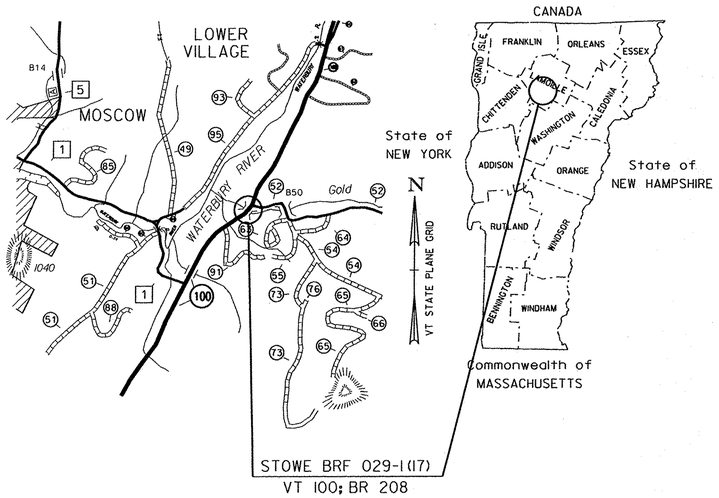
FOR INDEX, SEE SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF STOWE

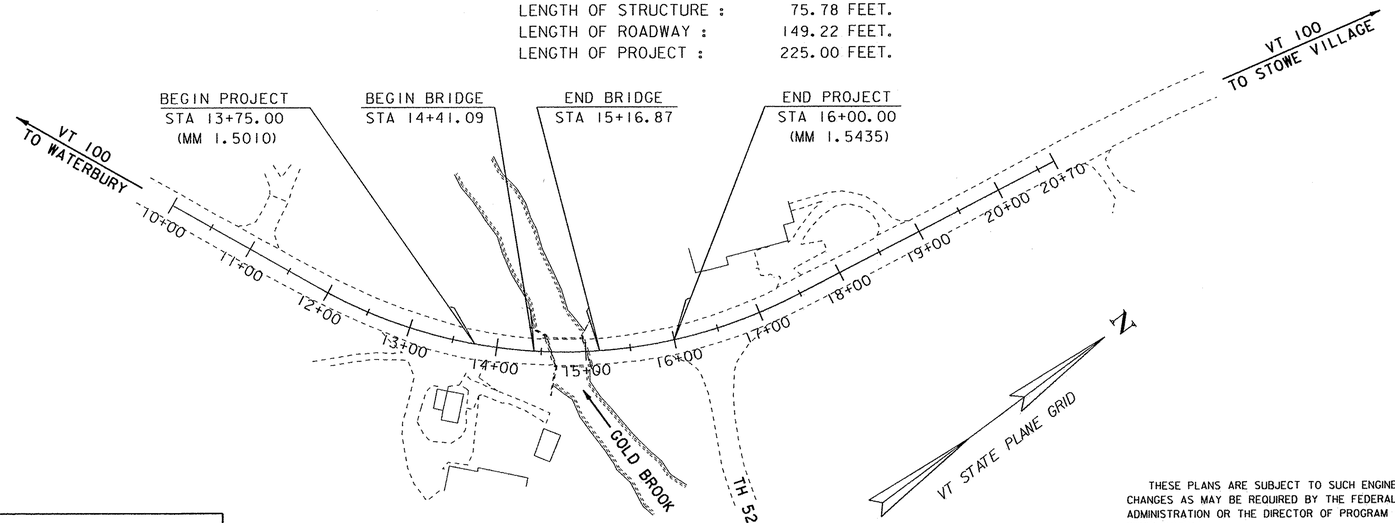
COUNTY OF LAMOILLE

ROUTE NO : VT 100 (MINOR ARTERIAL) BRIDGE NO : 208

PROJECT LOCATION : BEGINNING AT A POINT APPROXIMATELY 300 FEET SOUTH OF THE JUNCTION OF VT 100 AND TH 52 (GOLD BROOK ROAD) AND EXTENDING NORTHERLY ALONG VT 100 FOR 225 FEET.

PROJECT DESCRIPTION : THE PROJECT SHALL CONSIST OF REPLACEMENT OF THE EXISTING STRUCTURE WITH A NEW INTEGRAL ABUTMENT STRUCTURE INCLUDING RELATED ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	75.78 FEET.
LENGTH OF ROADWAY :	149.22 FEET.
LENGTH OF PROJECT :	225.00 FEET.



SCALE: 1" = 80'-0"
80 0 80

RECORD PLANS

CONTRACTOR: AUSTIN CONSTRUCTION, INC. - CONCORD, VT

RESIDENT ENGINEER: RICK HALE

CONSTRUCTION BEGAN: APRIL 14, 2014

CONSTRUCTION COMPLETE: SEPTEMBER 26, 2014

RECORD PLANS BY: RICK HALE & KEVIN KING

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

BY Richard Rick Hale RESIDENT ENGINEER

DATE 6/1/16

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

QUALITY ASSURANCE PROGRAM: LEVEL 2

CONVENTIONAL SYMBOLS

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

SURVEYED BY :	R. GILMAN
SURVEYED DATE :	7/27/2007

DATUM

VERTICAL	NAVD88
HORIZONTAL	NAD83

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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 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.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Richard Edwards DATE 6-12-13

PROJECT MANAGER : CAROLYN CARLSON P.E.

PROJECT NAME : STOWE
PROJECT NUMBER : BRF 029-1(17)

SHEET 1 OF 70 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 11.06.15

LRFD

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STANDARDS LIST

C-10	CURBING	02-11-2008
E-100	CONSTRUCTION APPROACH SIGNS	01-02-2004
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	01-02-2004
E-101	CONSTRUCTION SIGN DETAILS	05-30-2003
E-102	CONSTRUCTION SIGN DETAILS	06-30-2003
E-102A	CONSTRUCTION SIGN DETAILS	05-01-2004
E-106	TRAFFIC CONTROL- MISCELLANEOUS DETAILS	03-01-2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-2003
E-107A	BREAKAWAY BARRICADE DETAILS	06-08-2009
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	06-08-2009
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-134	BRIDGE NUMBER PLAQUE	08-08-1995
E-138	MILE MARKER DETAILS - STATE & TOWN HIGHWAYS	05-30-2003
E-141	REGULATORY SIGN DETAILS	09-20-1995
E-164	SQUARE STEEL SIGN POST	06-08-2009
E-191	PAVEMENT MARKING DETAILS	02-01-1999
E-193	PAVEMENT MARKING DETAILS	08-18-1995
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	01-03-2000
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11-15-2002
S-363	THRIE BEAM TO STANDARD STEEL BEAM TRANSITION SECTION	04-23-2012

STRUCTURAL DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES
SD-502.00	CONCRETE DETAILS AND NOTES
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: January 2011

DRAINAGE AREA : 9.0 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested with some open areas
STREAM CHARACTERISTICS : Perennial, incised, alluvial, sinuous with narrow floodplains
NATURE OF STREAMBED : Gravel, cobbles and boulders

PEAK FLOW DATA

Q 2.33 =	650 cfs	Q 50 =	2000 cfs
Q 10 =	1250 cfs	Q 100 =	2400 cfs
Q 25 =	1650 cfs	Q 500 =	3400 cfs

DATE OF FLOOD OF RECORD: Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY: @ Q50 = 8.3 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: Single span concrete T-beam bridge
YEAR BUILT: built in 1931 and widened in 1951
CLEAR SPAN(NORMAL TO STREAM): 37'
VERTICAL CLEARANCE ABOVE STREAMBED: 16'
WATERWAY OF FULL OPENING: 580 sq. ft.
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs

WATER SURFACE ELEVATIONS AT:

Q2.33 =	666.2'	VELOCITY =	6.1 fps
Q10 =	667.7'	"	8.2 fps
Q25 =	668.7'	"	9.4 fps
Q50 =	669.5'	"	10.4 fps
Q100 =	670.4'	"	11.4 fps

LONG TERM STREAMBED CHANGES: Approximately 1' of channel degradation and local scour along the south abutment and some aggradation in front of the north abutment since 1931.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 678.2'
DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Stowe — DISTANCE: 1500'
HIGHWAY # : T.H. 7 — STRUCTURE #: 50
CLEAR SPAN: 55' — CLEAR HEIGHT: >20'
YEAR BUILT: 1971 — FULL WATERWAY:
STRUCTURE TYPE: Bridge

DOWNSTREAM STRUCTURE

TOWN: N.A. - Confluence with Little River — DISTANCE: 1800'
HIGHWAY # : — STRUCTURE #:
CLEAR SPAN: — CLEAR HEIGHT:
YEAR BUILT: — FULL WATERWAY:
STRUCTURE TYPE:

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	2.39	1.19					
POSTING							
OPERATING	3.10	1.54	1.64	1.27	1.45	1.29	1.40
COMMENTS:							

PILE DRIVING AND TESTING REQUIREMENTS

1. NOMINAL PILE DRIVING CAPACITY	Rndr:	525.00 KIP
2. PILE TEST RESISTANCE FACTOR	ϕ:	0.65
3. REQUIRED PILE PENETRATION DEPTH		20.00 FT
4. PERFORM ONE DYNAMIC PILE LOADING TEST AT EACH ABUTMENT.		

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span integral abutment bridge

CLEAR SPAN(NORMAL TO STREAM): 66'
VERTICAL CLEARANCE ABOVE STREAMBED: 18' at inlet, 16' at outlet
WATERWAY OF FULL OPENING: 760 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	666.2'	VELOCITY=	6.1 fps
Q10 =	667.8'	"	8.0 fps
Q25 =	668.7'	"	9.0 fps
Q50 =	669.5'	"	9.7 fps
Q100 =	670.3'	"	10.5 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 678.2'
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 680.5' upstream, 677.5' downstr.
VERTICAL CLEARANCE: @ Q100 = 10.2' upstream

SCOUR: 2' of contraction scour and long term degradation through the proposed bridge up to Q500.
REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	20 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	10 cfs	0.5'
ORDINARY HIGH WATER:	280 cfs	2.5'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 40' minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Elevation 670' mininum
WATERWAY AREA OF FULL OPENING: 280 sq. ft. minimum

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TWO-WAY TRAFFIC ON A TEMPORARY BRIDGE.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY
4. THE APPROACHES FOR THE TEMPORARY BRIDGE SHALL BE PAVED.

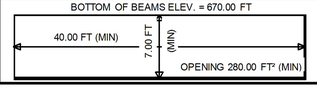
DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	dp:	3.0 INCH
3. DESIGN SPAN	L:	74.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	1.69 INCH
5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX)	fy:	270 KSI
6. PRESTRESSED CONCRETE STRENGTH	f'c:	6.0 KSI
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'ci:	5.0 KSI
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'c:	---
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:	---
12. REINFORCING STEEL	fy:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	fy:	---
14. SOIL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	qn:	---
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
17. NOMINAL BEARING RESISTANCE OF ROCK	qn:	---
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
19. NOMINAL AXIAL PILE RESISTANCE	qp:	525.0 KIPS
20. PILE YIELD STRENGTH ASTM A572	fy:	50 KSI
21. PILE SIZE		HP 12X74
22. EST. PILE LENGTHS (TWO SUBSTRUCTURES) (ABUTMENT 1 = 23 AND ABUTMENT 2 = 39) FT	Lp:	
23. PILE RESISTANCE FACTOR	ϕ:	0.65
24. LATERAL PILE DEFLECTION	Δ:	0.30 INCH
25. BASIC WIND SPEED	V3s:	---
26. MINIMUM GROUND SNOW LOAD	pg:	---
27. SEISMIC DATA PGA: ---	Ss:	---
	S1:	---

AS BUILT "REBAR" DETAIL

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

TEMPORARY BRIDGE PROFILE ALONG TEMP CL



TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2013	11000	1200	55	6	1000
2033	13500	1500	55	8	1900

20 year ESAL for flexible pavement from 2013 to 2033 : 7414000
40 year ESAL for flexible pavement from 2013 to 2053 : 17923000
Design Speed : 40 mph

PROJECT NAME: **STOWE**
PROJECT NUMBER: **BRF 029-1(17)**

FILE NAME: s86e037pi.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. I. SALLS
PRELIMINARY INFORMATION SHEET

PLOT DATE: 17-JUN-2013
DRAWN BY: G. ROY
CHECKED BY: H. I. SALLS
SHEET 2 OF 70

GENERAL

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 FIFTH EDITION, DATED 2010 AND ITS LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS THIRD EDITION, DATED 2010 AND ITS LATEST REVISIONS.

2. THE BRIDGE WAS DESIGNED FOR THE HL-93 LIVE LOADS.

3. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR THE REMOVAL OF THE EXISTING STRUCTURE INCLUDING THE SUPERSTRUCTURE, ALONG WITH THE ABUTMENTS AND WINGWALLS OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION. THE ABUTMENTS SHALL BE REMOVED TO STREAM BED ELEVATION.

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

EARTHWORK AND RELATED ITEMS

5. THE TEMPORARY BRIDGE AND ITS APPROACHES SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE". THE APPROACHES TO THE TEMPORARY BRIDGE SHALL BE PAVED WITH 2 INCHES OF PAVEMENT.

6. TEMPORARY CONSTRUCTION FILLS WITHIN THE WATERCOURSE FOR ANY PURPOSE SHALL CONSIST OF CLEAN STONE FILL ONLY. NO OTHER FILLING IN THE STREAM SHALL OCCUR WITHOUT THE APPROVAL OF THE STREAM ALTERATION ENGINEER.

7. THE BACKFILL BEHIND THE ABUTMENTS SHALL NOT BE PLACED HIGHER THAN THE BRIDGE SEATS UNTIL THE ABUTMENTS AND DECK CONSTRUCTION IS COMPLETED. THE DIFFERENCE IN ELEVATION OF FILL BEHIND THE TWO ABUTMENTS AT ANY TIME DURING BACKFILLING OPERATIONS SHALL NOT EXCEED 2 FEET.

8. THE "STONE FILL, TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEXT BEAMS ARE SET.

PILES

9. TO PREVENT DAMAGE TO THE PILES, PILE SHOES ARE REQUIRED AND SHALL CONFORM TO SUBSECTION 505.04(f).

10. THE PILES SHALL BE DRIVEN TO A NOMINAL PILE DRIVING RESISTANCE OF 525 KIPS.

11. TO ENSURE THAT THE NOMINAL CAPACITY HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILE DURING OPERATIONS, DYNAMIC PILE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 505.04 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR PILE TESTING SHALL BE MADE UNDER ITEM 505.45 "DYNAMIC PILE LOADING TEST". A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED ON THE FIRST PILE AT EACH ABUTMENT FOR A TOTAL OF 2 TESTS. MORE TESTS MAY BE REQUIRED BY THE ENGINEER.

12. THE TOP OF THE PILES AFTER DRIVING SHALL NOT VARY FROM THE POSITION SHOWN ON THE PLANS BY MORE THAN 3 INCHES. THE PILE ORIENTATION SHALL NOT VARY BY MORE THAN 5 DEGREES. THE CONTRACTOR SHALL DEMONSTRATE HOW THE TOLERANCE WILL BE MET TO THE SATISFACTION OF THE ENGINEER.

13. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN PLACE LENGTHS MAY VARY.

14. THE PILES SHALL BE HP 12 X 74.

15. ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY FOR PLACING THE PILES IN THEIR ACCEPTED FINAL POSITION SHALL BE CONSIDERED INCIDENTAL TO ITEM 505.16 "STEEL PILING, HP 12 X 74". THE CONTRACTOR MAY SUBMIT AN ALTERNATIVE METHOD OF DRIVING FOR APPROVAL BY THE ENGINEER.

CONCRETE

16. SUBSTRUCTURE CONCRETE AND APPROACH SLABS SHALL BE HIGH PERFORMANCE CLASS B AND SHALL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". ALL CURB, OVERLAY AND ALL CONCRETE PLACED INTEGRALLY WITH THE SUPERSTRUCTURE SHALL BE ITEM 501.33 "CONCRETE, HIGH PERFORMANCE CLASS A".

17. THE ABUTMENT AND WINGWALL CONCRETE ABOVE THE HORIZONTAL CONSTRUCTION JOINTS SHALL BE PLACED MONOLITHICALLY WITH THE DECK POUR.

18. INDIVIDUAL POURED SEGMENTS ARE TO BE PLACED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.

19. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.

20. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

21. EXCLUDING REINFORCING STEEL IN WINGWALLS, ALL REINFORCING STEEL ABOVE THE CONSTRUCTION JOINT WILL BE CORROSION PROTECTION LEVEL II AND ALL REINFORCING STEEL BELOW THE CONSTRUCTION JOINT AND IN THE APPROACH SLABS WILL BE CORROSION PROTECTION LEVEL I. PAYMENT WILL BE MADE UNDER THE APPROPRIATE SECTION 507 CONTRACT ITEM.

22. LEVEL I REINFORCING STEEL SHALL BE EPOXY COATED.

TRAFFIC CONTROL

23. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

24. ANY TEMPORARY MEANS OF SUPPORTING FILL SHALL BE INCIDENTAL TO THE ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE". CONSTRUCTION DRAWINGS SHALL BE INCIDENTAL TO THE ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE". CONSTRUCTION DRAWINGS SHALL BE REQUIRED AS PER SUBSECTION 105.03.

25. THE CONTRACTOR SHALL ADD SIGN G20-5AP TO THE TOP OF ALL TEMPORARY SPEED LIMIT SIGNS AS DETAILED IN THE MUTCD.

26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED TRAFFIC CONTROL PLAN TO THE ENGINEER FOR ALL STAGES OF CONSTRUCTION. NO WORK SHALL BEGIN UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. SEE SPECIAL PROVISIONS FOR DETAILS. ALL COST SHALL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

27. PAYMENT FOR ALL ON AND OFF-PROJECT CONSTRUCTION SIGNING AND TRAFFIC CONTROL DEVICES, INCLUDING DRUMS AND BARRICADES, WILL BE PAID FOR UNDER ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

NEXT F BEAMS

28. THE NEXT F BEAMS ARE A NON-PROPRIETARY SHAPE DEVELOPED BY PCI NORTHEAST (PCINE). STANDARDIZED SECTION PROPERTIES AND DETAILS MAY BE FOUND AT HTTP://WWW.PCINE.ORG.

29. DESIGN VALUES
    a. CONCRETE COMPRESSIVE STRENGTH: f'c = 8,000 PSI
    b. CONCRETE COMPRESSIVE STRENGTH AT RELEASE: f'c = 6,000 PSI
    c. PRESTRESSING STRANDS: 0.6 INCH DIAMETER, 270 KSI, LOW-RELAXATION 7-WIRE STRANDS
    d. ASSUMED MODULUS OF ELASTIC = 28,500 KSI
    e. JACKING FORCE PER STRAND = 47 KIPS
    f. SERVICE LOADS:

MEMBER MOMENT:	995 K-FT
SUPERIMPOSED DEAD LOAD MOMENT:	80 K-FT
LIVE LOAD AND IMPACT MOMENT:	1838 K-FT
DEAD LOAD REACTION:	59 K-FT
LIVE LOAD AND IMPACT REACTION:	108 K-FT
TOTAL REACTION:	167 K-FT
FINAL CAMBER:	1 11/16 INCHES

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037notes.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. I. SALLS
PROJECT NOTES

PLOT DATE: 17-JUN-2013
DRAWN BY: G. ROY
CHECKED BY: H. I. SALLS
SHEET 3 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
820				820		CY	COMMON EXCAVATION	203.15	
		1300		1300		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
32				32		CY	TRENCH EXCAVATION OF EARTH	204.20	
1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
		730		730		CY	STRUCTURE EXCAVATION	204.25	
		340		340		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
760				760		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
640				640		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
35				35		CY	AGGREGATE SURFACE COURSE	401.10	
75				75		CWT	EMULSIFIED ASPHALT	404.65	
1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
		119		119		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	
		186		186		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
		1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	
		330		330		LF	STEEL PILING, HP 12 X 74	505.16	
		2		2		EACH	DYNAMIC PILE LOADING TEST	505.45	
		30380		30380		LB	REINFORCING STEEL, LEVEL I	507.11	
		26050		26050		LB	REINFORCING STEEL, LEVEL II	507.12	
		275		275		SY	LONGITUDINAL DECK GROOVING	509.10	
		33		33		GAL	WATER REPELLENT, SILANE	514.10	
		70		70		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
		70		70		LF	JOINT SEALER, HOT POURED	524.11	
		155		155		LF	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	525.335	
		1		1		LS	TWO-WAY TEMPORARY BRIDGE (960 SF - EST.)	528.11	
		1		1		EACH	REMOVAL OF STRUCTURE (1320 SF - EST.)	529.15	
		16		16		EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17	
							BEGIN OPTION AA		
54				54		LF	18" CAAP .060 (2-2/3 X 1/2)	601.0215	
54				54		LF	18" PCCSP .064 (2-2/3 X 1/2)	601.0415	
54				54		LF	18" CPEP(SL)	601.2615	
							END OPTION AA		
	10			10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
	1			1		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
50	10			60		CY	STONE FILL, TYPE I	613.10	
		980		980		CY	STONE FILL, TYPE IV	613.13	
130				130		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	
270				270		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21	
4				4		EACH	MANUFACTURED TERMINAL SECTION, TANGENT	621.51	
4				4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	621.725	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
		FILL AVAILABLE
820	CY	COMMON EXCAVATION (820 x 1.0)
390	CY	UNCLASSIFIED CHANNEL EXCAVATION (1300 x 0.3)
219	CY	STRUCTURE EXCAVATION (730 x 0.3)
0.9	CY	TRENCH EXCAVATION OF EARTH (1 x 0.9)
0.1	CY	ROUNDING
1430	**CY**	**TOTAL FILL AVAILABLE**
		FILL REQUIRED
368	CY	FACTORED FILL (320 x 1.15)
2	CY	ROUNDING
370	**CY**	**TOTAL FILL REQUIRED**
1060	**CY**	**TOTAL WASTE**

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029 - 1(17)

FILE NAME: s85e037qty.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. I. SALLS
QUANTITY SHEET #1

PLOT DATE: 06/17/2013
DRAWN BY: G. ROY
CHECKED BY: H. I. SALLS
SHEET 4 OF 70

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
350								350		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
50								50		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
500								500		HR	FLAGGERS	630.15				
							1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
							1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
							1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
							3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
1								1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
850								850		LF	4 INCH WHITE LINE	646.20				
850								850		LF	4 INCH YELLOW LINE	646.21				
20								20		LF	DURABLE 24 INCH STOP BAR	646.480				
4								4		EACH	DURABLE LETTER OR SYMBOL	646.490				
170					970			1140		SY	GEOTEXTILE UNDER STONE FILL	649.31				
			183					183		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
			110					110		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
			30					30		LB	SEED	651.15				
			250					250		LB	FERTILIZER	651.18				
			1					1		TON	AGRICULTURAL LIMESTONE	651.20				
			1					1		TON	HAY MULCH	651.25				
			10					10		CY	TOPSOIL	651.35				
					390			390		SY	GRUBBING MATERIAL	651.40				
			1					1		LS	EPSC PLAN	652.10				
			50					50		HR	MONITORING EPSC PLAN	652.20				
			1					1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
			1280					1280		SY	TEMPORARY EROSION MATTING	653.20				
			10					10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
			18					18		CY	VEHICLE TRACKING PAD	653.35				
			1					1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
			370					370		LF	BARRIER FENCE	653.50				
			780					780		LF	PROJECT DEMARCATION FENCE	653.55				
11.08								11.08		SF	TRAFFIC SIGNS, TYPE A	675.20				
132								132		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
8								8		EACH	REMOVING SIGNS	675.50				
3								3		EACH	ERECTING SALVAGED SIGNS	675.60				
1								1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
					304			304		LF	SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT F BEAMS)(NEXT 36 F)	900.640				
1								1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				
1								1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650				
1								1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
562					24			586		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: **STOWE**
PROJECT NUMBER: **BRF 029 - 1(17)**

FILE NAME: **s85e037qty.dgn**
PROJECT LEADER: **C. CARLSON**
DESIGNED BY: **H. I. SALLS**
QUANTITY SHEET #2

PLOT DATE: **07/12/2013**
DRAWN BY: **G. ROY**
CHECKED BY: **H. I. SALLS**
SHEET **5** OF **70**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

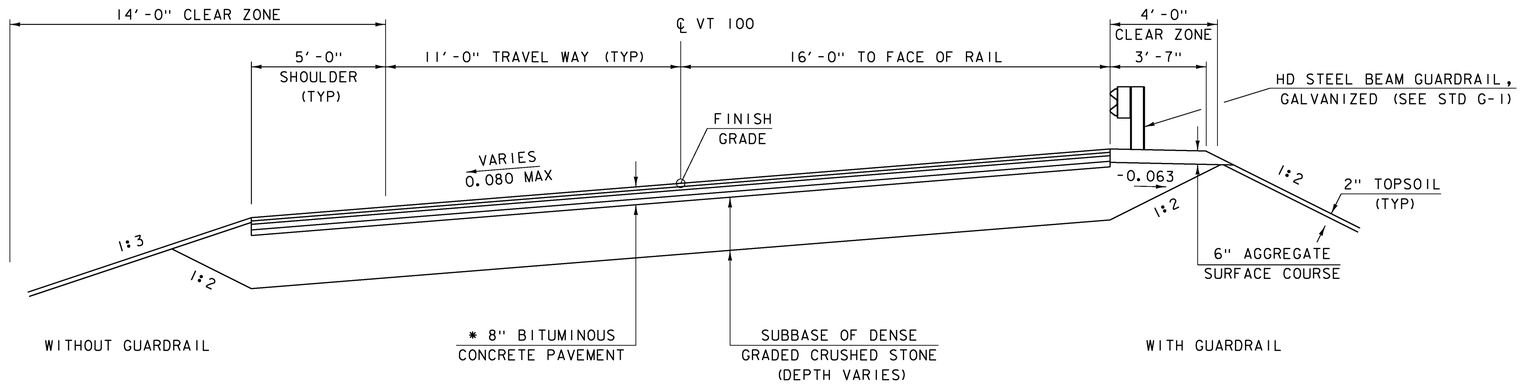
BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES											TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
					DECK	APPROACH SLAB 1	APPROACH SLAB 2	ABUTMENT 1	ABUTMENT 2	CHANNEL	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
										1300	1300	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
								360	370		730	CY	STRUCTURE EXCAVATION	204.25			
								170	170		340	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
					73			23	23		119	CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33			
						29	29	65	63		186	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
								0.5	0.5		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
								125	205		330	LF	STEEL PILING, HP 12 X 74	505.16			
								1	1		2	EACH	DYNAMIC PILE LOADING TEST	505.45			
						3880	3690	11570	11240		30380	LB	REINFORCING STEEL, LEVEL I	507.11			
					14900			5730	5420		26050	LB	REINFORCING STEEL, LEVEL II	507.12			
					275						275	SY	LONGITUDINAL DECK GROOVING	509.10			
					24			4	5		33	GAL	WATER REPELLENT, SILANE	514.10			
						35	35				70	LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
						35	35				70	LF	JOINT SEALER, HOT POURED	524.11			
					155						155	LF	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	525.335			
					1						1	LS	TWO-WAY TEMPORARY BRIDGE (960 SF - EST.)	528.11			
					1						1	EACH	REMOVAL OF STRUCTURE (1320 SF - EST.)	529.15			
								8	8		16	EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17			
										980	980	CY	STONE FILL, TYPE IV	613.13			
										970	970	SY	GEOTEXTILE UNDER STONE FILL	649.31			
										390	390	SY	GRUBBING MATERIAL	651.40			
					304						304	LF	SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT F BEAMS)(NEXT 36 F)	900.640			
						12	12				24	TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680			

PROJECT NAME: **STOWE**
PROJECT NUMBER: **BRF 029 - 1(17)**

FILE NAME: **s85e037qty.dgn**
PROJECT LEADER: **C. CARLSON**
DESIGNED BY: **H. I. SALLS**
BRIDGE QUANTITY SHEET #1

PLOT DATE: **07/12/2013**
DRAWN BY: **G. ROY**
CHECKED BY: **H. I. SALLS**
SHEET **6** OF **70**



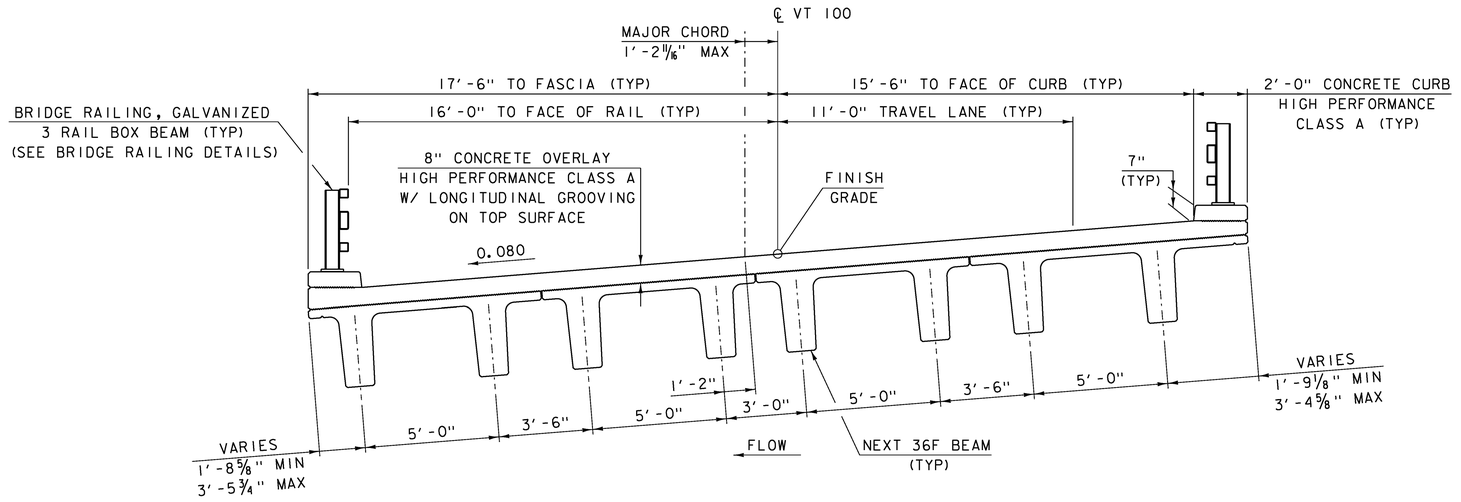
VT ROUTE 100 ROADWAY TYPICAL SECTION

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

*1 1/2" TYPE IVS OVER
1 1/2" TYPE IVS OVER
2 1/2" TYPE IIS OVER
2 1/2" TYPE IIS

PAVEMENT SHALL BE PAID FOR UNDER ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.



BRIDGE TYPICAL SECTION

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

MATERIAL TOLERANCES

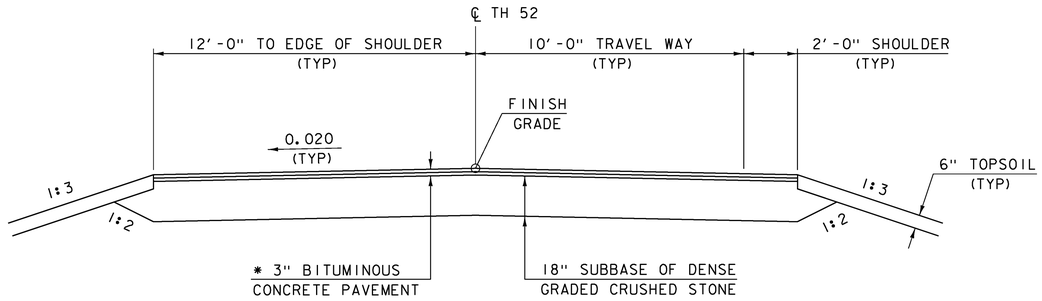
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037typ.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
TYPICAL SECTIONS

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 7 OF 70



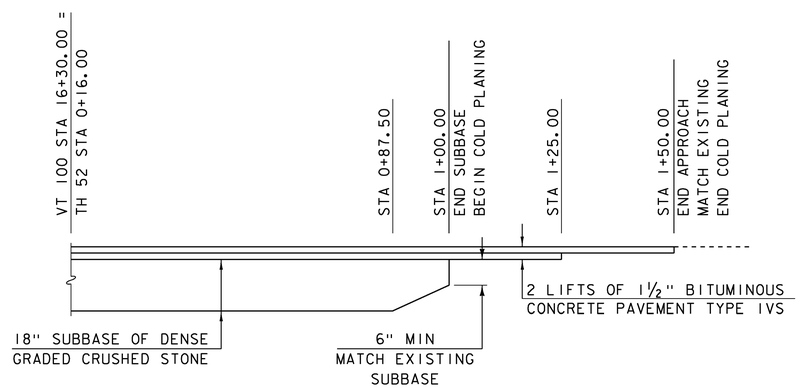
TH 52 ROADWAY TYPICAL SECTION

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

* 1 1/2" TYPE IVS OVER
1 1/2" TYPE IVS

PAVEMENT SHALL BE PAID FOR UNDER ITEM 900.680 "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".

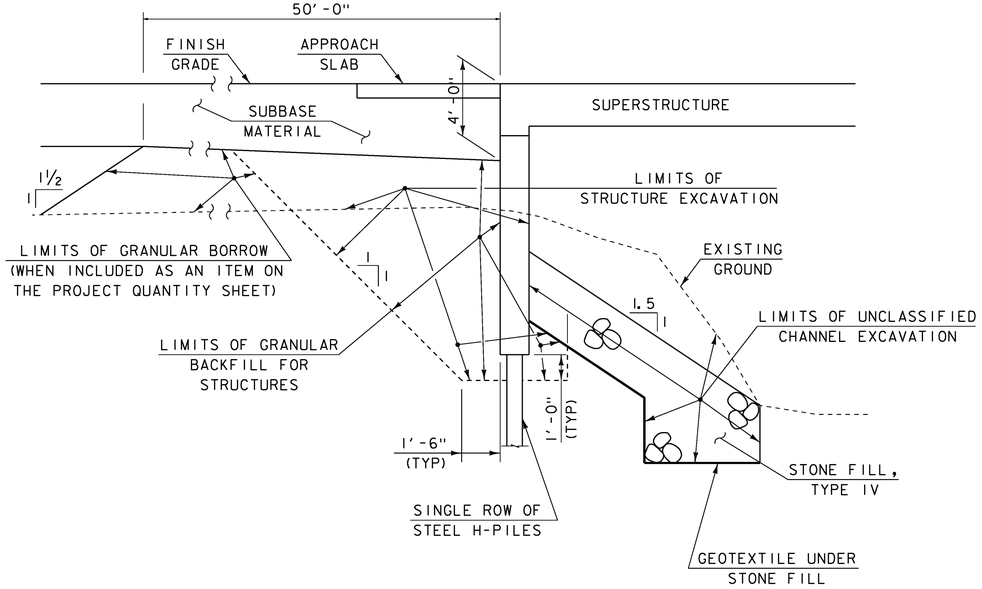
TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.



TH 52 MATERIAL TRANSITION

(NOT TO SCALE)

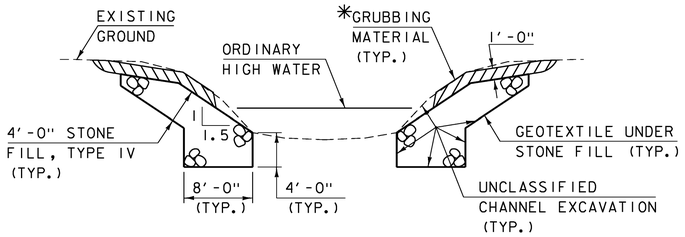
PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037typ.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
TH 52 TYPICAL SECTIONS	SHEET 8 OF 70



TYPICAL INTEGRAL ABUTMENT SECTION

(NOT TO SCALE)

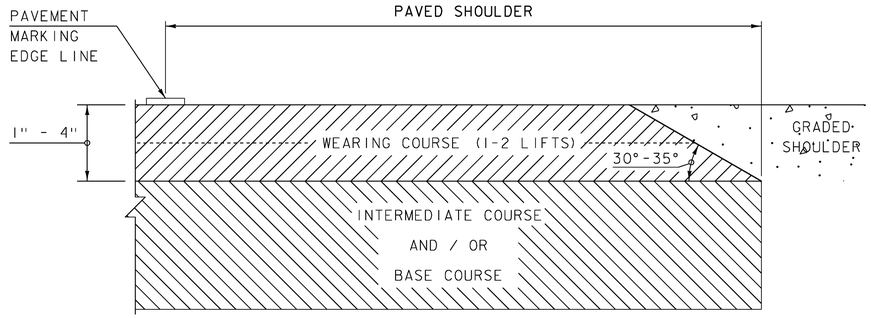
NOTE. ACTUAL EXCAVATION LIMITS SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER ITEM 204.25 "STRUCTURE EXCAVATION".



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

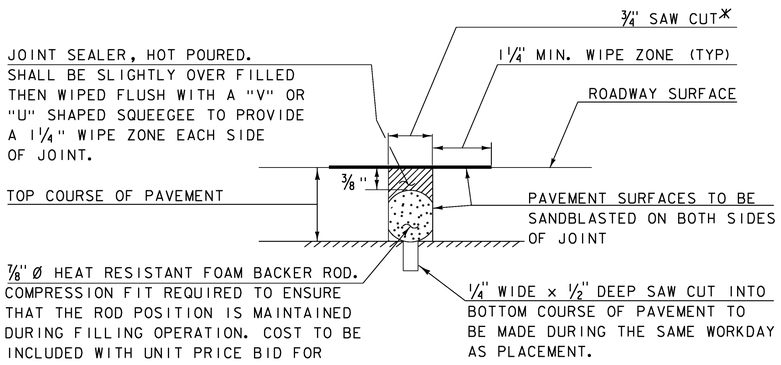
*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



SAFETY EDGE DETAIL

NOT TO SCALE

NOTES:
1. LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.
2. 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.



SAWED PAVEMENT JOINT DETAIL

(NOT TO SCALE)

*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER.

PROJECT NAME: STOWE	
PROJECT NUMBER: BRF 029-1(17)	
FILE NAME: s85e037typ.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
MISCELLANEOUS DETAILS	SHEET 9 OF 70

GPS CONTROL POINTS

HVCTRL #1

STOWE AZ MK

NORTH = 706904.45
EAST = 1585797.31
ELEV. = 672.55

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1994 (CHR) TO REACH FROM THE INTERSECTION OF VT. ROUTES 100 AND 108 IN STOWE GO SOUTH ALONG ROUTE 100 FOR 2.2 MI (3.5 KM) TO THE MARK ON THE LEFT IN THE NORTH END OF A LEDGE CUT. THE MARK IS 7.7 M (25.3 FT) SOUTHEAST OF AND ABOUT 2 M (6.6 FT) HIGHER THAN THE CENTERLINE OF ROUTE 100, 27.9 M (91.5 FT) NORTHEAST OF POLE NO. 58, 0.5 M (1.6 FT) SOUTHEAST OF THE FACE OF THE LEDGE CUT, 1.7 M (5.6 FT) SOUTH OF THE NORTH END OF THE LEDGE, 2.1 M (6.9 FT) NORTHEAST OF A METAL WITNESS POST.

HVCTRL #2

STOWE RIVER

NORTH = 708261.85
EAST = 1585037.78
ELEV. = 692.93

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1994 (CHR) TO REACH FROM THE INTERSECTION OF VT. ROUTES 100 AND 108 IN STOWE GO SOUTH ALONG ROUTE 100 FOR 2.5 MI TO THE INTERSECTION OF MOSCOW ROAD RIGHT. TURN RIGHT AND GO NORTHWEST FOR 0.5 MI TO THE INTERSECTION OF RIVER ROAD RIGHT. TURN RIGHT AND GO NORTHEAST ALONG RIVER ROAD FOR 0.2 MI TO THE SITE OF THE MARK ON THE RIGHT IN A SMALL FIELD. IT IS ABOUT .05 MI WEST SOUTHWEST OF A POWER SUB STATION. THE MARK IS SET 1" BELOW GROUND SURFACE IN THE TOP OF A 12" DIA. CONCRETE MONUMENT POURED 4.6' DEEP. IT IS 20' SOUTH SOUTHEAST OF AND ABOUT 4.9' LOWER THAN THE CENTERLINE OF RIVER ROAD, 67.6' EAST NORTHEAST OF POLE #151/315/43 (W/ METER BOX), 89.2' WEST SOUTHWEST OF POLE #42, 96.8' EAST OF THE EAST NORTHEAST END OF A WOODEN RAIL FENCE, AND 2' NORTH NORTHWEST OF A FIBERGLASS WITNESS POST.

TRAVERSE TIES

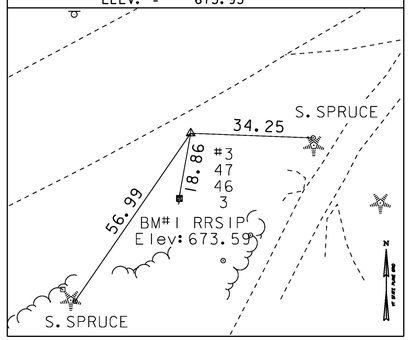
HVCTRL #3

NORTH = 707810.31
EAST = 1586663.71
ELEV. = 672.68

NOT TIED

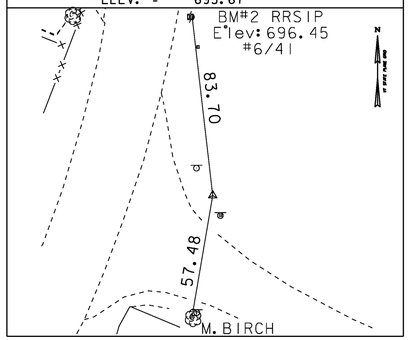
HVCTRL #4

NORTH = 708055.57
EAST = 1587223.17
ELEV. = 673.93



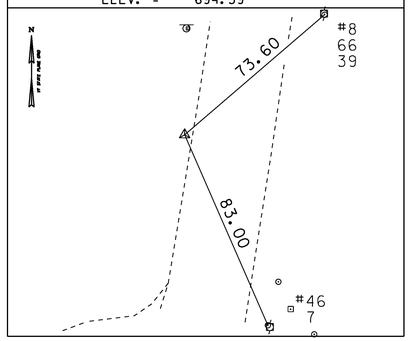
HVCTRL #5

NORTH = 708379.78
EAST = 1587528.47
ELEV. = 693.67



HVCTRL #6

NORTH = 708682.92
EAST = 1587512.27
ELEV. = 694.39



NORTH =
EAST =
ELEV. =

* Main Traverse Completed 07/27/07 by R. Gilman P.C & P. Winters... T. Parker

ALIGNMENT DATA

VT 100

	STATION	NORTHING	EASTING
POB	10+00.00	707975.243	1586997.414
PC	11+89.05	708051.288	1587170.499
PI	14+92.51	708173.349	1587448.322

Delta:	56°59'32.02" Left
Degree of Curvature (Arc):	10°15'00.00"
Length:	556.02
Tangent:	303.45
Chord:	533.38
Middle Ordinate:	67.72
External:	77.06

PT	17+45.08	708472.823	1587497.306
POE	20+69.96	708793.447	1587549.750

TOWN HIGHWAY 52

	STATION	NORTHING	EASTING
POB	0+00.00	708361.963	1587467.213
PC	0+62.86	708339.349	1587525.864
PI	0+90.00	708329.586	1587551.187

Radius:	716.20
Delta:	4°20'25.42" Right
Degree of Curvature (Arc):	8°00'00.00"
Length:	54.25
Tangent:	27.14
Chord:	54.24
Middle Ordinate:	0.51
External:	0.51

PT	1+17.11	708317.933	1587575.699
POE	1+50.00	708793.447	1587549.750

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (Conus)
ADJUSTMENT Compass

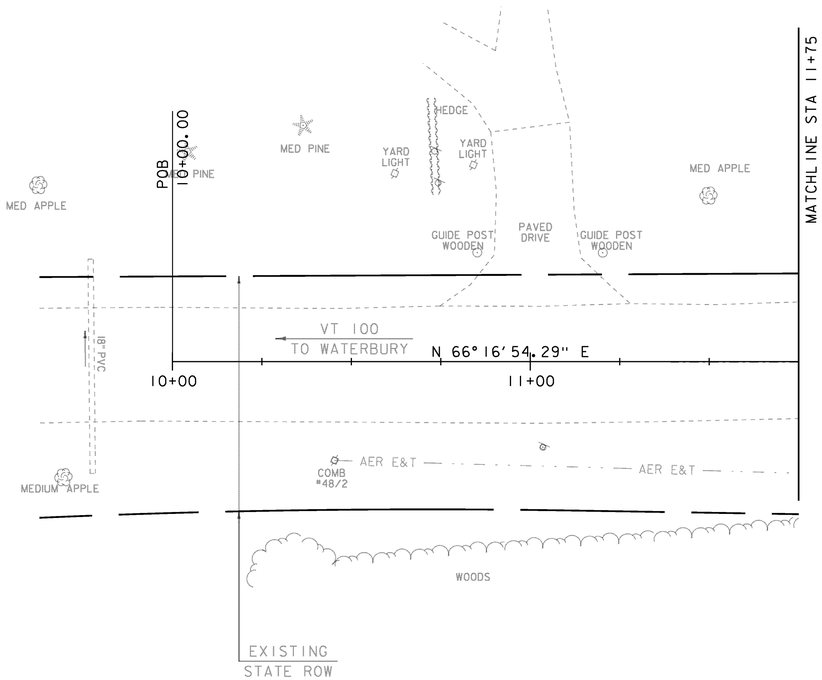
PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037tie.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
TIE SHEET

PLOT DATE: 17-JUN-2013
DRAWN BY: R. BULLOCK
CHECKED BY: G. ROY
SHEET 10 OF 70

N

VT STATE PLANE GRID



SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037bdr.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
LAYOUT 1	SHEET 11 OF 70

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 13+60 LT - STA 14+50 LT
STA 14+10 RT - STA 14+60 RT
STA 15+00 LT - STA 16+20 LT
STA 15+10 RT - STA 15+98 RT

CONSTRUCT 5' PAVED APRON
STA 13+10.0 RT - STA 13+58.0 RT

CONSTRUCT GRASS-LINED DITCH
STA 16+54.6 RT - STA 17+00.0 RT
STA 0+45.0 LT - STA 1+50.0 LT

BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM
STA 14+33.0 LT - STA 15+12.8 LT
STA 14+47.3 RT - STA 15+22.0 RT

CAST-IN-PLACE CONCRETE CURB, TYPE B
STA 13+99.8 LT - STA 14+33.3 LT
STA 14+15.4 RT - STA 14+47.0 RT
STA 15+13.0 LT - STA 15+46.6 LT
STA 15+21.9 RT - STA 15+53.5 RT

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 13+06.6 LT - STA 14+03.1 LT
STA 15+42.8 LT - STA 15+94.2 LT
VT 100 STA 15+50.3 RT - TH 52 STA 0+84.7 RT

MANUFACTURED TERMINAL SECTION, TANGENT
STA 12+65.9 LT - STA 13+06.6 LT
13+71.0 STA ~~13+80.8~~ RT - STA 14+19.0 RT
STA 15+94.2 LT - STA 16+34.8 LT
STA 0+84.7 RT - STA 1+24.6 RT

GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM
STA 14+03.1 LT - STA 14+33.0 LT
STA 14+19.0 RT - STA 14+47.3 RT
STA 15+12.8 LT - STA 15+42.8 LT
STA 15+22.0 RT - STA 15+50.3 RT

VT 100 CURVE DATA
△ = 56°59'32" LT
D = 10°15'00"
R = 558.98'
T = 303.45'
L = 556.02'
E = 77.06'
BANKING = 0.080

VT STATE PLANE GRID

MATCHLINE STA 11+75

PC 11+89.05

VT 100 STA 14+80.00=
CHANNEL STA 50+75.00
△ = 110°53'51" LT
FROM TANGENT TO CURVE

STA 13+75.00
END APPROACH
BEGIN PROJECT

CONSTRUCTION LIMITS

STA 14+41.09
STOP ROADWAY
BEGIN BRIDGE

STONE FILL
TYPE I PAD
5' X 16'

STONE FILL
TYPE IV (TYP)

STA 15+16.87
END BRIDGE
RESUME ROADWAY

STA 16+00.00
END PROJECT
BEGIN APPROACH

VT 100 STA 16+30.00 =
TH 52 STA 0+00.00
△ = 90° RT

PT 17+45.08

MATCHLINE STA 17+75

VT 100 TO WATERBURY

VT 100 TO STONE VILLAGE

EXISTING STATE ROW

MED PINE
MED PINE
BUNCH OF SMALL MAPLES
MED MAPLE
MED LOCUST
WOODS
WATER & POWER HOOKUP
FIREPLACE
WATER & POWER HOOKUP
2-SMALL CEDAR
FIREPLACE
WIRE FENCE
WOODS
HOUSE
HOUSE
LILAC
2'FT DIAMETER MANHOLE
UNDERGROUND PROPANE TANK
STONE SIDEWALK
LARGE MAPLE
GRAVEL DRIVE
MAILBOX
MEDIUM BIRCH
MEDIUM HEMLOCK
6 FOOT WOODEN FENCE
MEDIUM HEMLOCK
WOODS
BOUND CONCRETE BROKEN
SMALL SPRUCE
COMB #3/47/46/3
AER E&T
AER E&T
AER E&T
AER E&T
AER E&T
COMB #4/46
COMB #46/5
COMB #6/41
PROJMKR VT 100 FAHC 4351
GUY WIRE
#5 HVCTRL
WOODS
GUY
GUY
SMALL SPRUCE
SMALL SPRUCE
MEDIUM SPRUCE
GRAVEL DRIVE
MED MAPLE GARDEN
R 5'-0" (TYP)
UNDERGROUND SERVICE (DEPTH 4')
SHRUBS
SMALL ELM
SMALL MAPLE
DOUBLE POLE
R 35'-0" (TYP)
CONCRETE MEDIAN BARRIER (TYP)
CENTERLINE DETOUR
N 66°16'54.29" E
S68°54'54.92"E
REMOVE EXISTING PIPE
TH 52 PI
STA 0+90.00 BK =
STA 0+89.97 AHD
PC
STA 0+62.86
PT
STA 1+17.11
POE
STA 1+50.00
S64°34'29.50"E
STA 0+45.00, ASKEW 90°
NEW 18" X 54' CAAP (.060),
PCCSP (.064) OR CPEP (SL)
W/ STONE FILL, TYPE I
5' X 22' PAD @ OUTLET
GRAVEL DRIVE
#1801
SHED
GARAGE
LARGE STUMP
SMALL MAPLE
GRAVEL DRIVE
PAVED DRIVE
MEDIUM LOCUST
500 GAL METAL TANK FOR OLD HOUSE
MEDIUM BUTTERNUT
UNDERGROUND SERVICE (DEPTH 4')
STONE RETAINING WALL
DISTRIBUTION BOX COVER
BUILDING
SEPTIC TANK COVER
HOUSE
6" PVC
4" PLASTIC
N 74°26'16" W
GOLD BROOK FLOW
IRON ROD
IRON ROD
EXISTING TOWN ROW
TH 52 (GOLD BROOK ROAD)
N 9°17'22.27" E
TEMPORARY CONSTRUCTION LIMITS
STA 17+00.00
END APPROACH
MATCH EXISTING
TEMPORARY CONSTRUCTION LIMITS
STA 12+75.00
BEGIN APPROACH
MATCH EXISTING
VT 100 PI
STA 14+92.51 BK =
STA 14+41.63 AHD

BENCHMARK #1
RAILROAD SPIKE
IN COMB. #3/47/46/3
EL. = 673.59

BENCHMARK #2
RAILROAD SPIKE
IN COMB. #6/41
EL. = 696.45

EXISTING BRIDGE DATA
CONCRETE T-BEAMS
LENGTH = 43'-0"
WIDTH = 30'-0"
REINFORCED CONCRETE ABUTMENTS
BUILT 1931
RECONSTRUCTED 1951

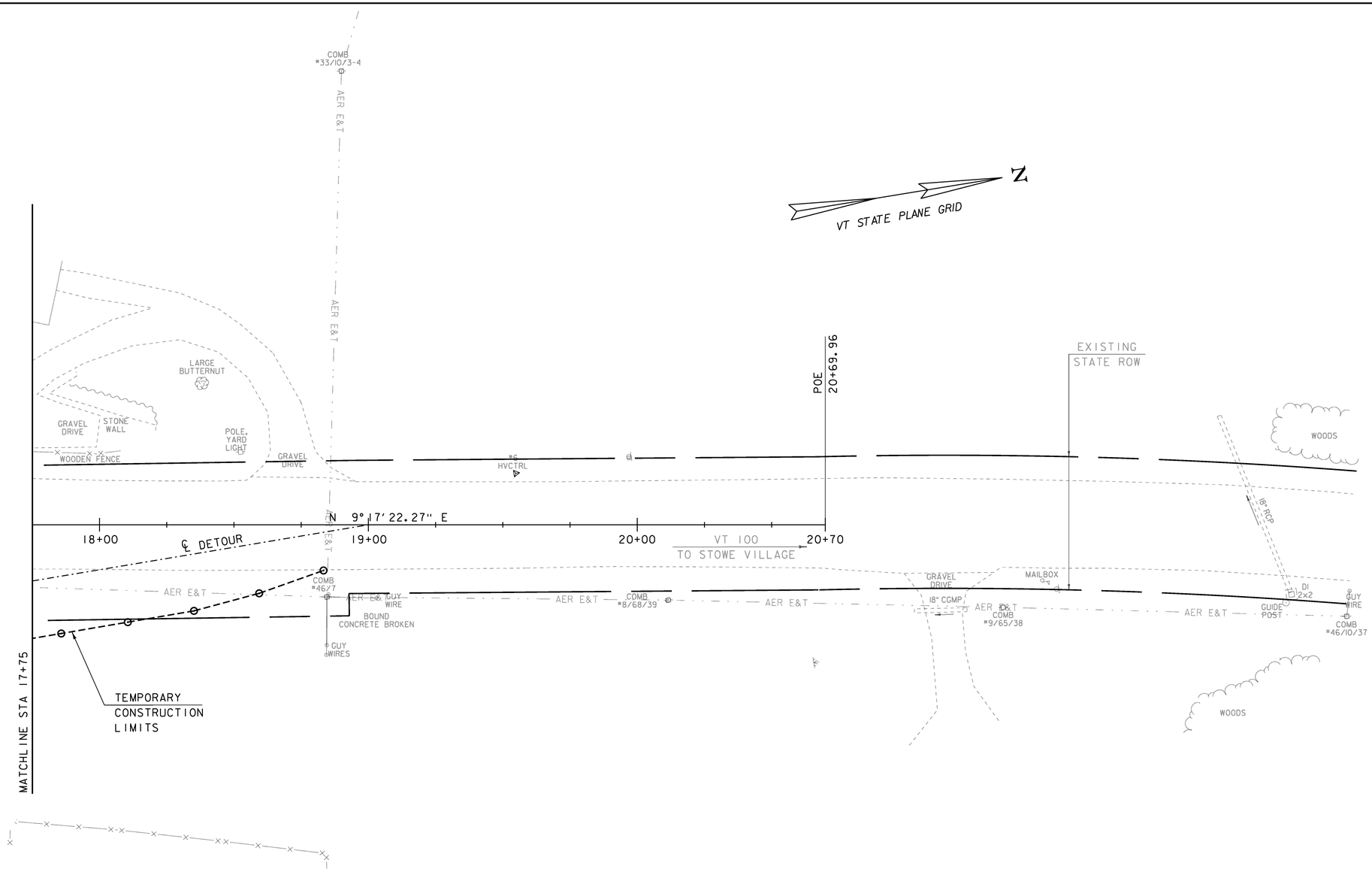
TH 52 CURVE DATA
△ = 4°20'25.42" RT
D = 8°00'00"
R = 716.20'
T = 27.14'
L = 54.25'
E = 0.51'

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

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bdr.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
LAYOUT 2

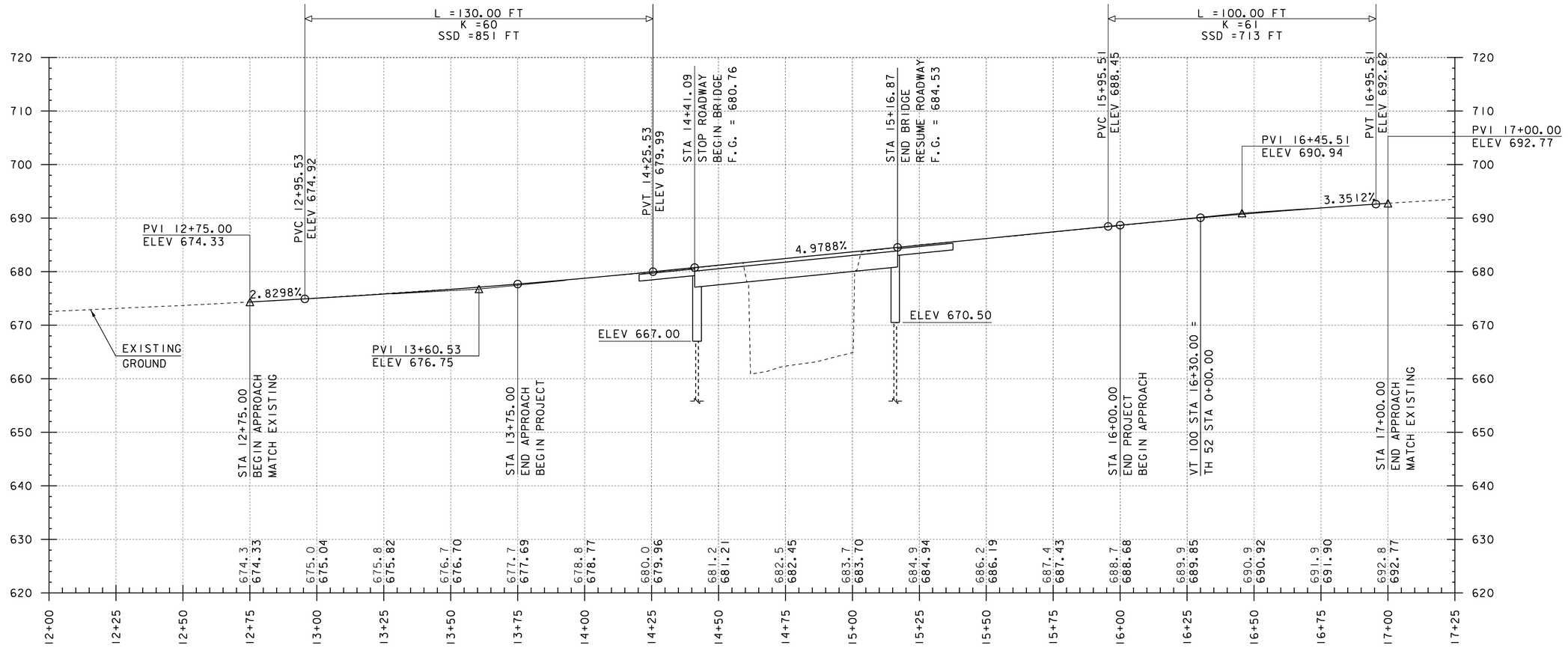
PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 12 OF 70



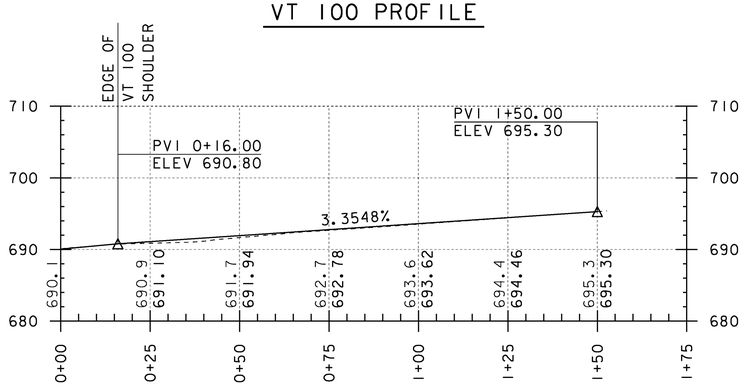
SCALE: 1" = 20'-0"

20 0 20

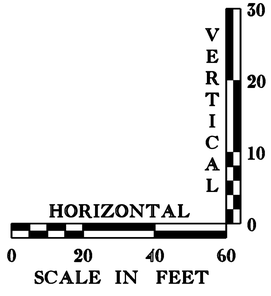
PROJECT NAME: STOWE	
PROJECT NUMBER: BRF 029-1(17)	
FILE NAME: s85e037bdr.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
LAYOUT 3	SHEET 13 OF 70



VT 100 PROFILE



TH 52 PROFILE



NOTES:

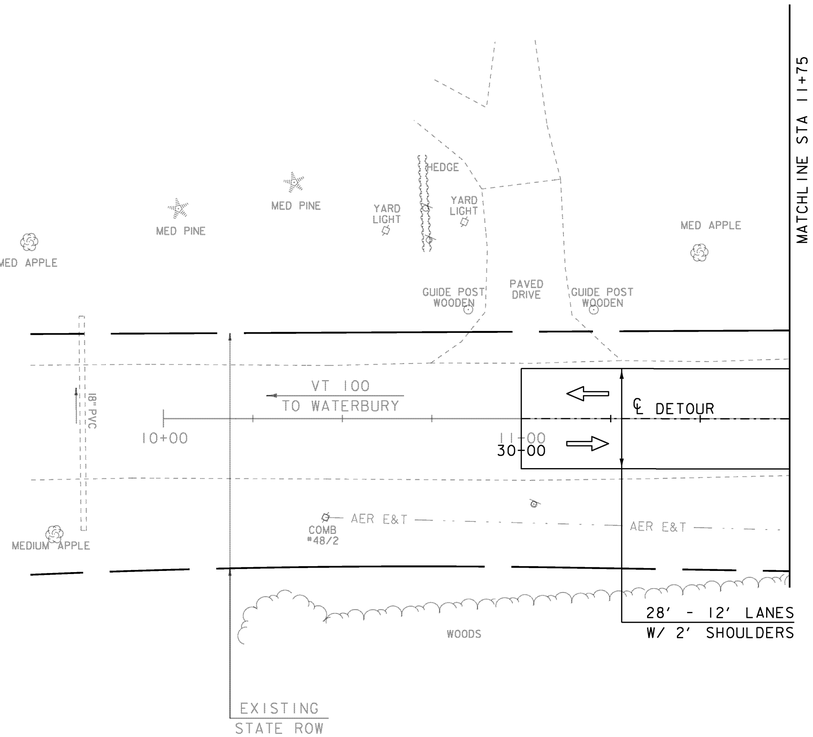
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄.

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℄.

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037pro.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
PROFILES	SHEET 14 OF 70

N

VT STATE PLANE GRID



LEGEND

⇦ - FLOW OF TRAFFIC

SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME: STOWE

PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bdr_tc.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
DETOUR LAYOUT 1

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 15 OF 70

NOTES:

THE TRAFFIC CONTROL SHOWN IS OF A CONCEPTUAL NATURE ONLY. THE CONTRACTOR SHALL SUPPLY A DETAILED TRAFFIC CONTROL PLAN, UTILIZING THE TEMPORARY BRIDGE ALIGNMENT SHOWN. SEE THE TRAFFIC CONTROL NOTES AND THE SPECIFICATIONS FOR ITEMS 528.11 TWO-WAY TEMPORARY BRIDGE AND 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) FOR MORE DETAILS.

ACCESS TO ALL EXISTING DRIVE AND SIDE ROADS SHALL BE MAINTAINED AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION.

THE APPROACHES TO THE TEMPORARY BRIDGE SHALL BE PAVED.

N

VT STATE PLANE GRID

MATCHLINE STA 11+75

MED PINE

MED PINE

BUNCH OF SMALL MAPLES

EXISTING STATE ROW

CONSTRUCTION LIMITS

MED MAPLE

VT 100 TO WATERBURY

12+00

31+00

BOUND CONCRETE BROKEN

SMALL SPRUCE

HWCTRL

AER E&T

COMB #3/47/46/3

WOODS

GUY

SMALL SPRUCE

GRAVEL DRIVE

HI-PLAST

MEDIUM SPRUCE

MED MAPLE

GARDEN

13+00

32+00

14+00

UNDERGROUND SERVICE (DEPTH 4')

GRAVEL DRIVE

SHED

GARAGE

LARGE STUMP

SMALL MAPLE

GRAVEL DRIVE

TEMPORARY CONSTRUCTION LIMITS

AREA TO BE USED AS NECESSARY TO GRADE AND KEEP RUNOFF FROM DRAINING INTO THE GARAGE.

STONE RETAINING WALL

DISTRIBUTION BOX COVER

SEPTIC TANK COVER

HOUSE

FIREPLACE

WATER & POWER HOOKUP

2-SMALL CEDAR

FIREPLACE

WOODS

WATER & POWER HOOKUP

MED LOCUST

MED MAPLE

STONE FILL TYPE I PAD 5' X 16'

COMB #4/46

AER E&T

51+50

STONE FILL TYPE IV (TYP)

SHRUBS

SMALL ELM

CENTERLINE DETOUR

33+00

34+00

35+00

PAVED DRIVE

MEDIUM LOCUST

500 GAL METAL TANK FOR OLD HOUSE

MEDIUM BUTTERNUT

50+00

BUILDING

6" PVC

4" PLASTIC

GOLD BROOK FLOW

49+00

WOODS

WIRE FENCE

WOODS

6 FOOT WOODEN FENCE

MEDIUM HEMLOCK

LILAC

2'FT DIAMETER MANHOLE

MEDIUM BIRCH

MEDIUM HEMLOCK

HOUSE

HOUSE

STONE SIDEWALK

UNDERGROUND PROPANE TANK

LARGE MAPLE

GRAVEL DRIVE

MAILBOX

COMB #5/41

AER E&T

17+00

0+00

16+00

GUY WIRE

GUY POLE

6" PIPE

CONCRETE MEDIAN BARRIER (TYP)

1+00

IRON ROD

EXISTING TOWN ROW

TH 52 (GOLD BROOK ROAD)

VT 100 TO STOWE VILLAGE

PROJMKR VT 100 FAI16 (95)

37+00

MATCHLINE STA 17+75

TEMPORARY CONSTRUCTION LIMITS

28' - 12' LANES W/ 2' SHOULDERS

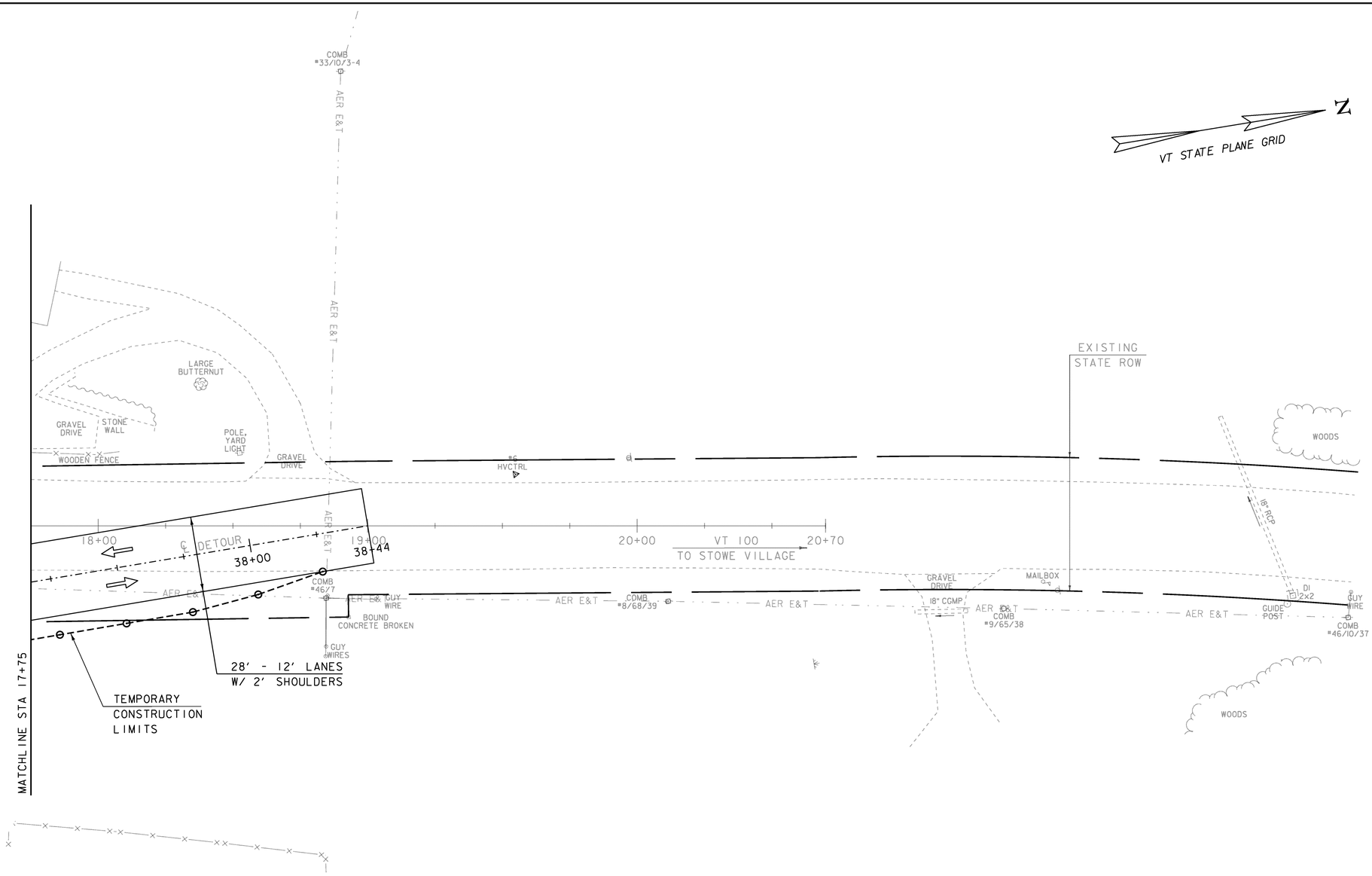
LEGEND

⇦ - FLOW OF TRAFFIC

SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037bdr_tc.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
DETOUR LAYOUT 2	SHEET 16 OF 70



LEGEND

⇦ - FLOW OF TRAFFIC

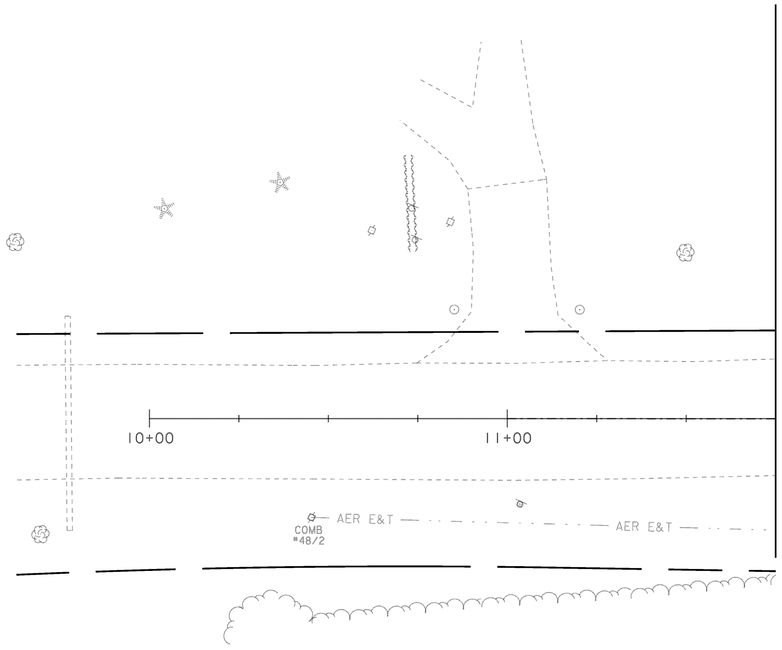
SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037bdr_tc.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
DETOUR LAYOUT 3	SHEET 17 OF 70

N

VT STATE PLANE GRID



SCALE: 1" = 20'-0"

20 0 20

NOTE: SEE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)

FILE NAME: s85e037bdr_util.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
UTILITY RELOCATION 1	SHEET 18 OF 70

N

VT STATE PLANE GRID

MATCHLINE STA 11+75

CONSTRUCTION LIMITS

12+00

EXISTING AER E&T

AER E&T

COMB #3/47/46/3

GUY

GUY

13+00

AER E&T EXISTING

AER E&T PROPOSED AER E&T

COMB (PERM)

AER E&T

14+00

UNDERGROUND SERVICE (DEPTH 4')

CENTERLINE DETOUR

TEMPORARY CONSTRUCTION LIMITS

R

51+00

AER E&T

GUY WIRE (PERM)

GUY WIRE (PERM)

COMB (PERM)

15+00

50+00

UNDERGROUND SERVICE (DEPTH 4')

R

49+00

AER E&T TEMP SERVICE

AER E&T FINAL SERVICE

AER E&T

COMB #6/41

AER E&T

17+00

EXISTING AER E&T

AER E&T

AER E&T PROPOSED COMB (FINAL)

GUY WIRE

MATCHLINE STA 17+75

TEMPORARY CONSTRUCTION LIMITS

PROPOSED AER E&T

16+00

GUY WIRE (PERM)

AER E&T

COMB (PERM)

GUY WIRE (FINAL)

0+50

1+00

STUB BRACE (TEMP)

GUY WIRE (TEMP)

1+50

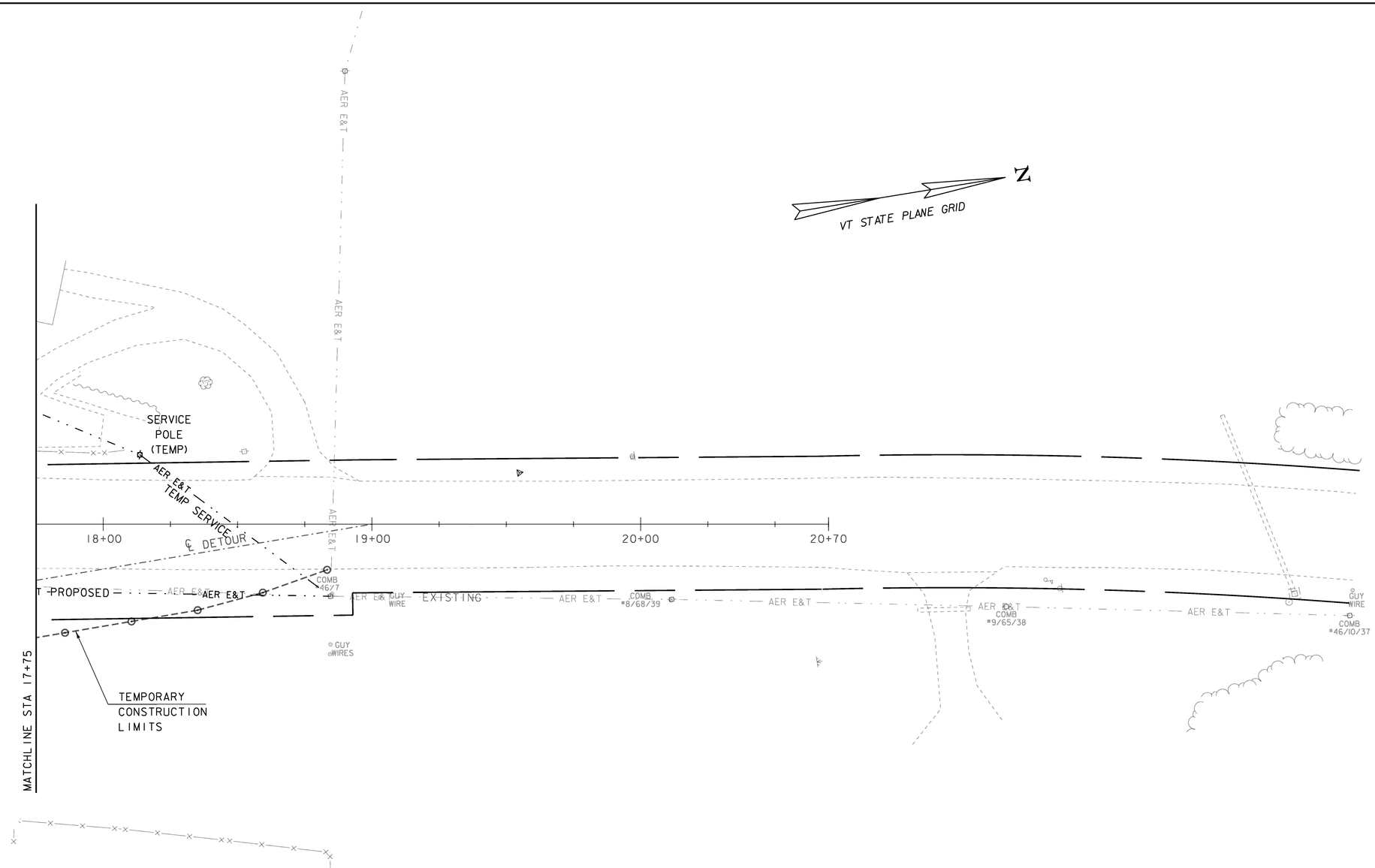
SCALE: 1" = 20'-0"

20 0 20

NOTE: SEE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)

FILE NAME: s85e037bdr_util.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
UTILITY RELOCATION 2	SHEET 19 OF 70

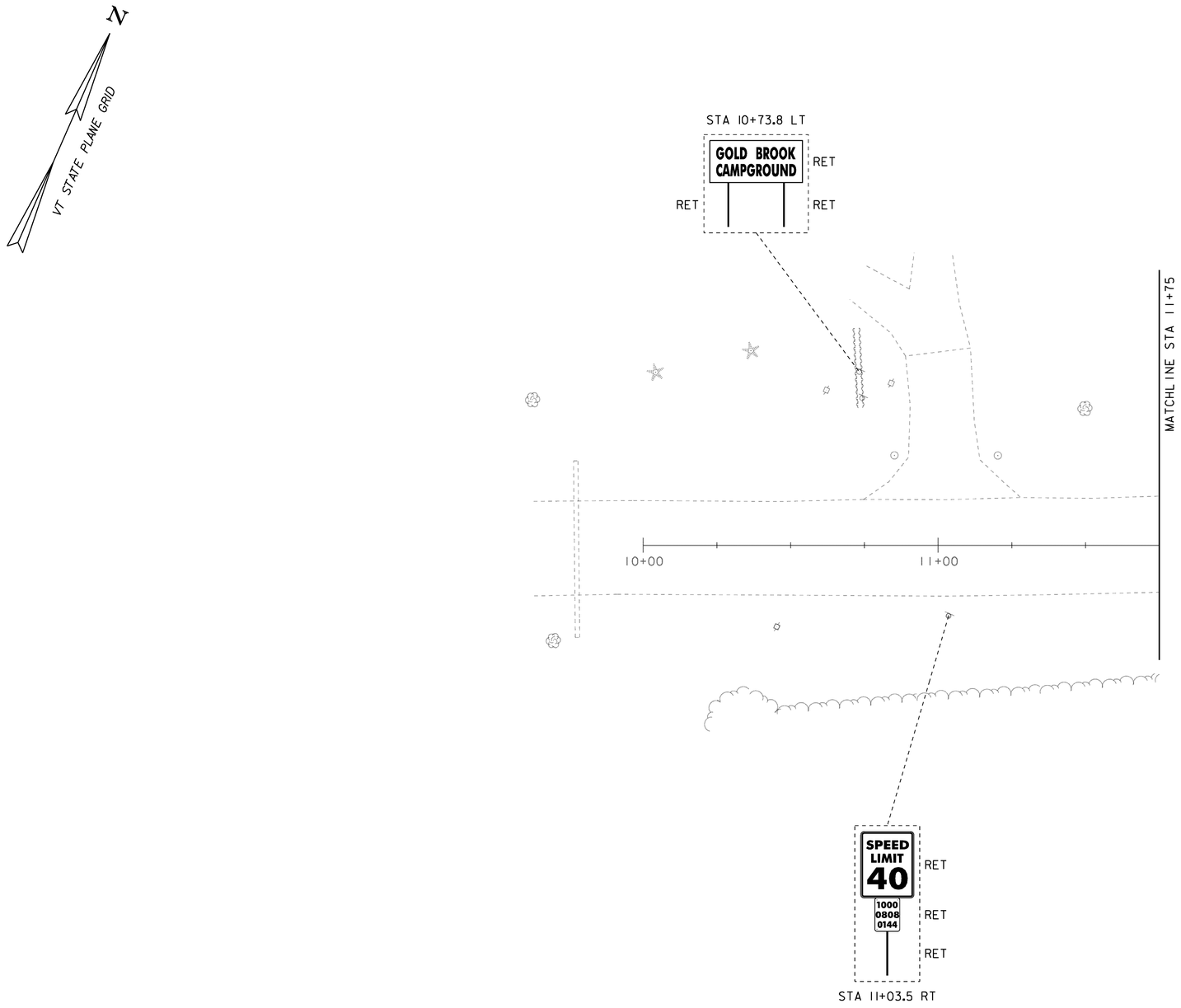


NOTE: SEE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME: STOWE	
PROJECT NUMBER: BRF 029-1(17)	
FILE NAME: s85e037bdr_util.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
UTILITY RELOCATION 3	SHEET 20 OF 70



LEGEND

RET: RETAIN
N: NEW
R: REMOVE
R&S: REMOVE AND SALVAGE
S: SALVAGE SIGN

SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME: STOWE	
PROJECT NUMBER: BRF 029-1(17)	
FILE NAME: s85e037sign.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
TRAFFIC SIGNS & PAVEMENT MARKINGS 1	SHEET 21 OF 70

4 INCH WHITE LINE

VT 100 STA 12+75.0 LT - VT 100 STA 17+00.0 LT
VT 100 STA 12+75.0 RT - TH 52 STA 0+45.0 RT
TH 52 STA 0+45.0 LT - VT 100 STA 17+00.0 RT

4 INCH YELLOW LINE

VT 100 STA 12+75.0 - VT 100 STA 16+10.0 ℄ (DOUBLE)
VT 100 STA 16+50.0 - VT 100 STA 17+00.0 ℄ (DOUBLE)
TH 52 STA 0+21.0 - TH 52 STA 1+50.0 ℄ (DOUBLE)

DURABLE 24 INCH STOP BAR

STA ~~0+21.0~~ LT
0+25.0

DURABLE LETTER OR SYMBOL

STA ~~0+35.0~~ LT (4 EA)
0+39.0

TRAFFIC SIGNS, TYPE A

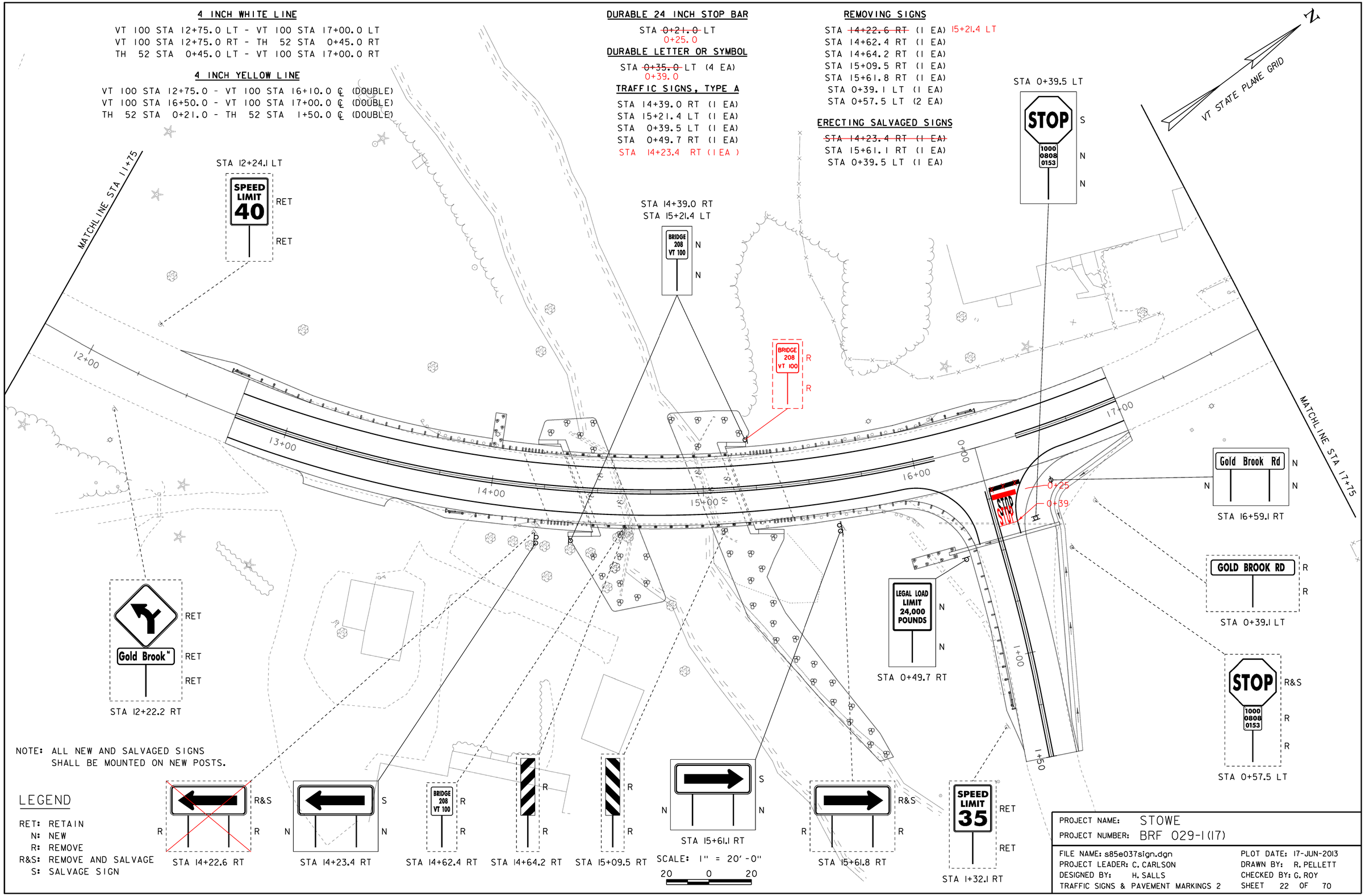
STA 14+39.0 RT (1 EA)
STA 15+21.4 LT (1 EA)
STA 0+39.5 LT (1 EA)
STA 0+49.7 RT (1 EA)
STA 14+23.4 RT (1 EA)

REMOVING SIGNS

STA ~~14+22.6 RT~~ (1 EA) 15+21.4 LT
STA 14+62.4 RT (1 EA)
STA 14+64.2 RT (1 EA)
STA 15+09.5 RT (1 EA)
STA 15+61.8 RT (1 EA)
STA 0+39.1 LT (1 EA)
STA 0+57.5 LT (2 EA)

ERECTING SALVAGED SIGNS

~~STA 14+23.4 RT (1 EA)~~
STA 15+61.1 RT (1 EA)
STA 0+39.5 LT (1 EA)



NOTE: ALL NEW AND SALVAGED SIGNS SHALL BE MOUNTED ON NEW POSTS.

LEGEND

RET: RETAIN
N: NEW
R: REMOVE
R&S: REMOVE AND SALVAGE
S: SALVAGE SIGN

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037sign.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
TRAFFIC SIGNS & PAVEMENT MARKINGS 2

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 22 OF 70

STA 19+96.9 LT

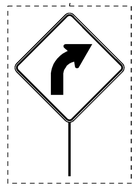
RET
RET
RET
RET

VT STATE PLANE GRID

N

18+00
19+00
20+00
20+70

MATCHLINE STA 17+75



RET
RET

STA 21+56.0 RT

LEGEND

RET: RETAIN
N: NEW
R: REMOVE
R&S: REMOVE AND SALVAGE
S: SALVAGE SIGN

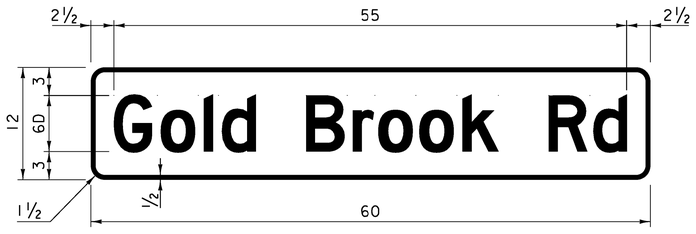
SCALE: 1" = 20'-0"
20 0 20

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037sign.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: EVANS-MONGEON
TRAFFIC SIGNS & PAVEMENT MARKINGS 3	SHEET 23 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																				REMARKS	SIGN DETAIL		
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED		DETAIL IN SHS	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												1.12	2.0	3.0	1.75	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"							
															1.88	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6									
												OPTION ITEMS																									
14+23.4 RT		1	48	24	8.0		~~X~~				2					13.5 X 13.5		X																	WI-6L	X		
14+39.0 RT		1	6	8	0.33						1				X	6.0		X																	VD-701 BRIDGE 208 VT 100			E-134
15+21.4 LT		1	6	8	0.33						1				X	6.75		X																	VD-701 BRIDGE 208 VT 100			E-134
15+61.1 RT		1	48	24			X				2					14.75 X 13.75		X																	WI-6R	X		
16+59.1 RT		1	60	12	5.00						2					11.0 X 11.25		X																	D3-1 GOLD BROOK RD (TWO SIDED PLAQUE)		SEE BELOW	
0+39.5 LT		1	30	30			X				1					X 13.25		X																	RI-1	X		
		1	6	10	0.42																														VD-700 1000 / 0808 / 0153			E-138
0+49.7 RT		1	24	30	5.00						1					X 14.75		X																	VR-017 LINE 3: 24,000			E-141



COLORS: LEGEND & BORDER - WHITE (RETROREFLECTIVE)
BACKGROUND - GREEN (RETROREFLECTIVE)

MATERIALS: 0.125" FLAT SHEET ALUMINUM

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

POST TOTALS							FT	FT	FT	FT 20	FT ~~112~~ 118.25	FT	EA	LB	LB	LB		LB	LB	LB	LB											
SUB-TOTAL	SF 11.08	SF	EA ~~3~~ 2	SF			FT			FT ~~132~~ 138.25				LB			EA	LB				EA	EA	LB								
TOTALS	SF 11.08	SF	EA ~~3~~ 2	SF			FT			FT ~~132~~ 138.25				LB			EA	LB				EA	EA	LB								

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037sign.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. I. SALLS
TRAFFIC SIGN SUMMARY

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 24 OF 70

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN 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

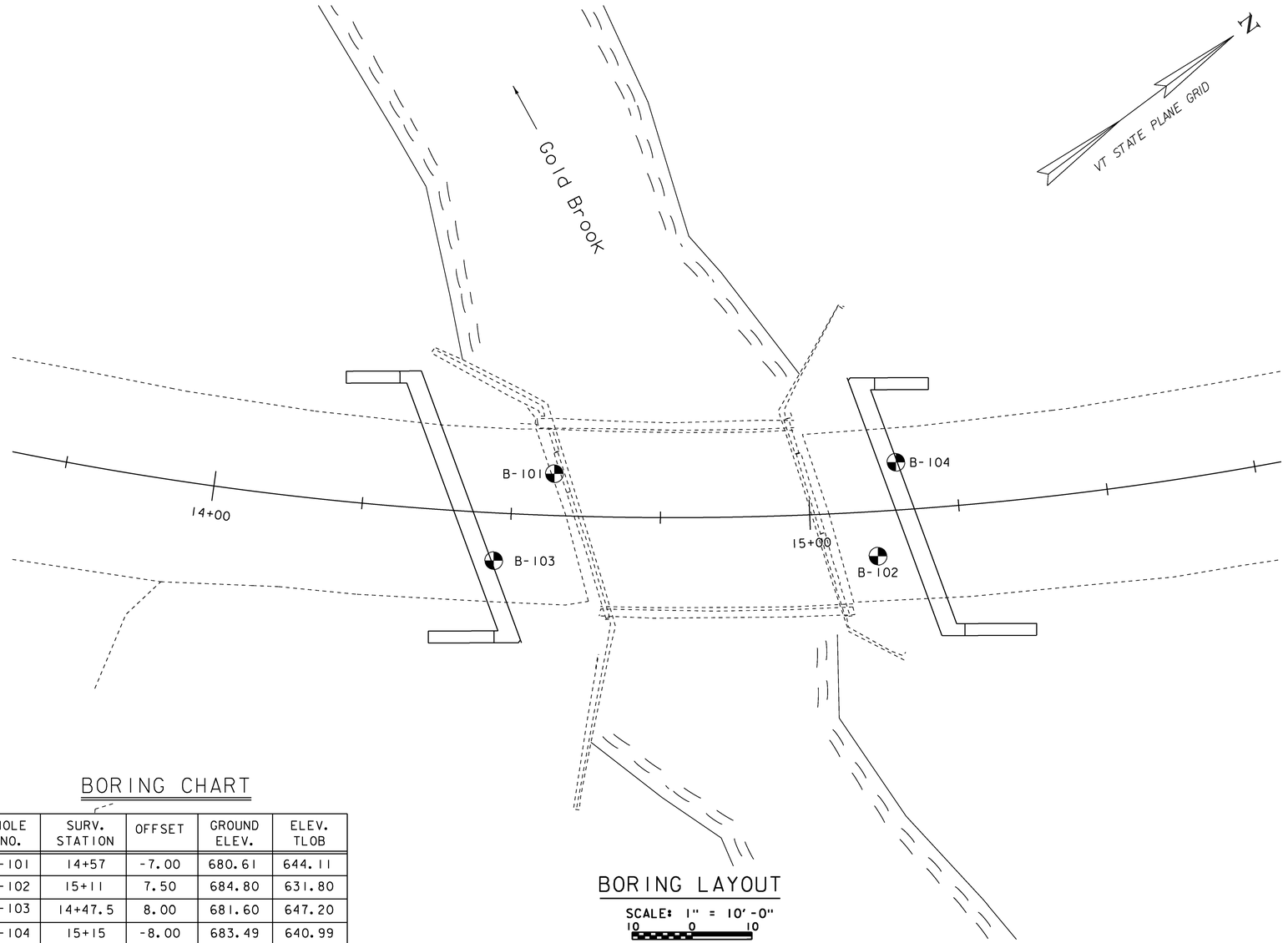
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

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	Top of 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)
VTSPG	NAD83 - See Note 7

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		



BORING LAYOUT

SCALE: 1" = 10'-0"
10 0 10

BORING CHART

HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-101	14+57	-7.00	680.61	644.11
B-102	15+11	7.50	684.80	631.80
B-103	14+47.5	8.00	681.60	647.20
B-104	15+15	-8.00	683.49	640.99

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.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 10/25/07 and 03/13/08 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgment 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 judgment 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.

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bor.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BORING LAYOUT

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 25 OF 70

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

BORING NUMBER: B-101
SHEET 1 of 2
DATE STARTED: 10/25/07
DATE COMPLETED: 10/31/07

PROJECT NAME: STOWE
SITE NAME: VT-100
STATION: 14+57
OFFSET: -7.00
VTSPG: N 708217.19 ft E 1587375.84 ft

PROJECT NUMBER: BRF 029-1(17)
SITE NUMBER: BR-208
GROUND ELEVATION: 680.61 ft
GROUNDWATER DEPTH: 19.1 ft 10/31/07
PROJECT PIN NUMBER: 85E037

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
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 (%)
		Asphalt Pavement, 0.0 ft – 1.0 ft					
		Concrete, BXDC, Cleaned out casing., 1.0 ft – 2.8 ft					
		A-2-4, Sa, brn, Moist, Rec. = 0.7 ft	3	11.4	17.9	68.2	13.9
5		A-1-b, GrSa, brn, Moist, Rec. = 1.2 ft	12	9.0	42.5	43.8	13.7
		A-1-b, SiSaGr, brn, Moist, Rec. = 1.0 ft, BXDC, Cleaned out casing.	21	10.4	47.7	32.3	20.0
10		A-4, GrSi, gry, Moist, Rec. = 0.5 ft	20	19.7	25.7	17.1	57.2
		Field Note, No Recovery, Filled casing with water before pulling up split barrel.	16				
		A-2-4, SaSiGr, brn-gry, Wet, Rec. = 0.9 ft, Filled casing with water again and lost water at 14.7 ft	41	15.0	37.3	29.2	33.5
15		Field Note, No Recovery	12				
		A-1-b, SaGr, gry, Wet, Rec. = 0.5 ft	70	7.9	52.0	28.6	19.4
		BXMDC, Boulder, 18.3 ft – 19.0 ft, Lost water at 19.0 ft, Advanced casing.	R				
		Seam, 19.0 ft – 19.3 ft					
20		BXMDC, Boulder, 19.3 ft – 20.0 ft, Lost water again at 20.0 ft	51	14.7	31.7	51.5	16.8
		A-1-b, GrSa, gry, Wet, Rec. = 0.95 ft					
		BXMDC, Concrete, Rec. = 2.9 ft, 21.5 ft – 24.5 ft					
25		Void, 24.5 ft – 26.0 ft					

ABUT. 1 BTM.
ELEV. 667.00

EST. LENGTH = 23'

EST. PILE TIP

LOG OF BORING STOWE BRF029-1(17).GPJ VT AOT.GDT 1/14/08

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

BORING NUMBER: B-101
SHEET 2 of 2
DATE STARTED: 10/25/07
DATE COMPLETED: 10/31/07

PROJECT NAME: STOWE
SITE NAME: VT-100
STATION: 14+57
OFFSET: -7.00
VTSPG: N 708217.19 ft E 1587375.84 ft

PROJECT NUMBER: BRF 029-1(17)
SITE NUMBER: BR-208
GROUND ELEVATION: 680.61 ft
GROUNDWATER DEPTH: 19.1 ft 10/31/07
PROJECT PIN NUMBER: 85E037

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
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/ft)
		A-1-b, SiSaGr, brn-gry, Wet, Rec. = 0.8 ft	24	11.7	46.6	31.4	22.0
		A-4, SaSi, gry, Wet, Rec. = 1.2 ft	29	15.6	10.9	42.2	46.9
30		A-2-4, GrSiSa, gry, Wet, Rec. = 1.7 ft	30	14.0	23.3	44.3	32.4
		Field Note, No Recovery	R				
		A-1-b, SiSaGr, gry, Wet, Rec. = 1.4 ft	R	10.5	39.0	39.0	22.0
35		A-4, Si, gry, Wet, Rec. = 0.5 ft	R	17.4	11.2	17.5	71.3
		Top of Bedrock @ 36.5 ft					
		Black, Thinly laminated Phyllite, with numerous pyrite porphyroblasts, Competent, Dip ranges from 50 to 85, Medium soft, Unweathered, BXMDC, 36.5 ft – 41.5 ft, Rec. = 4.85 ft	1	97	86		8 10 10 10 8
40							
		Black, Thinly laminated Phyllite, with numerous pyrite porphyroblasts, Dip ranges from 50 to 85, Drilling break from 42.0'-42.5', Medium soft, Unweathered, BXMDC, 41.5 ft – 42.0 ft, Rec. = 2.85 ft	2	57	54		6 9
45		Black, Thinly laminated Phyllite, with numerous pyrite porphyroblasts, Bottom portion of core may have been lost in hole, Medium soft, Unweathered, 42.5 ft – 46.5 ft					8 10 10
		Hole stopped @ 46.5 ft					
50							

LOG OF BORING STOWE BRF029-1(17).GPJ VT AOT.GDT 1/14/08

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bor.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BORING LOGS 1

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 26 OF 70

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

BORING NUMBER: B-102
SHEET 1 of 2
DATE STARTED: 11/07/07
DATE COMPLETED: 11/09/07

PROJECT NAME: STOWE
SITE NAME: VT-100
STATION: 15+11
OFFSET: 7.50
VTSPG: N 708252.33 ft E 1587419.31 ft

PROJECT NUMBER: BRF 029-1(17)
SITE NUMBER: BR-208
GROUND ELEVATION: 684.8 ft
GROUNDWATER DEPTH: 17.3 ft 11/08/07
PROJECT PIN NUMBER: 85E037

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
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 (%)
		Asphalt Pavement, 0.0 ft – 1.0 ft					
		BXDC, Concrete, Cored ahead, Lost water at 3.0ft, 1.0 ft – 3.0 ft					
		Void, Casing dropped fast., 3.0 ft – 4.5 ft					
5		BXDC, Cobbles, Cleaned out casing., 5.0 ft – 6.0 ft					
		A-1-b, GrSa, brn, Wet, Rec. = 0.5 ft		11.8	38.9	44.0	17.1
10		A-2-4, Sa, brn, Wet, Rec. = 0.6 ft	6	16.6	16.2	64.1	19.7
15		A-2-4, SiSa, brn, Wet, Rec. = 0.9 ft	5	20.4	19.5	60.2	20.3
20		A-1-a, SaGr, brn, Wet, Rec. = 0.7 ft	15	16.0	58.4	28.3	13.3
25		A-4, Si, gry, Wet, Rec. = 1.3 ft	6	36.0	6.9	5.8	87.3
30		A-3, Sa, brn, Wet, Rec. = 1.1 ft	7	22.2	3.7	90.1	6.2

ABUT. 2 BTM.
ELEV. 670.50

EST. LENGTH = 39'

EST. PILE TIP

LOG OF BORING STOWE BRF029-1(17).GPJ VT AOT.GDT 1/14/08

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

BORING NUMBER: B-102
SHEET 2 of 2
DATE STARTED: 11/07/07
DATE COMPLETED: 11/09/07

PROJECT NAME: STOWE
SITE NAME: VT-100
STATION: 15+11
OFFSET: 7.50
VTSPG: N 708252.33 ft E 1587419.31 ft

PROJECT NUMBER: BRF 029-1(17)
SITE NUMBER: BR-208
GROUND ELEVATION: 684.8 ft
GROUNDWATER DEPTH: 17.3 ft 11/08/07
PROJECT PIN NUMBER: 85E037

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
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/ft)
35		A-2-4, SiSaGr, gry, Wet, Rec. = 1.3 ft	R	11.6	43.2	29.2	27.6
40		Visual Class., Material was mostly broken rock., gry, Moist, Rec. = 0.6 ft Field Class., BXDC, Cobbles, Advanced casing.	R	9.8			
45		Visual Class., Broken rock, gry, Wet, Rec. = 0.4 ft Field Class., No sample, Cobbles & Boulders, Cored ahead.	R	8.1			
50		Top of Bedrock @ 53.0 ft Black, Thinly laminated Phyllite, with numerous pyrite porphyroblasts, Poor RQD may be due to mechanical breakage during drilling, Medium soft, Unweathered, BXMDC, 53.0 ft – 58.0 ft, Rec. = 4.0 ft	1	80	26	55	12 10 13 16 14
55		Black, Thinly laminated Phyllite, with numerous pyrite porphyroblasts, Poor RQD may be due to mechanical breakage during drilling, Medium soft, Unweathered, BXMDC, 58.0 ft – 61.0 ft, Rec. = 2.0 ft	2	67	0	55	15 17 14
60		Black, Thinly laminated Phyllite, with numerous pyrite porphyroblasts, Poor RQD may be due to mechanical breakage during drilling, Medium soft, Unweathered, BXMDC, 61.0 ft – 64.0 ft, Rec. = 3.0 ft	3	100	33	55	14 16 13
65		Hole stopped @ 64.0 ft					

LOG OF BORING STOWE BRF029-1(17).GPJ VT AOT.GDT 1/14/08

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bor.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BORING LOGS 2

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 27 OF 70

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

BORING NUMBER: B-103
SHEET 1 of 1
DATE STARTED: 3/13/08
DATE COMPLETED: 3/13/08

PROJECT NAME: STOWE
SITE NAME: VT-100
STATION: 14+47.5
OFFSET: 8.00
VTSPG: N 708200.33 ft E 1587381.43 ft

PROJECT NUMBER: BRF 029-1(17)
SITE NUMBER: BR-208
GROUND ELEVATION: 681.6 ft
GROUNDWATER DEPTH: No water found, Hole caved in.
PROJECT PIN NUMBER: 85E037

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE:
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/ft)
		Asphalt pavement, 0.0 ft – 0.6 ft, Advanced casing and cored ahead.					
		Concrete, 1.4 ft – 2.0 ft					
35		Field Note, Advanced casing to 34.4 ft, Cleaned out casing, BXDC, 33.6 ft – 34.4 ft.			Top of Bedrock @ 34.4 ft		
		Dark gray, Pyretic Phyllite, with thin calcite stringers. Breakage along foliation/cleavage during drilling may mask true RQD., Moderately soft, Unweathered, BXMDC, 34.4 ft – 39.4 ft, Rec. = 1.7 ft	1	34	0	80	2 2 3 6 6
40		Dark gray, Pyretic Phyllite, with thin calcite stringers. Breakage along foliation/cleavage during drilling may mask true RQD., Moderately soft, Unweathered, BXMDC, 39.4 ft – 44.4 ft, Rec. = 2.9 ft	2	58	17	80	5 6 11 14 12
45		Hole stopped @ 44.4 ft					

ABUT. 1 BTM.
ELEV. 667.00

EST. LENGTH = 20'

EST. PILE TIP

ABUT. 2 BTM.
ELEV. 670.50

EST. LENGTH = 30'

EST. PILE TIP

LOG OF BORING STOWE BRF029-1(17).GPJ VT AOT.GDT 4/11/08

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

BORING NUMBER: B-104
SHEET 1 of 1
DATE STARTED: 3/11/08
DATE COMPLETED: 3/11/08

PROJECT NAME: STOWE
SITE NAME: VT-100
STATION: 15+15
OFFSET: -8.00
VTSPG: N 708265.48 ft E 1587406.63 ft

PROJECT NUMBER: BRF 029-1(17)
SITE NUMBER: BR-208
GROUND ELEVATION: 683.49 ft
GROUNDWATER DEPTH: Hole caved in at 11.9'
PROJECT PIN NUMBER: 85E037

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE:
CHECKED BY: CAA

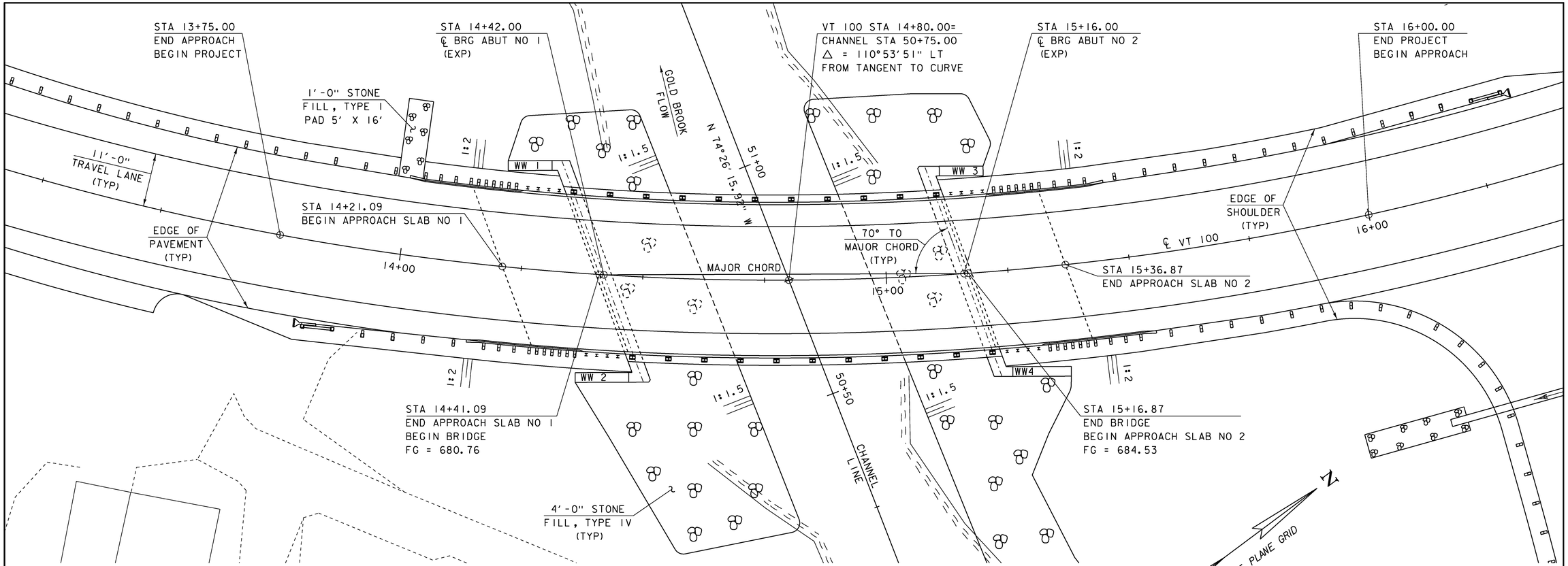
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		Asphalt pavement, 0.0 ft – 0.9 ft					
		BXDC, Concrete, 2.0 ft – 3.6 ft, Advanced casing and cored ahead.					
30		BXDC, Cobbles, 30.0 ft – 32.0 ft, Advanced casing.					
		Field Note, BXDC, Advanced and cleaned out casing.			Top of Bedrock @ 42.5 ft		
		Dark gray, Pyretic Phyllite, with thin calcite stringers. Breakage along foliation/cleavage during drilling may mask true RQD., Moderately soft, Unweathered, BXMDC, 42.5 ft – 47.5 ft, Rec. = 2.3 ft	1	46	15	80	4 5 4 5 5
50		Dark gray, Pyretic Phyllite, with thin calcite stringers. Breakage along foliation/cleavage during drilling may mask true RQD., Moderately soft, Unweathered, BXMDC, 47.5 ft – 50.0 ft, Rec. = 2.5 ft	2	100	47	80	9 6
		Dark gray, Pyretic Phyllite, with thin calcite stringers. Breakage along foliation/cleavage during drilling may mask true RQD., Moderately soft, Unweathered, BXMDC, 50.0 ft – 52.5 ft, Rec. = 2.3 ft	3	92	0	80	14 7 6
		Hole stopped @ 52.5 ft					

LOG OF BORING STOWE BRF029-1(17).GPJ VT AOT.GDT 4/11/08

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bor.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
BORING LOGS 3

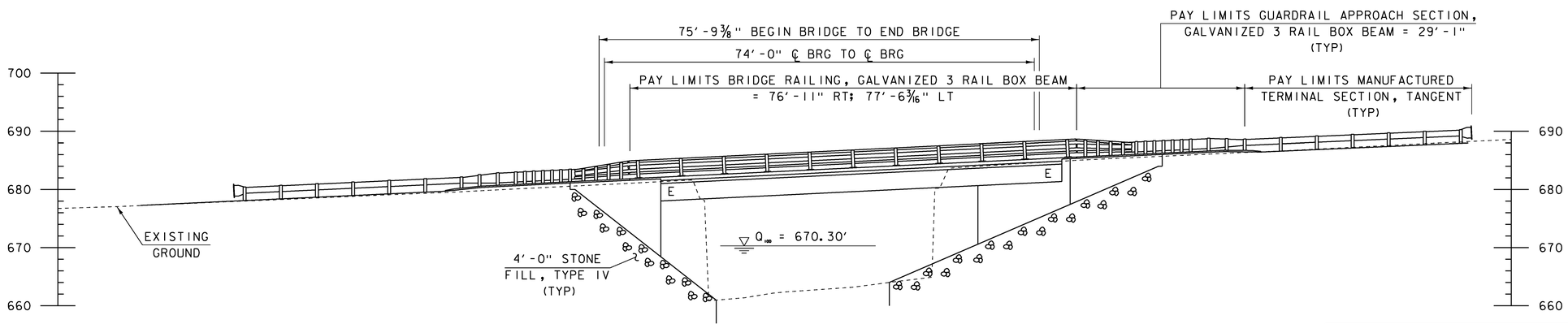
PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 28 OF 70



PLAN

SCALE 1" = 10'-0"

20 0 20

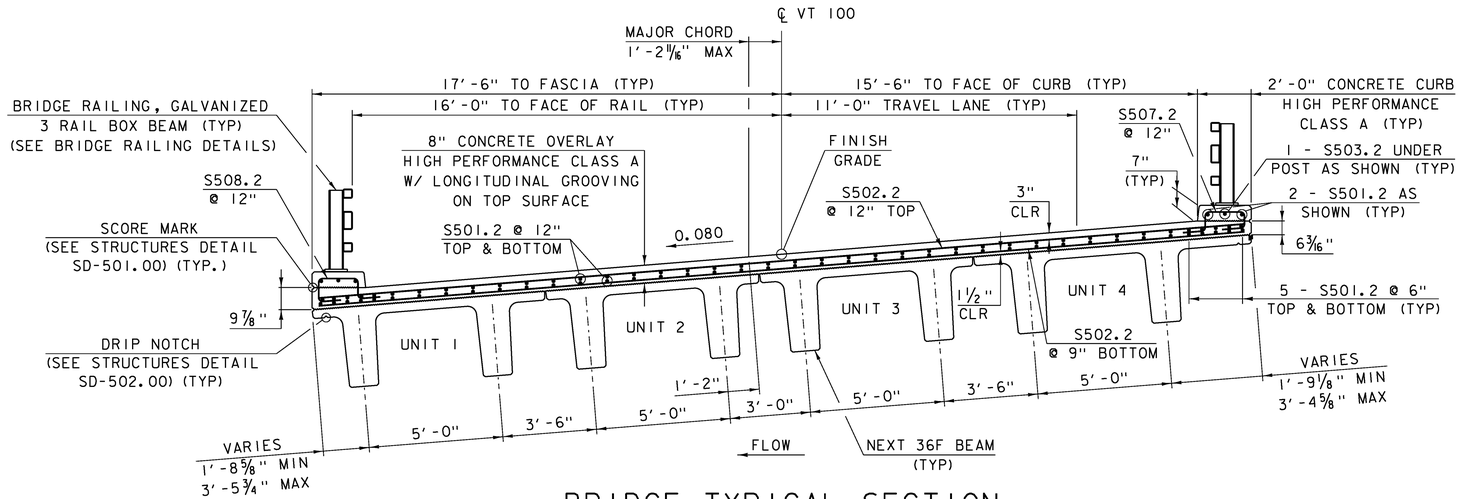


ELEVATION @ UPSTREAM FASCIA

SCALE 1" = 10'-0"

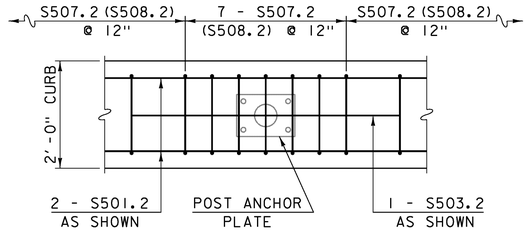
20 0 20

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037pe.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
PLAN AND ELEVATION	SHEET 29 OF 70



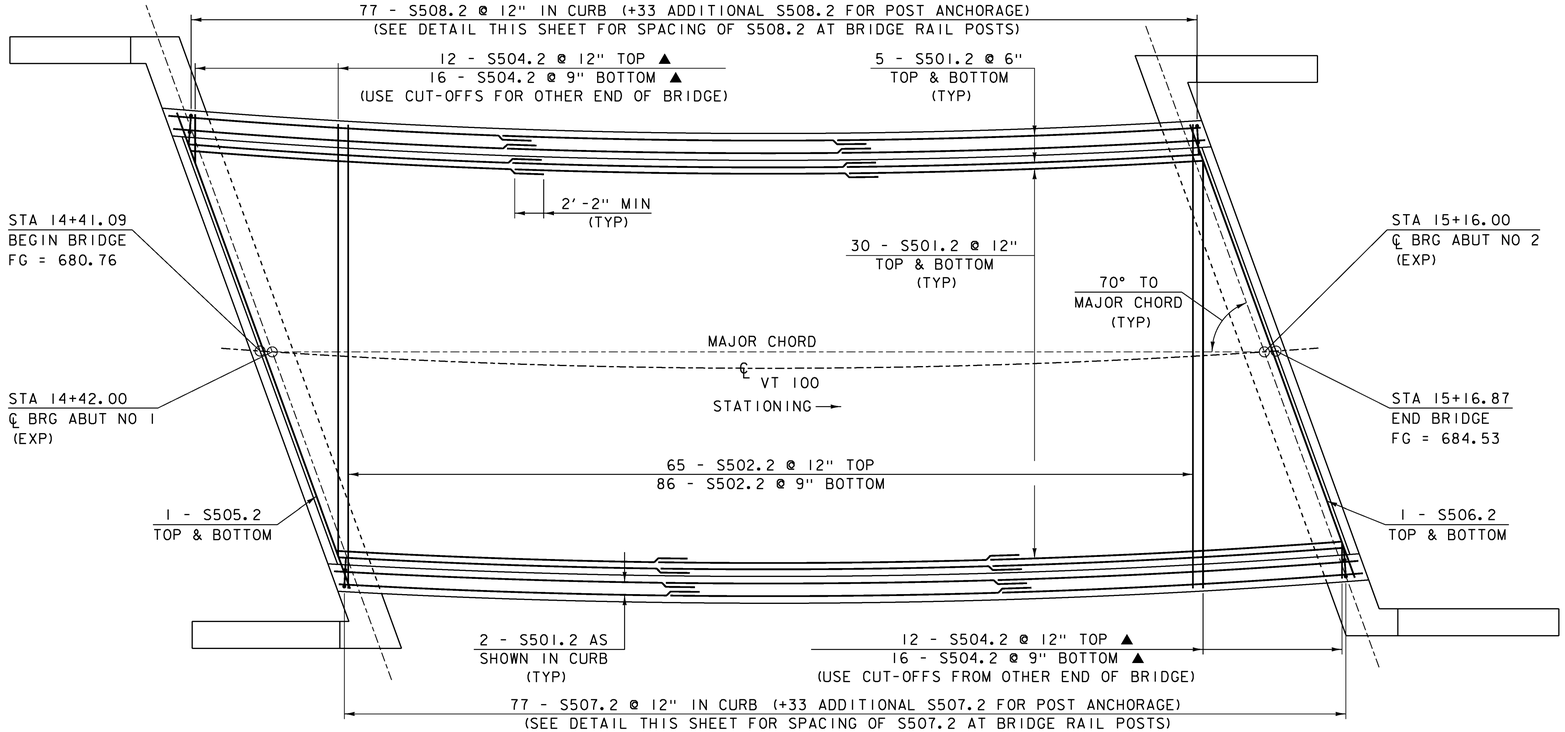
BRIDGE TYPICAL SECTION

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



CURB REINFORCING PLAN AT BRIDGE POST

SCALE: 3/4" = 1'-0"



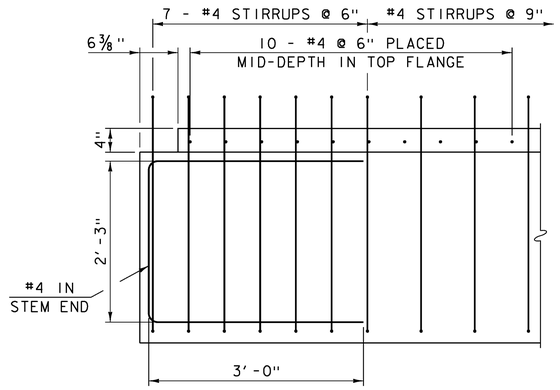
OVERLAY REINFORCING PLAN

SCALE: 3/16" = 1'-0"

NOTES:

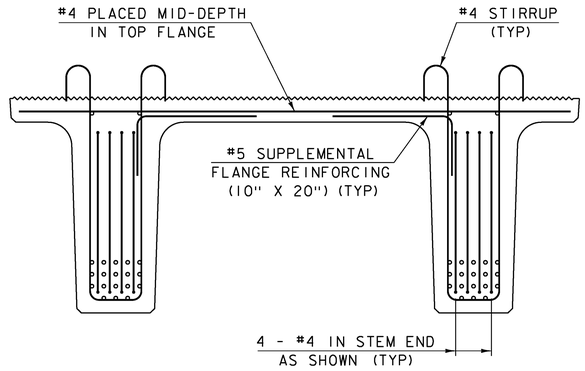
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037sup.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROY
DESIGNED BY: H. I. SALLS	CHECKED BY: H. I. SALLS
BRIDGE DECK DETAILS	SHEET 30 OF 70



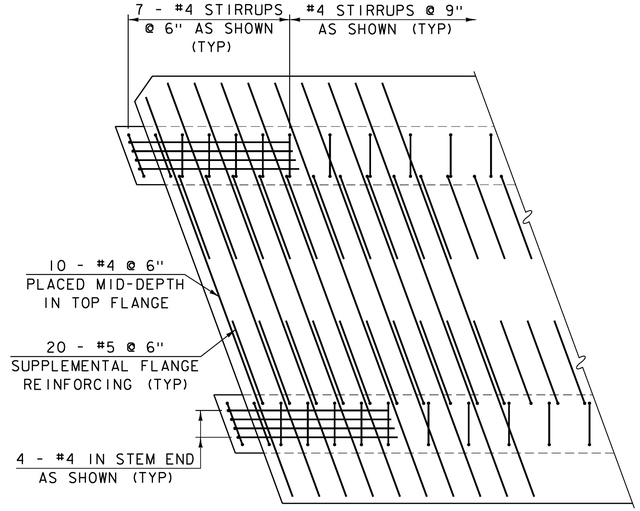
STEM END - SIDE ELEVATION

SCALE: 1" = 1'-0"



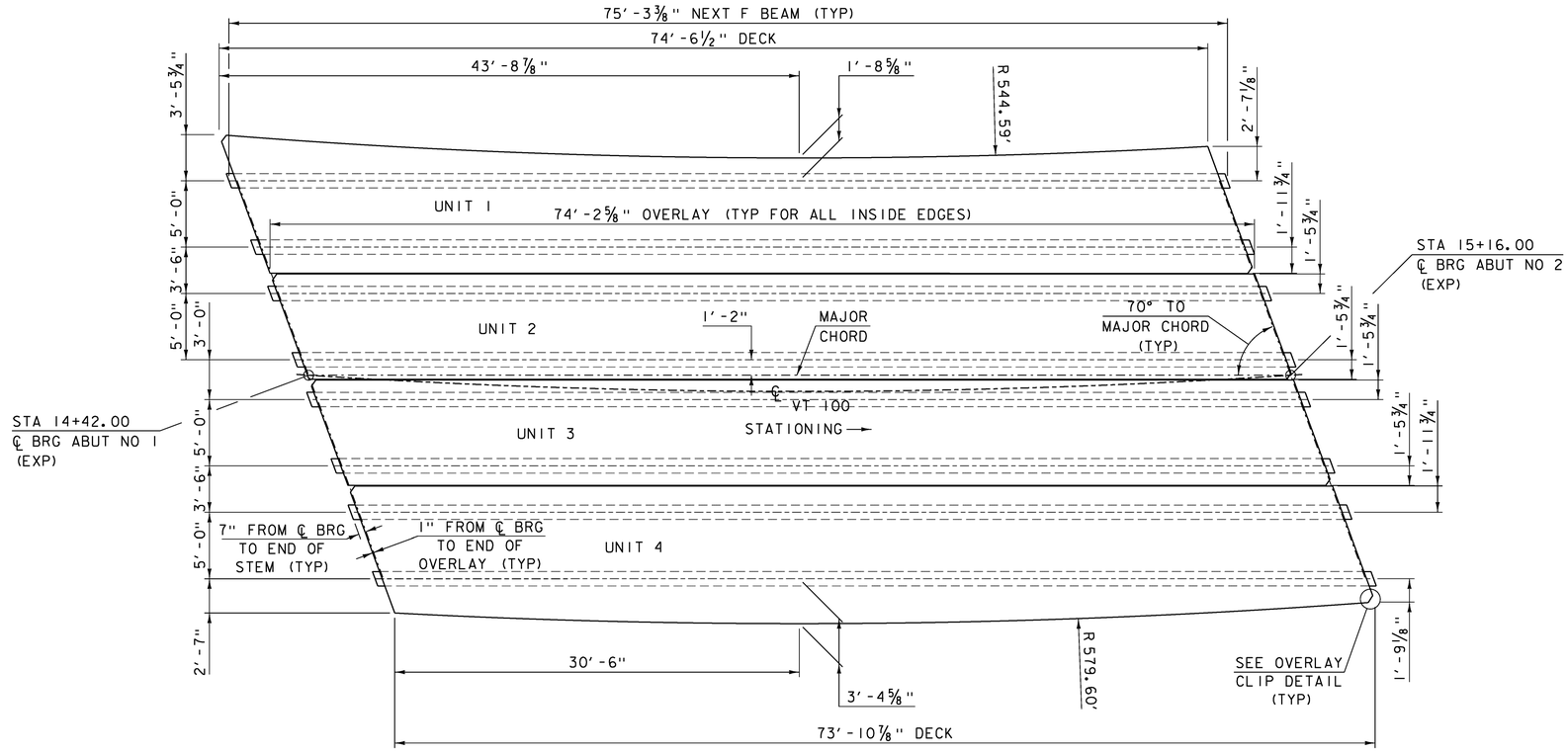
STEM END - END ELEVATION

SCALE: 1" = 1'-0"



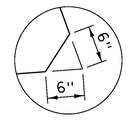
STEM END - PLAN

SCALE: 3/4" = 1'-0"



FRAMING PLAN

SCALE: 3/16" = 1'-0"



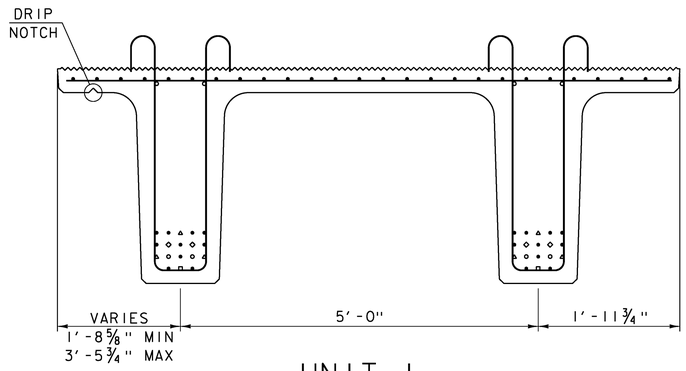
OVERLAY CLIP DETAIL

SCALE: 1" = 1'-0"

NOTES:

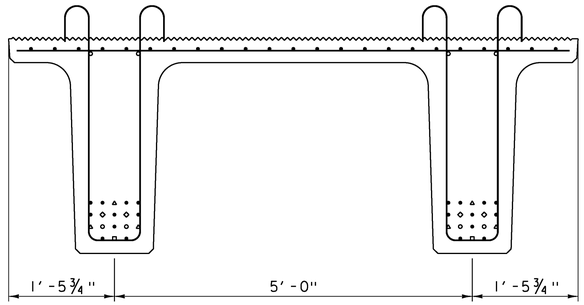
1. FRAMING PLAN IS SHOWN WITH 1/2" JOINT BETWEEN UNITS.
2. UNITS IN THE FRAMING PLAN ARE SHOWN IN A FLAT AND HORIZONTAL PLANE IN ORDER TO DETERMINE TRUE DIMENSIONS. THEREFORE SOME DIMENSIONS MIGHT NOT AGREE WITH SIMILAR DIMENSIONS SHOWN ON OTHER SHEETS.

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037sup.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROY
DESIGNED BY: H. I. SALLS	CHECKED BY: H. I. SALLS
FRAMING PLAN AND STEM END DETAILS	SHEET 31 OF 70



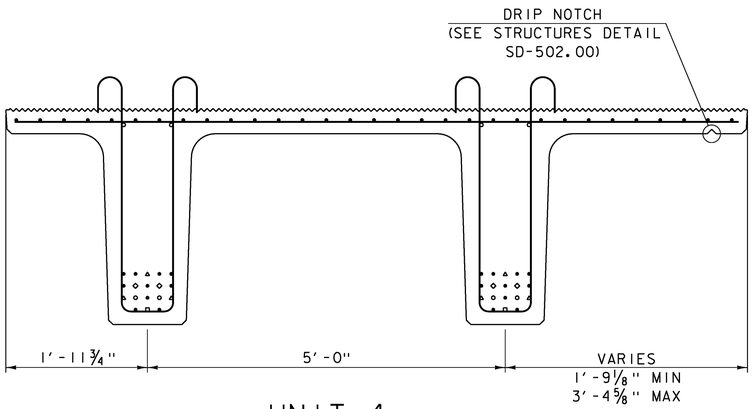
UNIT 1

SCALE: 1" = 1′-0"



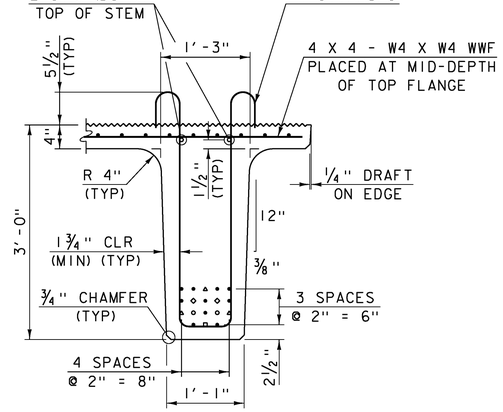
UNITS 2 & 3

SCALE: 1" = 1′-0"



UNIT 4

SCALE: 1" = 1′-0"



STEM TYPICAL SECTION

SCALE: 1" = 1′-0"

STRAND LEGEND

- ● NOT DEBONDED
- △ DEBONDED 0′-6"
- ◇ DEBONDED 4′-0"
- ○ DEBONDED 8′-0"
- □ DEBONDED 10′-0"

NOTES:

1. TOP SURFACE OF TOP FLANGE SHALL HAVE A RAKE FINISH. SEE STRUCTURES DETAIL SHEET SD-501.00.
2. STRANDS IN THE TOP AND BOTTOM ROWS THAT ARE NOT DEBONDED SHALL EXTEND 1′-6" FROM THE FINISHED END OF EACH BEAM STEM.

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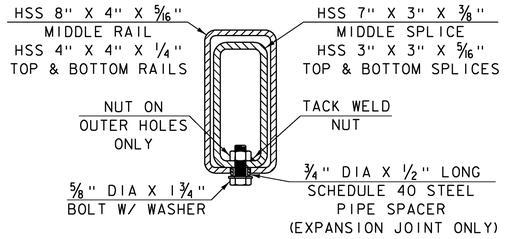
DESIGNED BY: H. I. SALLS	CHECKED BY: H. I. SALLS
NEXT BEAM SECTIONS AND STRAND DETAILS	SHEET 32 OF 70



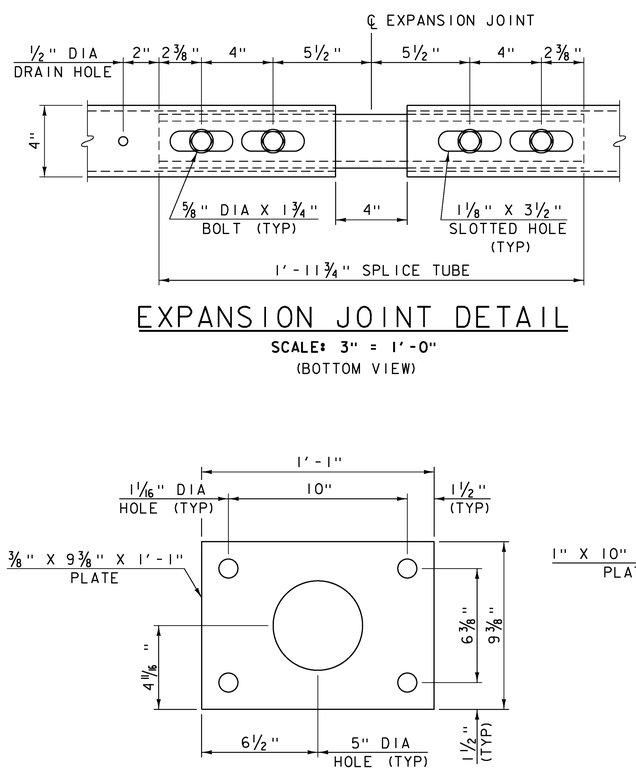
5/8" DIA TAPPED HOLES IN SPLICE TUBES.

1 1/8" X 3 1/2" SLOTTED HOLES IN RAIL TUBES AT EXPANSION JOINTS.

3/4" DIA HOLES IN RAIL TUBES AT FIXED JOINTS.

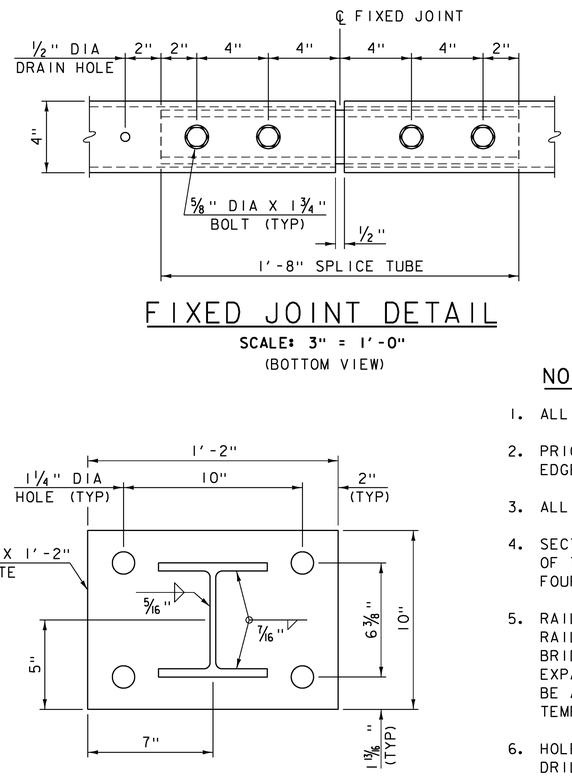
RAIL SPLICE SECTION

SCALE: 3" = 1'-0"



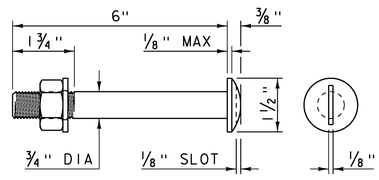
EXPANSION JOINT DETAIL

SCALE: 3" = 1'-0"
(BOTTOM VIEW)



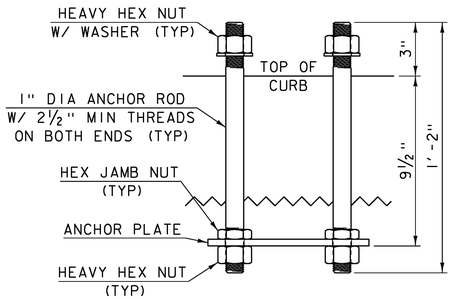
FIXED JOINT DETAIL

SCALE: 3" = 1'-0"
(BOTTOM VIEW)



ROUND HEAD BOLT DETAIL

SCALE: 6" = 1'-0"

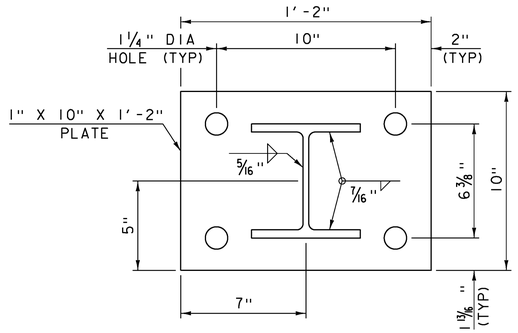


POST ANCHOR ASSEMBLY

SCALE: 3" = 1'-0"

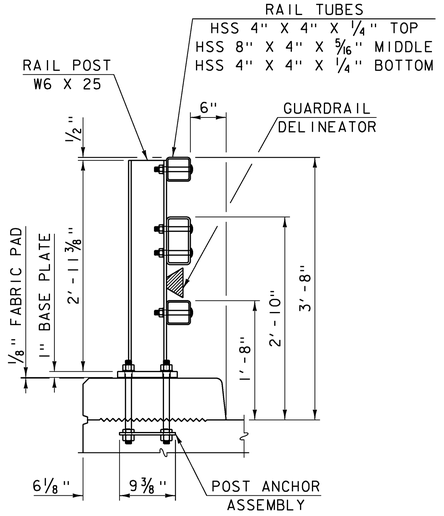
ANCHOR PLATE

SCALE: 3" = 1'-0"



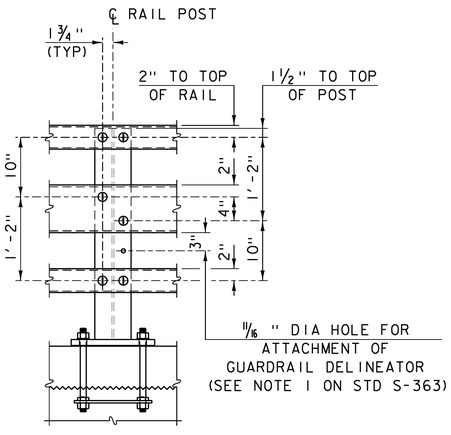
POST BASE PLATE

SCALE: 3" = 1'-0"



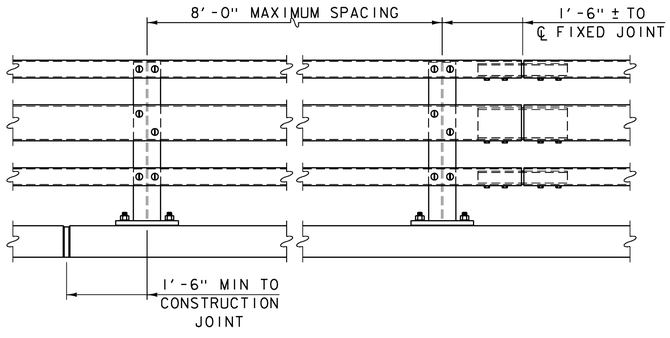
POST SECTION

SCALE: 1" = 1'-0"



POST ELEVATION

SCALE: 1" = 1'-0"



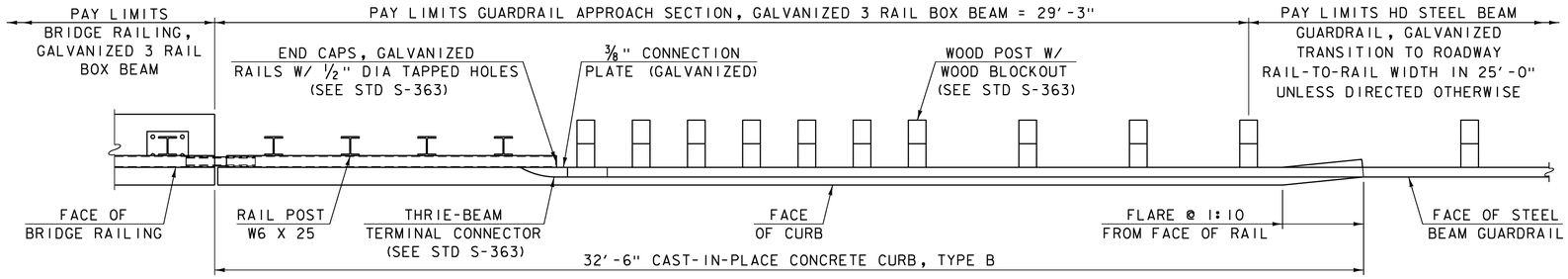
BRIDGE RAILING ELEVATION

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

NOTES

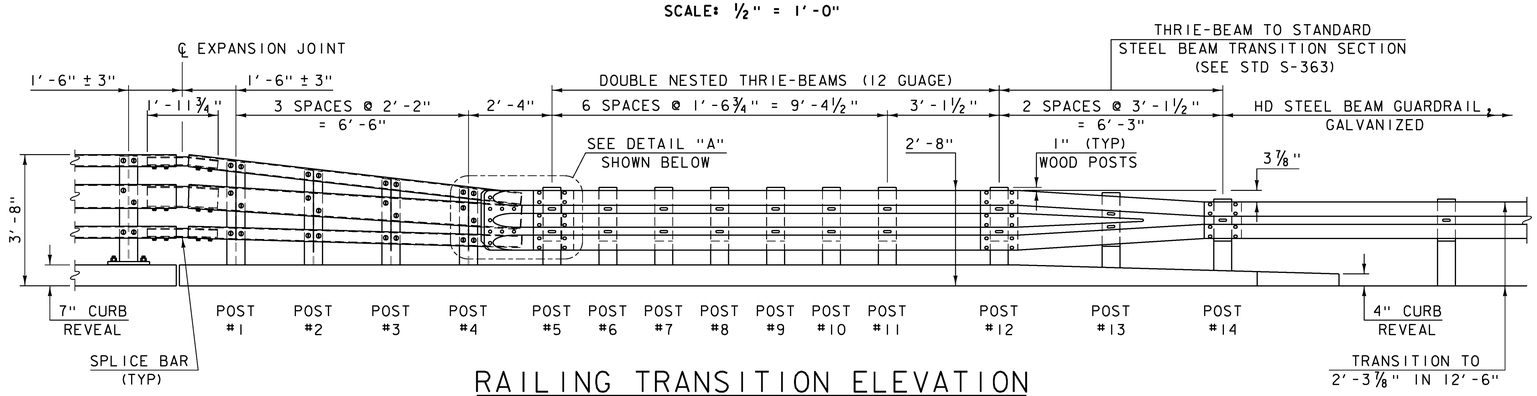
1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
3. ALL POSTS SHALL BE SET NORMAL TO GRADE.
4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE RAIL POSTS AND PREFERABLY TO AT LEAST FOUR POSTS.
5. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
6. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
8. RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A 449 (TYPE 1) ROUND HEAD BOLTS WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
9. ANY BENDING OF RAIL SHALL BE DONE AT A 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 TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
11. SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
12. THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037rail.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROY
DESIGNED BY: H. I. SALLS	CHECKED BY: H. I. SALLS
BRIDGE RAILING DETAILS	SHEET 33 OF 70



RAILING TRANSITION PLAN

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

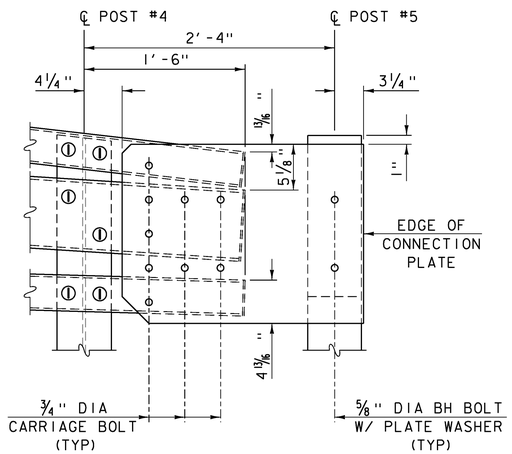


RAILING TRANSITION ELEVATION

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

NOTES

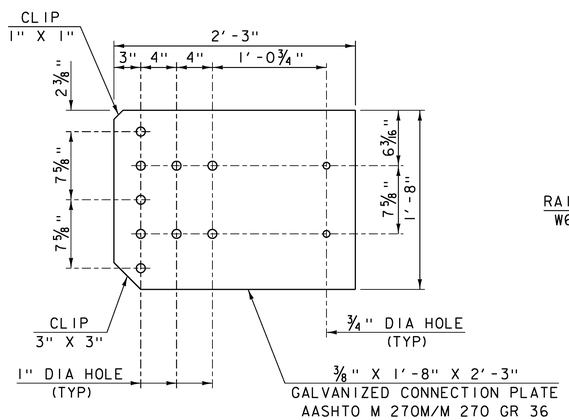
1. PAYMENT FOR GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM SHALL INCLUDE THE TERMINAL CONNECTOR, CONNECTION PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
2. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
3. TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
4. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM A563 GRADE A OR BETTER) (GALVANIZED). WASHERS SHALL BE ASTM F844.
5. WELD SPLICE BARS TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).



DETAIL "A"

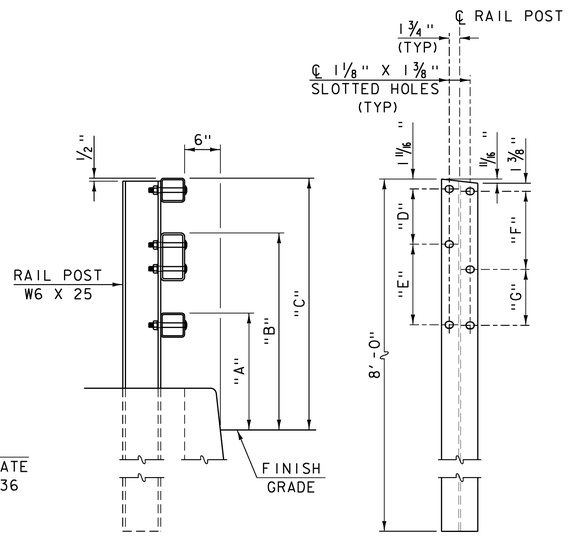
SCALE: 1 1/2" = 1'-0"

NOTE:
THRIE-BEAM TERMINAL CONNECTOR
NOT SHOWN FOR CLARITY.



CONNECTION PLATE

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



SIDE VIEW

FRONT VIEW

RAIL POST DETAIL

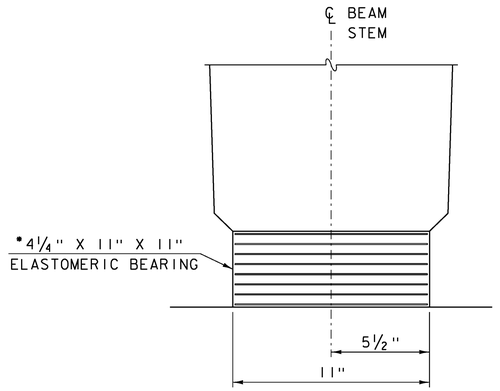
SCALE: 1" = 1'-0"

APPROACH RAIL DIMENSIONS

POST NO.	DIMENSION						
	"A"	"B"	"C"	"D"	"E"	"F"	"G"
1	1'-7 9/16"	2'-9"	3'-5 11/16"	9 1/4"	1'-1 1/2"	1'-1 1/8"	9 3/8"
2	1'-6 13/16"	2'-7 3/8"	3'-2 11/16"	7 15/16"	1'-0 5/8"	11 3/4"	8 7/16"
3	1'-6 1/16"	2'-5 11/16"	2'-11 11/16"	6 5/8"	11 11/16"	10 7/16"	7 9/16"
4	1'-5 5/16"	2'-4 1/16"	2'-8 3/4"	5 1/4"	10 3/4"	9 1/8"	6 5/8"

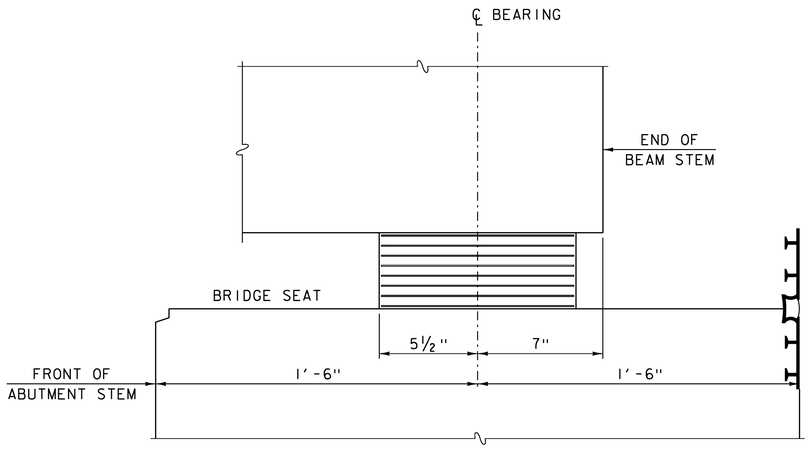
PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)

FILE NAME: s85e037rail.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROY
DESIGNED BY: H. I. SALLS	CHECKED BY: H. I. SALLS
APPROACH RAILING DETAILS	SHEET 34 OF 70



* 2 - ⅛" EXTERIOR LAYERS OF ELASTOMER
7 - ½" INTERIOR LAYERS OF ELASTOMER
8 - 1/16" STEEL REINFORCING PLATES

FRONT VIEW



SIDE VIEW

ELASTOMERIC BEARING DETAILS

SCALE: 3" = 1'-0"

BEARING NOTES

1. BEARINGS SHALL CONFORM TO THE APPLICABLE SUBSECTIONS OF STANDARD SPECIFICATIONS SECTIONS 531 AND 731.
2. ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMER SHALL BE STEEL AASHTO M270M/M270 GRADE 36. ALL INTERNAL STEEL PLATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.
3. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM ⅛" EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.
4. THE ELASTOMER WAS DESIGNED WITH A SHEAR MODULUS OF 100 PSI +/- 15%
5. THE CONTRACTOR MAY NEED TO BRACE THE BEAMS TO PREVENT EXCESSIVE LATERAL DISPLACEMENT OF THE BEARING PRIOR TO THE BRIDGE BECOMING INTEGRAL.
6. THE CONTRACTOR IS ADVISED TO HAVE SHIMS AVAILABLE FOR USE FOR ELEVATION ADJUSTMENTS UPON THE SETTING OF THE SUPERSTRUCTURE UNITS. THE SHIMS SHALL BE FABRICATED ACCORDING TO SECTION 531 AND SHALL BE INCLUDED UNDER ITEM 531.17, "BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD".

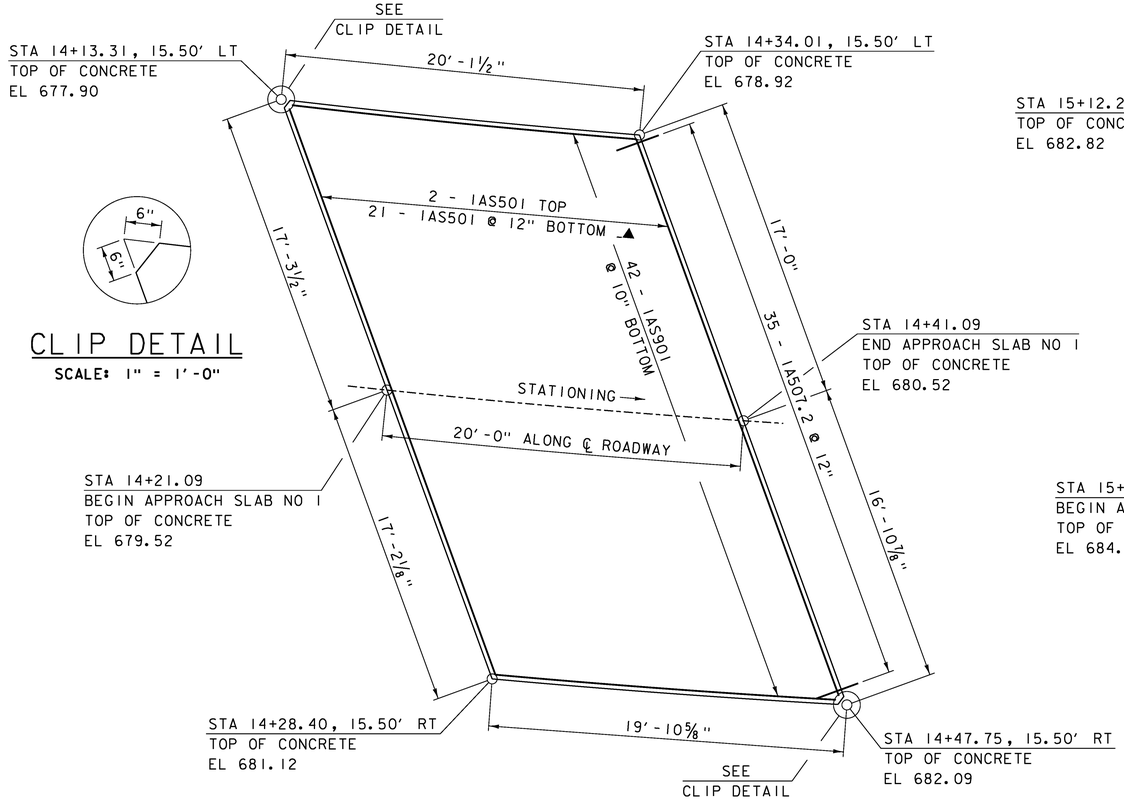
PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

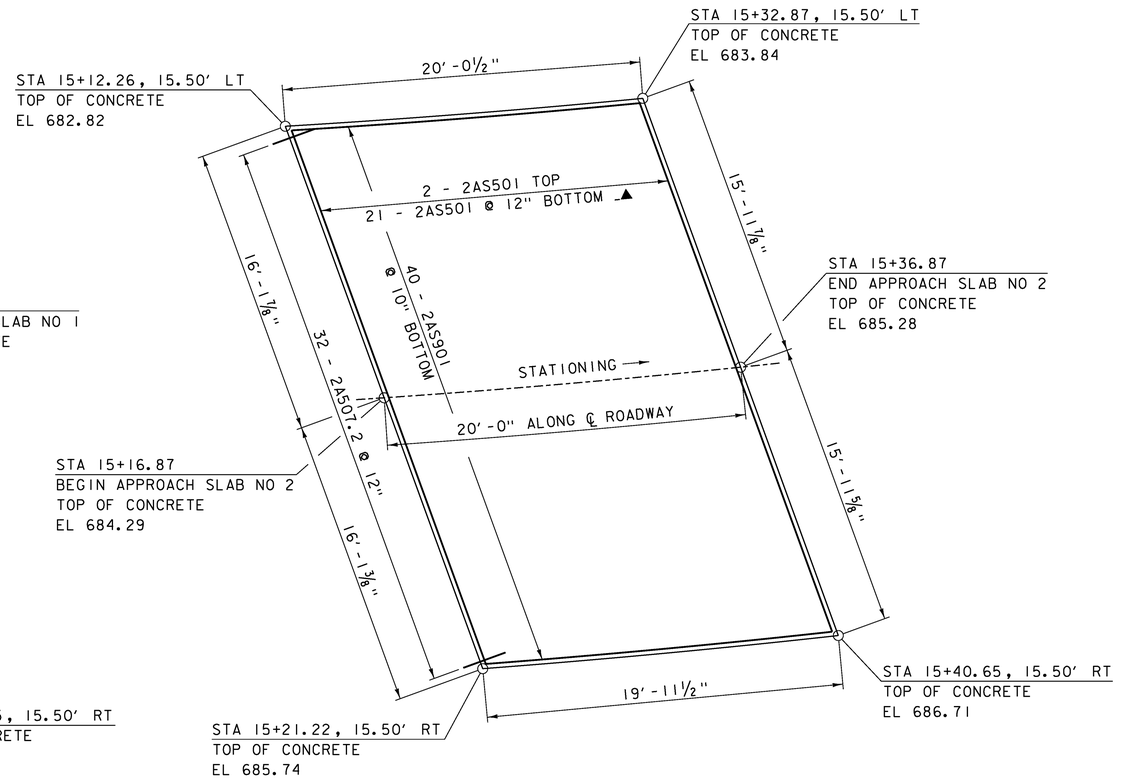
FILE NAME: s85e037brg.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. I. SALLS
ELASTOMERIC BEARING DETAILS

PLOT DATE: 17-JUN-2013
DRAWN BY: H. I. SALLS
CHECKED BY: G. ROY
SHEET 35 OF 70

CLIP DETAIL

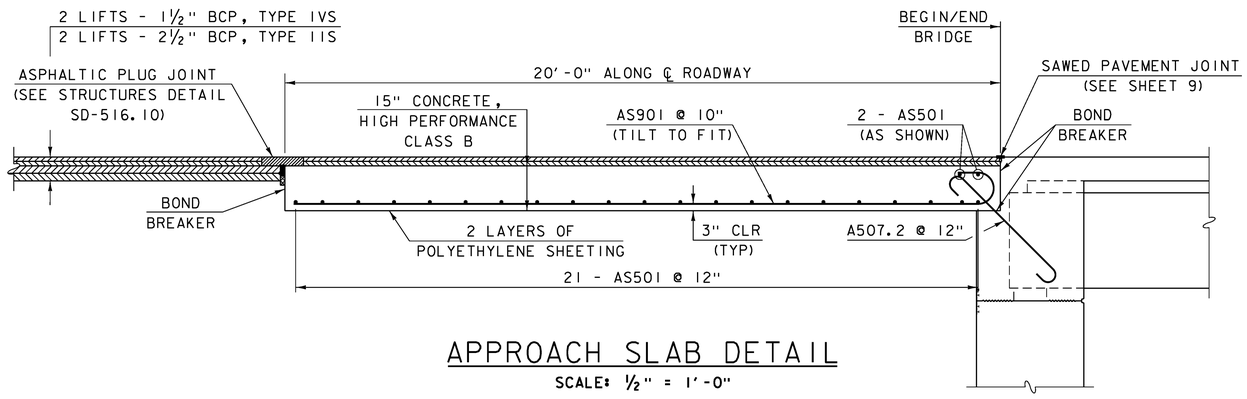
SCALE: 1" = 1'-0"





APPROACH SLAB PLAN

SCALE: ¼" = 1'-0"



APPROACH SLAB DETAIL

SCALE: ½" = 1'-0"

NOTES:

1. COMPACT THE SUBBASE IN THE AREA UNDER THE APPROACH SLAB TO A SMOOTH SURFACE.

2. MATERIAL FOR POLYETHYLENE SHEETING SHALL MEET THE REQUIREMENTS OF SUBSECTION 725.01(c) OF THE STANDARD SPECIFICATIONS. THE SHEETING THICKNESS SHALL BE 12 MIL. PLACE THE SHEETING ON TOP OF THE FINISHED SUBBASE FOR THE FULL LENGTH AND WIDTH OF THE APPROACH SLAB, EXCEPT IN THE BRACKET AREA AT THE ABUTMENT. LAP SHEETING AT LEAST 2'-0". PAYMENT FOR SHEETING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B".

3. PLACE HOOKED ENDS OF BOTTOM STEEL AT ABUTMENT END OF SLAB.

PROJECT NAME:	STOWE
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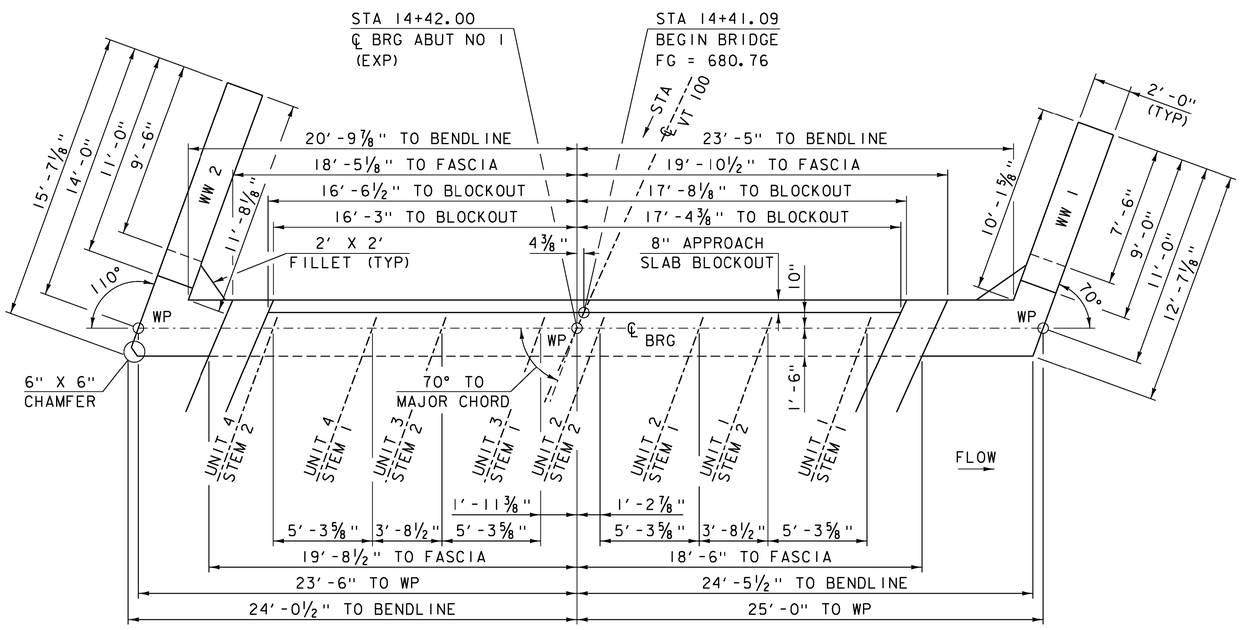
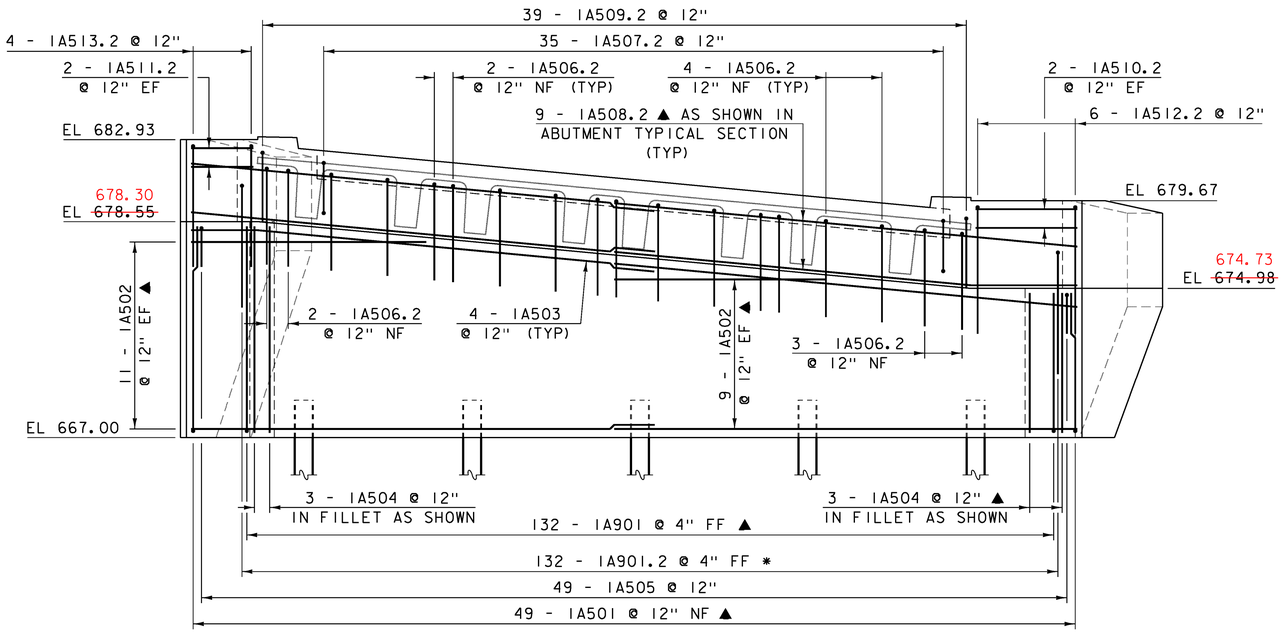
FILE NAME: s85e037sup.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROY
DESIGNED BY: H. I. SALLS	CHECKED BY: H. I. SALLS
APPROACH SLAB DETAILS	SHEET 36 OF 70



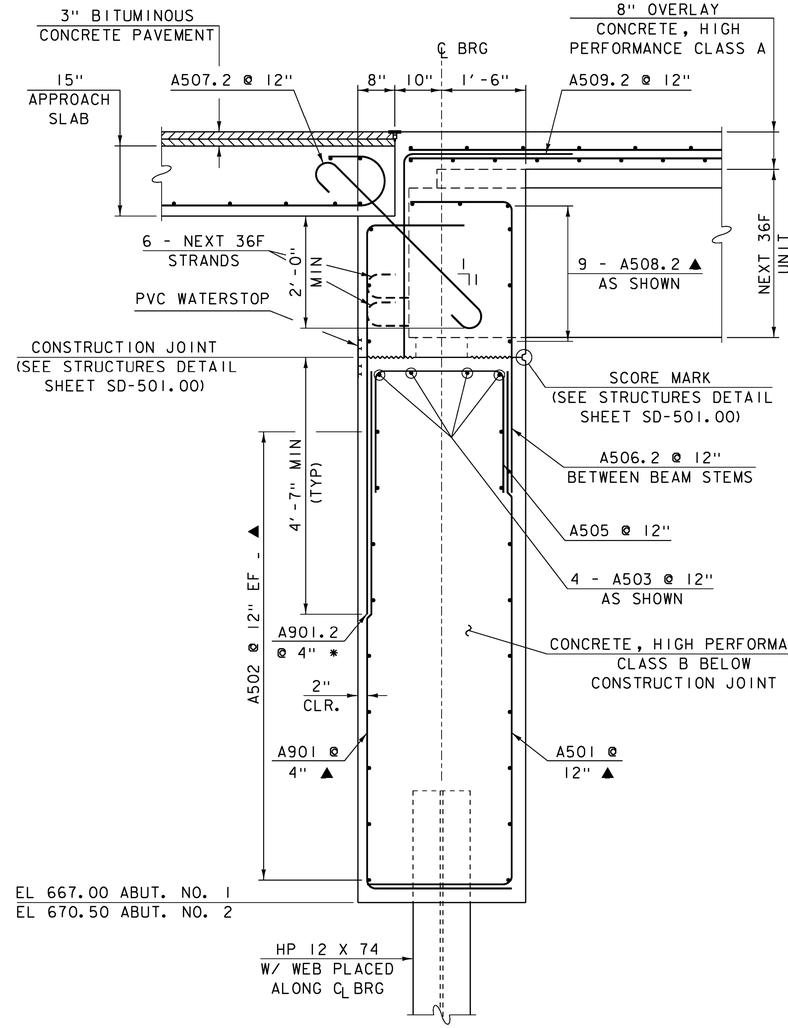
ABUTMENT NO. 1 PLAN

SCALE: ¼" = 1'-0"



ABUTMENT NO. 1 ELEVATION

SCALE: ¼" = 1'-0"



ABUTMENT TYPICAL SECTION

SCALE: ¾" = 1'-0"

NOTE:

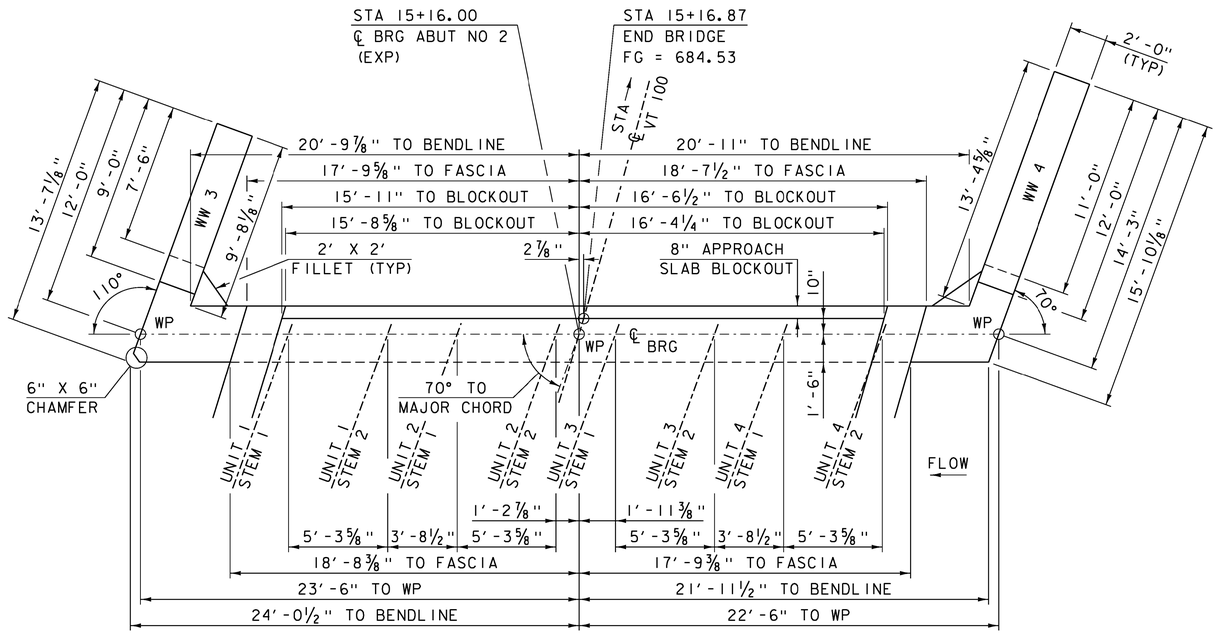
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED
* THE HOOKS WILL NEED TO BE TURNED
OR REMOVED WHEN IN CONFLICT WITH
THE BEAM STEMS.

BRIDGE SEAT ELEVATIONS LOWERED PER C. CARLSON

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

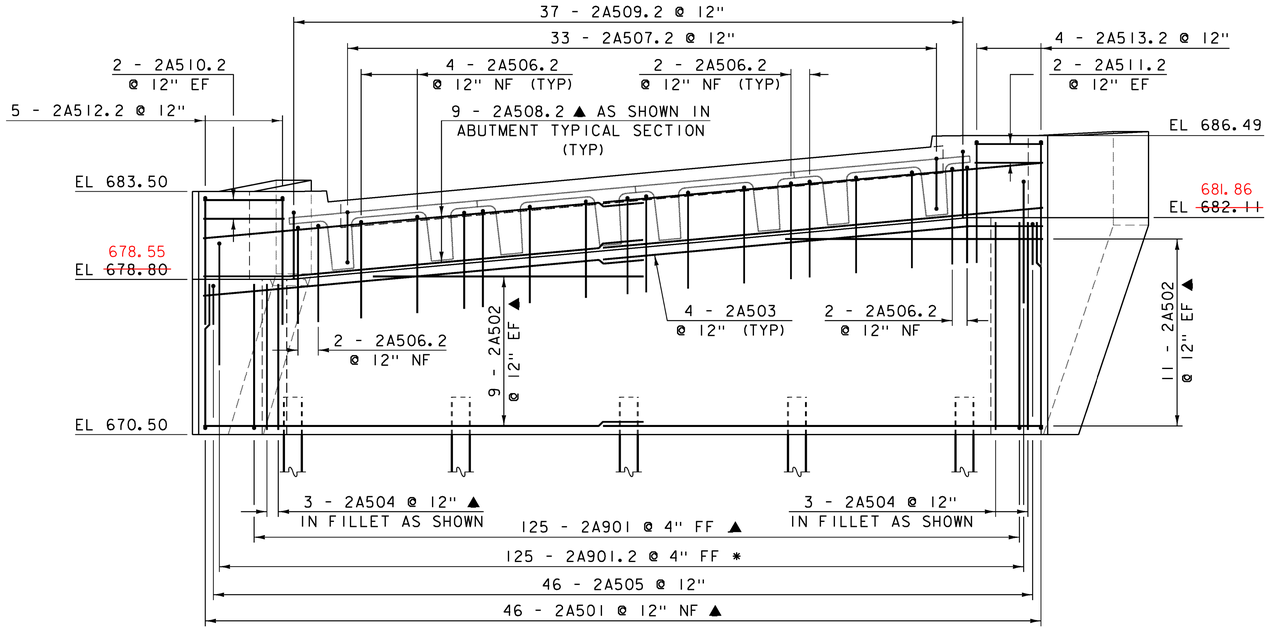
FILE NAME: s85e037sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. I. SALLS
ABUTMENT NO. 1 DETAILS

PLOT DATE: 17-JUN-2013
DRAWN BY: G. ROY
CHECKED BY: H. I. SALLS
SHEET 37 OF 70



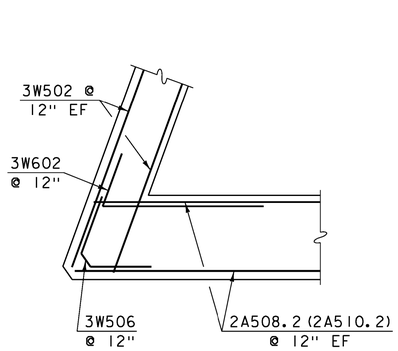
ABUTMENT NO. 2 PLAN

SCALE: ¼" = 1'-0"



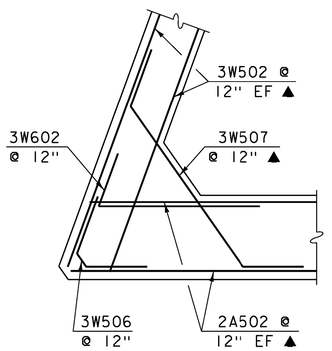
ABUTMENT NO. 2 ELEVATION

SCALE: ¼" = 1'-0"



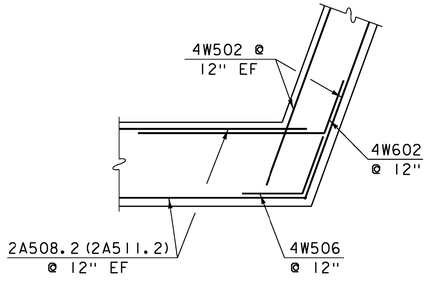
WINGWALL NO. 3 CORNER REINFORCING ABOVE CONSTRUCTION JOINT

SCALE: ⅜" = 1'-0"
(WINGWALL 2 SIMILAR)



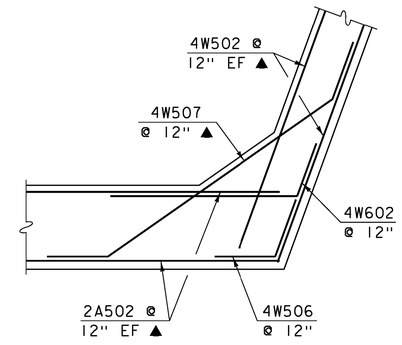
WINGWALL NO. 3 CORNER REINFORCING BELOW CONSTRUCTION JOINT

SCALE: ⅜" = 1'-0"
(WINGWALL 2 SIMILAR)



WINGWALL NO. 4 CORNER REINFORCING ABOVE CONSTRUCTION JOINT

SCALE: ⅜" = 1'-0"
(WINGWALL 1 SIMILAR)



WINGWALL NO. 4 CORNER REINFORCING BELOW CONSTRUCTION JOINT

SCALE: ⅜" = 1'-0"
(WINGWALL 1 SIMILAR)

NOTE:

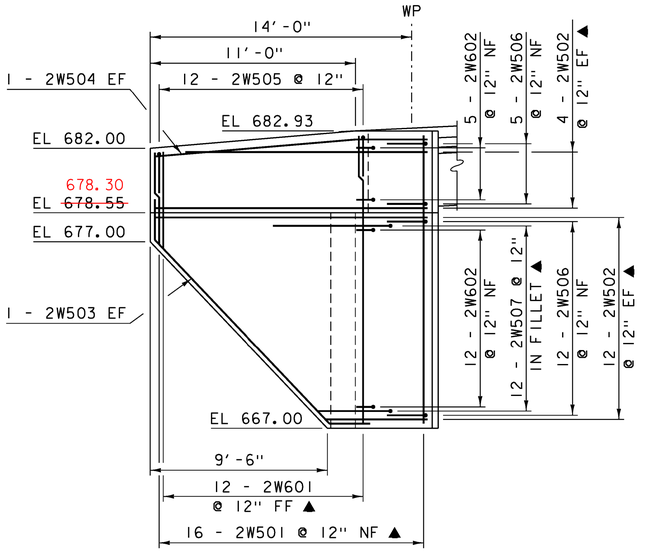
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED
* THE HOOKS WILL NEED TO BE TURNED OR REMOVED WHEN IN CONFLICT WITH THE BEAM STEMS.

BRIDGE SEAT ELEVATIONS LOWERED PER C. CARLSON

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

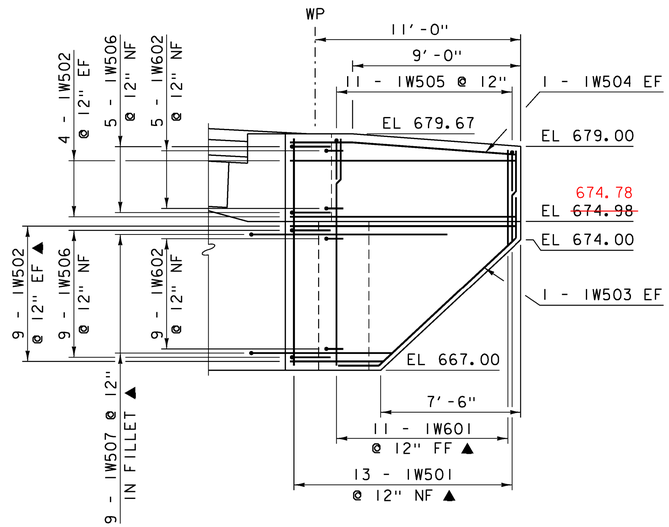
FILE NAME: s85e037sub.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. I. SALLS
ABUTMENT NO. 2 DETAILS

PLOT DATE: 17-JUN-2013
DRAWN BY: G. ROY
CHECKED BY: H. I. SALLS
SHEET 38 OF 70



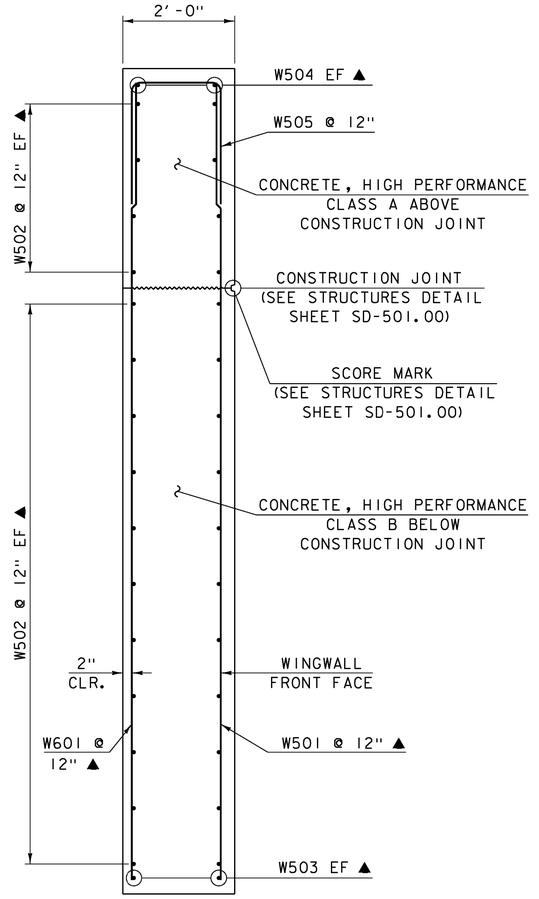
WINGALL NO. 2 ELEVATION

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



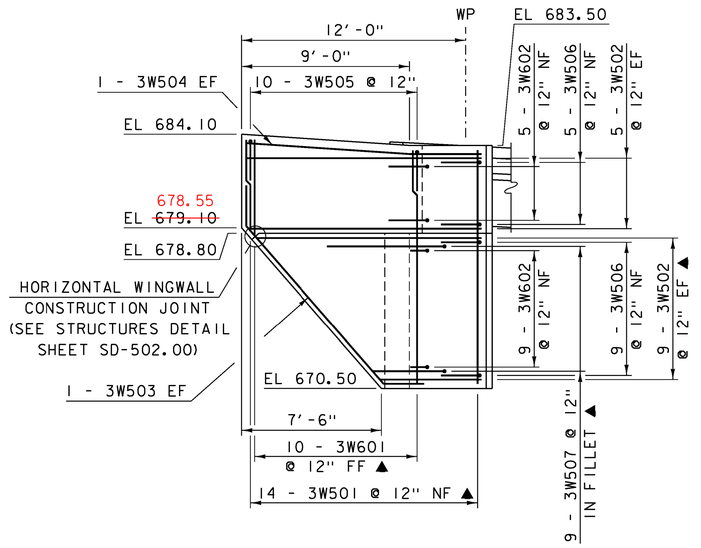
WINGALL NO. 1 ELEVATION

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



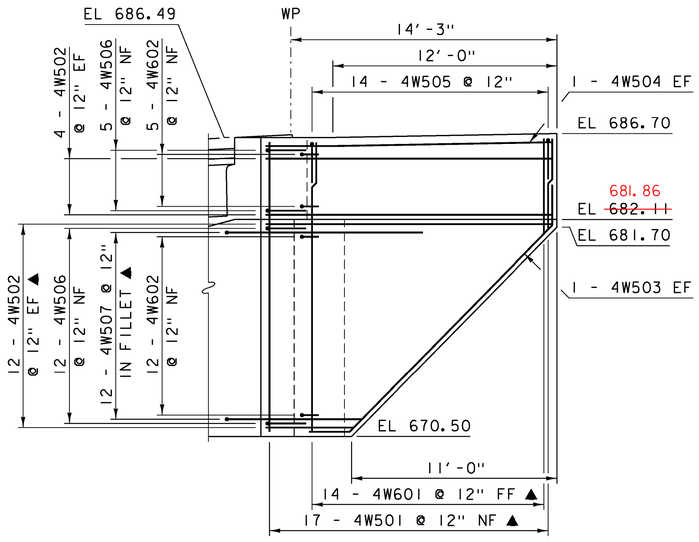
WINGALL TYPICAL SECTION

SCALE: 3/4" = 1'-0"



WINGALL NO. 3 ELEVATION

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



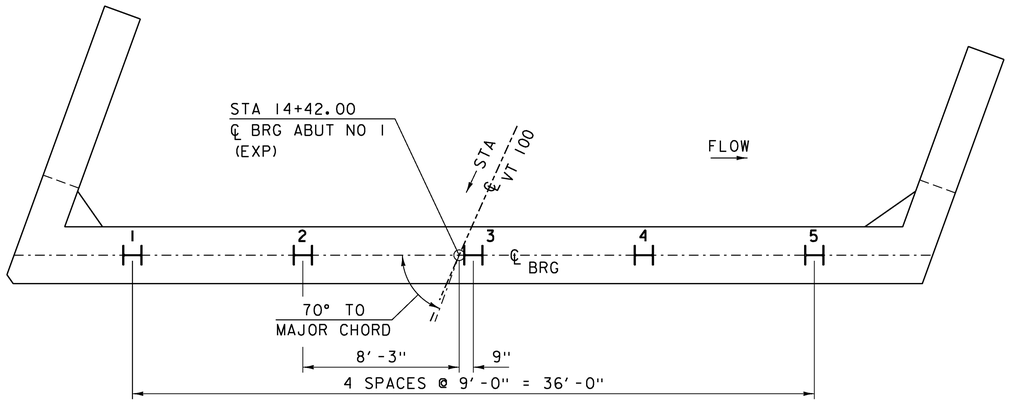
WINGALL NO. 4 ELEVATION

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

NOTE:

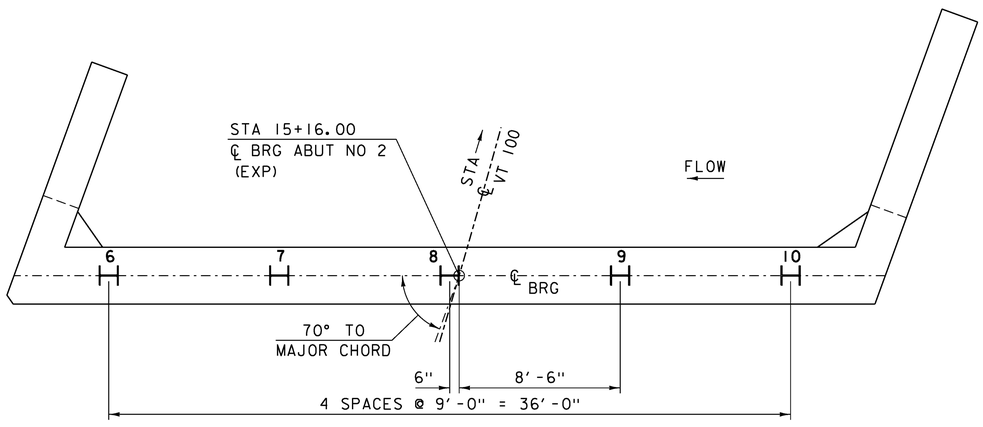
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037sub.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROY
DESIGNED BY: H. I. SALLS	CHECKED BY: H. I. SALLS
WINGWALL DETAILS	SHEET 39 OF 70



ABUTMENT NO. 1 PILE LAYOUT

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



ABUTMENT NO. 2 PILE LAYOUT

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

NOTE:

SEE STRUCTURES DETAIL SD-601.00
FOR PILE SPLICE DETAIL.

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)

FILE NAME: s85e037sub.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROY
DESIGNED BY: H. I. SALLS	CHECKED BY: H. I. SALLS
PILE LAYOUT	SHEET 40 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

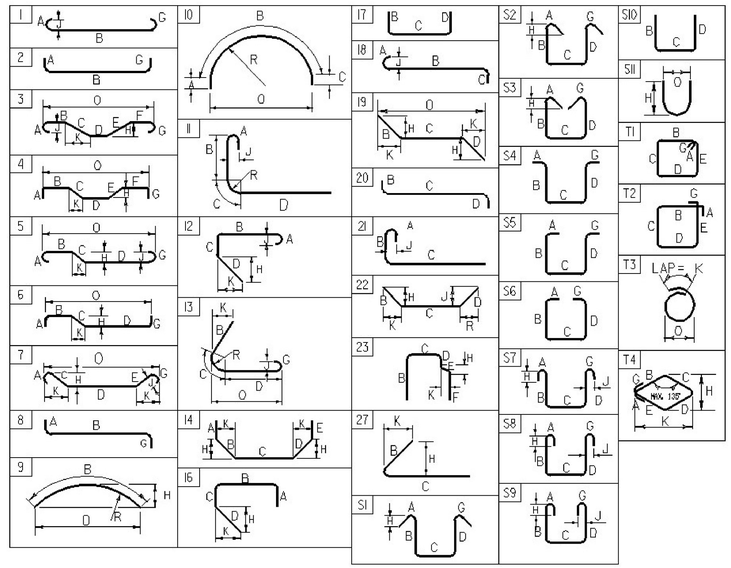
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
✳	253	5	27'- 2"	S501.2	STR												
✳	152	5	34'- 6"	S502.2	STR												
	22	5	5'- 0"	S503.2	STR												
▲	28	5	32'- 2"	S504.2	STR												
	2	5	37'- 9"	S505.2	STR												
	2	5	35'- 11"	S506.2	STR												
	110	5	4'- 6"	S507.2	S5	0'- 10"	0'- 8"	1'- 5"	0'- 9"			0'- 10"					
	110	5	4'- 8"	S508.2	S5	0'- 10"	0'- 10"	1'- 5"	0'- 9"			0'- 10"					
APPROACH SLAB NO. 1																	
✳ ▲	24	5	33'- 8"	1AS501	STR												
✳	43	9	20'- 9"	1AS901	1	1'- 3"	19'- 6"					---		1'- 0"			
APPROACH SLAB NO. 2																	
✳ ▲	24	5	31'- 9"	2AS501	STR												
✳	41	9	20'- 9"	2AS901	1	1'- 3"	19'- 6"					---		1'- 0"			
ABUTMENT NO. 1																	
✳ ▲	41	5	25'- 1"	1A502	STR												
	8	5	25'- 3"	1A503	STR												
▲	6	5	11'- 0"	1A504	STR												
▲	49	5	13'- 7"	1A501	17		11'- 0"	2'- 7"	---								
	49	5	6'- 11"	1A505	17		2'- 2"	2'- 7"	2'- 2"								
△ ▲	134	10	13'- 9"	1A901	17		11'- 2"	2'- 7"	---								
▲	134	10	13'- 9"	1A901.2	17		6'- 11"	1'- 7"	---								
✳ ▲	37	5	25'- 3"	1A508.2	STR												
✳	5	5	5'- 6"	1A510.2	STR												
	4	5	3'- 10"	1A511.2	STR												
	27	5	13'- 1"	1A506.2	17		5'- 3"	1'- 11"	---								
	35	5	5'- 2"	1A507.2	1	0'- 7"	4'- 0"					0'- 7"		0'- 5"			
	39	5	6'- 8"	1A509.2	17		3'- 8"	3'- 0"	---								
	6	5	16'- 5"	1A512.2	17		6'- 11"	2'- 7"	6'- 11"								
	4	5	15'- 9"	1A513.2	17		6'- 7"	2'- 7"	6'- 7"								
WINGWALL NO. 1																	
✳ ▲	14	5	12'- 2"	1W501	STR												
▲	26	5	12'- 1"	1W502	STR												
	2	5	14'- 4"	1W503	22		2'- 2"	10'- 0"	2'- 2"				1'- 6"	1'- 7"	1'- 7"	1'- 6"	13'- 1"
	2	5	12'- 1"	1W504	19		3'- 4"	8'- 9"	---				0'- 3"	---	3'- 3"	---	12'- 2"
	11	5	5'- 11"	1W505	17		2'- 2"	1'- 7"	2'- 2"								
	14	5	4'- 4"	1W506	19		2'- 2"	2'- 2"	---				2'- 0"	---	0'- 9"	---	2'- 11"
▲	9	5	14'- 7"	1W507	22		2'- 2"	10'- 3"	2'- 2"				1'- 3"	1'- 3"	1'- 9"	1'- 9"	13'- 10"
✳ ▲	12	6	12'- 2"	1W601	STR												
	14	6	8'- 11"	1W602	19		2'- 0"	7'- 11"	---				0'- 11"	---	0'- 4"	---	8'- 3"
WINGWALL NO. 2																	
▲	16	5	15'- 5"	2W501	STR												
▲	32	5	14'- 7"	2W502	STR												
	2	5	17'- 11"	2W503	22		2'- 2"	13'- 7"	2'- 2"				1'- 6"	1'- 7"	1'- 7"	1'- 6"	16'- 8"
	2	5	14'- 7"	2W504	19		3'- 10"	10'- 9"	---				0'- 4"	---	3'- 9"	---	14'- 7"
	12	5	5'- 11"	2W505	17		2'- 2"	1'- 7"	2'- 2"								
	17	5	4'- 10"	2W506	22		2'- 2"	0'- 6"	2'- 2"				1'- 9"	1'- 9"	1'- 3"	1'- 3"	3'- 1"
▲	12	5	11'- 8"	2W507	22		2'- 2"	7'- 4"	2'- 2"				1'- 9"	1'- 9"	1'- 3"	1'- 3"	9'- 10"
✳ ▲	13	6	15'- 5"	2W601	STR												
	17	6	8'- 0"	2W602	27		2'- 0"	7'- 0"	---				0'- 11"		0'- 4"		

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT NO. 2																	
✳ ▲	41	5	23'- 10"	2A502	STR												
	8	5	24'- 0"	2A503	STR												
▲	6	5	11'- 2"	2A504	STR												
▲	46	5	13'- 9"	2A501	17		11'- 2"	2'- 7"	---								
	46	5	6'- 11"	2A505	17		2'- 2"	2'- 7"	2'- 2"								
△ ▲	127	10	13'- 9"	2A901	17		11'- 2"	2'- 7"	---								
▲	127	10	13'- 9"	2A901.2	17		6'- 11"	1'- 7"	---								
✳ ▲	37	5	24'- 0"	2A508.2	STR												
✳	5	5	4'- 8"	2A510.2	STR												
	4	5	3'- 11"	2A511.2	STR												
	26	5	13'- 1"	2A506.2	17		5'- 3"	1'- 11"	---								
	33	5	5'- 2"	2A507.2	1	0'- 7"	4'- 0"					0'- 7"		0'- 5"			
	37	5	6'- 8"	2A509.2	17		3'- 8"	3'- 0"	---								
	5	5	16'- 5"	2A512.2	17		6'- 11"	2'- 7"	6'- 11"								
	4	5	15'- 9"	2A513.2	17		6'- 7"	2'- 7"	6'- 7"								
WINGWALL NO. 3																	
▲	14	5	12'- 6"	3W501	STR												
▲	28	5	12'- 7"	3W502	STR												
	2	5	15'- 6"	3W503	22		2'- 2"	11'- 2"	2'- 2"				1'- 5"	1'- 7"	1'- 7"	1'- 5"	14'- 3"
	2	5	12'- 7"	3W504	19		3'- 10"	8'- 9"	---				0'- 3"	---	3'- 10"	---	12'- 7"
	10	5	5'- 11"	3W505	17		2'- 2"	1'- 7"	2'- 2"								
	14	5	4'- 10"	3W506	22		2'- 2"	0'- 6"	2'- 2"				1'- 9"	1'- 9"	1'- 3"	1'- 3"	3'- 1"
▲	9	5	11'- 8"	3W507	22		2'- 2"	7'- 4"	2'- 2"				1'- 9"	1'- 9"	1'- 3"	1'- 3"	9'- 10"
✳ ▲	11	6	12'- 6"	3W601	STR												
	14	6	6'- 9"	3W602	27		2'- 0"	5'- 9"	---				0'- 11"		0'- 4"		
WINGWALL NO. 4																	
✳ ▲	18	5	15'- 6"	4W501	STR												
▲	32	5	15'- 4"	4W502	STR												
	2	5	19'- 10"	4W503	22		2'- 2"	15'- 6"	2'- 2"				1'- 7"	1'- 6"	1'- 6"	1'- 7"	18'- 7"
	2	5	15'- 4"	4W504	19		3'- 7"	11'- 9"	---				0'- 1"	---	3'- 7"	---	15'- 4"
	14	5	5'- 11"	4W505	17		2'- 2"	1'- 7"	2'- 2"								
	17	5	4'- 4"	4W506	19		2'- 2"	2'- 2"	---				2'- 0"	---	0'- 9"	---	2'- 11"
▲	12	5	14'- 7"	4W507	22		2'- 2"	10'- 3"	2'- 2"				1'- 3"	1'- 3"	1'- 9"	1'- 9"	13'- 10"
✳ ▲	15	6	15'- 6"	4W601	STR												
	17	6	7'- 8"	4W602	19		2'- 0"	6'- 8"	---				0'- 11"	---	0'- 4"	---	7'- 0"

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. ".2" IN BAR MARK SUFFIX DENOTES LEVEL I I REINFORCING STEEL.



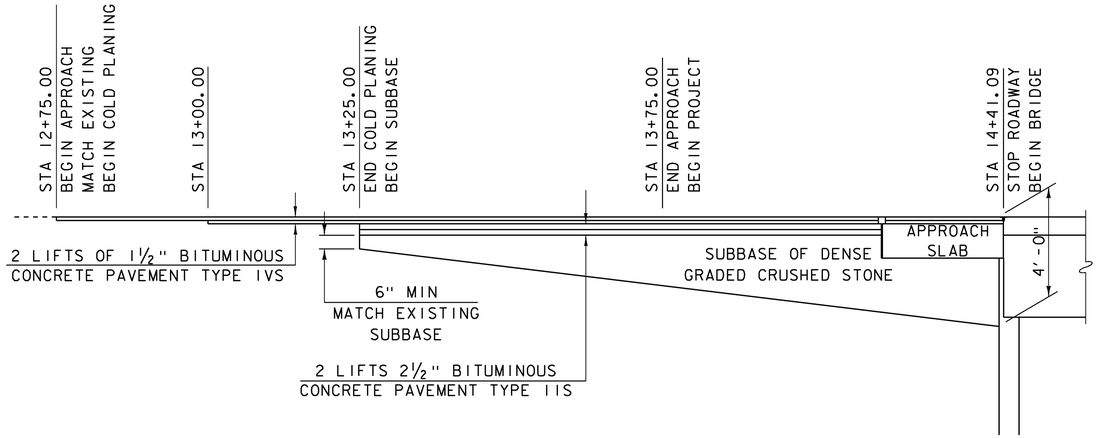
ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES ^{2}	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME: **STOWE**
PROJECT NUMBER: **BRF 029-1(17)**

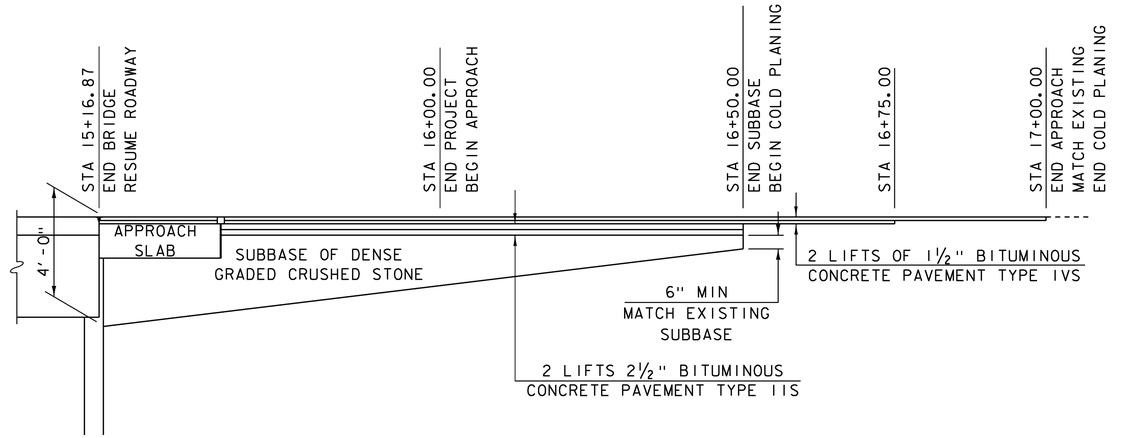
FILE NAME: **s85e037reinf.dgn**
PROJECT MANAGER: **C. CARLSON**
DESIGNED BY: **H. I. SALLS**
REINFORCING STEEL SCHEDULE

PLOT DATE: 17-JUN-2013
DRAWN BY: **G. ROY**
CHECKED BY: **H. I. SALLS**
SHEET 41 OF 70



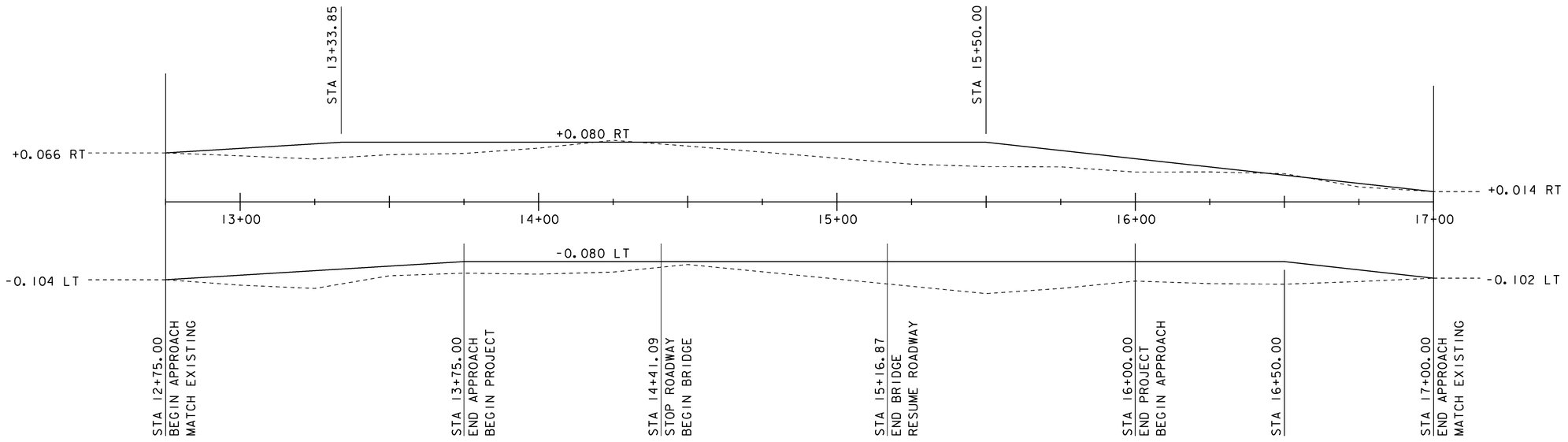
BEGIN PROJECT MATERIAL TRANSITION

NOT TO SCALE



END PROJECT MATERIAL TRANSITION

NOT TO SCALE

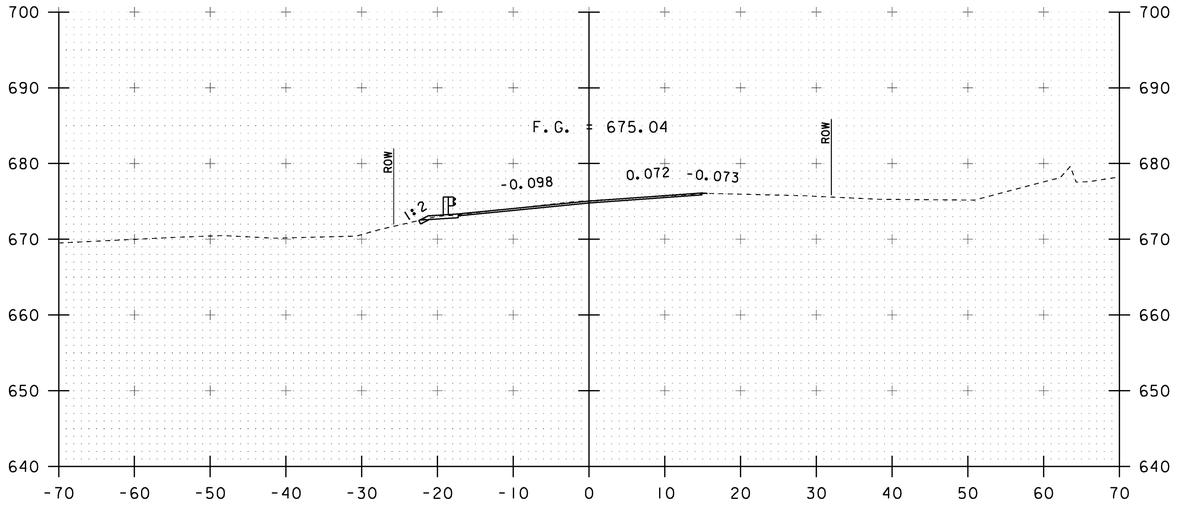


BANKING DIAGRAM

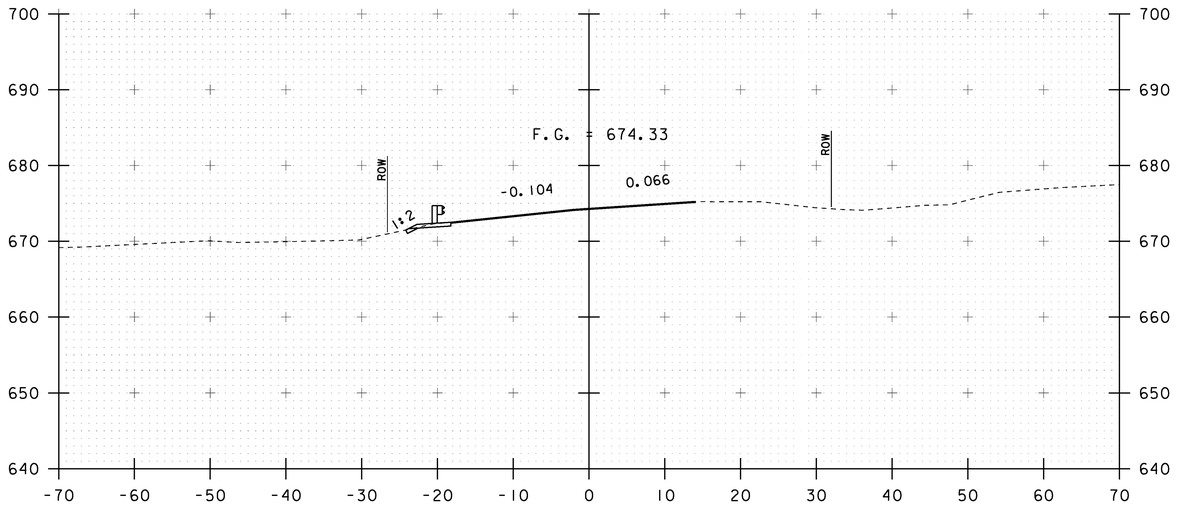
NOT TO SCALE

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)

FILE NAME: s85e037pro.dgn		PLOT DATE:	17-JUN-2013
PROJECT LEADER:	C. CARLSON	DRAWN BY:	R. PELLETT
DESIGNED BY:	H. SALLS	CHECKED BY:	G. ROY
BANKING DIAGRAM & MATERIAL TRANSITIONS		SHEET	42 OF 70

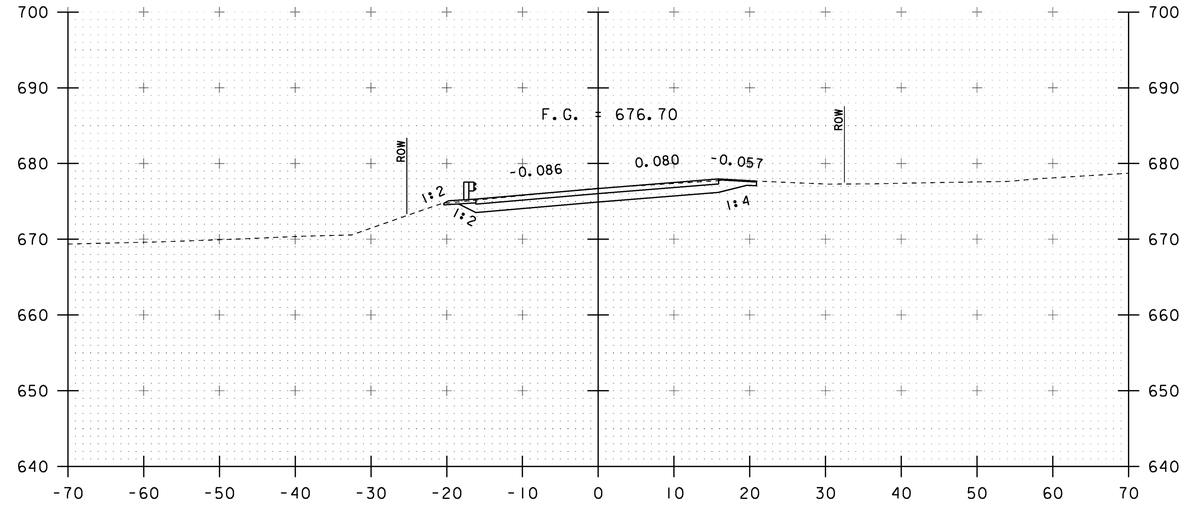


13+00

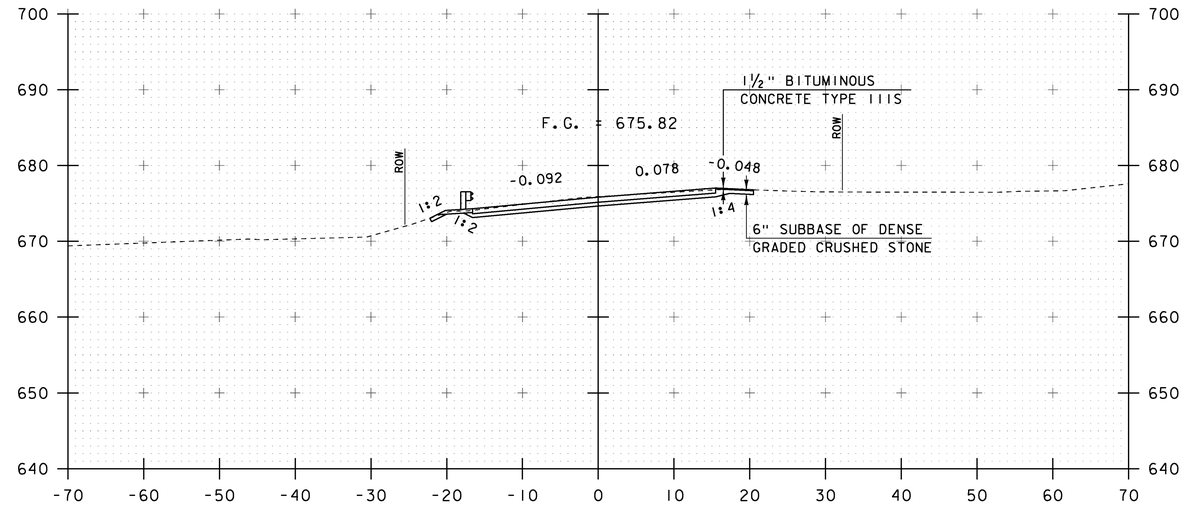


STA 12+75.00
BEGIN APPROACH
MATCH EXISTING

12+75



13+50



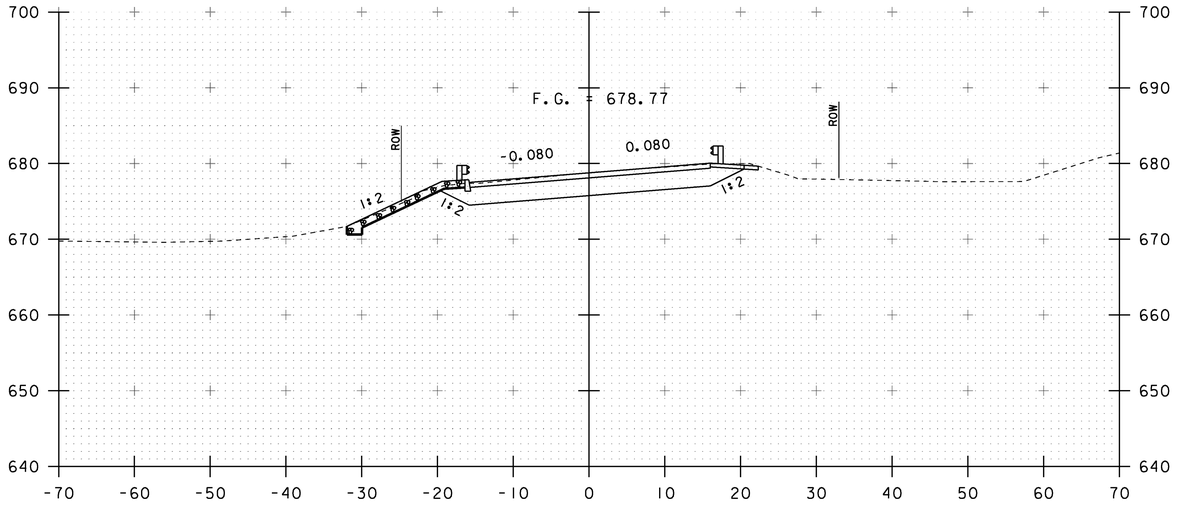
STA 13+10.0 RT - STA 13+58.0 RT
CONSTRUCT 5' PAVED APRON

13+25

SCALE: 1" = 10'-0"
10 0 10

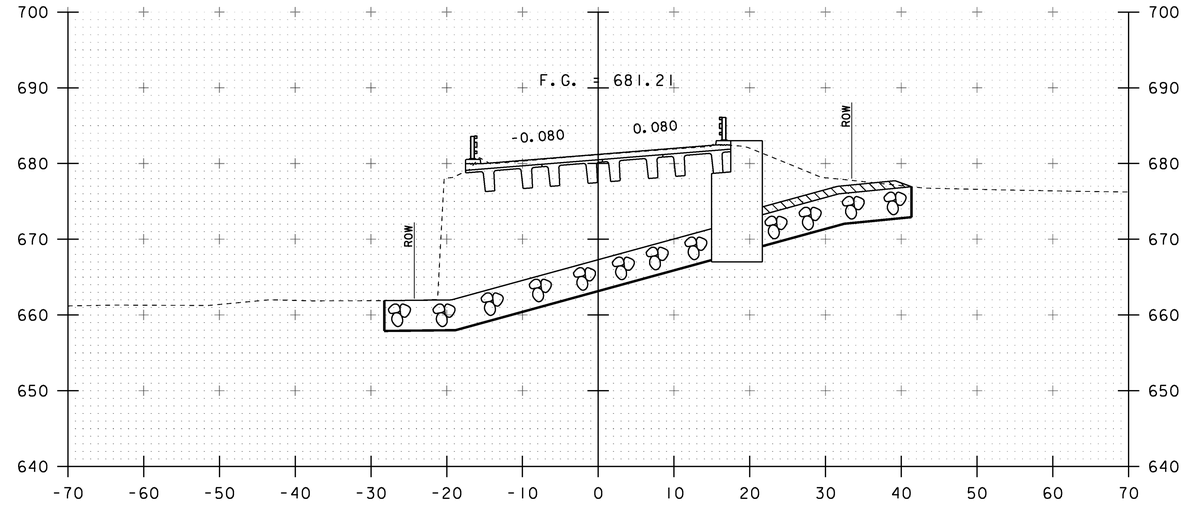
STA. 12+75 TO STA. 13+50

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037xsl.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
MAINLINE CROSS SECTIONS 1	SHEET 43 OF 70



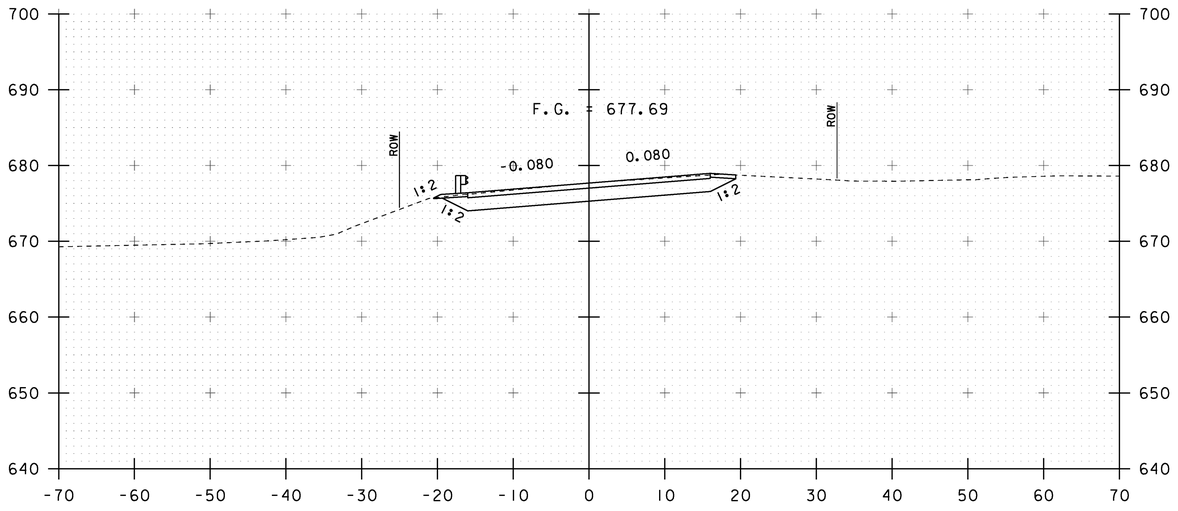
STA 14+00.00
CONSTRUCT STONE FILL
TYPE I PAD, 5' X 16'

14+00



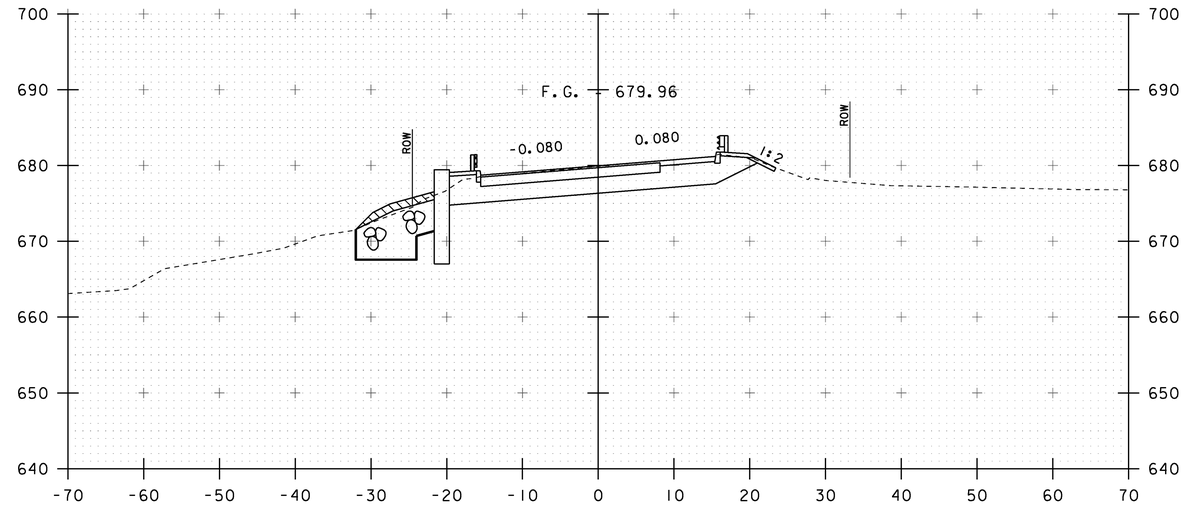
STA 14+41.09
STOP ROADWAY
BEGIN BRIDGE

14+50



STA 13+75.00
END APPROACH
BEGIN PROJECT

13+75



14+25

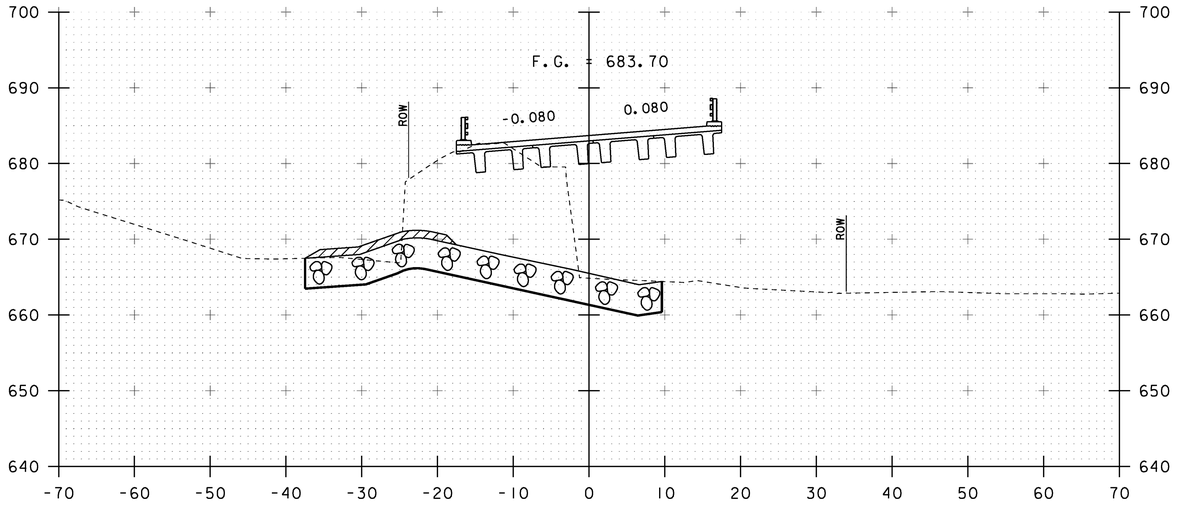
SCALE: 1" = 10'-0"
10 0 10

STA. 13+75 TO STA. 14+50

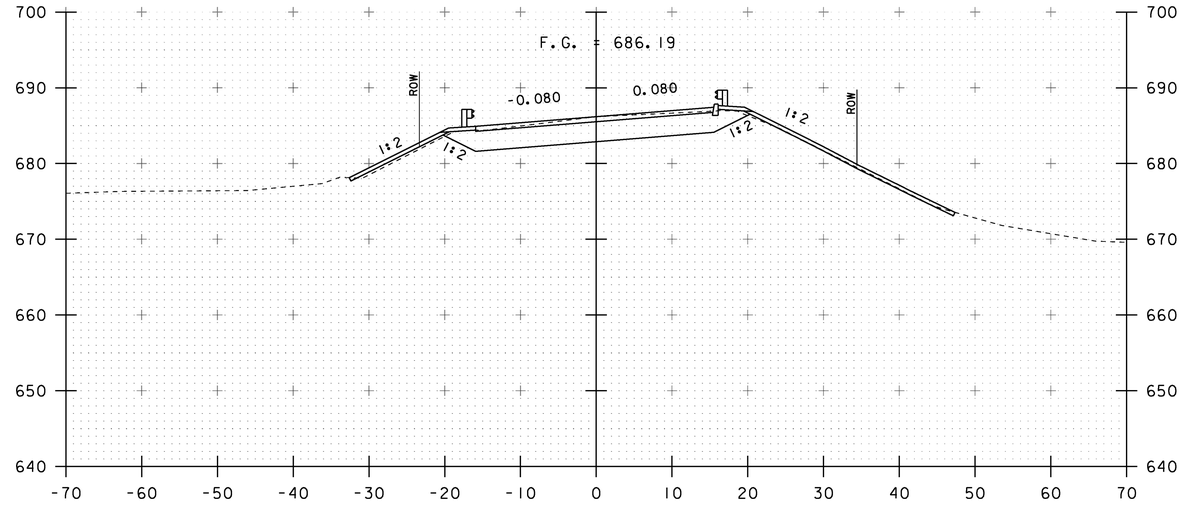
PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037xsl.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
MAINLINE CROSS SECTIONS 2

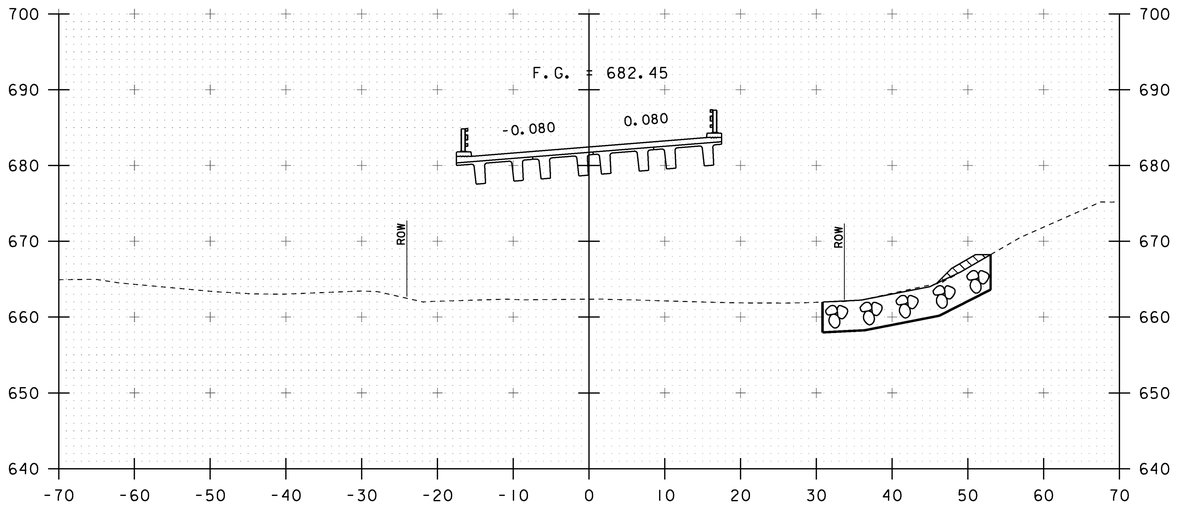
PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 44 OF 70



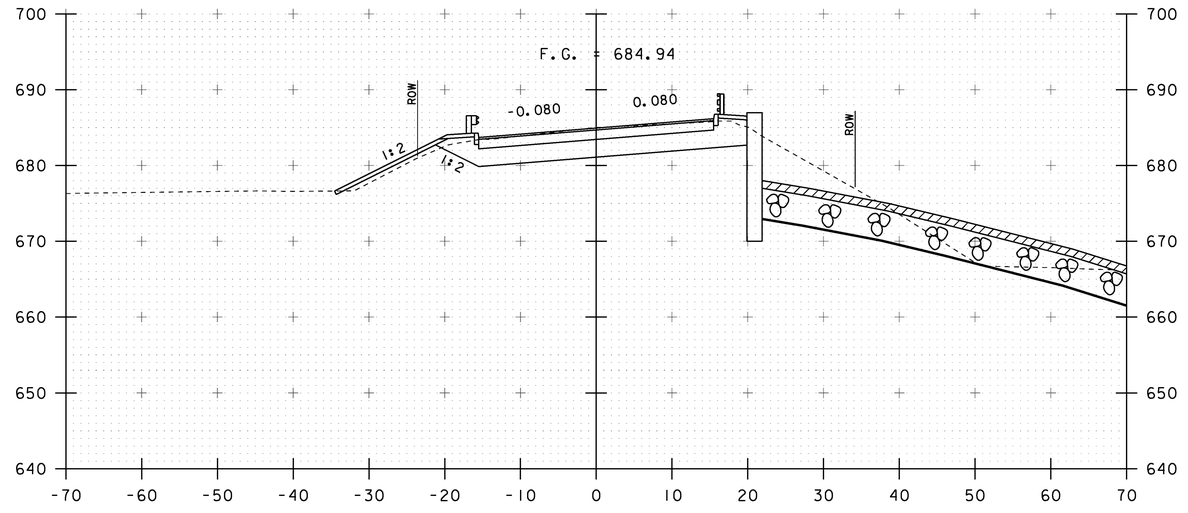
15+00



15+50



14+75



15+25

STA 15+16.87
END BRIDGE
RESUME ROADWAY

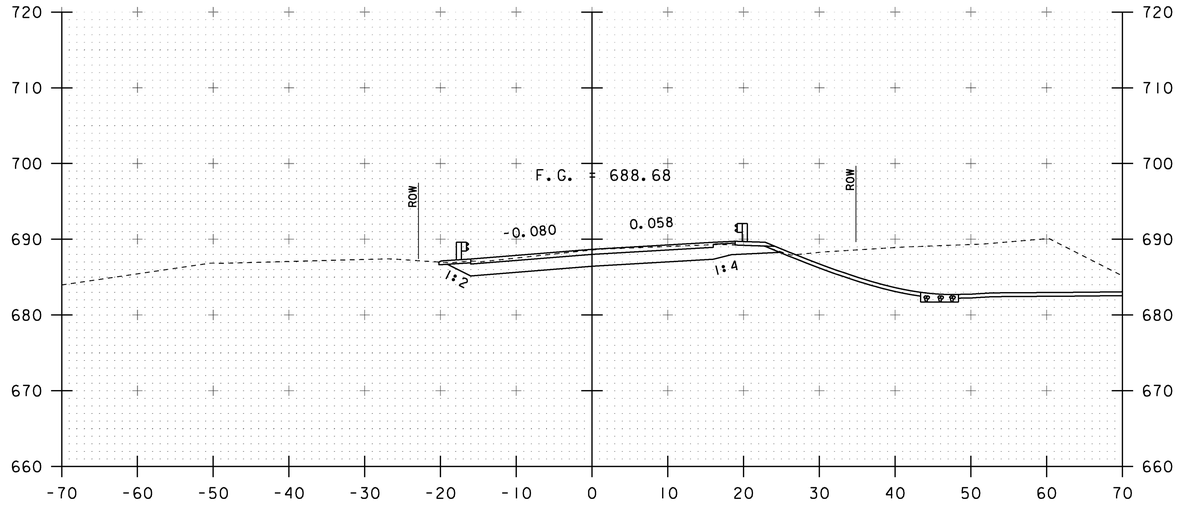
SCALE: 1" = 10'-0"
10 0 10

STA. 14+75 TO STA. 15+50

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

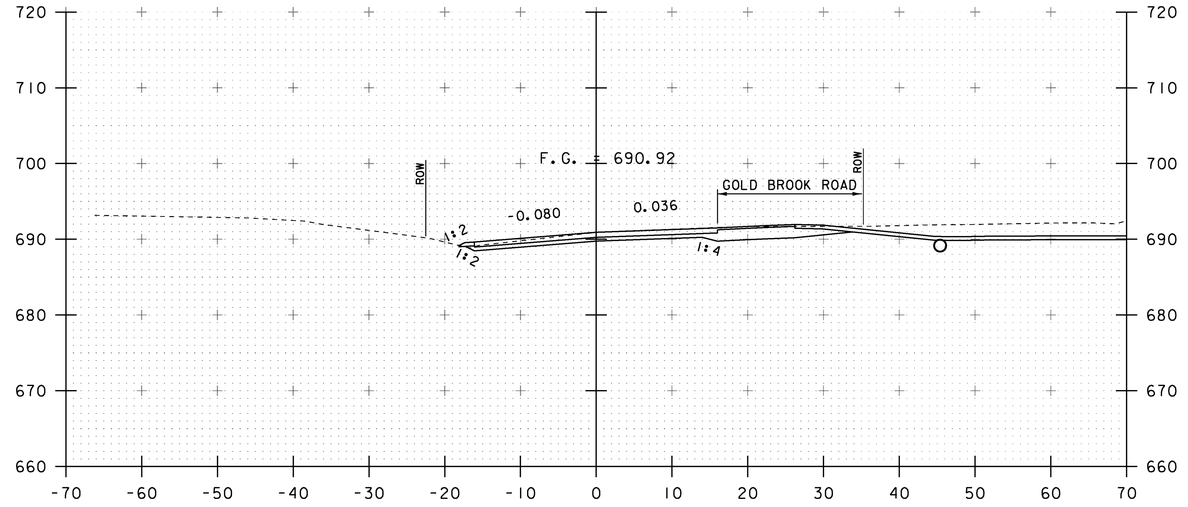
FILE NAME: s85e037xsl.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
MAINLINE CROSS SECTIONS 3

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 45 OF 70

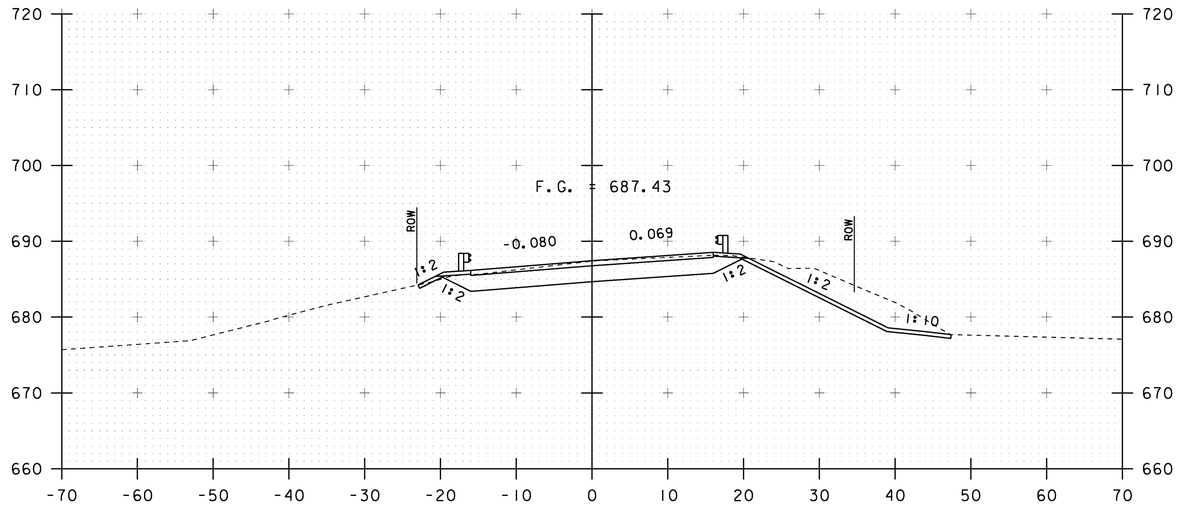


STA 16+00.00
END PROJECT
BEGIN APPROACH

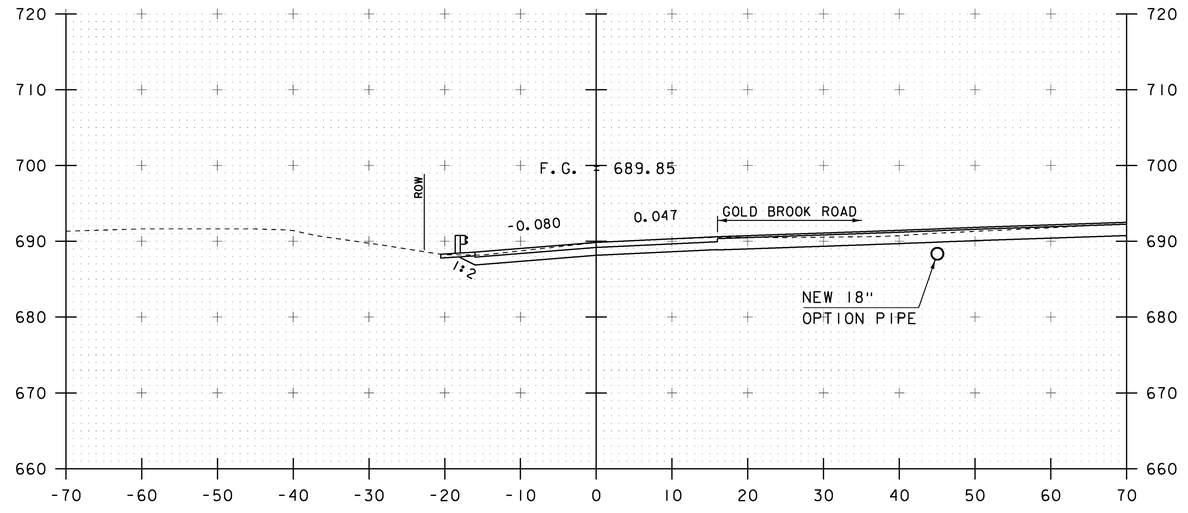
16+00



16+50



15+75



16+25

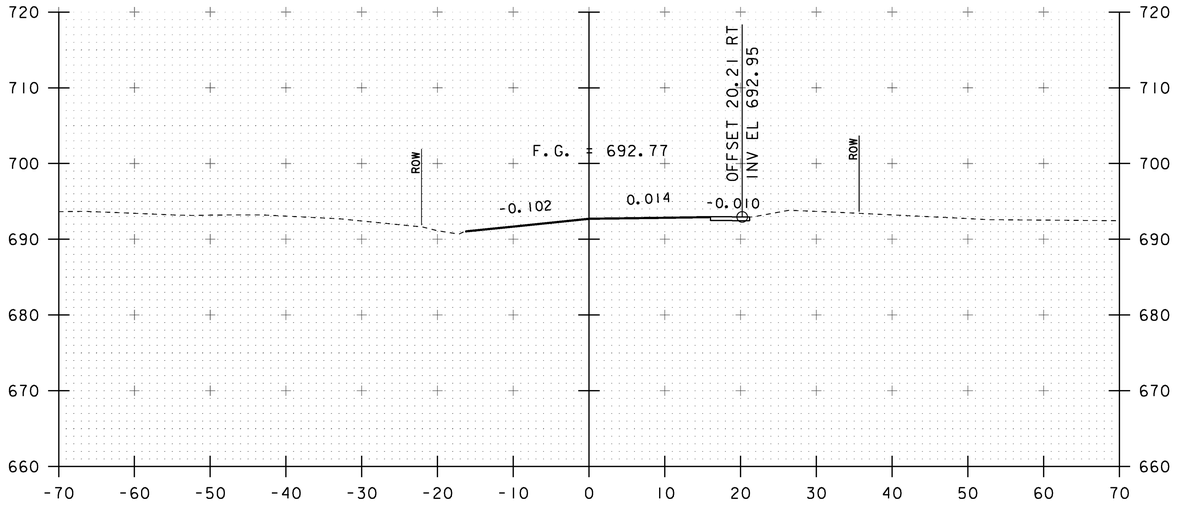
SCALE: 1" = 10'-0"
10 0 10

STA. 15+75 TO STA. 16+50

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

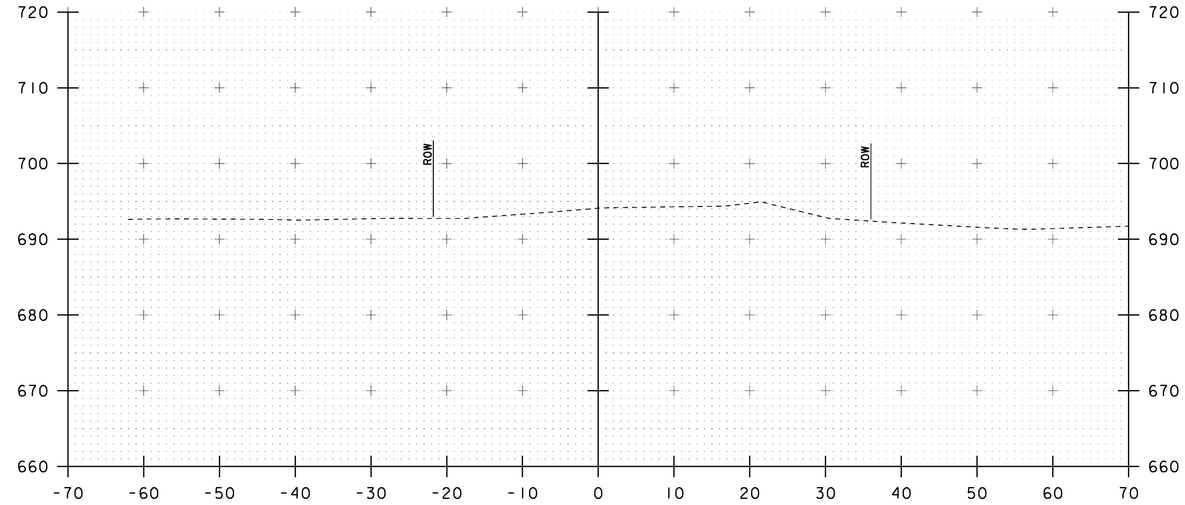
FILE NAME: s85e037xsl.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
MAINLINE CROSS SECTIONS 4

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 46 OF 70

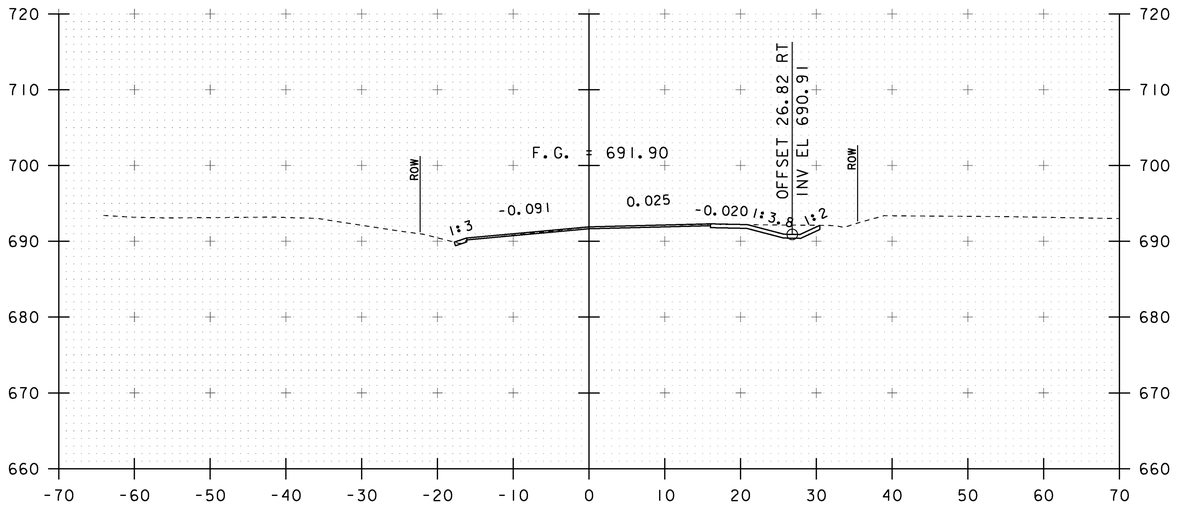


STA 17+00.00
END APPROACH
MATCH EXISTING

17+00

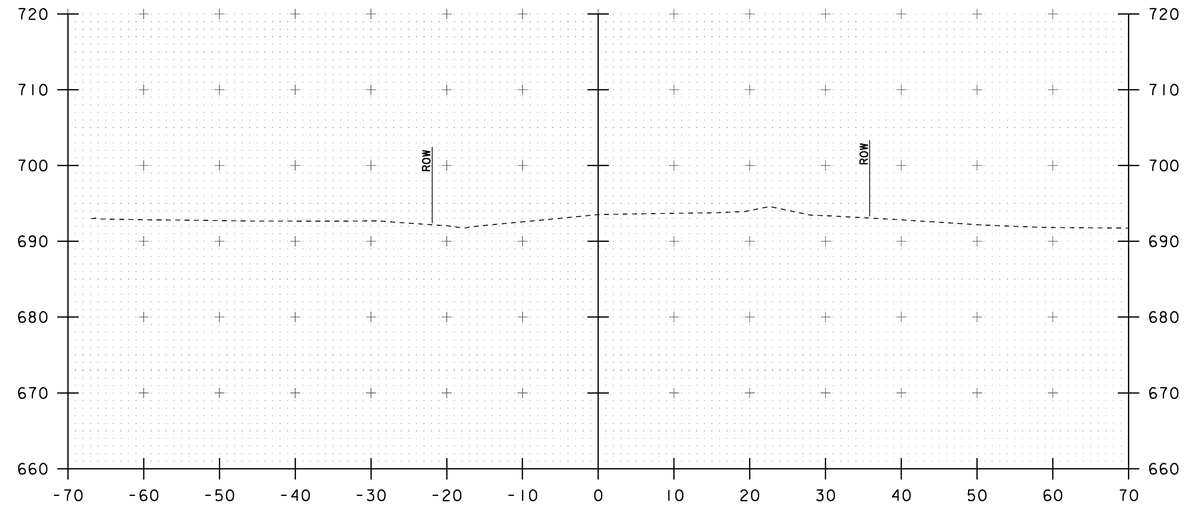


17+50



STA 16+54.6 RT - STA 17+00.0 RT
CONSTRUCT GRASS-LINED DITCH

16+75



17+25

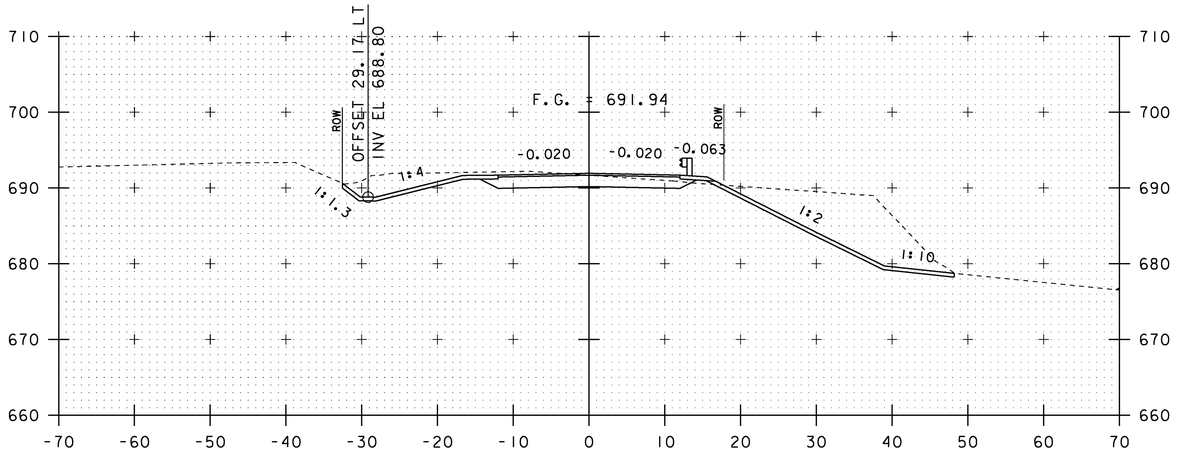
SCALE: 1" = 10'-0"
10 0 10

STA. 16+75 TO STA. 17+50

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

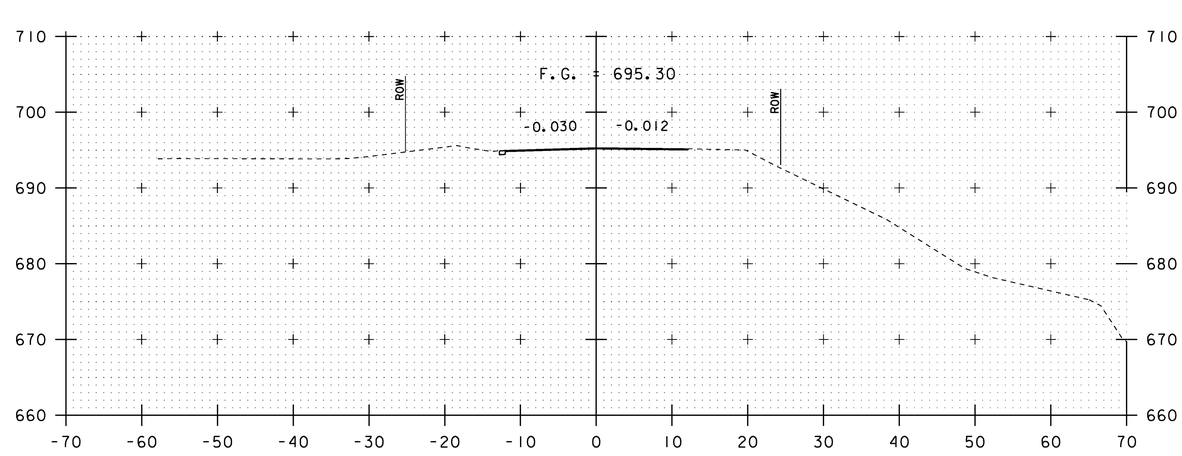
FILE NAME: s85e037xsl.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
MAINLINE CROSS SECTIONS 5

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 47 OF 70



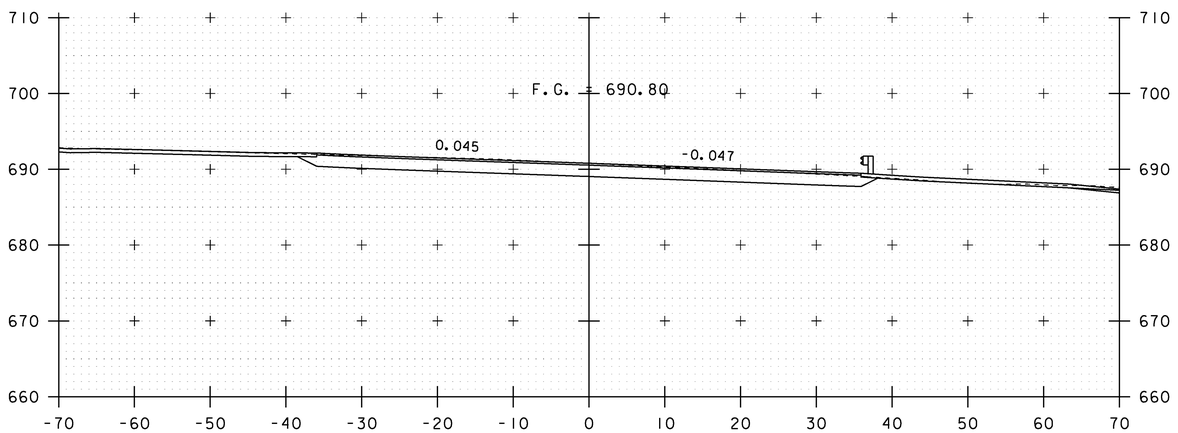
STA 0+45.0 LT - STA 1+50.0 LT
CONSTRUCT GRASS-LINED DITCH

0+50



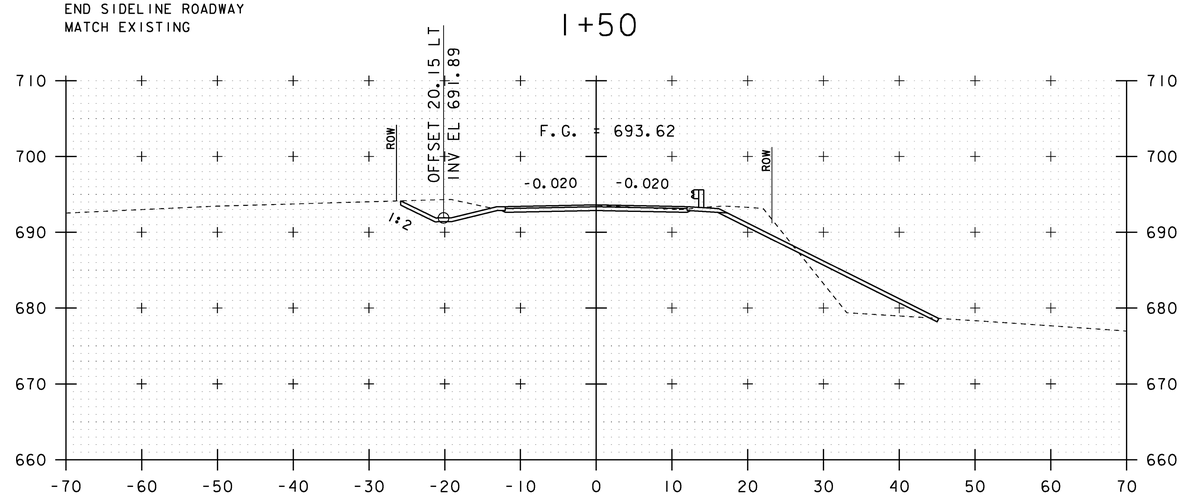
STA 1+50.00
END SIDELINE ROADWAY
MATCH EXISTING

1+50



VT 100 STA 16+30.00 =
TH 52 STA 0+00.00
BEGIN SIDELINE ROADWAY

0+16

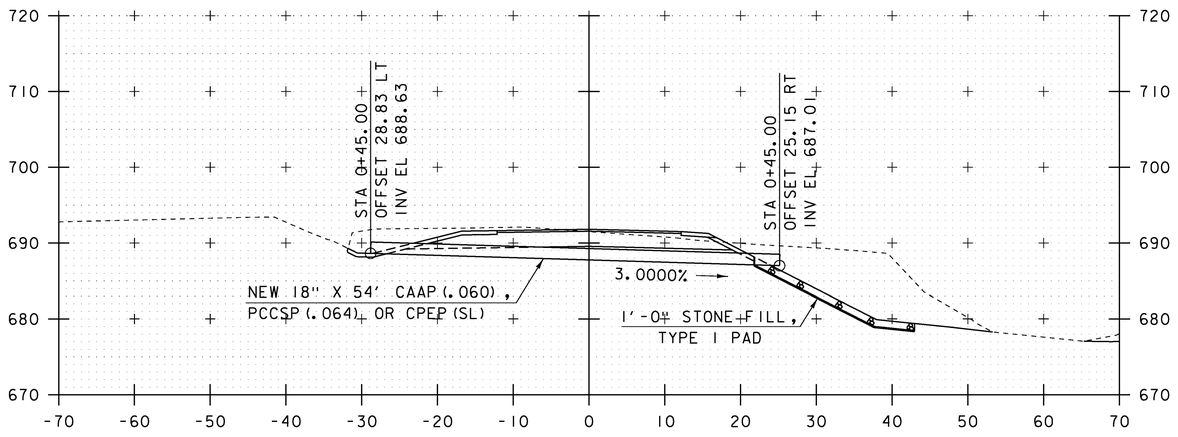


1+00

SCALE: 1" = 10'-0"
10 0 10

STA. 0+16 TO STA. 1+50

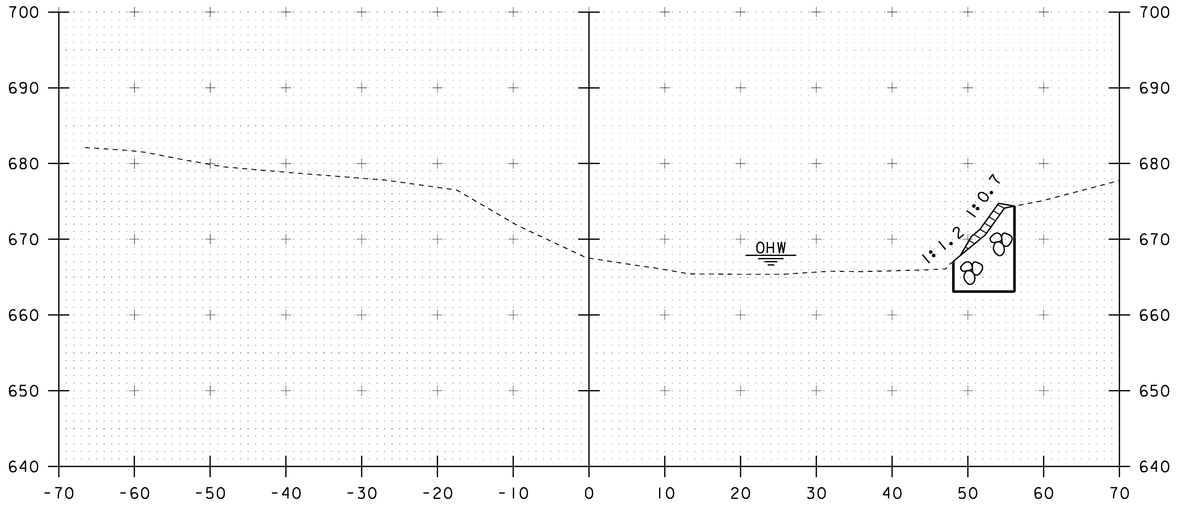
PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037xsl.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
TH 52 CROSS SECTIONS	SHEET 48 OF 70



0+45.0

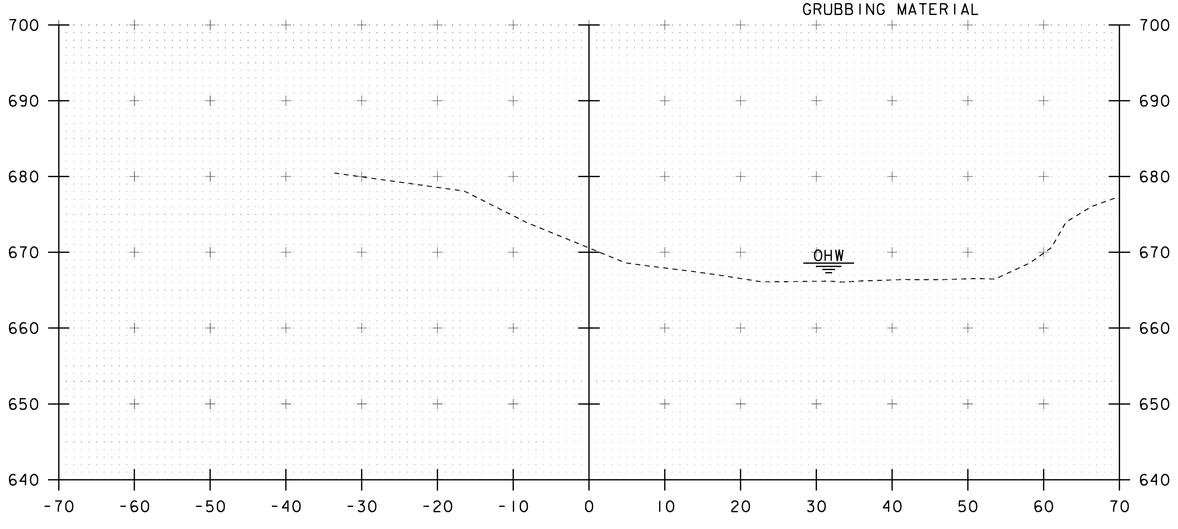
SCALE: 1" = 10'-0"
10 0 10

PROJECT NAME: STOWE	
PROJECT NUMBER: BRF 029-1(17)	
FILE NAME: s85e037xsl.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
PIPE PROFILE	SHEET 49 OF 70

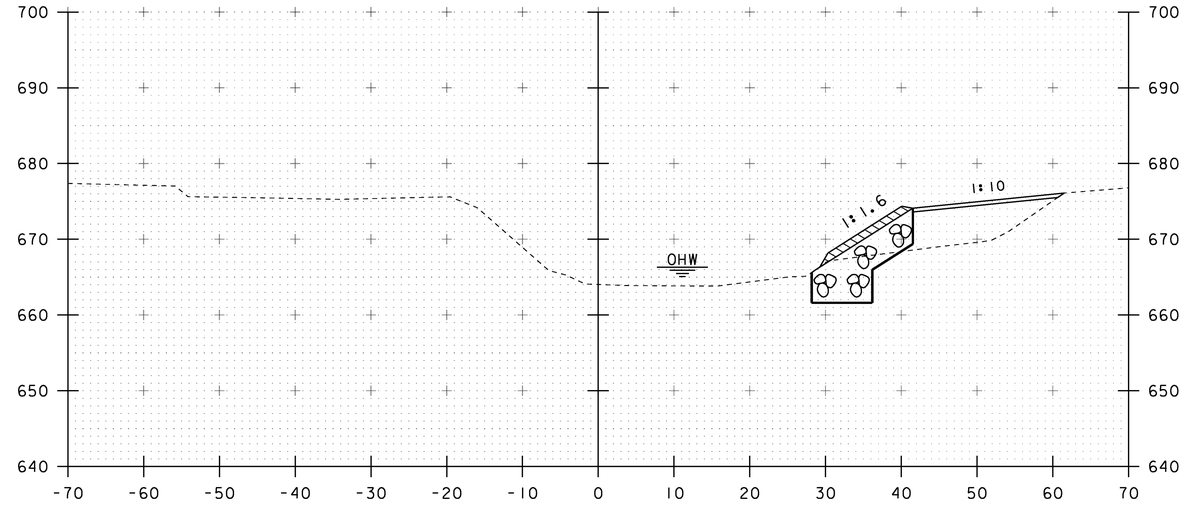


CHANNEL STA 49+18.9 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

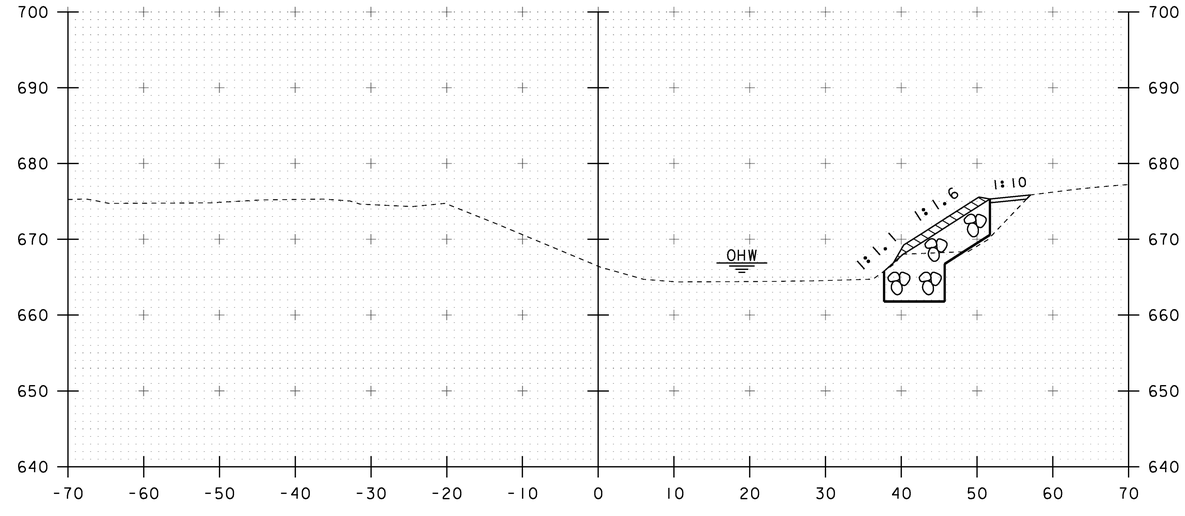
49+25



49+00



49+75

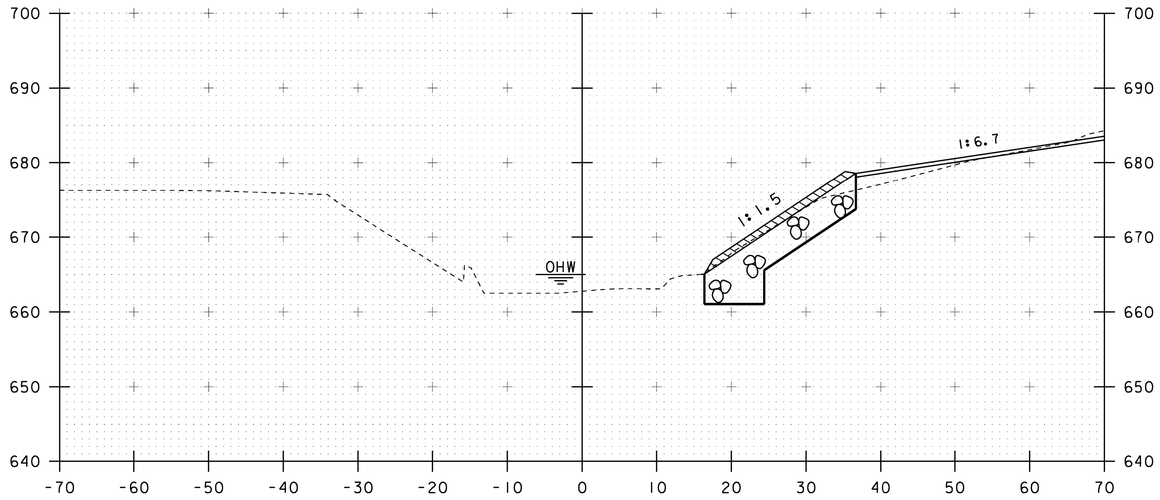


49+50

SCALE: 1" = 10'-0"
10 0 10

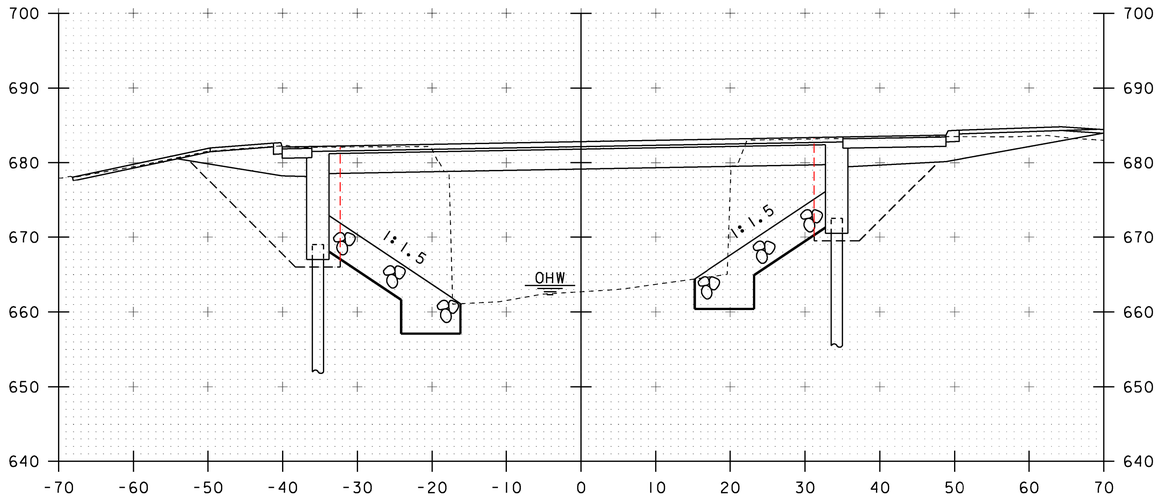
STA. 49+00 TO STA. 49+75

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037xsl.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
CHANNEL CROSS SECTIONS 1	SHEET 50 OF 70



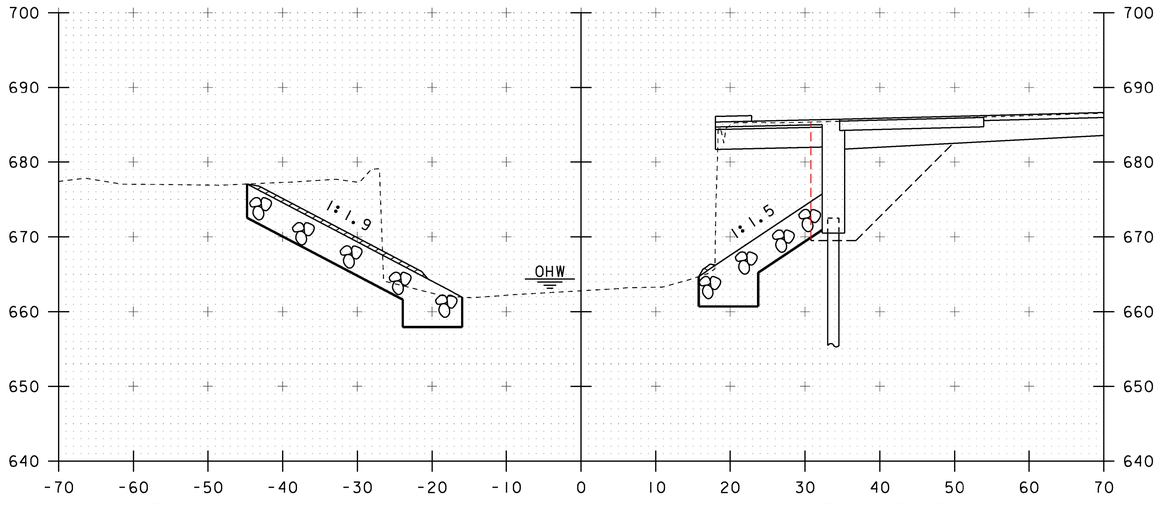
50+25

50+00



CHANNEL STA 50+63.5 LT
BEGIN STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

50+75



CHANNEL STA 50+26.4 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

50+50

CHANNEL STA 50+33.7 RT
BEGIN STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

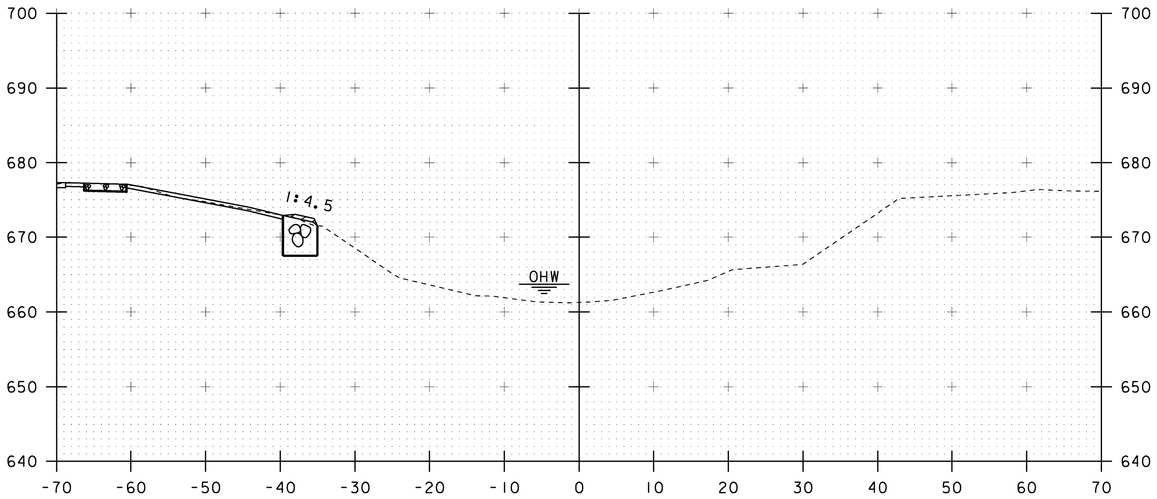
SCALE: 1" = 10'-0"
10 0 10

STA. 50+00 TO STA. 50+75

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037xsl.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
CHANNEL CROSS SECTIONS 2

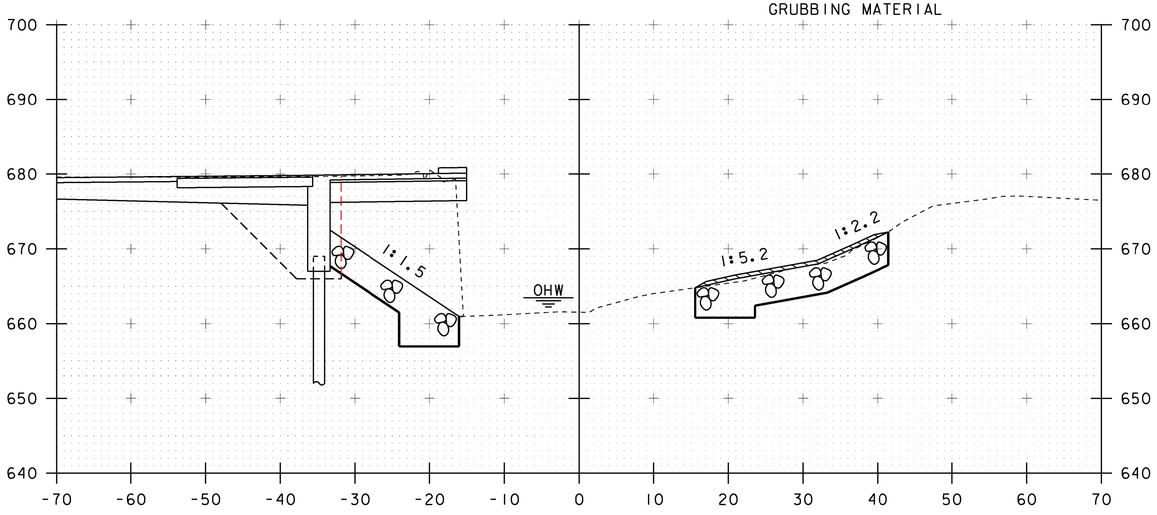
PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 51 OF 70



CHANNEL STA 51+20.6 LT
END STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES

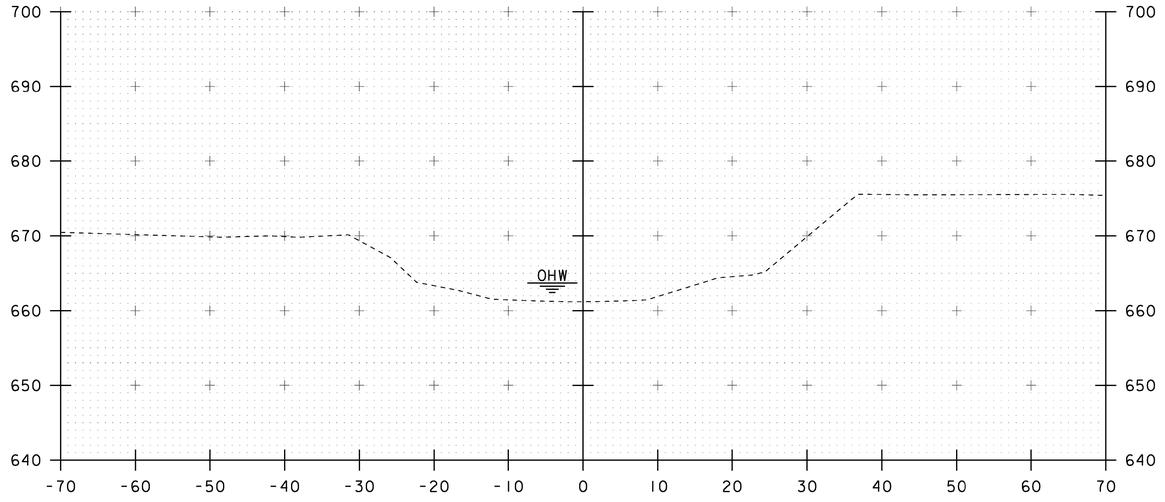
51+25

CHANNEL STA 51+07.9 RT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL



51+00

CHANNEL STA 50+89.5 RT
END STRUCTURE EXCAVATION
GRANULAR BACKFILL FOR STRUCTURES



CHANNEL STA 51+25.9 LT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

51+50

SCALE: 1" = 10'-0"
10 0 10

STA. 51+00 TO STA. 51+50

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037xsl.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
CHANNEL CROSS SECTIONS 3

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 52 OF 70

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT ENTAILS THE CONSTRUCTION OF A NEW BRIDGE WITH RELATED APPROACH WORK TO REPLACE BRIDGE 208 ON VT ROUTE 100 OVER THE GOLD BROOK IN STOWE, LAMOILLE COUNTY, VERMONT. TRAFFIC WILL BE RELOCATED ON A 2-WAY TEMPORARY BRIDGE.

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 1.05 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE PROJECT SITE IS LOCATED WITHIN A RURAL VILLAGE SETTING WITH A HOUSE AND BUILDINGS IN IMMEDIATE PROXIMITY TO THE BRIDGE. THERE ARE OVERHEAD UTILITIES WHICH WILL BE RELOCATED PRIOR TO CONSTRUCTION.

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

THE GOLD BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS PERENNIAL, INCISED, ALLUVIAL, AND SINUOUS, WITH A STREAM BED CONSISTING OF GRAVEL, COBBLES, AND BOULDERS. THE TRIBUTARY AREA IS 9.0 SQUARE MILES. THERE ARE SEVERAL DRAINAGE PIPES ON SITE.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES, BRUSH, AND GRASS. DISTURBED VEGETATION WILL BE RE-ESTABLISHED 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 LAMOILLE, VERMONT.

CROGHAN LOAMY FINE SAND	COLTON-DUXBURY COMPLEX
2-8% SLOPES	2-8% SLOPES
HYDRO SOIL GROUP B	HYDRO SOIL GROUP A
K-FACTOR 0.17	K-FACTOR 0.17/0.32

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: GOLD BROOK IS DESIGNATED A COLD WATER FISHERIES.
ARCHEOLOGICAL AREAS: THE GOLD BROOK CREAMERY BUILDING IS LISTED ON THE STATE REGISTER OF HISTORICAL PLACES (No. 0808-104). CLEARED FOR ARCHEOLOGY 11/13/2008, UVM ARA REPORT.
HISTORICAL PLACES: ADJACENT TO, BUT NOT WITHIN THE PROJECT LIMITS. SEE ARCHEOLOGICAL AREAS ABOVE.
PRIME AGRICULTURAL LAND: ADJACENT TO, BUT NOT WITHIN THE PROJECT LIMITS.
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: GOLD BROOK
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK SITES. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. 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 POLLUTION PREVENTION PRACTICES. 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 APPROVED 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.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC.). THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSIVE EFFECTS.

PROJECT DEMARCATION FENCING AND BARRIER FENCE SHALL BE INSTALLED AS SHOWN ON THE PLANS.

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 MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR'S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED 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. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS.

FILTER CURTAIN WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

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 CONSTRUCTION SITE.

DIVERSIONARY MEASURES ARE NOT ANTICIPATED ON THIS PROJECT.

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.

PIPE INLET PROTECTION SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

CHECK DAMS SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH PERMIT CONDITIONS.

STONE FILL TYPE I SHALL BE PLACED AS SHOWN ON THE PLANS.

UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV, AS SPECIFIED ON THE PLANS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. 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.

WINTER WORK IS NOT ANTICIPATED.

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.

DEWATERING ACTIVITIES ARE NOT ANTICIPATED ON THIS PROJECT.

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 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

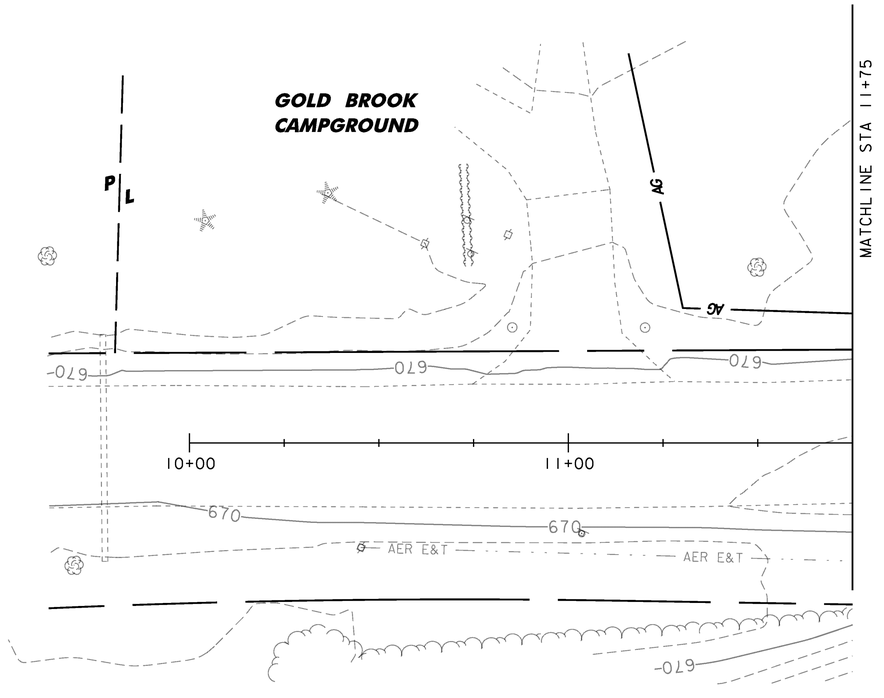
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME:	STOWE		
PROJECT NUMBER:	BRF 029-1(17)		
FILE NAME: s85e037EPSC_narrative.dgn		PLOT DATE:	17-JUN-2013
PROJECT LEADER:	C. CARLSON	DRAWN BY:	R. PELLETT
DESIGNED BY:	H. SALLS	CHECKED BY:	G. ROY
EPSC NARRATIVE		SHEET	53 OF 70

N

VT STATE PLANE GRID

N/F
NICHOLS,
KATHRYN K.



N/F
NICHOLS,
JOHN P.

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

LEGEND

AG	AGRICULTURAL LAND
ARCH	ARCHEOLOGICAL AREA
HISTORIC	HISTORIC AREA
	RIPARIAN BUFFER
AER E&T	EXISTING OVERHEAD UTILITY LINES

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bdr_ero.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
EPSC EXISTING CONDITIONS 1

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 54 OF 70

LEGEND

- AG — AGRICULTURAL LAND
- ARCH — ARCHEOLOGICAL AREA
- HISTORIC — HISTORIC AREA
- RIPARIAN BUFFER
- AER E&T — EXISTING OVERHEAD UTILITY LINES
- SOIL BOUNDRY

VT STATE PLANE GRID

GOLD BROOK CAMPGROUND

MATCHLINE STA 11+75

MATCHLINE STA 17+75

RIPARIAN BUFFER

SOIL BOUNDARY

HACKETT, EDSON B. LIFE ESTATE; HACKETT, WILLIAM B.; HACKETT, PARKER M.; PETERSON, ANNA H.

CROGHAN LOAMY FINE SAND
2-8% SLOPES
HYDRO SOIL GROUP B
K-FACTOR 0.17

COLTON-DUXBURYCOMPLEX
2-8% SLOPES
HYDRO SOIL GROUP A
K-FACTOR 0.17/0.32

HISTORIC

AG

ARCH

AER E&T

P L

12+00 13+00 14+00 15+00 16+00 17+00

51+50 51+00 50+00 49+00

0+00 1+00 1+50

CLEARED FOR ARCH UVM ARA REPORT 11/13/08

UNDERGROUND SERVICE (DEPTH 4')

Cold Water Fisheries

GOLD BROOK FLOW

BOUCHARD, STEWART P. JR. & PRISCILLA Y.

STATE OF VERMONT FORMERLY LONGE, CARLTON

PEARSON, KURT A. & JENNIFER D.

TOWN OF STOWE

SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bdr_ero.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
EPSC EXISTING CONDITIONS 2

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 55 OF 70

SOIL BOUNDARY

HACKETT,
EDSON B. LIFE ESTATE;
HACKETT, WILLIAM B.;
HACKETT, PARKER M.;
PETERSON, ANNA H.

HISTORIC

AER E&T

ARCH

AG

P L

N

VT STATE PLANE GRID

N/F
PIKE, LESLIE C.
& CLAIRE J.
REVOCABLE TRUST

18+00 19+00 20+00 20+70

MATCHLINE STA 17+75

PEARSON,
KURT A. &
JENNIFER D.

N/F
PIKE, LESLIE C.
& CLAIRE J.
REVOCABLE TRUST

LEGEND

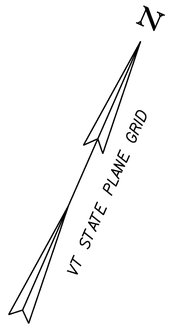
AG	AGRICULTURAL LAND
ARCH	ARCHEOLOGICAL AREA
HISTORIC	HISTORIC AREA
	RIPARIAN BUFFER
AER E&T	EXISTING OVERHEAD UTILITY LINES

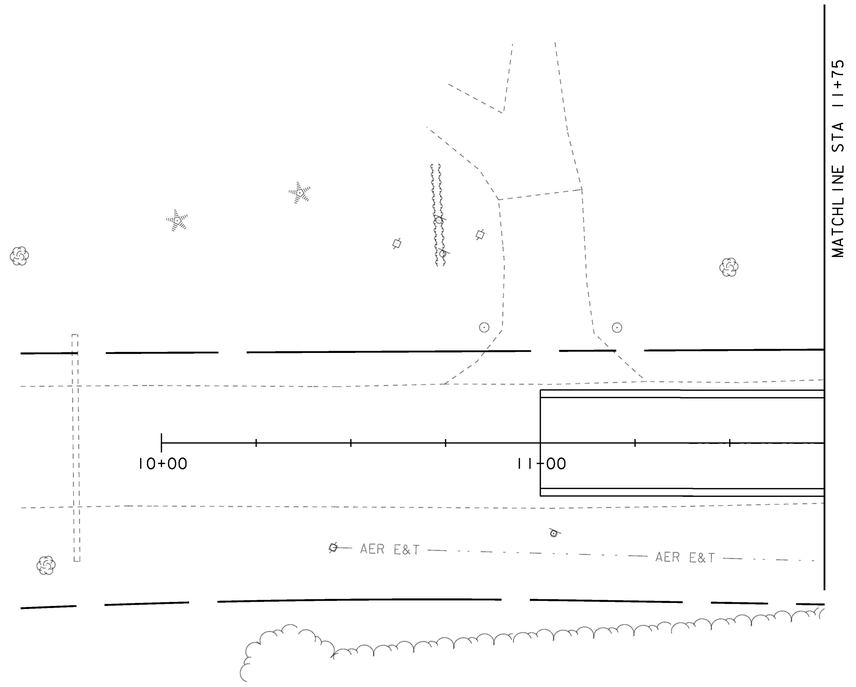
SCALE: 1" = 20'-0"
20 0 20

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bdr_ero.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
EPSC EXISTING CONDITIONS 3

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 56 OF 70





LEGEND

— AER E&T — · · -	AERIAL ELECTRIC & TELEPHONE
	SILT FENCE
PDF——PDF—	PROJECT DEMARCATION FENCE
	LIMITS OF SOIL DISTURBANCE

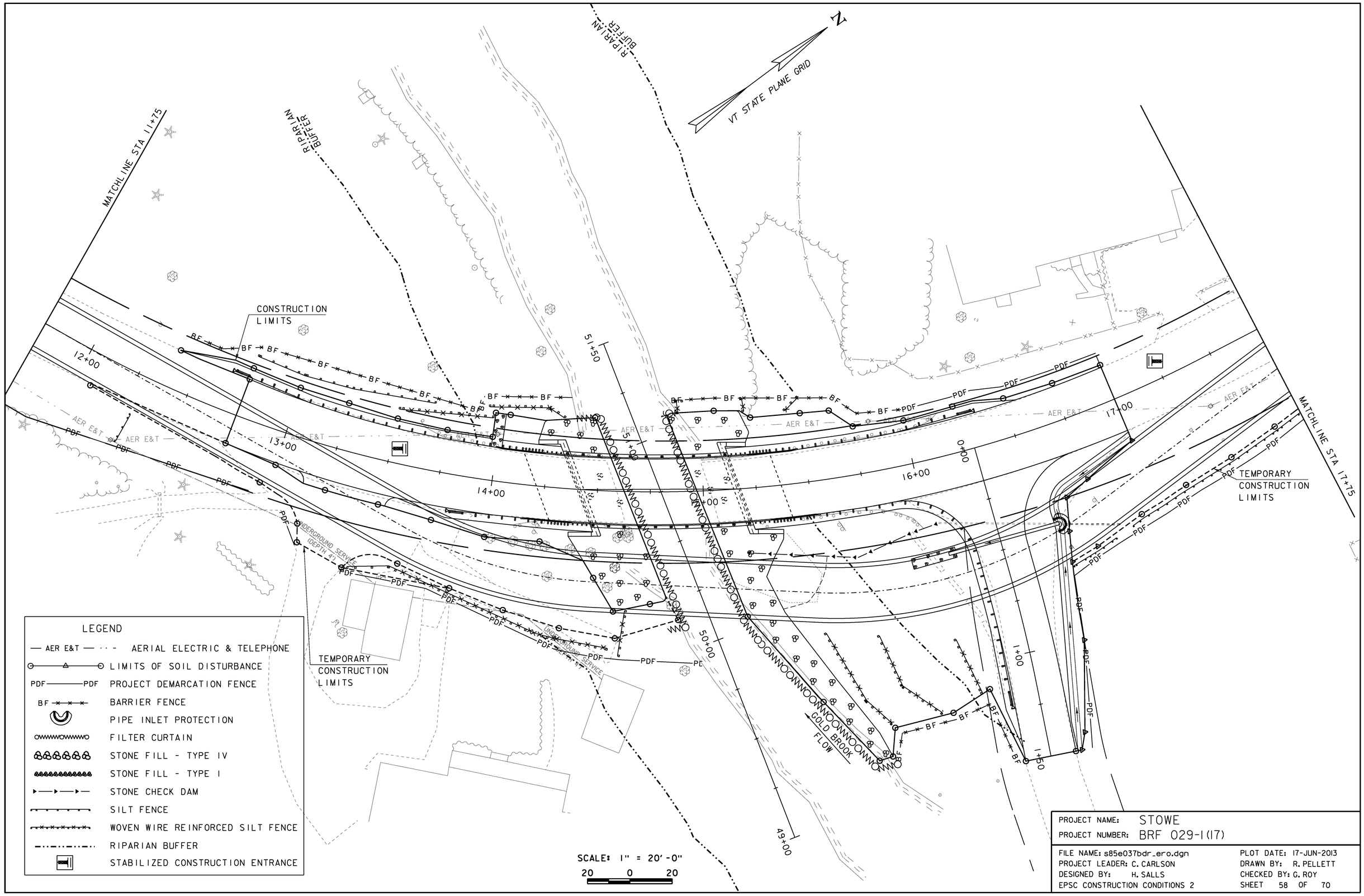
SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bdr_ero.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
EPSC CONSTRUCTION CONDITIONS 1

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 57 OF 70



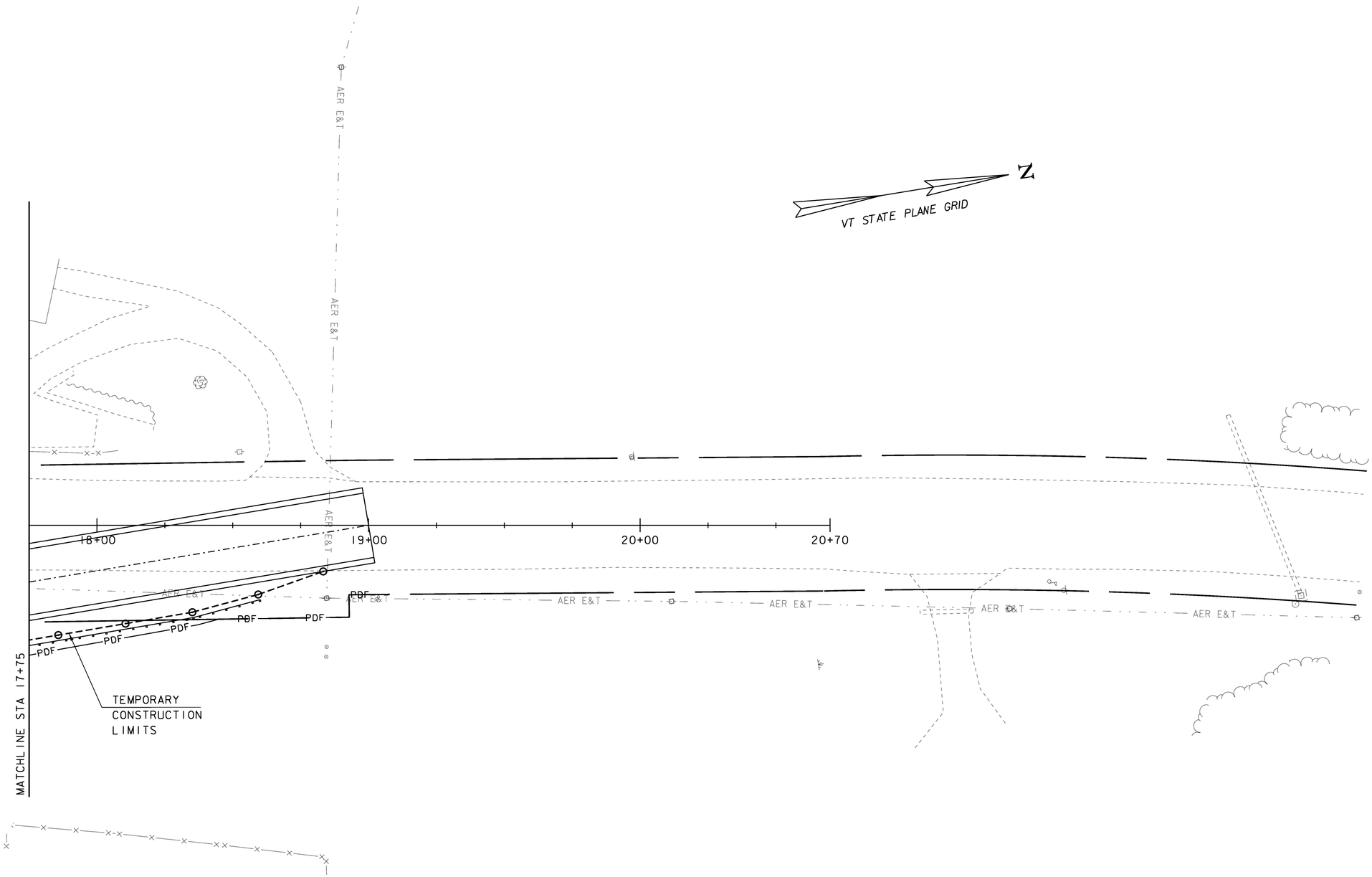
LEGEND

AER E&T	AERIAL ELECTRIC & TELEPHONE
	LIMITS OF SOIL DISTURBANCE
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
	PIPE INLET PROTECTION
	FILTER CURTAIN
	STONE FILL - TYPE IV
	STONE FILL - TYPE I
	STONE CHECK DAM
	SILT FENCE
	WOVEN WIRE REINFORCED SILT FENCE
	RIPARIAN BUFFER
	STABILIZED CONSTRUCTION ENTRANCE

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bdr_ero.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
EPSC CONSTRUCTION CONDITIONS 2

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 58 OF 70



LEGEND

— AER E&T — · · -	AERIAL ELECTRIC & TELEPHONE
	SILT FENCE
PDF——PDF——	PROJECT DEMARCATION FENCE
	LIMITS OF SOIL DISTURBANCE

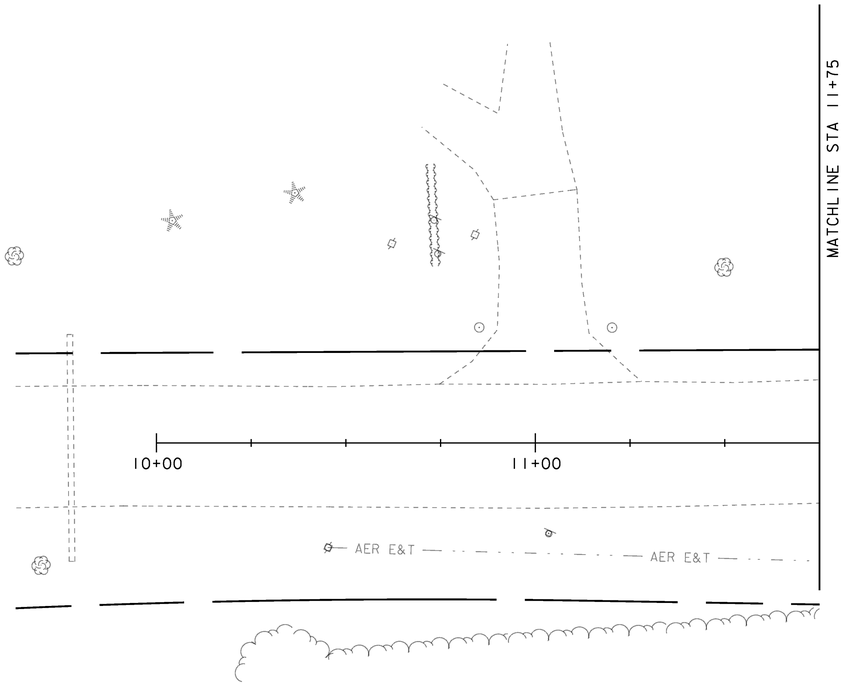
SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037bdr_ero.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
EPSC CONSTRUCTION CONDITIONS 3	SHEET 59 OF 70

N

VT STATE PLANE GRID



SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)

FILE NAME: s85e037bdr_ero.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
EPSC FINAL CONDITIONS 1	SHEET 60 OF 70

MATCHLINE STA 11+75

RIPARIAN BUFFER

RIPARIAN BUFFER

N

VT STATE PLANE GRID

CONSTRUCTION LIMITS

12+00

13+00

14+00

15+00

16+00

17+00

51+50

51+00

50+00

49+00

0+00

1+00

1+50

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

AER E&T

UNDERGROUND SERVICE DEPTH 4'

UNDERGROUND SERVICE DEPTH 4'

TEMPORARY CONSTRUCTION LIMITS

TEMPORARY CONSTRUCTION LIMITS

COLD BROOK FLOW

MATCHLINE STA 17+75

LEGEND

- TEMPORARY EROSION MATTING
- SEED AND MULCH
- RIPARIAN BUFFER
- STONE FILL - TYPE IV
- STONE FILL - TYPE I

SCALE: 1" = 20'-0"

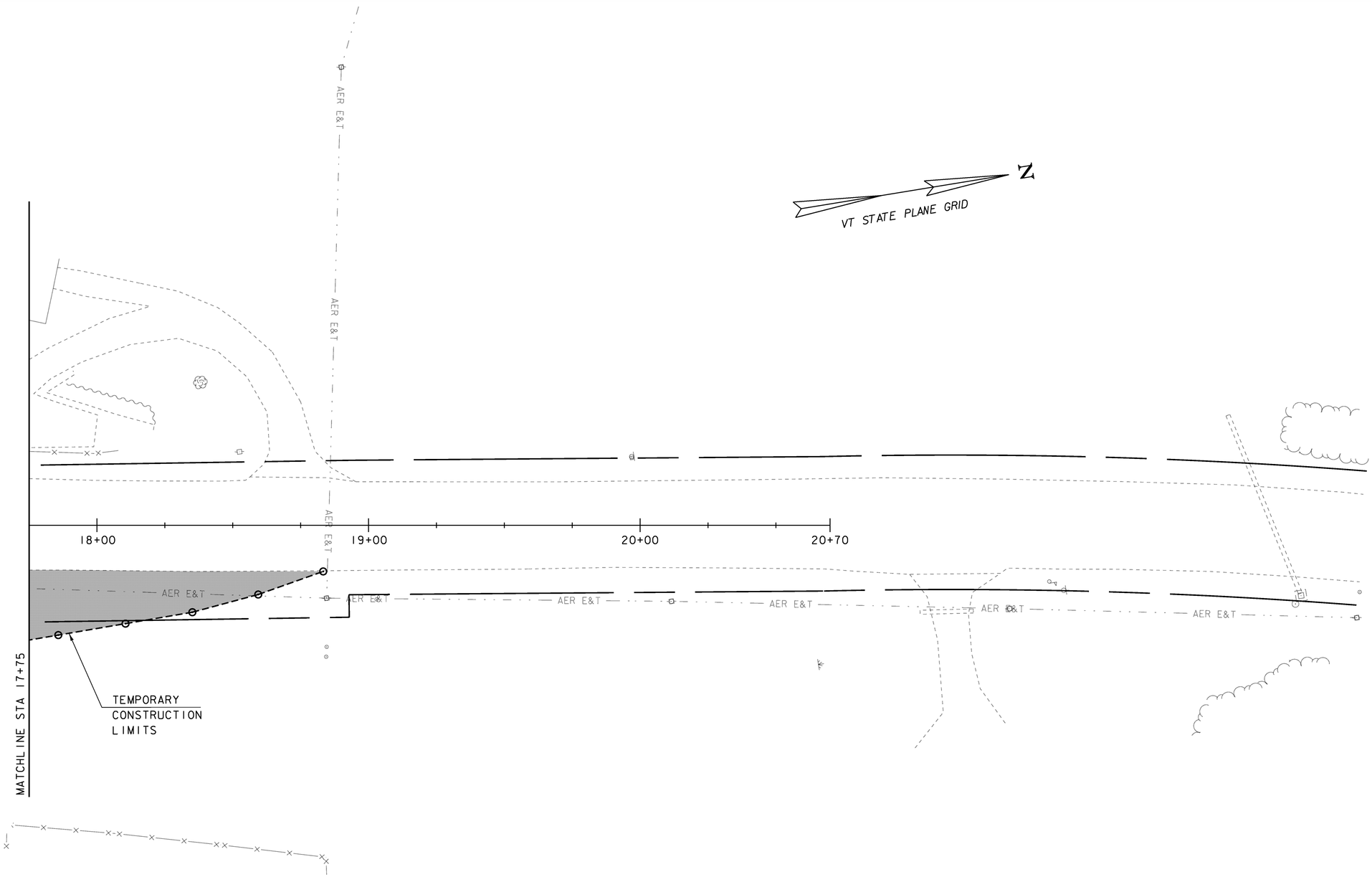
20 0 20

PROJECT NAME: STOWE

PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037bdr_ero.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
EPSC FINAL CONDITIONS 2

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: G. ROY
SHEET 61 OF 70



LEGEND

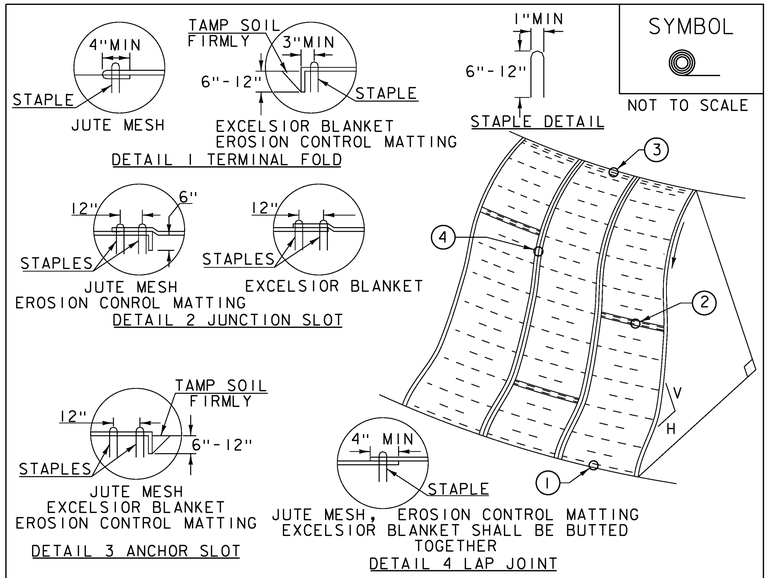
TEMPORARY EROSION MATTING

SEED AND MULCH

SCALE: 1" = 20'-0"

20 0 20

PROJECT NAME:	STOWE
PROJECT NUMBER:	BRF 029-1(17)
FILE NAME: s85e037bdr_ero.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. CARLSON	DRAWN BY: R. PELLETT
DESIGNED BY: H. SALLS	CHECKED BY: G. ROY
EPSC FINAL CONDITIONS 3	SHEET 62 OF 70



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

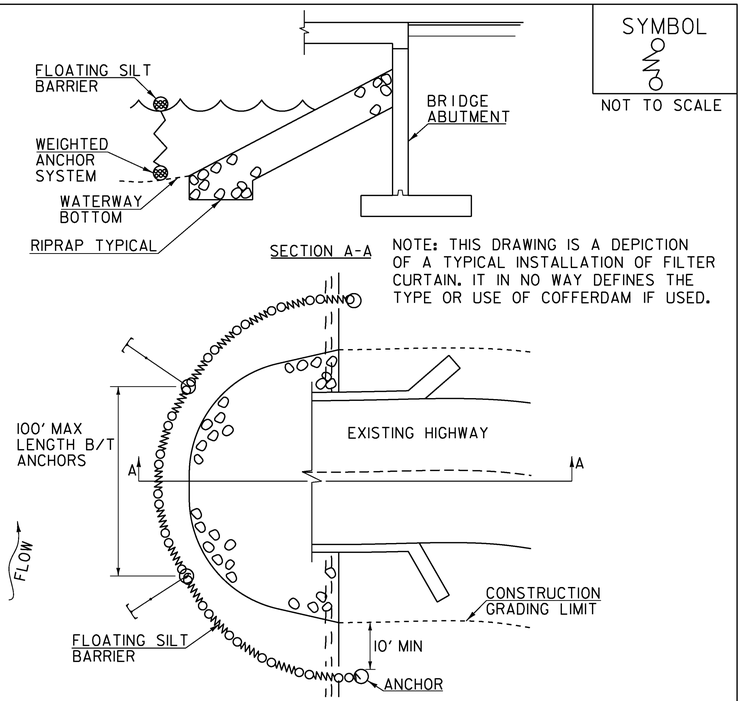
1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 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

NOT TO SCALE

NOTE: THIS DRAWING IS A DEPICTION OF A TYPICAL INSTALLATION OF FILTER CURTAIN. IT IN NO WAY DEFINES THE TYPE OR USE OF COFFERDAM IF USED.

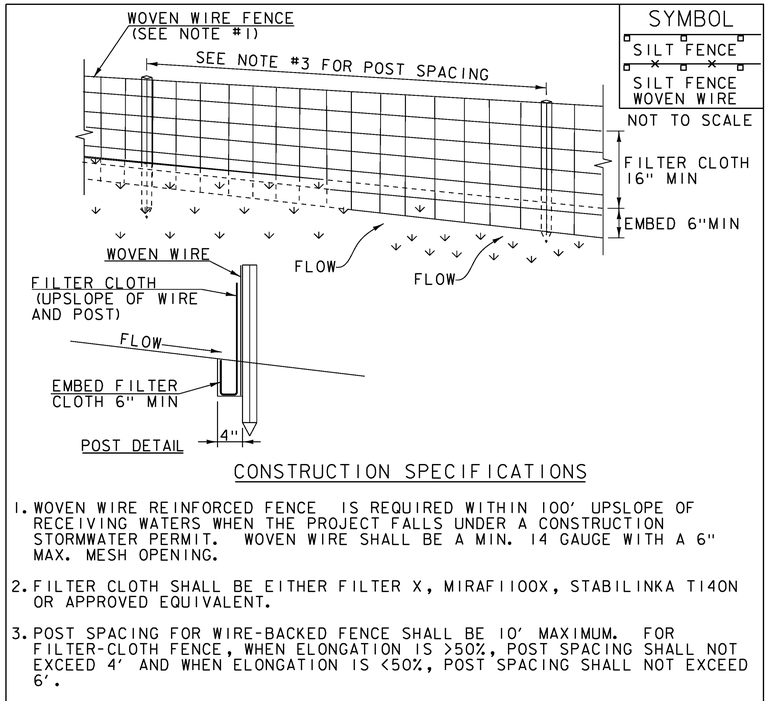
CONSTRUCTION SPECIFICATIONS

1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 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 649.51) 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

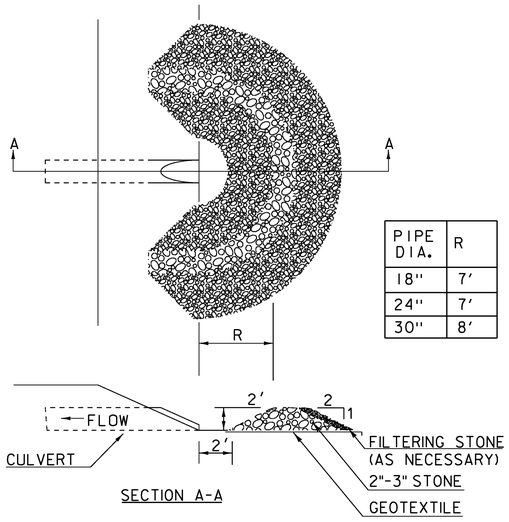
PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037erodetails.dgn
PROJECT LEADER: C.CARLSON
DESIGNED BY: H. SALLS
EPSC DETAILS 1

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: EVANS-MONGEON
SHEET 63 OF 70

SYMBOL

NOT TO SCALE



SECTION A-A

PIPE DIA.	R
18"	7'
24"	7'
30"	8'

CONSTRUCTION SPECIFICATIONS

1. USE 2" TO 3" STONE. FILTERING STONE SHALL BE 3/4".
2. PLACE STONE OVER GEOTEXTILE.
3. ONCE THE AREAS UPSTREAM FROM THE CHECK DAM ARE STABILIZED WITH VEGETATION, THE SEDIMENT TRAPPED BEHIND THE DAM SHALL BE DISPOSED OF IN AN APPROVED WASTE AREA.
4. THE CHECK DAM(S) SHALL BE FLATTENED AND GRADED IN A MANNER WHICH PROTECTS THE AREA FROM EROSION AND CHANNEL BLOCKAGE . (GEOTEXTILE MUST BE REMOVED).
5. THE GEOTEXTILE MUST BE DISPOSED OF APPROPRIATELY.
6. THE AREA CONTRIBUTING TO THE CHECK DAM SHALL NOT EXCEED 4 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS

PIPE INLET PROTECTION

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

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	BIRDSFOOT TREFOIL	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

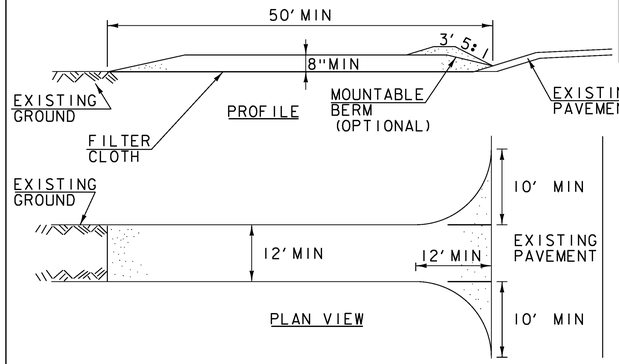
PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037erodetails.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
EPSC DETAILS 2

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: EVANS-MONGEON
SHEET 64 OF 70

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

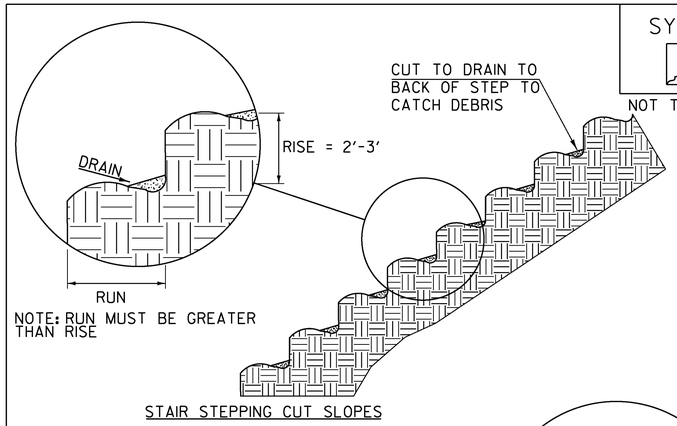
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

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

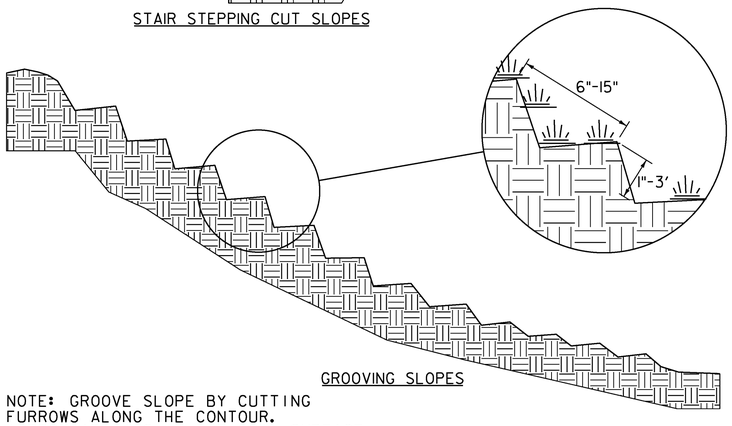
REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

SYMBOL

NOT TO SCALE



STAIR STEPPING CUT SLOPES



GROOVING SLOPES

NOTE: GROOVE SLOPE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

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

SURFACE ROUGHENING

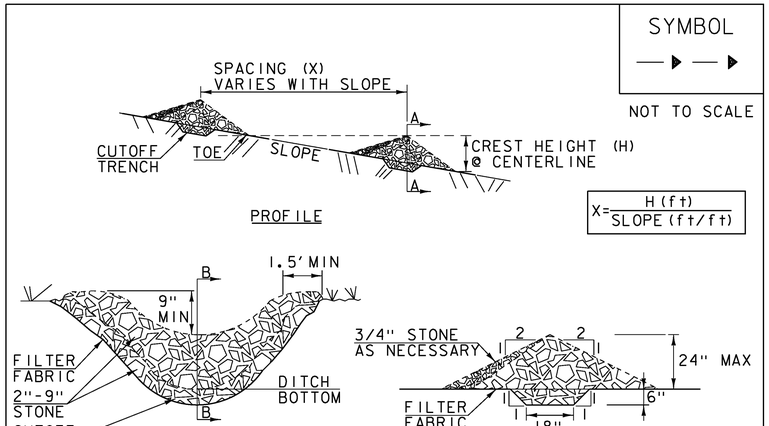
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

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

CHECK DAM

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 TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: s85e037erodetails.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
EPSC DETAILS 3

PLOT DATE: 17-JUN-2013
DRAWN BY: R. PELLETT
CHECKED BY: EVANS-MONGEON
SHEET 65 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1	LONGE, CARLTON	5	14+81.42 RT	16+40.03 RT	0.12 A		ALL R. T. & I.			WD	04/19/12	STOWE	827	321-322	VT RTE 100 HWY EASE.; 5,300 SF±
			14+87 RT	16+16 RT			DETOUR	(T)	0.23 A						INCL. BF & EC; 10,200 SF±
			15+09 RT	15+68 RT			CHANNEL	(P)	1,500 SF						
			15+56 RT	16+16 RT			CONST	(T)	0.14 A						TO REMOVE OLD BUILDING; 6,100 SF±
			15+69 RT	16+12 RT			ALL R. T. & I.								BUILDING TO BE REMOVED
			15+88 RT	16+16 RT			UTILITY	(P)	470 SF						
			15+91 RT				INSTALL & MAINT	(P)							GUY WIRE & ANCHOR
2A	GOLD BROOK CAMPGROUND	4, 5	13+75.00 LT	14+68.83 LT	1,290 SF					WDIF	05/17/13	STOWE	860	46-47	
			12+39 LT	14+00 LT			CONST	(T)	1,110 SF						INCL. BF & EC
			13+10 LT	14+59 LT			UTILITY	(P)	1,870 SF						
2B		5	12+75.00 LT	14+81.42 RT	0.11 A		ALL R. T. & I.								VT RTE 100 HWY EASE.; 4,840 SF±
3A	HACKETT, EDSON B. LIFE ESTATE;	5, 6	14+58.87 LT	16+00.00 LT	1,990 SF					WDIF	03/07/13	STOWE	854	273-278	
	HACKETT, WILLIAM B.;		14+50 LT	15+86 LT			UTILITY	(P)	2,520 SF						
	HACKETT, PARKER M.;		15+39 LT				INSTALL & MAINT	(P)							GUY WIRE & ANCHOR
	PETERSON, ANNA H.		15+50 LT	15+73 LT			CONST	(T)	30 SF						INCL. BF
			15+73 LT				INSTALL & MAINT	(P)							GUY WIRE & ANCHOR
			15+88 LT	17+00 LT			INSTALL	(T)	270 SF						PDF
			18+14 LT				INSTALL	(T)							TEMP SERVICE POLE
3B		5, 6	14+68.83 LT	18+94.18 LT	0.24 A		ALL R. T. & I.								VT RTE 100 HWY EASE.; 10,330 SF±
4	BOUCHARD, STEWART P. JR &	5	13+06 RT	15+19 RT			DETOUR	(T)	0.16 A			STOWE			INCL. PDF, EC, REMOVING TREES;
	PRISCILLA Y.														6,950 SF±
			13+35 RT				DRIVE	(T)							40' WIDE PAVED, MM 0148
			14+45 RT	14+82 RT			CHANNEL	(P)	620 SF						INCL. REMOVE WINGWALL

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	2, 5	PARCEL 1, LONGE - ADD CONST (T) AROUND CREAMERY	02/23/12
		BUILDING ON LAYOUT AND DETAIL SHEET.	
		COMPLETED BY: MT C.O. #9764 APPROVED BY: HP	
2	2, 5	PARCEL 4, BOUCHARD - REMOVE ALL R. T. & I. IN EXISTING	12/21/12
		R.O.W.	
		COMPLETED BY: MT C.O. #9786 APPROVED BY: HP	
3	3, 5, 6	PARCEL 5, PEARSON - REMOVE ALL R. T. & I. IN EXISTING	12/21/12
		R.O.W.	
		COMPLETED BY: MT C.O. #9787 APPROVED BY: HP	
4	2, 5, 6	PARCEL 5, PEARSON - ACQUISITION OF EXISTING HIGHWAY	03/28/13
		EASEMENT.	
		COMPLETED BY: MT C.O. #9795 APPROVED BY: HP	
5	5	PARCEL 6, TOWN OF STOWE - REVISED DESIGN OF GOLD	03/28/13
		BROOK ROAD. NO CHANGES TO RIGHTS NEEDED.	
		COMPLETED BY: MT C.O. #9796 APPROVED BY: HP	

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (P / L)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST.(T))
- PROJECT DEMARCATION FENCE (PDF)

PDF	-PROJECT DEMARCATION FENCE
EC	-EROSION CONTROL
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: HARRY PETROVS DATE: 02-21-12
CHIEF, PLANS & TITLES

PROJECT NAME: **STOWE**
PROJECT NUMBER: **BRF 029-1 (17)**

FILE NAME: **r85e037_detail.xls** PLOT DATE: 17-JUN-2013
PROJECT LEADER: **C. WILLIAMS** DRAWN BY: **M. TROTTIER**
DESIGNED BY: **E. CHARBONNEAU** CHECKED BY: **E. PIERCE**
R.O.W. DETAIL SHEET 1 OF 2 SHEET 66 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
5	PEARSON, KURT A. & JENNIFER D.	5, 6	16+56 RT	18+45 RT			DETOUR	(T)	3,200 SF			STOWE			INCL. PDF, EC, INSTALL TEMP PIPE,
															REMOVAL OF PAVEMENT.
			16+61 RT	18+84 RT			UTILITY	(P)	1,300 SF						
			16+39.77 RT	18+93.48 RT	0.20 A		ALL R. T. & I.								VT RTE 100 HWY EASE.; 8,530 SF±
6	TOWN OF STOWE	5	16+15.98 RT	16+63.80 RT	1,610 SF		ALL R. T. & I.					STOWE			VT RTE 100 HWY EASE.
			16+11 RT	16+64 RT			DETOUR	(T)	2,170 SF						
			TH52 0+35.09 CL	TH52 1+50 CL			APPROACH	(T)							TH52 GOLD BROOK ROAD
			TH52 1+08 LT	TH52 1+23 LT			INSTALL	(T)							STUB BRACE, GUY WIRE & ANCHOR
7	TELEPHONE OPERATING COMPANY OF VERMONT LLC	5, 6	11+87.60 LT	18+94.18 LT			ALL R. T. & I.								UTILITY EASEMENTS
8	TOWN OF STOWE ELECTRIC DEPARTMENT	5, 6	11+87.60 LT	18+94.18 LT			ALL R. T. & I.								UTILITY EASEMENTS
9	STOWE CABLEVISION, INC.	5, 6	11+87.60 LT	18+94.18 LT			ALL R. T. & I.								UTILITY EASEMENTS
	MAINTENANCE AGREEMENT	5	TH52 0+16.00 CL	TH52 0+35.09 CL											TH52 GOLD BROOK RD., LENGTH 19.09'

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (P L)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST.(T))
- PROJECT DEMARCATION FENCE (PDF — PDF)

EC	-EROSION CONTROL
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: HARRY PETROVS DATE: 02-21-12
CHIEF, PLANS & TITLES

PROJECT NAME: **STOWE**
PROJECT NUMBER: **BRF 029-1 (17)**

FILE NAME: **r85e037_detail.xls**
PROJECT LEADER: **C. WILLIAMS**
DESIGNED BY: **E. CHARBONNEAU**
R.O.W. DETAIL SHEET 2 OF 2

PLOT DATE: 17-JUN-2013
DRAWN BY: **M. TROTTIER**
CHECKED BY: **E. PIERCE**
SHEET 67 OF 70

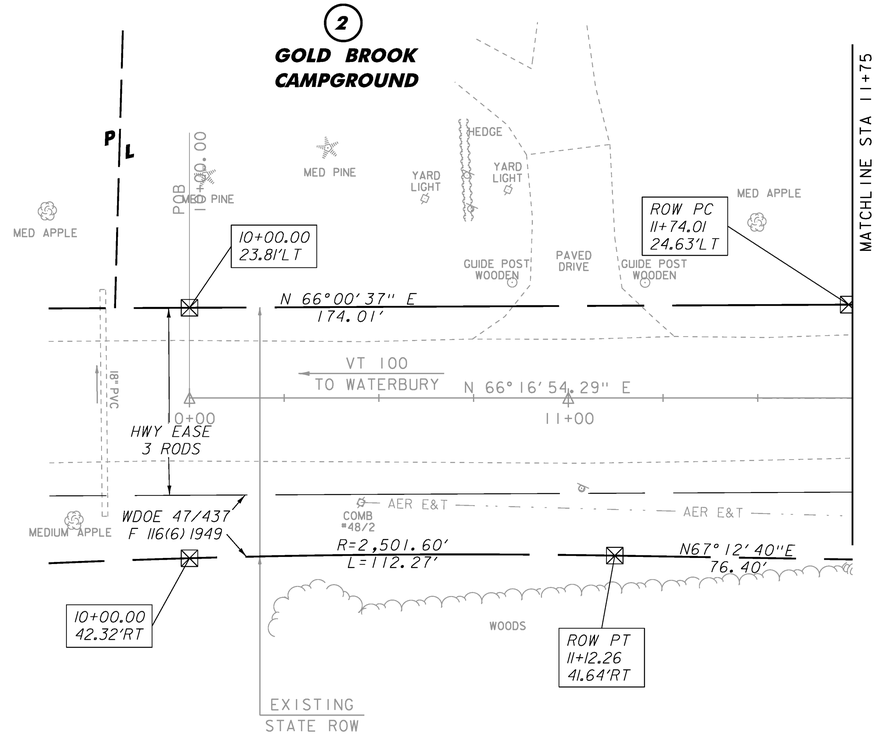
N

VT STATE PLANE GRID

N/F
NICHOLS,
KATHRYN K.

2

GOLD BROOK CAMPGROUND



N/F
NICHOLS,
JOHN P.

☒ CALCULATED R.O.W. POINT

LEGEND

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.

FOR R.O.W. USE ONLY

SCALE 1" = 20'-0

20 0 20

PROJECT NAME: STOWE	
PROJECT NUMBER: BRF 029-1(17)	
FILE NAME: r85e037_layl.dgn	PLOT DATE: 17-JUN-2013
PROJECT LEADER: C. WILLIAMS	DRAWN BY: E. PIERCE
DESIGNED BY: E. CHARBONNEAU	CHECKED BY: E. PIERCE
ROW LAYOUT SHEET 1 OF 3	SHEET 68 OF 70

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 13+60 LT - STA 14+50 LT
STA 14+10 RT - STA 14+60 RT
STA 15+00 LT - STA 16+20 LT
STA 15+10 RT - STA 15+98 RT

CONSTRUCT 5' PAVED APRON
STA 13+10.0 RT - STA 13+58.0 RT

CONSTRUCT GRASS-LINED DITCH
STA 16+54.6 RT - STA 17+00.0 RT
STA 0+45.0 LT - STA 1+50.0 LT

BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM
STA 14+33.0 LT - STA 15+12.8 LT
STA 14+47.3 RT - STA 15+22.0 RT

CAST-IN-PLACE CONCRETE CURB, TYPE B
STA 13+99.8 LT - STA 14+33.3 LT
STA 14+15.4 RT - STA 14+47.0 RT
STA 15+13.0 LT - STA 15+46.6 LT
STA 15+21.9 RT - STA 15+53.5 RT

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 13+06.6 LT - STA 14+03.1 LT
STA 15+42.8 LT - STA 15+94.2 LT
VT 100 STA 15+50.3 RT - TH 52 STA 0+84.7 RT

MANUFACTURED TERMINAL SECTION, TANGENT
STA 12+65.9 LT - STA 13+06.6 LT
STA 13+80.8 RT - STA 14+19.0 RT
STA 15+94.2 LT - STA 16+34.8 LT
STA 0+84.7 RT - STA 1+24.6 RT

GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM
STA 14+03.1 LT - STA 14+33.0 LT
STA 14+19.0 RT - STA 14+47.3 RT
STA 15+12.8 LT - STA 15+42.8 LT
STA 15+22.0 RT - STA 15+50.3 RT

BEGIN ROW PROJECT
12+75.00 25.92'LT
VT 100 STA 14+80.00=
CHANNEL STA 50+75.00
△ = 110°53'51" LT
FROM TANGENT TO CURVE

VT 100 CURVE DATA
△ = 56°59'32" LT
D = 10°15'00"
R = 558.98'
T = 303.45'
L = 556.02'
E = 77.06'
BANKING = 0.080

VT 100 STA 16+30.00 =
TH 52 STA 0+00.00
△ = 90° RT

MATCHLINE STA 11+75

PC 11+89.05

R=660.66'
L=97.06'

STA 13+75.00
END APPROACH
BEGIN PROJECT

R=660.66'
L=23.23'

CONSTRUCTION LIMITS

ROW PCC
12+99.36
25.78'LT

CONST (T)

R=533.15'
L=72.21'

STA 14+41.09
STOP ROADWAY
BEGIN BRIDGE

14+00.00
40.00'LT

14+58.87
44.45'LT

INSTALL & MAINT(P)

15+50.00
40.00'LT

UTIL(P)

STONE FILL
TYPE IV (TYP)

STA 15+16.87
END BRIDGE
RESUME ROADWAY

CONST(T)

50.17'

16+00.00
22.91'LT

INSTALL & MAINT(P)

STA 16+00.00
END PROJECT
BEGIN APPROACH

12+00 HWY EASE 3 RODS

STONE FILL
TYPE 27.90'
5' X 16'

54.58'

84.27'

24.75'

12+75.00
1.17'LT

R=685.41'
L=24.05'

2B

2A

3A

22.39'

13+00

PL PCC
12+99.10
1.03'LT

13+75.00
25.02'LT

R=533.15'
L=89.72'

14+68.83
24.10'LT

R=557.90'
L=182.30'

14+00

27.76'

R=533.15'
L=125.66'

BEGIN MAINT. AGREE.
TH52 0+16.00 CL

16+16.24
1.98'RT

R=557.90'
L=23.87'

3B

16+40.03
2.18'RT

16+63.80
2.37'RT

R=557.90'
L=93.77'

5

R=533.15'
L=151.02'

INSTALL(T)

R=557.90'
L=23.87'

R=590.90'
L=99.93'

UTIL(P)

16+63.56
35.37'RT

DETOUR(T)

MATCHLINE STA 17+75

ROW PT
17+58.29
35.91'RT

TEMPORARY CONSTRUCTION LIMITS [134.64']

STA 17+00.00
END APPROACH
MATCH EXISTING

11+88.65
42.88'RT

98.09'

N67°12'40"E
76.40'

WDOE 48/64
FII6(7) 1950

N55°09'46"E
98.09'

ROW PC
12+80.14
31.79'RT

STA 12+75.00
BEGIN APPROACH
MATCH EXISTING

R=590.90'
L=218.58'

DETOUR(T)

DRIVE(T)

CENTERLINE DETOUR

N 66°16'54.29" E

14+86.59
33.82'RT

CHANNEL(P)

14+81.42
0.77'RT

15+00

16+15.98
34.98'RT

R=557.90'
L=135.16'

1

R=590.90'
L=137.36'

33.48'

50+00

R=590.90'
L=25.29'

STA 0+62.86

END MAINT. AGREE.
TH52 0+35.09 CL
LENGTH 19.09'

NEW 18" X 54' CAAP (.060)
W/ STONE FILL, TYPE I
5' X 22' PAD @ OUTLET

REMOVE EXISTING PIPE
R=590.90'
L=25.29'

TH 52 0+90.00 BK =
STA 0+89.97 AHD

16+39.77
35.18'RT

INSTALL(T)

PT
STA 1+17.11

HWY EASE 3 RODS

APPROACH (T)

POE
STA 1+50.00

ROW PT
17+56.81
21.82'LT

[137.39']

PL PT
17+57.18
2.92'RT

[136.32']

WDOE 48/92
FII6(7) 1950

VT 100 PI
STA 14+92.51 BK =
STA 14+41.63 AHD

N 74°26'16" W

49+00

CALCULATED R.O.W. POINT

SCALE 1" = 20'-0
20 0 20

3
HACKETT, EDSON B. LIFE ESTATE; HACKETT, WILLIAM B.; HACKETT, PARKER M.; PETERSON, ANNA H.

4
BOUCHARD, STEWART P. JR. & PRISCILLA Y.

1
STATE OF VERMONT
FORMERLY LONGE, CARLTON

5
PEARSON, KURT A. & JENNIFER D.

TH 52 CURVE DATA
△ = 4°20'25.42" RT
D = 8°00'00"
R = 716.20'
T = 27.14'
L = 54.25'
E = 0.51'

6
TOWN OF STOWE

TOWN OF STOWE

2
GOLD BROOK CAMPGROUND

VT STATE PLANE GRID

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: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: r85e037_lay2.dgn
PROJECT LEADER: C. WILLIAMS
DESIGNED BY: E. CHARBONNEAU
ROW LAYOUT SHEET 2 OF 3

PLOT DATE: 17-JUN-2013
DRAWN BY: E. PIERCE
CHECKED BY: E. PIERCE
SHEET 69 OF 70

N

VT STATE PLANE GRID

END ROW PROJECT
18+94.18 23.95'LT

3
HACKETT,
EDSON B. LIFE ESTATE;
HACKETT, WILLIAM B.;
HACKETT, PARKER M.;
PETERSON, ANNA H.

N/F
PIKE, LESLIE C.
& CLAIRE J.
REVOCABLE TRUST

COMB #33/10/3-4
AER E&T
P L
LARGE BUTTERNUT
INSTALL(T)
GRAVEL DRIVE
STONE WALL
SERVICE POLE (TEMP)
POLE, YARD LIGHT
WOODEN FENCE
[137.39']
GRAVEL DRIVE
AER E&T TEMP SERVICE
ROW PC 20+66.95 25.29'LT
POE 20+69.99
EXISTING STATE ROW
N 08°50'36" E
HVCTRL 172.78'
WOODS
18" RCP
24.77'
N 09°17'22.27" E
P L
18+00 [136.32']
C/L DETOUR
19+00
18+93.48 0.81'RT
20+00
VT 100
TO STOWE VILLAGE
20+70
5
PROPOSED AER E&T
[134.64']
PDF
DETOUR(T)
15'
UTIL(P)
COMB #46/7
PDF
GUY WIRE
EXISTING AER E&T
ROUND CONCRETE BROKEN
18+92.79 25.57'RT
8.28'
18+92.92 33.85'RT
GUY WIRES
N 08°50'36" E
174.55'
COMB #8/68/39
AER E&T
ROW PC 20+67.33 24.21'RT
GRAVEL DRIVE
18" CGMP
MAILBOX
AER E&T
COMB #9/65/38
DI 2x2
GUIDE POST
GUY WIRE
COMB #46/10/37
WOODS
MATCHLINE STA 17+75
TEMPORARY CONSTRUCTION LIMITS
P L

5
PEARSON,
KURT A. &
JENNIFER D.

N/F
PIKE, LESLIE C.
& CLAIRE J.
REVOCABLE TRUST

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.

FOR R.O.W. USE ONLY

☒ CALCULATED R.O.W. POINT

SCALE 1" = 20'-0
20 0 20

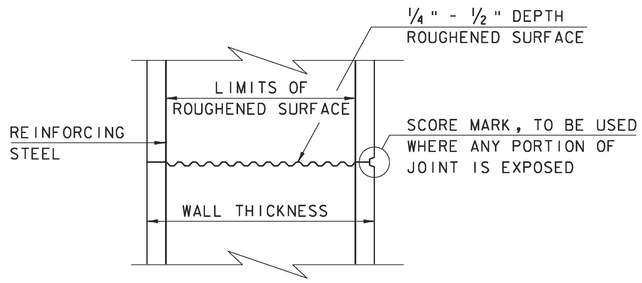
PROJECT NAME: STOWE
PROJECT NUMBER: BRF 029-1(17)

FILE NAME: r85e037_lay3.dgn
PROJECT LEADER: C. WILLIAMS
DESIGNED BY: E. CHARBONNEAU
ROW LAYOUT SHEET 3 OF 3

PLOT DATE: 17-JUN-2013
DRAWN BY: E. PIERCE
CHECKED BY: E. PIERCE
SHEET 70 OF 70

CONCRETE GENERAL NOTES

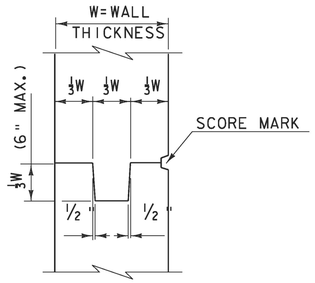
1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"



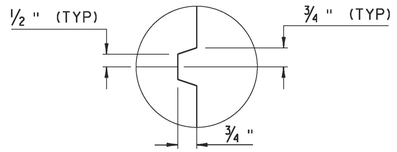
TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.

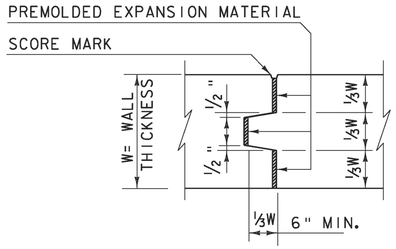
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



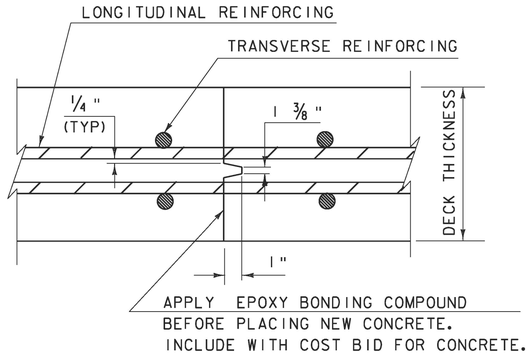
TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



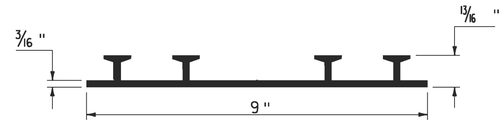
SCORE MARK DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)



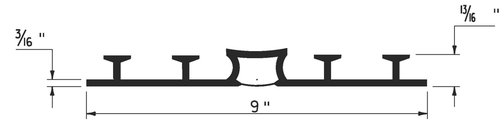
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



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.

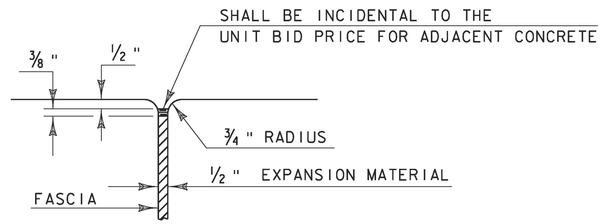
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



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.



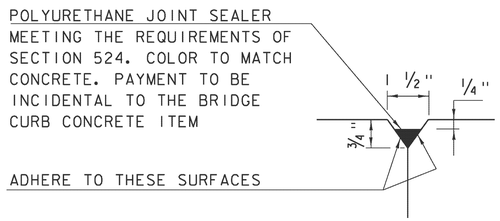
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION

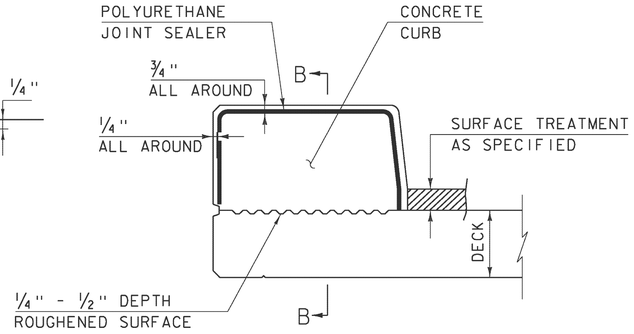
CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

STRUCTURES DETAIL SD-501.00

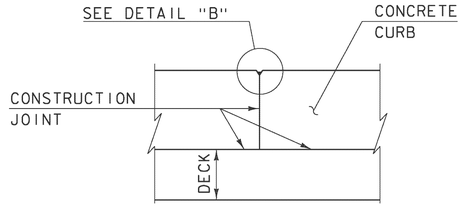


DETAIL "B"
(NOT TO SCALE)

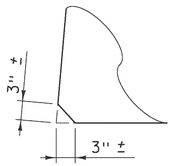


CONCRETE CURB JOINT SECTION
(NOT TO SCALE)

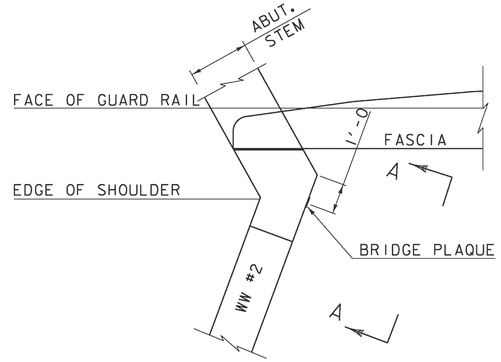
1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



SECTION B - B
(NOT TO SCALE)



ACUTE ANGLE CLIP DETAIL
(NOT TO SCALE)



PLAN

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.

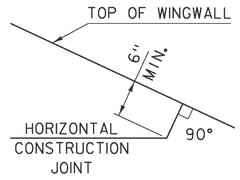
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.

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.

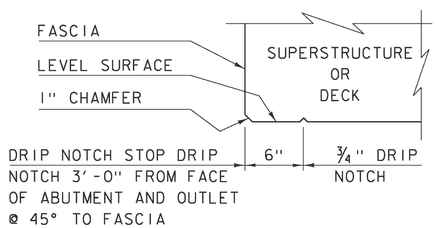
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.

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.

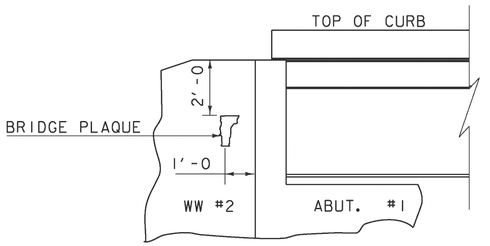
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



HORIZONTAL WINGWALL CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



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.

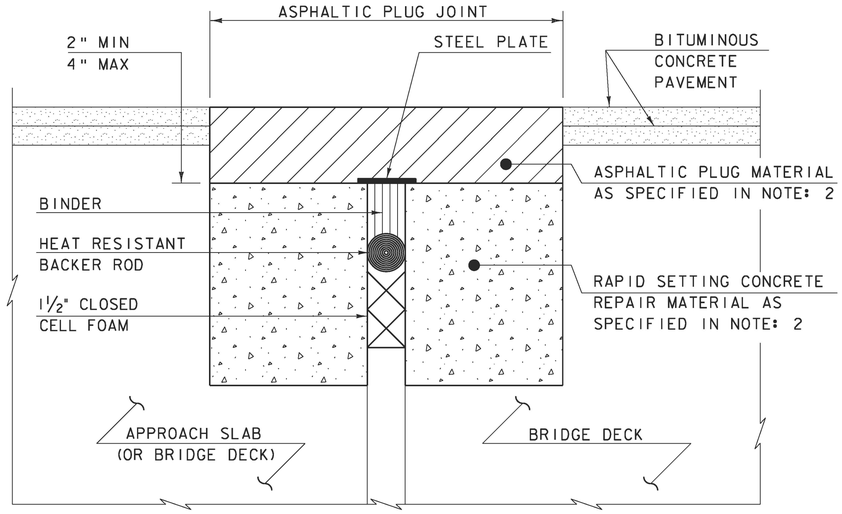
PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

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-TYPE JOINT DETAIL - REHAB

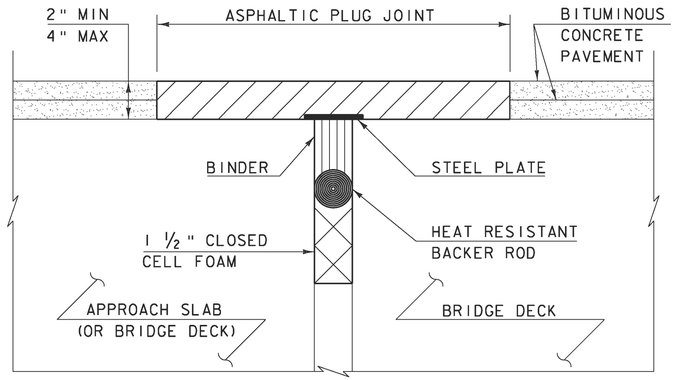
(NOT TO SCALE)

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 COURSE 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.



ASPHALTIC PLUG-TYPE JOINT DETAIL - NEW

(NOT TO SCALE)

ASPHALTIC PLUG JOINT NOTES

INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. REPAIR MATERIAL GREATER THAN 4 INCHES FROM FINISHED GRADE WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
5. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
6. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
7. 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.
8. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
9. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
10. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
11. ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/-, WATER MAY BE USED TO EXPEDITE THE COOLING PROCESS.
12. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.

WEATHER LIMITATIONS

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

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

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION

BRIDGE JOINT
ASPHALTIC PLUG

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - DIVISION

STRUCTURES DETAIL
SD-516.10

IN ACCORDANCE WITH SHEET 35 OF 70, PLOT DATE 17-JUN-2013.

REVISIONS		
REV.	DESCRIPTION	DATE
A	SUBMITTAL	9/17/2013

GENERAL NOTES

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

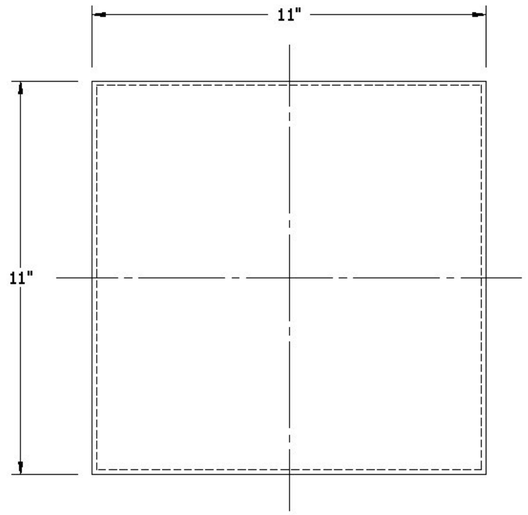
2. MATERIALS:
   ELASTOMER.....50 ± 5 DURO NATURAL, GRADE 4 (100 ± 15 psi)
   CARBON STEEL SHIMS.....ASTM A1011, GR. 40
   (QUOTED 14 GAUGE ASTM A1011 GRADE 40 IN LIEU OF 1/16" AASHTO M270 GRADE 36 DUE TO AVAILABILITY)

3. TOLERANCES: LAMINATED PADS:
   VERTICAL.....-0, +1/4"
   HORIZONTAL.....-0, +1/4"
   THICKNESS OF LAYERS.....±1/8"
   PARALLELISM TOP.....0.005 rad
   PARALLELISM SIDES.....1/4"
   EDGE COVER.....-0, +1/8"

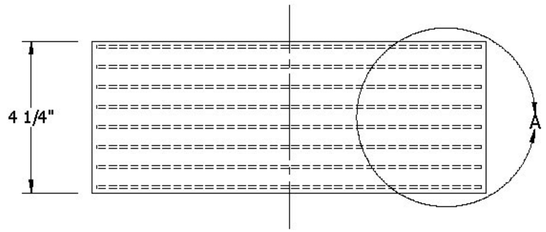
4. MARKINGS:
   EACH BEARING SHALL BE PERMANENTLY MARKED IN A LOCATION THAT IS VISIBLE WHEN THE DEVICE IS INSTALLED IN THE COMPLETED STRUCTURE. MARKING SHALL BE SEP STANDARD:
   CONTRACT/ORDER #
   LOT#
   BEARING ID # (MK. #)
   LOCATION/BRIDGE #
   ELASTOMER TYPE AND GRADE
   ORIENTATION (WHERE APPLICABLE)

5. TESTING: PROVIDE TYPE A CERTIFICATION FOR FABRIC PADS PER SUBSECTION 700.02(c)(1) OF THE VERMONT AOT SPECIFICATIONS.

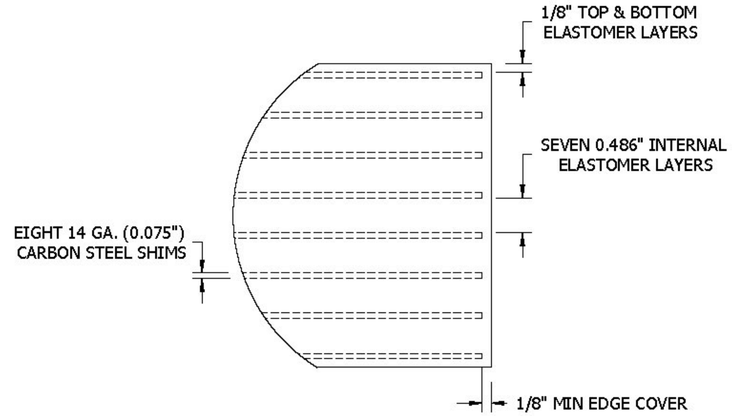
6. REPRESENTATIVE
   CUSTOMER SERVICE: STEVE BOWMAN.....903-677-4318
   TECHNICAL: MIKE SPELLMAN.....903-677-4342



PLAN VIEW



ELEVATION VIEW



DETAIL A

MK.01
BEARING PADS
@ ABUTMENT
(16) REQ'D

Vermont Agency of Transportation

RECEIVED

57432 SHOP DRAWING SUBMITTAL.PDF

CK'D BY HIS OK'D BY CLB

September 18, 2013

RESUBMIT No --------

BY C. Carlson DATE 10/01/2013

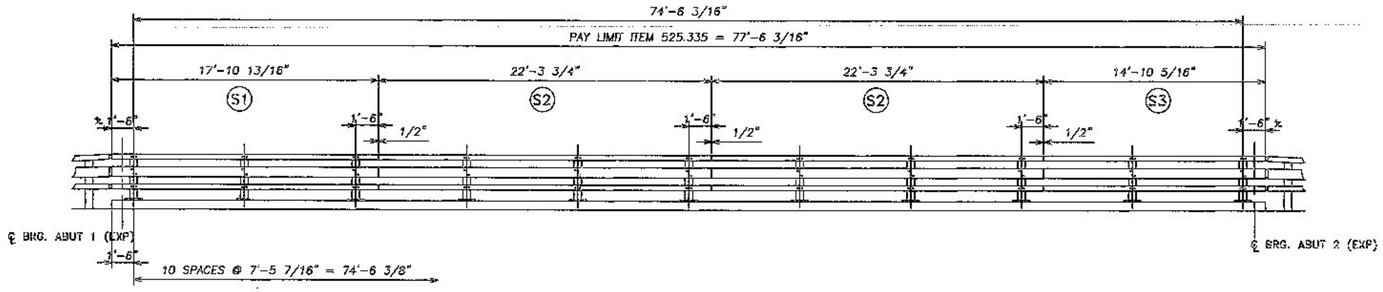
Seismic Energy Products, Inc.
STRUCTURAL BEARINGS FOR BRIDGES & BUILDINGS
ATHENS, TX PHONE: 903-675-8571

BEARING ASSY FOR:
STATE OF VERMONT AGENCY OF TRANSPORTATION

BRIDGE IMPROVEMENT PROJECT

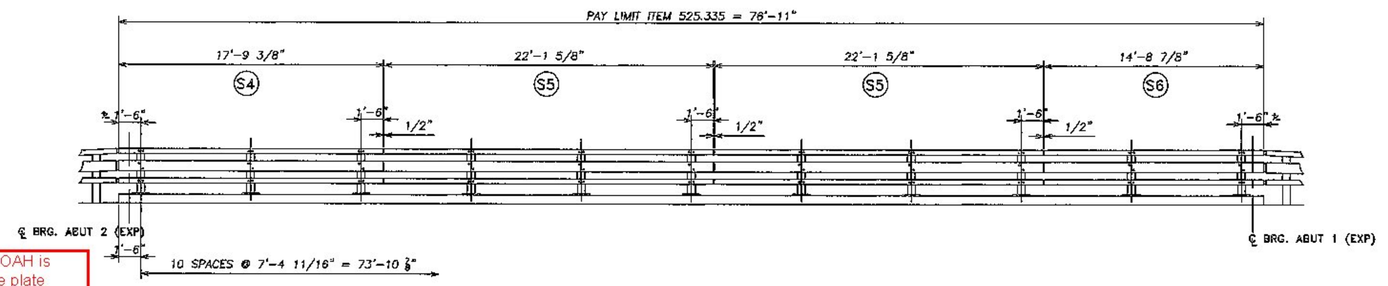
CONTRACTOR: AUSTIN CONSTRUCTION INC.

PROJECT NO BRF 029-1 (17)			
TOWN STOWE			
COUNTY LAMOILLE	DRAWN CWILLIAMS	DATE 9/12/13	PO # S QTE
ROUTE NO VT 100	CHECKED .	DATE .	SO NO. & ST. **57432 VT**
BRIDGE NO 208	REVIEWED MSPELLMAN	DATE 9/17/13	SHEET 1 OF 1



WEST SIDE RAILING ELEVATION

LOOKING AT TRAFFIC FACE OF RAILING
FACING WEST FROM CENTERLINE OF ROAD



EAST SIDE RAILING ELEVATION

LOOKING AT TRAFFIC FACE OF RAILING
FACING EAST FROM CENTERLINE OF ROAD

7? (6 for rails one for delineator)

2'-11 3/8" unless OAH is including the base plate thickness

BILL OF MATERIAL
BOTH SIDES OF BRIDGE

Qty	mk	Description	Spec.
22		BRIDGE RAIL PED POST W6x25 (8-hole) 3'-0.375" OAH w/ 1 x 10 x 14 B.P. (GALV)	A572 gr 50
8		SPLICE TUBE FOR 8x4 RAIL (GALV) TS 7x3x3/8 1'-6" LG w/ 2 WELDED NUTS	A500 gr B
12		SPLICE TUBE FOR 4x4 RAIL (GALV) TS 3x3x5/16 1'-8" LG w/ 2 WELDED NUTS	A500 gr B
1	S1	UPPER RAIL 8X4X5/16 (GALV) 17'-10 13/16" LG SHOP CURVED 543' RADIUS	A500 gr B
2	S2	UPPER RAIL 8X4X5/16 (GALV) 22'-3 3/4" LG SHOP CURVED 543' RADIUS	A500 gr B
1	S3	UPPER RAIL 8X4X5/16 (GALV) 14'-10 5/16" LG SHOP CURVED 543' RADIUS	A500 gr B
1	S4	UPPER RAIL 8X4X5/16 (GALV) 17'-9 3/8" LG SHOP CURVED 575' RADIUS	A500 gr B
2	S5	UPPER RAIL 8X4X5/16 (GALV) 22'-1 5/8" LG SHOP CURVED 575' RADIUS	A500 gr B
1	S6	UPPER RAIL 8X4X5/16 (GALV) 14'-8 7/8" LG SHOP CURVED 575' RADIUS	A500 gr B
2	S1	LOWER RAIL 4X4X1/4 (GALV) 17'-10 13/16" LG SHOP CURVED 543' RADIUS	A500 gr B
4	S2	LOWER RAIL 4X4X1/4 (GALV) 22'-3 3/4" LG SHOP CURVED 543' RADIUS	A500 gr B
2	S3	LOWER RAIL 4X4X1/4 (GALV) 14'-10 5/16" LG SHOP CURVED 543' RADIUS	A500 gr B
2	S4	LOWER RAIL 4X4X1/4 (GALV) 17'-9 3/8" LG SHOP CURVED 575' RADIUS	A500 gr B
4	S5	LOWER RAIL 4X4X1/4 (GALV) 22'-1 5/8" LG SHOP CURVED 575' RADIUS	A500 gr B
2	S6	LOWER RAIL 4X4X1/4 (GALV) 14'-8 7/8" LG SHOP CURVED 575' RADIUS	A500 gr B
22		BR NEOPRENE PAD 0.125 x 10.00 x 14.00 NETC 80 DURO.	neoprene
132		3/4" SLOTTED HEAD BOLT (GALV.) 0.750" DIA. X 6.000" LG NO SHLDR	A325
132		(3/4") HEAVY HEX NUT (GALV) 0.750" dia	A563 gr DH
132		(3/4") PLAIN ROUND WASHER TYPE A (GALV) 0.750" DIA USS LARGE (HI CARBON)	F844
72		(5/8") HEX HEAD BOLT (GALV) 0.625" DIA x 1.750" LG.	A325
72		(5/8") PLAIN ROUND WASHER (GALV) 0.625" USS LARGE	F844
22		ANCHOR PLATE (GALV) PL .375 x 9.375 x 13.000 w/ 5" dia CTR HOLE	A36
88		(1") THD. ANCHOR STUD (GALV) 1.000" DIA x 12" LONG full thread	A449
176		(1") HEAVY HEX NUT (GALV) 1.000" DIA (hi-str)	A563 DH
88		(1") JAM NUT (GALV) 1.000" DIA (hi-str)	A563 DH
88		(1") PLAIN ROUND WASHER (GALV) 1.000" DIA SAE (SMALL) HI-STR.	F436

ITEM 525.335 BRIDGE RAILING GALVANIZED 3 RAIL BOX BEAM = 154.5 LF

No.	Remarks	Date
0	Initial submittal	

REVISIONS -- APPLIES TO SET

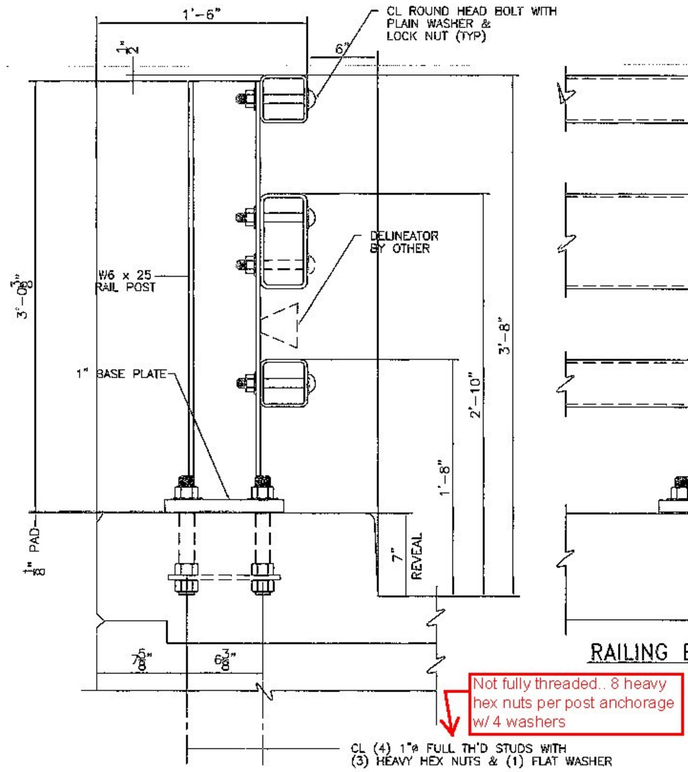
Vermont Agency of Transportation
RECEIVED
CK'D BY M. Umberger OK'D BY H. Salls
July 15, 2014
RESUBMIT No Approved AsNoted
BY C. Carlson DATE 07/21/2014

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

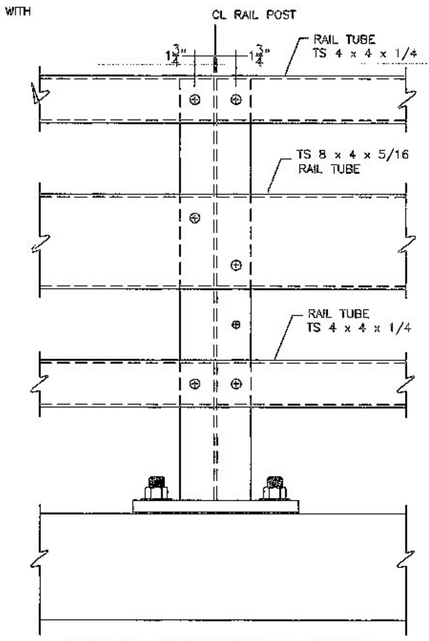
ITEM 525.335 BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM
TOWN OF STOWE, VERMONT
US RT VT 100 (MINOR ARTERIAL) BRIDGE #208
LAMOILLE COUNTY BRF 029-1 (17)

CERTIFIED FABRICATOR

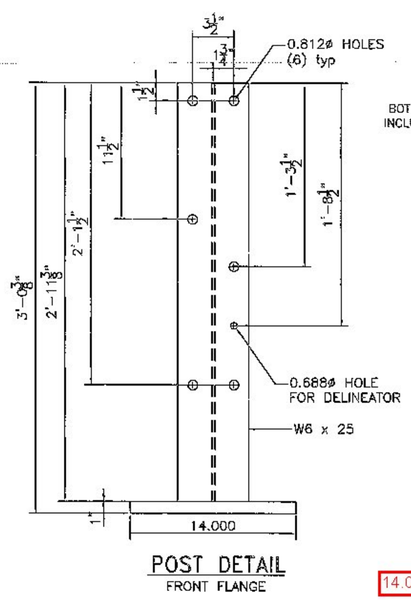
GENERAL CONTRACTOR
SUB CONTRACTOR LAFAYETTE
DRAWN RWL CHECKED DATE 06-30-14 SCALE NONE SIZE
SHEET NO. 1 of 3



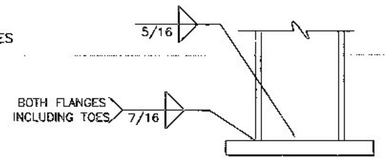
SECTION THRU RAIL @ TYPICAL POST



RAILING ELEVATION @ POST



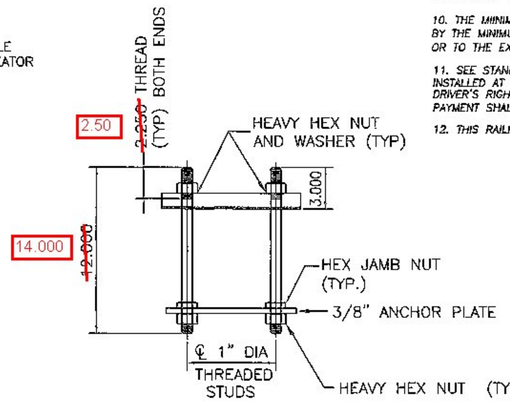
POST DETAIL
FRONT FLANGE



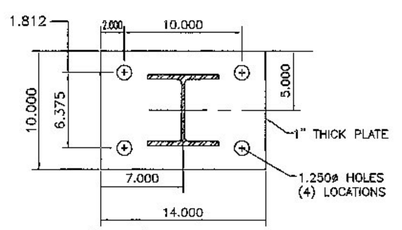
BASE WELD DETAIL

NOTES

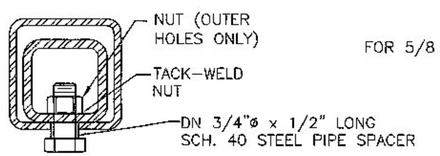
1. ALL WORK & MATERIALS SHALL CONFORM TO SECTION 525.
2. PRIOR TO GALVANIZING THE ASSEMBLY POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
3. ALL POSTS SHALL BE SET NORMAL TO GRADE.
4. SECTION OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE RAIL POSTS AND PREFERABLY TO AT LEAST FOUR POSTS.
5. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" AT 45 DEG. F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
6. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
8. RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A 449 (TYPE 1) ROUND HEAD BOLTS WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
9. ANY BENDING OF RAIL SHALL BE DONE AT FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
10. THE MINIMUM DISTANCE FOR 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 TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
11. SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
12. THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.



RAIL POST ANCHORAGE

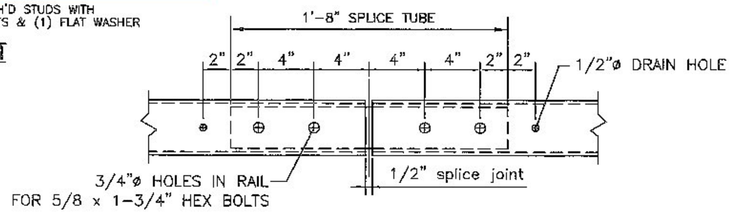


SECTION THRU POST AT BASE PLATE
1.000 x 10.000 x 14.000

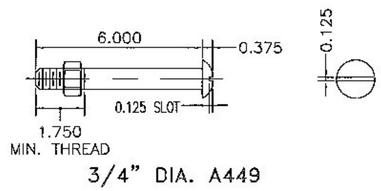


5/8"ø TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

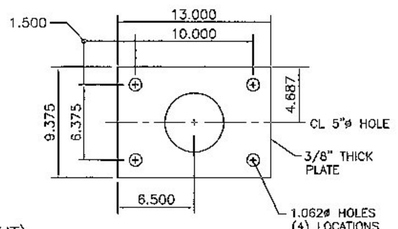
EXPANSION JOINT SECTION



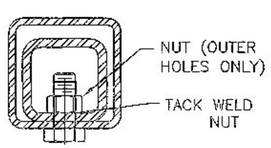
FIXED SPLICE JOINT DETAIL
BOTTOM VIEW



3/4" DIA. A449
ROUND HEAD BOLT
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.

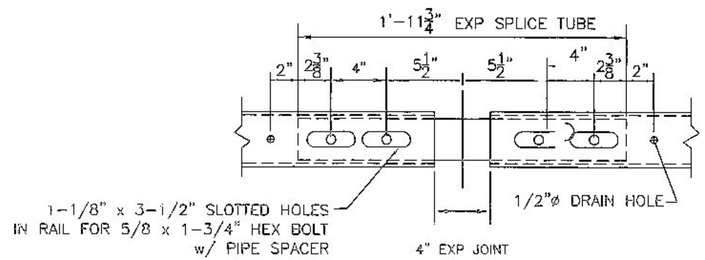


ANCHOR PLATE
0.375 x 9.375 x 13.000

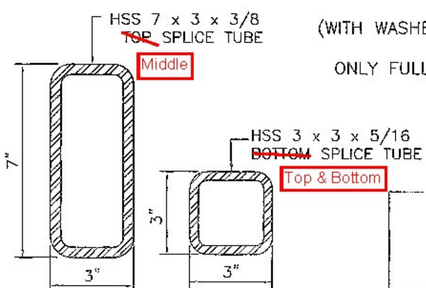


5/8"ø TAPPED HOLE IN SPLICE TUBE & 3/4"ø HOLE IN RAIL TUBE FOR BOLT & PLAIN HARDENED WASHER

FIXED SPLICE JOINT SECTION



EXPANSION SPLICE DETAIL
BOTTOM VIEW



RAIL TUBE SPLICE SECTION

Vermont Agency of Transportation
RECEIVED
CK'D BY M. Umberger OK'D BY H. Salls
July 15, 2014
RESUBMIT No Approved AsNoted
BY C. Carlson DATE 07/21/2014

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

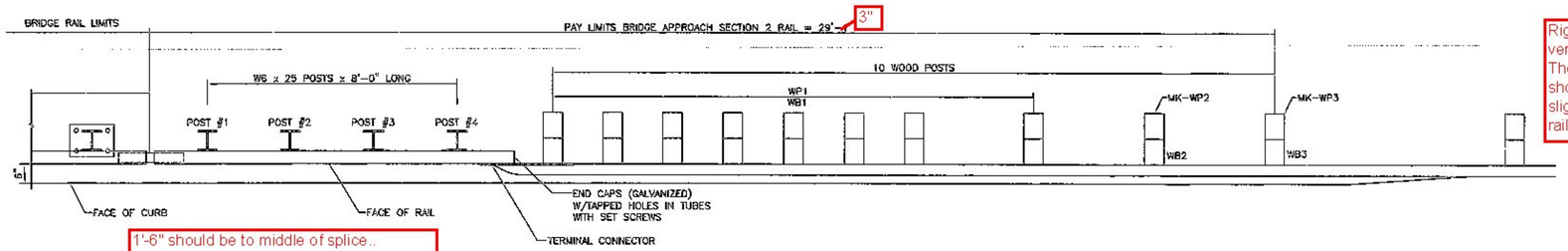
ITEM 525.335 BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM
TOWN OF STOWE, VERMONT
US RT VT 100 (MINOR ARTERIAL) BRIDGE #208
LAMOILLE COUNTY BRF 029-1 (17)

GENERAL CONTRACTOR
STATE CONTRACTOR LAFAYETTE

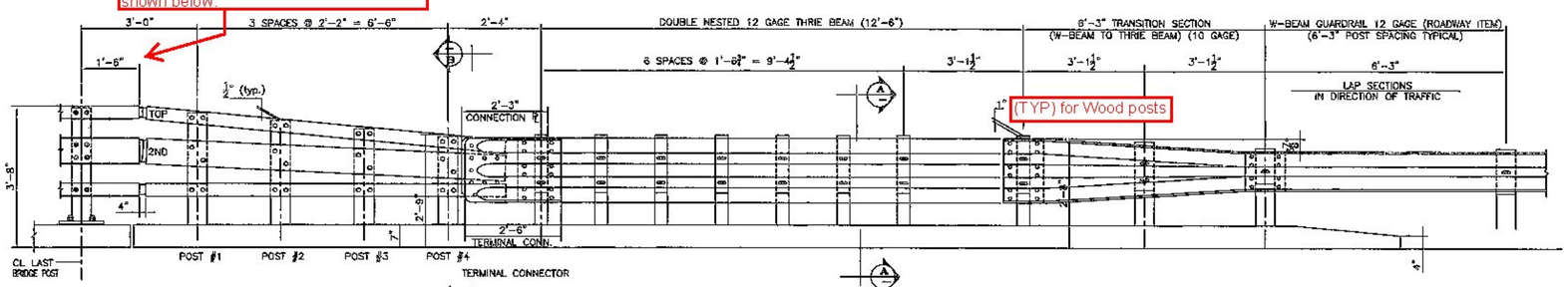
NSBA CERTIFIED FABRICATOR

DWG. NO. 1999
SHEET NO. 2 of 3

DRAWN RWL CHECKED DATE 6-30-14 SCALE NONE SIZE D

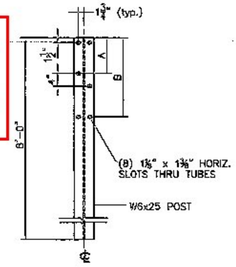


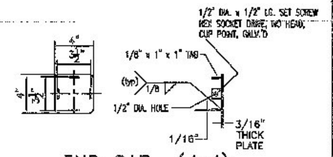
1'-6" should be to middle of splice.. Approach pay limit starts where 1'-6" is shown below.



APPROACH RAIL ELEVATION
4 TOTAL APPROACHES

Right hole should be vertically offset slightly. The top of the posts should also be sloped slightly same as top of rail.



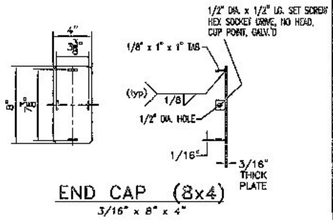


END CAP (4x4)
3/16" x 4" x 4"

STEEL POST

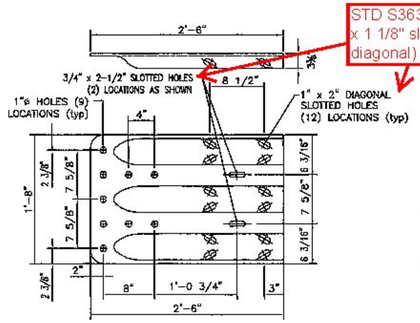
STEEL POST CHART

No.	A	B
#1	10.938"	2'-0.438"
#2	9.625"	1'-10.250"
#3	8.313"	1'-8.000"
#4	6.938"	1'-5.688"

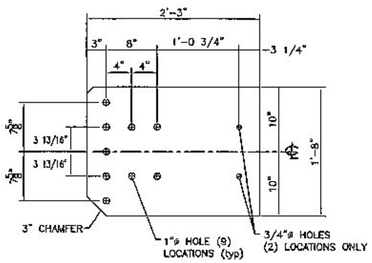


END CAP (8x4)
3/16" x 8" x 4"

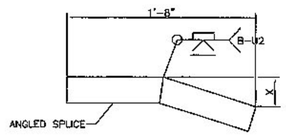
STD S363 Shows 14 24/32" x 1 1/8" slotted holes (not diagonal)



TERMINAL CONNECTOR
10 GAUGE (AASHTO M180 B2)



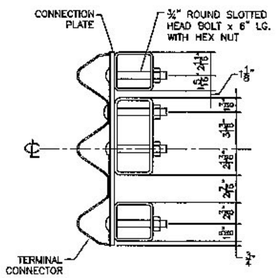
CONNECTION PLATE
3/8" x 1'-8" x 2'-3"



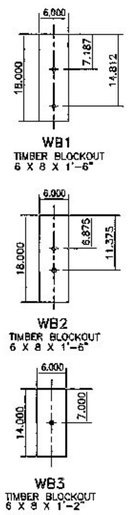
ELEVATION

ANGLED SPLICE DIMENSION

X	
TOP SPLICE	SECOND SPLICE
1.5"	0.625"

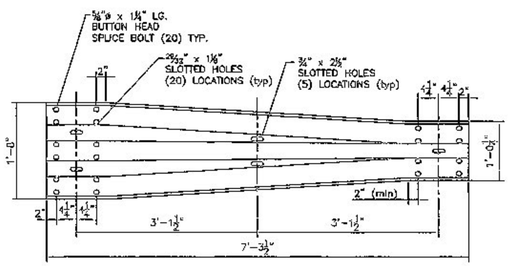


SECTION B-B

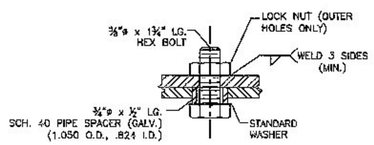


BILL OF MATERIAL FOR ALL 3 RAIL APPROACHES

Qty	mk	Description	Spec.
4	01	W6x25 APPROACH POST - #1 x 8'-0" OAL (GALV)	A709 gr 50
4	02	W6x25 APPROACH POST - #2 x 8'-0" OAL (GALV)	A709 gr 50
4	03	W6x25 APPROACH POST - #3 x 8'-0" OAL (GALV)	A709 gr 50
4	04	W6x25 APPROACH POST - #4 x 8'-0" OAL (GALV)	A709 gr 50
4		UPPER RAIL APPROACH TUBE HSS 8 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
8		LOWER RAIL APPROACH TUBE HSS 4 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
4		CONNECTION PLATE PL 0.375" x 20.000" x 27.000" (GALV)	A709 gr 36
4		END CAP FOR 8x4 TUBE 0.187 THICK PLATE 8.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
8		END CAP FOR 4x4 TUBE 0.187 THICK PLATE 4.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		(ANGLED) SPLICE TUBE (EXPANSION) FOR 8x4 UPPER RAIL HSS 7 x 3 x 3/8 x 1'-11.750" OAL (GALV)	A500 gr B
4		ANGLED SPLICE TUBE (EXPANSION) FOR 4x4 LOWER RAIL HSS 3 x 3 x 5/16 x 1'-11.750" OAL (GALV)	A500 gr B
4		SPLICE TUBE (EXPANSION) FOR 4x4 LOWER RAIL HSS 3 x 3 x 5/16 x 1'-11.750" OAL (GALV)	A500 gr B
32		WOOD POST (WP1) 6 x 8 x 7'-0"	TIMBER
32		WOOD BLOCKOUT (WB1) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST (WP2) 6 x 8 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB2) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST (WP3) 6 x 8 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB3) 6 x 8 x 1'-2"	TIMBER
4		THRIE FLAT UP BRIDGE SHOE (MODIFIED) 10 GA. GALV	aashto M180 B2
4		THRIE TRANSITION PANEL 6'-3" / 3'-1 1/2" 10 GA. GALV.	aashto M180 B2
8		THRIE PANEL 12'-6" / 1'-6 3/4" 12 GA. GALV.	aashto M180 A2
124		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 8" LG. (G.V) w/ LOCK NUT & FLAT WASHER	A449
12		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 2" LG. (G.V) w/ HEX NUT	A449
8		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
68		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
32		HEXHEAD BOLT 5/8 x 1-3/4" (GALV) w/ FLAT WASHER	A325
128		PANEL SPLICE BOLT 5/8 x 1-1/4" (GALV) w/ DOUBLE RECESSED NUT	A307
76		RECTANGULAR PLATE WASHER 0.187 x 1.750 x 3.000 (GALV)	A709 gr 36
32		SPACER PIPE - GALVANIZED 3/4" SCH. 40 x 1/2" LONG (GLV)	A53 gr B



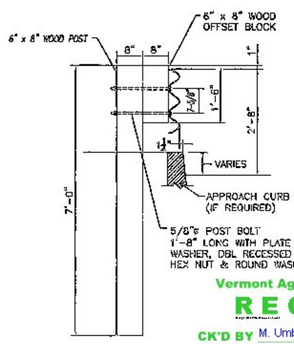
THRIE TRANSITION PANEL
10 GAUGE (AASHTO M180 B2)



SPLICE BOLT DETAIL

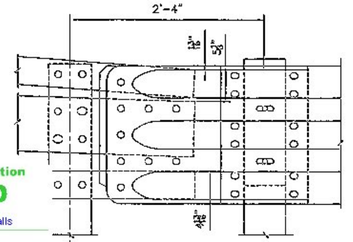
NOTES:

1. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
2. TUBES AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS NOTED OTHERWISE.
3. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM A563 GRADE A OR BETTER)(GALVANIZED). WASHERS SHALL BE ASTM F844.
4. WELD SPLICE BARS TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).



SECTION A-A

WOOD BLOCK DETAILS



DETAIL A

ITEM 621.725 3 RAIL BOX BEAM = 4 TOTAL

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 621.725 3 RAIL APPR. TUBES
TOWN OF STOWE, VERMONT
US RT VT 100 (MINOR ARTERIAL) BRG#206
LAMOILLE COUNTY BRF 029-1 (17)

CERTIFIED FABRICATOR

ISSUE AASHTO NO. 1999

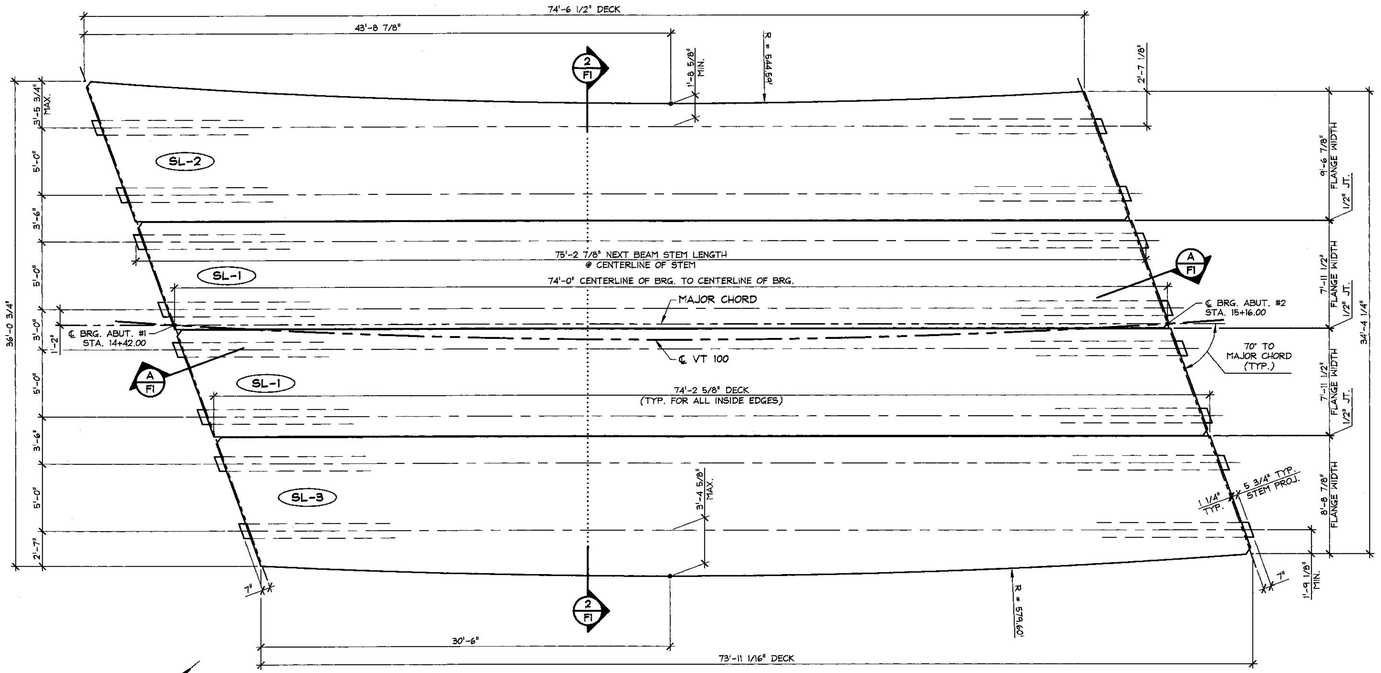
GENERAL CONTRACTOR

SUB CONTRACTOR LAFAYETTE

SHEET NO. 3 of 3

DRAWN	CHECKED	DATE	SCALE	SIZE
RWL		6-30-14	NONE	D

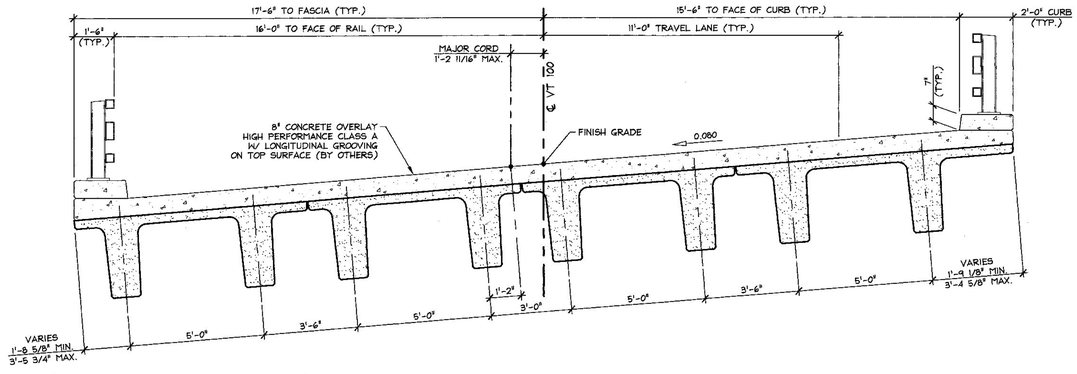
Vermont Agency of Transportation
RECEIVED
CK'D BY M. Umberger OK'D BY H. Salls
July 15, 2014
RESUBMIT No Approved As Noted
BY C. Carlson DATE 07/21/2014



1 F1 PRESTRESSED NEXT BEAM LAYOUT

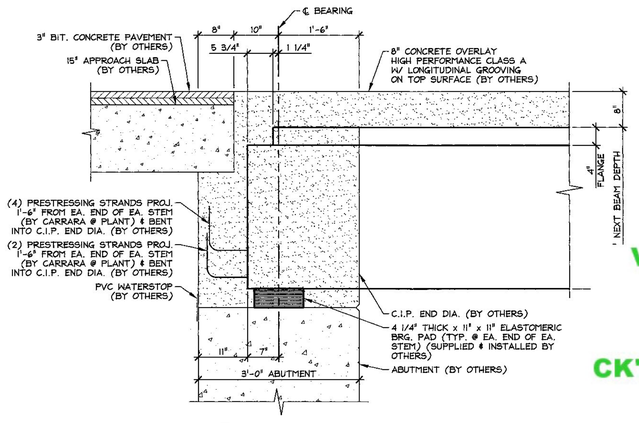
3/16" = 1'-0"

DESIGN LIVE LOAD: HL-93



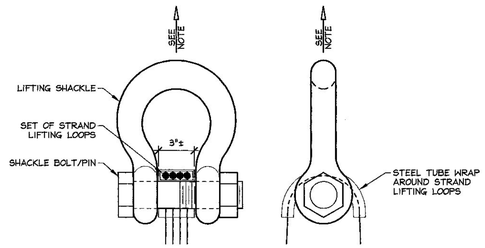
2 F1 TRANSVERSE SECTION

3/8" = 1'-0"



A F1 BEARING SECTION

3/4" = 1'-0"



NOTE: BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL FORCES ARE APPLIED TO EACH SET OF LIFTING LOOPS AT EACH END OF THE BEAM. SHACKLE BOLT/PIN SHALL BE PLACED UNDER LIFT LOOPS AS SHOWN. DESIGN AND CONFIGURATION OF RIGGING BY PURCHASER.

LIFTING SHACKLE DETAILS

N.T.S.

If using Stainless Steel for the WWF in the top flange there needs to be a note regarding Corrosion Protection Level III and material must follow the solid stainless reinforcing steel specification found in the general special provisions.

GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 8,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 6,000 PSI.
3. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) AND SHALL BE CORROSION PROTECTION LEVEL II.
4. PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M203) AND SHALL CONSIST OF 0.60"ϕ x 270 KSI 7-WIRE LOW RELAXATION STRANDS.
5. PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF **44.0 K** AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION. (SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, THIS SHEET.)
6. ENDS OF PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH END OF BEAM STEMS (UNLESS NOTED OTHERWISE) AND EPOXY PAINTED.
7. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
8. THE TOP OF BEAMS SHALL RECEIVE A TRANSVERSE RAKE FINISH ROUGHENED TO 1/4" AMPLITUDE.
9. BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. **THE PINS OF THE SHACKLES SHALL BE PLACED THOUGH THE LIFTING LOOPS. SEE DETAIL, THIS SHEET.** BEAMS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE BEAM ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
10. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.

    DESIGN MIX: J.P.C. BRIDGE MIX #426M
11. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
12. CURING METHOD: AS SOON AS THE TOP OF BEAM IS FINISHED, A COVER OF POLY AND A LAYER OF HOMOSOTE (OR BLUE BOARD) WILL BE PLACED OVER THE BEAM. THE DESIRED CURING TEMPERATURE RANGE SHALL NOT DROP BELOW 70°F. THE TEMPERATURE SHALL BE RECORDED BY AUTOMATIC SENSOR INSTRUMENTS ON GRAPH CHARTS, SPACED NOT MORE THAN 100' APART AND WILL CONTINUE UNTIL RELEASE STRENGTH IS ACHIEVED, (NATURAL CURE WITH NO EXTERNAL HEAT APPLIED). EACH CHART SHALL BE MARKED.
13. OWNER SHALL PROVIDE APPROPRIATE WATERPROOFING TO GROUTED SHEAR KEYS. J.P. CARRARA & SONS, INC. SHALL NOT BE HELD LIABLE FOR PROBLEMS ASSOCIATED WITH MOISTURE INFILTRATING GROUTED SHEAR KEYS.

EXAMPLE PRESTRESSING STRAND ELONGATION CALC. AND TENSIONING

(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 0.60"ϕ x 270 KSI
AREA: 0.217 IN^2
TENSION: 44,000 LB. EACH STRANDS
GRIP-TO-GRIP: 252'-0" = 252.00'
Es = 28,600,000 PSI (ASSUMED FOR THESE CALCULATIONS; VALUE TO BE OBTAINED FOR STRAND SPOOL ACTUALLY USED)

EXAMPLE:

$$\Delta = \frac{PL}{AE} = \frac{(44{,}000 - 3{,}000) \times 252.00 \times 12}{0.217 \times 28{,}600{,}000} = 19.98"$$

THEREFORE: (TOLERANCES ± 5%)
Δ UPPER LIMIT = 1.05 x 19.98" = 20.98" = 21"
Δ LOWER LIMIT = 0.95 x 19.98" = 18.98" = 18"

EXTRA FORCE REQUIRED TO COMPENSATE FOR 1/2" CHUCK SLIPPAGE:

$$\Delta P = \frac{0.5 \times 41{,}000}{19.98} = 1{,}026 \text{ LBS.}$$

TOTAL TENSIONING FORCE = 44,000 + 1,026 = 45,026 LBS.

STRAND TENSIONING PROCEDURE:

1. PULL EACH STRAND INITIALLY TO 3,000# LBS. AND MARK STRAND.
2. THEN PULL EACH STRAND TO A TOTAL TENSION OF 45,026# LBS. AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 18" & 21".

NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.

Vermont Agency of Transportation

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September 9, 2013

RESUBMIT Approved AsNoted

BY C. Carlson DATE 10/02/2013

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

AUSTIN CONSTRUCTION
CONTRACTOR
CONCORD, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF LAMOILLE

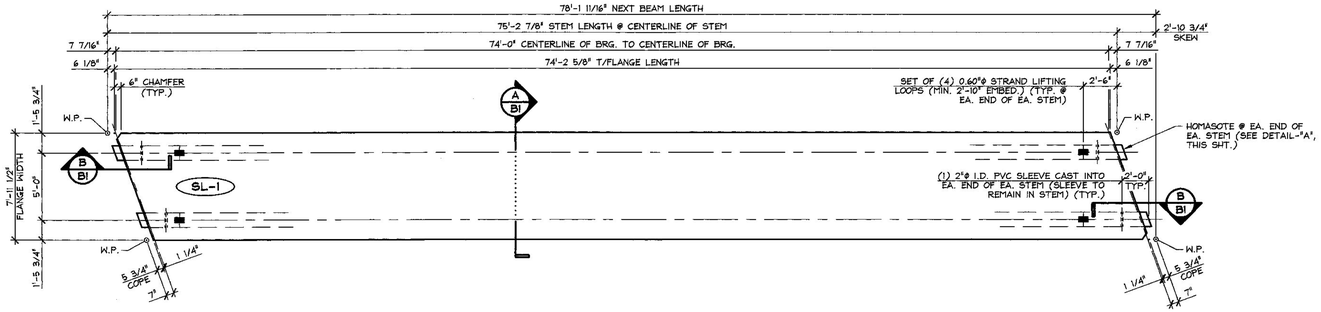
DATE: SEPT. 6, 2013
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23398-013

TOWN OF STOWE
ROUTE NO. VT 100, MINOR ARTERIAL
BRIDGE NO.: 208 PROJECT NO.: BRF 029-1(17)

SUPERSTRUCTURE PLAN & SECTIONS

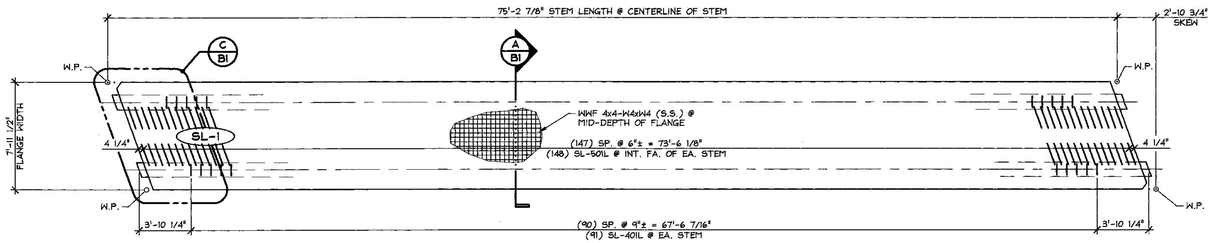
DWG. NO: F1

F:\VT-Bridges\23398-13 Stowe 100\23398-F1.dwg, 9/6/2013 9:50:18 AM



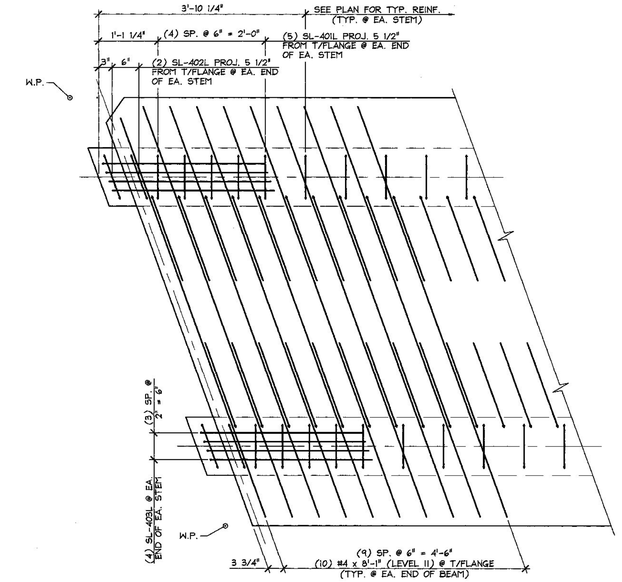
1 / B1 DIMENSIONAL NEXT BEAM PLAN VIEW IN FORM

3/16" = 1'-0"



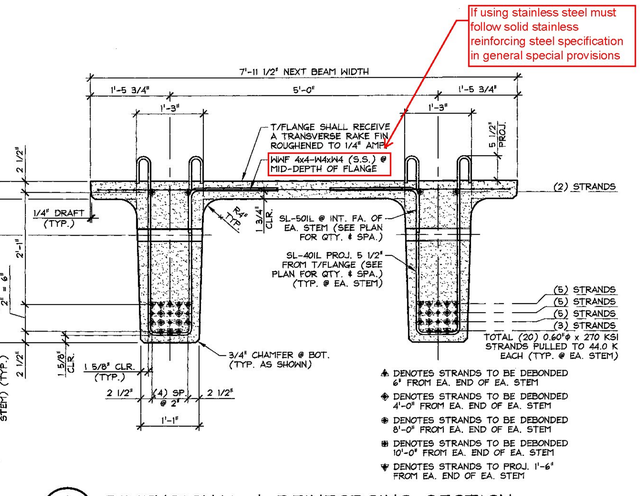
2 / B1 REINFORCING NEXT BEAM PLAN VIEW IN FORM

3/16" = 1'-0"



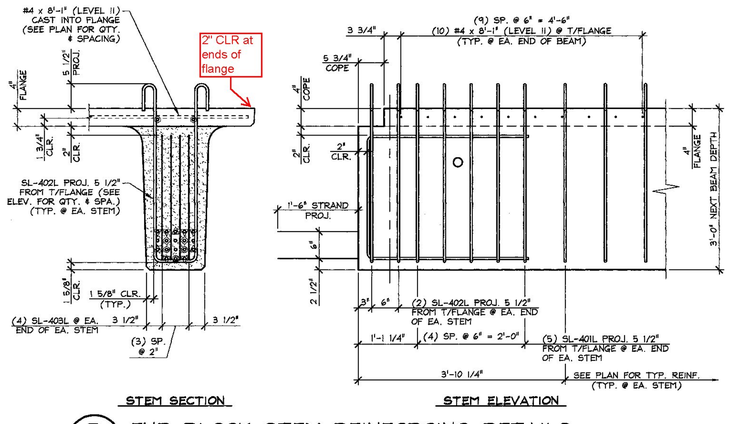
C / B1 END BLOCK REINFORCING PLAN

3/4" = 1'-0"



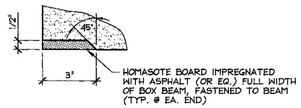
A / B1 DIMENSIONAL & REINFORCING SECTION

3/4" = 1'-0"



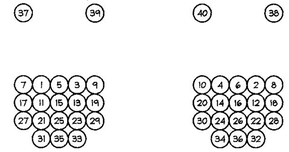
B / B1 END BLOCK STEM REINFORCING DETAILS

3/4" = 1'-0"



DETAIL - "A"

3" = 1'-0"



DETENSIONING SCHEDULE

N.T.S.

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September 9, 2013

RESUBMIT Approved AsNoted

BY C. Carlson DATE 10/02/2013

MARK: SL-1	QTY.: 2	WT.: 50.27 T	VOL.: 24.82 cy

MATERIAL LIST / NEXT BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	SL-40IL	#4 BENT BAR (LEVEL II)	202
2	SL-402L	#4 BENT BAR (LEVEL II)	8
3	SL-403L	#4 BENT BAR (LEVEL II)	16
4		#4 x 8'-1" (LEVEL II)	20
5			
6	SL-50IL	#5 BENT BAR (LEVEL II)	296
7			
8			
9			
10			
11			
12		WWF 4x4-W4xW4 (STAINLESS STEEL) (7'-8" x 76'-10")	1
13			
14		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4
15			

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

AUSTIN CONSTRUCTION
CONTRACTOR
CONCORD, VERMONT

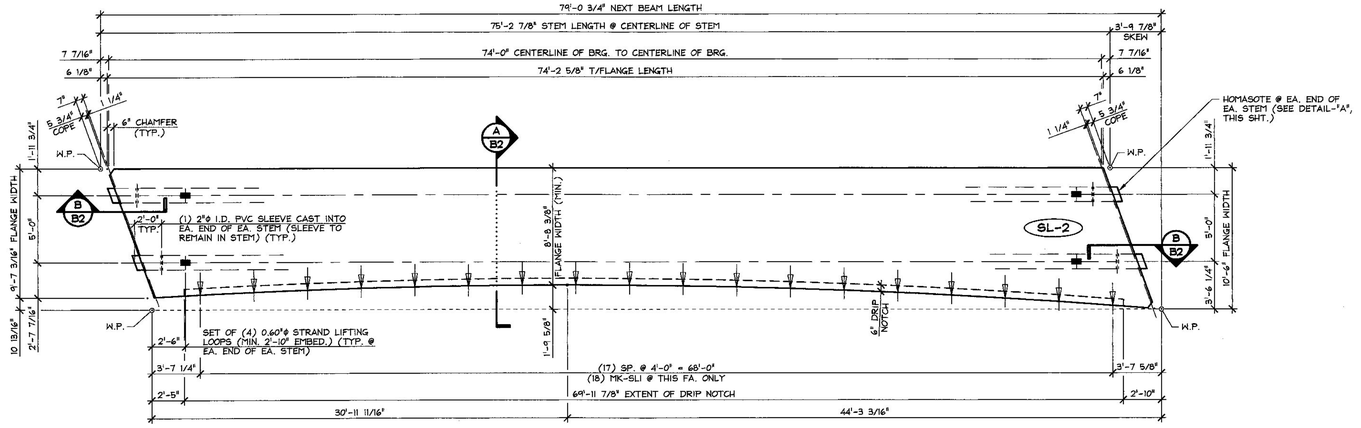
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF LAMOILLE

TOWN OF STOWE
ROUTE NO. VT 100, MINOR ARTERIAL
BRIDGE NO.: 208 PROJECT NO.: BRF 029-1(17)

PRESTRESSED NEXT BEAM DETAILS

DATE: SEPT. 6, 2013
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23398-013
DWG. NO: B1

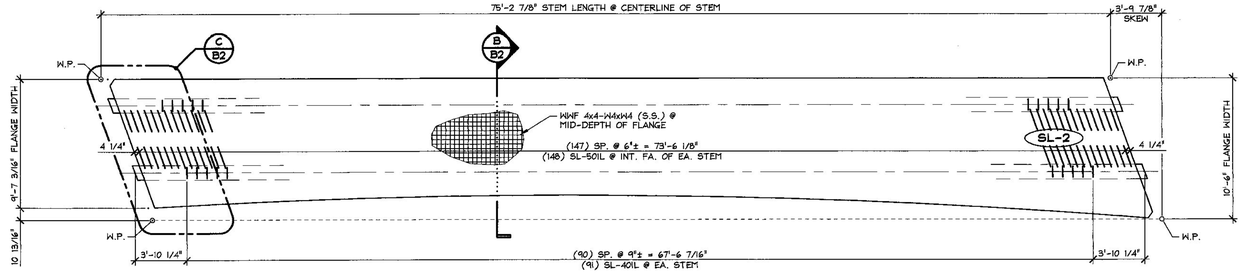
F:\VT-Bridges\23398-13 Stowe 100\23398-B1.dwg, 9/6/2013 9:51:33 AM



1 B2 DIMENSIONAL NEXT BEAM PLAN VIEW IN FORM

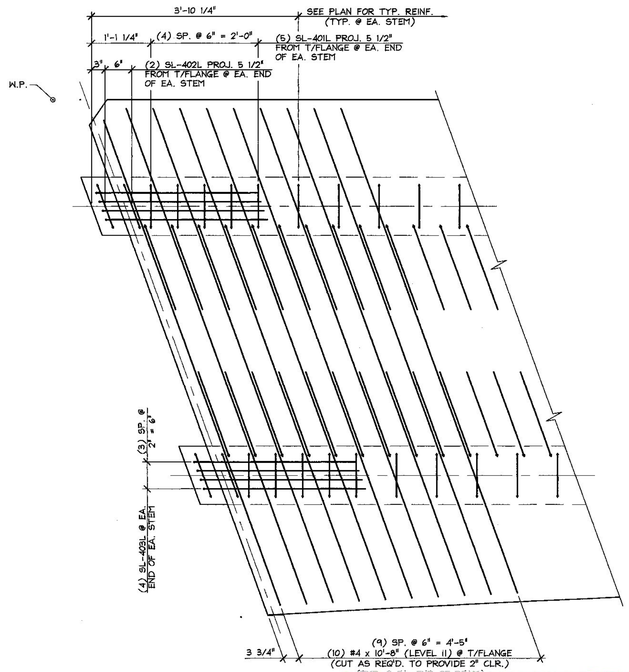
3/16" = 1'-0"

SHOP NOTE:
SEE SHEET "B4" FOR TOP FLANGE CURVE DIMENSIONS

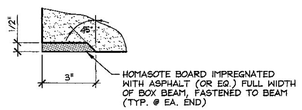


2 B2 REINFORCING NEXT BEAM PLAN VIEW IN FORM

3/16" = 1'-0"

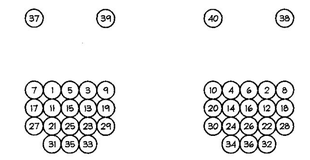


C B2 END BLOCK REINFORCING PLAN



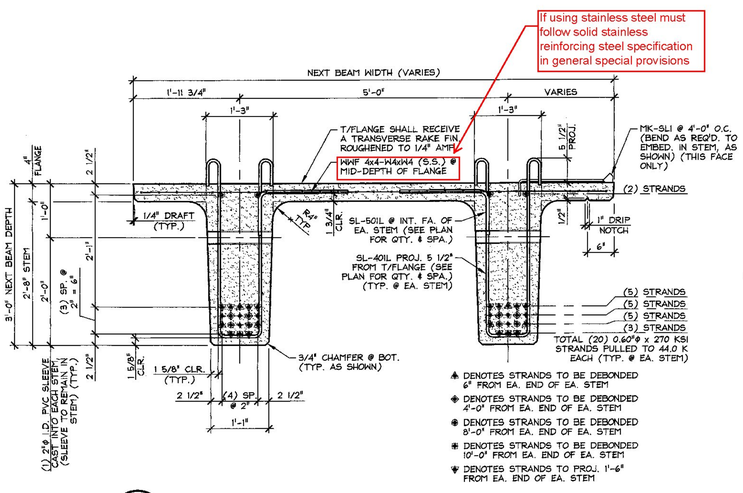
DETAIL - "A"

3" = 1'-0"



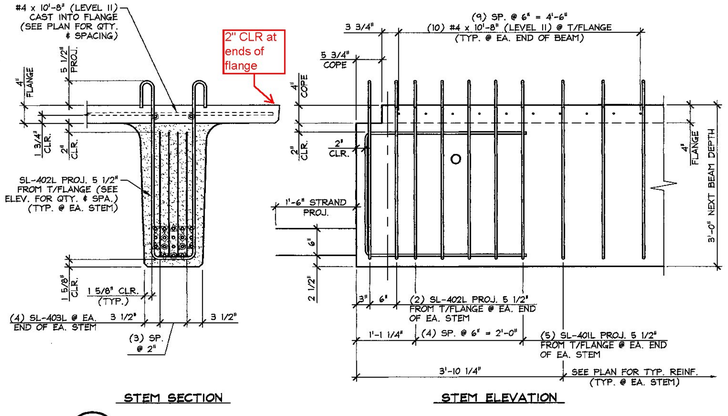
DETENSIONING SCHEDULE

N.T.S.



A B2 DIMENSIONAL & REINFORCING SECTION

3/4" = 1'-0"



B B2 END BLOCK STEM REINFORCING DETAILS

3/4" = 1'-0"

MARK: SL-2	QTY.: 1	WT.: 52.56 T	VOL.: 25.95 cy

MATERIAL LIST / NEXT BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	SL-401L	#4 BENT BAR (LEVEL II)	202
2	SL-402L	#4 BENT BAR (LEVEL II)	8
3	SL-403L	#4 BENT BAR (LEVEL II)	16
4		#4 x 10'-8" (LEVEL II)	20
5			
6	SL-501L	#5 BENT BAR (LEVEL II)	296
7			
8			
9			
10	MK-SL1	MODIFIED DAYTON SUPERIOR C-24 45° TYPE 4-APR HANGER (GALV.)	18
11			
12		WWF 4x4-W4xW4 (STAINLESS STEEL) (10'-2" x 77'-8")	1
13			
14		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4
15			

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BY C. Carlson DATE 10/02/2013

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J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 OSE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

AUSTIN CONSTRUCTION
CONTRACTOR
CONCORD, VERMONT

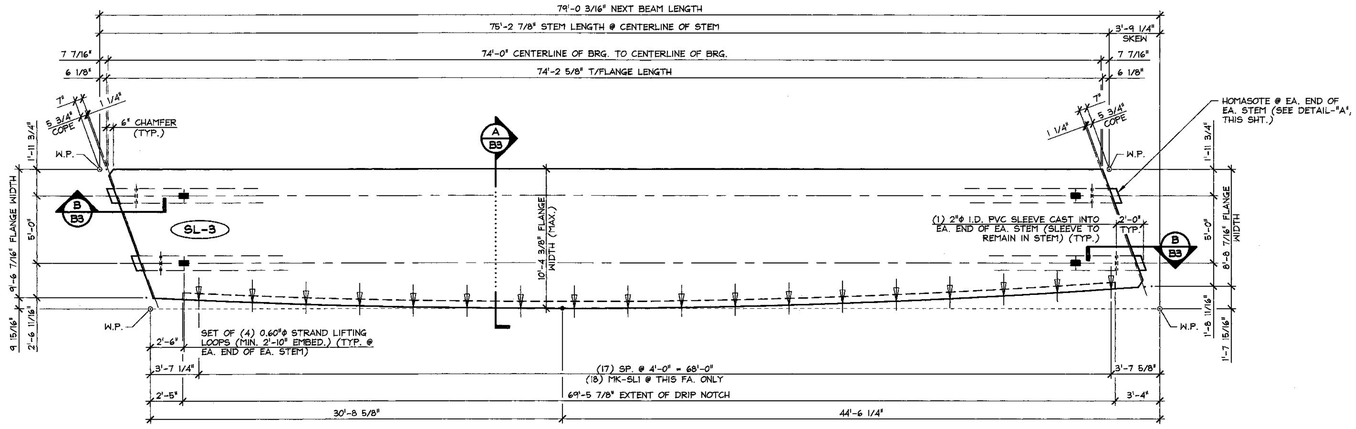
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF LAMOILLE

TOWN OF STOWE
ROUTE NO. VT 100, MINOR ARTERIAL
BRIDGE NO.: 208 PROJECT NO.: BRF 029-1(17)

PRESTRESSED NEXT BEAM DETAILS

DATE: SEPT. 6, 2013
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23398-013
DWG. NO: B2

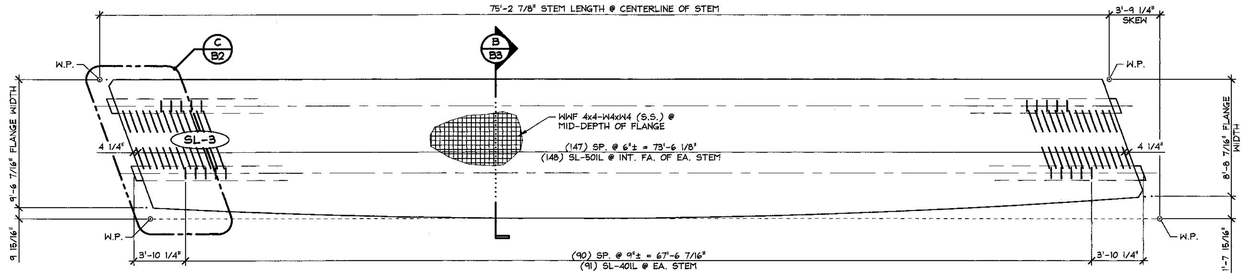
F:\VT-Bridges\23398-13 Stowe 100\23398-B2.dwg, 9/6/2013 9:52:39 AM



1 B3 DIMENSIONAL NEXT BEAM PLAN VIEW IN FORM

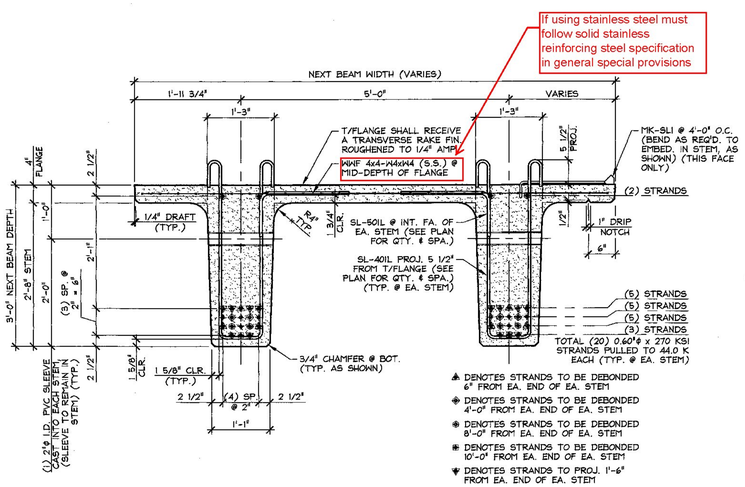
3/16" = 1'-0"

SHOP NOTE:
SEE SHEET "B4" FOR TOP FLANGE CURVE DIMENSIONS



2 B3 REINFORCING NEXT BEAM PLAN VIEW IN FORM

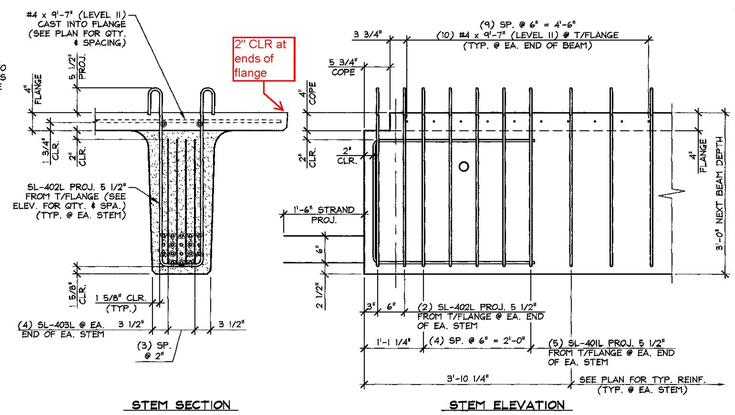
3/16" = 1'-0"



A B3 DIMENSIONAL & REINFORCING SECTION

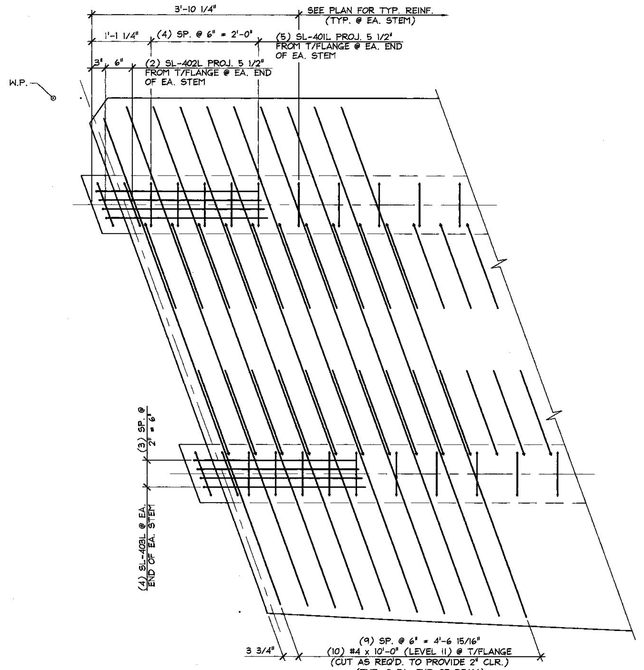
3/4" = 1'-0"

If using stainless steel must follow solid stainless reinforcing steel specification in general special provisions

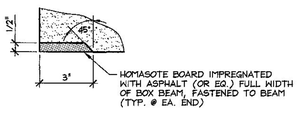


B B3 END BLOCK STEM REINFORCING DETAILS

3/4" = 1'-0"

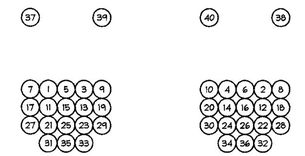


C B3 END BLOCK REINFORCING PLAN



DETAIL - "A"

3" = 1'-0"



DETENSIONING SCHEDULE

N.T.S.

MARK: SL-3	QTY.: 1	WT.: 53.99 T	VOL.: 26.66 cy

MATERIAL LIST / NEXT BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	SL-401L	#4 BENT BAR (LEVEL 11)	202
2	SL-402L	#4 BENT BAR (LEVEL 11)	8
3	SL-403L	#4 BENT BAR (LEVEL 11)	16
4		#4 x 10'-0" (LEVEL 11)	20
5			
6	SL-501L	#5 BENT BAR (LEVEL 11)	296
7			
8			
9			
10	MK-SLI	MODIFIED DAYTON SUPERIOR C-24 45° TYPE 4-APR HANGER (GALV.)	18
11			
12		WWF 4x4-W4xW4 (STAINLESS STEEL) (10'-2" x 77'-8")	1
13			
14		SET OF (4) 0.60"ø x 270 KSI STRAND LIFTING LOOPS	4
15			

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Precast & Prestress Manufacturer
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-5361 Fax:(802)388-9010

AUSTIN CONSTRUCTION
CONTRACTOR
CONCORD, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF LAMOILLE

TOWN OF STOWE
ROUTE NO. VT 100, MINOR ARTERIAL
BRIDGE NO.: 208 PROJECT NO.: BRF 029-1(17)

PRESTRESSED NEXT BEAM DETAILS

DATE: SEPT. 6, 2013
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23398-013
DWG. NO: B3

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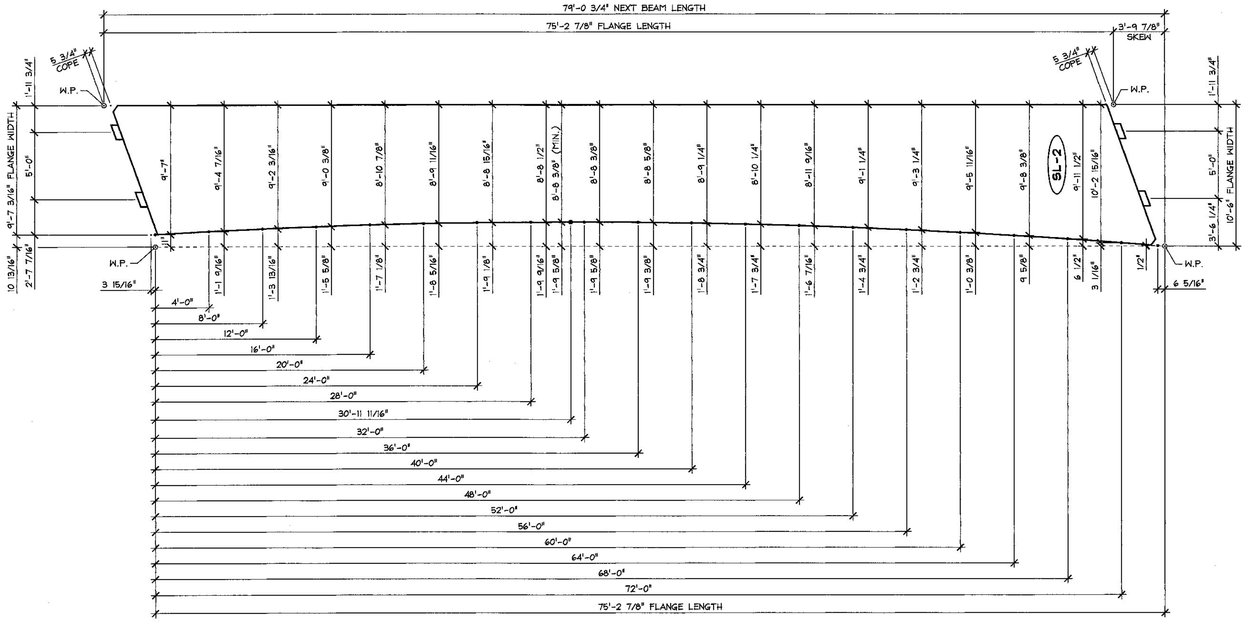
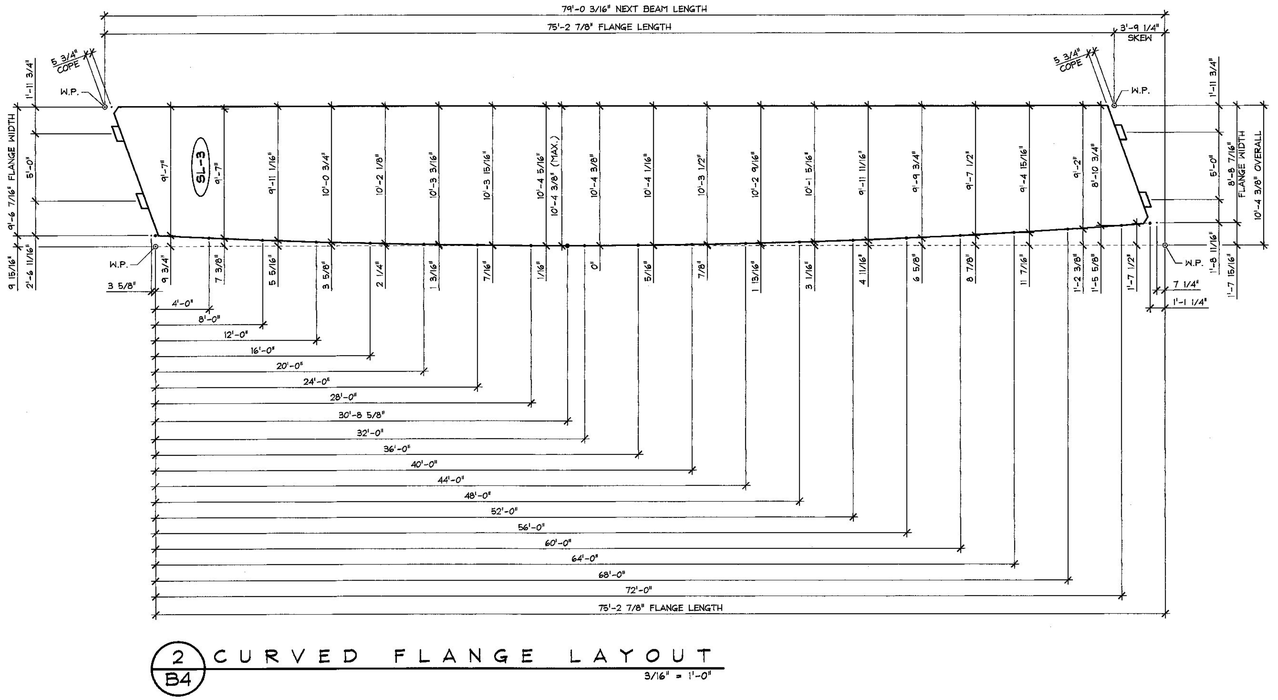


1/B4 CURVED FLANGE LAYOUT

3/16" = 1'-0"



2/B4 CURVED FLANGE LAYOUT

3/16" = 1'-0"

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BY C. Carlson DATE 10/02/2013

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	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF LAMOILLE	DATE: SEPT. 6, 2013 SCALE: NOTED
	TOWN OF STOWE ROUTE NO. VT 100, MINOR ARTERIAL BRIDGE NO.: 208 PROJECT NO.: BRF 029-1(17)	CHKD: - DFTM: B.L. JOB NO: 23398-013
	TOP FLANGE CURVE DIMENSIONS	DWG. NO: B4

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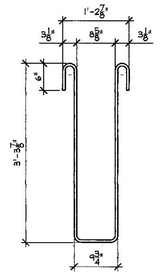
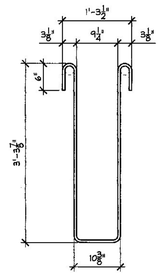
MISCELLANEOUS MATERIALS

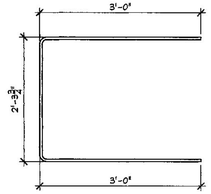
ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1		20	#4 x 8'-1" (LEVEL II)	
2		20	#4 x 10'-8" (LEVEL II)	
3		20	#4 x 10'-0" (LEVEL II)	
4				
5	MK-SLI	36	MODIFIED DAYTON SUPERIOR C-24 45° TYPE 4-APR HANGER (GALV.)	SEE DETAIL THIS SHEET
6				
7		2	WWF 4x4-W4xW4 (STAINLESS STEEL) (7'-8" x 76'-10")	
8		2	WWF 4x4-W4xW4 (STAINLESS STEEL) (10'-2" x 77'-8")	
9		16	SET OF (4) 0.60"Φ x 270 KSI STRAND LIFTING LOOPS	
10				



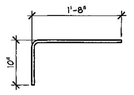
SL-401L
#4 BENT BAR (LEVEL II)
USE 2"Φ (50 mm) PIN
(808) REQ'D.



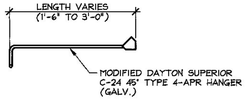
SL-402L
#4 BENT BAR (LEVEL II)
USE 2"Φ (50 mm) PIN
(32) REQ'D.



SL-403L
#4 BENT BAR (LEVEL II)
USE 2"Φ (50 mm) PIN
(64) REQ'D.



SL-501L
#5 BENT BAR (LEVEL II)
USE 2 3/4" (70 mm) PIN
(1,184) REQ'D.



MK-SLI
1" = 1'-0"

Vermont Agency of Transportation

RECEIVED

Next F Beam Shop Drawings Approved.pdf

CK'D BY HIS OK'D BY CLB

September 9, 2013

RESUBMIT Approved

BY C. Carlson DATE 10/02/2013

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
Precast & Prestress Manufacturer
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

AUSTIN CONSTRUCTION
CONTRACTOR
CONCORD, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF LAMOILLE

DATE: SEPT. 6, 2013
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23398-013

TOWN OF STOWE
ROUTE NO. VT 100, MINOR ARTERIAL
BRIDGE NO.: 208 PROJECT NO.: BRF 029-1(17)

MATERIALS LIST

DWG. NO: M1

F:\VT-Bridges\23398-13 Stowe 100\23398-M1.dwg, 9/6/2013 9:57:41 AM

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: A572 gr 50, A709 Gr 50

Welding process: Gas Metal Arc Welding (GMAW) Spray Transfer

Manual, semi-automatic, or automatic: Semi-Automatic

Position of welding: Flat (1F) or Horizontal (2F)

Filler metal specification: AWS A5.18

Filler metal classification: ER70S-6

Electrode and manufacturer: Lincoln Electric Lincoln Weld L-56

Flux and manufacturer: N/A

Shielding gas: 86% Argon / 14% CO2 Flow rate: 35-45 CFM

Single or multiple pass: Single or Multiple

Single or multiple arc: Single

Welding current: DCEP

Polarity: Reverse - electrode positive

Welding progression: Stringers

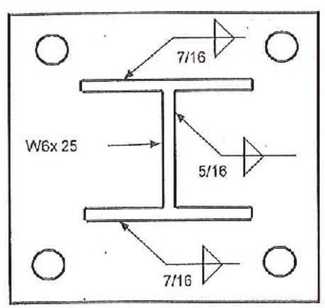
Root treatment: clean base metal

Preheat and interpass temperature: base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" (150°F) : over 1-1/2" thru 2-1/2" (225°F)

Postheat treatment: None

Electrode extension: 3/4" ± 1/4"

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
5/16"	1	0.062"	300 A ± 30	29 V ± 2	15 Ipm ± 2	
7/16"	1 & 2	0.062"	↓	↓	15 Ipm ± 2	

VTrans Received JUL 18 2014

CK'D JWC

Resubmit BY APPROVED DATE 7/23/14

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.5

Paul A Radice CWI 9807221 QC1 EXP. 7/1/2015

WPS no. W-VTPEDPOST1

Revision no. 0

Supporting PQR no. Pre-Qualified

Project Name STOWE, VT

Fabricator Highway Safety Corporation

Prepared By: Paul Radice

Date 07-14-14

Project Number BRF 029-1 (17)

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: ASTM A500 gr B

Welding process: Gas Metal Arc Welding (GMAW)

Manual, semi-automatic, or automatic: Semi-Automatic

Position of welding: Flat (1F) or Horizontal (2F)

Filler metal specification: AWS A5.18

Filler metal classification: ER70S-6

Electrode and manufacturer: Lincoln Electric Lincoln Weld L-56

Flux and manufacturer: N/A

Shielding gas: 86% Argon / 14% CO2 Flow rate: 35-45 CFM

Single or multiple pass: Single

Single or multiple arc: Single

Welding current: DCEP

Polarity: Reverse - electrode positive

Welding progression: Stringers

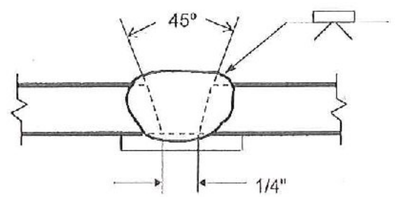
Root treatment: clean base metal

Preheat and interpass temperature: base metal up to 3/4" (50°F)

Postheat treatment: None

Electrode extension: 3/4" ± 1/4"

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
	1	0.063"	300 A ± 30	29 V ± 2	15 Ipm ± 2	B-U2a-GF 

VTrans Received JUL 18 2014
CKD OK'd BY JWC
Resubmit BY APPROVED DATE 7/24/14

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1

WPS no. W-VGwBCK

Revision no. 0

Supporting PQR no. Pre-Qualified

Project Name STOWE, VT

Fabricator Highway Safety Corporation

Prepared By: Paul Radice

Date 07-14-14

Project Number BRF 029-1 (17)

Paul A Radice CWI 96070221 QC1 EXP. 7/1/2016