STATE OF VERMONT
AGENCY OF TRANSPORTATION

RECORD PLANS

CONTRACTOR: MILLER CONSTRUCTION, INC – WINDSOR, VT

RESIDENT ENGINEER: TOM CHASE

CONSTRUCTION BEGAN: MAY 2, 2016

CONSTRUCTION COMPLETE: JUNE 28, 2016

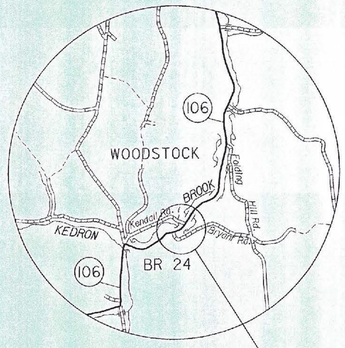
RECORD PLANS BY: TOM CHASE & KEVIN KING

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

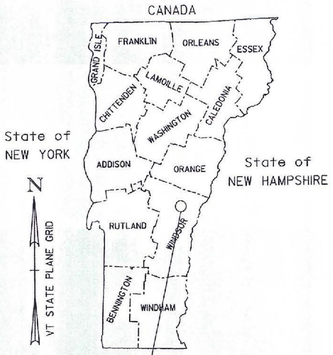
BY Thomas A. Chase RESIDENT ENGINEER

DATE 01/30/17

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.



LOCATION MAP
NOT TO SCALE



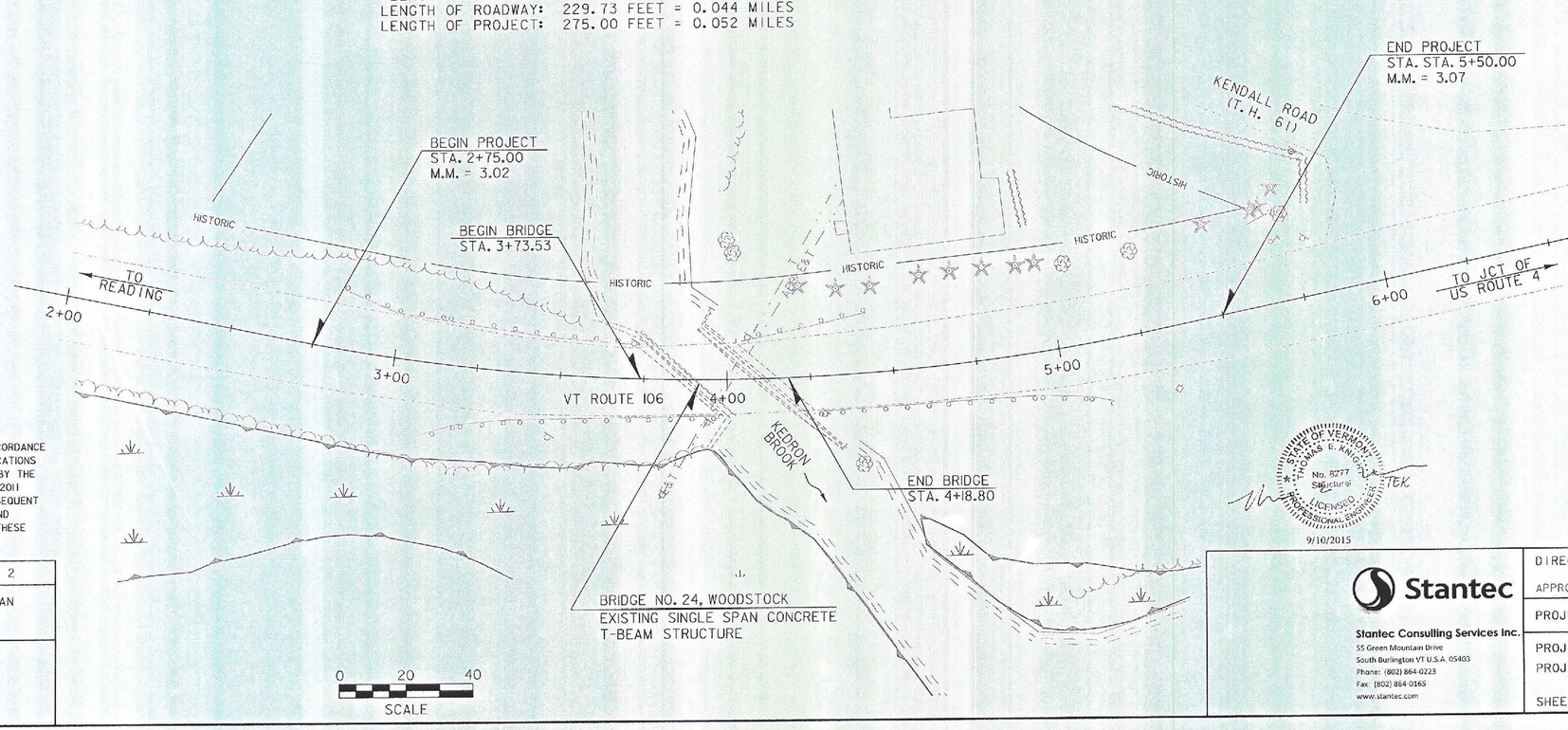
PROJECT LOCATION
WOODSTOCK BRF 0151(21)

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF WOODSTOCK
COUNTY OF WINDSOR
VERMONT ROUTE 106 (MAJOR COLLECTOR RURAL) BRIDGE NO. 24

PROJECT LOCATION: IN THE TOWN OF WOODSTOCK, VERMONT ROUTE 106 APPROXIMATELY 200 FT SOUTH OF THE INTERSECTION WITH T.H. 61 (KENDALL ROAD) AT MILE MARKER 3.04.

PROJECT DESCRIPTION: REPLACEMENT OF EXISTING BRIDGE WITH A PRECAST CONCRETE STRUCTURE ALONG WITH RELATED ROADWAY AND CHANNEL WORK.

LENGTH OF BRIDGE: 45.27 FEET = 0.008 MILES
LENGTH OF ROADWAY: 229.73 FEET = 0.044 MILES
LENGTH OF PROJECT: 275.00 FEET = 0.052 MILES



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY : VTRANS, R. GILMAN SURVEYED DATE : 04/28/2011	
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)

STATE OF VERMONT
THOMAS E. KING
No. 8277
Structural
LICENSED
PROFESSIONAL ENGINEER
TEK
9/10/2015

Stantec
Stantec Consulting Services Inc.
55 Green Mountain Drive
South Burlington VT U.S.A. 05403
Phone: (802) 864-0223
Fax: (802) 864-0165
www.stantec.com

DIRECTOR OF PROJECT DELIVERY
APPROVED _____ DATE 9/10/2015

PROJECT MANAGER : R. YOUNG, P.E.

PROJECT NAME : WOODSTOCK
PROJECT NUMBER : BRF 0151(21)

SHEET 1 OF 50 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 11.06.15

LRFD

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STANDARDS LIST

E-119	UTILITY WORK ZONE	03-01-2004
E-121	STANDARD PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-193	PAVEMENT MARKING DETAILS	08-18-1995
G-1BM	BOX BEAM GUARDRAIL	06-13-1997
S-364A	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364B	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364C	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364D	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	04-23-2012
T-1	TRAFFIC CONTROL GENERAL NOTES	08-06-2012
T-10	CONVENTIONAL ROADS AND CONSTRUCTION APPROACH SIGNING	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

STRUCTURES DETAILS

SD-501.00	CONCRETE DETAILS AND NOTES	02-09-2012
SD-502.00	CONCRETE DETAILS AND NOTES	10-10-2012
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	08-29-2011

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2014	1500	170	66	5.1	90
2034	1600	180	66	7.7	150

20 year ESAL for flexible pavement from 2014 to 2034 : 382000

40 year ESAL for flexible pavement from 2014 to 2054 : 874000

Design Speed : 40 mph

AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: March 2015

DRAINAGE AREA : 8.4 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous, 80% forested and 20% open
STREAM CHARACTERISTICS : Straight to sinuous, steep river. Probably incised and alluvial.
NATURE OF STREAMBED : Gravel, cobbles, some boulders and sand

PEAK FLOW DATA

Q 2.33 =	500 cfs	Q 50 =	1700 cfs
Q 10 =	950 cfs	Q 100 =	2075 cfs
Q 25 =	1350 cfs	Q 500 =	3400 cfs

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q50 = 6.1 fps
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Concrete T-Beam bridge
YEAR BUILT: 1924
CLEAR SPAN(NORMAL TO STREAM): 14'
VERTICAL CLEARANCE ABOVE STREAMBED: 8' (Ave. low beam elev. 980.6')
WATERWAY OF FULL OPENING: 110 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	978.3'	VELOCITY =	10.9 fps
Q10 =	981.3'	"	15.9 fps
Q25 =	983.6'	"	18.4 fps
Q50 =	985.5'	"	20.2 fps
Q100 =	988.0'	"	20.8 fps

LONG TERM STREAMBED CHANGES: There is a scour hole through the bridge area.
The bridge footings have been undermined due to scour and/or channel degradation.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 983.3'
DISCHARGE OVER ROAD @Q100: 0 cfs

UPSTREAM STRUCTURE

TOWN: Woodstock DISTANCE: 3,900'
HIGHWAY # : VT 106 STRUCTURE #: 23
CLEAR SPAN: 30' CLEAR HEIGHT: 13'
YEAR BUILT: 1950 FULL WATERWAY: 260 sq. ft.
STRUCTURE TYPE: Concrete rigid frame

DOWNSTREAM STRUCTURE

TOWN: Woodstock DISTANCE: 500'
HIGHWAY # : VT 106 STRUCTURE #: 25
CLEAR SPAN: 18' CLEAR HEIGHT: 10'
YEAR BUILT: 1934 FULL WATERWAY: 180 sq. ft.
STRUCTURE TYPE: Concrete slab bridge

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

* REFER TO MICROPILE FOUNDATION NOTES ON SHEET 5

PROPOSED STRUCTURE

STRUCTURE TYPE: Rigid Frame Bridge

CLEAR SPAN(NORMAL TO STREAM): 30'
VERTICAL CLEARANCE ABOVE STREAMBED: 9'
WATERWAY OF FULL OPENING: 246 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	977.0'	VELOCITY=	8.0 fps
Q10 =	978.7'	"	9.4 fps
Q25 =	980.2'	"	11.4 fps
Q50 =	981.3'	"	11.5 fps
Q100 =	982.5'	"	13.8 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 983.3'
DISCHARGE OVER ROAD @Q100: 0 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 982.3'
VERTICAL CLEARANCE: @ Q50 = 1.0'

SCOUR: Long term and contraction scour up to Q200 (scour design check flood) = 5'.
Piles should be designed to be freestanding to elevation 964.0'.
REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	20 cfs	
ORDINARY LOW WATER:	10 cfs	DEPTH OR ELEVATION:
ORDINARY HIGH WATER:	225 cfs	Depth = 1'
		Depth = 2'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Temporary bridge not required.
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN ONE WAY TRAFFIC DURING PHASE I.
2. OFFSITE DETOUR DURING PHASE II.
3. TEMPORARY SIGNALS ARE NOT NECESSARY.
4. SIDEWALKS ARE NOT NECESSARY.

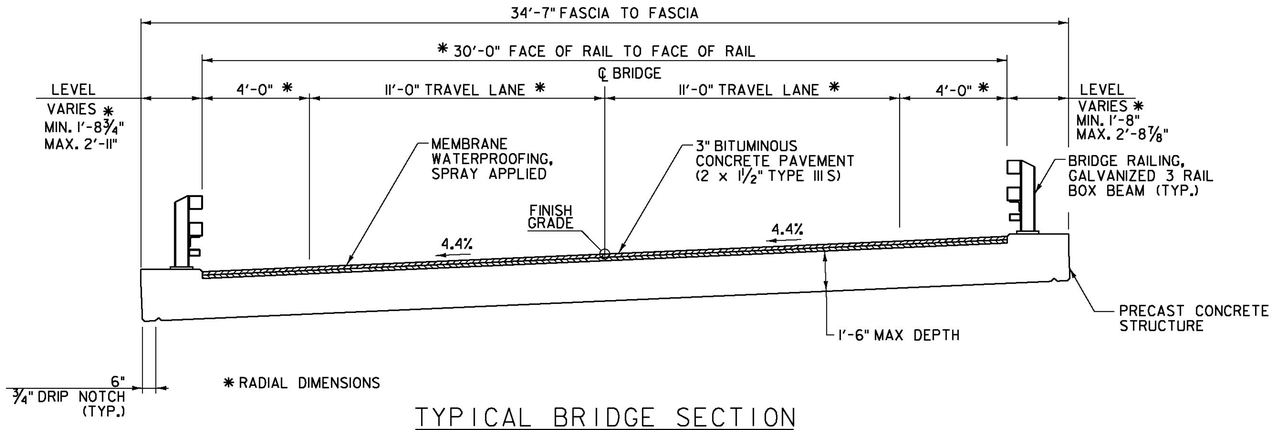
DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	0.0 INCH
3. DESIGN SPAN	L:	42'-5" FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	- - -
5. PRESTRESSING STRAND	f_y:	- - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	3.0 KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	- - -
14. SOIL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	- - -
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	- - -
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	
19. NOMINAL AXIAL PILE RESISTANCE	q_p:	
20. PILE YIELD STRENGTH ASTM A572	f_y:	
21. PILE SIZE		
22. EST. PILE LENGTH	L_p:	*
23. PILE RESISTANCE FACTOR	ϕ:	
24. LATERAL PILE DEFLECTION	Δ:	
25. BASIC WIND SPEED	V_{3s}:	
26. MINIMUM GROUND SNOW LOAD	p_g:	
27. SEISMIC DATA PGA: - - -	S_s:	
	S_1:	

PROJECT NAME: **WOODSTOCK**
PROJECT NUMBER: **BRF 0151(21)**

FILE NAME: **z10c426_pi.xls**
PROJECT LEADER: **G. BOGUE**
DESIGNED BY: **G. BOGUE**
PRELIMINARY INFORMATION SHEET

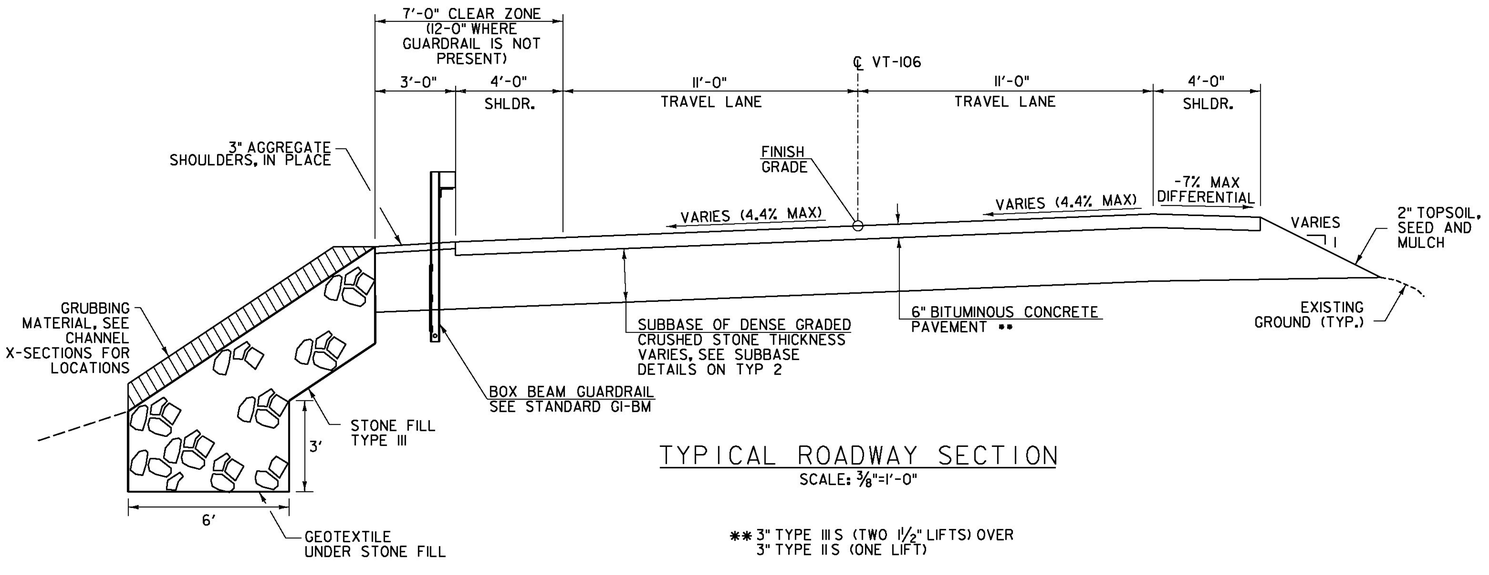
PLOT DATE: 3/24/2015
DRAWN BY: **L. BUXTON**
CHECKED BY: **J. HUNGERFORD**
SHEET 2 OF 50



TYPICAL BRIDGE SECTION

SCALE: ⅜"=1'-0"

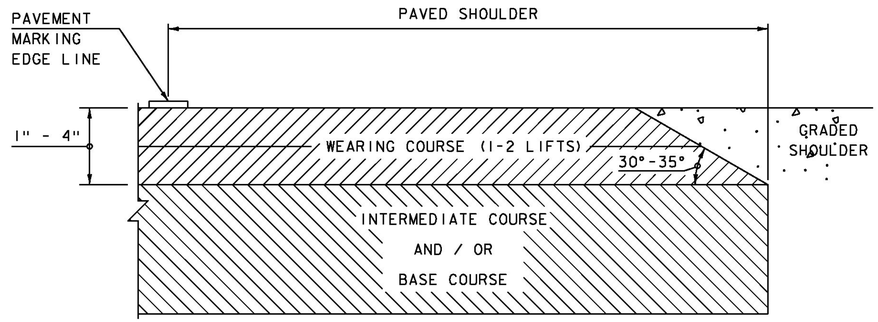
NOTE:
EMULSIFIED ASPHALT SHALL BE APPLIED ON EXISTING PAVEMENT SURFACES, COLD PLANED SURFACES, BETWEEN ALL COURSES OF PAVEMENT AND ON THE FACE OF CURB. EMULSIFIED ASPHALT SHALL MEET THE REQUIREMENTS OF SECTION 404. EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL COLD PLANED SURFACES AT A RATE OF 0.08 GAL/SY. EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL OTHER PAVED SURFACES AT A RATE BETWEEN 0.025 AND 0.04 GAL/SY, AS DIRECTED BY THE ENGINEER. EMULSIFIED ASPHALT WILL BE PAID UNDER ITEM 900.683 SPECIAL PROVISION (EMULSIFIED ASPHALT) (RS-1H OR CRS-1H).



TYPICAL ROADWAY SECTION

SCALE: ⅜"=1'-0"

** 3" TYPE IIIS (TWO 1½" LIFTS) OVER 3" TYPE IIS (ONE LIFT)



SAFETY EDGE DETAIL

NOT TO SCALE

NOTE:

1. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.

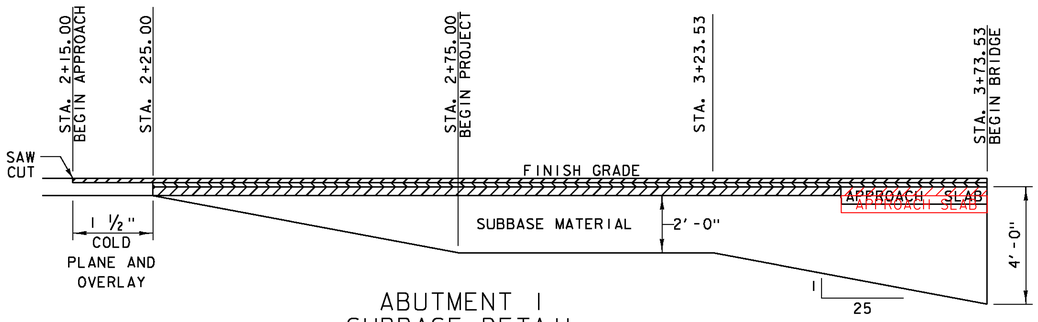
MATERIAL TOLERANCES

(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COURSE	+/- ½"
SUBBASE	+/- 1"

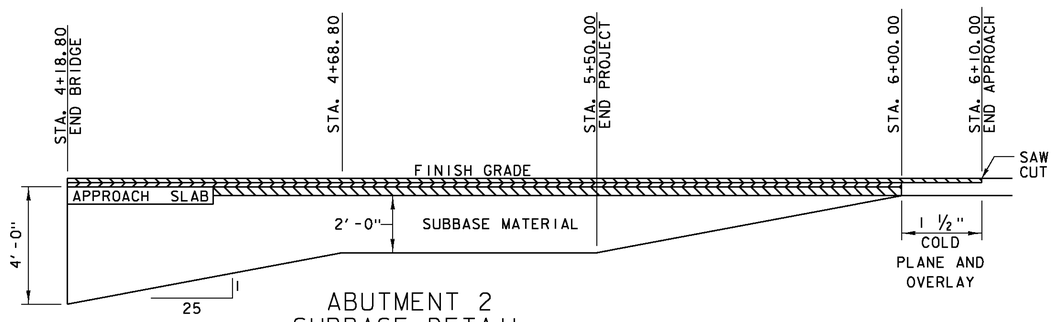
Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426typ.dgn	PLOT DATE: 9/24/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: J. HUNGERFORD
TYPICAL SECTIONS - TYP 1	SHEET 3 OF 50



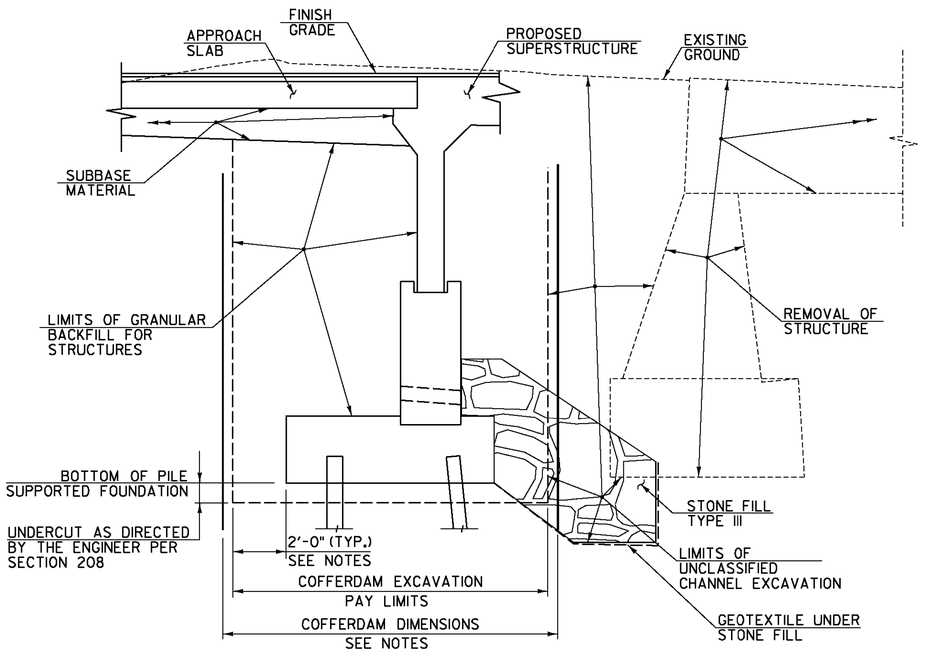
ABUTMENT 1
SUBBASE DETAIL

(ELEVATION IN CUT AND FILL)
(NOT TO SCALE)



ABUTMENT 2
SUBBASE DETAIL

(ELEVATION IN CUT AND FILL)
(NOT TO SCALE)



COFFERDAM AND EARTHWORK SECTION

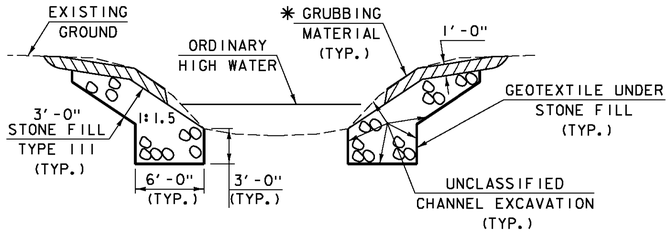
NOT TO SCALE

COFFERDAM NOTES

1. DUE TO THE ANTICIPATED PRESENCE OF LARGE COBBLES AND BOULDERS, THE USE OF A SHALLOW COFFERDAM IS ANTICIPATED. COFFERDAM TYPE AND DIMENSIONS ARE TO BE DETERMINED BY THE CONTRACTOR.

2. THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.

3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THE PAY LIMITS DEFINED IN NOTE 2.



CHANNEL TYPICAL 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.

Stantec

PROJECT NAME: WOODSTOCK	
PROJECT NUMBER: BRF 0151(21)	
FILE NAME: z10c426typ.dgn	PLOT DATE: 9/24/2015
PROJECT LEADER: C. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: J. HUNGERFORD
TYPICAL SECTIONS - TYP 2	SHEET 4 OF 50

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SEVENTH EDITION, DATED 2014, AND ITS LATEST REVISIONS.

2. THE FOLLOWING WILL BE PAID FOR UNDER ITEM 529.15 "REMOVAL OF STRUCTURE": REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE T-BEAM BRIDGE INCLUDING ABUTMENTS, WINGWALLS, BRIDGE PAVEMENT AND BRIDGE RAILING.

3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

4. PAYMENT FOR DEWATERING WILL BE INCLUDED TO THE APPROPRIATE ITEM 208.40. A STREAM PHASING SEQUENCE IS SHOWN ON SHEET 48. THIS SEQUENCE OF CONSTRUCTION WAS USED TO DEFINE THE LIMITS OF STREAM DISTURBANCE AND RELOCATION FOR PERMITTING THE PROJECT. THE SEQUENCE REQUIRES THE COFFERDAM FOR ABUTMENT 1 TO BE REMOVED PRIOR TO INSTALLING THE COFFERDAM FOR ABUTMENT 2. IF THE CONTRACTOR PROPOSES A DIFFERENT SEQUENCE OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE APPROPRIATE REGULATORY AGENCIES PRIOR TO PERFORMING THE WORK.

5. ALL PRECAUTIONS SHALL BE TAKEN TO PREVENT SEDIMENT OR POLLUTION FROM ENTERING INTO KEDRON BROOK. ALL WATER PUMPED FROM EXCAVATION AREAS SHALL BE CLARIFIED PRIOR TO BEING ALLOWED TO MIX WITH THE STREAM FLOW. STATE WATER QUALITY STANDARDS SHALL BE MAINTAINED AT ALL TIMES. PAYMENT WILL BE MADE UNDER SPECIAL PROVISION (IN-WATER SEDIMENT ISOLATION DEVICE).

6. ONE TREE AT STATION 4+22 LT SHALL BE REMOVED. ALL REMAINING TREES SHALL BE PROTECTED IN ACCORDANCE WITH SUBSECTION 656.10. SEE SHEET 10.

MICROPILE FOUNDATIONS

7. THE MICROPILES ARE DESIGNED TO SUPPORT A MAXIMUM STRENGTH LIMIT STATE AXIAL LOAD OF 230 Kips PER PILE IN COMPRESSION. THE REQUIRED NOMINAL AXIAL RESISTANCES ARE 322 kips PER PILE (COMPRESSION) AND 168 Kips PER PILE (TENSION).

8. MINIMUM MICROPILE STEEL CASING THICKNESS = 0.545 INCHES
MINIMUM OUTSIDE DIAMETER OF MICROPILE CASING = 9.625 INCHES
MINIMUM UNCASED DIAMETER = 8.535 INCHES

9. EXTEND CASING A MINIMUM OF 1 (ONE) FOOT BELOW TOP OF COMPETENT LEDGE; EXTEND UNCASED PORTION OF MICROPILE A MINIMUM OF 6 (SIX) FEET BELOW THE BOTTOM CASING FOR THE FRONT, BATTERED PILES AND 4 (FOUR) FEET FOR THE PLUMB BACK PILES.

10. TOP OF THE PILES SHALL BE CUT OFF AT ELEVATION 971.50'. ESTIMATED IN PLACE CASING LENGTH VARIES 23 FEET TO 28 FEET. ACTUAL LENGTHS MAY VARY SLIGHTLY DEPENDING ON LEDGE ELEVATION.

11. THE CONTRACTOR IS ADVISED THAT DIFFICULT DRILLING CONDITIONS ARE ANTICIPATED. THE CONTRACTOR SHALL MAKE PROVISIONS TO MAINTAIN THE TOLERANCES FOR LOCATION AND BATTER OF THE MICROPILES ESTABLISHED IN THE SPECIAL PROVISIONS AND AS NECESSARY TO ASSURE COMPATIBILITY WITH THE LOCATION OF THE PRECAST FOOTINGS.

PRE-CAST CONCRETE

12. THE MICROPILE FOUNDATION AND PEDESTAL WALLS ARE DESIGNED FOR THE REACTIONS AND BEHAVIOR SUMMARIZED BELOW. IF THE PROPOSED FRAME REACTIONS AND GEOMETRY VARY BEYOND THE LIMITS DEFINED BELOW, THE FABRICATOR SHALL ASSUME DESIGN RESPONSIBILTY OF THE FOUNDATION, DESIGN THE NECESSARY REVISIONS TO THE FOUNDATION AND SUBMIT STRUCTURAL CALCULATIONS FOR THE REVISED DESIGN IN ACCORDANCE WITH SECTION 540.04.

    A. FRAME STIFFNESS: WHEN MODELING THE STIFFNESS OF THE FRAME FOR PURPOSES OF DESIGNING THE FOUNDATION, THE FRAME LEG WAS ASSUMED TO HAVE A MINIMUM THICKNESS OF 12 INCHES. IF THE FABRICATOR'S PROPOSED FRAME LEG THICKNESS IS LESS THAN 12 INCHES, THE FABRICATOR SHALL ASSUME DESIGN RESPONSIBILITY OF THE FOUNDATION.

    B. FRAME REACTIONS AT TOP OF PEDESTAL: THE FOUNDATION WAS DESIGNED FOR A MAXIMUM UN-FACTORED REACTIONS OF:
    - DEAD LOAD - 8.6 KIPS PER FOOT OF FRAME
    - LIVE LOAD - 5.5 KIPS PER FOOT OF FRAME

    C. TOP OF PEDESTAL: THE PEDESTAL IS DESIGNED FOR A MAXIMUM ELEVATION 977.66 FEET. IF THE PROPOSED FABRICATORS DESIGN REQUIRES A HIGHER PEDESTAL ELEVATION, THE FABRICATOR SHALL ASSUME DESIGN REPONSIBILITY OF THE FOUNDATION.

13. THE PRECAST FRAME AND WINGWALLS SHALL BE DESIGNED BY THE PRECAST FABRICATOR, INCLUDING THE ANCHORAGE AND CONNECTIONS BETWEEN ELEMENTS. ALL ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE FABRICATORS RECOMMENDATIONS. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS AND CALCULATIONS TO THE ENGINEER IN ACCORDANCE WITH SECTION 105.

    DESIGN CRITERIA:
    - LIVE LOAD = HL-93
    - UNIT WEIGHT OF BACKFILL = 140 LBS/CF
    - ACTIVE EARTH PRESSURE COEFFICIENT FOR BACKFILL K_a = 0.27
    - AT REST EARTH PRESSURE COEFFICIENT FOR BACKFILL K_0 = 0.43
    - PASSIVE EARTH PRESSURE COEFFICIENT FOR BACKFILL K_P = 3.69 (DIRECTION TOWARD THE BACKFILL)
    - LATERAL STIFFNESS OF PILE SUPPORTED FOUNDATION K_{FND} = 8 kips/INCH PER FOOT OF FRAME (HORIZONTAL DIRECTION AWAY FROM BACKFILL)

14. THE FABRICATOR SHALL BE RESPONSIBLE FOR SUPPLYING THE STATE WITH THE LRFR LOAD RATING FACTOR FOR THE FRAME TO COMPLETE THE CHART SHOWN ON THE PRELIMINARY INFORMATION SHEET.

15. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1".

16. CLEAR COVER ON REINFORCING STEEL SHALL BE PER THE FOLLOWING TABLE UNLESS NOTED OTHERWISE.

LOCATION	CLEAR COVER (INCHES)
UNDERSIDE OF FRAME ROOF	1.5
EXPOSED TO EARTH OR WEATHER	2
TOP OF FRAME AND APPROACH SLABS	2.5
DIRECT EXPOSURE TO DEICING SALTS (RAILING SEAT AND FRAME FASCIA)	3
CAST AGAINST EARTH	3

17. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
SPACING: +/- 1 INCH
CLEARANCE: +/- 1/4 INCH

18. THE LUMP SUM COST FOR ITEM 540.10 "PRECAST CONCRETE STRUCTURE" (SUPERSTRUCTURE FRAME AND WINGWALLS) SHALL INCLUDE THE PRECAST RIGID FRAME, WINGWALLS AND MECHANICAL CONNECTIONS.

19. PRECAST TOLERANCES SHALL BE SHOWN ON THE FABRICATION PLANS AND SHALL BE IN ACCORDANCE WITH PCI MANUAL 135-00.

20. ALL REINFORCING STEEL IN THE PRECAST PEDESTAL WALLS AND FOUNDATION SHALL BE LEVEL 1. REINFORCING IN THE JOINT AND BLOCKOUTS OF THE FOUNDATION AND PEDESTAL WALLS WILL BE PAID UNDER ITEM 507.11, REINFORCING STEEL, LEVEL 1 (FPQ).

21. ALL REINFORCING STEEL IN THE PRECAST RIGID FRAME, APPROACH SLABS AND WINGWALLS SHALL BE LEVEL 11. REINFORCING IN THE JOINTS BETWEEN THE PRECAST RIGID FRAME SECTIONS AND THE JOINTS BETWEEN THE PRECAST APPROACH SLAB SECTIONS WILL BE PAID UNDER ITEM 507.12, REINFORCING STEEL, LEVEL 11 (FPQ).

22. THE PRECAST STRUCTURE DETAILS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND CONFIGURATION WILL BE DEPENDENT ON THE FABRICATOR. THE INSIDE CLEAR DIMENSION OF THE FRAME SHALL BE 30'-0" AND THE THICKNESS OF THE ROOF SLAB SHALL BE NO MORE THAN 1'-6" THICK.

23. NO HOLES SHALL BE DRILLED IN THE RIGID FRAME WITHOUT THE APPROVAL OF THE FABRICATOR AND THE AGENCY, UNLESS NOTED OTHERWISE.

24. THE USE OF EQUIPMENT AND THE METHOD OF BACKFILLING AROUND THE BURIED STRUCTURE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. CARE SHALL BE TAKEN WHEN BACKFILLING AGAINST JOINT SEALING MATERIALS.

25. JOINTS BETWEEN ALL ABUTTING PRECAST UNITS SHALL BE WATERTIGHT AND MECHANICALLY CONNECTED.

26. WATER REPELLENT SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT FOR THE INTERIOR OF THE NEW STRUCTURE AND WILL BE PAID UNDER CONTRACT ITEM 514.10, WATER REPELLENT, SILANE.

TRAFFIC CONTROL

27. THE INCLUDED TRAFFIC CONTROL PLANS AND DETAILS ARE SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF SITE SPECIFIC TRAFFIC CONTROL PLAN FOR ALL PHASES OF CONSTRUCTION. THE PLAN SHALL CLEARLY DETAIL HOW TRAFFIC WILL BE MAINTAINED PRIOR TO, DURING AND AFTER THE CLOSURE PERIOD FOR THE DETOUR. THE CONTRACTOR SHALL SUBMIT DETAILED TRAFFIC CONTROL PLANS TO THE ENGINEER FOR APPROVAL PER SUBSECTION 105.03. ALL COSTS SHALL BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

28. IF ALTERNATING 1-WAY TRAFFIC IS INCLUDED IN THE TRAFFIC CONTROL PLAN, LANE WIDTH MUST BE A MINIMUM OF 11'. SEE SPECIAL PROVISION 12b.

29. ALL TRAFFIC SIGNS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

HIGH PERFORMANCE CONCRETE, RAPID SET

30. HIGH PERFORMANCE CONCRETE, RAPID SET SHALL BE WET-CURED UNTIL IT HAS OBTAINED THE FOLLOWING COMPRESSIVE STRENGTH AS VERIFED BY TESTING OF FIELD CYLINDERS.

LOCATION	MINIMUM COMPRESSIVE STRENGTH
BLOCKOUTS IN PRECAST FOOTINGS	3,000 PSI
GAPS BETWEEN FRAME SECTIONS	4,000 PSI

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426gen notes.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: T. KNIGHT
PROJECT NOTES

PLOT DATE: 9/24/2015
DRAWN BY: L. BUXTON
CHECKED BY: G. BOGUE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS
1			
1050			
55			
		250	
1			
		580	
		985	
		55	
		1	
		1	
65			
800			
7			
1			
		870	
		2220	
		15	
		85	
		142	
		85	
		96	
		1	
		1	
		1	
		1	
		1	
		1	
20			
		400	
44			
2			
		4	
310			
500			
			1
			1
			1
			3000
1			
780			

TOTALS

GRAND TOTAL	FINAL
1	
1050	
55	
250	
1	
580	
985	
55	
1	
1	
65	
800	
7	
1	
870	
2220	
15	
85	
142	
85	
96	
1	
1	
1	
1	
1	
20	
400	
44	
2	
4	
310	
500	
1	
1	
1	
3000	
1	
780	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CY	COMMON EXCAVATION	203.15	
CY	SOLID ROCK EXCAVATION	203.16	
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
CY	COFFERDAM EXCAVATION, EARTH	208.30	
CY	COFFERDAM EXCAVATION, ROCK	208.35	
LS	COFFERDAM (ABUTMENT #1 PEDESTAL WALL)	208.40	
LS	COFFERDAM (ABUTMENT #2 PEDESTAL WALL)	208.40	
SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
CY	AGGREGATE SHOULDERS, IN PLACE	402.10	
LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
LB	REINFORCING STEEL, LEVEL I (FPQ)	507.11	
LB	REINFORCING STEEL, LEVEL II (FPQ)	507.12	
GAL	WATER REPELLENT, SILANE	514.10	
LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	520.10	
LF	JOINT SEALER, HOT POURED	524.11	
LF	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	525.335	
EACH	REMOVAL OF STRUCTURE (725 SF-EST.)	529.15	
LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1 PEDESTAL WALL)	540.10	
LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2 PEDESTAL WALL)	540.10	
LS	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #1)	540.10	
LS	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #2)	540.10	
LS	PRECAST CONCRETE STRUCTURE (SUPERSTRUCTURE FRAME AND WINGWALLS)	540.10	
MGAL	DUST CONTROL WITH WATER	609.10	
CY	STONE FILL, TYPE III	613.12	
LF	BOX BEAM GUARDRAIL	621.30	
EACH	MANUFACTURED TERMINAL SECTION, TANGENT	621.51	
EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	621.725	
LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	5
HR	FLAGGERS	630.15	
LS	FIELD OFFICE, ENGINEERS	631.10	
LS	TESTING EQUIPMENT, CONCRETE	631.16	
LS	TESTING EQUIPMENT, BITUMINOUS	631.17	
DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	
LS	MOBILIZATION/DEMOBILIZATION	635.11	
LF	DURABLE 4 INCH WHITE LINE, POLYUREA	646.404	12

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		FILL REQUIRED
8	CY	MEASURED AREA FILL [= A]
	CY	LESS FACTORED SOLID ROCK EXCAVATION [= B1]
	CY	COFFERDAM EXCAVATION OF ROCK [= B2]
8	CY	NET MEASURED AREA FILL [A+B1+B2 = D]
9	CY	1.15 X NET MEASURED AREA FILL = FACTORED FILL [1.15 X D = E
		MEASURED AREA MATERIAL AVAILABLE FOR FILL
1050	CY	1.0 X EARTH EXCAVATION [= F]
75	CY	0.3 X UNCLASSIFIED CHANNEL EXCAVATION [= G]
296	CY	0.3 X COFFERDAM EXCAVATION [= H]
1421	CY	TOTAL MATERIAL AVAILABLE FOR FILL [F+G+H = I]
1412	**CY**	**WASTE [E-I]**

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 151(21)

FILE NAME: z10c426frm.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
QUANTITY SHEET 1

PLOT DATE: 9/25/2015
DRAWN BY: E. ALLING
CHECKED BY: G. BOGUE
SHEET 6 OF 50

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS					GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
800								800		LF	DURABLE 4 INCH YELLOW LINE, POLYUREA	646.414	17			
		370						370		SY	GEOTEXTILE UNDER STONE FILL	649.31				
	15							15		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
	10							10		LB	SEED	651.15				
	10							10		LB	SEED, WINTER RYE	651.17				
	50							50		LB	FERTILIZER	651.18				
	0.3							0.3		TON	AGRICULTURAL LIMESTONE	651.20				
	0.3							0.3		TON	HAY MULCH	651.25				
	50							50		CY	TOPSOIL	651.35				
190		60						250		SY	GRUBBING MATERIAL	651.40				
	1							1		LS	EPSC PLAN	652.10				
	80							80		HR	MONITORING EPSC PLAN	652.20				
	1							1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
	390							390		SY	TEMPORARY EROSION MATTING	653.20				
	40							40		CY	VEHICLE TRACKING PAD	653.35				
	2							2		EACH	FILTER BAG	653.45				
	230							230		LF	BARRIER FENCE	653.50				
	310							310		LF	PROJECT DEMARCATION FENCE	653.55				
	1							1		LS	TREE PROTECTION	656.85				
46								46		SF	TRAFFIC SIGNS, TYPE A	675.20				
170								170		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
9								9		EACH	REMOVING SIGNS	675.50				
		82						82		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)(FPQ)	900.608				
2								2		EACH	SPECIAL PROVISION (CPM SCHEDULE)	900.620				
		10						10		HR	SPECIAL PROVISION (UNEXPECTED OBSTRUCTION DRILLING)	900.630				
		850						850		LF	SPECIAL PROVISION (MICROPILE, CASED)(9.625 IN)	900.640				
		160						160		LF	SPECIAL PROVISION (MICROPILE, UNCASED)(8.535 IN)	900.640				
		1						1		LS	SPECIAL PROVISION (FURNISHING EQUIPMENT FOR INSTALLING MICROPILES)	900.645				
		1						1		LS	SPECIAL PROVISION (IN-WATER SEDIMENT ISOLATION DEVICE)	900.645				
1								1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				
1								1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)	900.650				
1								1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650				
1								1		LU	SPECIAL PROVISION (MIXTURE PAY AJUSTMENT)(N.A.B.I.)	900.650				
335		55						390		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				
8		2						10		CWT	SPECIAL PROVISION (EMULSIFIED ASPHALT)(RS-1H OR CRS-1H)	900.683				

Stantec

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PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
QUANTITY SHEET 2

PLOT DATE: 9/25/2015
DRAWN BY: E. ALLING
CHECKED BY: G. BOGUE
SHEET 7 OF 50

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
●	IPNS	IRON PIN SET
◎	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	BENCH MARK
	BND	BOUND
	CB	CATCH BASIN
	COMB	COMBINATION POLE
	DITHR	DROP INLET THROATED DNC
	EL	ELECTRIC POWER POLE
	FPOLE	FLAGPOLE
	GASFIL	GAS FILLER
	GP	GUIDE POST
	GSO	GAS SHUT OFF
	GUY	GUY POLE
	GUYW	GUY WIRE
	GV	GATE VALUE
	H	TREE HARDWOOD
	HCTRL	CONTROL HORIZONTAL
	HVCTRL	CONTROL HORIZ. & VERTICAL
	HYD	HYDRANT
	IP	IRON PIN
	IPIPE	IRON PIPE
	LI	LIGHT - STREET OR YARD
	MB	MAILBOX
	MH	MANHOLE (MH)
	MM	MILE MARKER
	PM	PARKING METER
	PMK	PROJECT MARKER
	POST	POST STONE/WOOD
	RRSIG	RAILROAD SIGNAL
	RRSL	RAILROAD SWITCH LEVER
	S	TREE SOFTWOOD
	SAT	SATELLITE DISH
	SHRUB	SHRUB
	SIGN	SIGN
	STUMP	STUMP
	TEL	TELEPHONE POLE
	TIE	TIE
	TSIGN	SIGN W/DOUBLE POST
	VCTRL	CONTROL VERTICAL
	WELL	WELL
	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

- UT — TELEPHONE
- UE — ELECTRIC
- UC — CABLE (TV)
- UEC — ELECTRIC+CABLE
- UET — ELECTRIC+TELEPHONE
- UCT — CABLE+TELEPHONE
- UECT — ELECTRIC+CABLE+TELEP.
- G — GAS LINE
- W — WATER LINE
- S — SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- T — TELEPHONE
- E — ELECTRIC
- C — CABLE (TV)
- EC — ELECTRIC+CABLE
- ET — ELECTRIC+TELEPHONE
- AER E&T — ELECTRIC+TELEPHONE
- CT — CABLE+TELEPHONE
- ECT — ELECTRIC+CABLE+TELEP.
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

- TOP OF CUT SLOPE
- TOE OF FILL SLOPE
- STONE FILL
- BOTTOM OF DITCH 'L
- CULVERT PROPOSED
- STRUCTURE SUBSURFACE
- PDF — PDF — PROJECT DEMARCATION FENCE
- BF — BF — BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

- TOWN LINE — TOWN BOUNDARY LINE
- COUNTY LINE — COUNTY BOUNDARY LINE
- STATE LINE — STATE BOUNDARY LINE
- PROPOSED STATE R.O.W. (LIMITED ACCESS)
- PROPOSED STATE R.O.W.
- STATE ROW (LIMITED ACCESS)
- STATE ROW
- TOWN ROW
- PERMANENT EASEMENT LINE (P)
- TEMPORARY EASEMENT LINE (T)
- SURVEY LINE
- PROPERTY LINE (P/L)
- SR SR SR — SLOPE RIGHTS
- 6F — 6F — 6F PROPERTY BOUNDARY
- 4F — 4F — 4F PROPERTY BOUNDARY
- HAZ — HAZ — HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- FILTER CURTAIN
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

ENVIRONMENTAL RESOURCES

- WETLAND BOUNDARY
- RIPARIAN BUFFER ZONE
- WETLAND BUFFER ZONE
- SOIL TYPE BOUNDARY
- THREATENED & ENDANGERED SPECIES
- HAZ — HAZ — HAZARDOUS WASTE AREA
- AGRICULTURAL LAND
- FISH & WILDLIFE HABITAT
- FLOOD PLAIN
- ORDINARY HIGH WATER (OHW)
- STORM WATER
- USDA FOREST SERVICE LANDS
- WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

- ARCHEOLOGICAL BOUNDARY
- HISTORIC DISTRICT BOUNDARY
- HISTORIC AREA
- (H) HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426frm.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: VTRANS
CONVENTIONAL SYMBOLOGY LEGEND SHEET

PLOT DATE: 9/2/2015
DRAWN BY: VTRANS
CHECKED BY: VTRANS
SHEET 8 OF 50

GPS CONTROL POINTS

HVCTRL #1

KEDRON AZ MK

NORTH = 392626.055
EAST = 1636526.218
ELEV. = 855.969

GENERAL LOCATION, WOODSTOCK, VT. TO REACH FROM THE INTERSECTION OF VT ROUTE 106 AND U.S. ROUTE 4 IN WOODSTOCK, GO SOUTH ALONG ROUTE 106 FOR 3.35 MILES (5.39 KM) TO THE MARK ON THE LEFT, SET IN THE TOP OF THE COCRETE ABUTMENT AT THE SOUTHEAST CORNER OF THE BRIDGE OVER THE KEDRON BROOK. THE MARK IS 5.55 M (18.21 FT) EAST OF THE CENTERLINE OF ROUTE 106, 3.5 M (11.5 FT) SOUTHWEST OF THE END OF THE WINGWALL, 0.45 M (1.48 FT) NORTHWEST OF THE SOUTHEAST FACE OF THE ABUTMENT, 0.2 M (0.7 FT) SOUTHEAST OF THE NORTHWEST FACE OF THE ABUTMENT, AND 0.85 M (2.79 FT) NORTH OF A FIBERGLASS WITNESS POST.

HVCTRL #2

KEDRON

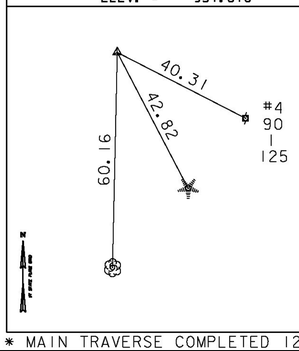
NORTH = 390970.727
EAST = 1636074.631
ELEV. = 902.557

GENERAL LOCATION, WOODSTOCK, VT. TO REACH FROM THE INTERSECTION OF VT ROUTE 106 AND U.S. ROUTE 4 IN WOODSTOCK, GO SOUTH ALONG ROUTE 106 FOR 3.6 MILES (5.8 KM) TO THE MARK ON THE RIGHT. THE MARK IS A FENO MONUMENT SET FLUSH WITH GROUND SURFACE. IT IS 37.8 M (124.0 FT) SOUTH OF POLE NO. 81/116, 15.3 M (50.2 FT) NORTH OF POLE NO. 117/82, 0.8 M (2.6 FT) WEST OF AND ABOUT 0.4 M (1.3 FT) LOWER THAN THE WEST EDGE OF PAVEMENT OF ROUTE 106, AND 0.6 M (2.0 FT) EAST OF THE NORTHEAST CORNER OF A CONRETE HEADWALL AND A FIBERGLASS WITNESS POST.

TRAVERSE TIES

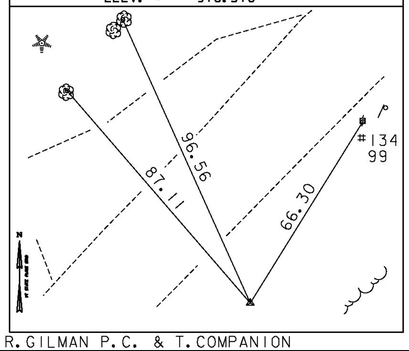
HVCTRL #5

NORTH = 390097.344
EAST = 1635324.900
ELEV. = 951.878



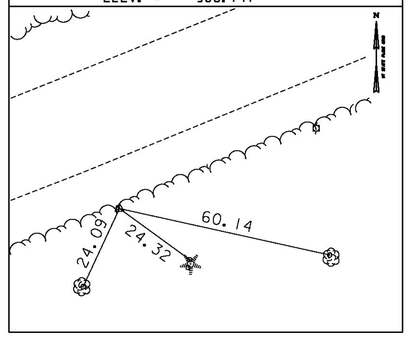
HVCTRL #6

NORTH = 389092.486
EAST = 1634665.785
ELEV. = 976.310



HVCTRL #7

NORTH = 388828.433
EAST = 1634244.498
ELEV. = 986.747



NORTH =
EAST =
ELEV. =

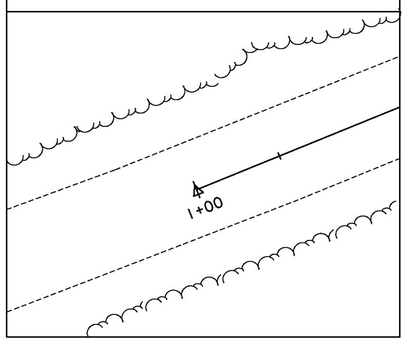
NORTH =
EAST =
ELEV. =

* MAIN TRAVERSE COMPLETED 12/30/1998 BY R.GILMAN P.C. & T.COMPANION

ALIGNMENT TIES

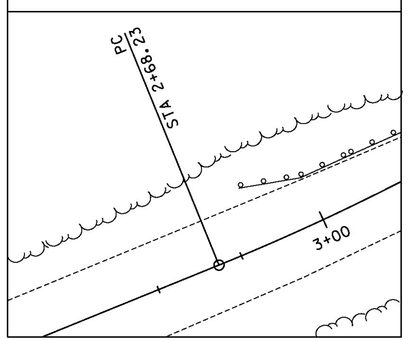
POB STA. 1+00

NORTH = 388841.126
EAST = 1634205.250



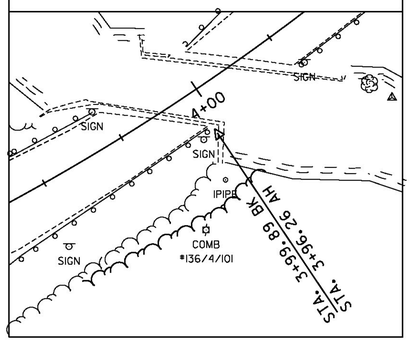
PC STA. 2+68.23

NORTH = 388904.489
EAST = 1634361.086



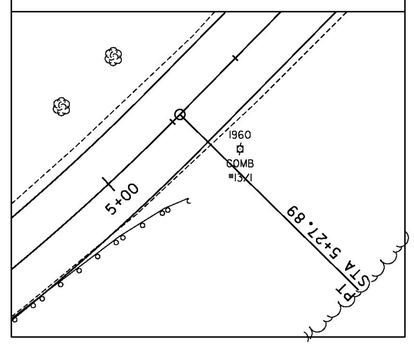
PI STA. 3+98.06

NORTH = 388954.080
EAST = 1634483.054



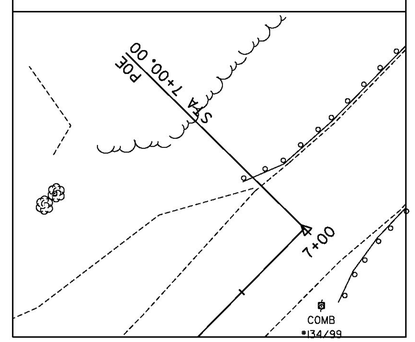
PT STA. 5+27.89

NORTH = 389047.983
EAST = 1634575.344



POE STA. 7+00

NORTH = 389170.731
EAST = 1634695.984



DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT COMPASS

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426tie.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: VTRANS
SURVEY CONTROL AND TIES

PLOT DATE: 9/2/2015
DRAWN BY: VTRANS
CHECKED BY: VTRANS
SHEET 9 OF 50

HVCTRL #1
389174.4977 N
1634481.8006 E
ELEV: 1005.44'

HVCTRL #2
388828.4329 N
1634244.4975 E
ELEV: 986.75'

HVCTRL #3
388900.4009 N
1634403.6064 E
ELEV: 986.32'

HVCTRL #4
388963.9474 N
1634531.8644 E
ELEV: 974.44'

HVCTRL #5
389092.4860 N
1634665.7851 E
ELEV: 976.31'

ITEM 656.85 - TREE PROTECTION
STA. 4+26 LT. - 5+40, LT.

ITEM 621.51 - MANUFACTURED TERMINAL SECTION, TANGENT (BEAT)

STA. 3+27 - 3+41, RT.
STA. 4+55 - 4+69, LT.

ITEM 621.725 - GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM

STA. 3+22 - 3+54, LT.
STA. 3+58 - 3+89, RT.
STA. 4+04 - 4+37, LT.
STA. 4+35 - 4+66, RT.

ITEM 210.10 - COLD PLANING, BITUMINOUS PAVEMENT

STA. 2+15 - 2+25
STA. 6+00 - 6+10

VT STATE PLANE GRID

VT 106 CURVE DATA
CURVE (1)
Δ = 23°22'12" LT.
D = 9°00'00"
R = 636.62'
T = 131.66'
L = 259.67'
E = 13.47'
BANK = 0.044

POB STA 1+00.00

BEGIN APPROACH
STA. 2+15.00

PC STA 2+68.23

BEGIN PROJECT
STA. 2+75.00

STONE FILL TYPE III (TYP.)

POE STA 53+77.13

53+77 N 64° 13' 29" W

PI STA 53+27.08

N 37° 31' 14" W 53+00

PI STA 52+72.82

AER E&T

REMOVE 1 TREE

END BRIDGE
STA. 4+18.80

KENDALL ROAD

END PROJECT
STA. STA. 5+50.00

END APPROACH
STA. 6+10.00

POE STA 7+00.00

EXISTING R.O.W.

TO READING

N 67° 52' 24.94" E

N 44° 30' 12.94" E

TO JUNCTION OF US ROUTE 4

VT ROUTE 106

BM#1 (IRRSIR) -
ELEV: 987.24'

BM#2 (RRSIT) -
ELEV: 976.56'

BEGIN BRIDGE
STA. 3+73.53

VT 106 STA. 3+94.48 =
CHANNEL LINE STA. 52+45.87

STA. 3+99.89 BK
STA. 3+96.26 AH

S 19° 38' 47" W

KEDRON BROOK

PT STA 5+27.89

S 36° 39' 59" W

S 56° 19' 18" W

PI STA 51+18.16

PI STA 50+63.90

POB STA 50+00.00

FOR EXISTING BRIDGE INFORMATION, SEE PRELIMINARY INFORMATION SHEET 2

ITEM 621.30 - BOX BEAM GUARDRAIL

STA. 3+18 - 3+22, LT.
STA. 3+41 - 3+58, RT.
STA. 4+37 - 4+55, LT.
STA. 4+66 - 4+70, RT.

ITEM 621.80 - REMOVAL AND DISPOSAL OF GUARDRAIL

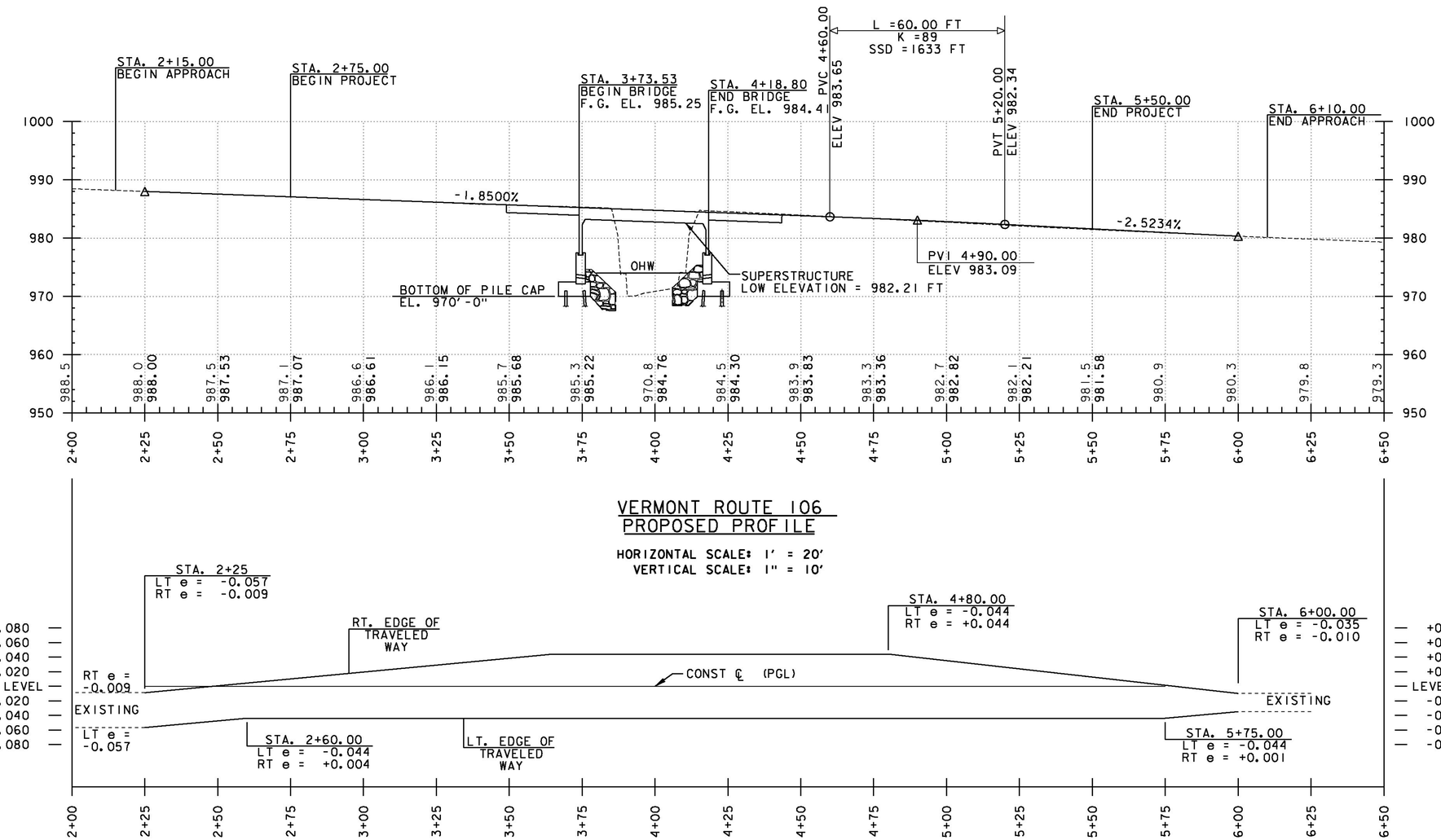
STA. 2+82 - 3+72, LT.
STA. 3+11 - 3+97, RT.
STA. 4+04 - 4+43, LT.
STA. 4+27 - 5+13, RT.

LAYOUT PLAN

SCALE: 1" = 20'-0" @ FULL SIZE
0 20 40

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426bdr.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: J. HUNGERFORD	CHECKED BY: I. MAYNARD
LAYOUT PLAN - LPI	SHEET 10 OF 50



VERMONT ROUTE 106
PROPOSED PROFILE

HORIZONTAL SCALE: 1' = 20'
VERTICAL SCALE: 1" = 10'

VERMONT ROUTE 106
BANKING DIAGRAM

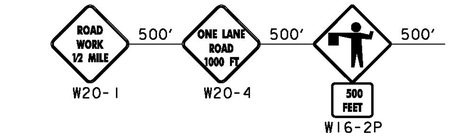
HORIZONTAL SCALE: 1' = 20'
VERTICAL SCALE: N.T.S.

Stantec

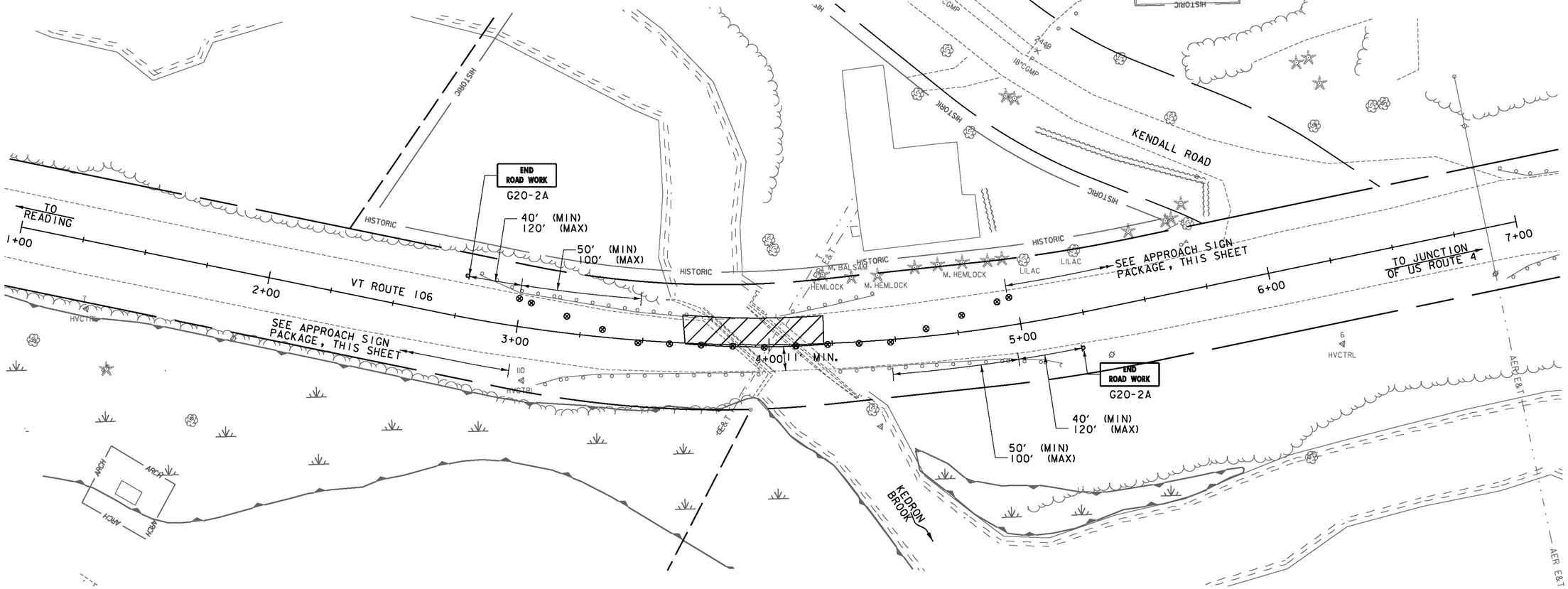
PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426xs.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: J. HUNGERFORD	CHECKED BY: I. MAYNARD
PROFILE SHEET & BANKING DIAGRAM - RP 1	SHEET 11 OF 50

NOTES:

1. SEE GENERAL NOTES SHEET FOR ADDITIONAL TRAFFIC CONTROL NOTES.
2. CHANNELIZING DEVICE SPACING:
   TANGENT SECTIONS: 60 FT.
   TAPER SECTIONS: 30 FT.
3. ACCESS TO ALL EXISTING SIDE ROADS, DRIVES, AND PARKING AREAS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
4. SEE STANDARD DRAWING T-10 FOR SIDE ROAD SIGNING LAYOUT.
5. ALL TRAFFIC CONTROL SHOWN ON THIS SHEET SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).



TRAFFIC CONTROL APPROACH SIGN PACKAGE (VT ROUTE 106)



PHASE 1 TRAFFIC CONTROL PLAN - ALTERNATING ONE WAY TRAFFIC, LEFT LANE CLOSED
(RIGHT LANE CLOSURE SIMILAR)

LEGEND

- ⊗ RETROREFLECTIVE PLASTIC DRUM
- TEMPORARY CONSTRUCTION SIGN
- WORK ZONE

TRAFFIC CONTROL PLAN

SCALE: 1" = 20'-0" @ FULL SIZE
0 20 40

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426bdr_tcplan.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: T. MANAHAN
DESIGNED BY: T. MANAHAN	CHECKED BY: E. ALLING
TRAFFIC CONTROL PLAN - TC 1	SHEET 12 OF 50

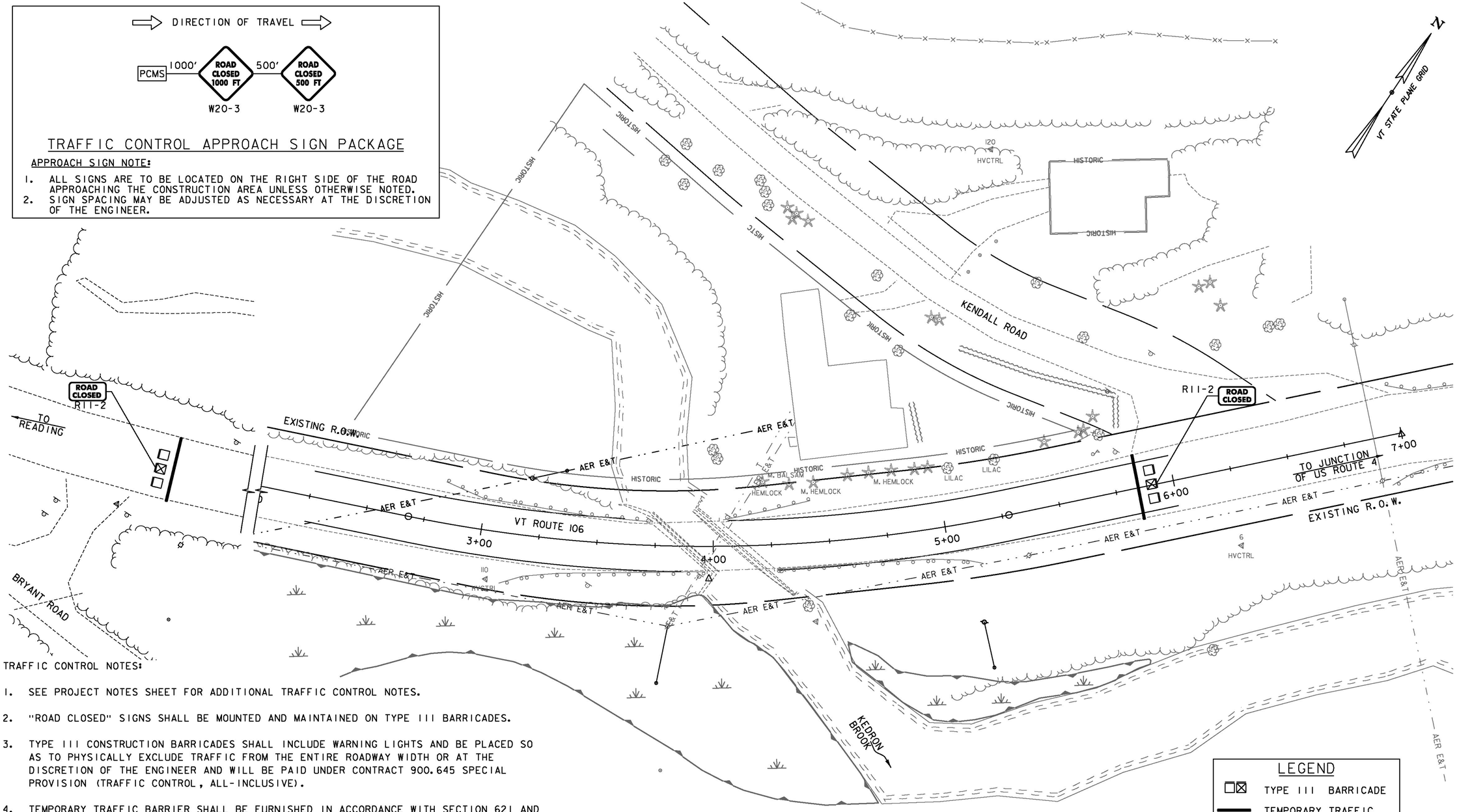
DIRECTION OF TRAVEL

PCMS — 1000′ — ROAD CLOSED 1000 FT (W20-3) — 500′ — ROAD CLOSED 500 FT (W20-3)

TRAFFIC CONTROL APPROACH SIGN PACKAGE

APPROACH SIGN NOTE:

1. ALL SIGNS ARE TO BE LOCATED ON THE RIGHT SIDE OF THE ROAD APPROACHING THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED.
2. SIGN SPACING MAY BE ADJUSTED AS NECESSARY AT THE DISCRETION OF THE ENGINEER.



TRAFFIC CONTROL NOTES:

1. SEE PROJECT NOTES SHEET FOR ADDITIONAL TRAFFIC CONTROL NOTES.
2. "ROAD CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON TYPE III BARRICADES.
3. TYPE III CONSTRUCTION BARRICADES SHALL INCLUDE WARNING LIGHTS AND BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER AND WILL BE PAID UNDER CONTRACT 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
4. TEMPORARY TRAFFIC BARRIER SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621 AND WILL BE PAID UNDER CONTRACT PAY ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

PHASE 2 TRAFFIC CONTROL PLAN - BRIDGE CLOSED

SCALE: 1" = 20′-0"
0 20 40

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426bdr_ttc.dgn	PLOT DATE: 9/25/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: I. MAYNARD
TRAFFIC CONTROL PLAN - TC 2	SHEET 13 OF 50

POMFRET

WOODSTOCK

HARTFORD

READING

WEST WINDSOR

WINDSOR

HARTLAND

PROJECT LOCATION
M.M. = 3.04

CONFIRMATION ROUTE MARKER ASSEMBLY (SEE SHEET DD 3)

CONFIRMATION ROUTE MARKER ASSEMBLY (SEE SHEET DD 3)

CONFIRMATION ROUTE MARKER ASSEMBLY (SEE SHEET DD 3)

CONFIRMATION ROUTE MARKER ASSEMBLY (SEE SHEET DD 3)

CONFIRMATION ROUTE MARKER ASSEMBLY (SEE SHEET DD 3)

CONFIRMATION ROUTE MARKER ASSEMBLY (SEE SHEET DD 3)

CONFIRMATION ROUTE MARKER ASSEMBLY (SEE SHEET DD 3)

CONFIRMATION ROUTE MARKER ASSEMBLY (SEE SHEET DD 3)

MATCH LINE

MATCH LINE

WINDSOR

N

VT STATE PLANE GRID

LEGEND:

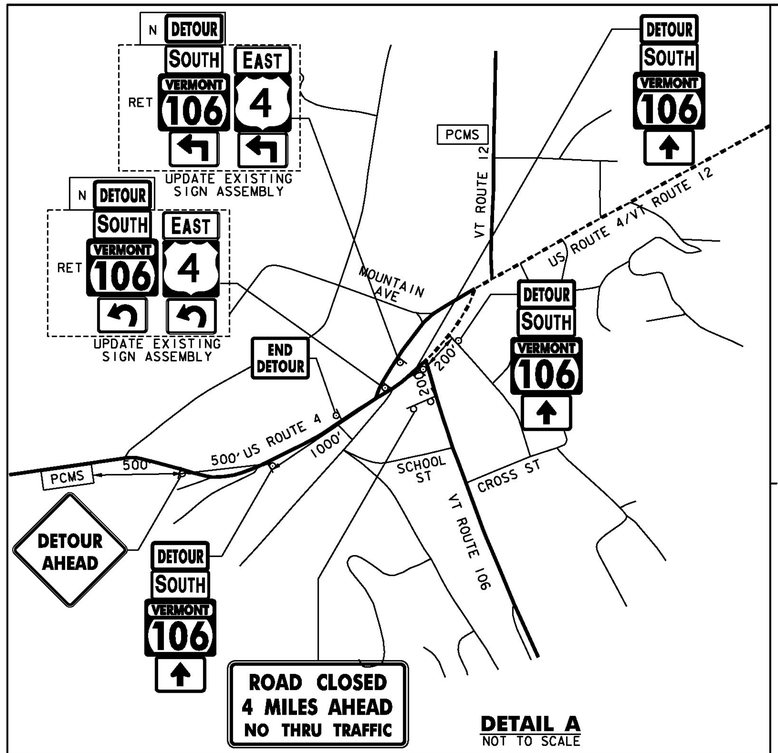
PROPOSED DETOUR ROUTE

A INTERSECTION DETAIL, SEE SHEETS DD 1 & DD 2

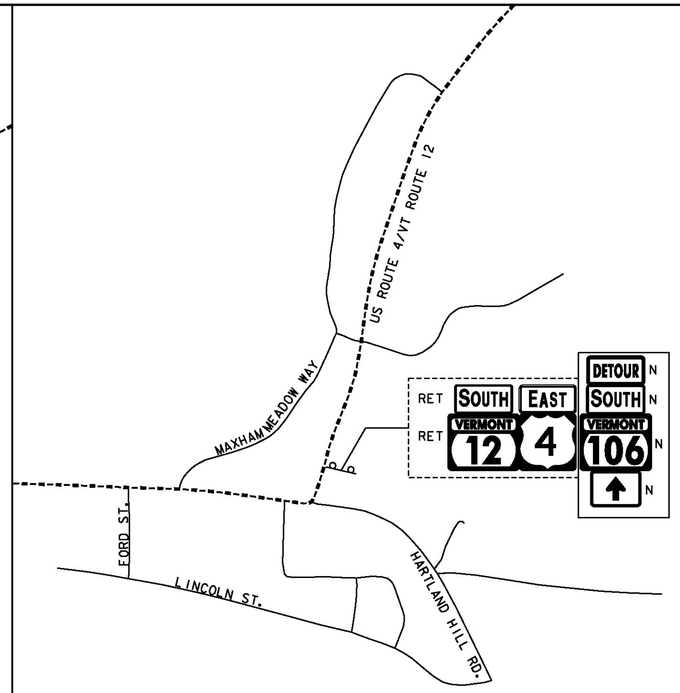
NOT TO SCALE

Stantec

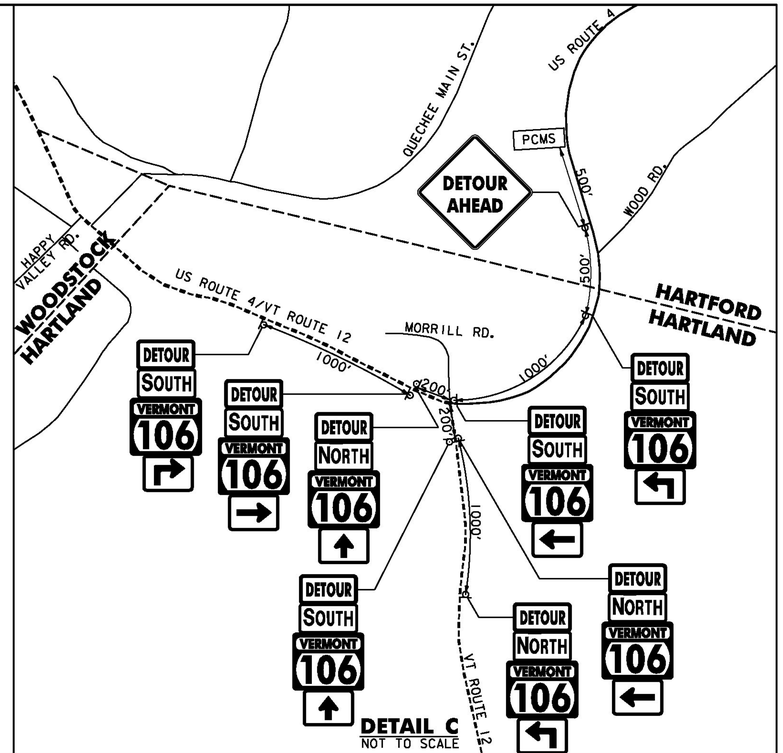
PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426detour.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: I. MAYNARD
DETOUR PLAN - DP 1	SHEET 14 OF 50



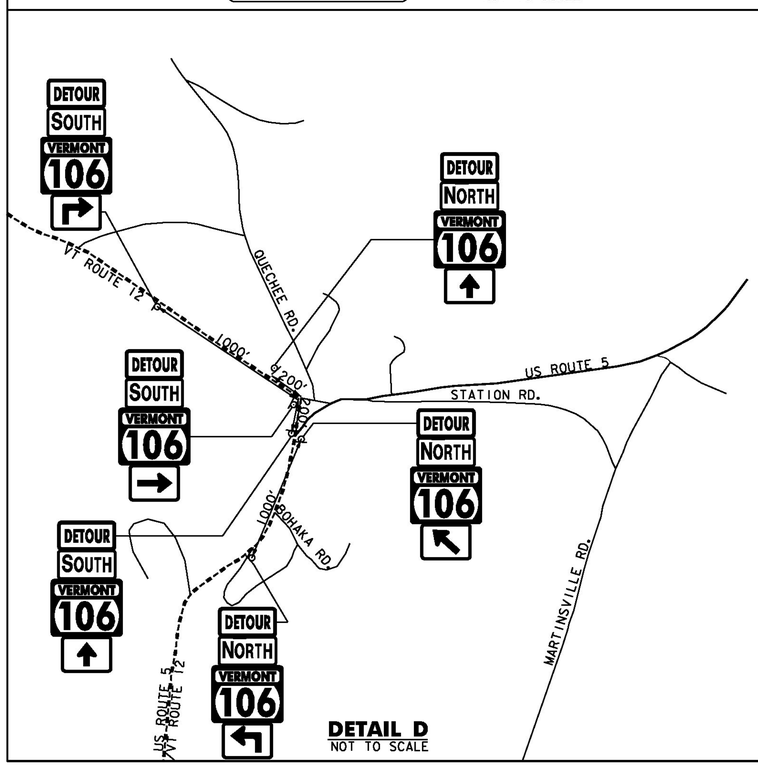
DETAIL A
NOT TO SCALE



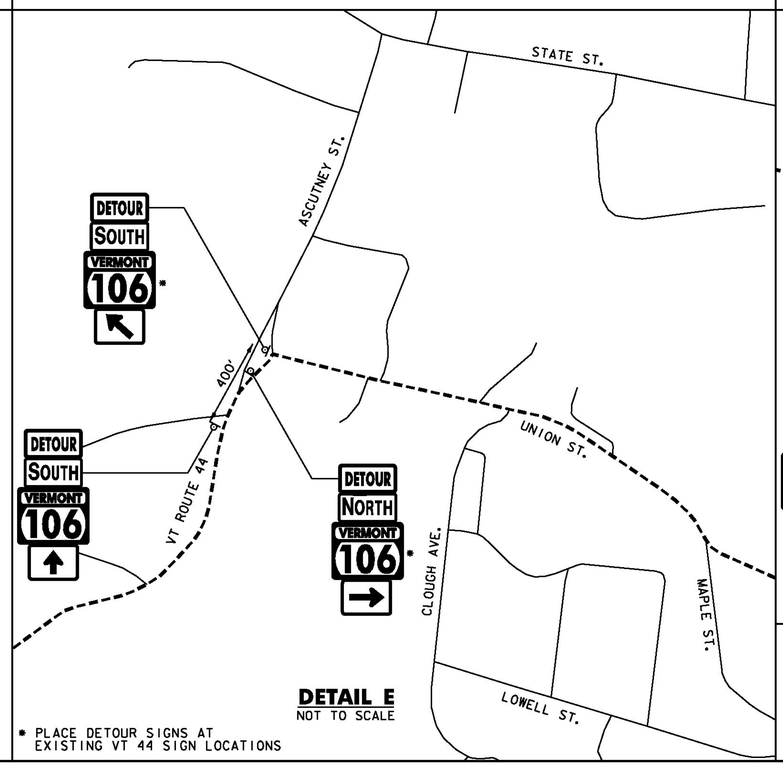
DETAIL B
NOT TO SCALE



DETAIL C
NOT TO SCALE

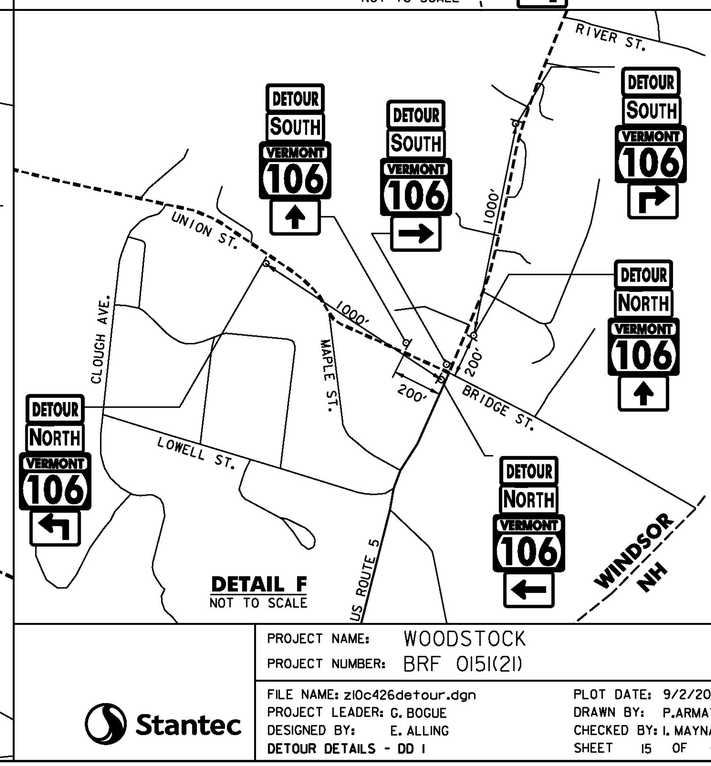


DETAIL D
NOT TO SCALE



DETAIL E
NOT TO SCALE

* PLACE DETOUR SIGNS AT EXISTING VT 44 SIGN LOCATIONS



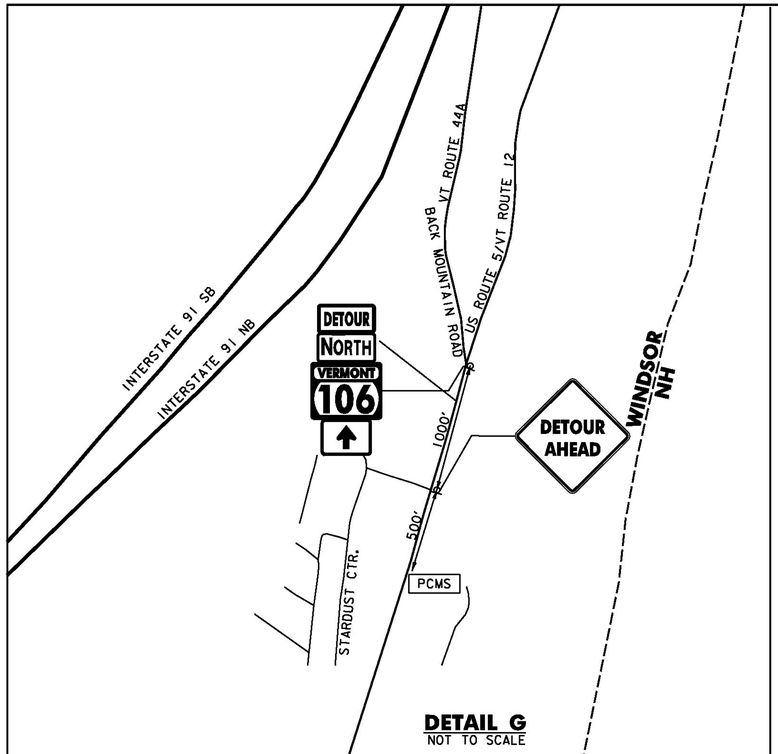
DETAIL F
NOT TO SCALE

Stantec

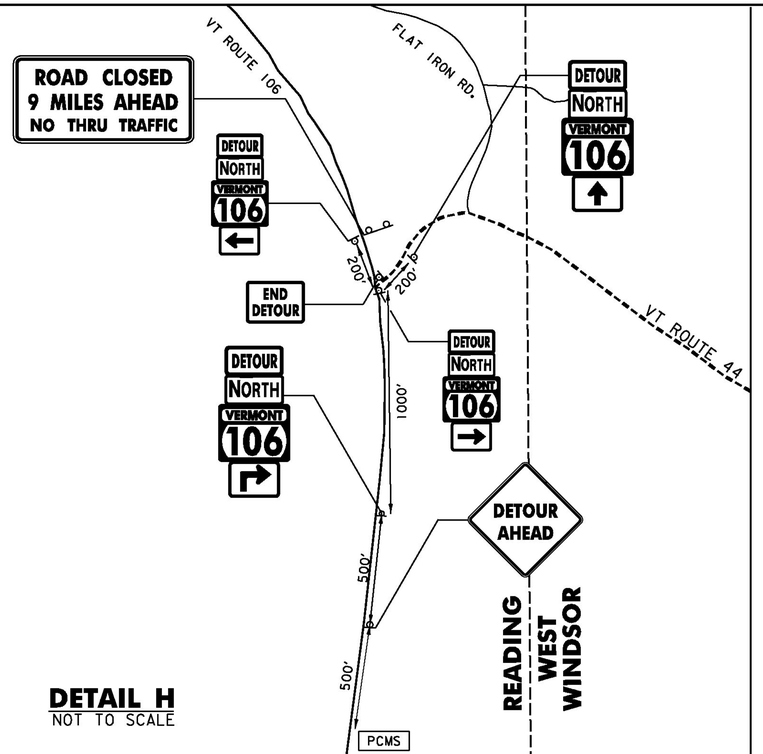
PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426detour.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
DETOUR DETAILS - DD 1

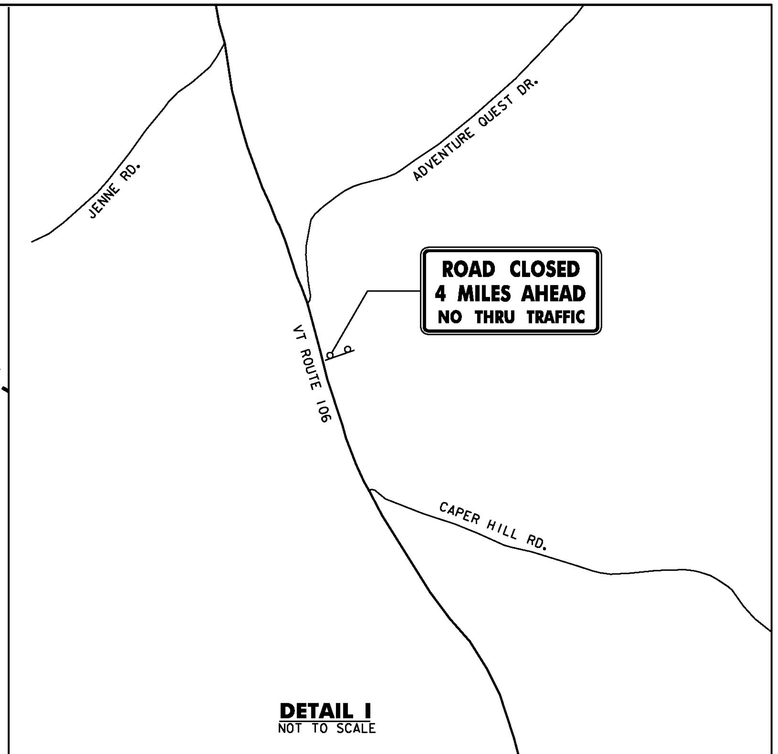
PLOT DATE: 9/2/2015
DRAWN BY: P.ARMATA
CHECKED BY: I. MAYNARD
SHEET 15 OF 50



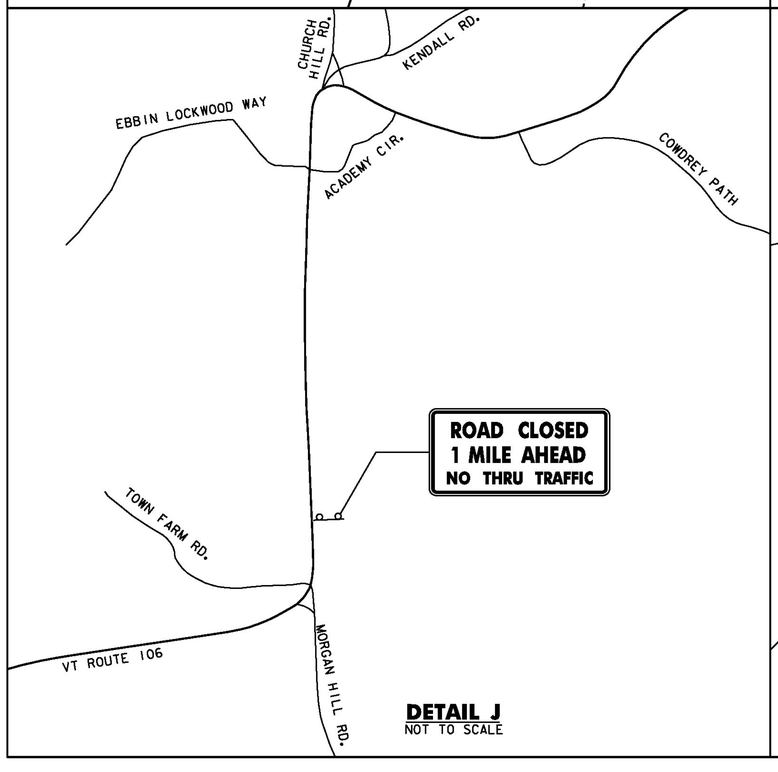
DETAIL G
NOT TO SCALE



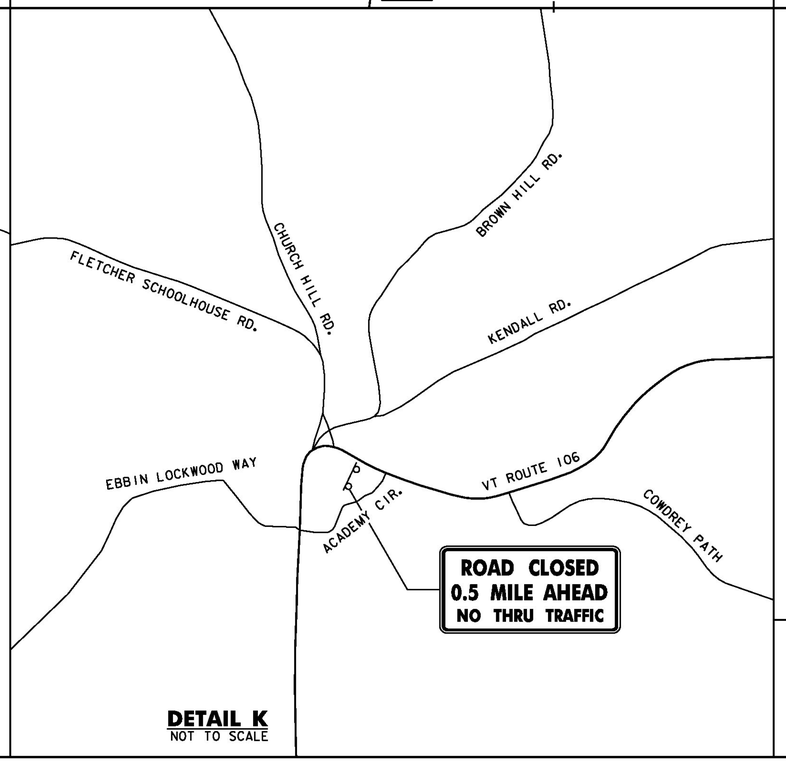
DETAIL H
NOT TO SCALE



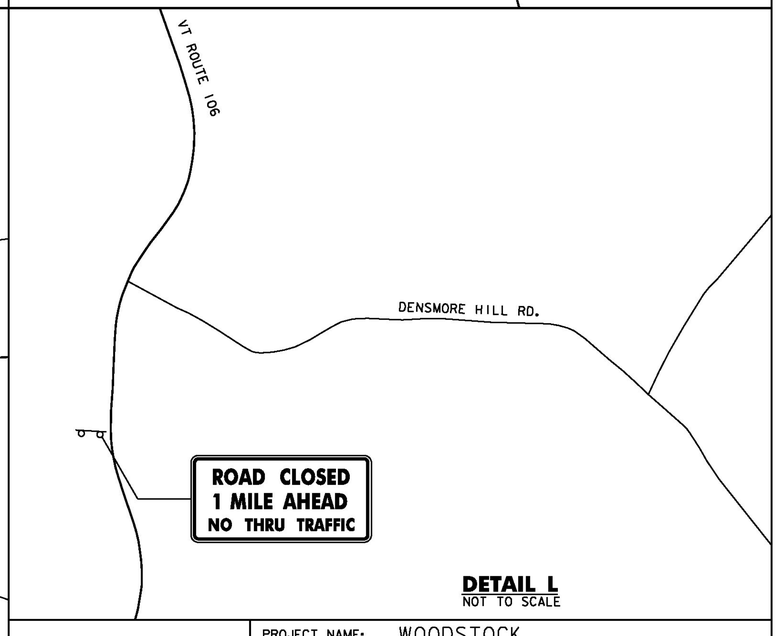
DETAIL I
NOT TO SCALE



DETAIL J
NOT TO SCALE



DETAIL K
NOT TO SCALE



DETAIL L
NOT TO SCALE

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426detour.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
DETOUR DETAILS - DD 2

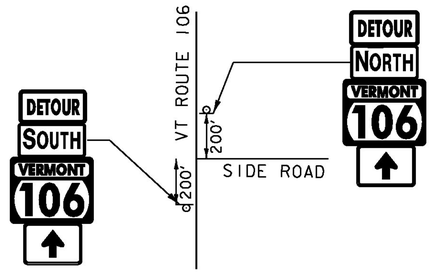
PLOT DATE: 9/2/2015
DRAWN BY: P.ARMATA
CHECKED BY: I. MAYNARD
SHEET 16 OF 50

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

ID NUMBER	SIGN TEXT	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	NUMBER OF SIGNS REQ'D.	AREA OF EACH SIGN (SF)	COLOR	REMARKS
W20-2	DETOUR AHEAD	48"	48"	4	16.00	B/FO	INSTALL ON 2 POSTS
M6-3	↑	21"	15"	27*	2.19	B/FO	MOUNT BELOW M1-6A
M6-1R	→	21"	15"	5	2.19	B/FO	MOUNT BELOW M1-6A
M6-1L	←	21"	15"	4	2.19	B/FO	MOUNT BELOW M1-6A
M5-1L	↰	21"	15"	4	2.19	B/FO	MOUNT BELOW M1-6A
M5-1R	↱	21"	15"	4	2.19	B/FO	MOUNT BELOW M1-6A
M6-2L	↖	21"	15"	2	2.19	B/FO	MOUNT BELOW M1-6A
M4-8	DETOUR	24'	12"	47*	2.00	B/FO	MOUNT ABOVE M3-1 OR M3-3
M4-8a	END DETOUR	24'	18"	2	3.00	B/FO	MOUNT ABOVE M3-1 OR M3-3
M3-1	NORTH	24'	12"	22*	2.00	W/G	MOUNT ABOVE M1-6A
M3-3	SOUTH	24'	12"	24*	2.00	W/G	MOUNT ABOVE M1-6A
	VERMONT 106	30'	24"	46*	5.00	W/G	SEE DETAIL E-136B
R11-3B	ROAD CLOSED X MILES AHEAD NO THRU TRAFFIC	60"	30"	6	12.50	B/W	INSTALL ON 2 POSTS

B/FO = BLACK ON RETROREFLECTIVE ORANGE BACKGROUND
W/G = RETROREFLECTIVE WHITE ON RETROREFLECTIVE GREEN BACKGROUND
B/W = BLACK ON RETROREFLECTIVE WHITE BACKGROUND

* ACTUAL NUMBER MAY BE GREATER BASED ON EXISTING ROUTE MARKER ASSEMBLIES, SEE NOTE 4 ON THIS SHEET.



CONFIRMATION ROUTE MARKER ASSEMBLY

NOT TO SCALE

MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) - REGIONAL DETOUR

STARTING 2 WEEKS PRIOR TO CLOSURE

	MESSAGE 1	MESSAGE 3***	
(ROUTE) **	VT 106	MMMM DD	(DATE) *
	ROAD CLOSED	TO	
		MMMM DD	(DATE) *

DURING CLOSURE

	MESSAGE 1	MESSAGE 2	
(ROUTE) **	VT 106	WOODSTOCK	
	ROAD CLOSED	AT KENDALL RD	***

DURING CLOSURE - DETAIL G PCMS (ADVANCE NOTICE NOT NECESSARY AT THIS LOCATION)

MESSAGE 1	MESSAGE 2
VT 106 N CLOSED	USE ROUTES 5 & 12
AT S WOODSTOCK	FOR WOODSTOCK

* - DATE SHALL BE SPELLED OUT (I.E. JUNE 10 NOT 6/10)
** - ROUTE 106 SHALL SPECIFY N (NORTH) OR S (SOUTH) AS APPROPRIATE FOR THE DETOUR.
*** - DISPLAY 'BRYANT RD' FOR NORTHBOUND DETOUR APPROACHES
**** - PCMS WILL DISPLAY THAT THE ROAD HAS REOPENED UPON COMPLETION OF THE PROJECT

NOTES:

1. THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE FULLY OPERATIONAL A MINIMUM OF TWO WEEKS PRIOR TO THE CLOSURE OF VT 106.
2. PCMS'S SHALL HAVE MESSAGES CONFORMING TO THE LATEST EDITION OF THE MUTCD AND SHALL BE PLACED IN HIGHLY VISABLE LOCATIONS AS APPROVED BY THE ENGINEER.
3. DETOUR SIGNS SHALL BE LOCATED ADJACENT TO EXISTING INTERSECTION ROUTE MARKER ASSEMBLIES WHERE APPLICABLE.
4. COVER ANY CONFLICTING EXISTING SIGNS AS DIRECTED BY THE ENGINEER.
5. CONFIRMATION ROUTE MARKER ASSEMBLIES (SEE DETAIL, THIS SHEET) SHALL BE INSTALLED AT ALL LOCATIONS SHOWN ON THE DETOUR PLAN AND DETOUR DETAILS AND AT ALL LOCATIONS ALONG DETOUR WHERE ROUTE MARKERS EXIST FOR THE PARENT ROUTE.
6. SIGN SPACING IS FOR REFERENCE ONLY. FIELD ADJUSTMENTS WILL LIKELY BE NECESSARY, AS APPROVED BY THE ENGINEER.
7. DETOUR SIGNING IS THE RESPONSIBILITY OF THE CONTRACTOR. PAYMENT FOR ALL TEMPORARY TRAFFIC CONTROL DEVICES FOR IMPLEMENTING THE DETOUR, INCLUDING BUT NOT LIMITED TO SIGNS, BARRICADES AND MESSAGE BOARDS, WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426detour.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
DETOUR DETAILS - DD 3

PLOT DATE: 9/2/2015
DRAWN BY: P.ARMATA
CHECKED BY: I. MAYNARD
SHEET 17 OF 50

N

VT STATE PLANE GRID

RELOCATED EIT SERVICE

NEW SERVICE POLE
WITH NEW DEAD END ANCHOR
STA. 3+20, 24' LT.

POB
STA 1+00.00

PC
STA 2+68.23

EXISTING R.O.W.

TO READING

N 67°52'24.94" E

HISTORIC

AER E&T

HVCTRL

I20

KENDALL ROAD

RETAIN EXISTING
STUB POLE AND
ANCHOR

POE
STA 7+00.00

RETAIN EXISTING
GUY WIRE

RETAIN 2
EXISTING POLES

M. BALSAM
M. HEMLOCK
LILAC

N 44°30'12.94" E
TO JUNCTION
OF US ROUTE 4

RETAIN EXISTING POLE
INSTALL TWO NEW DEAD
END ANCHORS

RELOCATED AERIAL
UTILITIES

REPLACE EXISTING POLE
IN EXISTING LOCATION
REPLACE EXISTING ANCHOR
REMOVE EXISTING SERVICE
LINES

REPLACEMENT
ANCHOR

TEMPORARILY RELOCATED
AERIAL ELECTRIC
AERIAL TELEPHONE LINE
TO REMAIN IN PLACE

INSTALL TEMPORARY NEW POLE
WITH NEW BI-SECT ANCHOR
STA. 5+10, 43.5' RT.

STA. 3+99.89 BK
STA. 3+96.26 AH

KEDRON
BROOK

RETAIN EXISTING
AERIAL TELEPHONE

PT
STA 5+27.89

TEMPORARILY
RELOCATED
AERIAL
ELECTRIC

NEW DEAD END ANCHOR
TO BE INSTALLED AFTER
THE TEMPORARY AERIAL
ELECTRIC RELOCATION HAS
BEEN REMOVED

EXISTING AERIAL
ELEC/TEL SERVICE

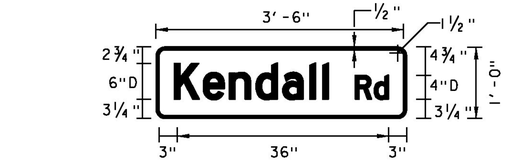
NOTES:
1. ALL UTILITY WORK SHOWN ON THIS SHEET TO BE CONSTRUCTED BY OTHERS.
2. ELECTRIC LINE TO BE TEMPORARILY RELOCATED TO ELIMINATE CONFLICTS BETWEEN CONSTRUCTION EQUIPMENT AND ENERGIZED ELECTRIC LINES. CONTRACTOR SHALL OBTAIN RELOCATION SCHEDULE DIRECTLY FROM UTILITY COMPANY AND ACCOUNT FOR RELOCATION SCHEDULE IN THE OVERALL PROJECT SCHEDULE.

UTILITY LAYOUT SHEET

SCALE: 1" = 20'-0" @ FULL SIZE
0 20 40

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426bdr_uti.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: VTRANS	CHECKED BY: E. ALLING
UTILITY LAYOUT SHEET - UTL 1	SHEET 18 OF 50



LOCATION: STA. 5+78, LT.

COLOR: WHITE BORDER AND TEXT (RETROREFLECTIVE)
GREEN BACKGROUND (RETROREFLECTIVE)

MATERIAL: 0.100" THICKNESS

ITEM 646.404 - DURABLE 4 INCH WHITE LINE, POLYUREA

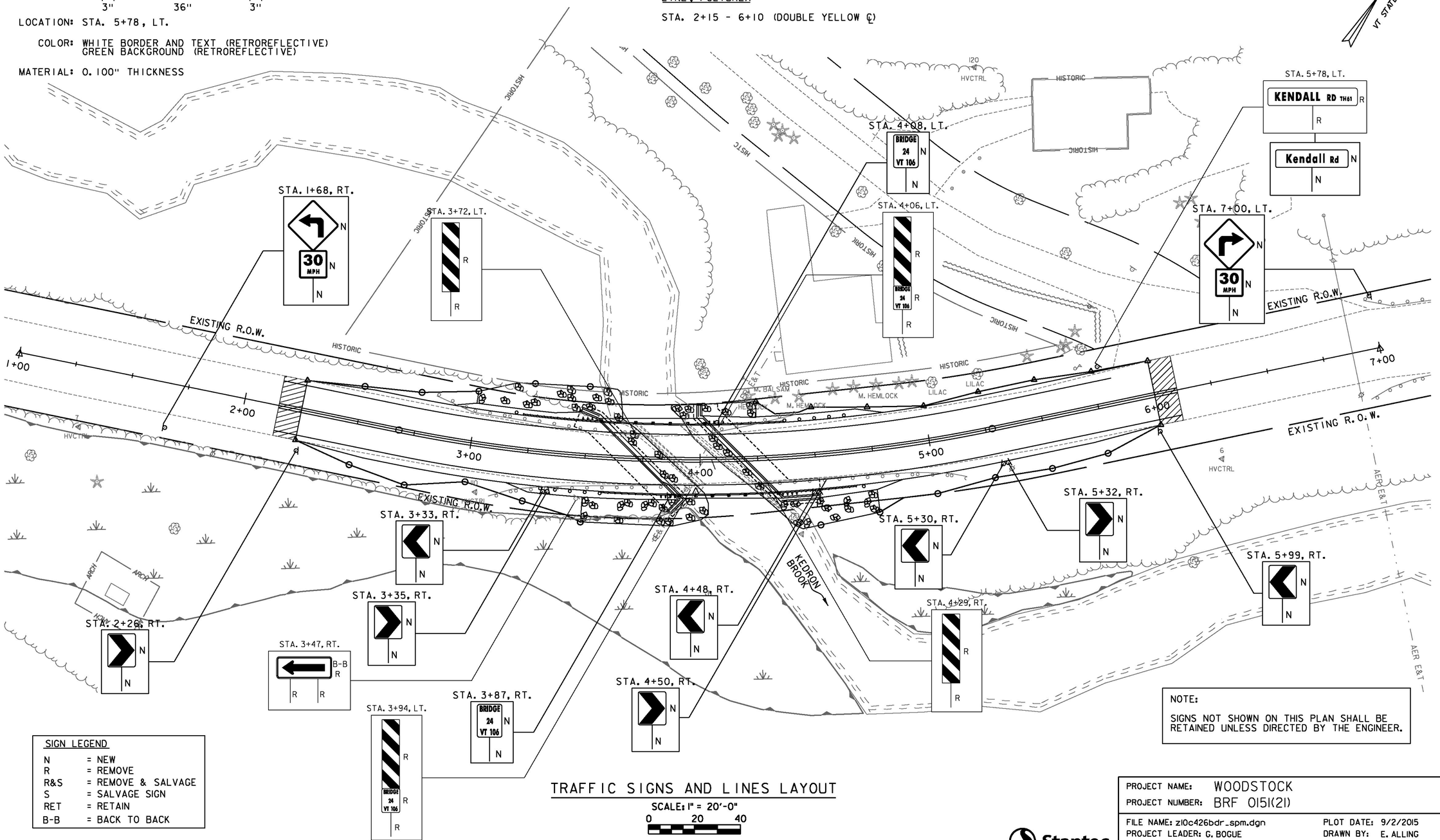
STA. 2+15 - 5+83, LT.
STA. 2+15 - 6+10, RT.

ITEM 646.414 - DURABLE 4 INCH YELLOW LINE, POLYUREA

STA. 2+15 - 6+10 (DOUBLE YELLOW ℄)

ITEM 675.50 - REMOVING SIGNS

AS SHOWN - 9



NOTE:

SIGNS NOT SHOWN ON THIS PLAN SHALL BE RETAINED UNLESS DIRECTED BY THE ENGINEER.

SIGN LEGEND

N	= NEW
R	= REMOVE
R&S	= REMOVE & SALVAGE
S	= SALVAGE SIGN
RET	= RETAIN
B-B	= BACK TO BACK

TRAFFIC SIGNS AND LINES LAYOUT

SCALE: 1" = 20'-0"

0 20 40

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426bdr_spm.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: I. MAYNARD
TRAFFIC SIGNS AND LINES LAYOUT - TSL 1	SHEET 19 OF 50

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	TUBULAR STEEL Ø (in) FOUNDATION	3.0 7.6	3.5 9.0	4.0 10.8	5.0 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL IN SHSM BOOK	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
STA. 1+68, RT		1	30	30	6.25						1					X		X														WI-1R - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
		1	18	18	2.25																											WI3-1P - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 2+26, RT		1	18	24	3.00						1					X		X														WI-8R - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 3+33, RT		1	18	24	3.00						1					X		X														WI-8L - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 3+35, RT		1	18	24	3.00						1					X		X														WI-8R - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 3+87, RT		1	6	10	0.42						1				X			X														VD-701			T-42
STA. 4+08, LT		1	6	10	0.42						1				X			X														VD-701			T-42
STA. 4+48, RT		1	18	24	3.00						1					X		X														WI-8L - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 4+50, RT		1	18	24	3.00						1					X		X														WI-8R - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 5+30, RT		1	18	24	3.00						1					X		X														WI-8L - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 5+32, RT		1	18	24	3.00						1					X		X														WI-8R - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 5+78, LT		1	42	12	3.50						1					X		X														D3-1 (TWO-SIDED SIGN)	X	TSL 1	
STA. 5+99, RT		1	18	24	3.00						1					X		X														WI-8L - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
STA. 7+00, LT		1	30	30	6.25						1					X		X														WI-1R - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
		1	18	18	2.25																											WI3-1P - TYPE VII, VIII OR IX FLOURESCENT YELLOW BACKGROUND SHEETING	X		
												FT	FT	FT	FT 14.0	FT 156.0	FT		EA	LB	LB	LB		LB	LB	LB	LB								
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."	**TOTALS**	SF 45.34	SF	EA.	SF		FT		FT 170.0			LB			EA.	LB				EA.	EA.	LB													

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: ...\drawing\z10c426tss.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
TRAFFIC SIGN SUMMARY SHEET - TSS 1

PLOT DATE: 9/2/2015
DRAWN BY: E. ALLING
CHECKED BY: I. MAYNARD
SHEET 20 OF 50

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 P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	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 Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
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 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
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 > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#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.

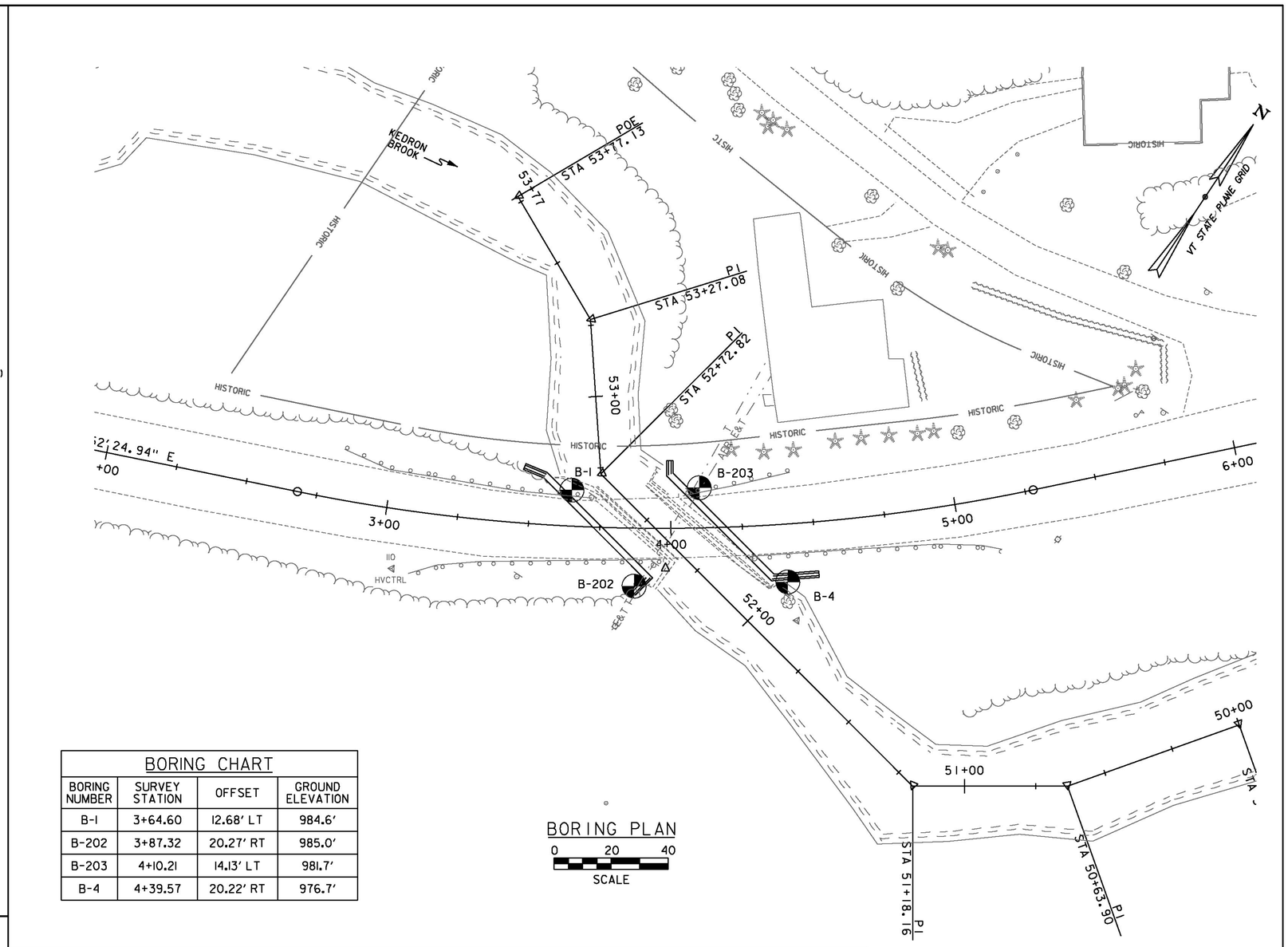
MUCK - Soft organic soil (containing > 10% organic material.

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.



BORING PLAN

0 20 40

SCALE

BORING CHART

BORING NUMBER	SURVEY STATION	OFFSET	GROUND ELEVATION
B-1	3+64.60	12.68' LT	984.6'
B-202	3+87.32	20.27' RT	985.0'
B-203	4+10.21	14.13' LT	981.7'
B-4	4+39.57	20.22' RT	976.7'

GENERAL NOTES

1. The subsurface explorations shown herein were made in July 1986, and Nov-Dec 2004 by VTRANS.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information 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.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

Stantec

LEGEND:

BRIDGE BORING

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426bdr_bor_pl.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: J. HUNGERFORD
BORING PLAN

PLOT DATE: 9/2/2015
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 21 OF 50

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

BORING NUMBER: B-1
SHEET 1 of 1
DATE STARTED: 7/18/86
DATE COMPLETED:

PROJECT NAME: WOODSTOCK
SITE NAME: BR 24
STATION: 3+64.60
OFFSET: 12.68' LT

PROJECT NUMBER: BRS 0151(8)S
SITE NUMBER: VT 106
GROUND ELEVATION: 984.61 ft
GROUNDWATER DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: UNKNOWN

BORING RIG: UNKNOWN
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH ft	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER foot	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		No Sample, 5 ft- 6.9 ft					
10		A-2-4, SlSc, brn, Moist	R				
		A-4, Si HP, gry, Moist	R	8.7			
20		A-4, SaSl, gry, Moist	R	8.7			
		A-4, SaSl, gry, Moist	R	10.6			
30		A-4, SaSl, gry, Moist	R	10.1			
		Hole stopped @ 30.8 ft					

BOTTOM OF FOOTING
EL. 970.0

DRILLER'S NOTES:
Hole stopped in Sandy Silt, HP.

LOG OF BORING WOODSTOCK BRS0151(8)S.GPJ VT AOT.GDT 2/6/15

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

BORING NUMBER: B-202
SHEET 1 of 1
DATE STARTED: 11/23/04
DATE COMPLETED: 11/30/04

PROJECT NAME: WOODSTOCK
SITE NAME: BR 24
STATION: 3+87.32
OFFSET: 20.27' RT

PROJECT NUMBER: BRS 0151(8)S
SITE NUMBER: VT 106
GROUND ELEVATION: 985.01 ft
GROUNDWATER DEPTH:

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: PUALWAN

BORING RIG: SMALL SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER foot / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/1 ft)
		A-2-4, SlSa, Dk/brn, Moist, Rec. = .7 ft	3	22.7	15.8	51.5	32.7
10		A-4, SaSl, gry-brn, Moist, Rec. = .3'	19	13.3	17.1	36.6	46.3
		A-1-b, SaGr, gry-brn, Moist, Rec. = .8 ft		22.0	48.3	41.9	9.8
		13.8 ft - 16.3 ft, BXDC, Boulder, Cleaned out casing.					
		16.4 ft - 19.5 ft, BXMDC, Boulder, Cored ahead & advanced casing.					
20		A-4, GrSaSl HP, gry, Moist, Rec. = .8 ft	R	8.6	27.8	31.6	40.6
		A-4, SaSl HP, gry, Moist, Rec. = .9 ft	R	9.3	16.5	32.4	51.1
30		A-2-4, SaSlGr, gry, Moist, Rec. = .5 ft	R	8.1	43.3	24.2	32.5
		A-1-b, SlSaGr, gry, Moist, Rec. = .4 ft	R	10.9	44.8	31.0	24.2
		Top of Bedrock @ 37.0 ft					
		Grey, Quartz-biotite schist, Competent, RQD value may be affected by mechanical breakage during drilling., Moderately hard, Unweathered, BXDC, 37 ft - 39.5 ft, Rec. = 2.1 ft	1	86	0	10	
40		Grey, Quartz-biotite schist, Competent., Moderately hard, Unweathered, BXMDC, 39.5 ft - 44.4 ft, Rec. = 5 ft	2	100	80	10	
		Grey, Quartz-biotite schist, Competent., Moderately hard, Unweathered, BXMDC, 44.4 ft - 47.5 ft, Rec. = 3.1 ft	3	100	80	10	
		Hole stopped @ 47.5 ft					
50		DRILLER'S NOTES: No Groundwater Depth. Hole caved in @ 11.8 ft					

BOTTOM OF FOOTING
EL. 970.0

APPROX. BOTTOM OF CASING
EL. 947.0

APPROX. BOTTOM OF PILE
EL. 943.0 PLUMB PILE
EL. 941.0 BATTERED PILE

1' - 0"

4' - PLUMB PILES
6' - BATTERED PILES

LOG OF BORING WOODSTOCK BRS0151(8)S.GPJ VT AOT.GDT 2/6/15

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426bor_log.dgn
PROJECT LEADER: C. BOGUE
DESIGNED BY: VTRANS
BORING LOG 1

PLOT DATE: 9/2/2015
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 22 OF 50

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

BORING NUMBER: B-203
SHEET 1 of 1
DATE STARTED: 12/07/04
DATE COMPLETED: 12/13/04

PROJECT NAME: WOODSTOCK
SITE NAME: BR 24
STATION: 4+10.21
OFFSET: 14.13' LT

PROJECT NUMBER: BRS 0151(8)S
SITE NUMBER: VT 106
GROUND ELEVATION: 981.66 ft
GROUNDWATER DEPTH:

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: PUALWAN

BORING RIG: SMALL SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER foot / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/1 ft)
		A-2-4, SlSc, gry-brn, Moist, Rec. = .5 ft	16	17.7	17.7	54.8	27.5
		6.9 ft – 10 ft, BXDC, Cleaned out casing					
10		A-2-4, SlScGr HP, gry, Moist, Rec. = .4 ft	R	7.2	36.8	33.8	29.4
		13.5 ft – 14.8 ft, BXDC, Cleaned out casing					
		A-4, GrSaSl HP, gry, Moist, Rec. = 1 ft	R	8.6	24.6	30.5	44.9
		18.7 ft – 19.7 ft, BXDC, Cleaned out casing					
20		A-4, ScSl HP, gry, Moist, Rec. = 1.4 ft	R	9.6	16.4	39.9	43.7
		23.4 ft – 24.6 ft, BXDC, Cleaned out casing					
		A-4, ScSl HP, gry, Moist, Rec. = 1.8 ft	R	9.3	14.3	34.4	51.3
		28.3 ft – 29.5 ft, BXDC, Cleaned out casing					
30		A-4, ScSl HP, gry, Moist, Rec. = .5 ft	R	9.4	14.5	35.9	49.6
		33.2 ft – 34.5 ft, BXDC, Cored ahead & broke through					
		A-4, ScSl HP, gry, Moist, Rec. = 1.5 ft	R	9.3	12.3	35.2	52.5
		Top of Bedrock @ 38.5 ft					
40		Gray, Phyllitic quartz-biotite schist, Competency fair, Moderately hard, Slightly weathered, BXDC, 38.5 ft – 40.4 ft, Rec. = 1.1 ft	1	55	0	20	12 13
		Gray, Phyllitic quartz-biotite schist, Competent., Moderately hard, Unweathered, BXMDC, 40.4 ft – 45.4 ft, Rec. = 4.6 ft	2	94	46	20	5 6 9 7 8
		Gray, Phyllitic quartz-biotite schist, Competent., Moderately hard, Unweathered, BXMDC, 45.4 ft – 49.4 ft, Rec. = 3 ft	3	73	69	20	12 11 15 22
50		Hole stopped @ 49.4 ft					

DRILLER'S NOTES:
Hole was moved 11.5 ft left, because of power pole obstruction.
No Groundwater Depth. Hole caved in.

BOTTOM OF FOOTING
EL. 970.0

APPROX. BOTTOM OF CASING
EL. 942.2

1'-0"

APPROX. BOTTOM OF PILE
EL. 938.2 PLUMB PILE
EL. 936.2 BATTERED PILE

4' - PLUMB PILES
6' - BATTERED PILES

LOG OF BORING WOODSTOCK BRS0151(8)S.GPJ VT AOT.GDT 2/6/15

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

BORING NUMBER: B-4
SHEET 1 of 1
DATE STARTED: 7/16/86
DATE COMPLETED:

PROJECT NAME: WOODSTOCK
SITE NAME: BR 24
STATION: 4+39.57
OFFSET: 20.22' RT

PROJECT NUMBER: BRS 0151(8)S
SITE NUMBER: VT 106
GROUND ELEVATION: 976.71 ft
GROUNDWATER DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: UNKNOWN

BORING RIG: UNKNOWN
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER foot	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-2-4, SlGr HP, gry, Moist	R	11.1			
10		A-4, ScSl HP, gry, Moist, Hit Boulder	R	10.2			
		AXMDC, HP & Boulder, 12.5 ft – 17.4 ft					
20		A-4, ScSl HP, gry, Moist	R	5.7			
		BX, Boulder, 20.3 ft – 21.3 ft					
		AXMDC, HP & Boulder, 21.3 ft – 26.2 ft					
		Hole stopped @ 26.2 ft					
30							

DRILLER'S NOTES:
Hole stopped in HP & Boulders.

BOTTOM OF FOOTING
EL. 970.0

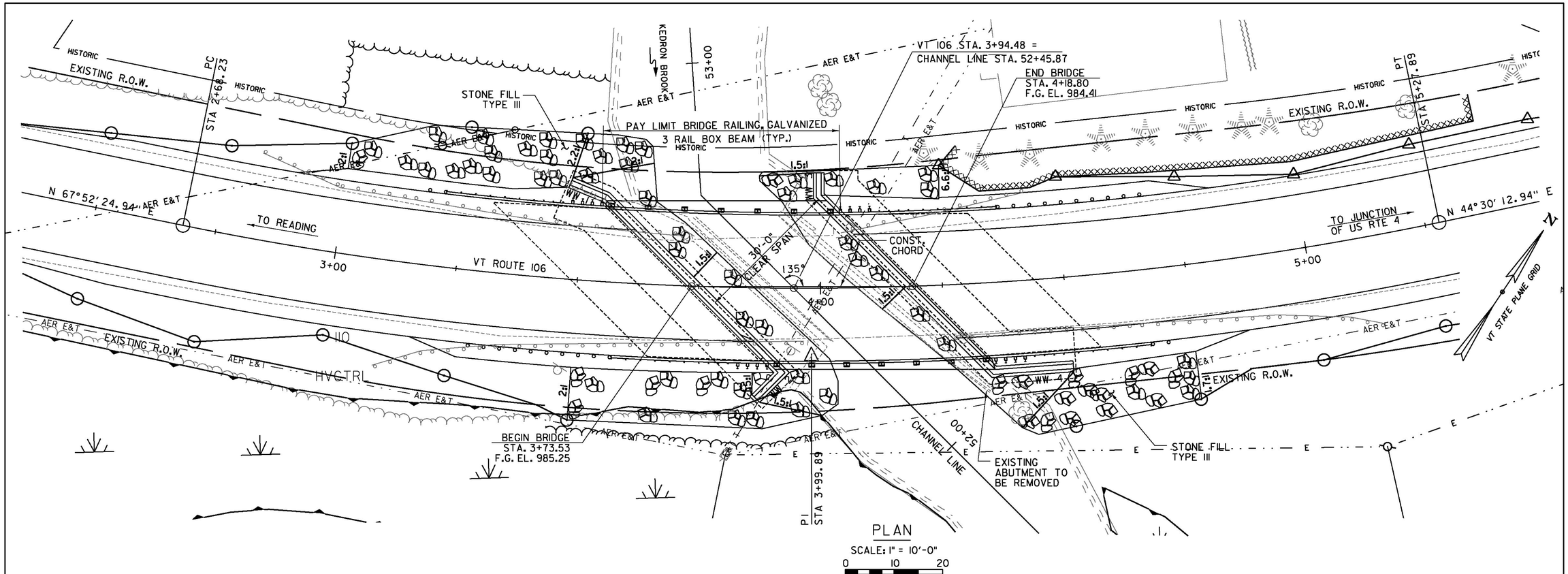
LOG OF BORING WOODSTOCK BRS0151(8)S.GPJ VT AOT.GDT 2/6/15

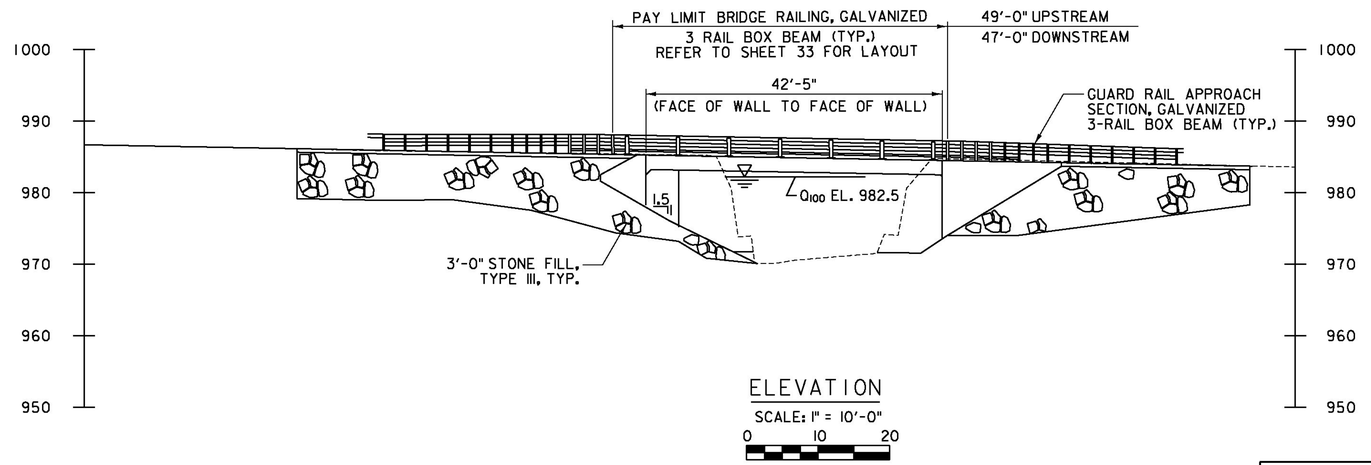
Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426bor_log.dgn
PROJECT LEADER: C. BOGUE
DESIGNED BY: VTRANS
BORING LOG 2

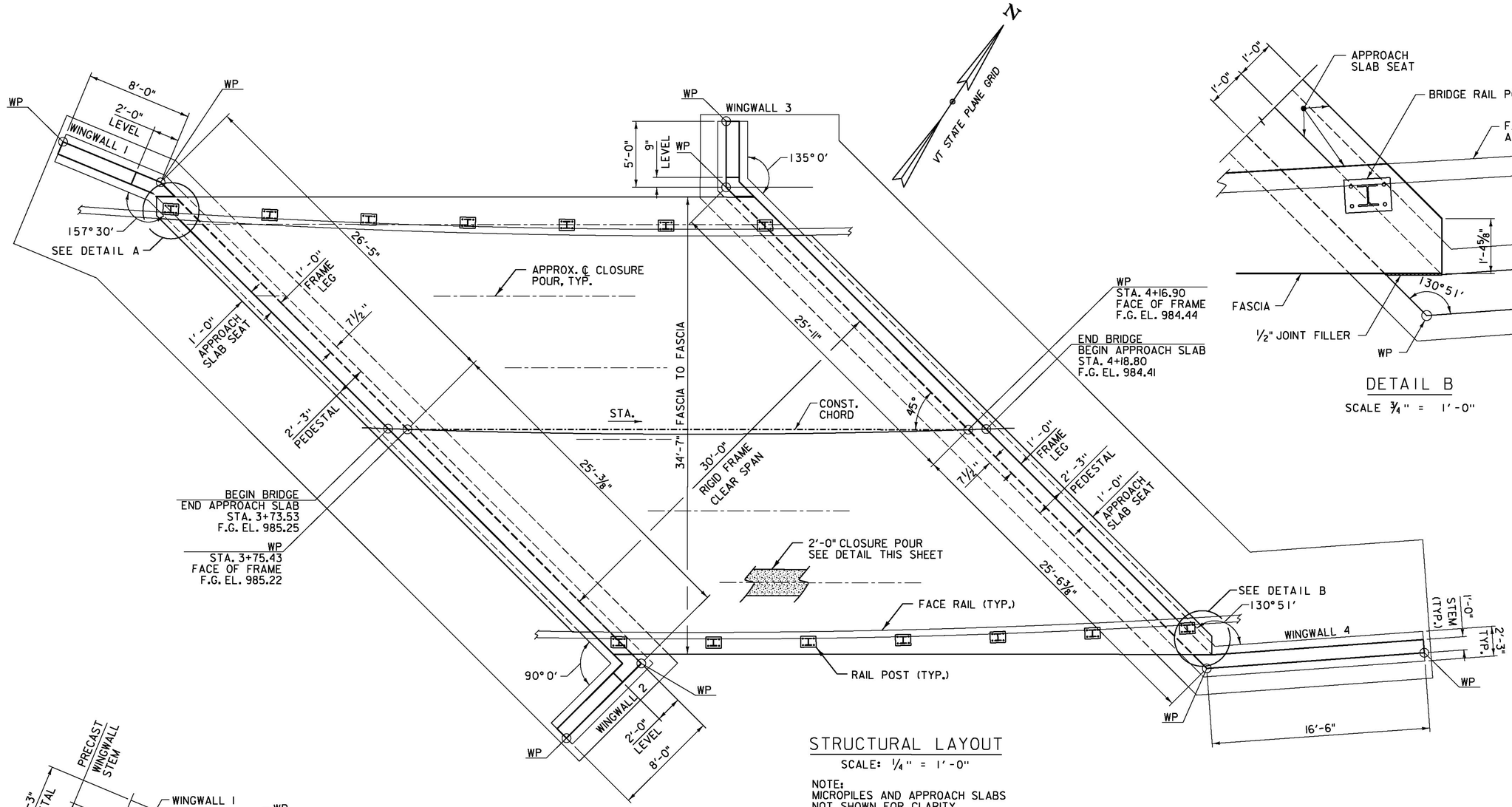
PLOT DATE: 9/2/2015
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 23 OF 50





PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426bdr_pe.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: T. KNIGHT	CHECKED BY: J. HUNGERFORD
PLAN AND ELEVATION	SHEET 24 OF 50

Stantec

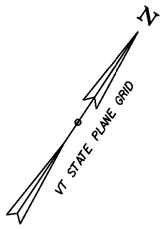


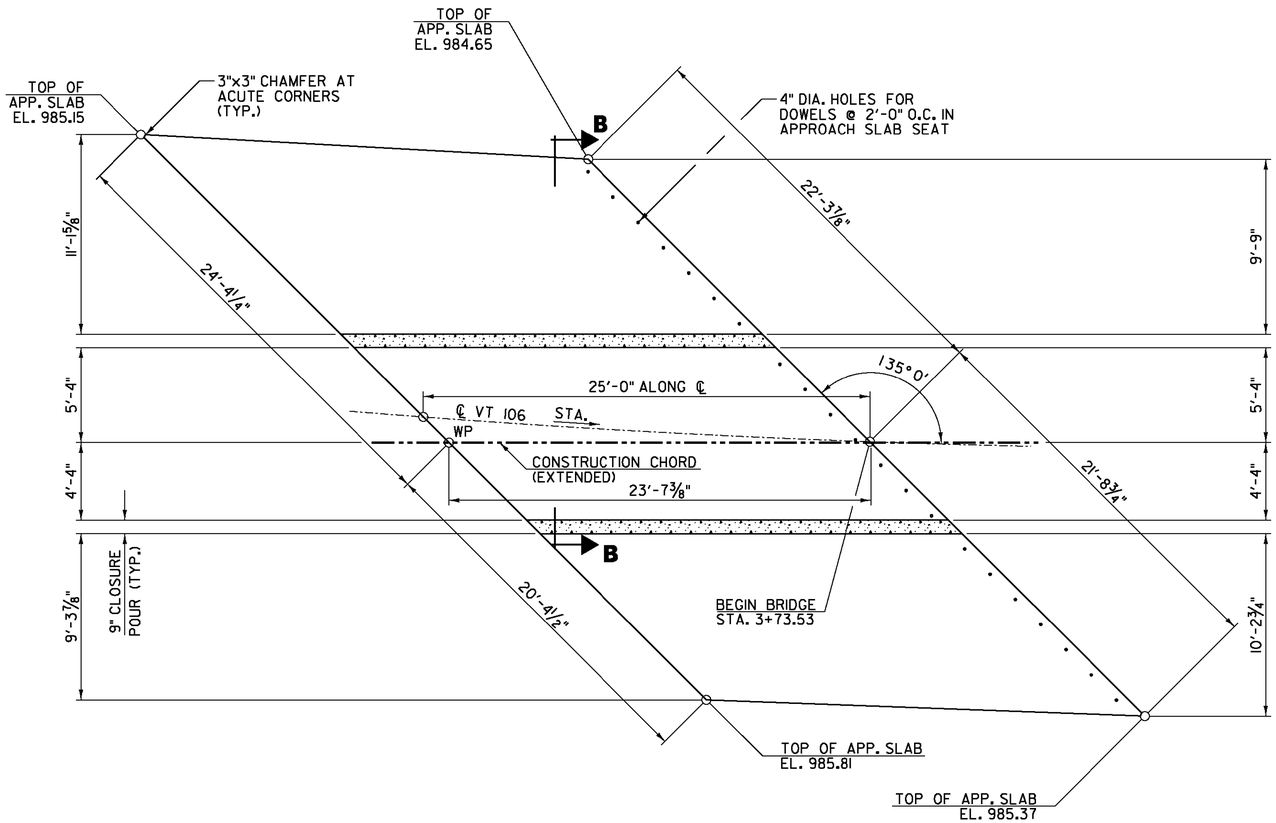
NOTE:
REINFORCING IN THE CLOSURE POUR WILL BE PAID UNDER ITEM 507.12, REINFORCING STEEL, LEVEL II (FPO).

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)

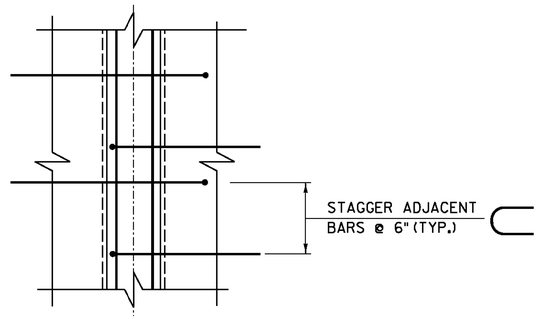
FILE NAME: z10c426struct_pl.dgn	PLOT DATE: 9/24/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: T. KNIGHT
STRUCTURAL PLAN	SHEET 25 OF 50

Stantec

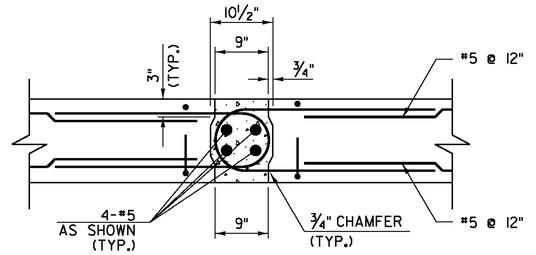




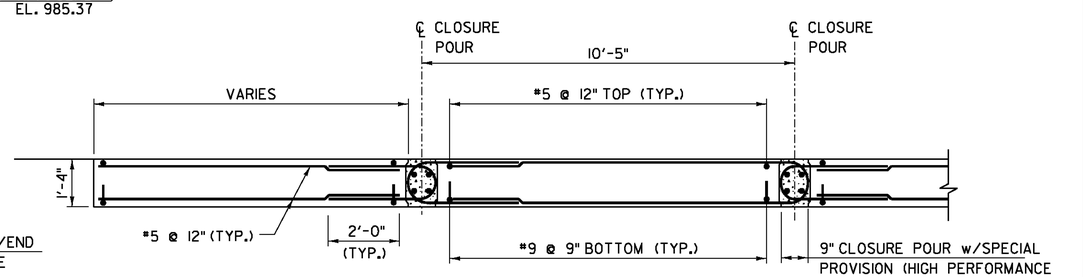
APPROACH SLAB 1 - PLAN
SCALE: 1/4" = 1'-0"



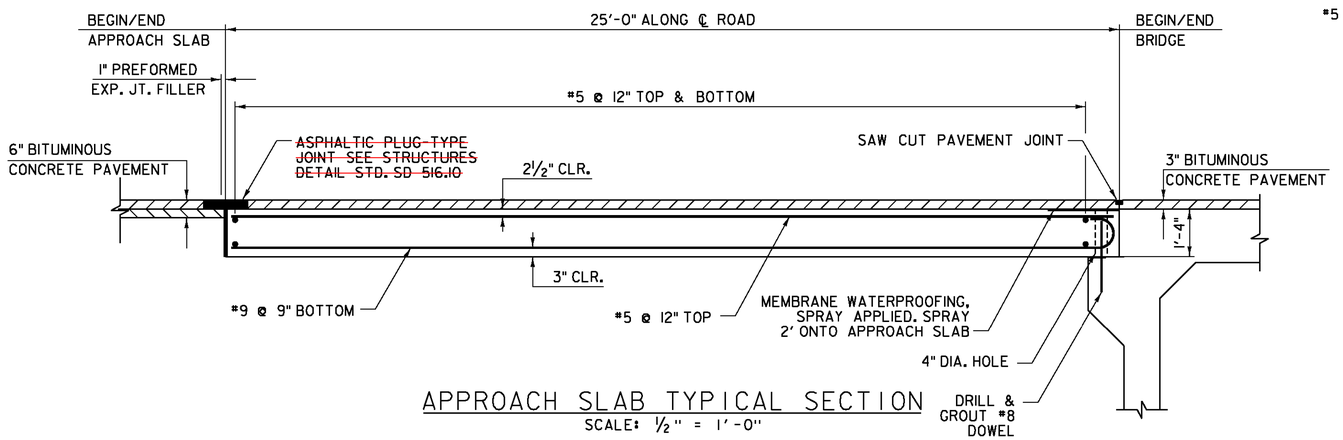
CONNECTION DETAIL PLAN
SCALE: 1" = 1'-0"



CONNECTION DETAIL SECTION
SCALE: 1" = 1'-0"



SECTION B-B
SCALE: 1/2" = 1'-0"

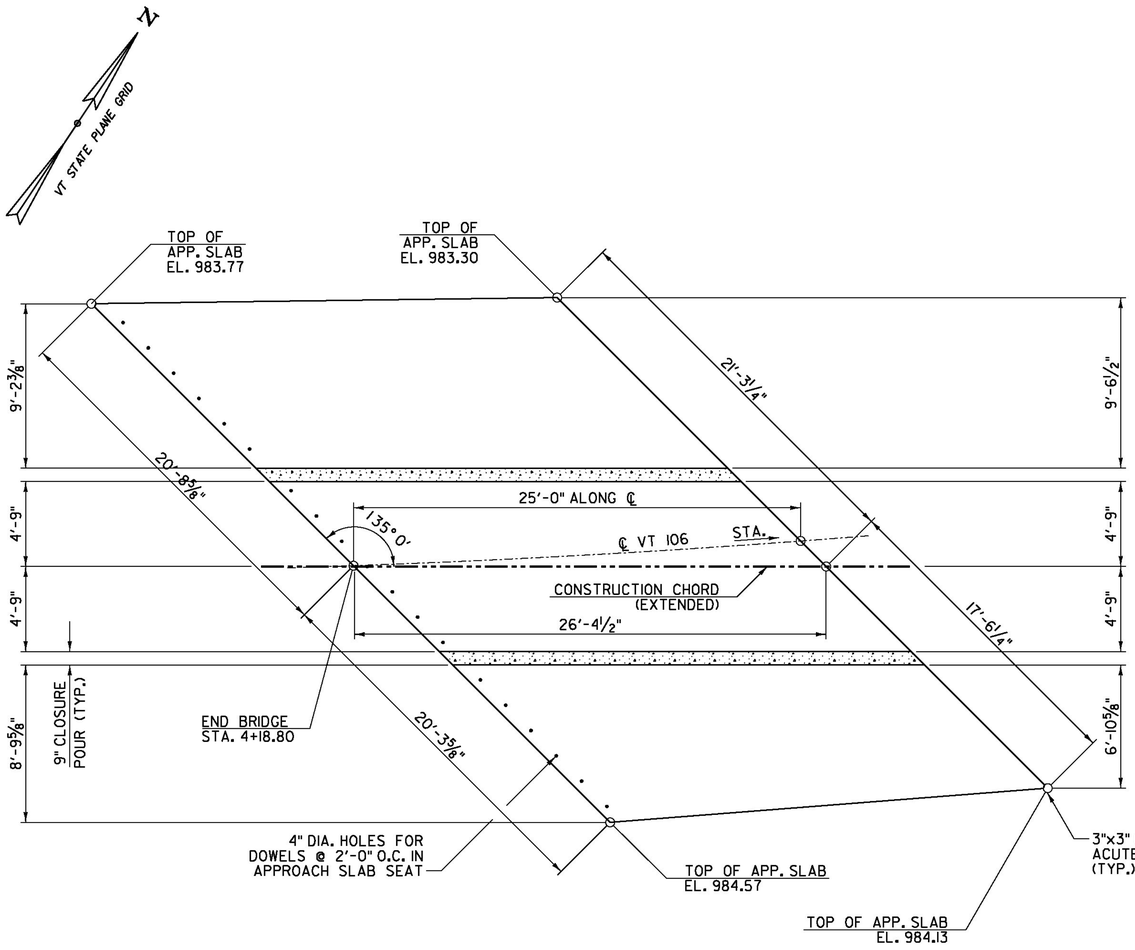


APPROACH SLAB TYPICAL SECTION
SCALE: 1/2" = 1'-0"

NOTE:
ALL REINFORCING IN CLOSURE POURS WILL BE PAID UNDER ITEM 507.12, REINFORCING STEEL, LEVEL II (FPQ).

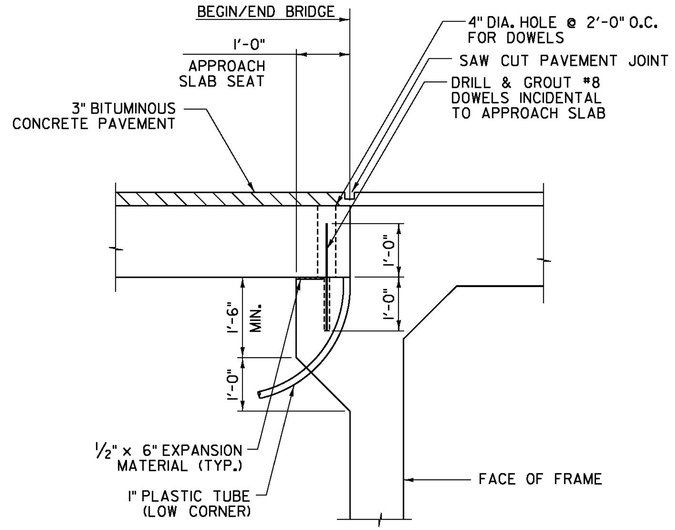
Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426appslab.dgn	PLOT DATE: 9/24/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: J. SOTER
DESIGNED BY: N. TIRK	CHECKED BY: T. KNIGHT
APPROACH SLAB DETAILS 1	SHEET 26 OF 50



APPROACH SLAB 2 - PLAN

SCALE: 1/4" = 1'-0"



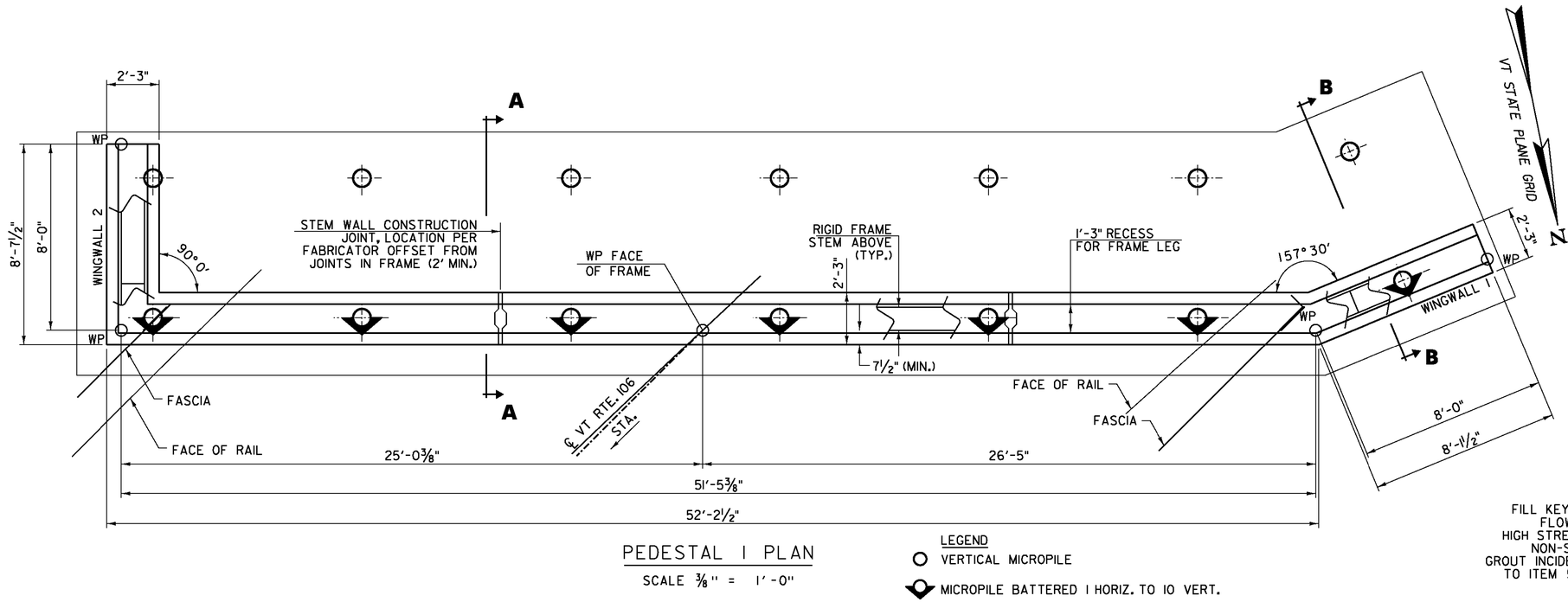
REINFORCEMENT NOT SHOWN

BRIDGE END DETAIL

SCALE 3/4" = 1'-0"

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426appslab.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: J. SOTER
DESIGNED BY: N. TIRK	CHECKED BY: T. KNIGHT
APPROACH SLAB DETAILS 2	SHEET 27 OF 50

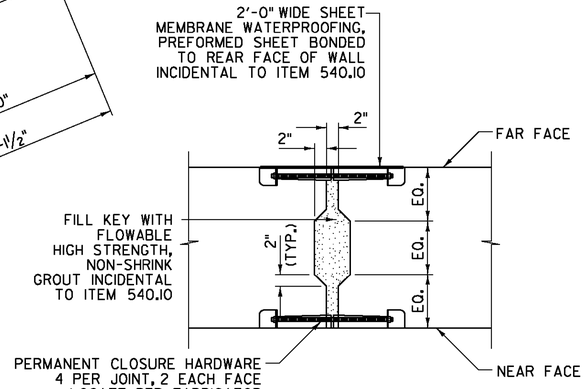


PEDESTAL 1 PLAN

SCALE ⅜" = 1'-0"

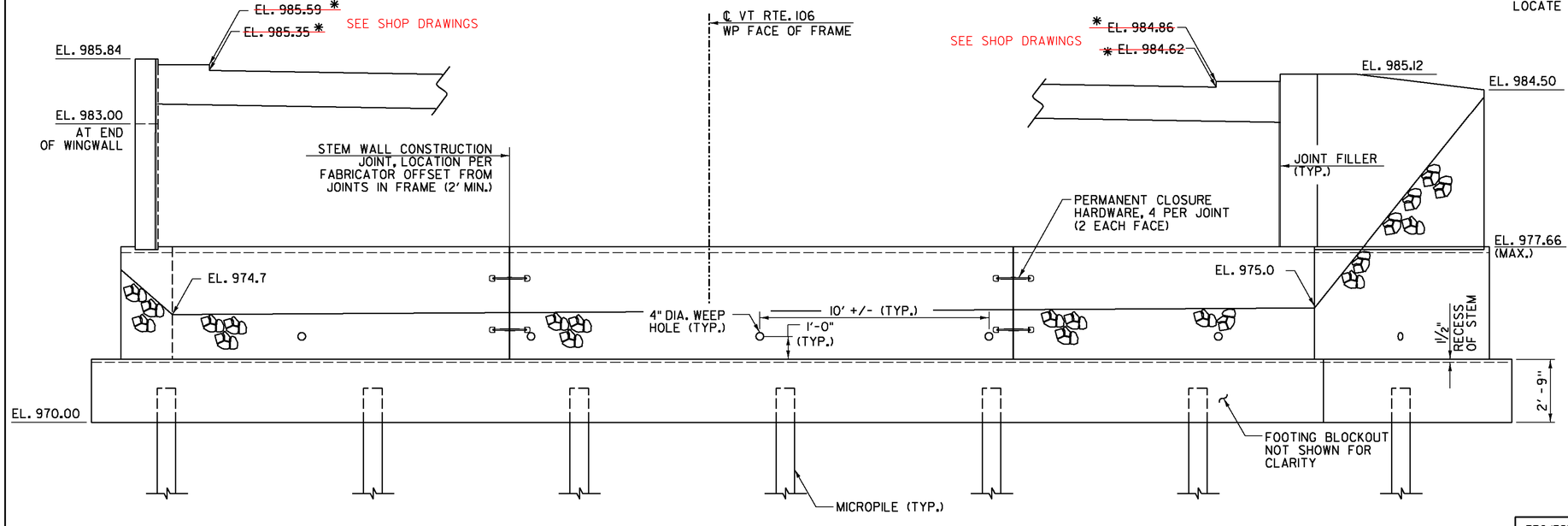
LEGEND

- VERTICAL MICROPILE
- MICROPILE BATTERED 1 HORIZ. TO 10 VERT.



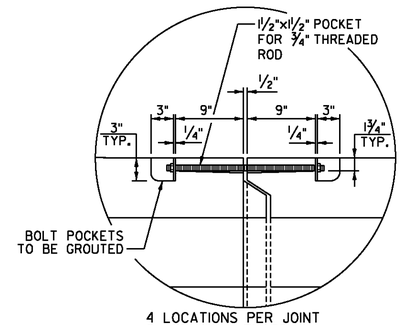
STEM WALL CONSTRUCTION JOINT DETAIL

SCALE 1" = 1'-0"



PEDESTAL 1 ELEVATION

SCALE ⅜" = 1'-0"



PERMANENT CLOSURE DETAIL

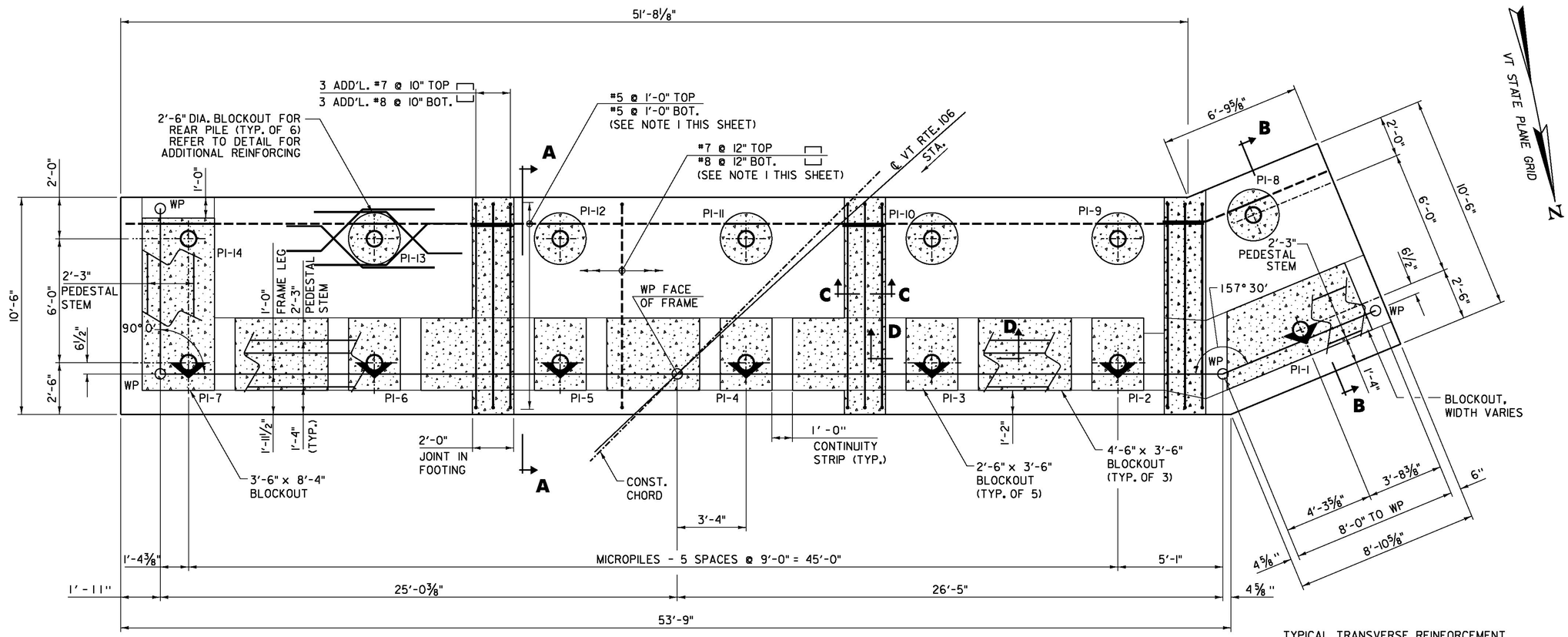
NOT TO SCALE

NOTES:

1. * ELEVATION AT FACE OF FRAME LEG.
2. FOR SECTIONS A-A, B-B AND STEM WALL CONSTRUCTION JOINT DETAIL REFER TO SHEET 32.

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: zl0c426abut_1_pl_elev.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: T. KNIGHT
PEDESTAL FRAME 1 PLAN AND ELEVATION	SHEET 28 OF 50



PEDESTAL 1 FOUNDATION PLAN & PILE LAYOUT

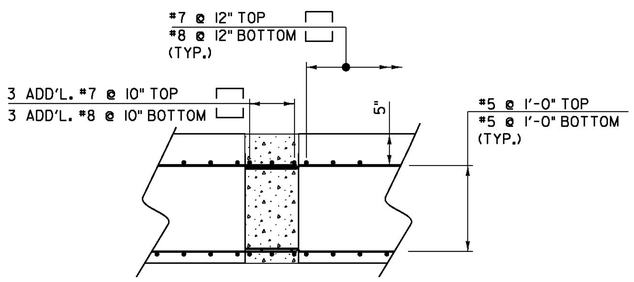
SCALE 3/8" = 1'-0"

LEGEND

- PI-XX VERTICAL MICROPILE
- PI-XX MICROPILE BATTERED 1 HORIZ. TO 10 VERT.
- SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)(FPQ)

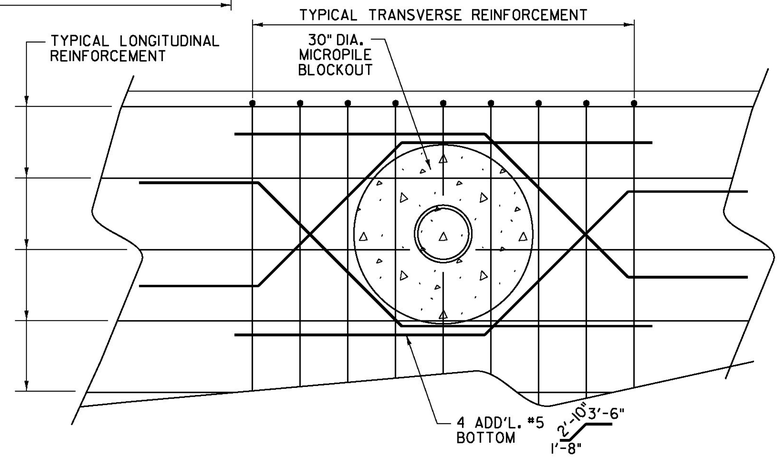
NOTES:

1. REINFORCMENT IS TO BE CONTINUOUS THROUGH THE BLOCKOUTS. THE DESIGN ALLOWS FOR ONE BAR IN EACH DIRECTION OF THE BOTTOM MAT OF REINFORCMENT TO BE CUT IN THE FIELD IF THE BAR INTERFERES WITH THE PILE HEAD.
2. CENTER OF PILES GIVEN AT BOTTOM OF FOOTING.
3. ALL REINFORCEMENT IN CLOSURE POURS WILL BE PAID UNDER ITEM 507.11, REINFORCING STEEL, LEVEL 1(FPQ).
4. FOR SECTIONS A-A AND B-B & D-D REFER TO SHEET 32.



SECTION C-C

NOT TO SCALE

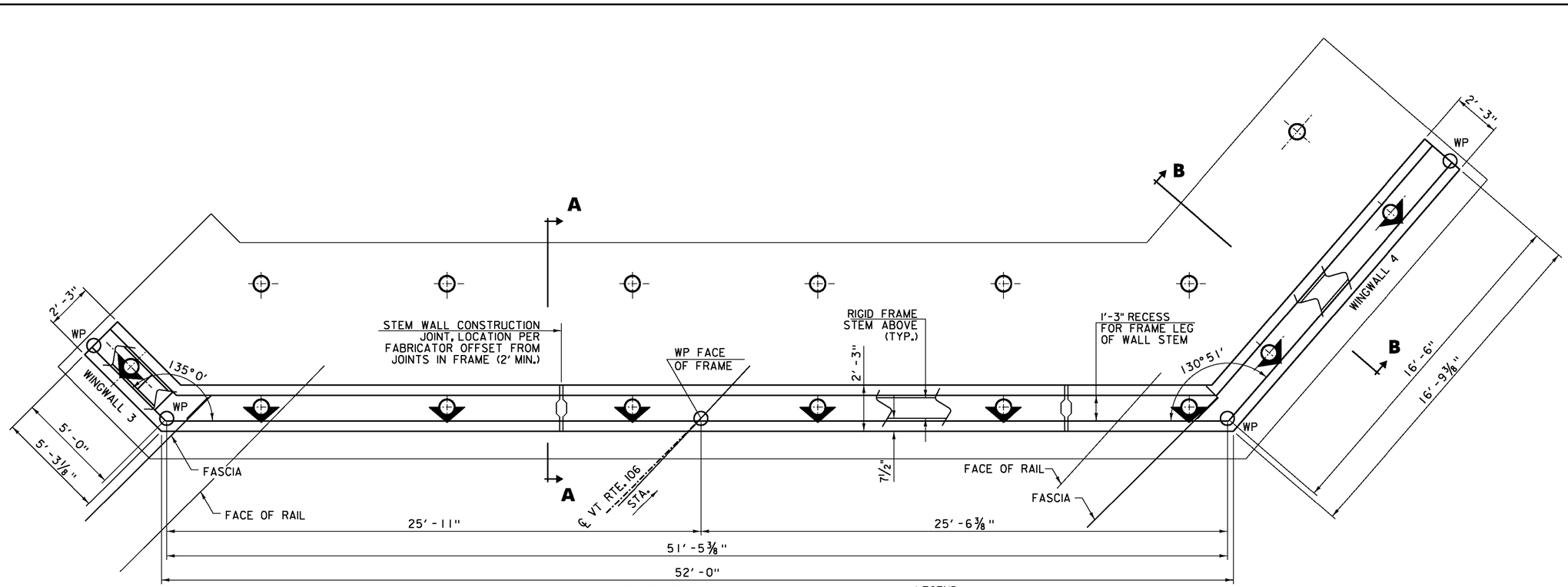


ADDITIONAL REINFORCEMENT AT MICROPILE BLOCKOUT

NOT TO SCALE

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426pedl_ftg pl.dgn	PLOT DATE: 9/24/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: T. KNIGHT
PEDESTAL 1 FOOTING PLAN & PILE LAYOUT	SHEET 29 OF 50



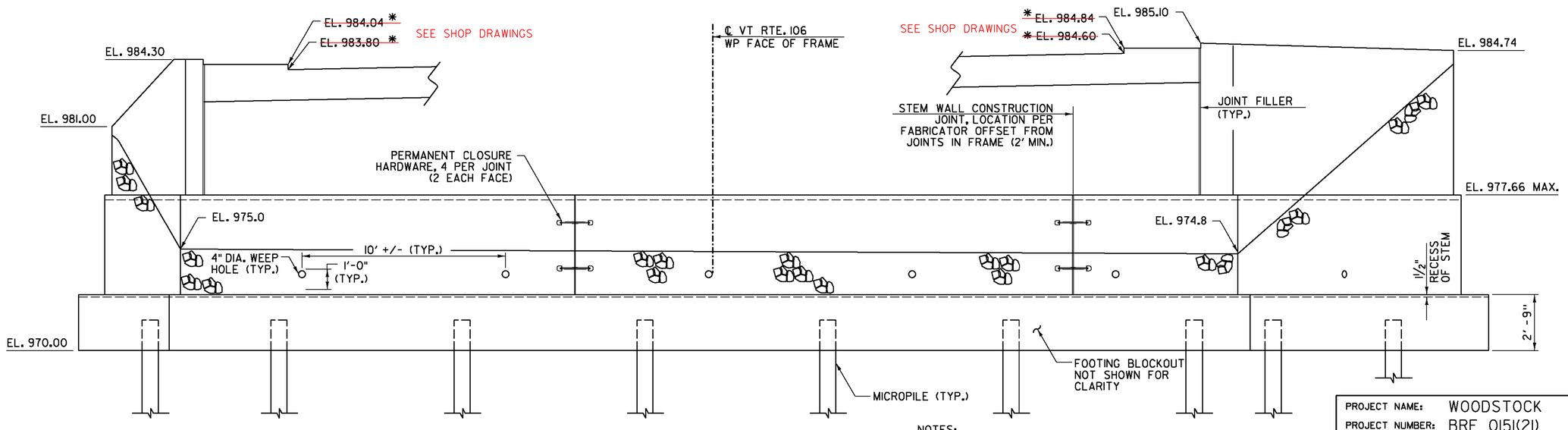
PEDESTAL 2 PLAN

SCALE 3/8" = 1'-0"

LEGEND

○ VERTICAL MICROPILE

MICROPILE BATTERED 1 HORIZ. TO 10 VERT.



PEDESTAL 2 ELEVATION

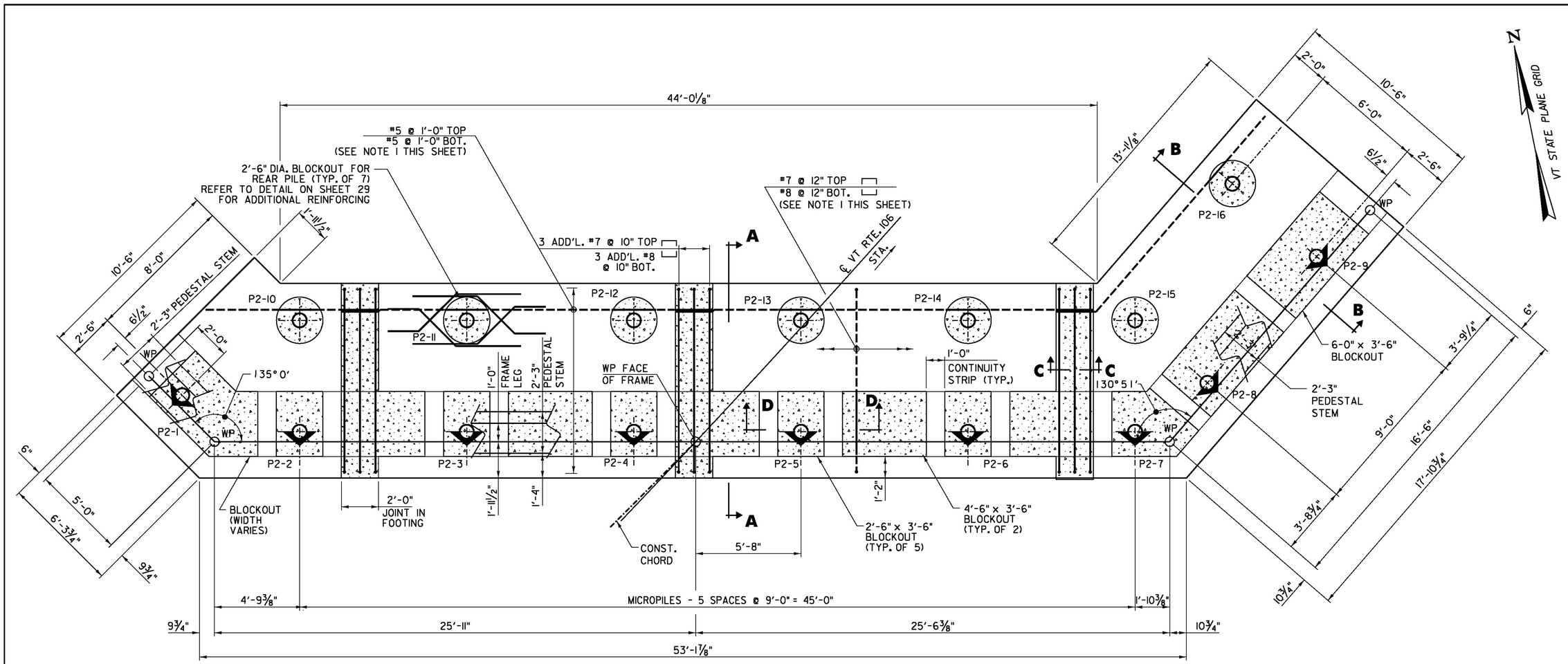
SCALE 3/8" = 1'-0"

NOTES:

1. * ELEVATION AT FACE OF FRAME LEG.
2. FOR SECTIONS A-A, B-B AND STEM WALL CONSTRUCTION JOINT DETAIL REFER TO SHEET 32.

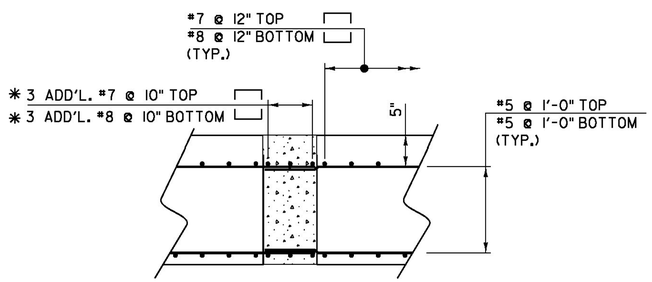
Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426abut_2_pl_elev.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: T. KNIGHT
PEDESTAL FRAME 2 PLAN AND ELEVATION	SHEET 30 OF 50



PEDESTAL 2 FOUNDATION PLAN & PILE LAYOUT

SCALE 3/8" = 1'-0"



SECTION C-C

NOT TO SCALE

* SEE NOTE 3, THIS SHEET.

LEGEND

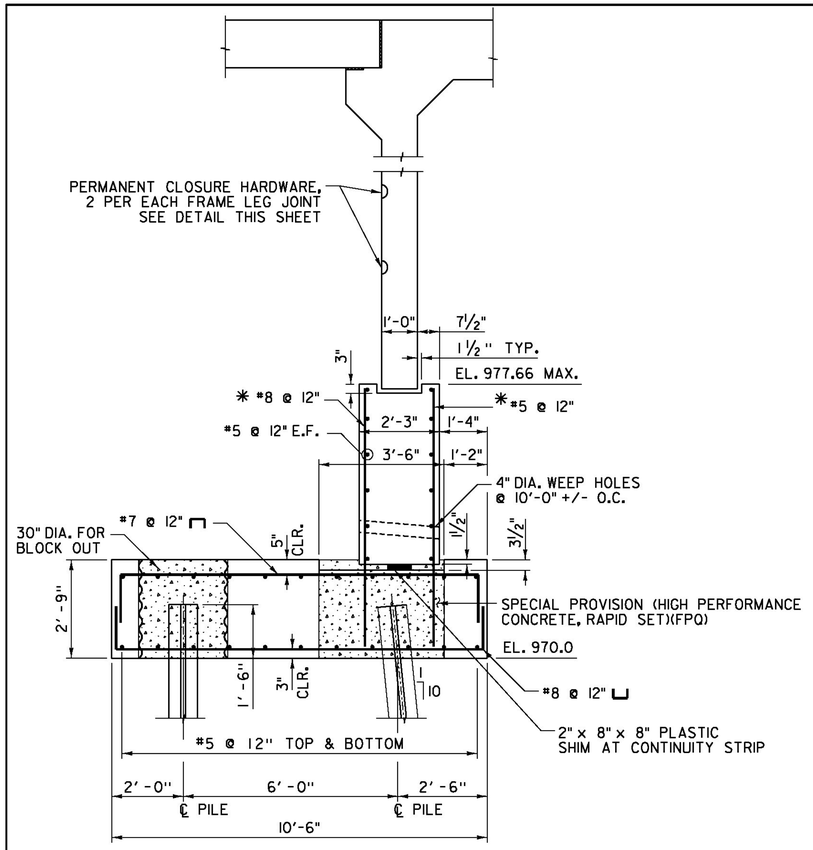
- P2-XX VERTICAL MICROPILE
- P2-XX MICROPILE BATTERED 1 HORIZ. TO 10 VERT.
- SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)(FPQ)

NOTES:

1. REINFORCMENT IS TO BE CONTINUOUS THROUGH THE BLOCKOUTS. THE DESIGN ALLOWS FOR ONE BAR IN EACH DIRECTION OF THE BOTTOM MAT OF REINFORCMENT TO BE CUT IN THE FIELD IF THE BAR INTERFERES WITH THE PILE HEAD.
2. CENTER OF PILES GIVEN AT BOTTOM OF FOOTING.
3. REINFORCEMENT IN CLOSURE POURS BETWEEN PRECAST UNITS WILL BE PAID UNDER ITEM 507.11, REINFORCING STEEL, LEVEL 1(FPQ).
4. FOR SECTIONS A-A AND B-B & D-D REFER TO SHEET 32.

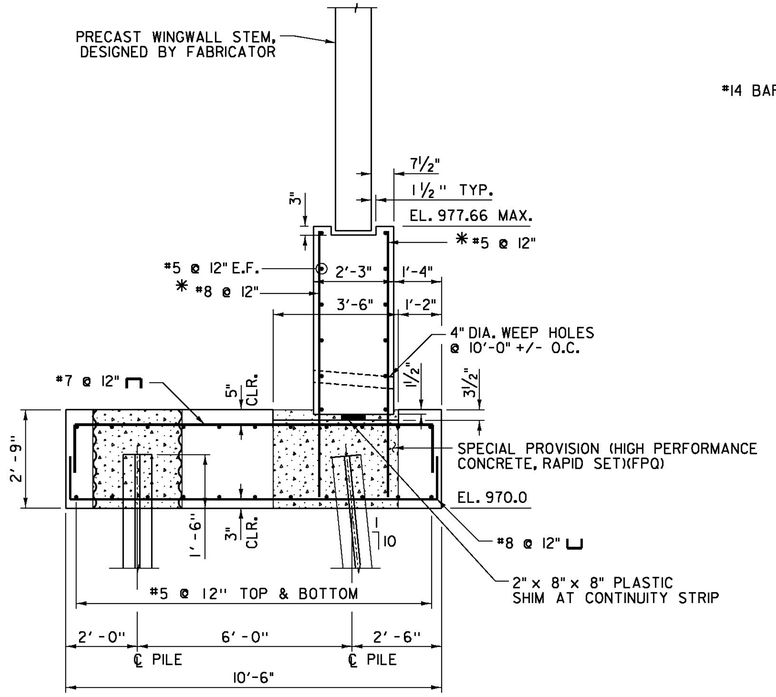
Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426ped2_ftg pl.dgn	PLOT DATE: 9/25/2015
PROJECT LEADER: C. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: T. KNIGHT
PEDESTAL 2 FOOTING PLAN & PILE LAYOUT	SHEET 31 OF 50



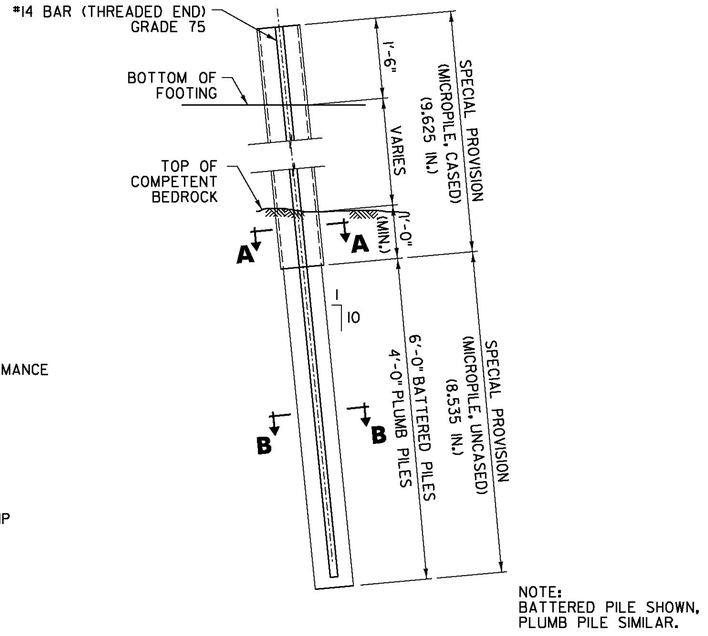
SECTION A-A
SCALE: 1/2"=1'-0"
PEDESTAL WALL AT FRAME

* OMIT BAR AT CONTINUITY STRIP



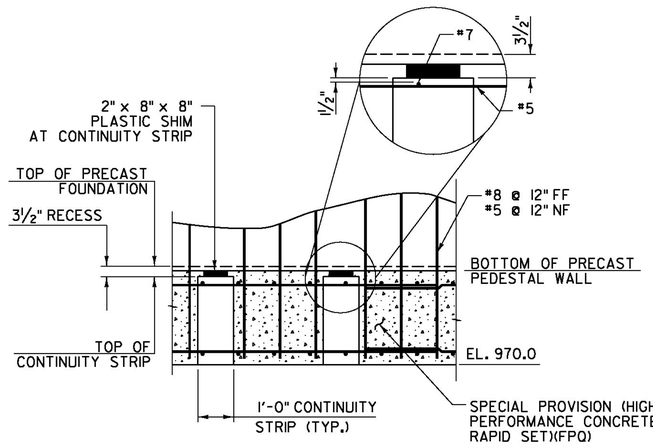
SECTION B-B
SCALE: 1/2"=1'-0"
PEDESTAL WALL AT WINGWALL

* OMIT BAR AT CONTINUITY STRIP

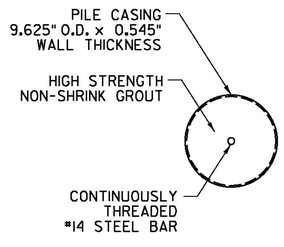


NOTE:
BATTERED PILE SHOWN, PLUMB PILE SIMILAR.

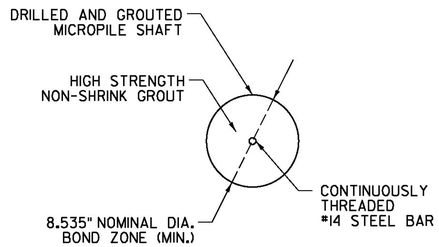
MICROPILE DETAIL AND PAY LIMITS
NOT TO SCALE



SECTION D-D
SCALE: 1/2"=1'-0"
PEDESTAL WALL AT FRAME
MICROPILE NOT SHOWN



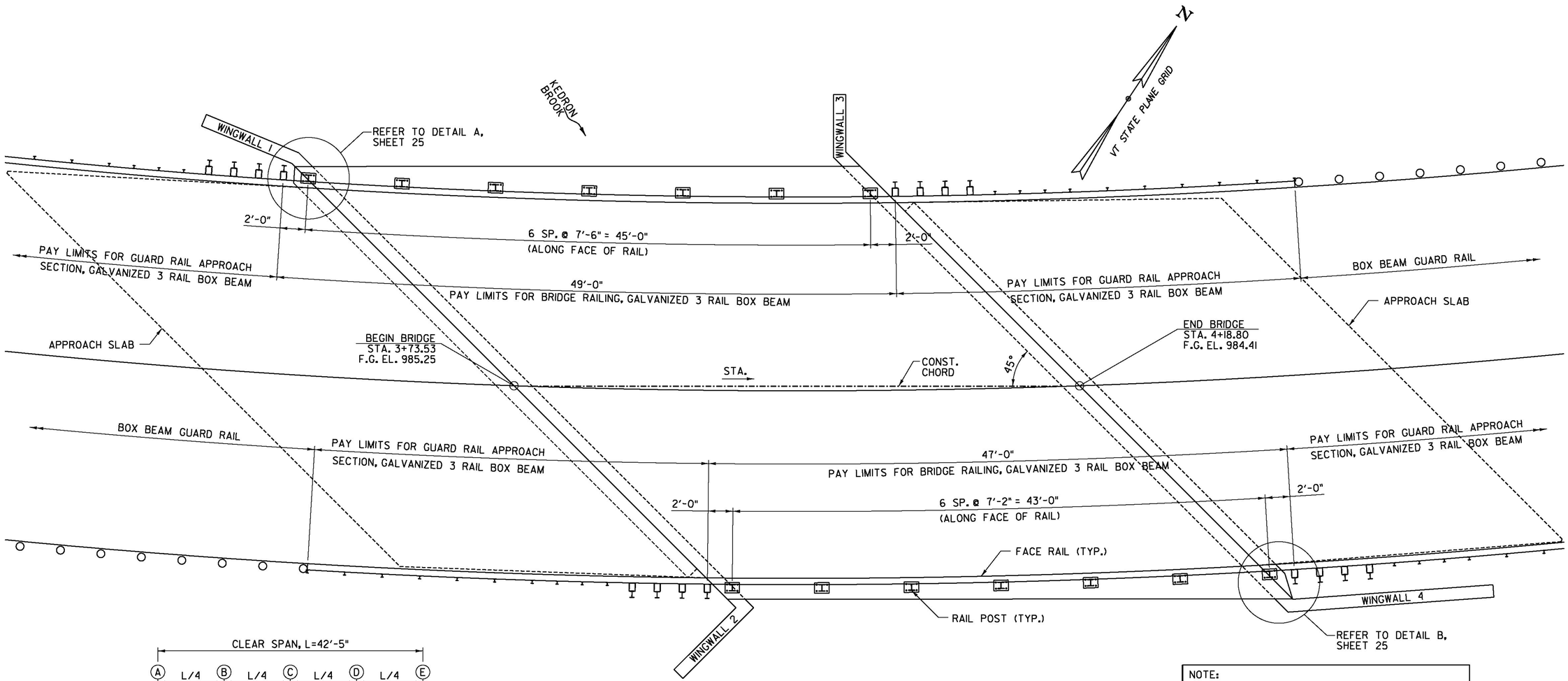
CASED MICROPILE
SECTION A
NOT TO SCALE



UNCASED MICROPILE
SECTION B
NOT TO SCALE

Stantec

PROJECT NAME: WOODSTOCK	
PROJECT NUMBER: BRF 0151(21)	
FILE NAME: z10c426struct_pl.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: N. TIRK	CHECKED BY: T. KNIGHT
STRUCTURE DETAILS	SHEET 32 OF 50

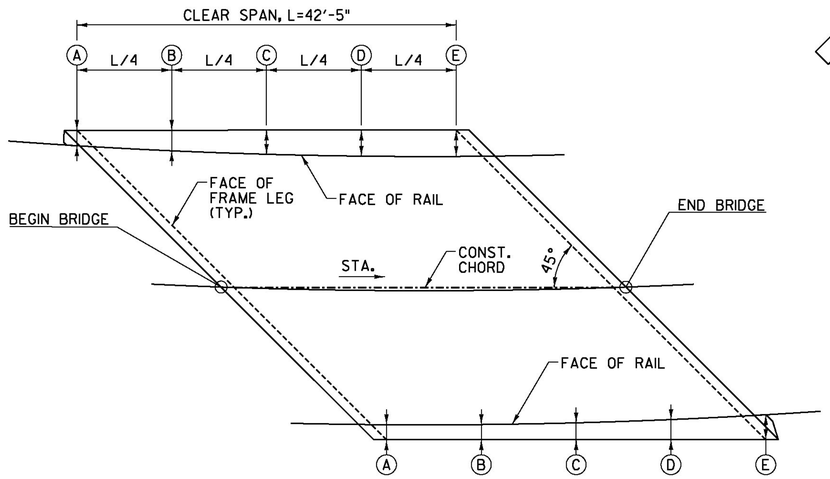


BRIDGE RAIL LAYOUT

SCALE: 1/4" = 1'-0"

NOTE:

RAIL POST SPACING IS BASED ON ASSUMED FRAME LEG THICKNESS OF 1'-0". THE FABRICATOR SHALL ADJUST DIMENSIONS AS NECESSARY BASED ON ACTUAL FRAME LEG THICKNESS USED.



FACE OF RAIL TO FASCIA OFFSET

NOT TO SCALE

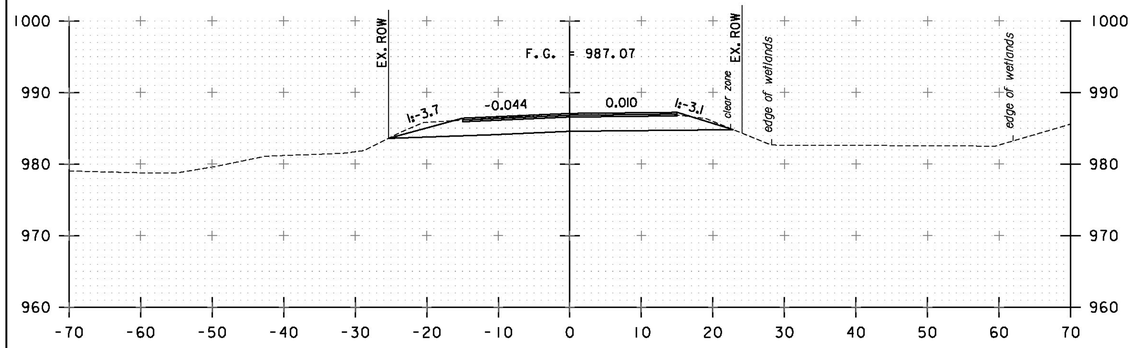
TABLE OF OFFSETS FROM FACE OF RAIL TO FASCIA		
POINT	OFFSET TO LEFT FASCIA (FT)	OFFSET TO RIGHT FASCIA (FT)
A	1.73	1.68
B	2.31	1.69
C	2.7	1.88
D	2.92	2.23
E	2.96	2.76

Stantec

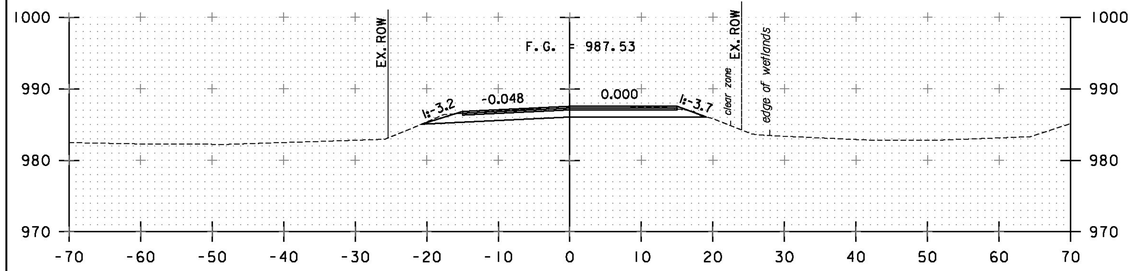
PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426brail.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: N. TIRK
BRIDGE RAIL LAYOUT

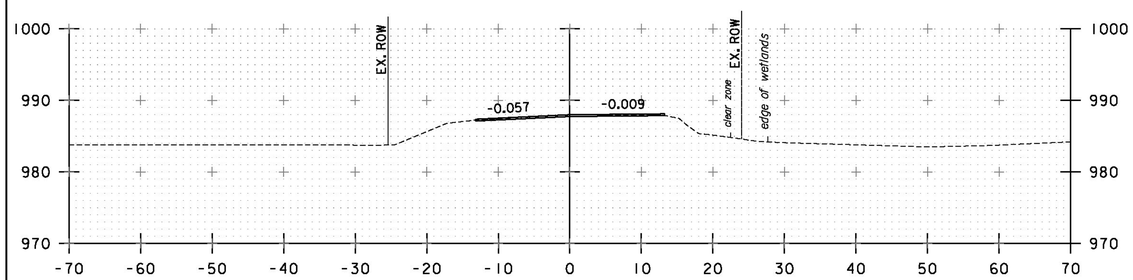
PLOT DATE: 9/2/2015
DRAWN BY: J. SOTER
CHECKED BY: T. KNIGHT
SHEET 33 OF 50



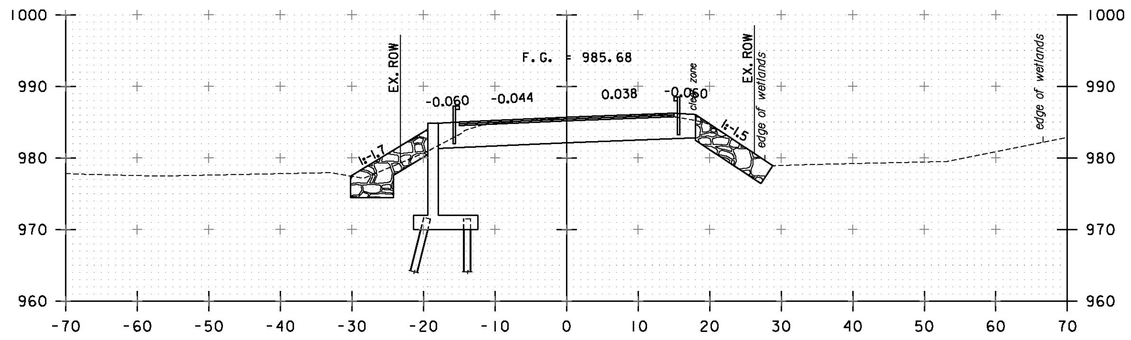
2+75
BEGIN PROJECT



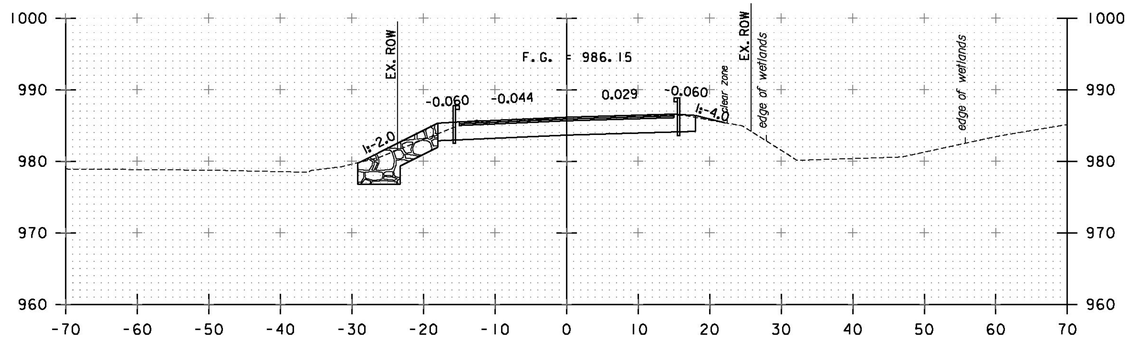
2+50



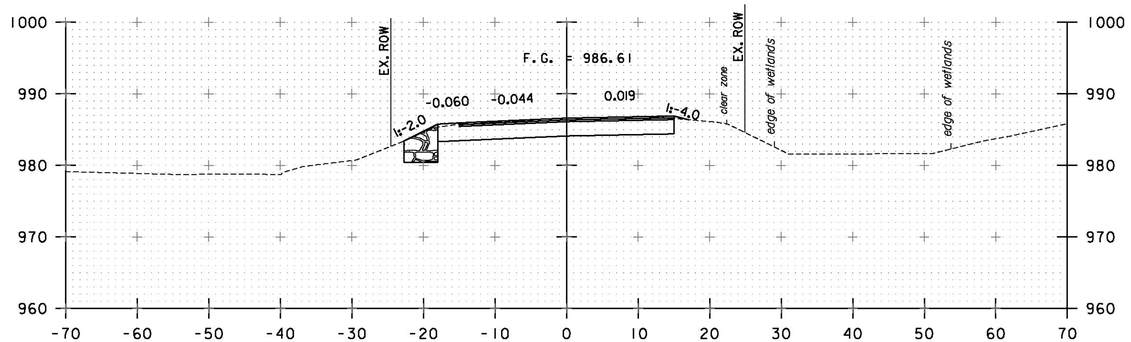
2+25
2+15
BEGIN APPROACH



3+50



3+25



3+00

0 10 20
SCALE

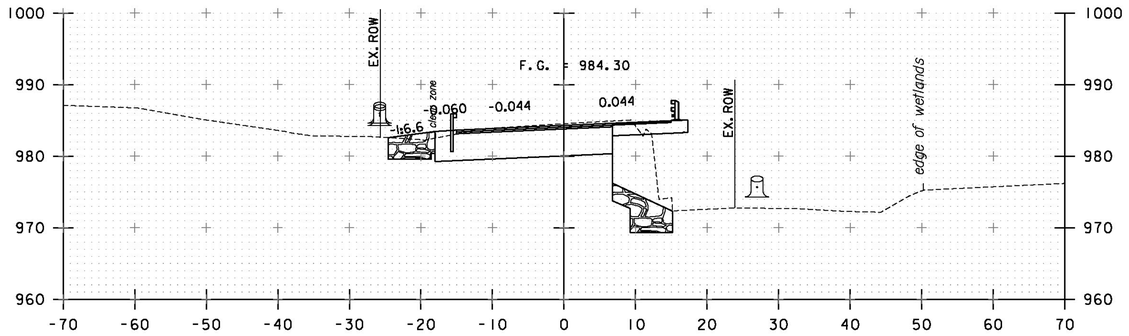
Stantec

STA. 2+25 TO STA. 3+50

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426xs.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
ROADWAY CROSS SECTIONS - RXS 1

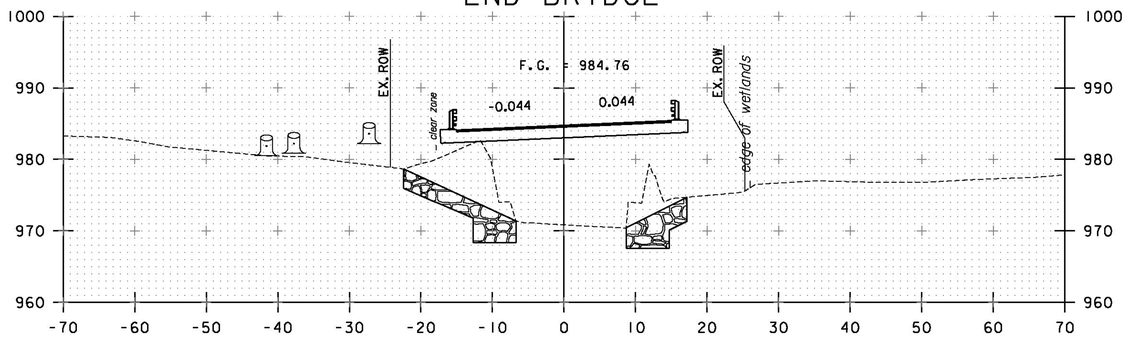
PLOT DATE: 9/2/2015
DRAWN BY: E. ALLING
CHECKED BY: I. MAYNARD
SHEET 34 OF 50



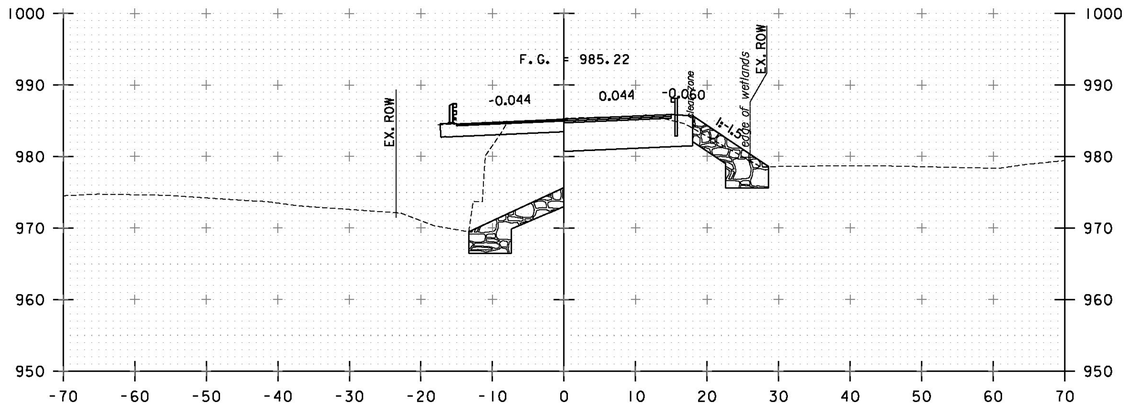
4+25

4+18.80

END BRIDGE



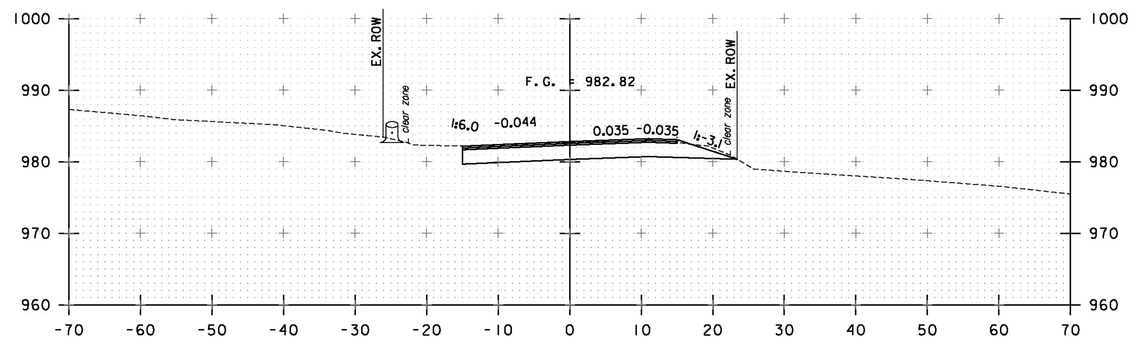
4+00



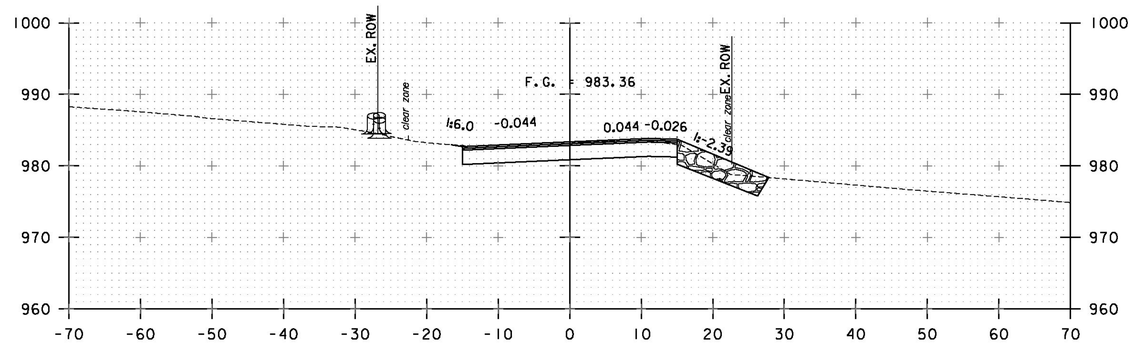
3+75

3+73.53

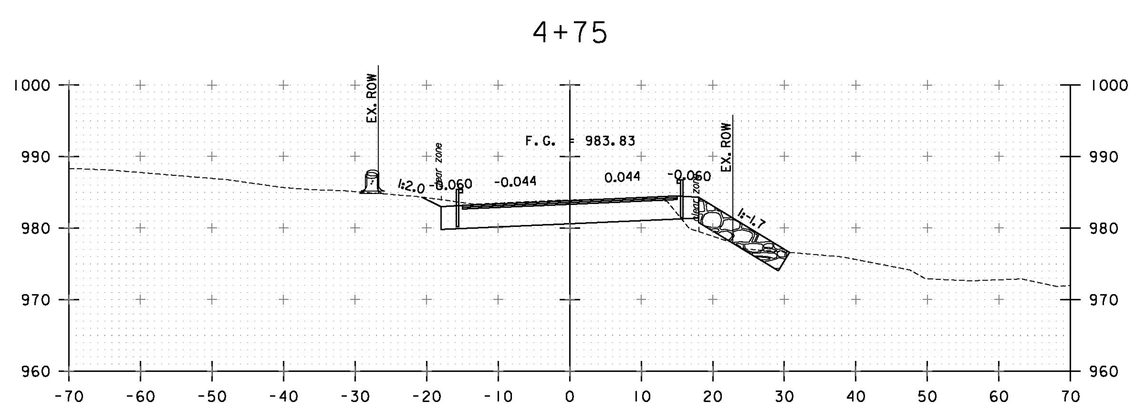
BEGIN BRIDGE



5+00



4+75



4+50

0 10 20

SCALE

Stantec

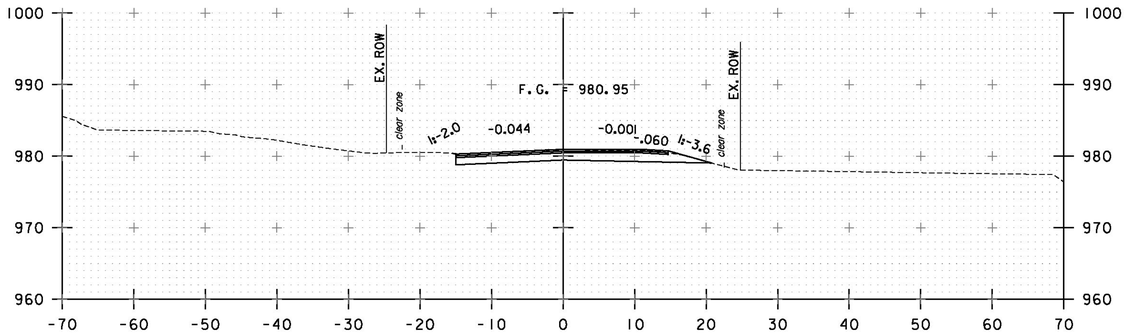
STA. 3+75 TO STA. 5+00

PROJECT NAME: WOODSTOCK

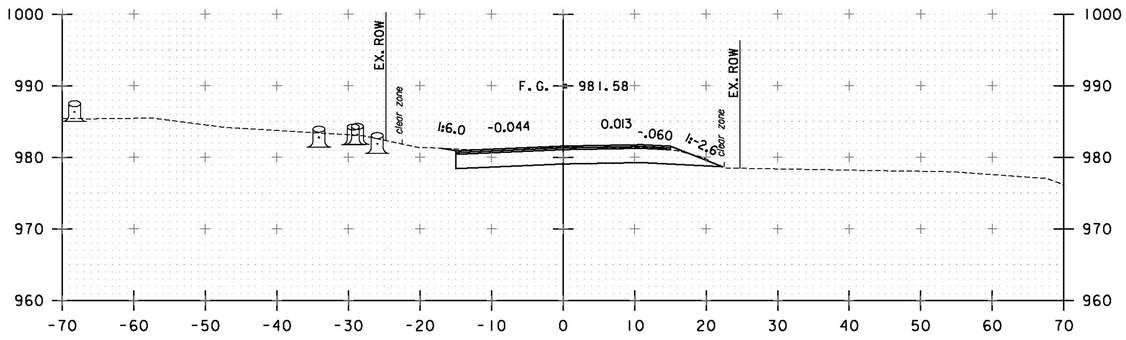
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426xs.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
ROADWAY CROSS SECTIONS - RXS 2

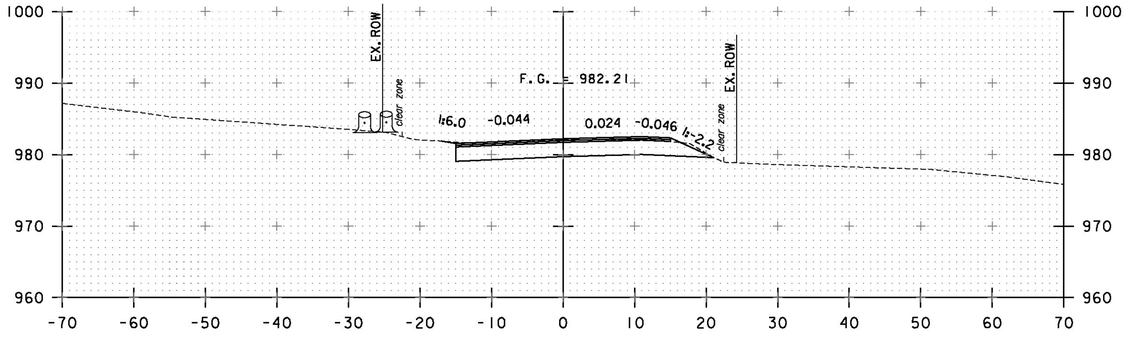
PLOT DATE: 9/2/2015
DRAWN BY: E. ALLING
CHECKED BY: I. MAYNARD
SHEET 35 OF 50



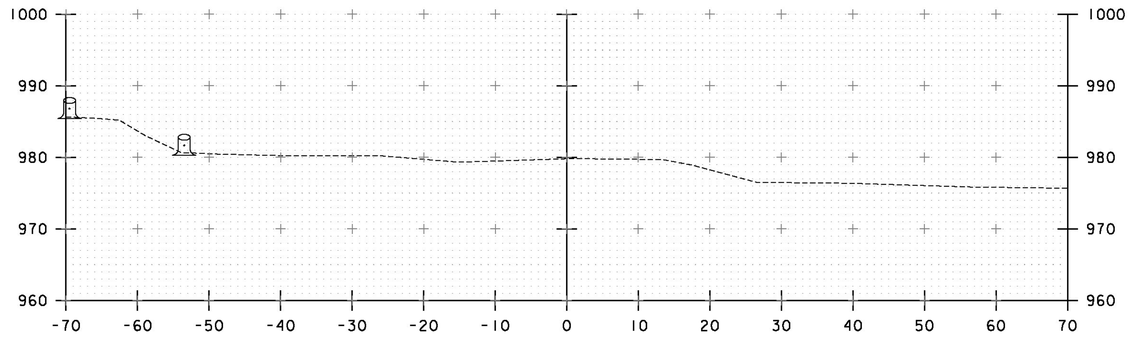
5+75



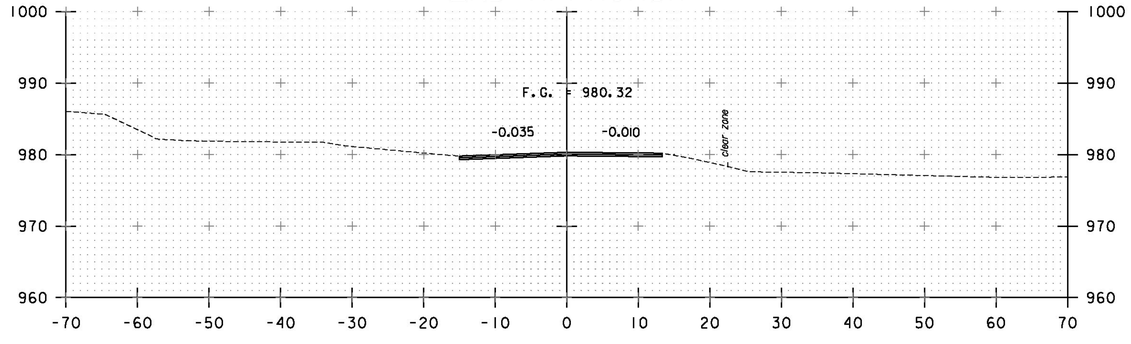
5+50
END PROJECT



5+25



6+25
6+10
END APPROACH



6+00

0 10 20
SCALE

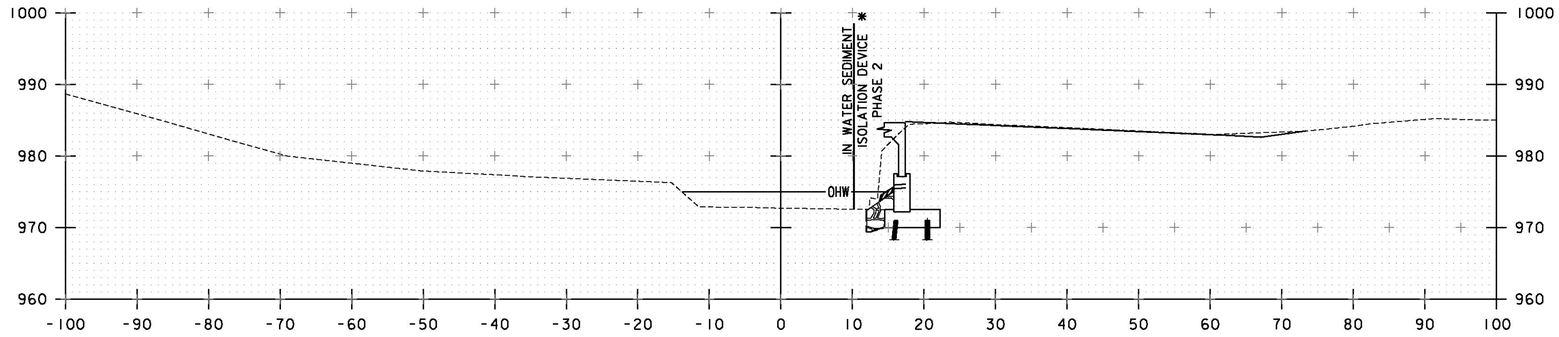
Stantec

STA. 5+25 TO STA. 6+25

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

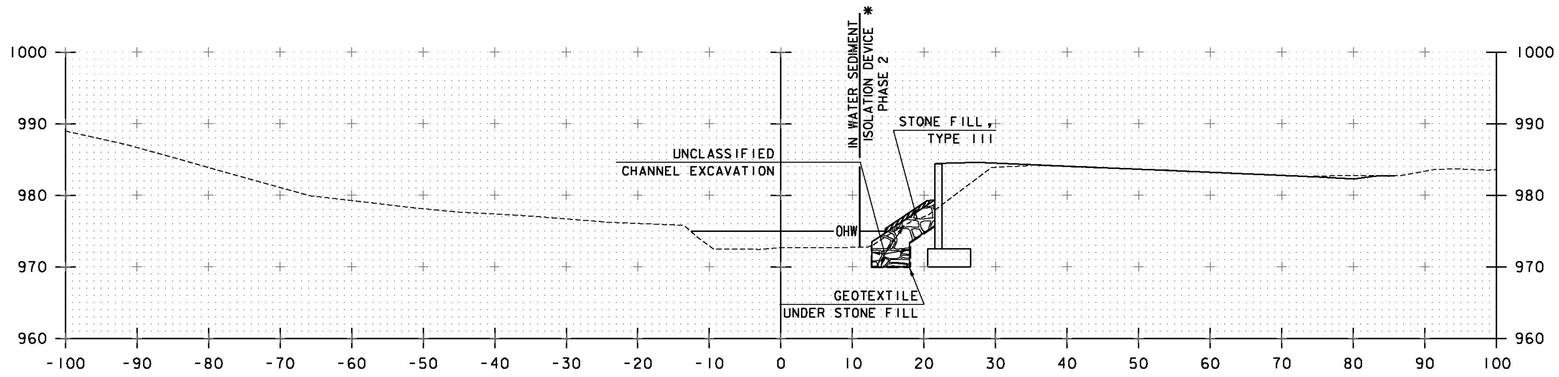
FILE NAME: z10c426xs.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
ROADWAY CROSS SECTIONS - RXS 3

PLOT DATE: 9/2/2015
DRAWN BY: E. ALLING
CHECKED BY: I. MAYNARD
SHEET 36 OF 50



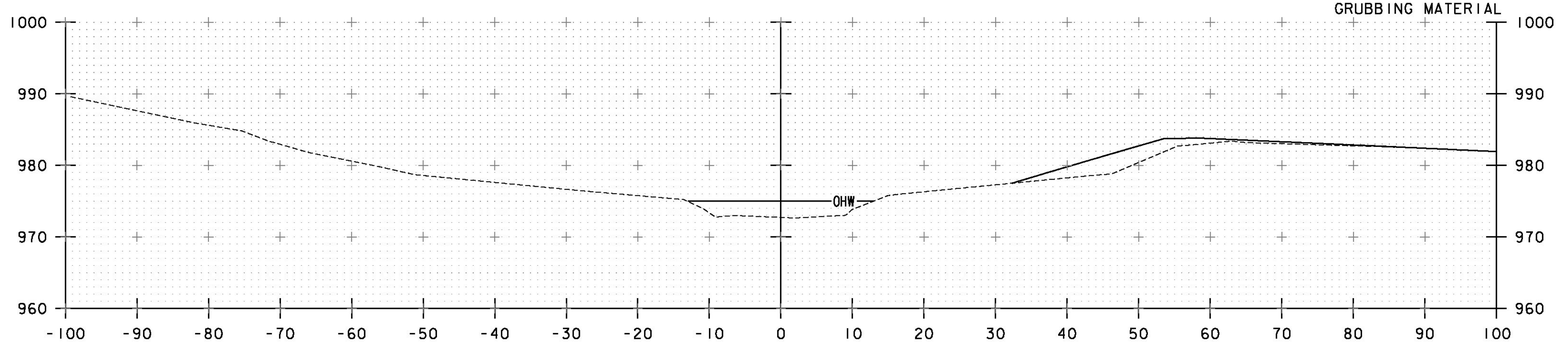
52+10

STA. 52+10 RT
END GRUBBING MATERIAL



52+00

STA. 51+89 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



51+75

* SEE NOTE 2 ON SHEET 48
FOR STREAM PHASING REQUIREMENTS

STA. 51+75 TO STA. 52+10

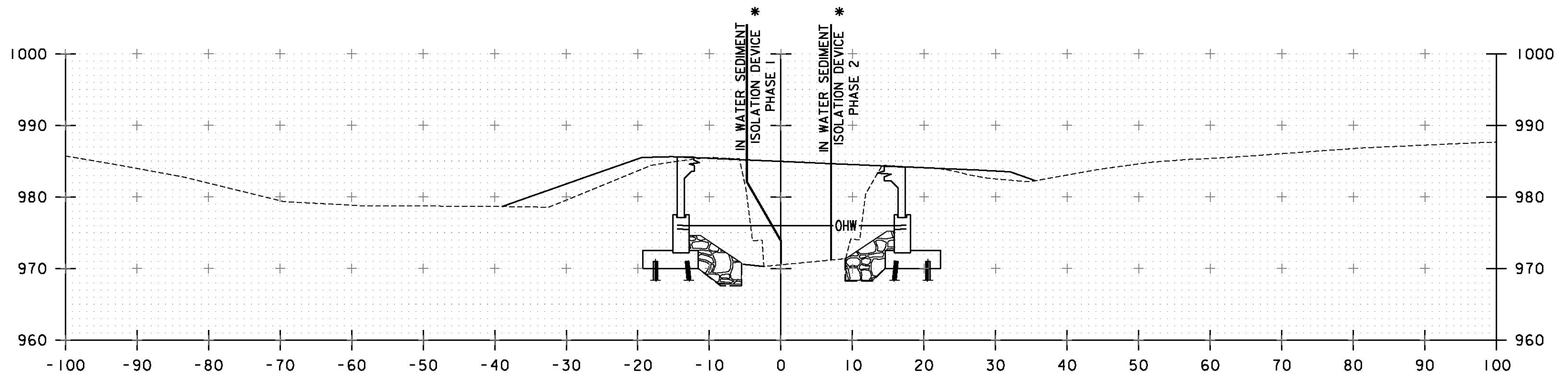
PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426xs.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: T. KNIGHT
CHANNEL CROSS SECTIONS - CXS 1

PLOT DATE: 9/2/2015
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 37 OF 50

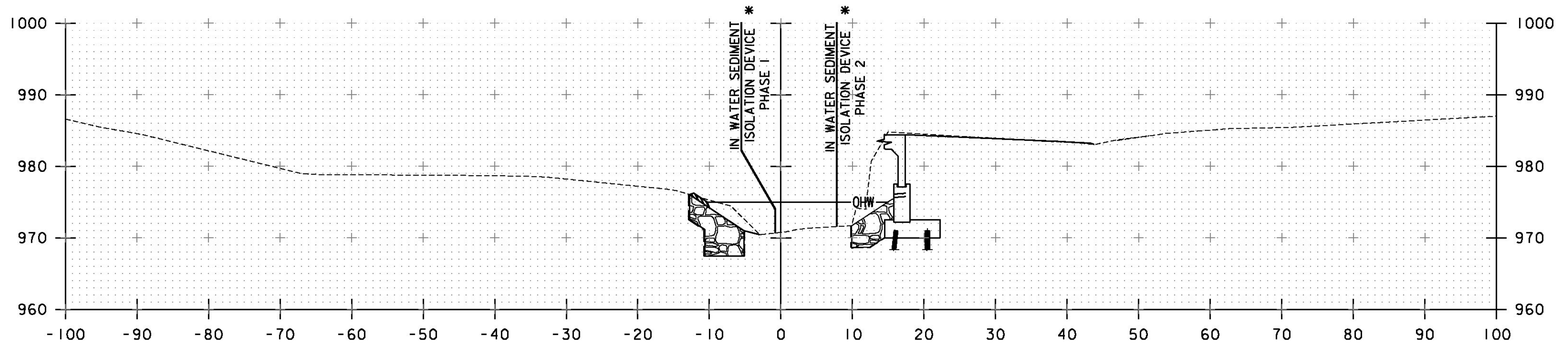
0 10 20
SCALE

Stantec



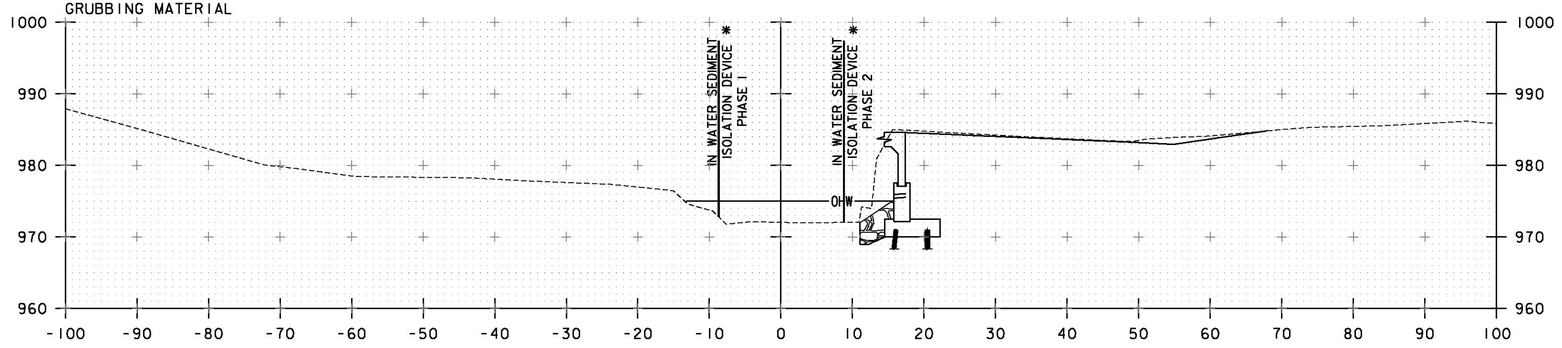
STA. 52+32 LT
END GRUBBING MATERIAL

52+40



STA. 52+22 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL

52+30



52+20

* SEE NOTE 2 ON SHEET 48 FOR STREAM PHASING REQUIREMENTS

STA. 52+20 TO STA. 52+40

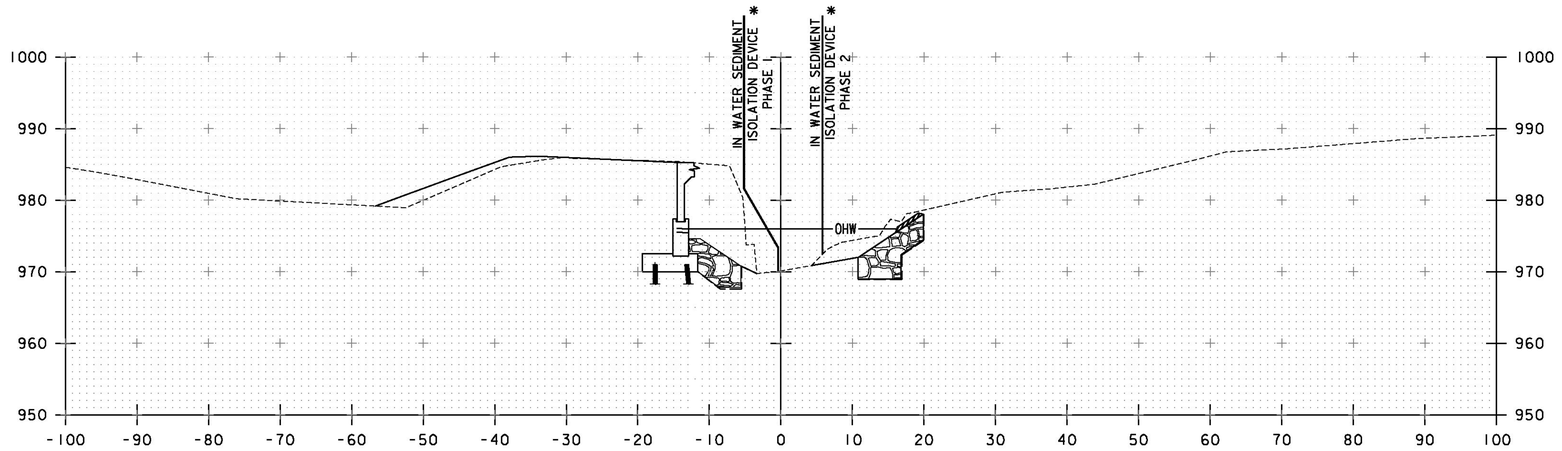
0 10 20
SCALE

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

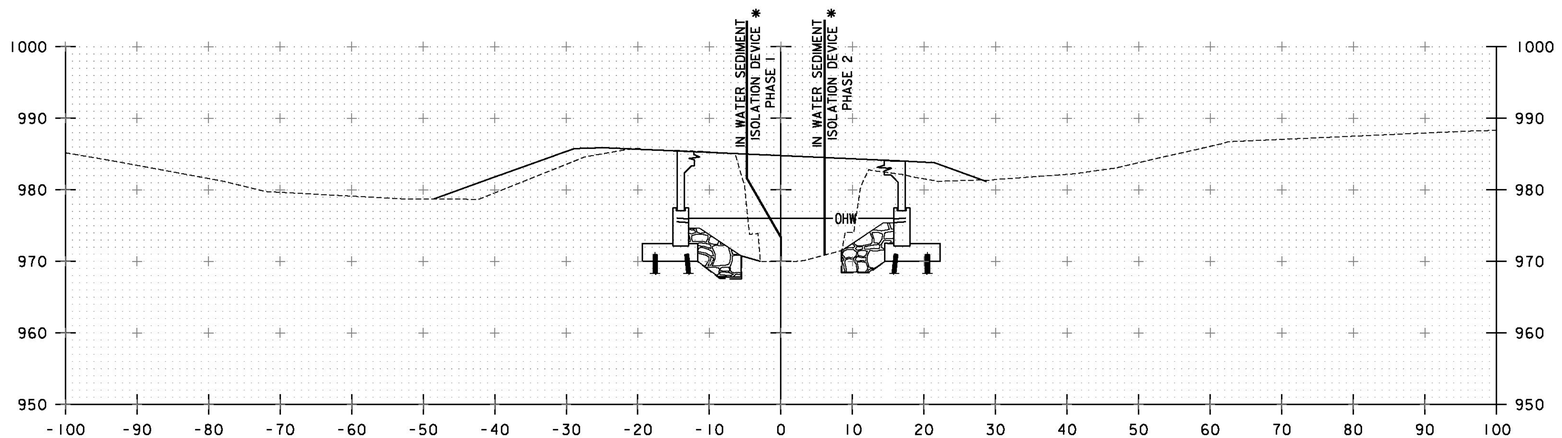
FILE NAME: z10c426xs.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: T. KNIGHT
CHANNEL CROSS SECTIONS - CXS 2

PLOT DATE: 9/2/2015
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 38 OF 50



52+60

STA. 52+60 RT
BEGIN GRUBBING MATERIAL



52+50

* SEE NOTE 2 ON SHEET 48 FOR STREAM PHASING REQUIREMENTS

STA. 52+50 TO STA. 52+60

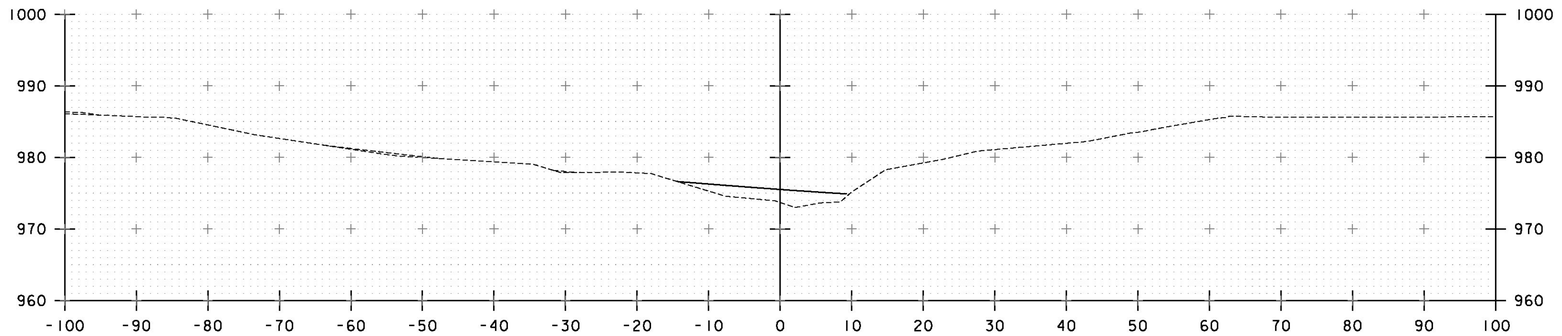
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SCALE

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

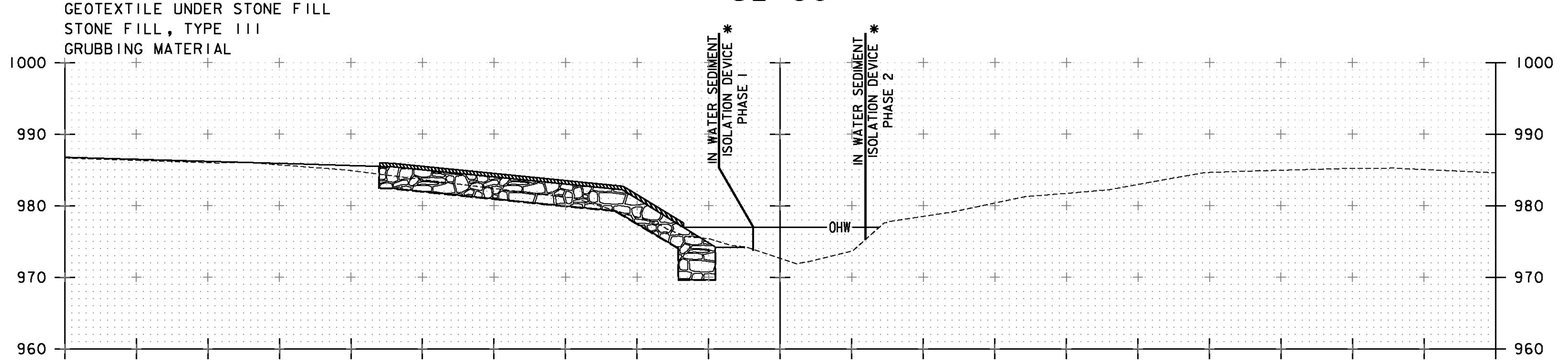
FILE NAME: z10c426xs.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: T. KNIGHT
CHANNEL CROSS SECTIONS - CXS 3

PLOT DATE: 9/2/2015
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 39 OF 50



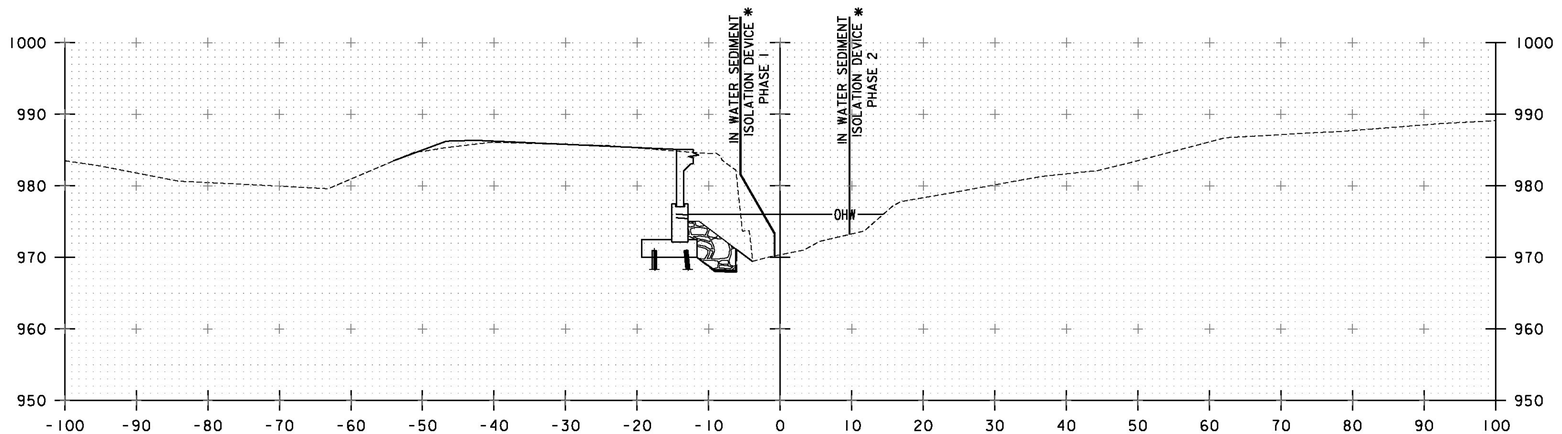
STA. 52+85 LT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL

52+90



STA. 52+74 LT
BEGIN GRUBBING MATERIAL

52+80



STA. 52+68 RT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL

52+70

0 10 20
SCALE

Stantec

* SEE NOTE 2 ON SHEET 48
FOR STREAM PHASING REQUIREMENTS

STA. 52+70 TO STA. 52+90

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426xs.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: T. KNIGHT
CHANNEL CROSS SECTIONS - CXS 4

PLOT DATE: 9/2/2015
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 40 OF 50

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL OF BRIDGE 24 AND ITS ABUTMENTS. BRIDGE 24 WILL BE REPLACED WITH A PRECAST 3 SIDED FRAME SPANNING 45.27 FEET WITH A 45° SKEW OVER KEDRON BROOK, ON NEW PILES ALONG THE SAME ALIGNMENT. BRIDGE 24 IS LOCATED IN THE TOWN OF WOODSTOCK, ON VT ROUTE 106, APPROXIMATELY AT THE INTERSECTIONS OF VT ROUTE 106, BRYANT ROAD AND KENDALL ROAD.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.40 ACRES. IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS A STREAM VALLEY THAT IS MOSTLY WELL ESTABLISHED FOREST WITH OCCASIONAL OPEN AREAS. VT ROUTE 106 AND KENDALL ROAD (TH 61) ARE WITHIN THE PROJECT SITE. THERE IS A RESIDENCE ON THE NORTHWEST QUADRANT OF THE PROJECT.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

KEDRON BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS HILLY TO MOUNTAINOUS, STRAIGHT TO SINUOUS, STEEP RIVER. THE STREAM BED CONSISTS OF GRAVEL, COBBLES, BOULDERS AND SAND. THE TRIBUTARY AREA AT THE CULVERT CROSSING IS 8.4 $MILES^2$. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM A FEW NEARBY SLOPES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD AND DECIDUOUS TREES, LAWN AREAS, WETLAND AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE III AS SPECIFIED ON THE PLANS.DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOILS ON THE PROJECT SITE ARE NINIGRET FINE SANDY LOAM, 0 TO 8% SLOPES, "K FACTOR" = 0.32. THE SOIL IS CONSIDERED MODERATELY ERODIBLE DUE TO K-VALUE.
NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: HISTORIC HOUSE AND TREES IN NORTHWEST PROJECT QUADRANT.
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: KEDRON BROOK
WETLANDS: SEVERAL CLASS III WETLANDS SURROUND THE PROJECT SITE

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

BECAUSE OF THE SITE'S PROXIMITY TO CLASS III WETLANDS, BARRIER FENCING SHALL BE USED AT THE LOCATIONS SHOWN ON THE PLANS TO PHYSICALLY MARK SITE BOUNDARIES.

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MNIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN. GIVEN THE PROJECT'S PROXIMITY TO CLASS III WETLANDS AND KEDRON BROOK, WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE.

SEDIMENT ISOLATION DEVICE WILL BE INSTALLED OUTSIDE OF THE COFFERDAMS. SEE SPECIAL PROVISIONS FOR SEDIMENT ISOLATION DEVICE CONSTRUCTION AND MAINTENANCE REQUIREMENTS.

A STREAM PHASING SEQUENCE IS SHOWN ON SHEET 48. THIS SEQUENCE OF CONSTRUCTION WAS USED TO DEFINE THE LIMITS OF STREAM DISTURBANCE AND RELOCATION FOR PERMITTING THE PROJECT. THE SEQUENCE REQUIRES THE COFFERDAM FOR ABUTMENT 1 TO BE REMOVED PRIOR TO INSTALLING THE COFFERDAM FOR ABUTMENT 2. IF THE CONTRACTOR PROPOSES A DIFFERENT SEQUENCE OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE APPROPRIATE REGULATORY AGENCIES PRIOR TO PERFORMING THE WORK.

DUE TO STREAM VELOCITIES EXCEEDING THE MAXIMUM ALLOWABLE, FILTER CURTAINS SHALL NOT BE USED.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCITON SITE.

THE PROJECT AREA IS REALTIVELY FLAT. THERFORE IT IS NOT ANTICPIATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

IT IS NOT ANTICIPATED THAT STONE CHECK DAMS WILL BE NECESSARY.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES ARE NOT NECESSARY AS PART OF THIS PROJECT.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE.

BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

IT IS NOT ANTICIPATED THAT THIS PROJECT WILL BE UNDER CONSTRUCTION FROM OCTOBER 15 THROUGH APRIL 15.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING COFFERDAM IS ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.5.2 UPDATES

Stantec

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 151(21)

FILE NAME: z10c426frm.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: E. ALLING
EROSION CONTROL NARRATIVE - ECN 1

PLOT DATE: 9/25/2015
DRAWN BY: E. ALLING
CHECKED BY: I. MAYNARD
SHEET 41 OF 50

N

VT STATE PLANE GRID

N/F
PETROPOULOS,
ARGYRIOS & CLARE

MUELLER, JOANNE &
DOHERTY, JENNIFER J. - TRUSTEES

TOWN OF WOODSTOCK
TH 61, KENDALL ROAD

KENDALL ROAD

EXISTING R.O.W.

TO READING

1+00

2+00

3+00

VT ROUTE 106

4+00

53+00

53+77

5+00

6+00

7+00

TO JUNCTION
OF US ROUTE 4

EXISTING R.O.W.

MUELLER, JOANNE &
DOHERTY, JENNIFER J. - TRUSTEES

CLASS III WETLAND

KLUSS, MARIE

KEDRON
BROOK

50+00

51+00

MUELLER, JOANNE &
DOHERTY, JENNIFER J. - TRUSTEES

TOWN OF WOODSTOCK
TH 63, BRYANT ROAD

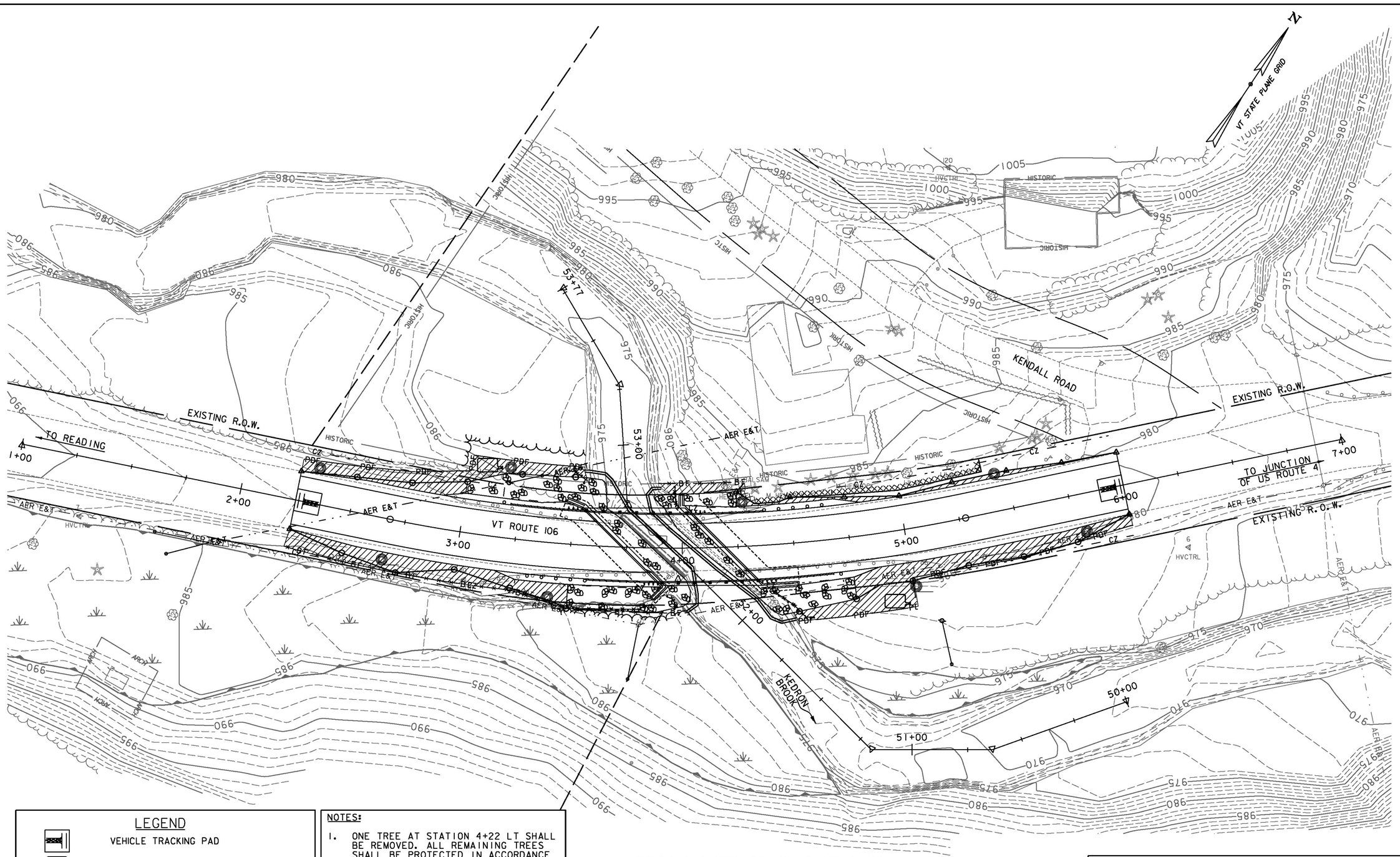
SOIL CLASSIFICATION:
NINIGRET FINE SANDY LOAM
0-8% SLOPES
"K FACTOR" - 0.32
MODERATELY ERODIBLE

EPSC EXISTING SITE PLAN

SCALE: 1" = 20'-0"
0 20 40

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426bdr_EPSCexist.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: T. KNIGHT	CHECKED BY: X. XXXX
EPSC EXISTING SITE PLAN - ESP 1	SHEET 42 OF 50



LEGEND

- VEHICLE TRACKING PAD
- FILTER BAG
- IN WATER SEDIMENT ISOLATION DEVICE
- TREE PROTECTION ZONE

NOTES:

1. ONE TREE AT STATION 4+22 LT SHALL BE REMOVED. ALL REMAINING TREES SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 656.10.
2. TREE PROTECTION ZONE SHALL EXTEND A MINIMUM OF 7 FEET FROM THE TREES AT STATIONS 4+34 & 4+45.
3. SEE STREAM PHASING SUMMARY SHEET FOR STREAM PHASING REQUIREMENTS.

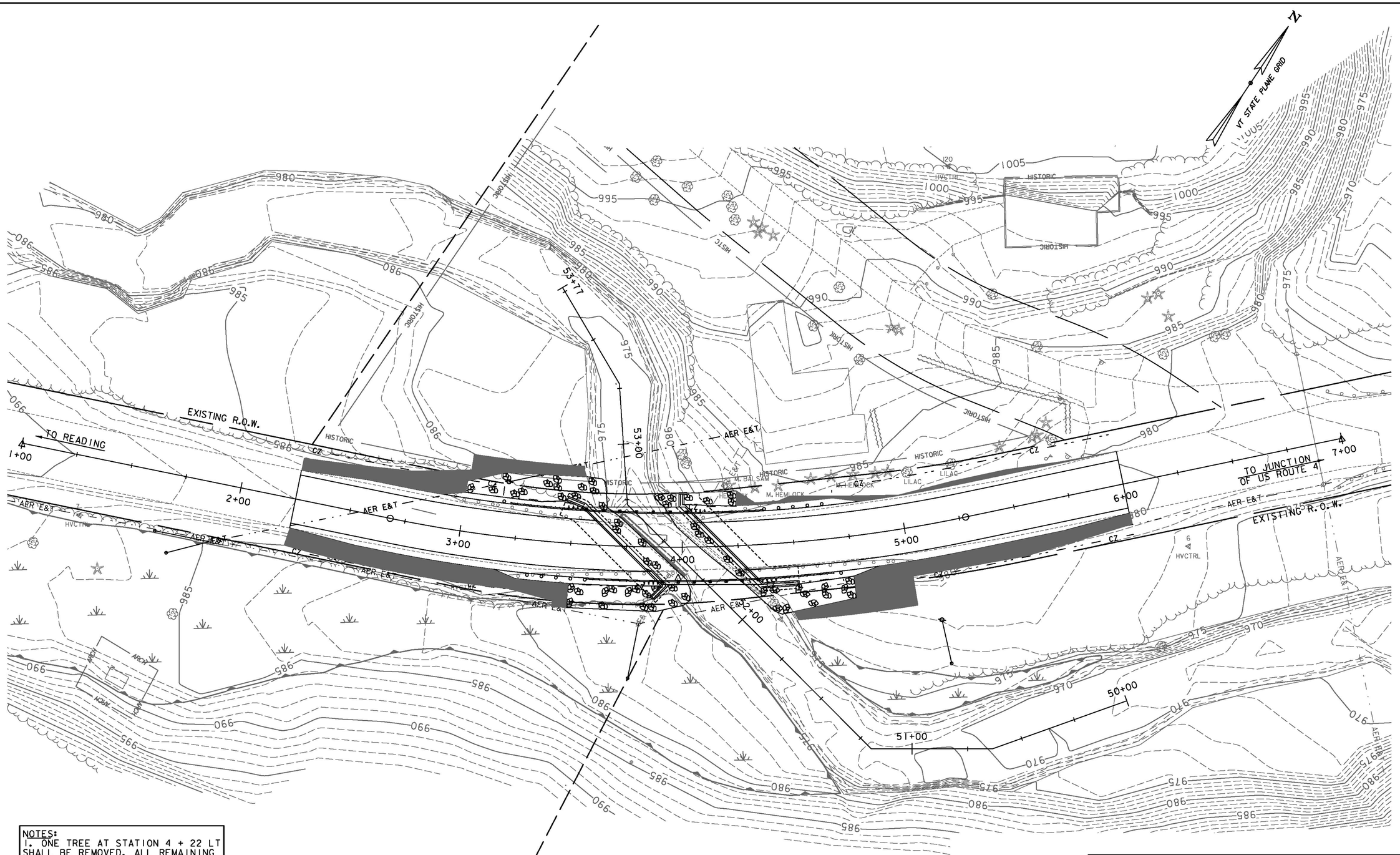
EPSC CONSTRUCTION SITE PLAN

SCALE: 1" = 20'-0"

0 20 40

Stantec

PROJECT NAME: WOODSTOCK	
PROJECT NUMBER: BRF 0151(21)	
FILE NAME: z10c426bdr_EPSCconst.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: I. MAYNARD
EPSC CONSTRUCTION SITE PLAN - CSP 2	SHEET 43 OF 50



NOTES:
1. ONE TREE AT STATION 4 + 22 LT SHALL BE REMOVED. ALL REMAINING TREES SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 656.10.

2. REFER TO CROSS SECTIONS FOR FINAL GRADE.

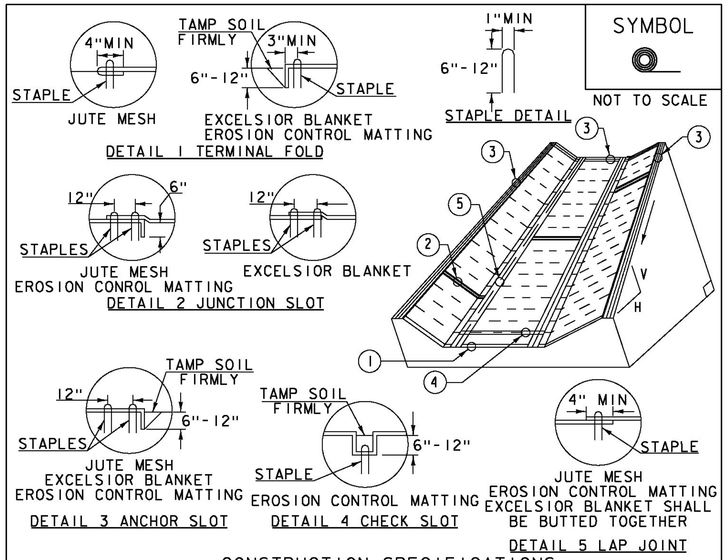
EPSC FINAL CONDITIONS PLAN

SCALE: 1" = 20'-0"

0 20 40

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426bdr_EPSCfinal.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: I. MAYNARD
EPSC FINAL CONDITIONS PLAN - FCP 1	SHEET 44 OF 50



SYMBOL

NOT TO SCALE

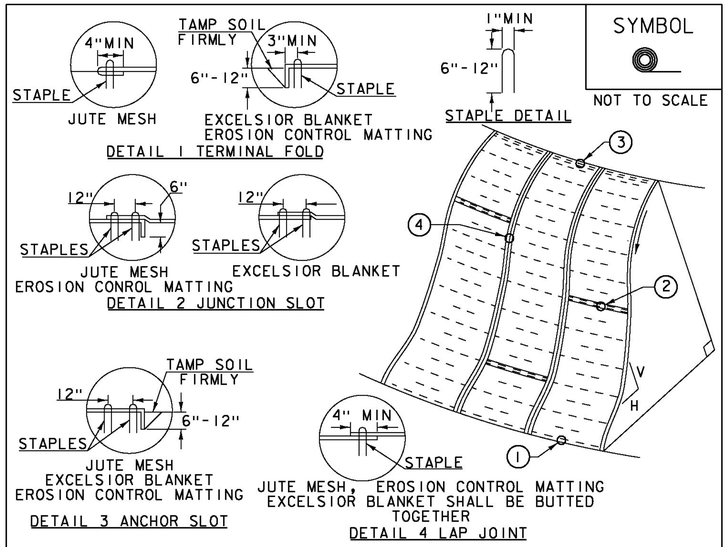
CONSTRUCTION SPECIFICATIONS

1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21).~~

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

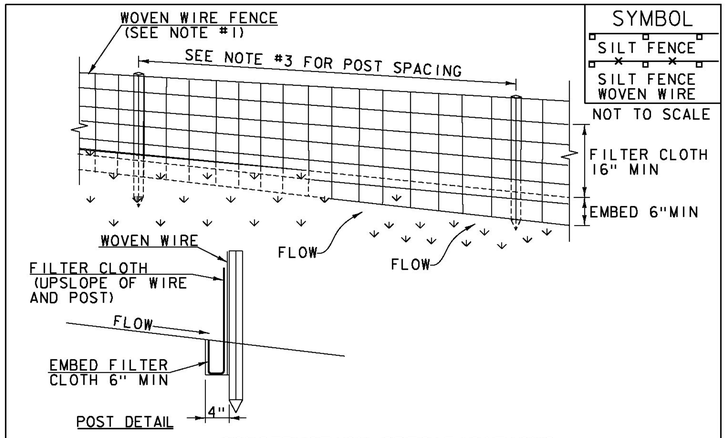
CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: IV OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21).~~

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



SYMBOL
SILT FENCE
SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR ~~GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.5)~~ OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426frm.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: C. BOGUE	DRAWN BY: VTRANS
DESIGNED BY: VTRANS	CHECKED BY: VTRANS
EROSION CONTROL DETAILS - ECD 1	SHEET 45 OF 50

VAOT RURAL AREA MIX					
	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	WHITE CLOVER	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX					
	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

SOIL AMENDMENT GUIDANCE			
FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	*FOLLOW*	PELLETIZED	*FOLLOW*
500 LBS/AC	*MANUFACTURER*	2 TONS/AC	*MANUFACTURER*

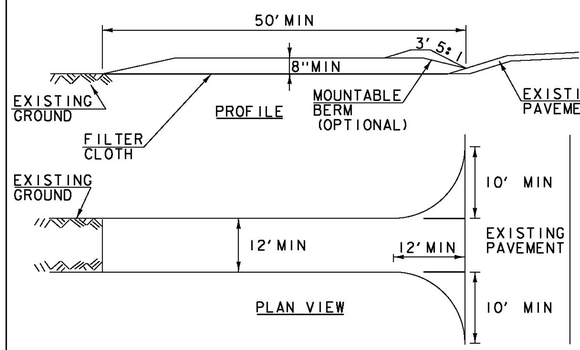
CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

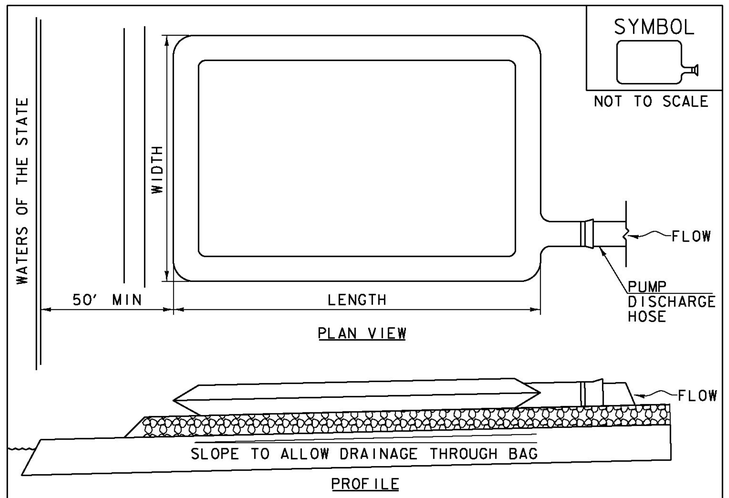
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: z10c426frm.dgn
PROJECT LEADER: G. BOGUE
DESIGNED BY: VTRANS
EROSION CONTROL DETAILS - ECD 2

PLOT DATE: 9/2/2015
DRAWN BY: VTRANS
CHECKED BY: VTRANS
SHEET 46 OF 50



CONSTRUCTION SPECIFICATIONS

1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
4. FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
6. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
7. FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

FILTER BAG

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)

FILE NAME: z10c426frm.dgn	PLOT DATE: 9/2/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: VTRANS
DESIGNED BY: VTRANS	CHECKED BY: VTRANS
EROSION CONTROL DETAILS - ECD 3	SHEET 47 OF 50

TEMPORARY STREAM DIVERSION PHASING

1. KEDRON BROOK IN THE VICINITY OF THE PROJECT IS CONSIDERED A SIGNIFICANT FISH HABITAT. IN ORDER TO LIMIT THE IMPACTS TO THE HABITAT, A MINIMUM 9 FOOT WIDE OPEN CHANNEL SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

2. THE FOLLOWING SEQUENCE OF CONSTRUCTION WAS USED FOR DEVELOPING THE ANTICIPATED LIMITS OF STREAM DISTURBANCE AND RELOCATION FOR PERMITTING. THE SEQUENCE ASSUMES THE COFFERDAM FOR CONSTRUCTION OF ABUTMENT 1 IS TO BE REMOVED PRIOR TO INSTALLING THE COFFERDAM FOR CONSTRUCTION OF ABUTMENT 2. IF THE CONTRACTOR PROPOSES TO PERFORM THE WORK DIFFERENTLY THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE APPROPRIATE REGULATING ENTITIES PRIOR TO PERFORMING THE WORK.

SUMMARY OF STREAM PHASING SEQUENCE

PHASE 1:

A. INSTALL SEDIMENT ISOLATION DEVICE AND COFFERDAM AT ABUTMENT 1.

B. REMOVE STRUCTURE
REMOVE EXISTING ABUTMENT 1 AND EXCAVATE FOR ABUTMENT 1 FOUNDATION, CUT OFF PILES, INSTALL PRECAST FOOTING UNITS AND STEM WALLS, PLACE SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ) IN FOOTING BLOCKOUTS.

C. REMOVE COFFERDAM IN FRONT OF ABUTMENT 1, RETAIN COFFERDAM IN FRONT OF PROPOSED WINGWALLS, REALIGN AS NECESSARY TO MAINTAIN MINIMUM CHANNEL WIDTH.

D. INSTALL STONE FILL AT ABUTMENT 1 (BEHIND SEDIMENT ISOLATION DEVICE).

PHASE 2:

A. INSTALL SEDIMENT ISOLATION DEVICE AT ABUTMENT 2.

B. INSTALL ABUTMENT 2 COFFERDAM (DIVERT STREAM TOWARDS NEW ABUTMENT 1).

C. EXCAVATE FOR ABUTMENT 2 FOUNDATION AND REMOVE EXISTING ABUTMENT 2, CUT OFF PILES, INSTALL PRECAST FOOTING UNITS AND STEM WALLS, PLACE SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ) IN FOOTING BLOCKOUTS.

D. REMOVE COFFERDAM AT ABUTMENT 2 (RETAIN IN FRONT OF PROPOSED WINGWALLS).

E. INSTALL STONE FILL AT ABUTMENT 2 (BEHIND SEDIMENT ISOLATION DEVICE).

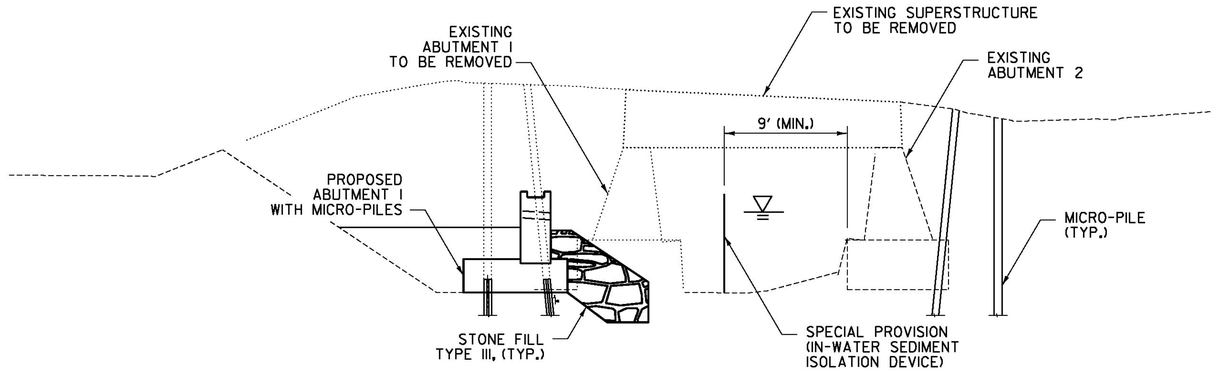
F. SET FRAME/GROUT AND CURE FRAME JOINTS, MEMBRANE VERTICAL JOINTS, BACKFILL FRAME LEGS. SET WINGWALLS AND BACKFILL.

G. REMOVE COFFERDAM IN FRONT OF WINGS.

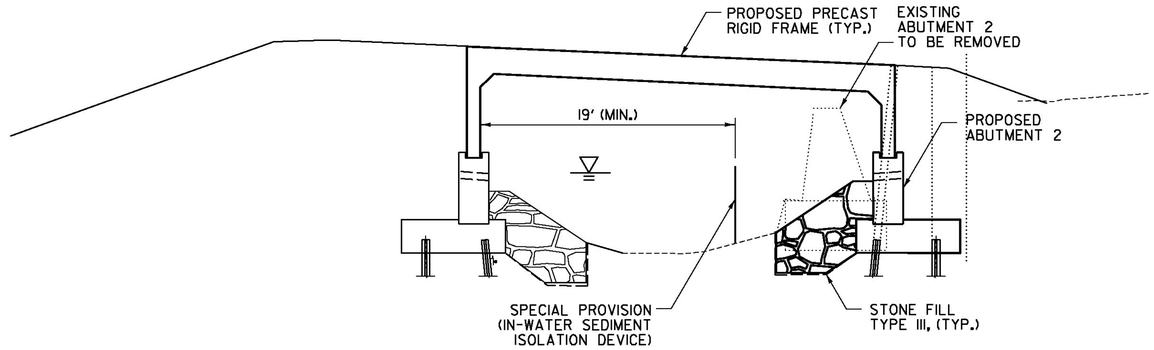
H. INSTALL STONE FILL IN FRONT OF WINGWALL (BEHIND SEDIMENT ISOLATION DEVICE).

I. INSTALL GRUBBING.

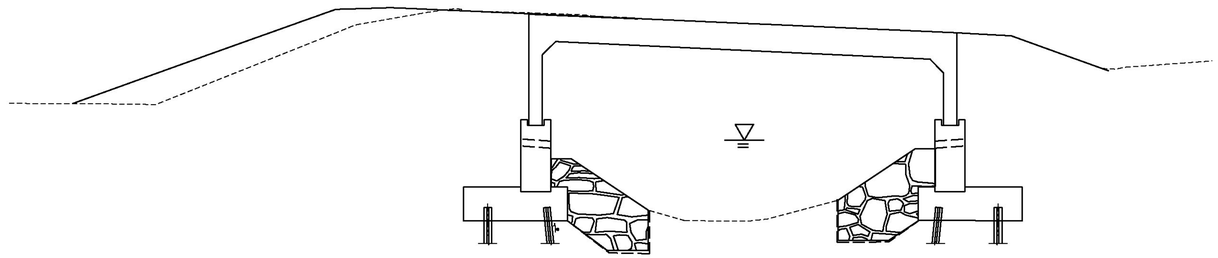
J. REMOVE SEDIMENT ISOLATION DEVICE.



STREAM PHASE 1



STREAM PHASE 2



STREAM WORK COMPLETE

STREAM PHASING SEQUENCE

SCALE 3/16" = 1'-0"

Stantec

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 0151(21)
FILE NAME: z10c426stream_phsing.dgn	PLOT DATE: 9/25/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: T. KNIGHT	CHECKED BY: X. XXXX
STREAM PHASING SUMMARY	SHEET 48 OF 50

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	ROW LAYOUT NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	T / P	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1A	MUELLER, JOANNE E. &	1	2+85 LT	3+71 LT			CONSTRUCTION	T	322 SF						INCL. PDF & EC
	DOHERTY, JENNIFER J.		3+04.74 LT	3+45.86 LT			SLOPE	P	295 SF						INCL. STONE FILL
	TRUSTEES OF THE		3+45.86 LT	3+64.81 LT			CHANNEL	P	136 SF						INCL. TEMP. EC & STONE FILL
	JOANNE E. MONIQUE TRUST		3+84 LT	4+31 LT			CONSTRUCTION	T	177 SF						INCL. BF & EC
			4+29 LT	4+31 LT			INSTALL	T							TREE PROTECTION
1B		1	1+66.00 RT	1+91 RT			INSTALL & MAINTAIN	P							GUY WIRE & ANCHOR
			1+73 RT	1+91 RT			INSTALL & MAINTAIN	P							GUY WIRE & ANCHOR
			3+43.66 RT	3+75.00 RT			SLOPE	P	131 SF						INCL. BF & EC
			3+75.00 RT	3+92.93 RT			CHANNEL	P	71 SF						INCL. TEMP. BF, TEMP. EC & STONE FILL
			3+77 RT	3+81 RT			INSTALL & MAINTAIN	P							GUY WIRE & ANCHOR
			3+80 RT	3+92.93 RT			UTILITY	T	141 SF						
2	KLUSS, MARIE	1	3+84 RT	6+87.89 RT			UTILITY	T	0.12 A	WDOE	02/02/15	WOODSTOCK	249	1-3	INCL. UTILITY POLE; 5,164 SF±
			3+90.94 RT	4+01.67 RT			CHANNEL	P	41 SF						INCL. TEMP. BF, TEMP. EC & STONE FILL
			4+02 RT	4+08 RT			CONSTRUCTION	T	12 SF						INCL. PDF & EC
			4+29 RT	4+33 RT			CONSTRUCTION	T	11 SF						INCL. PDF & EC
			4+33.36 RT	4+50.00 RT			CHANNEL	P	156 SF						INCL. TEMP. EC & STONE FILL
			4+37 RT	5+00 RT			CONSTRUCTION	T	335 SF						INCL. PDF & EC
			4+50.00 RT	4+85.69 RT			SLOPE	P	335 SF						INCL. TEMP. EC & STONE FILL
			5+09 RT	5+10 RT			INSTALL	T							GUY WIRE & ANCHOR
3	GREEN MOUNTAIN POWER CORPORATION		1+66.00 RT	6+87.89 RT											UTILITY
4	TELEPHONE OPERATING COMPANY OF VERMONT, LLC		1+66.00 RT	6+87.89 RT											UTILITY
5	COMCAST OF CONNECTICUT/GEORGIA/ MASSACHUSETTS/NEW HAMPSHIRE/ NEW YORK/NORTH CAROLINA/ VERMONT, LLC		1+66.00 RT	6+87.89 RT											UTILITY

TABLE OF REVISIONS

REVISION NO.	ROW SET SHEET #	DESCRIPTION	DATE

APPROVED: RYAN CLOUTIER DATE: 10-08-14
CHIEF, PLANS & TITLES

PROJECT NAME: **WOODSTOCK**
PROJECT NUMBER: **BRF 0151(21)**

FILE NAME: **r10c426detail.xls**
PROJECT LEADER: **R. YOUNG**
DESIGNED BY: **A. EGIZI**
R.O.W. DETAIL SHEET #1

PLOT DATE: **25-FEB-2015**
DRAWN BY: **M. TROTTIER**
CHECKED BY: **R. CLOUTIER**
SHEET 49 OF 50

HVCTRL #1
389174.4977 N
1634481.8006 E
ELEV: 1005.44'

HVCTRL #2
388828.4329 N
1634244.4975 E
ELEV: 986.75'

HVCTRL #3
388900.4009 N
1634403.6064 E
ELEV: 986.32'

HVCTRL #4
388963.9474 N
1634531.8644 E
ELEV: 974.44'

HVCTRL #5
389092.4860 N
1634665.7851 E
ELEV: 976.31'

ITEM 621.30 - BOX BEAM GUARDRAIL

STA. 2+99 - 3+22, LT.
STA. 3+32 - 3+58, RT.
STA. 4+37 - 4+62, LT.
STA. 4+66 - 4+75, RT.

ITEM 656.85 - TREE PROTECTION
STA. 4+26 LT. - 5+40, LT.

ITEM 621.51 - MANUFACTURED TERMINAL SECTION, TANGENT (BOX BEAM)

STA. 3+18 - 3+32, RT.
STA. 4+62 - 4+76, LT.

ITEM 621.725 - GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM

STA. 3+22 - 3+54, LT.
STA. 3+58 - 3+89, RT.
STA. 4+04 - 4+37, LT.
STA. 4+35 - 4+66, RT.

ITEM 210.10 - COLD PLANING, BITUMINOUS PAVEMENT

STA. 2+15 - 2+25
STA. 6+00 - 6+10

N
VT STATE PLANE GRID

EXISTING TOWN R.O.W.

HISTORIC

MUELLER, JOANNE E. & DOHERTY, JENNIFER J. TRUSTEES OF THE JOANNE E. MONIQUE TRUST

1A

N/F PETROPOULOS, ARGYRIOS & CLARE

VT 106 CURVE DATA
CURVE (1)
Δ = 23°22'12" LT.
D = 9°00'00"
R = 636.62'
T = 131.51'
L = 259.67'
E = 13.47'
BANK = 0.074

RELOCATED EIT SERVICE
NEW SERVICE POLE WITH NEW DEAD END ANCHOR STA. 3+20, 24' LT.

POB STA 1+00.00
POE STA 7+00.00

BEGIN APPROACH STA. 2+25.00
PC STA 2+68.23
PT

N 388883.55
E 1634241.98
1+50.00 25.47' LT

EXISTING R.O.W.

TO READING

1+00
2+00
3+00
4+00
5+00
6+00
7+00

N 67°52'24.94" E
N 67°54'19" E
N 67°54'19" E
N 44°30'12.94" E
N 44°34'29" E
N 44°34'29" E

BEGIN PROJECT STA. 2+75.00

STONE FILL

REMOVE 1 TREE

END BRIDGE STA. 4+18.80

3+04.74 31.90' LT
7.50' S25°24'45"E
L=39.13'
SR(P) R=367.75'
L=116.78'
CH(P)
7.50' S30°49'09"E
3+04.74 24.39' LT
7.50' S29°06'50"E
R=375.25'
3+45.86 30.78' LT
3+64.81 30.82' LT
3+45.86 23.28' LT
3+64.81 23.32' LT
CONST(T)
INSTALL(T)
62.60
N50°9'55"E
L=61.01'
R=625.25'

I20 HVCTRL

HISTORIC

MUELLER, JOANNE E. & DOHERTY, JENNIFER J. TRUSTEES OF THE JOANNE E. MONIQUE TRUST

RETAIN EXISTING STUB POLE AND ANCHOR
N 389187.95
E 1634678.47
7+00.00 24.56' LT

END PROJECT STA. STA. 5+50.00

RETAIN EXISTING GUY WIRE

KENDALL ROAD

TH 61 - KENDALL ROAD

RETAIN 2 EXISTING POLES

150.00
N44°34'29"E

EXISTING R.O.W.

N 388837.69
E 1634260.62
1+50.00 24.03' RT

I&M(P)

BM#1 (TRSIR) - ELEV: 978.24'

RETAIN EXISTING POLE
INSTALL TWO NEW DEAD END ANCHORS

3+43.66 26.20' RT
3+75.00 26.03' RT
3+92.93 25.53' RT
3+43.66 30.20'RT
3+75.00 30.03' RT
3+90.94 29.60' RT
32.83' R=428.75'
R=424.75'
L=131.51'
CH(P)
16.70'
1.20
4+01.67 25.18' RT
4+01.64 29.18' RT
4+33.36 23.41' RT
4+50.00 22.78 RT
4+85.69 22.95' RT
4+33.36 32.41' RT
4+50.00 31.78' RT
4+85.69 31.95' RT
R=674.75'
L=65.84'
37.48'
17.49'
CONST(T)
UE(T)
INSTALL(T)

A	L=4.00' S28°54'55"E
B	L=4.00' S31°44'10"E
C	L=4.57 S6°20'14"E
D	L=4.00' S33°40'42"E

E	L=9.00' S36°59'17"E
F	L=9.00' S38°29'10"E
G	L=9.00' S41°41'55"E

RELOCATED AERIAL UTILITIES

BEGIN R.O.W. PROJECT WOODSTOCK BRF 0151 (21) STA. 1+66.00, 26.53' RT

BEGIN BRIDGE STA. 3+94.48 = CHANNEL LINE STA. 52+45.87

REPLACE EXISTING POLE IN EXISTING LOCATION
REPLACE EXISTING ANCHOR
REMOVE EXISTING SERVICE WIRES

REPLACEMENT ANCHOR

RETAIN EXISTING AERIAL TELEPHONE

TEMPORARILY RELOCATED AERIAL ELECTRIC

TEMPORARILY RELOCATED AERIAL ELECTRIC

NEW DEAD END ANCHOR TO BE INSTALLED AFTER THE TEMPORARY AERIAL ELECTRIC RELOCATION HAS BEEN REMOVED

BM#2 (TRSIR) - ELEV: 976.56'

END R.O.W. PROJECT WOODSTOCK BRF 0151 (21) STA. 6+87.89, 28.52' RT

EXISTING AERIAL ELEC/TEL SERVICE

FOR EXISTING BRIDGE INFORMATION, SEE PRELIMINARY INFORMATION SHEET 2

1B

MUELLER, JOANNE E. & DOHERTY, JENNIFER J. TRUSTEES OF THE JOANNE E. MONIQUE TRUST

TH 63 - BRYANT ROAD

EXISTING TOWN R.O.W.

INSTALL TEMPORARY NEW POLE WITH NEW BI-SECT ANCHOR STA. 5+10, 43.5' RT.

2

KLUSS, MARIE

STA. 3+99.89 BK = STA. 4+96.20 AH

BROADMOOR BROOK

PLAN

SCALE: 1" = 20'-0"
0 20 40

FOR R.O.W. USE ONLY

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

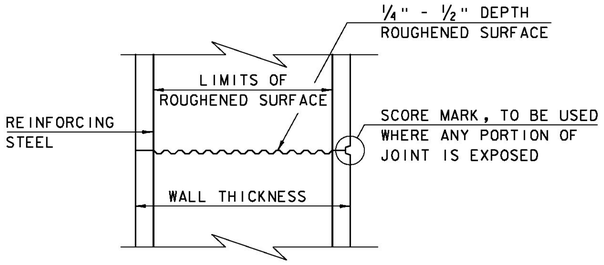
PROJECT NAME: WOODSTOCK
PROJECT NUMBER: BRF 0151(21)

FILE NAME: r10c426lay.dgn
PROJECT LEADER: R. YOUNG
DESIGNED BY: STANTEC
R.O.W. LAYOUT SHEET 10F 1

PLOT DATE: 08-OCT-2014
DRAWN BY: A. EGIZI
CHECKED BY: R. CLOUTIER
SHEET 50 OF 50

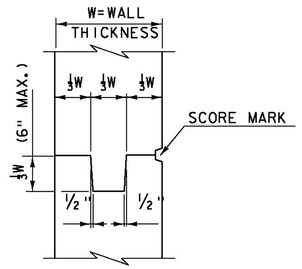
CONCRETE GENERAL NOTES

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

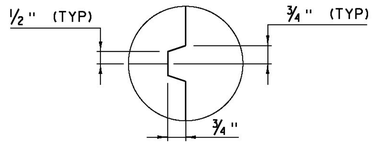


TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

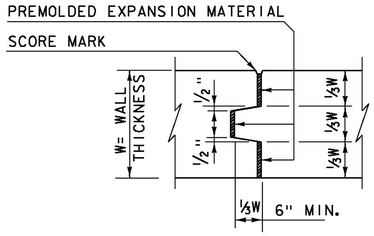
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



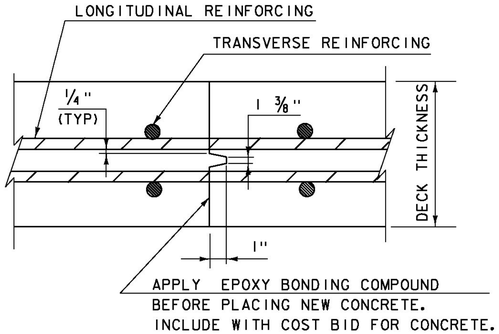
TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



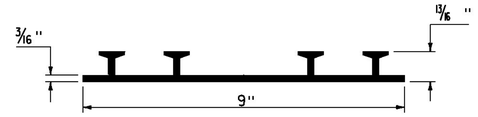
SCORE MARK DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)



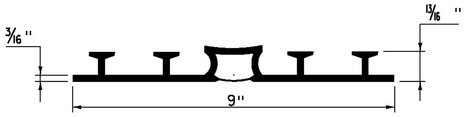
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

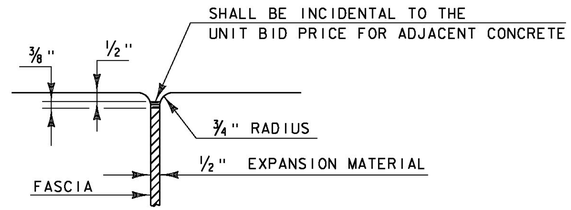
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



P.V.C. WATERSTOP FOR EXPANSION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



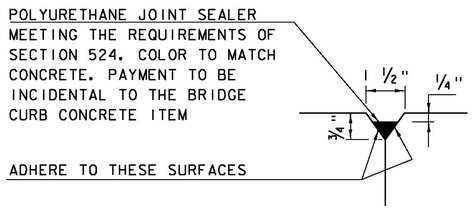
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

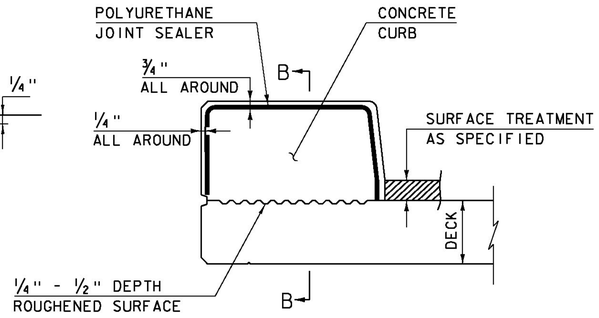
CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

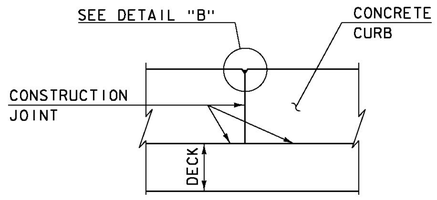
STRUCTURES DETAIL
SD-501.00



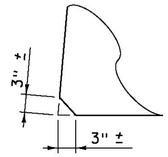
DETAIL "B"
(NOT TO SCALE)



CONCRETE CURB JOINT SECTION
(NOT TO SCALE)



SECTION B - B
(NOT TO SCALE)



ACUTE ANGLE CLIP DETAIL
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION

CONCRETE CURB JOINT NOTES

1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.

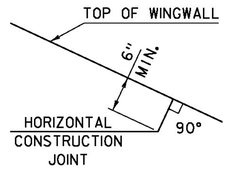
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.

3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.

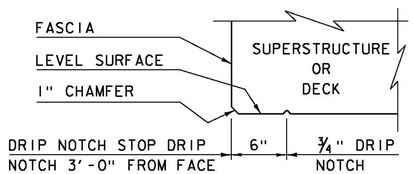
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.

5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.

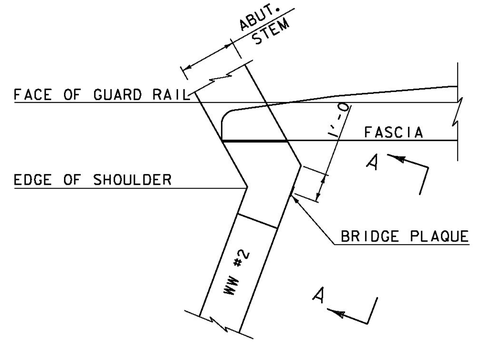
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



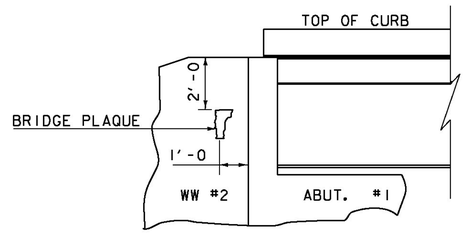
HORIZONTAL WINGWALL CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



PLAN



VIEW "A - A"

BRIDGE PLAQUE
(NOT TO SCALE)

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

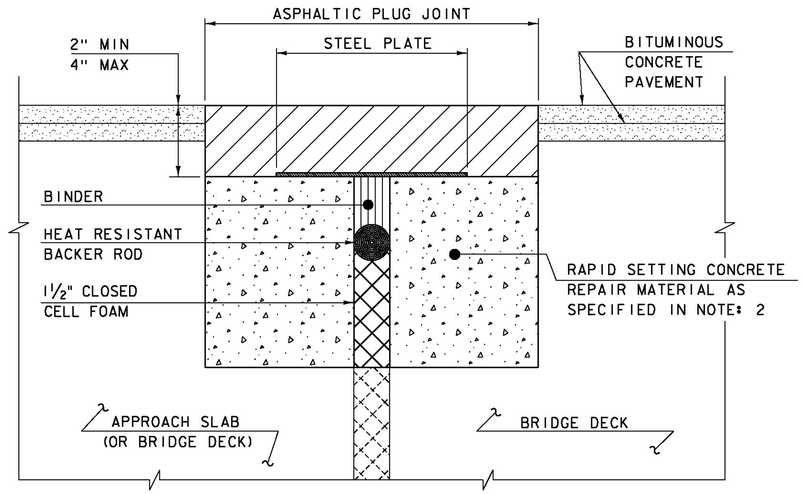
PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

STRUCTURES DETAIL
SD-502.00



ASPHALTIC PLUG JOINT DETAIL - REHAB

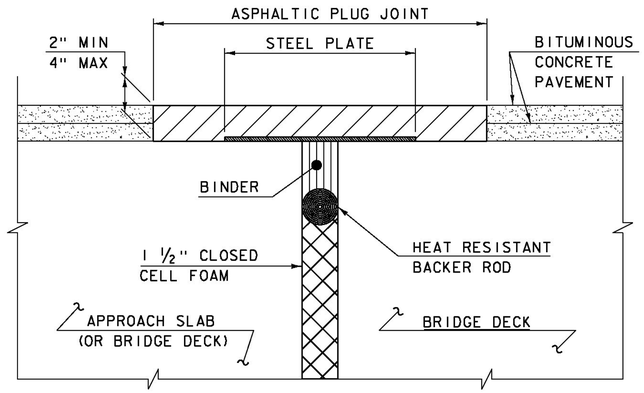
NOTES:

1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.

2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.

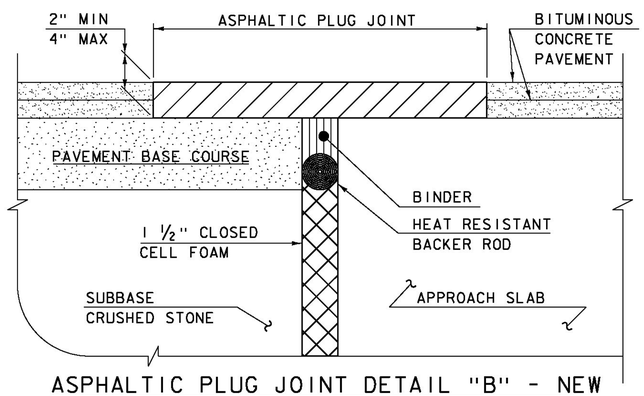
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.

4. PLACE 1/4" THICK BY 8" 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.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:
PLACE 1/4" THICK BY 8" 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.



ASPHALTIC PLUG JOINT DETAIL "B" - NEW

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. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

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.

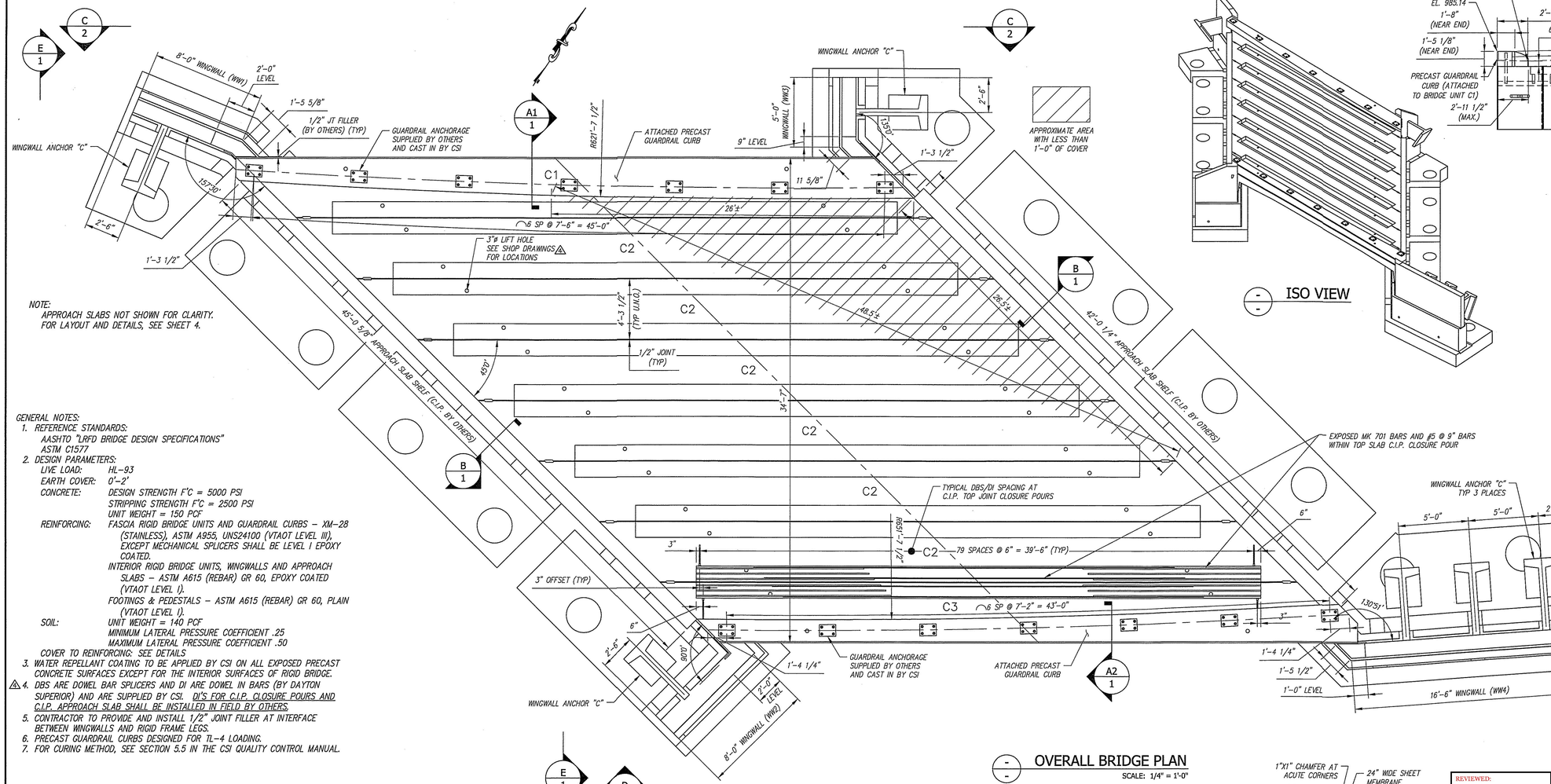
DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

BRIDGE JOINT
ASPHALTIC PLUG

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - DIVISION

STRUCTURES DETAIL
SD-516.10



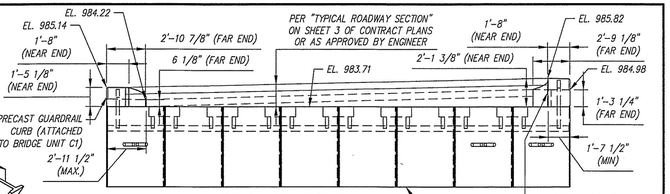
NOTE:
APPROACH SLABS NOT SHOWN FOR CLARITY.
FOR LAYOUT AND DETAILS, SEE SHEET 4.

GENERAL NOTES:

1. REFERENCE STANDARDS:
   AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS"
   ASTM C1577
2. DESIGN PARAMETERS:
   LIVE LOAD: HL-93
   EARTH COVER: 0'-2'
   CONCRETE: DESIGN STRENGTH F'C = 5000 PSI
   STRIPPING STRENGTH F'C = 2500 PSI
   UNIT WEIGHT = 150 PCF
   REINFORCING: FASCIA RIGID BRIDGE UNITS AND GUARDRAIL CURBS – XM-28 (STAINLESS), ASTM A955, UNS24100 (VTAOT LEVEL III), EXCEPT MECHANICAL SPLICERS SHALL BE LEVEL I EPOXY COATED.
   INTERIOR RIGID BRIDGE UNITS, WINGWALLS AND APPROACH SLABS – ASTM A615 (REBAR) GR 60, EPOXY COATED (VTAOT LEVEL I).
   FOOTINGS & PEDESTALS – ASTM A615 (REBAR) GR 60, PLAIN (VTAOT LEVEL I).
   SOIL: UNIT WEIGHT = 140 PCF
   MINIMUM LATERAL PRESSURE COEFFICIENT .25
   MAXIMUM LATERAL PRESSURE COEFFICIENT .50
   COVER TO REINFORCING: SEE DETAILS
3. WATER REPELLANT COATING TO BE APPLIED BY CSI ON ALL EXPOSED PRECAST CONCRETE SURFACES EXCEPT FOR THE INTERIOR SURFACES OF RIGID BRIDGE.
4. ⚠ DBS ARE DOWEL BAR SPLICERS AND DI ARE DOWEL IN BARS (BY DAYTON SUPERIOR) AND ARE SUPPLIED BY CSI. DI'S FOR C.I.P. CLOSURE POURS AND C.I.P. APPROACH SLAB SHALL BE INSTALLED IN FIELD BY OTHERS.
5. CONTRACTOR TO PROVIDE AND INSTALL 1/2" JOINT FILLER AT INTERFACE BETWEEN WINGWALLS AND RIGID FRAME LEGS.
6. PRECAST GUARDRAIL CURBS DESIGNED FOR TL-4 LOADING.
7. FOR CURING METHOD, SEE SECTION 5.5 IN THE CSI QUALITY CONTROL MANUAL.

⚠ SEE SHOP DRAWINGS FOR DETAILS OR ADDITIONAL REINFORCING NOT SHOWN ON THIS SHEET.

ISO VIEW

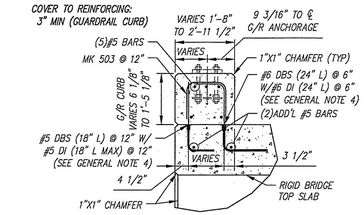


E-E 1 TYPICAL ELEVATION
SCALE: 3/16" = 1'-0"

RIGID BRIDGE, WINGWALL & GUARDRAIL CURB PIECE SCHEDULE (MX-FA5000SC30)

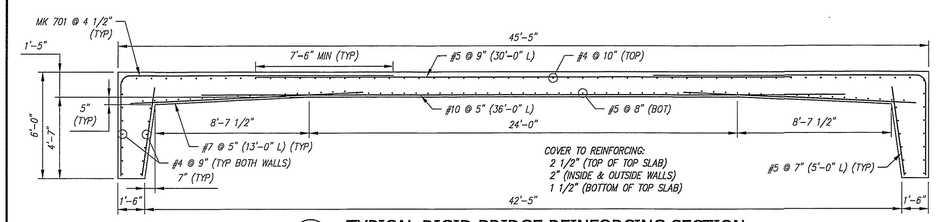
MARK	QTY	LENGTH	YDS	WEIGHT	
C1	1	4.29	16.36	33.13	TONS
C2	6	4.29	10.88	22.02	TONS
C3	1	4.29	17.63	35.71	TONS
WW1	1	8.00	2.41	5.78	TONS
WW2	1	8.00	2.32	5.59	TONS
WW3	1	5.00	1.29	3.51	TONS
WW4	1	16.50	4.68	12.18	TONS

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

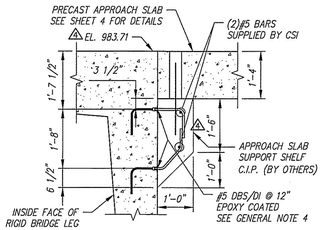


A1 1 SECTION AT NORTH ATTACHED GUARDRAIL CURB
SCALE: 1/2" = 1'-0"

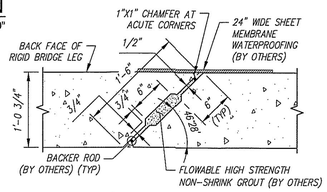
A2 1 SECTION AT SOUTH ATTACHED GUARDRAIL CURB
SCALE: 1/2" = 1'-0"



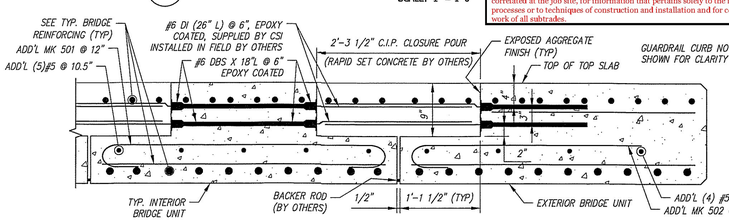
TYPICAL RIGID BRIDGE REINFORCING SECTION
SCALE: 1/4" = 1'-0"



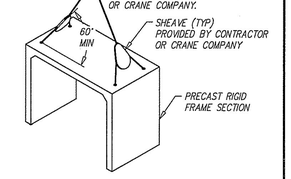
APPR. SLAB SUPPORT SHELF (TYPICAL SECTION)
SCALE: 1/2" = 1'-0"

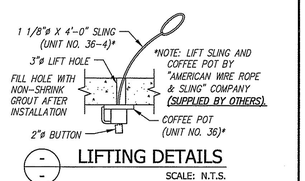


RIGID FRAME LEG JOINT DETAIL
SCALE: 1" = 1'-0"



RIGID FRAME TOP SLAB JOINT DETAIL
SCALE: 1" = 1'-0"





LIFTING DETAILS
SCALE: N.T.S.

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Date: 4/27/16

Signature:

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the Job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Contractor is to verify that all information shown on drawings has been thoroughly checked, complies with the contract documents and is adequate to meet the field conditions. Some dimensions and details may differ slightly from contract drawings to accommodate the manufacturing or design process. Approval of this drawing indicates that any deviation from the contract documents has been reviewed and found to be acceptable. Production will not commence until receipt of signed, approved shop drawings.

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STATE OF VERMONT
CHRISTOPHER M. WICK
NO. 77928
Structural
LICENSED
PROFESSIONAL ENGINEER
4/26/16

STRUCTURAL DESIGN OF RIGID BRIDGE, GUARDRAIL CURBS AND WINGWALLS ONLY

Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4	04/22/2016	SEE REV4 TRIANGLES.	AK
3	04/13/2016	ADDED STRIPPING STRENGTH AND CURING METHOD NOTES.	AK
2	04/08/2016	SEE REV2 TRIANGLES.	AK
1	03/23/2016	SEE REV1 TRIANGLES.	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

CSI Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

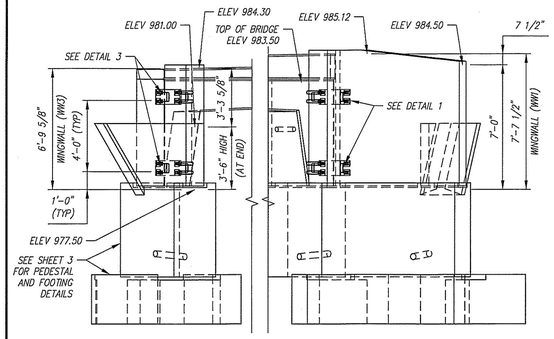
STATE AGENCY
VTrans Working To Get You There Safely and Keep Vermont Moving

Drawn By	A. KOSTENKO	Date 02/03/2016
Reviewed By		Date
Approved By		Date

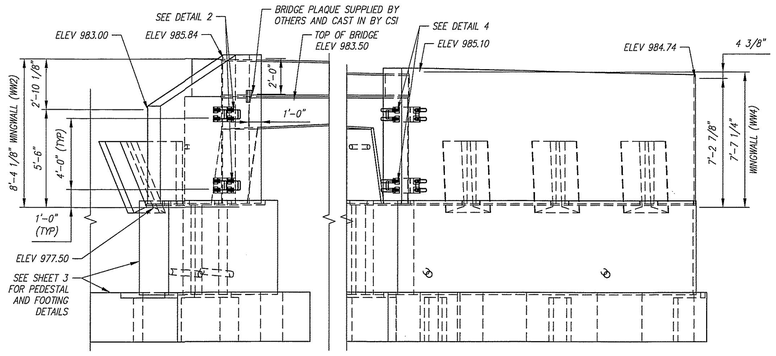
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

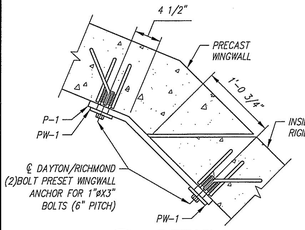
D | PRECAST RIGID BRIDGE LAYOUT & DETAILS | REV 4
Drawing No. R-S22624-L01A
Quantity: | Project No: | SHEET 1 OF 4



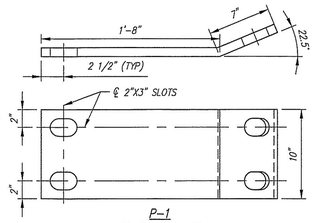
C-C
1 WEST END ELEVATION
SCALE: 1/4" = 1'-0"



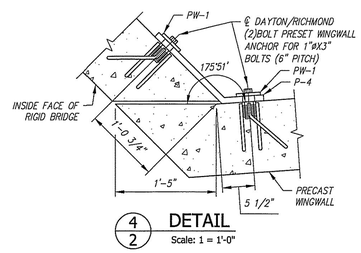
D-D
1 EAST END ELEVATION
SCALE: 1/4" = 1'-0"



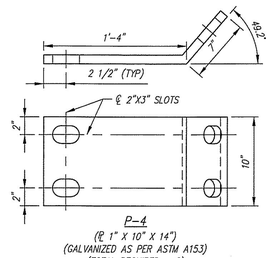
1
2 DETAIL
Scale: 1 = 1'-0"



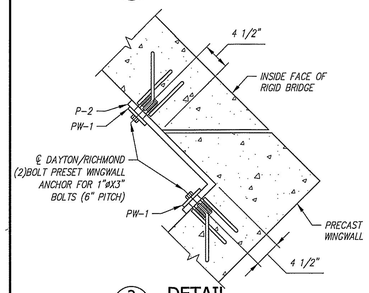
P-1
(℄ 1" X 10" X 14")
(GALVANIZED AS PER ASTM A153)
(TOTAL REQUIRED = 2)



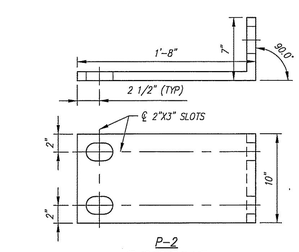
4
2 DETAIL
Scale: 1 = 1'-0"



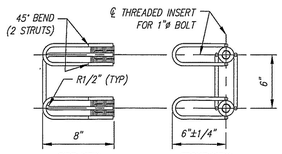
P-4
(℄ 1" X 10" X 14")
(GALVANIZED AS PER ASTM A153)
(TOTAL REQUIRED = 2)



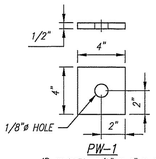
2
2 DETAIL
Scale: 1 = 1'-0"



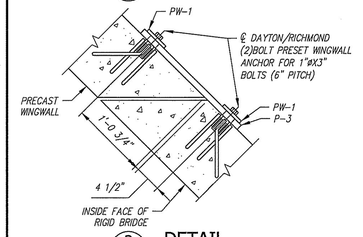
P-2
(℄ 1" X 10" X 14")
(GALVANIZED AS PER ASTM A153)
(TOTAL REQUIRED = 2)



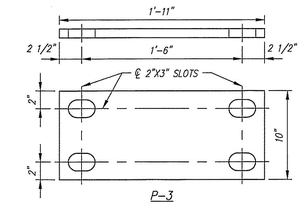
DAYTON/RICHMOND TWO BOLT PRESET ANCHOR



PW-1
(℄ WASHER, 1/2" X 4" X 4")
(GALVANIZED AS PER ASTM A153)
(TOTAL REQUIRED = 32)



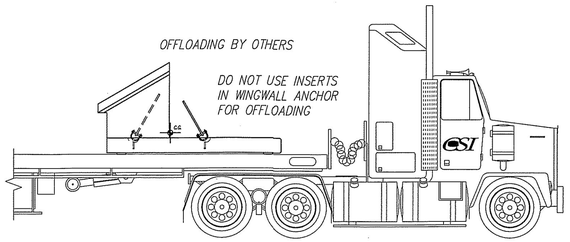
3
2 DETAIL
Scale: 1 = 1'-0"

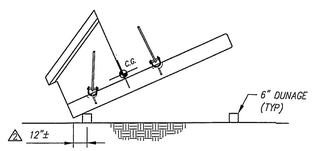


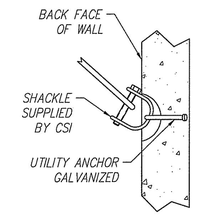
P-3
(℄ 1" X 10" X 14")
(GALVANIZED AS PER ASTM A153)
(TOTAL REQUIRED = 2)

WINGWALL GENERAL NOTES:
1. REFERENCE STANDARD:
   AASHTO LRFD SPECIFICATIONS
2. DESIGN PARAMETERS:
   SOIL BEARING: 3000 PSF (TO BE VERIFIED BY ENGINEER)
   CONCRETE: DESIGN STRENGTH F'C = 4000 PSI
   ⚠ STRIPPING STRENGTH F'C = 2500 PSI
   UNIT WEIGHT = 150 PCF
   ⚠ REINFORCING: ASTM A615 (REBAR), GRADE 60, EPOXY COATED (VTAOT LEVEL I).
   SOIL: UNIT WEIGHT = 140 PCF
   MINIMUM LATERAL PRESSURE COEFFICIENT .25
   MAXIMUM LATERAL PRESSURE COEFFICIENT .50
   COVER TO REINFORCING: 2" U.N.O.
3. WINGWALLS HAVE BEEN DESIGNED FOR GENERAL SITE CONDITIONS. THE PROJECT ENGINEER SHALL BE RESPONSIBLE FOR THE STRUCTURE'S SUITABILITY TO THE EXISTING SITE CONDITIONS AND FOR THE HYDRAULIC EVALUATION, INCLUDING SCOUR AND CONFIRMATION OF SOIL CONDITIONS.
4. PRIOR TO CONSTRUCTION, CONTRACTOR MUST VERIFY ALL ELEVATIONS SHOWN THROUGH THE ENGINEER.
⚠ 5. FOR CURING METHOD, SEE SECTION 5.5 IN THE CSI QUALITY CONTROL MANUAL.

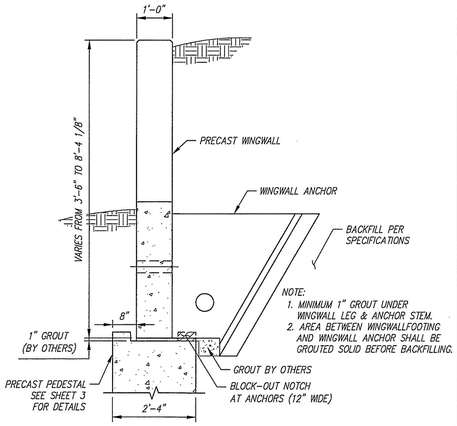
⚠ SEE SHOP DRAWINGS FOR ADDITIONAL DETAILS.







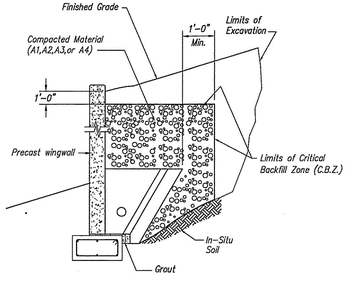
WINGWALL LIFTING/OFFLOADING & TRIPPING DETAILS
Scale: N.T.S.



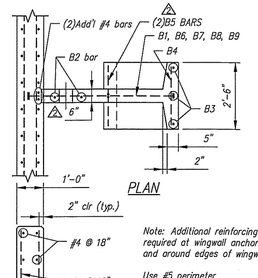
TYPICAL WINGWALL SECTION
SCALE: 1/2" = 1'-0"

BACKFILL DESCRIPTION							
Group Classification	A-1		A-3	A-2			
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7
Sieve Analysis, Percent Passing							
No. 10	50 max.						
No. 40	30 max.	50 max.	51 min.				
No. 200	15 max.	25 max.	10 max.	35 max.	35 max.	35 max.	35 max.
Characteristics of Fraction Passing No. 40							
Liquid Limit				40 max.	41 min.	40 max.	41 min.
Plasticity Index	6 max.		N.P.	10 max.	10 max.	11 min.	11 min.
Usual Types of Significant Constituent Materials	Stone Fragments, Gravel & Sand		Fine Sand	Silty or Clayey Gravel and Sand			
General Rating as Subgrade	Excellent to Good						

NOTES
1. BACKFILLING OPERATIONS WITHIN THE C.B.Z. SHALL BE PERFORMED IN LIFTS OF 8" OR LESS (LOOSE DEPTH).
2. MAXIMUM DRY DENSITY SHALL BE DETERMINED BY AASHTO T-99 OR OTHER APPROVED METHODS.
3. BACKFILL SHALL BE COMPACTED IN LAYERS UNTIL THE DENSITY IS NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY.



WINGWALL BACKFILL REQUIREMENTS

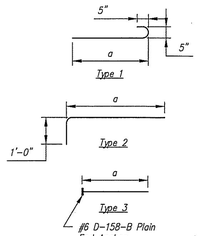


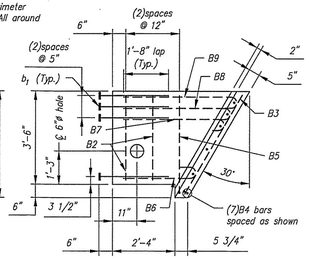
Note: Additional reinforcing required at wingwall anchors and around edges of wingwall

Use #5 perimeter bars E.F., All around

BAR LIST					
MARK	QTY.	SIZE	a	TYPE	LENGTH
B1	4	#6	2'-7"	3	——
B2	2	#5	——	Str.	3'-2"
B3	4	#5	——	Str.	4'-2"
B4	7	#5	——	Str.	2'-2"
B5	2	#5	3'-8"	2	——
B6	1	#5	2'-9"	1	——
B7	1	#5	3'-9"	1	——
B8	1	#5	4'-0"	1	——
B9	1	#5	4'-3"	1	——

Note: "Str." denotes straight bar. Standard clearance = 2"





PRECAST ANCHOR TYPE C

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

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STATE OF VERMONT
CHRISTOPHER M. YORK
NO. 77928
Structural
LICENSED
PROFESSIONAL ENGINEER

STRUCTURAL DESIGN OF RIGID BRIDGE, GUARDRAIL CURBS AND WINGWALLS ONLY

Rev.	Date	DESCRIPTION	By
		REVISIONS	
10			
9			
8			
7			
6			
5			
4			
3	04/13/2016	ADDED STRIPPING STRENGTH AND CURING METHOD NOTES.	AK
2	04/08/2016	SEE REV2 TRIANGLES.	AK
1	03/23/2016	SEE REV1 TRIANGLES.	AK

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There!

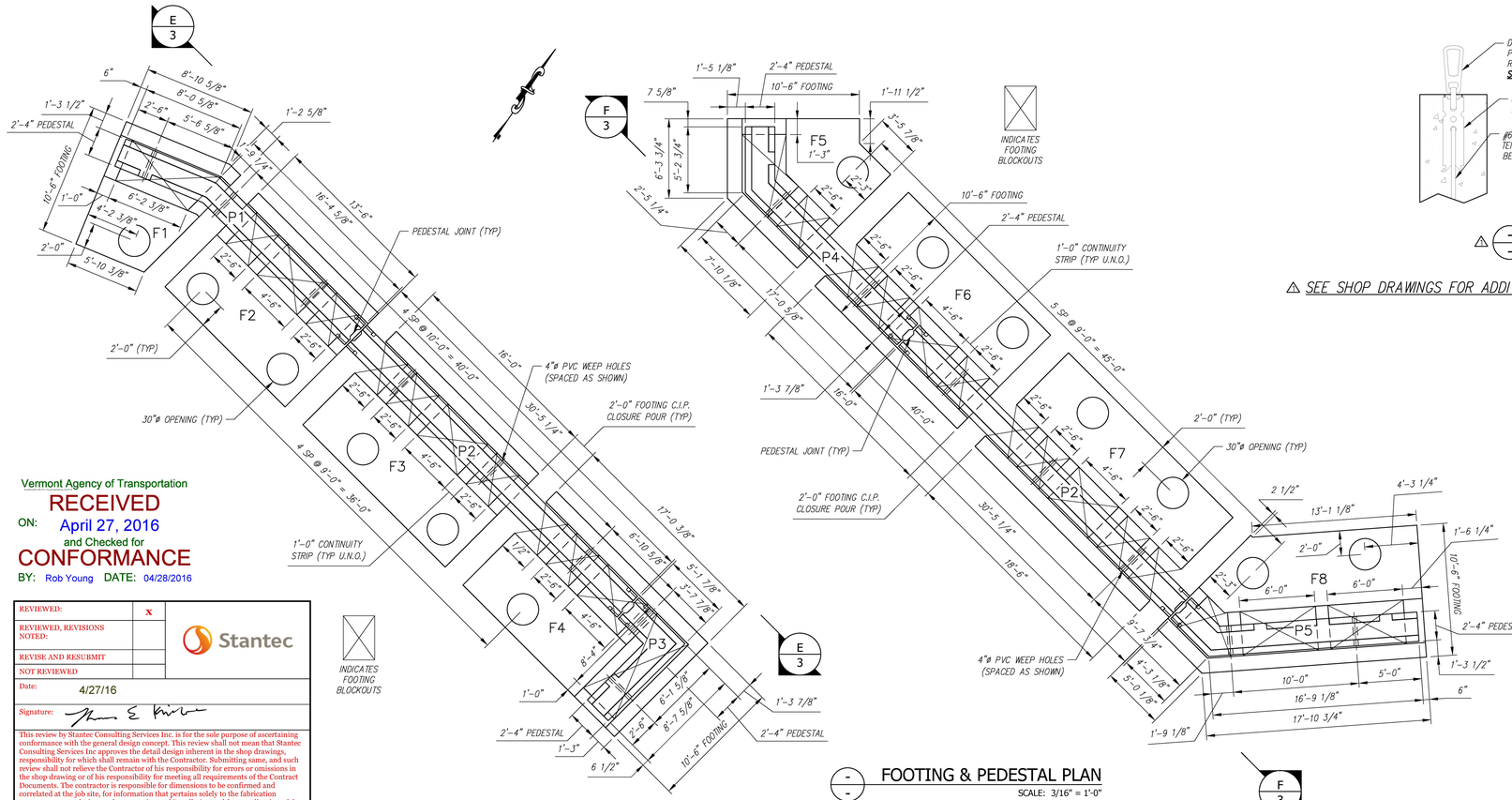
Drawn By A. KOSTENKO Date 02/03/2016
Reviewed By Date
Approved By Date

VTAOT PROJ. NO.: BRF 0151(21)

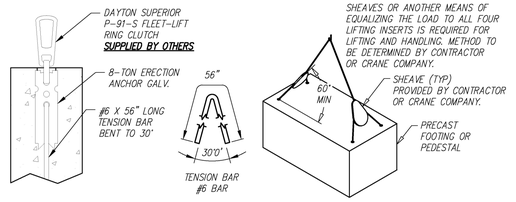
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D
Drawing No. R-S22624-L01B
ELEVATIONS AND WINGWALL DETAILS
REV 3

Quantity: Project No:
SHEET 2 OF 4



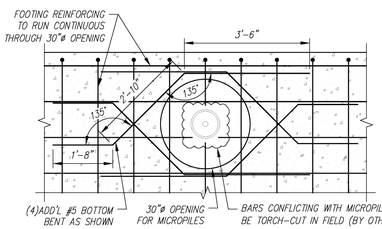
- - FOOTING & PEDESTAL PLAN
SCALE: 3/16" = 1'-0"



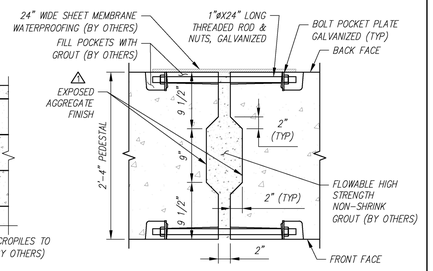
- - TYPICAL LIFTING DETAILS
SCALE: N.T.S.

FOOTING AND PEDESTAL PIECE SCHEDULE (MX-FA5000SC30)					
MARK	QTY	LENGTH	YDS	WEIGHT	
F1	1	7.99 '	5.52	11.18	TONS
F2	1	13.50 '	9.90	20.05	TONS
F3	1	16.00 '	11.68	23.66	TONS
F4	1	17.03 '	11.20	22.69	TONS
F5	1	9.81 '	6.84	13.84	TONS
F6	1	16.00 '	11.68	23.66	TONS
F7	1	18.50 '	13.46	27.27	TONS
F8	1	18.11 '	12.59	25.49	TONS
P1	1	23.98 '	10.53	21.31	TONS
P2	2	30.44 '	13.35	27.04	TONS
P3	1	11.46 '	5.01	10.15	TONS
P4	1	21.32 '	9.36	18.95	TONS
P5	1	19.96 '	8.75	17.72	TONS

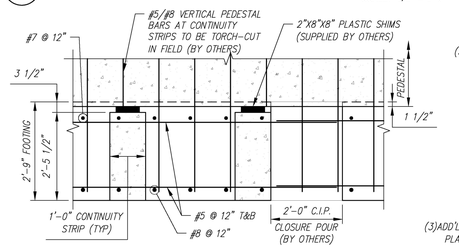
⚠ SEE SHOP DRAWINGS FOR ADDITIONAL DETAILS.



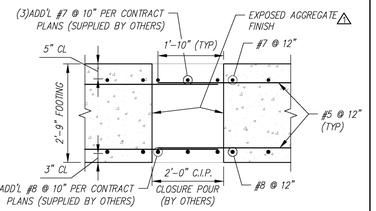
- - ADDITIONAL REINFORCING AT 30" OPENINGS
SCALE: 1/2" = 1'-0"



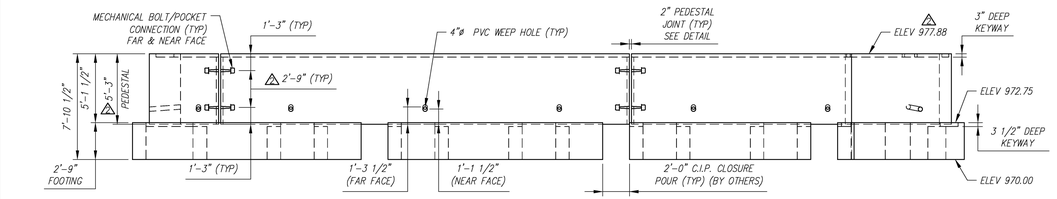
- - PEDESTAL JOINT DETAIL
SCALE: N.T.S.



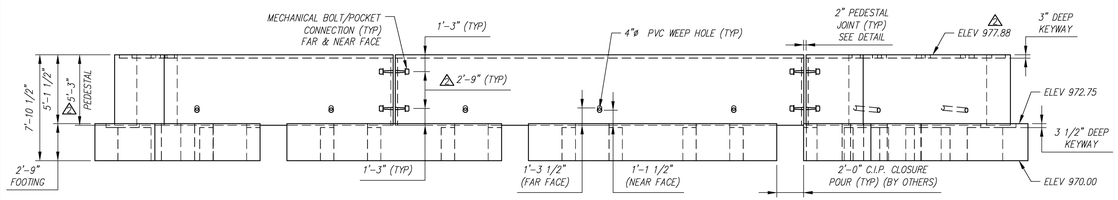
G 3 - - TYP. SECTION THROUGH CONTINUITY STRIPS
SCALE: 1/2" = 1'-0"



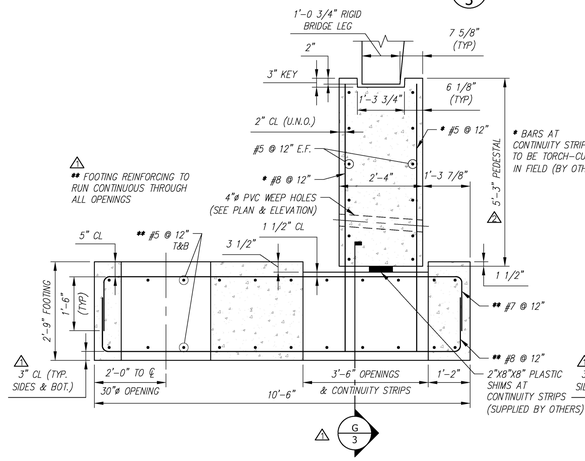
- - FOOTING CLOSURE POUR DETAIL
SCALE: 1/2" = 1'-0"



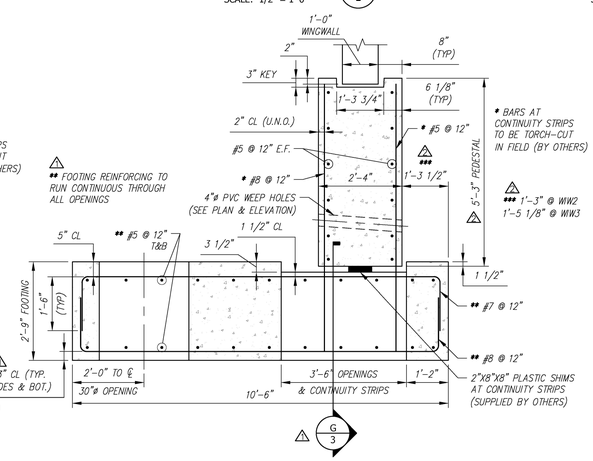
E-E 3 SOUTH FOOTING/PEDESTAL ELEVATION
SCALE: 3/16" = 1'-0"



F-F 3 NORTH FOOTING/PEDESTAL ELEVATION
SCALE: 3/16" = 1'-0"



- - FOOTING & PEDESTAL SECTION (AT RIGID BRIDGE LEG)
SCALE: 1/2" = 1'-0"



- - FOOTING & PEDESTAL SECTION (AT WINGWALLS)
SCALE: 1/2" = 1'-0"

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X	Stantec
REVIEWED, REVISIONS NOTED:		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 4/27/16

Signature:

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Rev.	Date	DESCRIPTION	By
10			
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2			
1	04/08/2016	SEE REV 1 TRIANGLES.	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

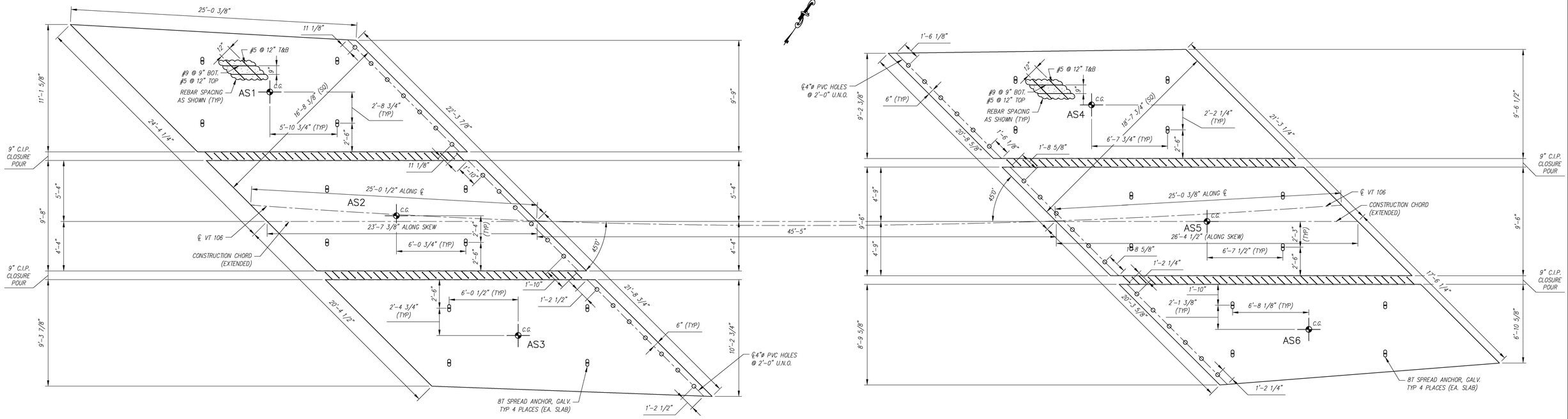
STATE AGENCY
VTrans Working to Get You There

Drawn By	Date
A KOSTENKO	03/03/2016
Reviewed By	Date
Approved By	Date

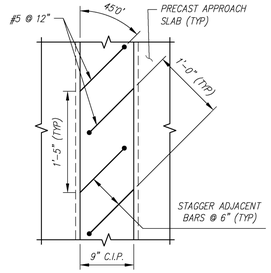
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

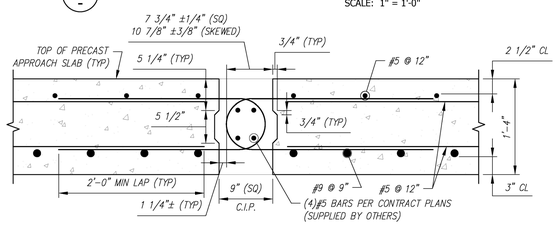
D | FOOTING/PEDESTAL PLAN AND DETAILS | REV 1
Drawing No. R-S22624-L01C
Quantity: | Project No: | SHEET 3 OF 4



APPROACH SLAB PLAN
SCALE: 1/4" = 1'-0"



TYPICAL C.I.P. CLOSURE POUR PLAN
SCALE: 1" = 1'-0"



TYPICAL C.I.P. CLOSURE POUR SECTION
SCALE: 1" = 1'-0"

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

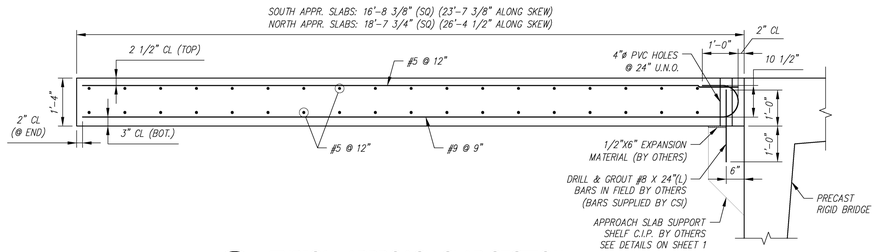
Date: 4/27/16

Signature:

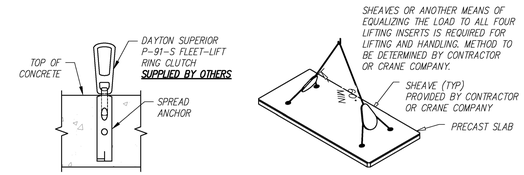
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⚠ SEE SHOP DRAWINGS FOR ADDITIONAL DETAILS.

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016



TYPICAL APPROACH SLAB SECTION
SCALE: 1/2" = 1'-0"



APPROACH SLAB LIFTING DETAILS
SCALE: N.T.S.

APPROACH SLAB
PIECE SCHEDULE (MX-FA5000SC30)

MARK	QTY	LENGTH	YDS	WEIGHT	
AS1	1	23.61 '	12.18	24.67	TONS
AS2	1	23.61 '	11.27	22.83	TONS
AS3	1	23.61 '	11.40	23.09	TONS
AS4	1	26.38 '	12.20	24.71	TONS
AS5	1	26.38 '	12.37	25.06	TONS
AS6	1	26.38 '	10.22	20.70	TONS

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1	04/08/2016	SEE REV 1 TRIANGLES.	AK

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Project No:
Drawings: PROJECT PLANS
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Phone 603-889-4163
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STATE AGENCY
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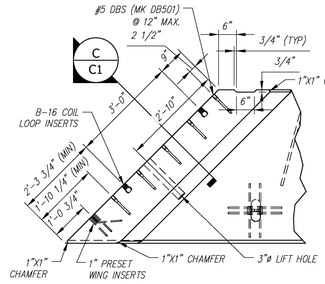
Drawn By A KOSTENKO Date 03/03/2016
Reviewed By Date
Approved By Date

VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

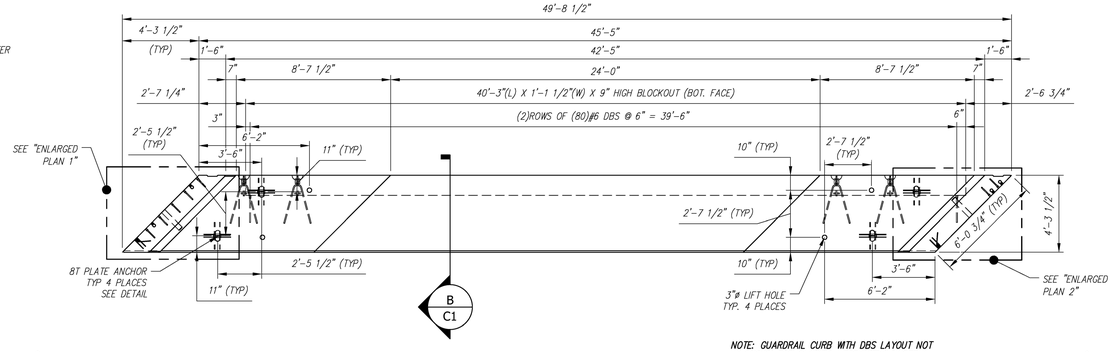
D | APPROACH SLAB PLAN AND DETAILS | REV 1
Drawing No. R-S22624-L01D

Quantity: | Project No: | SHEET 4 OF 4



1 C2 ENLARGED PLAN

SCALE: 1/2" = 1'-0"

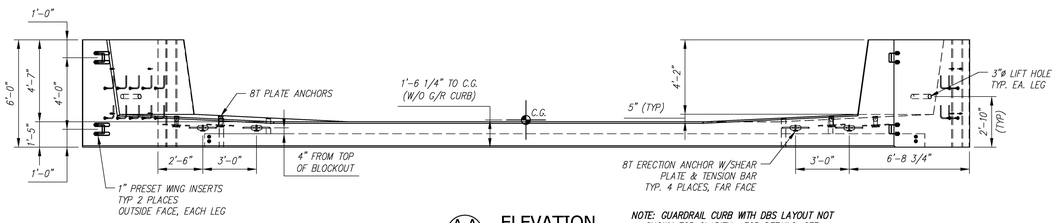


- C1 PLAN (CASTING POSITION)

SCALE: 1/4" = 1'-0"

NOTE: GUARDRAIL CURB WITH DBS LAYOUT NOT SHOWN FOR CLARITY. FOR DETAILS, SEE GUARDRAIL CURB PLAN AND ELEVATION.

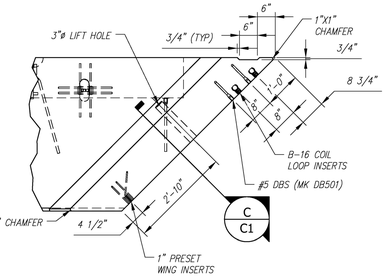
A C1 A C1



A-A C1 ELEVATION

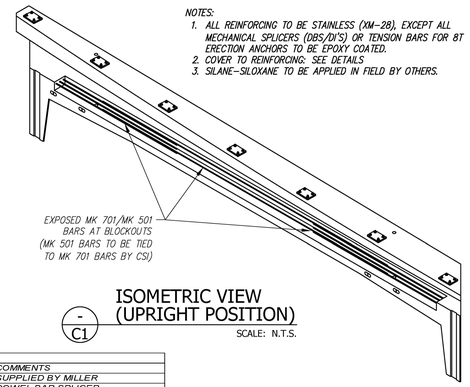
SCALE: 1/4" = 1'-0"

NOTE: GUARDRAIL CURB WITH DBS LAYOUT NOT SHOWN FOR CLARITY. FOR DETAILS, SEE GUARDRAIL CURB PLAN AND ELEVATION.



2 C2 ENLARGED PLAN

SCALE: 1/2" = 1'-0"



- C1 ISOMETRIC VIEW (UPRIGHT POSITION)

SCALE: N.T.S.

C1 - BILL OF MATERIALS / EMBEDS

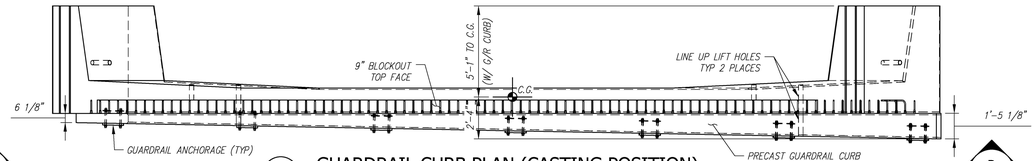
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
SBO	B-16 COIL LOOP INSERTS	8	EA	SUPPLIED BY MILLER
DTJ	DBSAE #6 X 24" EPOXY	92	EA	DOWEL BAR SPLICER
DTJ	8TON ERECTION ANCHOR GALV QL149G	4	EA	W/SHEAR PLATE & TENSION BAR
DTJ	8TON PLATE ANCHOR GALV QL042G	4	EA	W/(4) #4 X 18" BARS
EM-00005	1" X 8" PRESET WING INSERTS	4	EA	
EM-00013	DBSAE #5 X 18" EPOXY	59	EA	DOWEL BAR SPLICER
EM-00015	DBSAE #6 X 18" EPOXY	160	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	7	FT	
DTJ	REBAR #4 STAINLESS (XM-28)	236	LB	
DTJ	REBAR #5 STAINLESS (XM-28)	1105	LB	
DTJ	REBAR #7 STAINLESS (XM-28)	1553	LB	
DTJ	REBAR #10 STAINLESS (XM-28)	1549	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	12.13	CY	

C1 GUARDRAIL CURB - BILL OF MATERIALS / EMBEDS

SBO	GUARDRAIL ANCHORAGE	7	EA	SUPPLIED BY MILLER
DTJ	DI # 6 X 24" EPOXY	92	EA	DOWEL IN
EM-00021	DI #5 X 18" EPOXY	45	EA	
EM-00033	3" FOAM CORE PVC	3	FT	
DTJ	REBAR #5 STAINLESS (XM-28)	451	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	4.23	CY	

SHIP-LOOSE - BILL OF MATERIALS

EM-00021	DI #5 X 18" EPOXY	14	EA	
DTJ	DI # 6 X 26" EPOXY	160	EA	DOWEL IN



D C1 - C1 GUARDRAIL CURB PLAN (CASTING POSITION) D C1

SCALE: 1/4" = 1'-0"

ALL REBAR TO BE STAINLESS

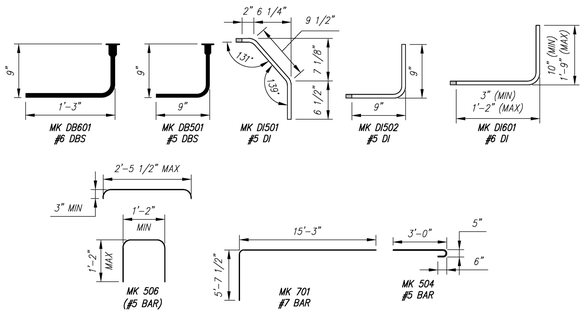
C1 Rebar Schedule

MK	QTY	LENGTH	
401A	#4	48	2 '- 10 "
401B	#4	10	5 '- 8.5 " MAX
402	#4	28	5 '- 8.5 "
501	#5	6	30 '- 0 "
502	#5	22	5 '- 0 "
503A	#5	58	3 '- 11.5 "
503B	#5	16	5 '- 8.5 " MAX
504	#5	41	3 '- 11 "
505	#5	12	24 '- 0 "
701	#7	24	20 '- 10 "
702	#7	20	13 '- 0 "
1001	#10	10	36 '- 0 "

ALL REBAR TO BE STAINLESS

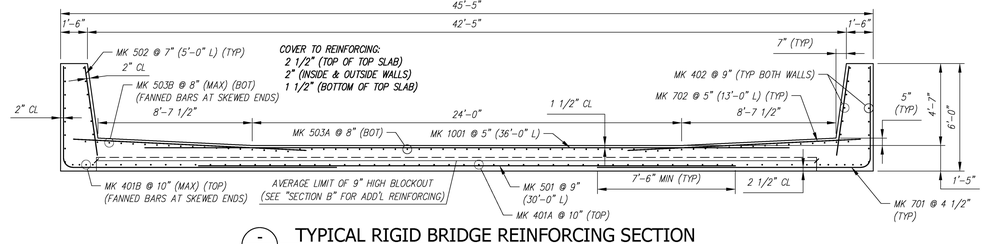
C1 G/R Curb Rebar Schedule

MK	QTY	LENGTH	
505	#5	10	24 '- 0 "
506	#5	48	4 '- 0 " MAX



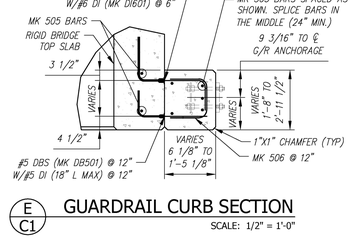
- C1 BENDING SCHEDULE

SCALE: N.T.S.



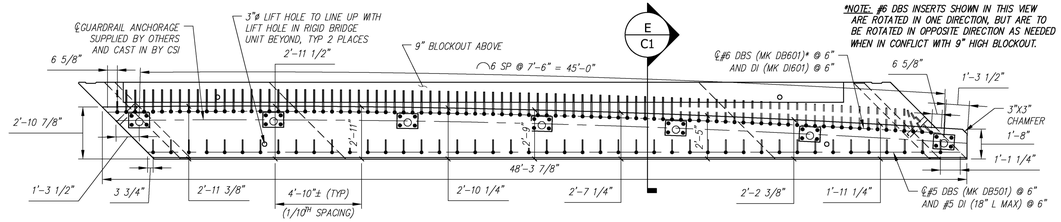
- C1 TYPICAL RIGID BRIDGE REINFORCING SECTION

SCALE: 1/4" = 1'-0"



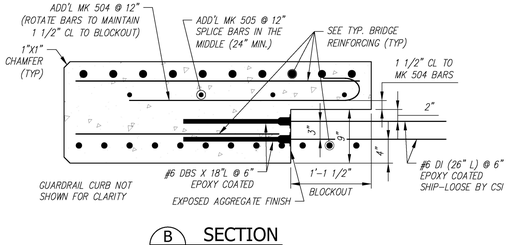
E C1 GUARDRAIL CURB SECTION

SCALE: 1/2" = 1'-0"



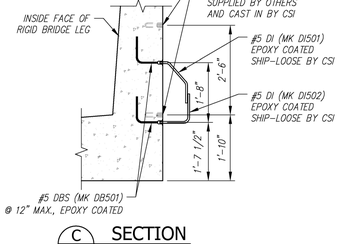
D-D C1 GUARDRAIL CURB ELEVATION

SCALE: 1/4" = 1'-0"



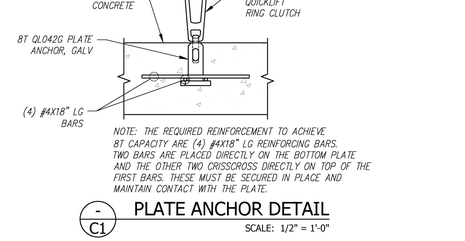
B C1 SECTION

SCALE: 1" = 1'-0"



C C1 SECTION

SCALE: 1/2" = 1'-0"



- C1 PLATE ANCHOR DETAIL

SCALE: 1/2" = 1'-0"

PIECE QUANTITY: 1 EACH

WEIGHT: 33.13 TONS

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	x
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

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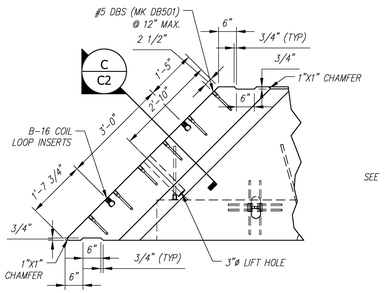
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VTrans Working to Get You There

Drawn By	A KOSTENKO	Date 04/22/2016
Reviewed By		Date
Approved By		Date

VTAOT PROJ. NO.: BRF 0151(21)

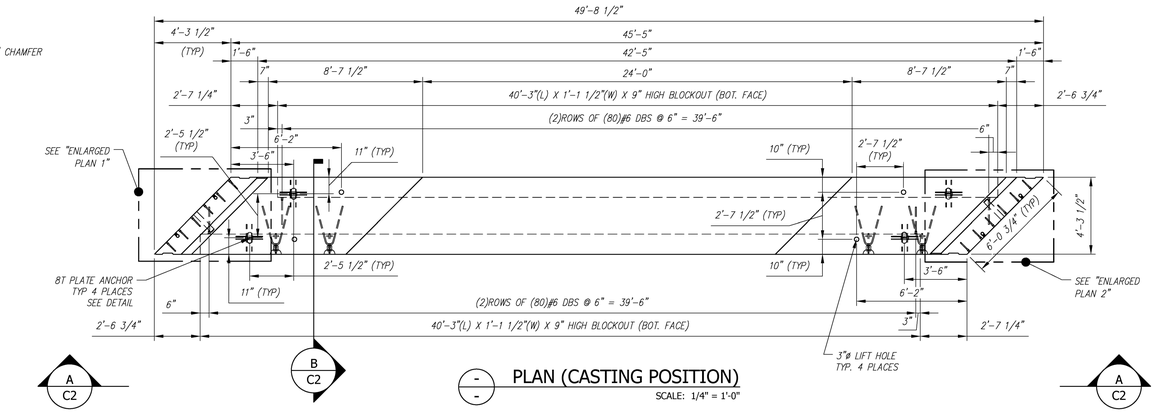
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D | RIGID BRIDGE SHOP DRAWING – C1 | REV 0
Drawing No. R-S22624-C1
Quantity: | Project No: | SHEET C1 OF



1 / C2 ENLARGED PLAN

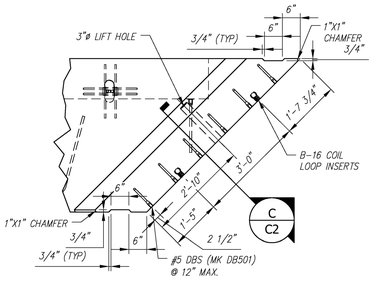
SCALE: 1/2" = 1'-0"



A / C2 — B / C2 — A / C2

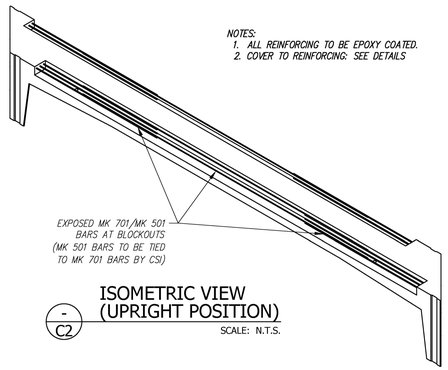
\- / - PLAN (CASTING POSITION)

SCALE: 1/4" = 1'-0"



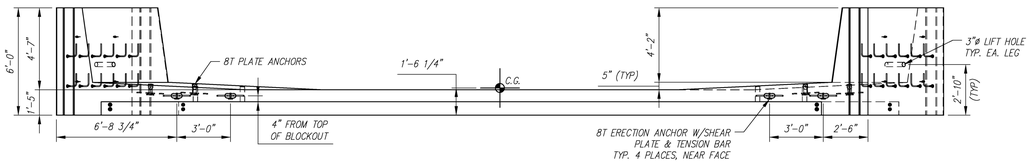
2 / C2 ENLARGED PLAN

SCALE: 1/2" = 1'-0"



\- / C2 ISOMETRIC VIEW (UPRIGHT POSITION)

SCALE: N.T.S.



A-A / C1 ELEVATION

SCALE: 1/4" = 1'-0"

C2 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
SBO	B-16 COIL LOOP INSERTS	8	EA	SUPPLIED BY MILLER
DTJ	8TON ERECTION ANCHOR GALV QL149G	4	EA	W/SHEAR PLATE & TENSION BAR
DTJ	8TON PLATE ANCHOR GALV QL042G	4	EA	W/(4) #4 X 18" BARS
EM-00013	DBSAE #5 X 18" EPOXY	24	EA	DOWEL BAR SPLICER
EM-00015	DBSAE #6 X 18" EPOXY	320	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	7	FT	
RM-00014	REBAR #4 EPOXY- GR 60 40'	153	LB	
RM-00016	REBAR #5 EPOXY- GR 60 40'	1159	LB	
RM-00010	REBAR #7 EPOXY-GR 60 40'	1553	LB	
RM-00093	REBAR #10 EPOXY-GR 60	1549	LB	
MX-FA5000SC30	MX DESIGN - FLY ASH 5000 SELF COMPACTIN	10.88	CY	
	SHIP-LOOSE - BILL OF MATERIALS			
EM-00021	DI #5 X 18" EPOXY	24	EA	
DTJ	DI # 6 X 26" EPOXY	320	EA	DOWEL IN

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Vermont Agency of Transportation

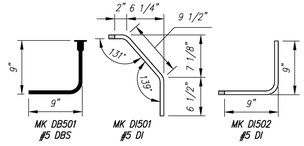
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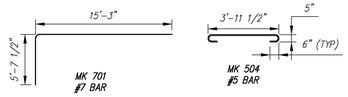
ON: April 27, 2016

and Checked for

CONFORMANCE

BY: Rob Young DATE: 04/28/2016



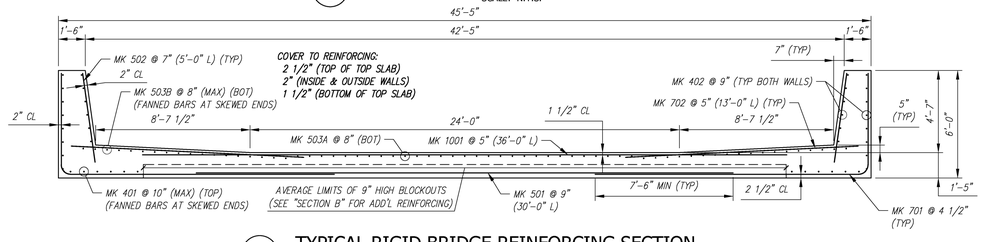


ALL REBAR TO BE EPOXY COATED

C2 Rebar Schedule				
MK		QTY	LENGTH	
401	#4	12	5 '- 8.5 "	MAX
402	#4	28	5 '- 8.5 "	
501	#5	6	30 '- 0 "	
502	#5	22	5 '- 0 "	
503A	#5	58	3 '- 11.5 "	
503B	#5	16	5 '- 8.5 "	MAX
504	#5	45	5 '- 9.5 "	
505	#5	10	24 '- 0 "	
701	#7	24	20 '- 10 "	
702	#7	20	13 '- 0 "	
1001	#10	10	36 '- 0 "	

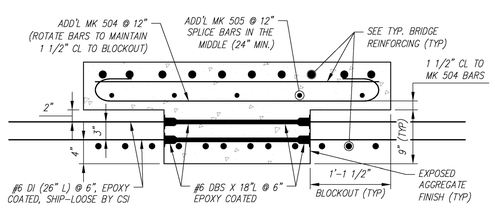
\- / - BENDING SCHEDULE

SCALE: N.T.S.



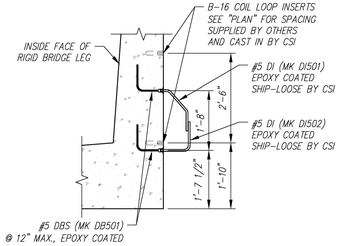
\- / C2 TYPICAL RIGID BRIDGE REINFORCING SECTION

SCALE: 1/4" = 1'-0"



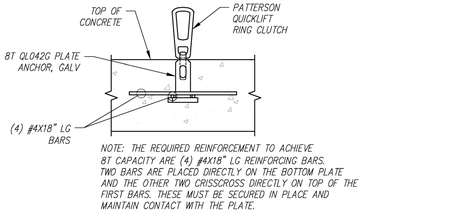
B / C2 SECTION

SCALE: 1" = 1'-0"



C / C2 SECTION

SCALE: 1/2" = 1'-0"



\- / C2 PLATE ANCHOR DETAIL

SCALE: 1/2" = 1'-0"

PIECE QUANTITY: 6 EACH

WEIGHT: 22.02 TONS

Contractor is to verify that all information shown on drawings has been thoroughly checked, complies with the contract documents and is adequate to meet the field conditions. Some dimensions and details may differ slightly from contract drawings to accommodate the manufacturing or design process. Approval of this drawing indicates that any deviation from the contract documents has been reviewed and found to be acceptable. Production will not commence until receipt of signed, approved shop drawings.

This drawing contains information proprietary to CONCRETE SYSTEMS, INC. This drawing is disclosed with the understanding that it will be retained in confidence and its use limited solely to the purpose for which it is disclosed. It is understood that no reproduction of this drawing is authorized without permission from CONCRETE SYSTEMS, INC. and that it will be returned to CONCRETE SYSTEMS, INC. upon request.

Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:

Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS

Specifications:

Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

VTrans Working to Get You There

Drawn By	Date
A KOSTENKO	04/22/2016
Reviewed By	Date
Approved By	Date

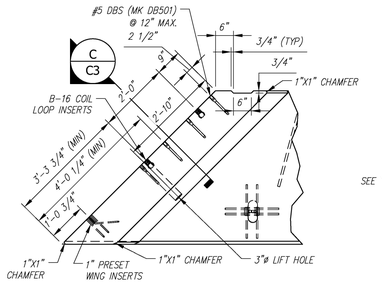
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D — Drawing No. RIGID BRIDGE SHOP DRAWING – C2 — REV 0

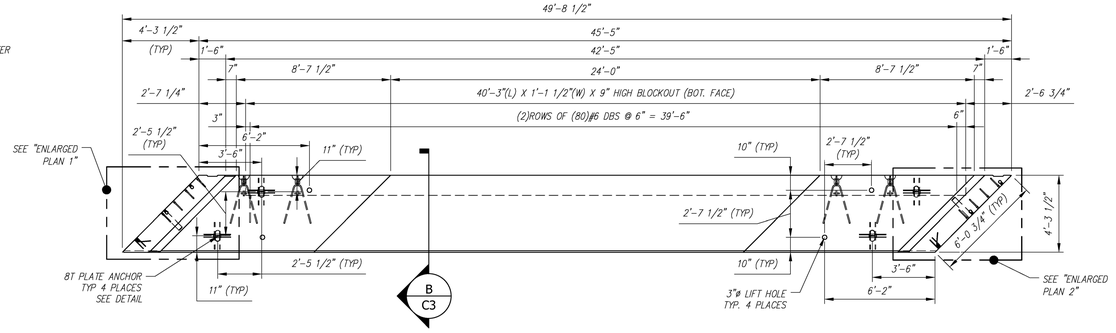
R-S22624-C2

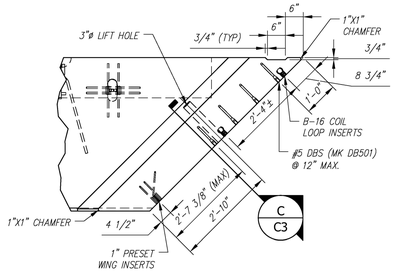
Quantity: | Project No: | SHEET C2 OF



1 C3 ENLARGED PLAN

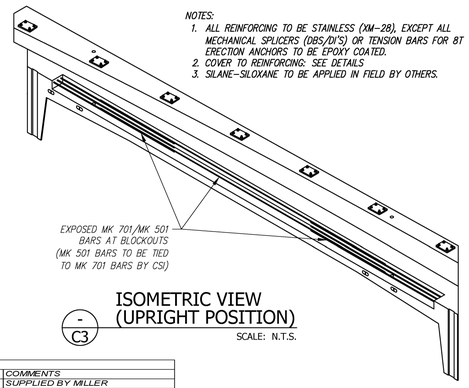
SCALE: 1/2" = 1'-0"





2 C3 ENLARGED PLAN

SCALE: 1/2" = 1'-0"



NOTES:
1. ALL REINFORCING TO BE STAINLESS (XM-28), EXCEPT ALL MECHANICAL SPLICERS (DBS/DI'S) OR TENSION BARS FOR 8T ERECTION ANCHORS TO BE EPOXY COATED.
2. COVER TO REINFORCING: SEE DETAILS
3. SILANE-SILOXANE TO BE APPLIED IN FIELD BY OTHERS.

- C3 ISOMETRIC VIEW (UPRIGHT POSITION)

SCALE: N.T.S.

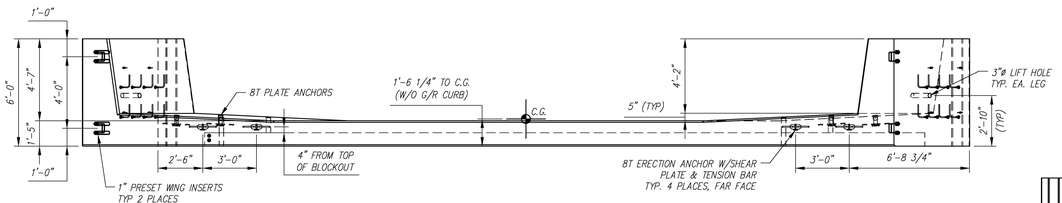
A C3

- - PLAN (CASTING POSITION)

SCALE: 1/4" = 1'-0"

NOTE: GUARDRAIL CURB WITH DBS LAYOUT NOT SHOWN FOR CLARITY. FOR DETAILS, SEE GUARDRAIL CURB PLAN AND ELEVATION.

A C3

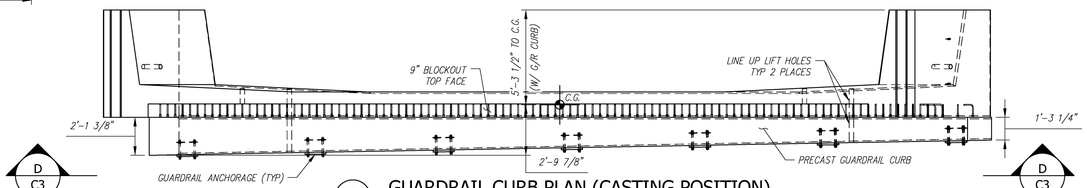


A-A C3 ELEVATION

SCALE: 1/4" = 1'-0"

NOTE: GUARDRAIL CURB WITH DBS LAYOUT NOT SHOWN FOR CLARITY. FOR DETAILS, SEE GUARDRAIL CURB PLAN AND ELEVATION.

C3 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
SBO	B-16 COIL LOOP INSERTS	8	EA	SUPPLIED BY MILLER
DTJ	DBSAE #6 X 24" EPOXY	106	EA	DOWEL BAR SPLICER
DTJ	8TON ERECTION ANCHOR GALV QL149G	4	EA	W/SHEAR PLATE & TENSION BAR
DTJ	8TON PLATE ANCHOR GALV QL042G	4	EA	W/(4) #4 X 18" BARS
EM-00005	1" X 8" PRESET WING INSERTS	4	EA	
EM-00013	DBSAE #5 X 18" EPOXY	70	EA	DOWEL BAR SPLICER
EM-00015	DBSAE #6 X 18" EPOXY	160	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	7	FT	
DTJ	REBAR #4 STAINLESS (XM-28)	236	LB	
DTJ	REBAR #5 STAINLESS (XM-28)	1105	LB	
DTJ	REBAR #7 STAINLESS (XM-28)	1553	LB	
DTJ	REBAR #10 STAINLESS (XM-28)	1549	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	12.13	CY	
C3 GUARDRAIL CURB - BILL OF MATERIALS / EMBEDS				
SBO	GUARDRAIL ANCHORAGE	7	EA	SUPPLIED BY MILLER
DTJ	DI # 6 X 24" EPOXY	106	EA	DOWEL IN
EM-00021	DI #5 X 18" EPOXY	54	EA	
EM-00033	3" FOAM CORE PVC	4	FT	
DTJ	REBAR #5 STAINLESS (XM-28)	637	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	5.50	CY	
SHIP-LOOSE - BILL OF MATERIALS				
EM-00021	DI #5 X 18" EPOXY	16	EA	
DTJ	DI # 6 X 26" EPOXY	160	EA	DOWEL IN



D C3

- - GUARDRAIL CURB PLAN (CASTING POSITION)

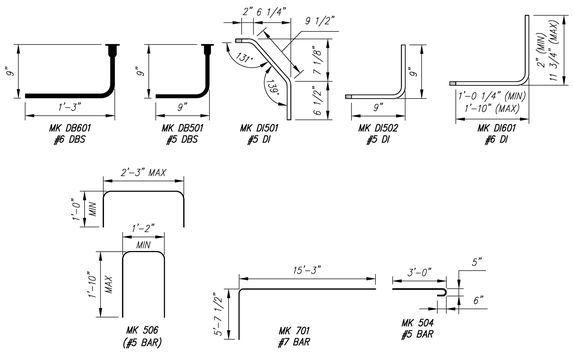
SCALE: 1/4" = 1'-0"

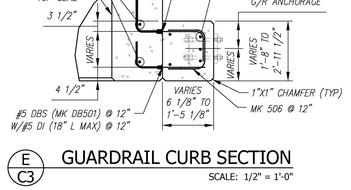
ALL REBAR TO BE STAINLESS

C3 Rebar Schedule				
MK		QTY	LENGTH	
401A	#4	48	2 '- 10 "	
401B	#4	10	5 '- 8.5 "	MAX
402	#4	28	5 '- 8.5 "	
501	#5	6	30 '- 0 "	
502	#5	22	5 '- 0 "	
503A	#5	58	3 '- 11.5 "	
503B	#5	16	5 '- 8.5 "	MAX
504	#5	41	3 '- 11 "	
505	#5	12	24 '- 0 "	
701	#7	24	20 '- 10 "	
702	#7	20	13 '- 0 "	
1001	#10	10	36 '- 0 "	

ALL REBAR TO BE STAINLESS

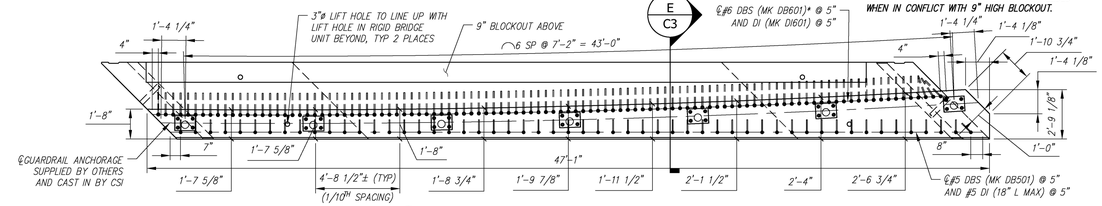
C3 G/R Curb Rebar Schedule				
MK		QTY	LENGTH	
505	#5	14	24 '- 0 "	
506	#5	55	5 '- 0 "	MAX





E C3 GUARDRAIL CURB SECTION

SCALE: 1/2" = 1'-0"

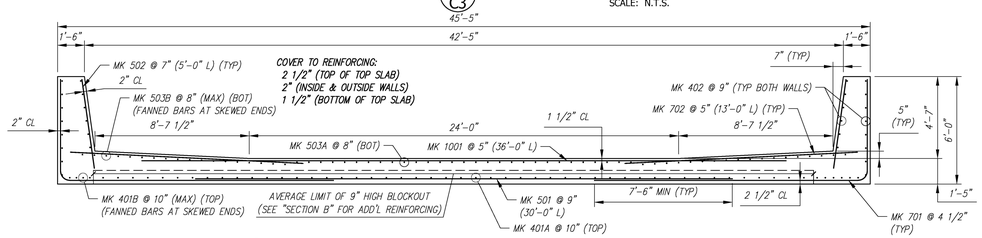


D-D C3 GUARDRAIL CURB ELEVATION

SCALE: 1/4" = 1'-0"

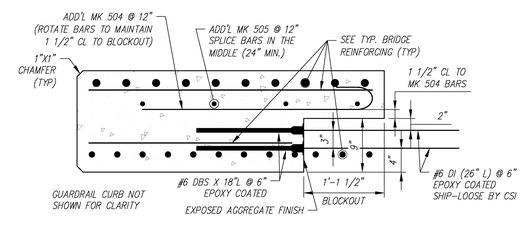
- C3 BENDING SCHEDULE

SCALE: N.T.S.



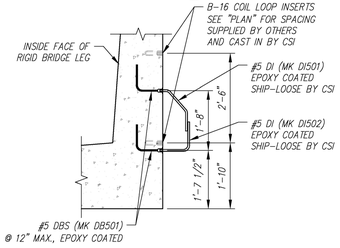
- C3 TYPICAL RIGID BRIDGE REINFORCING SECTION

SCALE: 1/4" = 1'-0"



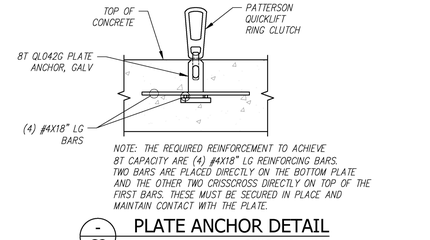
B C3 SECTION

SCALE: 1" = 1'-0"



C C3 SECTION

SCALE: 1/2" = 1'-0"



- C3 PLATE ANCHOR DETAIL

SCALE: 1/2" = 1'-0"

PIECE QUANTITY: 1 EACH

WEIGHT: 35.71 TONS

Vermont Agency of Transportation

RECEIVED

ON: April 27, 2016

and Checked for

CONFORMANCE

BY: Rob Young DATE: 04/28/2016

REVIEWED:	x
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

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Rev.	Date	DESCRIPTION	By
10			
9			
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3			
2			
1			

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:

Engineer: STANTEC CONSULTING SERVICES, INC.

Project No:

Drawings: PROJECT PLANS

Specifications:

Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

VTrans Working to Get You There

Drawn By	A KOSTENKO	Date 04/22/2016
Reviewed By		Date
Approved By		Date

VTAOT PROJ. NO.: BRF 0151(21)

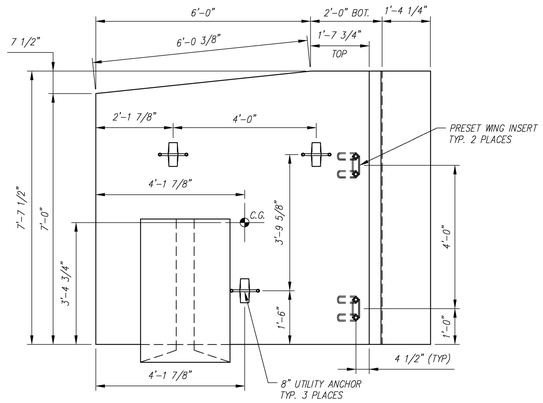
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D RIGID BRIDGE SHOP DRAWING – C3 REV 0

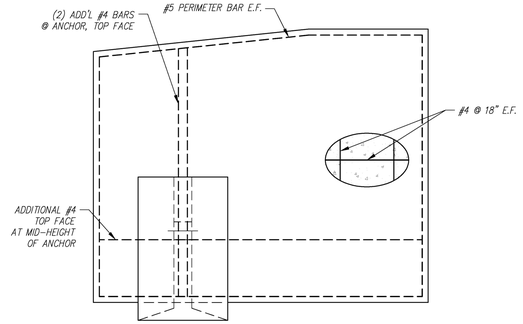
Drawing No. R-S22624-C3

Quantity: Project No: SHEET C3 OF

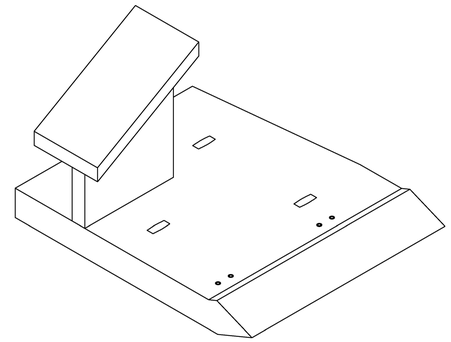
NOTES:
1. ALL REINFORCING TO BE EPOXY COATED.
2. ALL EXPOSED EDGES TO BE 1" CHAMFERED.
3. COVER TO REINFORCING: 2" U.N.O.
4. WATER REPELLANT COATING TO BE APPLIED ON FRONT, TOP AND 1.5' DOWN BACK FACE.

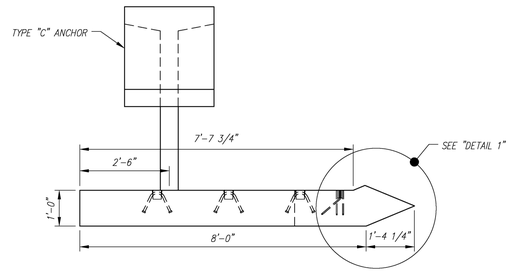


PLAN (CASTING POSITION)
SCALE: 1/2" = 1'-0"

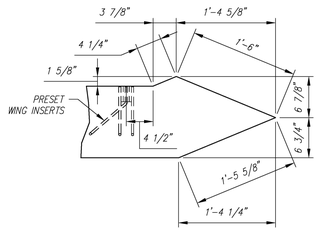


REINFORCING PLAN
SCALE: 1/2" = 1'-0"





ELEVATION
SCALE: 1/2" = 1'-0"



DETAIL
SCALE: 1" = 1'-0"

WW1 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
SBO	BRIDGE PLAQUE	1	EA	
DTJ	CERTI-VEX PENSEAL 244 WATER REPELLANT	0.5	GA	
CSANC-C	CON/SPAN WINGWALL ANCHOR "C"	1	EA	
EM-00005	1" X 8" PRESET WING INSERTS	2	EA	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	3	EA	
RM-00014	REBAR #4 EPOXY- GR 60 40'	134	LB	
RM-00016	REBAR #5 EPOXY- GR 60 40'	67	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	2.41	CY	

PIECE QUANTITY: 1 EACH
WEIGHT: 5.78 TONS

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

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Rev.	Date	DESCRIPTION	By
10			
9			
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REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By	A. KOSTENKO	Date 04/04/2016
Reviewed By		Date
Approved By		Date

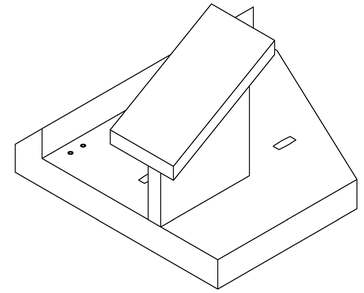
VTAOT PROJ. NO.: BRF 0151(21)

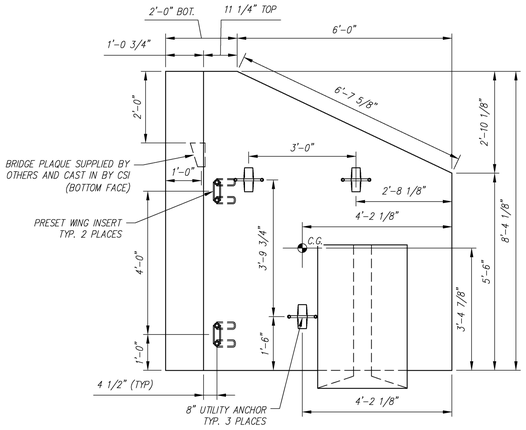
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D — SHOP DRAWING – WW1 — REV 0
Drawing No. R-S22624-WW1

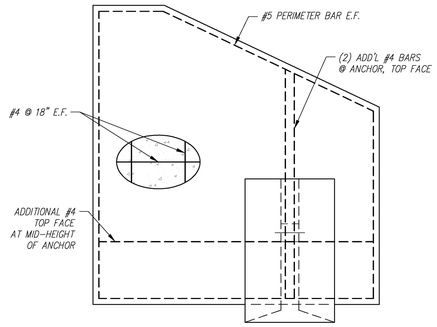
Quantity: 1 | Project No: | SHEET WW1 OF

NOTES:
1. ALL REINFORCING TO BE EPOXY COATED.
2. ALL EXPOSED EDGES TO BE 1" CHAMFERED.
3. COVER TO REINFORCING: 2" U.N.O.
4. WATER REPELLANT COATING TO BE APPLIED ON FRONT, TOP AND 1.5' DOWN BACK FACE.

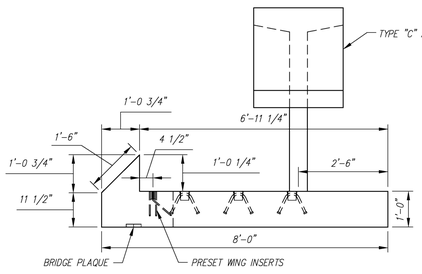




PLAN (CASTING POSITION)
SCALE: 1/2" = 1'-0"



REINFORCING PLAN
SCALE: 1/2" = 1'-0"



ELEVATION
SCALE: 1/2" = 1'-0"

REVIEWED:	x	Stantec
REVIEWED, REVISIONS NOTED:		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 4/27/16

Signature:

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Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

WW2 - BILL OF MATERIALS / EMBEDS

CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
DTJ	CERTI-VEX PENSEAL 244 WATER REPELLANT	0.5	GA	
CSANC-C	CON/SPAN WINGWALL ANCHOR "C"	1	EA	
EM-00005	1" X 8" PRESET WING INSERTS	2	EA	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	3	EA	
RM-00014	REBAR #4 EPOXY- GR 60 40'	134	LB	
RM-00016	REBAR #5 EPOXY- GR 60 40'	67	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	2.32	CY	

PIECE QUANTITY: 1 EACH
WEIGHT: 5.59 TONS

Contractor is to verify that all information shown on drawings has been thoroughly checked, complies with the contract documents and is adequate to meet the field conditions. Some dimensions and details may differ slightly from contract drawings to accommodate the manufacturing or design process. Approval of this drawing indicates that any deviation from the contract documents has been reviewed and found to be acceptable. Production will not commence until receipt of signed, approved shop drawings.

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Rev.	Date	DESCRIPTION	By
10			
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REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

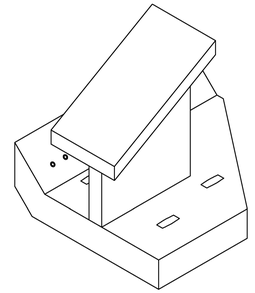
VTAOT PROJ. NO.: BRF 0151(21)

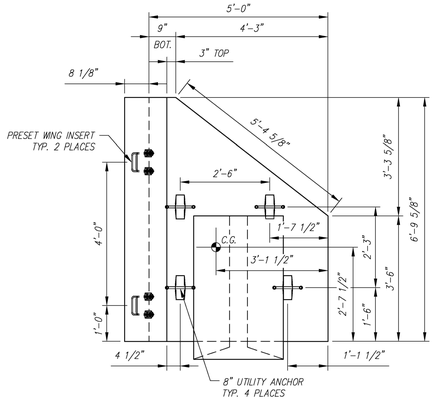
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D | Drawing No. R-S22624-WW2 | SHOP DRAWING – WW2 | REV 0

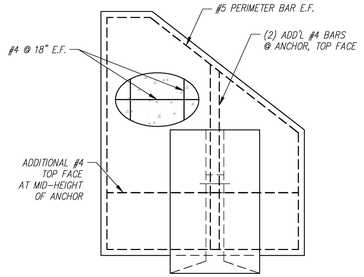
Quantity: 1 | Project No: | SHEET WW2 OF

NOTES:
1. ALL REINFORCING TO BE EPOXY COATED.
2. ALL EXPOSED EDGES TO BE 1" CHAMFERED.
3. COVER TO REINFORCING: 2" U.N.O.
4. WATER REPELLANT COATING TO BE APPLIED ON FRONT, TOP AND 1.5' DOWN BACK FACE.

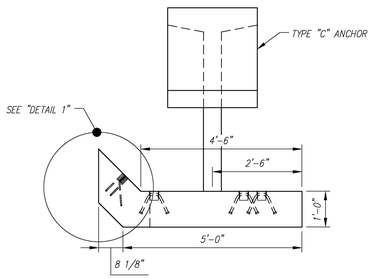




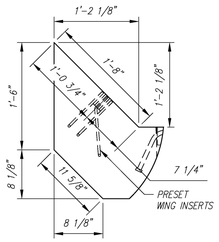
- / - PLAN (CASTING POSITION)
SCALE: 1/2" = 1'-0"



- / - REINFORCING PLAN
SCALE: 1/2" = 1'-0"



- / - ELEVATION
SCALE: 1/2" = 1'-0"



1 / - DETAIL
SCALE: 1" = 1'-0"

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Date: 4/27/16

Signature:

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Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

WW3 - BILL OF MATERIALS / EMBEDS

CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
DTJ	CERTI-VEX PENSEAL 244 WATER REPELLANT	0.25	GA	
CSANC-C	CON/SPAN WINGWALL ANCHOR "C"	1	EA	
EM-00005	1" X 8" PRESET WING INSERTS	2	EA	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	4	EA	
RM-00014	REBAR #4 EPOXY- GR 60 40'	73	LB	
RM-00016	REBAR #5 EPOXY- GR 60 40'	46	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	1.29	CY	

PIECE QUANTITY: 1 EACH
WEIGHT: 3.51 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
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5			
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2			
1	04/22/2016	CORRECTED TO "WW3" IN TITLE BLOCK.	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By A KOSTENKO Date 04/04/2016
Reviewed By Date
Approved By Date

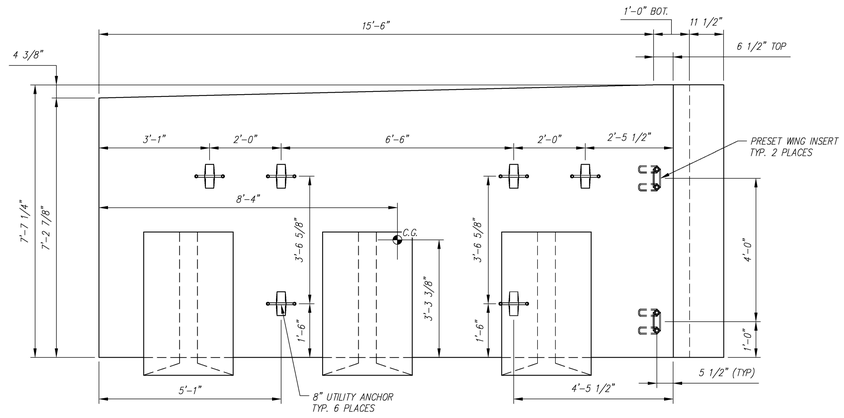
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

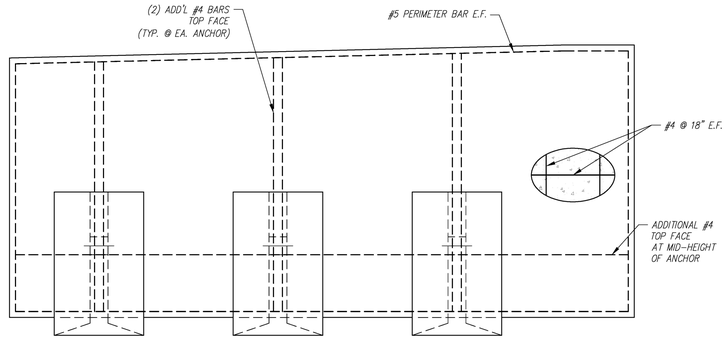
D | Drawing No. | SHOP DRAWING – WW3 ⚠ | REV 1
R-S22624-WW3 ⚠ ⚠

Quantity: 1 | Project No: | SHEET WW3 OF

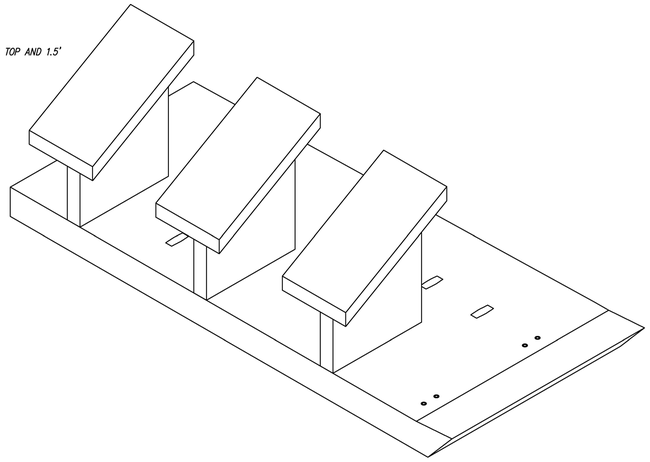
NOTES:
1. ALL REINFORCING TO BE EPOXY COATED.
2. ALL EXPOSED EDGES TO BE 1" CHAMFERED.
3. COVER TO REINFORCING: 2" U.N.O.
4. WATER REPELLANT COATING TO BE APPLIED ON FRONT, TOP AND 1.5' DOWN BACK FACE.

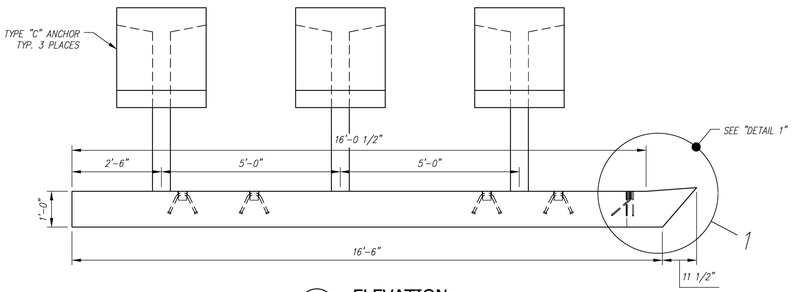


PLAN (CASTING POSITION)
SCALE: 1/2" = 1'-0"

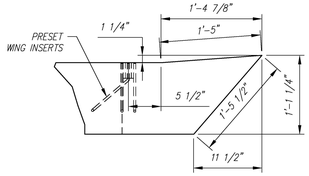


REINFORCING PLAN
SCALE: 1/2" = 1'-0"





ELEVATION
SCALE: 1/2" = 1'-0"



DETAIL
SCALE: 1" = 1'-0"

REVIEWED:	x	Stantec
REVIEWED, REVISIONS NOTED:		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 4/27/16

Signature:

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Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

WW4 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
DTJ	CERTI-VEX PENSEAL 244 WATER REPELLANT	1	GA	
CSANC-C	CON/SPAN WINGWALL ANCHOR "C"	3	EA	
EM-00005	1" X 8" PRESET WING INSERTS	2	EA	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	6	EA	
RM-00014	REBAR #4 EPOXY- GR 60 40'	266	LB	
RM-00016	REBAR #5 EPOXY- GR 60 40'	101	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	4.68	CY	

PIECE QUANTITY: 1 EACH
WEIGHT: 12.18 TONS

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10			
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REVISIONS

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Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There VERMONT AGENCY OF TRANSPORTATION

Drawn By	A KOSTENKO	Date 04/04/2016
Reviewed By		Date
Approved By		Date

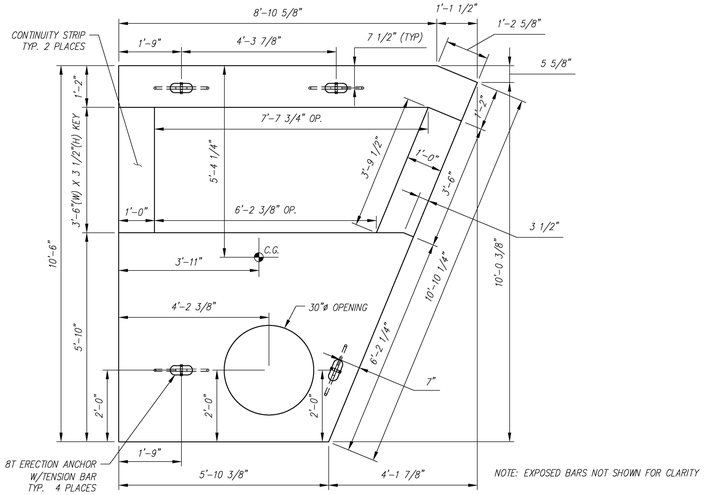
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

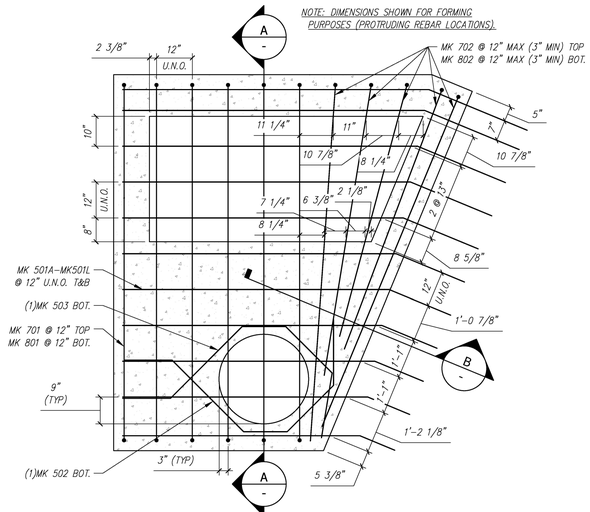
D | Drawing No. SHOP DRAWING – WW4 | REV 0
R-S22624-WW4

Quantity: 1 | Project No: | SHEET WW4 OF

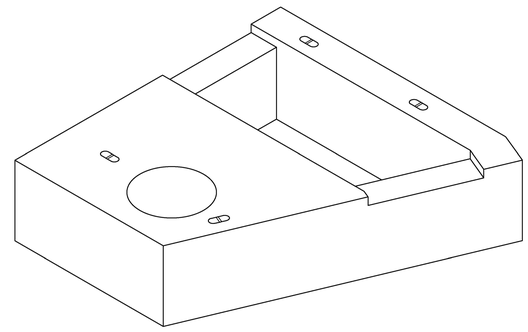
NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS



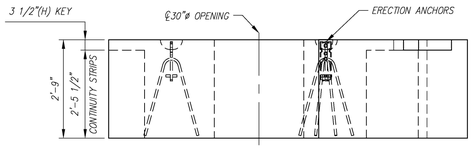
PLAN VIEW
SCALE: 1/2" = 1'-0"



REINFORCING PLAN
SCALE: 1/2" = 1'-0"

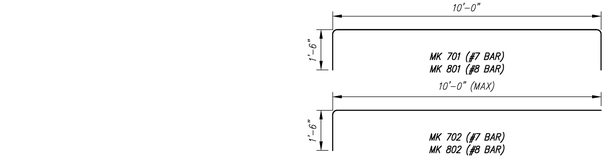


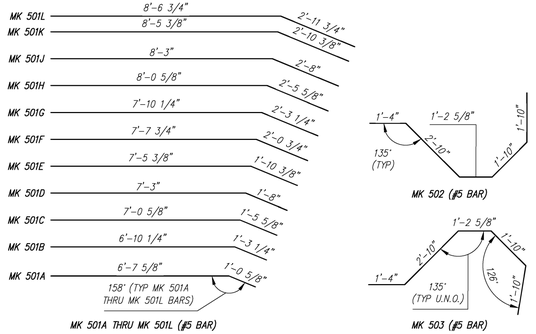
NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT ELEVATION
SCALE: 1/2" = 1'-0"

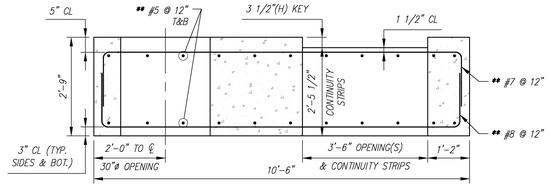




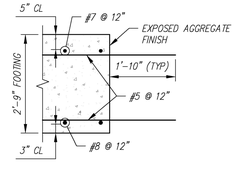
F1 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
RM-00015	REBAR #5 BLACK-GR 60 40'	242	LB	
RM-00009	REBAR #7 BLACK-GR 60	277	LB	
RM-00104	REBAR #8 BLACK GR 60	362	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	5.52	CY	

F1 Rebar Schedule			
MK	QTY	LENGTH	
501A #5	2	7 ' - 8.5 "	
501B #5	2	8 ' - 1.5 "	
501C #5	2	8 ' - 6.5 "	
501D #5	2	8 ' - 11 "	
501E #5	2	9 ' - 4 "	
501F #5	2	9 ' - 8.5 "	
501G #5	2	10 ' - 1.5 "	
501H #5	2	10 ' - 6.5 "	
501J #5	2	10 ' - 11 "	
501K #5	2	11 ' - 4 "	
501L #5	2	11 ' - 6.5 "	
502 #5	1	9 ' - 0.5 "	
503 #5	1	9 ' - 0.5 "	
701 #7	6	13 ' - 0 "	
702 #7	5	11 ' - 6 "	MAX
801 #8	6	13 ' - 0 "	
802 #8	5	11 ' - 6 "	MAX

** FOOTING REINFORCING TO RUN CONTINUOUS THROUGH ALL OPENING(S)



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



REINFORCING SECTION
SCALE: 1/2" = 1'-0"

BENDING SCHEDULE
SCALE: 3/8" = 1'-0"

PIECE QUANTITY: 1 EACH
WEIGHT: 11.18 TONS

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	04/15/2016	ADDED NOTES/DIMENSIONS TO "REINFORCING PLAN"	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

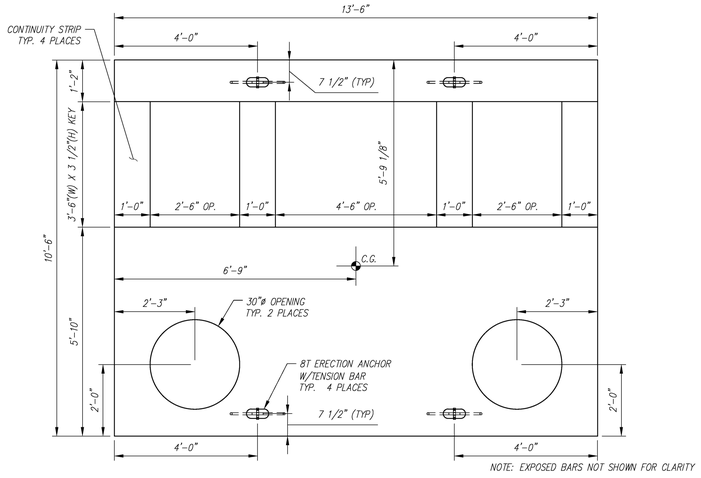
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D | Drawing No. R-S22624-F1 | SHOP DRAWING - F1 | REV 1

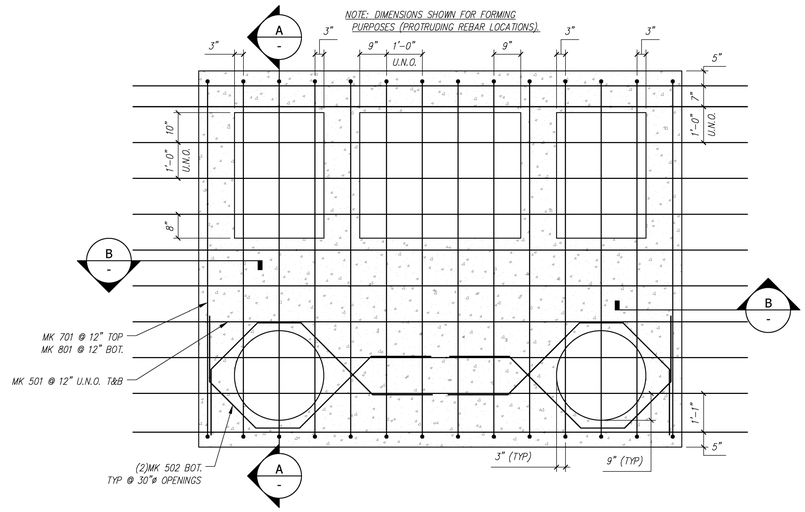
Quantity: 1 | Project No: | SHEET F1 OF

NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS

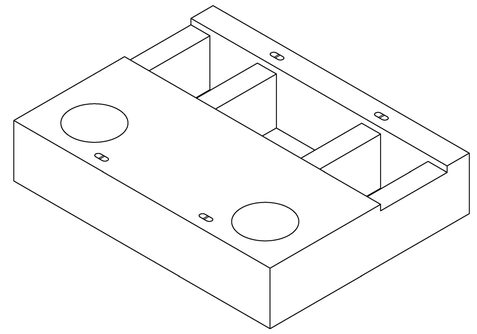


NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

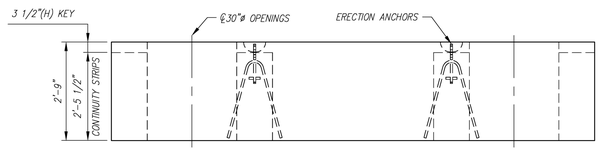
PLAN VIEW
SCALE: 1/2" = 1'-0"



REINFORCING PLAN
SCALE: 1/2" = 1'-0"



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT ELEVATION
SCALE: 1/2" = 1'-0"

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

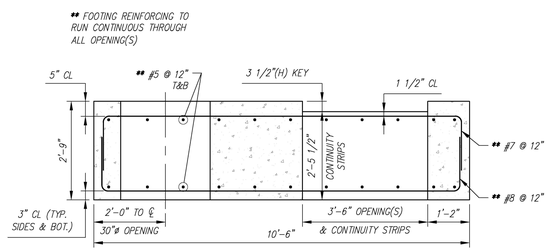
REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

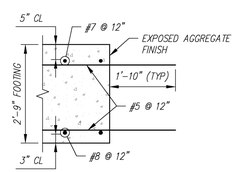
Date: 4/27/16

Signature:

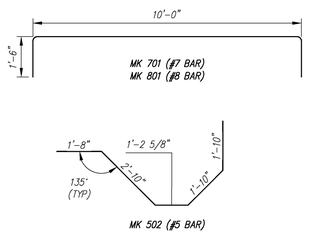
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TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



BENDING SCHEDULE
SCALE: 3/8" = 1'-0"

F2 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
RM-00015	REBAR #5 BLACK-GR 60 40'	433	LB	
RM-00009	REBAR #7 BLACK-GR 60	372	LB	
RM-00104	REBAR #8 BLACK GR 60	486	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	9.90	CY	

F2 Rebar Schedule			
MK	QTY	LENGTH	
501	#5	22	17 '- 2 "
502	#5	4	9 '- 4.5 "
701	#7	14	13 '- 0 "
801	#8	14	13 '- 0 "

PIECE QUANTITY: 1 EACH
WEIGHT: 20.05 TONS

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1	04/15/2016	ADDED NOTES/DIMENSIONS TO "REINFORCING PLAN"	AK

REVISIONS

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Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

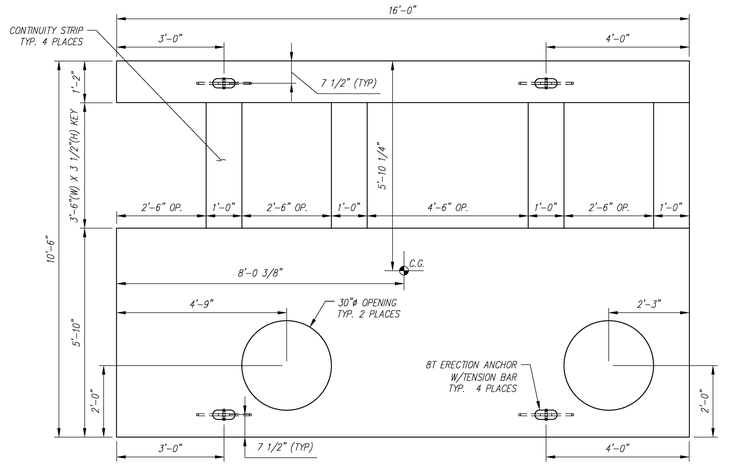
Drawn By	A. KOSTENKO
Date	04/04/2016
Reviewed By	
Date	
Approved By	
Date	

VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

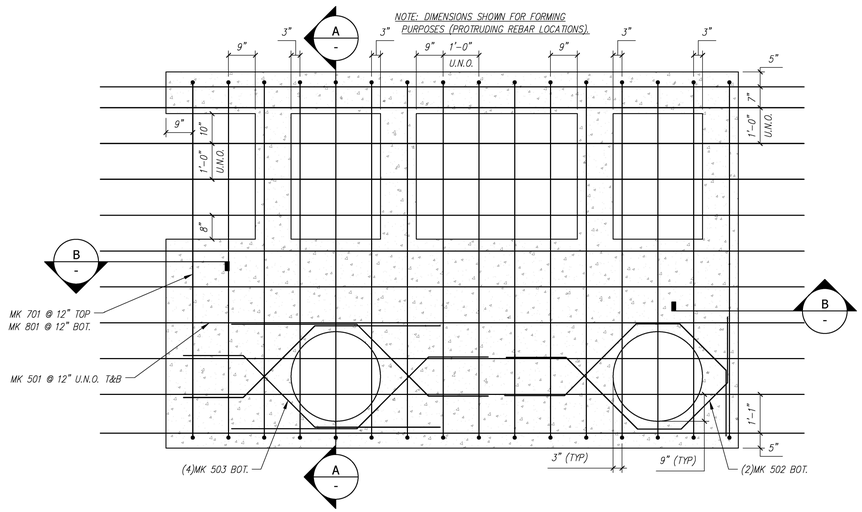
D — SHOP DRAWING – F2 — REV 1
Drawing No. R-S22624-F2
Quantity: 1 Project No: SHEET F2 OF

NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS

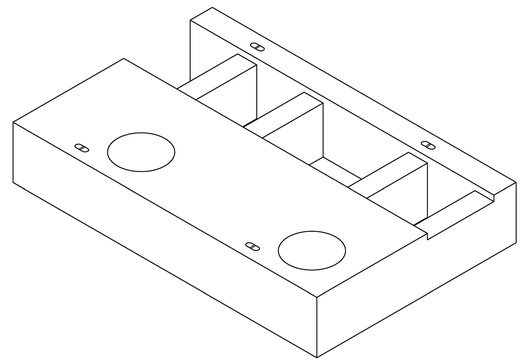


NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

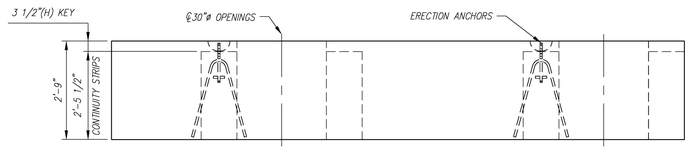
- PLAN VIEW
SCALE: 1/2" = 1'-0"



- REINFORCING PLAN
SCALE: 1/2" = 1'-0"



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

- FRONT ELEVATION
SCALE: 1/2" = 1'-0"

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

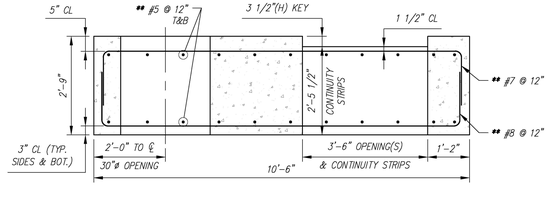
Stantec

Date: 4/27/16

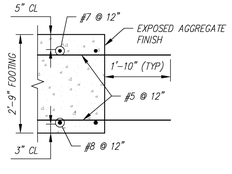
Signature:

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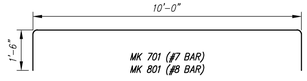
** FOOTING REINFORCING TO RUN CONTINUOUS THROUGH ALL OPENING(S)

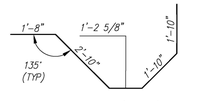


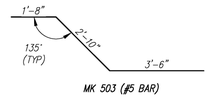
- TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



- TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"







- BENDING SCHEDULE
SCALE: 3/8" = 1'-0"

F3 - BILL OF MATERIALS / EMBEDS

CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
RM-00015	REBAR #5 BLACK-GR 60 40'	504	LB	
RM-00009	REBAR #7 BLACK-GR 60	425	LB	
RM-00104	REBAR #8 BLACK GR 60	555	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	11.68	CY	

F3 Rebar Schedule

MK		QTY	LENGTH
501	#5	22	19 ' 8 "
502	#5	2	9 ' 4.5 "
503	#5	4	8 ' 0 "
701	#7	16	13 ' 0 "
801	#8	16	13 ' 0 "

PIECE QUANTITY: 1 EACH
WEIGHT: 23.66 TONS

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1	04/15/2016	ADDED NOTES/DIMENSIONS TO "REINFORCING PLAN"	AK

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Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
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STATE AGENCY
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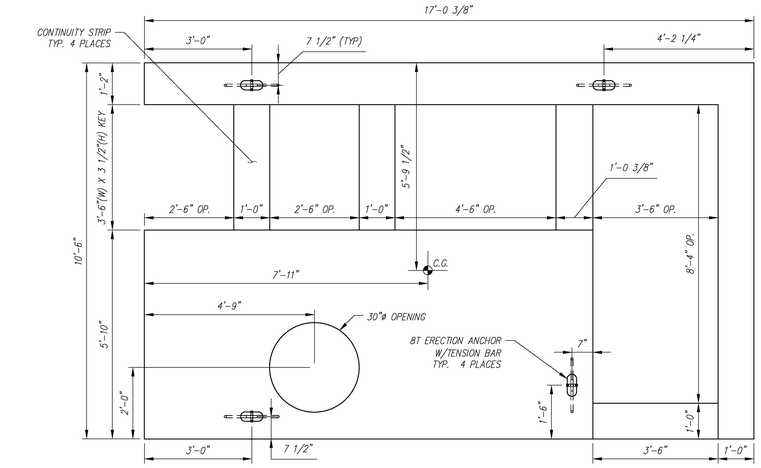
Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

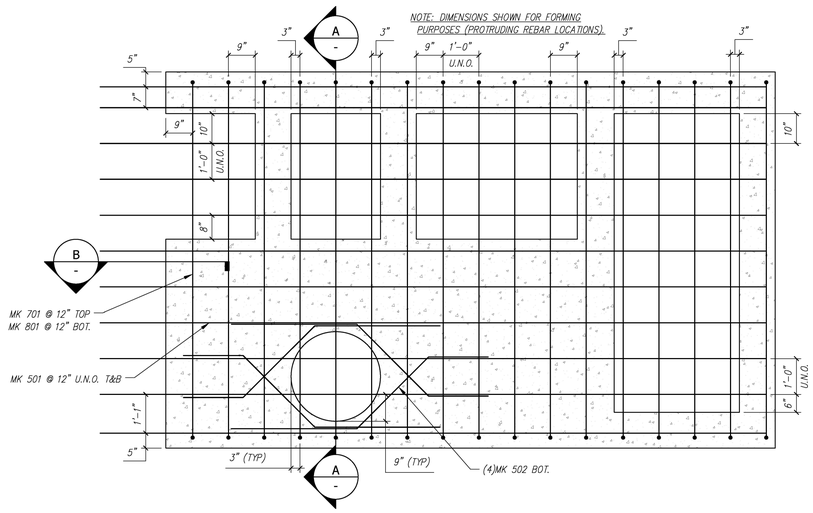
D | SHOP DRAWING – F3 | REV 1
Drawing No. R-S22624-F3
Quantity: 1 | Project No: | SHEET F3 OF

NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS

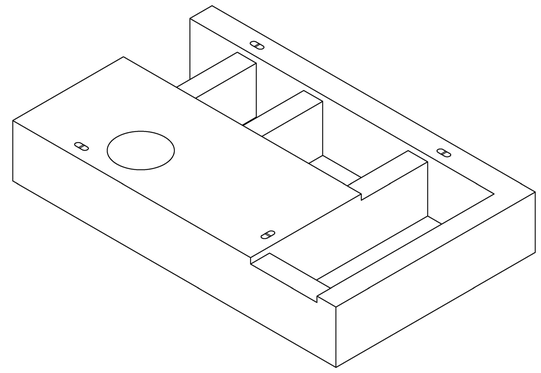


NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

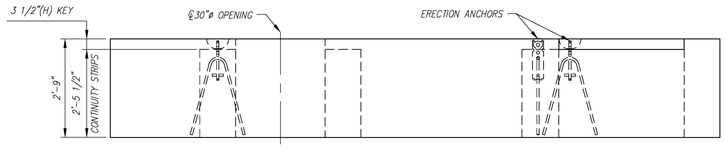
PLAN VIEW
SCALE: 1/2" = 1'-0"



REINFORCING PLAN
SCALE: 1/2" = 1'-0"



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT ELEVATION
SCALE: 1/2" = 1'-0"

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
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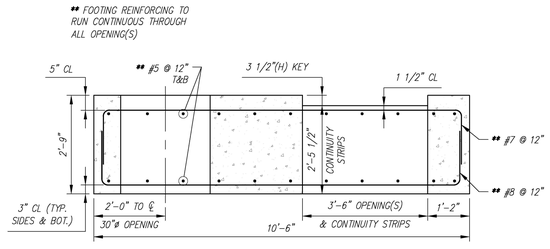
REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

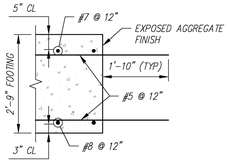
Date: 4/27/16

Signature:

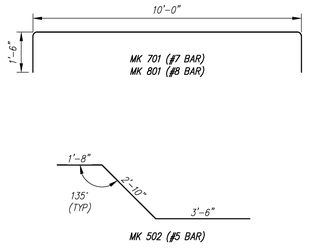
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TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



BENDING SCHEDULE
SCALE: 3/8" = 1'-0"

F4 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
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RM-00015	REBAR #5 BLACK-GR 60 40'	461	LB	
RM-00009	REBAR #7 BLACK-GR 60	452	LB	
RM-00104	REBAR #8 BLACK GR 60	590	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	11.20	CY	

F4 Rebar Schedule			
MK	QTY	LENGTH	
501	#5	22	18 ' 7.5 "
502	#5	4	8 ' 0 "
701	#7	17	13 ' 0 "
801	#8	17	13 ' 0 "

PIECE QUANTITY: 1 EACH
WEIGHT: 22.69 TONS

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Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By	A KOSTENKO	Date 04/04/2016
Reviewed By		Date
Approved By		Date

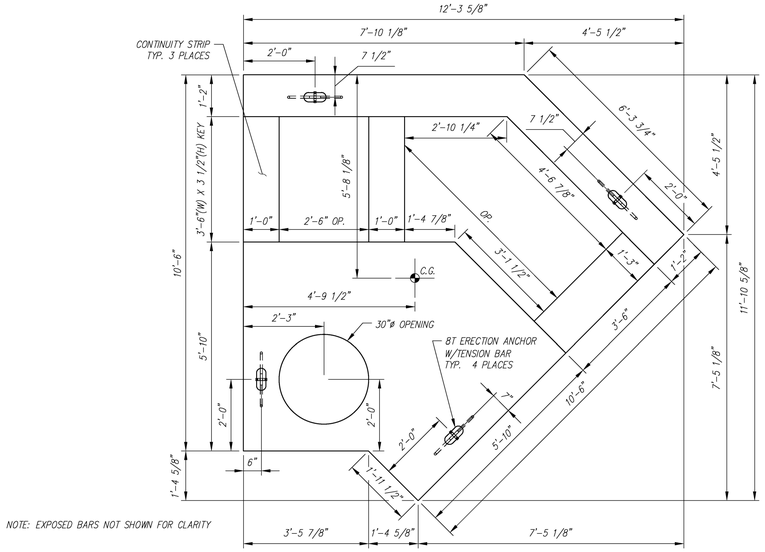
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D — SHOP DRAWING – F4 — REV 1
Drawing No. R-S22624-F4

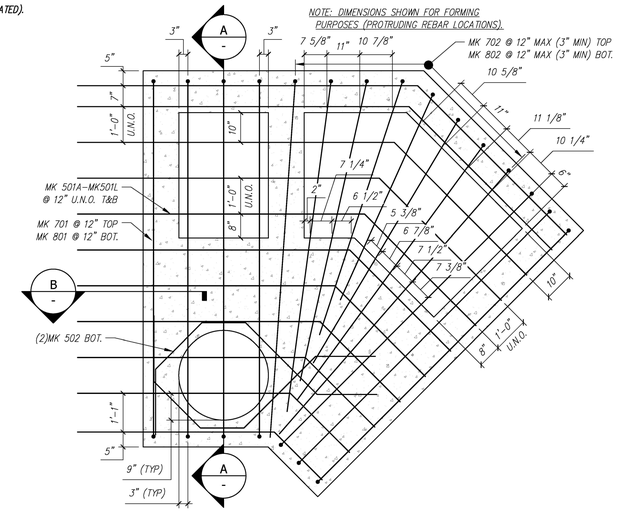
Quantity: 1 | Project No: | SHEET F4 OF

NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS



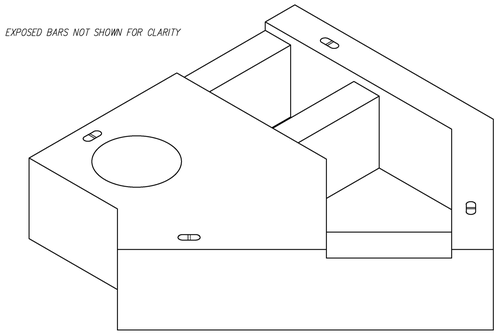
NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

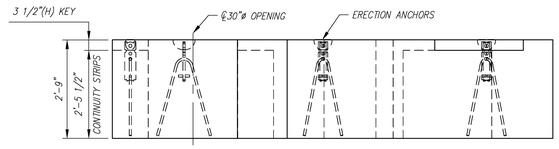
PLAN VIEW
SCALE: 1/2" = 1'-0"



REINFORCING PLAN
SCALE: 1/2" = 1'-0"

NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY





NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT ELEVATION
SCALE: 1/2" = 1'-0"

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

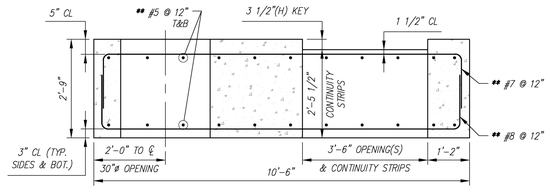
Stantec

Date: 4/27/16

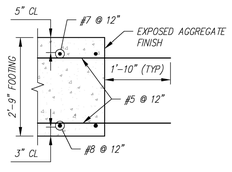
Signature:

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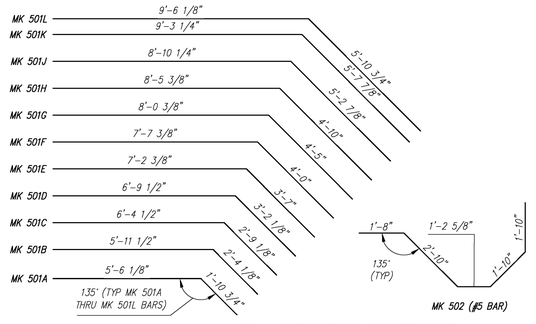
** FOOTING REINFORCING TO RUN CONTINUOUS THROUGH ALL OPENING(S)



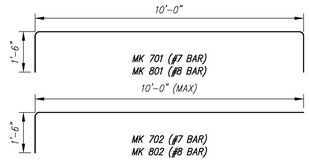
TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



BENDING SCHEDULE
SCALE: 3/8" = 1'-0"



F5 - BILL OF MATERIALS / EMBEDS

CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
RM-00015	REBAR #5 BLACK-GR 60 40'	285	LB	
RM-00009	REBAR #7 BLACK-GR 60	374	LB	
RM-00104	REBAR #8 BLACK GR 60	489	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	6.84	CY	

F5 Rebar Schedule

MK		QTY	LENGTH	
501A	#5	2	7 '- 5 "	
501B	#5	2	8 '- 3.5 "	
501C	#5	2	9 '- 1.5 "	
501D	#5	2	9 '- 11.5 "	
501E	#5	2	10 '- 9.5 "	
501F	#5	2	11 '- 7.5 "	
501G	#5	2	12 '- 5.5 "	
501H	#5	2	13 '- 3 "	
501J	#5	2	14 '- 1 "	
501K	#5	2	14 '- 11 "	
501L	#5	2	15 '- 5 "	
502	#5	2	9 '- 4.5 "	
701	#7	7	13 '- 0 "	
702	#7	8	11 '- 6 "	MAX
801	#8	7	13 '- 0 "	
802	#8	8	11 '- 6 "	MAX

PIECE QUANTITY: 1 EACH
WEIGHT: 13.84 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	04/15/2016	ADDED NOTES/DIMENSIONS TO "REINFORCING PLAN"	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By	A KOSTENKO	Date 04/04/2016
Reviewed By		Date
Approved By		Date

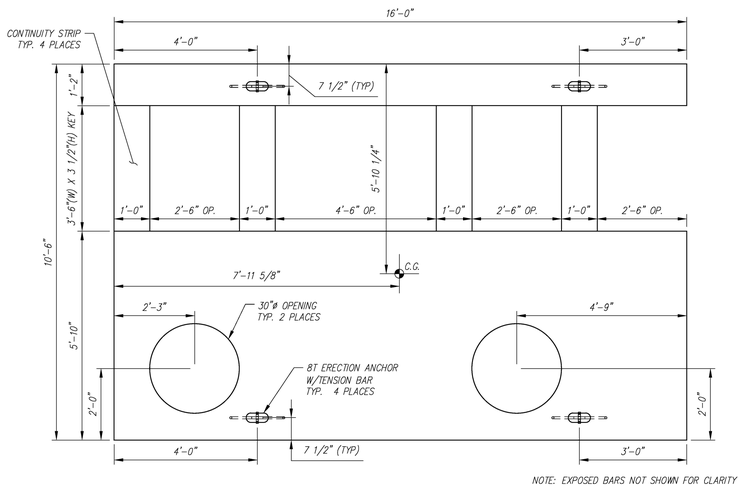
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

SHOP DRAWING – F5
Drawing No. R-S22624-F5
REV 1

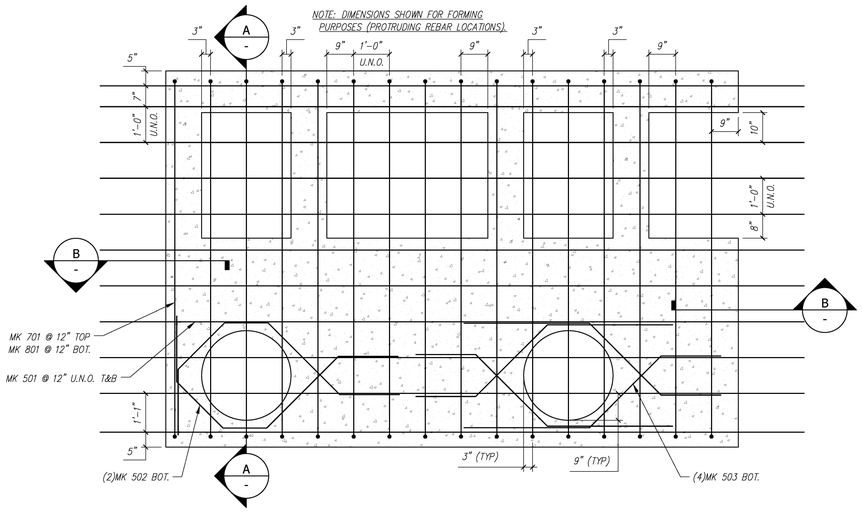
Quantity: 1 Project No: SHEET F5 OF

NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS

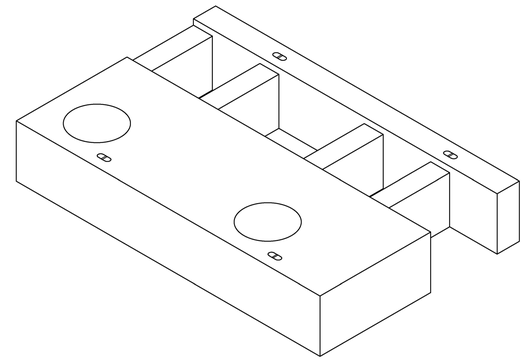


NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

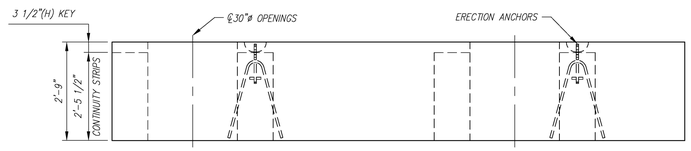
PLAN VIEW
SCALE: 1/2" = 1'-0"



REINFORCING PLAN
SCALE: 1/2" = 1'-0"

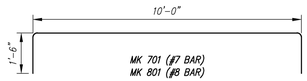


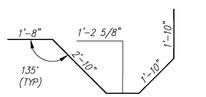
NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

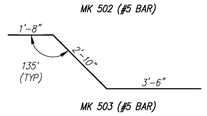


NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT ELEVATION
SCALE: 1/2" = 1'-0"





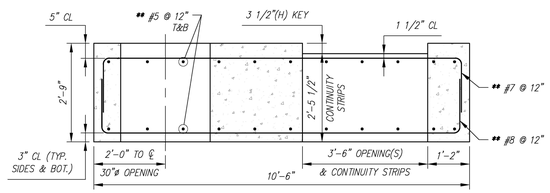


BENDING SCHEDULE
SCALE: 3/8" = 1'-0"

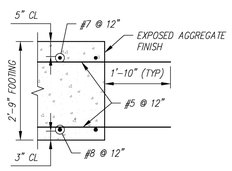
F6 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
RM-00015	REBAR #5 BLACK-GR 60 40'	504	LB	
RM-00009	REBAR #7 BLACK-GR 60	425	LB	
RM-00104	REBAR #8 BLACK GR 60	555	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	11.68	CY	

F6 Rebar Schedule			
MK	QTY	LENGTH	
501	#5	22	19 '- 8 "
502	#5	2	9 '- 4.5 "
503	#5	4	8 '- 0 "
701	#7	16	13 '- 0 "
801	#8	16	13 '- 0 "

** FOOTING REINFORCING TO RUN CONTINUOUS THROUGH ALL OPENING(S)



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

PIECE QUANTITY: 1 EACH
WEIGHT: 23.66 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	04/15/2016	ADDED NOTES/DIMENSIONS TO "REINFORCING PLAN"	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By A KOSTENKO Date 04/04/2016
Reviewed By Date
Approved By Date

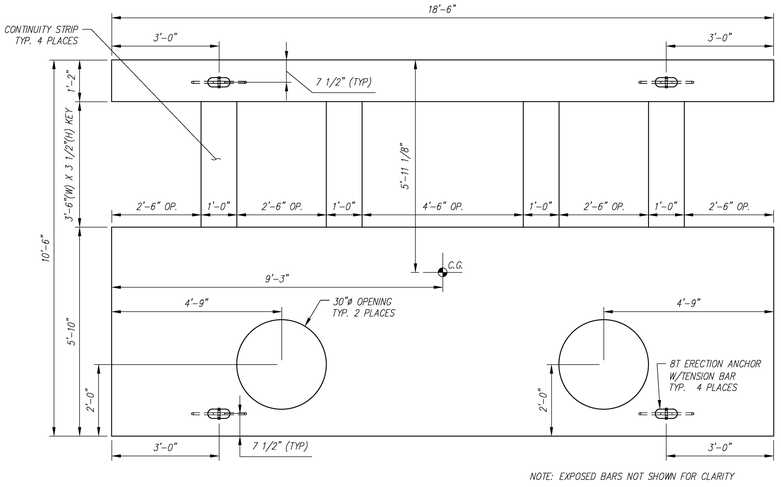
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D SHOP DRAWING – F6 REV 1
Drawing No. R-S22624-F6

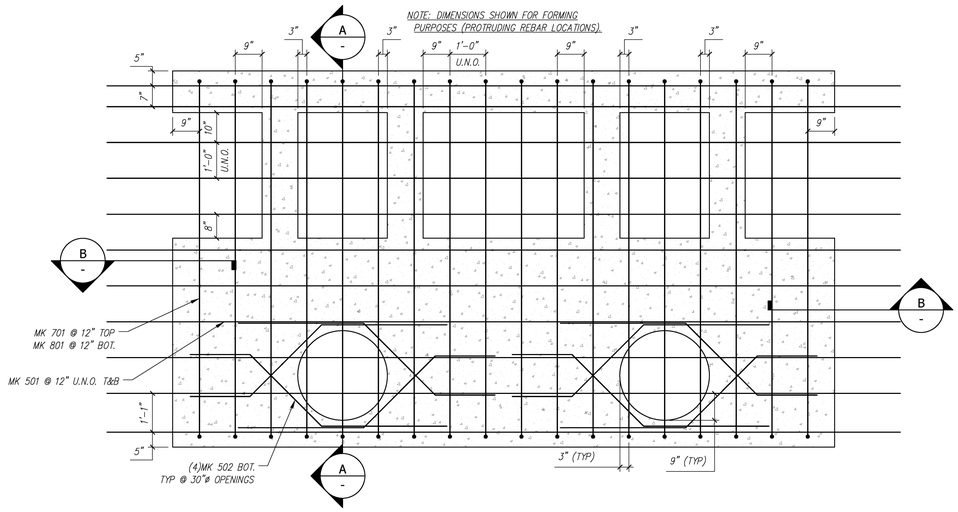
Quantity: 1 Project No: SHEET F6 OF

NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS

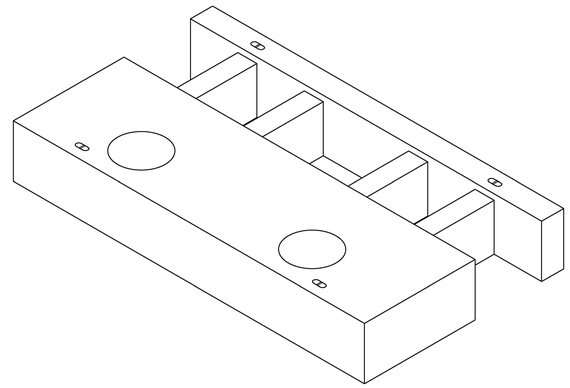


NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

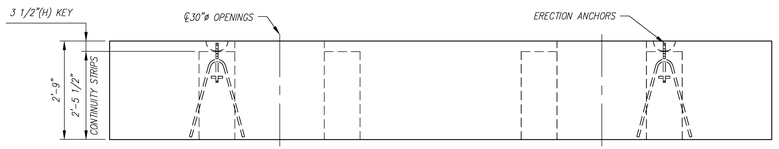
PLAN VIEW
SCALE: 1/2" = 1'-0"



REINFORCING PLAN
SCALE: 1/2" = 1'-0"



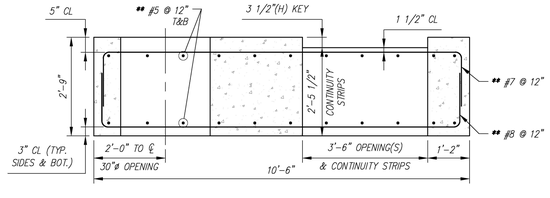
NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY



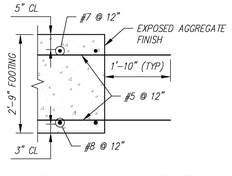
NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT ELEVATION
SCALE: 1/2" = 1'-0"

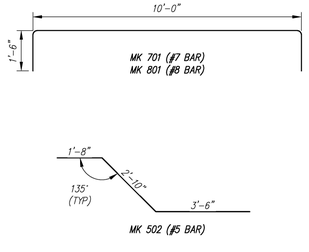
** FOOTING REINFORCING TO RUN CONTINUOUS THROUGH ALL OPENING(S)



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



BENDING SCHEDULE
SCALE: 3/8" = 1'-0"

F7 - BILL OF MATERIALS / EMBEDS

CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
RM-00015	REBAR #5 BLACK-GR 60 40'	575	LB	
RM-00009	REBAR #7 BLACK-GR 60	478	LB	
RM-00104	REBAR #8 BLACK GR 60	625	LB	
MK-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	13.46	CY	

F7 Rebar Schedule

MK		QTY	LENGTH
501	#5	22	22 '- 2 "
502	#5	8	8 '- 0 "
701	#7	18	13 '- 0 "
801	#8	18	13 '- 0 "

PIECE QUANTITY: 1 EACH
WEIGHT: 27.27 TONS

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	04/15/2016	ADDED NOTES/DIMENSIONS TO "REINFORCING PLAN"	AK

REVISIONS

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Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

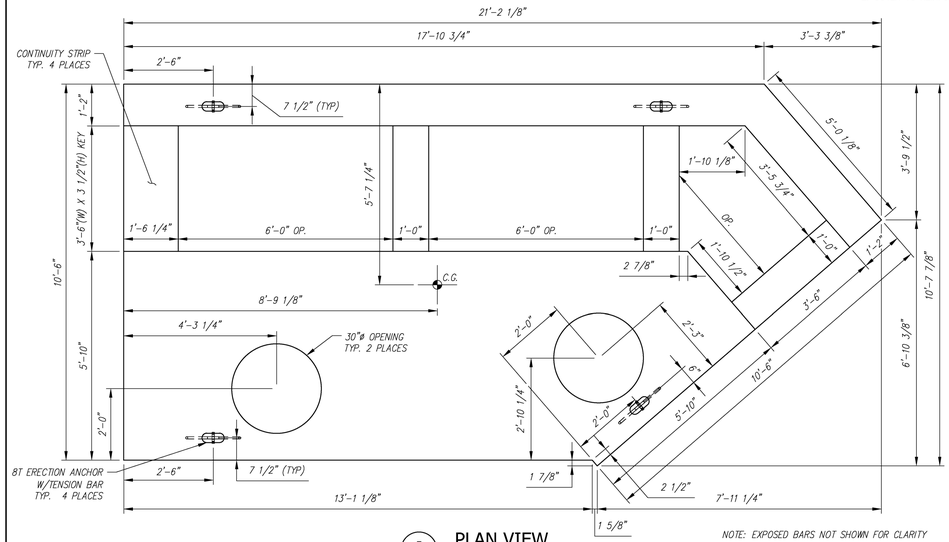
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D | Drawing No. R-S22624-F7 | SHOP DRAWING – F7 | REV 1

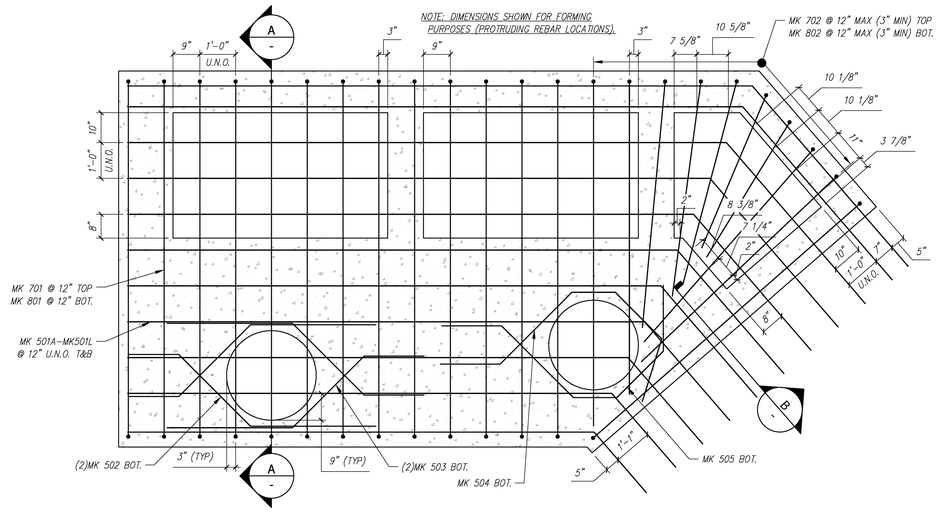
Quantity: 1 | Project No: | SHEET F7 OF

NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS

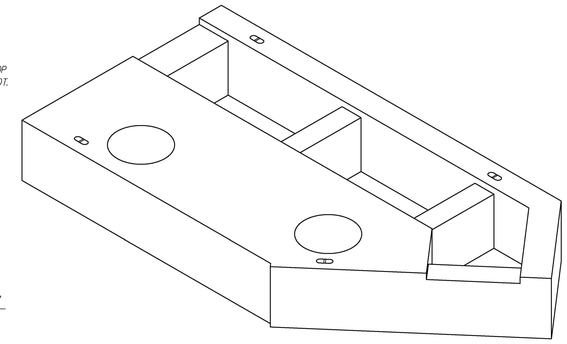


PLAN VIEW
SCALE: 1/2" = 1'-0"

NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

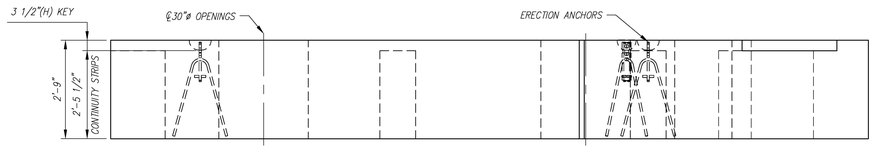


REINFORCING PLAN
SCALE: 1/2" = 1'-0"



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT ELEVATION
SCALE: 1/2" = 1'-0"

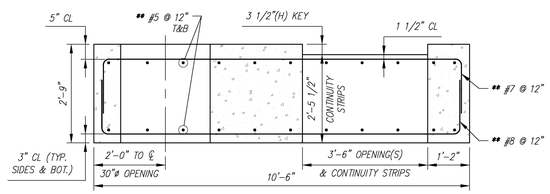
F8 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
RM-00015	REBAR #5 BLACK-GR 60 40'	509	LB	
RM-00009	REBAR #7 BLACK-GR 60	584	LB	
RM-00104	REBAR #8 BLACK GR 60	762	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	12.59	CY	

REVIEWED:	x	Stantec
REVIEWED, REVISIONS NOTED:		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 4/27/16		
Signature:		

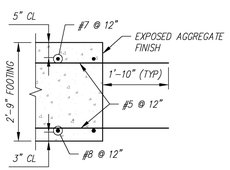
This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

F8 Rebar Schedule			
MK		QTY	LENGTH
501A	#5	2	15 '- 3.5 "
501B	#5	2	16 '- 3.5 "
501C	#5	2	17 '- 2.5 "
501D	#5	2	18 '- 1 "
501E	#5	2	19 '- 0 "
501F	#5	2	19 '- 11 "
501G	#5	2	20 '- 10 "
501H	#5	2	21 '- 9 "
501J	#5	2	22 '- 8 "
501K	#5	2	23 '- 7 "
501L	#5	2	24 '- 1.5 "
502	#5	2	7 '- 9 "
503	#5	2	8 '- 0 "
504	#5	1	9 '- 4.5 "
505	#5	1	9 '- 4.5 "
701	#7	14	13 '- 0 "
702	#7	9	11 '- 6 " MAX
801	#8	14	13 '- 0 "
802	#8	9	11 '- 6 " MAX

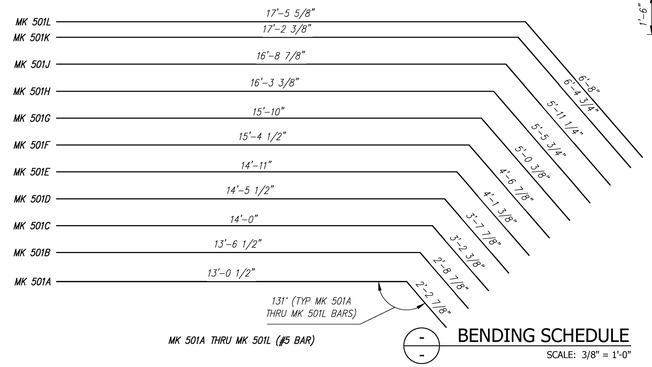
** FOOTING REINFORCING TO RUN CONTINUOUS THROUGH ALL OPENING(S)

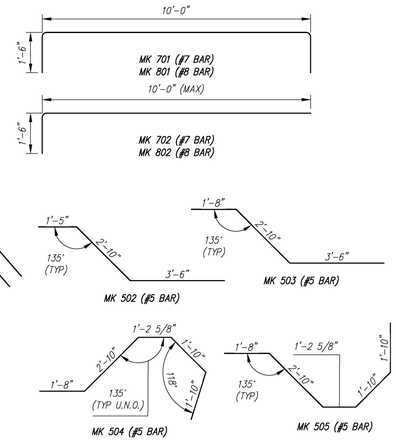


TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"





BENDING SCHEDULE
SCALE: 3/8" = 1'-0"

PIECE QUANTITY: 1 EACH
WEIGHT: 25.49 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	04/15/2016	ADDED NOTES/DIMENSIONS TO "REINFORCING PLAN"	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

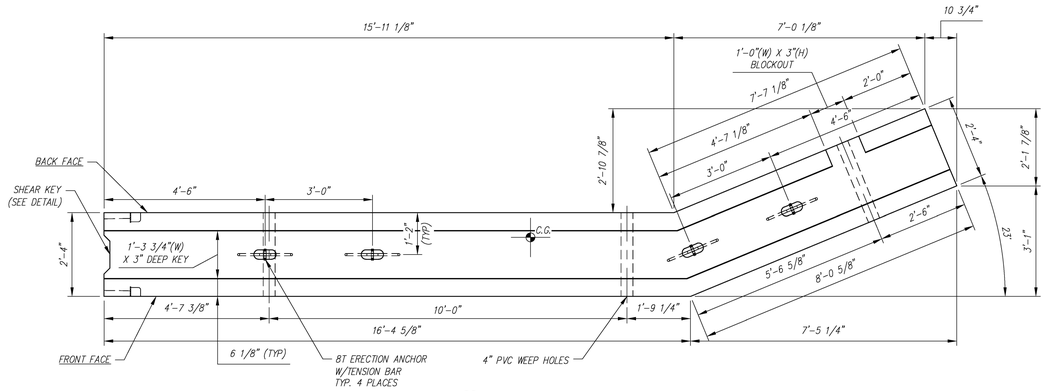
Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There
Drawn By A KOSTENKO Date 04/04/2016
Reviewed By Date
Approved By Date

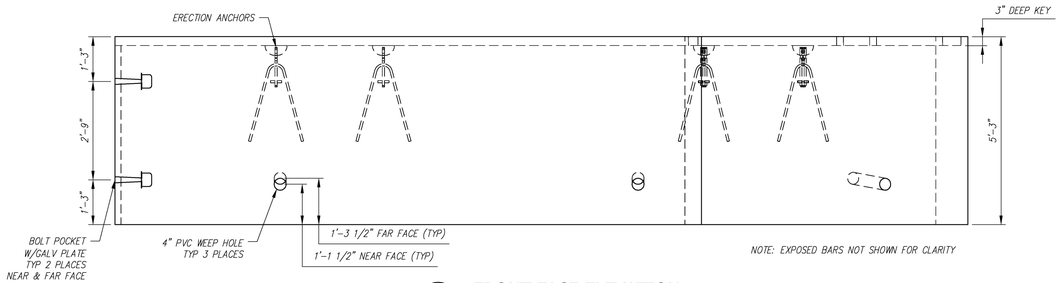
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D SHOP DRAWING – F8 REV 1
Drawing No. R-S22624-F8
Quantity: 1 Project No: SHEET F8 OF



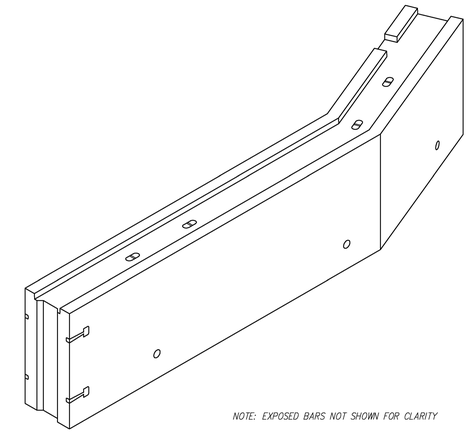
PLAN VIEW
SCALE: 1/2" = 1'-0"



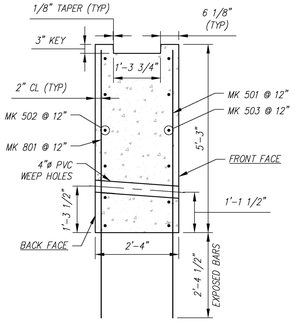
NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT FACE ELEVATION
SCALE: 1/2" = 1'-0"

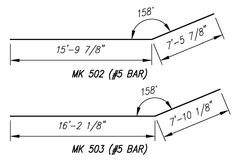
NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS



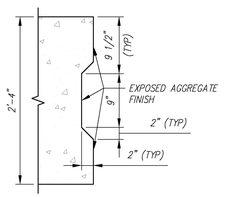
NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY



TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



BENDING SCHEDULE
SCALE: 1/8" = 1'-0"



TYP. SHEAR KEY DETAIL (PLAN)
SCALE: 1" = 1'-0"

P1 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	7.5	FT	
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
EM-00126	BOLT POCKET PLATES (GALVANIZED)	4	EA	
RM-00015	REBAR #5 BLACK-GR 60 40'	490	LB	
RM-00104	REBAR #8 BLACK GR 60	478	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	10.53	CY	

P1 Rebar Schedule			
MK	QTY	LENGTH	
501 #5	25	7 ' - 5.5 "	
502 #5	6	23 ' - 3.5 "	
503 #5	6	24 ' - 0 "	
801 #8	24	7 ' - 5.5 "	

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X	Stantec
REVIEWED, REVISIONS NOTED:		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 4/27/16

Signature:

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PIECE QUANTITY: 1 EACH
WEIGHT: 21.31 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
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REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
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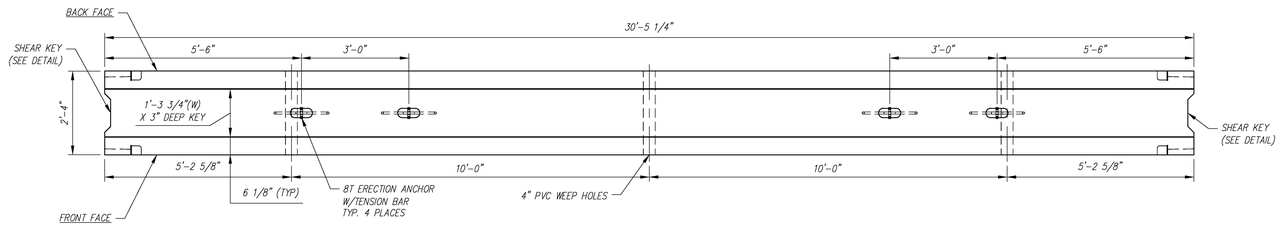
Drawn By A KOSTENKO Date 04/04/2016
Reviewed By Date
Approved By Date

VTAOT PROJ. NO.: BRF 0151(21)

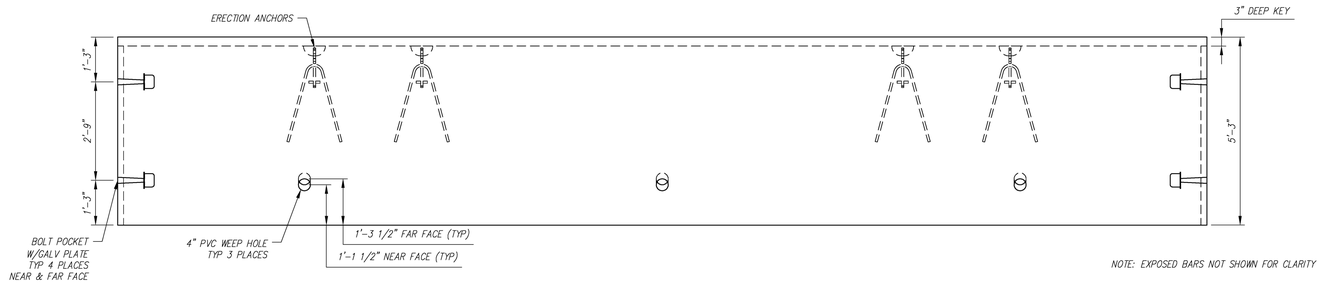
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D | SHOP DRAWING – P1 | REV 0
Drawing No. R-S22624-P1
Quantity: 1 | Project No: | SHEET P1 OF

NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS

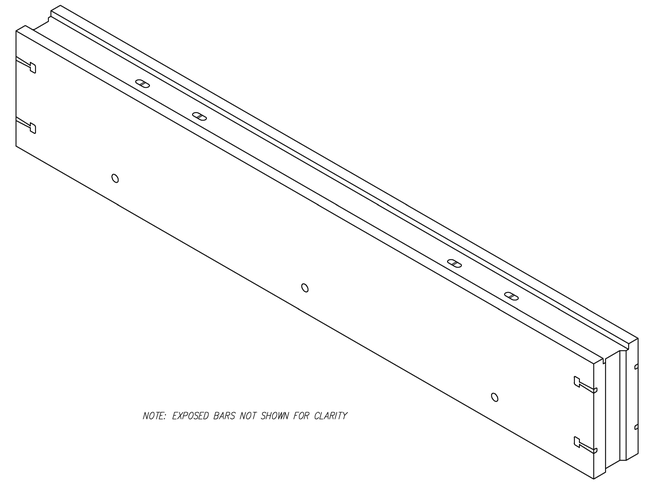


PLAN VIEW
SCALE: 1/2" = 1'-0"



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

FRONT FACE ELEVATION
SCALE: 1/2" = 1'-0"



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

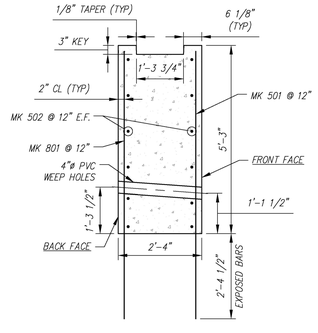
REVIEWED:	x
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

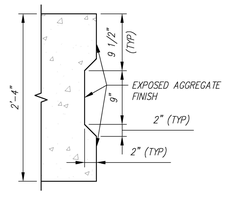
Date: 4/27/16

Signature:

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TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



TYP. SHEAR KEY DETAIL (PLAN)
SCALE: 1" = 1'-0"

P2 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	7.5	FT	
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
EM-00125	BOLT POCKET PLATES (GALVANIZED)	8	EA	
RM-00015	REBAR #5 BLACK-GR 60 40'	618	LB	
RM-00104	REBAR #8 BLACK GR 60	617	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	13.35	CY	

P2 Rebar Schedule			
MK	QTY	LENGTH	
501 #5	31	7 ' - 5.5 "	
502 #5	12	30 ' - 1 "	
801 #8	31	7 ' - 5.5 "	

PIECE QUANTITY: 2 EACH
WEIGHT: 27.04 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
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Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

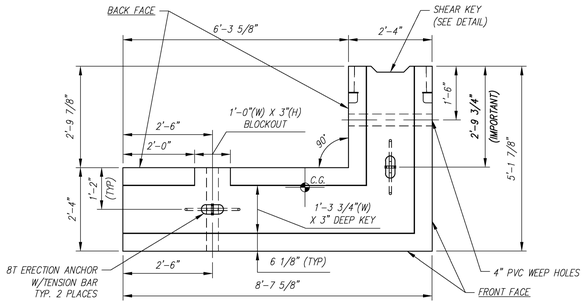
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

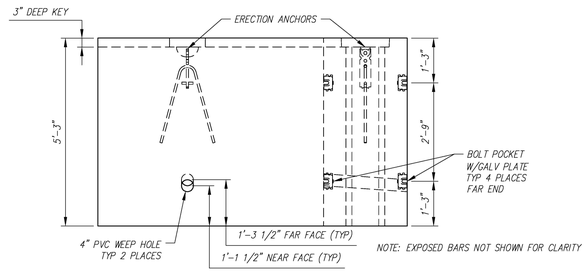
D | Drawing No. R-S22624-P2 | SHOP DRAWING – P2 | REV 0

Quantity: 1 | Project No: | SHEET P2 OF

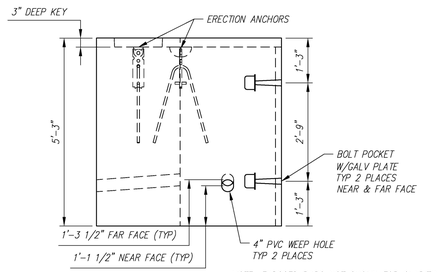
NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS



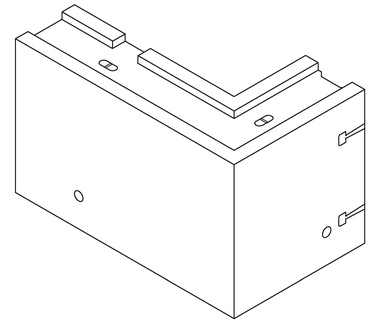
PLAN VIEW
SCALE: 1/2" = 1'-0"



FRONT FACE ELEVATION
SCALE: 1/2" = 1'-0"



RIGHT SIDE ELEVATION
SCALE: 1/2" = 1'-0"



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

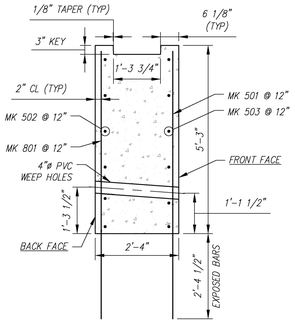
REVIEWED:	x
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

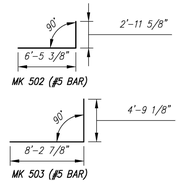
Date: 4/27/16

Signature:

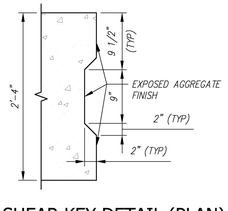
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TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



BENDING SCHEDULE
SCALE: 1/8" = 1'-0"



TYP. SHEAR KEY DETAIL (PLAN)
SCALE: 1" = 1'-0"

P3 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	5	FT	
EM-00122	8TON ERECTION ANCHOR GALV QL049G	2	EA	W/TENSION BAR
EM-00125	BOLT POCKET PLATES (GALVANIZED)	4	EA	
RM-00015	REBAR #5 BLACK-GR 60 40'	257	LB	
RM-00104	REBAR #8 BLACK GR 60	219	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	5.01	CY	

P3 Rebar Schedule			
MK	QTY	LENGTH	
501	#5	15	7 ' - 5.5 "
502	#5	6	9 ' - 5 "
503	#5	6	13 ' - 0 "
801	#8	11	7 ' - 5.5 "

PIECE QUANTITY: 1 EACH
WEIGHT: 10.15 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
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Drawn By	A KOSTENKO	Date 04/04/2016
Reviewed By		Date
Approved By		Date

VTAOT PROJ. NO.: BRF 0151(21)

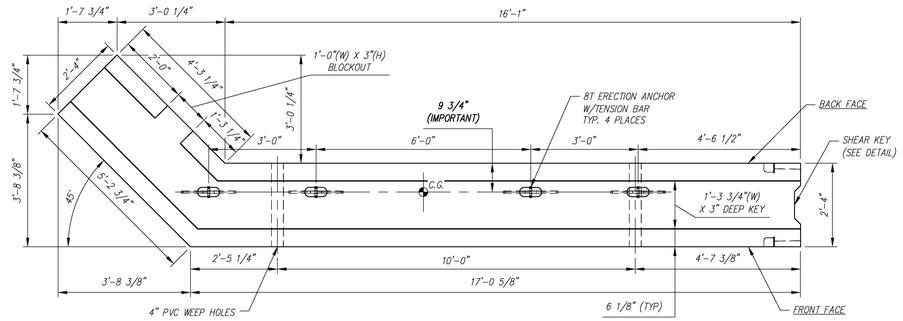
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

SHOP DRAWING – P3

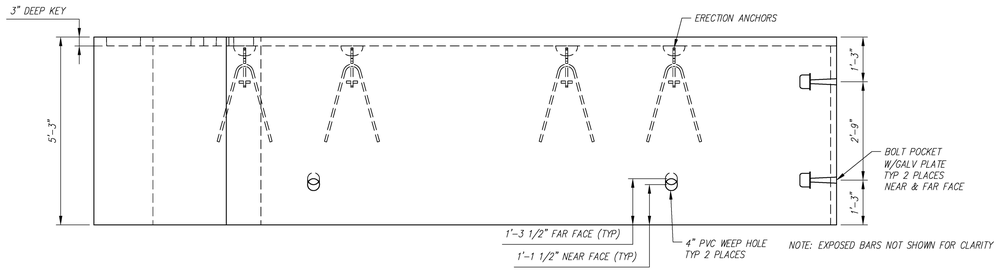
D | Drawing No. R-S22624-P3 | REV 0

Quantity: 1 | Project No: | SHEET P3 OF

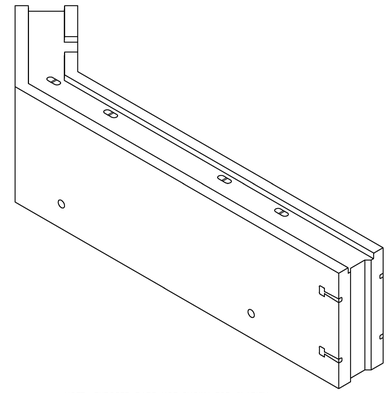
NOTES:
1. ALL REINFORCING TO BE LEVEL I, BLACK (UNCOATED).
2. COVER TO REINFORCING: SEE DETAILS



PLAN VIEW
SCALE: 1/2" = 1'-0"



FRONT FACE ELEVATION
SCALE: 1/2" = 1'-0"



NOTE: EXPOSED BARS NOT SHOWN FOR CLARITY

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
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CONFORMANCE
BY: Rob Young DATE: 04/28/2016

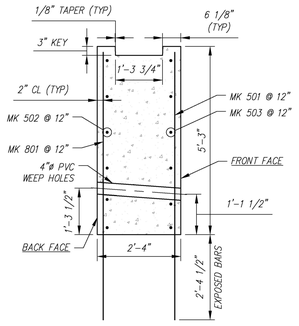
REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

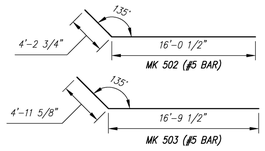
Date: 4/27/16

Signature:

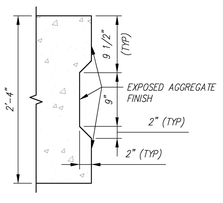
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TYP. REINFORCING SECTION
SCALE: 1/2" = 1'-0"



BENDING SCHEDULE
SCALE: 1/8" = 1'-0"



TYP. SHEAR KEY DETAIL (PLAN)
SCALE: 1" = 1'-0"

P4 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	5	FT	
EM-00122	8TON ERECTION ANCHOR GALV QL049G	4	EA	W/TENSION BAR
EM-00125	BOLT POCKET PLATES (GALVANIZED)	4	EA	
RM-00015	REBAR #5 BLACK-GR 60 40'	442	LB	
RM-00104	REBAR #8 BLACK GR 60	418	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	9.36	CY	

P4 Rebar Schedule			
MK		QTY	LENGTH
501	#5	23	7 ' - 5.5 "
502	#5	6	20 ' - 3 "
503	#5	6	21 ' - 9 "
801	#8	21	7 ' - 5.5 "

PIECE QUANTITY: 1 EACH
WEIGHT: 18.95 TONS

Contractor is to verify that all information shown on drawings has been thoroughly checked, complies with the contract documents and is adequate to meet the field conditions. Some dimensions and details may differ slightly from contract drawings to accommodate the manufacturing or design process. Approval of this drawing indicates that any deviation from the contract documents has been reviewed and found to be acceptable. Production will not commence until receipt of signed, approved shop drawings.

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Rev.	Date	DESCRIPTION	By
10			
9			
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7			
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3			
2			
1			

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH, 03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By	A. KOSTENKO	Date 04/04/2016
Reviewed By		Date
Approved By		Date

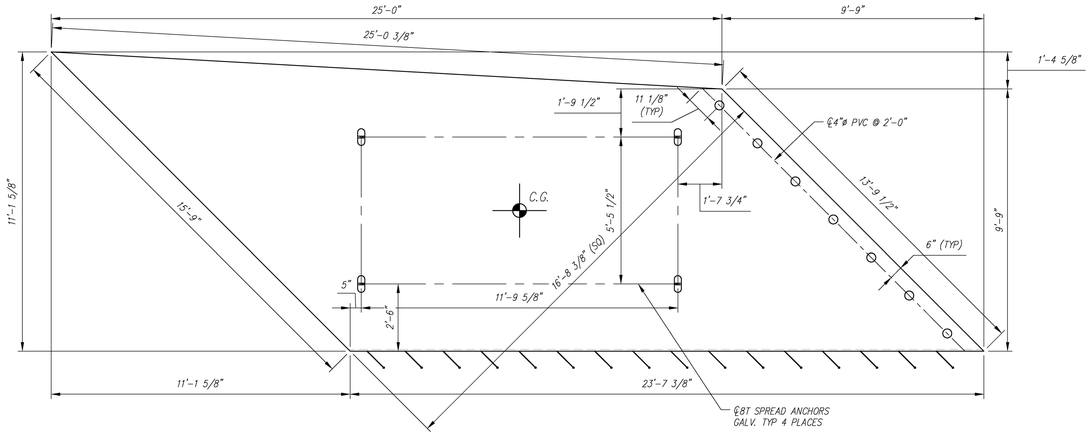
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

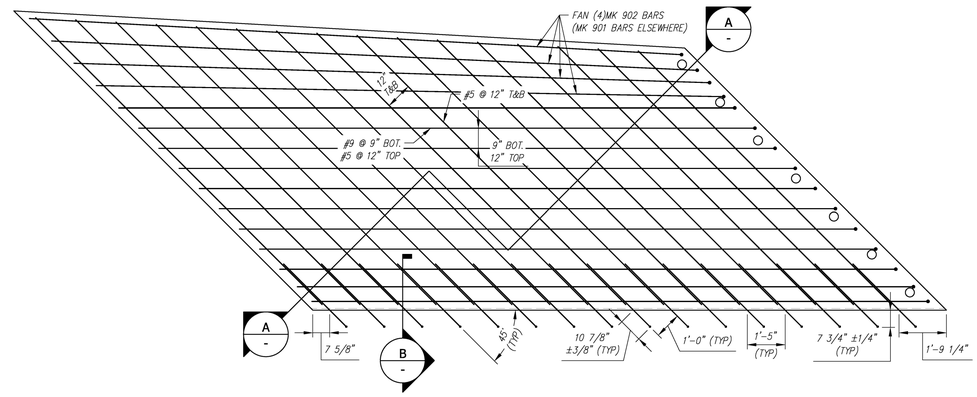
D — SHOP DRAWING – P4 — REV 0
Drawing No. R-S22624-P4

Quantity: 1 | Project No: | SHEET P4 OF

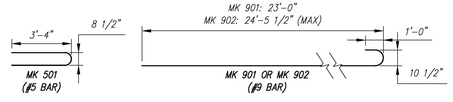
NOTES:
1. ALL REINFORCING TO BE LEVEL I, EPOXY COATED.
2. COVER TO REINFORCING: SEE DETAILS



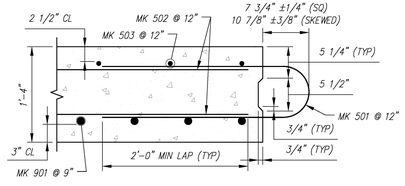
- PLAN VIEW
SCALE: 3/8" = 1'-0"



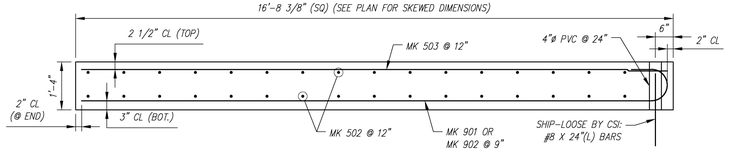
- REINFORCING PLAN
SCALE: 3/8" = 1'-0"



- BENDING SCHEDULE
SCALE: 1/4" = 1'-0"



B
- SECTION
SCALE: 1" = 1'-0"



A-A
- TYPICAL REINFORCING SECTION
SCALE: 1/2" = 1'-0"

AS1 - BILL OF MATERIALS / EMBEDS			
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	9.5	FT	
EM-00039	SPREAD ANCHORS 8T GALV	4	EA	
RM-00016	REBAR #5 EPOXY- GR 60 40'	906	LB	
RM-00090	REBAR #9 EPOXY-GR 60	1286	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	12.18	CY	

ALL REBAR TO BE EPOXY COATED

AS1 Rebar Schedule				
MK		QTY	LENGTH	
501	#5	16	7 ' - 4 "	
502	#5	32	15 ' - 1 "	MAX
503	#5	11	24 ' - 5.5 "	MAX
901	#9	11	24 ' - 10 "	
902	#9	4	26 ' - 3.5 "	MAX

PIECE QUANTITY: 1 EACH
WEIGHT: 24.67 TONS

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X	Stantec
REVIEWED, REVISIONS NOTED:		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 4/27/16

Signature:

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Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By	A KOSTENKO	Date 04/04/2016
Reviewed By		Date
Approved By		Date

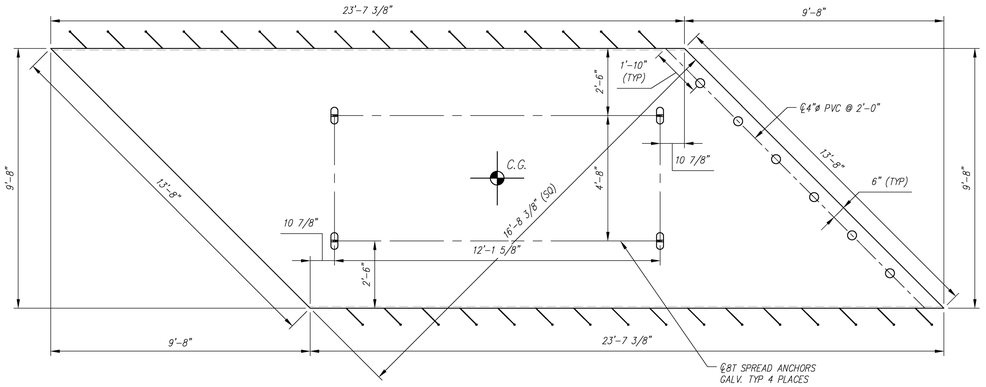
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

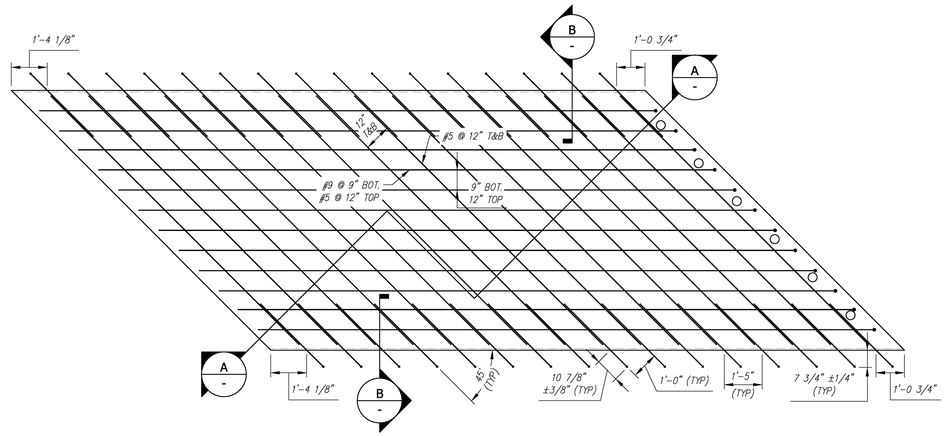
D | Drawing No. R-S22624-AS1 | SHOP DRAWING - AS1 | REV 0

Quantity: | Project No: | SHEET AS1 OF

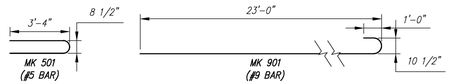
NOTES:
1. ALL REINFORCING TO BE LEVEL I, EPOXY COATED.
2. COVER TO REINFORCING: SEE DETAILS



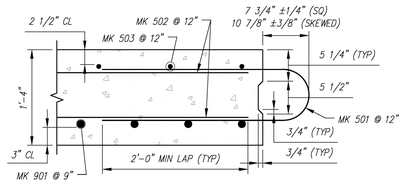
PLAN VIEW
SCALE: 3/8" = 1'-0"



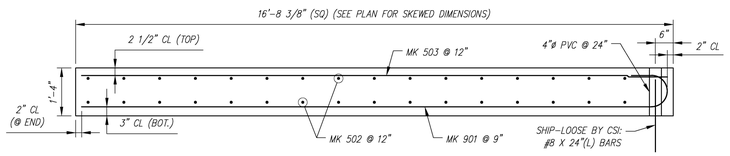
REINFORCING PLAN
SCALE: 3/8" = 1'-0"



BENDING SCHEDULE
SCALE: 1/4" = 1'-0"



SECTION
SCALE: 1" = 1'-0"



TYPICAL REINFORCING SECTION
SCALE: 1/2" = 1'-0"

AS2 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	8	FT	
EM-00039	SPREAD ANCHORS 8T GALV	4	EA	
RM-00016	REBAR #5 EPOXY- GR 60 40'	921	LB	
RM-00090	REBAR #9 EPOXY-GR 60	1013	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	11.27	CY	

ALL REBAR TO BE EPOXY COATED

AS2 Rebar Schedule			
MK	QTY	LENGTH	
501	#5	32	7 ' - 4 "
502	#5	32	13 ' - 1 "
503	#5	10	23 ' - 0 "
901	#9	12	24 ' - 10 "

PIECE QUANTITY: 1 EACH
WEIGHT: 22.83 TONS

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

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REVISIONS

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Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working To Get You There

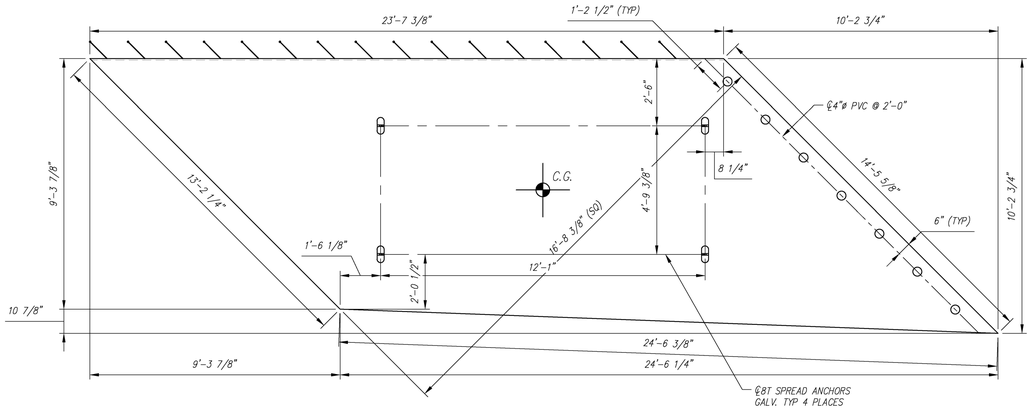
Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

VTAOT PROJ. NO.: BRF 0151(21)

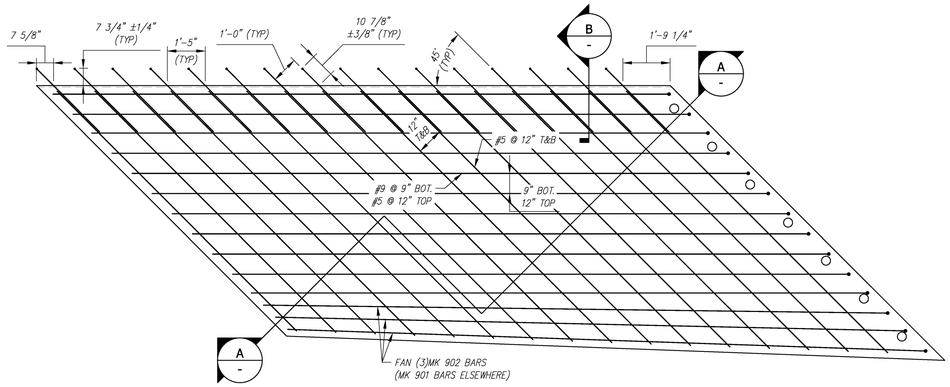
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D | SHOP DRAWING – AS2 | REV 0
Drawing No. R-S22624-AS2
Quantity: | Project No: | SHEET AS2 OF

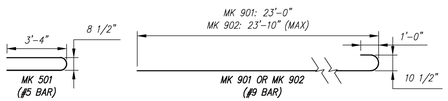
NOTES:
1. ALL REINFORCING TO BE LEVEL I, EPOXY COATED.
2. COVER TO REINFORCING: SEE DETAILS



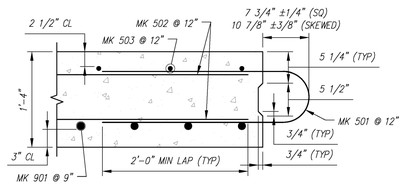
PLAN VIEW
SCALE: 3/8" = 1'-0"



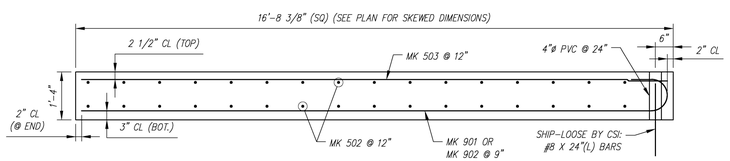
REINFORCING PLAN
SCALE: 3/8" = 1'-0"



BENDING SCHEDULE
SCALE: 1/4" = 1'-0"



B
SECTION
SCALE: 1" = 1'-0"



A-A
TYPICAL REINFORCING SECTION
SCALE: 1/2" = 1'-0"

AS3 - BILL OF MATERIALS / EMBEDS

CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	9.5	FT	
EM-00039	SPREAD ANCHORS 8T GALV	4	EA	
RM-00016	REBAR #5 EPOXY- GR 60 40'	857	LB	
RM-00090	REBAR #9 EPOXY-GR 60	1191	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	11.40	CY	

ALL REBAR TO BE EPOXY COATED

AS3 Rebar Schedule

MK		QTY	LENGTH	
501	#5	16	7 ' - 4 "	
502	#5	32	13 ' - 10 "	MAX
503	#5	11	23 ' - 10 "	MAX
901	#9	11	24 ' - 10 "	
902	#9	3	25 ' - 8 "	MAX

PIECE QUANTITY: 1 EACH
WEIGHT: 23.09 TONS

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

REVIEWED:	X
REVIEWED, REVISIONS NOTED:	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/27/16

Signature:

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Specifications:
Other Sources:

Concrete Systems Inc.
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Phone 603-889-4163
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STATE AGENCY
VTrans Working to Get You There

Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

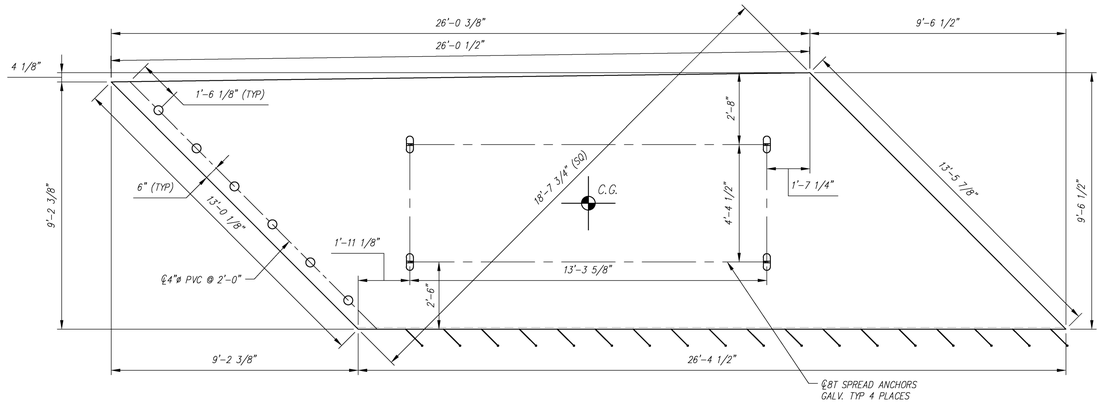
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

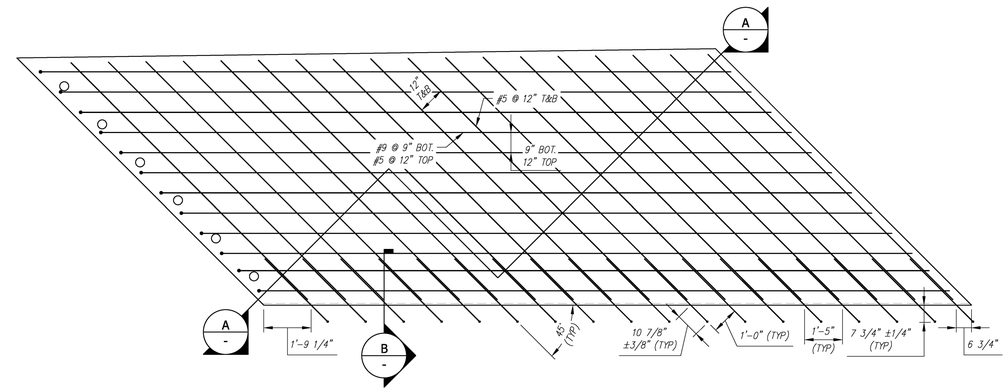
D | SHOP DRAWING – AS3 | REV 0
Drawing No. R-S22624-AS3

Quantity: | Project No: | SHEET AS3 OF

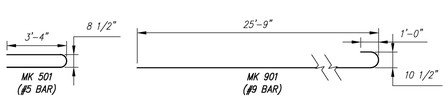
NOTES:
1. ALL REINFORCING TO BE LEVEL I, EPOXY COATED.
2. COVER TO REINFORCING: SEE DETAILS



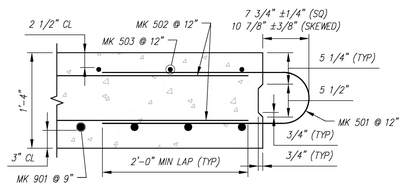
PLAN VIEW
SCALE: 3/8" = 1'-0"



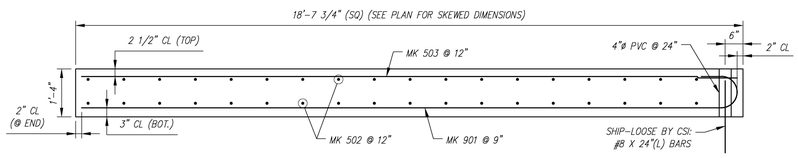
REINFORCING PLAN
SCALE: 3/8" = 1'-0"



BENDING SCHEDULE
SCALE: 1/4" = 1'-0"



B
SECTION
SCALE: 1" = 1'-0"



A-A
TYPICAL REINFORCING SECTION
SCALE: 1/2" = 1'-0"

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
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BY: Rob Young DATE: 04/28/2016

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Stantec

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AS4 - BILL OF MATERIALS / EMBEDS

CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	8	FT	
EM-00039	SPREAD ANCHORS 8T GALV	4	EA	
RM-00016	REBAR #5 EPOXY- GR 60 40'	891	LB	
RM-00090	REBAR #9 EPOXY-GR 60	1125	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	12.20	CY	

ALL REBAR TO BE EPOXY COATED

AS4 Rebar Schedule

MK		QTY	LENGTH	
501	#5	18	7 ' 4 "	
502	#5	36	12 ' 11 "	MAX
503	#5	10	25 ' 9 "	
901	#9	12	27 ' 7 "	

PIECE QUANTITY: 1 EACH
WEIGHT: 24.71 TONS

Contractor is to verify that all information shown on drawings has been thoroughly checked, complies with the contract documents and is adequate to meet the field conditions. Some dimensions and details may differ slightly from contract drawings to accommodate the manufacturing or design process. Approval of this drawing indicates that any deviation from the contract documents has been reviewed and found to be acceptable. Production will not commence until receipt of signed, approved shop drawings.

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	04/15/2016	MK 901 BAR LENGTH	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

Drawn By A KOSTENKO Date 04/04/2016
Reviewed By Date
Approved By Date

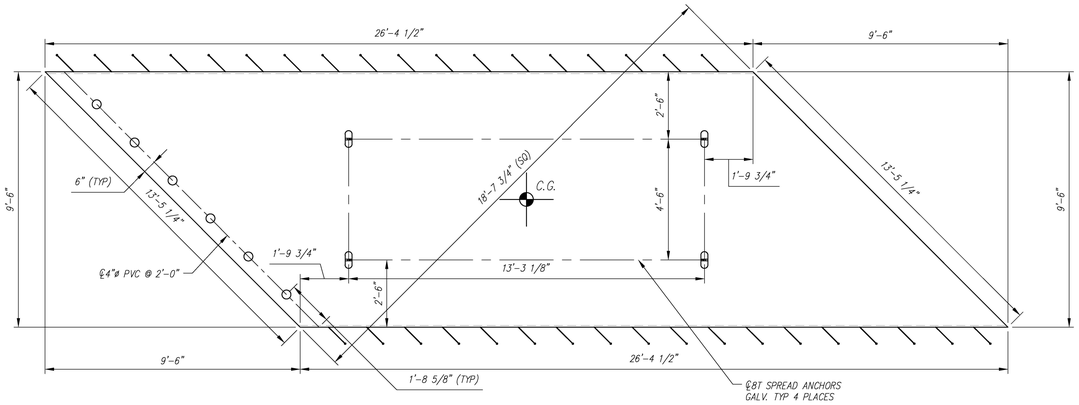
VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

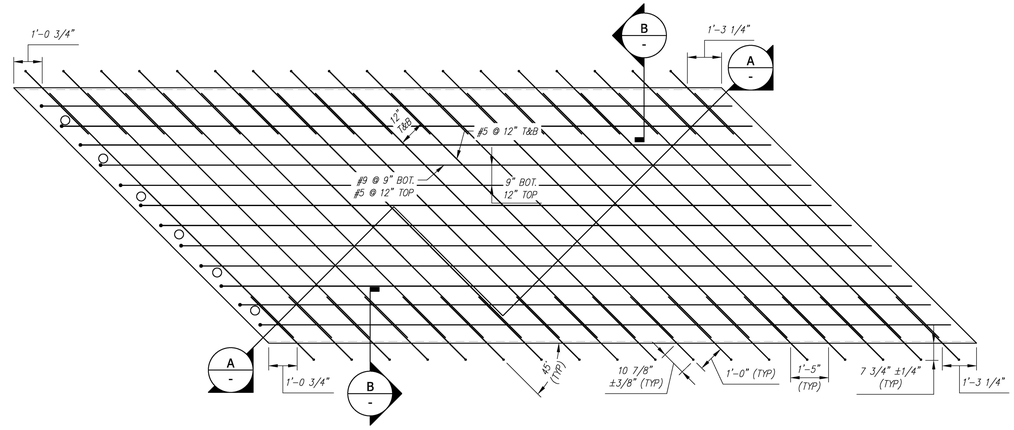
D SHOP DRAWING – AS4 REV 1
Drawing No. R-S22624-AS4

Quantity: Project No: SHEET AS4 OF

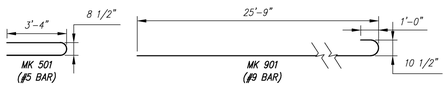
NOTES:
1. ALL REINFORCING TO BE LEVEL I, EPOXY COATED.
2. COVER TO REINFORCING: SEE DETAILS



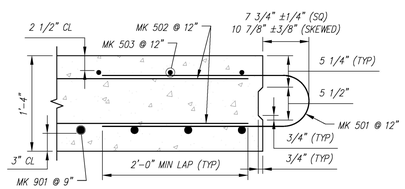
- - PLAN VIEW
SCALE: 3/8" = 1'-0"



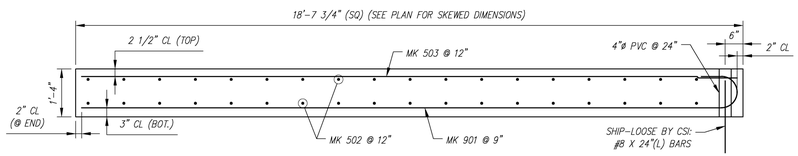
- - REINFORCING PLAN
SCALE: 3/8" = 1'-0"



- - BENDING SCHEDULE
SCALE: 1/4" = 1'-0"



B - SECTION
SCALE: 1" = 1'-0"



A-A - TYPICAL REINFORCING SECTION
SCALE: 1/2" = 1'-0"



Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

AS5 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	8	FT	
EM-00039	SPREAD ANCHORS 8T GALV	4	EA	
RM-00016	REBAR #5 EPOXY- GR 60 40'	1029	LB	
RM-00090	REBAR #9 EPOXY-GR 60	1125	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	12.37	CY	

ALL REBAR TO BE EPOXY COATED

AS5 Rebar Schedule			
MK		QTY	LENGTH
501	#5	36	7 '- 4 "
502	#5	36	12 '- 11 "
503	#5	10	25 '- 9 "
901	#9	12	27 '- 7 "

PIECE QUANTITY: 1 EACH
WEIGHT: 25.06 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	04/15/2016	MK 901 BAR LENGTH	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans Working to Get You There

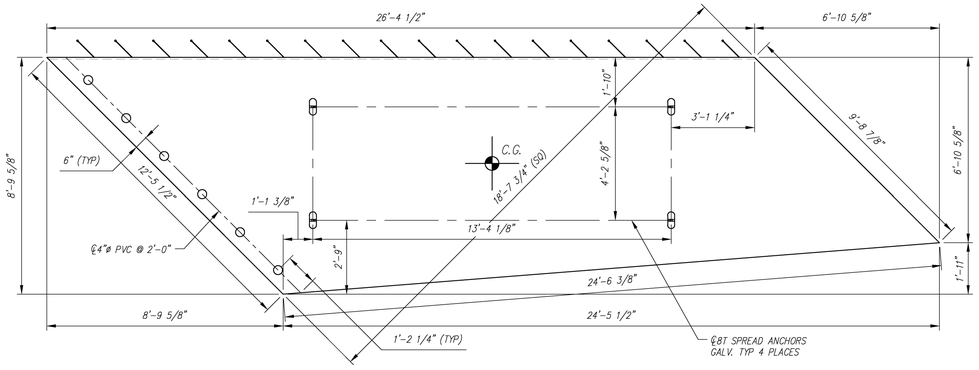
Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

VTAOT PROJ. NO.: BRF 0151(21)

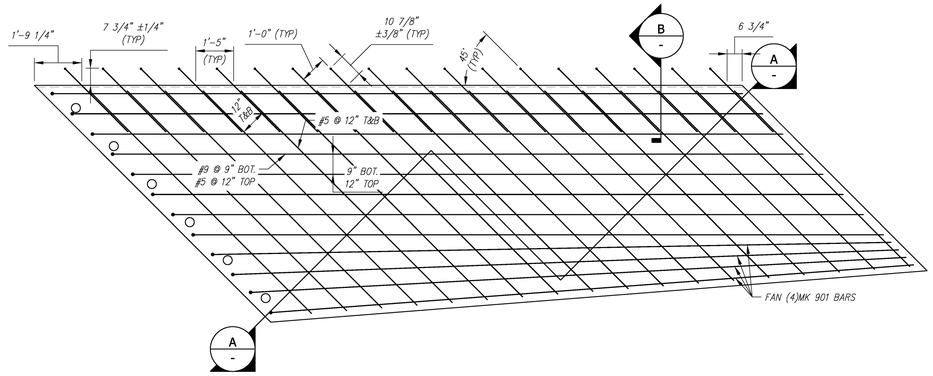
MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

SHOP DRAWING – AS5
Drawing No. R-S22624-AS5
REV 1

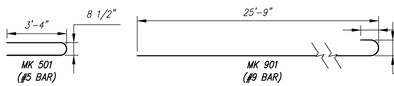
Quantity: Project No: SHEET AS5 OF



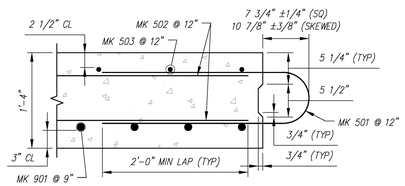
- PLAN VIEW
SCALE: 3/8" = 1'-0"



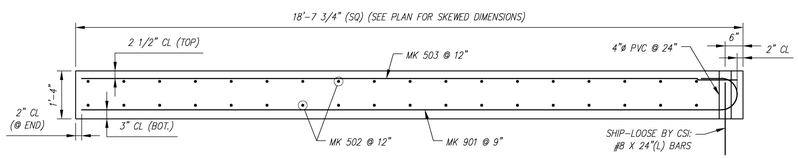
- REINFORCING PLAN
SCALE: 3/8" = 1'-0"



- BENDING SCHEDULE
SCALE: 1/4" = 1'-0"



B
-
SECTION
SCALE: 1" = 1'-0"



A-A
-
TYPICAL REINFORCING SECTION
SCALE: 1/2" = 1'-0"

REVIEWED:	x	Stantec
REVIEWED, REVISIONS NOTED:		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 4/27/16

Signature:

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Vermont Agency of Transportation
RECEIVED
ON: April 27, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 04/28/2016

AS6 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00034	4" FOAM CORE PVC	8	FT	
EM-00039	SPREAD ANCHORS 8T GALV	4	EA	
RM-00016	REBAR #5 EPOXY- GR 60 40'	821	LB	
RM-00090	REBAR #9 EPOXY-GR 60	1125	LB	
MX-FA5000SC30	MIX DESIGN - FLY ASH 5000 SELF COMPACTIN	10.22	CY	

ALL REBAR TO BE EPOXY COATED

AS6 Rebar Schedule				
MK		QTY	LENGTH	
501	#5	18	7 '- 4 "	
502	#5	36	11 '- 9 "	MAX
503	#5	9	25 '- 9 "	MAX
901	#9	12	27 '- 7 "	MAX

PIECE QUANTITY: 1 EACH
WEIGHT: 20.70 TONS

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Rev.	Date	DESCRIPTION	By
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	04/15/2016	MK 901 BAR LENGTH	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: STANTEC CONSULTING SERVICES, INC.
Project No:
Drawings: PROJECT PLANS
Specifications:
Other Sources:

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

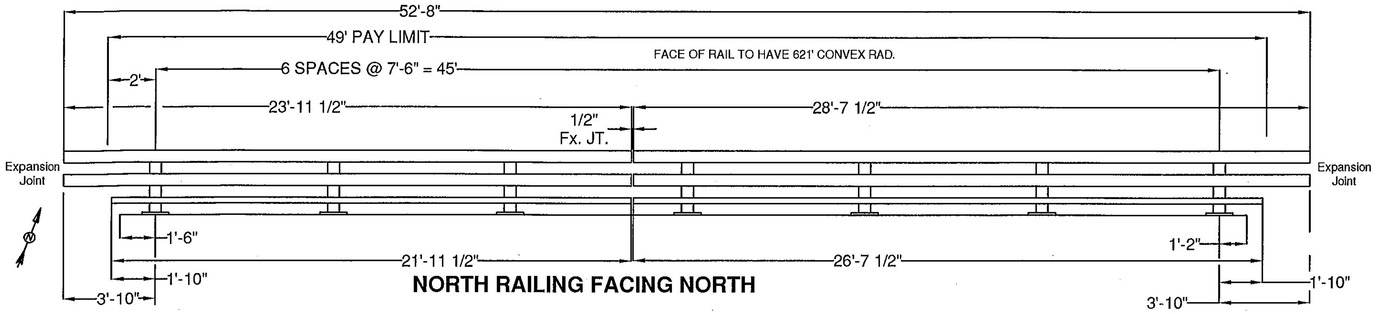
STATE AGENCY
VTrans Working to Get You There

Drawn By: A KOSTENKO Date: 04/04/2016
Reviewed By: Date:
Approved By: Date:

VTAOT PROJ. NO.: BRF 0151(21)

MILLER CONSTRUCTION, INC.
ROUTE 106 BRIDGE REPLACEMENT T.H. 61 (KENDALL ROAD)
WOODSTOCK, VT

D — SHOP DRAWING – AS6 — REV 1
Drawing No. R-S22624-AS6
Quantity: Project No: SHEET AS6 OF

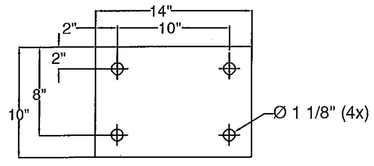


NORTH RAILING FACING NORTH

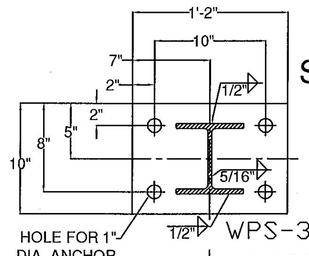
RAIL BENDING PROCEDURE:
RADII EQUAL OR GREATER THAN 16' TO BE CURVED ON A TUBE BENDING MACHINE, RADII LESS THAN 16' TO BE 'PIE CUT' AND WELDED.

BILL OF MATERIAL				
ITEM #	QTY	PART #	DESCRIPTION	ASTM DESIGNATION
1	14	0033.03610	W6x25, THREE RAIL POST @ 2'-9" OA ON 1 1/4x10x1'-2" B.P.	A572 Gr. 50
2	1	T.B.D.	HSS 3" X 5" X 1/4" RAIL @ 21'-11 1/2" W/ 621' CONVEX R.	A500 Gr. B
3	1	T.B.D.	HSS 3" X 5" X 1/4" RAIL @ 26'-7 1/2" W/ 621' CONVEX R.	A500 Gr. B
2	1	T.B.D.	HSS 3" X 5" X 1/4" RAIL @ 20'-11 1/2" W/ 651' CONCAVE R.	A500 Gr. B
3	1	T.B.D.	HSS 3" X 5" X 1/4" RAIL @ 25'-7 1/2" W/ 651' CONCAVE R.	A500 Gr. B
5	2	T.B.D.	HSS 6" X 6" X 3/16" RAIL @ 23'-11 1/2" W/ 621' CONVEX R.	A500 Gr. B
6	2	T.B.D.	HSS 6" X 6" X 3/16" RAIL @ 28'-7 1/2" W/ 621' CONVEX R.	A500 Gr. B
5	2	T.B.D.	HSS 6" X 6" X 3/16" RAIL @ 22'-11 1/2" W/ 651' CONCAVE R.	A500 Gr. B
6	2	T.B.D.	HSS 6" X 6" X 3/16" RAIL @ 27'-7 1/2" W/ 651' CONCAVE R.	A500 Gr. B
8	2	0033.00840	2-1/8" X 4-1/4" FIX. SPLICE BAR @ 2'-3"	A572 Gr. 50
9	4	0033.00640	HSS 5" X 5" X 5/16" FIX. SPLICE TUBE @ 2'-3"	A500 Gr. B, A572 Gr. 50
10	14	0033.00220	3/8" X 10" X 14" ANCHOR PLATES	A572 Gr. 50
11	14	0033.90050	1/8" X 10" X 14" FABRIC PAD	AASHTO M251
12	58*	0042.21013	ø 1" X 13" ANCHOR STUDS, W/ 2 1/4" THD. EACH END	A449 TYPE 1
13	114*	0080.18901	ø 1" HEAVY HEX NUTS	A563 DH
14	58*	0080.18911	ø 1" FLAT WASHERS	F436
15	56	0080.18905	ø 1" HEX JAM NUTS	A563 DH
16	56	0080.07500	ø 7/8" X 8" ROUND HEAD BOLT, NUT, SQ. WASHER, L.W.	A449, A563 DH, F436, ASME D18.2
17	14	0080.06400	ø 3/4" X 8" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563DH, F436, & ASME D18.2
18	28	0080.06140	ø 3/4" X 2-3/4" HEX BOLT, NUT, (2) F.W., & L.W.	A325, A563 DH, F436, & ASME D18.2
19	16	0080.06340	ø 3/4" X 7-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563 DH, & F436
20	8	0080.06255	ø 3/4" X 4-1/2" HEX BOLT, NUT, & (2) F.W.	A325, A563 DH, & F436
21	14	0033.00500	L5" X 5" X 5/8" RAILING ANGLE @ 6'	A572 Gr. 50
22	4		DELINEATORS - NOT SHOWN	(SUPPLIED BY CUSTOMER)

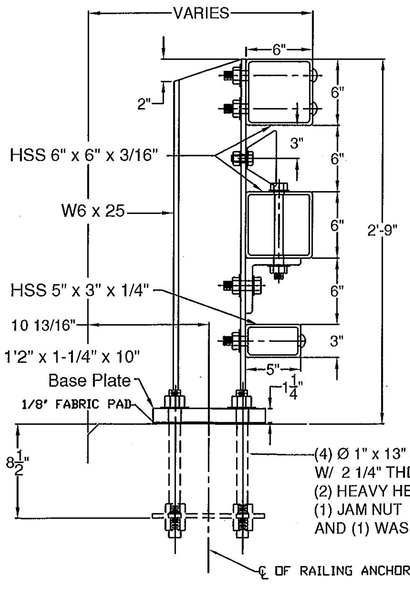
*-2 EXTRA FOR VDOT TESTING



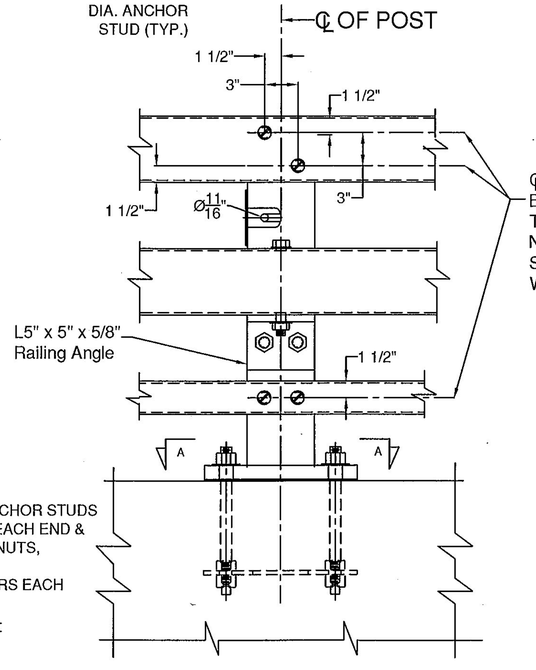
1/8" FABRIC PAD



SECTION A-A



SECTION



ELEVATION

STEEL BRIDGE RAILING

Vermont Agency of Transportation
RECEIVED
ON: January 7, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 01/14/2016

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 1/13/16		
By:		

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

GENERAL NOTES:

1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 OF THE STANDARD SPECIFICATIONS.
2) PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
3) ALL POST SHALL BE SET NORMAL TO GRADE. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POST IS 8' 3"
4) SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
5) RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPER STRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4"@ 68°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
6) STD. SPLICE HOLES ONLY IN BRIDGE RAIL TUBES. REST TO BE DRILLED BY CUSTOMER. FIELD DRILLED HOLES TO BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
7) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
8) SEE STANDARD DRAWING G-I FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT FOR DELINEATORS SHALL BE INCIDENTAL TO OTHER ITEMS.
9) ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
10) THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
11) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
12) THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

ITEM #: 525.335

SHEET 1 OF 4

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

BRIDGE RAIL DETAILS SHEET

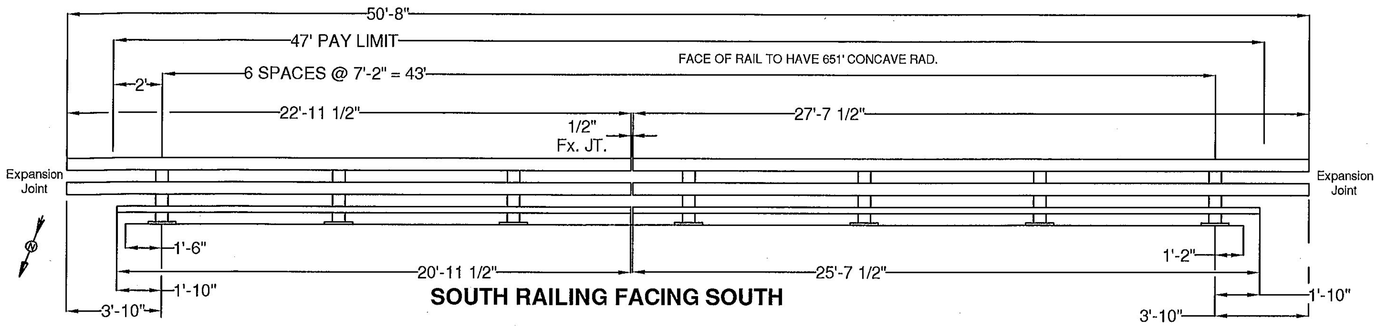
VERMONT ROUTE 106 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OF WINDSOR, VT.

R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY
E	1	12/29/15	Revised Per 12/18/15 Markup	E.P.	E				
V					V				

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

CERTIFIED FABRICATOR
ORTHOGRAPHIC PROJECTION

DRAWN	E.P.	11/30/15
CHECKED	D.L.	11/30/15
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO.	F.R. LAFAYETTE-WOODSTOCK (21)	



SOUTH RAILING FACING SOUTH

Vermont Agency of Transportation

RECEIVED

ON: January 7, 2016

and Checked for

CONFORMANCE

BY: Rob Young DATE: 01/14/2016

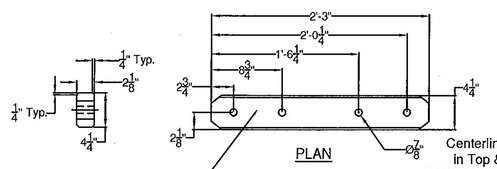
APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		

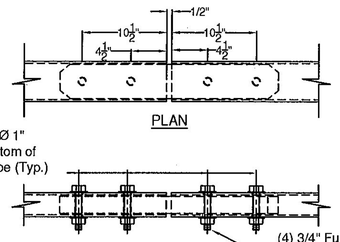
Date: 1/13/16

By:

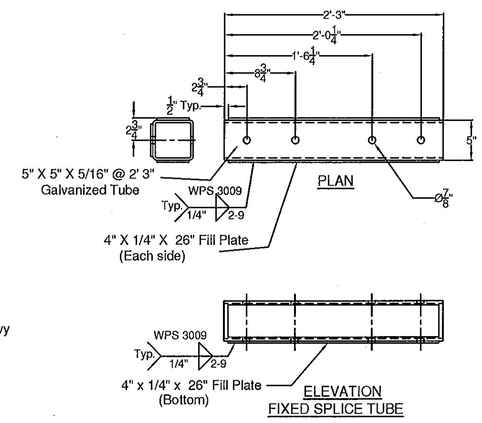
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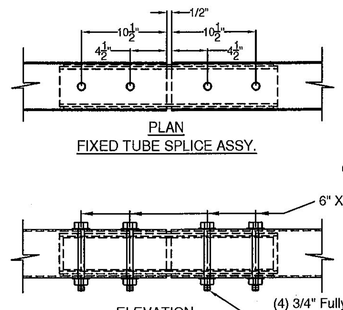
SPLICE BAR - FIXED





(4) 3/4" Fully Threaded Bolts. 4 1/2" Long (ASTM A325, TYPE 1) 2 Washers and a Heavy Hex Nut on each Bolt. Nut to be Finger Tight and the First Thread below the nut to be damaged A.O.B.E.. 4 Bolts at Each Splice.

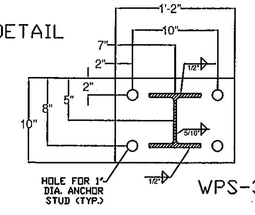




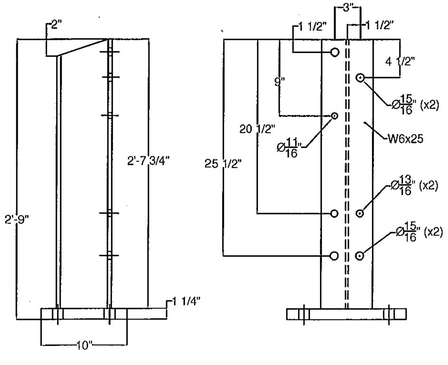
(4) 3/4" Fully Threaded Bolts. 7 1/2" Long (ASTM A325, TYPE 1) 2 Washers and a Heavy Hex Nut on each Bolt. Nut to be Finger Tight and the First Thread below the nut to be damaged A.O.B.E.. 4 Bolts at Each Splice.

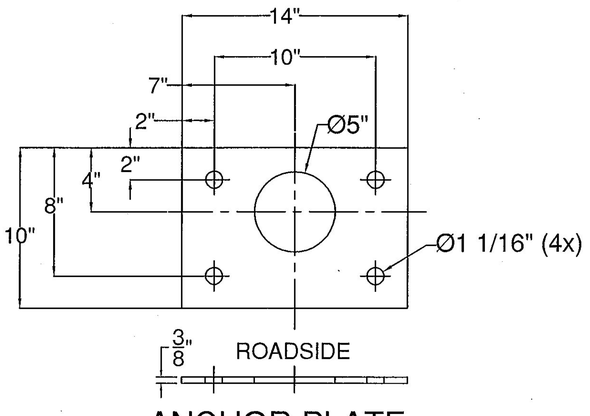
SPLICE TUBE - FIXED

BRIDGE POST DETAIL

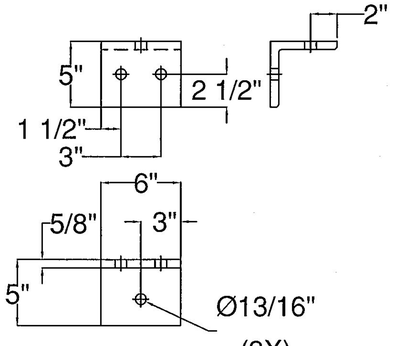


WPS-3008

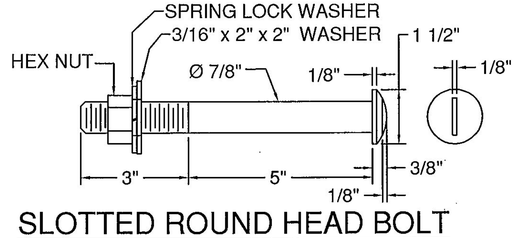




ANCHOR PLATE



L5 x 5 x 5/8" RAILING ANGLE



SLOTTED ROUND HEAD BOLT

ITEM #: 525.335

SHEET 2 OF 4

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

BRIDGE RAIL DETAILS SHEET

VERMONT ROUTE 106 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OF WINDSOR, VT.

R	NO.	DATE	DESCRIPTION	BY
E	1	12/29/15	Revised Per 12/18/15 Markup	E.P.
V				

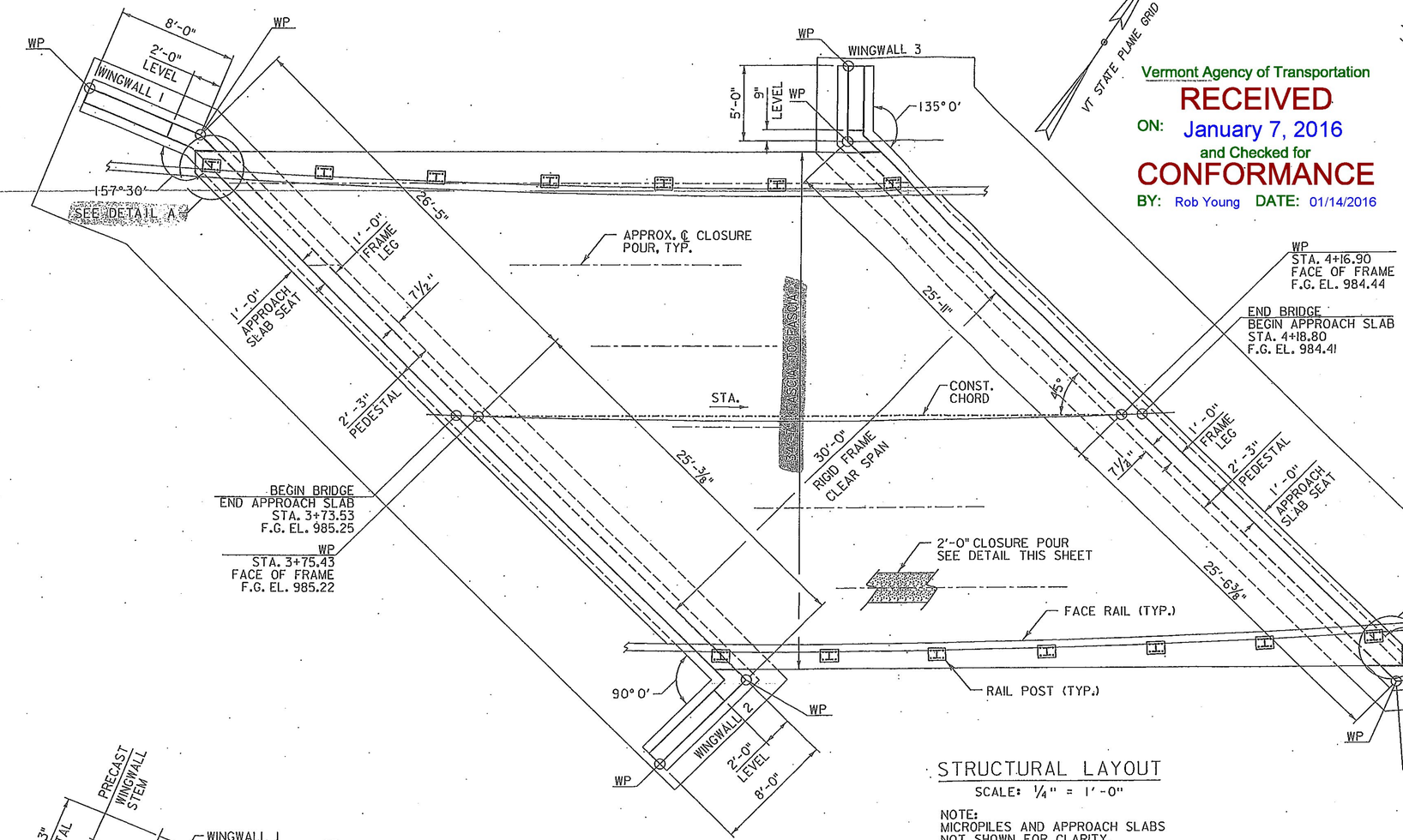
R	NO.	DATE	DESCRIPTION	BY
E				
V				

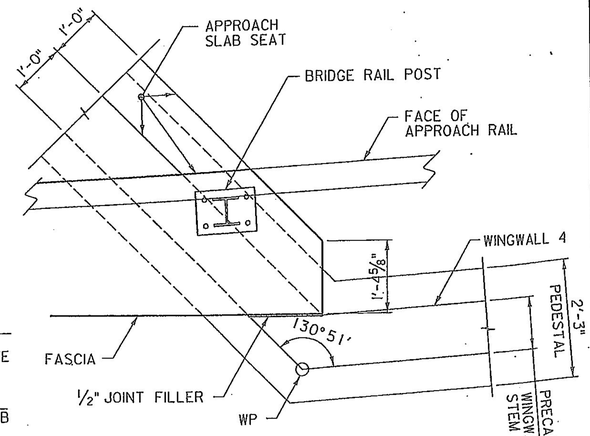
ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
email: dlong@elderlee.com / epeek@elderlee.com
Tel: 315-789-6670 Fax: 315-789-6615

AISC CERTIFIED FABRICATOR

ORTHOGRAPHIC PROJECTION

DRAWN	E.P.	11/30/15
CHECKED	D.L.	11/30/15
APPROVED	.	.
SCALE	SCHEMATIC	
DRAWING NO.	F.R. LaFAYETTE-WOODSTOCK (21	





Vermont Agency of Transportation

RECEIVED

ON: January 7, 2016

and Checked for

CONFORMANCE

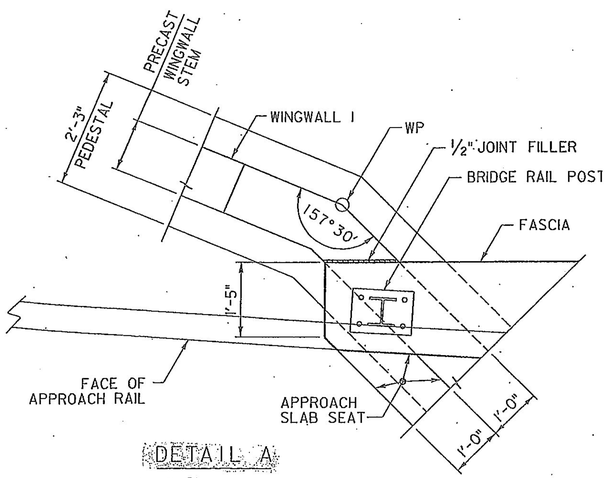
BY: Rob Young DATE: 01/14/2016

STRUCTURAL LAYOUT

SCALE: ¼" = 1'-0"

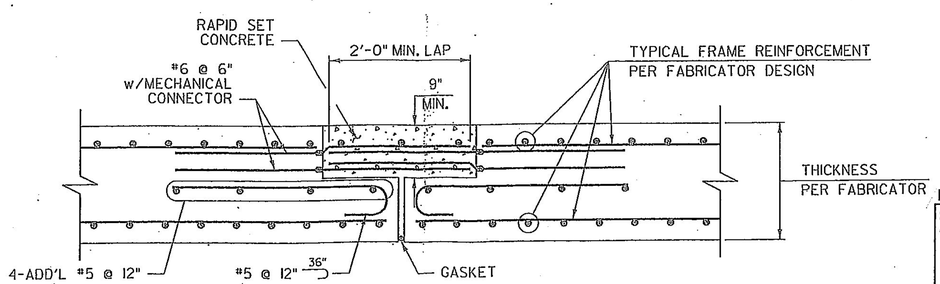
NOTE:
MICROPILES AND APPROACH SLABS
NOT SHOWN FOR CLARITY.

NOTE:
REINFORCING IN THE CLOSURE
POUR WILL BE PAID UNDER
ITEM 507.12, REINFORCING STEEL,
LEVEL II (FPO).



DETAIL A

SCALE ¾" = 1'-0"



PRECAST FRAME ROOF CLOSURE POUR DETAIL

SCALE: 1" = 1'-0".

APPROVED AS NOTED — Contractor is responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating his work with that of all other trades and performing his work in a safe and satisfactory manner. Review of shop drawings and data indicates compliance with the information presented and does not relieve Contractor or Fabricator of compliance with all specifications and code requirements

APPROVED AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED

Date: 1/13/16

By:

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Stantec

ITEM #: 525.335

SHEET 3 OF 4

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

BRIDGE RAIL DETAILS SHEET

VERMONT ROUTE 108 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OF WINDSOR, VT.

R E V	NO.	DATE	DESCRIPTION	BY

R E V	NO.	DATE	DESCRIPTION	BY

ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
email:dlong@elderlee.com / epeck@elderlee.com
Tel:315-789-6870 Fax:315-789-6815

VT CERTIFIED FABRICATOR

ORTHOGRAPHIC PROJECTION

DRAWN	E.P.	11/30/15
CHECKED	D.L.	11-23-15
APPROVED		
SCALE	SCHEMATIC	

DRAWING NO. P.R. LaFAYETTE-WOODSTOCK (16

Vermont Agency of Transportation

RECEIVED

ON: January 7, 2016

and Checked for

CONFORMANCE

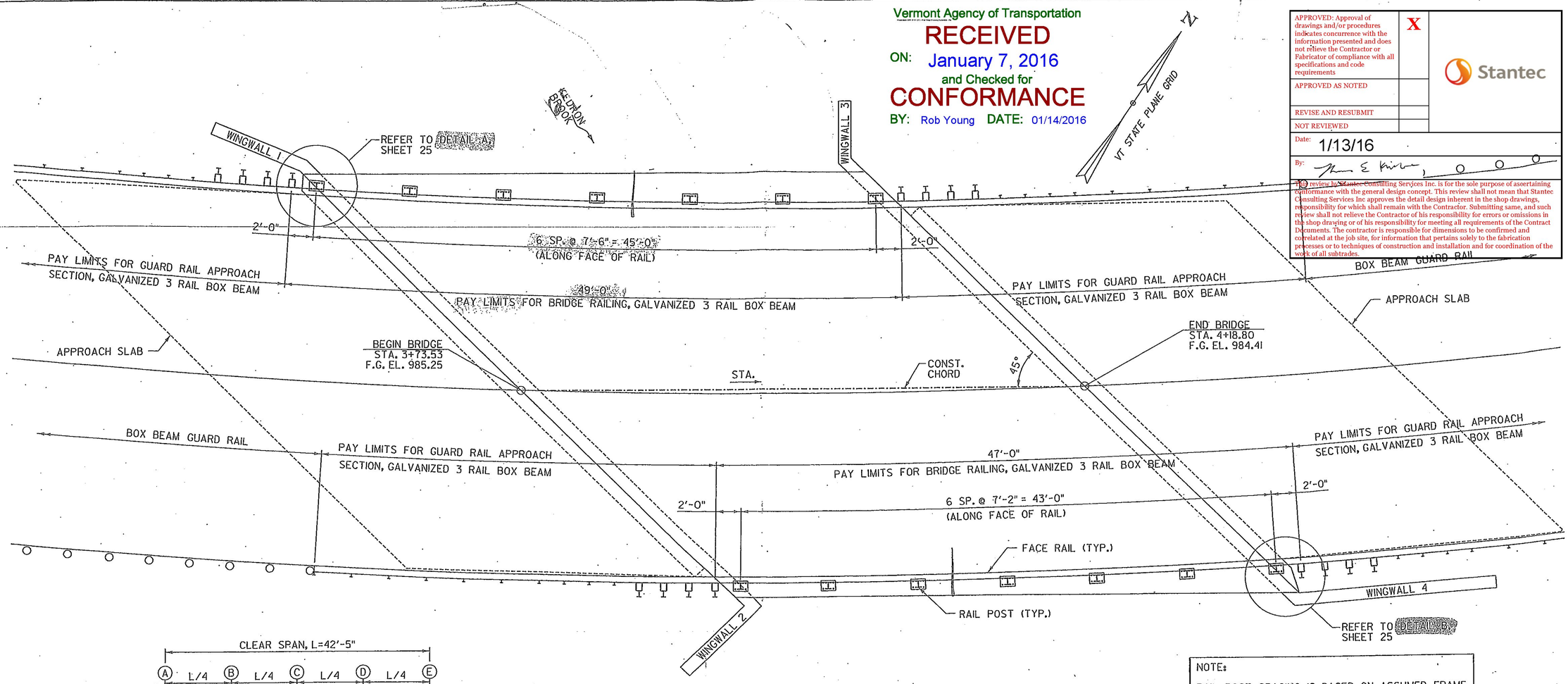
BY: Rob Young DATE: 01/14/2016

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 1/13/16

By:

Review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

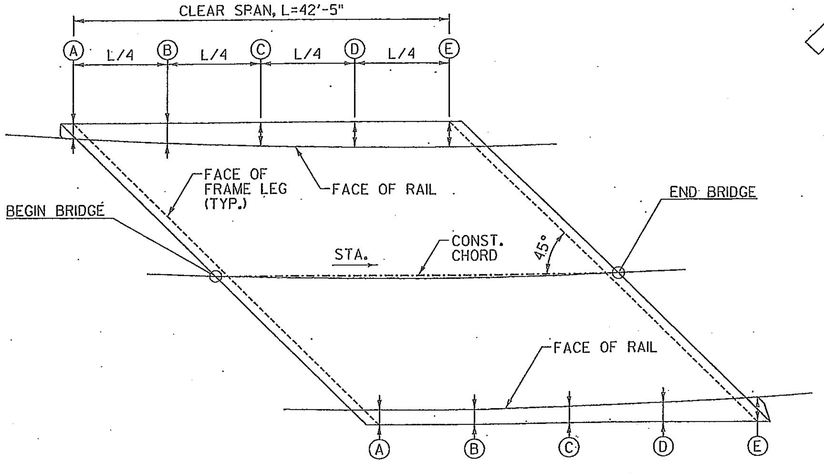


BRIDGE RAIL LAYOUT

SCALE: 1/4" = 1'-0"

NOTE:

RAIL POST SPACING IS BASED ON ASSUMED FRAME LEG THICKNESS OF 1'-0". THE FABRICATOR SHALL ADJUST DIMENSIONS AS NECESSARY BASED ON ACTUAL FRAME LEG THICKNESS USED.



FACE OF RAIL TO FASCIA OFFSET

NOT TO SCALE

TABLE OF OFFSETS FROM FACE OF RAIL TO FASCIA		
POINT	OFFSET TO LEFT FASCIA (FT)	OFFSET TO RIGHT FASCIA (FT)
A	1.73	1.68
B	2.31	1.69
C	2.7	1.88
D	2.92	2.23
E	2.96	2.76

ITEM #: 525.335

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

SHEET 4 OF 4

BRIDGE RAIL DETAILS SHEET

VERMONT ROUTE 108 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OFWINDSOR, VT.

R/E/V	NO.	DATE	DESCRIPTION	BY

R/E/V	NO.	DATE	DESCRIPTION	BY

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

CERTIFIED FABRICATOR

ORTHOGRAPHIC PROJECTION

DRAWN	E.P.	11/30/15
CHECKED	D.L.	11-25-15
APPROVED		
SCALE	SCHEMATIC	

DRAWING NO. F.R. LaFAYETTE-WOODSTOCK (15

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE#1

Material Specification	A572 GRD. 50 /A992-06a				
Welding Process	FCAW				
Manual or Machine	SEMAUTOMATIC				
Position of Welding	FLAT/HORIZONTAL				
Filler Metal Specification	A5.20				
Filler Metal Classification	E70 LINCOLN OUTERSHEILD				
Flux	N/A				
Shielding Gas	CO 2	Dew Point	-40DEG F	Flow Rate	50 CFH (45 TO 63 CFH)
Single or Multiple Pass	SINGLE				
Single or Multiple Arc	N/A				
Welding Current	DC				
Polarity	DCEP				
Welding Progression	STRINGER				
Root Treatment	PER D1.5				
Preheat and Interpass Temperature	PER D1.5				
Postheat Temperature	NONE				
Heat Input	Min		Max		

Vermont Agency of Transportation

RECEIVED

Woodstock BRF 0151 (21) - Rail Shop Drawing Submittal - Rev 1_ReceivedBySteldec_Approved.pdf

CK'D BY _____ OK'D BY Rob Young

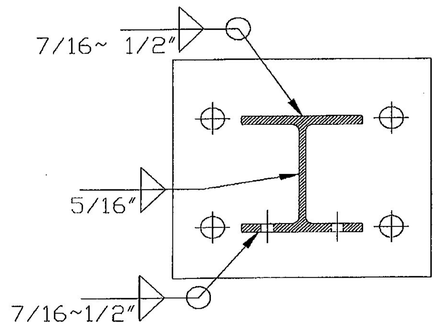
January 7, 2016

RESUBMIT No Approved

BY Rob Young DATE 01/14/2016

WELDING PROCEDURE

Pass no.	Electrode size	Welding Current Amperes	Welding Current Volts	Travel speed	Joint detail
1	3/32	390	27	12	
Variable	LIMITS	351 TO 429	25 TO 29	11 TO 13	



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

Procedure No. 3008

Revision No. _____

Contractor Elderlee, Inc.

Authorized By RANDY SCOTT

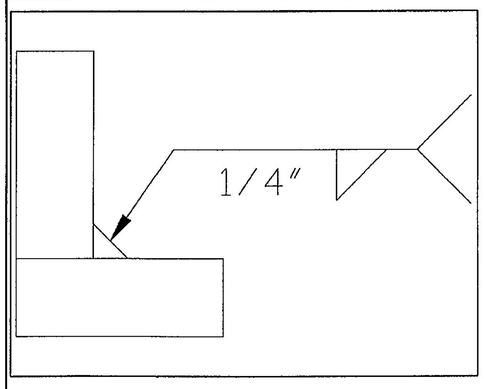
Date 12/14/2015

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

Material Specification	A709 TO A500 GR B
Welding Process	FCAW-G
Manual or Machine	SEMAUTOMATIC
Position of Welding	FLAT/HORIZONTAL
Filler Metal Specification	A5.29
Filler Metal Classification	E81T1-Ni1C-JH4
Flux	N/A
Shielding Gas	CO 2 Dew Point -40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	REVERSE ELECTRODE POSITIVE
Welding Progression	STRINGER
Root Treatment	D1.5
Preheat and Interpass Temperature	D1.5
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

WELDING PROCEDURE

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

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

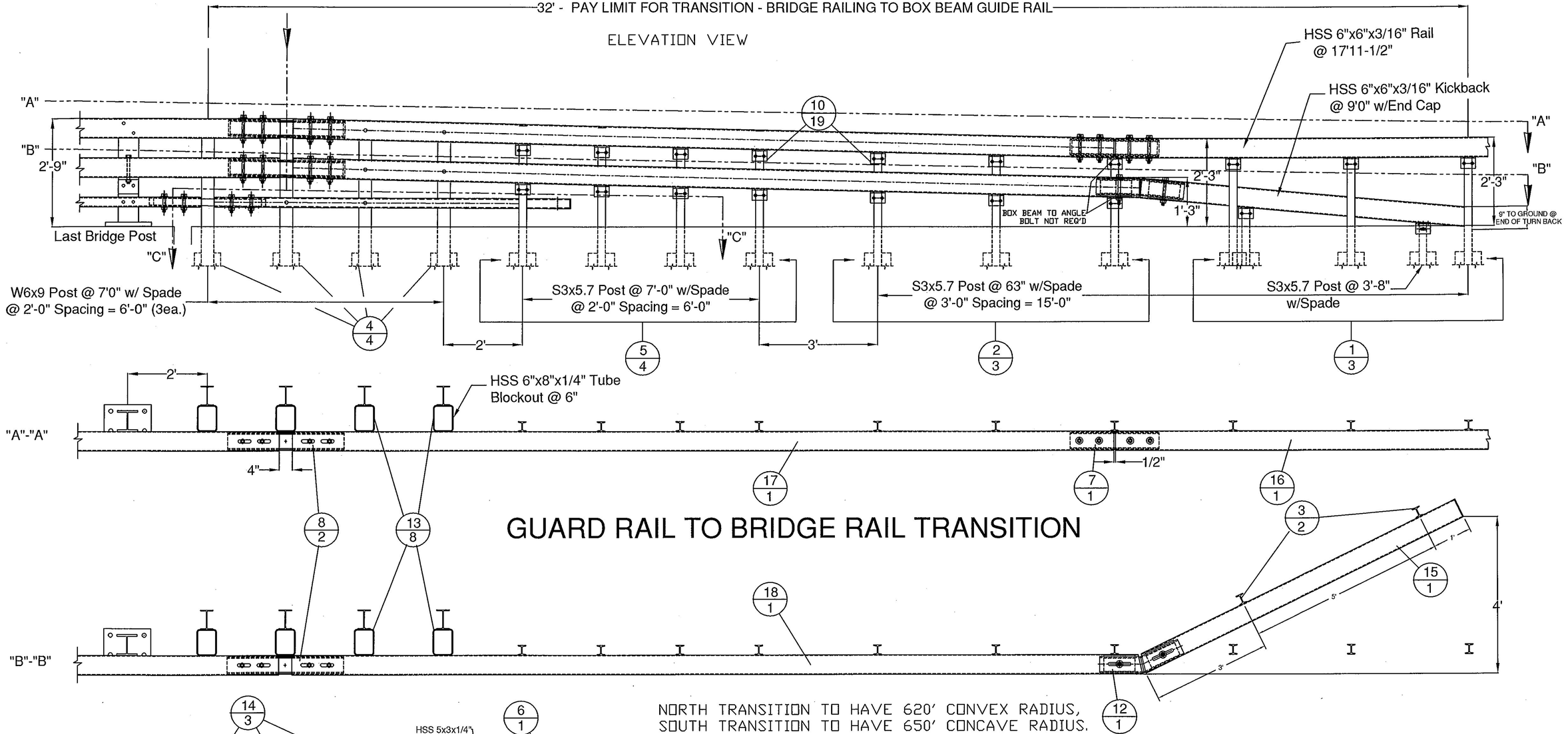
Procedure No. 3009
Revision No. _____

Contractor Elderlee, Inc.
Authorized By RANDY SCOTT
Date 3/20/2014

Vermont Agency of Transportation
RECEIVED
Woodstock BRF 0151 (21) - Rail Shop Drawing Submittal - Rev 1_ReviewedByStantec_Approved.pdf
CK'D BY _____ OK'D BY Rob Young
January 7, 2016
RESUBMIT No Approved
BY Rob Young DATE 01/14/2016

32' - PAY LIMIT FOR TRANSITION - BRIDGE RAILING TO BOX BEAM GUIDE RAIL

ELEVATION VIEW



GUARD RAIL TO BRIDGE RAIL TRANSITION

NORTH TRANSITION TO HAVE 620' CONVEX RADIUS,
SOUTH TRANSITION TO HAVE 650' CONCAVE RADIUS.

Vermont Agency of Transportation
RECEIVED
ON: January 7, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 01/14/2016

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements — X
APPROVED AS NOTED
REVISE AND RESUBMIT
NOT REVIEWED
Date: 1/13/16
By:

Stantec

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ITEM #: 621.725

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

SHEET 1 OF 5

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET

VERMONT ROUTE 106 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OF WINDSOR, VT.

R	NO.	DATE	DESCRIPTION	BY
E	1	12/29/15	Revised Per 12/18/15 Markup	E.P.
V				

R	NO.	DATE	DESCRIPTION	BY
E				
V				

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

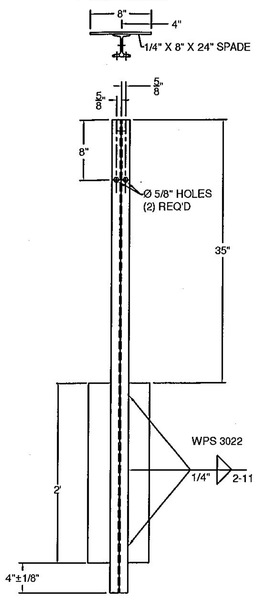
CERTIFIED FABRICATOR
ORTHOGRAPHIC PROJECTION

DRAWN	E.P.	11/30/15
CHECKED	D.L.	11/30/15
APPROVED	.	.
SCALE	SCHEMATIC	

DRAWING NO. F.R. LaFAYETTE-WOODSTOCK (21)

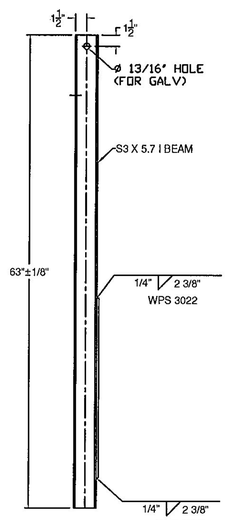
Vermont Agency of Transportation
RECEIVED
ON: January 7, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 01/14/2016

PLAN VIEW

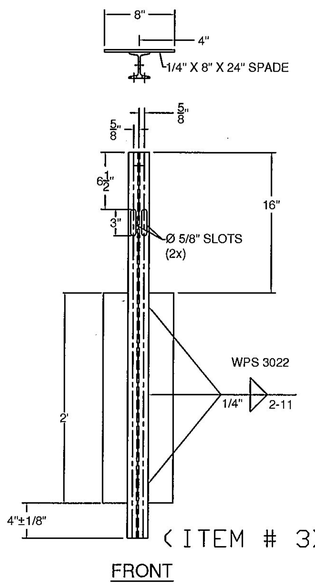


FRONT (ITEM # 1) SIDE

STANDARD POST DETAIL
(POST #12)

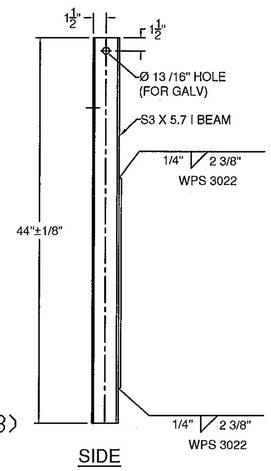


PLAN VIEW



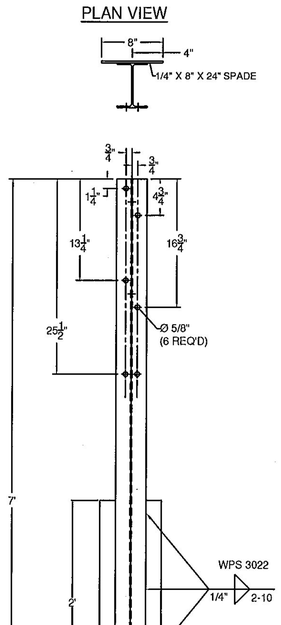
FRONT (ITEM # 3)

END POST DETAIL



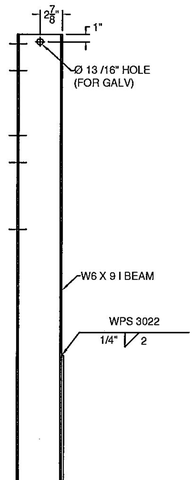
SIDE

PLAN VIEW



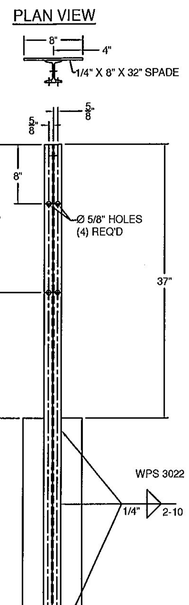
FRONT (ITEM # 4)

HEAVY POST DETAIL
(POST #1 ~ 4)



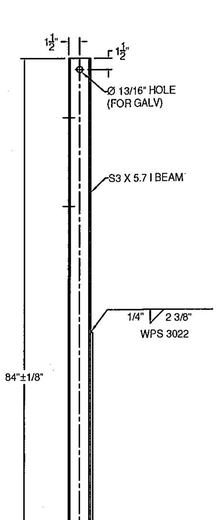
SIDE

PLAN VIEW



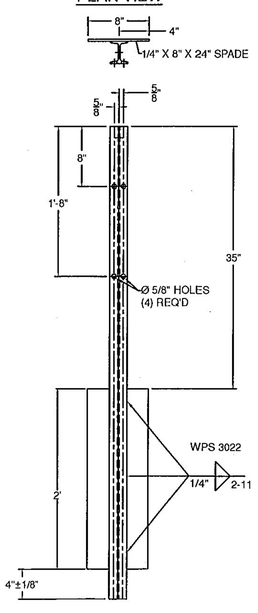
FRONT (ITEM # 5)

TRANSITION POST DETAIL
(POST #5 ~ 8)



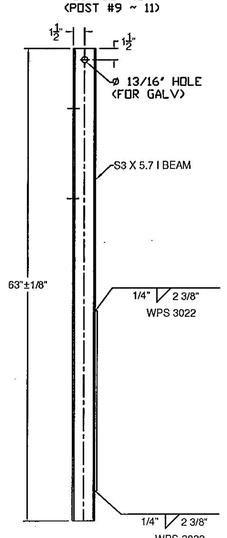
SIDE

PLAN VIEW



FRONT (ITEM # 2) SIDE

TRANSITION STANDARD
POST DETAIL
(POST #9 ~ 11)



GENERAL NOTES:

1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 OF THE STANDARD SPECIFICATIONS.
2) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
3) PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
4) BOX BEAM TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
5) ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT. RADII GREATER THAN 16' TO BE CURVED ON A TUBE BENDING MACHINE, RADII EQUAL OR LESS THAN 16' TO BE "PIE CUT" AND WELDED. CURVED RAILING WIIL HAVE AN 18" LENGTH ON EACH END STRAIGHT TO ACCOMADATE SPLICES. "PIE CUTS ARE LOCATED SO AS TO NOT CONFLICT WITH POST FASTENING HOLES. PIE CUTS WILL BE WELDED ACCORDING TO PROCEDURE WPS-3026.

BILL OF MATERIALS (EACH CORNER)

ITEM #	QTY.	COMPONENT #	DESCRIPTION	MATERIAL (ASTM)
1	3	0013.57021	S3 X 5.7 POST, PUNCH 8' W/SPD @ 63' LG	ASTM A572 Gr. 50
2	3	0013.57025	S3 X 5.7 POST, PUNCH 8', & 20' W/SPD @ 63' LG	ASTM A572 Gr. 50
3	2	0013.57060	S3 X 5.7 END POST W/SPD @ 3'-8' LG	ASTM A572 Gr. 50
4	4	0013.09001	W6 X 9 POST @ 7' W/SPD & 5/8" HOLES	ASTM A572 Gr. 50
5	4	0013.57010	S3 X 5.7 POST, PUNCH 8' & 20', W/8X32" SPADE @7'	ASTM A572 Gr. 50
6	1	0033.80403	3 X 5" BTM TRANS RAIL W/5'-0" KB, EXP END	A500 Gr. B
7	1	0033.00640	HSS 5X5 TUBE SPLICE @27' LG W/ 1/4' SHIMS	A500 Gr. B / A572 Gr 50
8	2	0033.00730	HSS 5x5 EXP TUBE SPLICE @ 36' LG W/ 1/4' SHIMS	A500 Gr. B / A572 Gr 50
9	1	0033.00930	BR EXP BAR SPLICE 2-1/8" X 4-1/4" @ 36' LG	ASTM A36
10	19	0054.00050	REG BB SHELF ANGLES @ 4-1/2'	ASTM A36
12	1	0054.00074	HSS 5 X 5 X 5/16" DBL BEND TUBE SPL @ 27' LG,	A500 Gr. B / A572 Gr 50
13	8	0054.00563	6 X 8 X 1/4' TRANS. TUBE B/D @ 6' LG	A500 Gr. B
14	3	0054.00565	6 X 8 X 1/4' TRANS. TUBE B/D @ 3' LG	A500 Gr. B
15	1	0054.09000	6 X 6 x 3/16' BB @ 9'-0' KICKBACK, W/ CAP, & 13° MITER	A500 Gr. B / A36
*16A	1	T.B.D.	6 X 6 x 3/16' BB @ 9'-0' (THIS PAY ITEM), DRILL 3' CC, 620' CONVEX	A500 Gr. B
*16B	1	T.B.D.	6 X 6 x 3/16' BB @ 9'-0' (THIS PAY ITEM), DRILL 3' CC, 650' CONCAVE	A500 Gr. B
*17A	1	T.B.D.	6 X 6 x 3/16' BB TOP TRANS @ 20'-9 5/8' LG W/EXP END, 620' CONVEX	A500 Gr. B
*17B	1	T.B.D.	6 X 6 x 3/16' BB TOP TRANS @ 20'-9 5/8' LG W/EXP END, 650' CONCAVE	A500 Gr. B
*18A	1	T.B.D.	6 X 6 x 3/16' BB BTM TRANS @ 21'-4 5/8' LG W/EXP END, 620' CONVEX	A500 Gr. B
*18B	1	T.B.D.	6 X 6 x 3/16' BB BTM TRANS @ 21'-4 5/8' LG W/EXP END, 650' CONCAVE	A500 Gr. B
19	18	0080.03355	3/8' X 7 1/2' BOLT, NUT, & 2 FW	A307, A563 DH, F436
20	19	0080.04100	1/2' x 1-1/2' BOLT, NUT, & FW	A307, A563 DH, F436
21	22	0080.04120	1/2' x 1-1/2' BOLT, NUT, 2 FW & LW	A307, A563 DH, F436
22	4	0080.06255	3/4' X 4-1/2' BOLT, NUT, 2 FW	A325, A563 DH, F436
23	12	0080.06340	3/4' X 7-1/2' BOLT, NUT, 2 FW	A325, A563 DH, F436
24	6	0080.06370	3/4' X 8' CARR BOLT, NUT, FW & LW	A307, A563 DH, F436
25	2	0080.06400	3/4' X 8' BOLT, NUT, 2 FW, & LW	A325, A563 DH, F436

* ITEM #'S 16, 17, & 18 - WW 1 & 3 TO HAVE 620' CONVEX RADIUS, WW 2 & 4 TO HAVE 650' CONCAVE RADIUS

HARDWARE NOTES

ITEM #	FUNCTION
19	BOLT RAIL TO SHELF ANGLE (ITEM #10)
20	BOLT SHELF ANGLE (ITEM #'S 10 & 11) TO POST
21	BOLT BLOCK-OUTS (ITEM #'S 13 & 14) TO HEAVY POST
22	(4) PER SPLICE BAR (ITEM #9)
23	(4) PER SPLICE TUBING (ITEM #'S 7 & 8)
24	BOLT RAIL (ITEMS #'S 6,17, & 18 TO BLOCK-OUTS (ITEM #'S 13 & 14) [WHERE FASTENED]
25	BOLT DOUBLE BEND SPLICE TUBE (ITEM #12) TO RAIL (ITEM #18) & KICKBACK (ITEM #15)

APPLICABLE NOTES IN THE BRIDGE RAIL DRAWING SHALL ALSO BE APPLICABLE ON THESE DRAWINGS

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor of compliance with all specifications and/or requirements
APPROVED AS NOTED
REVIEWED: Review of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor of compliance with all specifications and/or requirements
X
Stantec
Date: 1/13/16
By:
This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

ITEM #: 621.725

SHEET 2 OF 5

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET

VERMONT ROUTE 106 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OF WINDSOR, VT.

R	NO.	DATE	DESCRIPTION	BY
E	1	12/29/15	Revised Per 12/18/15 Markup	E.P.
V				

R	NO.	DATE	DESCRIPTION	BY
E				
V				

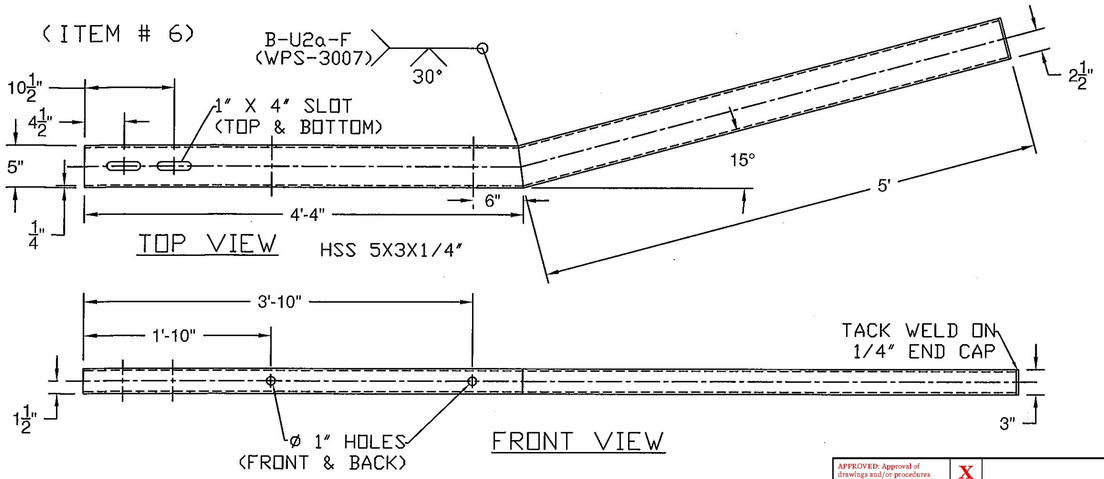
ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
email: dlong@elderlee.com / epeek@elderlee.com
Tel: 315-789-6670 Fax: 315-789-6615

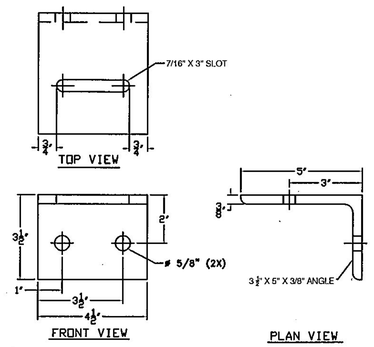
ORTHOGRAPHIC PROJECTION

DRAWN	E.P.	11/30/15
CHECKED	D.L.	11/30/15
APPROVED		
SCALE	SCHEMATIC	

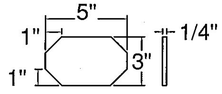
DRAWING NO. F.R. LaFAYETTE-WOODSTOCK (21)

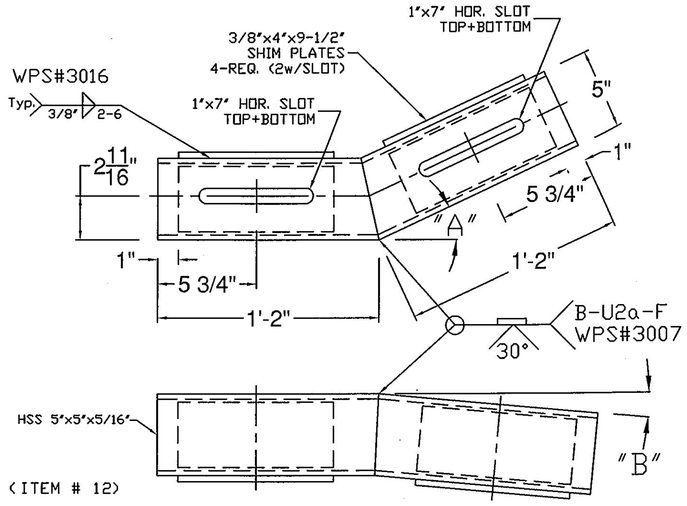
(ITEM # 6)





(ITEM # 10)





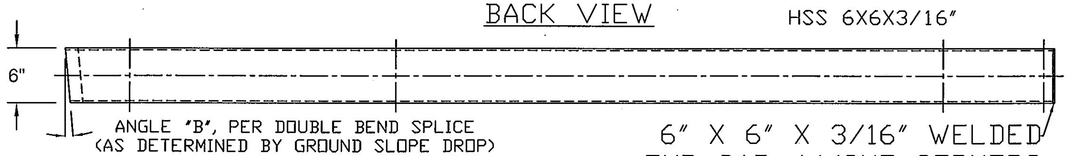
(ITEM # 12)

"A" - 26°
"B" - TURN DOWN ANGLE SET BY THE 9" MEASURMENT AT THE END OF THE BOX BEAM.

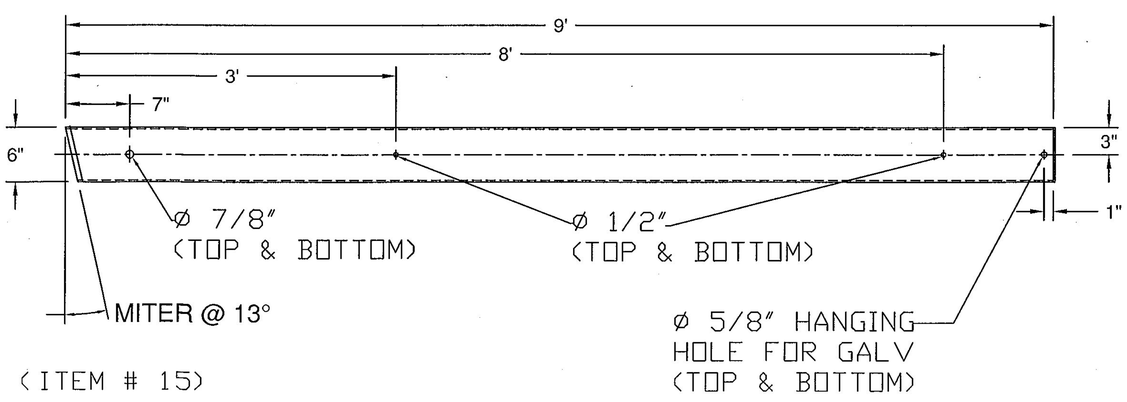
Vermont Agency of Transportation
RECEIVED
ON: January 7, 2016
and Checked for
CONFORMANCE
BY: Rob Young DATE: 01/14/2016

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements — X
APPROVED AS NOTED
REVISE AND RESUBMIT
NOT REVIEWED
Date: 1/13/16
By:
Stantec
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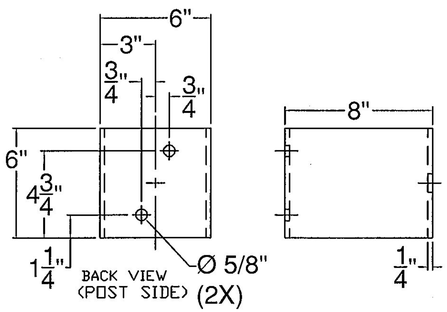
BACK VIEW HSS 6X6X3/16"



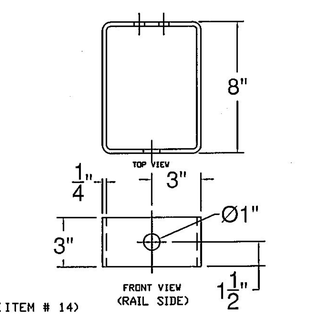
TOP VIEW



(ITEM # 15)

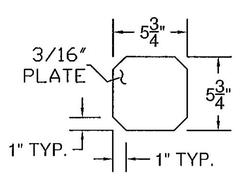


(ITEM # 13)



(ITEM # 14)

HSS 8X6X1/4"



ITEM #: 621.725

SHEET 3 OF 5

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET

VERMONT ROUTE 106 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OF WINDSOR, VT.

R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY
E	1	12/29/15	Revised Per 12/18/15 Markup	E.P.	E				
V					V				

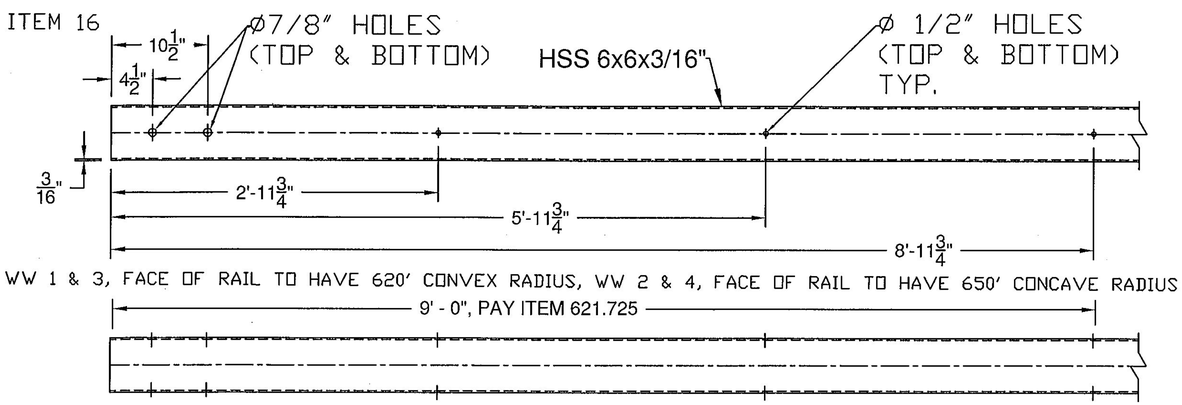
ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
email: dlong@elderlee.com / epeek@elderlee.com
Tel: 315-789-6670 Fax: 315-789-6615

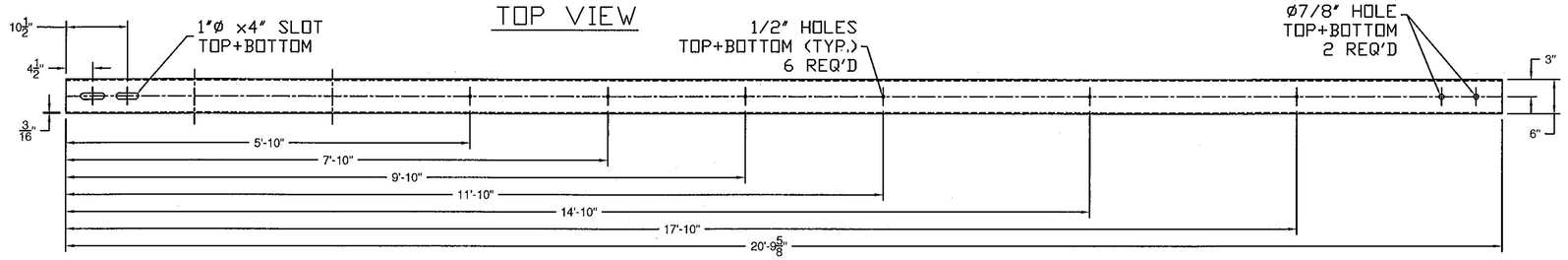
AISC CERTIFIED FABRICATOR

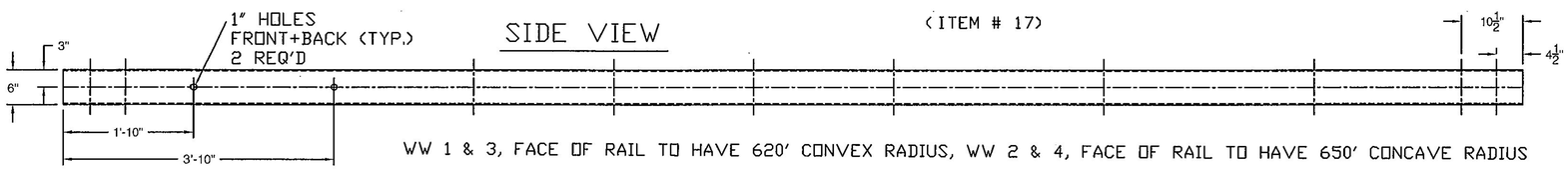
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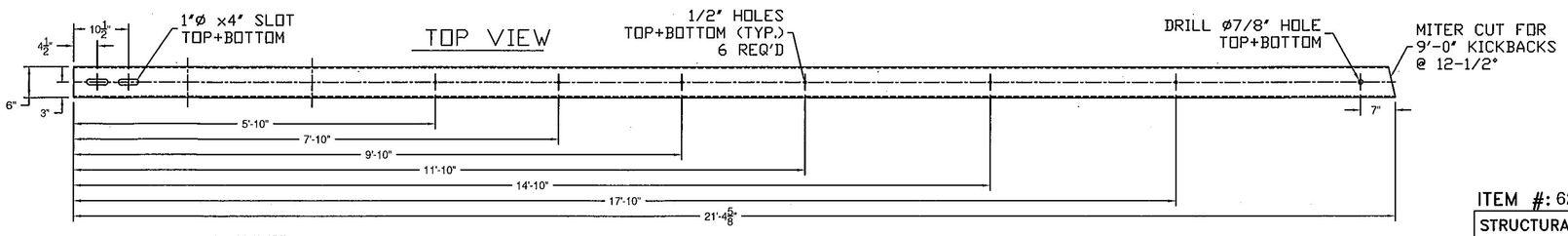
DRAWN	E.P.	11/30/15
CHECKED	D.L.	11/30/15
APPROVED	.	.
SCALE	SCHEMATIC	

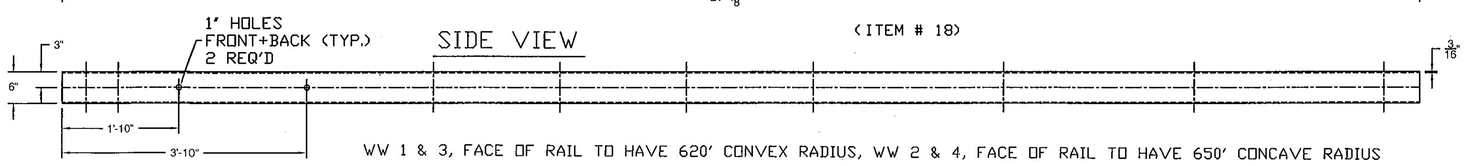
DRAWING NO. F.R. LaFAYETTE-WOODSTOCK (21)











Vermont Agency of Transportation

RECEIVED

ON: January 7, 2016

and Checked for

CONFORMANCE

BY: Rob Young DATE: 01/14/2016

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 1/13/16

By:

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ITEM #: 621.725

SHEET 4 OF 5

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET

VERMONT ROUTE 106 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OF WINDSOR, VT.

R E V	NO.	DATE	DESCRIPTION	BY
	1	12/29/15	Revised Per 12/18/15 Markup	E.P.

R E V	NO.	DATE	DESCRIPTION	BY

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

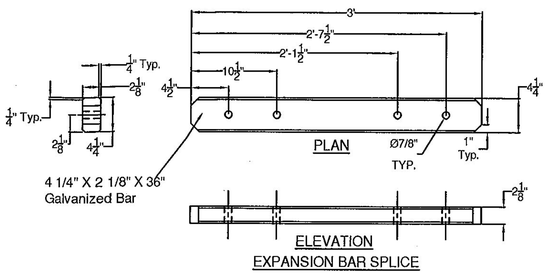
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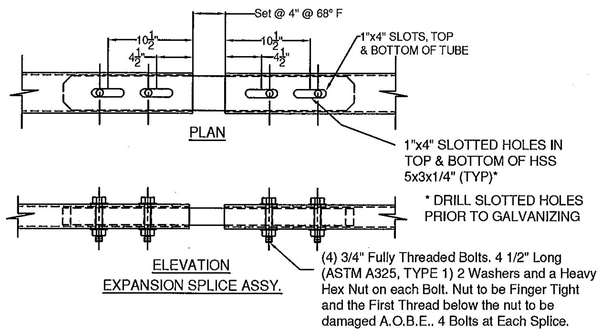
ORTHOGRAPHIC PROJECTION

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CHECKED	D.L.	11/30/15
APPROVED	.	.
SCALE	SCHEMATIC	

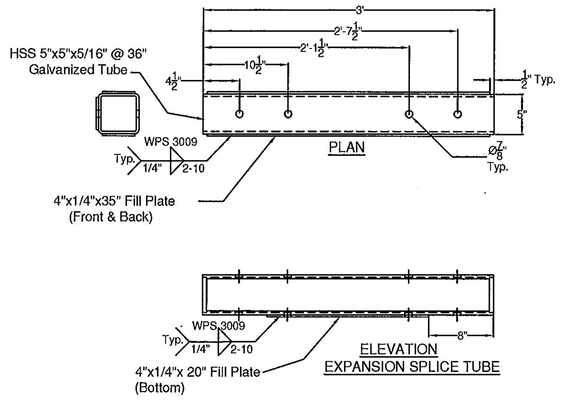
DRAWING NO. F.R. LaFAYETTE-WOODSTOCK (21)

SPLICE BAR - EXPANSION

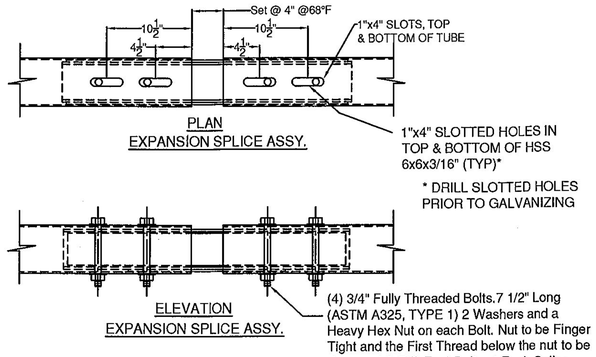




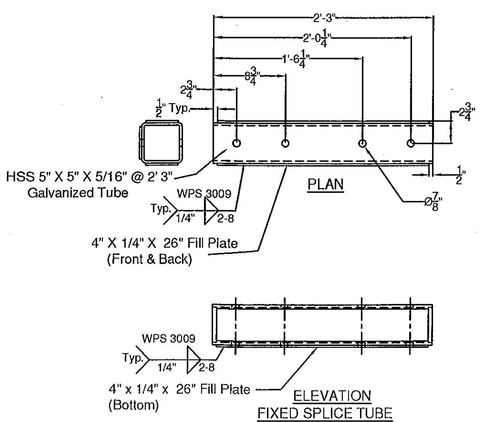
〈ITEM # 9〉

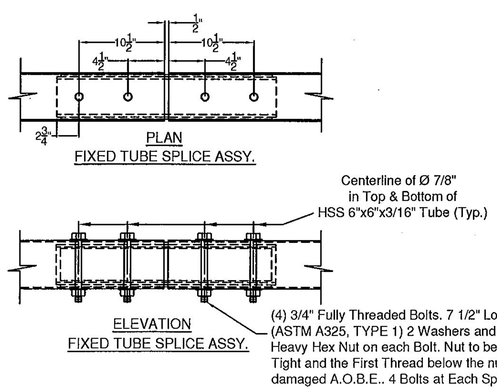


SPLICE TUBE - EXPANSION



〈ITEM # 8〉





〈ITEM # 7〉

SPLICE TUBE - FIXED

Vermont Agency of Transportation

RECEIVED

ON: January 7, 2016

and Checked for

CONFORMANCE

BY: Rob Young DATE: 01/14/2016

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 1/13/16

By:

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ITEM #: 621.725

SHEET 5 OF 5

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

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

GUARD RAIL TO BRIDGE RAIL TRANSITION DETAILS SHEET

VERMONT ROUTE 106 (MAJOR COLLECTOR, RURAL), BRIDGE # 24
TOWN OF WOODSTOCK, COUNTY OF WINDSOR, VT.

R E V	NO.	DATE	DESCRIPTION	BY
	1	12/29/15	Revised Per 12/18/15 Markup	E.P.

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

AISC CERTIFIED FABRICATOR

ORTHOGRAPHIC PROJECTION

DRAWN	E.P.	11/30/15
CHECKED	D.L.	11/30/15
APPROVED	-	-
SCALE	SCHEMATIC	

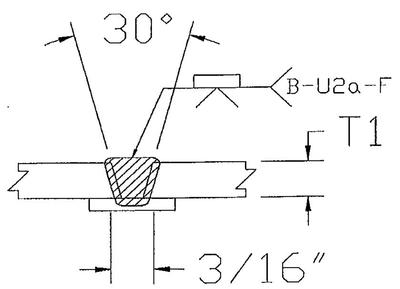
DRAWING NO. F.R. LaFAYETTE-WOODSTOCK (21)

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE#3

Material Specification	A500 GR B to A572 GR 50
Welding Process	FCAW-G
Manual or Machine	SEMAUTOMATIC
Position of Welding	FLAT/HORIZONTAL
Filler Metal Specification	A5.29
Filler Metal Classification	E81T1-Ni1C-JH4
Flux	N/A
Shielding Gas	CO 2 Dew Point -40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	REVERSE ELECTRODE POSITIVE
Welding Progression	STRINGER
Root Treatment	PER D1.5
Preheat and Interpass Temperature	PER D1.5
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

WELDING PROCEDURE

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

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

Procedure No. 3007

Revision No. _____

Contractor Elderlee, Inc.

Authorized By RANDY SCOTT

Date 12/14/2015

Vermont Agency of Transportation

RECEIVED

Woodstock BRF 0151 (21) - Rail Shop Drawing Submittal - Rev 1_ReviewedByStantec_Approved.pdf

CK'D BY _____ OK'D BY Rob Young

January 7, 2016

RESUBMIT No Approved _____

BY Rob Young DATE 01/14/2016

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

Material Specification	A709 TO A500 GR B
Welding Process	FCAW-G
Manual or Machine	SEMAUTOMATIC
Position of Welding	FLAT/HORIZONTAL
Filler Metal Specification	A5.29
Filler Metal Classification	E81T1-Ni1C-JH4
Flux	N/A
Shielding Gas	CO 2 Dew Point -40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	REVERSE ELECTRODE POSITIVE
Welding Progression	STRINGER
Root Treatment	D1.5
Preheat and Interpass Temperature	D1.5
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

Vermont Agency of Transportation

RECEIVED

Woodstock BRF 0151 (21) - Rail Shop Drawing Submittal - Rev 1_ReviewedByStantec_Approved.pdf

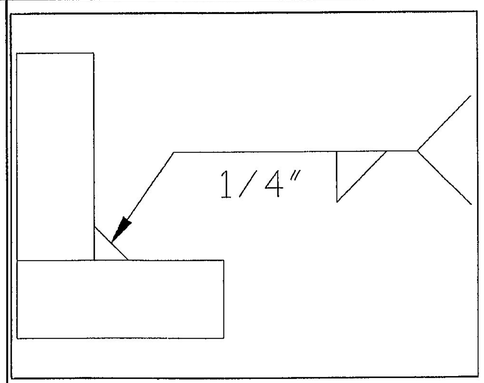
CK'D BY _____ OK'D BY Rob Young

January 7, 2016

RESUBMIT No Approved _____

BY Rob Young DATE 01/14/2016

WELDING PROCEDURE

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

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

Procedure No. 3009

Revision No. _____

Contractor Elderlee, Inc.

Authorized By RANDY SCOTT

Date 3/20/2014

WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

Material Specification	A500 TO A572 GR 50
Welding Process	FCAW-G
Manual or Machine	SEMAUTOMATIC
Position of Welding	FLAT/HORIZONTAL
Filler Metal Specification	A5.29
Filler Metal Classification	E81T1-Ni1C-JH4
Flux	N/A
Shielding Gas	CO 2 Dew Point -40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	REVERSE
Welding Progression	STRINGER
Root Treatment	PER D1.5
Preheat and Interpass Temperature	PER D1.5
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

Vermont Agency of Transportation

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CK'D BY _____ OK'D BY Rob Young

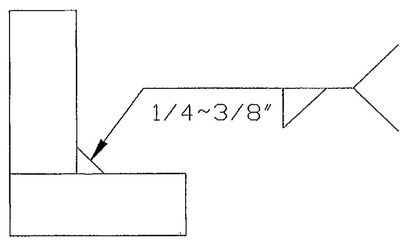
January 7, 2016

RESUBMIT No Approved _____

BY Rob Young DATE 01/14/2016

WELDING PROCEDURE

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



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

Procedure No. 3016

Revision No. _____

Contractor Elderlee, Inc.

Authorized By RANDY SCOTT

Date 8/4/2014

WELDING PROCEDURE SPECIFICATION

Material Specification	A572 GR 50
Welding Process	GMAW
Manual or Machine	SEMIAUTOMATIC/ROBOTIC
Position of Welding	FLAT/HORIZONTAL
Filler Metal Specification	A5.18
Filler Metal Classification	L-56 LINCOLN
Flux	N/A
Shielding Gas	90% ARGON /10% CO2 Dew Point -40DEG F Flow Rate 45CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	REVERSE
Welding Progression	STRINGER
Root Treatment	PER D1.5
Preheat and Interpass Temperature	PER D1.5
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

Vermont Agency of Transportation

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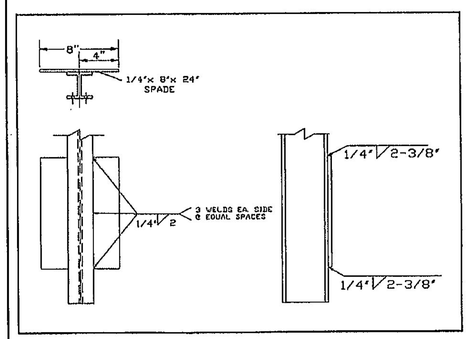
January 7, 2016

RESUBMIT No Approved _____

BY Rob Young DATE 01/14/2016

WELDING PROCEDURE

Pass no.	Electrode size	Welding Current Amperes	Welding Current Volts	Travel speed	Joint detail
	.045	190	22	19	
Variable	LIMITS	171 TO 209	20 TO 24	17 TO 21	



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

Procedure No. 3022

Revision No. _____

Contractor Elderlee, Inc.

Authorized By RANDY SCOTT

Date 3/20/2014