dgn

IPARM FILE NAME:

PLOT DATE: 22-JUL-2011

GEOTECH BORING PLAN

SHEET: 22 OF 70

B-1
EXISTING PIER

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 10/22/02
DATE COMPLETED: 10/23/02

PROJECT NAME: NEWFANE
SITE NAME: BR 14
STATION: ~~36+076.30~~ 1+134.600
GROUND EL.:

PROJECT NUMBER: BHF 0106(3)S
SITE NO.: TH 2
OFFSET: ~~76 2.50~~ -1.5 LT
C.W. DEPTH: DRILLING IN RIVER

BORING CREW
CREW CHIEF: HOLT
DRILLER: YOUNG
LOGGER: GARROW
ADDITIONAL CREW:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	CONCRE	Concrete Footing, 0.00m-0.81m							
		No sample, Boulders	R						
		A-4, SaSi HP, gry, Moist, Rec. = 0.07m	R	11.4	15.1	32.7	52.2		
		BXDC, Sample from core barrel A-4, SaSi HP, gry, Moist		15.5	2.2	25.6	72.2		
		A-4, SaSi HP, gry, Moist, Rec. = 0.16m	R	13	0.9	25.3	73.8		
		4.00m-4.11m, No Rec.	R						
5		A-1-b, SiSaGr, gry, Moist, Rec. = 0.13m	R	11.4	40.7	38.7	20.6		
		6.60m-7.00m, Appeared to be Boulders or cobbles.		Top of bedrock @ 7.00 m					
		Run#1: BXDC, 7.00m-7.60m, Rec. = 0.27m, See Geologist's Report.	1	45	0	40			
		Run#2: BXGDC, 7.60m-9.10m, Rec. = 0.42m, See Geologist's Report.	2	28	0	40			
		Run#3: BXGDC, 9.10m-10.60m, Rec. = 0.79m, See Geologist's Report.	3	53	0	40			
10		Run#4: BXGDC, 10.60m-12.10m, Rec. = 0.82m, See Geologist's Report.	4	55	0	40			
		Hole stopped @ 12.10m Could not get core barrel down core hole at this point.							

DRILLER'S NOTES:
1. • Approx. station and offset. Near outer corner of this footing.
2. We did not encounter any noticeable voids while coring from 7.00m to 12.10m.
3. From top of deck to top of footing is about 6.83m.

GEOLOGISTS REPORT:

Run#1: Dark green amphibolite, Hard, Unweathered, Poor competency.
Run#2: 7.60m-7.90m, Dark green amphibolite, Hard, Unweathered, Poor competency.
7.90m-9.10m, Gray quartzo-feldspathic gneiss, Very hard, Unweathered, Poor competency.
Run#3: 9.10m-9.84m, Gray quartzo-feldspathic gneiss, Very hard, Unweathered, Poor competency.
9.84m-10.60m, Dark green amphibolite, Hard, Unweathered, Poor competency.
Run#4: Dark green amphibolite with felsic vein from 11.10m to 11.23m, Hard, Unweathered, Poor competency.

B-201
ABUTMENT 1 LEFT

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-201
SHEET 1 of 2
DATE STARTED: 10/24/04
DATE COMPLETED: 10/27/04

PROJECT NAME: NEWFANE
SITE NAME: BR-14
STATION:
OFFSET:
VTSPG: N 48414.07 m E 483080.55 m

PROJECT NUMBER: BHF 0106(3)
SITE NUMBER: TH-2
GROUND ELEVATION: 195.31 m
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95J280

BORING CREW
CREW CHIEF: HOLT
DRILLER: GARROW
LOGGER: PAULWAN

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

BOTTOM PILE CAP EL 195.00

22.8 m

PILE TIP ESTIMATED EL 172.2

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Boulder, 0.12 m – 0.44 m					
1		A-3, So, brn, Moist, Rec. = 0.18 m	R	16.8	12.9	81.8	5.3
		Boulder, 1.38 m – 1.76 m					
2		Appears to be going through gravel and cobbles., 2.00 m – 2.08 m	R				
		Boulder, No Rec., 2.08 m – 3.00 m					
3		A-2-4, GrSa, brn, Moist, Rec. = 0.32 m	23	18.1	23.4	81.3	15.3
4		A-1-b, GrSa, gry, Moist, Rec. = 0.59 m	26	10.0	39.5	44.8	15.7
5		A-1-b, GrSa, gry, Moist, Rec. = 0.34 m	50	10.2	40.5	44.6	14.9
6		A-4, SaSi HP, gry, Moist, Rec. = 0.34 m	R	8.7	18.8	38.5	42.7
7		BXDC, Cleaned out casing., 6.75 m – 7.00 m A-4, SiSa HP, gry, Moist, Rec. = 0.21 m	R	9.5	7.8	48.3	43.8
8		A-2-4, SiGrSa, gry, Moist, Rec. = 0.45 m	74	9.8	32.5	35.8	31.7
9		BXDC, Cleaned out casing., 8.70 m – 9.00 m A-4, SaSi HP (*), gry, Moist, Rec. = 0.54 m	42	24.3	0.7	20.9	78.4
10		A-4, SaSi HP (*), gry, Moist, Rec. = 0.57 m	70	23.8	1.6	45.1	53.3
11		A-4, SI HP (*), gry, MTW, Rec. = 0.45 m	47	35.5	0.0	1.2	98.8
12		A-4, SI HP (*), gry, Moist, Rec. = 0.54 m	65	27.6	0.0	13.5	86.5
13							
14		A-4, SI HP (*), gry, Moist, Rec. = 0.57 m	48	31.8	2.4	3.6	94.0
15							
16		A-4, SI (*), gry, Moist, Rec. = 0.54 m	37	32.2	0.0	1.8	98.2
17		A-4, SI (*), gry, Moist, Rec. = 0.60 m	41	37.3	1.0	3.0	96.0
18		A-2-4, SiSaGr, gry, Moist, Rec. = 0.33 m	R	11.2	48.2	27.2	24.6
19		BXMDC, Boulders, 18.53 m – 18.72 m					
20		BXMDC, Boulders, Broke through boulder, 18.80 m – 18.93 m					
21		BXMDC, Boulder, 20.20 m – 20.63 m					
22		A-1-b, GrSa, gry, Moist, Rec. = 0.27 m	R	8.1	37.6	44.5	17.9
23		Visual Class: Broken Rock, 23.00 m – 23.10 m Dark gray, Biotite Schist, with closely spaced jointing, Competent, Moderately hard, Unweathered, BXMDC, 23.10 m – 24.60 m, Rec. = 1.42 m	R 1	9.5	3.5	5.0	
24		Top of bedrock @ 23.10 m					
25		Dark gray, Biotite Schist, with 1.6m thick layer of white/gray Biotite Gneiss at 28.43m, Moderately closely spaced jointing, Competent, Moderately hard, Unweathered, BXMDC, 24.60 m – 26.10 m, Rec. = 1.50 m	2	10.0	5.8	5.0	
26		Hole stopped @ 26.10 m					
27		DRILLER'S NOTE: No water elevation because the hole caved in.					
28		LAB NOTE: (*) Sporadically thin layers of clay material. Tested NP.					
29							

USE OF BORING ABUTMENT 1 AT LEFT ABUTMENT

B-202
ABUTMENT 1 RIGHT

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-202
SHEET 1 of 2
DATE STARTED: 10/28/04
DATE COMPLETED: 11/01/04

PROJECT NAME: NEWFANE
SITE NAME: BR-14
STATION:
OFFSET:
VTSPG: N 48402.86 m E 483062.09 m

PROJECT NUMBER: BHF 0106(3)
SITE NUMBER: TH-2
GROUND ELEVATION: 195.30 m
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95J280

BORING CREW
CREW CHIEF: HOLT
DRILLER: GARROW
LOGGER: PAULWAN

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

BOTTOM PILE CAP EL 195.00

PILE TIP ESTIMATED EL 175.8

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Some Cobbles and Boulders while driving casing, 0.00 m – 1.50 m					
1							
2		A-1-a, SaGr, yel-brn, Moist, Rec. = 0.27 m	11	9.1	69.5	24.2	6.3
3		Visual Class: A-1-b, Gravel, gry, Moist, Rec. = 0.07 m, 3.00 m – 3.80 m, Insufficient sample for testing.	49				
4							
5		A-4, SaSi HP, gry, Moist, Rec. = 0.51 m	R	11.2	5.1	37.6	57.3
6		A-4, SaSi HP, gry, Moist, Rec. = 0.30 m	R	10.3	10.9	43.4	45.7
7							
8		A-4, SaSi HP, gry, Moist, Rec. = 0.17 m	R	8.6	9.0	42.8	48.2
9		A-4, SaGrSi, gry, Moist, Rec. = 0.54 m	92	18.4	28.2	27.9	43.9
10		A-2-4, So, gry, Moist, Rec. = 0.60 m	50	22.3 28.3	0.7 0.0	84.9 2.5	14.4 97.5
11		A-4, SI (*), gry, Moist					
12		A-4, SI (*), gry, Moist, Rec. = 0.54 m	53	23.0	11.3	7.4	81.3
13							
14		A-4, SI (*), gry, Moist, Rec. = 0.54 m	45	33.1	0.0	4.3	95.7
15							
16							
17		A-2-4, SiSaGr, white-gray, Moist, Rec. = 0.38 m	R	15.5	38.0	31.2	30.8
18		A-1-b, SiSaGr, gry, Moist, Rec. = 0.24 m	R	11.3	44.3	33.8	21.9
19		A-2-4, SiGrSa, blk, Moist, Rec. = 0.30 m	R	13.7	33.0	38.4	28.6
20		Top of bedrock @ 19.50 m Greenish gray, Quartz-mica Schist, with moderately close spaced jointing, Competent, Moderately hard, Unweathered, BXMDC, 19.50 m – 20.40 m, Rec. = 1.15 m	1	85	57	50	
21		Gray, Biotite Gneiss, Competent, Hard, Unweathered, 20.40 m – 20.85 m					
22		Greenish gray, Quartz-mica Schist, with thin Gneissic zones, Poor RQD, Moderately hard, Unweathered, BXMDC, 20.85 m – 21.30 m, Rec. = 0.31 m	2 3	89 100	0 89	50 50	
23		Greenish gray, Quartz-mica Schist, with alternating layers of Biotite Gneiss and Quartz Mica Schist near end of run, Moderately close spaced jointing, Competent, Moderately hard, Unweathered, BXMDC, 21.30 m – 22.45 m, Rec. = 1.50 m					
24		Gray, Quartz-mica Schist, and Biotite Gneiss, Competent, Moderately hard, Slightly weathered to unweathered, 22.45 m – 22.80 m					
25		Hole stopped @ 22.80 m					
26		DRILLER'S NOTE: No water elevation because the hole caved in.					
27		LAB NOTE: (*) Sporadically thin layers of clay material. Tested NP.					
28							
29							

USE OF BORING ABUTMENT 1 AT RIGHT ABUTMENT

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: s95j280bor.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
GEOTECH BORING LOGS I

PLOT DATE: 22-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 23 OF 70

B-203
ABUTMENT 2 LEFT

TOP OF FOOTING
EL 196.500

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-203
SHEET 1 of 1
DATE STARTED: 11/04/04
DATE COMPLETED: 11/04/04

PROJECT NAME: NEWFANE
SITE NAME: BR-14
STATION:
OFFSET:
VTSPG: N 48436.21 m E 483094.18 m

PROJECT NUMBER: BHF 0106(3)
SITE NUMBER: TH-2
GROUND ELEVATION: 197.22 m
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95J280

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: PAULWAN

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm / RUN	M.C. (%) / REC (%)	GRAVEL (%) / ROD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/0.3m)
0.5		Encountered Boulders, 0.00 m – 1.30 m					
1.0				Top of Bedrock @ 1.30 m			
1.5		Amphibolite, with Feldspar Porphyroblasts, Not Competent, May be Boulder, Hard, Unweathered, BXMDC, 1.30 m – 1.58 m, Rec. = 0.52 m Gray, Quartz-mica Schist, Moderately soft, Slightly weathered, 1.58 m – 1.90 m	1	87	55	50	
2.0		Gray, Quartz-mica Schist, with Quartz vein at bottom of core run, Competent, Moderately soft, Slightly weathered, BXMDC, 1.90 m – 3.12 m, Rec. = 0.98 m	2	80	60	50	
2.5							
3.0							
3.5		Gray, Quartz-mica Schist, Poor RQD, Moderately soft, Slightly weathered, BXMDC, 3.12 m – 3.75 m, Rec. = 0.32 m	3	51	0	50	
4.0		Dark gray, Biotite Schist, Competent, Moderately hard, Unweathered, BXMDC, 3.75 m – 4.19 m, Rec. = 0.44 m	4	100	80	50	
4.5		Dark gray, Biotite Schist, with vertical Quartz filled joint runs the length of the core run, Joint is open and weathered, Not competent, Poor RQD, BXMDC, 4.19 m – 5.16 m, Rec. = 0.92 m	5	95	0	50	
5.0							
5.5		Hole stopped @ 5.16 m DRILLER'S NOTE: No water elevation to depth.					
6.0							
6.5							
7.0							
7.5							

B-204
ABUTMENT 2 RIGHT

TOP OF FOOTING
EL 196.500

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-204
SHEET 1 of 1
DATE STARTED: 11/03/04
DATE COMPLETED: 11/03/04

PROJECT NAME: NEWFANE
SITE NAME: BR-14
STATION:
OFFSET:
VTSPG: N 48419.20 m E 483096.46 m

PROJECT NUMBER: BHF 0106(3)
SITE NUMBER: TH-2
GROUND ELEVATION: 199.80 m
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95J280

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: PAULWAN

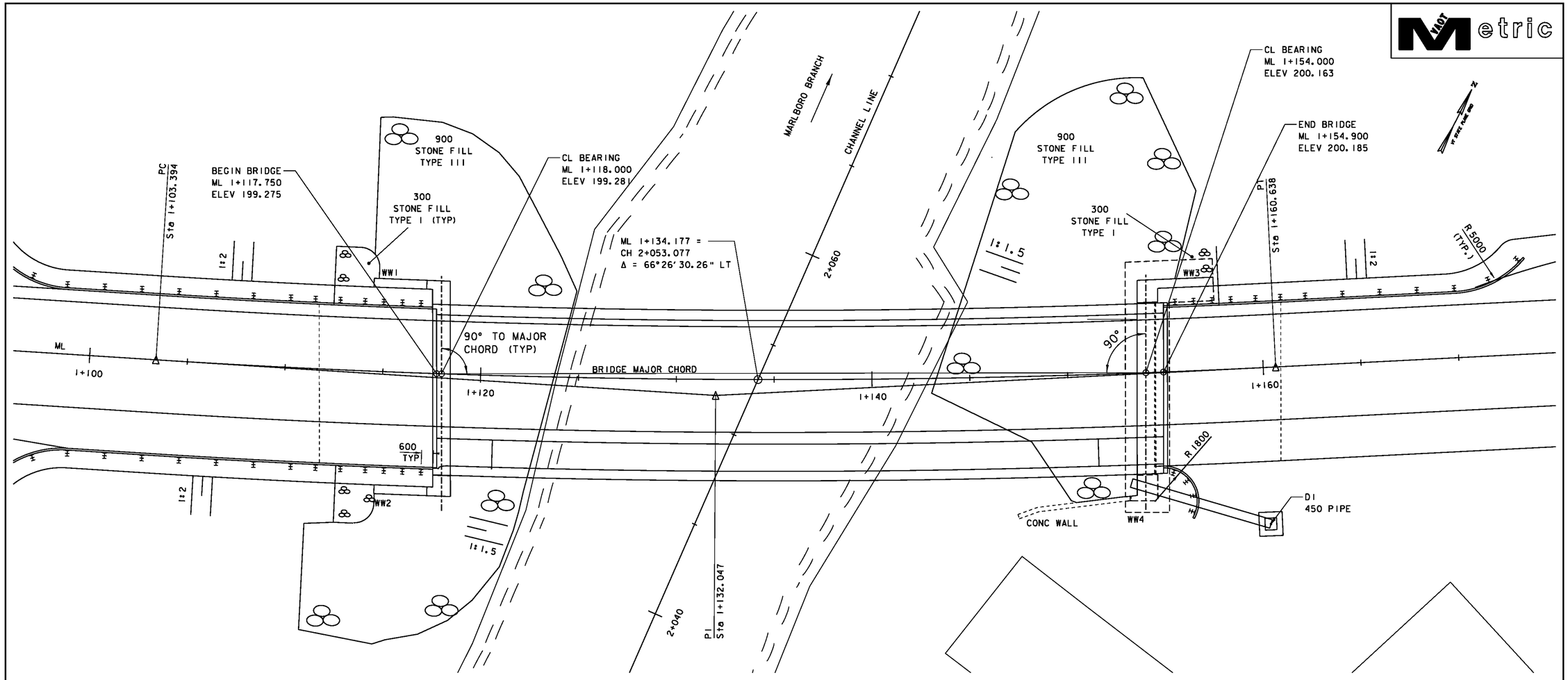
BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm / RUN	M.C. (%) / REC (%)	GRAVEL (%) / ROD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/0.3m)
0.5							
1.0							
1.5		Visual Class: A-1-a, Gravel, brn, Moist, Rec. = 0.03 m, 1.50 m – 2.10 m, Insufficient sample for testing.	11				
2.0							
2.5							
3.0		Visual Class: Weathered Rock, yel-brn, Moist, Rec. = 0.06 m, 3.00 m – 3.12 m	R	Top of Bedrock @ 3.12 m			
3.5		Gray, Quartz-mica Schist, with closely spaced jointing with rusty stained joint surfaces, Competent, Moderately soft, Slightly weathered, BXMDC, 3.12 m – 4.02 m, Rec. = 1.34 m	1	89	33	45	
4.0		Dark gray, Biotite Schist, Competent, Moderately hard, Unweathered, 4.02 m – 4.82 m					
4.5							
5.0		Gray, Quartz-mica Schist, with moderately close spaced jointing, Competent, Moderately soft, Slightly weathered, BXMDC, 4.82 m – 5.82 m, Rec. = 1.50 m	2	100	53	45	
5.5		Dark gray, Biotite Schist, Competent, Moderately hard, Unweathered, 5.82 m – 6.12 m					
6.0		Hole stopped @ 6.12 m DRILLER'S NOTE: No water elevation to depth.					
6.5							
7.0							
7.5							

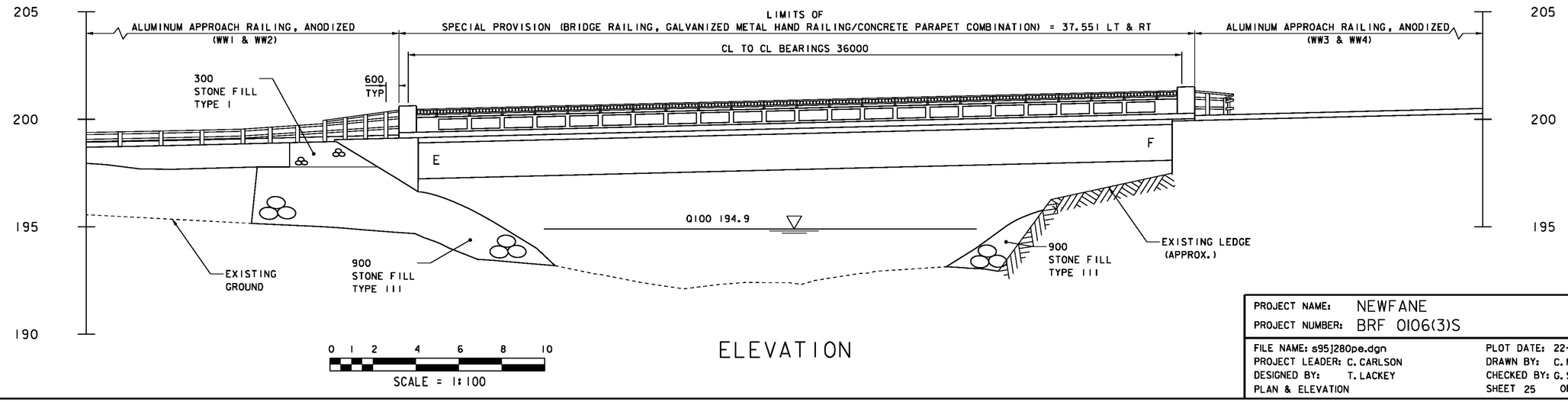
PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: s95j280bor.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
GEOTECH BORING LOGS 2

PLOT DATE: 22-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 24 OF 70

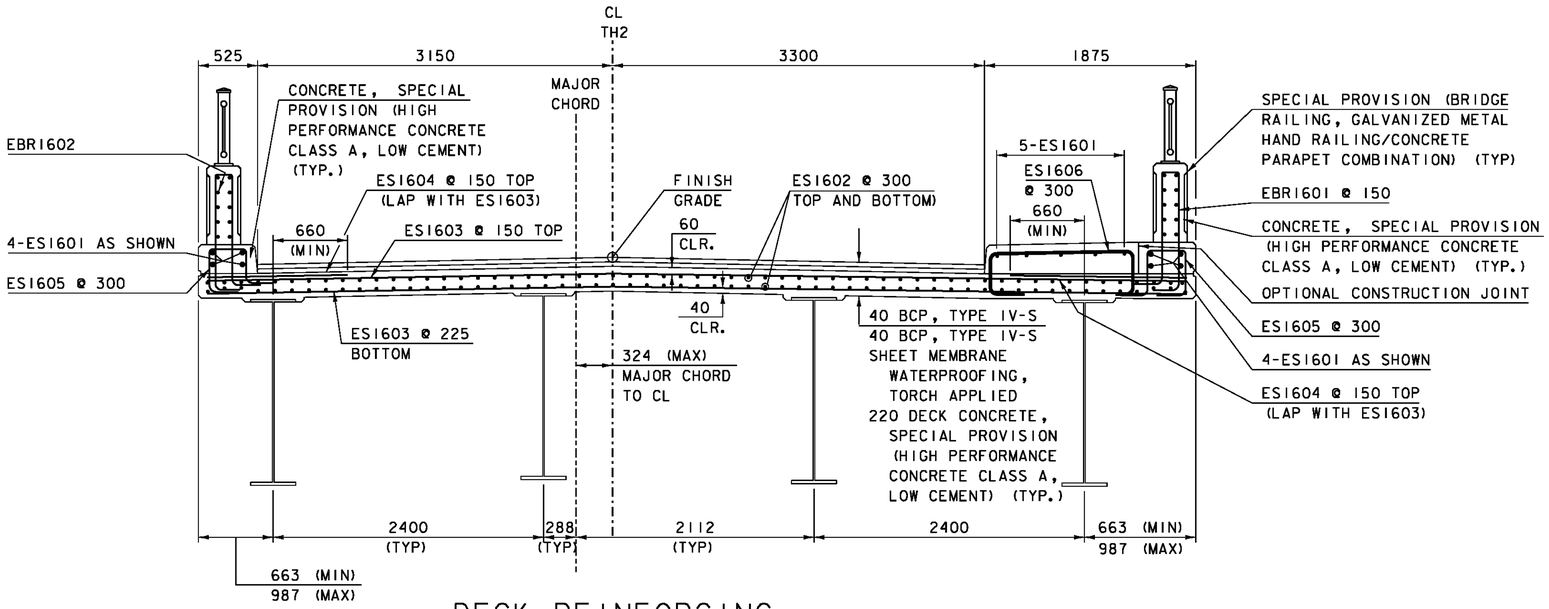


PLAN



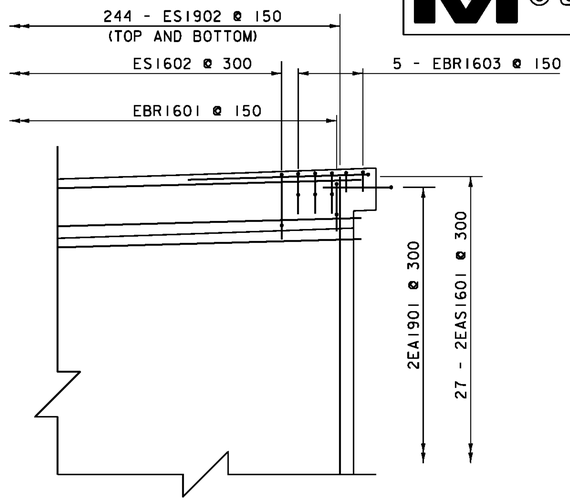
ELEVATION

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280pe.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
PLAN & ELEVATION	SHEET 25 OF 70



DECK REINFORCING

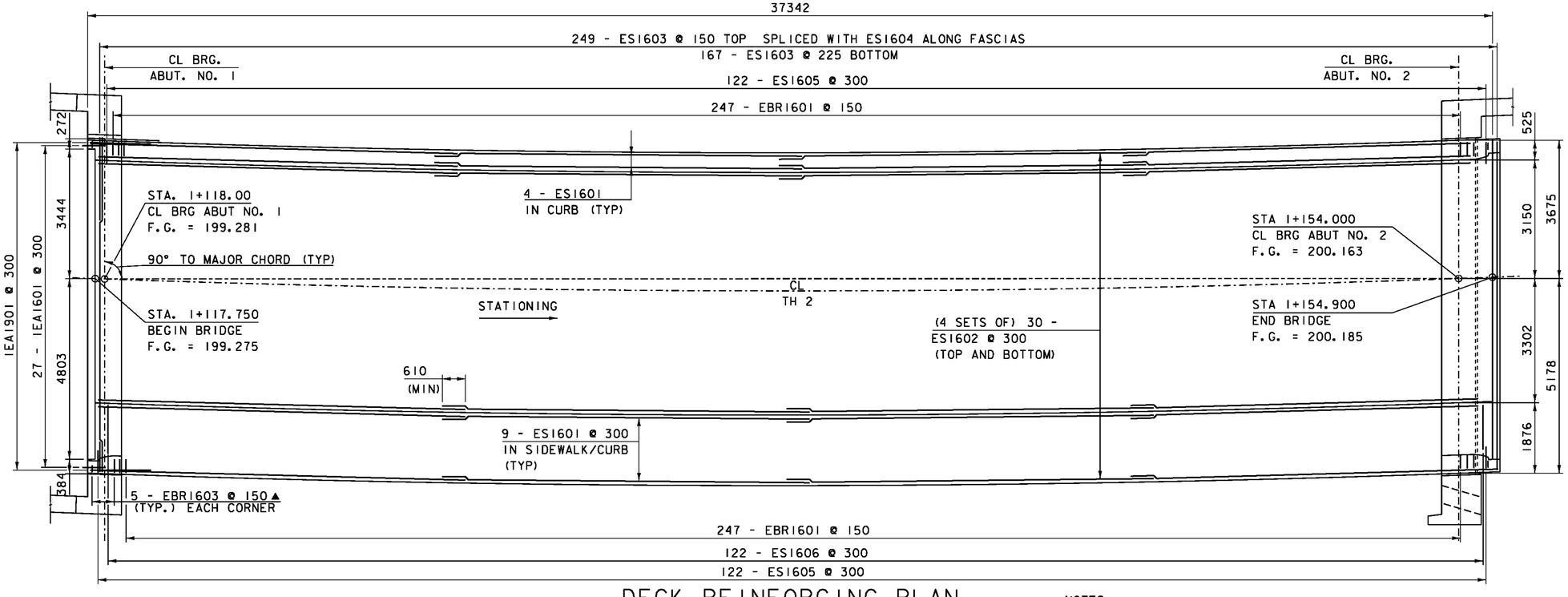
SCALE 1:25



CURB SIDE CORNER SHOWN. SIDEWALK SIDE SIMILAR, SEE SHEET 45.

CORNER REINFORCING DETAIL

SCALE 1:25



DECK REINFORCING PLAN

SCALE 1:60

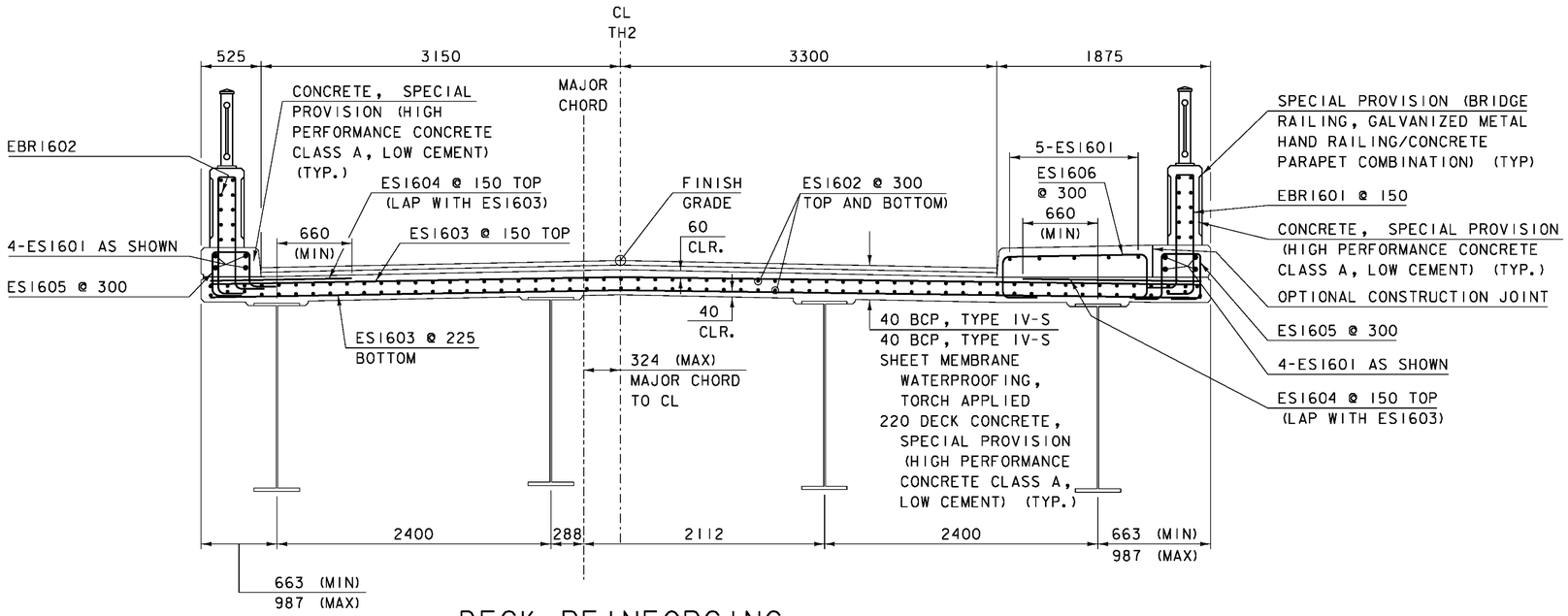
NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

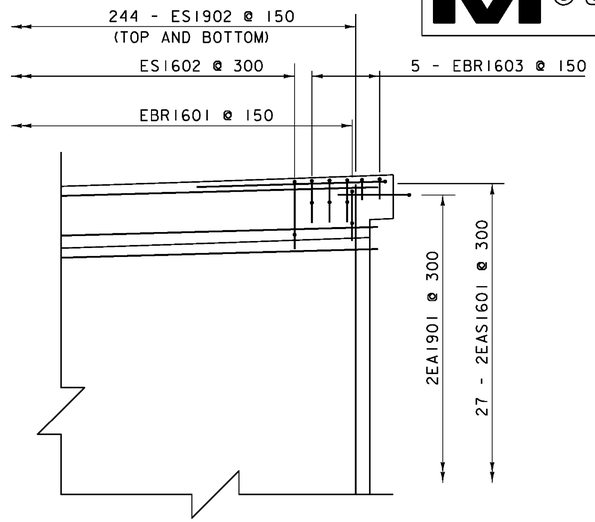
FILE NAME: s95j280sup.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
DECK DETAILS

PLOT DATE: 22-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 26 OF 70



DECK REINFORCING

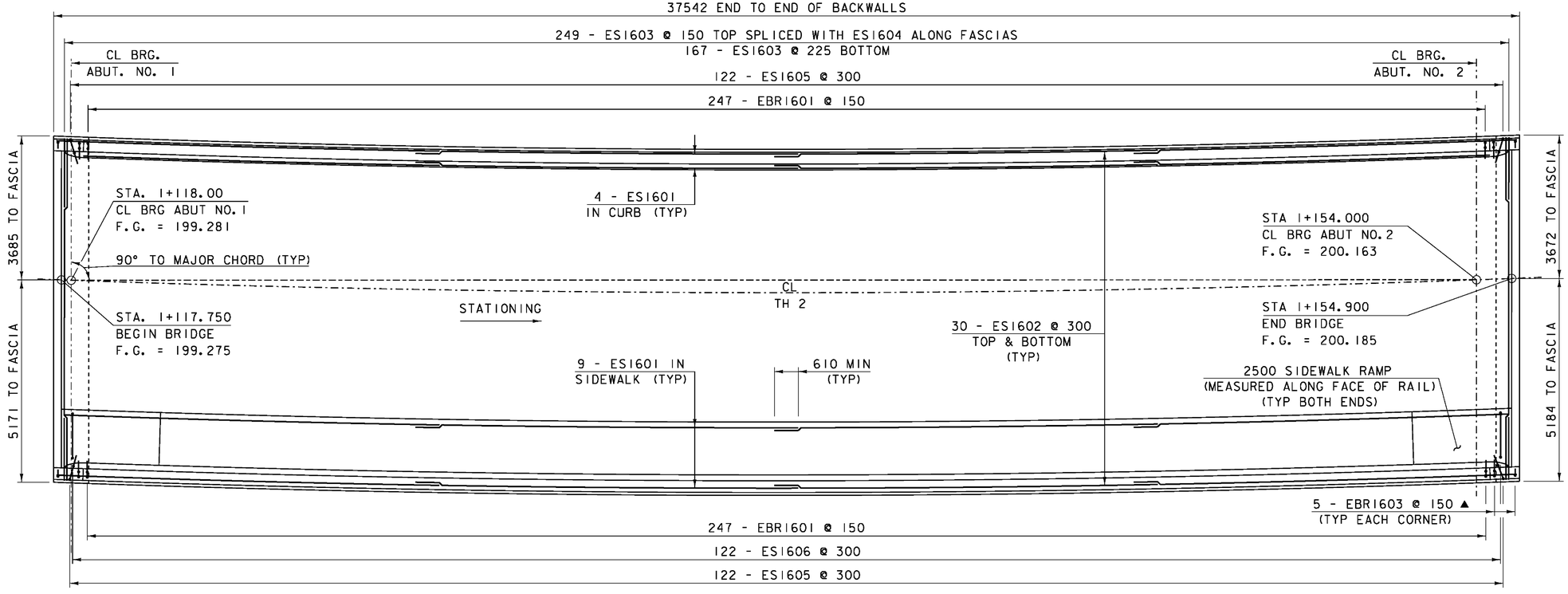
SCALE 1:25



CURB SIDE CORNER SHOWN. SIDEWALK SIDE SIMILAR, SEE SHEET 45.

CORNER REINFORCING DETAIL

SCALE 1:25



DECK REINFORCING PLAN ⚠

SCALE 1:60

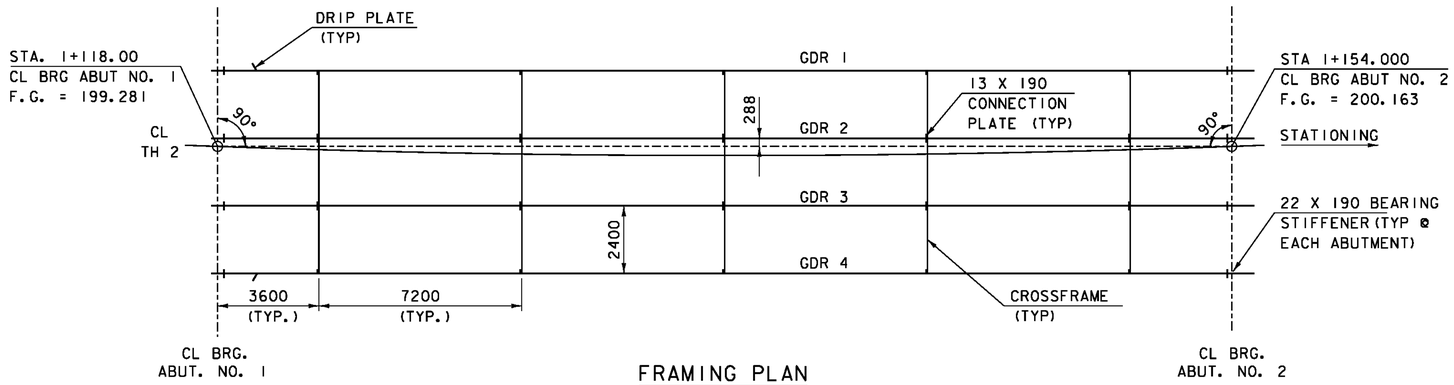
BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
SEE BRIDGE RAILING DETAIL 1 FOR ADDITIONAL BRIDGE RAIL REINFORCING DETAILS
SEE ABUTMENT TYPICALS SHEET FOR ADDITIONAL BACKWALL REINFORCING DETAILS

KEY	DATE	BY	REVISION
⚠	04/24/2012	VAOT	MODIFIED DECK DIMENSIONS.

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

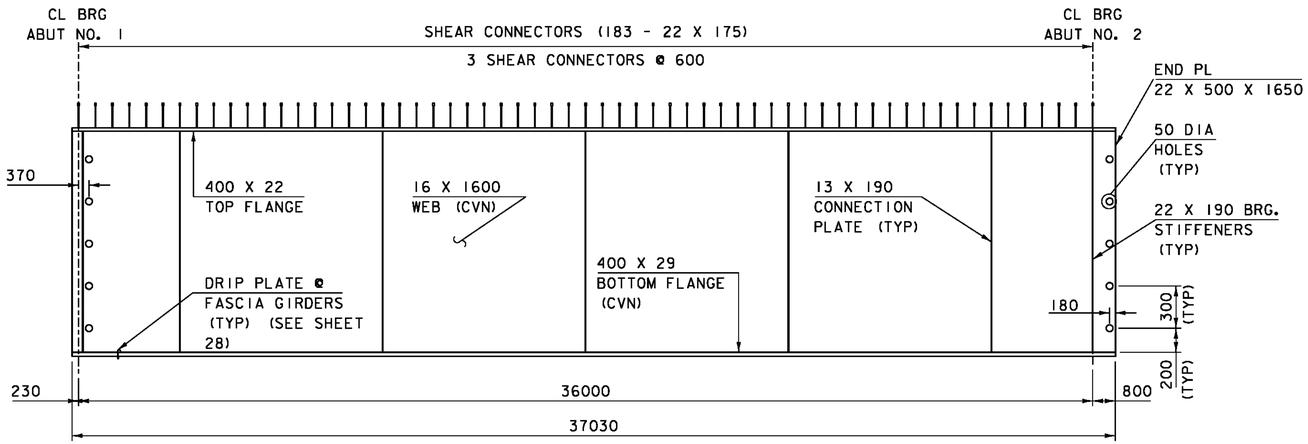
PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: s95j280sup.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
DECK DETAILS
PLOT DATE: 25-APR-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 26 OF 70



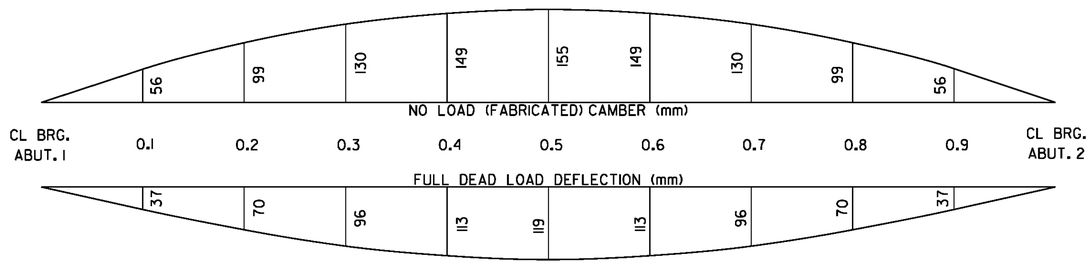
FRAMING PLAN

SCALE 1:100



GIRDER ELEVATION

HORIZONTAL SCALE 1:100
VERTICAL SCALE 1:20

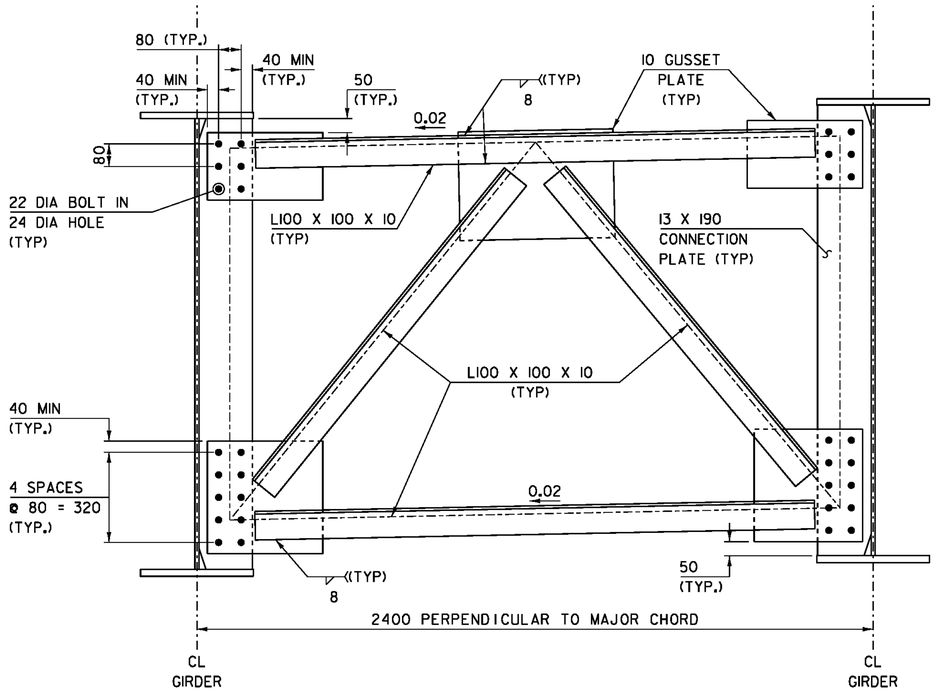


CAMBER & DEAD LOAD DEFLECTION DIAGRAM

HORIZONTAL SCALE 1:100
VERTICAL SCALE 1:5

NOTE: DEAD LOAD DEFLECTION IS DUE TO GIRDER, DIAPHRAGMS, DECK, CURB, SIDEWALK, AND RAILING.

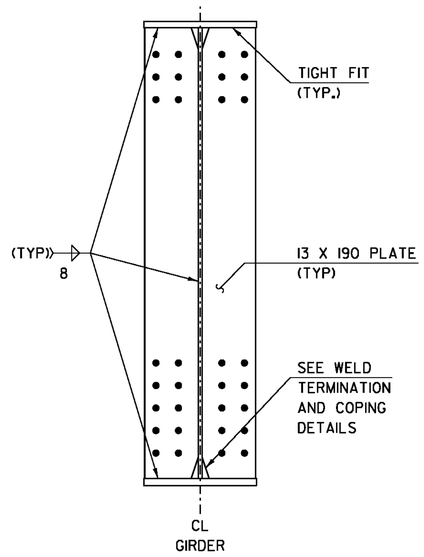
PROJECT NAME: NEWFANE	
PROJECT NUMBER: BRF 0106 (3) S	
FILE NAME: s95j280sup.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
FRAMING DETAILS	SHEET 27 OF 70



INTERMEDIATE CROSS FRAME

0 0.5 1

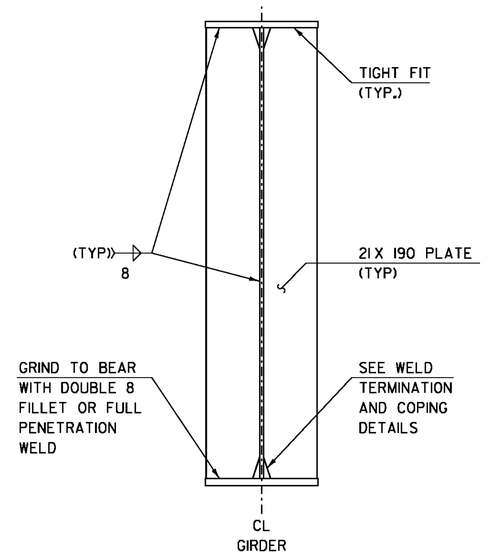
SCALE = 1:10



INTERMEDIATE CROSS FRAME CONNECTION PLATE DETAIL

0 0.5 1

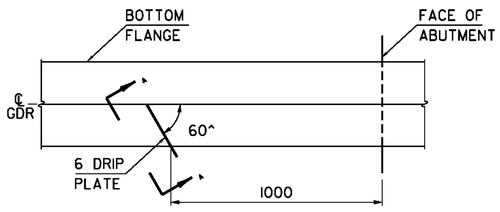
SCALE = 1:10



ABUTMENT BEARING STIFFENER DETAIL

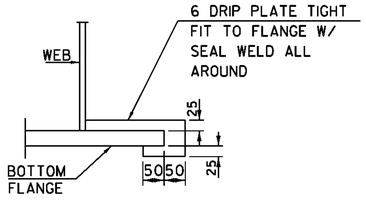
0 0.5 1

SCALE = 1:10



DRIP PLATE PLAN

NTS

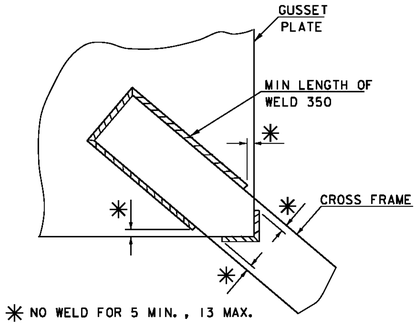


SECTION A-A

NTS

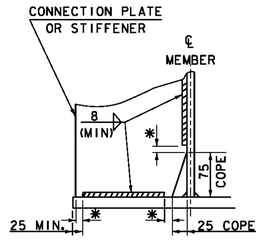
NOTES:

DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF BOTH ABUTMENTS OR AS INIDICATED ON THE PLANS



WELD LOCATION DETAIL AT INTERMEDIATE CROSS FRAMES

NTS

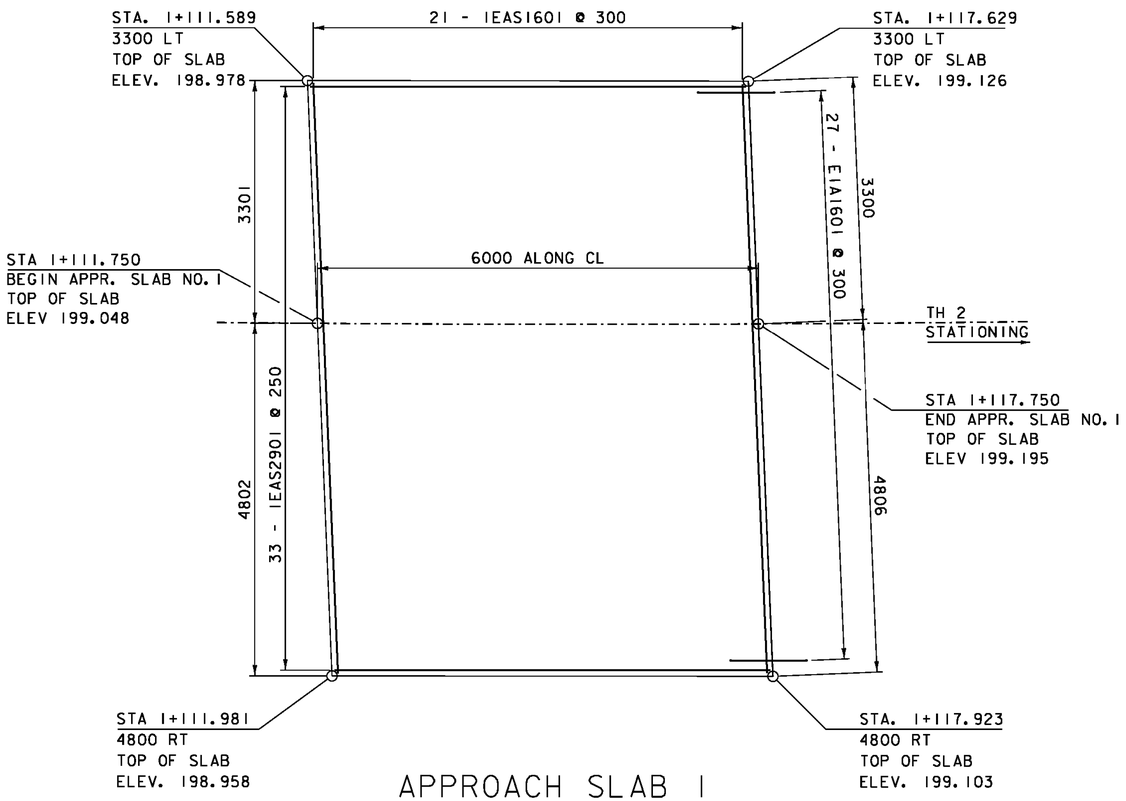


* NO WELD FOR 10 MIN. 13 MAX.
(EXCEPT MUST MAINTAIN 25 MINIMUM FROM EDGE OF FLANGE.)

WELD TERMINATION AND COPING DETAIL FOR WELDED PLATE GIRDERS

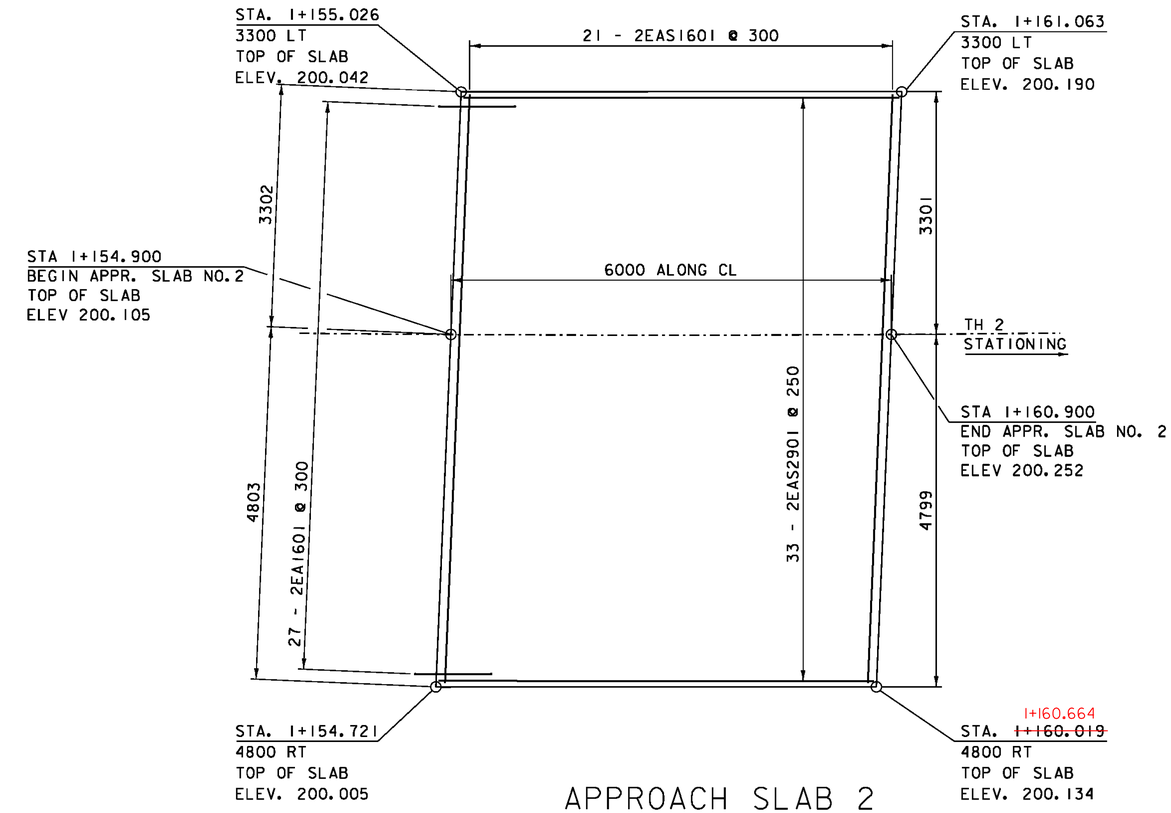
NTS

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: 95J280/str/s95J280str.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: W. LAMMER	CHECKED BY: C. CARLSON
CROSSFRAME DETAILS	SHEET 28 OF 70



APPROACH SLAB 1

SCALE = 1:40



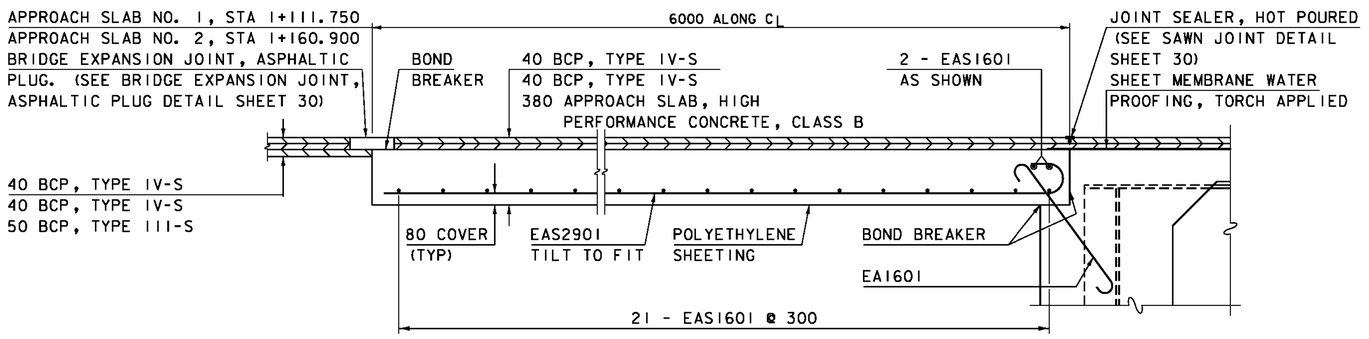
APPROACH SLAB 2

SCALE = 1:40

BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)

NOTES:

1. COMPACT THE SUBBASE IN THE AREA UNDER THE APPROACH SLAB TO A SMOOTH SURFACE.
2. MATERIAL FOR POLYETHYLENE SHEETING SHALL MEET THE REQUIREMENTS OF SUBSECTION 725.01(c) OF THE STANDARD SPECIFICATIONS. THE SHEETING THICKNESS SHALL BE 0.30 MILLIMETERS. PLACE THE SHEETING ON TOP OF THE FINISHED SUBBASE FOR THE FULL LENGTH AND WIDTH OF THE APPROACH SLAB, EXCEPT IN THE BRACKET AREA AT THE ABUTMENT. LAP SHEETING AT LEAST 600 MILLIMETERS.
3. POUR APPROACH SLAB CONCRETE IN THE EARLY MORNING BEFORE THE SUPERSTRUCTURE EXPANDS.
4. APPLY 2 COATS TAR EMULSION MEETING THE REQUIREMENTS OF SUBSECTION 702.05.
5. PAYMENT FOR POLYETHYELENE SHEETING AND TAR EMULSION WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 501.34.



APPROACH SLAB TYPICAL SECTION

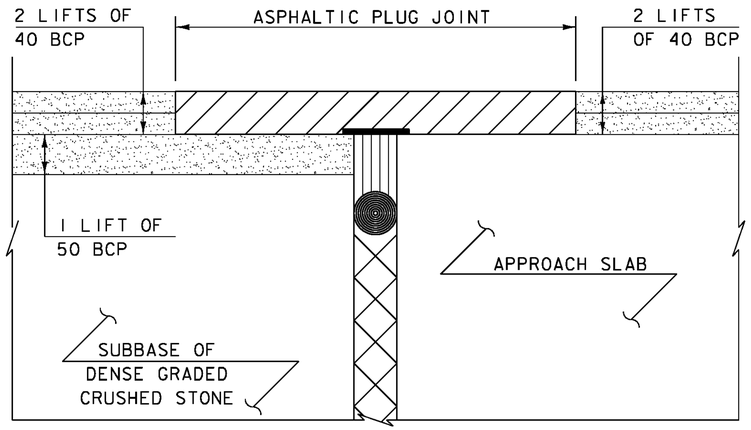
SCALE = 1:20

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

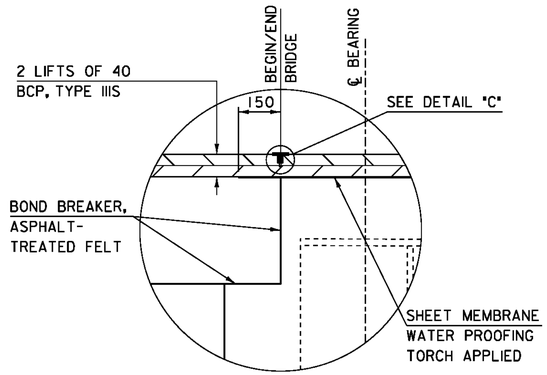
FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
APPROACH SLAB DETAIL SHEET 1

PLOT DATE: 22-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 29 OF 70



DETAIL "A"

(NOT TO SCALE)

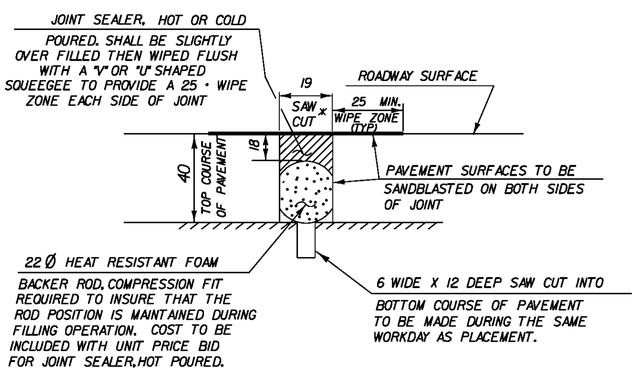


DETAIL "B"

(SAWN JOINT DETAIL)

0 0.5 1

SCALE = 1:10



DETAIL "C"

* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. SEE VT. SPECIFICATION 524. THIS WORK WILL BE PAID FOR UNDER ITEM 524.11, "JOINT SEALER, HOT POURED".

ASPHALTIC PLUG JOINT NOTES

INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. REPAIR MATERIAL GREATER THAN 100mm FROM FINISHED GRADE WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
5. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 25mm +/- OF BINDER ABOVE THE ROD.
6. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
7. PLACE 6mm THICK BY 200mm WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
8. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
9. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
10. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
11. ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/-, WATER MAY BE USED TO EXPEDITE THE COOLING PROCESS.
12. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.

WEATHER LIMITATIONS

APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

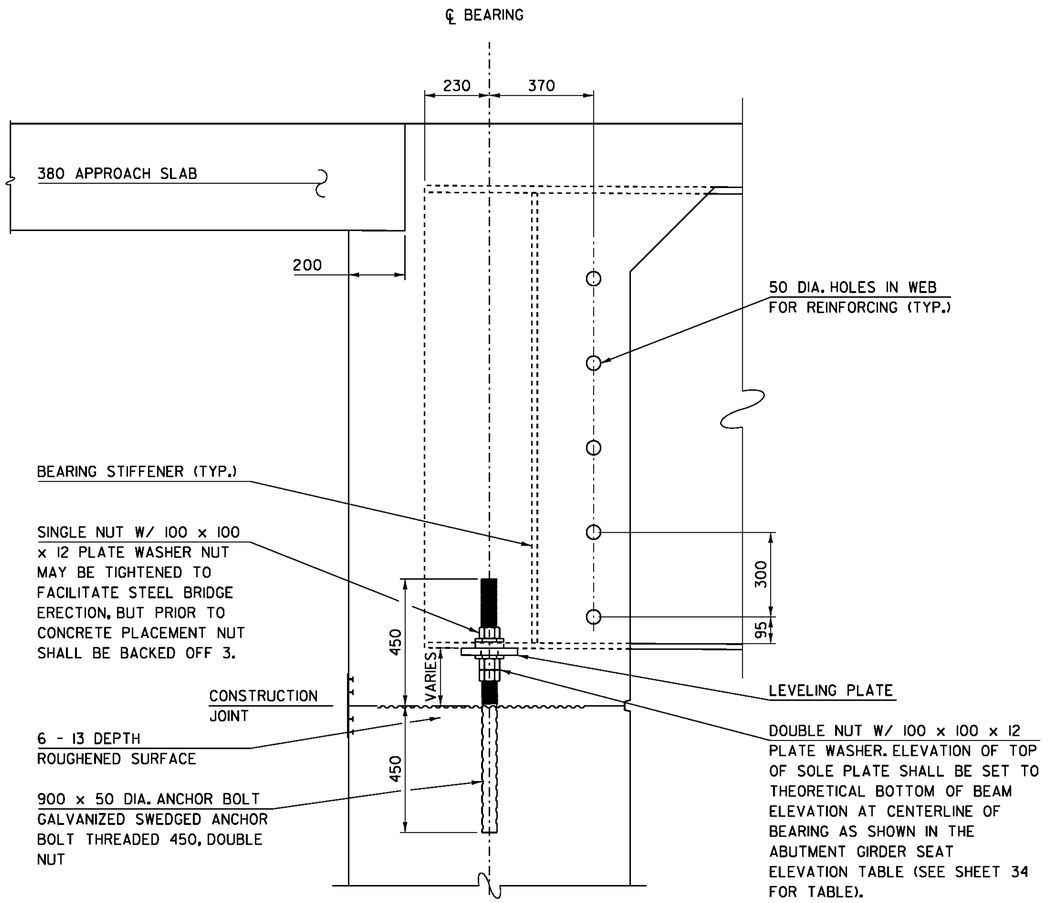
1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: 95J280/str/s95J280str.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: C. CARLSON
JOINT DETAILS SHEET	SHEET 30 OF 70

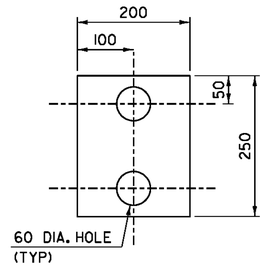
Metric



ELEVATION VIEW END OF BEAM ANCHOR BOLT DETAIL

0 0.5 1

SCALE = 1:10



LEVELING PLATE DETAIL

0 0.25 0.5

SCALE = 1:5

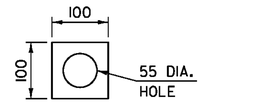
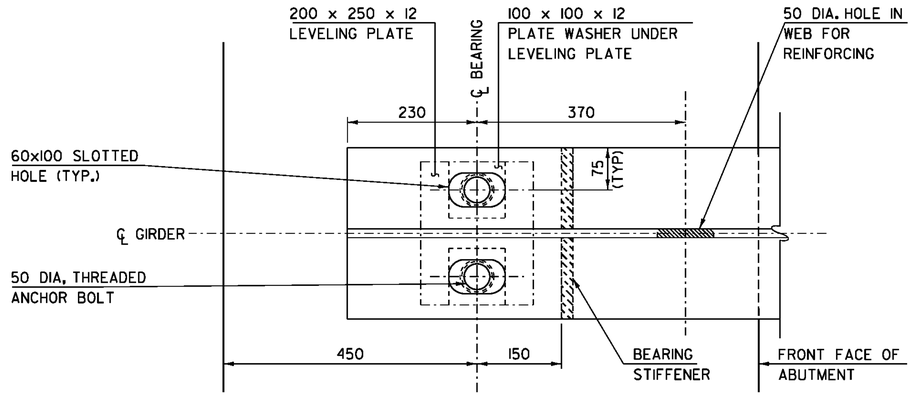


PLATE WASHER DETAIL

0 0.25 0.5

SCALE = 1:5



PLAN VIEW END OF BEAM ANCHOR BOLT DETAIL

0 0.25 0.5

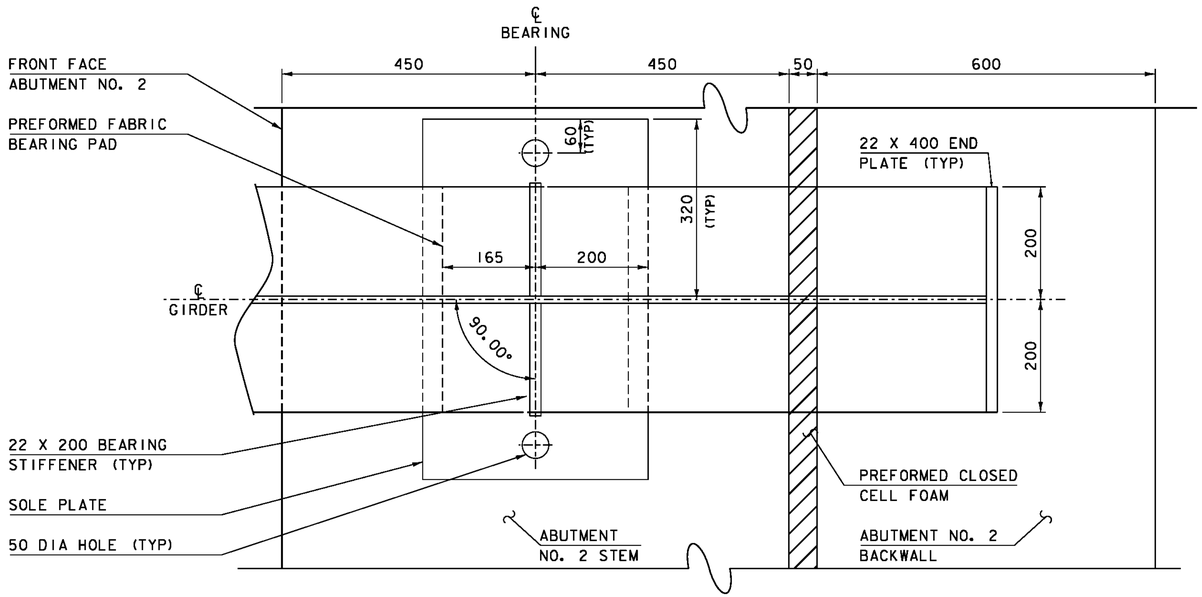
SCALE = 1:5

BEARING DEVICE ASSEMBLY NOTES (ABUTMENT NO. 1 ONLY)

1. ALL COMPONENTS OF BEARING DEVICE ASSEMBLY, INCLUDING ANCHOR BOLTS, NUTS, WASHERS AND LEVELING PLATES SHALL BE PAID FOR UNDER ITEM 506.55, "STRUCTURAL STEEL, PLATE GIRDER".
2. COMPONENTS DO NOT HAVE TO BE GALVANIZED OR METALIZED.
3. ALL STEEL IN BEARING DEVICE ASSEMBLY SHALL BE AASHTO M270M GRADE 250.

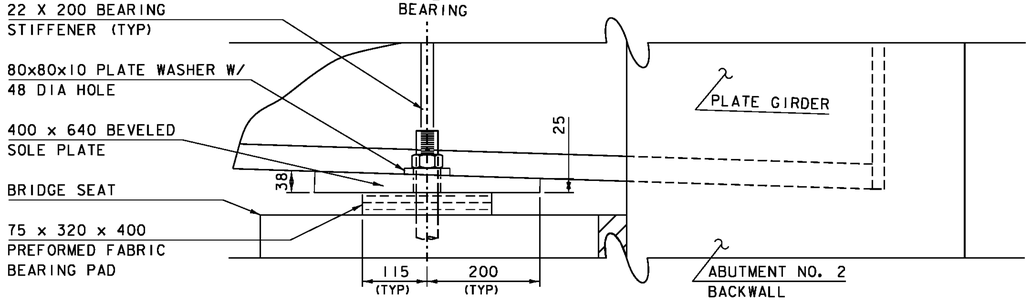
NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: 95J280/str/s95J280sub.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: W. LAMMER	CHECKED BY: C. CARLSON
ABUTMENT 1 BEARING ASSEMBLY DETAILS	SHEET 31 OF 70



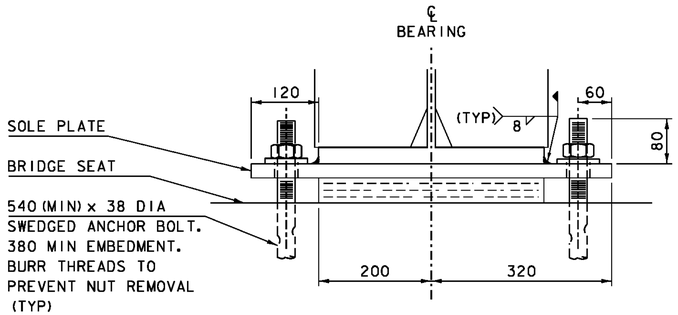
ABUTMENT 2 BEARING PLAN

SCALE 1:5



ABUTMENT 2 BEARING SIDE VIEW

SCALE 1:5



ABUTMENT 2 BEARING FRONT VIEW

SCALE 1:5

BEARING NOTES

1. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD" AND SHALL CONFORM TO SECTIONS 531 AND 731 OF THE STANDARD SPECIFICATIONS.

2. FABRICATION DRAWINGS SHALL BE SUBMITTED AS PER SUBSECTION 531.03 OF THE STANDARD SPECIFICATIONS. THE SUBMITTAL SHALL INCLUDE ASSOCIATED WELDING AND BONDING PROCEDURES.

3. DESIGN CRITERIA:
   A. MAXIMUM ALLOWABLE BEARING ON CONCRETE OR MASONRY : 7000 kPa
   B. MINIMUM ALLOWABLE DESIGN ROTATION: 0.015 RADIANS.
   C. DESIGN VERTICAL LOAD: 1710 KN
   D. DESIGN HORIZONTAL LOAD: MINIMUM 10% OF VERTICAL LOAD.

4. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.

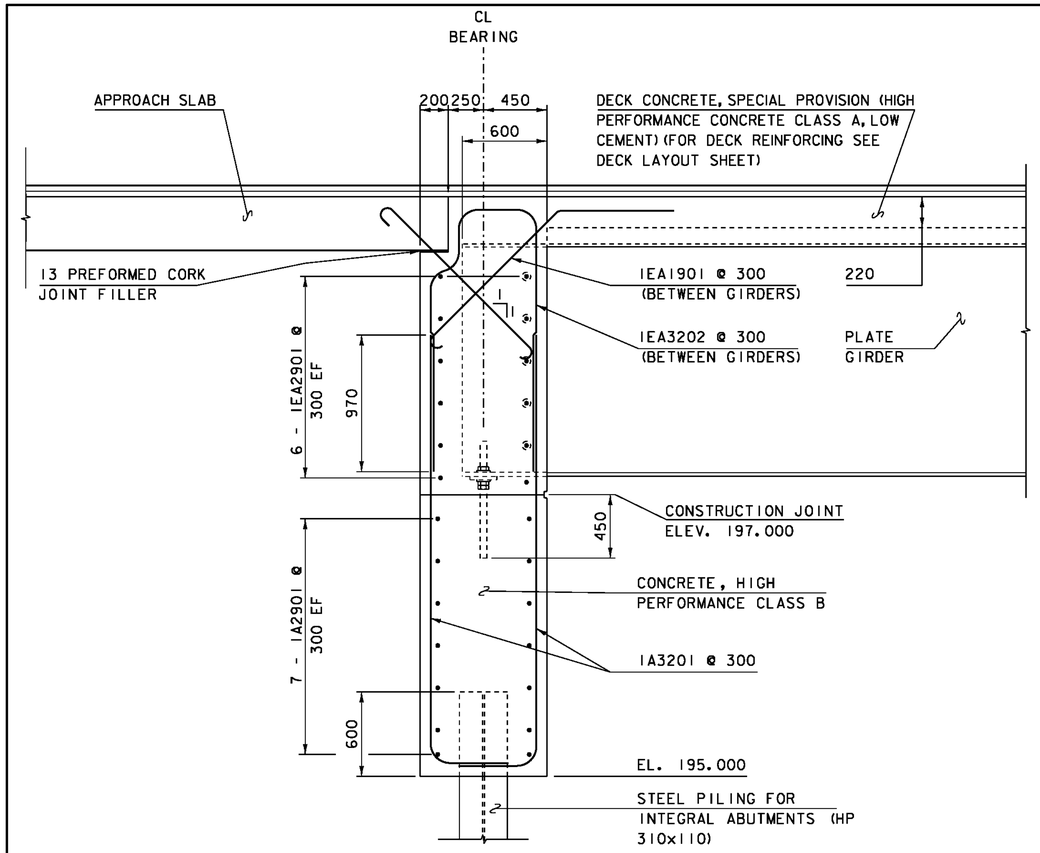
5. ANCHOR BOLTS SHALL HAVE A MINIMUM 380 EMBEDMENT INTO CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08 OF THE STANDARD SPECIFICATIONS.

6. ALL STEEL IN BEARING DEVICE ASSEMBLY (EXCEPT STAINLESS) SHALL BE AASHTO M270M/M270, GR 250.

7. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTIONS 531.04 (b) AND 506.15 OF THE STANDARD SPECIFICATIONS. IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN SUBSECTION 506.15 (b) OF THE STANDARD SPECIFICATIONS. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH SECTION 513.

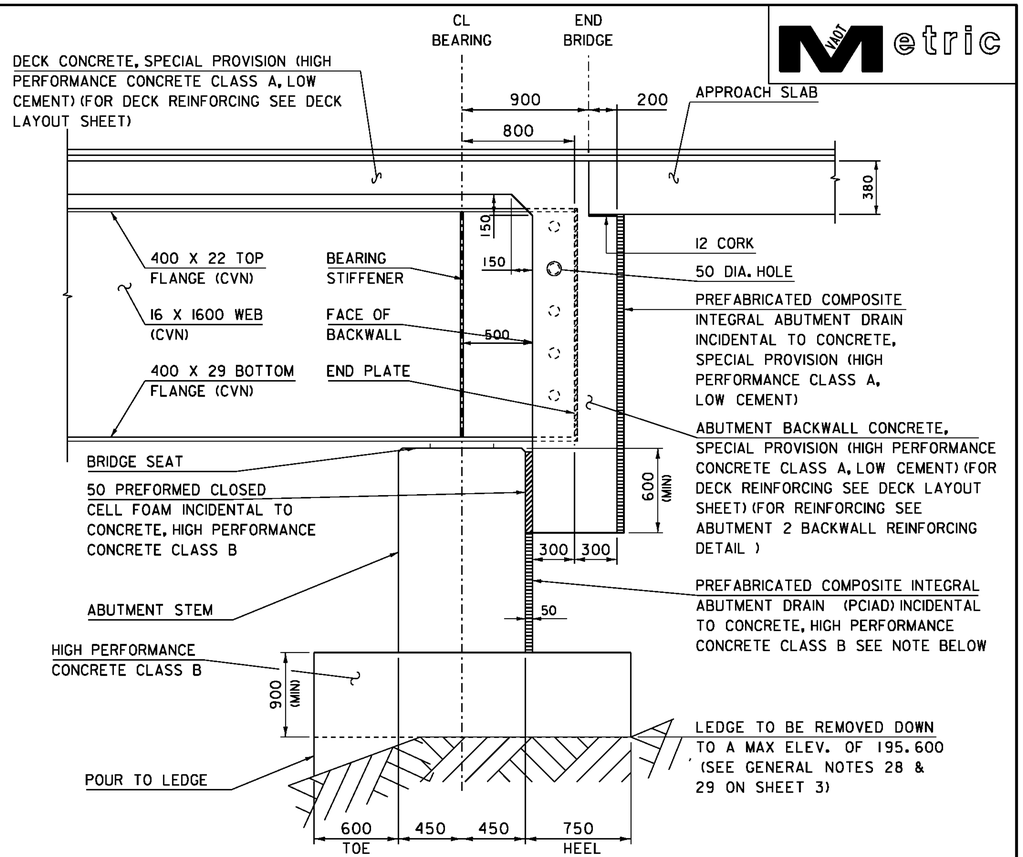
8. ALL ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 10 PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS AND THEIR INSTALLATION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: 95J280/str/s95J280sub.dgn	PLOT DATE: 26-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: W. LAMMER	CHECKED BY: C. CARLSON
ABUTMENT 2 BEARING ASSEMBLY DETAILS	SHEET 32 OF 70



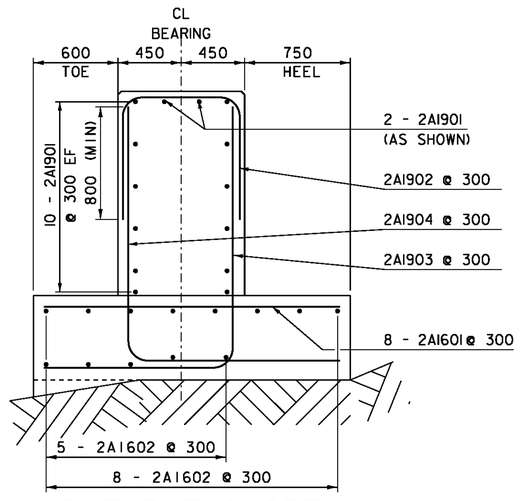
ABUTMENT 1 TYPICAL SECTION

SCALE 1:20



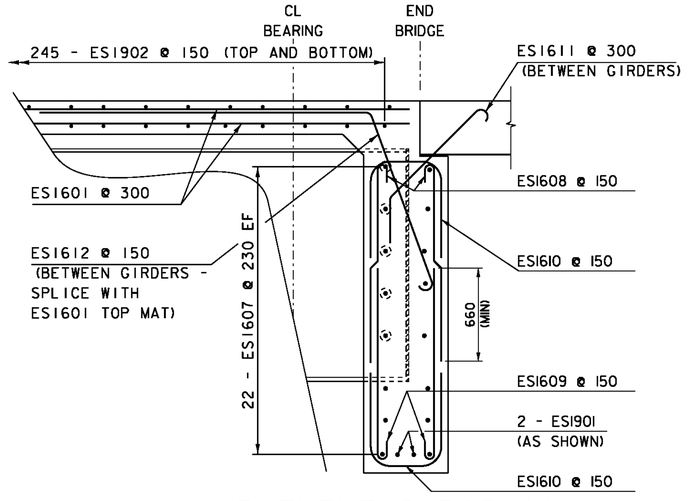
ABUTMENT 2 TYPICAL SECTION

SCALE 1:20



ABUTMENT 2 STEM REINFORCING DETAIL

SCALE 1:20



ABUTMENT 2 BACKWALL REINFORCING DETAIL

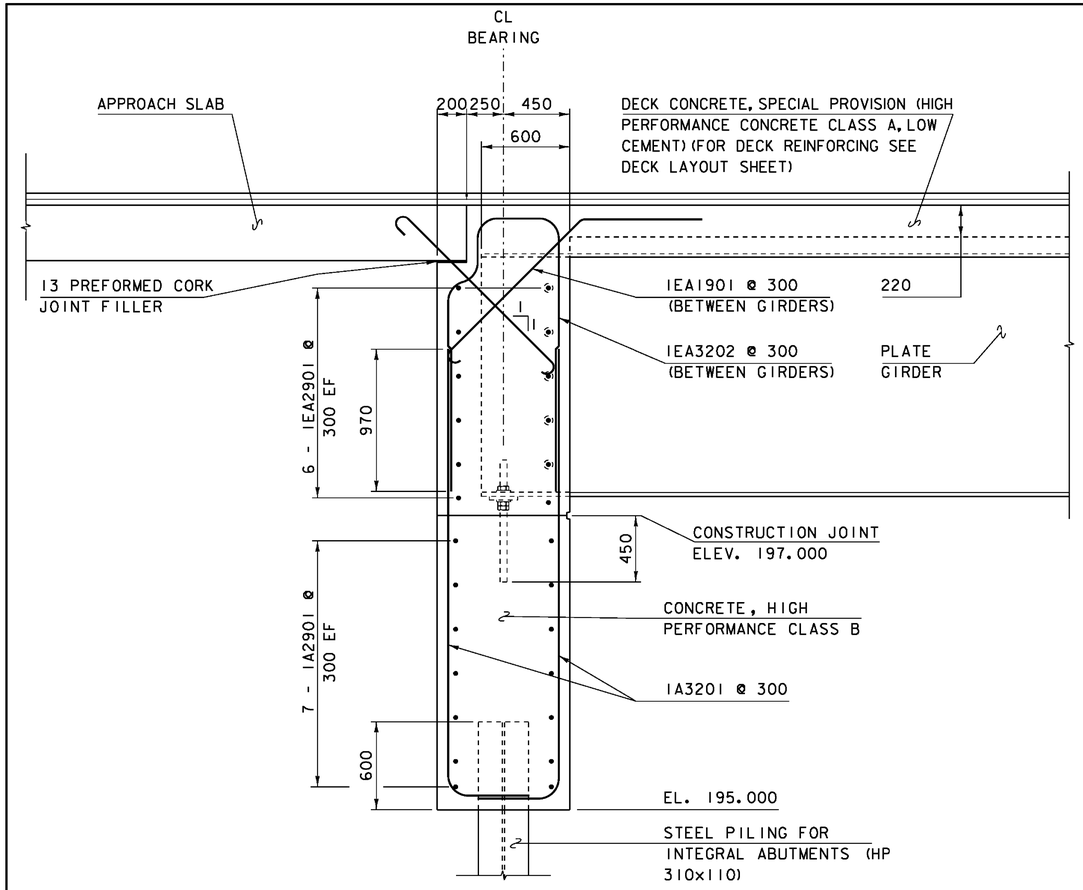
SCALE 1:20

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

NOTE:

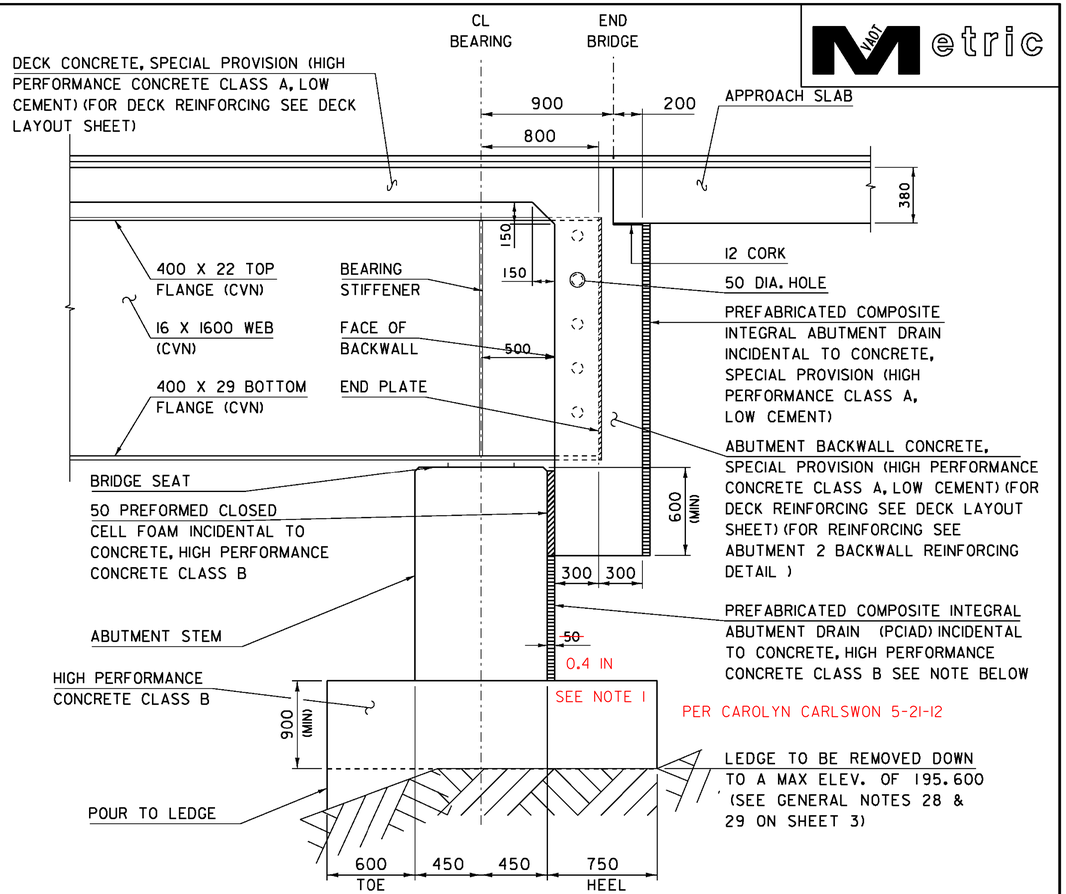
1. PREFABRICATED COMPOSITE INTEGRAL ABUTMENT DRAIN (PCIAD) SHALL BE SELECTED FROM ONE OF THE FOLLOWING PRODUCTS (OR AN EQUIVALENT):
   A) MIRADRAIN 9000
   B) TERADRAIN 101
   C) SHEET DRAIN
   ALSO, THE PRODUCT MUST HAVE A MINIMUM THICKNESS OF 0.4in AS MEASURED IN ASTM D5199.
2. FOR DOWEL DETAILS SEE ABUTMENT 2 FOOTING REINFORCING PLAN (SHEET 36)

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280sub.dgn	PLOT DATE: 27-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ABUTMENT TYPICALS SHEET	SHEET 33 OF 70



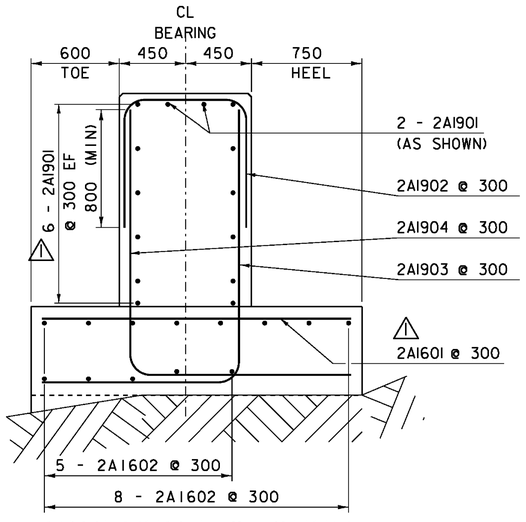
ABUTMENT 1 TYPICAL SECTION

SCALE 1:20



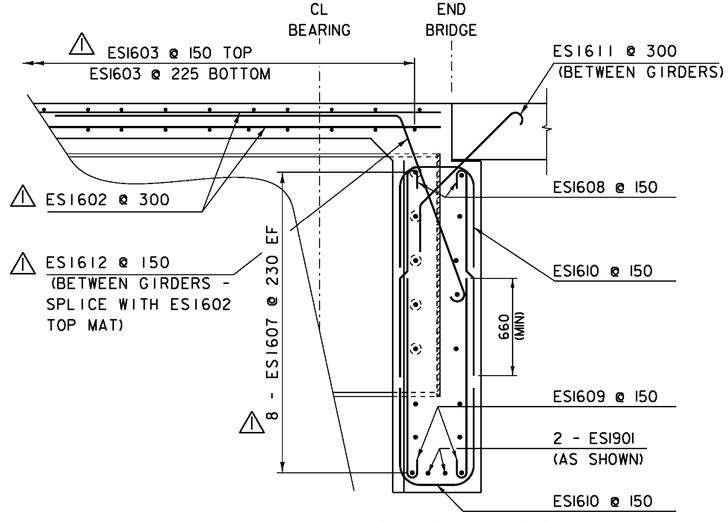
ABUTMENT 2 TYPICAL SECTION

SCALE 1:20



ABUTMENT 2 STEM REINFORCING DETAIL

SCALE 1:20



ABUTMENT 2 BACKWALL REINFORCING DETAIL

SCALE 1:20

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

NOTE:

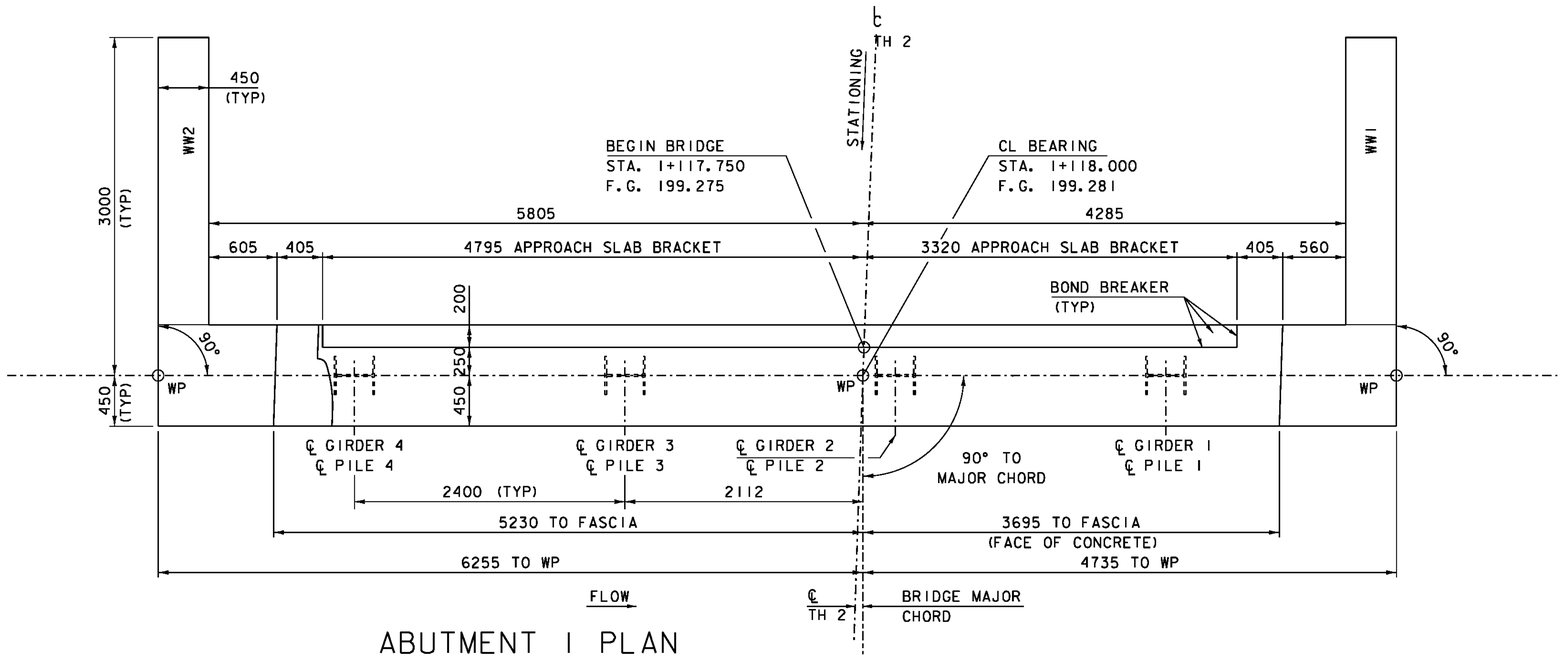
1. PREFABRICATED COMPOSITE INTEGRAL ABUTMENT DRAIN (PCIAD) SHALL BE SELECTED FROM ONE OF THE FOLLOWING PRODUCTS (OR AN EQUIVALENT):
   A) MIRADRAIN 9000
   B) TERADRAIN 101
   C) SHEET DRAIN
   ALSO, THE PRODUCT MUST HAVE A MINIMUM THICKNESS OF 0.4 in AS MEASURED IN ASTM D5199.
2. FOR DOWEL DETAILS SEE ABUTMENT 2 FOOTING REINFORCING PLAN (SHEET 36)

KEY	DATE	BY	REVISION
⚠	05/07/2012	VAOT	MODIFIED REINFORCING STEEL DIMENSIONS.

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

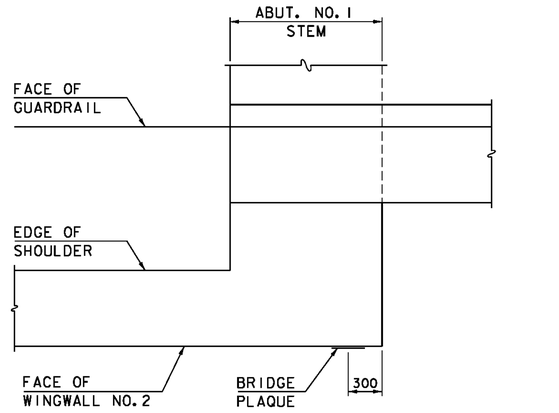
FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
ABUTMENT TYPICALS SHEET

PLOT DATE: 08-MAY-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 33 OF 70

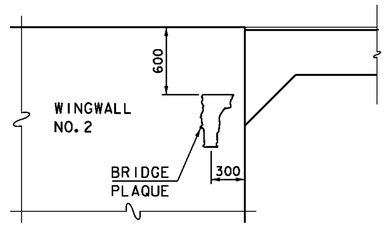


ABUTMENT 1 PLAN

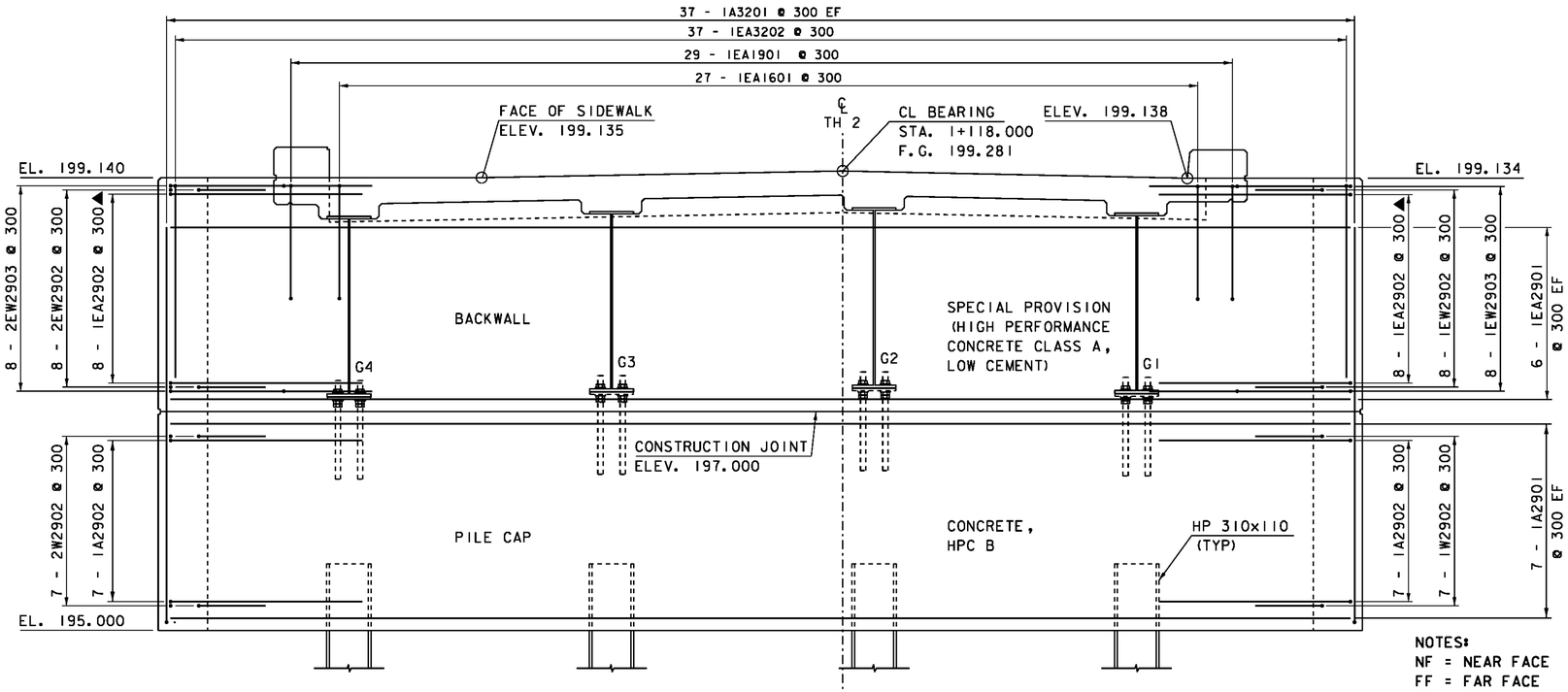
SCALE 1:25



BRIDGE PLAQUE PLAN
NOT TO SCALE



BRIDGE PLAQUE VIEW "A-A"
NOT TO SCALE



ABUTMENT 1 ELEVATION

SCALE 1:25

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE
SPECIFIED ON THE PLANS

BRIDGE PLAQUE NOTES

1. VTRANS WILL SUPPLY THE BRIDGE PLAQUE.

2. INSTALL THE PLAQUE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

3. INSTALLATION OF BRIDGE PLAQUE TO BE PAID INCIDENTAL TO CONCRETE, SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE CLASS A, LOW CEMENT)

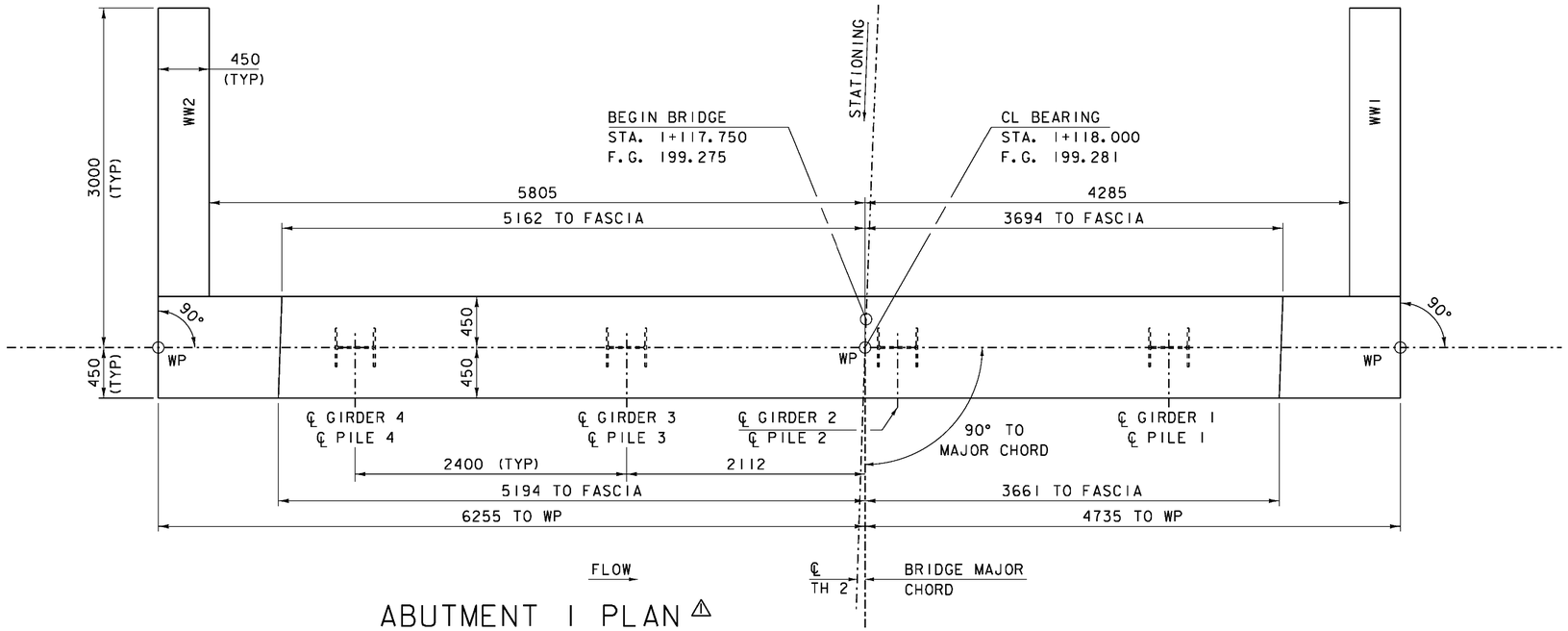
ABUTMENT 1 GIRDER SEAT ELEVATION (TOP OF LEVELING PLATE)	
GIRDER 1	197.165
GIRDER 2	197.215
GIRDER 3	197.181
GIRDER 4	197.135

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: 95J280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
ABUTMENT 1 DETAILS

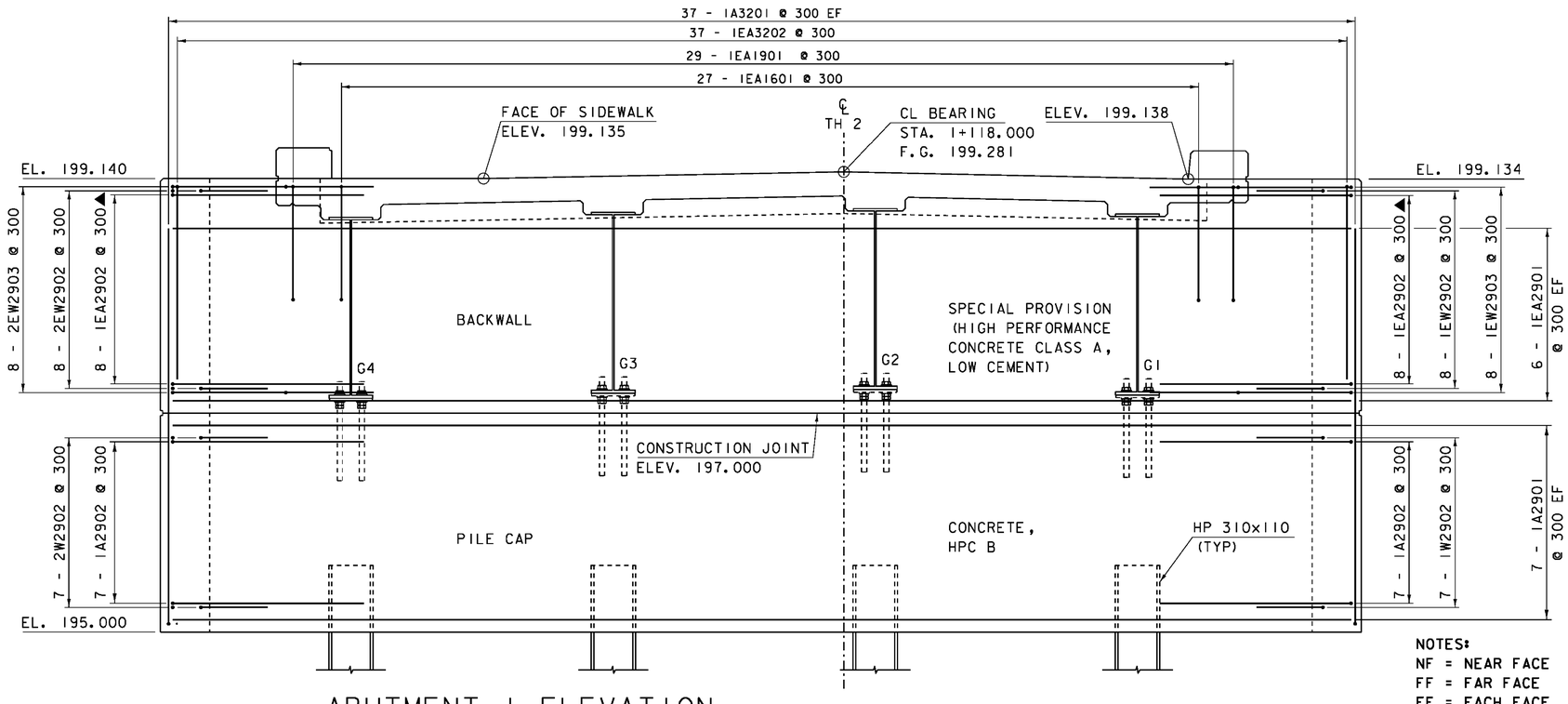
PLOT DATE: 29-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 34 OF 70

Metric



ABUTMENT 1 PLAN ⚠

SCALE 1:25

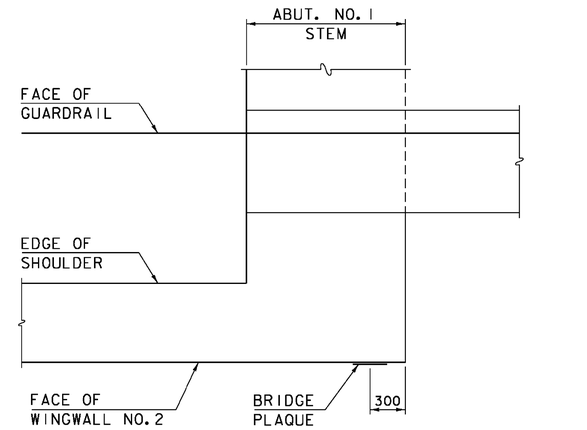


ABUTMENT 1 ELEVATION

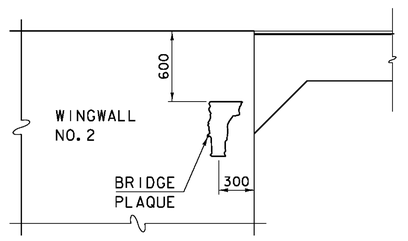
SCALE 1:25

KEY	DATE	BY	REVISION
⚠	04/24/2012	VAOT	MODIFIED ABUTMENT NO. 1 DIMENSIONS.

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS



BRIDGE PLAQUE PLAN
NOT TO SCALE



BRIDGE PLAQUE VIEW "A-A"
NOT TO SCALE

BRIDGE PLAQUE NOTES

1. VTRANS WILL SUPPLY THE BRIDGE PLAQUE.

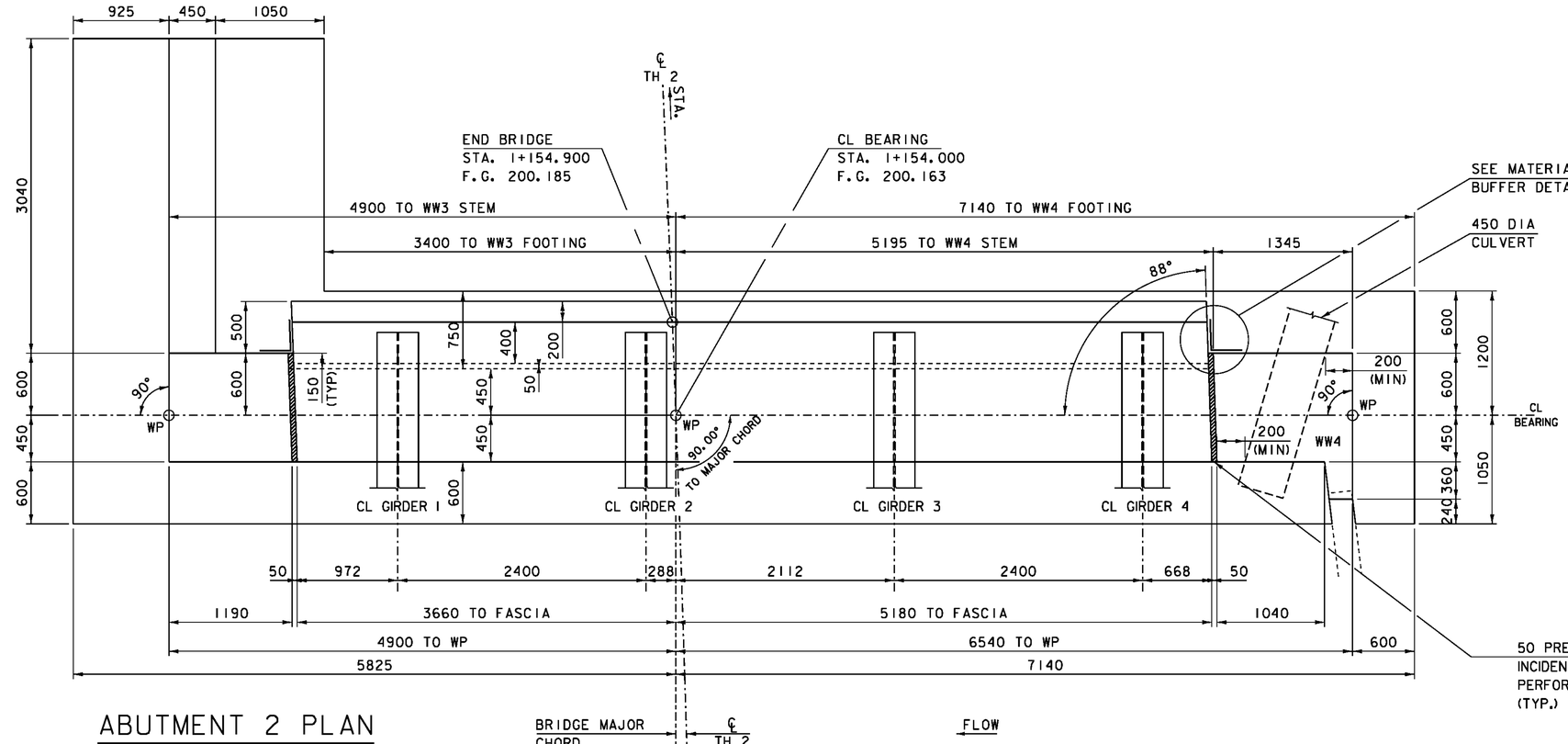
2. INSTALL THE PLAQUE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

3. INSTALLATION OF BRIDGE PLAQUE TO BE PAID INCIDENTAL TO CONCRETE, SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE CLASS A, LOW CEMENT)

ABUTMENT 1 GIRDER SEAT ELEVATION (TOP OF LEVELING PLATE)	
GIRDER 1	197.165
GIRDER 2	197.215
GIRDER 3	197.181
GIRDER 4	197.135

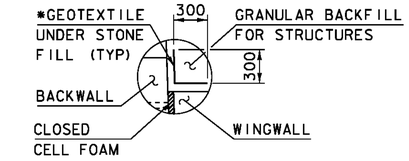
PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: 95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
ABUTMENT 1 DETAILS
PLOT DATE: 25-APR-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 34 OF 70



ABUTMENT 2 PLAN

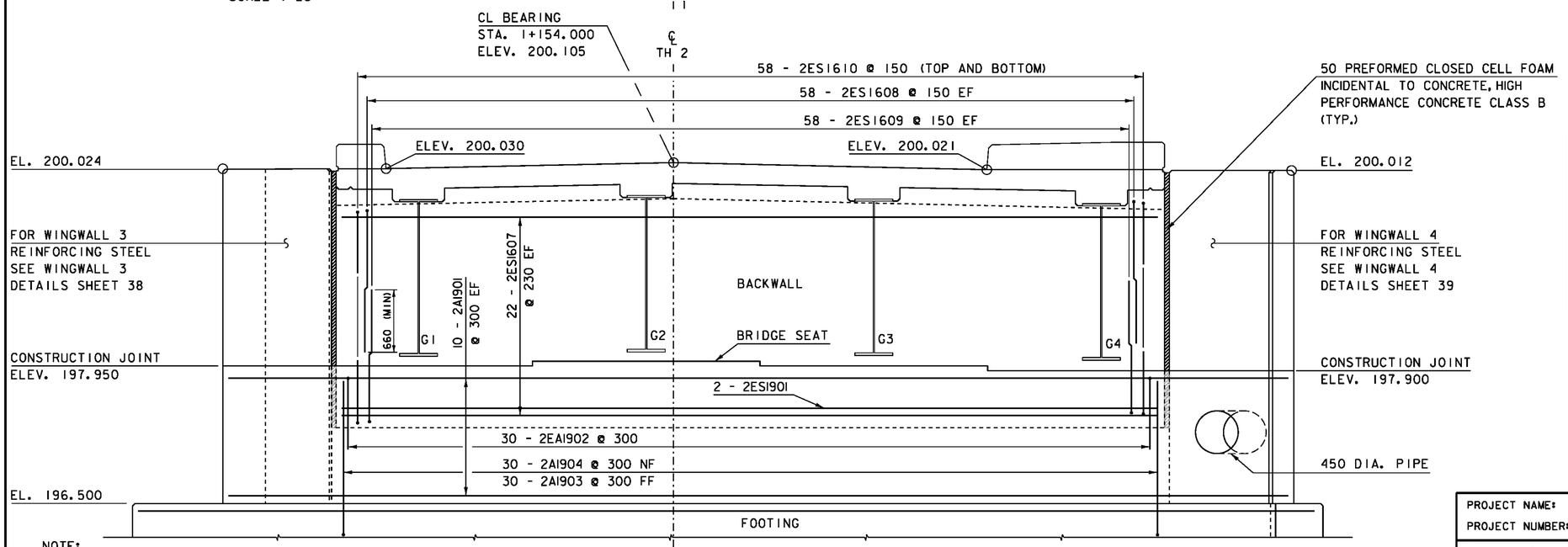
SCALE 1:25



* GEOTEXTILE MATERIAL TO EXTEND THE ENTIRE LENGTH OF THE JOINT

MATERIAL BUFFER DETAIL

SCALE 1:25



NOTE:
MAX BOTTOM OF FOOTING ELEV. 195.600
SEE ABUTMENT 2 FOOTING REINFORCING PLAN (SHEET 36)

ABUTMENT 2 ELEVATION

SCALE 1:25

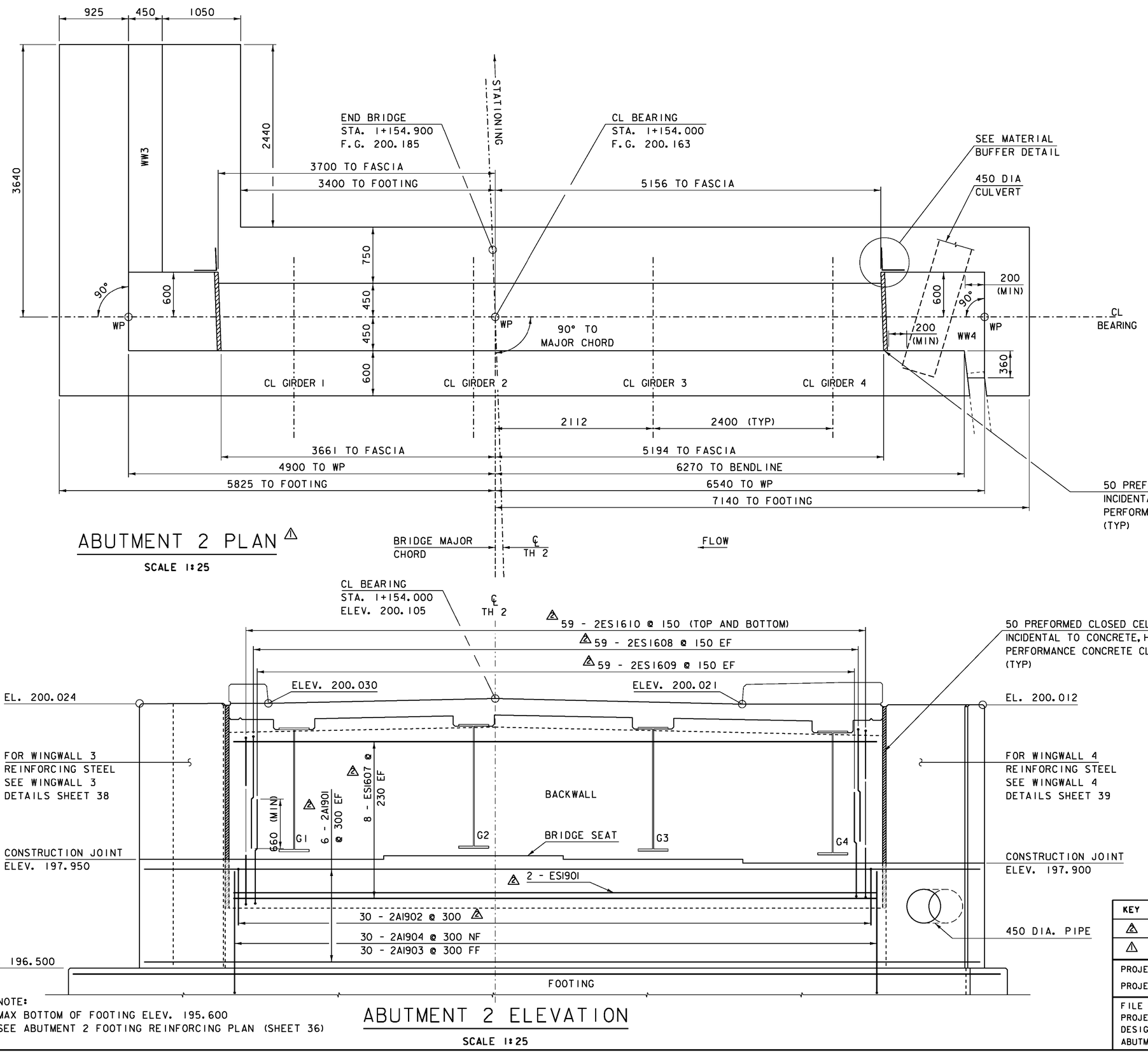
ABUTMENT 2 BRIDGE SEAT ELEVATION	
GIRDER 1	197.950
GIRDER 2	198.000
GIRDER 3	197.950
GIRDER 4	197.900

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
ABUTMENT 2 DETAILS

PLOT DATE: 22-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: C. SWEENY
SHEET 35 OF 70



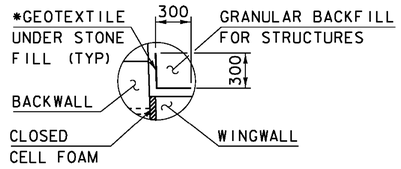
ABUTMENT 2 PLAN ⚠1

SCALE 1:25

ABUTMENT 2 ELEVATION

SCALE 1:25

NOTE:
MAX BOTTOM OF FOOTING ELEV. 195.600
SEE ABUTMENT 2 FOOTING REINFORCING PLAN (SHEET 36)



* GEOTEXTILE MATERIAL TO EXTEND THE ENTIRE LENGTH OF THE JOINT

MATERIAL BUFFER DETAIL

SCALE 1:25

ABUTMENT 2 BRIDGE SEAT ELEVATION	
GIRDER 1	197.950
GIRDER 2	198.000
GIRDER 3	197.950
GIRDER 4	197.900

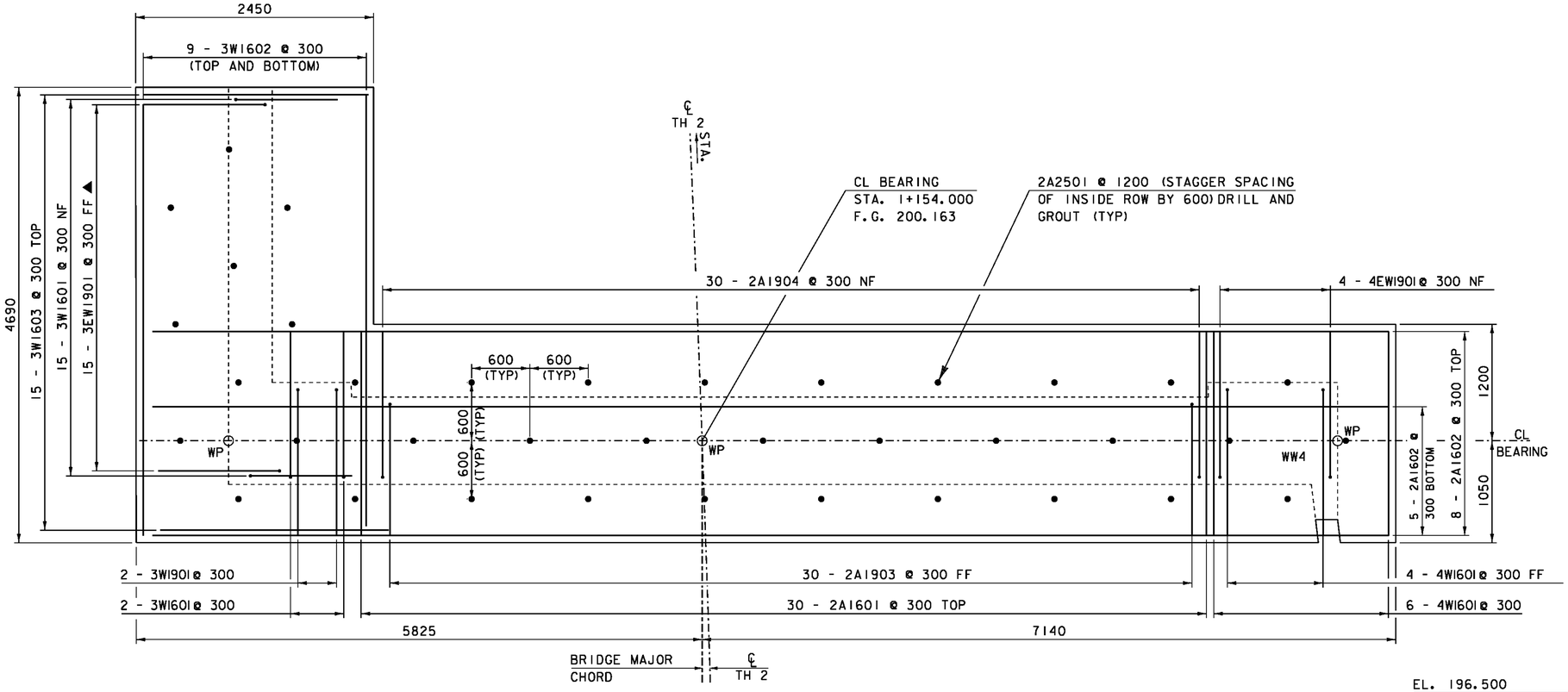
NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS
OTHERWISE SPECIFIED ON
THE PLANS

KEY	DATE	BY	REVISION
⚠2	05/07/2012	VAOT	MODIFIED REINFORCING STEEL DIMENSIONS.
⚠1	04/24/2012	VAOT	MODIFIED ABUTMENT NO.2 DIMENSIONS.

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

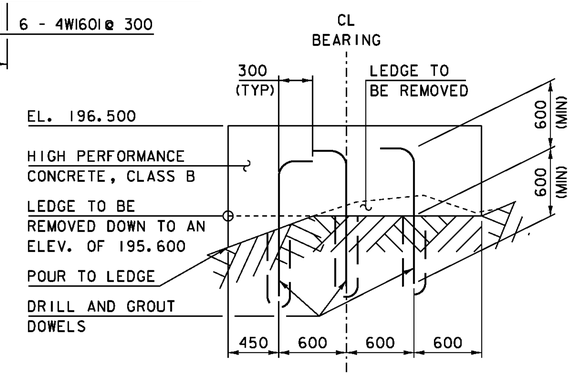
FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
ABUTMENT 2 DETAILS

PLOT DATE: 08-MAY-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 35 OF 70



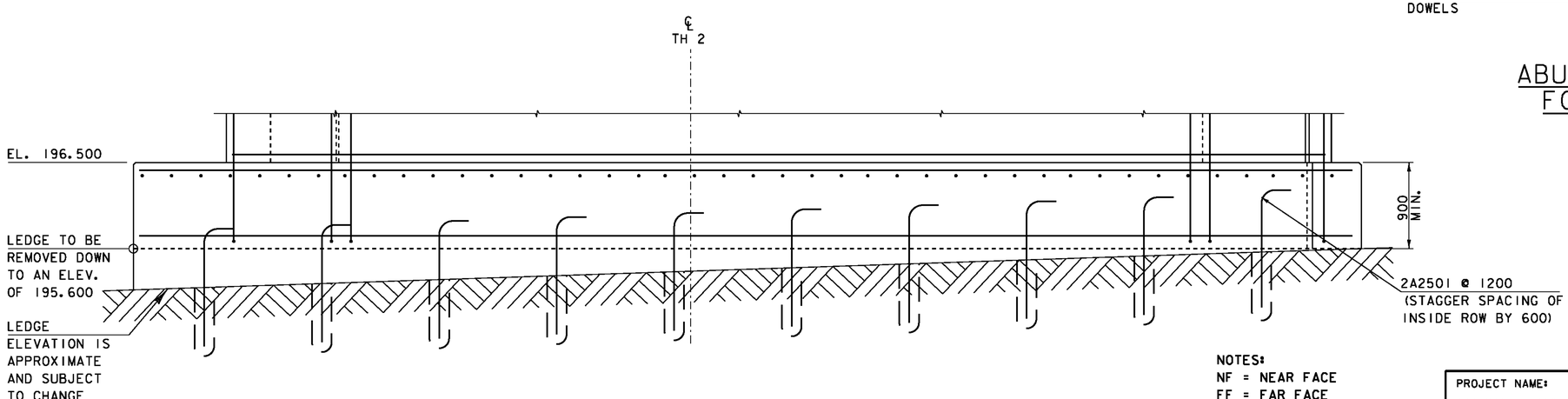
ABUTMENT 2 FOOTING REINFORCING PLAN

SCALE 1:25



ABUTMENT 2 TYPICAL FOOTING SECTION

SCALE 1:25

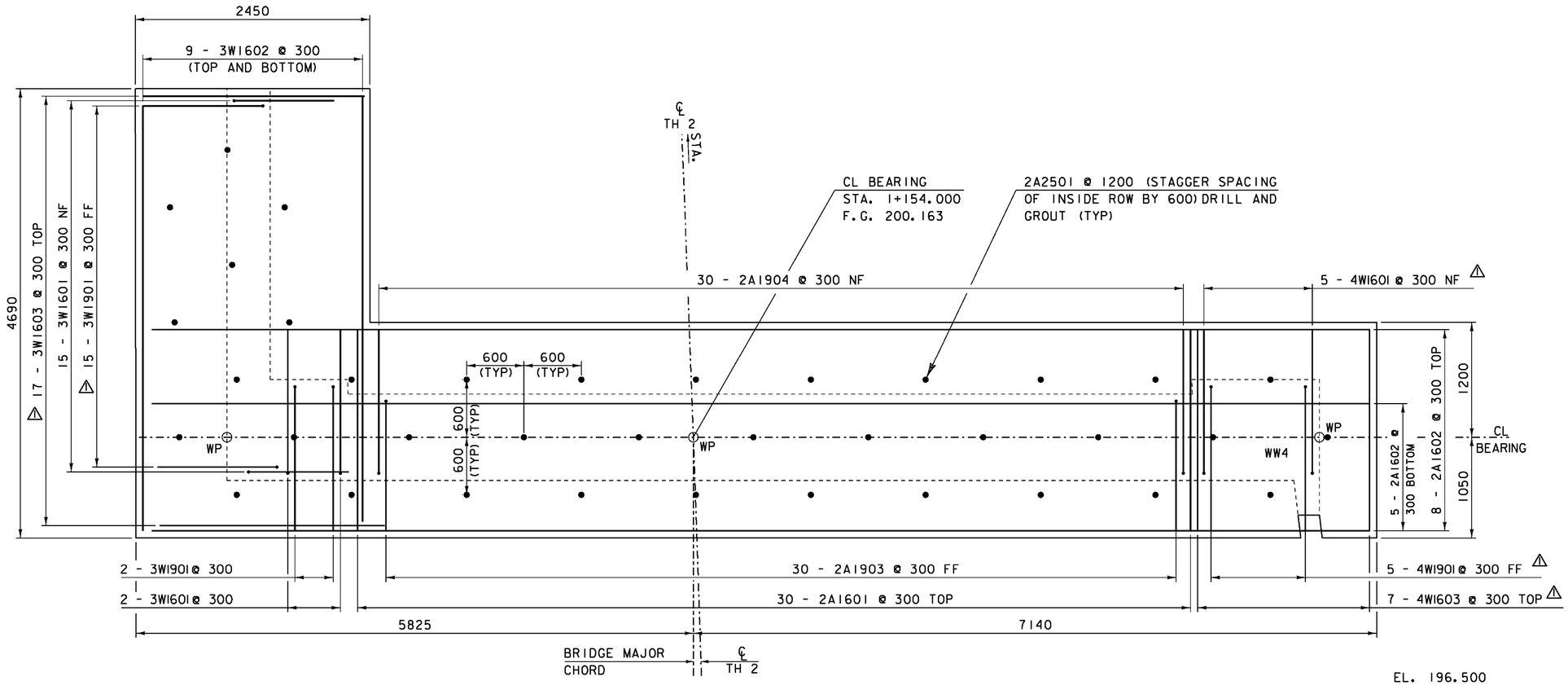


ABUTMENT 2 FOOTING ELEVATION

SCALE 1:25

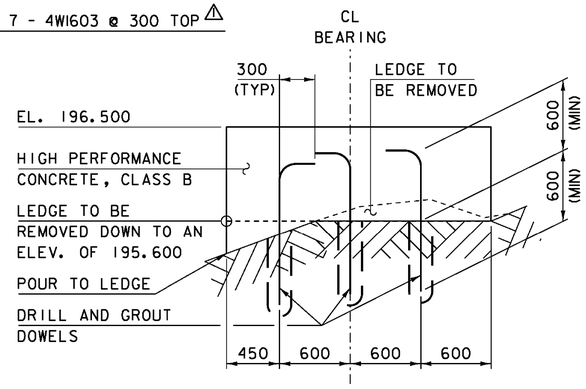
NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280sub.dgn	PLOT DATE: 26-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ABUTMENT 2 FOOTING DETAILS	SHEET 36 OF 70



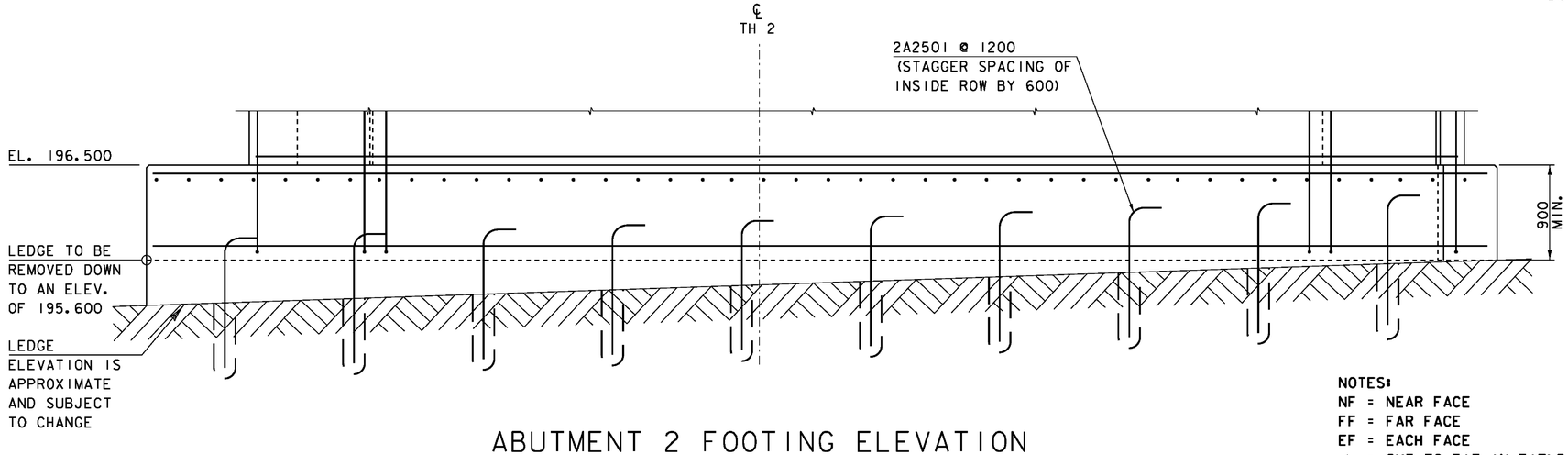
ABUTMENT 2 FOOTING REINFORCING PLAN

SCALE 1:25



ABUTMENT 2 TYPICAL FOOTING SECTION

SCALE 1:25



ABUTMENT 2 FOOTING ELEVATION

SCALE 1:25

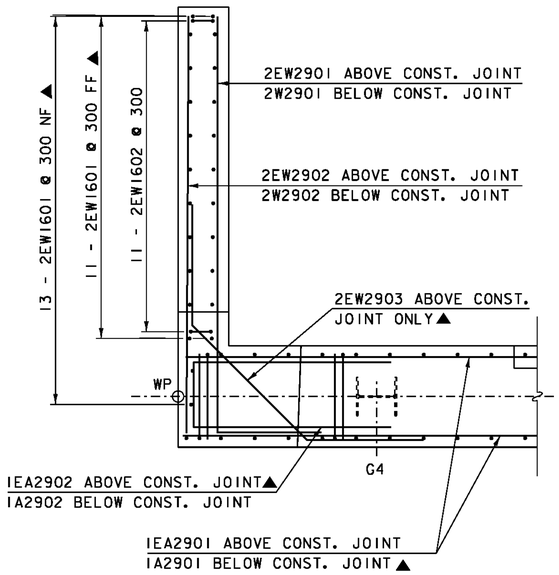
NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

KEY	DATE	BY	REVISION
⚠	05/07/2012	VAOT	MODIFIED REINFORCING STEEL DIMENSIONS.

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

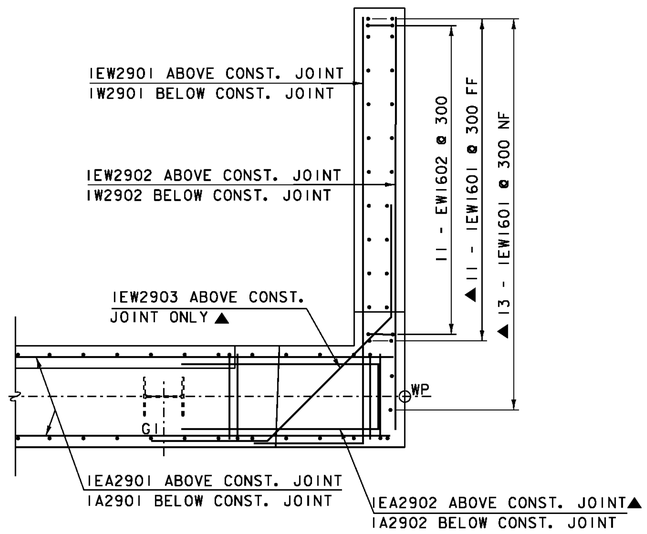
FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
ABUTMENT 2 FOOTING DETAILS

PLOT DATE: 08-MAY-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 36 OF 70



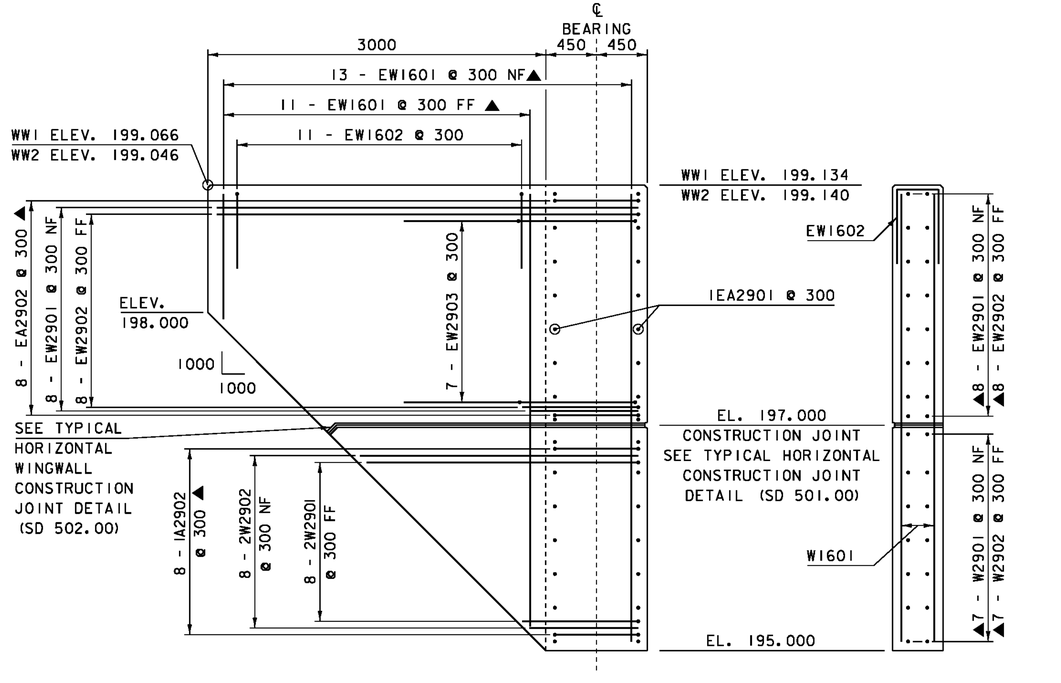
WINGWALL 2
REINFORCING PLAN

SCALE 1:25



WINGWALL 1
REINFORCING PLAN

SCALE 1:25



WINGWALLS 1 & 2
TYPICAL SECTION

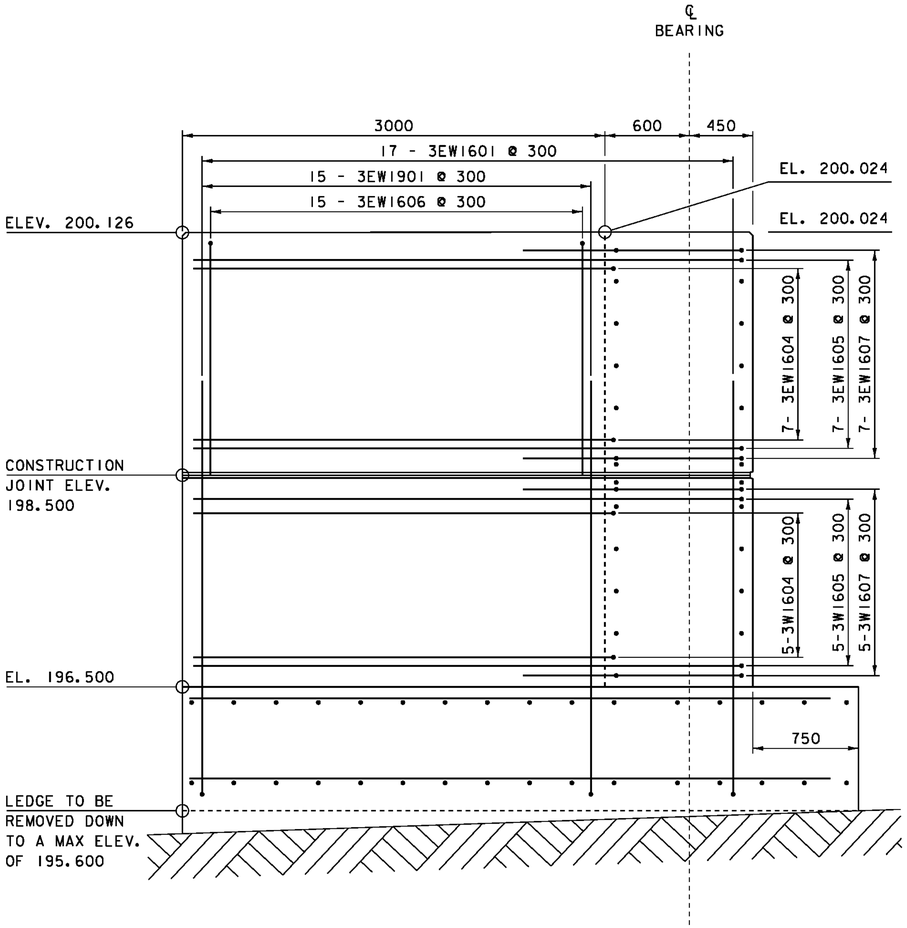
SCALE 1:25

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

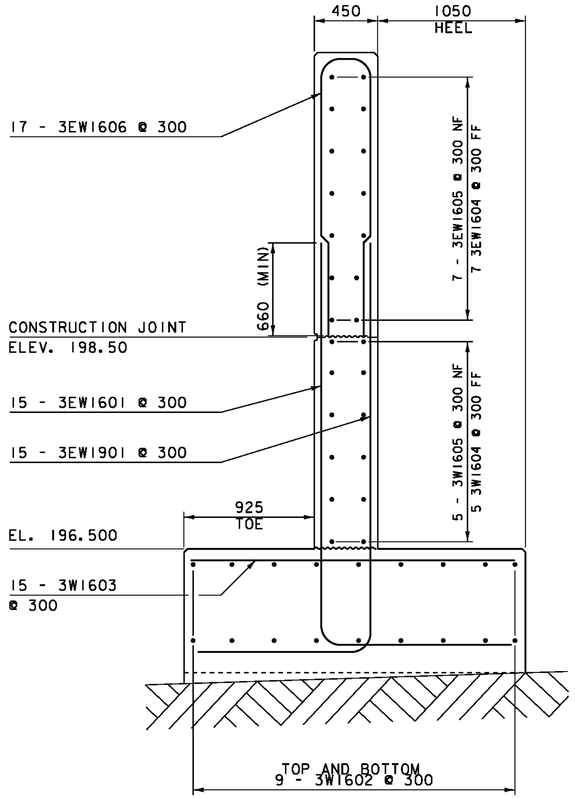
FILE NAME: s95l280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
WING WALLS 1 & 2 DETAILS SHEET

PLOT DATE: 26-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 37 OF 70



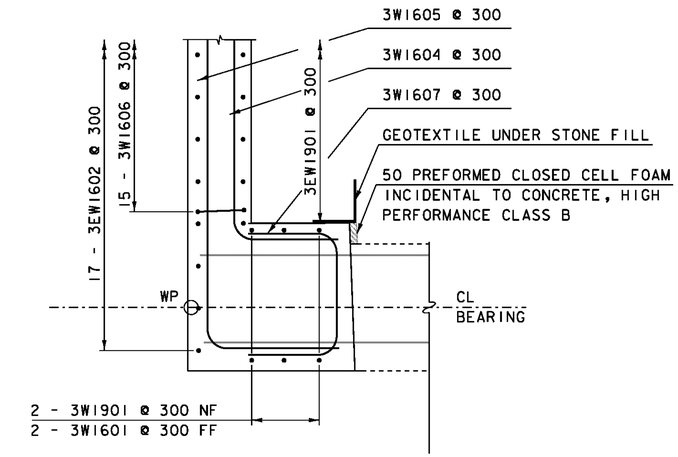
WINGWALL 3 ELEVATION

SCALE 1:20



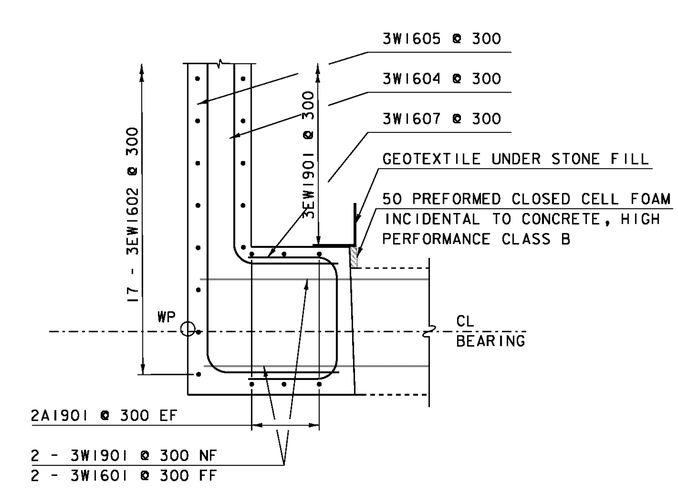
WINGWALL 3 TYPICAL SECTION

SCALE 1:20



WINGWALL 3 REINFORCING PLAN (ABOVE THE CONSTRUCTION JOINT)

SCALE 1:20



WINGWALL 3 REINFORCING PLAN (BELOW THE CONSTRUCTION JOINT)

SCALE 1:20

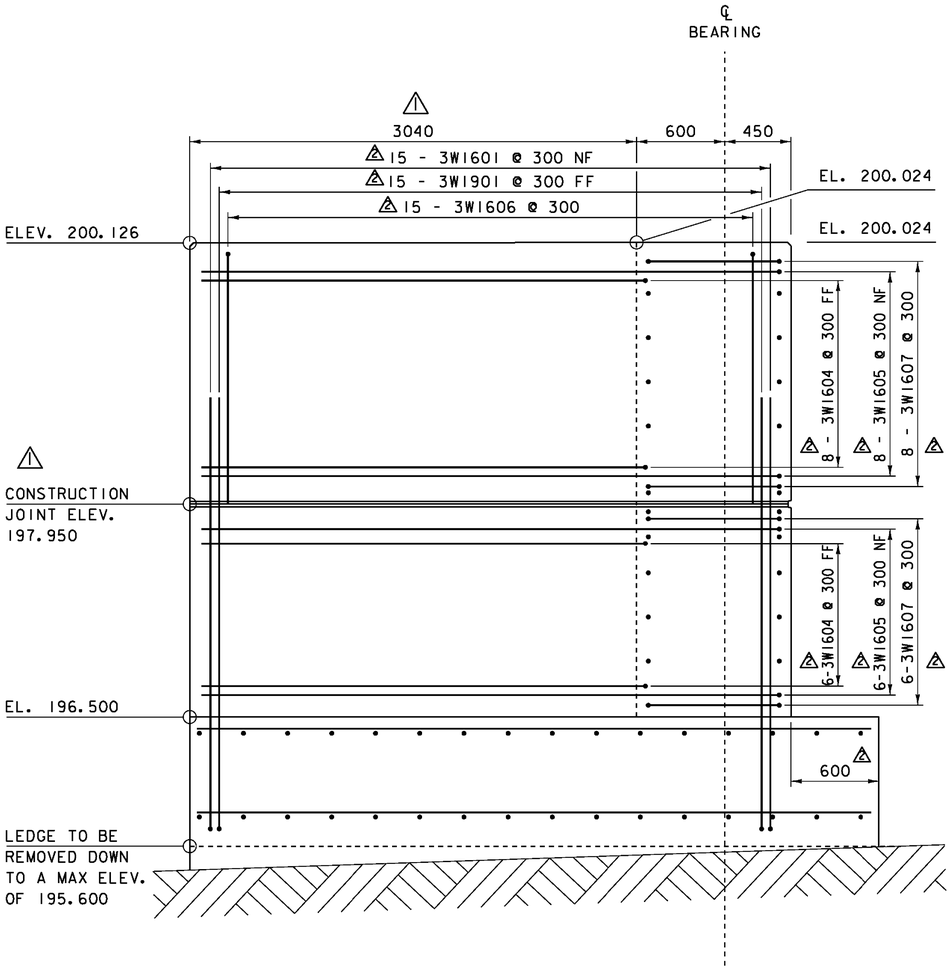
NOTE:
FOR FOOTING REINFORCING STEEL AND DOWEL DETAILS SEE
ABUTMENT 2 FOOTING REINFORCING PLAN (SHEET 36)

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE
SPECIFIED ON THE PLANS

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

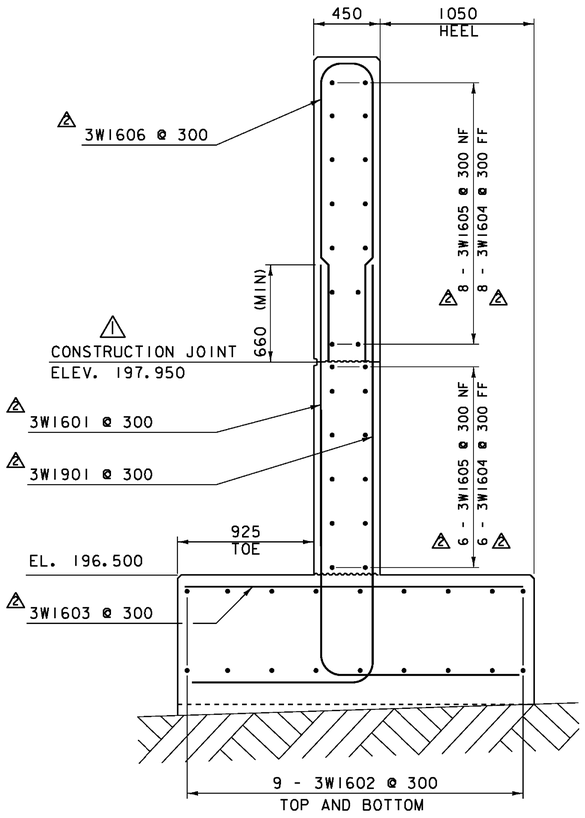
FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
WINGWALL 3 DETAILS SHEET

PLOT DATE: 27-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 38 OF 70



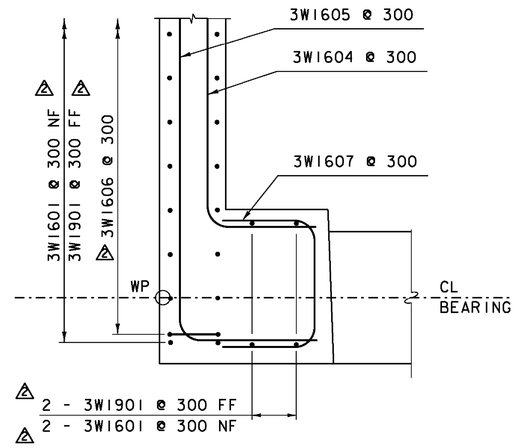
WINGWALL 3 ELEVATION

SCALE 1:20



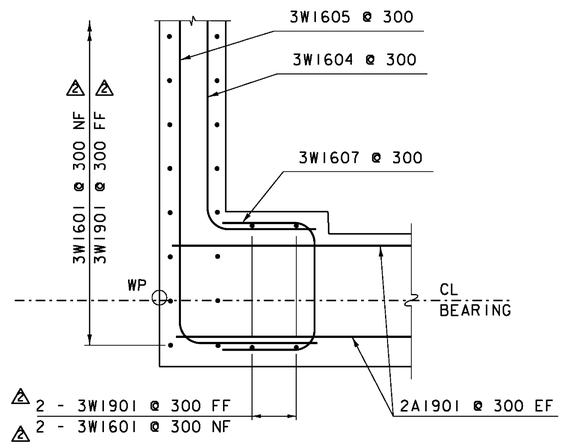
WINGWALL 3 TYPICAL SECTION

SCALE 1:20



WINGWALL 3 REINFORCING PLAN (ABOVE THE CONSTRUCTION JOINT)

SCALE 1:20



WINGWALL 3 REINFORCING PLAN (BELOW THE CONSTRUCTION JOINT)

SCALE 1:20

NOTE:
FOR FOOTING REINFORCING STEEL AND DOWEL DETAILS SEE ABUTMENT 2 FOOTING REINFORCING PLAN (SHEET 36)

NOTES:
NF = NEAR FACE
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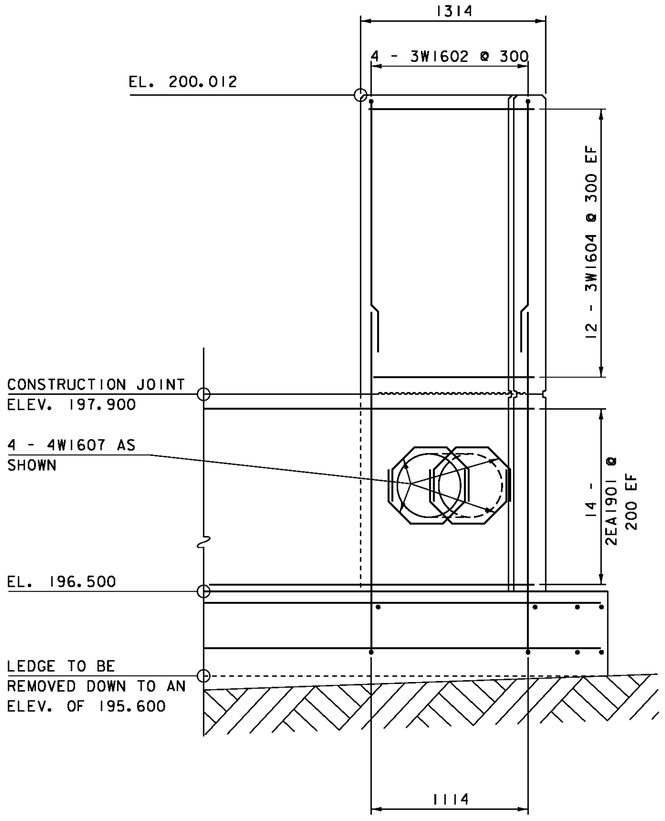
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

KEY	DATE	BY	REVISION
2	05/07/2012	VAOT	MODIFIED REINFORCING STEEL DIMENSIONS.
1	04/26/2012	VAOT	MODIFIED WINGWALL 3 DIMENSIONS.

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

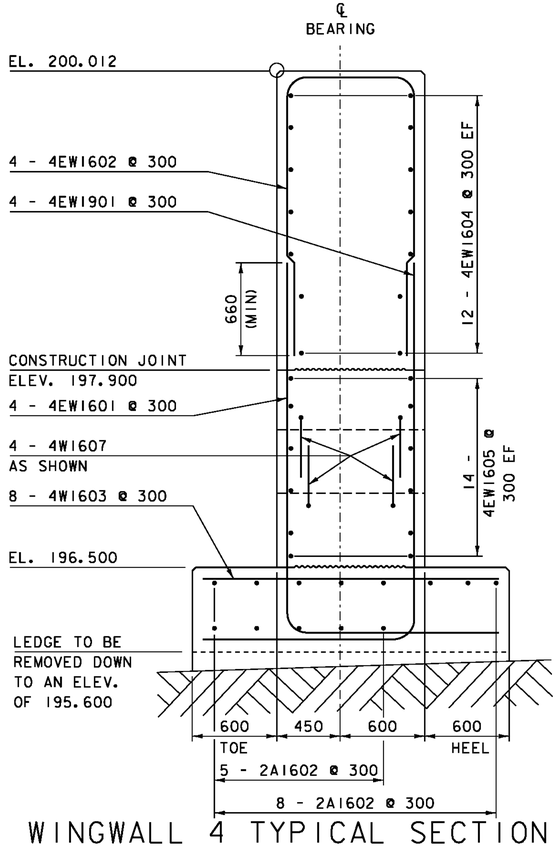
FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
WINGWALL 3 DETAILS SHEET

PLOT DATE: 08-MAY-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 38 OF 70



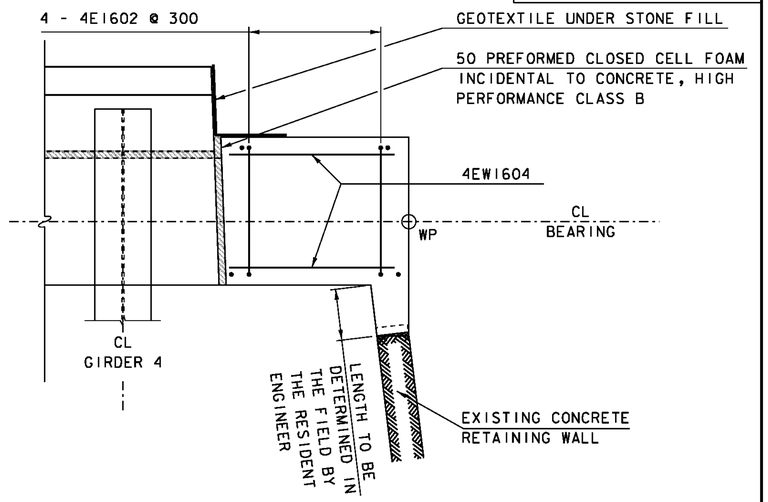
WINGWALL 4 ELEVATION

SCALE 1:20



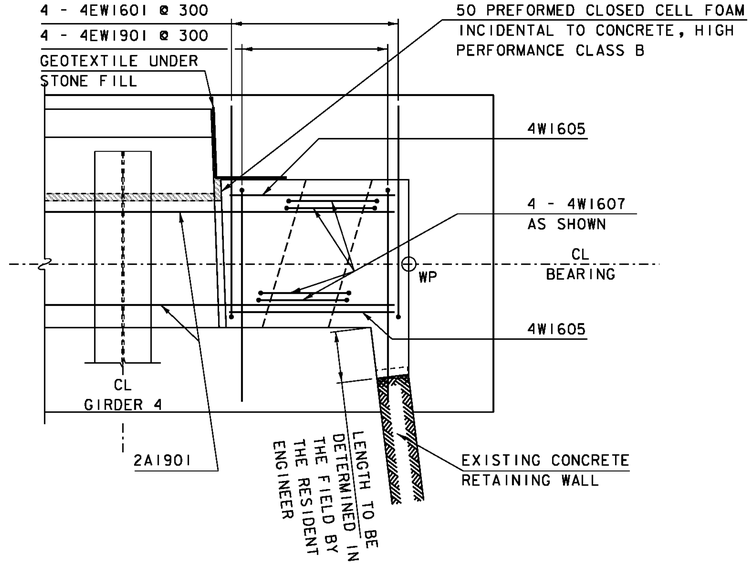
WINGWALL 4 TYPICAL SECTION

SCALE 1:20



WINGWALL 4 REINFORCING PLAN (ABOVE CONSTRUCTION JOINT)

SCALE 1:20



WINGWALL 4 REINFORCING PLAN (BELOW CONSTRUCTION JOINT)

SCALE 1:20

NOTE:
FOR FOOTING REINFORCING STEEL AND DOWEL DETAILS SEE
ABUTMENT 2 FOOTING REINFORCING PLAN (SHEET 36)

NOTES:
NF = NEAR FACE
FF = FAR FACE
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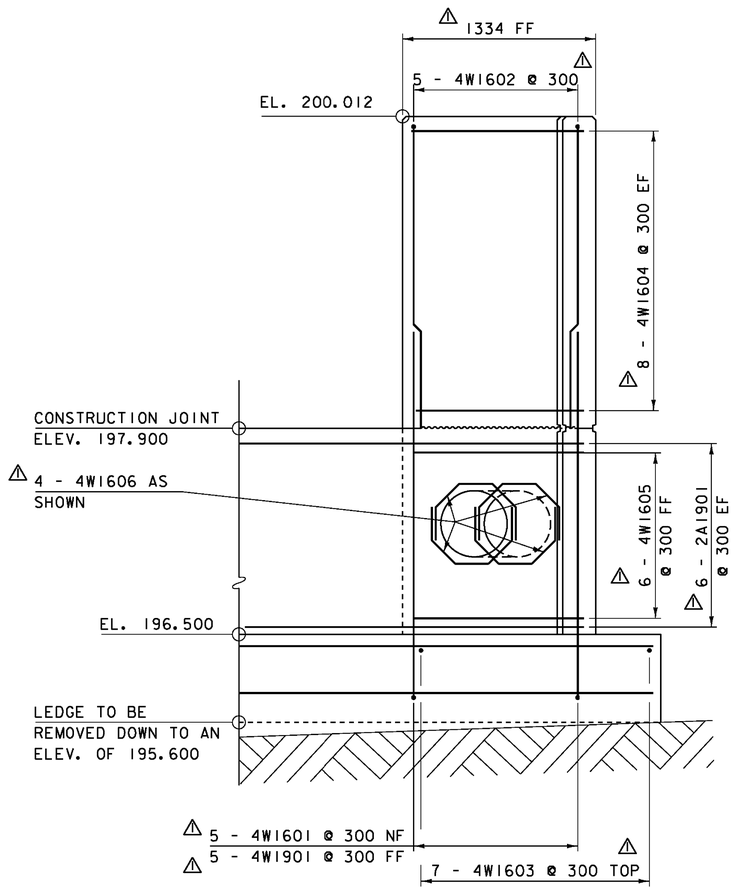
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE
SPECIFIED ON THE PLANS

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

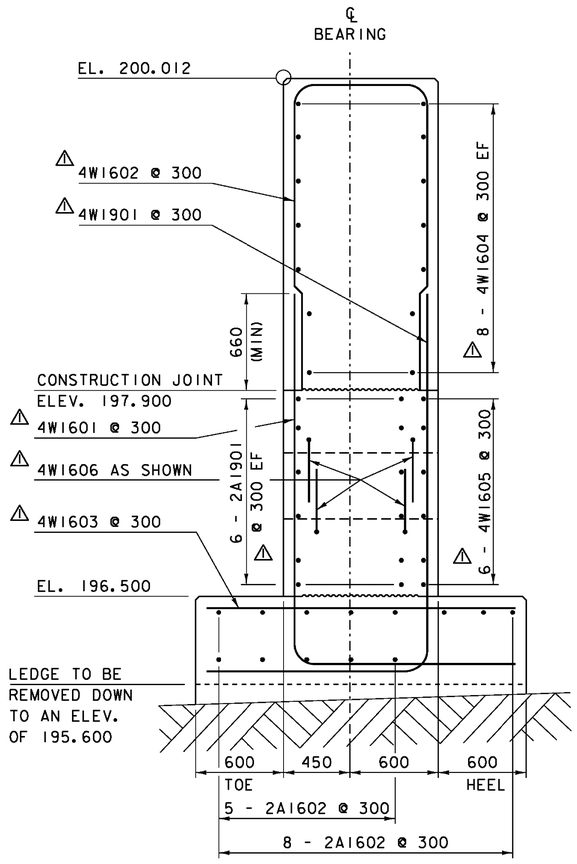
FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
WINGWALL 4 DETAILS SHEET

PLOT DATE: 22-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 39 OF 70



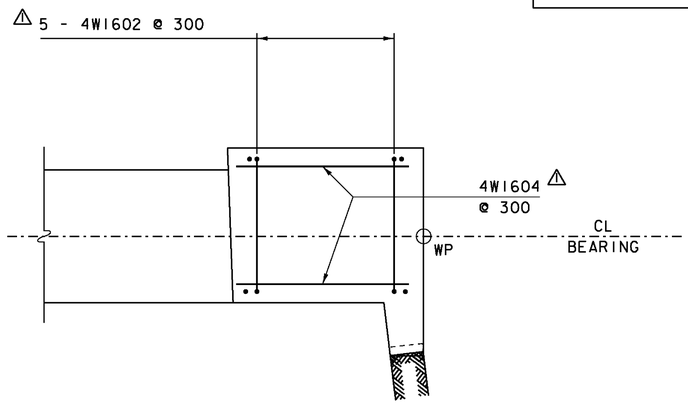
WINGWALL 4 ELEVATION

SCALE 1:20



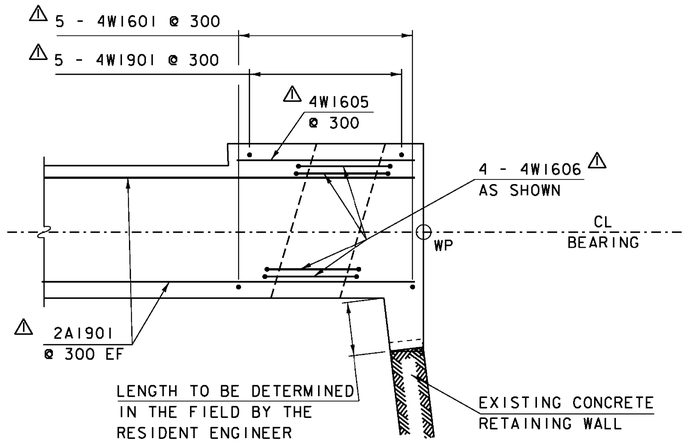
WINGWALL 4 TYPICAL SECTION

SCALE 1:20



WINGWALL 4 REINFORCING PLAN (ABOVE CONSTRUCTION JOINT)

SCALE 1:20



WINGWALL 4 REINFORCING PLAN (BELOW CONSTRUCTION JOINT)

SCALE 1:20

NOTE:
FOR FOOTING REINFORCING STEEL AND DOWEL DETAILS SEE
ABUTMENT 2 FOOTING REINFORCING PLAN (SHEET 36)

NOTES:
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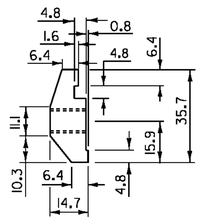
80 COVER UNLESS OTHERWISE
SPECIFIED ON THE PLANS

KEY	DATE	BY	REVISION
⚠	05/07/2012	VAOT	MODIFIED REINFORCING STEEL DIMENSIONS.

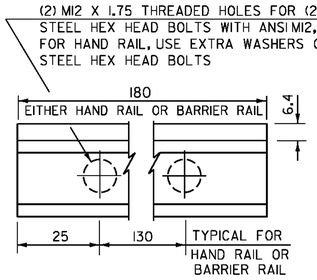
PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

FILE NAME: s95j280sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
WINGWALL 4 DETAILS SHEET

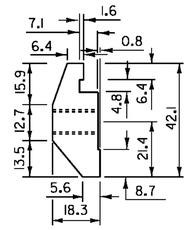
PLOT DATE: 08-MAY-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 39 OF 70



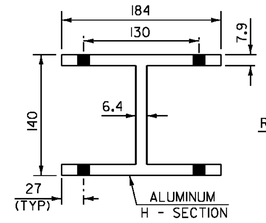
POST CONNECTION
HAND RAIL SECTION



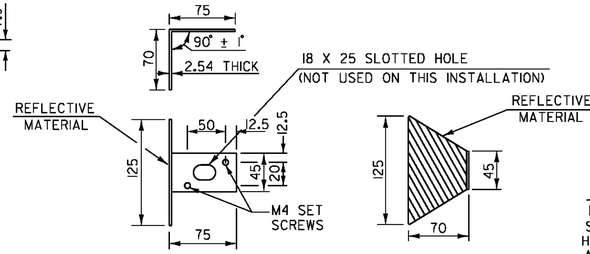
POST CONNECTION
ELEVATION



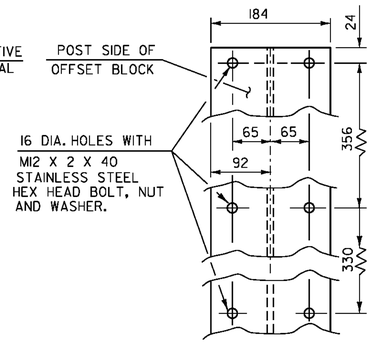
POST CONNECTION
BARRIER RAIL SECTION



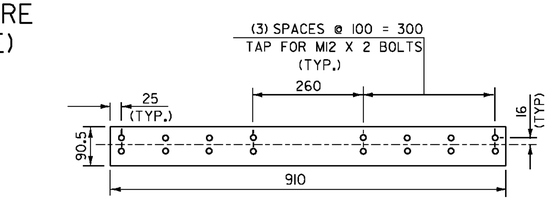
PLAN VIEW OF
OFFSET BLOCK
(TO BE USED ON
SUPERSTRUCTURE
ON CURB SIDE)



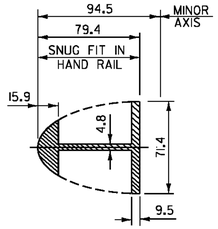
REFLECTOR DETAILS



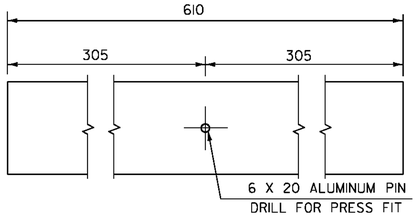
OFFSET BLOCK
CONNECTION



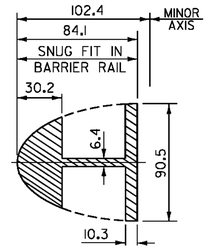
ELEVATION OF STD. BARRIER RAIL SPLICE BAR
(FROM BACK)



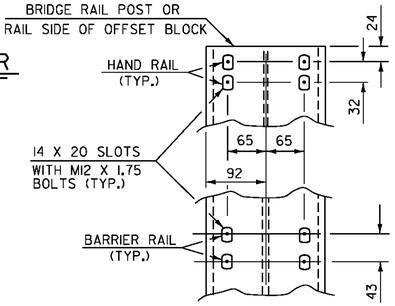
HAND RAIL
SPLICE SECTION



ELEVATION OF
HAND RAIL SPLICE BAR



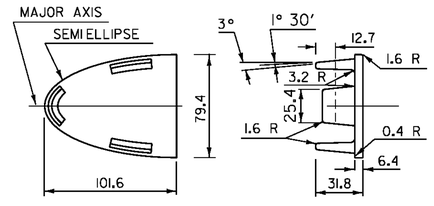
BARRIER RAIL
SPLICE SECTION



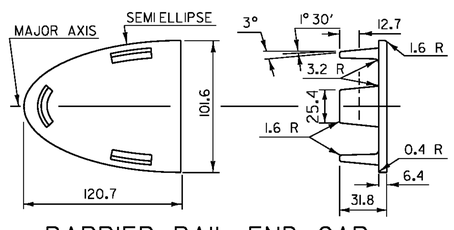
RAIL CONNECTION

NOTES

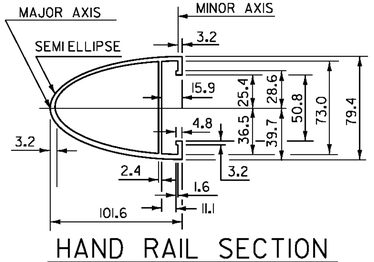
1. REFLECTORIZED ALUMINUM DELINEATOR ARE TO BE ERECTED EVERY 9 m (OR CLOSEST POST) WITH 2-M4 X 0.7 X 20 SET SCREWS.
2. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B 209M ALLOY 5052-H32.
3. RETROREFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER.
4. ON BRIDGES WITH A SIDEWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (IE. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH RAIL ON THE CURB SIDE). COST FOR DELINEATORS ARE INCIDENTAL TO PAY ITEM "ALUMINUM APPROACH RAIL, ANNODIZED".
5. ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO SUBSECTION 714.07.
6. ALUMINUM POSTS, POST BASES, SPLICE BARS, OFFSET BLOCKS, CONNECTION BARS, RAILS, AND BALUSTER FRAMES SHALL CONFORM TO ASTM B 221M ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM YIELD STRNGTH Fy = 240 MPa.
7. ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B 210M ALLOY 6061-T4 OR 6063-T4.
8. ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B 26/B 26M ALLOY 356-T6.
9. THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS AND SET SCREWS SHALL CONFORM TO SUBSECTION 732.02 (b).
10. WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10.
11. WHENEVER FEASIBLE, BARRIER RAIL AND HAND RAIL SECTIONS SHALL BE FULL LENGTH SECTIONS (12 m +) AND WHEN PRACTICAL SHALL BE ATTACHED TO THREE POSTS. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
12. ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
13. EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
14. ALUMINUM WASHERS SHALL BE ASTM B209M ALLOY ACLAD 2024-T4.
15. THE RAILING SYSTEM AND ASSOCIATED HARDWARE SHALL BE ANODIZED TO A BLACK SATIN FINISH, IN ACCORDANCE WITH SECTION 621.



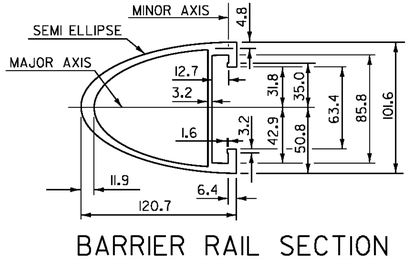
HAND RAIL END CAP



BARRIER RAIL END CAP

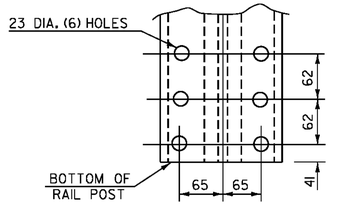


HAND RAIL SECTION



BARRIER RAIL SECTION
(SEE NEXT SHEET FOR ELEVATION OF BARRIER RAIL)

NOT TO SCALE

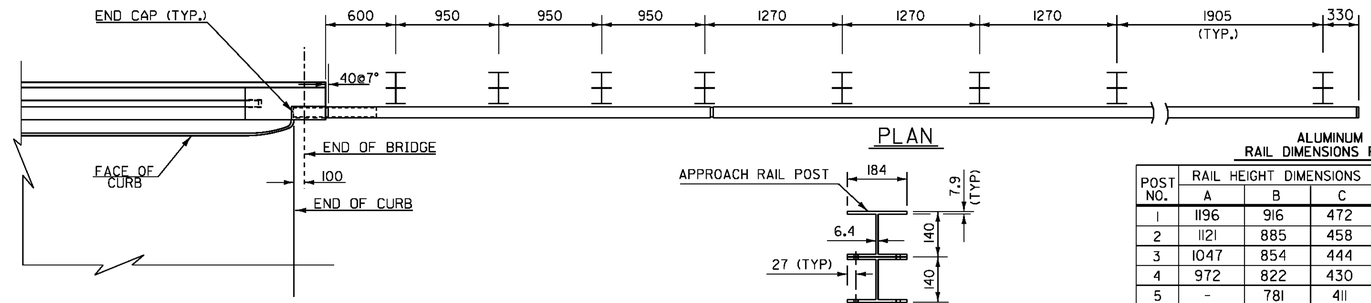


POST BASE
BOLT HOLE DETAILS

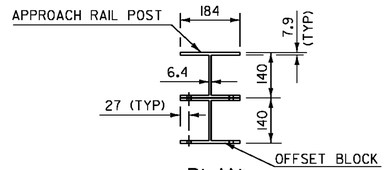
ALUMINUM APPROACH RAILING
DETAILS I

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S

FILE NAME: s95j280railday.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ALUMINUM APPROACH RAILING DETAILS I	SHEET 40 OF 70



PLAN



PLAN

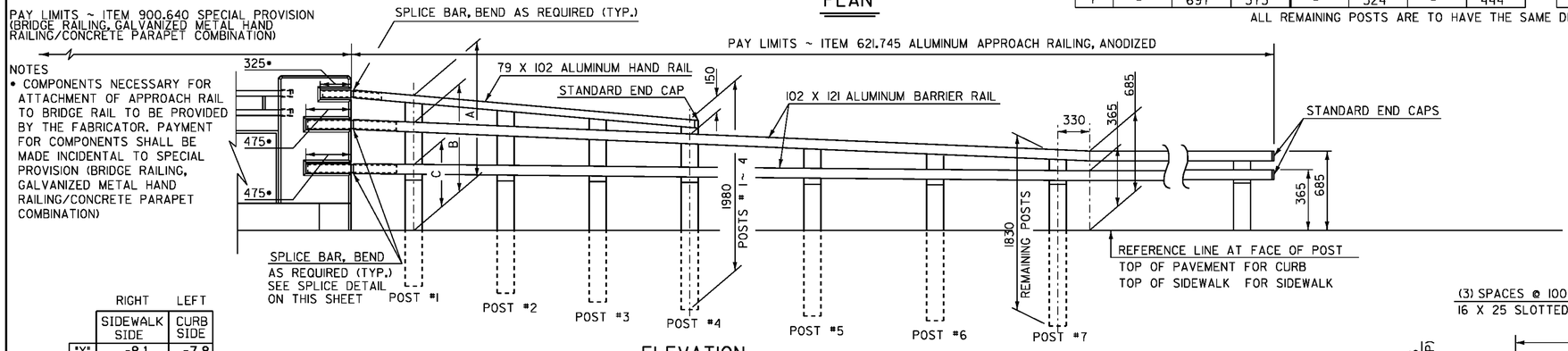
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
1	1196	916	472	289	444	844	-
2	1121	885	458	246	427	784	-
3	1047	854	444	203	410	724	-
4	972	822	430	160	393	663	-
5	-	781	411	-	370	-	490
6	-	739	392	-	347	-	467
7	-	697	373	-	324	-	444

ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION

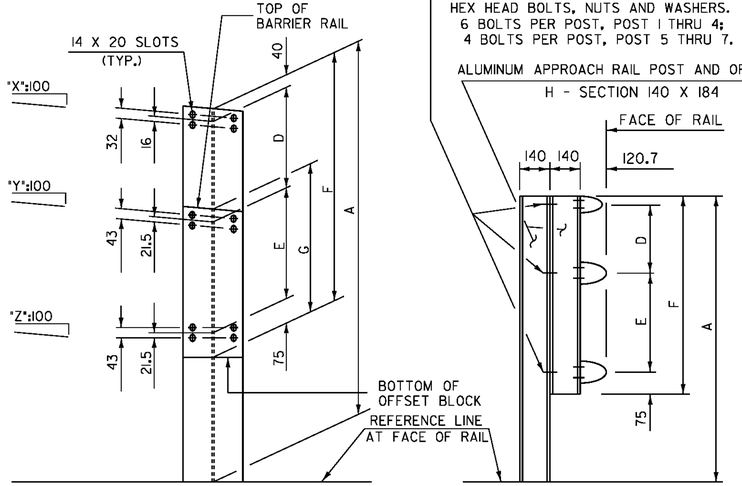
POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
1	1219	939	495	291	444	850	-
2	1141	905	478	248	427	789	-
3	1064	870	461	205	410	729	-
4	986	836	443	162	393	669	-
5	-	790	420	-	370	-	496
6	-	744	397	-	347	-	473
7	-	698	374	-	324	-	450

ALL REMAINING POSTS ARE TO HAVE THE SAME DIMENSIONS AS POST NO. 7



ELEVATION

	RIGHT SIDEWALK SIDE	LEFT CURB SIDE
"X"	-8.1	-7.8
"Y"	-3.6	-3.3
"Z"	1.8	-1.5



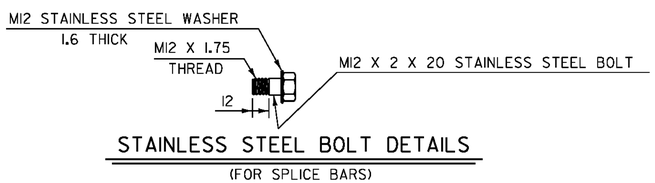
FRONT ELEVATION

ATTACH OFFSET BLOCK TO POST WITH
M12 X 2 X 40 STAINLESS STEEL HEX HEAD BOLTS, NUTS AND WASHERS.
6 BOLTS PER POST, POST 1 THRU 4;
4 BOLTS PER POST, POST 5 THRU 7.

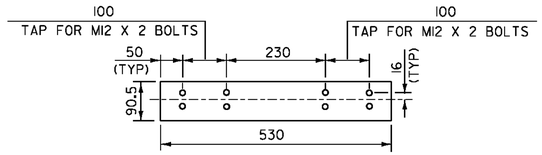
ALUMINUM APPROACH RAIL POST AND OFFSET BLOCK
H - SECTION 140 X 184

SIDE ELEVATION

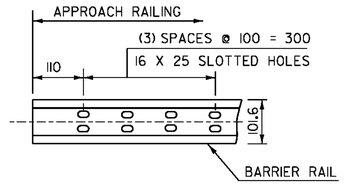
APPROACH RAIL DETAILS



STAINLESS STEEL BOLT DETAILS
(FOR SPLICE BARS)



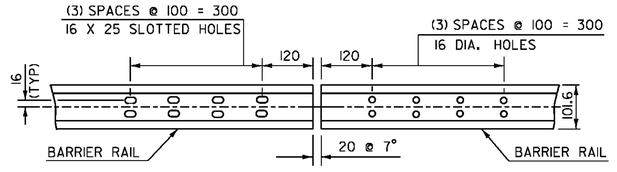
ELEVATION OF BARRIER RAIL SPLICE BAR TO BE USED AT TRANSITION BETWEEN APPROACH RAIL & GUARD RAIL (FROM BACK)



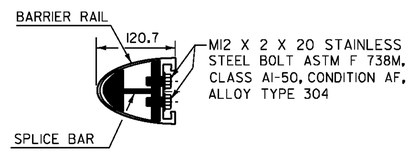
ELEVATION OF BARRIER RAIL (FROM BACK)

NOTES

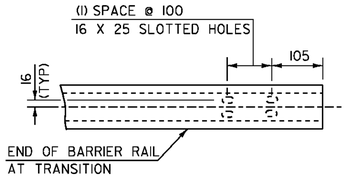
1. POST 1 THROUGH 7 SHALL BE EXTRUDED ALUMINUM.
2. DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING.
3. DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.



ELEVATION OF BARRIER RAIL (FROM BACK) AT ALL INTERMEDIATE RAIL SPLICES



TYPICAL SECTION THROUGH BARRIER RAIL SPLICE



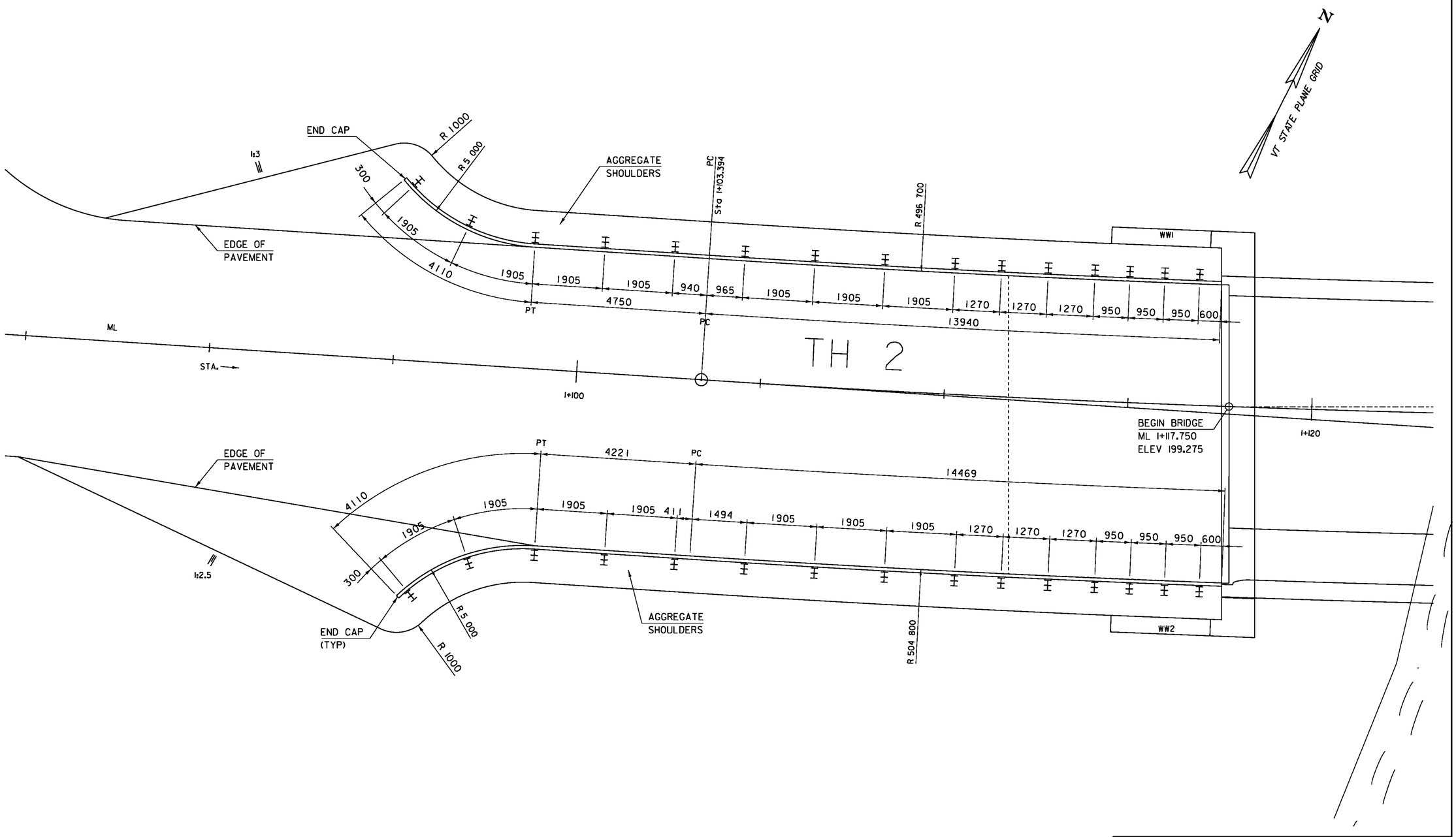
ELEVATION OF BARRIER RAIL (FROM FRONT) AT TRANSITION

NOT TO SCALE

ALUMINUM APPROACH RAILING DETAILS 2

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280railday.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ALUMINUM APPROACH RAILING DETAILS 2	SHEET 41 OF 70

VTrans Metric



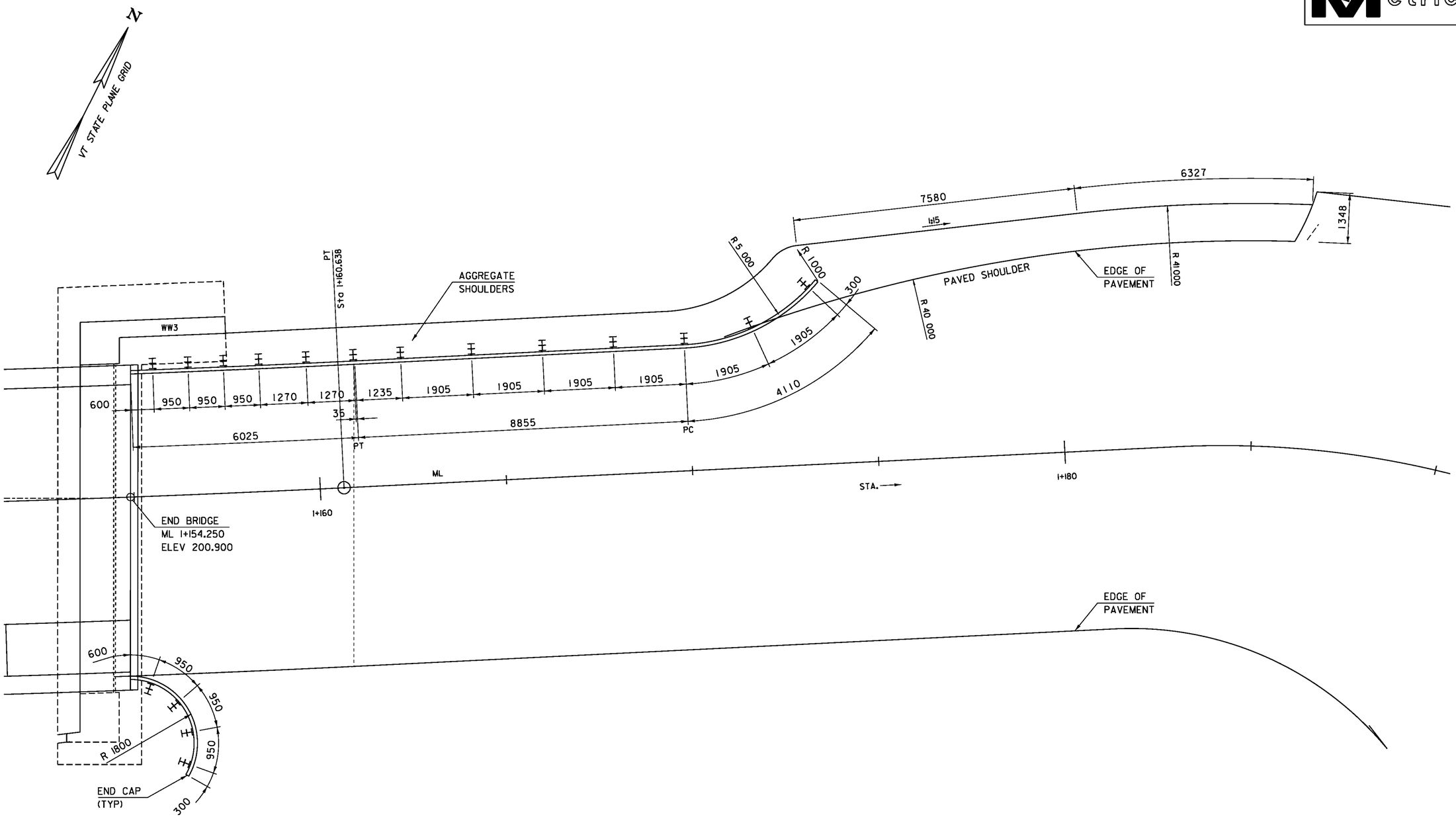
PLAN

0 1 2 3 4 5

SCALE = 1:50

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280raillay.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T.LACKEY	CHECKED BY: G. SWEENY
APPROACH RAILING LAYOUT PLAN 1	SHEET 42 OF 70

VTrans Metric



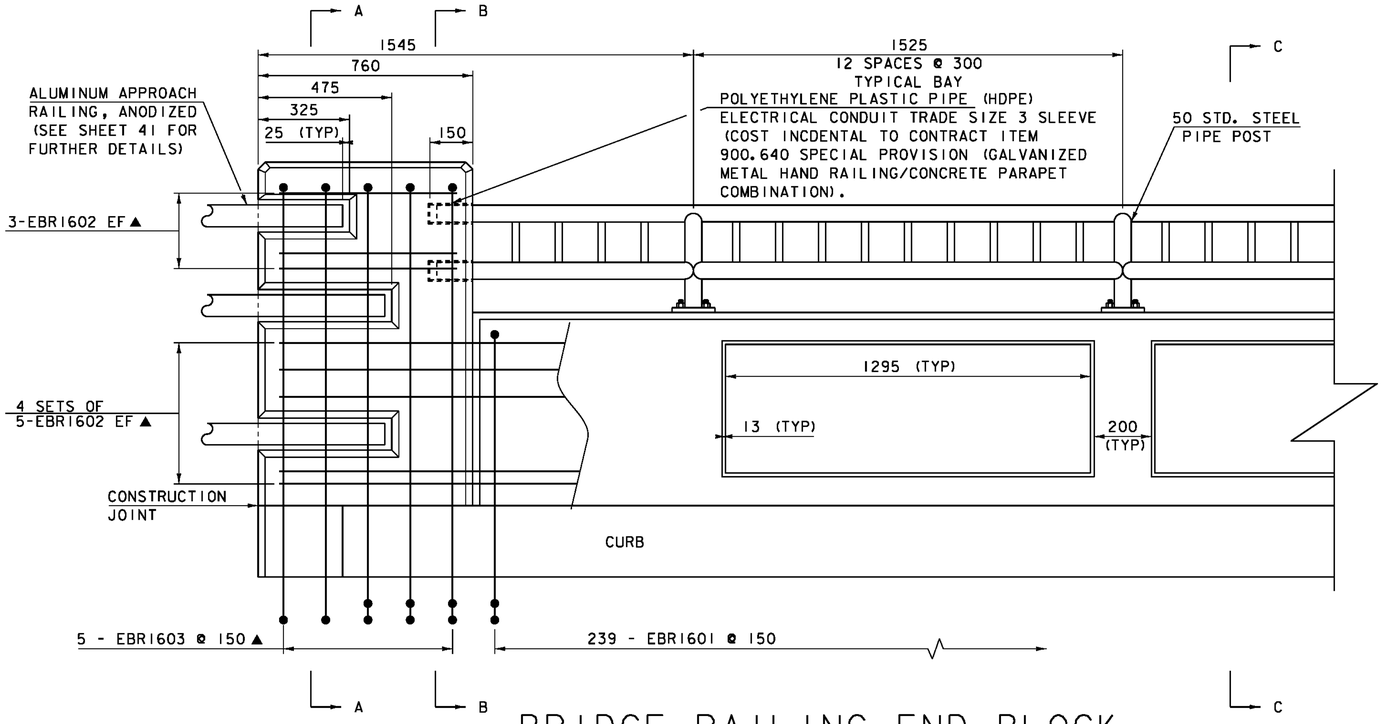
PLAN

0 1 2 3 4 5

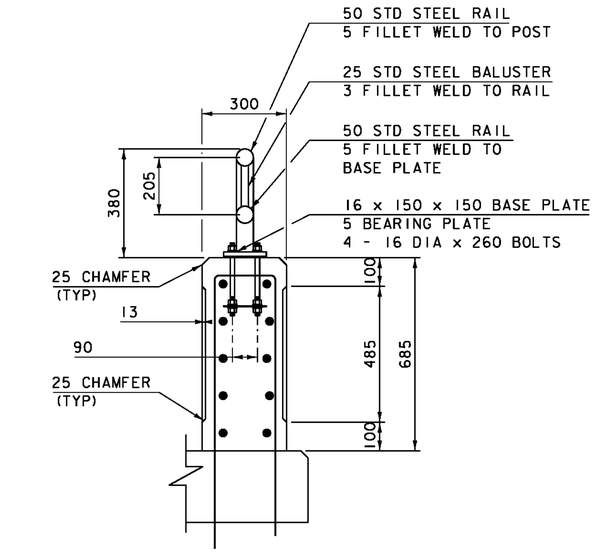
SCALE = 1:50

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S

FILE NAME: s95j280rallay.dgn	PLOT DATE: 26-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T.LACKEY	CHECKED BY: G. SWEENY
APPROACH RAILING LAYOUT PLAN 2	SHEET 43 OF 70

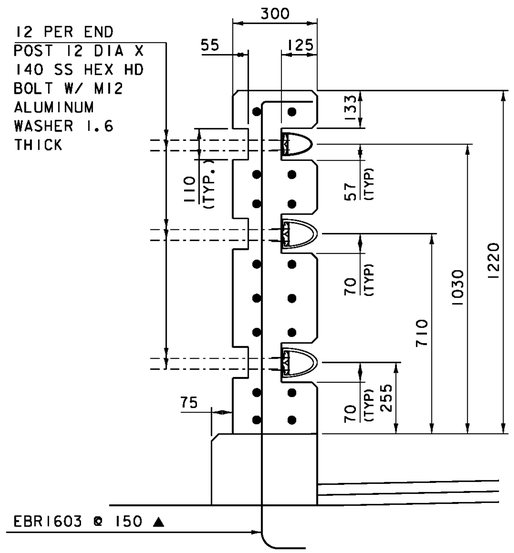


BRIDGE RAILING END BLOCK
INTERIOR FACE ELEVATION



PARTIAL BRIDGE RAILING
INTERIOR SECTION C-C

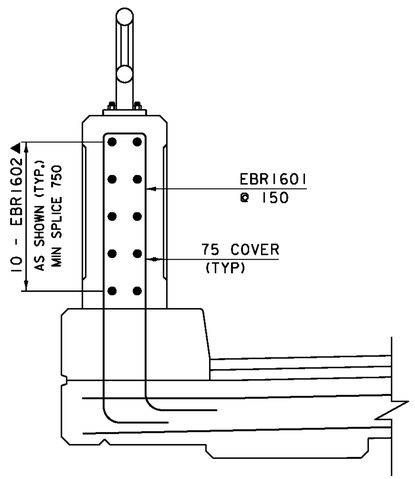
SCALE 1:10



BRIDGE RAILING END
BLOCK SECTION A-A

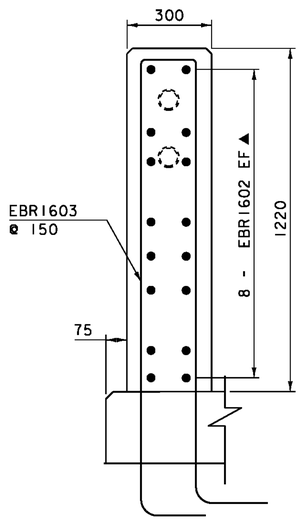
SCALE 1:10

SCALE 1:10



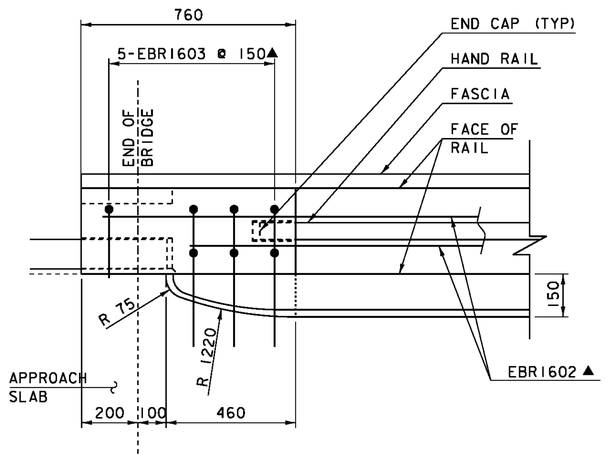
CONCRETE RAIL
REINFORCMENT
(CURB SIDE)

SCALE 1:10



BRIDGE RAILING
END BLOCK
SECTION B-B

SCALE 1:10

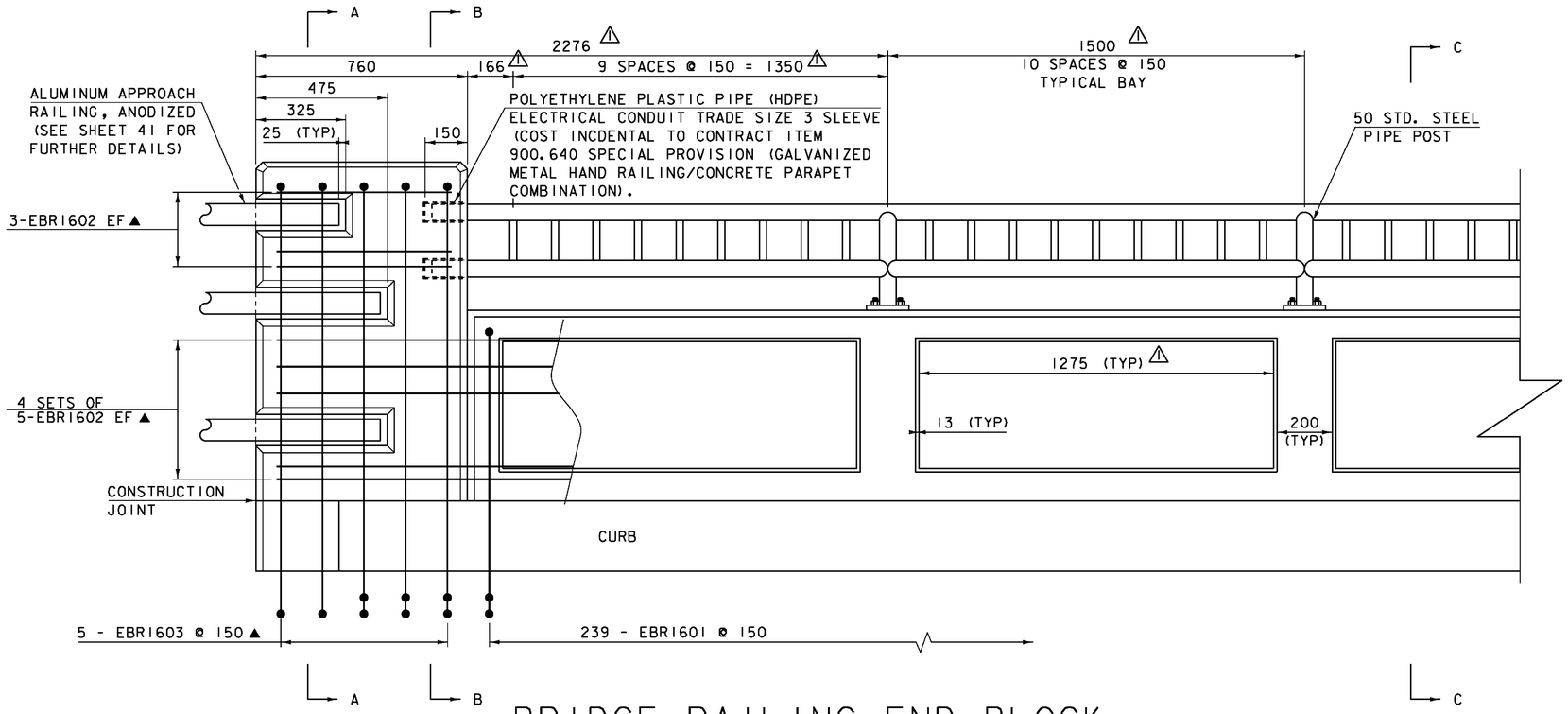


BRIDGE RAILING END
BLOCK PLAN

SCALE 1:10

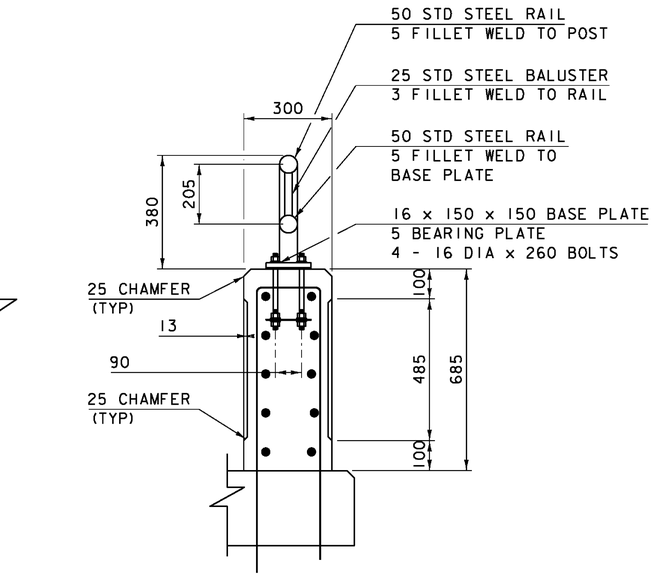
NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280rail det.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
BRIDGE RAILING DETAIL 1	SHEET 44 OF 70



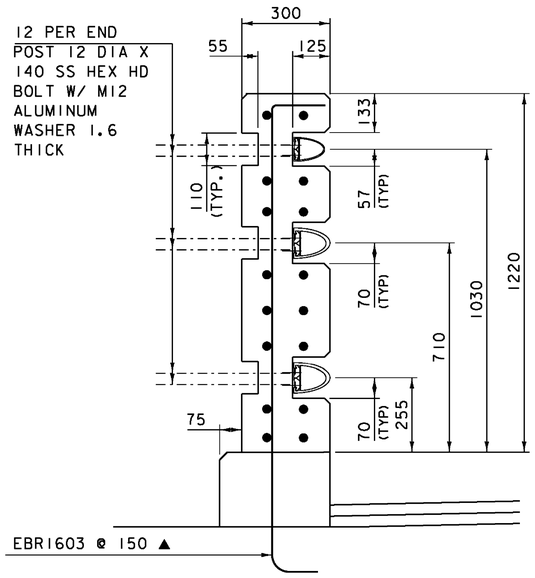
BRIDGE RAILING END BLOCK INTERIOR FACE ELEVATION

SCALE 1:10



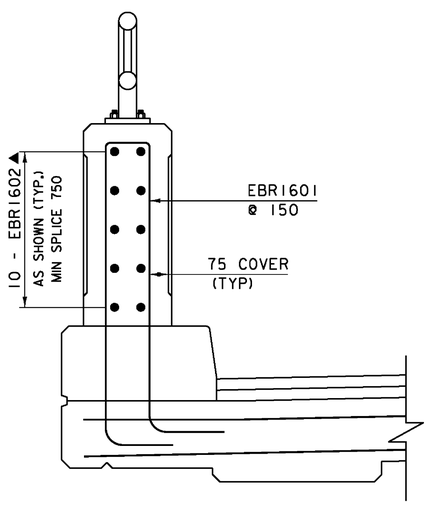
PARTIAL BRIDGE RAILING INTERIOR SECTION C-C

SCALE 1:10



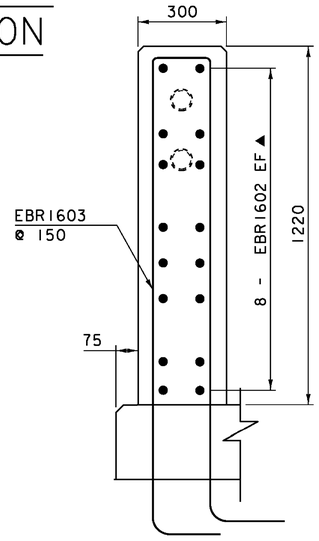
BRIDGE RAILING END BLOCK SECTION A-A

SCALE 1:10



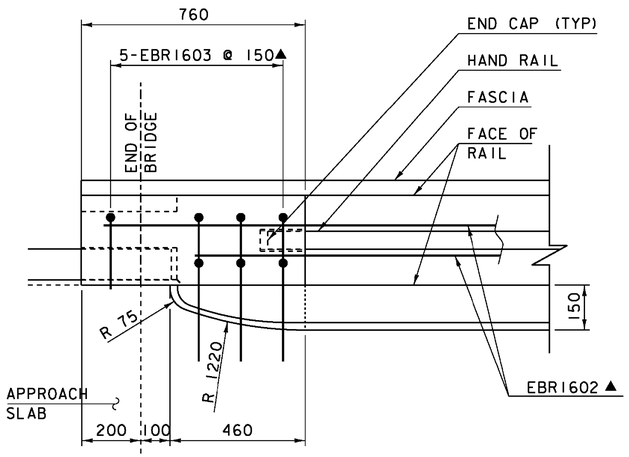
CONCRETE RAIL REINFORCMENT (CURB SIDE)

SCALE 1:10



BRIDGE RAILING END BLOCK SECTION B-B

SCALE 1:10



BRIDGE RAILING END BLOCK PLAN

SCALE 1:10

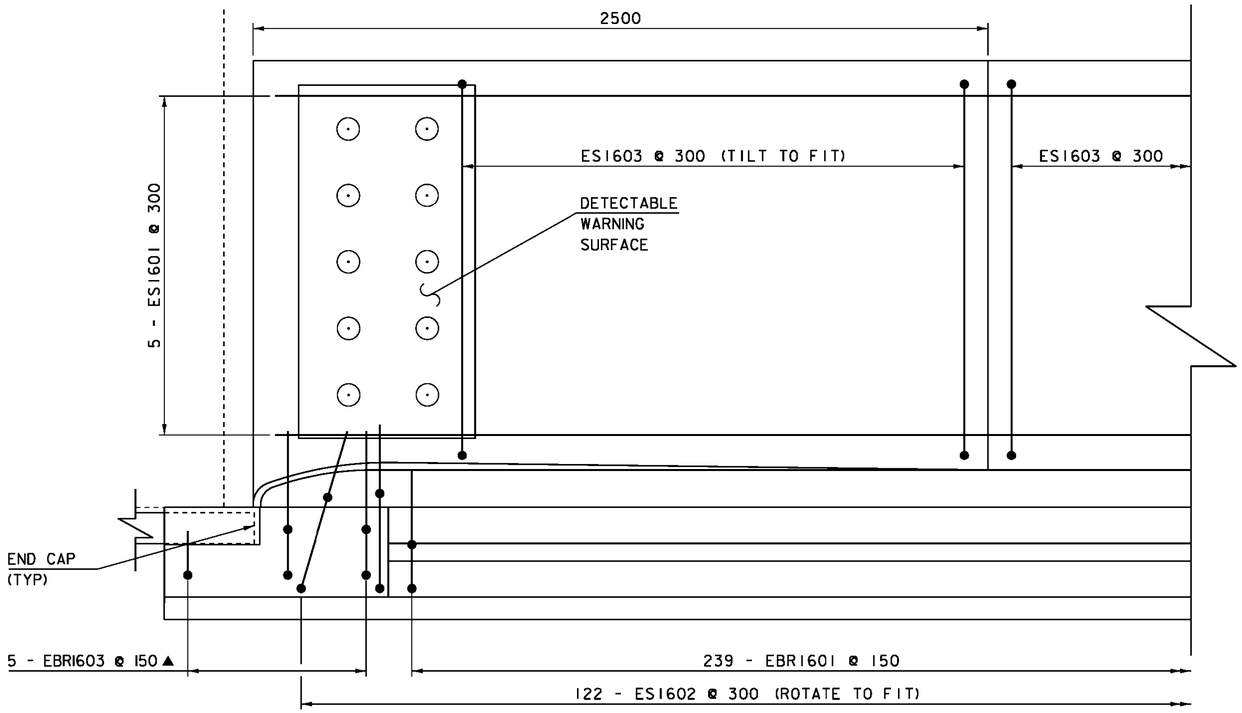
NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS

KEY	DATE	BY	REVISION
⚠	06/19/2012	VAOT	MODIFIED METAL RAILING LAYOUT.

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106(3)S

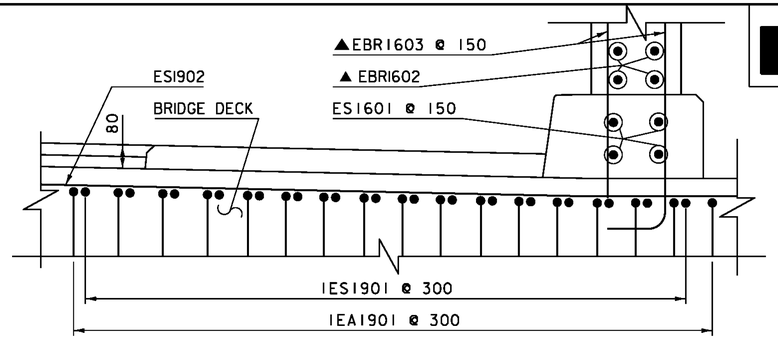
FILE NAME: s95j280raildet.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: T. LACKEY
BRIDGE RAILING DETAIL 1

PLOT DATE: 19-JUN-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 44 OF 70



BRIDGE RAILING END BLOCK & SIDEWALK PLAN

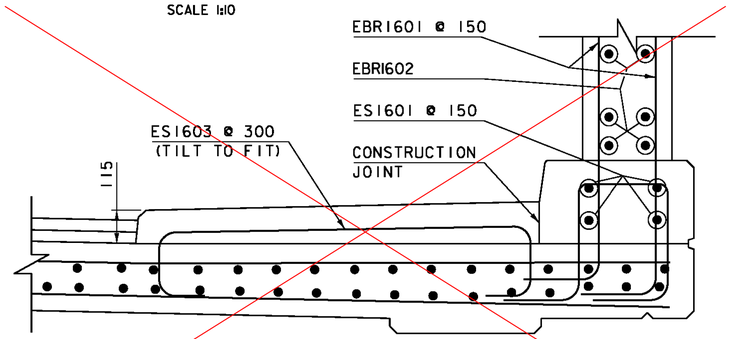
SCALE 1:10



NOTE:
ES1603 REMOVED DUE
TO LACK OF COVER

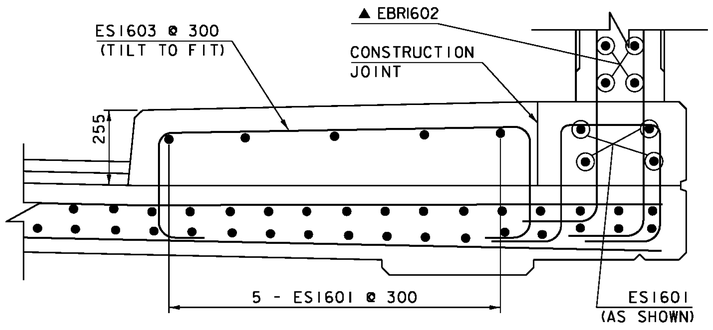
PARTIAL BRIDGE RAILING & SIDEWALK SECTION A-A

SCALE 1:10



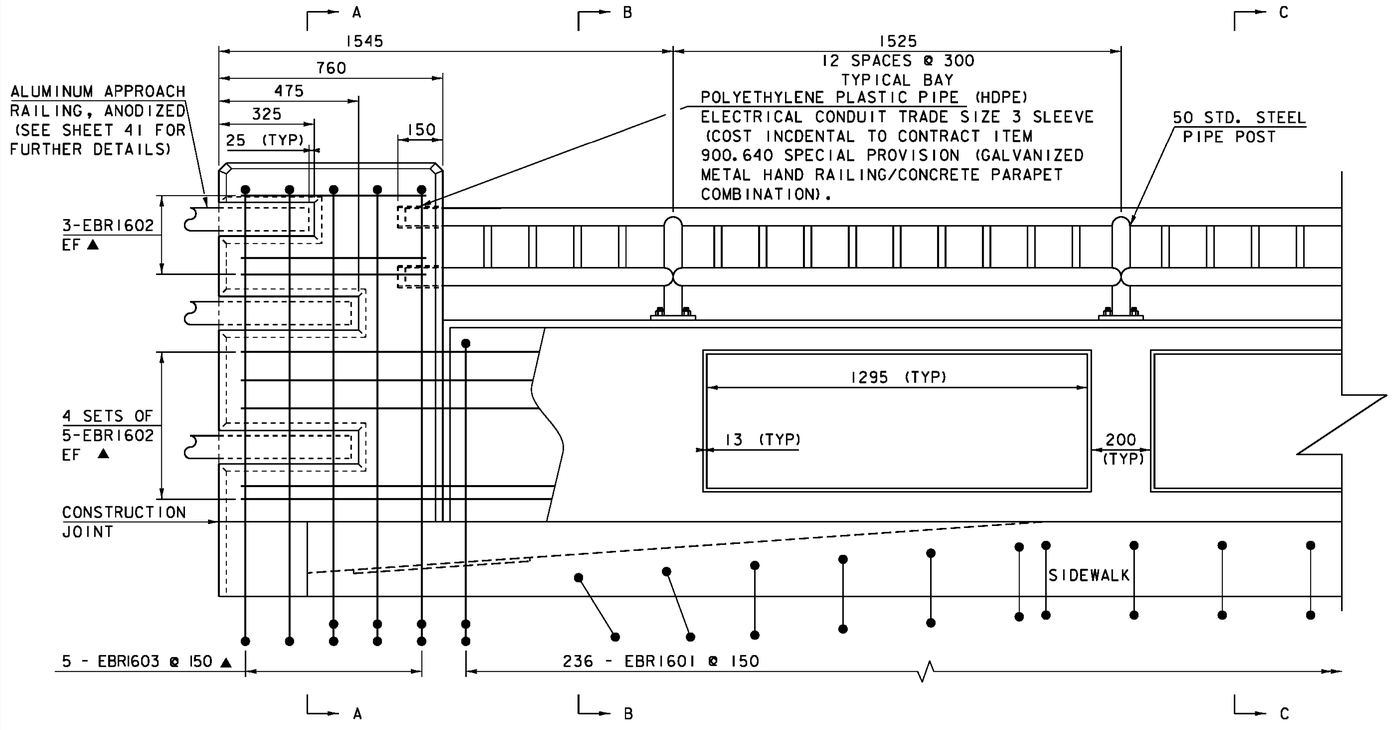
PARTIAL BRIDGE RAILING & SIDEWALK SECTION B-B

SCALE 1:10



PARTIAL BRIDGE RAILING & SIDEWALK SECTION C-C

SCALE 1:10



BRIDGE RAILING END BLOCK & SIDEWALK ELEVATION

SCALE 1:10

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE
SPECIFIED ON THE PLANS

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95j280rail det.dgn	PLOT DATE: 22-JUL-2011
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
BRIDGE RAILING DETAIL 2	SHEET 45 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

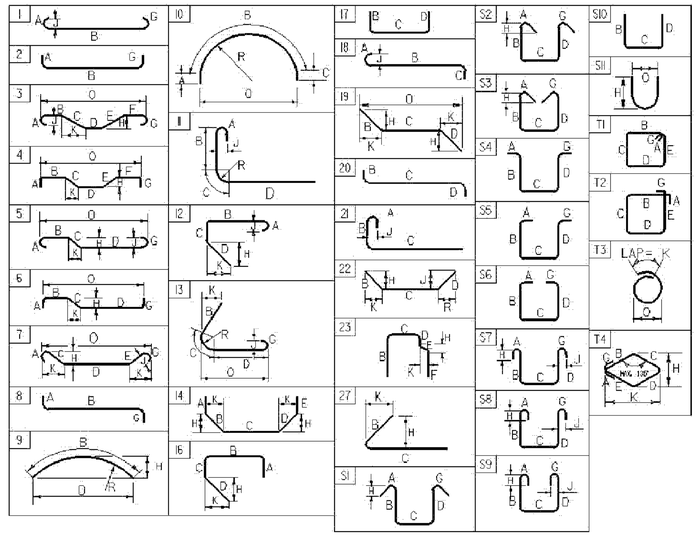
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
✳	53	16	9750	ES1601	STR												
	240	16	9750	ES1602	STR												
	414	16	8700	ES1603	STR												
	247	16	1650	ES1604	STR												
	246	16	1330	ES1605	S5	155	335	350	335			155					
	122	16	2610	ES1606	S6	155	300	1650	350			155					
	22	16	8700	ES1607	STR												
✳	3	19	8700	ES1901	STR												
	118	16	1050	ES1608	1	200	850							75			
	118	16	2100	ES1609	1	200	1900							75			
	118	16	1650	ES1610	17		600	450	600								
	30	16	2050	ES1611	3	240	1150	660									
	59	16	4440	ES1612	3	240	900	3300									
APPROACH SLAB 1																	
✳	22	16	7950	1EAS1601	STR												
✳	34	29	6225	1EAS2901	1	375	5850					---		300			
ABUTMENT 1																	
✳	13	29	10875	1EA2901	STR												
✳	15	29	10875	1A2901	STR												
✳	28	16	1825	1EA1601	1	180	1465					180					
✳	26	19	2235	1EA1901	12	205	1330	---	700				566		566		
▲	16	29	4185	1EA2902	S10		1750	685	1750								
▲	14	29	4185	1A2902	S10		1750	685	1750								
✳	38	32	4650	1EA3202	23		1940	550	465	185	1510				230		
✳ ▲	75	32	3560	1A3201	2	550	3010					---					
WINGWALL 1																	
▲	26	16	3980	1EW1601	STR												
▲	8	29	3750	1EW2902	STR												
▲	8	29	3750	1W2902	STR												
	11	16	1620	1EW1602	S10		660	300	660								
▲	9	29	4690	1EW2901	2	940	3750					---					
	8	29	3620	1EW2903	22		1030	1560	1030								
▲	8	29	4690	1W2901	2	940	3750					---					
WINGWALL 2																	
▲	26	16	3990	2EW1601	STR												
▲	8	29	3750	2EW2902	STR												
▲	8	29	3750	2W2902	STR												
	11	16	1620	2EW1602	S10		660	300	660								
▲	9	29	4690	2EW2901	2	940	3750					---					
	8	29	3560	2EW2903	22		1000	1560	1000								
▲	8	29	4690	2W2901	2	940	3750					---					
✳ NOTE: THE COST FOR BRIDGE RAILING REINFORCING STEEL SHALL BE INCLUDED IN THE PAY ITEM 900.640 "SPECIAL PROVISION: GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION"																	
BRIDGE RAIL (SPECIAL PROVISION)																	
×	83	16	9775	EBR1602	STR												
▲	494	16	2575	EBR1601	S5	155	1055	155	1055			155					
✳	21	16	3645	EBR1603	S5	155	1590	155	1590			155					

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
APPROACH SLAB 2																	
✳	22	16	7950	2EAS1601	STR												
✳	34	29	6225	2EAS2901	1	375	5850					---		300			
ABUTMENT 2																	
✳	31	16	2100	2A1601	STR												
	8	16	8700	2A1602	STR												
✳	13	19	8700	2A1901	STR												
	30	19	2250	2A1902	17		1000	750	1000								
	30	19	2850	2A1903	17		1350	1500									
	30	19	3000	2A1904	17		1500	1500									
✳	39	25	1500	2A2501	17		300	1200									
WINGWALL 3																	
✳ ▲	18	16	4150	3EW1601	17		1350	2800									
▲	18	16	4450	3W1602	STR												
▲	18	16	2000	3W1603	STR												
	5	16	4755	3W1604	17		875	3880									
	7	16	4755	3EW1604	17		875	3880									
	5	16	4755	3W1605	17		875	3880									
	7	16	4755	3EW1605	17		875	3880									
▲	15	16	3350	3W1606	17		2150	300	2150								
	13	19	4025	3EW1901	17		1225	2800									
✳	14	19	4625	3EW1901	17		1225	3400									
WINGWALL 4																	
▲	4	16	4700	4EW1601	17		1500	3200									
▲	4	16	3750	4EW1602	17		1425	900	1325								
	7	16	2100	4W1603	STR												
	12	16	1160	4EW1604	STR												
	14	16	1160	4W1605	STR												
	4	16	1150	4W1606	14	230	230	230	230	230			230		230		
▲	4	19	4550	4EW1901	17		1350	3200									

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

PROJECT NAME: Newfane
PROJECT NUMBER: BRF 0106(3)S

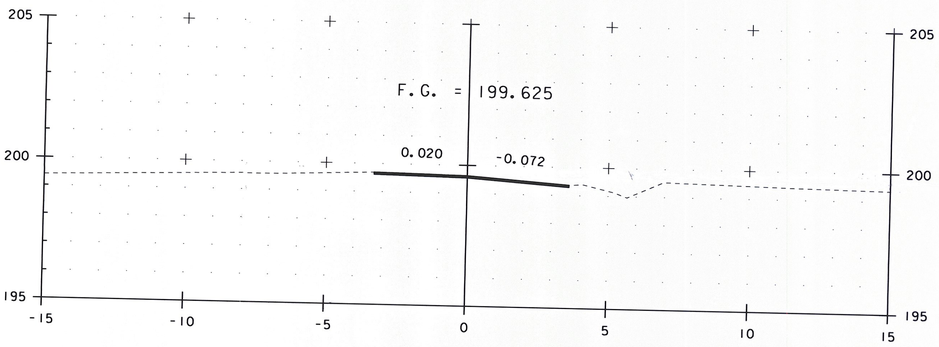
FILE NAME: s96j280rss
PROJECT MANAGER: C. CARLSON
DESIGNED BY: T. LACKEY
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: 7/29/2011
DRAWN BY: I. DEGUTIS
CHECKED BY: D. PETERSON
SHEET 46 OF 70

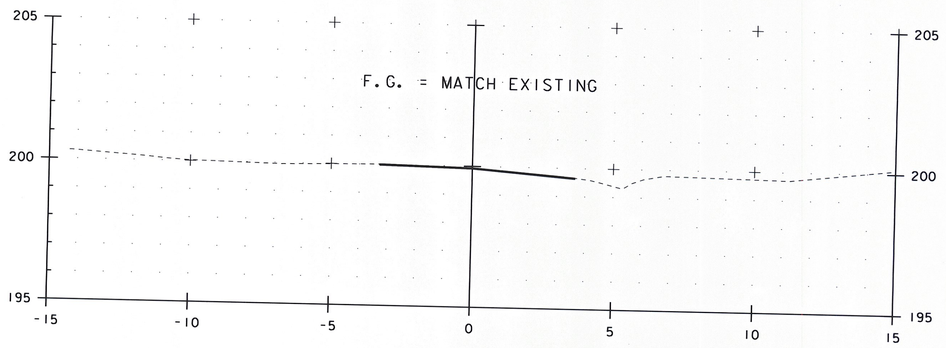
40 TYPE IV
40 TYPE IV
75 TYPE II

Metric

* ADD 25 mm x width of cut to common excavation to account for added pavement depth. Dense grade and sand stay the same



1+040.000

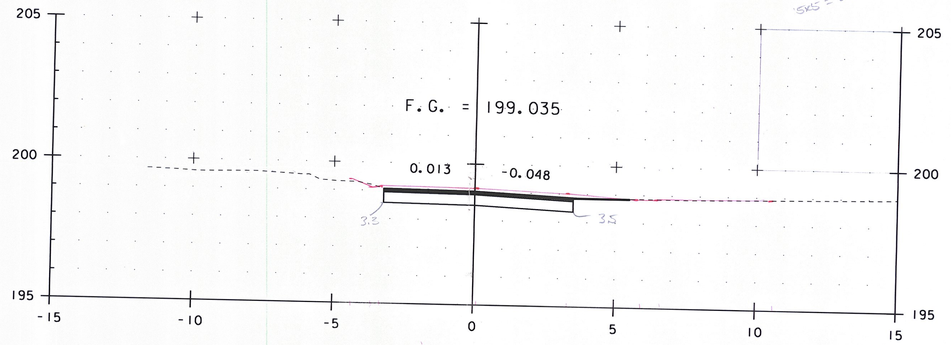


1+030.000
BEGIN APPROACH

1+030.000

DENSE GRADE
2.1
2.5
2.8
2.47 SM

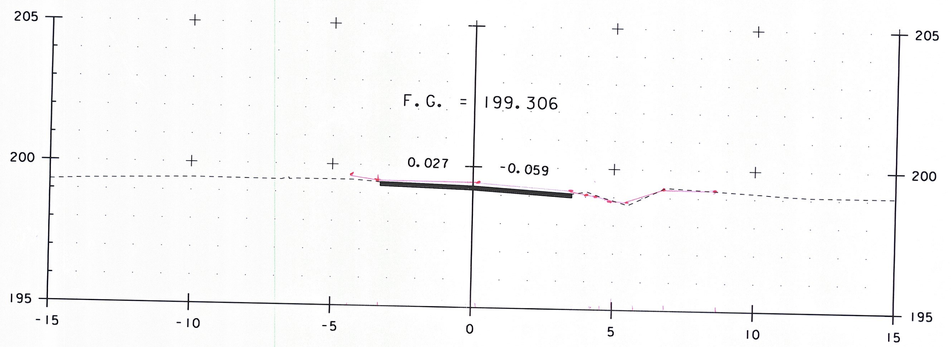
COMMON EXC.
3.5
3.3
3.5
3.43 SM + ((3.3+3.5) x .025 = 3.6 SM



1+058.00 START DENSE GRADE

1+060.000

STA 1+060 RT
CONSTRUCT PAVED APRON



1+050.000

MTTL 12/6/12

STA. 1+030 TO STA. 1+060

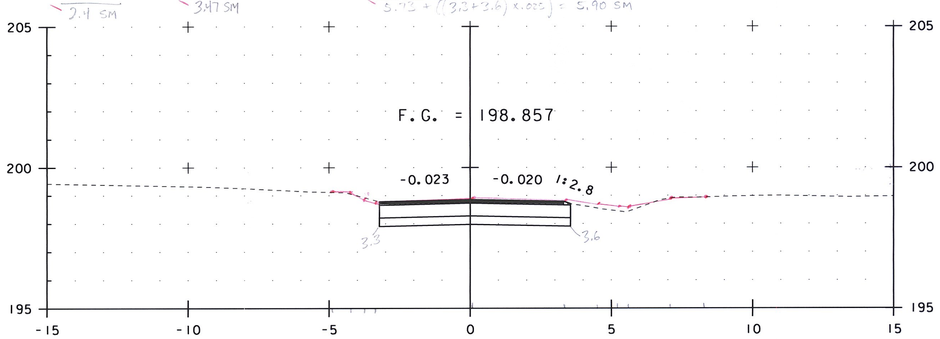
PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280xs.dgn	PLOT DATE: 22-OCT-2012
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ROADWAY CROSS SECTIONS 1	SHEET 47 OF 70

SAND
2.4
2.2
2.6
2.4 SM

DENSE GRADE
3.2
3.8
3.9
3.47 SM

COMMON EXC
5.7
5.9
5.6
5.72 + ((3.2+3.6) x.025) = 5.90 SM

SEE NOTE ON PAGE # 2 OF SECTIONS



1+070.000
BEGIN PROJECT

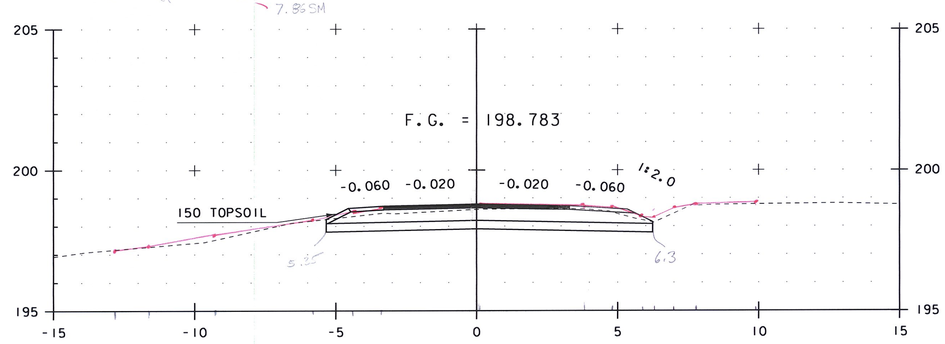
1+070.000

START SAND / DENSE GRADE FULL DEPTH

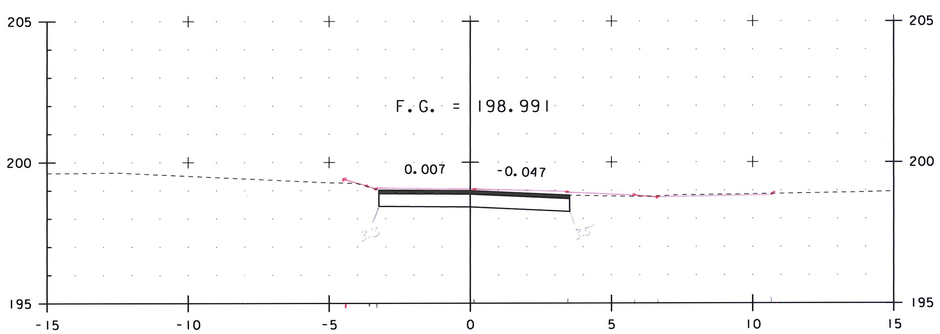
COMMON EXC
7.6
7.6
7.5
7.57 + ((5.25+6.3) x.025) = 7.85 SM

SAND
3.5
3.6
3.5
3.53 SM

DENSE GRADE
4.4
4.5
4.9
4.6 SM



1+090.000



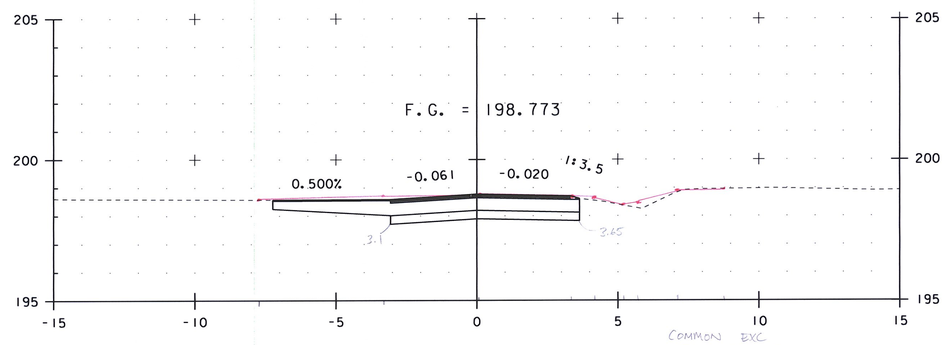
MJL 10/8/12

DENSE GRADE
3.0
3.0
3.3
3.1

1+062.000

COMMON EXC
3.4
4.0
3.6
3.73 + ((2.5+3.2) x .005) = 3.90

GEG 3/18/13



STA 1+080 LT
CONSTRUCT DRIVE

1+080.000

COMMON EXC
7
7.3
7
7.1 + ((3.1+3.05) x.025) = 7.27 SM

DENSE GRADE
4.6
4.6
4.6
4.6 SM

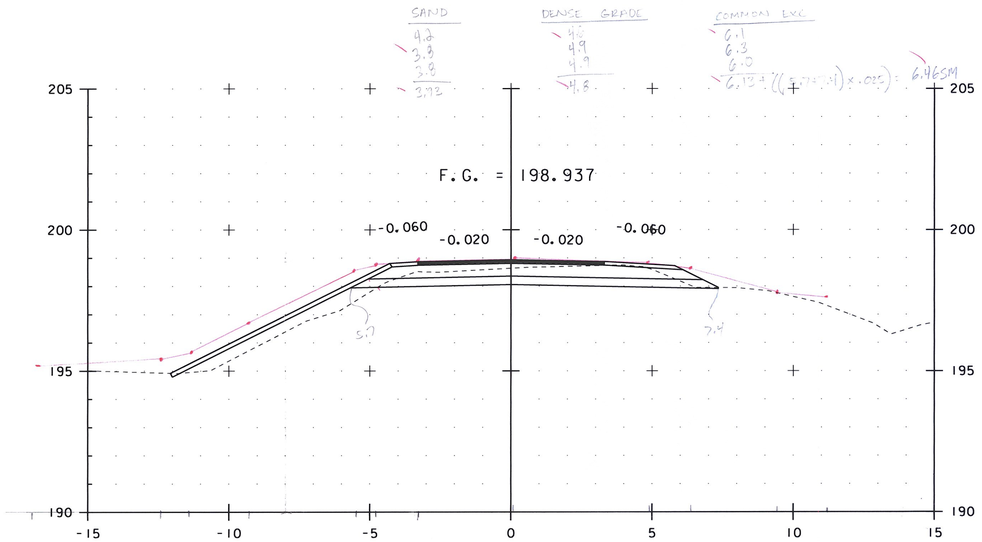
SAND
2.3
1.9
0.1
2.1 SM

STA. 1+062 TO STA. 1+090

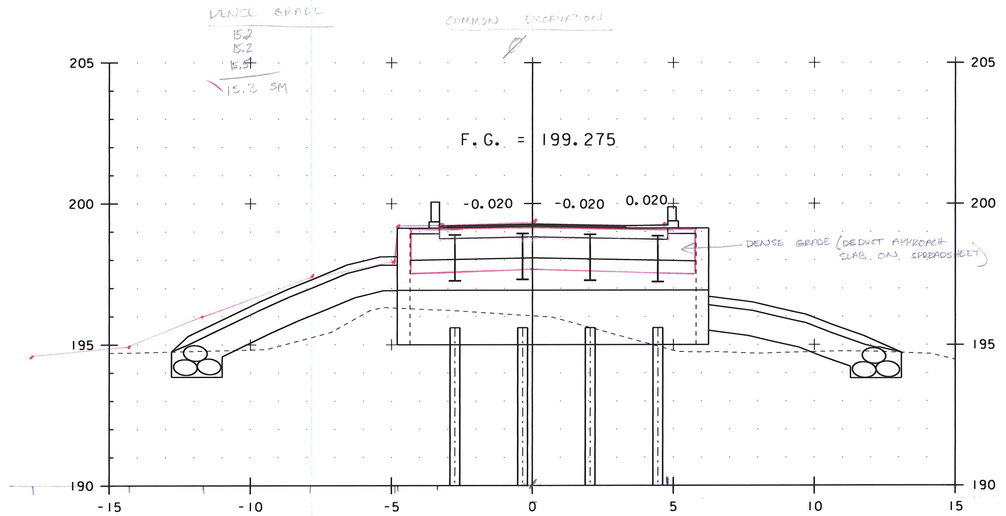
PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106 (3)S

FILE NAME: s95j280xs.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: T. LACKEY
ROADWAY CROSS SECTIONS 2

PLOT DATE: 22-OCT-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 48 OF 70

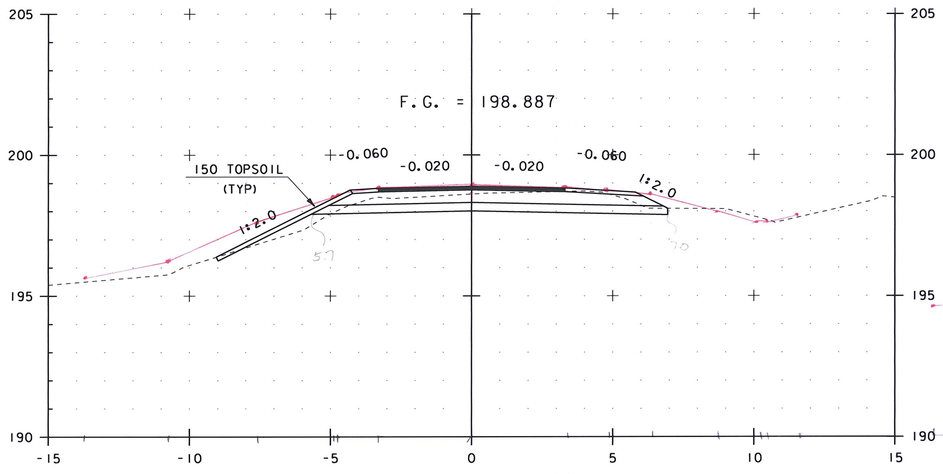


1+103.000 (END FULL DEPTH SAND)



1+117.750
BEGIN BRIDGE

1+117.750

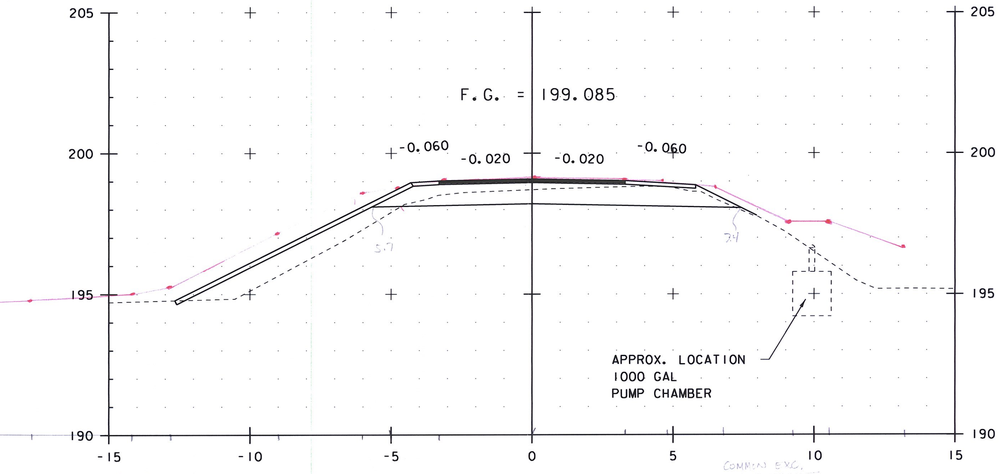


SAND
3.5
3.7
3.8
3.67 SM

DENSE GRADE
4.9
4.7
4.6
4.73 SM

COMMON EXC.
6.6
6.6
6.7
6.62 + ((5.7+7.0)x.005) = 6.95 SM

1+100.000



SAND

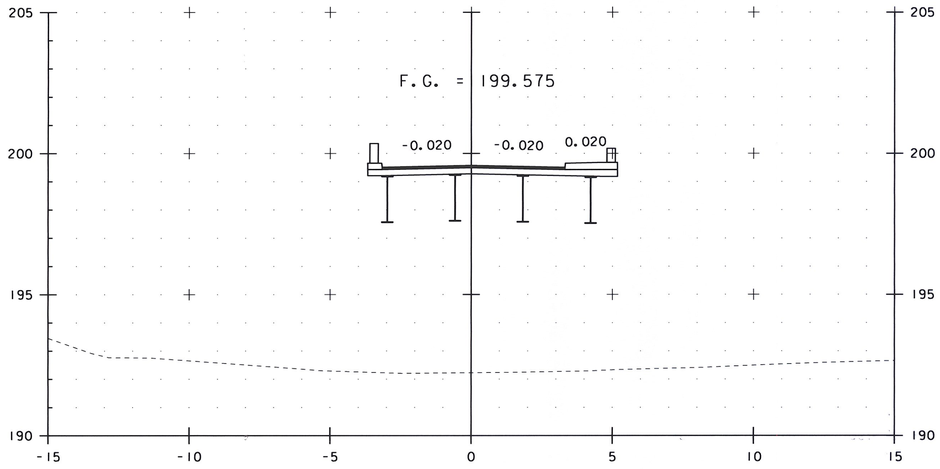
DENSE GRADE
8.9
9.0
8.8
8.9 SM

1+110.000
(END SAND)

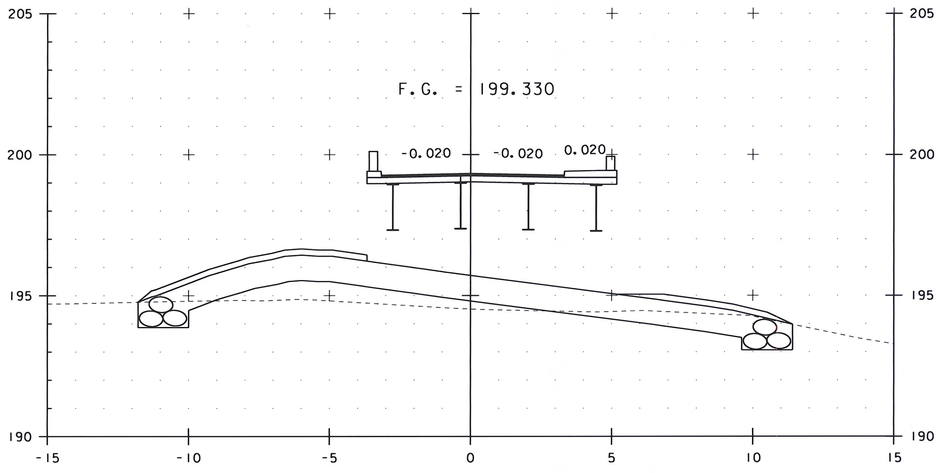
COMMON EXC.
6
5.8
5.6 = 5.57 + ((5.7+7.4)x.005) = 6.20 SM

STA. 1+100 TO STA. 1+118

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280xs.dgn	PLOT DATE: 22-OCT-2012
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ROADWAY CROSS SECTIONS 3	SHEET 49 OF 70



1+130.000



1+120.000

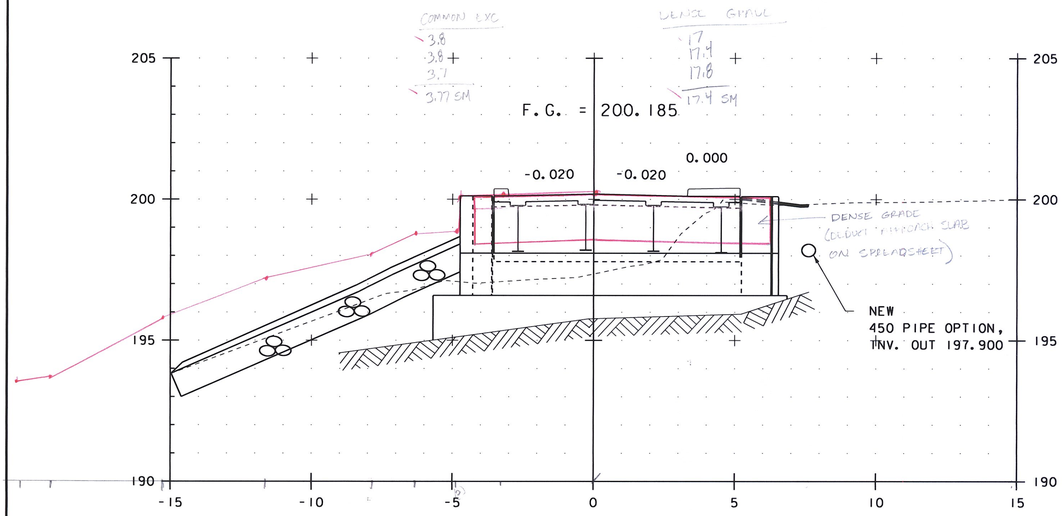
1+140.000

STA. 1+120 TO STA. 1+140

PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106 (3)S

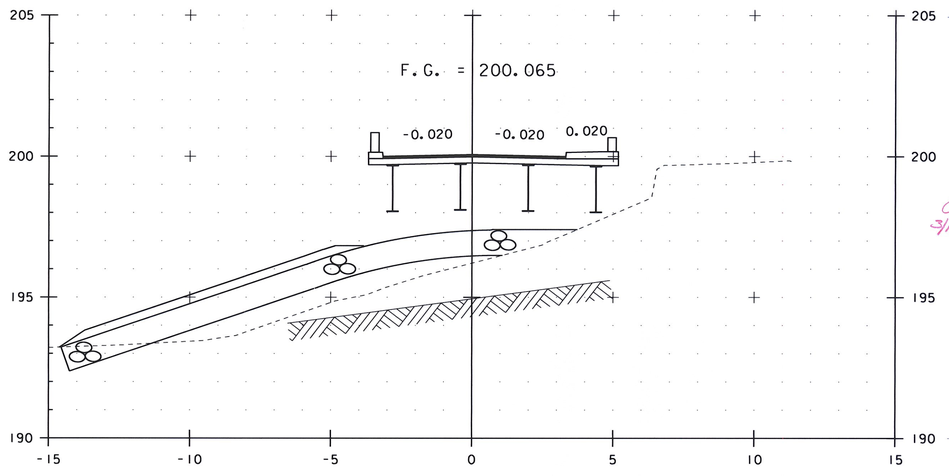
FILE NAME: s95j280xs.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: T. LACKEY
ROADWAY CROSS SECTIONS 4

PLOT DATE: 22-OCT-2012
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 50 OF 70

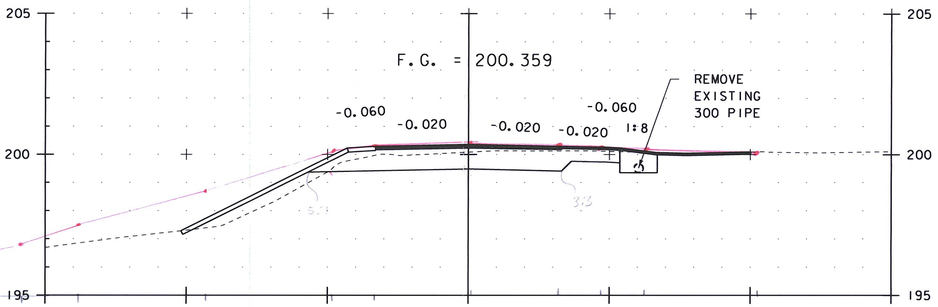


1+154.900
END BRIDGE

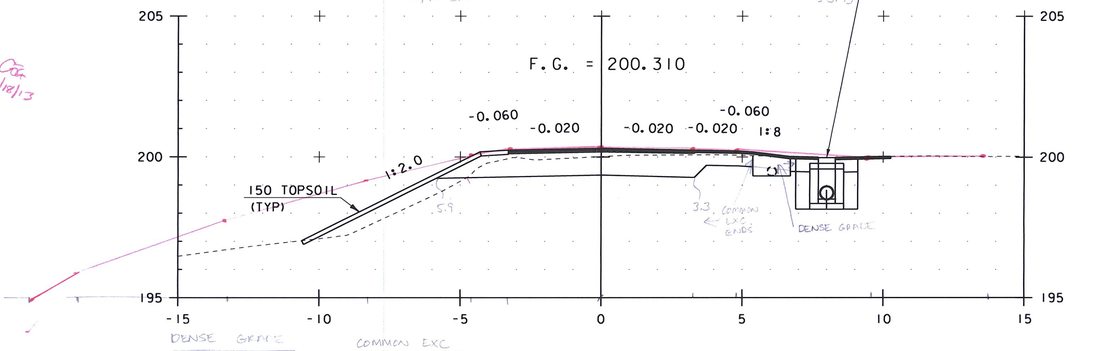
1+154.900



1+150.000



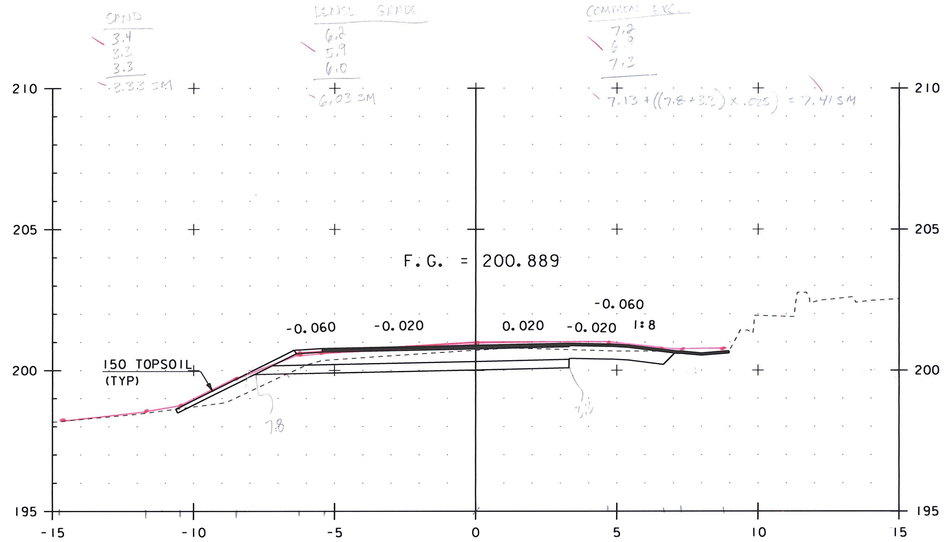
1+162.000



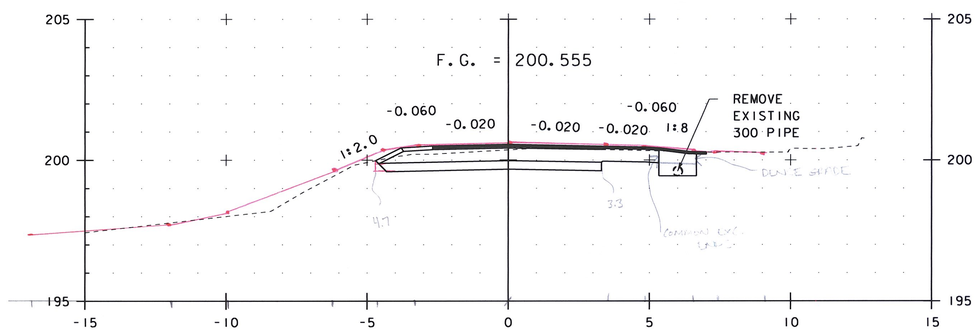
1+160.000

STA. 1+150 TO STA. 1+162

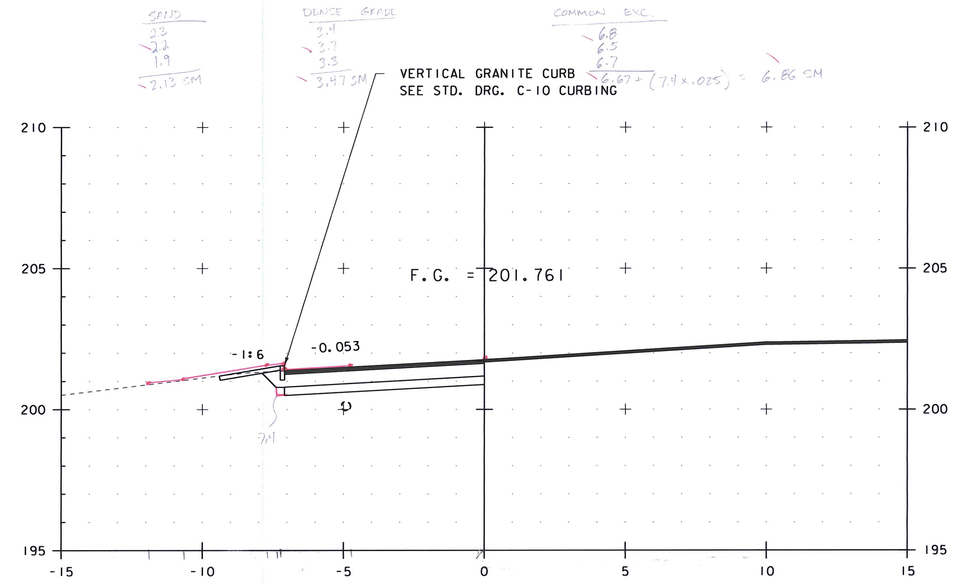
PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280xs.dgn	PLOT DATE: 22-OCT-2012
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ROADWAY CROSS SECTIONS 5	SHEET 51 OF 70



1+180.000

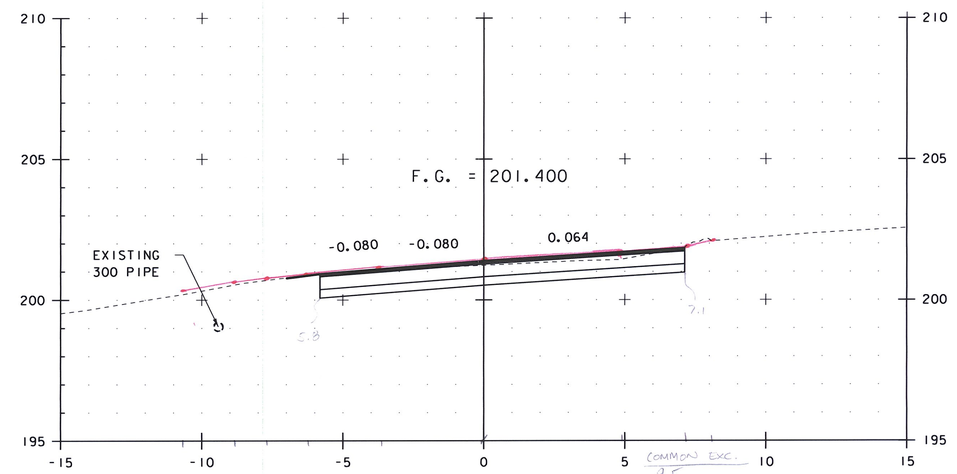


1+170.000
(SAND FULL DEPTH)



1+196.653
END PROJECT
BEGIN APPROACH

1+196.653



1+190.7 BEGIN VERTICAL GRANITE CURB

1+190.000

STA. 1+170 TO STA. 1+197

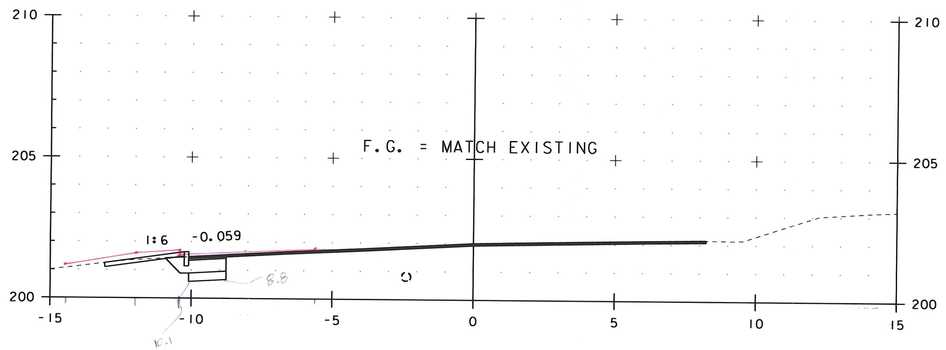
PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280xs.dgn	PLOT DATE: 22-OCT-2012
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ROADWAY CROSS SECTIONS 6	SHEET 52 OF 70

SAND
.5
.4
.5
.47 SM

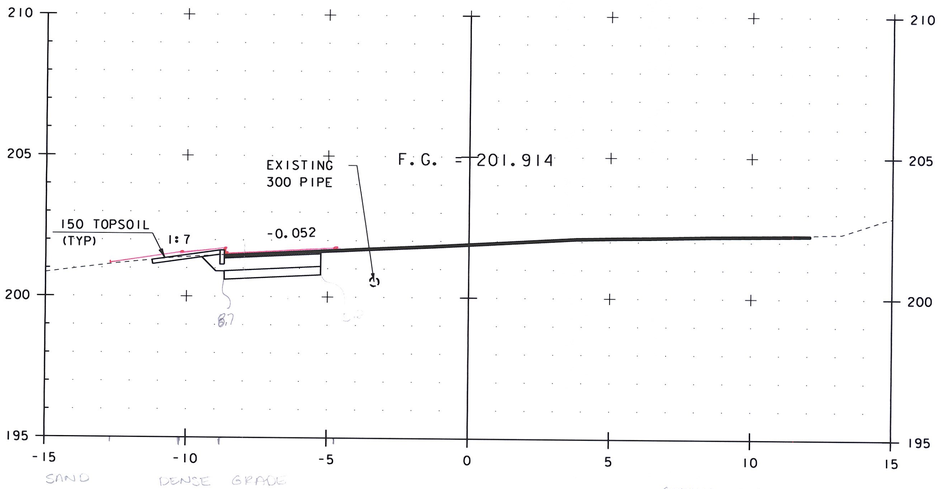
DENSE GRADE
.8
.9
.8
.83 SM

COMMON EXC.
1.4
1.5
1.6
1.5 + ((10.1 - 8.83) x .075) = 1.53 SM

1+211.731 22.043 LT
END VERTICAL GRANITE CURB
END APPROACH



1+202.081



1+200.000

SAND
.9
1.1
.9
.97 SM

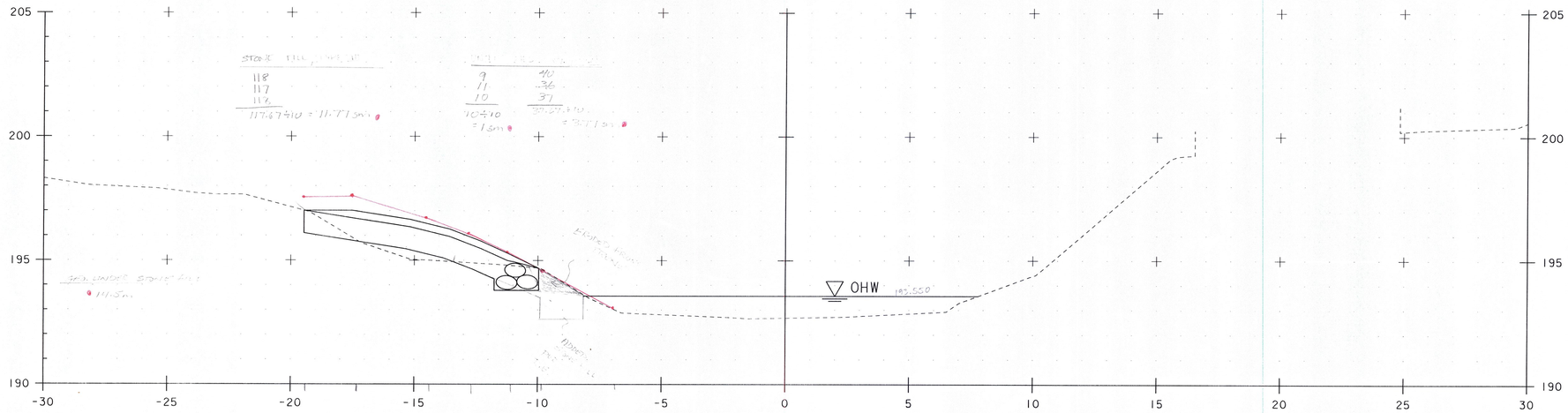
DENSE GRADE
1.7
1.8
1.8
1.77 SM

COMMON EXC.
3.4
3.1
3.2
3.23 + ((8.7 - 5.2) x .025) = 3.30 SM

MTR 10/6/12

STA. 1+200 TO STA. 1+202

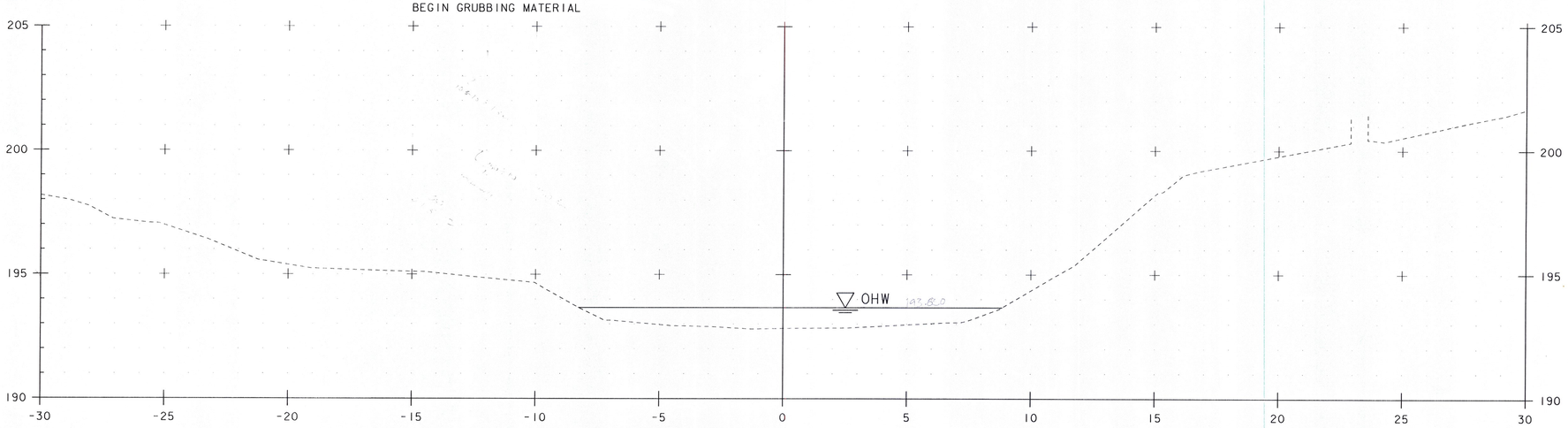
PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280xs.dgn	PLOT DATE: 22-OCT-2012
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
ROADWAY CROSS SECTIONS 7	SHEET 53 OF 70



2+033 LT
BEGIN STONE FILL, TYPE I

2+032 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN STONE FILL, TYPE III
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

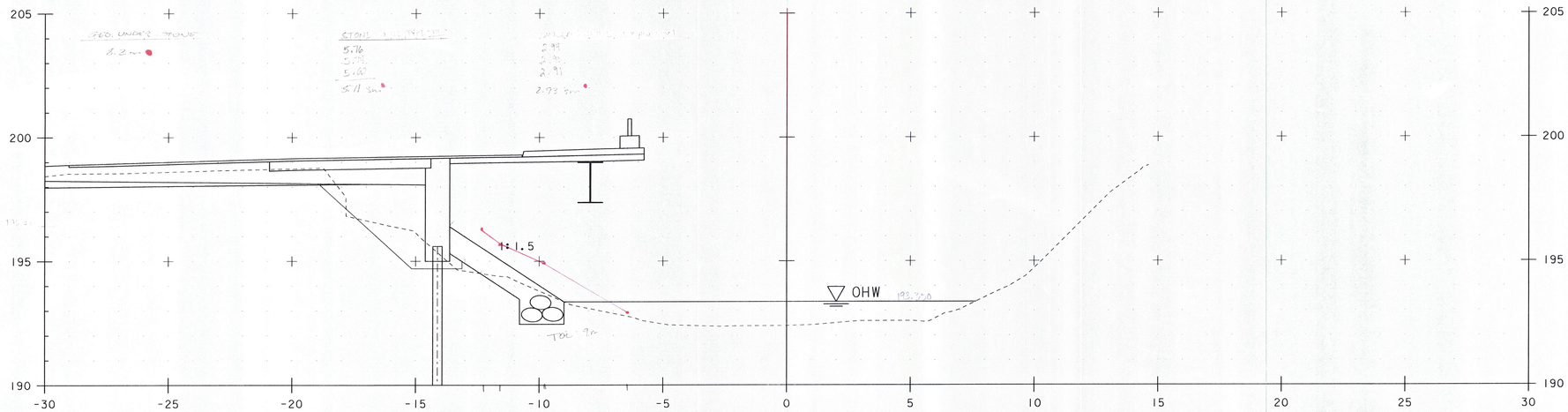
2+035.00



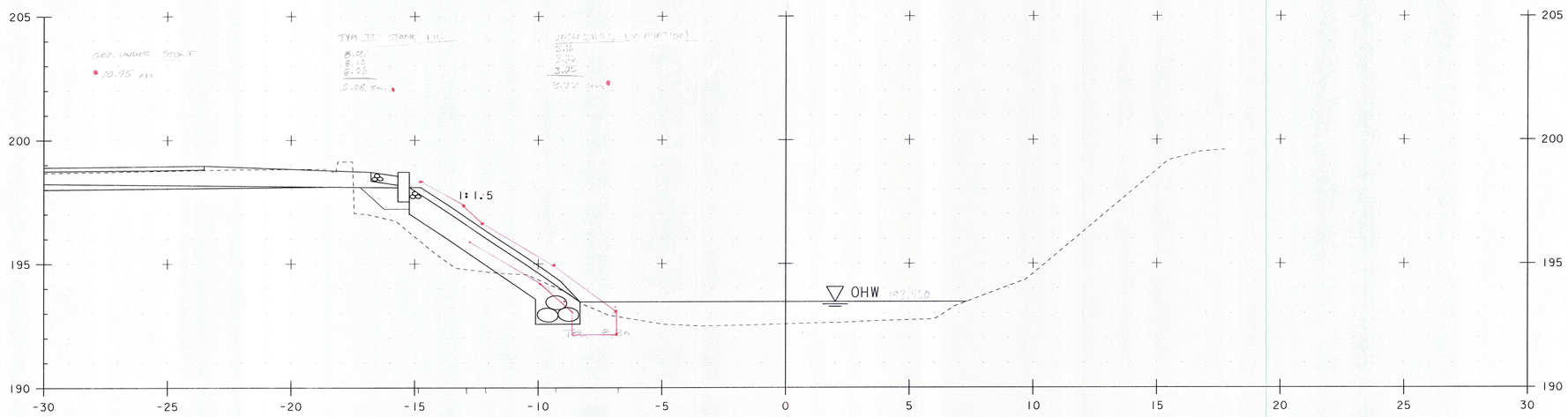
2+030.00

STA. 2+030 TO STA. 2+035

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95J280xs.dgn	PLOT DATE: 22-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
CHANNEL CROSS SECTIONS I	SHEET 54 OF 70



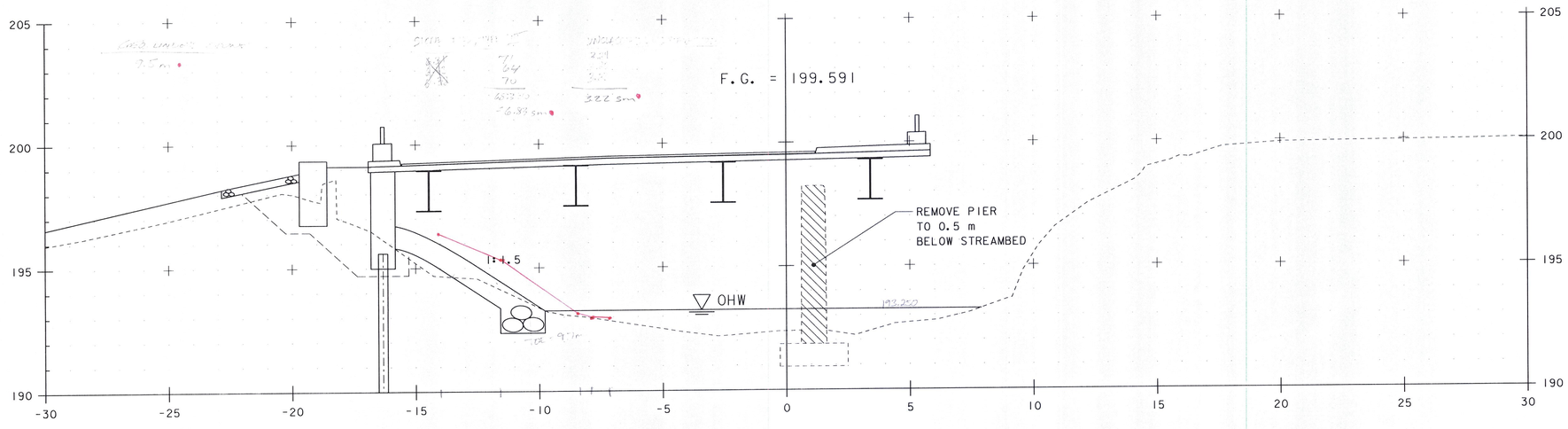
2+045.00



2+040.00

STA. 2+040 TO STA. 2+045

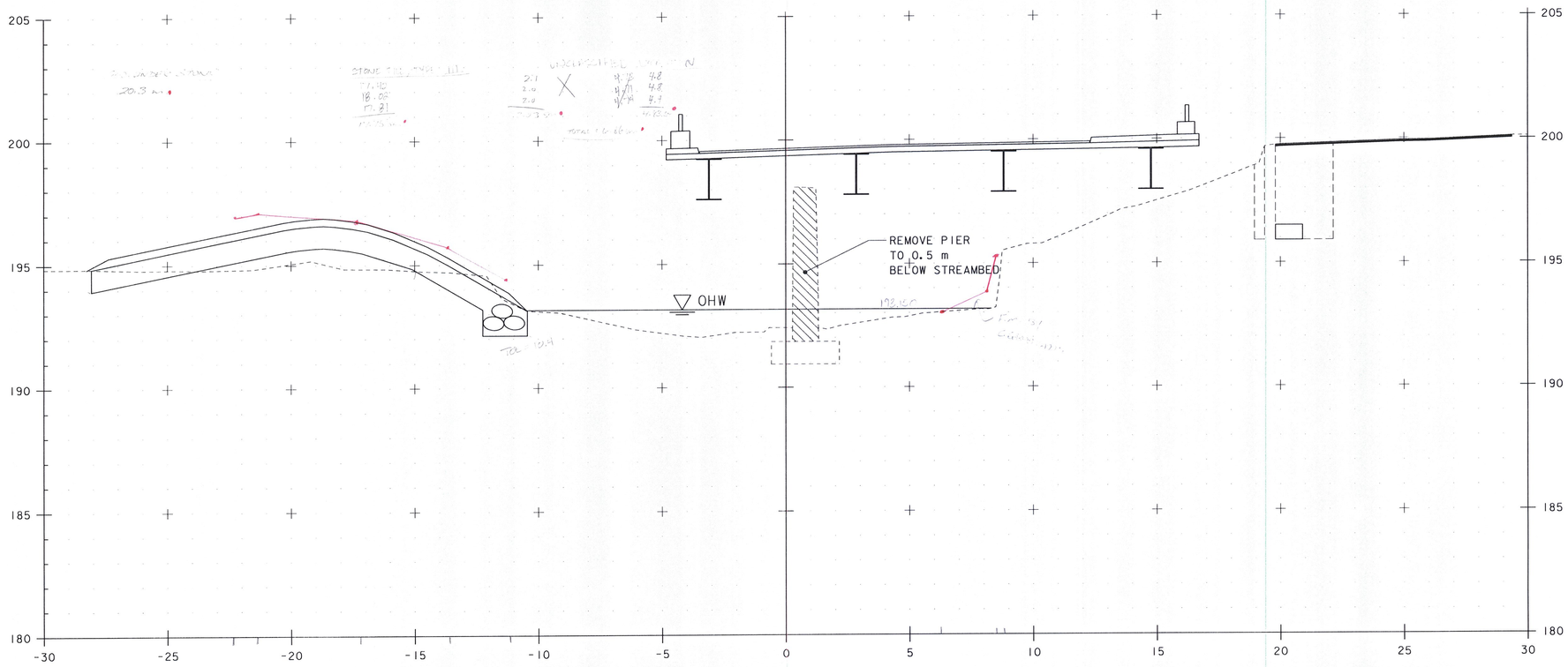
PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95J280xs.dgn	PLOT DATE: 22-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
CHANNEL CROSS SECTIONS 2	SHEET 55 OF 70



2+050.00

STA. 2+050 TO STA. 2+050

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95J280xs.dgn	PLOT DATE: 22-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
CHANNEL CROSS SECTIONS 3	SHEET 56 OF 70



2+059 LT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL, TYPE III
END GEOTEXTILE UNDER STONE FILL
END GRUBBING MATERIAL

2+055.00

2+056 RT
BEGIN STONE FILL, TYPE III

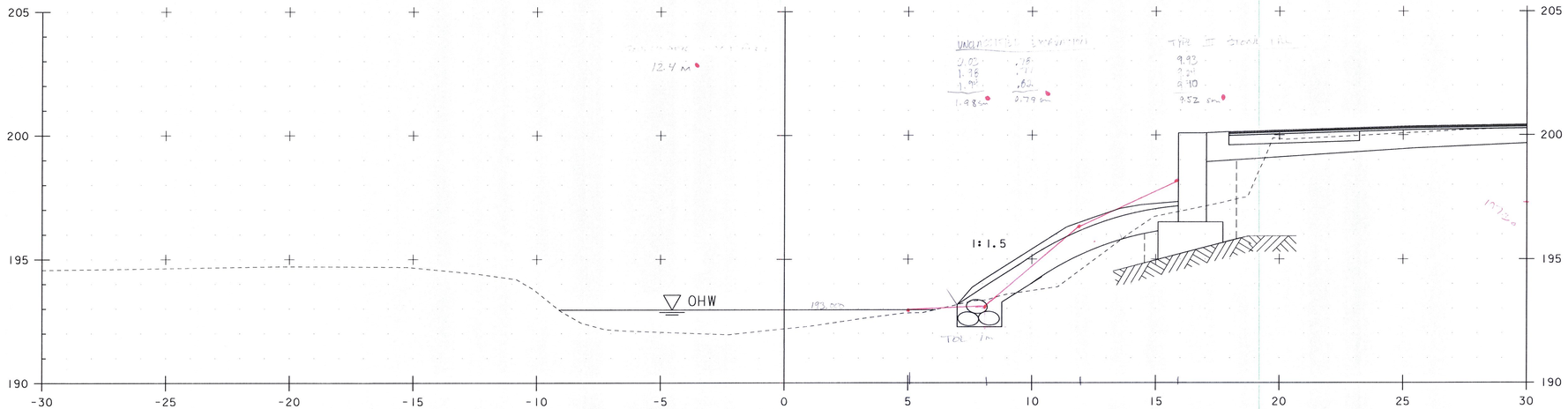
2+054 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN STONE FILL, TYPE I
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

STA. 2+055 TO STA. 2+055

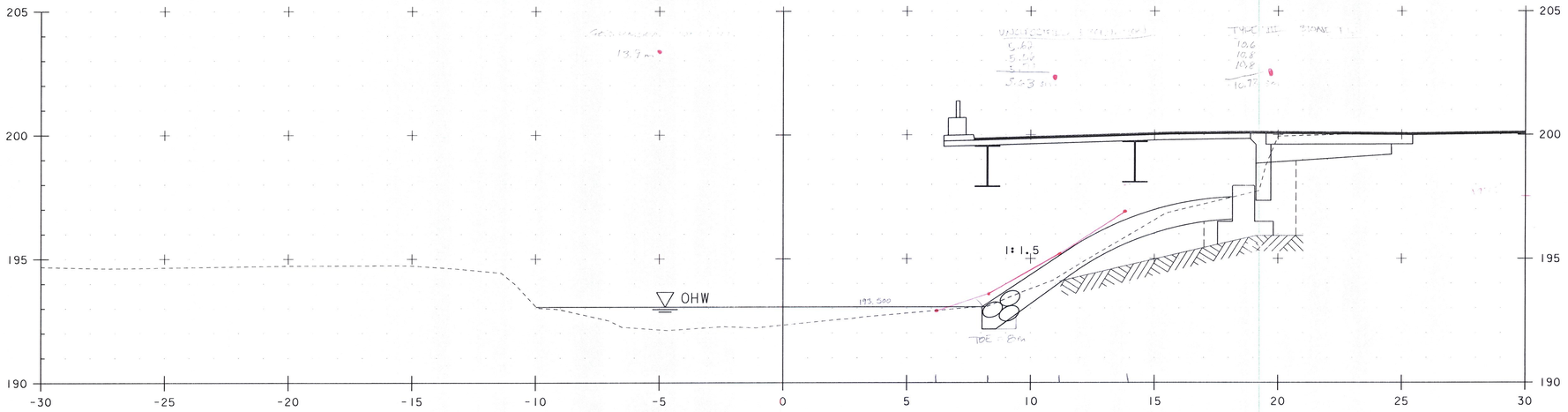
PROJECT NAME: NEWFANE
PROJECT NUMBER: BRF 0106 (3)S

FILE NAME: s95J280xs.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: T. LACKEY
CHANNEL CROSS SECTIONS 4

PLOT DATE: 22-JUL-2011
DRAWN BY: C. MOONEY
CHECKED BY: G. SWEENY
SHEET 57 OF 70



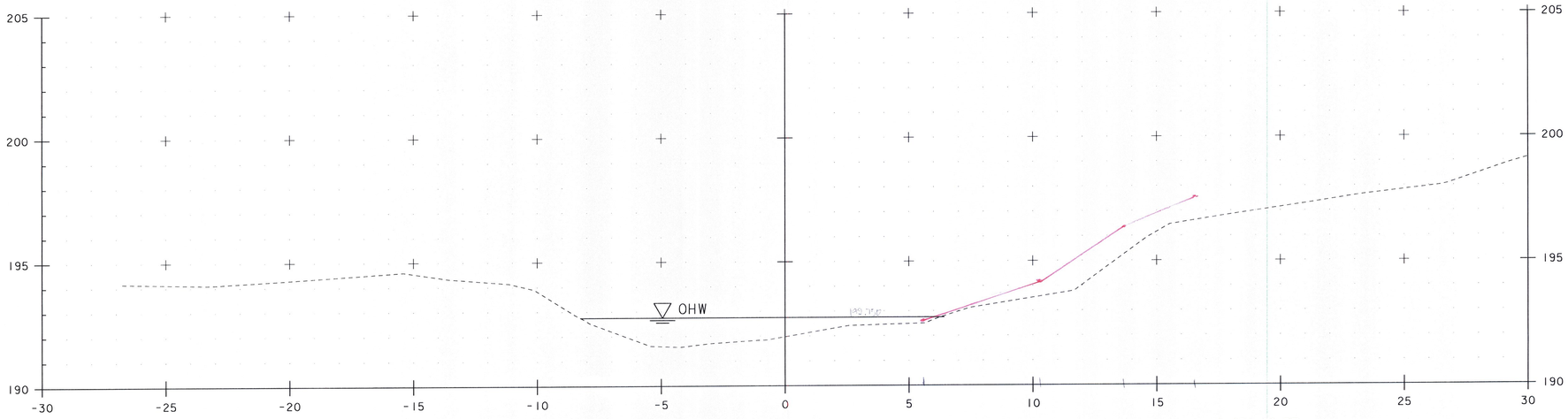
2+065.00



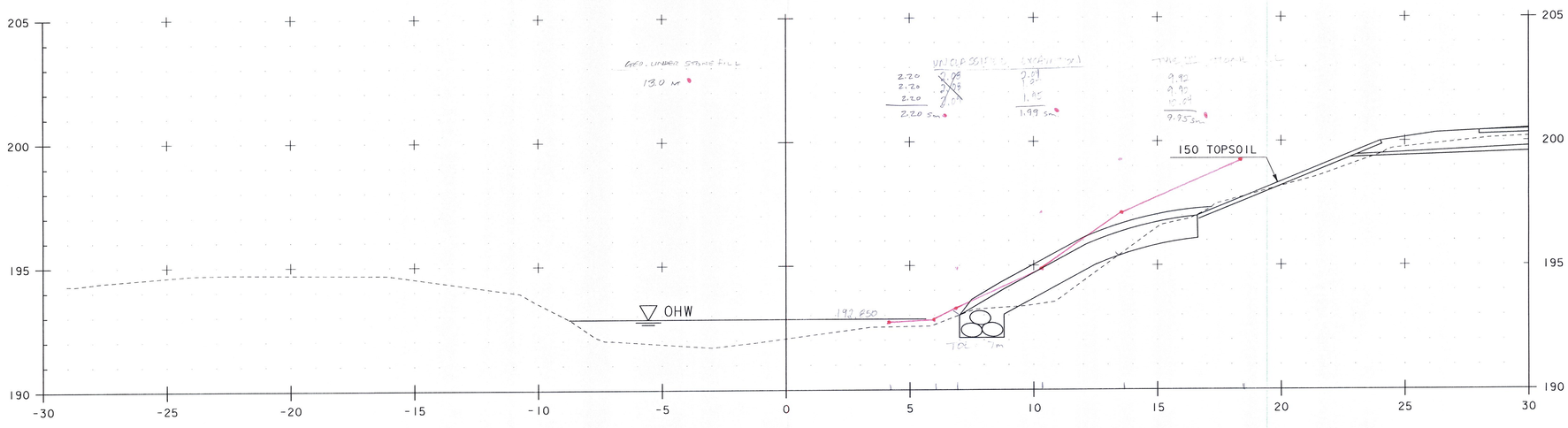
2+060.00

STA. 2+060 TO STA. 2+065

PROJECT NAME: NEWFANE	
PROJECT NUMBER: BRF 0106 (3)S	
FILE NAME: s95j280xs.dgn	PLOT DATE: 26-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
CHANNEL CROSS SECTIONS 5	SHEET 58 OF 70



2+075.00

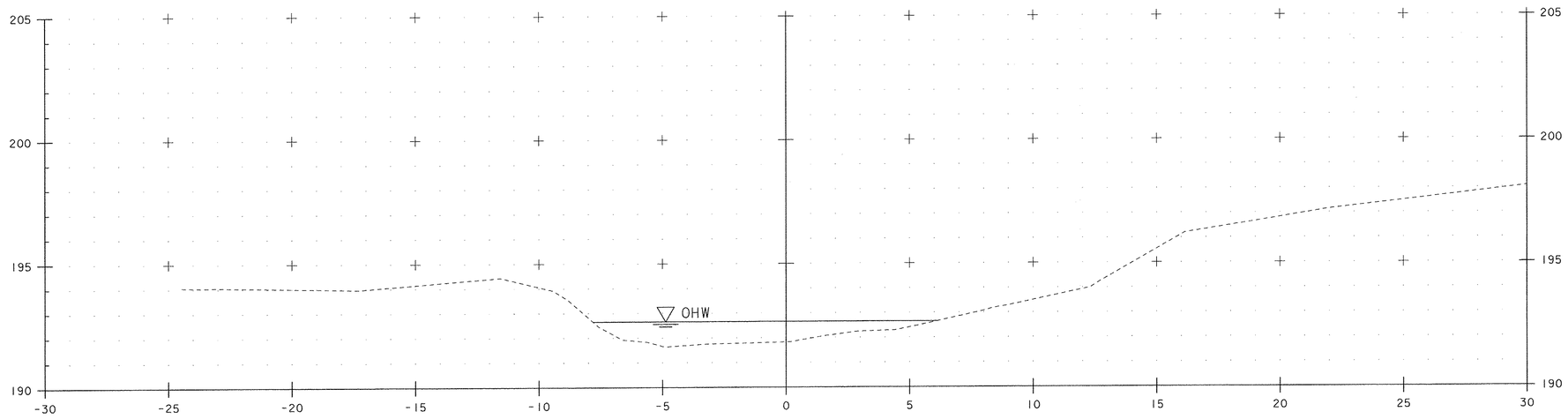


2+070.00

STA. 2+070 TO STA. 2+075

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106 (3)S
FILE NAME: s95j280xs.dgn	PLOT DATE: 22-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
CHANNEL CROSS SECTIONS 6	SHEET 59 OF 70

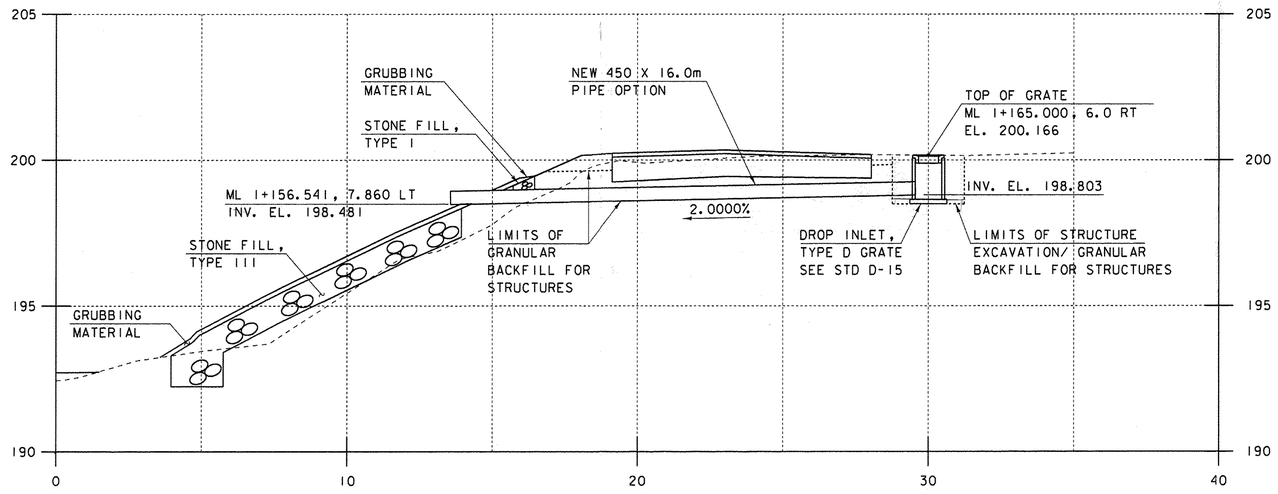
Metric



2+080.00

STA. 2+080 TO STA. 2+080

PROJECT NAME: NEWFANE	
PROJECT NUMBER: BRF 0106 (3)S	
FILE NAME: s95J280xs.dgn	PLOT DATE: 22-JUL-2011
PROJECT MANAGER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: T. LACKEY	CHECKED BY: G. SWEENY
CHANNEL CROSS SECTIONS 7	SHEET 60 OF 70



PIPE 4 PROFILE

TRENCH EXCAVATION OF EARTH

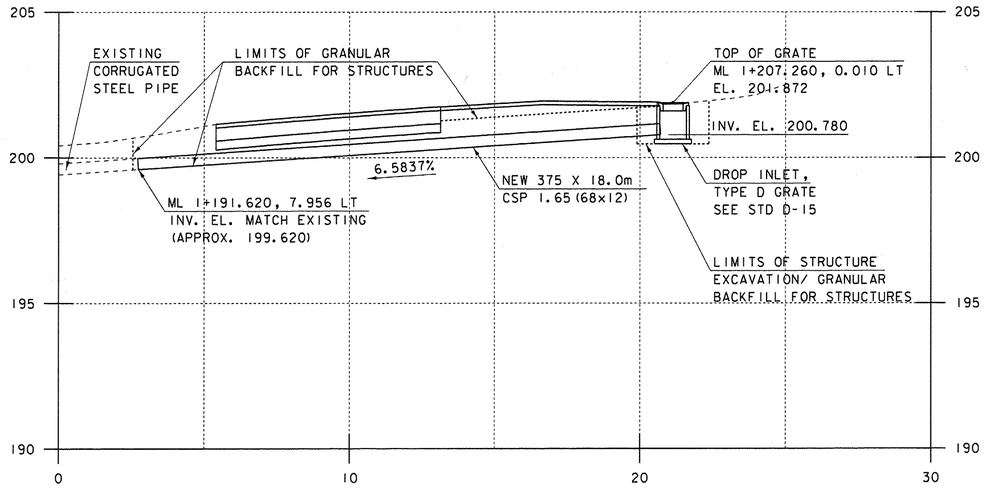
DI. (ABOVE 1.5m) - 3.5, 3.5, 3.5 = 3.5 AVG SM

DI. (BELOW 1.5m) - .3, .3, .3 = .3 AVG SM

PIPE EXCAVATION - 9.1, 9.2, 9.4 = 9.23 AVG SM
+ DI (ABOVE 1.5m)

MTK 2/28/12

CGC 3/22/12



PIPE 6 PROFILE

0 1 2 4 6 8 10

SCALE = 1:100

PROJECT NAME:	NEWFANE
PROJECT NUMBER:	BRF 0106(3)S
FILE NAME: s95]280 drain.dgn	PLOT DATE: 02-AUG-2012
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: G. ROY
DRAINAGE PROFILE SHEET	SHEET 1 OF 1

REVISIONS		
REV.	DESCRIPTION	DATE
A	SUBMIT	3/14/2012

GENERAL NOTES

1. ALL BEARINGS SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS, SECTIONS 531 AND 731, UNLESS NOTED OTHERWISE. ANCHOR RODS PER 714.08.

2. MATERIALS:
   PREFORMED FABRIC PAD.....SURFACE HARDNESS: 80±10 DUROMETER (SEE SECTION 731)
   STEEL PLATES.....AASHTO M270M GR.250 (ASTM A36)

3. TOLERANCES PLATES:
   THICKNESS.....±1.6mm (±1/16")
   LENGTH & WIDTH.....±6mm (±1/4")
   HOLE/SLOT POSITION.....±1.6mm (±1/16") FROM C/L
   SOLE/SLOT SIZE.....-0, +1.6mm (-0, +1/16")
   FLATNESS.....0.001 X NOM
   BEVEL SLOPE.....±0.002 rad

4. MARKINGS:
   EACH BEARING SHALL BE PERMANENTLY MARKED IN A LOCATION THAT IS VISIBLE WHEN THE DEVICE IS INSTALLED IN THE COMPLETED STRUCTURE. MARKING SHALL BE SEP STANDARD:
   CONTRACT/ORDER #
   LOT#
   BEARING ID # (MK. #)
   LOCATION/BRIDGE #
   ELASTOMER TYPE AND GRADE
   ORIENTATION (WHERE APPLICABLE)

5. PAINT/FINISH:
   MK.01 (ITEM 531.10 - ABUT 2) STEEL PLATES SHALL BE GALVANIZED PER ASTM A153 AND MK. 02 ANCHOR RODS, NUTS, AND PLATE WASHERS TO BE GALVANIZED PER ASTM A153/A123, AS APPLICABLE.

   MK.03 & 04 (ITEM 506.55 - ABUT. 1) DO NOT REQUIRE GALVANIZE.

6. TESTING: IN ACCORDANCE WITH VERMONT AOT SPECIFICATIONS.
   PROVIDE 2" X 2" SAMPLE OF FABRIC PAD PER SECTION 731, IF REQUIRED.

7. REPRESENTATIVE
   CUSTOMER SERVICE: STEVE BOWMAN.....903-677-4318
   TECHNICAL: MIKE SPELLMAN.....903-677-4342

REVEIWER,
IS THE FABRIC PAD SAMPLE REQUIRED?
IF SO, WHO PERFORMS THE TESTING?

Testing of fabric pad shall be done by the manufacturer who shall then provide a Type A certification. See subsection 700.02(c)(1) in the Vermont AOT Specifications for requirements of certification.

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY CAM
03/15/2012
RESUBMIT _____ APPROVED AS NOTED
BY C. CARLSON DATE 03/28/2012

Seismic Energy Products, L.P.
STRUCTURAL BEARINGS FOR BRIDGES & BUILDINGS
ATHENS, TX PHONE: 903-675-8571

BEARING ASSY FOR:
VERMONT AGENCY OF TRANSPORTATION

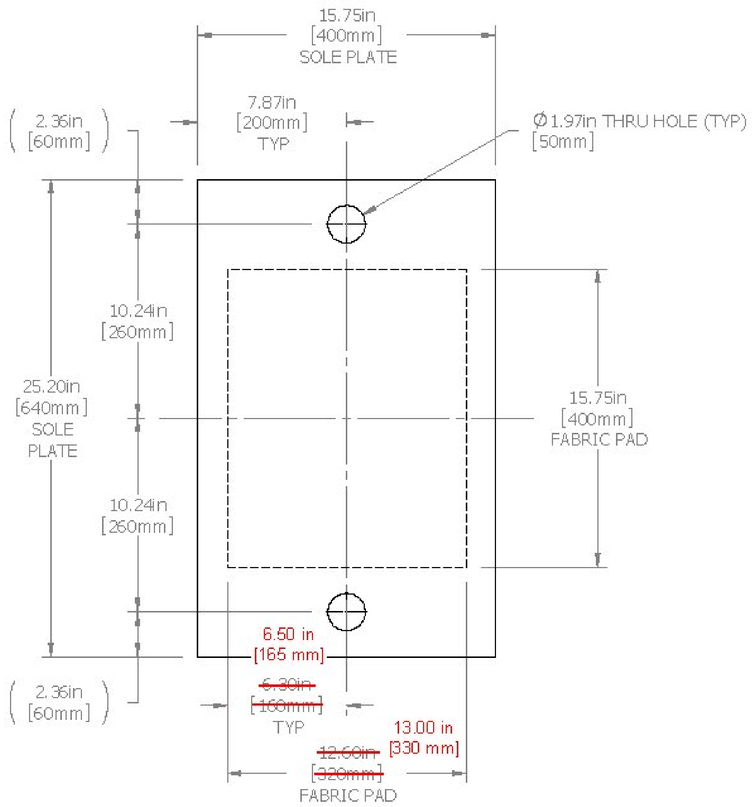
NEWFANE

CONTRACTOR:
RENAUD BROTHERS

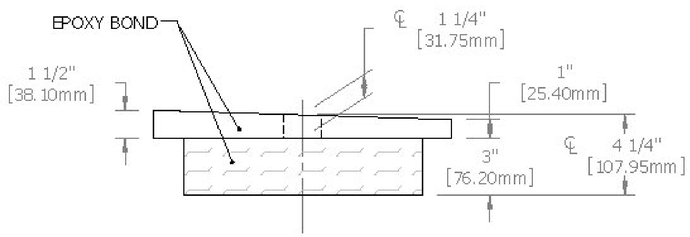
DRAWN CWILLIAMS	DATE 3/12/12	PO # S. QTE
CHECKED .	DATE .	SO NO. & ST. **51251-R1 VT**
PROJECT NO. BRF 0106(3)S	REVIEWED KMOUSER	DATE 3/14/12

GENERAL NOTES:
SEE SHEET 1

REVISIONS		
REV.	DESCRIPTION	DATE
A	SUBMIT	3/14/2012



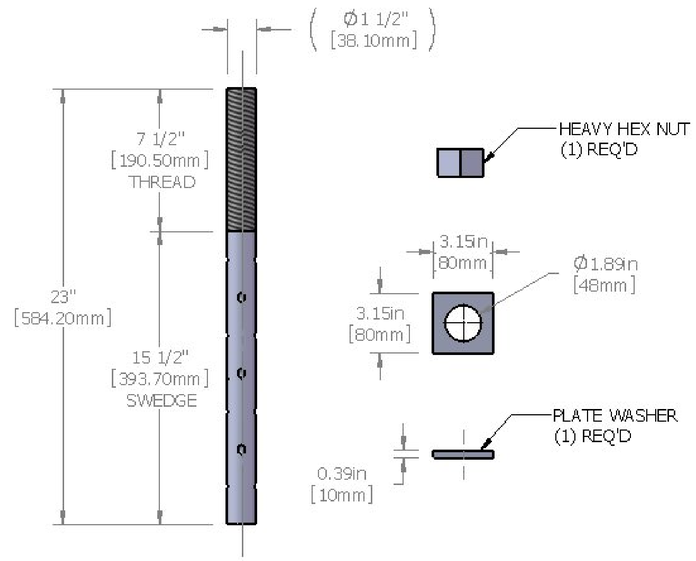
PLAN VIEW



ELEVATION VIEW

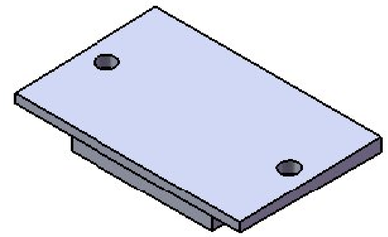
MK.01
BEARING DEVICE ASSEMBLY -
PREFORMED FABRIC PAD
@ ABUTMENT 2
(ITEM 531.10)
(4) REQ'D

DESIGN VERTICAL LOAD: 1710 KN
DESIGN HORIZ. LOAD - MIN. 10% OF VERTICAL LOAD



MK.02
ANCHOR ASSEMBLY
1 1/2-6UNC X 23" LONG ASTM F568M, CLASS 4.6 (ASTM A307) SWEDGED ANCHOR W/ONE AASHTO M291 (ASTM A563) HEAVY HEX NUT AND ONE 10mm X 80mm X 80mm AASHTO M270M GR. 250 (ASTM A36) STEEL PLATE WASHER - ALL GALVANIZED
@ ABUTMENT 2
(ITEM 531.10)
(8) REQ'D

REVEIWER,
PLEASE CONFIRM 320mm FABRIC PAD DIMENSION
AS SPELLED OUT IN "ABUTMENT BRG SIDE VEIW" IN CONTRACT PLANS
(CENTER TO EDGE DISTANCE = 160mm)
CONFLICTING CENTER TO EDGE DISTANCES SHOWN AS 115, IN SAME VEIW AND 165 IN "ABUTMENT 2 BRG PLAN DETAIL".



ISOMETRIC VIEW
NOT TO SCALE
(FOR REFERENCE ONLY)

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR **OK'D BY** CAM
03/15/2012
RESUBMIT _____ **APPROVED** AS NOTED
BY C. CARLSON **DATE** 03/28/2012

Seismic Energy Products, L.P.
STRUCTURAL BEARINGS FOR BRIDGES & BUILDINGS
ATHENS, TX PHONE: 903-675-8571

BEARING ASSY FOR:
VERMONT AGENCY OF TRANSPORTATION

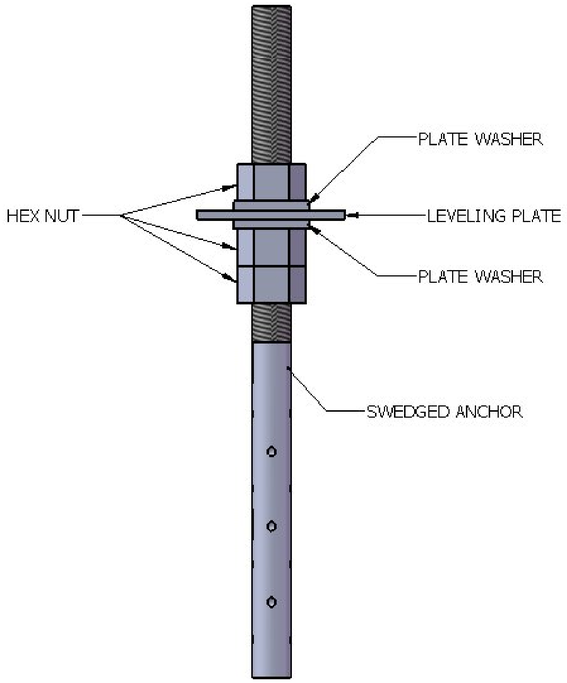
NEWFANE

CONTRACTOR: RENAUD BROTHERS

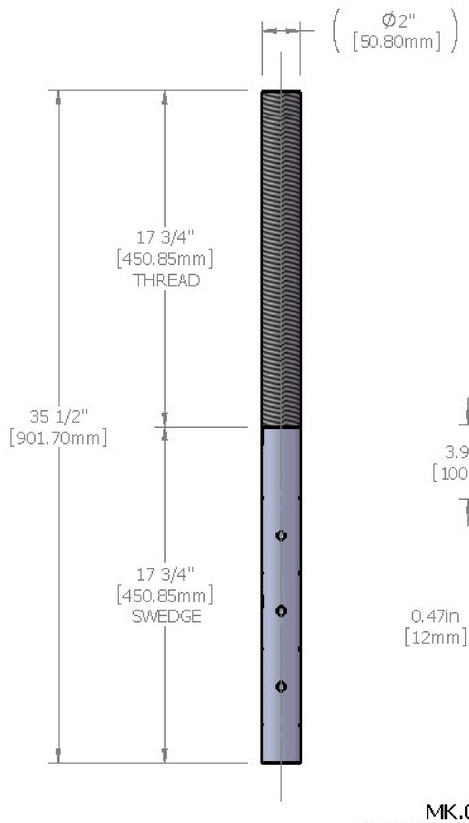
DRAWN CWILLIAMS	DATE 3/12/12	PO # S. QTE
CHECKED .	DATE .	SO NO. & ST. 51251-R1 VT
PROJECT NO. BRF 0106(3)S	REVIEWED KMOUSER	DATE 3/14/12

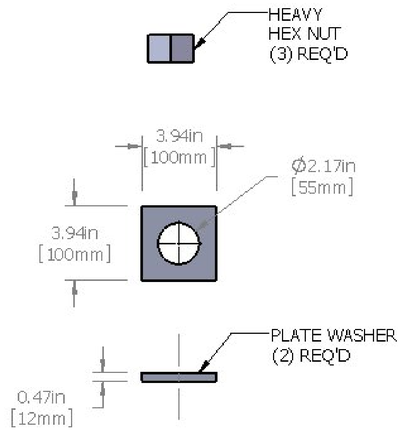
GENERAL NOTES:
SEE SHEET 1

REVISIONS		
REV.	DESCRIPTION	DATE
A	SUBMIT	3/14/2012

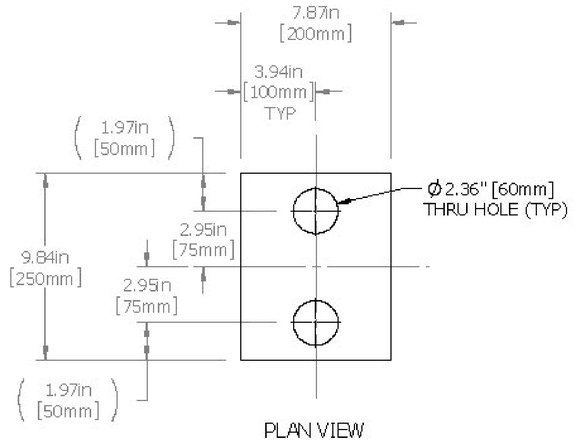


LEVELING PLATE ASSEMBLY
DETAIL
NTS
(FOR REFERENCE ONLY)

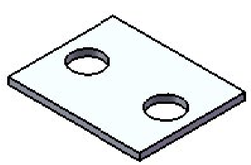




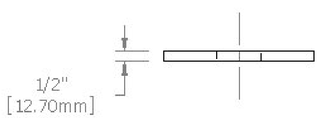
MK.04
ANCHOR ASSEMBLY
2-4.5 UNC X 35 1/2" LONG ASTM F568M, CLASS 4.6 (ASTM A307)
SWEDGED ANCHOR W/THREE AASHTO M291 (ASTM A563) HEAVY
HEX NUTS AND TWO 12mm X 100mm X 100mm AASHTO M270M GR.
250 (ASTM A36) STEEL PLATE WASHERS - NO GALVANIZE REQ'D
@ABUTMENT 1
(ITEM 506.55)
(8) REQ'D



PLAN VIEW



ISOMETRIC VIEW
NOT TO SCALE
(FOR REFERENCE ONLY)



ELEVATION VIEW

MK.03
LEVELING PLATE
ABUTMENT 1
(ITEM 506.55)
(4) REQ'D

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY CAM
03/15/2012
RESUBMIT _____ APPROVED X
BY C. CARLSON DATE 03/28/2012

Seismic Energy Products, L.P.
STRUCTURAL BEARINGS FOR BRIDGES & BUILDINGS
ATHENS, TX PHONE: 903-675-8571

BEARING ASSY FOR:
VERMONT AGENCY OF TRANSPORTATION

NEWFANE

CONTRACTOR: RENAUD BROTHERS

DRAWN CWILLIAMS	DATE 3/12/12	PO # S. QTE
CHECKED .	DATE .	SO NO. & ST. 51251-R1 VT
PROJECT NO. BRF 0106(3)S	REVIEWED KMOUSER	DATE 3/14/12

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

1) ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 WITH LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS FOR HIGHWAY BRIDGES 4th EDITION WITH INTERIMS THROUGH 2010.

MATERIAL SPECIFICATIONS

1) ALL STEEL TO BE UNPAINTED
AASHTO M270M (ASTM A709M) GRADE 50W.

2) MATERIAL NOTED "CVN" OR "T2" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714.01.

3) HIGH STRENGTH BOLTS:
-ASTM A325 (AASHTO M164) TYPE 3 W/ A563 GRADE C3 NUTS & F436W WASHERS

BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED.
DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

FABRICATION

1) ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).

WELDING

1) THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-08 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2) WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3) NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

4) SEE DETAILS "WS1 & WS2" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

FIELD CONNECTIONS

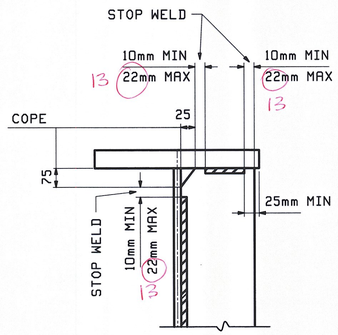
1) ALL FIELD CONNECTIONS SHALL BE MADE WITH A-325 HS BOLTS, INSTALLED PER SECTION 506.19(c).

2) BOLTS SHALL HAVE HEAVY HEX NUT, HEAVY HEX HEAD, AND AT LEAST ONE FLAT WASHER EACH. WASHER TO BE PLACED UNDER TURNED ELEMENT.

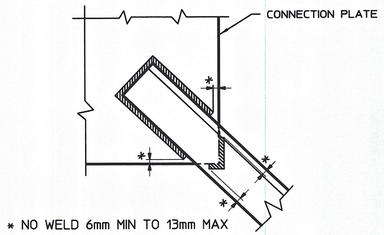
3) PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.

CLEANING

1) ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH SSPC SP-10.



⚠ **DETAIL "WS1"**
STIFFENER WELD TERMINATION



⚠ **DETAIL "WS2"**
TYP. WELD TERMINATION

VTrans Received DEC 8 2011
CK'D JMP OK'd BY GPB
Resubmit BY Clive APPROVED AS NOTED DATE 12-15-11

Structures Copy

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1	10/26	REVISED DETAILS WS1 & WS2	TJB	PCP		
0					11-30-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE GN1	AS NOTED	AS NOTED

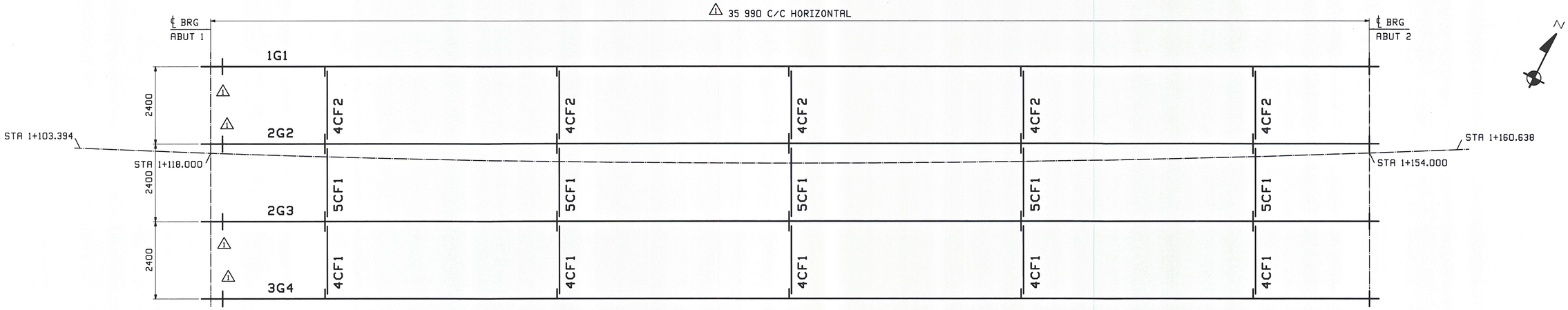
DESCRIPTION: GENERAL NOTES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3090

STRUCTURE: VT TH 2 over MARLBORO BRANCH BRIDGE NO 14 NEWFANE County of Windham	DRAWN: TJB	DATE: 10/12
	CHK'D: PCP	DATE: 10/14
LOCATION: Newfane	JOB NO.	DWG NO.
PROJ NO. BRF 0106 (3)S	508	GN1
CUSTOMER: VT AOT		REV. ⚠

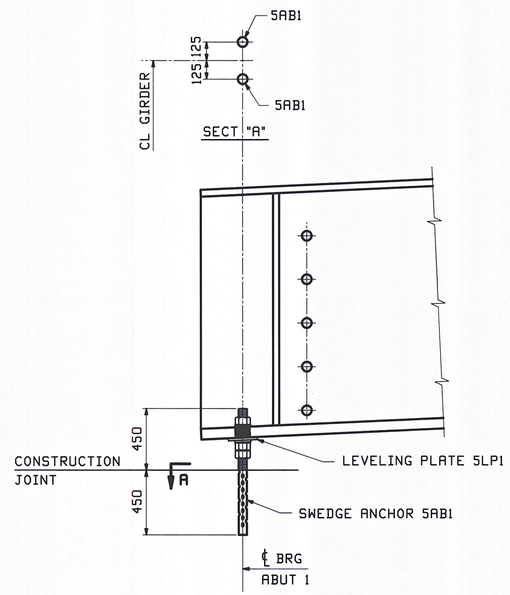
TJB Mon, Nov 21, 2011 03:53:14 PM J:\users\jobs\2010\GN1.dwg



FRAMING PLAN

FIELD BOLT LIST							A325 Type 3 BOLTS							
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														
2														CROSSFRAMES
3	180	7/8	2 1/4	6	30	23	10	13					1	TOP GUSSET ~ INT STIFFENER
4	300	7/8	2 1/4	10	30	23	10	13					1	BTM GUSSET ~ INT STIFFENER
5														
WASHER CODES														
1: 1 Hard Flat Washer														

FIELD BOLT SUMMARY				2% + 3 ADDED, MIN. 3 EXTRA		
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	493	7/8	A325 Type 3	2 1/4	480	
2						
3	493	Hard Flat Washers for 7/8 ø BOLT				
4						
5						
6						



⚠ TYPICAL GIRDER END VIEW @ ABUT 1

1. All bolt diameters and lengths are shown in inches (english unit of measurement).
2. All grip values are shown in metric units.

VTrans Received CK'd BY DEC 8 2011 Resubmit By Date APPROVED 12-9-11

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1	10/26	REVISED PER COMMENTS	TJB	PCP		
0					11-30-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: FRAMING PLAN & FIELD BOLTS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3050

STRUCTURE:	VT TH 2 over MARLBORO BRANCH BRIDGE NO 14 NEWFANE County of Windham	DRAWN: TJB	DATE: 10/11
		CHK'D: PCP	DATE: 10/14
LOCATION:	Newfane	JOB NO.	DWG NO.
PROJ NO.	BRF 0106 (3)S	508	E1
CUSTOMER:	VT AOT		REV. ⚠1

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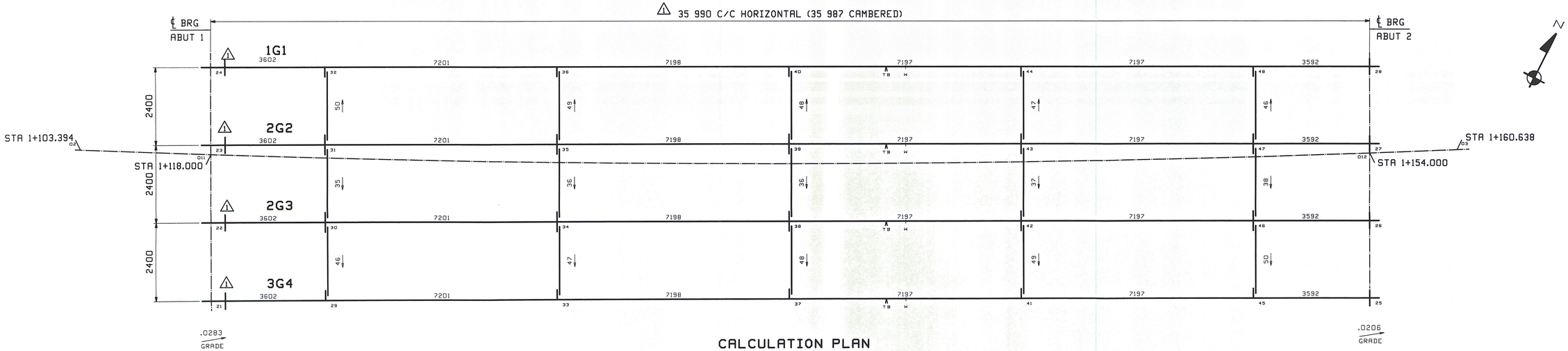
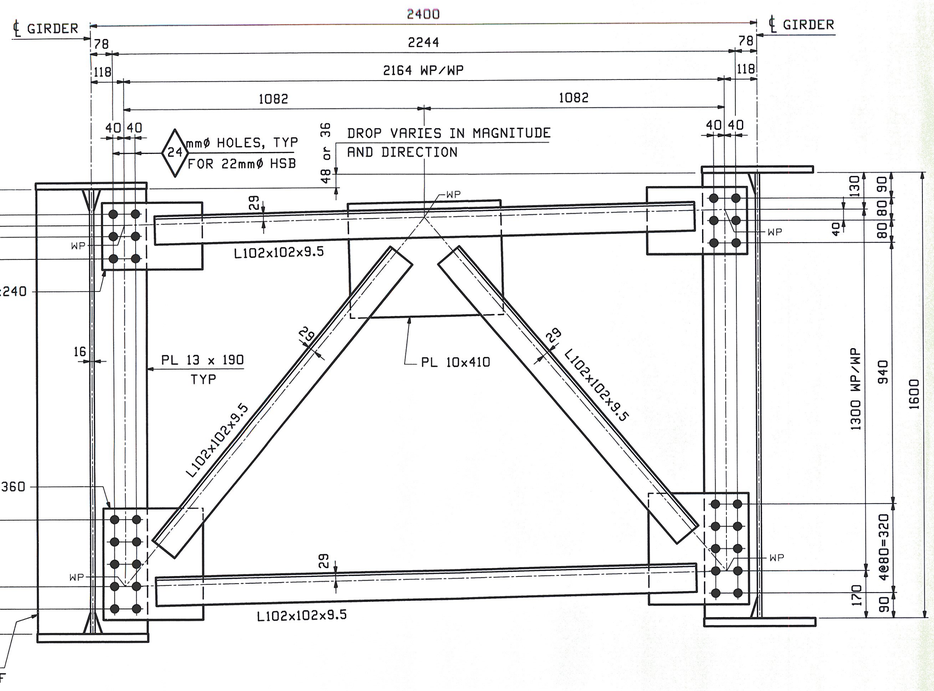


CALCULATION PLAN



TYPICAL INTERMEDIATE CROSSFRAME

LOOKING BACK STATION

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

CALCULATION PLAN NOTES:

1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTTOM OF WEBS WITH CORRECTIONS MADE FOR DL CAMBER & GRADE (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZONTAL PLANE (UN).
3. ARROW POINTS TOWARD LOW END OF MEMBER.
4. ENDS OF GIRDERS ARE VERTICAL AFTER DL ROTATION.
5. CROSSFRAME STIFFENERS ARE NORMAL TO GRADE.
6. BOTTOM POINT NUMBERS = TOP POINT NUMBERS + 100.
7. DROPS SHOWN ARE FROM TOP OF WEB TO TOP OF WEB.
8. COMBINE DROPS FOR +/-3mm.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1	10/26	REVISED PER COMMENTS	TJB	PCP		
0					11-30-11	

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOTED | SHOP BOLTS: AS NOTED

DESCRIPTION: CALCULATION PLAN

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3050

STRUCTURE: VT TH 2 over MARLBORO BRANCH
BRIDGE NO 14
NEWFANE
County of Windham

DRAWN: TJB DATE: 10/11
CHK'D: PCP DATE: 10/14

LOCATION: Newfane | JOB NO. 508 | DWG NO. WS1
PROJ NO. BRF 0106 (3)S | REV. ⚠
CUSTOMER: VT AOT

VTrans Received DEC 8 2011 CK'D WP OK'd BY
Resubmit BY CWC APPROVED DATE 12-19-11

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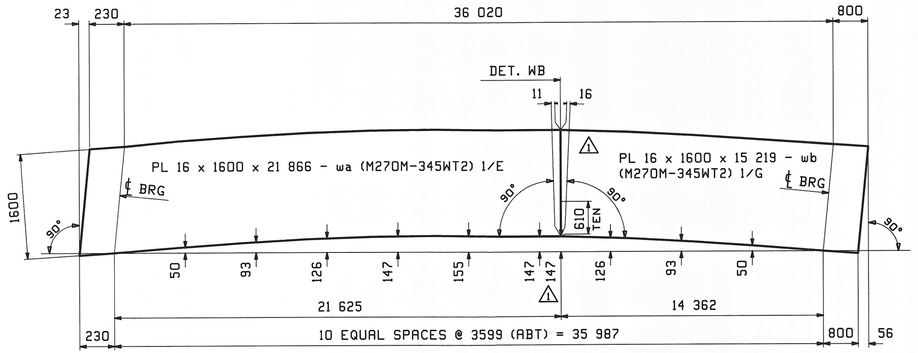
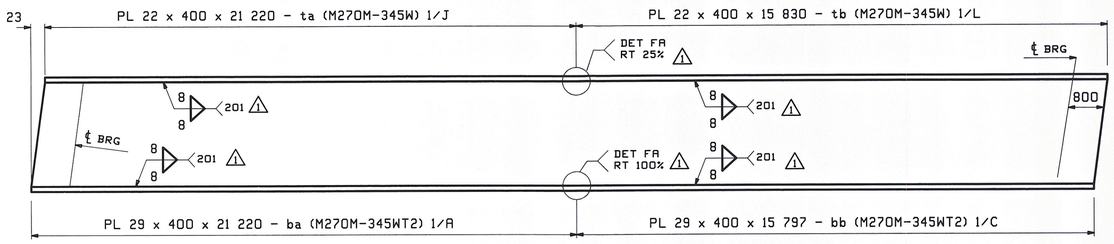
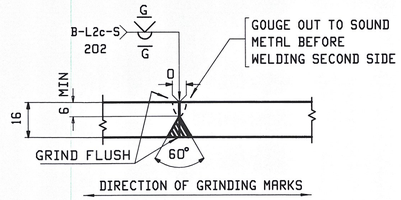


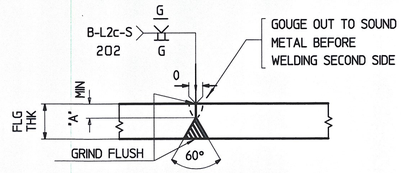
CAMBER DIAGRAM FOR 1G1, 2G2, 2G3 & 3G4



FLANGE DIAGRAM FOR 1G1, 2G2, 2G3 & 3G4



WEB PLATE SPLICE DETAIL "WB"



FLANGE PLATE SPLICE DETAIL "FA"

FLG THK	"A"
22	6
29	10

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	10/26	REVISED PER COMMENTS	TJB	PCP		
0					11-30-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
AS NOTED	SEE SHEET GN1	NONE	NONE

DESCRIPTION: WEB & FLANGE CUTTING

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE.
SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722
FAX. (207) 780-6726

TENSOR 3050

STRUCTURE: VT TH 2 over MARLBORO BRANCH BRIDGE NO 14 NEWFANE County of Windham	DRAWN: TJB	DATE: 10/12
	CHKD: PCP	DATE: 10/14
LOCATION: Newfane	JOB NO.	DWG NO.
PROJ NO. BRF 0106 (3)S	508	C1
CUSTOMER: VT AOT		REV. 1

VTrans
Received
CK'd by
DEC 8 2011
Resubmit
APPROVED
BY
DATE 12-19-11

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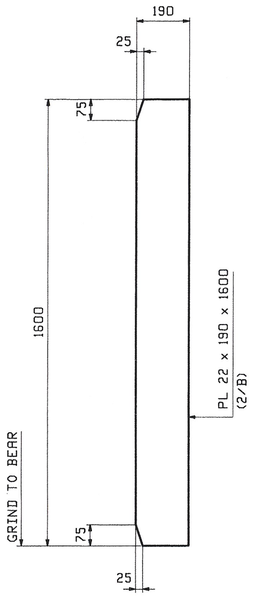
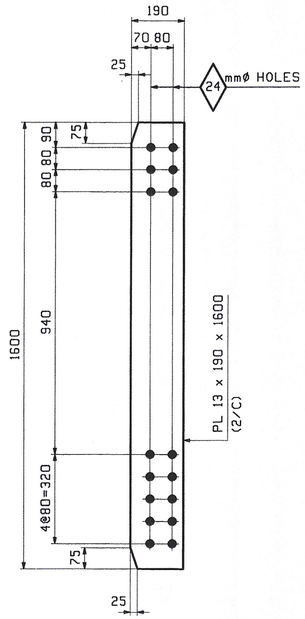
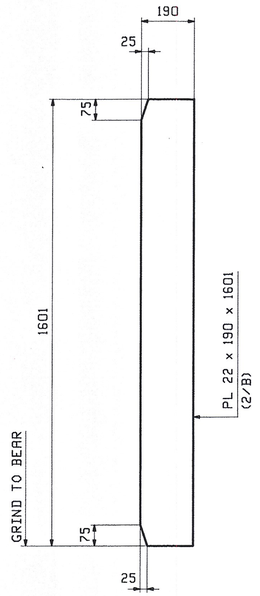


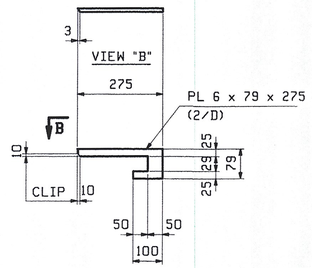
8 ~ x1a
ABUT 1 BRG STIFF



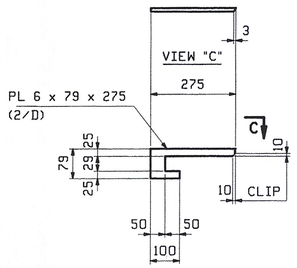
30 ~ x1b
CF CONN STIFF



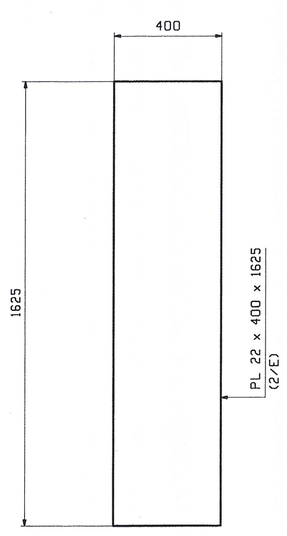
8 ~ x1c
ABUT 2 BRG STIFF



1 ~ x1d
DRIP PLATE - GIRDER 1G1
FASCIA SIDE



1 ~ x1f
DRIP PLATE - GIRDER 3G4
FASCIA SIDE



4 ~ x1g
ABUT 2 END PLATE

RECEIVED
CK'D BY WP OK'D BY
OCT 24 2011
RESUBMIT APPROVED
BY CWE DATE 12-15-11

NOTE:
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						OCT 19 2011

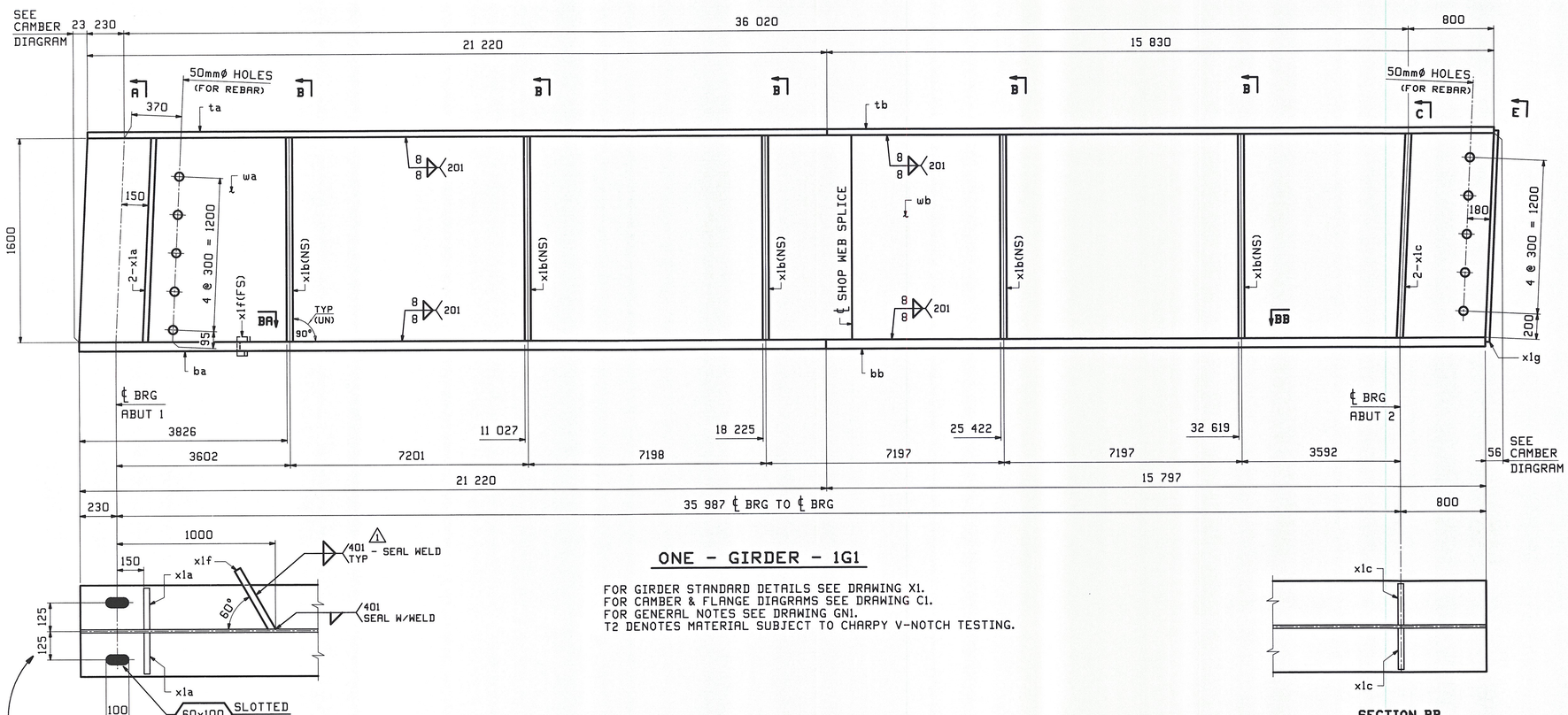
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	AS NOTED	AS NOTED

DESCRIPTION: STANDARD DETAIL DRAWINGS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3090

STRUCTURE:	VT TH 2 over MARLBORO BRANCH BRIDGE NO 14 NEWFANE County of Windham	DRAWN: TJB	DATE: 10/11
		CHK'D: PCP	DATE: 10/14
LOCATION:	Newfane	JOB NO.	DWG NO.
PROJ NO.	BRF 0106 (3)S	508	X1
CUSTOMER:	VT AOT		REV. △

PCP Mon, Oct 17, 2011 03:53:48 PM J:\2011\2011-3090\X1 | Rev0



ONE - GIRDER - 1G1

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

SECTION BA

SECTION BB

SECTION A

SECTION B

SECTION C

VIEW E

ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				13861 kg 30558 lbs	
1	E		1	wa	PL 16x1600	21	866	M270M-345WT2		
1	G		1	wb	PL 16x1600	15	219	M270M-345WT2		
1	J		1	ta	PL 22x400	21	220			
1	L		1	tb	PL 22x400	15	830			
1	A		1	ba	PL 29x400	21	220	M270M-345WT2		
1	C		1	bb	PL 29x400	15	797	M270M-345WT2		
2	B		2	x1a	PL 22x190	1	600	MIE		
2	C		5	x1b	PL 13x190	1	600			
2	B		2	x1c	PL 22x190	1	601	MIE		
2	D		1	x1f	PL 6x29	0	275			
2	E		1	x1g	PL 22x400	1	625			

BILL OF MATERIAL

JOB NO. 508 | DRAWING NO. 1 | REV. 1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	11/09	REVISED PER COMMENTS	TJB	PCP		
0					11-30-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	AS NOTED	NONE

DESCRIPTION: GIRDER 1G1

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726
TENSOR 3080

STRUCTURE: VT TH 2 over MARLBORO BRANCH BRIDGE NO 14 NEWFANE County of Windham	DRAWN: TJB	DATE: 10/12
	CHKD: PCP	DATE: 10/14
LOCATION: Newfane	JOB NO. 508	DWG NO. 1
PROJ NO. BRF 0106 (3)S		REV. ⚠
CUSTOMER: VT AOT		

VTrans Received DEC 8 2011
CK'D WK'D BY
Resubmit BY CWC APPROVED DATE 12-12-11

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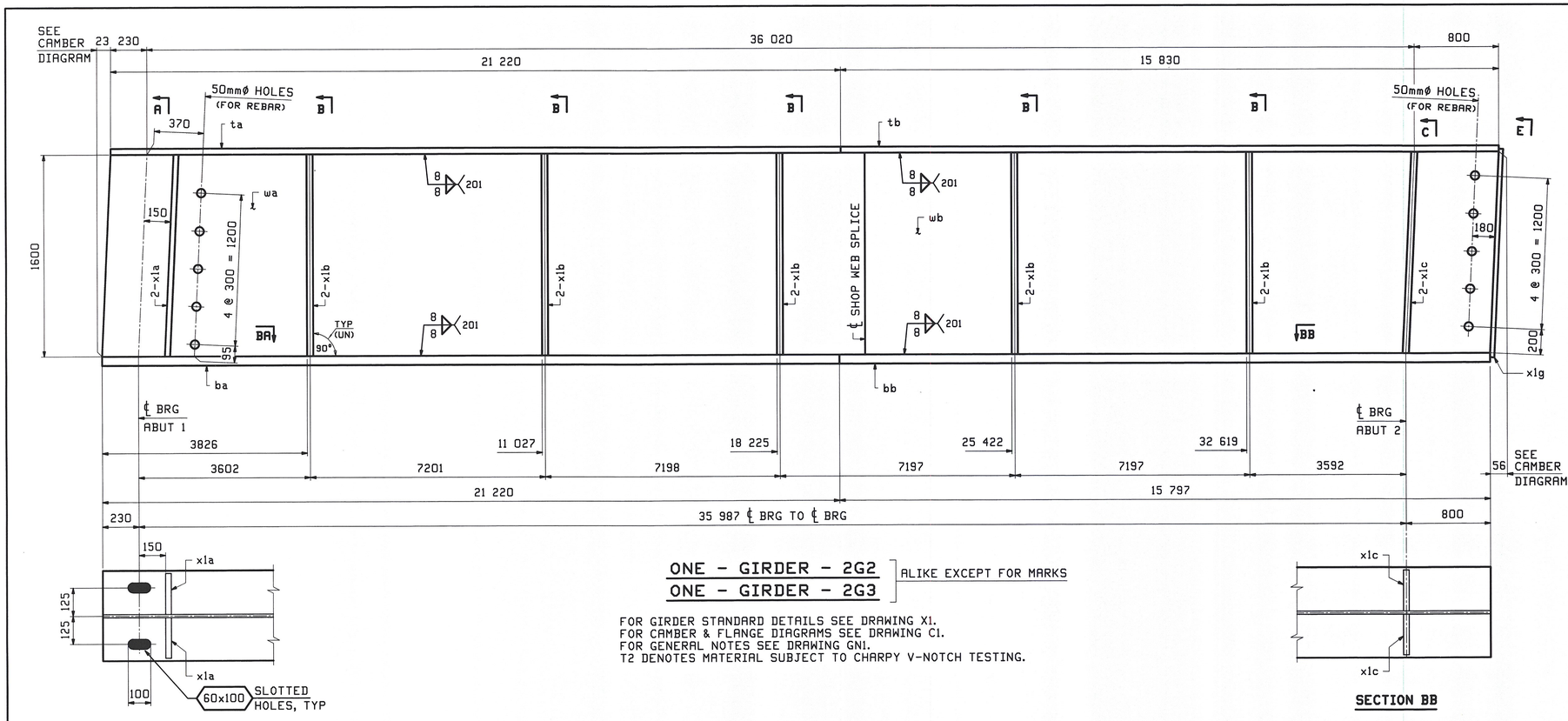
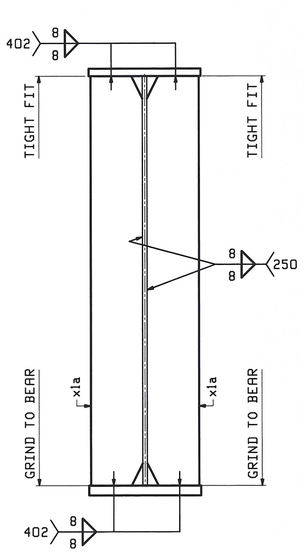


ONE - GIRDER - 2G2
ONE - GIRDER - 2G3
ALIKE EXCEPT FOR MARKS

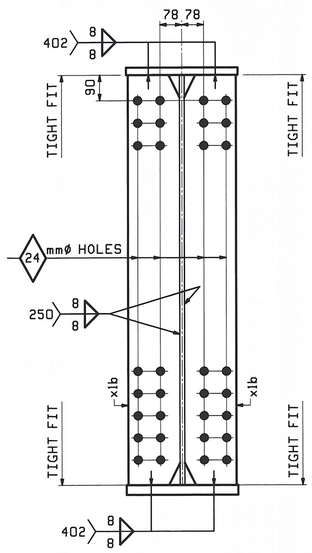
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

SECTION BA

SECTION BB



SECTION A



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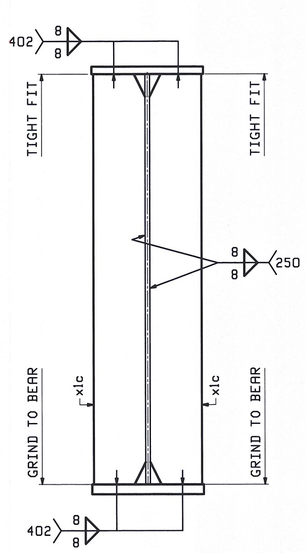

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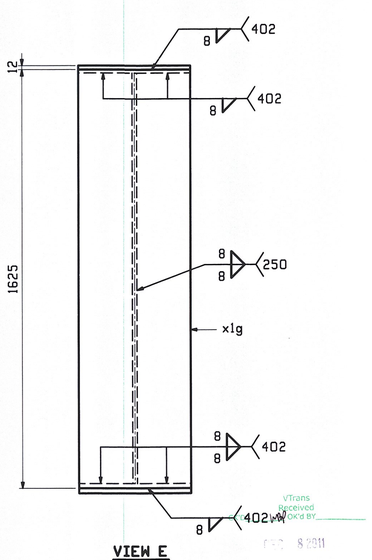
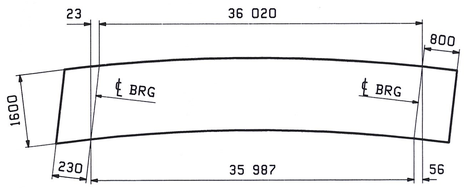


VIEW E



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO PAGE	LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				14015 kg 30897 lbs	
		2G3	1		GIRDER				14015 kg 30897 lbs	
1	E		2	wa	PL 16x1600	21	866	M270M-345WT2		
1	G		2	wb	PL 16x1600	15	219	M270M-345WT2		
1	J		2	ta	PL 22x400	21	220			
1	L		2	tb	PL 22x400	15	830			
1	A		2	ba	PL 29x400	21	220	M270M-345WT2		
1	C		2	bb	PL 29x400	15	797	M270M-345WT2		
2	B		4	x1a	PL 22x190	1	600	MIE		
2	C		20	x1b	PL 13x190	1	600			
2	B		4	x1c	PL 22x190	1	601	MIE		
2	E		2	x1g	PL 22x400	1	625			

JOB NO. 508 | DRAWING NO. 2 | REV.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					11-30-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	AS NOTED	NONE

DESCRIPTION: GIRDERS 2G2 & 2G3

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726

TENSOR 3090

STRUCTURE: VT TH 2 over MARLBORO BRANCH
BRIDGE NO 14
NEWFANE
County of Windham

DRAWN: TJB | DATE: 10/12
CHKD: PCP | DATE: 10/14
LOCATION: Newfane | JOB NO. 508 | DWG NO. 2
PROJ NO. BRF 0106 (3)S | REV. △
CUSTOMER: VT AOT

VTrans Received OK'd BY ___ DEC 8 2011
Resubmit BY cwc APPROVED DATE 12-9-11

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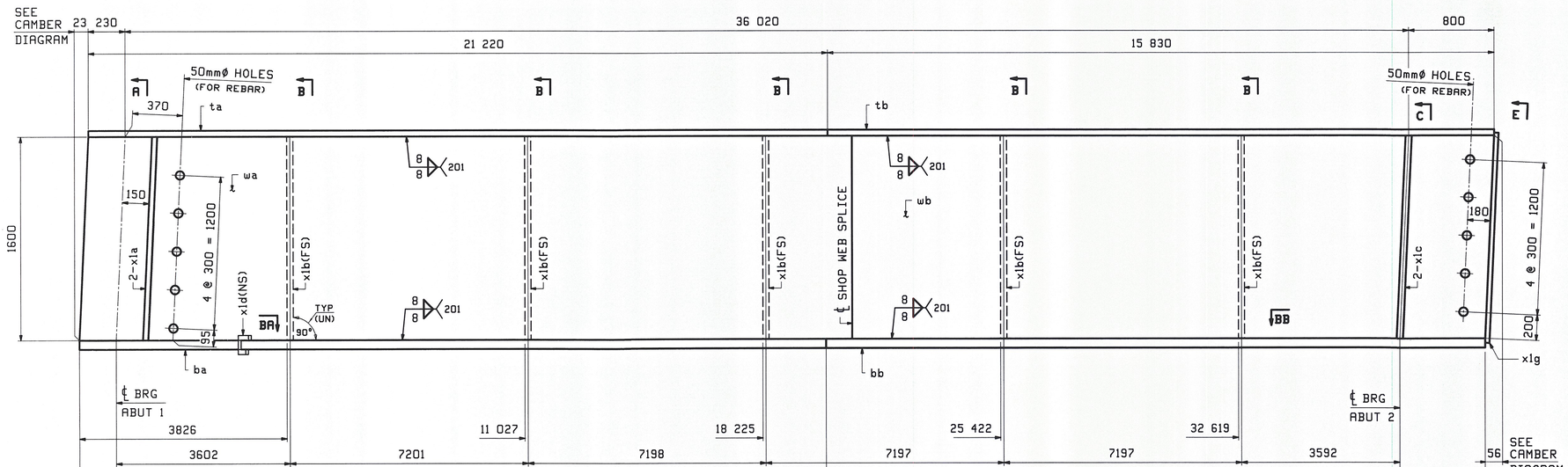
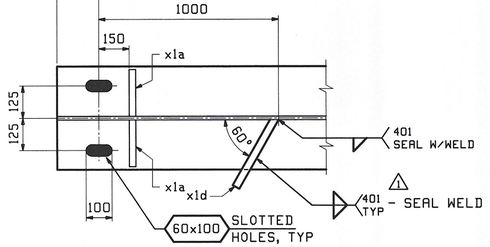
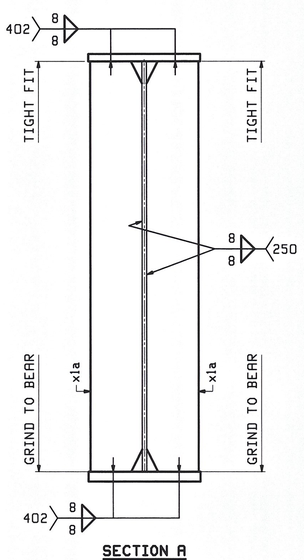


ONE - GIRDER - 3G4

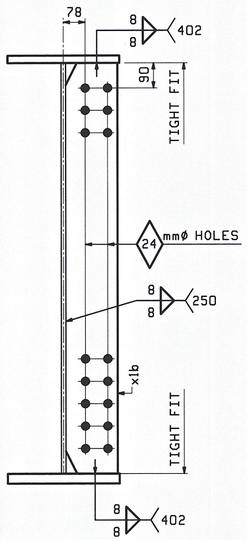
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION BA



SECTION A



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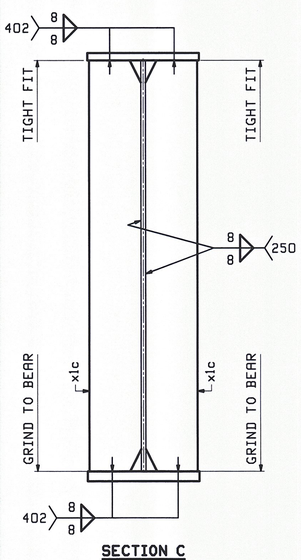

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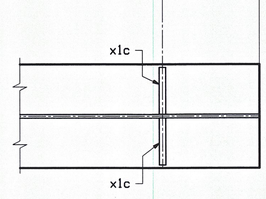
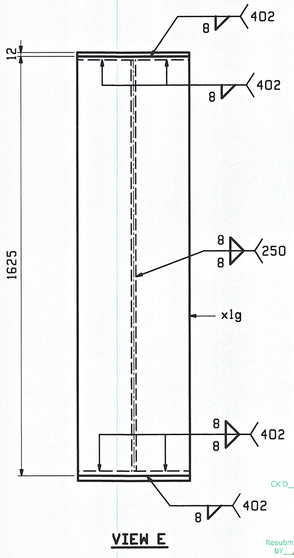
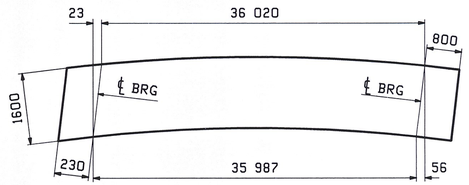


SECTION BB



VIEW E



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								508	3	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		3G4	1		GIRDER				13861 kg 30558 lbs	
1	E		1	wa	PL 16x1600	21	866	M270M-345WT2		
1	G		1	wb	PL 16x1600	15	219	M270M-345WT2		
1	J		1	ta	PL 22x400	21	220			
1	L		1	tb	PL 22x400	15	830			
1	A		1	ba	PL 29x400	21	220	M270M-345WT2		
1	C		1	bb	PL 29x400	15	797	M270M-345WT2		
2	B		2	x1a	PL 22x190	1	600	MIE		
2	C		5	x1b	PL 13x190	1	600			
2	B		2	x1c	PL 22x190	1	601	MIE		
2	D		1	x1d	PL 6x79	0	275			
2	E		1	x1g	PL 22x400	1	625			

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	11/09	REVISED PER COMMENTS	TJB	PCP		
0					11-30-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	AS NOTED	NONE

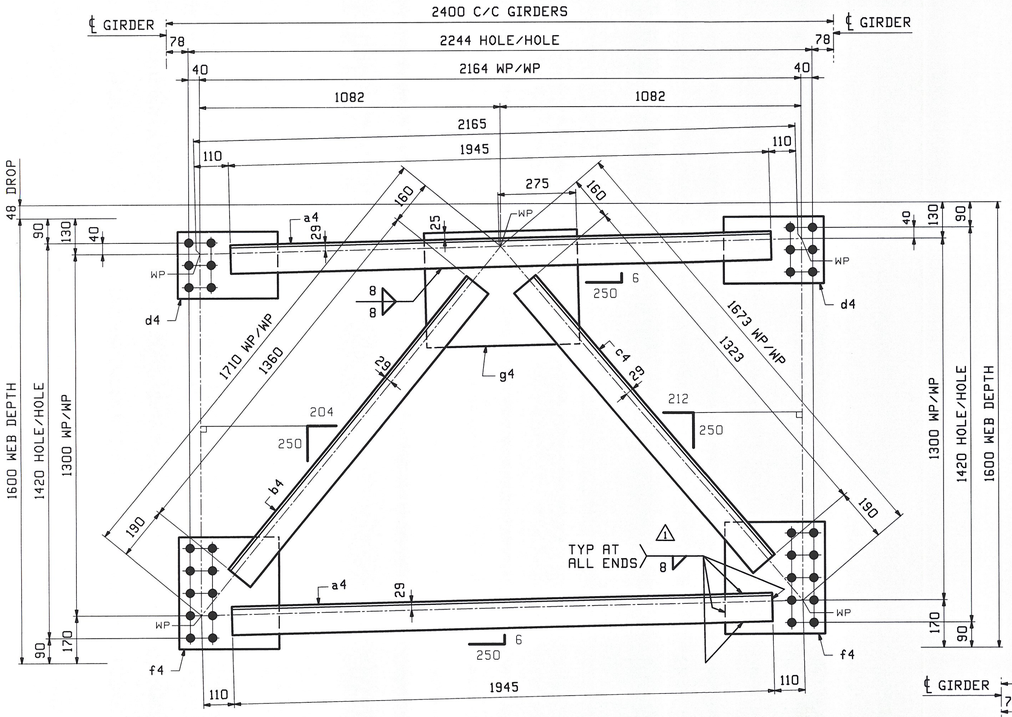
DESCRIPTION: GIRDER 3G4

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726
TENSOR 3050

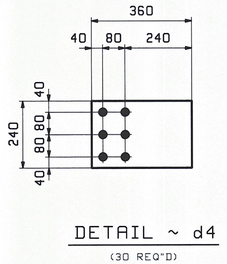
STRUCTURE:	VT TH 2 over MARLBORO BRANCH BRIDGE NO 14 NEWFANE County of Windham	DRAWN: TJB	DATE: 10/12
		CHKD: PCP	DATE: 10/14
LOCATION:	Newfane	JOB NO.	DWG NO.
PROJ NO.	BRF 0106 (3)S	508	3
CUSTOMER:	VT AOT		REV. ⚠1

VTrans Received DEC 8 2011 CK'd Resubmit APPROVED DATE 12-15-11 BY

PCP Mon, Nov 21, 2011 04:35:28 PM //vtrans/jobs/3050/3 | Rev1

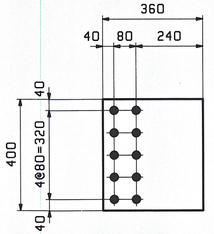


5 - CROSSFRAMES - 4CF1



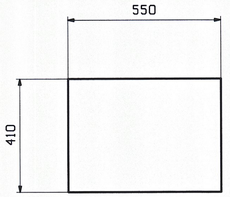
DETAIL ~ d4

(30 REQ'D)



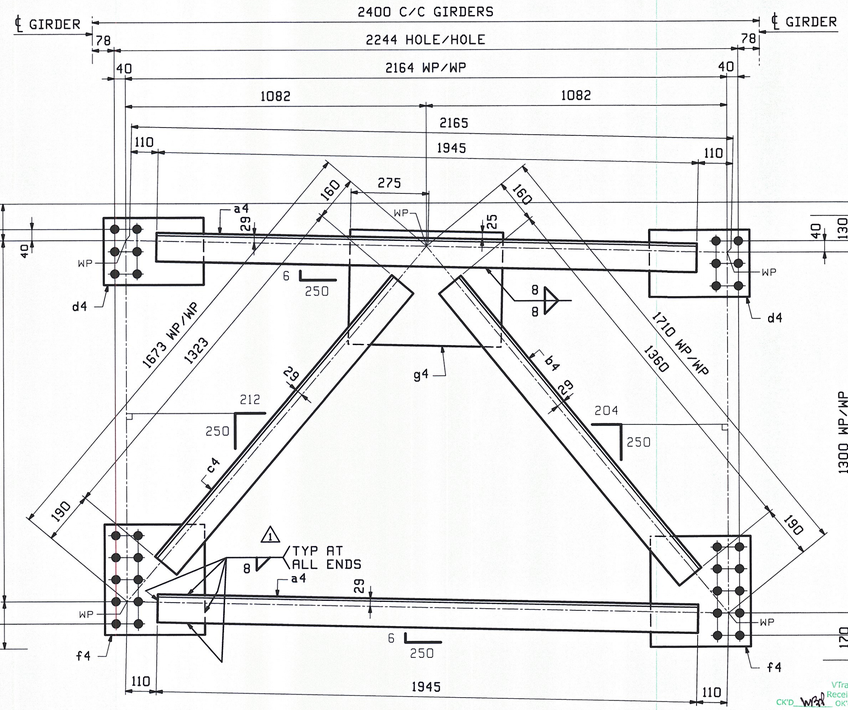
DETAIL ~ f4

(30 REQ'D)



DETAIL ~ g4

(15 REQ'D)



5 - CROSSFRAMES - 4CF2

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.		REV.
								508	4		1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES	
		4CF1	5		CROSSFRAMES				150 kg 330 lbs		
2	K		10	a4	L 102x102x9.5	1	945				
2	L		5	b4	L 102x102x9.5	1	360				
2	L		5	c4	L 102x102x9.5	1	323				
2	M		10	d4	PL 10x240	0	360				
2	N		10	f4	PL 10x360	0	400				
2	P		5	g4	PL 10x410	0	550				
		4CF2	5		CROSSFRAMES				150 kg 330 lbs		
2	K		10	a4	L 102x102x9.5	1	945				
2	L		5	b4	L 102x102x9.5	1	360				
2	L		5	c4	L 102x102x9.5	1	323				
2	M		10	d4	PL 10x240	0	360				
2	N		10	f4	PL 10x360	0	400				
2	P		5	g4	PL 10x410	0	550				

NOTE:
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1	11/1	ADDED HOLE SIZE NOTATION	PCP	PCP	11-30-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	⚠1 24 mm	NONE

DESCRIPTION: CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3090

STRUCTURE:	VT TH 2 over MARLBORO BRANCH BRIDGE NO 14 NEWFANE County of Windham	DRAWN: TJB	DATE: 10/11
		CHK'D: PCP	DATE: 10/14
LOCATION:	Newfane	JOB NO.	DWG NO.
PROJ NO.	BRF 0106 (3)S	508	4
CUSTOMER:	VT AOT		REV. ⚠1

VTrans Received DEC 8 2011 CK'D WPP CK'd BY

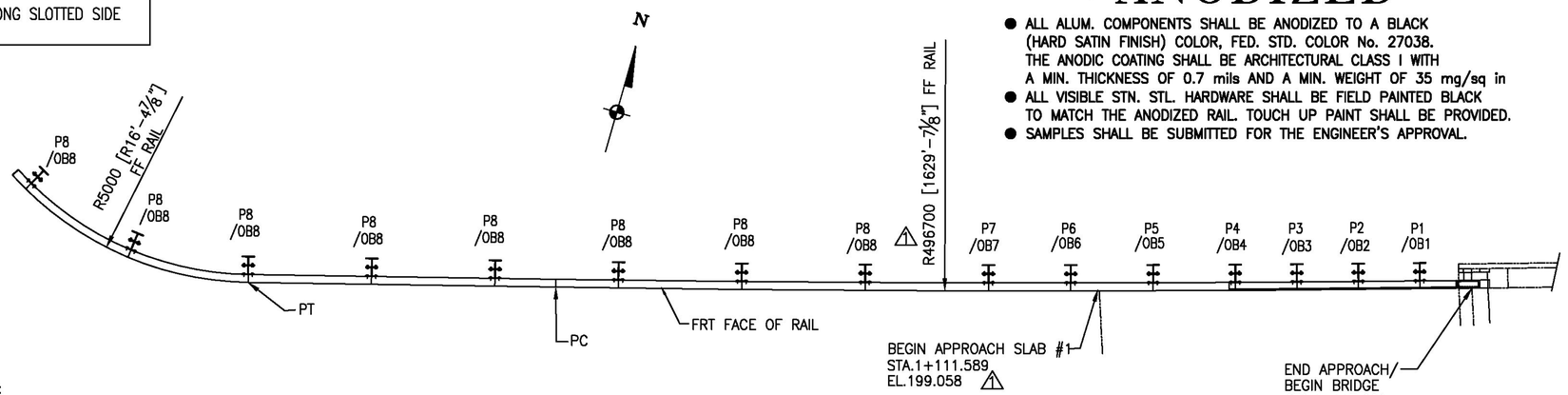
Resubmit BY CWE APPROVED DATE 12-19-11

Mon, Nov 21, 2011 03:26:48 PM J:\steel\jobs\2010\4.dwg

H = HOLE SIDE
SS = SHORT SLOTTED SIDE
LS = LONG SLOTTED SIDE

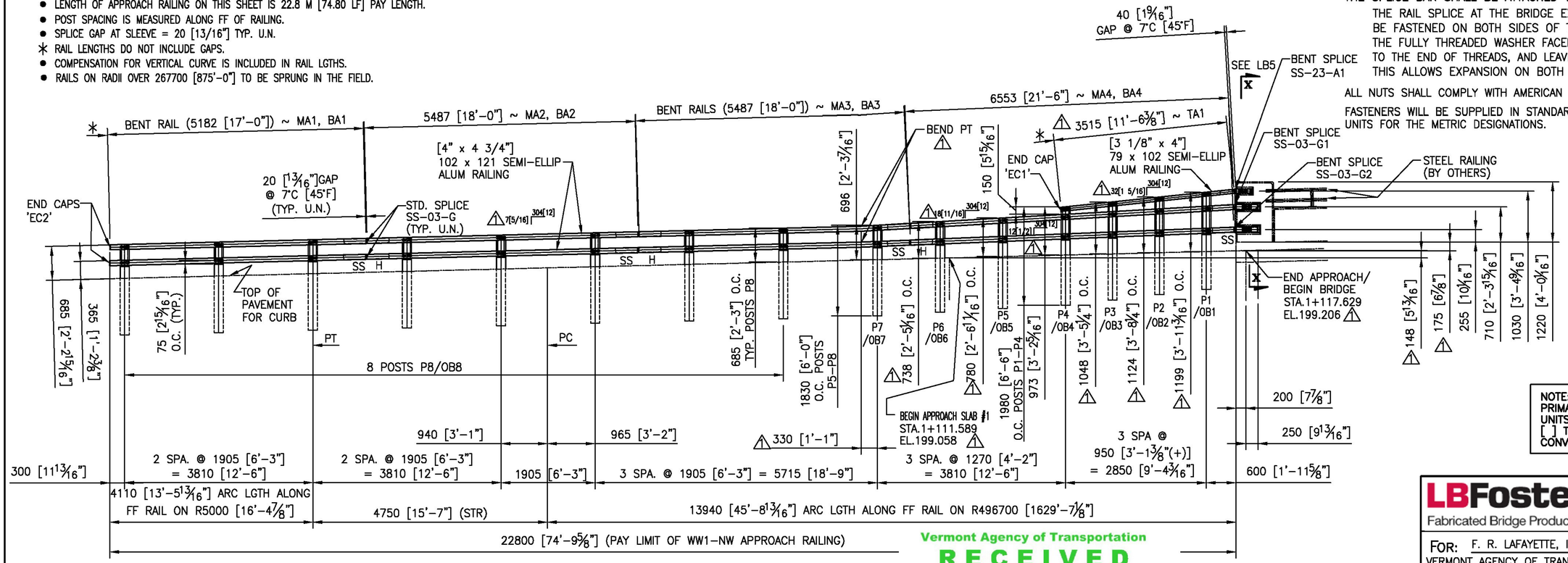
ANODIZED

- ALL ALUM. COMPONENTS SHALL BE ANODIZED TO A BLACK (HARD SATIN FINISH) COLOR, FED. STD. COLOR No. 27038. THE ANODIC COATING SHALL BE ARCHITECTURAL CLASS I WITH A MIN. THICKNESS OF 0.7 mils AND A MIN. WEIGHT OF 35 mg/sq in
- ALL VISIBLE STN. STL. HARDWARE SHALL BE FIELD PAINTED BLACK TO MATCH THE ANODIZED RAIL. TOUCH UP PAINT SHALL BE PROVIDED.
- SAMPLES SHALL BE SUBMITTED FOR THE ENGINEER'S APPROVAL.



PLAN VIEW ~ CURBSIDE

NOTE:
- THIS CONTRACT IS BASED UPON THE CONTRACTOR SETTING AND SPACING THE ANCHOR BOLTS TO THE MEASUREMENTS SHOWN ON THE APPROVED SHOP DRAWINGS. THE L.B. FOSTER CO. WILL NOT BE RESPONSIBLE FOR WORK NECESSITATED BY ANY OTHER SETTING AND SPACING.
- THIS DRAWING IS NOT TO SCALE.
- LENGTH OF APPROACH RAILING ON THIS SHEET IS 22.8 M [74.80 LF] PAY LENGTH.
- POST SPACING IS MEASURED ALONG FF OF RAILING.
- SPLICE GAP AT SLEEVE = 20 [13/16"] TYP. U.N.
- * RAIL LENGTHS DO NOT INCLUDE GAPS.
- COMPENSATION FOR VERTICAL CURVE IS INCLUDED IN RAIL LGTHS.
- RAILS ON RADII OVER 267700 [875'-0"] TO BE SPRUNG IN THE FIELD.



INSIDE ELEVATION OF WW1-NW APPROACH RAIL

GENERAL NOTES

ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 AND ITS LATEST REVISIONS.

DESCRIPTION	ASTM	ALLOY/GR.	REMARKS
RAILS, POSTS, SPLICES, CLAMP BARS, PINS,	B221/ B308	6061-T6	MIN. YIELD STRENGTH Fy = 240 MPa (35,000 psi.)
STAINLESS STEEL BOLTS	A193	TYPE 304	
STAINLESS STEEL WASHERS	A240	Gr.8, TYPE 304	
STAINLESS STEEL NUTS	A194	Gr. 8	
END CAPS	B26		356-F
ALUMINUM WASHERS	B209	2024-T3/T4	ALCLAD
ELECTRODES FOR WELDING		AWS A5.10 ER5356	

POSTS TO BE TRULY VERTICAL AND RAILS SHALL BE PARALLEL TO GRADE.

RAILS TO BE ATTACHED TO A MINIMUM OF THREE POSTS WHEN POSSIBLE.

ALL RAILS AND WELDS TO BE FREE FROM ALL BURRS AND ROUGH EDGES. ENDS OF TUBE SECTIONS SHALL BE SAWED OR MILLED. GRIND ALL CUT EDGES SMOOTH.

ALL THREADS TO BE UNC CLASS 2A/2B.

ALL EXTRUSION TOLERANCES NOT SHOWN SHALL BE IN ACCORDANCE WITH ASTM B221.

IF CUT THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN THE ROOT DIAMETER OF THREADS

THE SPLICE BAR SHALL BE ATTACHED TO THE RAIL ELEMENT AS FOLLOWS
THE RAIL SPLICE AT THE BRIDGE EXPANSION JOINT SHALL BE FASTENED ON BOTH SIDES OF THE RAIL SPLICE USING THE FULLY THREADED WASHER FACED BOLTS, TIGHTENED SECURELY TO THE END OF THREADS, AND LEAVING A 3mm [1/8"] GAP, THIS ALLOWS EXPANSION ON BOTH SIDES OF THE JOINT.

ALL NUTS SHALL COMPLY WITH AMERICAN HEXAGON ANSI SPECIFICATIONS B18.2

FASTENERS WILL BE SUPPLIED IN STANDARD US EQUIVALENT UNITS FOR THE METRIC DESIGNATIONS.

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

ITEM #621.745

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

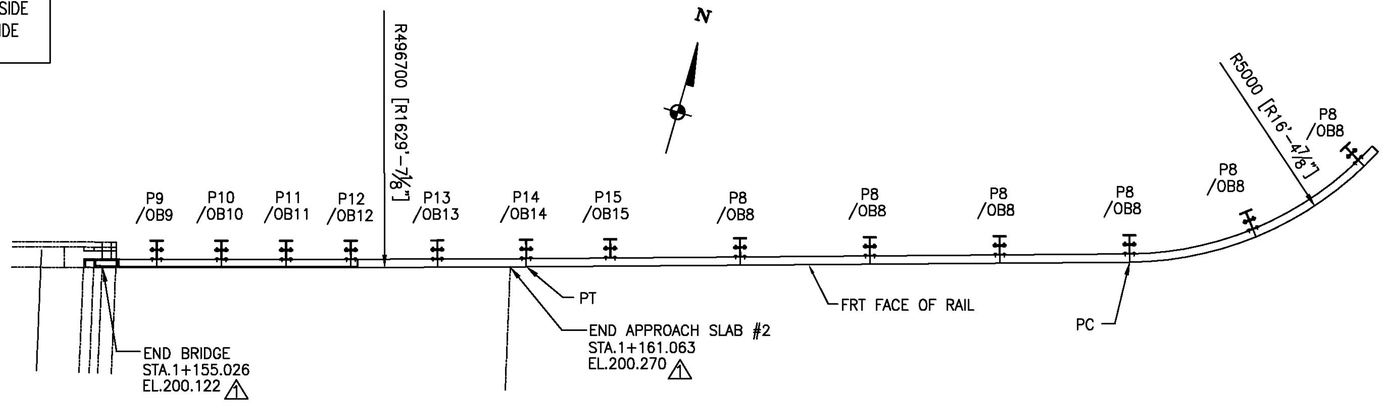
REV.	DESCRIPTION	BY	DATE
1	REVISED PER APPROVER MARKUPS	CMS	03 21 12

LBFoster Fabricated Bridge Products
L.B. FOSTER COMPANY
1016 GREENTREE RD.
PITTSBURGH, PA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM - TOWN OF NEWFANE - PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING - RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH - ELEVATION ~ WW1-NW RAILING

MADE CMS DATE 02/03/12 JOB NO. AR0720
CHECK Dd DATE 02/13/12 DRAWING LB1
REV. NO. ONE

H = HOLE SIDE
SS = SHORT SLOTTED SIDE
LS = LONG SLOTTED SIDE



PLAN VIEW ~ CURBSIDE

NOTE:
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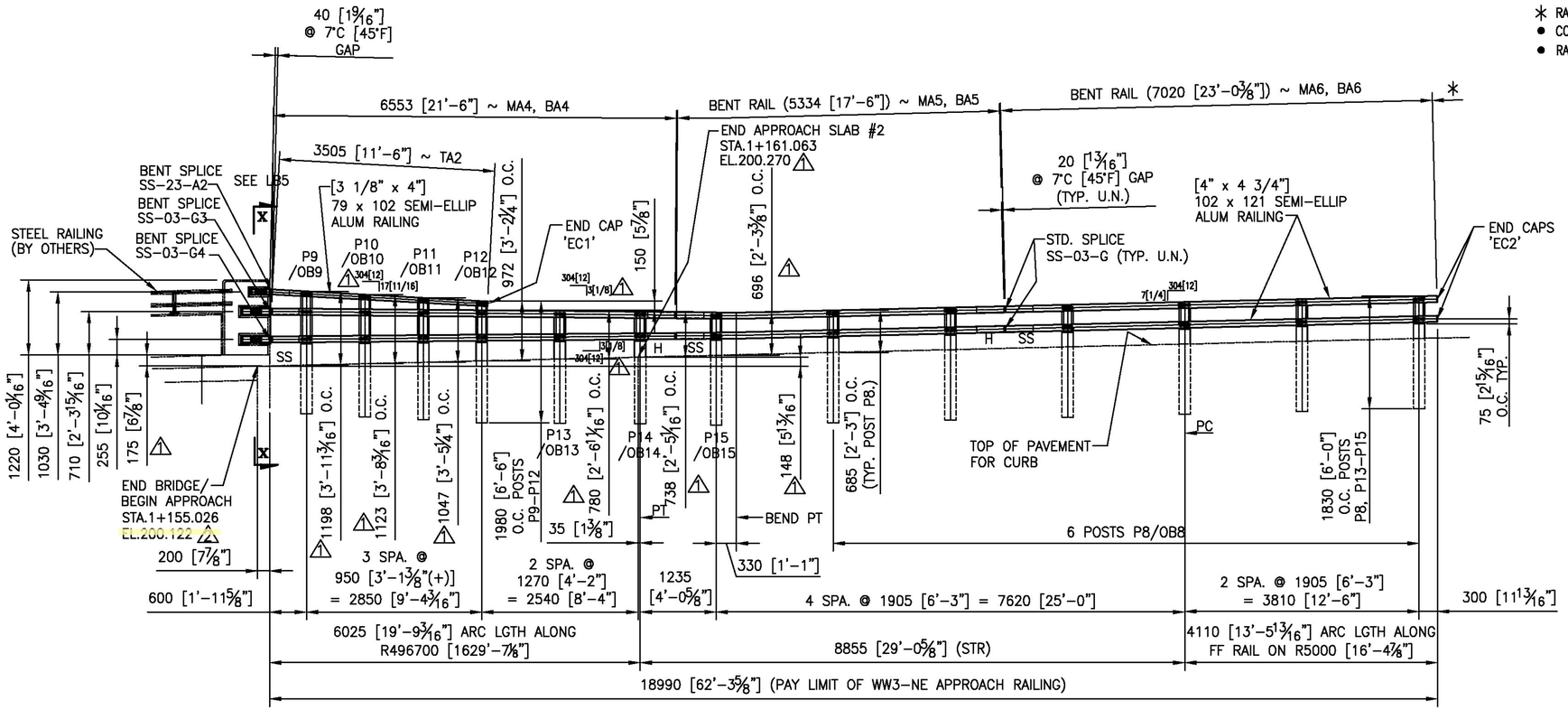
- THIS DRAWING IS NOT TO SCALE.
- LENGTH OF APPROACH RAILING ON THIS SHEET IS 18.99 M [62.3 LF] PAY LENGTH.
- POST SPACING IS MEASURED ALONG FF OF RAILING.
- SPLICE GAP AT SLEEVE = 20 [13/16"] TYP. U.N.
- ✳ RAIL LENGTHS DO NOT INCLUDE GAPS.
- COMPENSATION FOR VERTICAL CURVE IS INCLUDED IN RAIL LGTHS.
- RAILS ON RADII OVER 267700 [875'-0"] TO BE SPRUNG IN THE FIELD.



INSIDE ELEVATION OF WW3-NE APPROACH RAIL

ANODIZED
- SEE LB1 FOR SPECS

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

ITEM #621.745

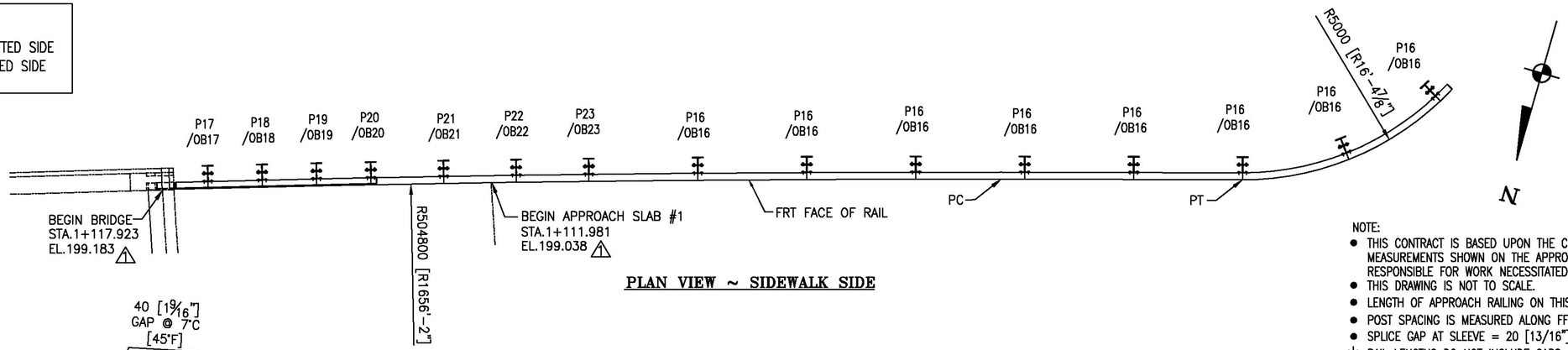
REV.	DESCRIPTION	BY	DATE
2	REVISED PER APPROVER MARKUPS	CMS	03 29 12
1	REVISED PER APPROVER MARKUPS	CMS	03 21 12

LBFoster Fabricated Bridge Products
L.B. FOSTER COMPANY
1016 GREENTREE RD.
PITTSBURGH, PA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – ELEVATION ~ WW3-NE RAILING

MADE CMS DATE 02/03/12 JOB NO. AR0720
CHECK Dd DATE 02/13/12 DRAWING LB2
REV. NO. 2

H = HOLE SIDE
SS = SHORT SLOTTED SIDE
LS = LONG SLOTTED SIDE



PLAN VIEW ~ SIDEWALK SIDE

N

NOTE:
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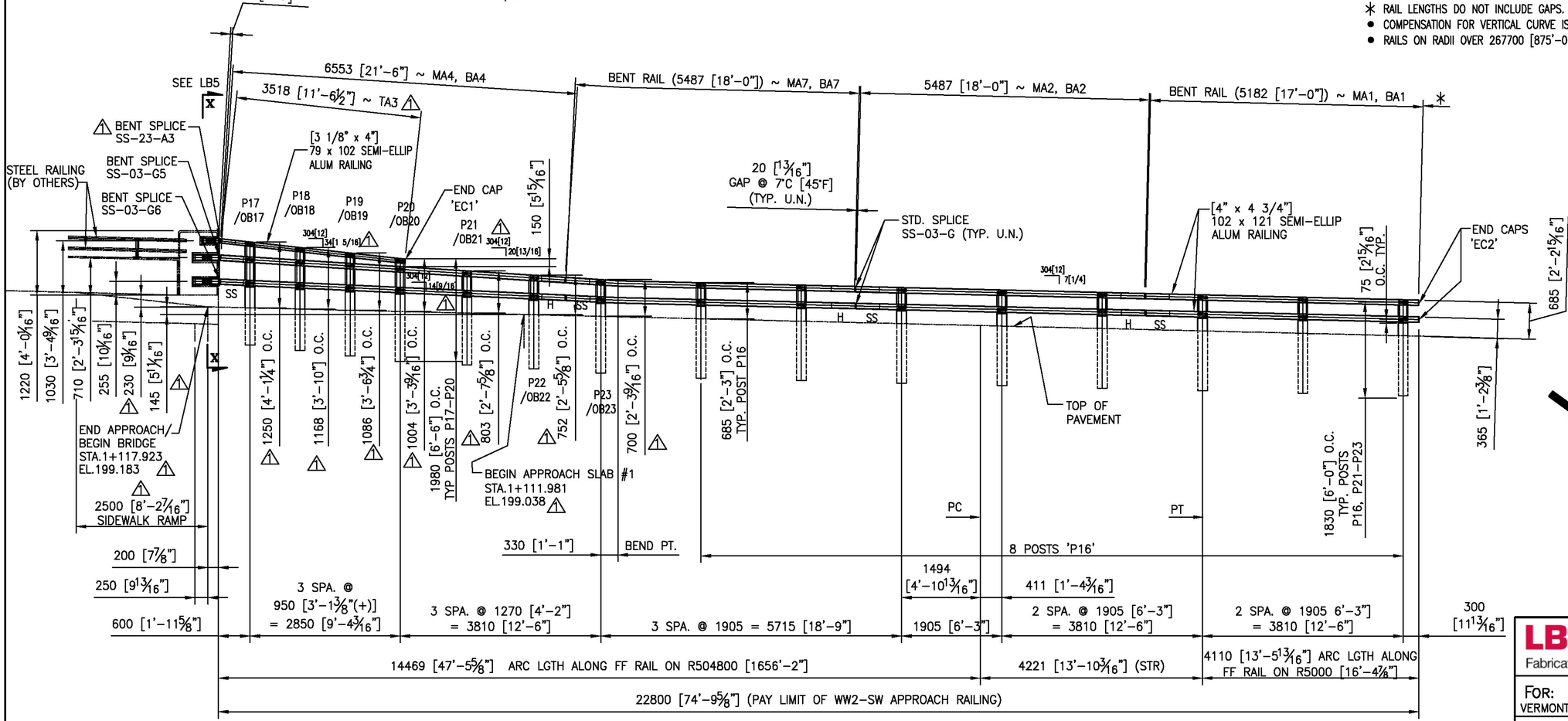
- THIS DRAWING IS NOT TO SCALE.
- LENGTH OF APPROACH RAILING ON THIS SHEET IS 22.8 M [74.80 LF] PAY LENGTH.
- POST SPACING IS MEASURED ALONG FF OF RAILING.
- SPLICE GAP AT SLEEVE = 20 [13/16"] TYP. U.N.
- * RAIL LENGTHS DO NOT INCLUDE GAPS.
- COMPENSATION FOR VERTICAL CURVE IS INCLUDED IN RAIL LGTHS.
- RAILS ON RADII OVER 267700 [875'-0"] TO BE SPRUNG IN THE FIELD.



INSIDE ELEVATION OF WW2-SW APPROACH RAIL

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

ANODIZED
● FOR SPECS SEE LB1

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

ITEM #621.745

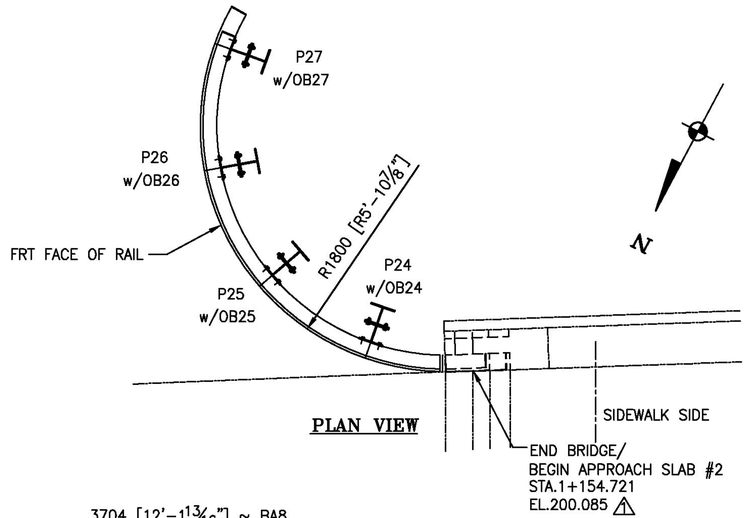
REV.	DESCRIPTION	BY	DATE
1	REVISED PER APPROVER MARKUPS	CMS	03 21 12

LBFoster Fabricated Bridge Products
L.B. FOSTER COMPANY
1016 GREENTREE RD.
PITTSBURGH, PA 15220

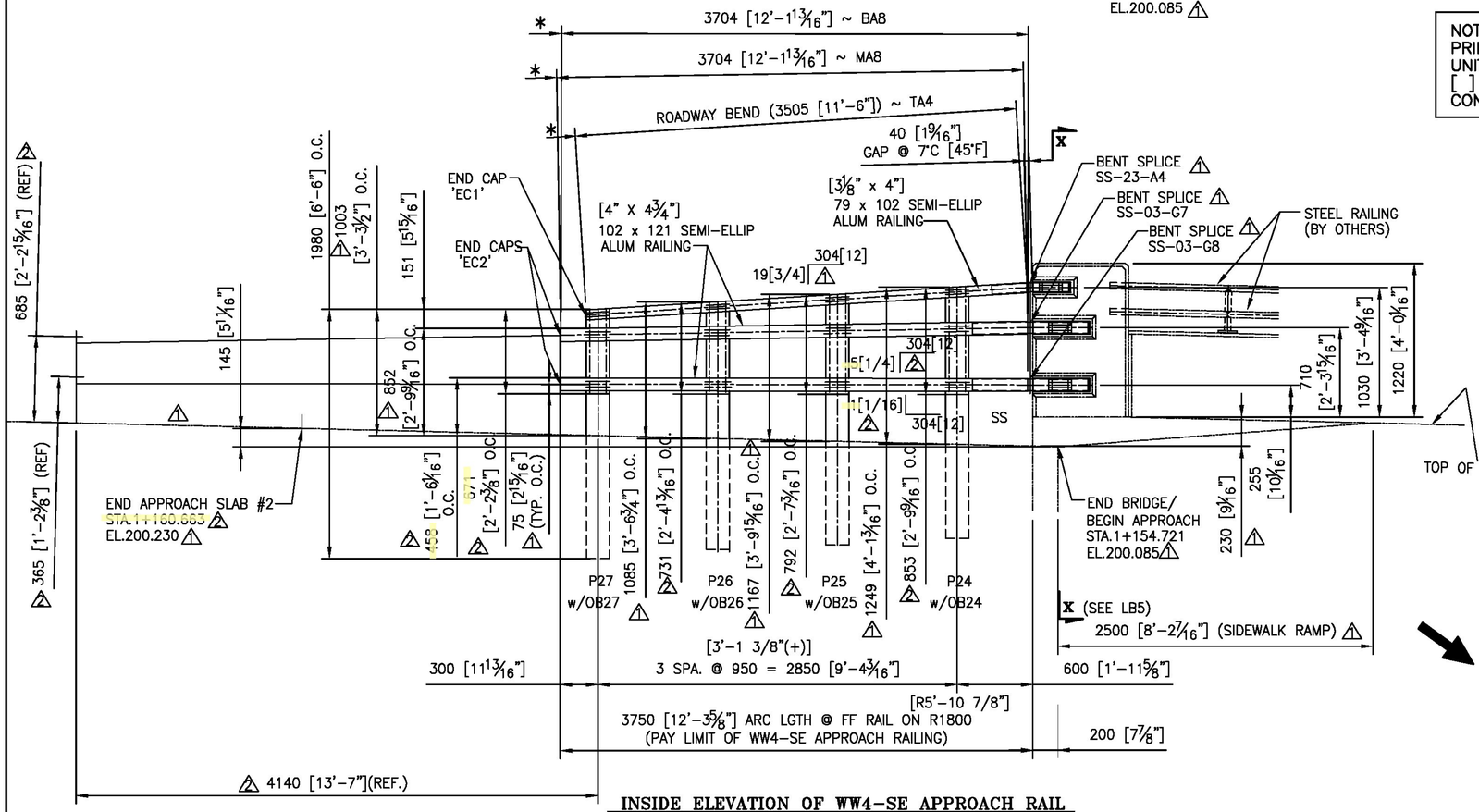
FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – ELEVATION ~ WW2-SW

MADE CMS DATE 02/04/12 JOB NO. AR0720
CHECK Dd DATE 02/13/12 DRAWING LB3
REV. NO. ONE

H = HOLE SIDE
SS = SHORT SLOTTED SIDE
LS = LONG SLOTTED SIDE



PLAN VIEW



INSIDE ELEVATION OF WW4-SE APPROACH RAIL

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

NOTE:
- THIS CONTRACT IS BASED UPON THE CONTRACTOR SETTING AND SPACING THE ANCHOR BOLTS TO THE MEASUREMENTS SHOWN ON THE APPROVED SHOP DRAWINGS. THE L.B. FOSTER CO. WILL NOT BE RESPONSIBLE FOR WORK NECESSITATED BY ANY OTHER SETTING AND SPACING.
- THIS DRAWING IS NOT TO SCALE.
- LENGTH OF APPROACH RAILING ON THIS SHEET IS 37.5 M PAY LENGTH. [12.3 LF]
- POST SPACING IS MEASURED ALONG FF OF RAILING.
- SPLICE GAP AT SLEEVE = 20 [3/4"] TYP.

* RAIL LENGTHS DO NOT INCLUDE GAPS.
- COMPENSATION FOR VERTICAL CURVE IS INCLUDED IN RAIL LGTHS.

ANODIZED
● FOR SPECS SEE LB1

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

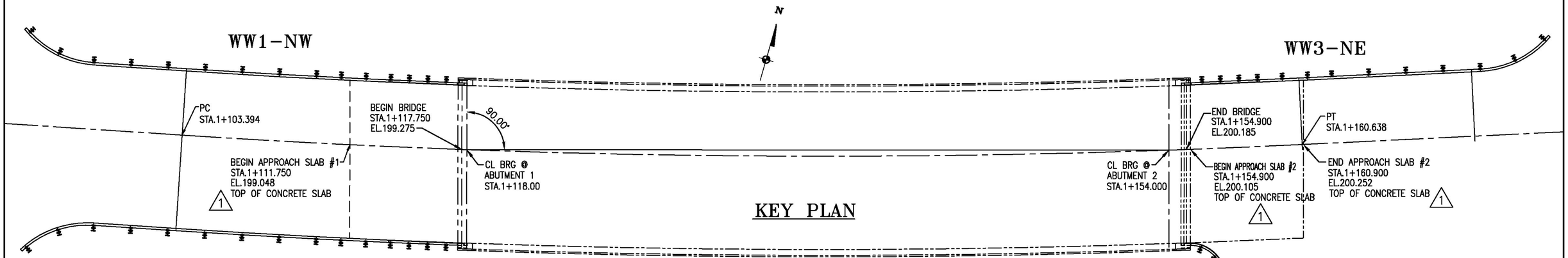
ITEM #621.745

LBFoster Fabricated Bridge Products
L.B. FOSTER COMPANY
1016 GREENTREE RD.
PITTSBURGH, PA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – ELEVATION ~ WW4-SE RAILING

REV.	DESCRIPTION	BY	DATE
2	REVISED PER APPROVER MARKUPS	CMS	03 29 12
1	REVISED PER APPROVER MARKUPS	CMS	03 21 12

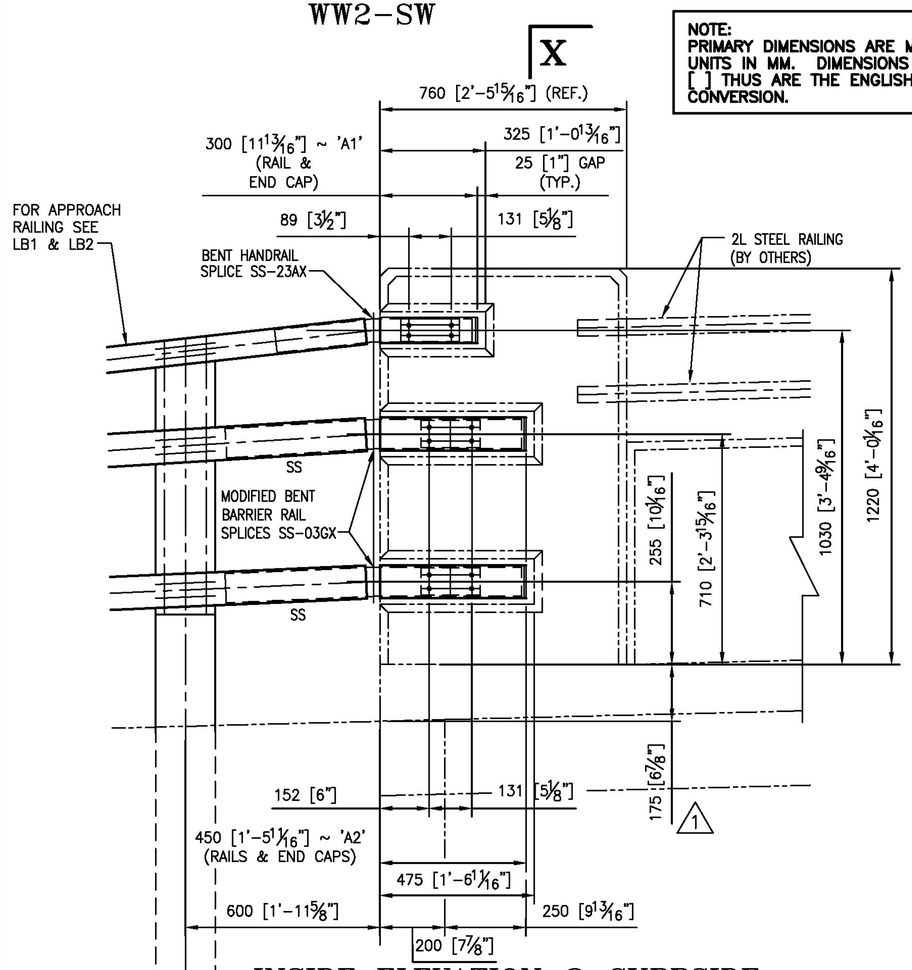
MADE CMS DATE 02/02/12 JOB NO. AR0720
CHECK Dd DATE 02/13/12 DRAWING LB4
REV. NO. 2



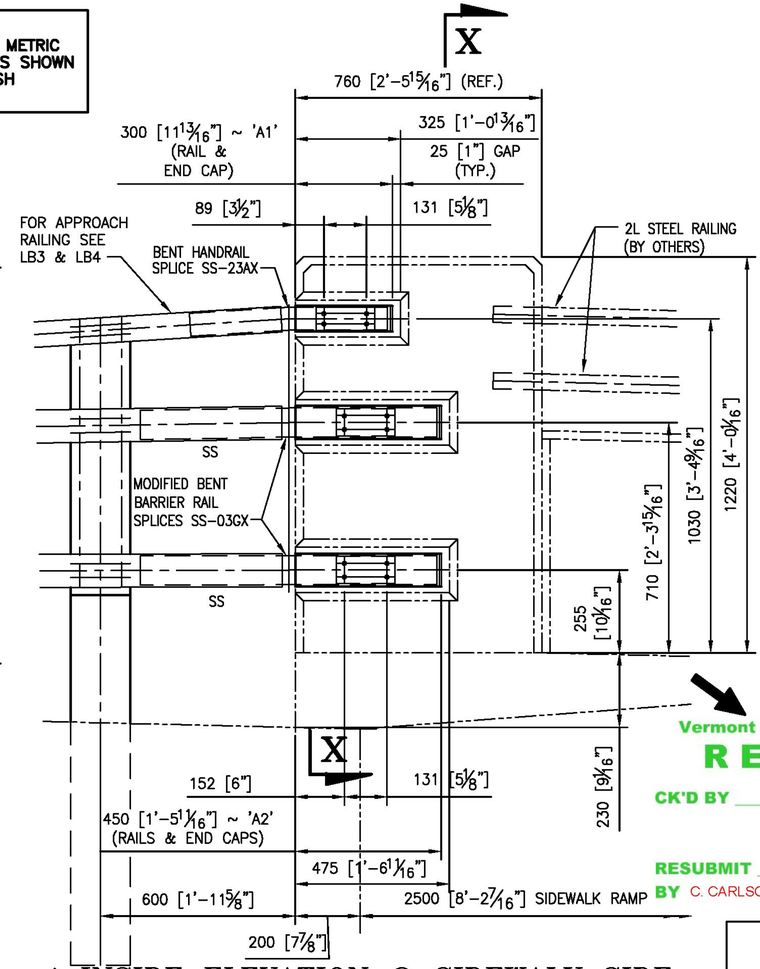
WW2–SW

WW4–SE

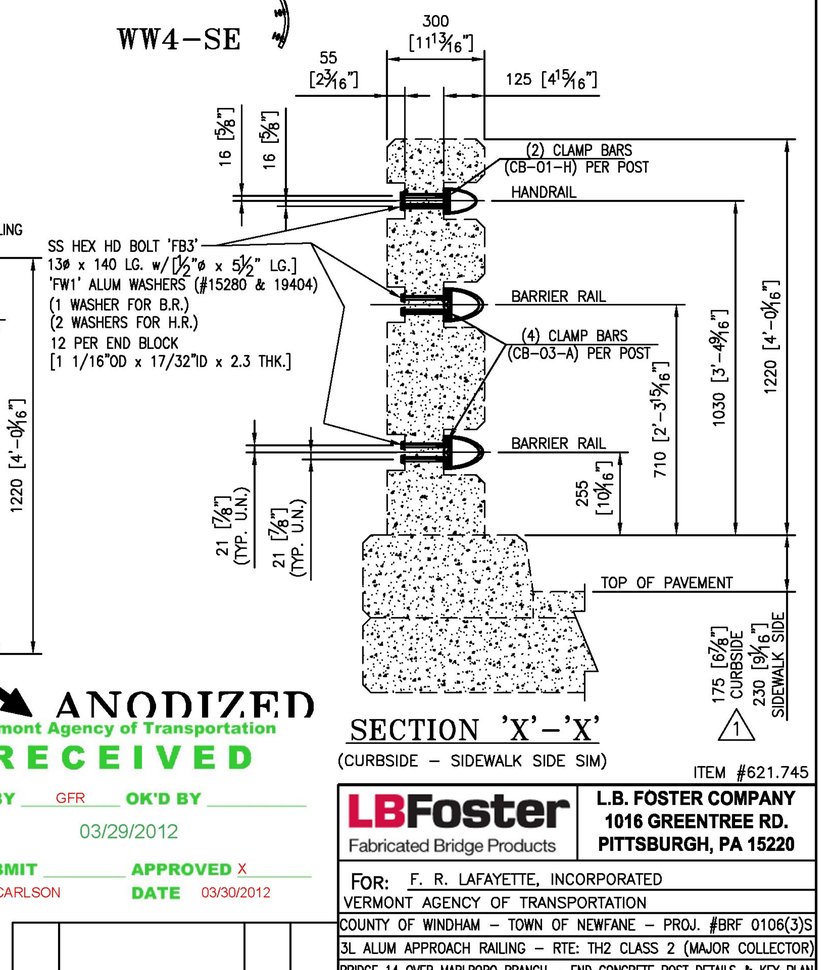
NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.



INSIDE ELEVATION @ CURBSIDE
WW1 (NW) SHOWN
(WW3 SIMILAR)



1 INSIDE ELEVATION @ SIDEWALK SIDE
WW4 (SE) SHOWN
(WW2 SIMILAR)



SECTION 'X'–'X'
(CURBSIDE – SIDEWALK SIDE SIM)

ITEM #621.745

ANODIZED
Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

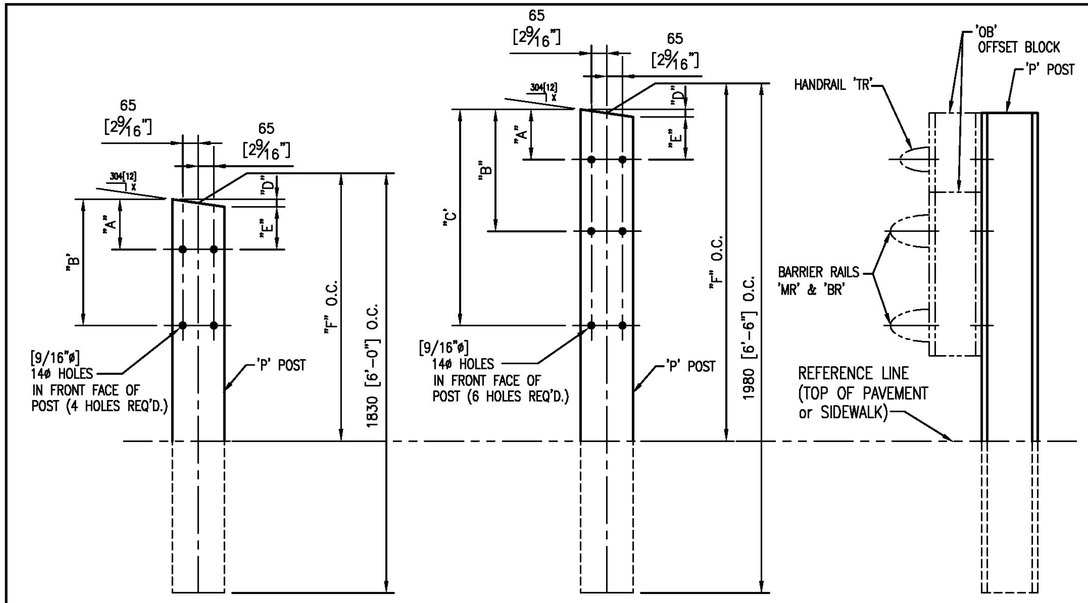
REV.	DESCRIPTION	BY	DATE
1	REVISED PER APPROVER COMMENTS	CMS	03 22 12

LB Foster
Fabricated Bridge Products

L.B. FOSTER COMPANY
1016 GREENTREE RD.
PITTSBURGH, PA 15220

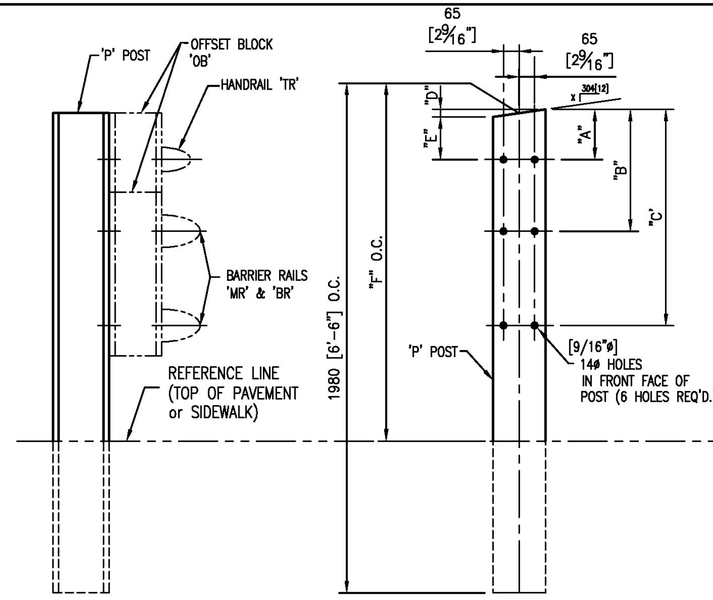
FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – END CONCRETE POST DETAILS & KEY PLAN

MADE CMS DATE 01/30/12 JOB NO. AR00720
CHECK Dd DATE 02/13/12 DRAWING LB5
REV. NO. ONE

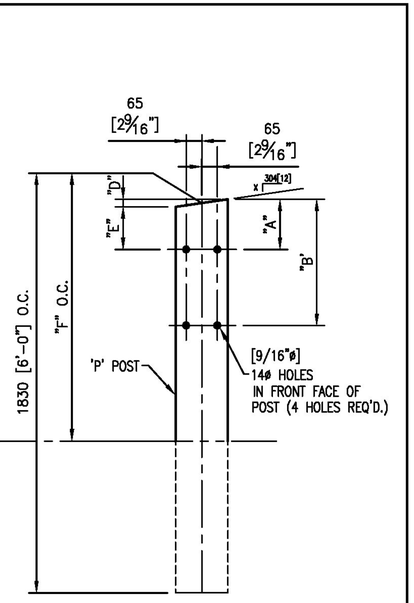


P13–P16, P21–P23

P9–P12, P17–P20



P1–P4, P24–P27



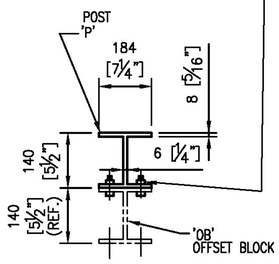
P5–P8

POST DETAIL CHART FOR NE & SW APPROACHES ⚠1

		OFFSET BLOCK MTG. DIMENSIONS						BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	X
P9	1	45 [1¾"]	338 [1'-1⁵⁄₁₆"]	782 [2'-6¹³⁄₁₆"]	10 [⅜"]	34 [1⁵⁄₁₆"]	1198 [3'-11³⁄₁₆"]	17 [1⁄₁₆]
P10	1	45 [1¾"]	294 [0'-11⁹⁄₁₆"]	722 [2'-4⁹⁄₁₆"]	10 [⅜"]	34 [1⁵⁄₁₆"]	1123 [3'-8³⁄₁₆"]	17 [1⁄₁₆]
P11	1	45 [1¾"]	250 [0'-9¹³⁄₁₆"]	661 [2'-2"]	10 [⅜"]	34 [1⁵⁄₁₆"]	1047 [3'-5¼"]	17 [1⁄₁₆]
P12	1	45 [1¾"]	206 [0'-8⅛"]	600 [1'-11⅝"]	10 [⅜"]	34 [1⁵⁄₁₆"]	972 [3-2¼"]	17 [1⁄₁₆]
P17	1	50 [1¹⁵⁄₁₆"]	343 [1'-1½"]	788 [2'-7"]	20 [1³⁄₁₆"]	30 [1³⁄₁₆"]	1250 [4'-1³⁄₁₆"]	34 [1⁵⁄₁₆]
P18	1	50 [1¹⁵⁄₁₆"]	300 [0'-11¹³⁄₁₆"]	727 [2'-4⅝"]	20 [1³⁄₁₆"]	30 [1³⁄₁₆"]	1168 [3'-10"]	34 [1⁵⁄₁₆]
P19	1	50 [1¹⁵⁄₁₆"]	256 [0'-10⅛"]	667 [2'-2¼"]	20 [1³⁄₁₆"]	30 [1³⁄₁₆"]	1086 [3'-6¾"]	34 [1⁵⁄₁₆]
P20	1	50 [1¹⁵⁄₁₆"]	213 [0'-8⅜"]	607 [1'-11⅞"]	20 [1³⁄₁₆"]	30 [1³⁄₁₆"]	1004 [3'-3½"]	34 [1⁵⁄₁₆]
P13	1	52 [2⅛"]	423 [1'-4⅝"]		2 [1⁄₁₆"]	50 [1¹⁵⁄₁₆"]	780 [2'-6¹⁄₁₆"]	3 [⅛]
P14	1	52 [2⅛"]	400 [1'-3¾"]		2 [1⁄₁₆"]	50 [1¹⁵⁄₁₆"]	738 [2'-5⅛"]	3 [⅛]
P15	1	52 [2⅛"]	378 [1'-2⅞"]		2 [1⁄₁₆"]	50 [1¹⁵⁄₁₆"]	696 [2'-3⅜"]	3 [⅛]
P16	8	53 [2⅛"]	373 [1'-2¹⁄₁₆"]		4 [³⁄₁₆"]	49 [1¹⁵⁄₁₆"]	685 [2'-3"]	7 [¼]
P21	1	57 [2¼"]	429 [1'-4⅞"]		12 [½"]	45 [1¾"]	803 [2'-7⅝"] ⚠2	20 [1³⁄₁₆]
P22	1	57 [2¼"]	407 [1'-4"]		12 [½"]	45 [1¾"]	752 [2'-5⅝"]	20 [1³⁄₁₆]
P23	1	57 [2¼"]	384 [1'-3⅛"]		12 [½"]	45 [1¾"]	700 [2'-3⁹⁄₁₆"]	20 [1³⁄₁₆]

*NOTE:
FOR POST TOPS THAT HAVE BEVELS LESS THAN OR EQUAL TO 3 – THE POSTS WILL BE TREATED SQUARE.

[1/2"ø x 1 1/2" LG]
M12 x 38 LG – FB4
S/S HEX BOLTS w/HEX NUT & WASHERS – FN1 & FW1



TYP. SECT. POST & OFFSET BLOCK

POST DETAIL CHART FOR NW & SE APPROACHES ⚠1

		OFFSET BLOCK MTG. DIMENSIONS						BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	X
P1	1	49 [1¹⁵⁄₁₆"]	343 [1'-1½"]	787 [2'-7"]	19 [¾"]	30 [1³⁄₁₆"]	1199 [3'-11³⁄₁₆"]	32 [1¼]
P2	1	49 [1¹⁵⁄₁₆"]	299 [0'-11¾"]	726 [2'-4⁹⁄₁₆"]	19 [¾"]	30 [1³⁄₁₆"]	1124 [3'-8¼"]	32 [1¼]
P3	1	49 [1¹⁵⁄₁₆"]	255 [0'-10¹⁄₁₆"]	666 [2'-2¼"]	19 [¾"]	30 [1³⁄₁₆"]	1048 [3'-5¼"]	32 [1¼]
P4	1	49 [1¹⁵⁄₁₆"]	211 [0'-8⁵⁄₁₆"]	605 [1'-11¹³⁄₁₆"]	19 [¾"]	30 [1³⁄₁₆"]	973 [3'-2⁵⁄₁₆"]	32 [1¼]
P24	1	45 [1¾"]	339 [1'-1³⁄₈"]	783 [2'-6¹³⁄₁₆"]	11 [⁷⁄₁₆"]	34 [1⁵⁄₁₆"]	1249 [4'-1³⁄₁₆"]	19 [¾]
P25	1	45 [1¾"]	295 [0'-11⅝"]	723 [2'-4⁷⁄₁₆"]	11 [⁷⁄₁₆"]	34 [1⁵⁄₁₆"]	1167 [3'-9¹⁵⁄₁₆"]	19 [¾]
P26	1	45 [1¾"]	251 [0'-9⅞"]	662 [2'-2¹⁄₁₆"]	11 [⁷⁄₁₆"]	34 [1⁵⁄₁₆"]	1085 [3'-6¹⁄₁₆"]	19 [¾]
P27	1	45 [1¾"]	208 [0'-8³⁄₁₆"]	601 [1'-11¹¹⁄₁₆"]	11 [⁷⁄₁₆"]	34 [1⁵⁄₁₆"]	1003 [3'-3½"]	19 [¾]
P5	1	56 [2³⁄₁₆"]	428 [1'-4⅞"]		11 [⁷⁄₁₆"]	46 [1¹³⁄₁₆"]	780 [2'-6¹⁄₁₆"]	18 [1⁄₁₆]
P6	1	56 [2³⁄₁₆"]	405 [1'-3¹⁵⁄₁₆"]		11 [⁷⁄₁₆"]	46 [1¹³⁄₁₆"]	738 [2'-5⅛"]	18 [1⁄₁₆]
P7	1	56 [2³⁄₁₆"]	382 [1'-3⅛"]		11 [⁷⁄₁₆"]	46 [1¹³⁄₁₆"]	696 [2'-3⅜"]	18 [1⁄₁₆]
P8	14	53 [2¹⁄₁₆"]	373 [1'-2¹⁄₁₆"]		5 [³⁄₁₆"]	49 [1¹⁵⁄₁₆"]	685 [2'-2¹⁵⁄₁₆"]	7 [¼]

ITEM #621.745

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DI
[ ] THUS ARE TH
CONVERSION.

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

ANODIZED
(SEE NOTES ON LB1)

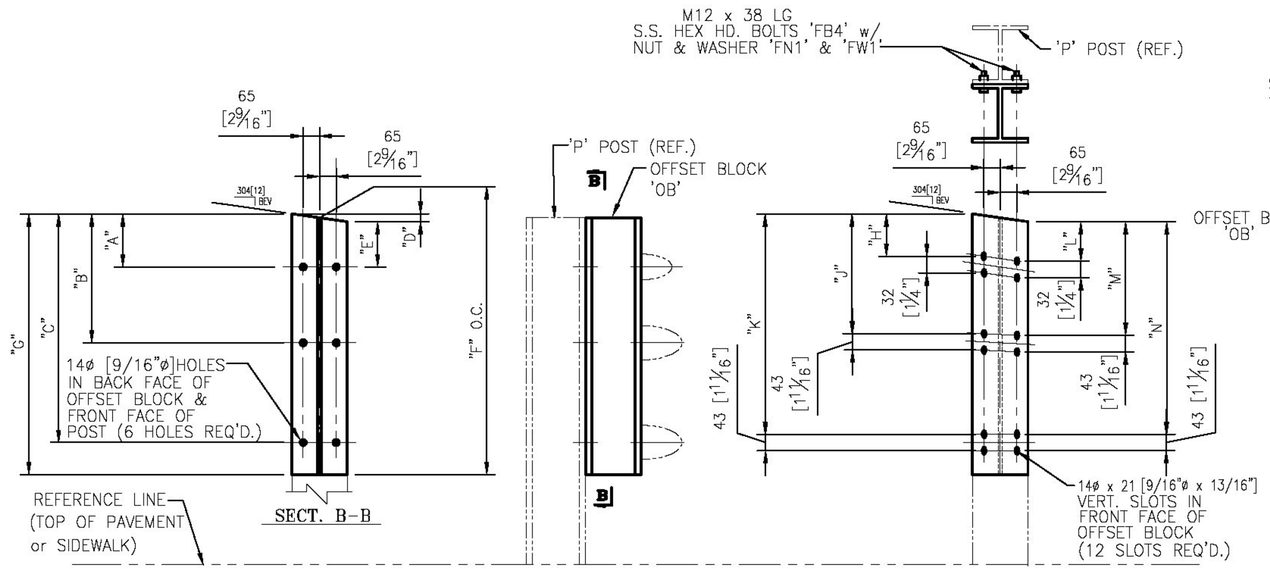
REV.	DESCRIPTION	BY	DATE
⚠2	REVISED DIMENSIONS PER APPROVER COMMENTS	CMS	03 29 12
⚠1	REVISED ALL POST HGHTS. PER APPROVER COMMENTS	CMS	03 22 12

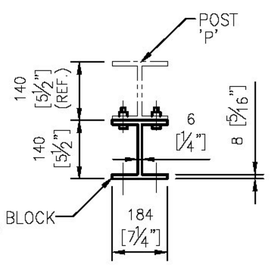
LBFoster
Fabricated Bridge Products

L.B. FOSTER COMPANY
1016 GREENTREE RD.
PITTSBURGH, PA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – POST DETAILS

MADE CMS DATE 02/02/12 JOB NO. AR0720
CHECK Dd DATE 02/13/12 DRAWING LB6
REV. NO. 2





TYP. SECT. POST & OFFSET BLOCK

Vermont Agency of Transportation

RECEIVED

CK'D BY GFR OK'D BY

03/29/2012

RESUBMIT APPROVED X

BY C. CARLSON DATE 03/30/2012

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

OFFSET BLOCK CHART FOR NE & SW APPROACHES △1
POSTS P9–P12, P17–P20

			OFFSET BLOCK ~ POST MTG. DIMENSIONS							BEV	OFFSET BLOCK ~ RAIL MTG. DIMENSIONS					
POST No.	OFFSET BLOCK	QTY.	A	B	C	D	E	F (O.C.)	G	X	H	J	K	L	M	N
P9	OB9	1	45 [1 3/4"]	338 [1'-1 5/16"]	782 [2'-6 13/16"]	10 [3/8"]	34 [1 5/16"]	852 [2'-9 9/16"]	857 [2'-9 3/4"]	17 [1 1/16"]	25 [1"]	316 [1'-0 7/16"]	762 [2'-6"]	22 [7/8"]	307 [1'-0 1/16"]	750 [2'-5 1/2"]
P10	OB10	1	45 [1 3/4"]	294 [0'-11 9/16"]	722 [2'-4 7/16"]	10 [3/8"]	34 [1 5/16"]	792 [2'-7 3/16"]	797 [2'-7 3/8"]	17 [1 1/16"]	25 [1"]	272 [0'-10 1/16"]	701 [2'-3 5/8"]	22 [7/8"]	263 [0'-10 3/8"]	689 [2'-3 1/8"]
P11	OB11	1	45 [1 3/4"]	250 [0'-9 13/16"]	661 [2'-2"]	10 [3/8"]	34 [1 5/16"]	731 [2'-4 3/4"]	736 [2'-5"]	17 [1 1/16"]	25 [1"]	228 [0'-9"]	640 [2'-1 3/16"]	22 [7/8"]	219 [0'-8 5/8"]	629 [2'-0 3/4"]
P12	OB12	1	45 [1 3/4"]	206 [0'-8 1/8"]	600 [1'-11 5/8"]	10 [3/8"]	34 [1 5/16"]	670 [2'-2 3/8"]	675 [2'-2 9/16"]	17 [1 1/16"]	25 [1"]	184 [0'-7 1/4"]	579 [1'-10 13/16"]	22 [7/8"]	175 [0'-6 7/8"]	568 [1'-10 3/8"]
P17	OB17	1	50 [1 15/16"]	343 [1'-1 1/2"]	788 [2'-7"]	20 [13/16"]	30 [1 3/16"]	853 [2'-9 9/16"]	863 [2'-10"]	34 [1 5/16]	27 [1 1/16"]	318 [1'-0 1/2"]	763 [2'-6 1/16"]	21 [13/16"]	306 [1'-0 1/16"]	749 [2'-5 1/2"]
P18	OB18	1	50 [1 15/16"]	300 [0'-11 13/16"]	727 [2'-4 5/8"]	20 [13/16"]	30 [1 3/16"]	792 [2'-7 3/16"]	803 [2'-7 5/8"]	34 [1 5/16]	27 [1 1/16"]	274 [0'-10 13/16"]	703 [2'-3 1/16"]	21 [13/16"]	262 [0'-10 5/16"]	689 [2'-3 1/8"]
P19	OB19	1	50 [1 15/16"]	256 [0'-10 1/16"]	667 [2'-2 1/4"]	20 [13/16"]	30 [1 3/16"]	732 [2'-4 13/16"]	742 [2'-5 5/16"]	34 [1 5/16]	27 [1 1/16"]	230 [0'-9 1/16"]	642 [2'-1 1/4"]	21 [13/16"]	219 [0'-8 5/8"]	628 [2'-0 3/4"]
P20	OB20	1	50 [1 15/16"]	213 [0'-8 3/8"]	607 [1'-11 7/8"]	20 [13/16"]	30 [1 3/16"]	671 [2'-2 7/16"]	682 [2'-2 7/8"]	34 [1 5/16]	27 [1 1/16"]	187 [0'-7 3/8"]	582 [1'-10 15/16"]	21 [13/16"]	175 [0'-6 7/8"]	568 [1'-10 3/8"]

***NOTE:**
FOR POST TOPS THAT HAVE BEVELS LESS THAN OR EQUAL TO 3 – THE POSTS WILL BE TREATED SQUARE.

NOTE:
2 CLAMPING BARS CB–01–H (#28596) PER POSTS P9–P12, P17–P20
4 CLAMPING BARS CB–03–A (#19447) PER POSTS P9–P12, P17–P20 w/ M13 x 25 [1/2"ø x 1"] S.S. BOLT 'FB1',
27 O.D. x 13 I.D. x 2 ALUM THK [1 1/16" O.D. x 1/2" I.D. X 1/16"] WASHER 'FW1' (#15280 & #19404) (16 PER POST)

ANODIZED
(SEE NOTES ON LB1)

REV.	DESCRIPTION	BY	DATE
△1	REVISED ALL POST HGHTS. PER APPROVER COMMENTS	CMS	03 23 12

ITEM No: 621.745

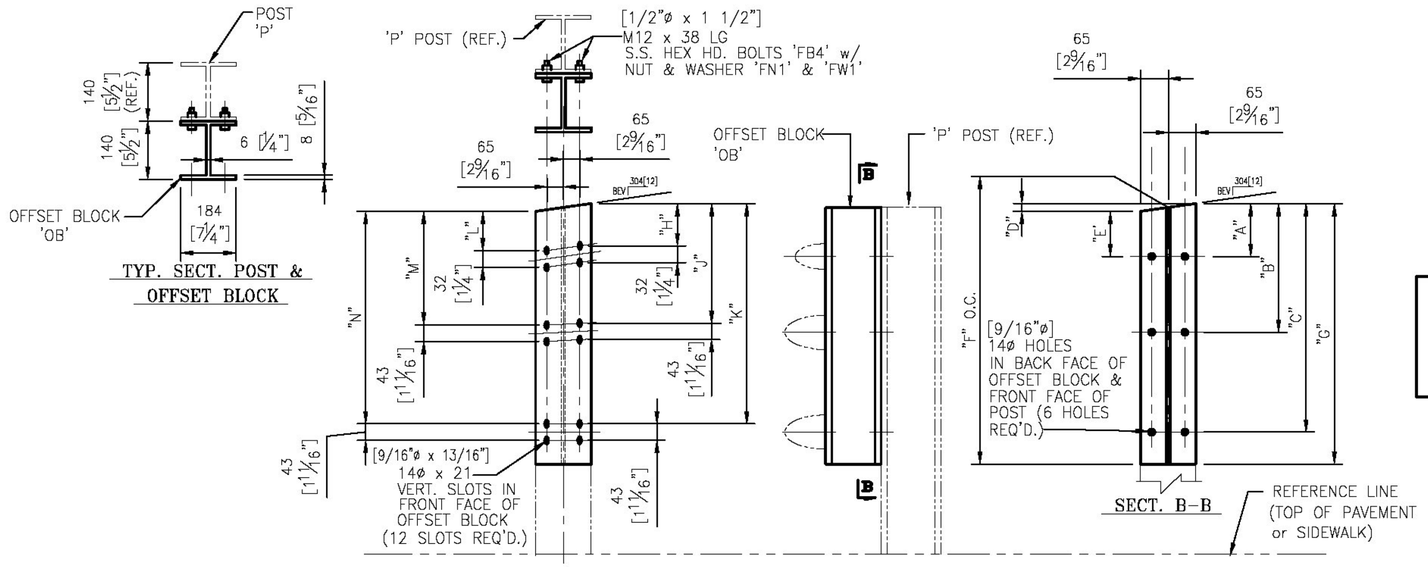
APPROVED: _____ REC'D APPROVAL _____ DRAWING _____

L.B. FOSTER COMPANY
1016 GREENTREE ROAD
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – OFFSET BLOCK DETAILS

MADE CMS DATE 02/02/12 JOB No. AR0720 CUST. No.
CHECK Dd DATE 02/13/12 DRAWING LB7 REV. No. ONE

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012



NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

OFFSET BLOCK CHART FOR NW & SE APPROACHES △1
POSTS P1–P4, P24–P27

			OFFSET BLOCK ~ POST MTG. DIMENSIONS							BEV	OFFSET BLOCK ~ RAIL MTG. DIMENSIONS					
POST No.	OFFSET BLOCK	QTY.	A	B	C	D	E	F (O.C.)	G	X	H	J	K	L	M	N
P1	OB1	1	49 [1 15/16"]	343 [1'-1½"]	787 [2'-7"]	19 [¾"]	30 [1 3/16"]	853 [2'-9 9/16"]	862 [2'-9 15/16"]	32 [1¼]	26 [1"]	317 [1'-0½"]	763 [2'-6 1/16"]	21 [13/16"]	306 [1'-0 1/16"]	749 [2'-5½"]
P2	OB2	1	49 [1 15/16"]	299 [0'-11¾"]	726 [2'-4 9/16"]	19 [¾"]	30 [1 3/16"]	792 [2'-7 3/16"]	802 [2'-7 9/16"]	32 [1¼]	26 [1"]	273 [0'-10¾"]	702 [2'-3 5/8"]	21 [13/16"]	262 [0'-10 5/16"]	688 [2'-3 1/16"]
P3	OB3	1	49 [1 15/16"]	255 [0'-10 1/16"]	666 [2'-2¼"]	19 [¾"]	30 [1 3/16"]	731 [2'-4¾"]	741 [2'-5 3/16"]	32 [1¼]	26 [1"]	230 [0'-9 1/16"]	642 [2'-1¼"]	21 [13/16"]	218 [0'-8 9/16"]	628 [2'-0¾"]
P4	OB4	1	49 [1 15/16"]	211 [0'-8 5/16"]	605 [1'-11 13/16"]	19 [¾"]	30 [1 3/16"]	670 [2'-2⅜"]	680 [2'-2¾"]	32 [1¼]	26 [1"]	186 [0'-7 5/16"]	581 [1'-10⅞"]	21 [13/16"]	174 [0'-6⅞"]	567 [1'-10 5/16"]
P24	OB24	1	45 [1¾"]	339 [1'-1⅜"]	~~783 [2'-6 13/16"]~~	11 [7/16"]	34 [1 5/16"]	~~853 [2'-9 9/16"]~~	~~858 [2'-9¾"]~~	19 [¾]	25 [1"]	316 [1'-0 7/16"]	~~732 [2'-4"]~~	22 [⅞"]	307 [1'-0 1/16"]	~~750 [2'-5½"]~~
P25	OB25	1	45 [1¾"]	295 [0'-11 5/8"]	~~723 [2'-4 7/16"]~~	11 [7/16"]	34 [1 5/16"]	~~792 [2'-7 3/16"]~~	~~798 [2'-7 7/16"]~~	19 [¾]	25 [1"]	272 [0'-10 1/16"]	~~701 [2'-3 5/8"]~~	22 [⅞"]	263 [0'-10⅜"]	~~690 [2'-3 1/16"]~~
P26	OB26	1	45 [1¾"]	251 [0'-9⅞"]	~~662 [2'-2 1/16"]~~	11 [7/16"]	34 [1 5/16"]	~~731 [2'-4¾"]~~	~~737 [2'-5"]~~	19 [¾]	25 [1"]	229 [0'-9"]	~~641 [2'-1¼"]~~	22 [⅞"]	219 [0'-8 5/8"]	~~629 [2'-0¾"]~~
P27	OB27	1	45 [1¾"]	208 [0'-8 3/16"]	~~601 [1'-11 11/16"]~~	11 [7/16"]	34 [1 5/16"]	~~671 [2'-2 7/16"]~~	~~676 [2'-2⅝"]~~	19 [¾]	25 [1"]	185 [0'-7 5/16"]	~~580 [1'-10 13/16"]~~	22 [⅞"]	176 [0'-6 15/16"]	~~568 [1'-10⅜"]~~

△2

***NOTE:**
FOR POST TOPS THAT HAVE BEVELS LESS THAN OR EQUAL TO 3 – THE POSTS WILL BE TREATED SQUARE.

NOTE:
2 CLAMPING BARS CB–01–H (#28596) PER POSTS P1–P4, P24–P27
4 CLAMPING BARS CB–03–A (#19447) PER POSTS P1–P4, P24–P27 w/ M13 x 25 [1/2"ø x 1"] S.S. BOLT 'FB1',
27 O.D. x 13 I.D. x 2 ALUM THK [1 1/16" O.D. x 1/2" I.D. x 1/16"] WASHER 'FW1' (#15280 & #19404) (16 PER POST)

ANODIZED
(SEE NOTES ON LB1)

REV.	DESCRIPTION	BY	DATE
△2	REVISED DIMENSIONS PER APPROVER COMMENTS	CMS	03 29 12
△1	REVISED ALL POST HGHTS. PER APPROVER COMMENTS	CMS	03 23 12

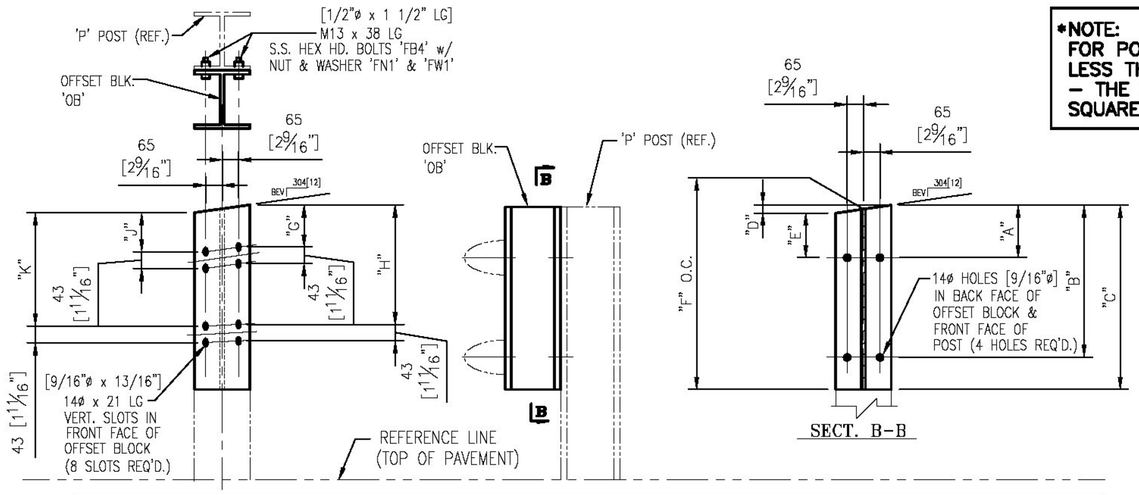
ITEM No: 621.745

APPROVED: _____ REC'D APPROVAL _____ DRAWING _____

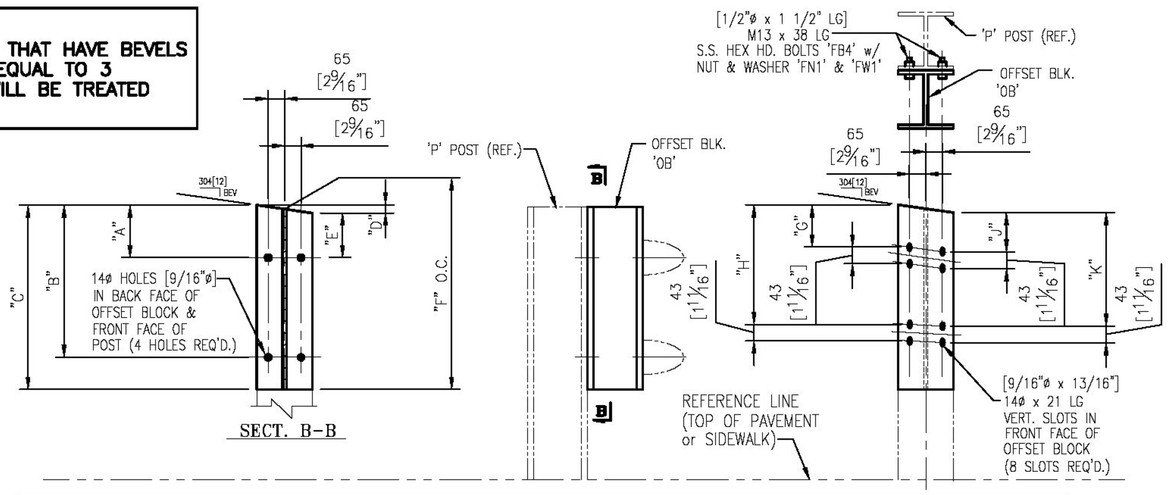
L.B. FOSTER COMPANY
1016 GREENTREE ROAD
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – OFFSET BLOCK DETAILS

MADE CMS DATE 02/02/12 JOB No. AR0720 CUST. No.
CHECK Dd DATE 02/13/12 DRAWING LB8 REV. No. 2



***NOTE:**
FOR POST TOPS THAT HAVE BEVELS LESS THAN OR EQUAL TO 3 – THE POSTS WILL BE TREATED SQUARE.



OFFSET BLOCK CHART FOR NW APPROACH △1
POSTS P5–P8

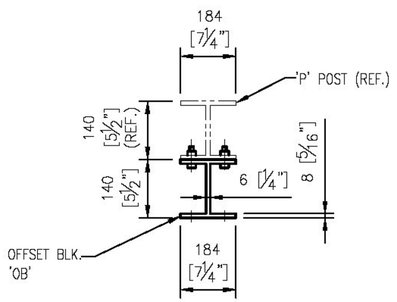
			OFFSET BLOCK ~ POST MTG. DIMENSIONS						BEV
POST No.	OFFSET BLOCK	QTY.	A	B	C	D	E	F (O.C.)	X
P5	OB5	1	56 [2 3/16"]	428 [1'-4 7/8"]	503 [1'-7 13/16"]	11 [7/16"]	46 [1 13/16"]	497 [1'-7 9/16"]	18 [1 1/16]
P6	OB6	1	56 [2 3/16"]	405 [1'-3 15/16"]	480 [1'-6 7/8"]	11 [7/16"]	46 [1 13/16"]	475 [1'-6 1 1/16"]	18 [1 1/16]
P7	OB7	1	56 [2 3/16"]	382 [1'-3 1/16"]	457 [1'-6"]	11 [7/16"]	46 [1 13/16"]	452 [1'-5 13/16"]	18 [1 1/16]
P8	OB8	14	53 [2 1/16"]	373 [1'-2 1 1/16"]	448 [1'-5 5/8"]	5 [3/16"]	49 [1 15/16"]	446 [1'-5 9/16"]	7 [5/16]

OFFSET BLOCK ~ RAIL MTG. DIMENSIONS △1

POST No.	OFFSET BLOCK	G	H	J	K
P5	OB5	31 [1 1/4"]	404 [1'-3 7/8"]	28 [1 1/8"]	398 [1'-3 1 1/16"]
P6	OB6	31 [1 1/4"]	381 [1'-3"]	28 [1 1/8"]	375 [1'-2 3/4"]
P7	OB7	31 [1 1/4"]	358 [1'-2 1/8"]	28 [1 1/8"]	353 [1'-1 7/8"]
P8	OB8	30 [1 3/16"]	350 [1'-1 3/4"]	29 [1 1/8"]	349 [1'-1 3/4"]

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

NOTE:
4 CLAMPING BARS CB–03–A (#19447) PER POSTS P5–P8, P13–P16 & P21–P23 w/ M13 x 25 S.S. BOLT 'FB1' [1/2"ø x 1" LG]
27 O.D. x 13 I.D. x 2 ALUM THK [1 1/16" O.D. x 1/2" I.D. x 1/16"] WASHER 'FW1' (#15280 & #19404) (16 PER POST)



TYP. SECT. POST & OFFSET BLOCK

OFFSET BLOCK CHART FOR NE & SW APPROACHES △1
POSTS P13–P16, P21–P23

			OFFSET BLOCK ~ POST MTG. DIMENSIONS						BEV
POST No.	OFFSET BLOCK	QTY.	A	B	C	D	E	F (O.C.)	X
P13	OB13	1	52 [2 1/16"]	423 [1'-4 5/8"]	498 [1'-7 5/8"]	2 [1/16"]	50 [1 15/16"]	497 [1'-7 9/16"]	3 [1/8]
P14	OB14	1	52 [2 1/16"]	400 [1'-3 3/4"]	475 [1'-6 1 1/16"]	2 [1/16"]	50 [1 15/16"]	474 [1'-6 1 1/16"]	3 [1/8]
P15	OB15	1	52 [2 1/16"]	378 [1'-2 7/8"]	453 [1'-5 13/16"]	2 [1/16"]	50 [1 15/16"]	452 [1'-5 13/16"]	3 [1/8]
P16	OB16	8	53 [2 1/8"]	373 [1'-2 1 1/16"]	448 [1'-5 5/8"]	4 [3/16"]	49 [1 15/16"]	446 [1'-5 9/16"]	7 [1/4]
P21	OB21	1	57 [2 1/4"]	429 [1'-4 7/8"]	504 [1'-7 13/16"]	12 [1/2"]	46 [1 13/16"]	498 [1'-7 5/8"]	20 [1 3/16]
P22	OB22	1	57 [2 1/4"]	407 [1'-4"]	482 [1'-7"]	12 [1/2"]	46 [1 13/16"]	476 [1'-6 3/4"]	20 [1 3/16]
P23	OB23	1	57 [2 1/4"]	384 [1'-3 3/8"]	459 [1'-6 1/16"]	12 [1/2"]	46 [1 13/16"]	453 [1'-5 13/16"]	20 [1 3/16]

OFFSET BLOCK ~ RAIL MTG. DIMENSIONS △1

POST No.	OFFSET BLOCK	G	H	J	K
P13	OB13	30 [1 3/16"]	402 [1'-3 13/16"]	29 [1 1/8"]	399 [1'-3 1 1/16"]
P14	OB14	30 [1 3/16"]	379 [1'-2 15/16"]	29 [1 1/8"]	376 [1'-2 13/16"]
P15	OB15	30 [1 3/16"]	357 [1'-2 1/16"]	29 [1 1/8"]	354 [1'-1 15/16"]
△2 P16	OB16	29 [1 1/8"]	350 [1'-1 3/4"]	28 [1 1/8"]	349 [1'-1 3/4"]
P21	OB21	31 [1 1/4"]	405 [1'-3 15/16"]	28 [1 1/8"]	399 [1'-3 1 1/16"]
P22	OB22	31 [1 1/4"]	382 [1'-3 1/16"]	28 [1 1/8"]	376 [1'-2 13/16"]
P23	OB23	31 [1 1/4"]	359 [1'-2 1/8"]	28 [1 1/8"]	354 [1'-1 15/16"]

ANODIZED
(SEE NOTES ON LB1)

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

REV.	DESCRIPTION	BY	DATE
△2	REVISED DIMENSION PER APPROVER MARKUP	CMS	03 29 12
△1	REVISED ALL POST HGHTS. PER APPROVERS COMMENTS	CMS	03 23 12

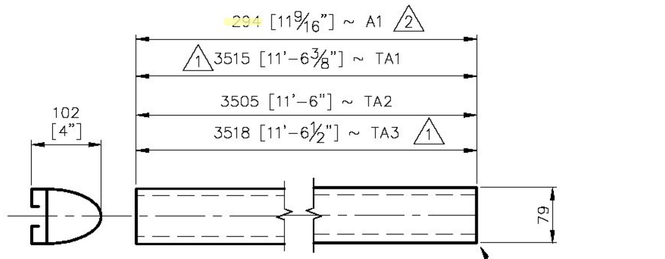
ITEM No: 621.745

APPROVED: _____ REC'D APPROVAL _____ DRAWING _____

L.B. FOSTER COMPANY
1016 GREENTREE ROAD
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – OFFSET BLOCK DETAILS

MADE CMS DATE 02/02/12 JOB No. AR0720 CUST. No.
CHECK Dd DATE 02/13/12 DRAWING LB9 REV. No. 2

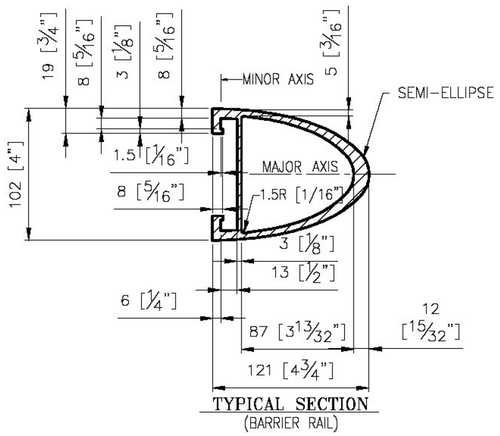


ONE REQ'D – HANDRAIL 'TA1'
(FRONT ELEVATION VIEW)

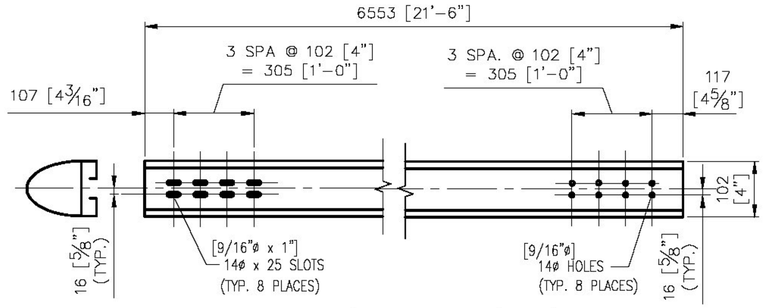
ONE REQ'D – HANDRAIL 'TA2'
(FRONT ELEVATION VIEW)

ONE REQ'D – HANDRAIL 'TA3' 1
(FRONT ELEVATION VIEW)

4 REQ'D – HANDRAIL 'A1'
(FRONT ELEVATION VIEW)

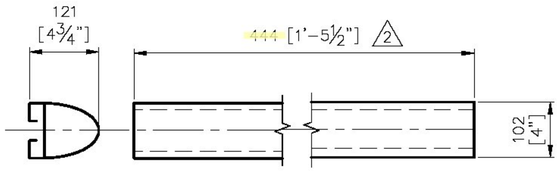


TYPICAL SECTION
(BARRIER RAIL)

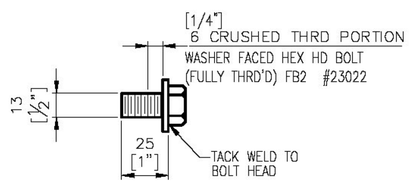


3 REQ'D. ~ RAIL 'MA4'
(BACK ELEVATION VIEW)

3 REQ'D. ~ RAIL 'BA4'
(BACK ELEVATION VIEW)

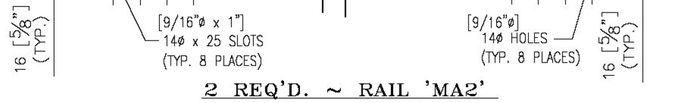


8 REQ'D – BARRIER RAIL 'A2'
(FRONT ELEVATION VIEW)



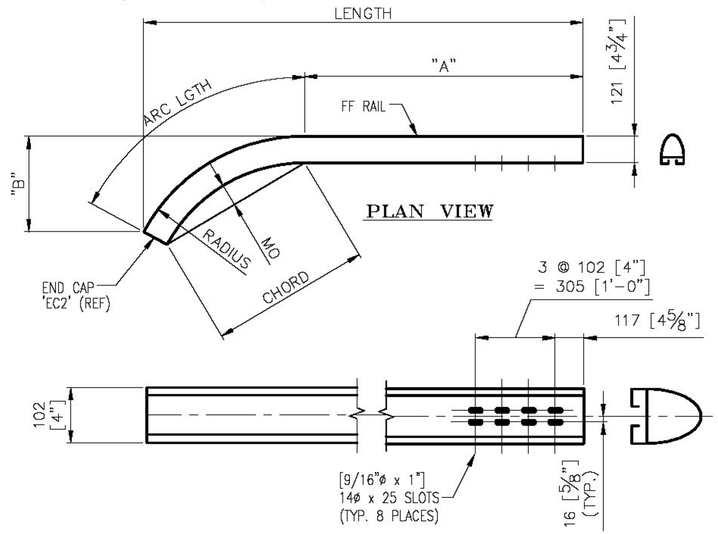
SPLICE BOLT DETAILS

FASTENERS & HOLES WILL BE SUPPLIED IN STANDARD US EQUIVALENT UNITS FOR THE METRIC DESIGNATIONS.



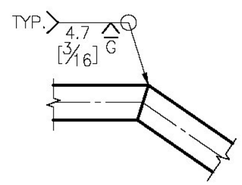
2 REQ'D. ~ RAIL 'MA2'
(BACK ELEVATION VIEW)

2 REQ'D. ~ RAIL 'BA2'
(BACK ELEVATION VIEW)

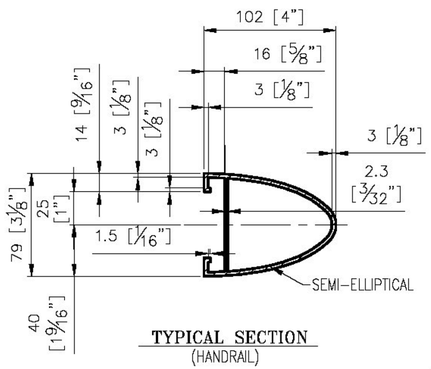


Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.



TYPICAL WELD DETAIL
(OPTIONAL IF REQ'D. – 1 IN LIEU OF BENDING)



TYPICAL SECTION
(HANDRAIL)

ITEM No: 621.745

BENT RAILS

MK.	QTY	OAL (ALONG FF RAIL)	LENGTH	ARC LGTH	"A"	"B"	MO	CHORD	RADIUS	MATL FOR BENDING
MA1	2	5182 [17'-0"]	4736 [15'-6 7/16"]	4104 [13'-5 9/16"]	1078 [3'-6 7/16"]	1592 [5'-2 11/16"]	405 [1'-3 15/16"]	3893 [12'-9 1/4"]	5000 [16'-4 7/8"]	+762 [2'-6"]
BA1	2	5182 [17'-0"]	4736 [15'-6 7/16"]	4104 [13'-5 9/16"]	1078 [3'-6 7/16"]	1592 [5'-2 11/16"]	405 [1'-3 15/16"]	3893 [12'-9 1/4"]	5000 [16'-4 7/8"]	+762 [2'-6"]
MA6	1	7020 [23'-0 3/8"]	6574 [21'-6 13/16"]	4104 [13'-5 9/16"]	2916 [9'-6 13/16"]	1592 [5'-2 11/16"]	405 [1'-3 15/16"]	3893 [12'-9 1/4"]	5000 [16'-4 7/8"]	+762 [2'-6"]
BA6	1	7020 [23'-0 3/8"]	6574 [21'-6 13/16"]	4104 [13'-5 9/16"]	2916 [9'-6 13/16"]	1592 [5'-2 11/16"]	405 [1'-3 15/16"]	3893 [12'-9 1/4"]	5000 [16'-4 7/8"]	+762 [2'-6"]

ANODIZED
(SEE NOTES ON LB1)

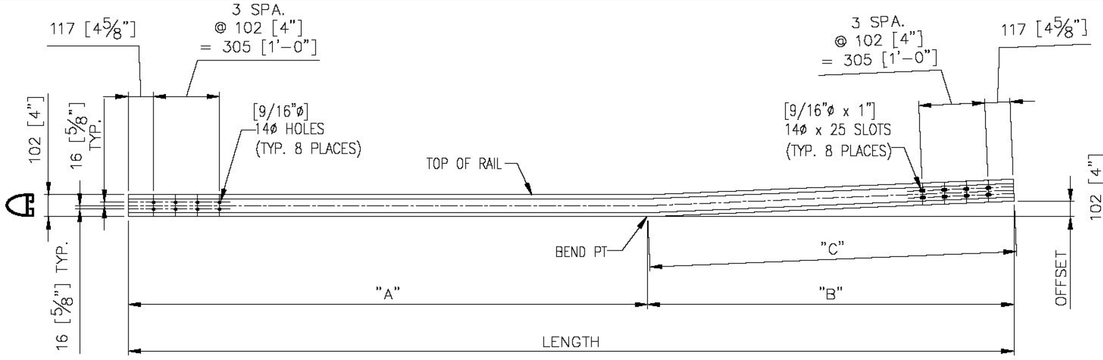
REV.	DESCRIPTION	BY	DATE
2	REVISED PER APPROVAL COMMENTS	CMS	03 28 12
1	REVISED PER APPROVAL COMMENTS	CMS	03 23 12

APPROVED: _____ REC'D APPROVAL _____ DRAWING _____

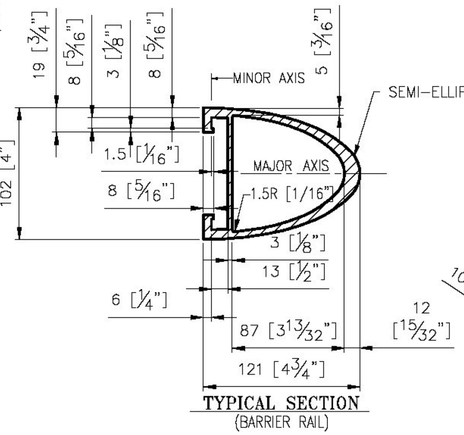
L.B. FOSTER COMPANY
1016 GREENTREE ROAD
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – RAIL DETAILS

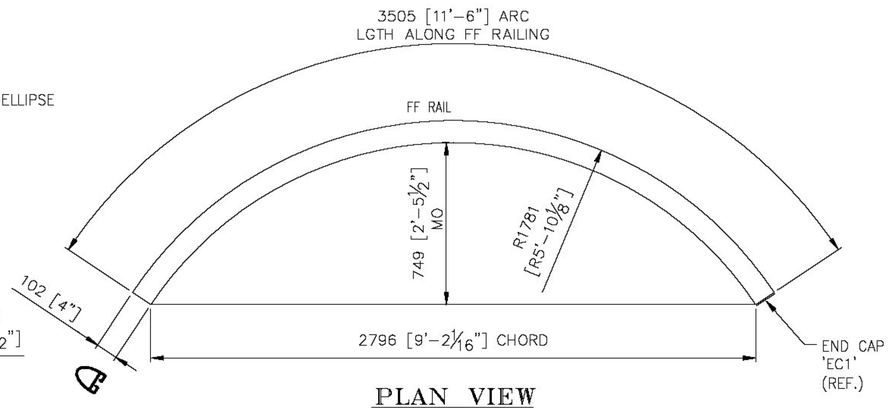
MADE CMS DATE 02/03/12 JOB No. AR0720 CUST. No.
CHECK Dd DATE 02/13/12 DRAWING LB10 REV. No. 2



REAR ELEVATION VIEW



TYPICAL SECTION
(BARRIER RAIL)

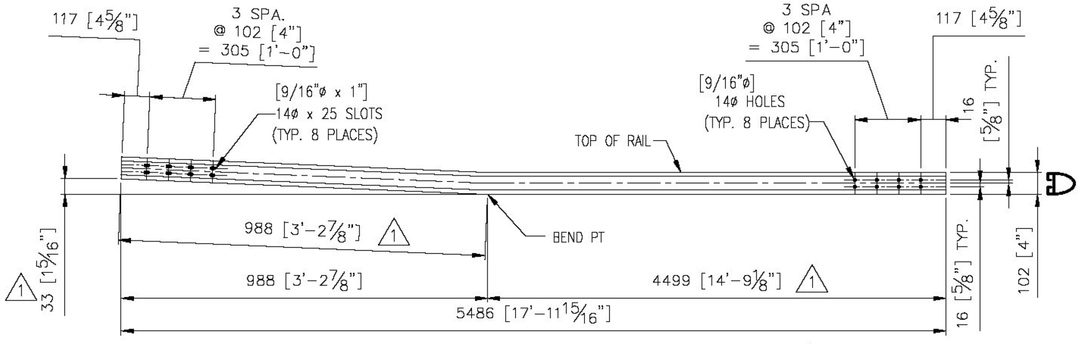


PLAN VIEW

ROADWAY BEND 'TA4' ~ ONE REQ'D ⚠1

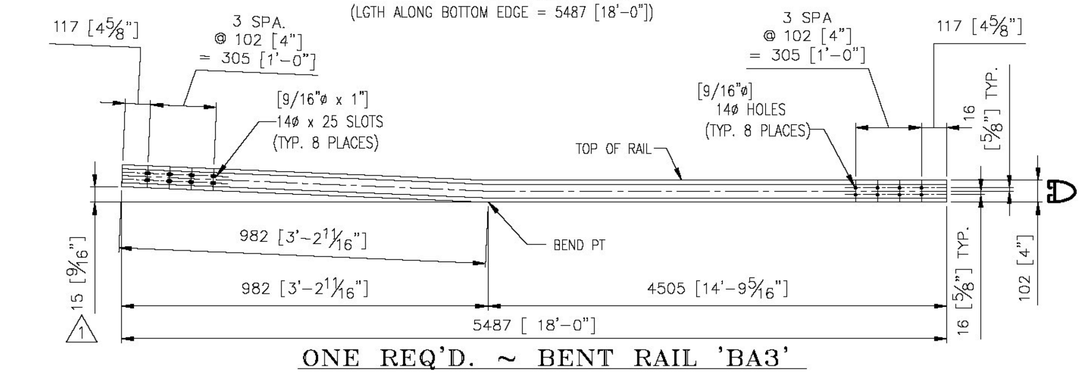
3505 [11'-6"] + 1219 [4'-0"] = 4724 [15'-6"] ALONG FF RAILING

BENT RAILS							
MK.	QTY	OAL (ALONG BOTTOM)	LENGTH	OFFSET	"A"	"B"	"C"
MA5	1	5334 [17'-6"]	5333 [17'-5 15/16"]	32 [1 1/4"]	4356 [14'-3 1/2"]	977 [3'-2 7/16"]	978 [3'-2 1/2"] ⚠1
BA5	1	5334 [17'-6"]	5333 [17'-5 15/16"]	15 [9/16"]	4357 [14'-3 9/16"]	977 [3'-2 7/16"]	977 [3'-2 7/16"] ⚠1
MA7	1	5487 [18'-0"]	5487 [18'-0"]	40 [1 9/16"]	4497 [14'-9"]	990 [3'-3"]	990 [3'-3"] ⚠1
BA7	1	5487 [18'-0"]	5487 [18'-0"]	22 [7/8"]	4504 [14'-9 5/16"]	983 [3'-2 11/16"]	983 [3'-2 11/16"] ⚠1



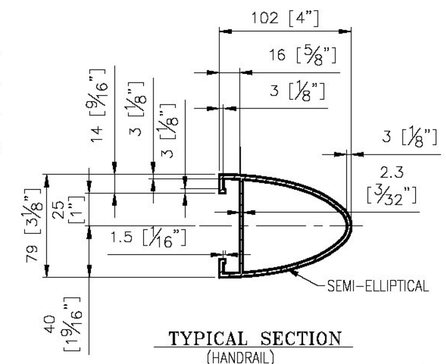
ONE REQ'D. ~ BENT RAIL 'MA3' ⚠1

(REAR ELEVATION VIEW)
(LGTH ALONG BOTTOM EDGE = 5487 [18'-0"])

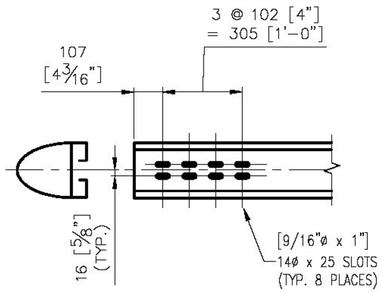


ONE REQ'D. ~ BENT RAIL 'BA3'

(REAR ELEVATION VIEW)
(LGTH ALONG BOTTOM EDGE = 5487 [18'-0"])

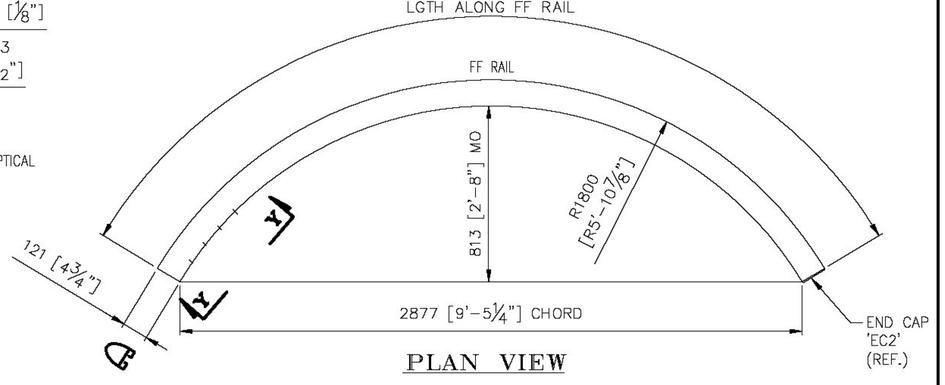


TYPICAL SECTION
(HANDRAIL)



VIEW 'Y'-'Y'

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012



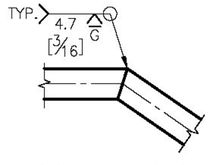
PLAN VIEW

ROADWAY BEND 'MA8' ~ ONE REQ'D

3704 [12'-1 13/16"] + 1219 [4'-0"] = 4724 [16'-1 13/16"] ALONG FF RAILING

ROADWAY BEND 'BA8' ~ ONE REQ'D

3704 [12'-1 13/16"] + 1219 [4'-0"] = 4724 [16'-1 13/16"] ALONG FF RAILING



TYPICAL WELD DETAIL
⚠1 (OPTIONAL IF REQ'D. - IN LIEU OF BENDING)

ANODIZED
(SEE NOTES ON LB1)

ITEM No: 621.745

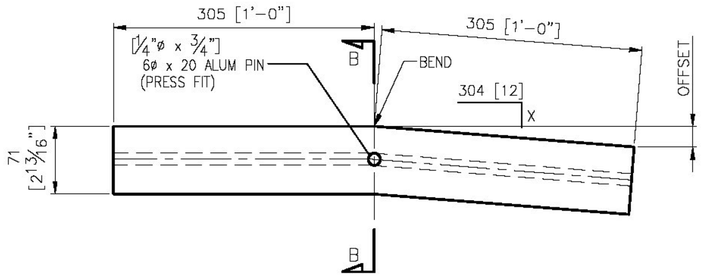
APPROVED: _____ REC'D APPROVAL _____ DRAWING _____

L.B. FOSTER COMPANY
1016 GREENTREE ROAD
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM - TOWN OF NEWFANE - PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING - RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH - RAIL DETAILS

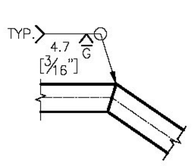
REV.	DESCRIPTION	BY	DATE
⚠1	REVISED PER APPROVAL COMMENTS	CMS	03 23 12

MADE CMS DATE 02/03/12 JOB No. AR0720 CUST. No.
CHECK Dd DATE 02/13/12 DRAWING LB11 REV. No. ONE

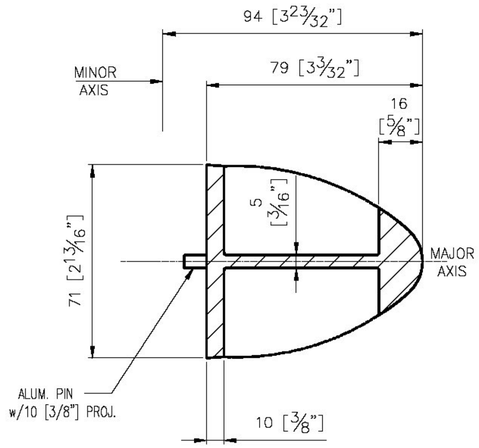


REAR ELEVATION VIEW

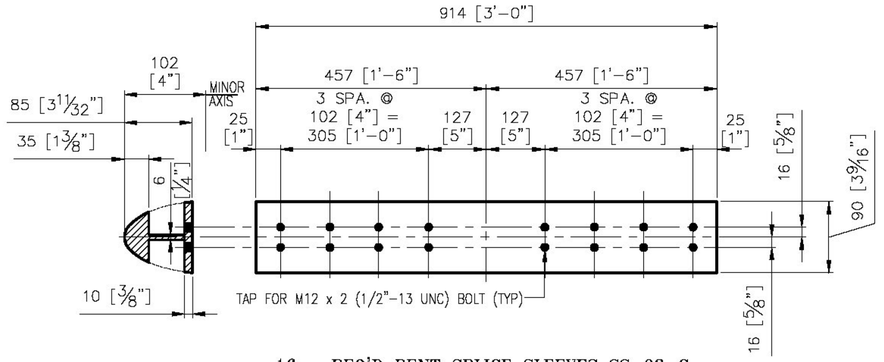
MOD. BARRIER RAIL SPLICES				
MK.	X	QTY.	OFFSET	
SS-23-A1	32 [1¼]	1	32 [1¼"]	1
SS-23-A2	17 [1 1/16]	1	17 [1 1/16"]	1
SS-23-A3	34 [1 5/16]	1	33 [1 5/16"]	1
SS-23-A4	19 [¾]	1	19 [¾"]	1



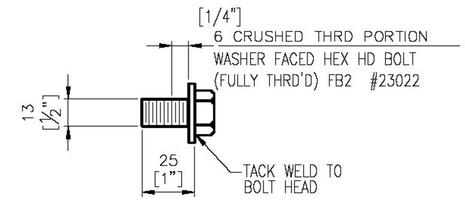
TYPICAL WELD DETAIL
@ MITERED SPLICES (OPTIONAL IF REQ'D.)



SECTION B-B

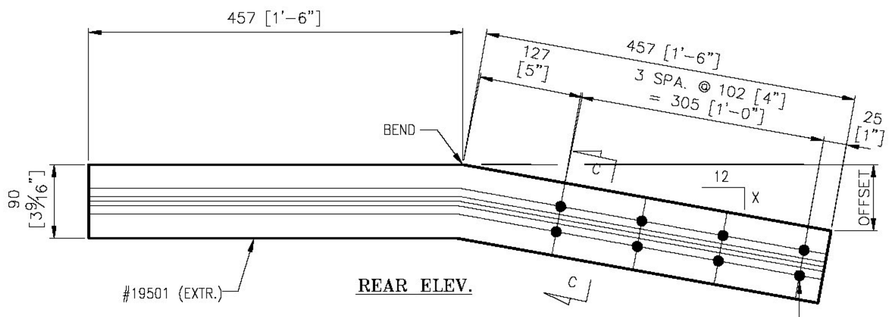


16 ~ REQ'D BENT SPLICE SLEEVES SS-03-G
(BARRIER RAIL - BACK ELEV VIEW) #19501 (EXTR.)

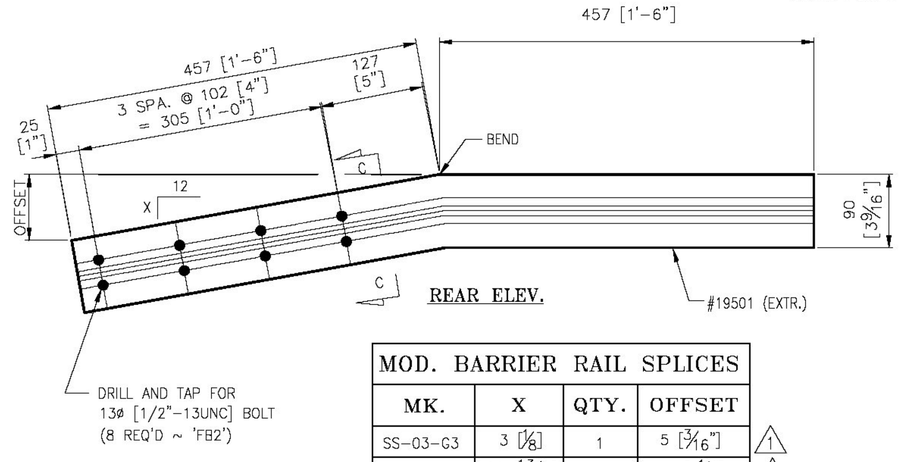


SPLICE BOLT DETAILS

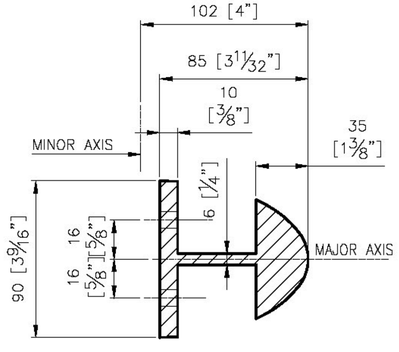
FASTENERS & HOLES WILL BE SUPPLIED IN STANDARD US EQUIVALENT UNITS FOR THE METRIC DESIGNATIONS.



MOD. BARRIER RAIL SPLICES				
MK.	X	QTY.	OFFSET	
SS-03-G1	18 [1 1/16]	1	27 [1 1/16"]	1
SS-03-G2	12 [½]	1	18 [1 1/16"]	1
SS-03-G4	3 [⅛]	1	5 [3/16"]	1
SS-03-G7	5 [3/16]	1	7 [¼"]	2



MOD. BARRIER RAIL SPLICES				
MK.	X	QTY.	OFFSET	
SS-03-G3	3 [⅛]	1	5 [3/16"]	1
SS-03-G5	20 [1 3/16]	1	29 [1⅛"]	1
SS-03-G6	14 [9/16]	1	21 [1 3/16"]	1
SS-03-G8	1 [1/16]	1	1 [1/16"]	2



SECTION C-C

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

ITEM No.621.745

APPROVED: REC'D APPROVAL
DRAWING

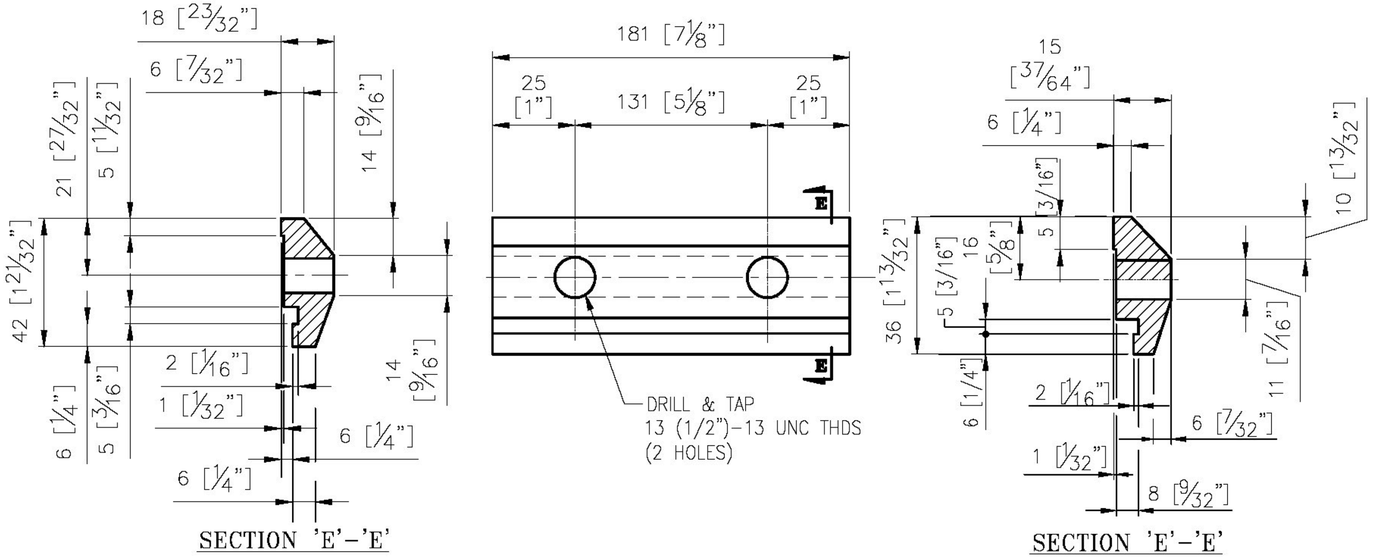
ANODIZED
(SEE NOTES ON LB1)

L.B. FOSTER COMPANY
1016 GREENTREE ROAD
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM - TOWN OF NEWFANE - PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING - RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH - SPLICE DETAILS

REV.	DESCRIPTION	BY	DATE
2	REVISED PER APPROVER MARKUPS	CMS	03 29 12
1	REVISED PER APPROVER MARKUPS	CMS	03 23 12

MADE CMS DATE 02/02/12 JOB No. AR0720 CUST. No.
CHECK Dd DATE 02/13/12 DRAWING LB12 REV. No. 2

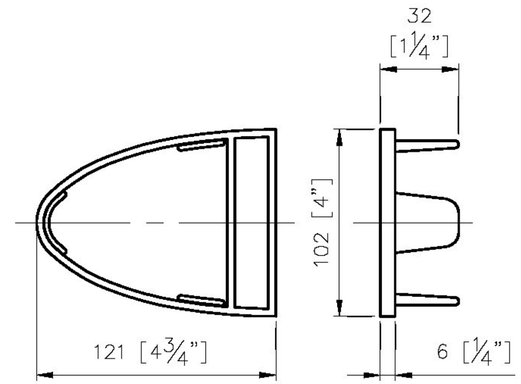


SECTION 'E'–'E'

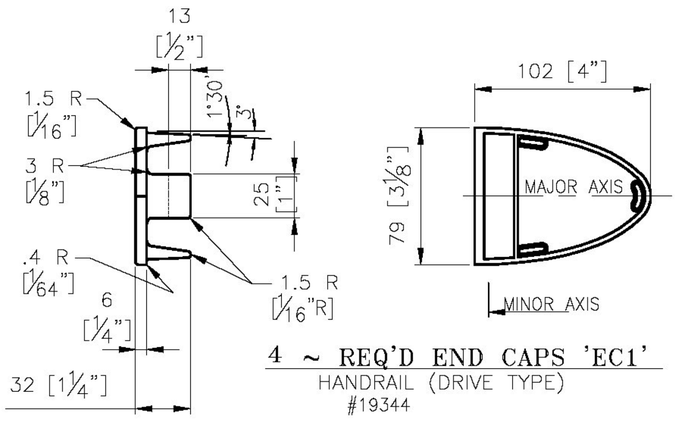
204 ~ REQ'D CLAMP
BAR CB–03–A #19447
(BARRIER RAIL)

SECTION 'E'–'E'

40 ~ REQ'D CLAMP
BAR CB–01–H #28596
(HANDRAIL)



8 ~ REQ'D. ALUM
END CAPS EC2
#19345



4 ~ REQ'D END CAPS 'EC1'
HANDRAIL (DRIVE TYPE)
#19344

NOTE:
PRIMARY DIMENSIONS ARE METRIC UNITS IN MM. DIMENSIONS SHOWN [ ] THUS ARE THE ENGLISH CONVERSION.

ITEM No: 621.745

Vermont Agency of Transportation
RECEIVED
CK'D BY GFR OK'D BY
03/29/2012
RESUBMIT APPROVED X
BY C. CARLSON DATE 03/30/2012

ANODIZED
(SEE NOTES ON LB1)

REV.	DESCRIPTION	BY	DATE

APPROVED: REC'D APPROVAL
DRAWING

L.B. FOSTER COMPANY
1016 GREENTREE ROAD
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED
VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDHAM – TOWN OF NEWFANE – PROJ. #BRF 0106(3)S
3L ALUM APPROACH RAILING – RTE: TH2 CLASS 2 (MAJOR COLLECTOR)
BRIDGE 14 OVER MARLBORO BRANCH – MISC DETAILS

MADE CMS DATE 02/03/12 JOB No. AR0720 CUST. No.
CHECK Dd DATE 02/13/12 DRAWING LB13 (LAST) REV. No.