PROJECT LOCATION:
ON VT. ROUTE 12, APPROXIMATELY 0.40 MILES SOUTH OF THE JUNCTION OF VT. ROUTE 12 AND VT. ROUTE 107

PROJECT DATA:

LENGTH OF BRIDGE:	120.55 FT
LENGTH OF ROADWAY:	569.45 FT
LENGTH OF PROJECT:	690.00 FT

PROJECT DESCRIPTION:
THE PROJECT CONSISTS OF REPLACING THE EXISTING STRUCTURE WITH A NEW SIMPLE SPAN BRIDGE, ROADWAY APPROACHES AND CHANNEL WORK.

RECORD PLANS

CONTRACTOR: WINTERSET, INC. – LYNDONVILLE, VT
RESIDENT ENGINEER: TOM CHASE
CONSTRUCTION BEGAN: SEPTEMBER 27, 2011
CONSTRUCTION COMPLETE: JULY 12, 2012
RECORD PLANS BY: TOM CHASE & JENNA HYDE

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

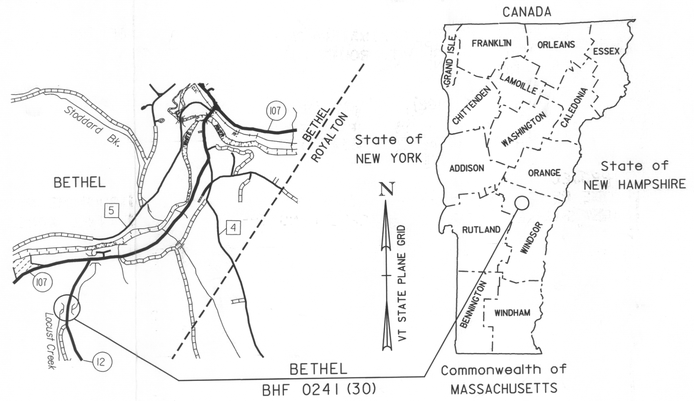
BY Thomas A. Chase RESIDENT ENGINEER
DATE 4/09/13

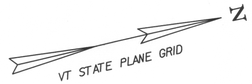
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

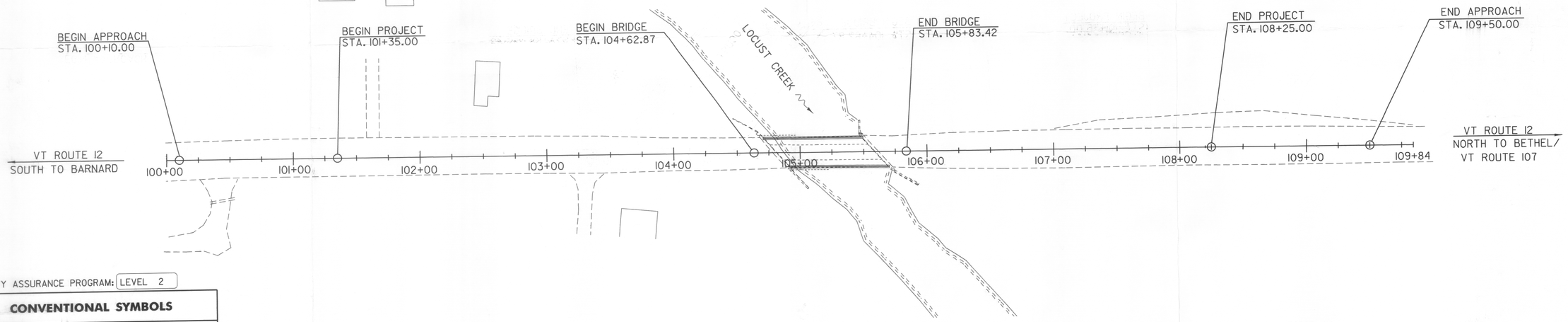
STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF BETHEL
COUNTY OF WINDSOR

ROUTE NO. : VT 12, MAJOR COLLECTOR,
BRIDGE 30







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
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R.D. GILMAN
SURVEYED DATE : NOV 1995

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92

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

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

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

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Richard Tetreault DATE 8/30/11

PROJECT MANAGER : M. EVANS-MONGEON

PROJECT NAME : BETHEL
PROJECT NUMBER : BHF 0241(30)

SHEET 1 OF SHEETS 64

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 09.02.01

LRFD

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SD-502.00	CONCRETE DETAILS AND NOTES
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SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: December 2006

DRAINAGE AREA : 24.8 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested.
STREAM CHARACTERISTICS : Sinuous valley stream with narrow flood plains.
NATURE OF STREAMBED : Gravel, cobbles and a few boulders.

PEAK FLOW DATA

Q 2.33 =	1000 cfs	Q 50 =	3700 cfs
Q 10 =	2200 cfs	Q 100 =	4400 cfs
Q 25 =	3000 cfs	Q 500 =	6600 cfs

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q50 = 8.5 fps
ICE CONDITIONS : Moderate to severe
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
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 steel beam bridge with concrete deck
YEAR BUILT: 1939
CLEAR SPAN(NORMAL TO STREAM): 58'
VERTICAL CLEARANCE ABOVE STREAMBED: 9.5'
WATERWAY OF FULL OPENING: 440 sq. ft.
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	593.3'	VELOCITY =	8.1 fps
Q10 =	595.3'	"	9.8 fps
Q25 =	596.6'	"	10.4 fps
Q50 =	597.5'	"	11.0 fps
Q100 =	600.7'	"	10.1 fps

LONG TERM STREAMBED CHANGES: There is a gravel bar in the middle of the channel at the bridge, with flow along both abutments. No other streambed changes were noted.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 601.0'
DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Bethel DISTANCE: 2490'
HIGHWAY # : T.H. 79 STRUCTURE #: 48
CLEAR SPAN: 37' CLEAR HEIGHT: 15'
YEAR BUILT: 1927 FULL WATERWAY: 320 sq. ft.
STRUCTURE TYPE: Single span concrete T-beam bridge

DOWNSTREAM STRUCTURE

TOWN: Bethel DISTANCE: 2000'
HIGHWAY # : VT 107 STRUCTURE #: 12
CLEAR SPAN: 160' CLEAR HEIGHT: 20'
YEAR BUILT: 1959 FULL WATERWAY: 2700 sq. ft.
STRUCTURE TYPE: Two span steel beam bridge with concrete deck

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span steel beam bridge with concrete deck

CLEAR SPAN(NORMAL TO STREAM): 73'
VERTICAL CLEARANCE ABOVE STREAMBED: 11'
WATERWAY OF FULL OPENING: 620 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	592.7'	VELOCITY=	7.7 fps
Q10 =	594.8'	"	8.3 fps
Q25 =	596.0'	"	8.3 fps
Q50 =	596.9'	"	8.5 fps
Q100 =	597.9'	"	8.7 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 602.7'
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 598.6'
VERTICAL CLEARANCE: @ Q50 = 1.7'

SCOUR: 3.3' of scour up to a Q500.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	35 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	20 cfs	Depth = 0.6'
ORDINARY HIGH WATER:	320 cfs	Depth = 2.6'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 56' minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Minimum beam elev. 597.1'
WATERWAY AREA OF FULL OPENING: 400 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	d_p:	3.0 INCH
3. DESIGN SPAN	L:	117.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5. PRESTRESSING STRAND	f_y:	---
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	3.0 KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f_y:	50 KSI
14. SOIL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	4.0 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	10.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
19. NOMINAL AXIAL PILE RESISTANCE	q_p:	---
20. PILE YIELD STRENGTH ASTM A572	f_y:	50 KSI
21. PILE SIZE		HP 12X 84
22. EST. PILE LENGTH (ONE SUBSTRUCTURES)	L_p:	
23. PILE RESISTANCE FACTOR	ϕ:	0.65
24. LATERAL PILE DEFLECTION	Δ:	1.03 INCH
25. BASIC WIND SPEED	V_{3s}:	---
26. MINIMUM GROUND SNOW LOAD	p_g:	---
27. SEISMIC DATA PGA: ---	S_s:	---
	S_1:	---

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	**3.24**	**1.13**					
POSTING							
OPERATING	**4.21**	**1.46**	**1.85**	**1.13**	**1.86**	**1.65**	
COMMENTS:							

PILE DRIVING AND TESTING REQUIREMENTS

1. NOMINAL PILE DRIVING CAPACITY	Rndr:	GEN. NOTE
2. PILE TEST RESISTANCE FACTOR	ϕ:	0.65
3. MAXIMUM PILE TIP ELEVATION		PER PLAN
4. 0		

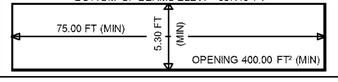
TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2012	1100	150	57	6.9	85
2032	1200	160	57	10.2	140

20 year ESAL for flexible pavement from 2012 to 2032 : 488000
40 year ESAL for flexible pavement from 2012 to 2052 : 1093000
Design Speed : 50 mph

TEMPORARY BRIDGE PROFILE ALONG TEMP CL

BOTTOM OF BEAMS ELEV. = 597.10 FT



PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BHF 0241(30)**

FILE NAME: **s95c002PI.xls**
PROJECT LEADER: **M.EVANS-MONGEON**
DESIGNED BY:
DRAWN BY: **G.ROKES**
CHECKED BY: **U.STANLEY**
PLOT DATE:

PRELIMINARY INFORMATION SHEET 1

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2010, AND ITS LATEST REVISIONS.

2. THE BRIDGE IS DESIGNED FOR HL-93 LIVE LOAD WITH AN ALLOWANCE FOR 3" OF FUTURE PAVEMENT.

3. DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE CONSTRUCTED DOWNSTREAM OF THE EXISTING STRUCTURE. THE TEMPORARY BRIDGE AND DETOUR SHALL BE PAVED. CONSTRUCTION AND MAINTENANCE OF THE TEMPORARY BRIDGE AND ITS APPROACHES SHALL BE PAID FOR UNDER ITEM 528.11, TWO-WAY TEMPORARY BRIDGE.

4. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL TEMPORARY ON AND OFF-PROJECT SIGNS AND BARRICADES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, TRAFFIC CONTROL.

5. 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 641.10, TRAFFIC CONTROL.

6. ITEM 529.15 REMOVAL OF STRUCTURE SHALL INCLUDE THE REMOVAL AND DISPOSAL OF EXISTING BRIDGE SUPERSTRUCTURES, EXISTING CONCRETE BARRIER USED AS BRIDGE RAIL AND REMOVAL OF THE ABUTMENTS, WHERE THEIR REMOVAL IS OUTSIDE OF THE AREAS COVERED BY ANY OF THE EXCAVATION ITEMS.

7. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, IN PARTICULAR THE DISCHARGE OF RAW CONCRETE INTO LOCUST CREEK, AS DIRECTED BY THE RESIDENT ENGINEER AND STANDARD SPECIFICATIONS SECTION 105.

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

9. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.

10. "STRUCTURES DETAIL SHEETS" LISTED ON THE INDEX ARE PROVIDED AFTER THE PLAN SHEETS. DETAILS AND DIMENSIONS SHOWN IN THE PROJECT PLAN SHEETS SHALL TAKE PRECEDENCE OVER THOSE SHOWN IN THE "STRUCTURES DETAIL SHEETS"

11. THE CONTRACTOR SHALL NOTE THE EXISTANCE OF A WATERLINE AND SLEEVE LOCATED APPROXIMATLY AT STA. 103+00. EFFORTS SHALL BE MADE TO LEAVE THIS WATERPIPE AND SLEEVE UNDISTURBED. REPLACEMENT OF DAMAGED WATERLINE AND SLEEVE SHALL BE THE CONTRACTORS RESPONSIBILITY.

EARTHWORK AND RELATED ITEMS

12. A COFFERDAM IS REQUIRED FOR THE CONSTRUCTION OF ABUTMENT #1. REFER TO "EARTHWORK TYPICAL" FOR COFFERDAM NOTES.

13. THE CONTRACTOR MAY SUBSTITUTE SUBBASE MATERIAL FOR THE SAND BORROW SHOWN ON THE PLANS. THE SUBBASE MATERIAL SHALL BE THE TYPE SPECIFIED IN THE CONTRACT AND SHALL BE PLACED TO MEET THE SUBBASE SPECIFICATIONS. IF SUBBASE IS PLACED IN LIEU OF SAND BORROW, A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 649 "GEOTEXTILE FOR ROAD BED SEPARATOR" SHALL BE PLACED BETWEEN THE SUBGRADE AND THE SUBBASE MATERIAL. ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING THE GEOTEXTILE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 203.31 "SAND BORROW".

14. THE HEIGHT OF FILL BEHIND ABUTMENTS WILL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE DECK HAS BEEN POURED AND THE CURING PERIOD IS UP.

15. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 301.06 REGARDING THE COMPACTION OF THE SUBBASE MATERIAL.

16. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW SUPERSTRUCTURE ARE SET.

17. "STONE FILL, TYPE I" SHALL BE USED FOR EROSION CONTROL AS SHOWN IN THE PLANS AND AT THE DISCRETION OF THE RESIDENT ENGINEER. PAYMENT FOR MATERIAL AND PLACEMENT SHALL BE MADE UNDER ITEM 613.10, "STONE FILL, TYPE I".

18. THE AREA DISTURBED BY THE TEMPORARY DETOUR SHALL BE RESTORED TO ITS ORIGINAL GRADE AND VEGETATED. THE COST OF THE SEED, FERTILIZER, MULCH AND LIME WILL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

STRUCTURAL STEEL

19. NEW STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 50W 9AASHTO M270M, GRADE345W) UNLESS OTHERWISE NOTED

20. ITEM 506.55 "STRUCTURAL STEEL, PLATE GIRDER" SHALL INCLUDE ALL COMPONENTS OF PLATE GIRDERS, DIAPHRAMS AND CROSS FRAMES.

21. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).

22. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.

23. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 4 FEET. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

24. ENDS OF GIRDERS ARE TO BE VERTICAL IN FINAL POSITION.

CONCRETE

25. SUBSTRUCTURE CONCRETE EXCLUDING APPROACH SLABS SHALL BE HIGH PERFORMANCE CLASS B AND SHALL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". DECK (INCLUDING BACKWALLS AND APPROACH SLAB BRACKETS ABOVE BRIDGE SEAT ELEVATION), APPROACH SLABS, AND BRIDGE CURB CONCRETE SHALL BE HIGH PERFORMANCE CLASS A AND SHALL BE PAID FOR UNDER ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".

26. PRIOR TO ANY COLD WEATHER CONCRETE PLACEMENT AS DEFINED IN SECTION 501, THE CONTRACTOR SHALL SUBMIT A PLAN TO THE RESIDENT ENGINEER FOR APPROVAL. THE PLAN AT A MINIMUM SHALL PROVIDE METHODS FOR INSULATING, CURING, HEATING, TEMPERATURE MONITORING, AND ANY WEATHER RESTRICTIONS FOR CONCRETE PLACEMENT. THE PLAN SHALL BE SPECIFIC TO THE LOCATION OF THE PLACEMENT AND BE SUBMITTED A MINIMUM OF 14 DAYS PRIOR TO THE ANTICIPATED PLACEMENT DATE. COLD WEATHER CONCRETE SHALL NOT BE PLACED PRIOR TO APPROVAL OF THE PLAN.

27. NO CONCRETE IN ABUTMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE STRINGERS OR BEAMS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.

28. RELATIVE TO GRADE, ALL DECK POURS SHALL BEGIN FROM THE LOW ELEVATION END AND PROCEED TOWARDS THE HIGH ELEVATION END.

29. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. ALL OTHER AREAS OF BRIDGE SEATS SHALL BE SLOPED DOWN 1/2 INCH PER FOOT TOWARD THE NEAREST OUTSIDE FACE OF THE SUBSTRUCTURE UNIT, SUCH AS TO PREVENT WATER PONDING ON THE BRIDGE SEAT AREA. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A MAGNESIUM FLOAT FINISH.

30. IN ACCORDANCE WITH SUBSECTION 506.23(A) OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO PROTECT ALL SUBSTRUCTURE CONCRETE FROM STAINING DUE TO OXIDE FORMATION ON THE STRUCTURAL STEEL PRIOR TO PLACEMENT OF THE DECK. THESE MEASURES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". ANY SUCH STAINING THAT OCCURS PRIOR TO DECK PLACEMENT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE STATE.

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

32. LOADING ALLOWANCE ON THE NEW DECK SHALL BE IN ACCORDANCE WITH SUBSECTION 501.18(B) OF THE STANDARD SPECIFICATIONS.

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

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

35. THE VERTICAL KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

36. ALL SUPERSTRUCTURE REINFORCING STEEL AND VERTICAL REINFORCING STEEL IN ABUTMENT 1 SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17, "EPOXY COATED REINFORCING STEEL". CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04 OF THE STANDARD SPECIFICATIONS.

37. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED IN THE PLANS.

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

PILES

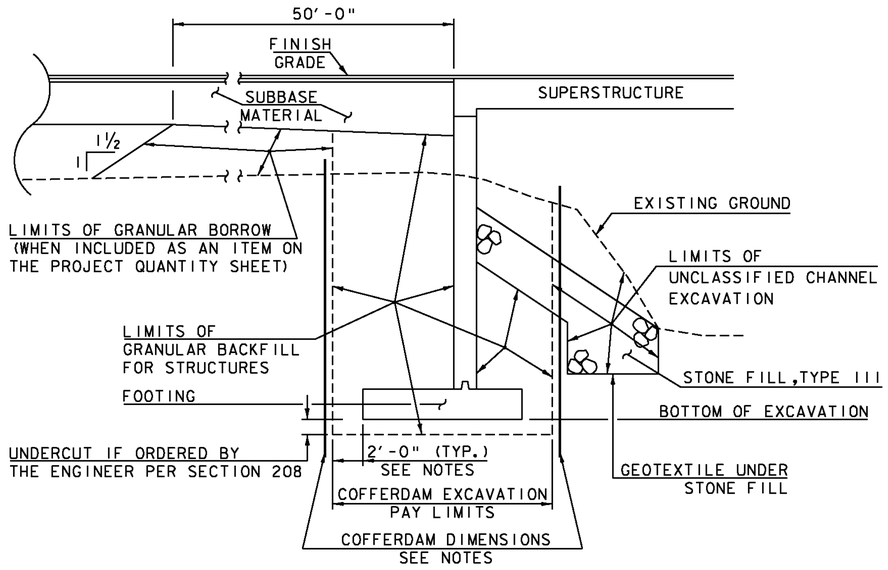
39. THE PILES SHALL BE HP12X84.

40. A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED FOR EACH SUBSTRUCTURE UNIT. MORE TESTS MAY BE REQUIRED BY THE ENGINEER. THE FIRST TEST PILE SHALL BE THE FIRST PRODUCTION PILE DRIVEN FOR THE SUBSTRUCTURE UNIT. THE PILE WILL BE DRIVEN AT THE PLAN LOCATION AND THE PILE SHALL BE MEASURED FOR PAYMENT UNDER CONTRACT ITEM 505.265.

41. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 395 KIPS.

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

43. TO PREVENT DAMAGE TO THE PILES, PILE SHOES ARE REQUIRED AND SHALL CONFORM TO SECTION 505.



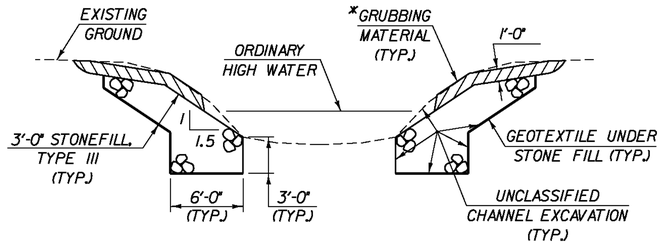
COFFERDAM AND EARTHWORK SECTION

(NOT TO SCALE)

ABUTMENT #1

COFFERDAM NOTES

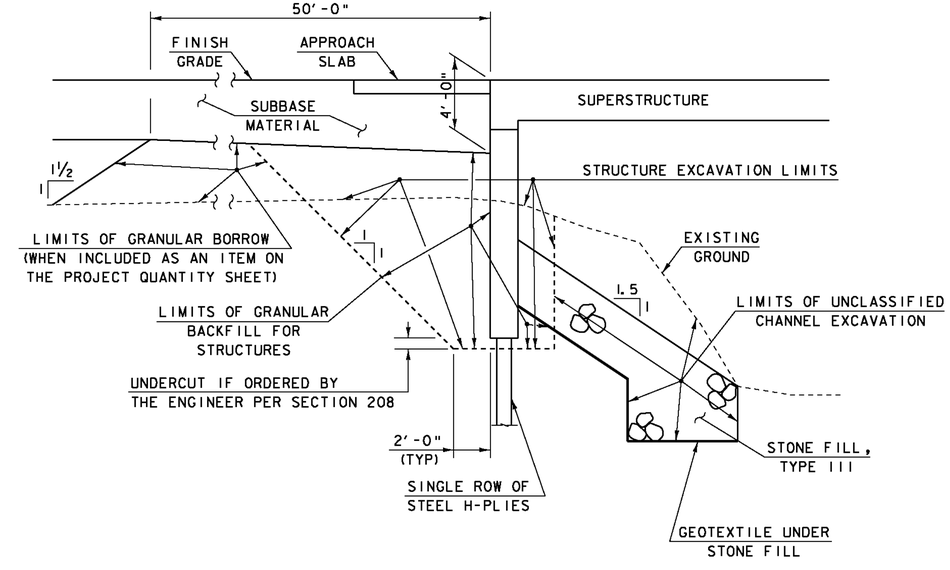
1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THE PAY LIMITS DEFINED IN NOTE 2.



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.*



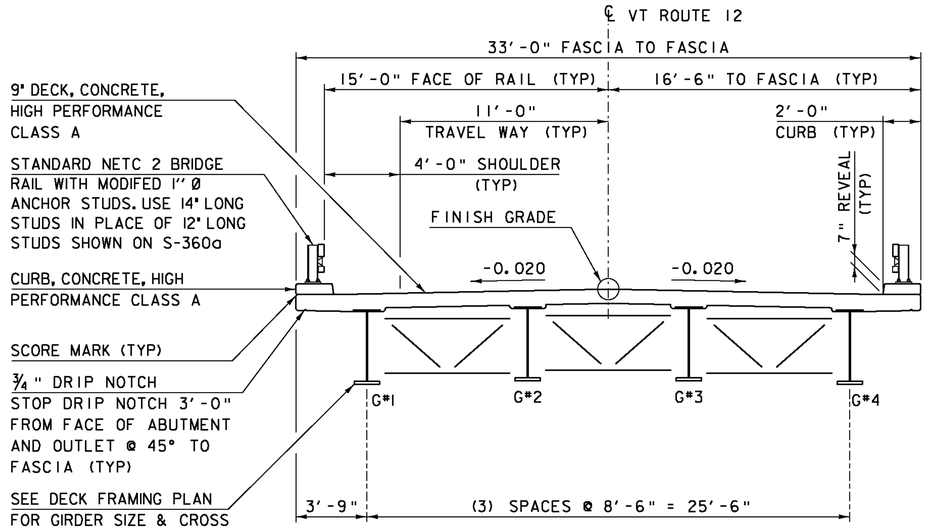
TYPICAL INTEGRAL ABUTMENT SECTION

NOT TO SCALE

ABUTMENT #2

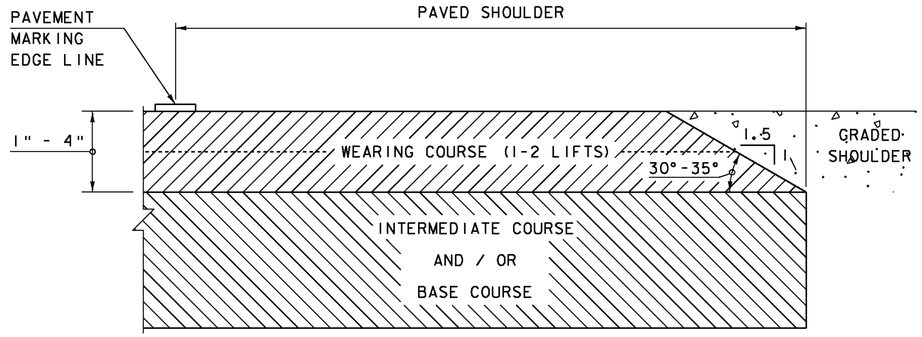
1. ACTUAL EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER THE ITEM 204.25 "STRUCTURE EXCAVATION".

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002typ.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
EARTHWORK TYPICAL	SHEET 4 OF 64



BRIDGE TYPICAL SECTION

SCALE ¼" = 1'-0"



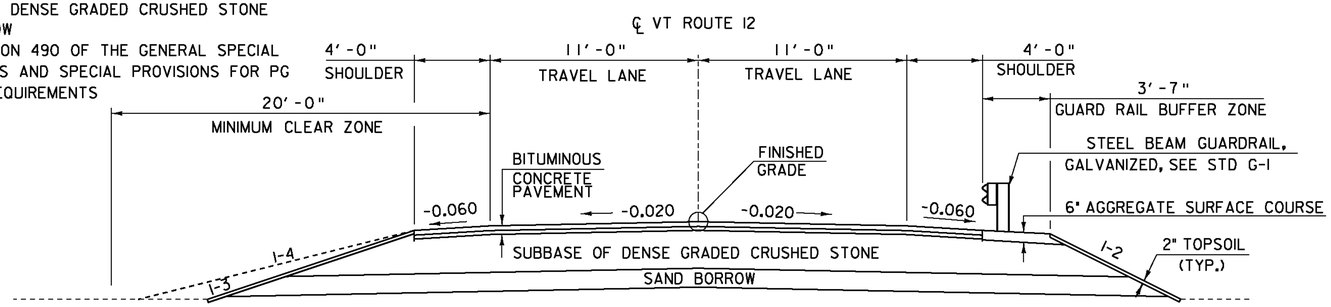
SAFETY EDGE DETAIL

NOT TO SCALE

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

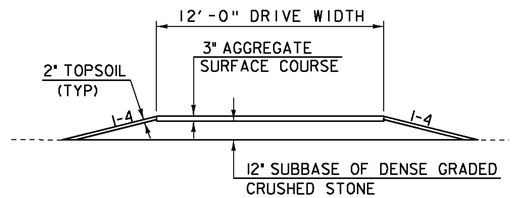
VT ROUTE 12

1½" BITUMINOUS CONCRETE PAVEMENT (TYPE IVS)
1½" BITUMINOUS CONCRETE PAVEMENT (TYPE IVS)
2½" BITUMINOUS CONCRETE PAVEMENT (TYPE IIS)
2'-0" SUBBASE OF DENSE GRADED CRUSHED STONE
1-0" SAND BORROW
NOTE: SEE SECTION 490 OF THE GENERAL SPECIAL PROVISIONS AND SPECIAL PROVISIONS FOR PG BINDER REQUIREMENTS



VT ROUTE 12 TYPICAL SECTION

SCALE ¼" = 1'-0"



DRIVE 103+28.50 (RT) TYPICAL SECTION

SCALE ¼" = 1'-0"

MATERIAL TOLERANCES

(IF USED ON PROJECT)

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

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: sc002typ.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
TYPICAL SECTIONS

PLOT DATE: 31-AUG-2011
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 5 OF 64

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
	Roadway	TRAINING	Erosion Control	Bridge	Full C&E	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
	1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				**EARTH WORKS SUMMARY**
	1820					1820		CY	COMMON EXCAVATION	203.15				**FILL AVAILABLE**
				1150		1150		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27		1274	CY	ITEM 203.15 - COMMON EXCAVATION (0.7*1820 CY)
	1100					1100		CY	SAND BORROW	203.31		345	CY	ITEM 203.27 - UNCLASSIFIED CHANNEL
	1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				EXCAVATION (0.3*270 CY)
				270		270		CY	STRUCTURE EXCAVATION	204.25		81	CY	ITEM 204.25 - STRUCTURE EXCAVATION (0.3*270 CY)
				840		840		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30		1700	CY	TOTAL FILL AVAILABLE
				670		670		CY	COFFERDAM EXCAVATION, EARTH	208.30				**FILL REQUIRED**
				290		290		CY	COFFERDAM EXCAVATION, ROCK	208.35		794	CY	COMMON FILL (1.15*690)
				1		1		LS	COFFERDAM (ABUTMENT 1)	208.40		794	CY	TOTAL FILL REQUIRED
	335					335		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10		**907**	**CY**	**WASTE**
	2340					2340		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
	35					35		CY	AGGREGATE SURFACE COURSE	401.10				
	30					30		CY	AGGREGATE SHOULDERS, IN PLACE	402.10				
	12					12		CWT	EMULSIFIED ASPHALT	404.65				
	1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
				190		190		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33				
				241		241		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34				
				1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
				220		220		LF	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84	505.265				
				2		2		EACH	DYNAMIC PILE LOADING TEST	505.45				
				136470		136470		LB	STRUCTURAL STEEL, PLATE GIRDER	506.55				
				21120		21120		LB	REINFORCING STEEL	507.15				
				38020		38020		LB	EPOXY COATED REINFORCING STEEL	507.17				
				1		1		LS	SHEAR CONNECTORS (936 - 7/8"X7")	508.15				
				45		45		GAL	WATER REPELLENT, SILANE	514.10				
				31		31		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
				242		242		LF	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	525.33				
				1		1		LS	TWO-WAY TEMPORARY BRIDGE (3600 SF - EST.)	528.11				
				220		220		SY	REMOVAL OF BRIDGE PAVEMENT	529.10				
				1		1		EACH	REMOVAL OF STRUCTURE (2330 SF - EST.)	529.15				
				4		4		EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11				
				4		4		EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14				
	48					48		MGAL	DUST CONTROL WITH WATER	609.10				
			10			10		CY	STONE FILL, TYPE I	613.10				
				610		610		CY	STONE FILL, TYPE III	613.12				
	160					160		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28				
	3					3		EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10				
	100					100		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20				
	4					4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0214 (30)

FILE NAME: s95c002qty.252/236 gn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
QUANTITY SHEET 1

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 6 OF 64

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					Roadway	TRAINING	Erosion Control	Bridge	Full C&E	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					4					4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL	621.72				
					161					161		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
					2250					2250		HR	FLAGGERS	630.15				
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
						520				520		HR	EMPLOYEE TRAINEESHIP	634.10				
					1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
					1					1		LS	TRAFFIC CONTROL	641.10				
					1000					1000		LF	4 INCH WHITE LINE	646.20				
					1000					1000		LF	4 INCH YELLOW LINE	646.21				
								740		740		SY	GEOTEXTILE UNDER STONE FILL	649.31				
							320			320		SY	GEOTEXTILE FOR SILT FENCE	649.51				
							220			220		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
							140			140		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
							50			50		LB	SEED	651.15				
							10			10		LB	SEED, WINTER RYE	651.17				
							375			375		LB	FERTILIZER	651.18				
							2			2		TON	AGRICULTURAL LIMESTONE	651.20				
							2			2		TON	HAY MULCH	651.25				
							190			190		CY	TOPSOIL	651.35				
								360		360		SY	GRUBBING MATERIAL	651.40				
							1			1		LS	EPSC PLAN	652.10				
							250			250		HR	MONITORING EPSC PLAN	652.20				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							840			840		SY	TEMPORARY EROSION MATTING	653.20				
							20			20		CY	VEHICLE TRACKING PAD	653.35				
							530			530		LF	BARRIER FENCE	653.50				
							1190			1190		LF	PROJECT DEMARCATION FENCE	653.55				
					2					2		EACH	TRANSPLANTING SHRUBS	656.50				
					13.1					13.1		SF	TRAFFIC SIGNS, TYPE A	675.20				
					60					60		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
					60					60		EACH	REMOVING SIGNS	675.50				
					4					4		EACH	DELINEATOR WITH STEEL POST	676.10				
					4					4		EACH	REMOVAL OF EXISTING DELINEATOR	676.12				
					1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
					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				
								390				SY	SPECIAL PROVISION (LONGITUDINAL DECK GROOVING)	900.675				

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0214 (30)

FILE NAME: s95c002qty. 252/236 gn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
QUANTITY SHEET 2

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 7 OF 64

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES												TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						Roadway		TRAINING		Erosion Control		Bridge		Full C&E	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						756									756		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0214 (30)

FILE NAME: s95c002qty.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
QUANTITY SHEET 3

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 8 OF 64

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES					TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
APPROCH SLAB #1	ABUTMENT #1	SUPER-STRUCTURE	ABUTMENT #2	APPROCH SLAB #2	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
	526		624		1150	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
			270		270	CY	STRUCTURE EXCAVATION	204.25			
	661		179		840	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
	670				670	CY	COFFERDAM EXCAVATION, EARTH	208.30			
	290				290	CY	COFFERDAM EXCAVATION, ROCK	208.35			
	1				1	LS	COFFERDAM (ABUTMENT 1)	208.40			
27		127	9	27	190	CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33			
	199		42		241	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
			1		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
			220		220	LF	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 84	505.265			
			2		2	EACH	DYNAMIC PILE LOADING TEST	505.45			
		136470			136470	LB	STRUCTURAL STEEL, PLATE GIRDER	506.55			
	19730		1390		21120	LB	REINFORCING STEEL	507.15			
1928	755	25634	7775	1928	38020	LB	EPOXY COATED REINFORCING STEEL	507.17			
		1			1	LS	SHEAR CONNECTORS (936 - 7/8"X7")	508.15			
	4	38	3		45	GAL	WATER REPELLENT, SILANE	514.10			
			31		31	LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
		242			242	LF	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	525.33			
		1			1	LS	TWO-WAY TEMPORARY BRIDGE (3600 SF - EST.)	528.11			
		220			220	SY	REMOVAL OF BRIDGE PAVEMENT	529.10			
		1			1	EACH	REMOVAL OF STRUCTURE (2330 SF - EST.)	529.15			
	4				4	EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11			
			4		4	EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14			
	338		272		610	CY	STONE FILL, TYPE III	613.12			
	422		318		740	SY	GEOTEXTILE UNDER STONE FILL	649.31			
	230		130		360	SY	GRUBBING MATERIAL	651.40			
		390			390	SY	SPECIAL PROVISION (LONGITUDINAL DECK GROOVING)	900.675			

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0214 (30)

FILE NAME: s95c002qty. 252/236 gn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
BRIDGE QUANTITY SHEET 1

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 9 OF 64

GPS CONTROL POINTS

HVCTRL # 1

Standard Disk Stamped

Cleveland Az

NORTH = 478386.150
EAST = 1603594.342
ELEV. = 553.601

TO REACH FROM THE JUNCTION OF VT 107 AND VT 12 SOUTH OF BETHEL, PROCEED EASTERLY ALONG VT 107 AND VT 12 FOR APPROX 0.3 M (1.0 FT) TO THE MARK ON THE LEFT. THE MARK IS DIRECTLY OPPOSITE CLEVELAND BROOK ROAD, 25.5 FT (7.8 M) NORTH FROM THE CENTERLINE OF VT 107 AND VT 12. OWNERSHIP STATE OF VERMONT STATION MARK IS A STATE OF VERMONT SURVEY MARK SET IN THE TOP OF A 12 INCH DIAMETER CONCRETE POST SET FLUSH WITH GROUND. IT IS 25.5 FT (7.8 M) NORTH OF CENTERLINE VT 107 AND VT 12, 4.5 FT (1.4 M) NORTH OF 3 CABLE GUARD RAIL, 45 FT (13.7 M) SOUTHEAST FROM COMBINATION POLE 4/49/57, 15 FT (4.6 M) SOUTH OF THE NORTH END OF A 4 FT (1.2 M) X 5 FT (1.5 M) CONCRETE BOX, 72 FT (21.9 M) NORTH OF THE SOUTH END OF A 4 FT (1.2 M) X 5 FT (1.5 M) CONCRETE BOX.

HVCTRL # 2

Standard Disk Stamped

Cleveland

NORTH = 477609.622
EAST = 1601931.471
ELEV. = 580.160

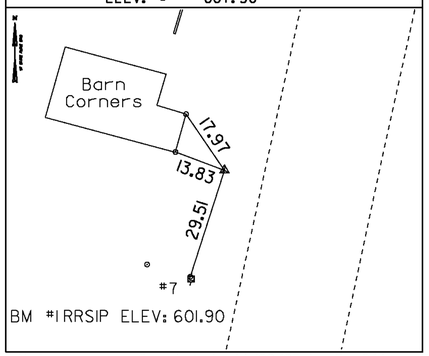
TO REACH FROM THE JUNCTION OF VT ROUTE 107 AND VT ROUTE 12, SOUTH OF BETHEL, PROCEED EASTERLY ALONG VT 107 AND VT 12 FOR APPROX 0.6 M (2.0 FT) TO THE MARK ON THE LEFT. STATION MARK IS A STATE OF VERMONT SURVEY MARK SET IN THE TOP OF A 12 INCH DIAMETER CONCRETE POST SET FLUSH WITH GROUND. IT IS 26 FT (7.9 M) NORTHWEST OF THE CENTERLINE OF THE ROAD, 88.5 FT (27.0 M) SOUTHWEST OF COMBINATION POLE 49/4/41, 143 FT (43.6 M) WEST OF 18 INCH CGMP WITH 7 FT (2.1 M) MARBLE HEADWALL.

• Description provided by Vermont Agency of Transportation Geodetic Survey Unit

TRAVERSE TIES

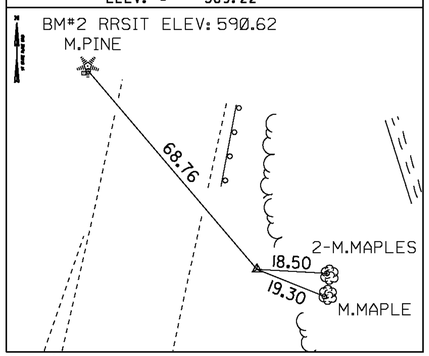
HVCTRL #5

NORTH = 475504.18
EAST = 1600022.00
ELEV. = 601.50



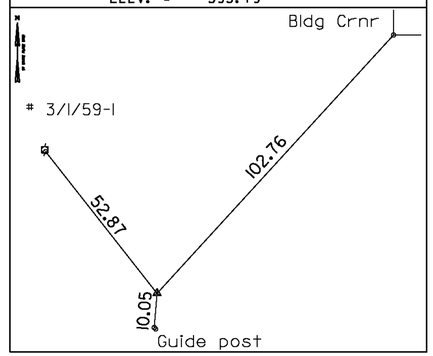
HVCTRL #6

NORTH = 476219.43
EAST = 1600235.20
ELEV. = 589.22



HVCTRL #7

NORTH = 476993.37
EAST = 1600457.03
ELEV. = 593.79



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

* Main Traverse Completed 11/09/95 by R. Gilman P.C. & T. Morse

ALIGNMENT TIES

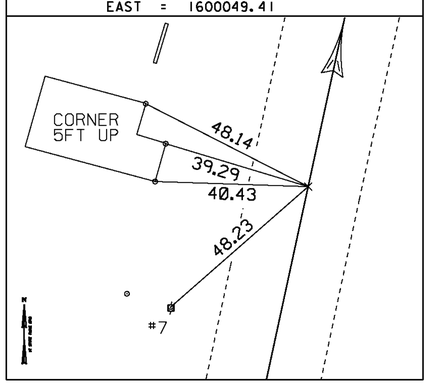
POB 100+00

NORTH = 475263.26
EAST = 1599996.55

NOT TIED

POT 102+50.00

NORTH = 475507.61
EAST = 1600049.41



POT 103+25.50

= POB 200+00.00

NORTH = 475584.33
EAST = 1600066.01

POT 104+29.25

= POB 300+00.00

NORTH = 475682.80
EAST = 1600087.32

POT 106+36.00

= POB 300+00.00

NORTH = 475884.88
EAST = 1600131.04

NOT TIED

* Alignment Staked 9/24/08 by R.Gilman P.C. & P.Winters & T.Parker

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT Compass

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0214 (30)

FILE NAME: sc002ti.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: R. BULLOCK
TIE SHEET

PLOT DATE: 31-AUG-2011
DRAWN BY: R. BULLOCK
CHECKED BY: U. STANLEY
SHEET 10 OF 64

4" WHITE LINE

FROM STA.	TO STA.
100+10.00 LT	103+00.00 LT
100+10.00 RT	103+00.00 RT

4" YELLOW LINE (DOUBLE)

FROM STA.	TO STA.
100+10.00	103+00.00

COLD PLANING, BITUMINOUS PAVEMENT

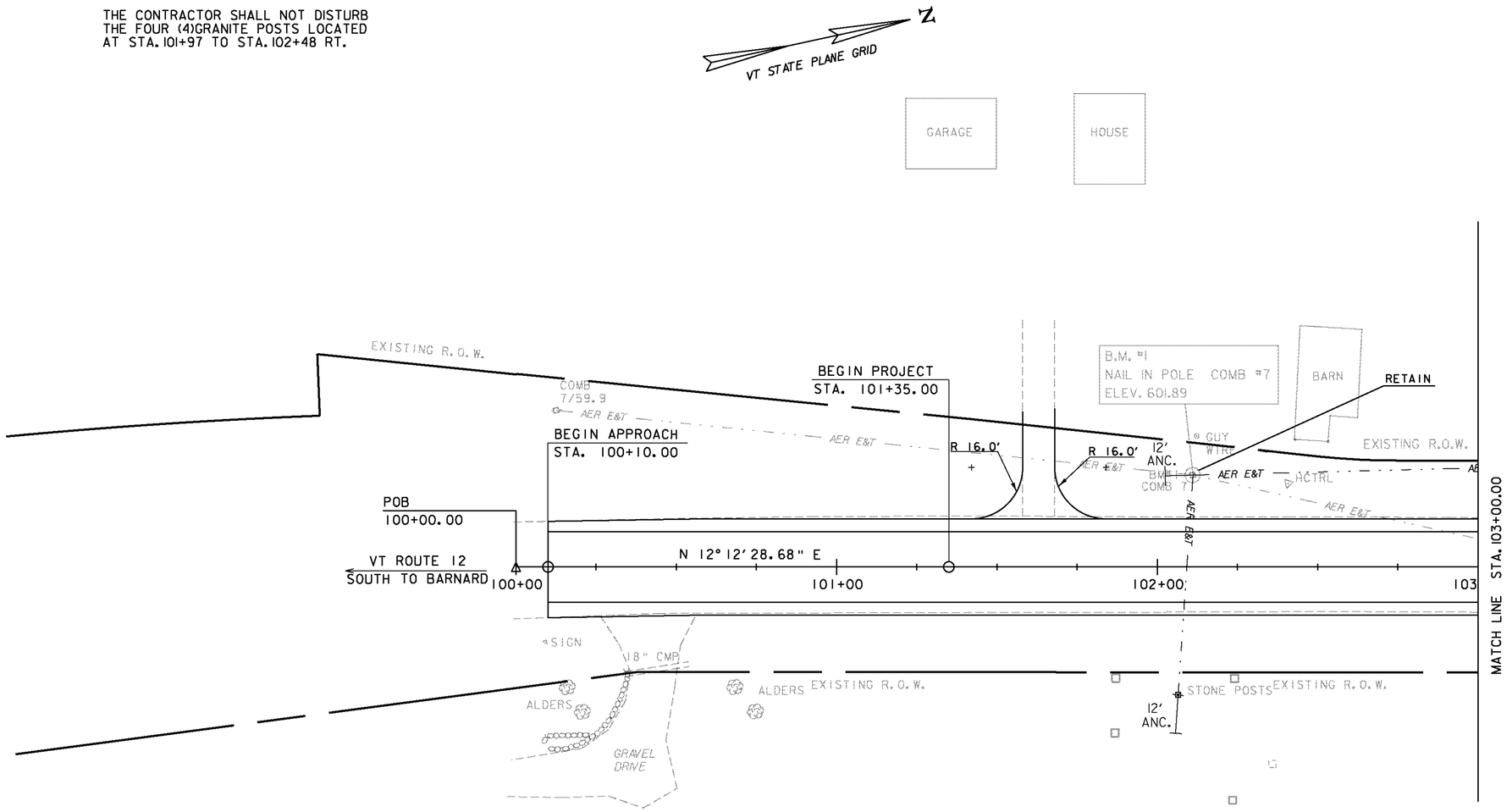
FROM STA.	TO STA.
100+10.00	100+60.00

NOTE:

THE CONTRACTOR SHALL NOT DISTURB THE FOUR (4)GRANITE POSTS LOCATED AT STA. 101+97 TO STA. 102+48 RT.

CONSTRUCT DRIVE (GRAVEL)

101+63.00 LT (WIDTH 10')



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

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)

FILE NAME: sc002bdr.dgn		PLOT DATE:	31-AUG-2011
PROJECT LEADER:	M. EVANS-MONGEON	DRAWN BY:	G. ROKES
DESIGNED BY:	U. STANLEY	CHECKED BY:	U. STANLEY
LAYOUT SHEET 1		SHEET	11 OF 64

4" WHITE LINE

FROM STA.	TO STA.
103+00.00 LT	- 108+00.00 LT
103+00.00 RT	- 108+00.00 RT

4" YELLOW LINE (DOUBLE)

FROM STA.	TO STA.
103+00.00	- 108+00.00

REMOVAL AND DISPOSAL OF GUARDRAIL

FROM STA.	TO STA.
103+73.00	- 104+67.00 LT
104+47.00	- 104+89.00 RT
105+51.00	- 105+63.00 LT
105+73.00	- 105+86.00 RT

TRANSPLANTING SHRUBS

STA.	OFFSET
103+49.93	24.65 RT
103+89.10	34.93 RT
103+20 RT	

ANCHOR FOR STEEL BEAM RAIL VT 12

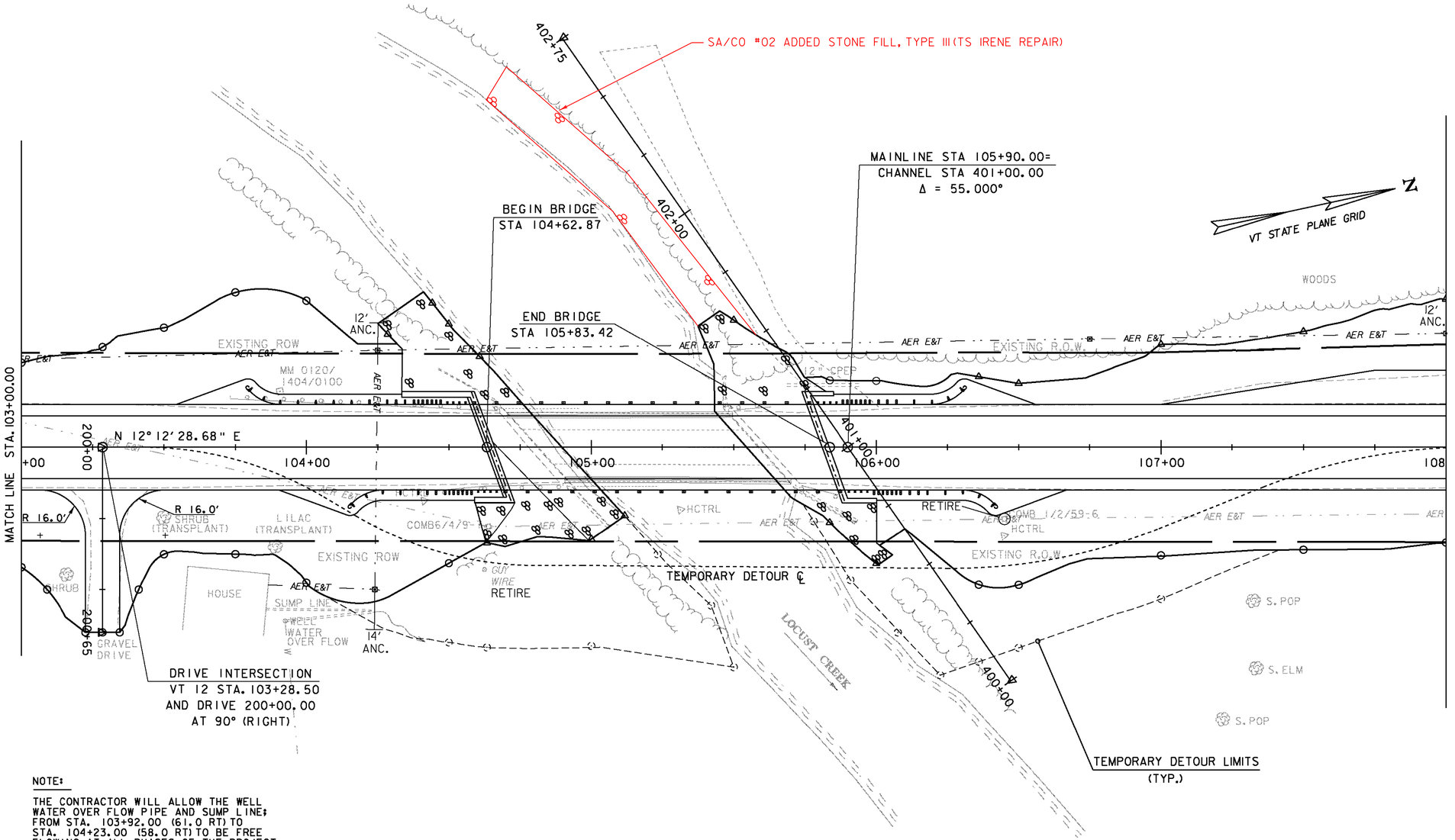
103+85.00 LT
104+20.00 RT
106+28.00 LT
106+37.00 RT

CONSTRUCT DRIVE (GRAVEL)

103+28.50 RT (WIDTH 12')

STEEL BEAM GUARDRAIL, GAVANIZED VT 12

FROM STA.	TO STA.
103+80.00	- 104+28.79 LT
104+15.42	- 104+39.78 RT
106+07.58	- 106+28.22 LT
106+18.50	- 106+42.30 RT



NOTE:

THE CONTRACTOR WILL ALLOW THE WELL WATER OVER FLOW PIPE AND SUMP LINE; FROM STA. 103+92.00 (61.0 RT) TO STA. 104+23.00 (58.0 RT) TO BE FREE FLOWING AT ALL PHASES OF THE PROJECT. THIS INCLUDES THE PIPES OVER FLOW DITCH TO BE FREE OF OBSTRUCTIONS AT ALL TIMES. THE FLOW OF DITCH IS AS INDICATED.

DELINEATOR WITH STEEL POST

STA. 103+88.00 LT 18'(GREEN)
STA. 104+15.00 RT 18'(BLUE)
STA. 106+25.00 LT 18'(BLUE)
STA. 106+31.00 RT 18'(GREEN)

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL

FROM STA.	TO STA.
104+28.79	- 104+58.29 LT
104+39.78	- 104+69.20 RT
105+78.17	- 106+07.58 LT
105+89.08	- 106+18.50 RT

BRIDGE RAILING, GALVANIZED NETC 2 RAIL

FROM STA.	TO STA.
104+58.29	- 105+78.17 LT
104+69.20	- 105+89.08 RT

EXISTING BRIDGE DATA

SIMPLE SPAN WITH CONCRETE DECK
YEAR BUILT: 1939
CLEAR SPAN: 58 FT.
VERTICAL CLEARANCE: 9.5 FT.
WATERWAY OF FULL OPENING: 440 SQ. FT.
EXISTING BRIDGE RAIL: TEMPORARY CONCRETE BARRIER

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

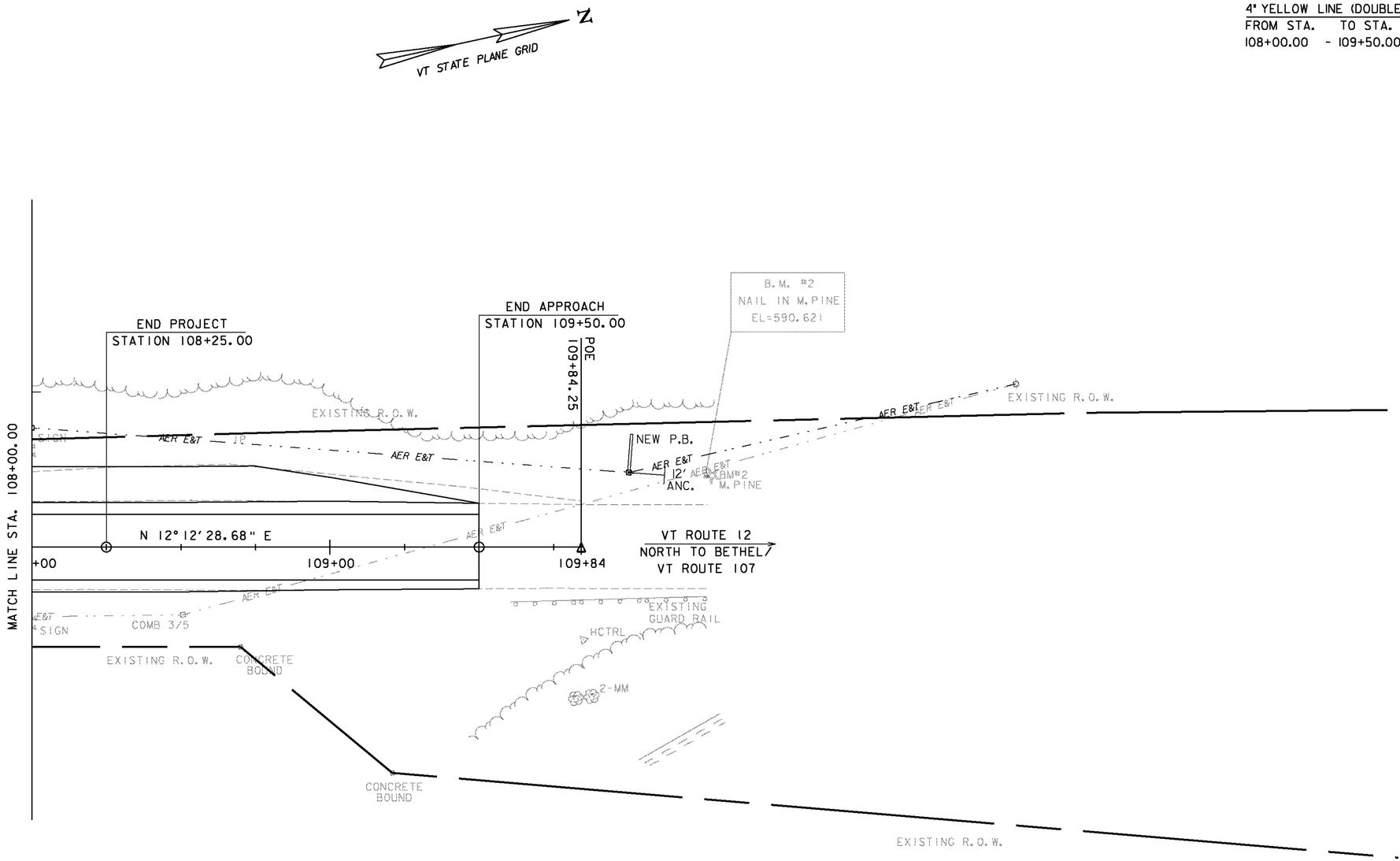
PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: sc002bdr.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
LAYOUT SHEET 2

PLOT DATE: 31-AUG-2011
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 12 OF 64

4" WHITE LINE	
FROM STA.	TO STA.
108+00.00 LT	- 109+50.00 LT
108+00.00 RT	- 109+50.00 RT

4" YELLOW LINE (DOUBLE)	
FROM STA.	TO STA.
108+00.00	- 109+50.00

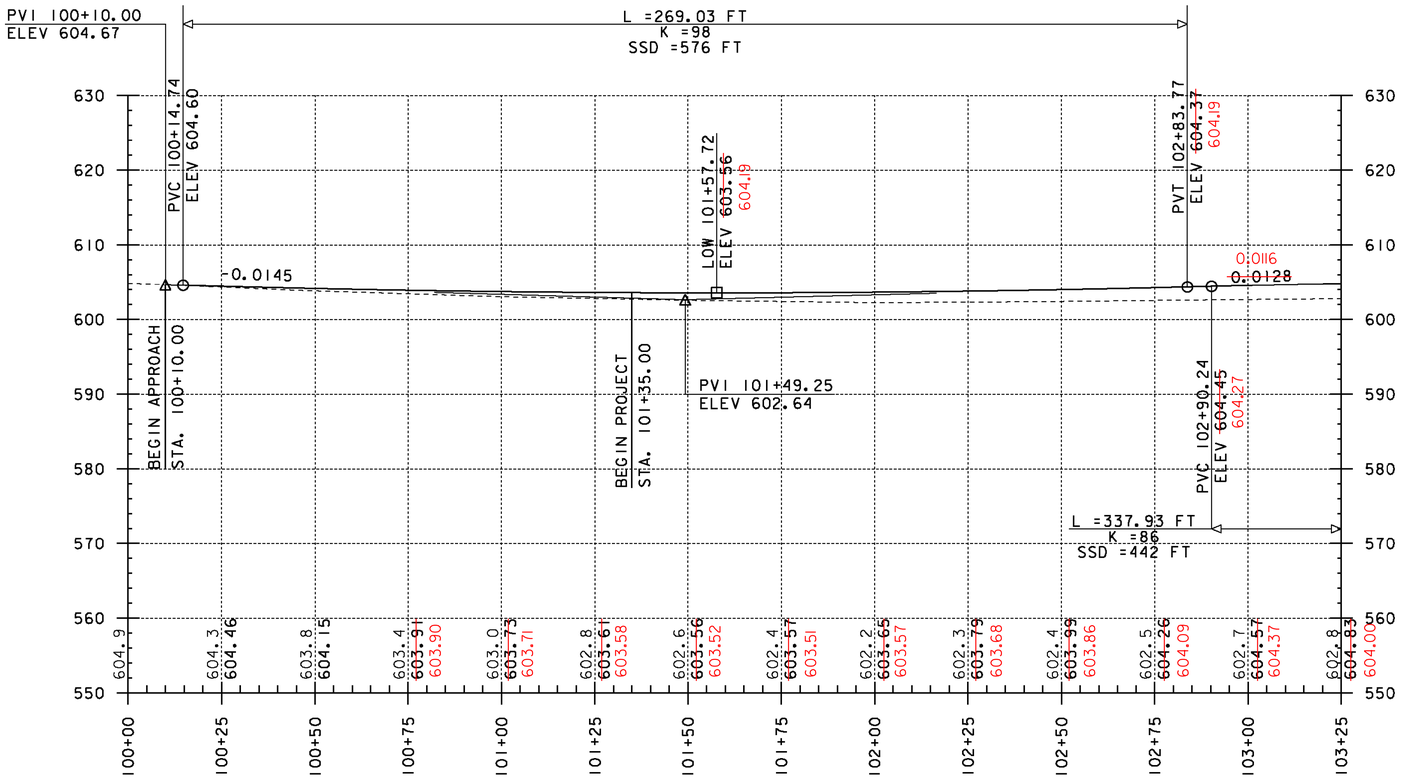


SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)

FILE NAME: sc002bdr.dgn		PLOT DATE:	31-AUG-2011
PROJECT LEADER:	M. EVANS-MONGEON	DRAWN BY:	G. ROKES
DESIGNED BY:	U. STANLEY	CHECKED BY:	U. STANLEY
LAYOUT SHEET 3		SHEET	13 OF 64

VT 12 PROFILE

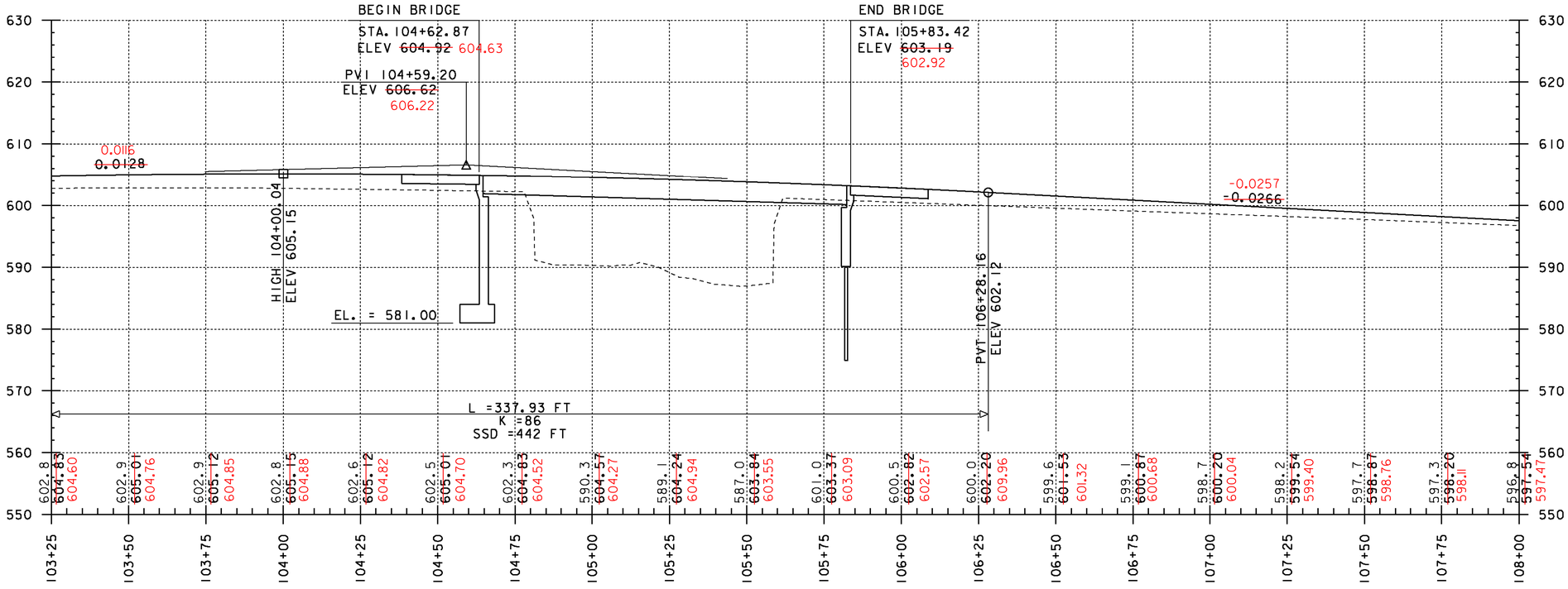


GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE PROFILE SHEET 1	SHEET 14 OF 64

VT 12 PROFILE



GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND

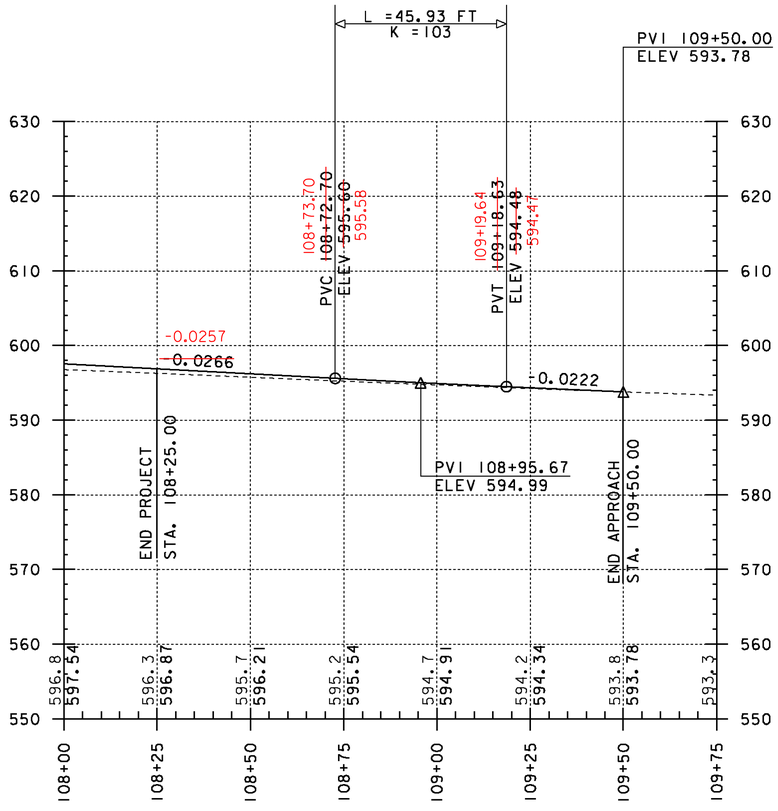
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: sc002xs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
MAINLINE PROFILE SHEET 2

PLOT DATE: 31-AUG-2011
DRAWN BY: U. STANLEY
CHECKED BY: G. ROKES
SHEET 15 OF 64

VT 12 PROFILE

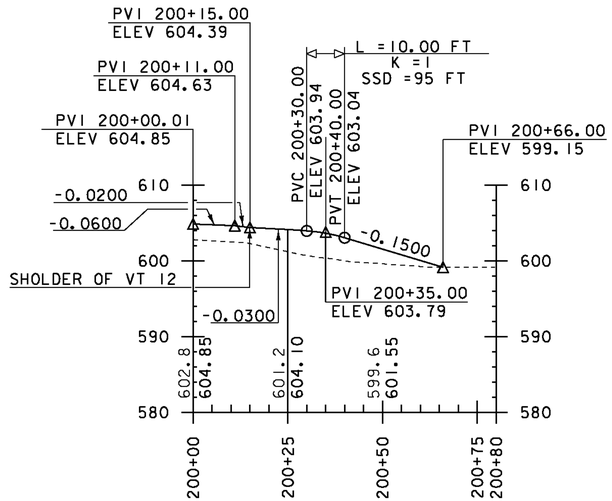


GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE PROFILE SHEET 3	SHEET 16 OF 64

DRIVE AT STA. 103+28.50 PROFILE



GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
PRIVATE DRIVE PROFILE SHEET	SHEET 17 OF 64

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	SUAREZ, MANUEL & MICHAELA	16,17	101+05.39 LT	105+00.00 LT	0.33A		ALL R.T. & I.			WD	05/12/11	BETHEL	102	96-97	HWY. EASE. VT. RTE. 12
			101+63.00 LT				DRIVE	(T)							10' GRAVEL MM 0098
			101+70.83 LT	101+80.89 LT			INSTALL	(T)							PDF & EC
			102+12.45 LT				REMOVE	(T)							GUY WIRE & ANCHOR
			102+26.76 LT	105+00.00 LT			UE	(P)	0.04A						1,829 S.F.±
			102+90.12 LT	104+41.10 LT			CONST.	(T)	0.03A						INCLUDES PDF,BF & EC; 1,513 S.F.±
			103+22.43 LT	104+33.56 LT			SLOPE	(T)	0.03A						1,312 S.F.±
			104+24.60 LT				INSTALL & MAINTAIN	(P)							GUY WIRE & ANCHOR
			104+25.08 LT	104+59.92 LT			CHANNEL	(P)	0.01A						402 S.F.±
			103+00.00 CL				ALL R. T. & I.								WATER LINE & SLEEVE
2	McKINSTRY, MARK A. SR. & JANET K.	16,17	101+05.39 RT	103+08.55 RT			CONST.	(T)	0.03A	COND.	02/23/11	BETHEL	101	443-445	INCLUDES PDF & EC; 1,143 S.F.±
	SCHENKER, JOSEF H. & SHERYL		101+78.92 RT	103+15.77 RT			SLOPE	(T)	366 S.F.						
			102+02.76 RT	102+08.06 RT			UE	(P)	55 S.F.						
			102+06.05 RT				INSTALL & MAINTAIN	(P)							GUY WIRE & ANCHOR
3	SCHENKER, JOSEF H. & SHERYL	16,17,18	101+05.39 RT	109+20.95 RT	0.65 A		ALL R. T. & I.			COND.	02/23/11	BETHEL	101	443-445	HWY. EASE. VT. RTE 12
			103+00.00 CL				ALL R. T. & I.								WATER LINE & SLEEVE
			103+08.55 RT	103+18.51 RT			INSTALL	(T)							PDF & EC
			103+28.50 RT				DRIVE	(T)							12' GRAVEL; MM 0101
			103+35.88 RT	103+58.01 RT			INSTALL	(T)							PDF & EC
			103+41.21 RT	104+63.04 RT			SLOPE	(T)	0.03A						1,255 S.F.±
			103+88.82 RT	105+79.97 RT			CONST.	(T)	0.07A						INCLUDEF PDF , BF & EC; 2,908 S.F.±
			103+88.82 RT	107+48.68 RT			DETOUR	(T)	0.27A						2 WAY VEHICULAR; INCLUDES EC
			103+87.04 RT	104+20.14 RT			UE	(T)							WIRE CONNECTION
			104+20.14 RT	104+28.20 RT			UE	(P)	242 S.F.						
			104+63.04 RT	104+75.84 RT			CHANNEL	(P)	12 S.F.						
			104+62.88 RT				REMOVE	(T)							GUY WIRE & ANCHOR
			106+22.43 RT	108+73.45 RT			CONST.	(T)	0.07A						3,061 S.F.±INCLUDES PDF, BF & EC
			105+90.90 RT	106+05.68 RT			CHANNEL	(P)	56 S.F.						
			106+15.16 RT	108+00.00 RT			SLOPE	(T)	0.02A						1,017 S.F.±
			103+15.77 RT	103+88.82 RT			REMOVE	(T)							(2) TREES/ SHRUBS
			103+40.00 RT.	104+00.00 RT.			LANDSCAPE	(T)							LANDSCAPE (2) TREES/ SHRUBS
4	SHEKINAH, LINDA L.	17	105+00.00 LT	105+81.72 LT	0.06A		ALL R.T. & I.			WD	11/13/10	BETHEL	101	188	HWY. EASE. VT. RTE. 12; 2,680 S.F.±
			104+93.10 LT	105+81.72 LT			UE	(P)	0.02A						895 S.F.±
			105+22.90 LT	105+81.72 LT			CONST.	(T)	0.01A						INCLUDES PDF, BF & EC; 570 S.F.±
			105+37.46 LT	105+69.00 LT			CHANNEL	(P)	245 S.F.						
			105+37.46 LT	105+81.72 LT			REMOVE	(T)							REMOVE EXISTING DRIVE
			105+37.46 LT	105+81.72 LT			REMOVE	(P)							PERMANENT REMOVAL OF VEHICULAR ACCESS TO VT. RTE. 12
5	DURFEE. JOHN B.	17,18	105+81.72 LT	109+20.95 LT	0.28A		ALL R. T. & I.			WD	01/27/11	BETHEL	101	396	HWY. EASE. VT. RTE. 12
			105+76.85 LT	109+20.95 LT			UE	(P)	0.07A						3,142 S.F.±
			105+78.33 LT	108+92.52 LT			CONST.	(T)	0.05A						INCLUDES PDF, BF ; 2,385 S.F.±
			106+96.19 LT	108+45.66 LT			SLOPE	(T)	0.02A						1,104 S.F.±
			107+00.74 LT	108+26.95 LT			DITCH & DRAINAGE	(P)	251 S.F.						
			108+00.00 LT.				INSTALL & MAINTAIN	(P)							GUY WIRE & ANCHOR
6	CENTRAL VT. PUBLIC SERVICE CORPORATION		101+05.39 LT	109+20.95 LT			ALL R.T. & I.			COND.	02/23/11	BETHEL	101	443-445	UTILITY EASEMENTS
7	TELEPHONE OPERATING COMPANY OF VERMONT LLC		101+05.39 LT	101+20.95 LT			ALL R.T. & I.			COND.	02/23/11	BETHEL	101	443-445	UTILITY EASEMENTS

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	15,17,18	PARCEL NO. 5 DURFEE. ADD INSTALL & MAINTAIN (P)	12/09/09
		FOR GUY & ANCHOR AT STA. 108+00 LT. PER C.O. 9582	
		MADE BY: MR APPROVED BY: HP	
2	15,17	PARCEL NO. 4 SHEKINAH. CHANGE REMARKS OF REMOVE	06/07/10
		(T) TO "REMOVE EXISTING DRIVE" ADD REMOVE (P) AT	
		STA. 105+37.46 LT. ~ 105+81.72 LT. REMARKS: "PERMANENT	
		REMOVAL OF VEHICULAR ACCESS TO VT. RTE. 12"	
		PER C.O. 9617	
		MADE BY: MR APPROVED BY: HP	
3	17	PARCEL NO. 5 DURFEE. FOLLOWING TEXT WAS ADDED	01/13/11
		TO LAYOUT SHEET... CONTINGENT UPON APPROVAL	
		OF A TITLE 19 SECTION III PERMIT BY THE VAOT.	
		MADE BY: MT C.O. 9697 APPROVED BY: HP	

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CZ — CLEAR ZONE
- P / L — PROPERTY LINE
- TOE OF SLOPE
- TOP OF CUT
- SR (P) — SLOPE RIGHT
- CONST. (T) — CONSTRUCTION RIGHT
- 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: 12-03-09
CHIEF, PLANS & TITLES

PLOT DATE 08/31/11

PROJECT NAME: **BETHEL**
PROJECT NUMBER: **BHF 0241(30)**

FILE NAME: **r95c002detail.xls** PLOT DATE:
PROJECT LEADER: **M E-M** DRAWN BY: **MR**
DESIGNED BY: **US** CHECKED BY: **FM**
R.O.W. DETAIL SHEET 1 SHEET **18** OF **64**

4" WHITE LINE

FROM STA.	TO STA.
100+10.00 LT	103+00.00 LT
100+10.00 RT	103+00.00 RT

4" YELLOW LINE (DOUBLE)

FROM STA.	TO STA.
100+10.00	103+00.00

COLD PLANING, BITUMINOUS PAVEMENT

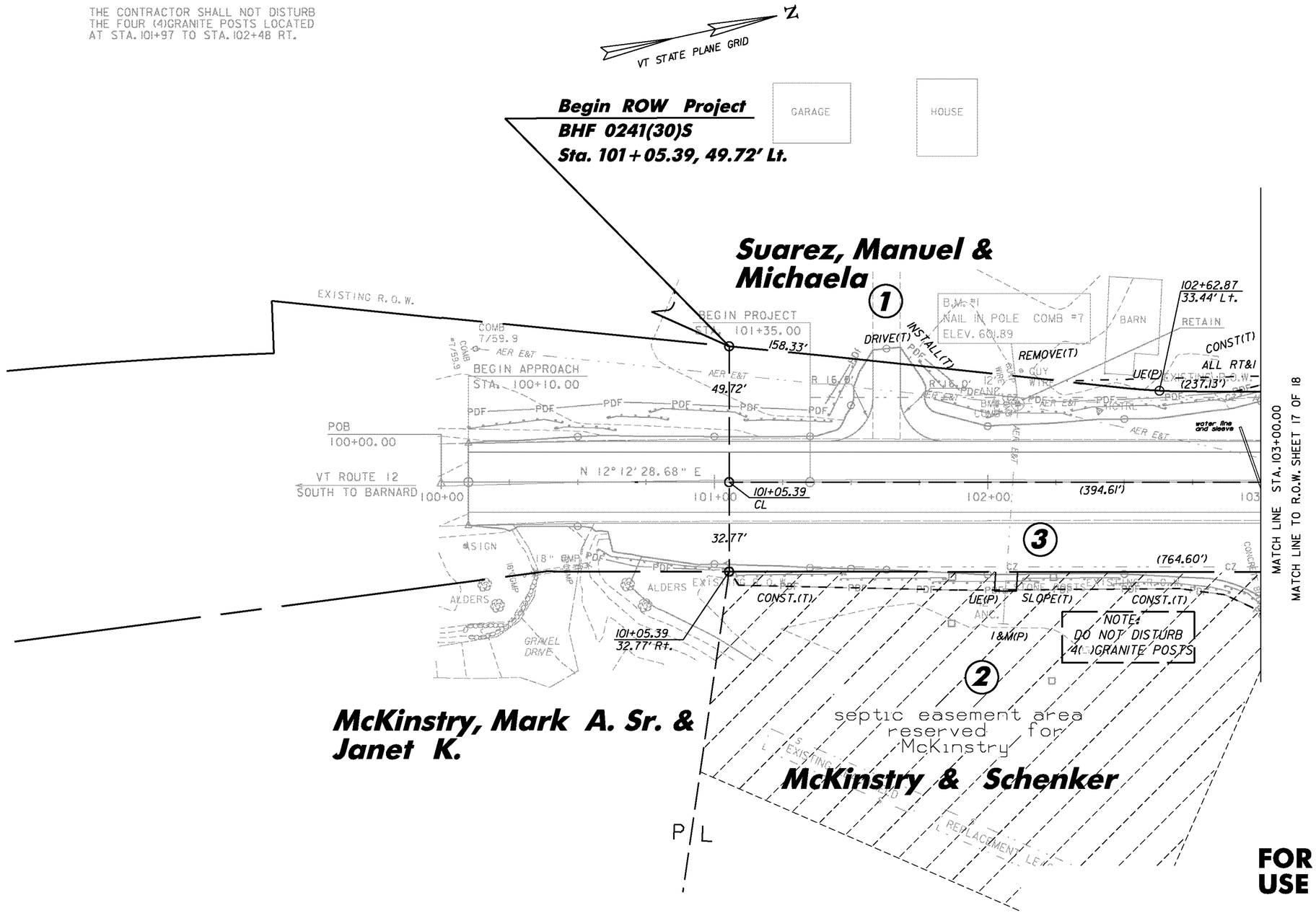
FROM STA.	TO STA.
100+10.00	100+60.00

CONSTRUCT DRIVE (GRAVEL)

101+63.00 LT (WIDTH 10')

NOTE:

THE CONTRACTOR SHALL NOT DISTURB THE FOUR (4)GRANITE POSTS LOCATED AT STA. 101+97 TO STA. 102+48 RT.



FOR R.O.W. USE ONLY

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

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)

FILE NAME: sc002bdr.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
R.O.W. LAYOUT SHEET 1	SHEET 19 OF 64

4" WHITE LINE

FROM STA.	TO STA.
103+00.00 LT	108+00.00 LT
103+00.00 RT	108+00.00 RT

4" YELLOW LINE (DOUBLE)

FROM STA.	TO STA.
103+00.00	108+00.00

REMOVAL AND DISPOSAL OF GUARDRAIL

FROM STA.	TO STA.
103+73.00	104+67.00 LT
104+47.00	104+89.00 RT
105+51.00	105+63.00 LT
105+73.00	105+86.00 RT

TRANSPLANTING SHRUBS

STA.	OFFSET
103+49.93	24.65 RT
103+89.10	34.93 RT

ANCHOR FOR STEEL BEAM RAIL VT 12

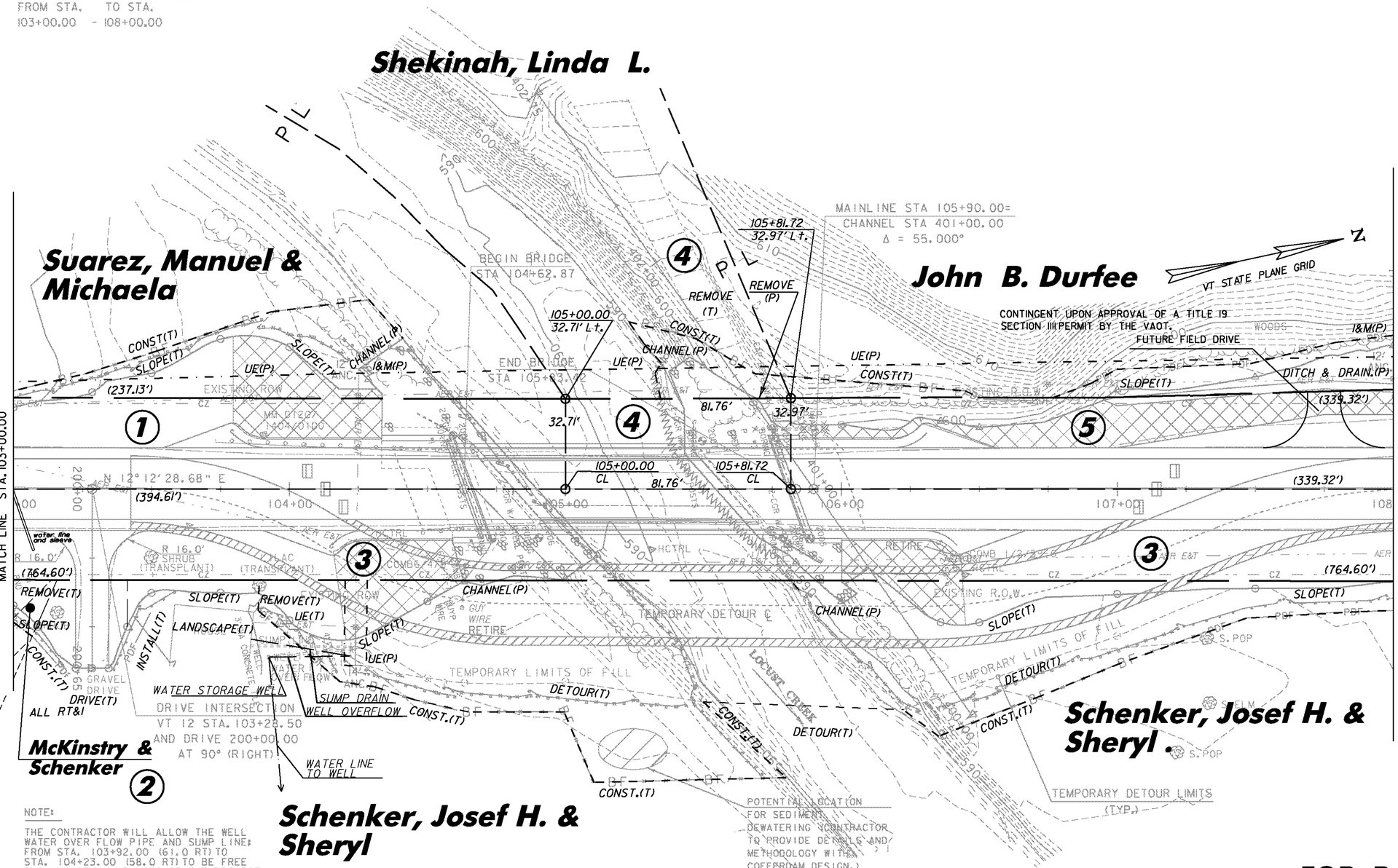
103+85.00 LT
104+20.00 RT
106+28.00 LT
106+37.00 RT

CONSTRUCT DRIVE (GRAVEL)

103+28.50 RT (WIDTH 12')

STEEL BEAM GUARDRAIL, GAVANIZED VT 12

FROM STA.	TO STA.
103+80.00	104+28.79 LT
104+15.42	104+39.78 RT
106+07.58	106+28.22 LT
106+18.50	106+42.30 RT



NOTE:

THE CONTRACTOR WILL ALLOW THE WELL WATER OVER FLOW PIPE AND SUMP LINE: FROM STA. 103+92.00 (61.0 RT) TO STA. 104+23.00 (58.0 RT) TO BE FREE FLOWING AT ALL PHASES OF THE PROJECT. THIS INCLUDES THE PIPES OVER FLOW DITCH TO BE FREE OF OBSTRUCTIONS AT ALL TIMES. THE FLOW OF DITCH IS AS INDICATED.

EXISTING BRIDGE DATA

SIMPLE SPAN WITH CONCRETE DECK
YEAR BUILT: 1939
CLEAR SPAN: 58 FT.
VERTICAL CLEARANCE: 9.5 FT.
WATERWAY OF FULL OPENING: 440 SQ. FT.
EXISTING BRIDGE RAIL: TEMPORARY CONCRETE BARRIER

DELINEATOR WITH STEEL POST

STA.	
103+88.00 LT	18'(GREEN)
104+15.00 RT	18'(BLUE)
106+25.00 LT	18'(BLUE)
106+31.00 RT	18'(GREEN)

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL

FROM STA.	TO STA.
104+28.79	104+58.29 LT
104+39.78	104+69.20 RT
105+78.17	106+07.58 LT
105+89.08	106+18.50 RT

BRIDGE RAILING, GALVANIZED NETC 2 RAIL

FROM STA.	TO STA.
104+58.29	105+78.17 LT
104+69.20	105+89.08 RT

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.

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

FOR R.O.W. USE ONLY

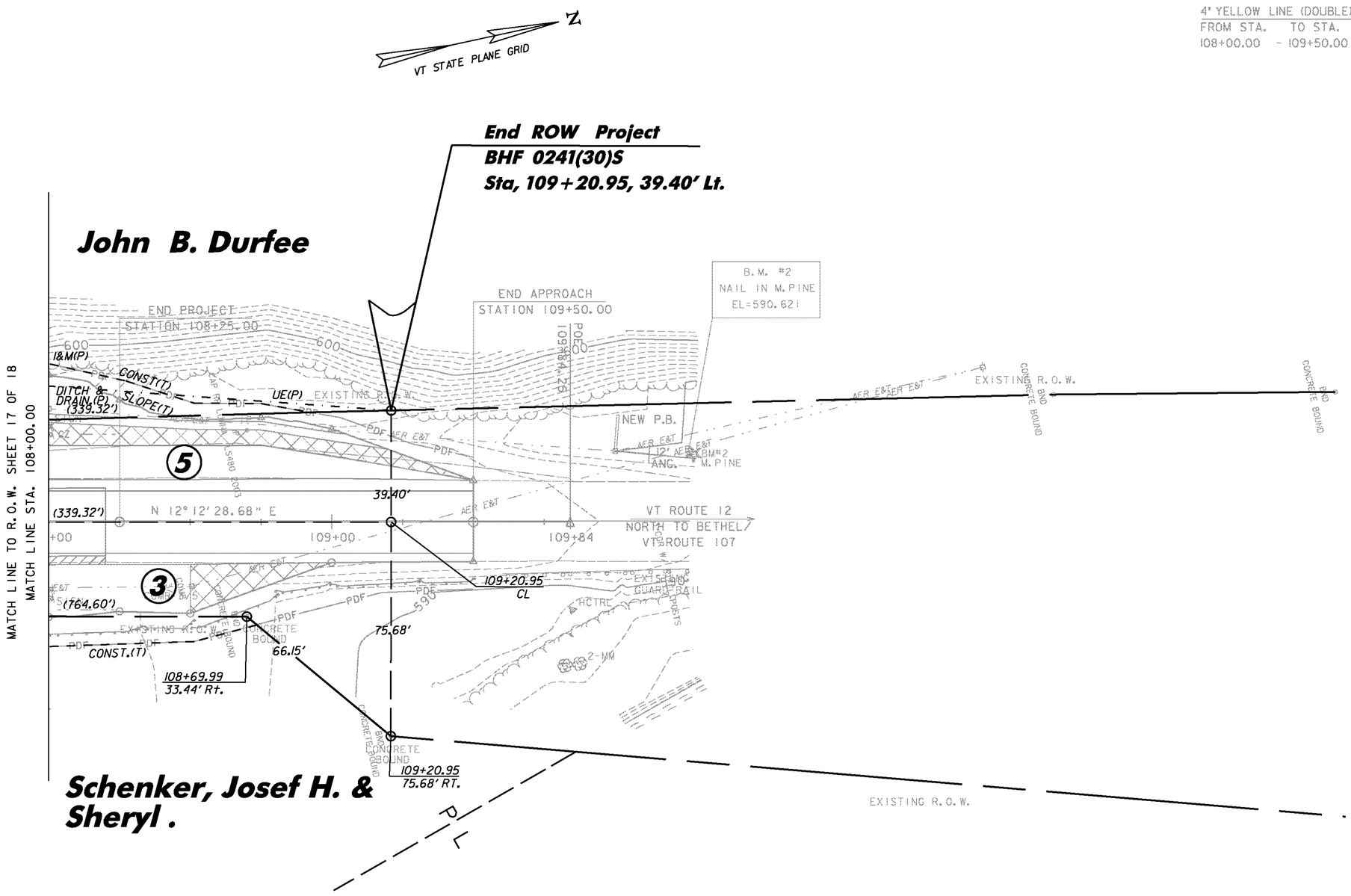
PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: sc002bdr.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
R.O.W. LAYOUT SHEET 2

PLOT DATE: 31-AUG-2011
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 20 OF 64

4" WHITE LINE	
FROM STA.	TO STA.
108+00.00 LT	- 109+50.00 LT
108+00.00 RT	- 109+50.00 RT

4" YELLOW LINE (DOUBLE)	
FROM STA.	TO STA.
108+00.00	- 109+50.00



FOR R.O.W. USE ONLY

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

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)

FILE NAME: sc002bdr.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
R.O.W. LAYOUT SHEET 3	SHEET 21 OF 64

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF A BRIDGE OVER LOCUST CREEK. A NEW DOUBLE LANE, SINGLE SPAN BRIDGE WILL BE CONSTRUCTED ON THE EXISTING ALIGNMENT WHILE TRAFFIC IS MAINTAINED ON A TEMPORARY BRIDGE DURING CONSTRUCTION. FOLLOWING COMPLETION OF THE NEW BRIDGE, THE TEMPORARY BRIDGE WILL BE REMOVED. THE BRIDGE IS LOCATED ON VT ROUTE 12 IN THE TOWN OF BETHEL. TOTAL ROADWAY APPROACH WORK, INCLUDING BOTH APPROACHES, IS 940 FEET.

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 1.86 ACRES.

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

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION, MODERATELY SLOPING, MIXED SOFTWOOD AND HARDWOOD FOREST. THERE ARE A FEW HOUSES WITH GRASS AND TREE BUFFERS. DUE TO THE NATURE OF THE SURROUNDING TERRAIN, RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED VIA GRASS SURFACES, A ROADWAY DITCH, AND THAT WHICH FOLLOWS VT ROUTE 12 ALONG THE 1.4% GRADE AT THE BEGINING OF THE PROJECT LIMITS. THE CURRENT ROADWAY DITCHES ARE NOT WELL DEFINED AND ARE NOT LINED WITH STONE.

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

LOCUST CREEK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS HILLY TO MOUNTAINOUS, MOSTLY FORESTED WITH A STREAM BED CONSISTING OF GRAVEL, COBBLES AND A FEW BOULDERS. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS 24.8 SQ. MI. DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT TWO NEW CONCRETE BRIDGE ABUTMENTS AND APPLICABLE ROADWAY APPROACHES AS WELL AS THE REMOVAL OF THE EXISTING CROSSING. STABILIZATION OF DISTURBANCES TO STREAM BANKS WILL BE ACCOMPLISHED WITH STONE FILL, TYPE III.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT SITE IS HILLY TO MOUNTAINOUS WITH VT ROUTE 12 FOLLOWING PARALLEL TO LOCUST CREEK WHICH IS CONTAINED BY STEEP RIVER BANKS ALONG EACH SIDE. DEVELOPMENT ALONG VT ROUTE 12 CONSISTS OF PERMANENT RESIDENCES. OVERHEAD UTILITY SERVICE FOLLOWS ALONG VT ROUTE 12 WITH THE NEED FOR RELOCATION OF THE UTILITY POLES POSSIBLE.

1.2.4 VEGETATION

A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES EXIST ALONG VT ROUTE 12. THE TWO RESIDENCES NEAR THE BRIDGE SITE HAVE SMALL AREAS OF LAWN AND LANDSCAPE PLANTINGS. NO FIELDS OR OTHER AGRICULTURAL CROPS EXIST NEAR THE PROJECT. IMPACTS TO VEGETATION WILL BE LIMITED TO THAT WHICH ARE AFFECTED BY THE CONSTRUCTION OF THE NEW BRIDGE ALONG THE EXISTING ALIGNMENT AND A TEMPORARY BRIDGE LOCATED DOWNSTREAM OF THE EXISTING STRUCTURE. PRIOR TO CONSTRUCTION OF THE NEW BRIDGE, THE EXISTING BRIDGE AND ROADWAY APPROACHES WILL BE REMOVED, THE SLOPES STABILIZED WITH STONE FILL AND VEGETATION REESTABLISHED WITH STANDARD SEED & MULCH PRACTICES.

1.2.5 SOILS

THE SOIL CONSERVATION SERVICE HAS MAPPED THE SOILS THROUGHOUT WINDSOR COUNTY. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS AGAWAM FINE SANDY LOAM. THIS SOIL TYPE IS DESCRIBED AS DEEP, WELL DRAINED, LEVEL TO STEEP SOILS ON STREAM TERRACES HAVING MODERATE AVAILABLE WATER CAPACITY, NATURAL FERTILITY IS LOW, PERMEABILITY IS MODERATELY RAPID AND THE SHRINK-SWELL POTENTIAL IS LOW. STEEP AREAS ARE IN WOODLAND OR ARE IDLE.

THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.28. GENERALLY, K-VALUES INDICATE THE FOLLOWING: 0.0 - 0.23 = LOW ERODIBILITY; 0.24 - 0.36 = MODERATE ERODIBILITY; 0.37 AND HIGHER = HIGH ERODIBILITY.

1.2.6 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: LOCUST CREEK
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT HAS BEEN DETERMINED TO BE LOW RISK BASED ON THE FOLLOWING CONCLUSIONS. BASIC RISK EVALUATION RESULTED IN A MORE DETAILED ANALYSIS TO DETERMINE RISK AND RESULTED IN THE FOLLOWING REQUIREMENTS:

1. THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL MUST BE ON SITE AND COMPLIED WITH AT ALL TIMES

2. ALL AREAS MUST HAVE TEMPORARY OR FINAL STABILIZATION WITHIN 7 DAYS OF THE INITIAL DISTURBANCE AND STABILIZED THEREAFTER ON A DAILY BASIS. THE FOLLOWING EXCEPTIONS APPLY:

   A. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN 24 HOURS AND NO PRECIPITATION IS FORECASTED FOR THE NEXT 24 HOURS.

   B. STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF 2 FEET OR GREATER.

3. INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT RESULTING IN DISCHARGE OF STORMWATER FROM THE CONSTRUCTION SITE.

4. IF THERE IS A DISCHARGE OF VISIBLY DISCOLORED STORMWATER FROM THE CONSTRUCTION SITE OR FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE, THE PERMITEE SHALL TAKE IMMEDIATE CORRECTIVE ACTION.

5. IF, AFTER COMPLETING CORRECTIVE ACTION, THERE CONTINUES TO BE A DISCHARGE OF SEDIMENT FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE, THE PERMITEE SHALL NOTIFY DEC BY SUBMITTING A REPORT WITHIN 72 HRS OF THE DISCHARGE.

ANY MODIFICATIONS TO THE PROJECT SHALL RESULT IN A RE-EVALUATION OF THE RISK AND THAT THE CONTRACTOR IS RESPONSIBLE FOR RE-FILING SHOULD THE RISK CHANGE.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. 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.

MEASURES SUCH AS SILT FENCE SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT BUILD-UP SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE CONTROL MEASURE. SEDIMENT SHALL BE DISPOSED AT AN APPPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

(REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

1.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS, IS USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

1.4.2 LIMIT DISTURBANCE AREA

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZE CONSTRUCTION EXIT

STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED AS NECESSARY.

1.4.4 INSTALL SILT FENCE AND FILTER CURTAIN

SILT FENCE AND FILTER CURTAIN SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN O
THE PLANS OR AS NECESSARY.

1.4.5 DIVERT UPLAND RUNOFF

NO UPLAND RUNOFF CONTROL REQUIRED UNDER THIS PROPOSED EPSC PLAN.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

NO CHANNELIZED RUNOFF CONTROL REQUIRED UNDER THE THIS PROPOSED EPSC PLAN.

1.4.7 CONSTRUCT PERMANENT CONTROLS

STONE FILL, TYPE III FOR SLOPE LINING AND CHANNEL PROTECTION
SEED AND MULCH

STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLA
OVER THE STREAM BANK STONE FILL.

1.4.8 STABILIZE EXPOSED SOILS

SEED AND MULCH
EROSION MATTING

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED O
REGULAR BASIS. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN. ANY SLOPE
TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE TRACKED AND MULCHED.
SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL
USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 4
HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER (SEE LOW RISK HANDBOOK)

1.4.10 STABILIZE SOIL AT FINAL GRADE

SEED AND MULCH
EROSION MATTTING

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL
USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 4
HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.11 DE-WATERING ACTIVITIES

THE CONTRACTOR SHALL PROVIDE DETAILS FOR SEDIMENT DEWATERING METHODS WITH COFFERD
DESIGN. SEE “EPSC CONSTRUCTION SHEET 2” FOR POTENTIAL DEWATERING LOCATION.

1.4.12 INSPECT YOUR SITE

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

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

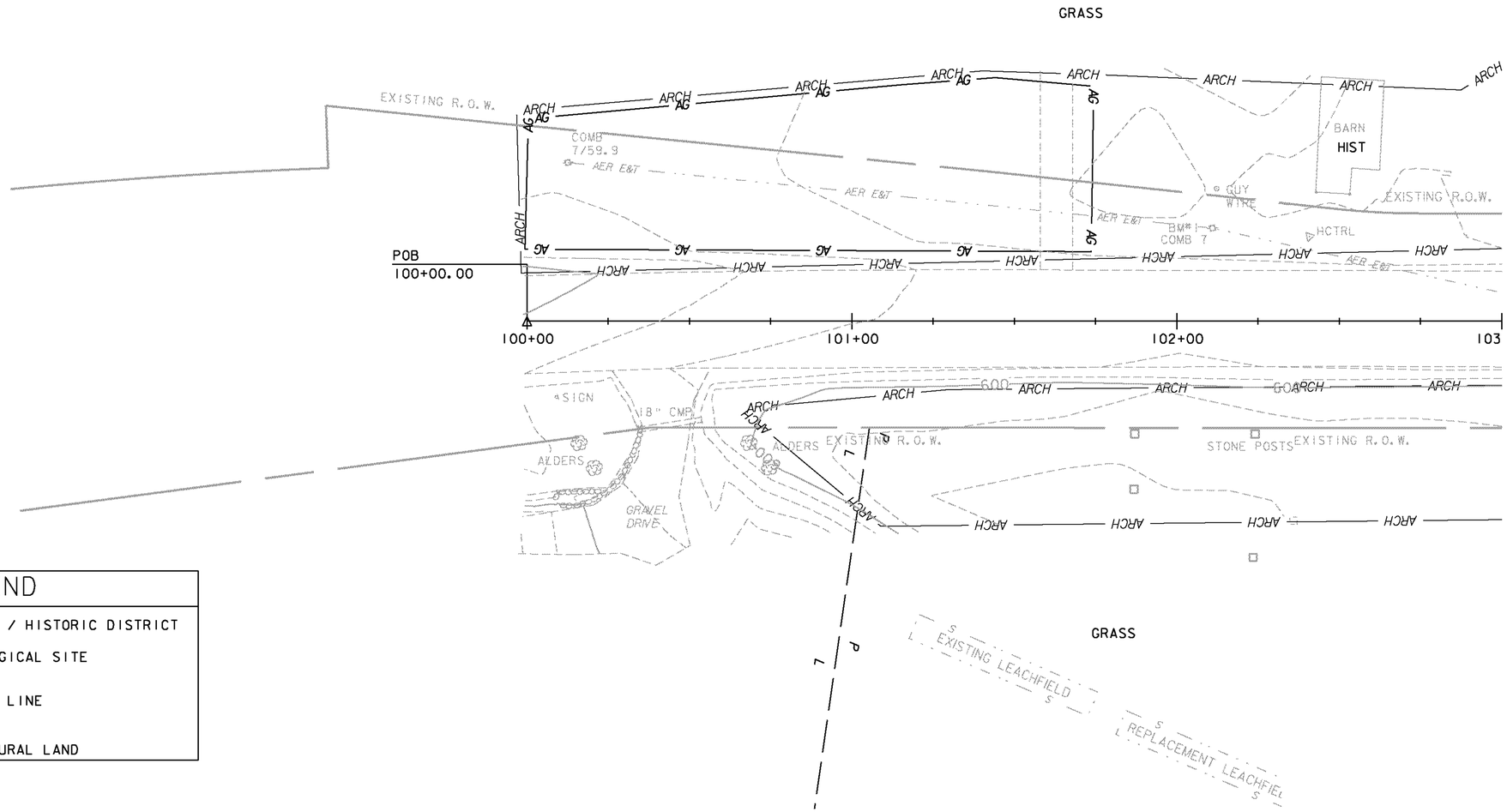
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMIT
SHALL FOLLOW SUBSECTION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTIO

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002enc.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
EPSC NARRATIVE

PLOT DATE: 31-AUG-2011
DRAWN BY: G. GOKES
CHECKED BY: U. STANLEY
SHEET 22 OF 64

SOILS INFORMATION
AGAWAM FINE SANDY LOAM 0 TO 3 PERCENT SLOPES
SOIL GROUP B
LOW ERODIBILITY

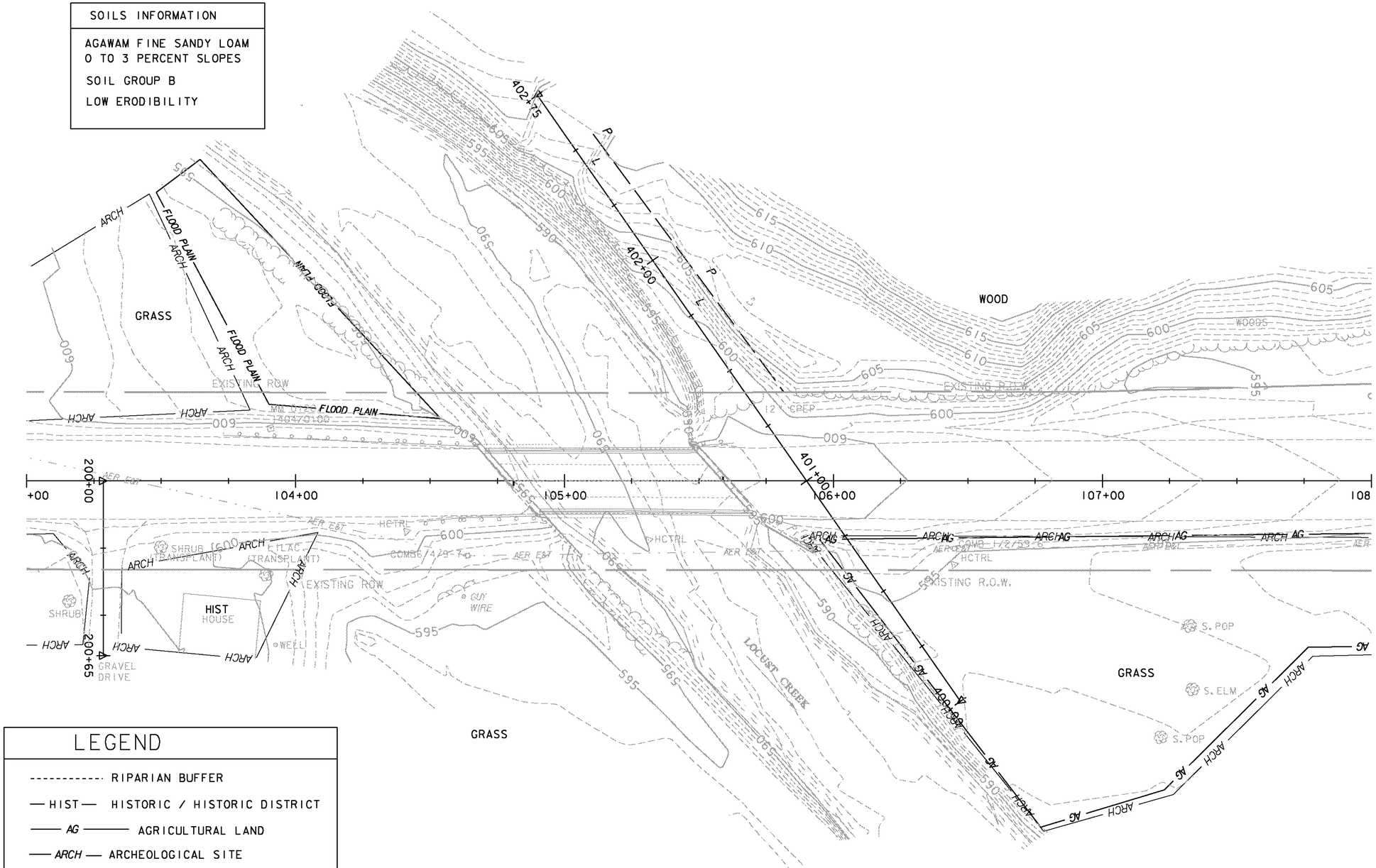


LEGEND

— HIST —	HISTORIC / HISTORIC DISTRICT
— ARCH —	ARCHEOLOGICAL SITE
P / L	PROPERTY LINE
— AG —	AGRICULTURAL LAND

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002erobdr.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
EPSC EXISTING CONDITIONS SHEET 1	SHEET 23 OF 64

SOILS INFORMATION
AGAWAM FINE SANDY LOAM 0 TO 3 PERCENT SLOPES
SOIL GROUP B
LOW ERODIBILITY

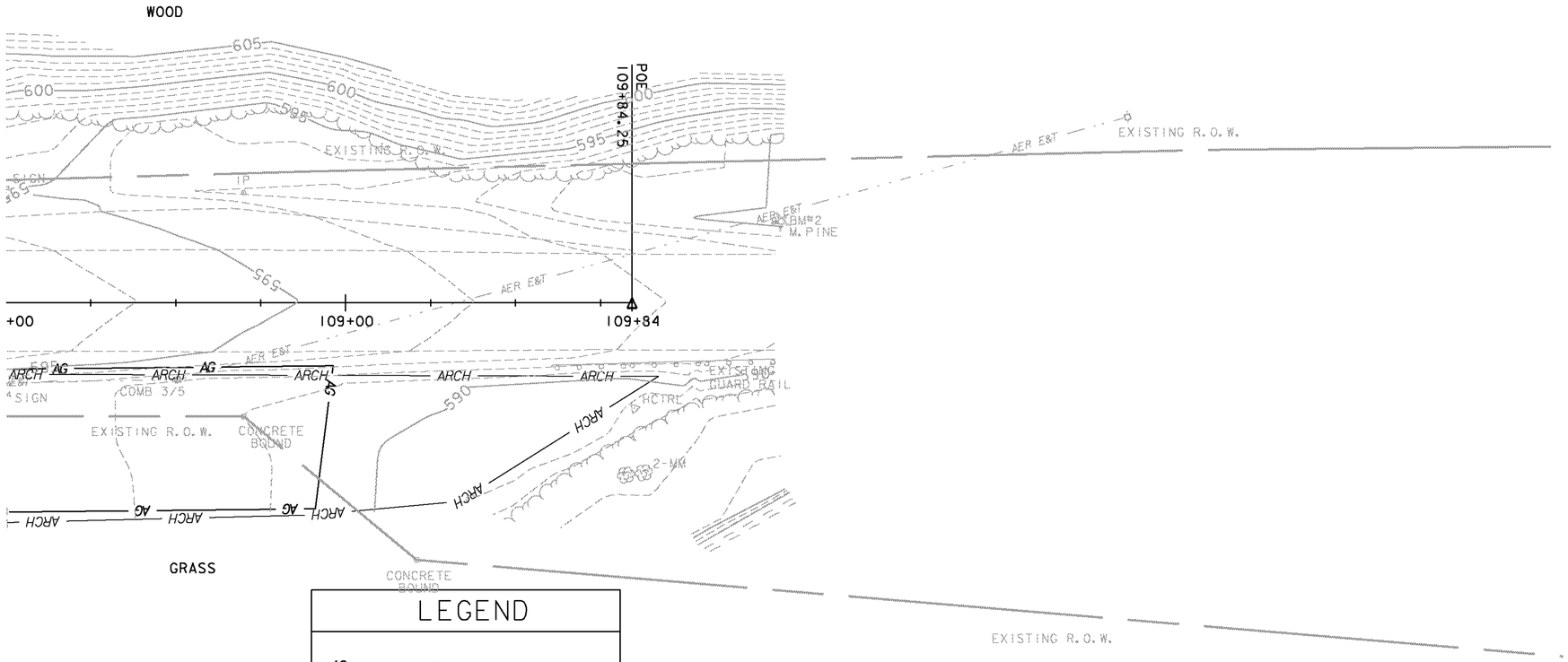


LEGEND

- RIPARIAN BUFFER
- HIST — HISTORIC / HISTORIC DISTRICT
- AG — AGRICULTURAL LAND
- ARCH — ARCHEOLOGICAL SITE
- FLOOD PLAIN — FLOOD PLAIN BOUNDARY
- P / L — PROPERTY LINE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002erobdr.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
EPSC EXISTING CONDITIONS SHEET 2	SHEET 24 OF 64

SOILS INFORMATION
AGAWAM FINE SANDY LOAM 0 TO 3 PERCENT SLOPES
SOIL GROUP B
LOW ERODIBILITY

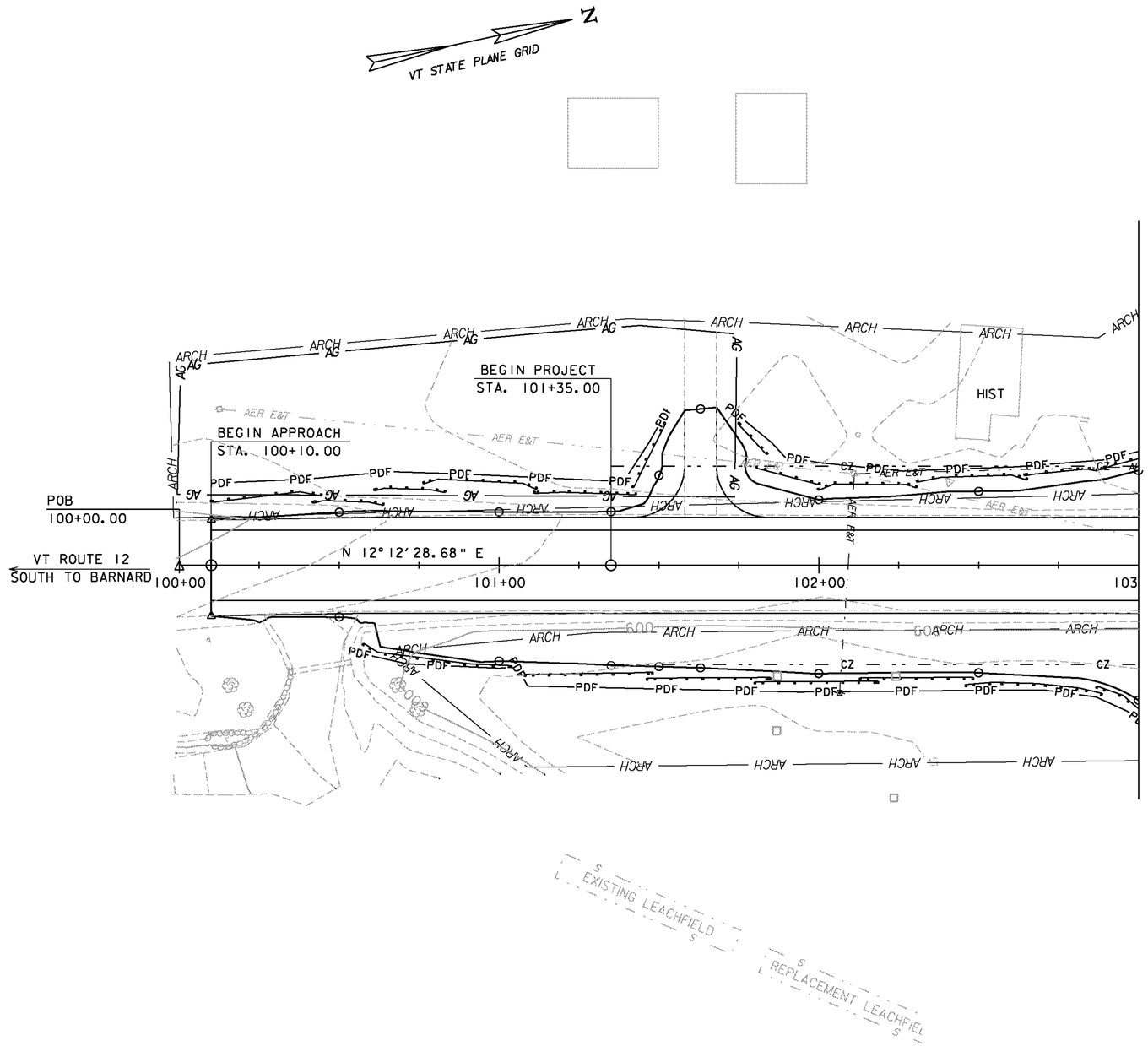


LEGEND

AG	AGRICULTURAL LAND
ARCH	ARCHEOLOGICAL SITE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)

FILE NAME: sc002erobdr.dgn		PLOT DATE:	31-AUG-2011
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DESIGNED BY:	U. STANLEY	CHECKED BY:	U. STANLEY
EPSC EXISTING CONDITIONS SHEET 3		SHEET	25 OF 64

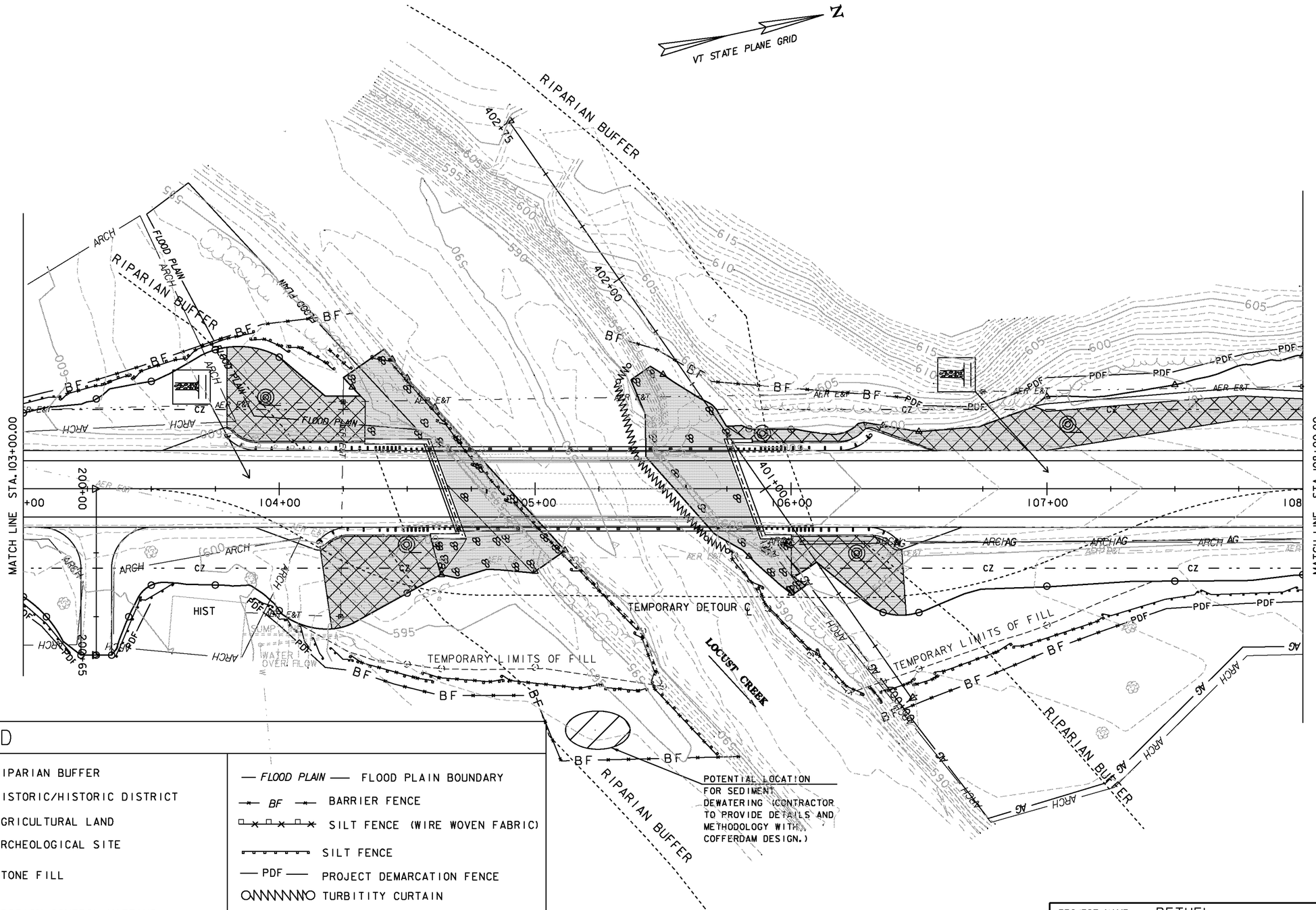


LEGEND

— HIST —	HISTORIC / HISTORIC DISTRICT
— ARCH —	ARCHEOLOGICAL SITE
	SILT FENCE
— PDF —	PROJECT DEMARCATION FENCE
— AG —	AGRICULTURAL LAND

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

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002erobdr.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
EPSC CONSTRUCTION SHEET 1	SHEET 26 OF 64



LEGEND

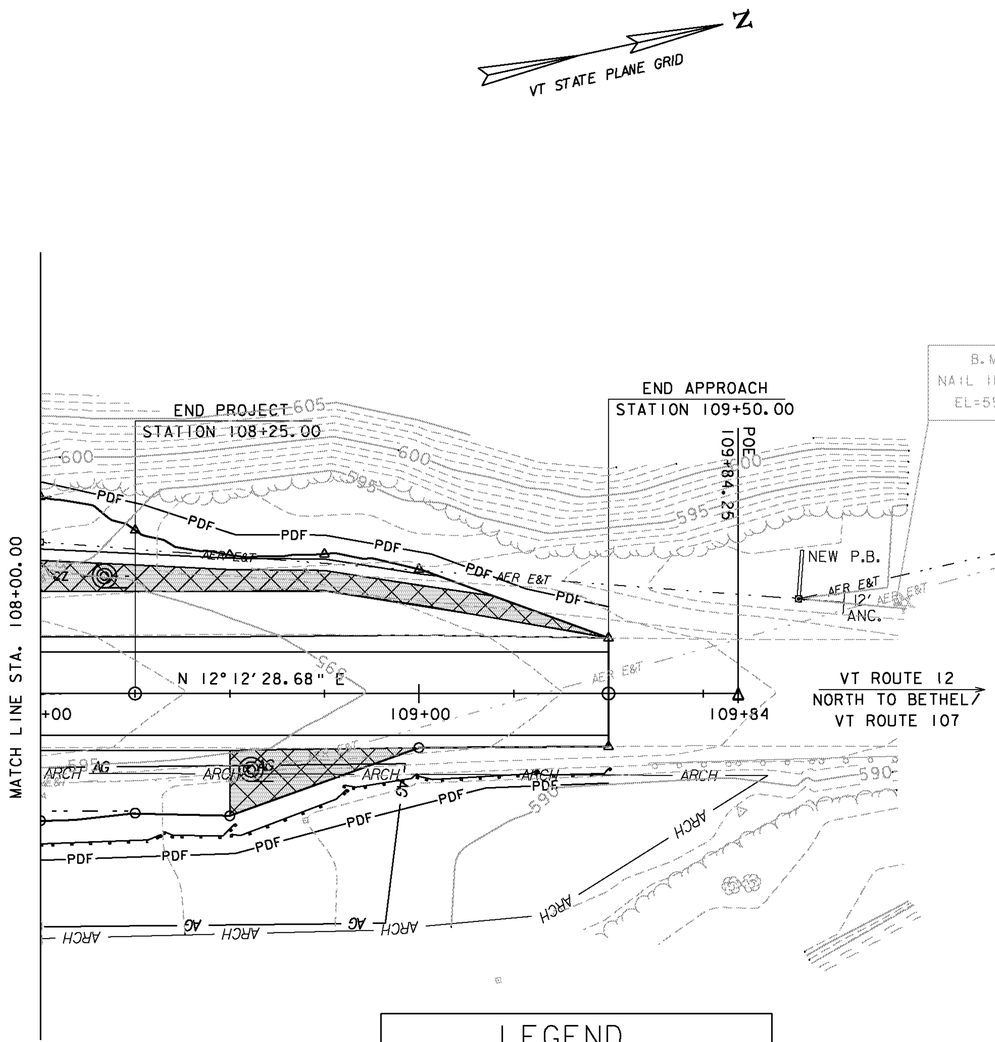
- RIPARIAN BUFFER
- HIST — HISTORIC/HISTORIC DISTRICT
- AG — AGRICULTURAL LAND
- ARCH — ARCHEOLOGICAL SITE
- STONE FILL
- EROSION CONTROL MATTING
- STABILIZED CONSTRUCTION ENTRANCE
- FLOOD PLAIN — FLOOD PLAIN BOUNDARY
- BF — BARRIER FENCE
- SILT FENCE (WIRE WOVEN FABRIC)
- SILT FENCE
- PDF — PROJECT DEMARCATION FENCE
- TURBITITY CURTAIN

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

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: sc002erobdr.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
EPSC CONSTRUCTION SHEET 2

PLOT DATE: 31-AUG-2011
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY

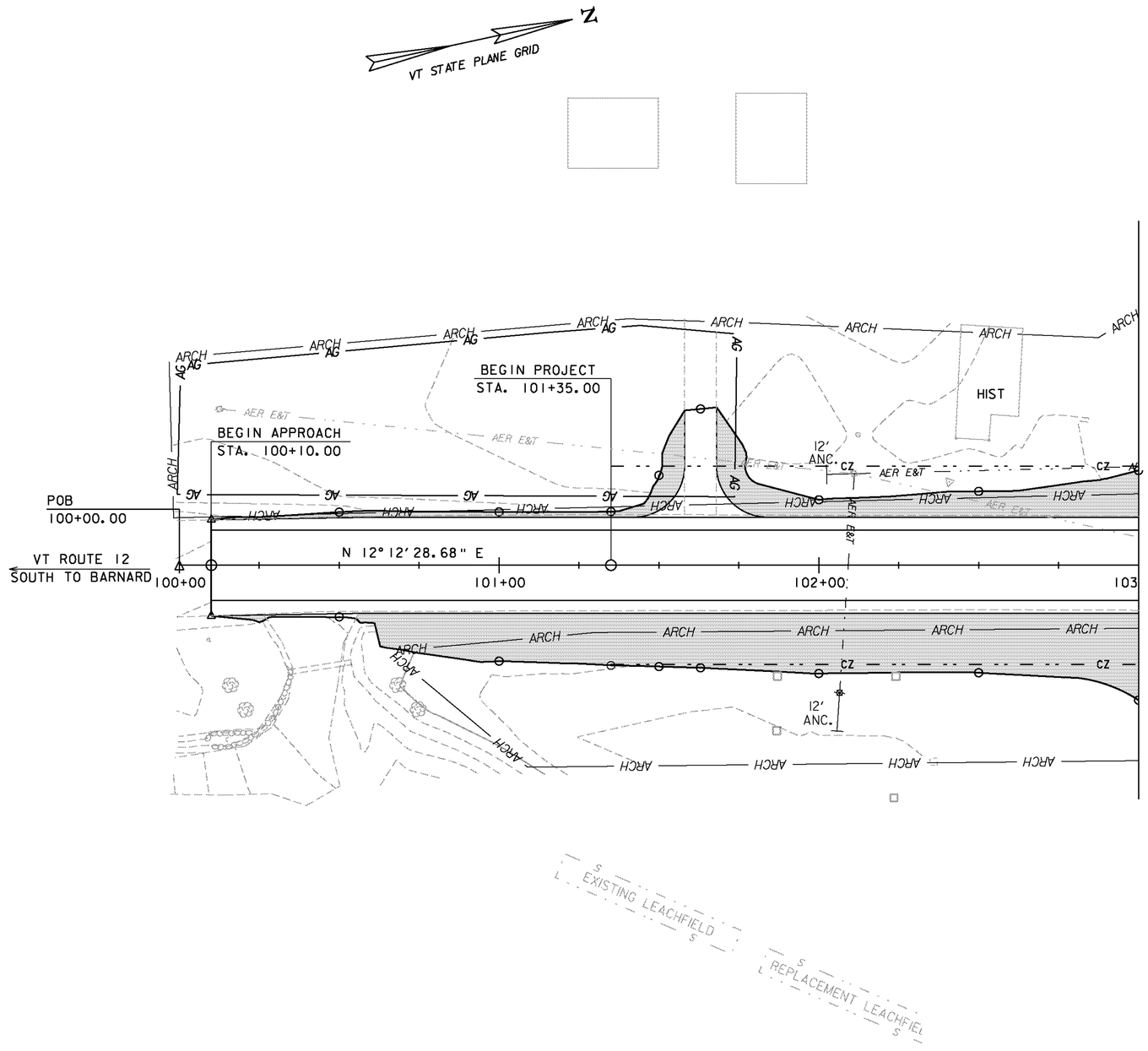


LEGEND

- AG — AGRICULTURAL LAND
- ARCH — ARCHEOLOGICAL SITE
- SILT FENCE
- PDF — PROJECT DEMARCATION FENCE
- EROSION CONTROL MATTING

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

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PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
EPSC CONSTRUCTION SHEET 3	SHEET 28 OF 64



LEGEND

— HIST —	HISTORIC / HISTORIC DISTRICT
— *ARCH* —	ARCHEOLOGICAL SITE
— *AG* —	AGRICULTURAL LAND
	DISTURBED AREAS REQUIRING RE-VEGETATION

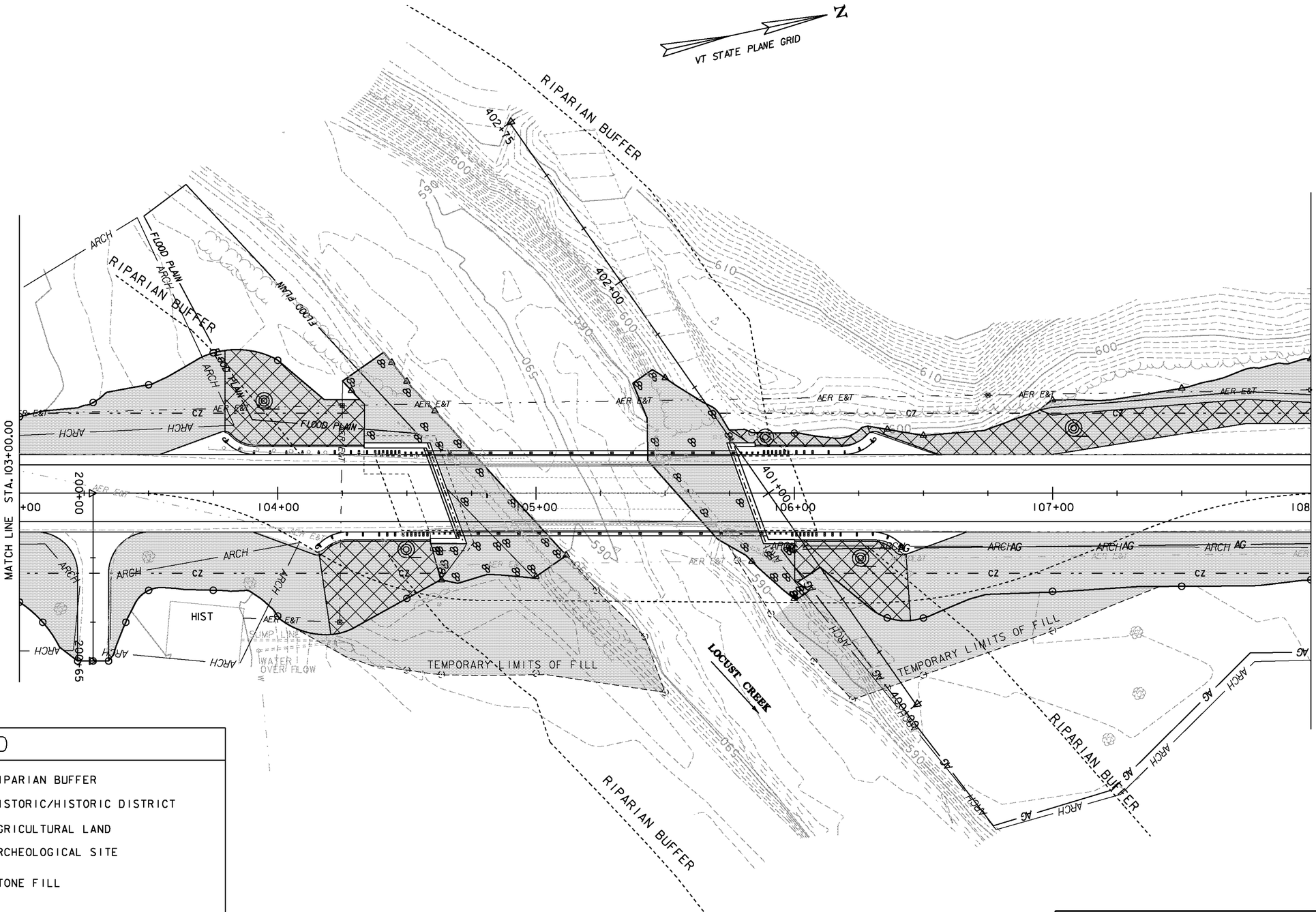
REFER TO CROSS SECTIONS FOR FINAL GRADING INFORMATION

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

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: sc002erobdr.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
EPSC FINAL CONDITIONS SHEET 1

PLOT DATE: 31-AUG-2011
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 29 OF 64



LEGEND

- RIPARIAN BUFFER
- HIST — HISTORIC/HISTORIC DISTRICT
- AG — AGRICULTURAL LAND
- ARCH — ARCHEOLOGICAL SITE
- STONE FILL
- EROSION CONTROL MATTING
- DISTURBED AREAS REQUIRING RE-VEGETATION
- FLOOD PLAIN — FLOOD PLAIN BOUNDARY

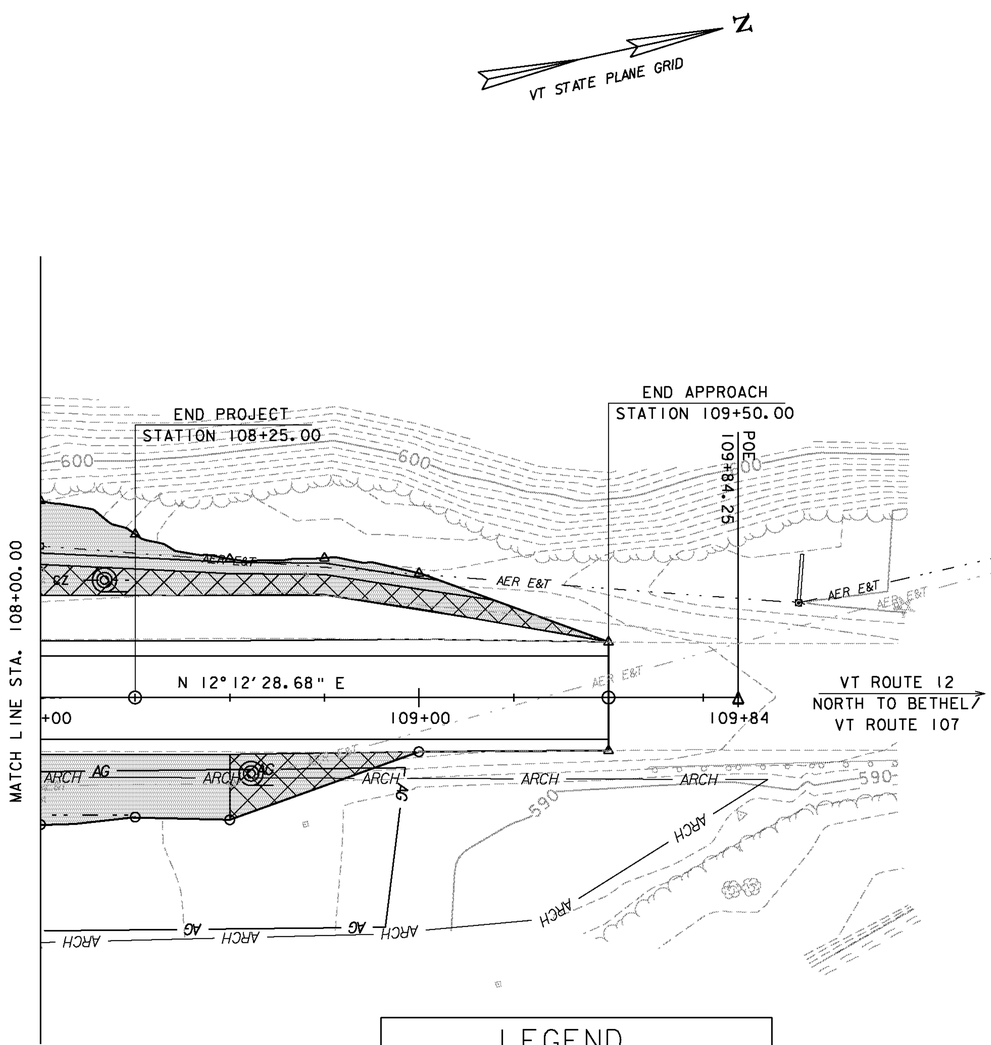
REFER TO CROSS SECTIONS FOR FINAL GRADING INFORMATION

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

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: sc002erobdr.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
EPSC FINAL CONDITIONS SHEET 2

PLOT DATE: 31-AUG-2011
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 30 OF 64



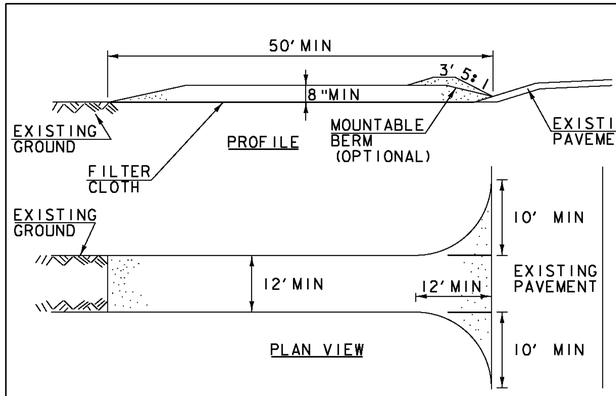
LEGEND

- AG — AGRICULTURAL LAND
- ARCH — ARCHEOLOGICAL SITE
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION CONTROL MATTING

REFER TO CROSS SECTIONS FOR FINAL GRADING INFORMATION

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

PROJECT NAME:	BETHEL
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FILE NAME: sc002erobdr.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: G. ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
EPSC FINAL CONDITIONS SHEET 3	SHEET 31 OF 64



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.

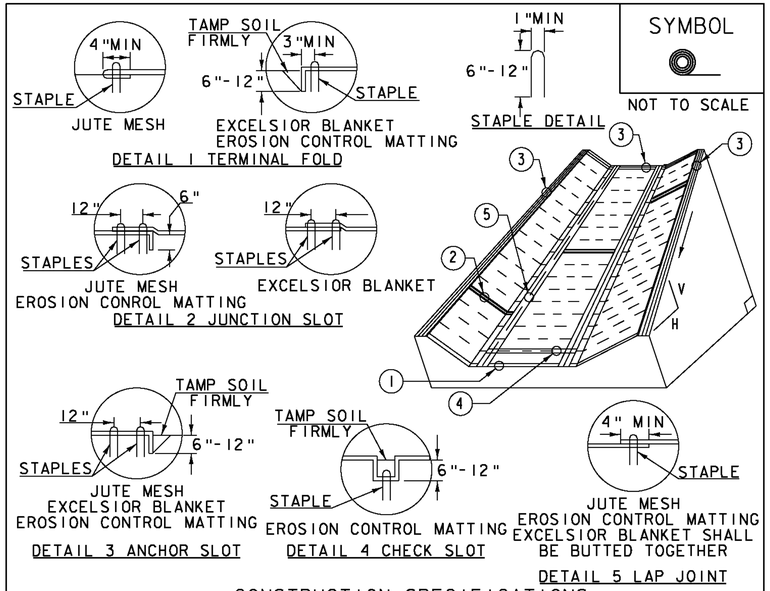
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

CONSTRUCTION SPECIFICATIONS

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

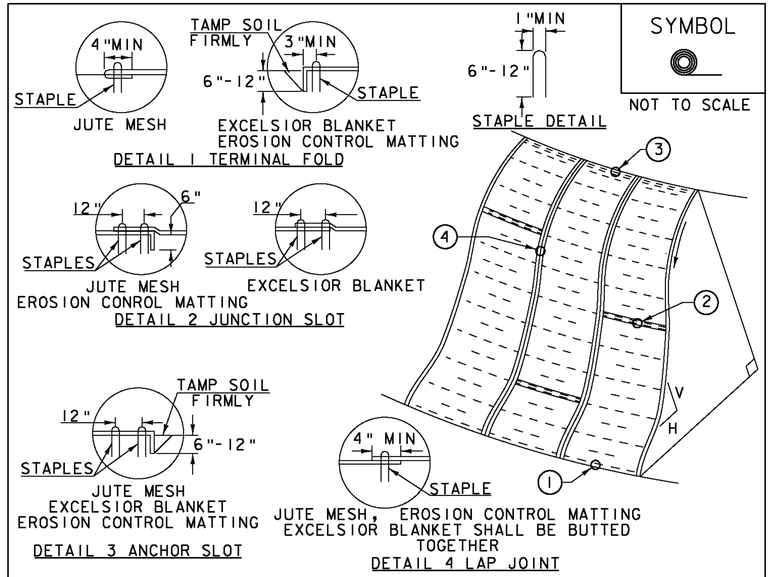
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21).~~

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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: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

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002eroDetails.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
EPSC DETAIL SHEET 1

PLOT DATE: 31-AUG-2011
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 32 OF 64

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*

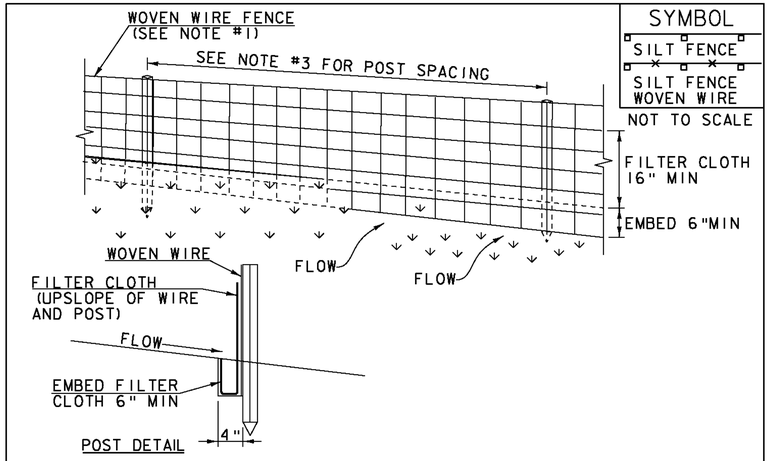
CONSTRUCTION GUIDANCE

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



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.

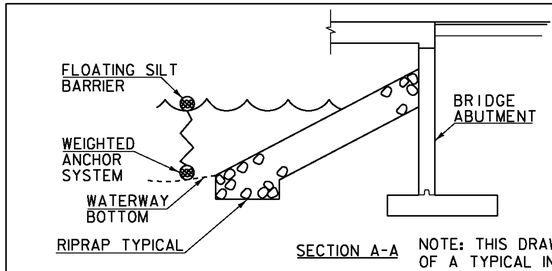
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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.

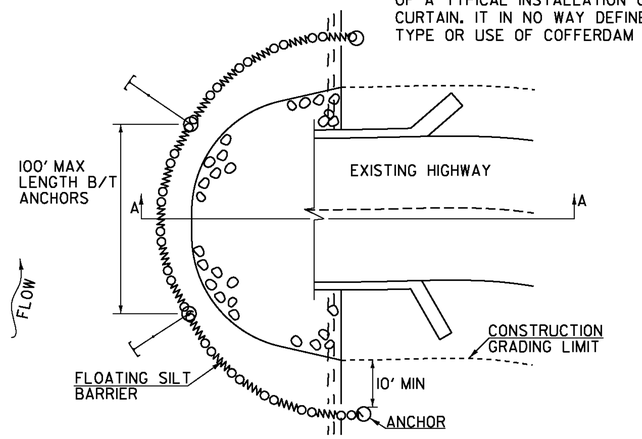
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

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



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

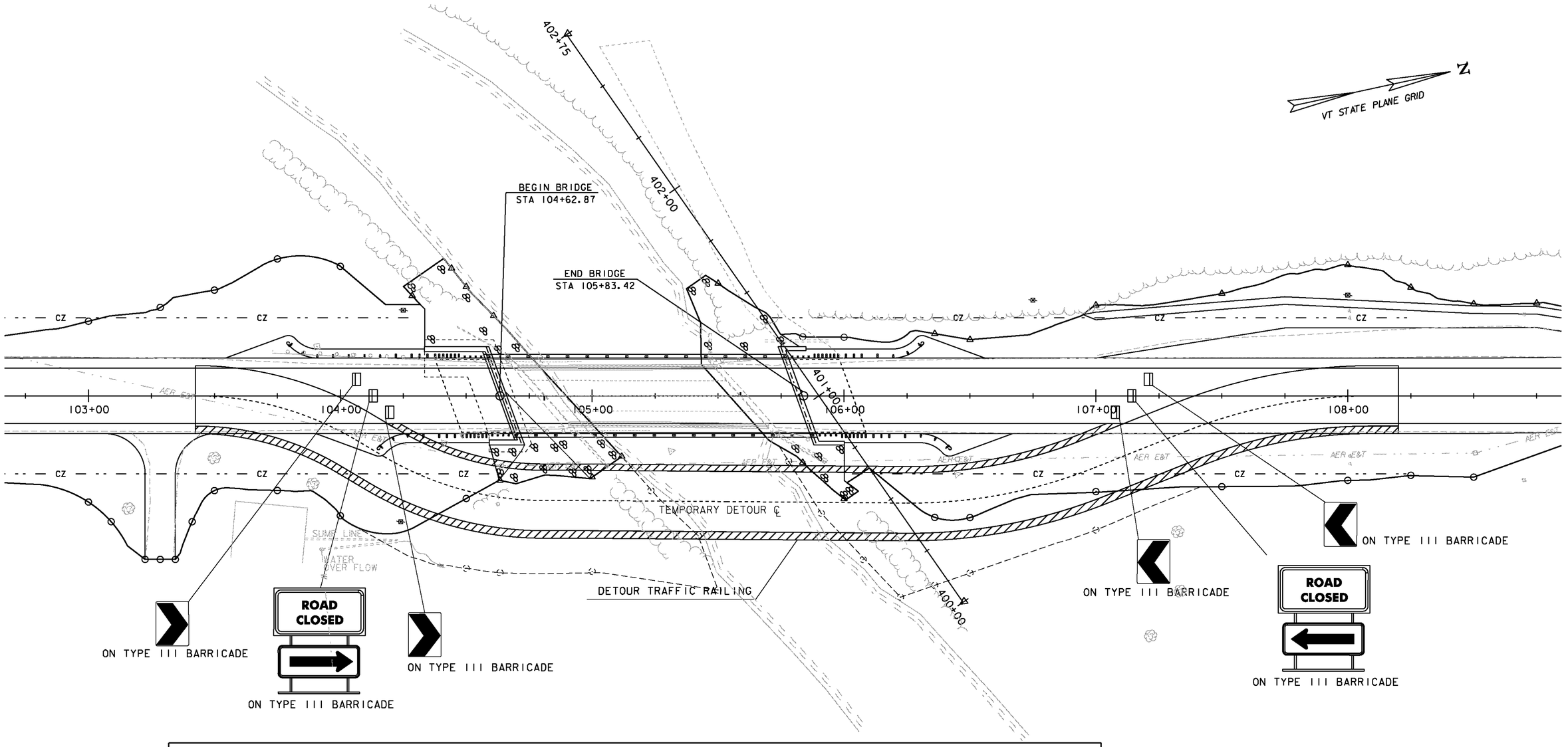
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

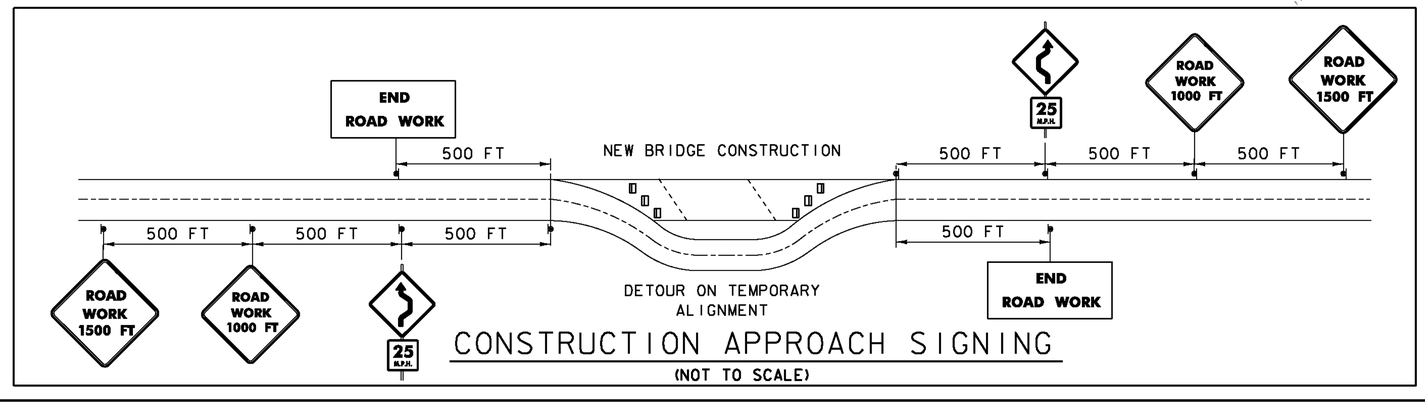
REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002eroDetails.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
EPSC DETAILS SHEET 2

PLOT DATE: 31-AUG-2011
DRAWN BY: G. ROKES
CHECKED BY: U. STANLEY
SHEET 33 OF 64





CONSTRUCTION APPROACH SIGNING

(NOT TO SCALE)

SCALE 1" = 20'-0

20 0 20

TRAFFIC CONTROL SHEET

PROJECT NAME: BETHEL

PROJECT NUMBER: BHF 0241(30)S

FILE NAME: 95c002\str\sc002tcs.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U.STANLEY

PLOT DATE: 31-AUG-2011
DRAWN BY: G.ROKES
CHECKED BY: U.STANLEY
SHEET 34 OF 64

N

VT STATE PLANE GRID

BEGIN APPROACH
STA. 100+10.00

BEGIN PROJECT
STA. 101+35.00

STA. 104+63.00 LT

BEGIN BRIDGE
STA 104+62.87

STA. 105+50.00 LT

END BRIDGE
STA 105+83.42

STA. 106+00.00 LT

STA. 108+83.50 LT

END APPROACH
STATION 109+50.00

END PROJECT
STATION 108+25.00

100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 109+84

200+65

STA. 104+25.00 RT

STA. 104+86.00 RT

STA. 105+78.00 RT

STA. 100+09.00 RT

STA. 100+81.00 LT

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

TRAFFIC SIGN LAYOUT SHEET 1

PROJECT NAME: BETHEL	
PROJECT NUMBER: BHF 0241(30)S	
FILE NAME: 95c002\str\s95c002tss.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVAN-MONGEON	DRAWN BY: G.ROKES
DESIGNED BY:	CHECKED BY:
	SHEET 35 OF 64

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	TUBULAR STEEL Ø (in) FOUNDATION	lb/ft 3.0 7.6	3.5 9.0	4.0 10.8	5.0 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
											OPTION ITEMS																									
100+81.00 RT	HIDDEN DRIVE LEFT	1	30	30	6.25						1					15		X	X															VW-133		SHS
104+25.00 RT	BRIDGE 30 VT-12	1	6	8	0.3						1				15			X	X															VD-701		SHS
106+00.00 LT	BRIDGE 30 VT-12	1	6	8	0.3						1				15			X	X															VD-701		SHS
108+83.50 LT	HIDDEN DRIVE LEFT	1	30	30	6.25						1					15		X	X															VW-133		SHS

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

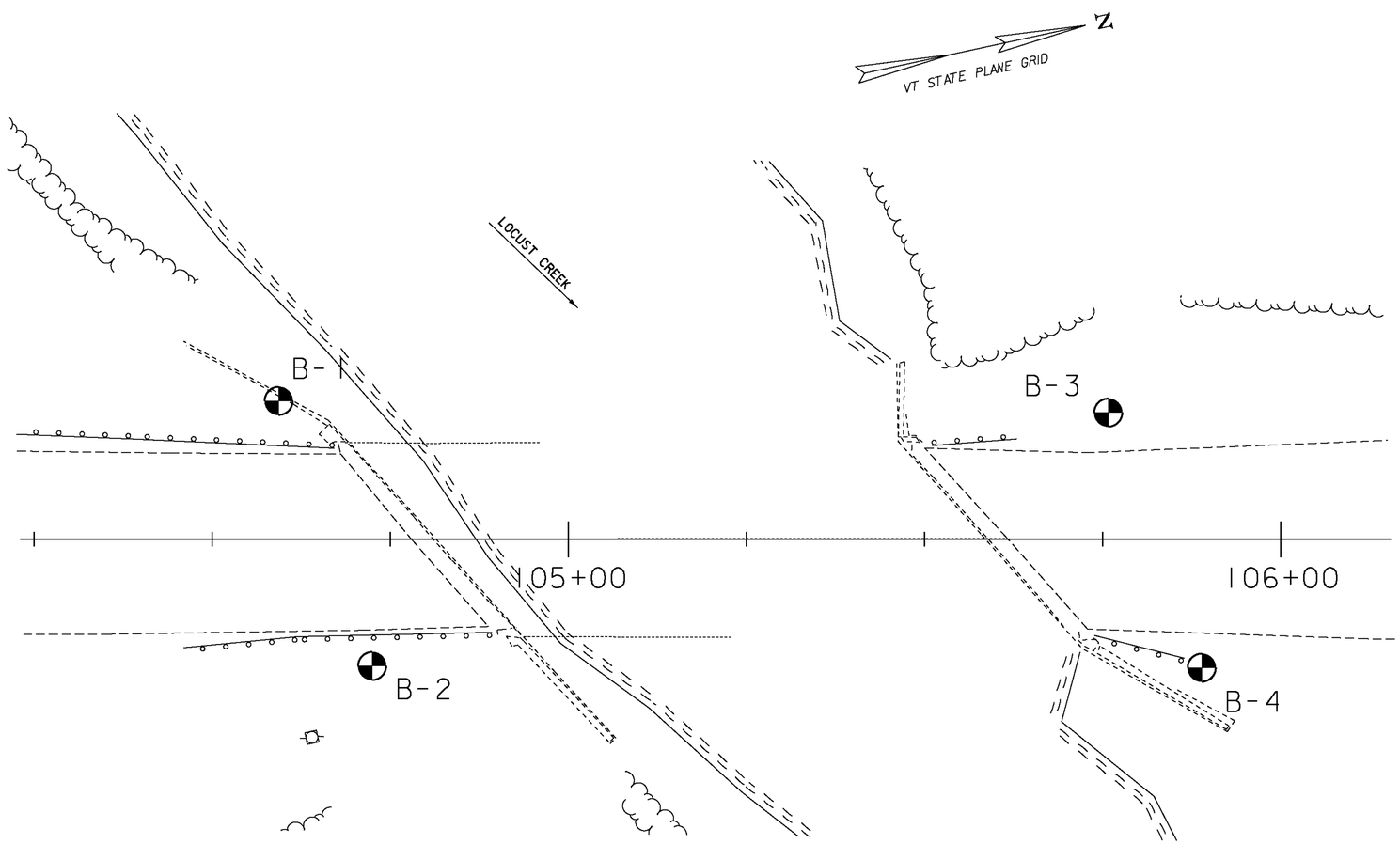
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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		



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

BORING CHART

HOLE NO.	STATION	OFFSET (FT)	GROUND ELEV.
B-1	104+59.00	-19.42	600.37
B-2	104+72.00	17.81	600.60
B-3	105+74.00	-21.33	600.14
B-4	105+89.00	18.04	598.20

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 8/30/04 and 10/4/04 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering 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: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002bor.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
BORING INFORMATION SHEET

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 37 OF 64

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

BORING NUMBER: B-1
SHEET 1 of 1
DATE STARTED: 10/19/04
DATE COMPLETED: 10/21/04

PROJECT NAME: BETHEL
SITE NAME: BR-30
STATION: 104+59
OFFSET: -19.42
VTSPG: N 475717.19 ft E 1600077.85 ft

PROJECT NUMBER: BHF 0241(30)S
SITE NUMBER: RT.12
GROUND ELEVATION: 600.37 ft
GROUNDWATER DEPTH: 3.28 ft 10/20/04
PROJECT PIN NUMBER: 95C002

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
5		4.43 ft – 4.92 ft, BXDC, Cleaned out casing A-1-b, GrSa, gry, Moist, Rec. = 0.46 ft	29	12.4	44.5	47.7	7.8
		Encountered Cobbles or Boulders, 7.05 ft – 9.51 ft					
10		A-4, Si, gry, Moist, Rec. = 0.98 ft	19	32.3	2.1	5.4	92.5
15		A-4, Si, gry, Moist, Rec. = 1.38 ft	24	29.8	2.4	10.3	87.3
20		19.69 ft – 21.65 ft, No Recovery	57				
25		A-4, Si, gry, Moist, Rec. = 1.28 ft	22	36.7	0.3	10.2	89.5
30		A-2-4, SiGrSa, gry, Moist, Rec. = 0.23 ft, Advanced casing to 31.5 ft and encountered rock with various seams	R	13.3	32.0	40.6	27.4
				Top of Bedrock @ 31.5 ft			
35		Gray, Quartz-mica Schist, with Garnet Porphyroblasts, Competent, Moderately hard, Unweathered, BXMDC, 31.5 ft – 36.42 ft, Rec. = 3.94 ft	1	80	72	40	
40		Gray, Quartz-mica Schist, with Garnet Porphyroblasts, Competent, Moderately hard, Unweathered, BXMDC, 36.42 ft – 41.34 ft, Rec. = 4.92 ft	2	100	96	40	
		Hole stopped @ 41.34 ft					
45							

ABUTMENT #1
BOTTOM FOOTING
ELEV. 581.00

LOG OF BORING BETHEL BHF0241(30)S.GPJ VT AOT.GDT 8/5/08

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

BORING NUMBER: B-2
SHEET 1 of 1
DATE STARTED: 10/12/04
DATE COMPLETED: 10/15/04

PROJECT NAME: BETHEL
SITE NAME: BR-30
STATION: 104+72
OFFSET: 17.81
VTSPG: N 475722.18 ft E 1600117.06 ft

PROJECT NUMBER: BHF 0241(30)S
SITE NUMBER: RT.12
GROUND ELEVATION: 600.6 ft
GROUNDWATER DEPTH: 10.99 ft 10/18/04
PROJECT PIN NUMBER: 95C002

BORING CREW
CREW CHIEF: RUSSELL
DRILLER: RUSSELL
LOGGER: PUALWAN

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

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-2-4, SiSa with Trace of Organics (1.9%), gry-brn, Moist, Rec. = 1.48 ft	12	19.3	16.2	53.5	30.3
		8.53 ft – 9.84 ft, Cleaned out casing					
10		A-1-a, SaGr, brn, Moist, Rec. = 0.66 ft	33	9.2	56.4	30.4	13.2
		BXDC, Boulder, 11.48 ft – 13.45 ft					
		BXGDC, Broke through Boulder, 13.45 ft – 17.06 ft					
20		A-4, Si, gry, Moist, Rec. = 1.31 ft	29	33.6	0.3	1.6	98.1
		A-4, Si, gry, Moist, Rec. = 0.98 ft	R	32.9	0.2	6.4	93.4
		BXMDC, Broke through Boulder, 25.75 ft – 26.74 ft					
30		Not enough Rec., Appeared to be a dark gray silt, 29.53 ft – 31.5 ft	46				
		A-4, Si, gry, Moist, Rec. = 1.31 ft BXGDC, Appears to be Boulders with a lot of breaks, 34.78 ft – 39.86 ft	R	38.1	0.3	4.8	94.9
40		Advanced casing, 39.86 ft – 41.34 ft			Top of Bedrock @ 41.34 ft		
		White, Biotite Gneiss, Not Competent, Hard, Unweathered, BXGDC, 41.34 ft – 46.26 ft, Rec. = 2.46 ft	1	50	0	40	
50		White-gray, Biotite Gneiss, Competent, Hard, Unweathered, BXMDC, 46.26 ft – 51.18 ft, Rec. = 4.92 ft	2	100	98	40	
		White-gray, Biotite Gneiss, grading to gray quartz-mica schist, Competent, Hard to moderately hard, Unweathered, BXMDC, 51.18 ft – 54.46 ft, Rec. = 2.62 ft	3	80	80	40	
		Hole stopped @ 54.46 ft					

ABUTMENT #1
BOTTOM FOOTING
ELEV. 581.00

LOG OF BORING BETHEL BHF0241(30)S.GPJ VT AOT.GDT 8/5/08

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002bor.254/236 gn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
BORING LOG SHEET 1

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 38 OF 64

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

BORING NUMBER: B-3
SHEET 1 of 2
DATE STARTED: 8/03/04
DATE COMPLETED: 8/06/04

PROJECT NAME: BETHEL
SITE NAME: BR-30
STATION: 105+74
OFFSET: -21.33
VTSPG: N 475829.82 ft E 1600100.30 ft

PROJECT NUMBER: BHF 0241(30)S
SITE NUMBER: RT.12
GROUND ELEVATION: 600.14 ft
GROUNDWATER DEPTH: 11.38 ft 8/06/04
PROJECT PIN NUMBER: 95C002

BORING CREW
CREW CHIEF: SOMERS
DRILLER: SOMERS
LOGGER: PUALWAN

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, SaSi, Lt/gry, Moist, Rec. = 0.59 ft	5	20.1	5.4	36.6	58.0
		A-1-b, SlGr, gry, Moist, Rec. = 0.59 ft	23	11.6	62.5	15.8	21.7
5		A-4, SiSa, brn, Moist, Rec. = 1.38 ft	4	29.7	1.6	52.1	46.3
		A-4, SiSa, brn, Moist, Rec. = 1.18 ft	38	21.7	4.5	58.3	37.2
		A-1-a, SaGr, brn, Moist		10.9	57.4	32.6	10.0
		A-1-b, SaGr, brn, Moist, Rec. = 0.98 ft	59	10.3	43.1	37.5	19.4
		A-4, SaSi HP, Lt/gry, Moist		14.3	6.9	23.0	70.1
10		A-4, SaSi, Lt/gry, Moist, Rec. = 1.18 ft	66	14.2	1.8	20.2	78.0
		A-4, Si, Lt/gry, Moist, Rec. = 0.39 ft	R	29.9	2.0	17.9	80.1
		A-4, Si, gry, Moist, Rec. = 1.08 ft	74	17.0	12.8	18.2	69.0
15		A-4, SaSi, gry, Moist, Rec. = 0.79 ft	58	17.2	4.1	33.4	62.5
		A-4, Si, gry, Moist, Rec. = 1.57 ft	73	29.4	0.2	10.3	89.5
20		Visual Class: A-2-4, Gr Sa Si, gry, Moist, Rec. = 0.3 ft, 20.01 ft - 20.44 ft, Insufficient Sample for testing.	R				
		A-4, Si, gry, Moist, Rec. = 0.3 ft	R	25.7	5.0	13.9	81.1
		A-4, Si, gry, Moist, Rec. = 0.59 ft	85	29.4	3.8	8.8	87.4
25		A-4, SaSi, gry, Moist		19.3	5.0	44.7	50.3
		A-4, SaSi, gry, Moist, Rec. = 1.18 ft	83	26.9	2.9	23.5	73.6
		A-4, Si, gry, Moist, Rec. = 1.48 ft	76	33.0	0.6	6.1	93.3
30							
35		Appears to be Rock particles, 34.78 ft - 36.75 ft, Insufficient Sample for testing.	R				

ABUTMENT #2
BOTTOM PILE CAP
ELEV. 590.25

LOG OF BORING BETHEL BHF0241(30)S.GPJ VT ADT.GDT 8/5/08

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

BORING NUMBER: B-3
SHEET 2 of 2
DATE STARTED: 8/03/04
DATE COMPLETED: 8/06/04

PROJECT NAME: BETHEL
SITE NAME: BR-30
STATION: 105+74
OFFSET: -21.33
VTSPG: N 475829.82 ft E 1600100.30 ft

PROJECT NUMBER: BHF 0241(30)S
SITE NUMBER: RT.12
GROUND ELEVATION: 600.14 ft
GROUNDWATER DEPTH: 11.38 ft 8/06/04
PROJECT PIN NUMBER: 95C002

BORING CREW
CREW CHIEF: SOMERS
DRILLER: SOMERS
LOGGER: PUALWAN

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
40		A-1-a, SaGr with broken & crushed rock, gry/grn, Moist, Rec. = 0.85 ft	R	11.1	56.8	28.8	14.4
		Cleaned out casing, 41.67 ft - 44.62 ft					
		Top of Bedrock @ 44.95 ft					
45		Gray, Quartz-mica Schist, Not Competent, Moderately hard, Unweathered, BXGDC, 44.95 ft - 45.6 ft, Rec. = 0.62 ft	1	95	0	40	
		Gray, Quartz-mica Schist, Competent, Moderately hard, Unweathered, BXGDC, 45.6 ft - 50.52 ft, Rec. = 4.92 ft	2	100	92	40	
50		Gray, Quartz-mica Schist, Competent, Moderately hard, Unweathered, BXGDC, 50.52 ft - 55.45 ft, Rec. = 4.92 ft	3	100	70	40	
55		Hole stopped @ 55.45 ft					
60							
65							
70							
75							

ABUTMENT #2
EST. PILE TIP
ELEV. 555.19

LOG OF BORING BETHEL BHF0241(30)S.GPJ VT ADT.GDT 8/5/08

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002bor.254/236 gn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
BORING LOG SHEET 2

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 39 OF 64

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

BORING NUMBER: B-4
SHEET 1 of 1
DATE STARTED: 9/17/04
DATE COMPLETED: 9/29/04

PROJECT NAME: BETHEL
SITE NAME: BR-30
STATION: 105+89
OFFSET: 18.04
VTSPG: N 475835.96 ft E 1600141.90 ft

PROJECT NUMBER: BHF 0241(30)S
SITE NUMBER: RT.12
GROUND ELEVATION: 598.2 ft
GROUNDWATER DEPTH: 10.5 ft 10/08/04
PROJECT PIN NUMBER: 95C002

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)
		Cleaned out casing and cored ahead, No sample, Boulder, 4.89 ft – 6.89 ft					
10		Visual Class: A-2-4, Si Gr Sa, gry-brn, Moist, Insufficient sample for testing, Rec. = 0.46 ft, 9.84 ft – 11.81 ft	R				
		BXDC, Cleaned out casing, 14.11 ft – 14.76 ft					
		Visual Class: A-1-b, Sa Gr with Broken Rock, gry, Moist, Insufficient sample for testing, Rec. = 0.33 ft, 14.76 ft – 15.19 ft	R				
20		A-4, Si, gry, Moist, Rec. = 1.28 ft	38	30.5	7.2	5.1	87.7
		A-2-4, GrSaSI HP, gry, Moist, Rec. = 1.48 ft	R	15.4	32.2	33.8	34.0
30		A-4, Si, gry, Moist, Rec. = 1.67 ft	60	34.1	0.0	8.4	91.6
		Boulder, BXDC, Cored ahead, 33.23 ft – 38.16 ft					
				Top of Bedrock @ 38.16 ft			
40		Gray, Quartz-mica Schist, Competent, Moderately hard, Unweathered, BXMDC, 38.16 ft – 43.08 ft, Rec. = 4.92 ft	1	100	90	40	
		Gray, Quartz-mica Schist, Competent, Moderately hard, Unweathered, BXMDC, 43.08 ft – 47.01 ft, Rec. = 3.61 ft	2	92	90	40	
		Gray, Quartz-mica Schist, Competent, Moderately hard, Unweathered, BXMDC, 47.01 ft – 47.51 ft, Rec. = 0.49 ft	3	100	90	40	
50		Hole stopped @ 47.51 ft					

ABUTMENT #2
BOTTOM PILE CAP
ELEV. 590.25

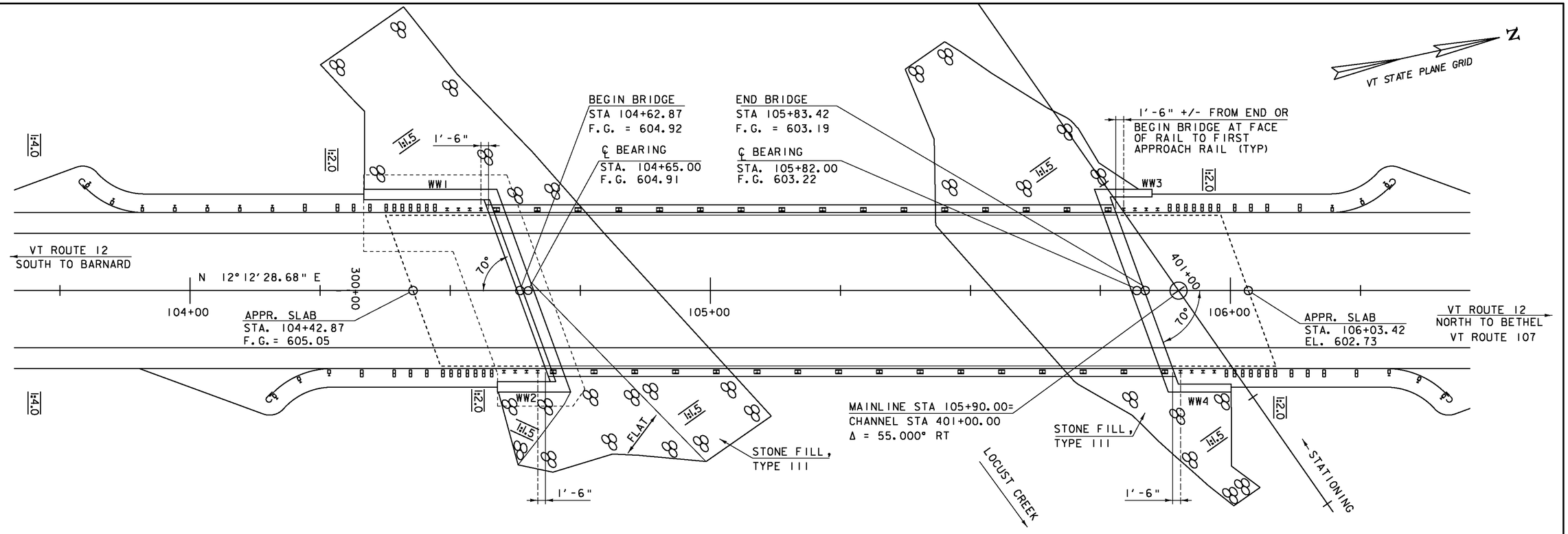
ABUTMENT #2
EST. PILE TIP
ELEV. 560.04

LOG OF BORING BETHEL BHF0241(30)S.GPJ VT_AOT.GDT 9/5/08

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

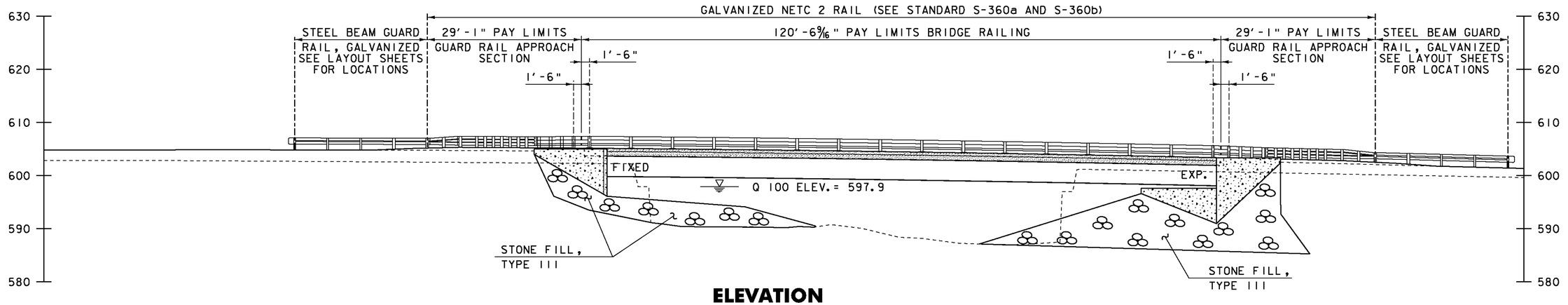
FILE NAME: s95c002bor.254/236 gn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
BORING LOG SHEET 3

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 40 OF 64



PLAN

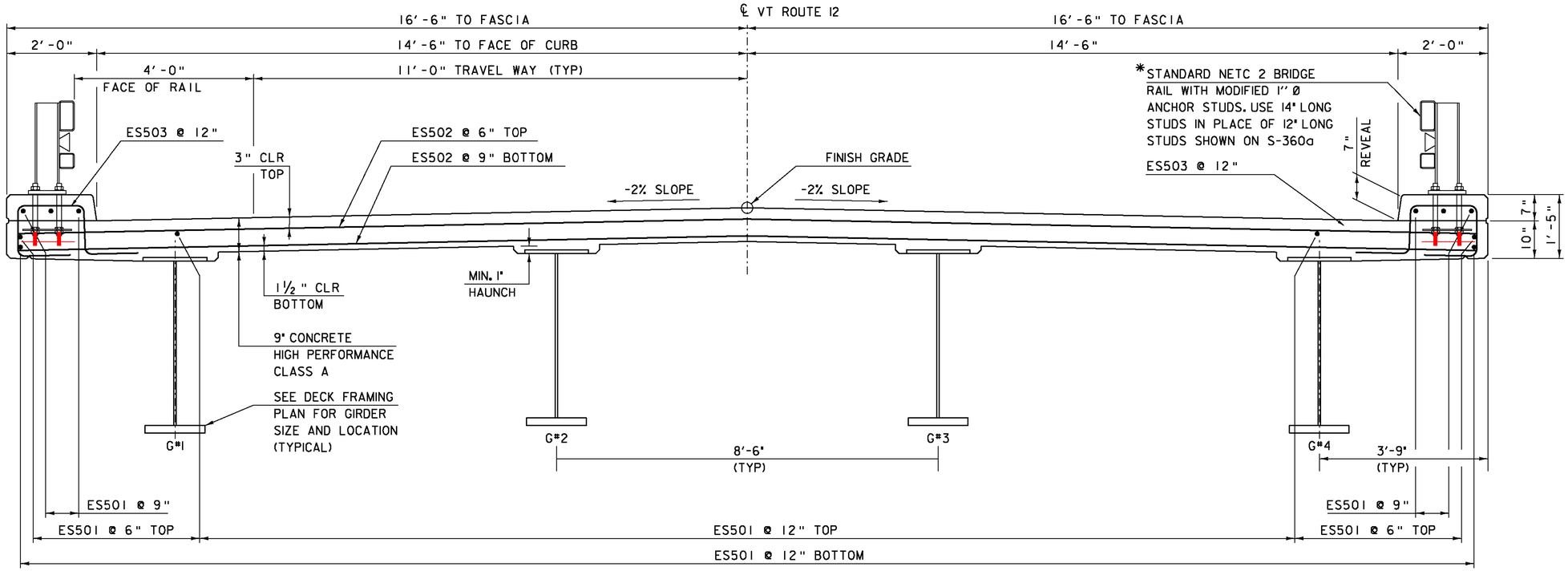
SCALE 1" = 10'-0"
10 0 10



ELEVATION

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

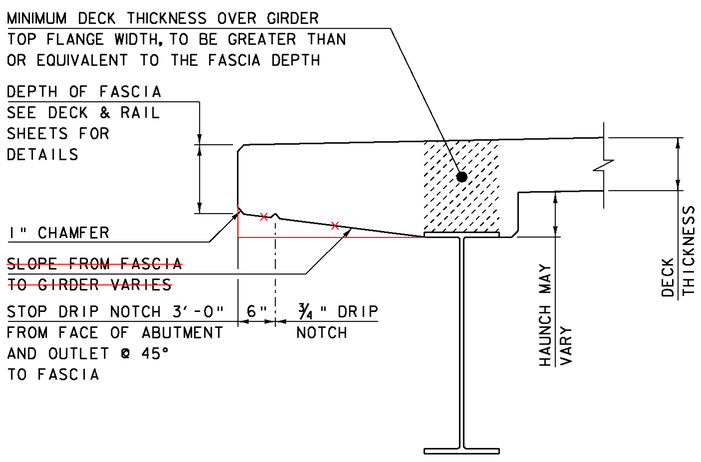
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002pe.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
PLAN AND ELEVATION SHEET	SHEET 41 OF 64



DECK TYPICAL

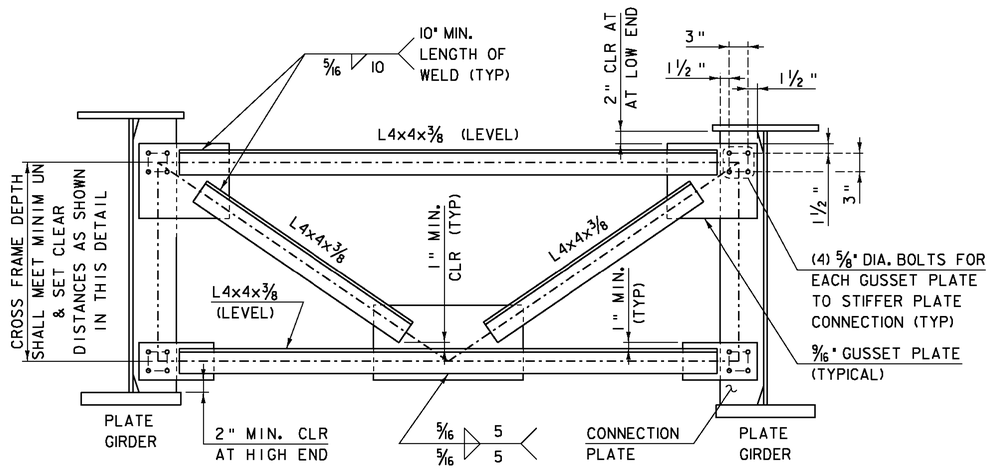
SCALE ¾" = 1'-0"

*1.) MODIFIED S-360a "BRIDGE RAILING, GALVANIZED NETC 2 RAIL" AS NOTED.



FASCIA & DRIP NOTCH DETAIL

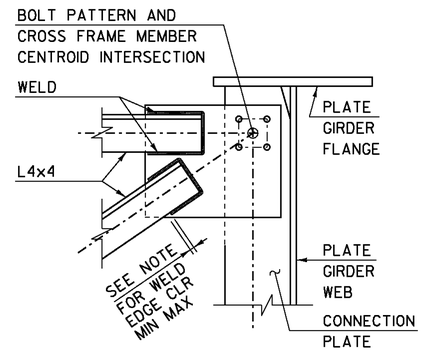
NOT TO SCALE



INTERMEDIATE CROSSFRAME DETAILS

SCALE 1" = 1'-0"

1) THE FABRICATOR MAY ALTER THE SHAPE OF THE GUSSET PLATES AS REQUIRED TO MEET MINIMUM WELDING LENGTH AND MAINTAINING THE BOLT HOLE LOCATIONS.

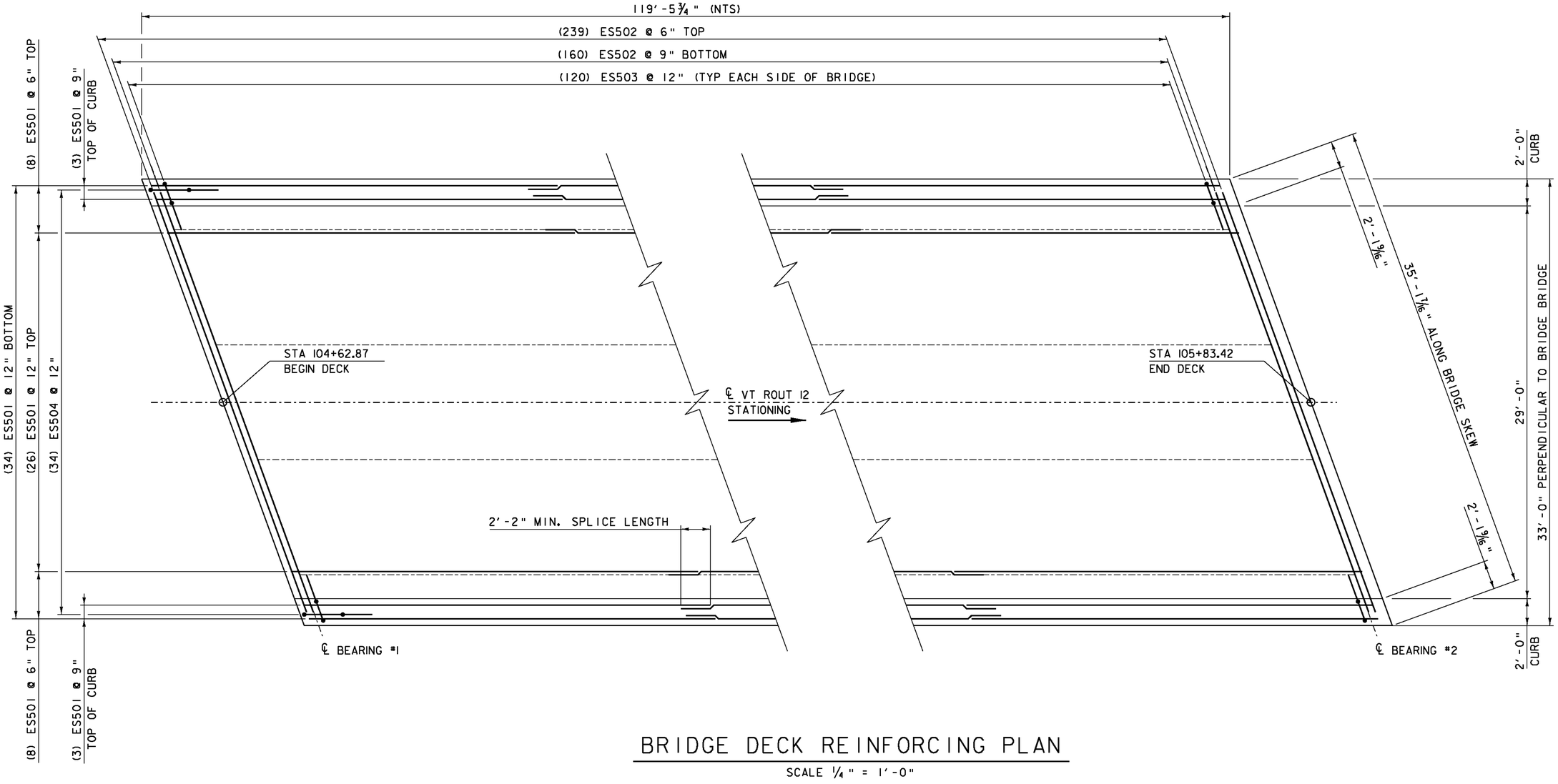


CROSSFRAME GUSSET PLATE & WELD DETAIL

SCALE 1½" = 1'-0"

NOTE: NO WELD FOR ¼" MIN. - ½" MAX. DISTANCE FROM GUSSET PLATE EDGES

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BRF 0241(30)
FILE NAME: s95c002sup.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
DECK TYPICAL & DETAILS	SHEET 42 OF 64



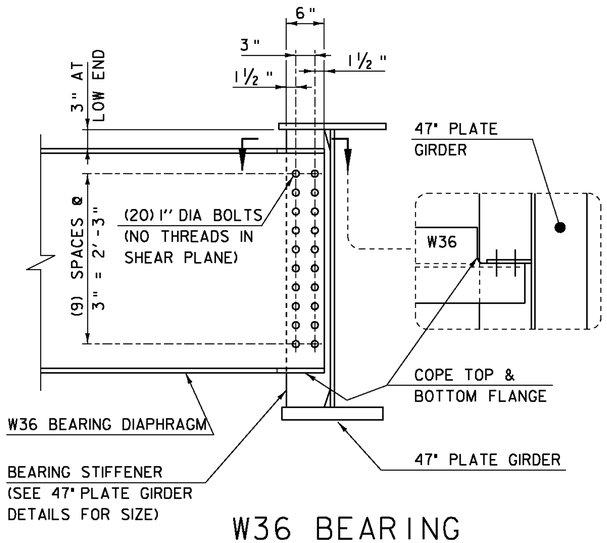
BRIDGE DECK REINFORCING PLAN

SCALE ¼" = 1'-0"

NOTE:

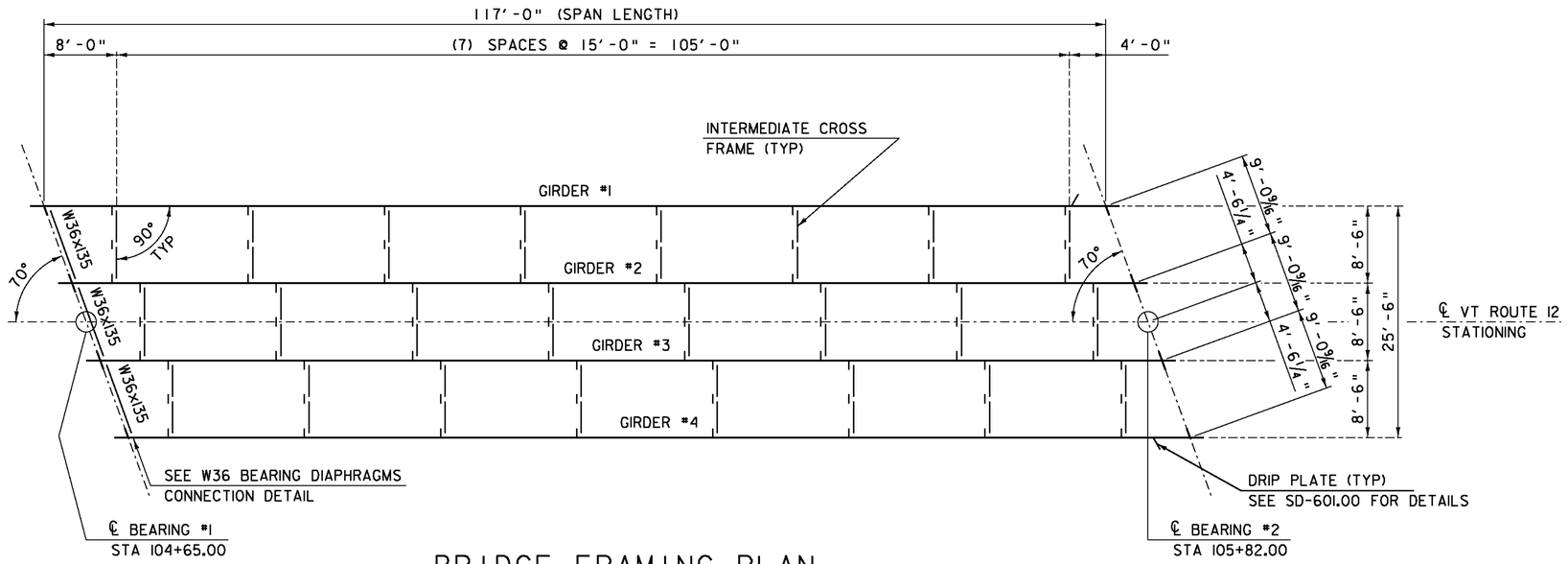
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002sup.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
DECK REINFORCING PLAN & DETAILS	SHEET 43 OF 64



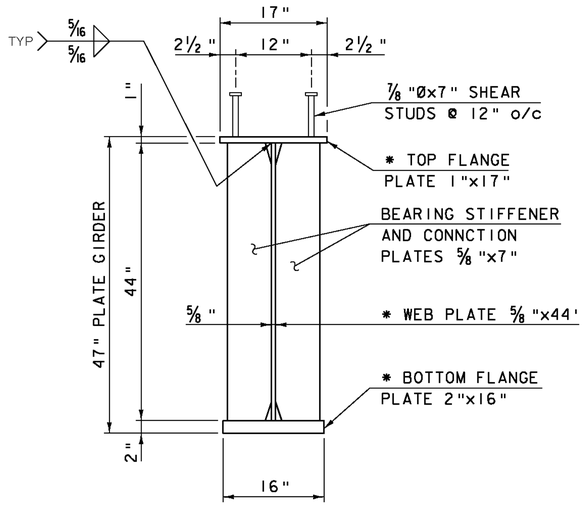
W36 BEARING DIAPHRAGMS CONNECTION DETAIL

SCALE 1" = 1'-0"



BRIDGE FRAMING PLAN

SCALE ⅛" = 1'-0"

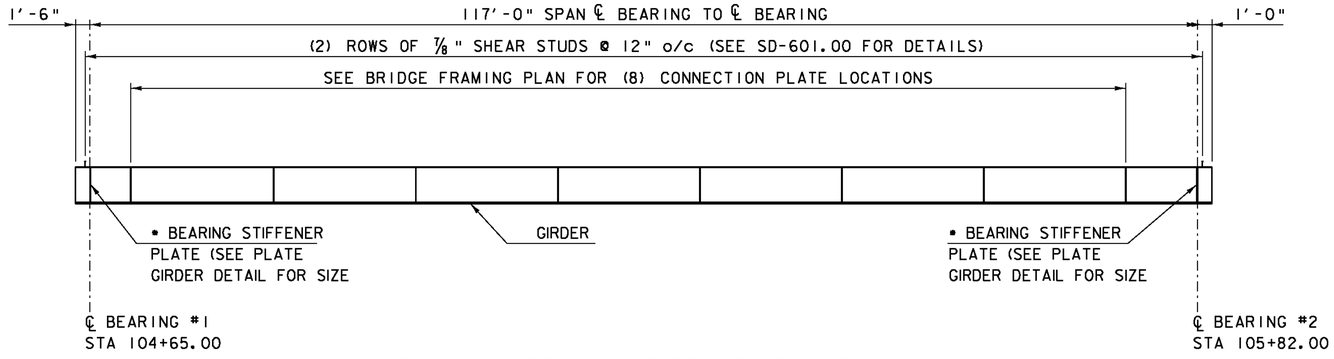


SEE SD-602.00 FOR WELDING DETAILS

47" PLATE GIRDER DETAIL

SCALE 1" = 1'-0"

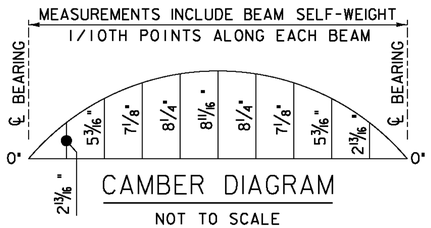
• DENOTES CHARPY V-NOTCH TEST REQUIRED



47" PLATE GIRDER ELEVATION

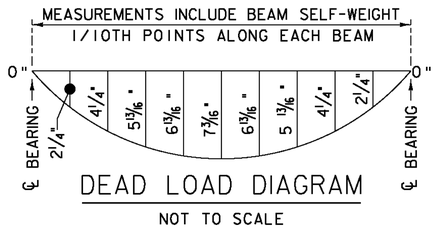
SCALE ⅛" = 1'-0"

• DENOTES CHARPY V-NOTCH TEST REQUIRED



CAMBER DIAGRAM

NOT TO SCALE



DEAD LOAD DIAGRAM

NOT TO SCALE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002sup.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
DECK FRAMING PLAN & DETAILS	SHEET 44 OF 64

GENERAL

1) ABUTMENT 1 FIXED BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.11 "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD" AND ABUTMENT 2 INTEGRAL BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.14 "BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT" BOTH SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.

2) ALL MATERIALS SHALL CONFORM TO SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND ALL AASHTO OR ASTM SPECIFICATIONS SPECIFIED IN THIS SECTION.

3) THE ELASTOMERIC COMPOUND SHALL BE VIRGIN CRYSTALLIZATION RESISTANT POLYCHLOROPENE (NEOPRENE) OR VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) AS THE RAW POLYMER, EXCEPT WHEN USING A DISC THE COMPOUND SHALL BE BASED ON POLYETHER URETHANE, USING ONLY VIRGIN MATERIALS. THE RESULTING PRODUCT SHALL BE FREE OF POROUS AREAS, WEAK SECTIONS, BUBBLES, FOREIGN MATTER, OR OTHER DEFECTS AFFECTING SERVICEABILITY. IT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 251.

4) ELASTOMER WAS DESIGNED USING METHOD A, WITH A NOMINAL HARDNESS OF 50 +/- 5 ON THE SHORE A SCALE, EXCEPT FOR DISCS WHICH SHALL HAVE A HARDNESS OF 50 +/- 5 ON THE SHORE D SCALE. IT IS ACCEPTABLE TO TEST PER AASHTO M 251 APPENDIX X1. ELASTOMER SHALL MEET THE REQUIREMENTS FOR LOW-TEMPERATURE ZONE D, GRADE 4.

5) ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.

6) STEEL REINFORCED ELASTOMERIC PADS SHALL BE WITHIN THE TOLERANCES LISTED IN TABLE 2 IN AASHTO M251. EXTERNAL LOAD PLATES SHALL BE WITHIN THE TOLERANCES GIVEN IN SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATION.

7) STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM 1/8 INCH EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.

8) THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE FABRICATION DRAWINGS.

9) BRIDGE SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHTS SHOWN. PRIOR TO CASTING THE ABUTMENTS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT AS PROVIDED BY THE MANUFACTURER AND ANY ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING THE ABUTMENTS.

ABUTMENT 1 FIXED BEARINGS

10) THE PREFORMED BEARING PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.

11) BEARING SHALL BE SET LEVEL AND AS SHOWN ON THE PLANS WITHIN 0.03125 IN./FT. FOR PARALLEL ELEMENTS, WITH FULL AND UNIFORM BEARING. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.

12) DURING ANY WELDING, SURFACES IN CONTACT WITH THE ELASTOMER SHALL BE RESTRICTED TO 200 DEGREES FAHRENHEIT, AND SUFACES IN CONTACT WITH PTFE SHALL BE RESTRICTED TO 300 DEGREES FAHRENHEIT. TEMPERATURE SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.

13) PRIOR TO ORDERING MATERIALS AND STARTING THE WORK, THE CONTRACTOR SHALL SUBMIT A DRILLING AND MORTARING PROPOSAL TO THE ENGINEER FOR APPROVAL, INCLUDING A PREMIXED MORTAR MATERIAL BRAND NAME.

14) THE DRILLED HOLES TO BE MORTARED SHALL BE THOROUGHLY CLEANED, WETTED, AND FREE OF STANDING WATER.

15) THE MORTAR SHALL BE MIXED IN A MECHANICAL MIXER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE READILY POURABLE SO THAT WHEN POURED IT COMPLETELY FILLS THE REMAINING HOLE CAVITIES. THE PLACEMENT OF MORTAR FOR EACH BEARING SHALL BE CONTINUOUS AND COMPLETE AT ALL HOLE LOCATIONS.

16) ALL EXPOSED MORTAR SHALL BE CURED FOR A PERIOD OF NOT LESS THAN THREE (3) DAYS BY THE WETTED BURLAP METHOD IN ACCORDANCE WITH SECTION 501. CURING SHALL COMMENCE AS SOON AS PRACTICAL AFTER MORTAR PLACEMENT. THE CONTRACTOR SHALL NOT APPLY ANY FORCES TO THE ANCHOR BOLTS DURING THE CURING PERIOD.

17) ANCHOR BOLTS TO BE DOUBLE NUTTED SHALL USE THE FOLLOWING PROCEDURE: INSTALL THE LOWER NUT IN CONTACT WITH TOP OF SOLE PLATE, AND THEN BACK OFF ½ TURN. INSTALL UPPER NUT SNUG TIGHT TO PREVENT LOWER NUTS FROM LOOSENING.

18) BOLTS FURNISHED FOR BEARINGS SHALL CONFORM TO SUBSECTION 714.08. THE BOLTS, NUTS, AND WASHERS FURNISHED SHALL BE TESTED AND CERTIFIED AS MEETING THE REQUIREMENTS OF THE ZINC THICKNESS TEST AS SPECIFIED IN SUBSECTION 714.05, IN ADDITION TO ANY OTHER TEST AND CERTIFICATION REQUIREMENTS.

19) THE WELDS FOR THE SOLE PLATE CONNECTION SHOULD ONLY BE ALONG THE LONGITUDINAL GIRDER AXIS. TRANSVERSE JOINTS SHOULD BE SEALED WITH AN ACCEPTABLE CAULKING MATERIAL.

20) PRIOR TO WELDING BEAMS TO SOLE PLATES, THE CONCRETE DECK SHALL BE PLACED AND CURED, AND THE BEAMS SHALL BE RAISED TO ALLOW RELEASE OF INITIAL BEARING DEFORMATION DUE TO BEAM CAMBER RELAXATION.

21) GALVANIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, STANDARD PRACTICE FOR REPAIR OF DAMAGED HOT DIPPED GALVANIZED COATINGS, ANNEX A2. THE PAINT USED IN THE REPAIR SHALL BE ORGANIC-RICH, CONTAINING 92 PERCENT (MIN.) ZINC BY WEIGHT IN THE DRY FILM. THE PAINT SHALL BE APPLIED PER MANUFACTURE'S RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.

22) METALIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED USING THE METHODS DESCRIBED IN NOTE 21.

23) DESIGN CRITERIA:

A) DESIGN ROTATION = 0.017 RAD
B) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 15% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION.
C) DESIGN LOAD PER BEARING
DC1 = 77.1 KIPS
DC2 = 8.1 KIPS
DW = 15.9 KIPS
LL = 103.7 KIPS
HORIZONTAL LOAD = 4.36 KIPS
D) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

ABUTMENT 2 INTEGRAL BEARINGS

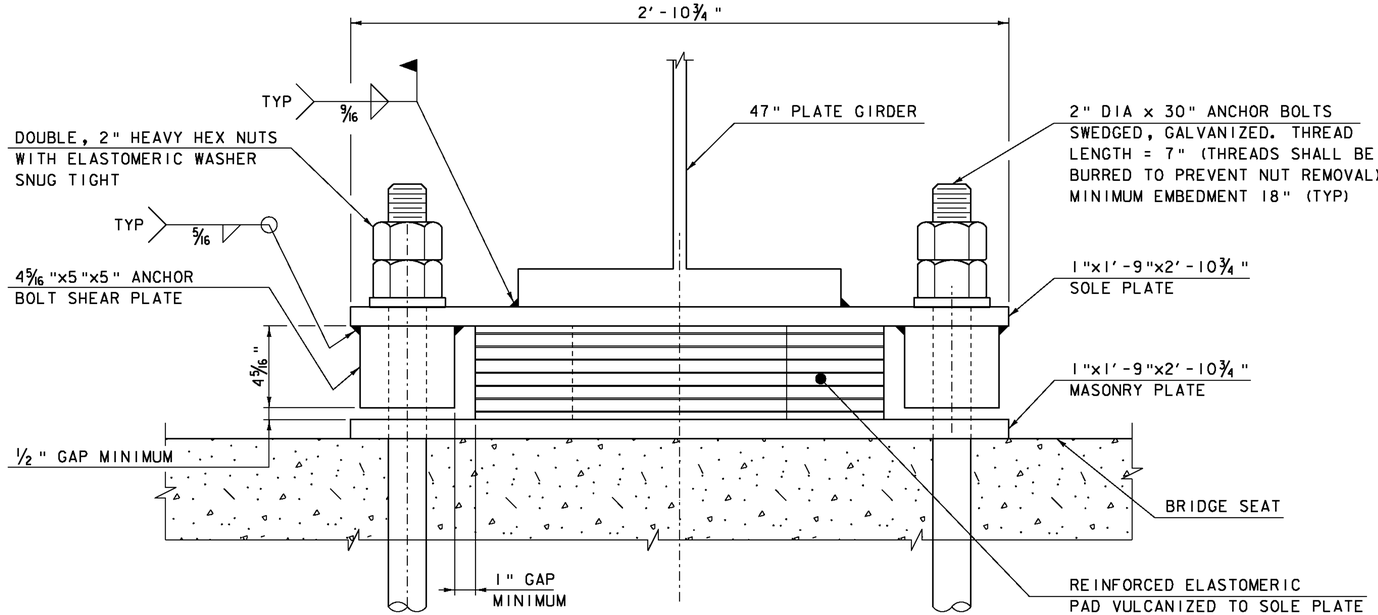
24) DESIGN CRITERIA:

A) DESIGN ROTATION = 0.035 RAD
B) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 15% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION.
C) DESIGN LOAD PER BEARING
DC1 = 77.1 KIPS
DC2 = 0.0 KIPS
DW = 0.0 KIPS
LL = 0.0 KIPS
HORIZONTAL LOAD = 0.0 KIPS
D) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 024I(30)

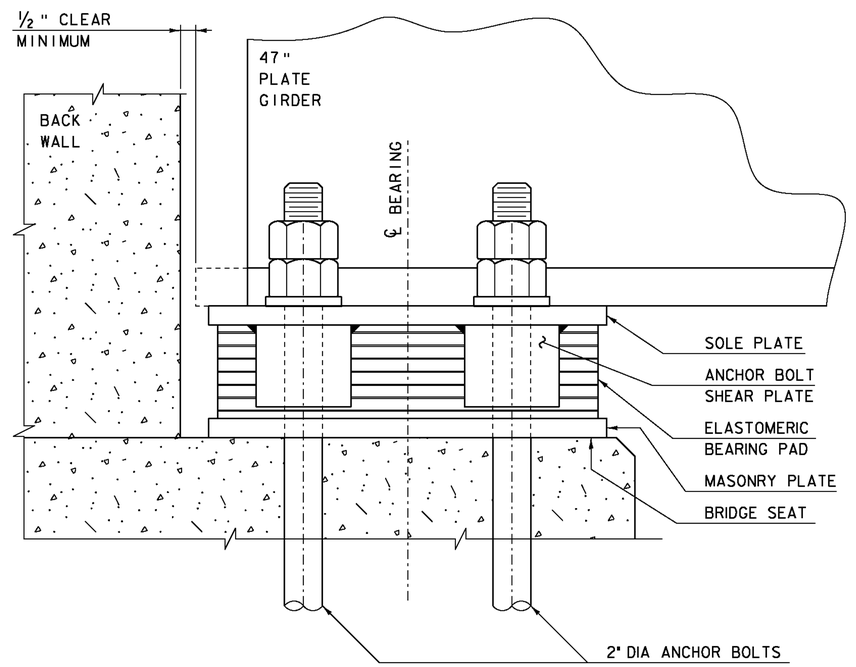
FILE NAME: s95c002brg.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
BEARING NOTES

PLOT DATE: 31-AUG-2011
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET 45 OF 64



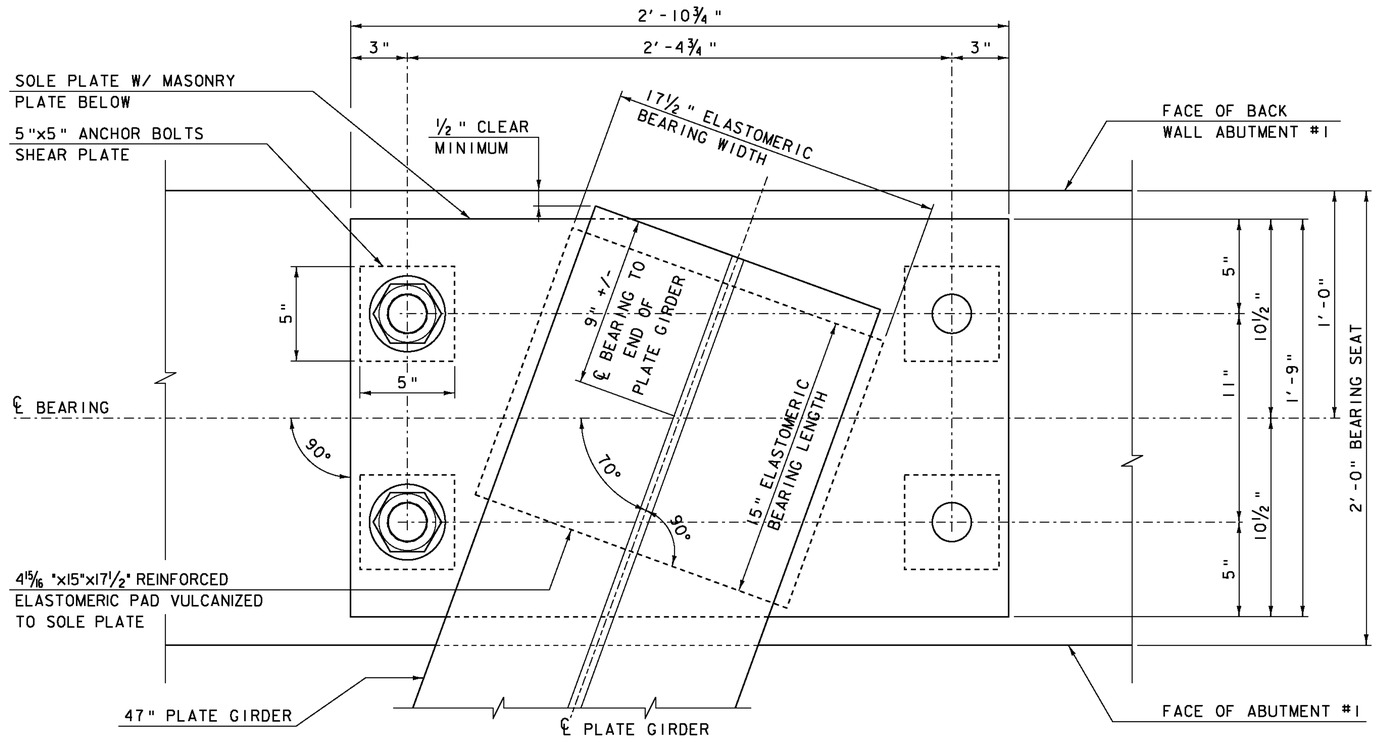
ABUTMENT 1 FIXED BEARING END ELEVATION

SCALE 3" = 1'-0"



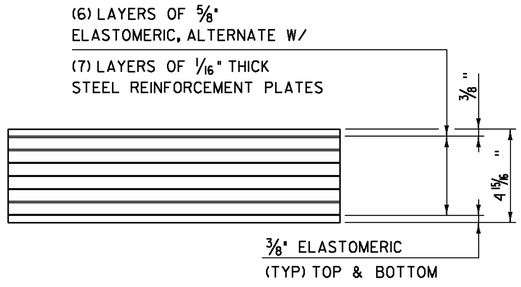
ABUTMENT 1 FIXED BEARING SIDE ELEVATION

SCALE 3" = 1'-0"



ABUTMENT 1 FIXED BEARING PLAN

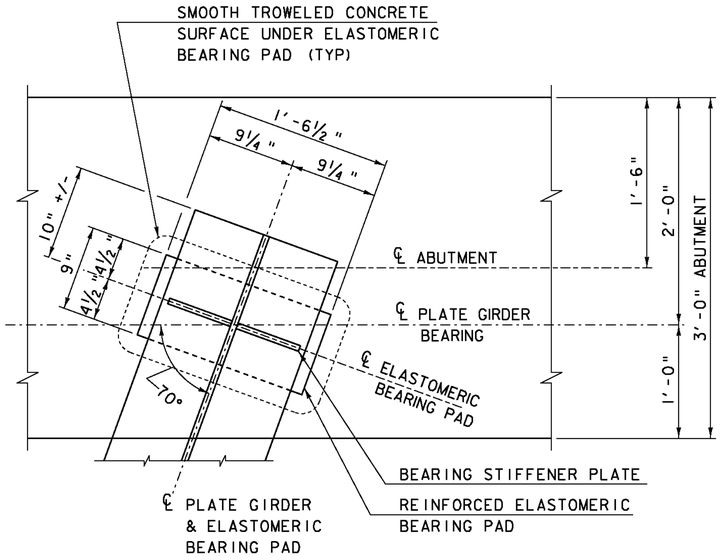
SCALE 3" = 1'-0"



ABUTMENT 1
ELASTOMERIC BEARING MAKEUP

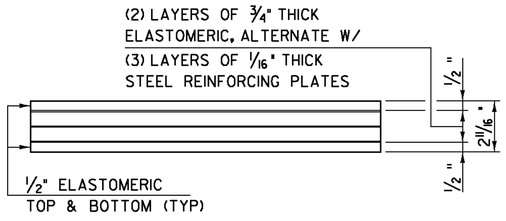
SCALE 3" = 1'-0"

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002brg.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
ABUTMENT 1 FIXED BEARING DETAILS	SHEET 46 OF 64



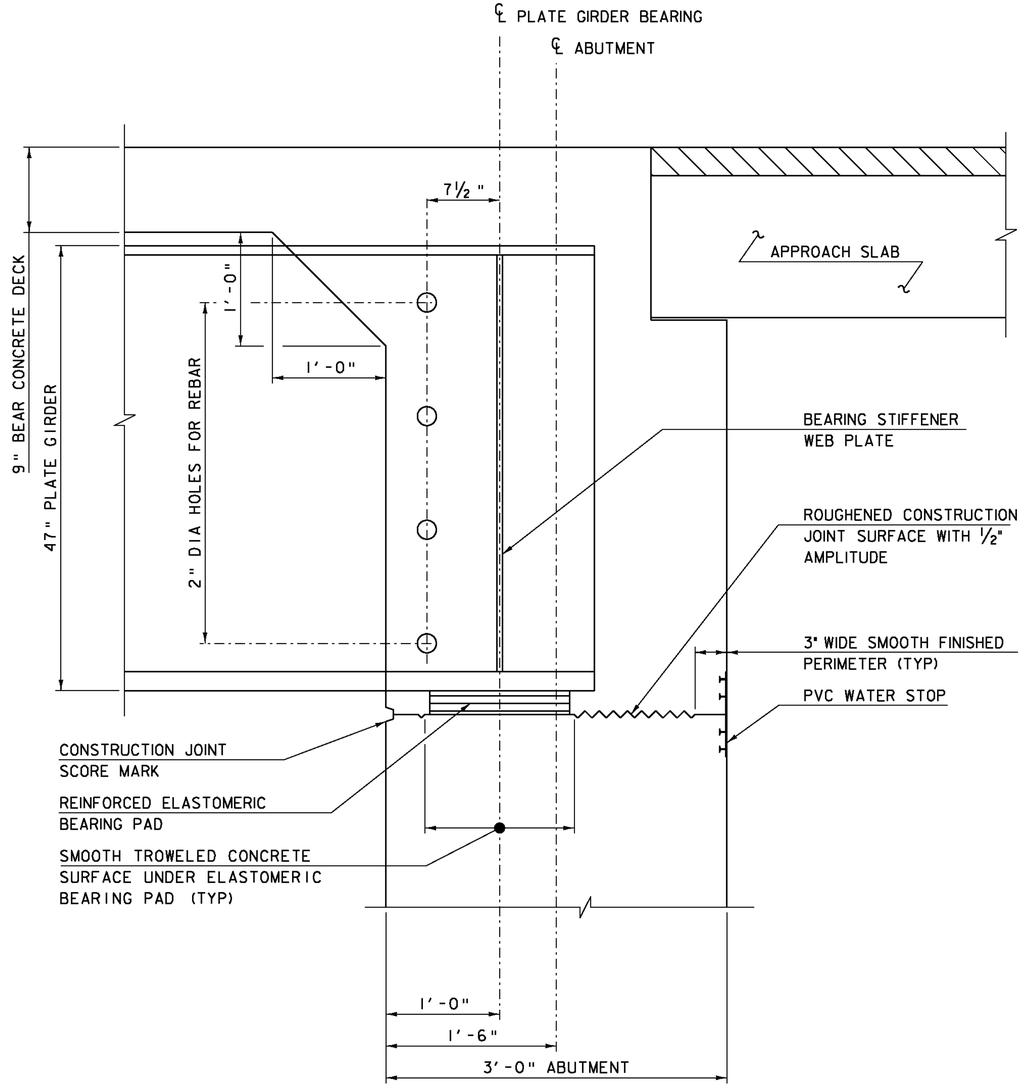
ABUTMENT 2 BEARING PLAN VIEW

SCALE 1½" = 1'-0"



ABUTMENT 2
ELASTOMERIC BEARING MAKEUP

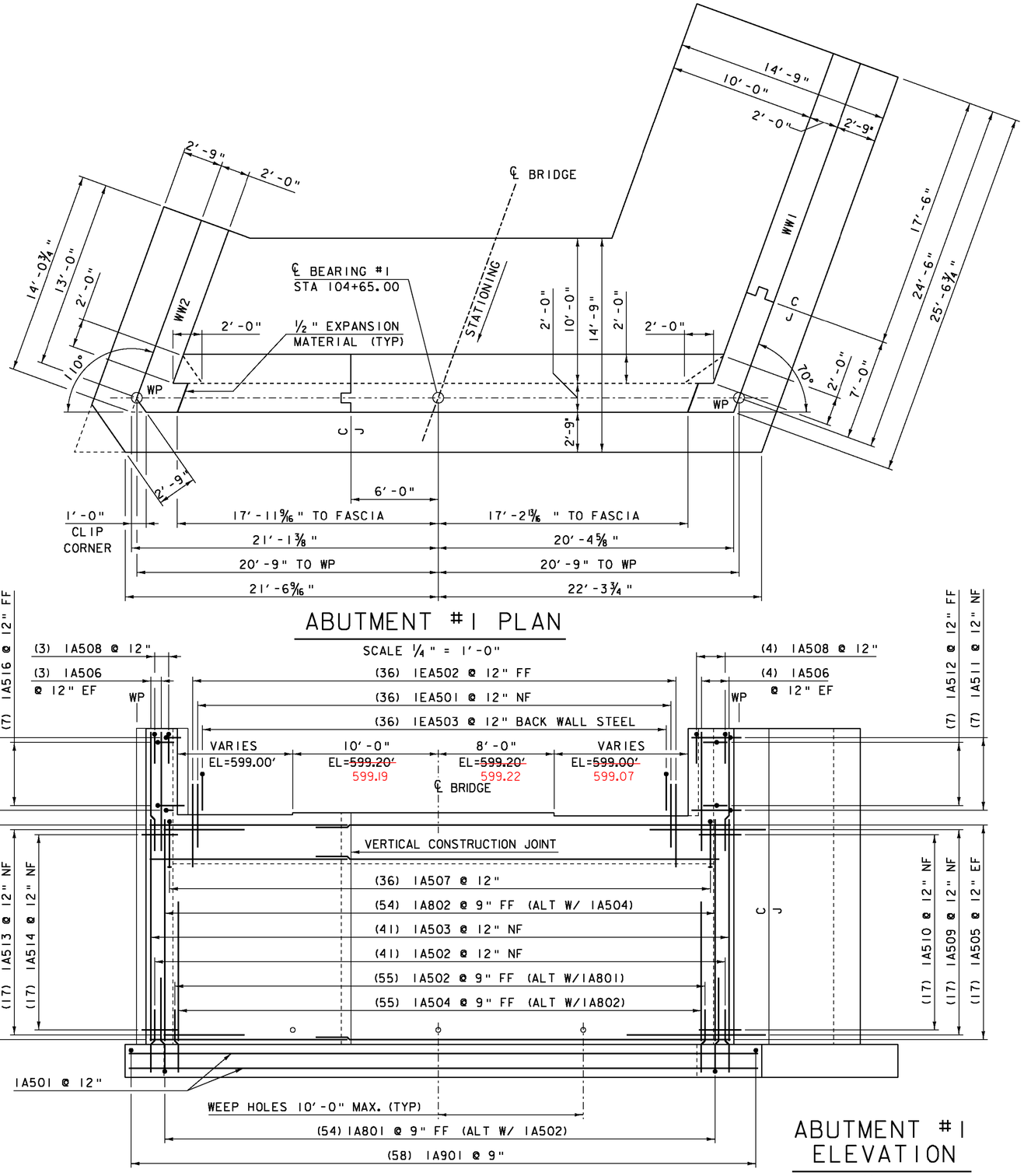
SCALE 3" = 1'-0"



ABUTMENT 2 BEARING ELEVATION VIEW

SCALE 1½" = 1'-0"

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002brg.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
ABUTMENT 2 BEARING DETAILS	SHEET 47 OF 64

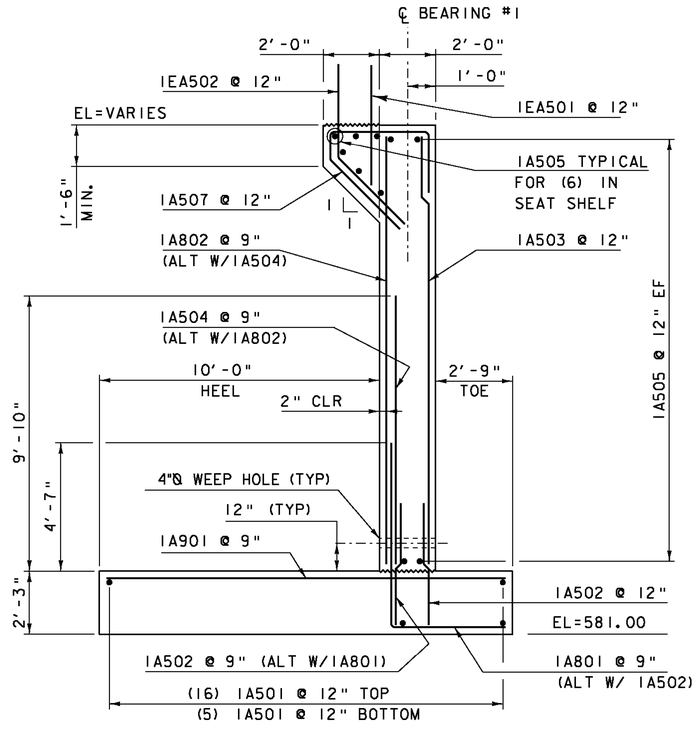


ABUTMENT #1 PLAN

SCALE ¼" = 1'-0"

ABUTMENT #1 ELEVATION

SCALE ¼" = 1'-0"



ABUTMENT #1 TYPICAL

SCALE ⅜" = 1'-0"

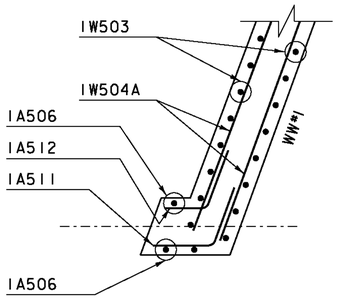
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

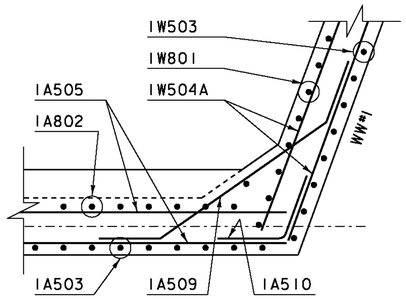
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002sub.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
ABUTMENT #1 PLAN & ELEVATION	SHEET 48 OF 64



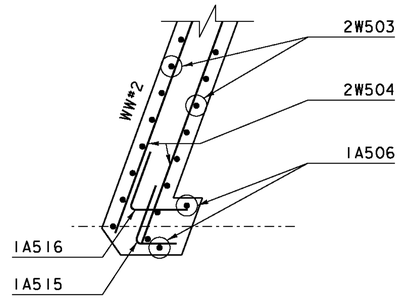
WINGWALL #1 CORNER DETAIL ABOVE SEAT

SCALE 3/8" = 1'-0"



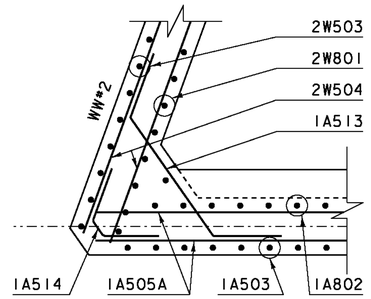
WINGWALL #1 CORNER DETAIL BELOW SEAT

SCALE 3/8" = 1'-0"



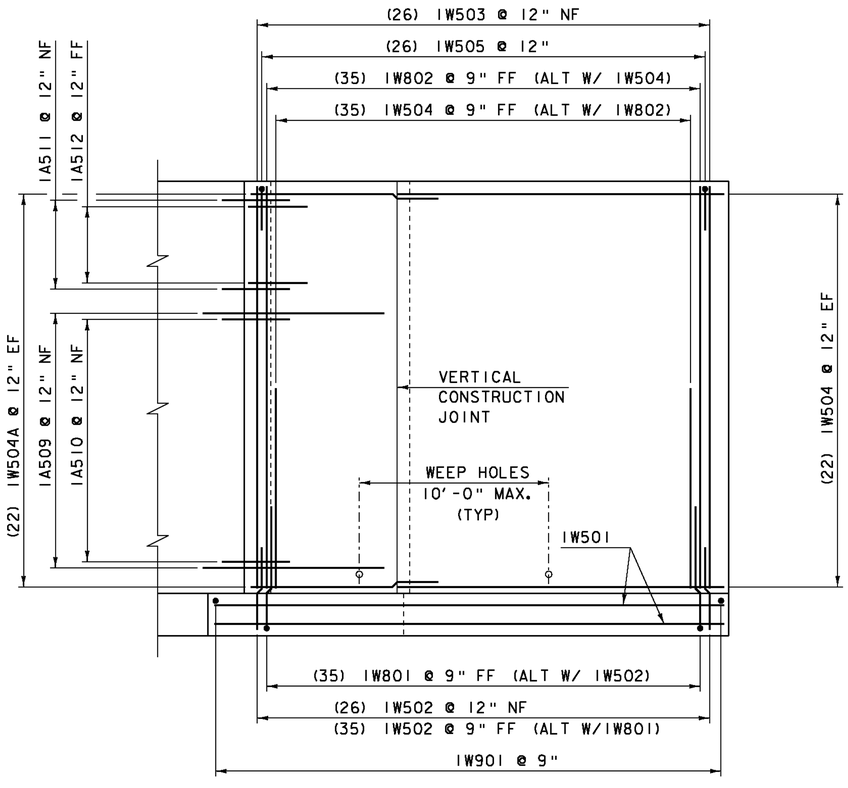
WINGWALL #2 CORNER DETAIL ABOVE SEAT

SCALE 3/8" = 1'-0"



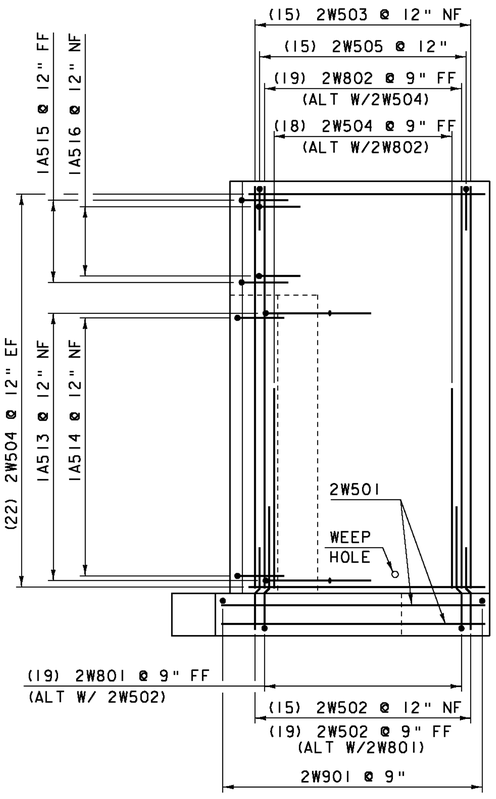
WINGWALL #2 CORNER DETAIL BELOW SEAT

SCALE 3/8" = 1'-0"



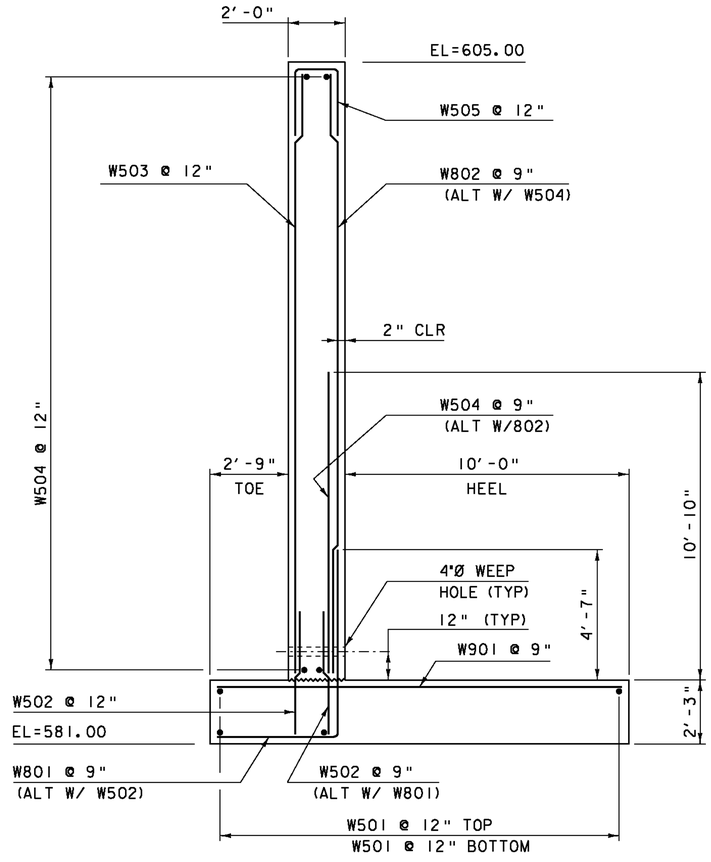
WINGWALL #1 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL #2 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL 1 & 2 TYPICAL

SCALE 3/8" = 1'-0"

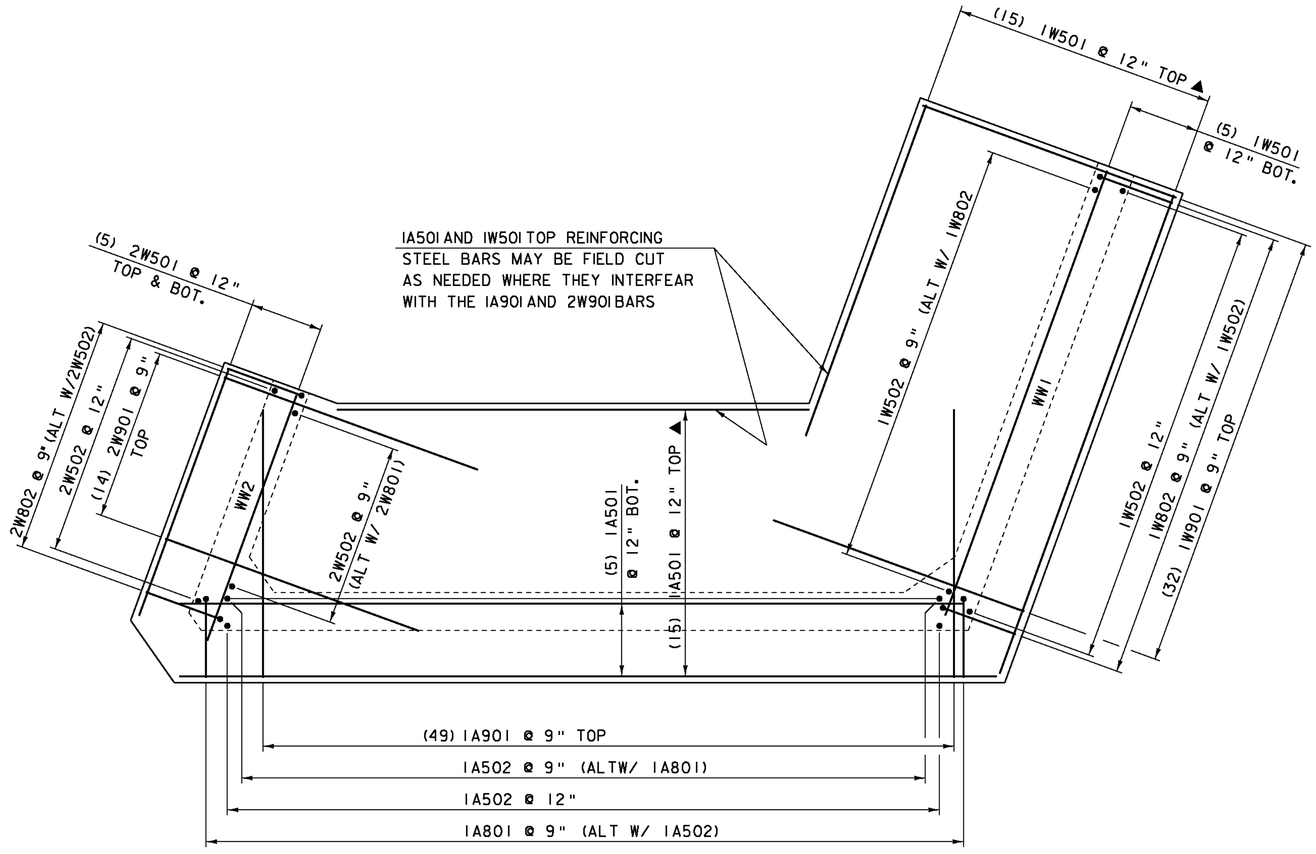
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002sub.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
WINGWALL #1 &#2 ELEVATION & DETAILS	SHEET 49 OF 64



ABUTMENT #1 FOOTING REINFORCING PLAN

SCALE 1/4" = 1'-0"

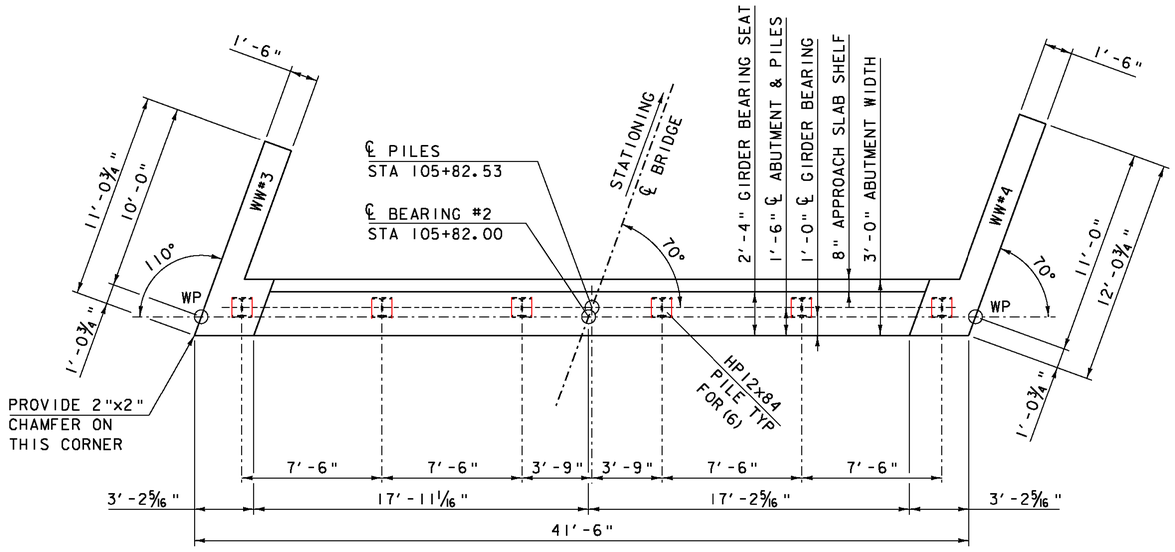
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

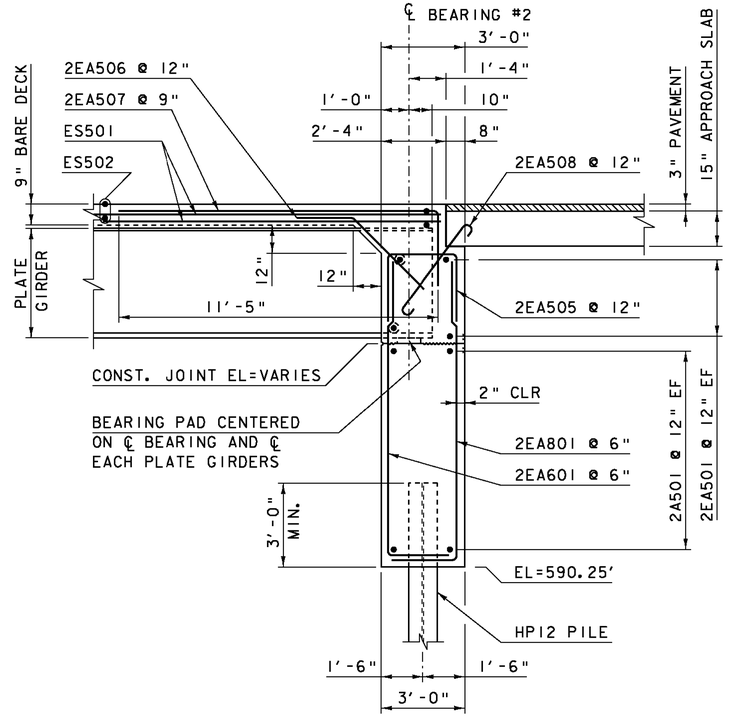
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002sub.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
ABUTMENT #1 FOOTING PLAN	SHEET 50 OF 64



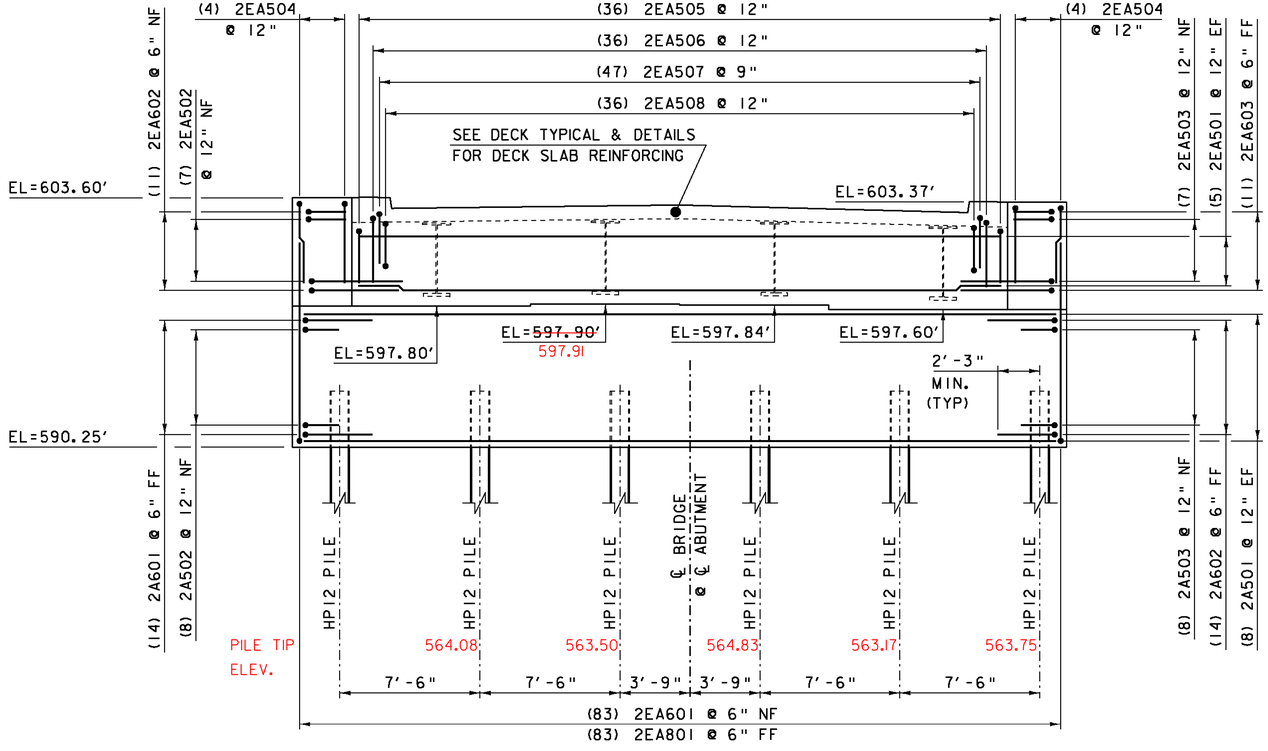
ABUTMENT #2 PLAN

SCALE ¼" = 1'-0"



ABUTMENT #2 TYPICAL

SCALE ⅜" = 1'-0"



ABUTMENT #2 ELEVATION

SCALE ¼" = 1'-0"

NOTES:

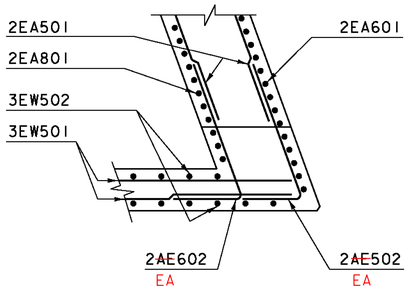
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

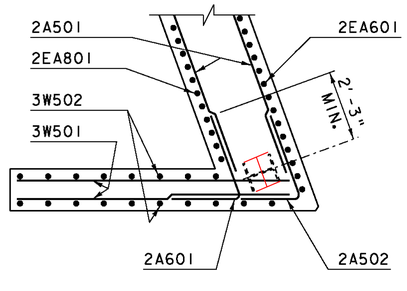
SEE SD-601 FOR PILE SPLICE DETAILS

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002sub.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
ABUTMENT #2 PLAN & ELEVATION	SHEET 51 OF 64



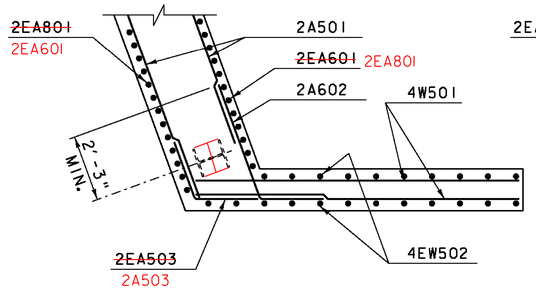
WINGWALL #3 CORNER DETAIL ABOVE SEAT

SCALE 3/8" = 1'-0"



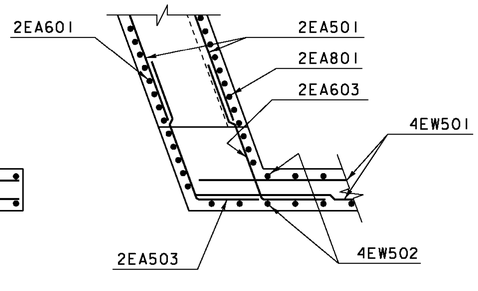
WINGWALL #3 CORNER DETAIL BELOW SEAT

SCALE 3/8" = 1'-0"



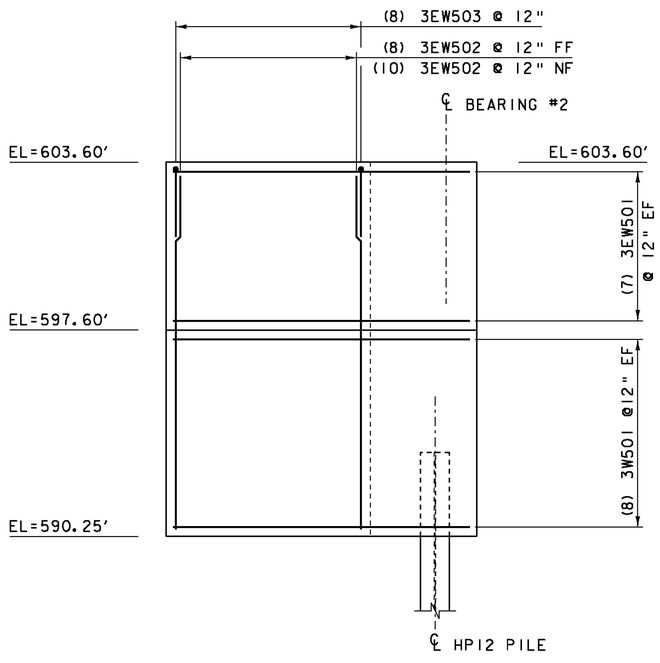
WINGWALL #4 CORNER DETAIL BELOW SEAT

SCALE 3/8" = 1'-0"



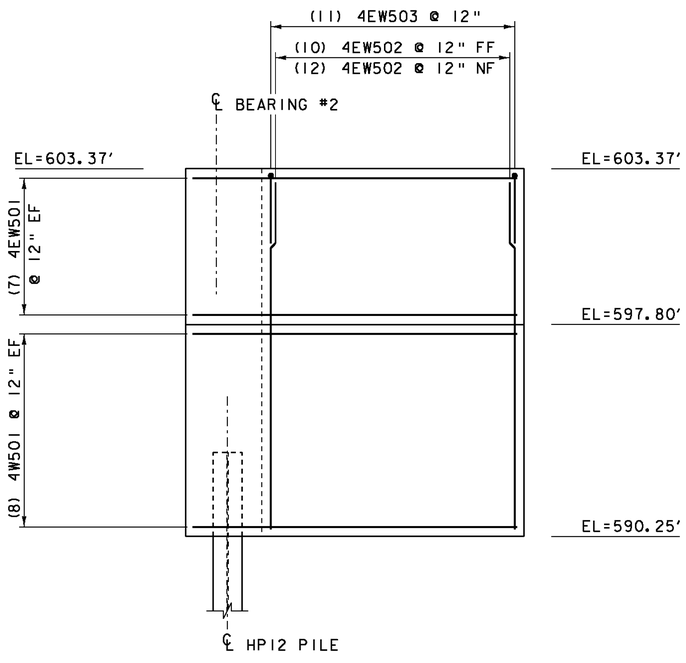
WINGWALL #4 CORNER DETAIL ABOVE SEAT

SCALE 3/8" = 1'-0"



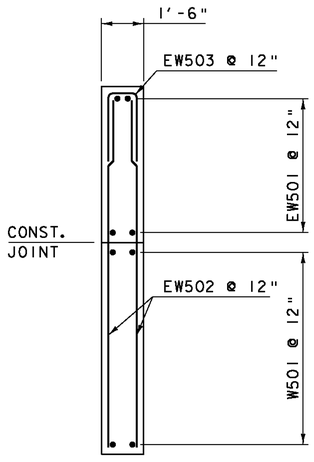
WINGWALL #3 ELEVATION

SCALE 3/8" = 1'-0"



WINGWALL #4 ELEVATION

SCALE 3/8" = 1'-0"



WINGWALL TYPICAL

SCALE 3/8" = 1'-0"

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

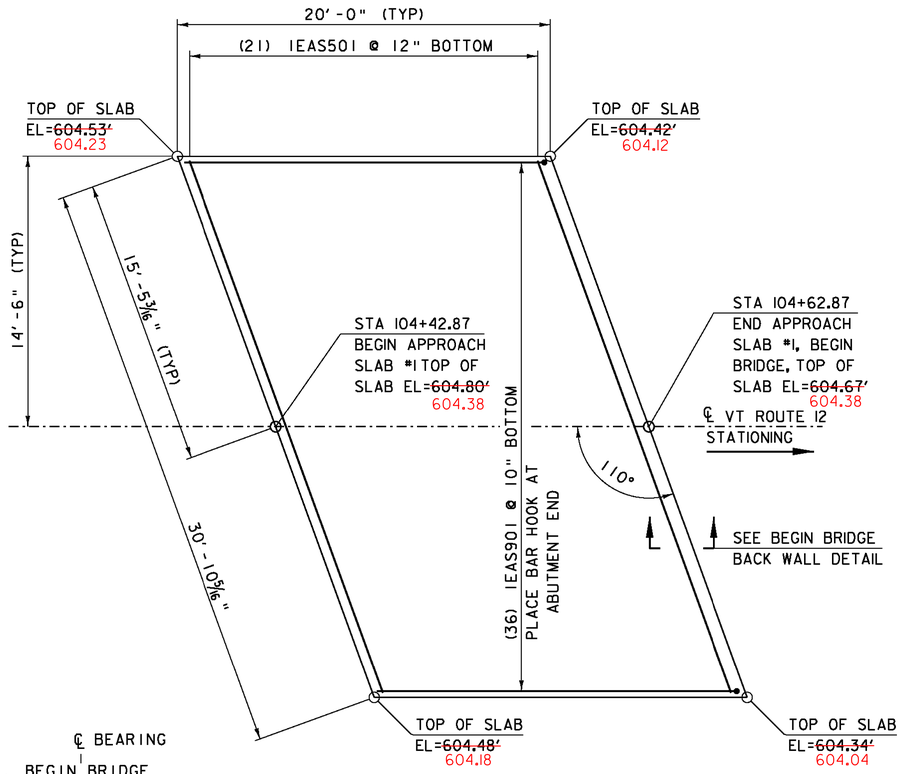
3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002sub.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
WINGWALL #3 & #4 ELEVATION & DETAILS	SHEET 52 OF 64

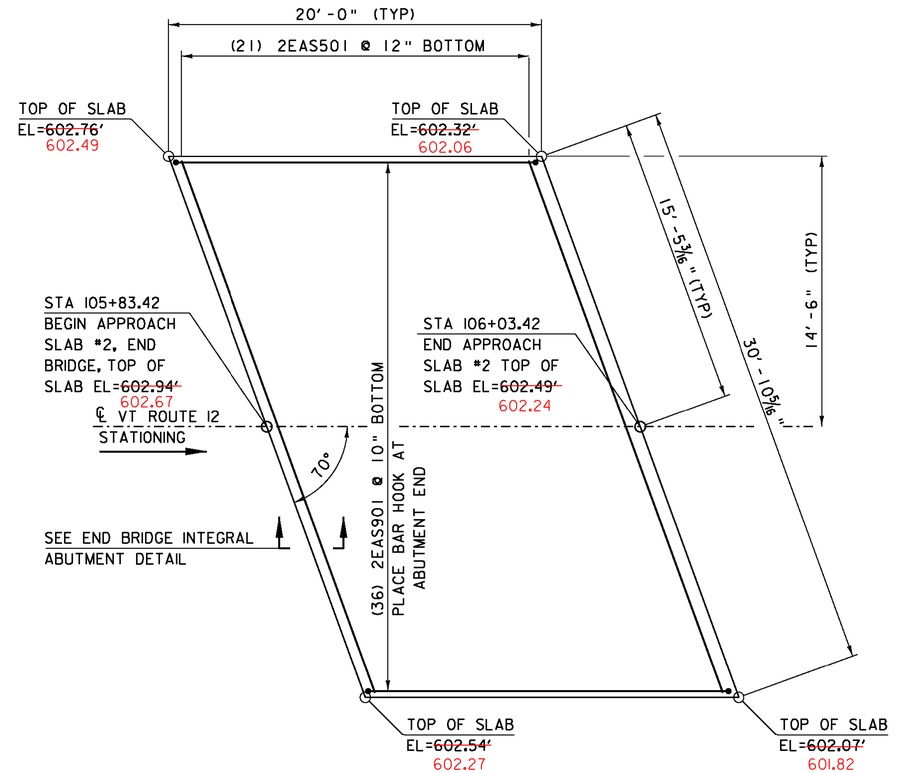
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.



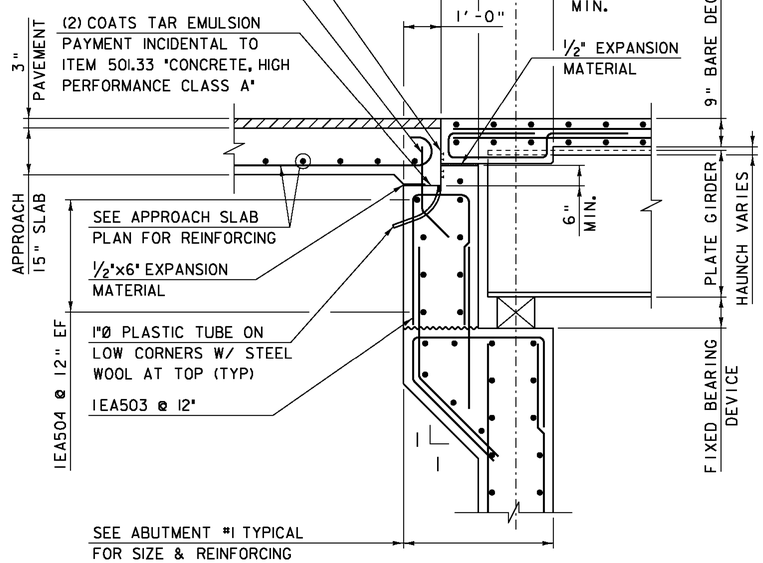
APPROACH SLAB #1 PLAN

SCALE 1/4" = 1'-0"



APPROACH SLAB #2 PLAN

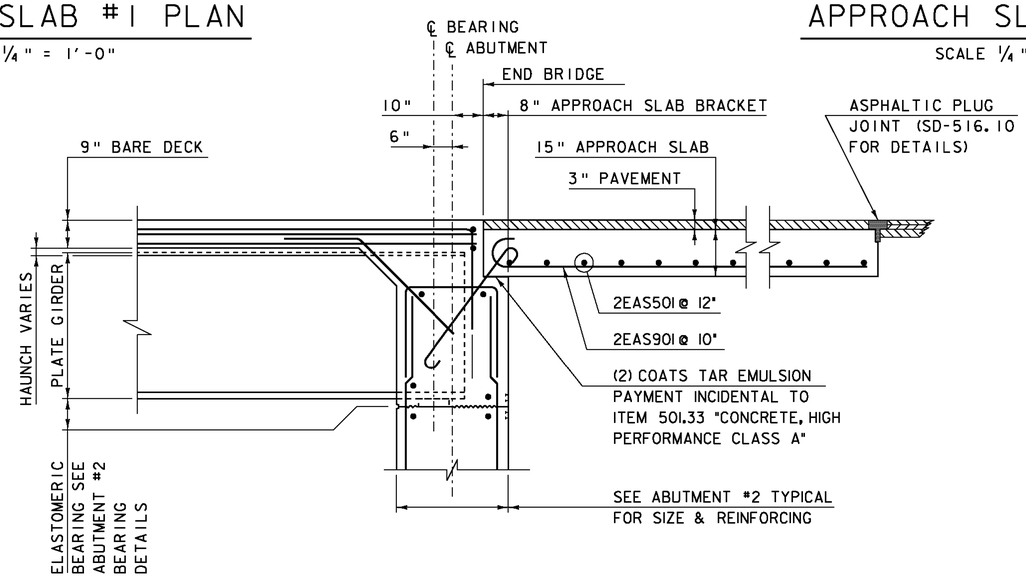
SCALE 1/4" = 1'-0"



BEGIN BRIDGE BACK WALL DETAIL

SCALE 1/2" = 1'-0"

1) SEE BRIDGE FRAMING PLAN FOR PLATE GIRDER DETAILS.
2) SEE BEARING DETAILS FOR BEARING DEVICE DETAILS.



END BRIDGE INTEGRAL ABUTMENT DETAIL

SCALE 1/2" = 1'-0"

1) SEE BRIDGE FRAMING PLAN FOR PLATE GIRDER DETAILS.

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: s95c002sup.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. LONGSTREET
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
APPROACH SLAB 1&2 PLANS & DETAILS	SHEET 53 OF 64

STATE OF VERMONT
AGENCY OF TRANSPORTATION

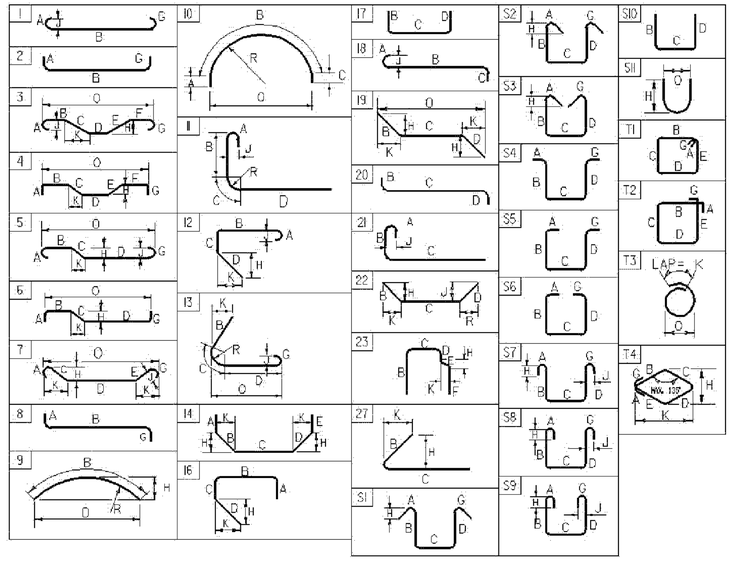
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK & CURB																
	246	5	41'- 1"	ES501	STR	41'- 1"											
✳	400	5	34'- 7"	ES502	STR	34'- 7"											
	240	5	5'- 1"	ES503	S5	10"	1'- 0"	1'- 5"	1'- 0"			10"					
	34	5	8'- 3"	ES504	S5	2'- 2"	8"	2'- 7"	8"			2'- 2"					
	ABUTMENT # 1																
▲	20	5	43'- 4"	1A501	STR	43'- 4"											
	96	5	4'- 6"	1A502	STR	4'- 6"											
✳	42	5	15'- 8"	1A503	STR	15'- 8"											
	55	5	9'- 10"	1A504	STR	9'- 10"											
	40	5	28'- 4"	1A505	STR	28'- 4"											
	21	5	13'- 11"	1A505A	STR	13'- 11"											
	14	5	7'- 11"	1A506	STR	7'- 11"											
	54	5	15'- 0"	1A802	STR	15'-											
	49	9	14'- 3"	1A901	STR	14'- 3"											
	36	5	10'- 2"	1A507	16	2'- 2"	3'- 5"	1'- 1"	3'- 6"				2'- 6"		2'- 6"		
	14	5	5'- 10"	1A508	S10		2'- 2"	1'- 6"	2'- 2"								
	17	5	12'- 8"	1A509	22		2'- 2"	8'- 4"	2'- 2"				1'- 3"	1'- 3"	1'- 9"	1'- 9"	
	17	5	4'- 10"	1A510	22		2'- 5"	2'- 5"	---				2'- 3"	---	10"	---	
	7	5	5'- 0"	1A511	22		2'- 5"	2'- 7"	---				2'- 3"	---	10"	---	
	7	5	3'- 2"	1A512	22		2'- 2"	1'- 0"	---				2'- 0"	---	9"	---	
	17	5	10'- 5"	1A513	22		2'- 2"	6'- 1"	2'- 2"				1'- 9"	1'- 9"	1'- 3"	1'- 3"	
	17	5	5'- 2"	1A514	22		2'- 2"	10"	2'- 2"				1'- 9"	1'- 9"	1'- 3"	1'- 3"	
	7	5	4'- 9"	1A515	27		2'- 2"	2'- 7"					2'- 0"		9"		
	7	5	6'- 3"	1A516	27		2'- 2"	4'- 1"					2'- 0"		9"		
	54	8	9'- 10"	1A801	17		4'- 3"	5'- 7"									
✳	37	5	4'- 8"	1EA501	STR	4'- 8"											
	36	5	6'- 10"	1EA502	22		3'- 0"	3'- 10"					2'- 1"		2'- 1"		
	36	5	8'- 7"	1EA503	17		3'- 6"	1'- 7"	3'- 6"								
	WINGWALL #1																
▲	15	5	26'- 10"	1W501	STR	26'- 10"											
	61	5	4'- 2"	1W502	STR	4'- 2"											
	26	5	21'- 6"	1W503	STR	21'- 6"											
	35	5	10'- 10"	1W504	STR	10'- 10"											
	35	8	21'- 3"	1W802	STR	21'- 3"											
	35	9	14'- 3"	1W901	STR	14'- 3"											
	26	5	5'- 10"	1W505	17		2'- 2"	1'- 6"	2'- 2"								
✳	36	8	10'- 10"	1W801	17		4'- 3"	6'- 7"	---								
	WINGWALL #2																
	12	5	14'- 0"	2W501	STR	14'- 0"											
	34	5	4'- 2"	2W502	STR	4'- 2"											
	15	5	21'- 6"	2W503	STR	21'- 6"											
	17	5	10'- 10"	2W504	STR	10'- 10"											
	18	8	21'- 6"	2W802	STR	21'- 6"											
✳	15	9	14'- 3"	2W901	STR	14'- 3"											
	14	5	5'- 10"	2W505	17		2'- 2"	1'- 6"	2'- 2"								
	18	8	10'- 10"	2W801	17		4'- 3"	6'- 7"	---								
	APPROACH SLAB #1																
✳	37	5	30'- 4"	1EAS501	STR	30'- 4"											
✳	37	5	21'- 0"	1EAS901	1	1'- 6"	19'- 6"							11"			

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	ABUTMENT # 2																
	16	5	41'- 0"	2A501	STR	41'- 0"											
	8	5	4'- 4"	2A502	27		2'- 2"	2'- 2"							2'- 0"		9"	
	8	5	4'- 4"	2A503	22		2'- 2"	2'- 2"	---						2'- 0"	---	9"	---
	14	6	6'- 0"	2A601	27		2'- 2"	3'- 10"							11"		2'- 8"	
△	16	6	6'- 6"	2A602	22		2'- 2"	4'- 4"	---						4'- 1"	---	1'- 6"	---
	12	5	34'- 1"	2EA501	STR	34'- 1"											
✳	7	5	7'- 5"	2EA502	27		5'- 3"	2'- 2"							4'- 11"		1'- 10"	
	6	5	7'- 4"	2EA503	22		5'- 2"	2'- 2"	---						4'- 11"	---	1'- 9"	---
	8	5	11'- 7"	2EA504	17		4'- 6"	2'- 7"	4'- 6"									
	36	5	7'- 7"	2EA505	17		2'- 6"	2'- 7"	2'- 6"									
	36	5	6'- 0"	2EA506	22		3'- 6"	2'- 6"	---						1'- 6"	---	1'- 6"	---
	47	5	13'- 7"	2EA507	17		2'- 2"	11'- 5"	---									
	36	5	5'- 8"	2EA508	1	11"	3'- 10"					11"		5"				
	83	6	12'- 9"	2EA601	17		2'- 7"	10'- 2"	---									
	11	6	7'- 5"	2EA602	27		5'- 3"	2'- 2"							4'- 11"		1'- 9"	
	11	6	7'- 5"	2EA603	22		2'- 2"	5'- 3"	---						2'- 0"	---	9"	---
	83	8	13'- 5"	2EA801	17		2'- 6"	10'- 11"	---									
	WINGWALL #3																
	16	5	10'- 6"	3W501	STR	10'- 6"											
	14	5	10'- 6"	3EW501	STR	10'- 6"											
	18	5	12'- 0"	3EW502	STR	12'- 0"											
	8	5	7'- 0"	3EW503	17		3'- 0"	1'- 0"	3'- 0"								
	WINGWALL #4																
✳	17	5	11'- 6"	4W501	STR	11'- 6"											
	14	5	11'- 6"	4EW501	STR	11'- 6"											
	22	5	12'- 0"	4EW502	STR	12'- 0"											
	11	5	7'- 0"	4EW503	17		3'- 0"	1'- 0"	3'- 0"								
	APPROACH SLAB #2																
✳	37	5	30'- 4"	2EAS501	STR	30'- 4"											
✳	37	5	21'- 0"	2EAS901	1	1'- 6"	19'- 6"							11"			

~ 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. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

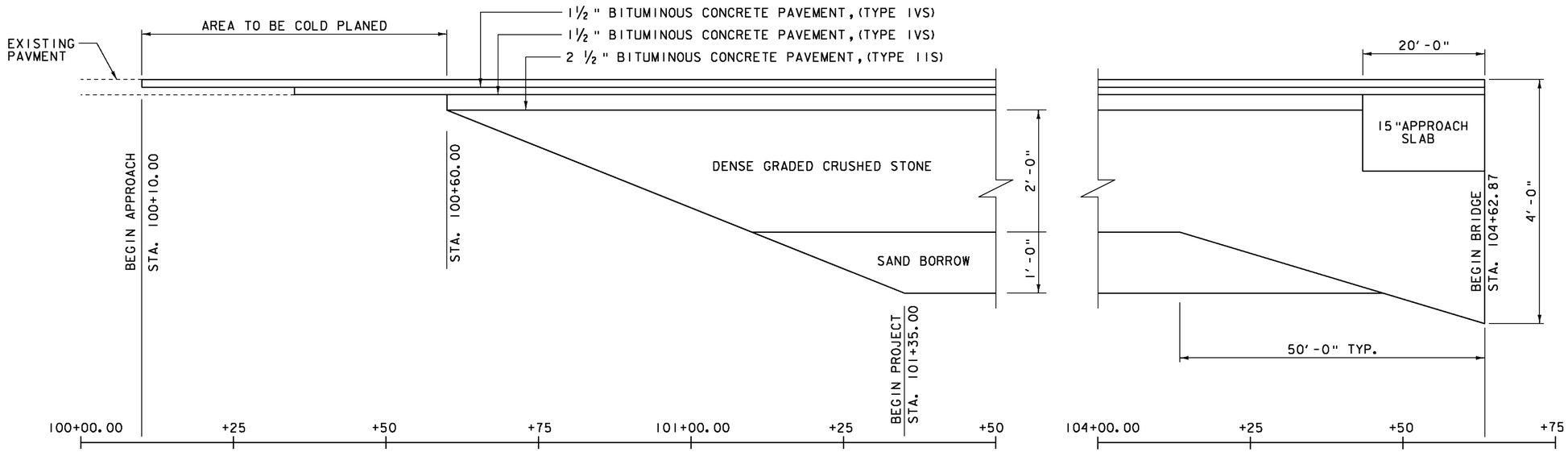


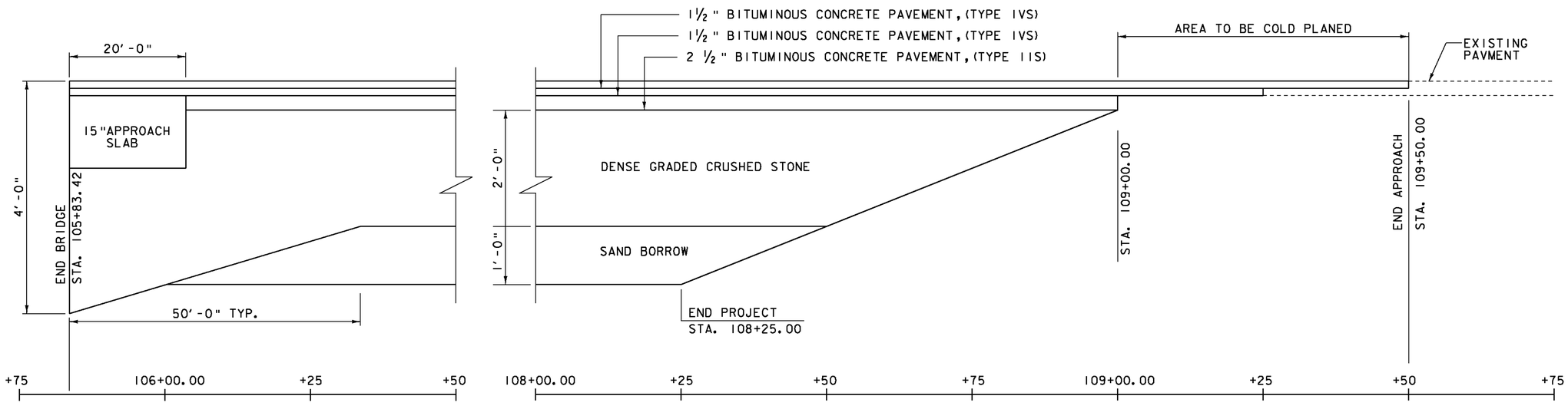
ASTM STANDARD REINFORCING BARS

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: **BETHEL**
PROJECT NUMBER: **BHF 0241 (30)**

FILE NAME: **s95c002forms.dgn** PLOT DATE: **8/30/2011**
PROJECT MANAGER: **M. EVANS-MONGEON** DRAWN BY: **M. LONGSTREET**
DESIGNED BY: **U. STANLEY** CHECKED BY: **U. STANLEY**
REINFORCING STEEL SCHEDULE SHEET #1 SHEET **54** OF **64**

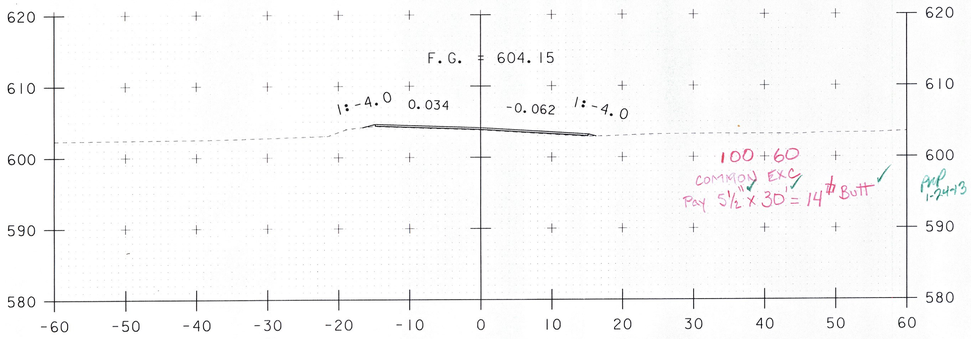




HORIZONTAL SCALE 1" = 10'-0"
10 0 10

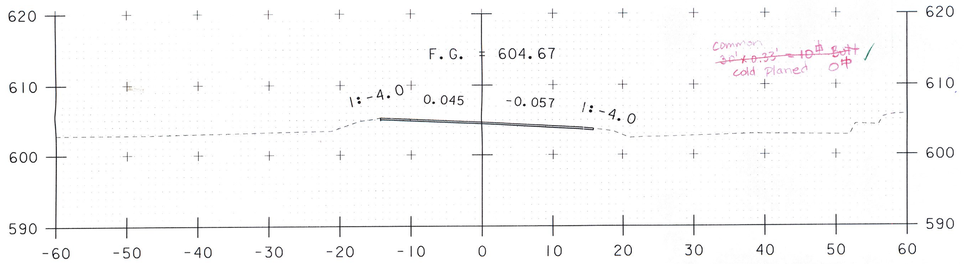
VERTICAL SCALE 1" = 1'-0"
1 9 6 3 0 1 2

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE MATERIAL TRANSITION	SHEET 55 OF 64

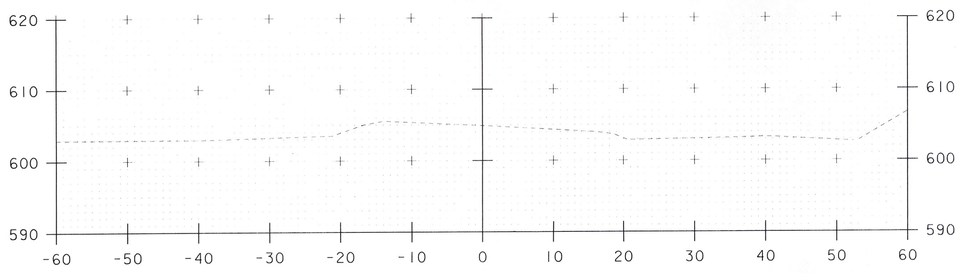


100+60 end cold plane
see sheet 55

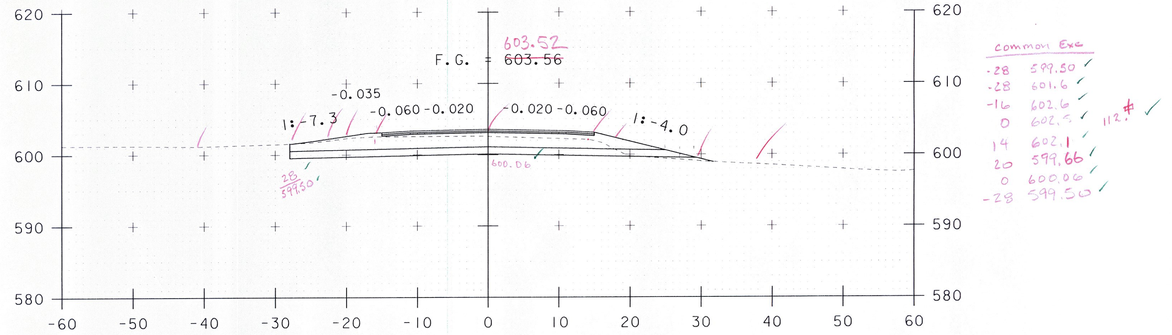
100+50



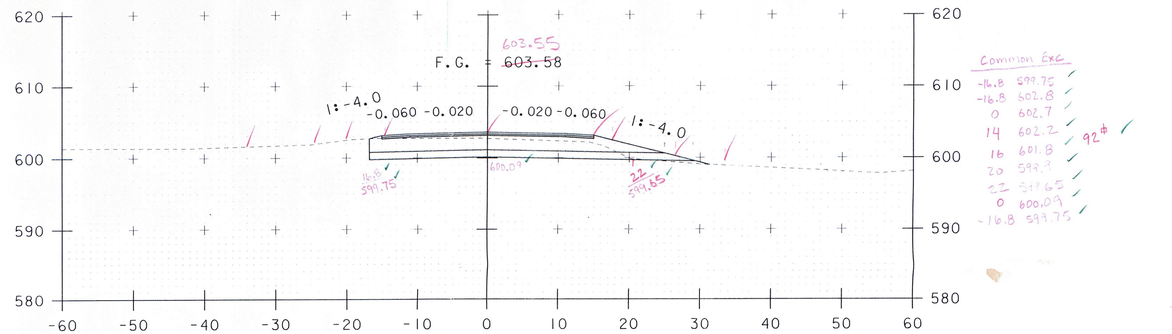
100+10
BEGIN APPROACH



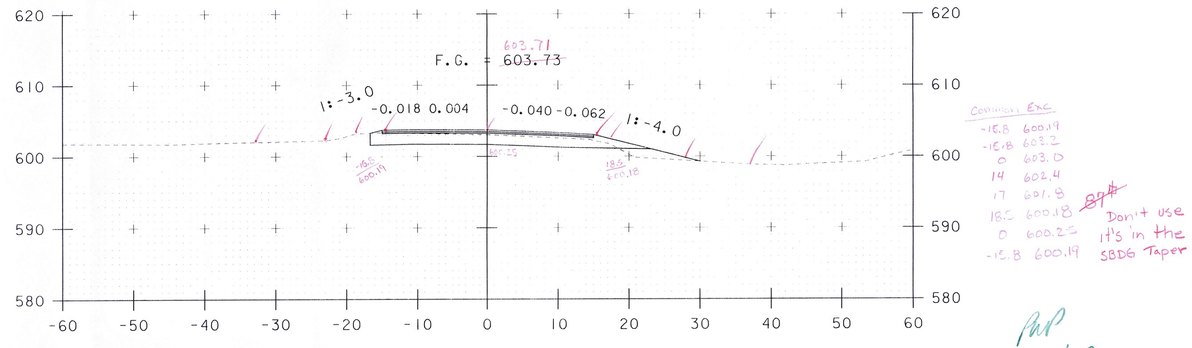
100+00



101+50



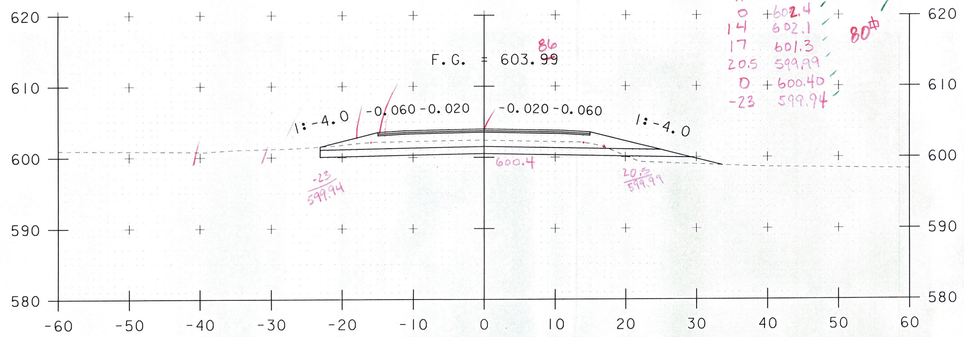
101+35
BEGIN PROJECT



PMP 1-24-13

101+00

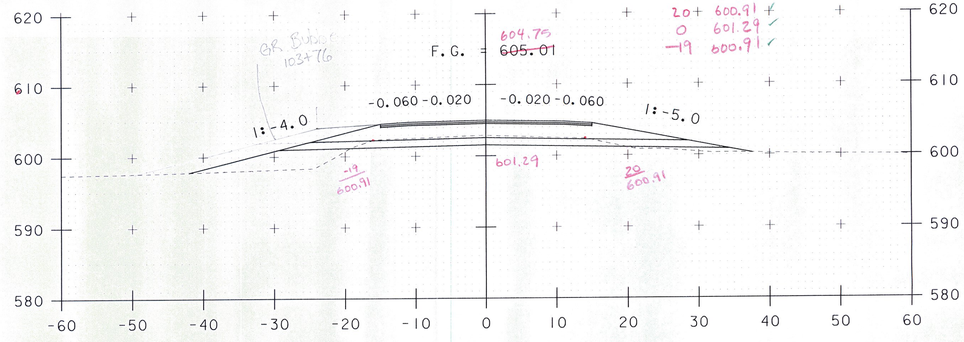
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE SECTIONS SHEET 1	SHEET 56 OF 64



COMMON EXC

-23	599.94
-23	601.6
-16	602.1
0	602.4
14	602.1
17	601.3
20.5	599.99
0	600.40
-23	599.94

80#

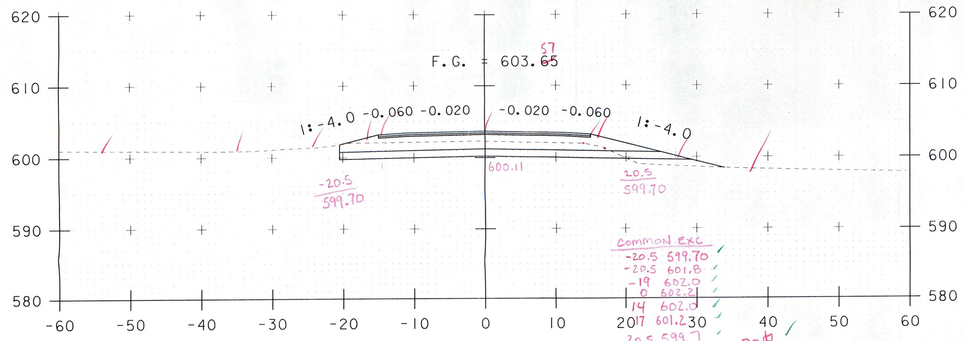


COMMON EXC

-19	600.91
-16	602.2
0	602.8
14	602.4
20+	600.91
0	601.29
-19	600.91

48#

102+50

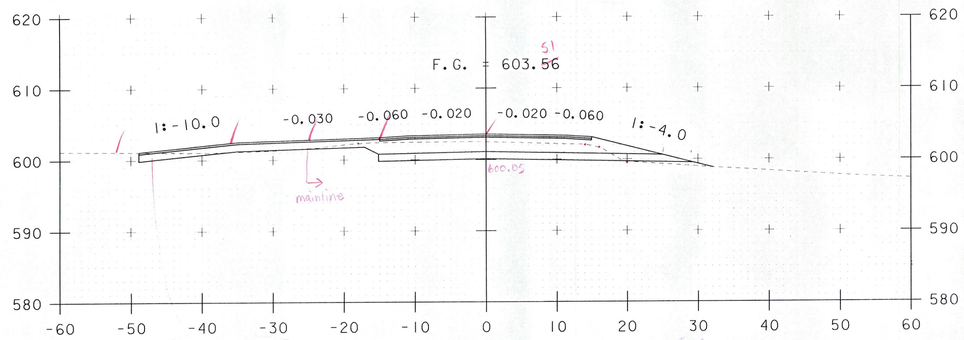


COMMON EXC

-20.5	599.70
-20.5	601.8
-19	602.0
0	602.2
14	602.0
17	601.23
20.5	599.7
0	600.11
-20.5	599.7

82#

102+00



COMMON EXC
9' x 1' x 12' wide / 2 / 27
pay 2.0 CY
12/11/12
PVP 1-24-13

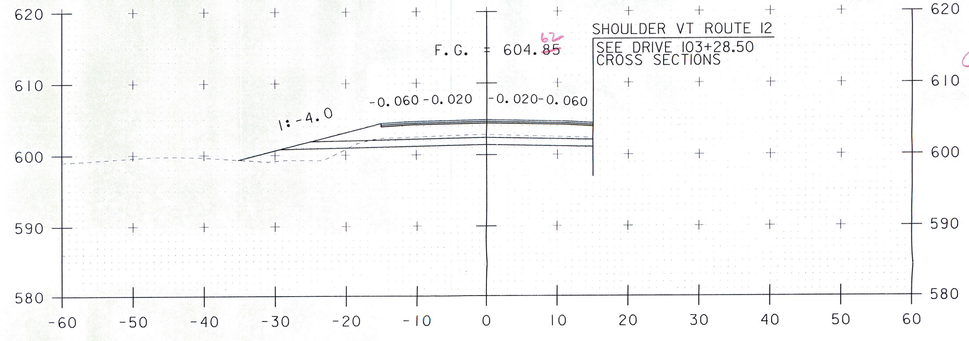
101+63 DRIVE LEFT

COMMON EXC

-25	601.7
-18	602.5
0	602.4
14	602.0
16	601.8
20	599.65
0	600.05
-15	599.75
-15	600.75
-17	601.75
-25	601.7

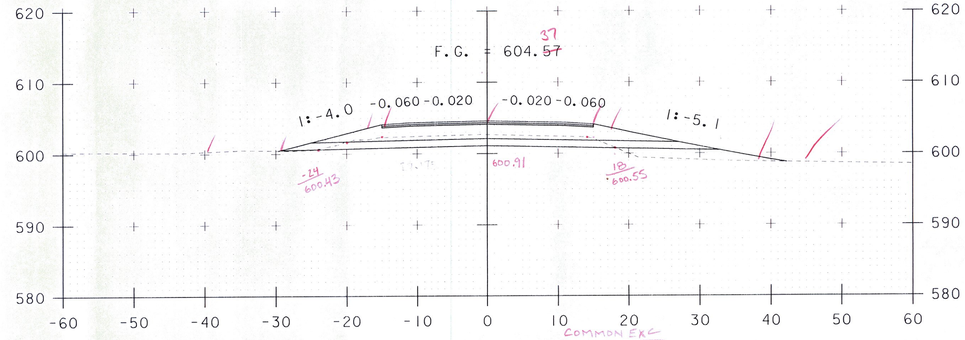
85#

103+50



common Exc @ Drive pay
Field Meas
9/2 x 1 x 12 / 27 = 2.0 CY
12/17/12
PVP 1-24-13

103+28



PVP 1-24-13

103+00

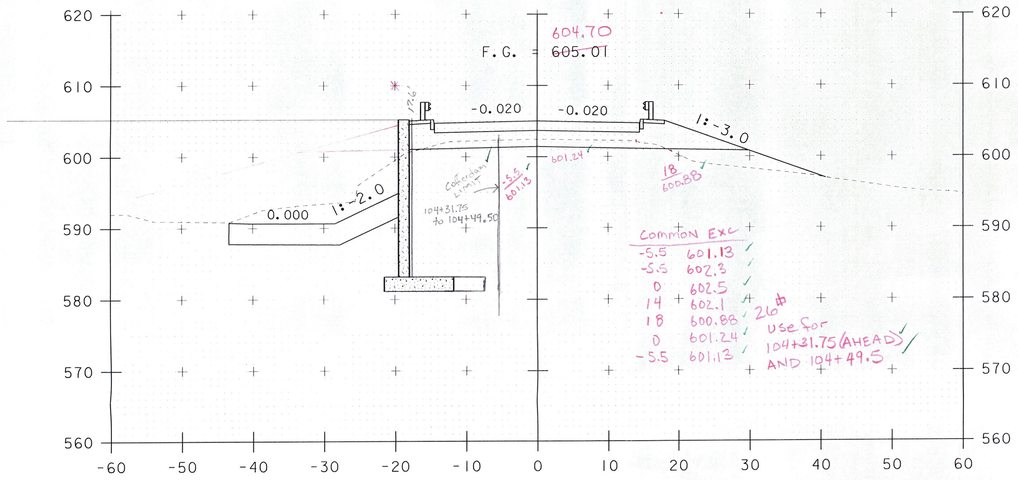
COMMON EXC

-24	600.43
-20	601.8
-15	602.3
0	602.7
14	602.3
18	600.55
0	600.71
-24	600.43

64#

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE SECTIONS SHEET 2	SHEET 57 OF 64

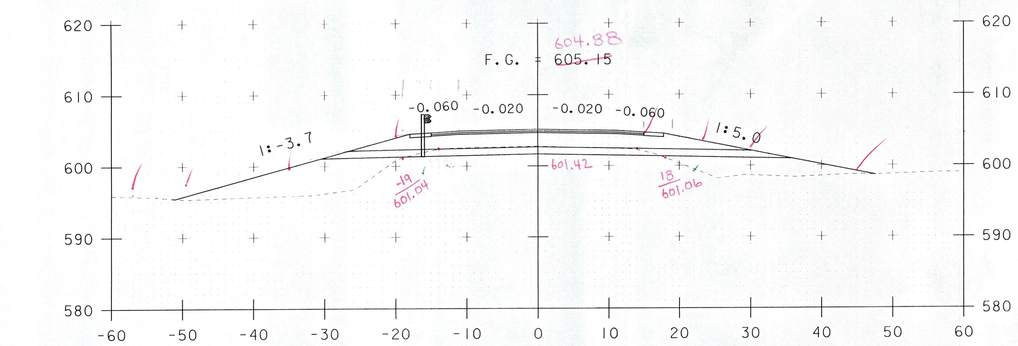
ZERO COMMON @ 104+58 ✓



COMMON EXC	
-5.5	601.13 ✓
-5.5	602.3 ✓
0	602.5 ✓
14	602.1 ✓
18	600.88 ✓
0	601.24 ✓
-5.5	601.13 ✓

20# use for 104+31.75 (AHEAD) AND 104+49.5 ✓

104+50



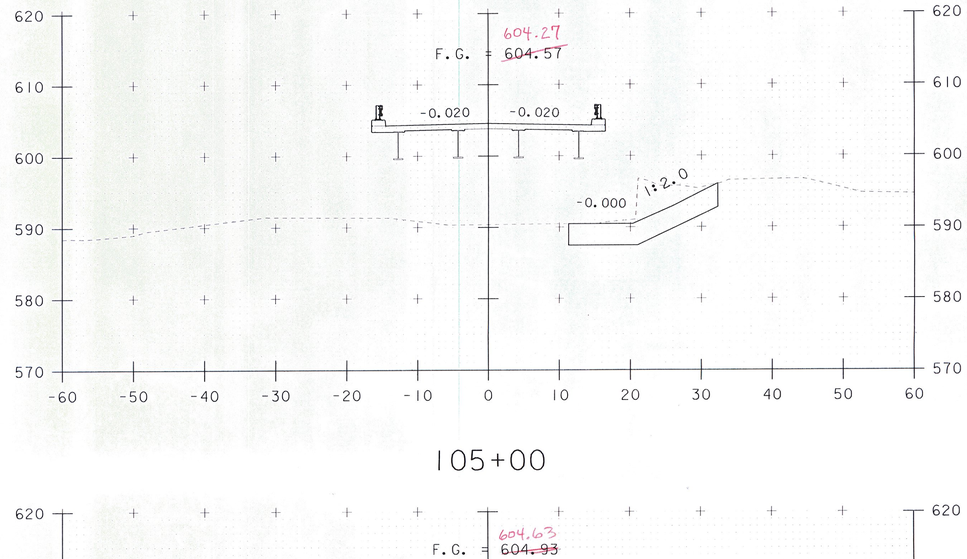
COMMON EXC	
-19	601.04 ✓
-14	602.3 ✓
0	602.8 ✓
14	602.3 ✓
18	601.06 ✓
0	601.42 ✓
-19	601.04 ✓

41# ✓

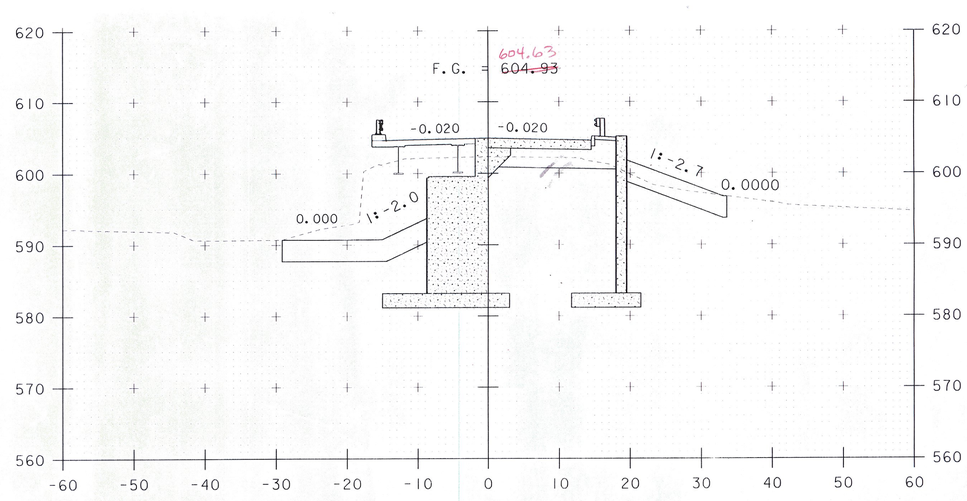
103+75 Lt (8' "Bubble") 104+00

104+12 Rt 8' "Bubble"

USE Same for 104+31.75 Back ✓



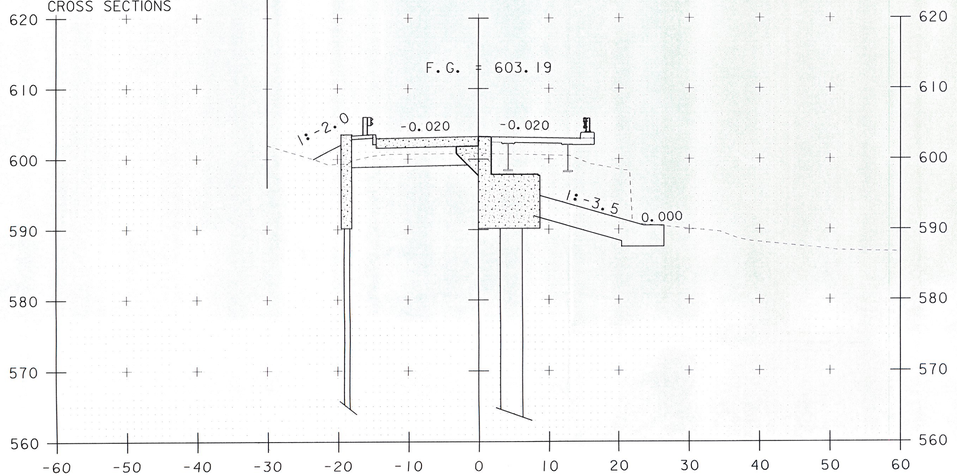
105+00



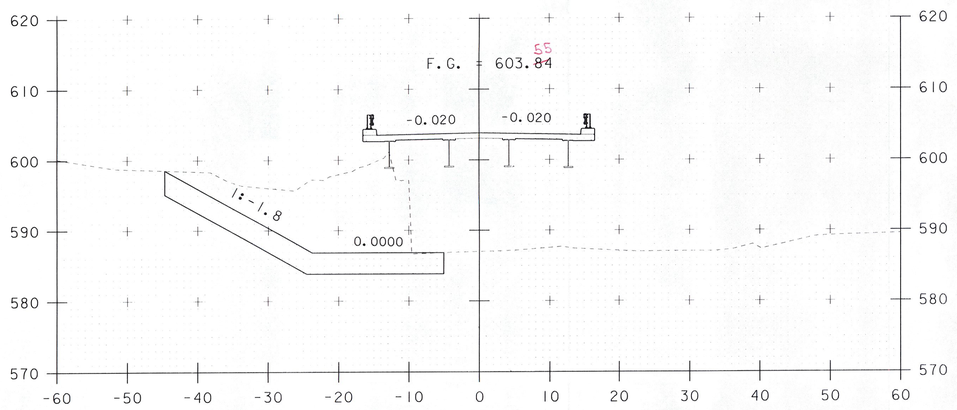
104+62.87
BEGIN BRIDGE

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE SECTIONS SHEET 3	SHEET 58 OF 64

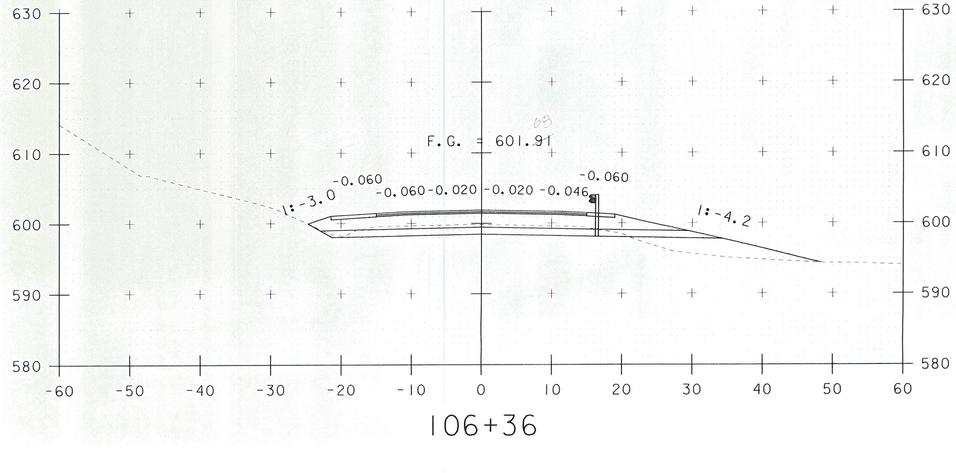
OFFSET 30'-0" VT ROUTE 12
SEE DRIVE 106+36.00
CROSS SECTIONS



105+83.42
END BRIDGE

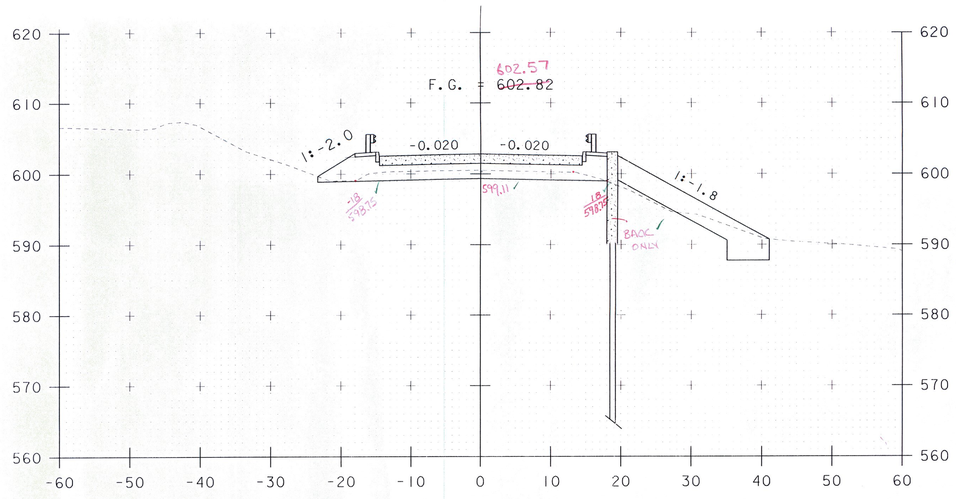


105+50



106+36

No Need to calculate common on this station ✓ OK

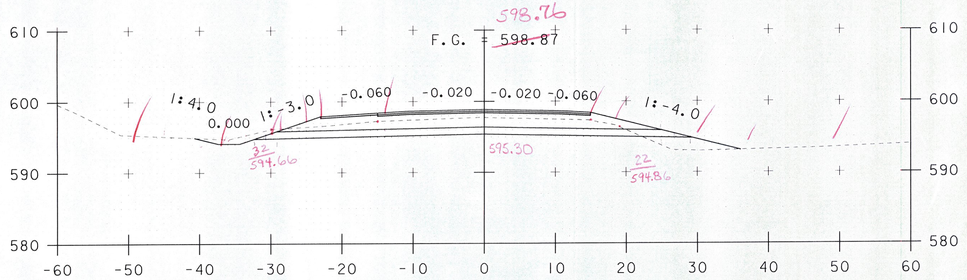


COMMON EXC
-18 598.75 ✓
-16 600.00 ✓
0 600.6 ✓
13 600.2 ✓ 45° ✓
18 598.75 ✓
0 599.11 ✓
-18 598.75 ✓

106+00

Pull 1-24-13

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE SECTIONS SHEET 4	SHEET 59 OF 64

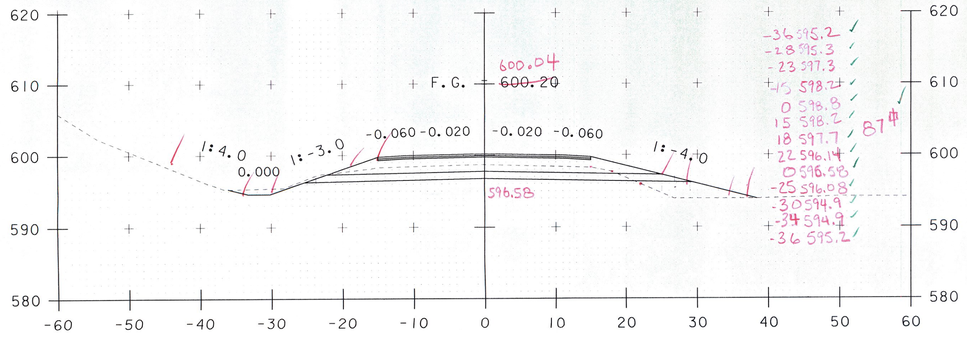


COMMON EXC

-40	594.9
-36	594.7
-30	596.0
-15	597.2
0	597.8
15	597.2
19	596.3
22	594.86
0	595.30
-32	594.66
-37	594.6
-40	594.9

111#

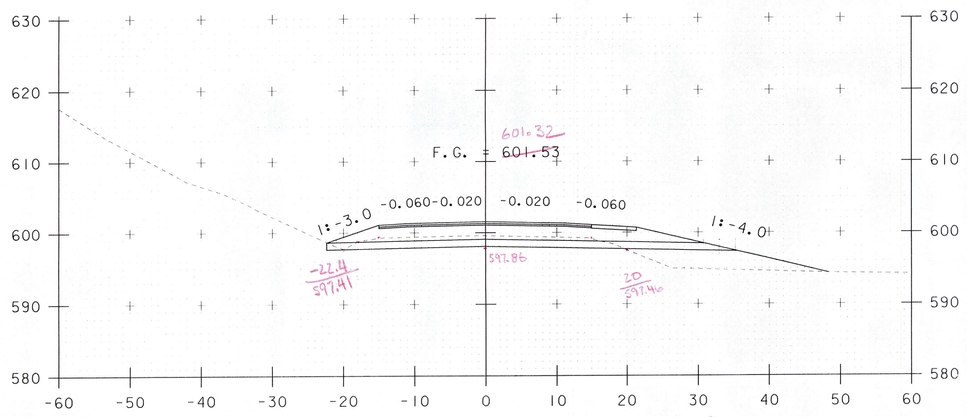
107+50



-36	595.2
-28	595.3
-23	597.3
-15	598.2
0	598.8
15	598.2
18	597.7
22	596.14
0	596.58
-25	596.08
-30	594.9
-34	594.9
-36	595.2

87#

107+00

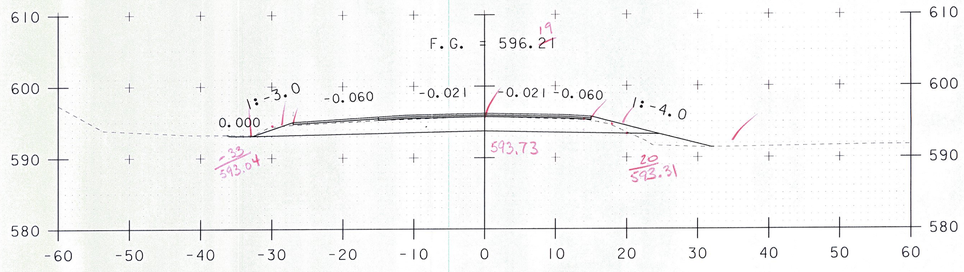


Common Exc

-22.4	597.41
-22.4	598.7
-20	597.7
-18	598.5
-15	599.2
0	597.7
15	599.3
20	597.46
0	597.86
-22.4	597.41

66#

106+50

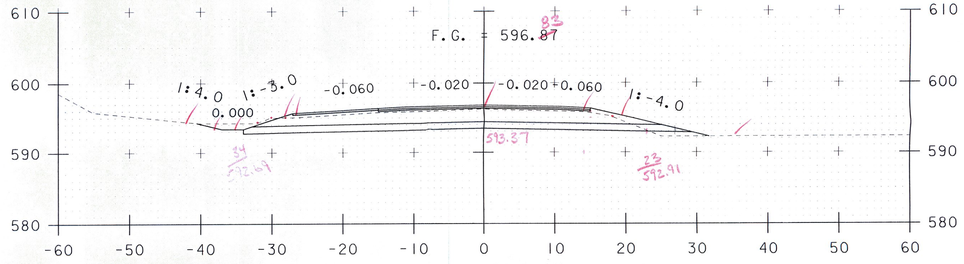


Common Exc

-33	593.04
30	594.6
-10	595.5
0	595.8
14	595.3
18	594.8
20	593.31
0	593.73
-33	593.04

93#

108+50

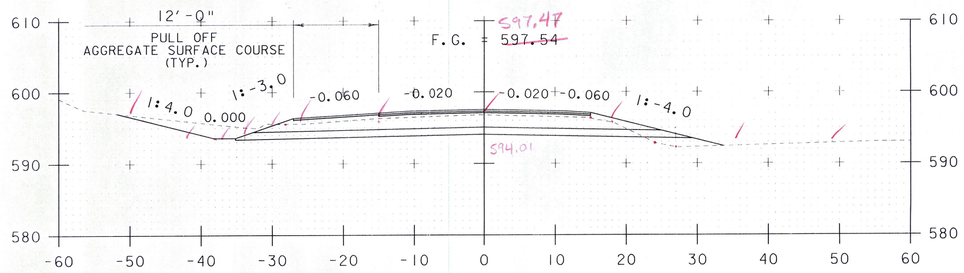


Common Exc

-40	594.2
-32	594.3
-30	595.0
-28	595.0
0	596.3
15	596.0
18	595.1
23	592.91
0	593.37
-34	592.69
-34	593.2
-38	593.2
-40	594.2

145#

108+25
END PROJECT



Common Exc.

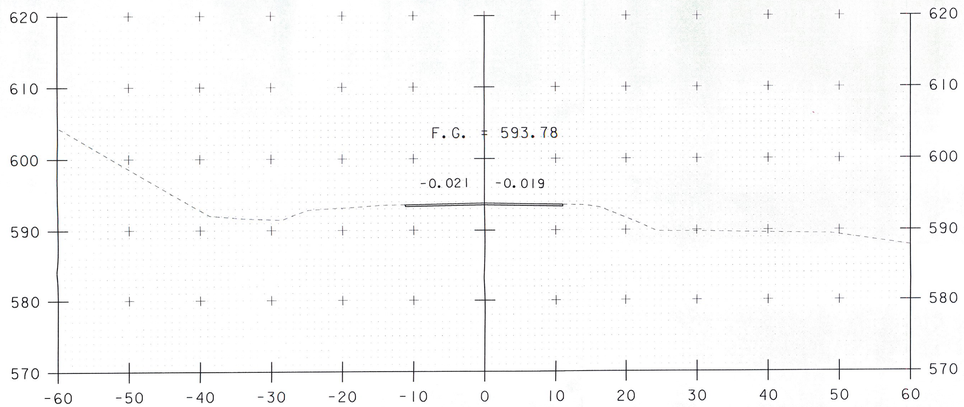
-35	593.31
-35	593.5
-38	593.5
-50	597.0
-32	595.0
-31	595.7
-28	595.5
-15	596.2
0	596.8
15	596.2
18	595.8
23	593.55
0	594.01
-35	593.31

154#

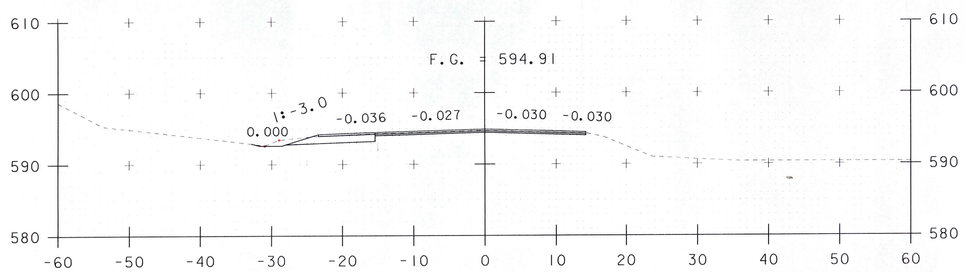
108+00

PHP 1-24-13

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE SECTIONS SHEET 5	SHEET 60 OF 64



109+50
END APPROACH



109+00

109+00 Begin Cold Plane
see Sheet 55

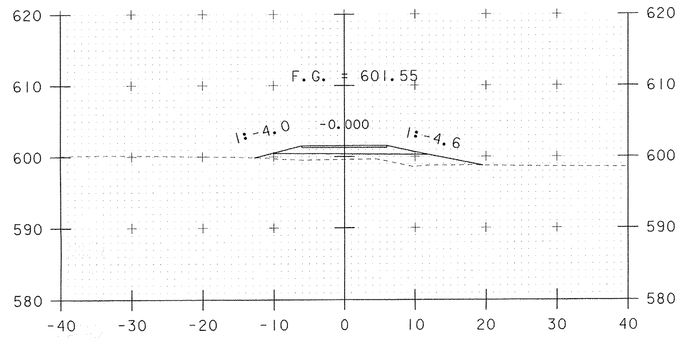
common Exc
0.3 x 30' 15.5 Lt to far Right (9#)

-15.5	593.2
-31	592.5
-29	593.4
-15.5	594.2
-15.5	593.2

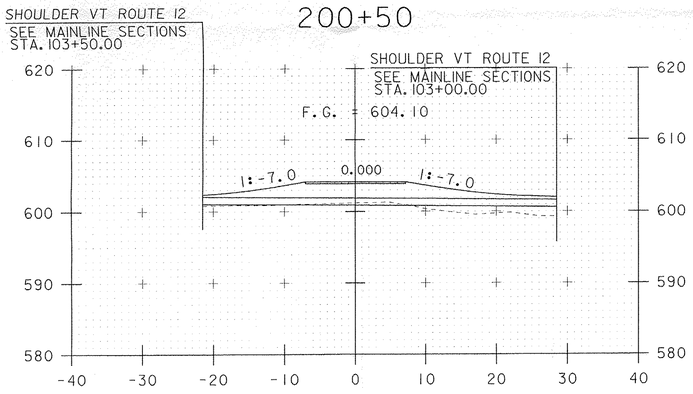
13# + 9# = 22# BUTT

PkP
1-24-13

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
MAINLINE SECTIONS SHEET 6	SHEET 61 OF 64

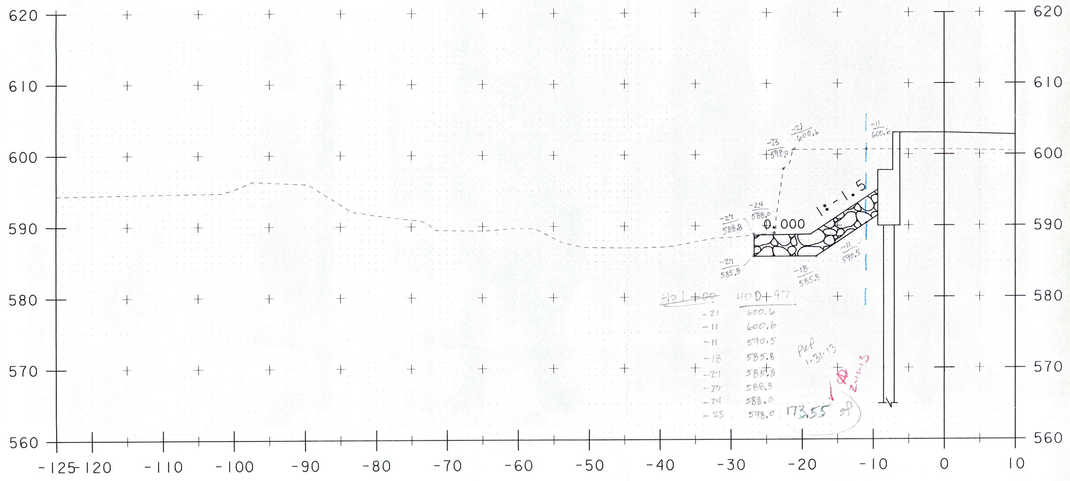


200+50

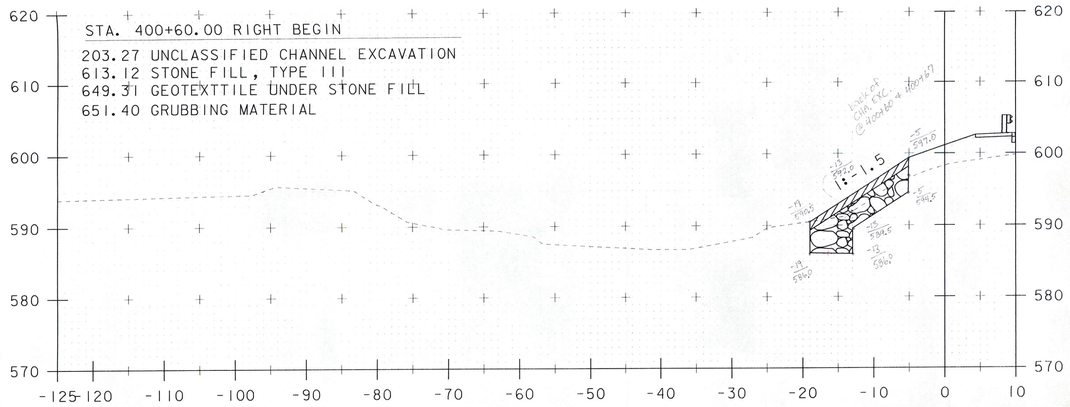


200+25

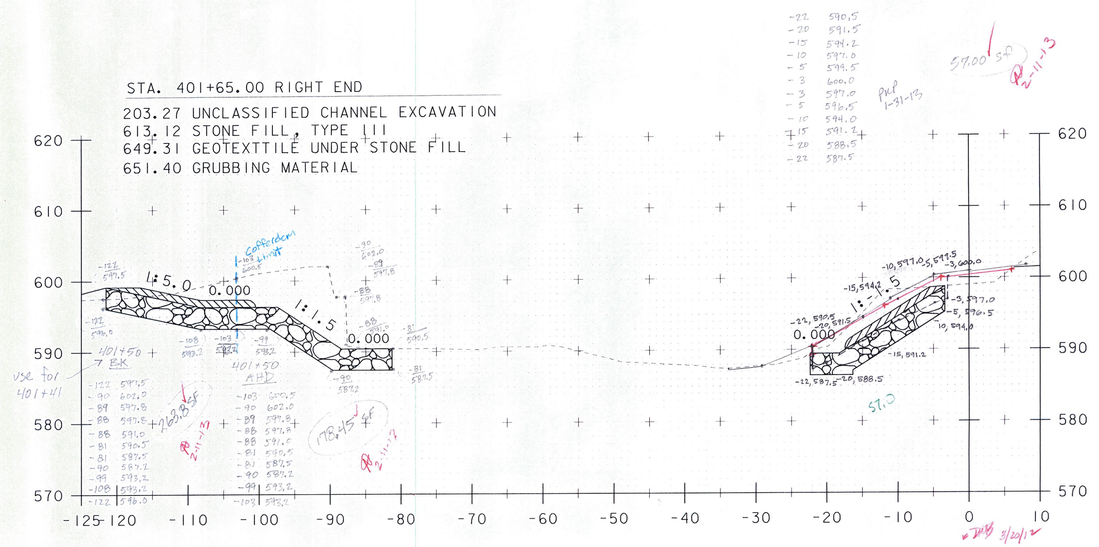
PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
DRIVE SECTIONS AT 103+28.50 RT	SHEET 62 OF 64



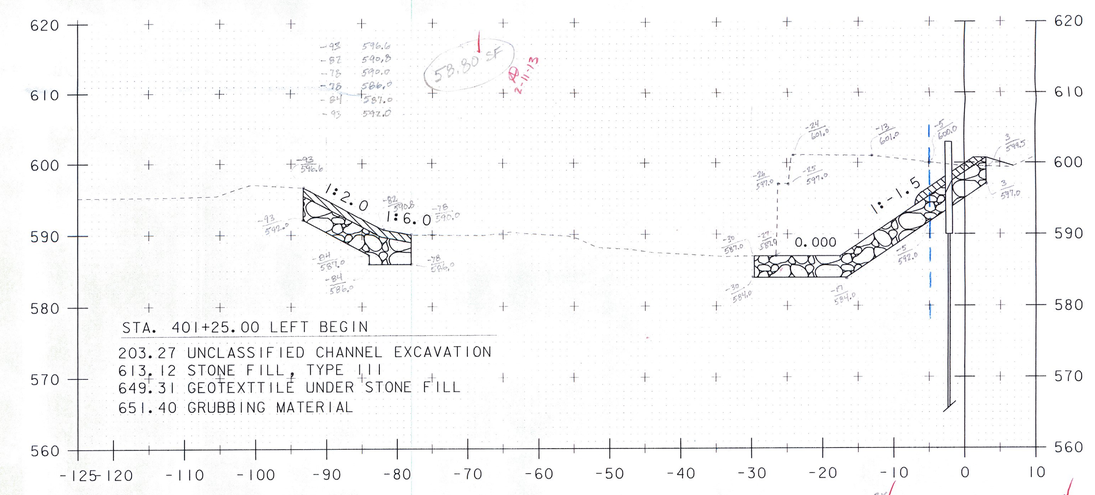
401+00



400+75



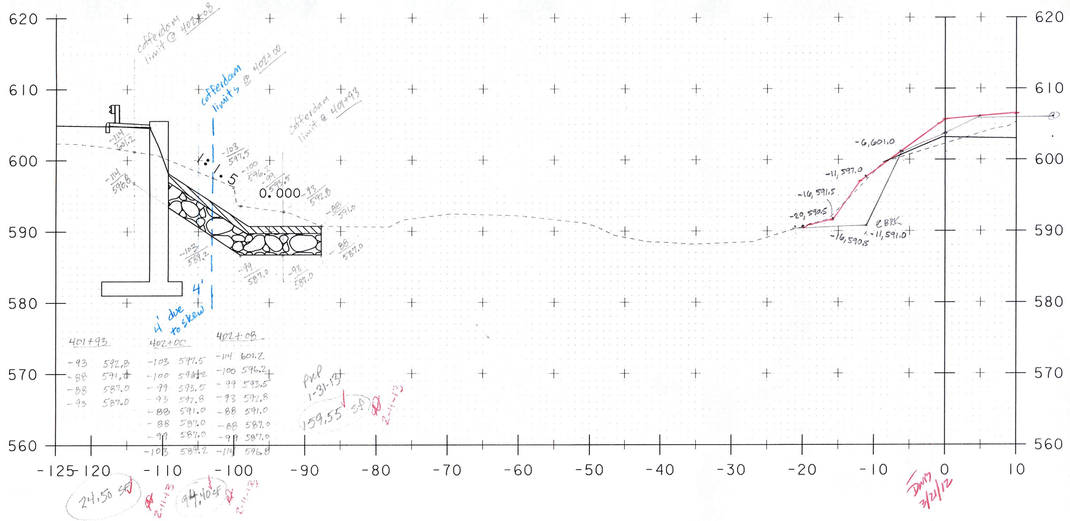
401+50

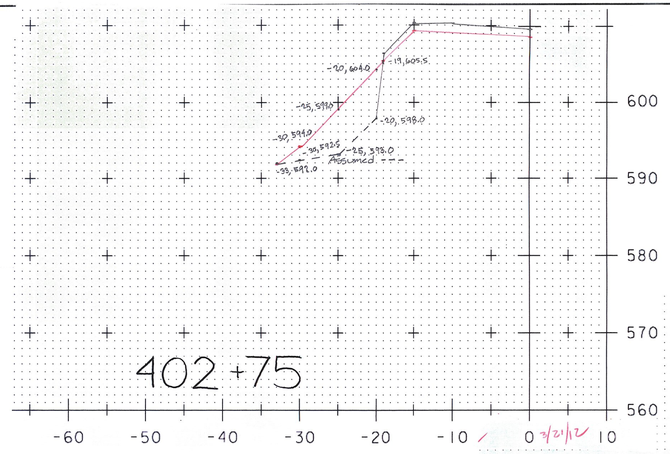


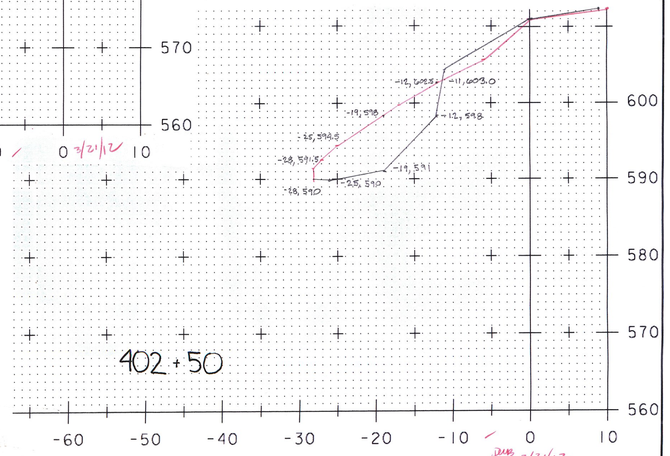
401+25

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)

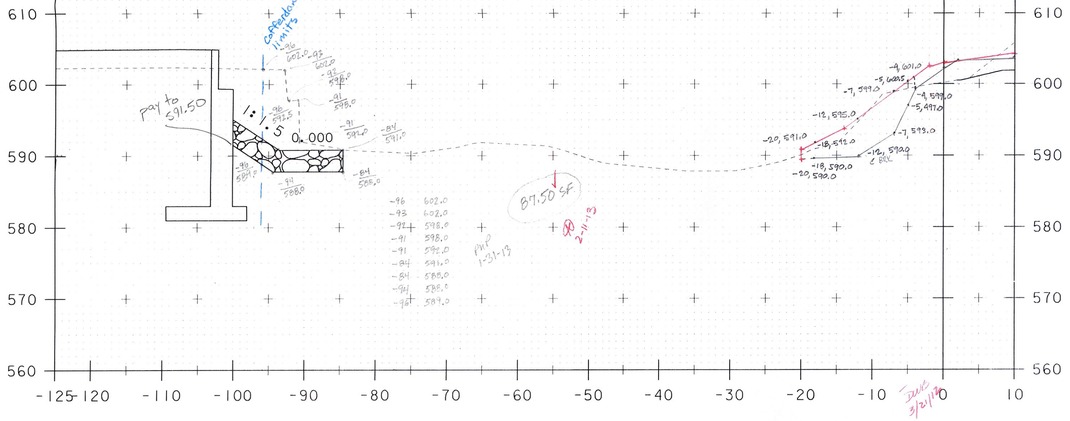
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
CHANNEL SECTIONS SHEET 1	SHEET 63 OF 64

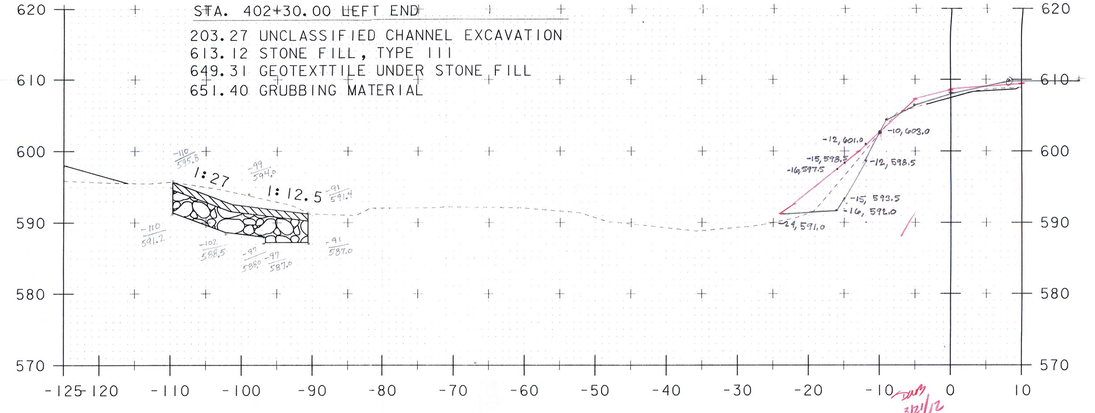






STA 402+87
Field Measured 2'x 8' Area
Butt





-110 595.8
-99 594.0
-91 591.4
-91 587.0
-99 587.0
-99 588.0
-102 588.5
-110 591.2
use for 402+17 & 402+29
PVP 1-31-13
103.15 SF

PROJECT NAME:	BETHEL
PROJECT NUMBER:	BHF 0241(30)
FILE NAME: sc002xs.dgn	PLOT DATE: 31-AUG-2011
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: G. ROKES
CHANNEL SECTIONS SHEET 2	SHEET 64 OF 64

Highway Safety Corporation

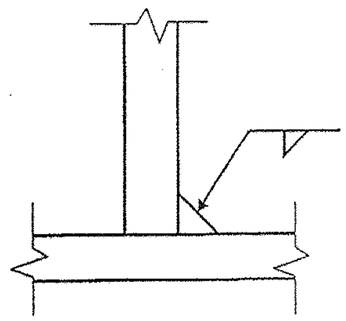
Glastonbury, CT

Welding Procedure Specification

Material specification: ASTM A709 gr 36/gr 50, ASTM A572 gr.36/gr.50, ASTM A36, A500 gr.B
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
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"

VTrans Received NOV 14 2011
CK'D ____ OK'd BY ____
Resubmit ____ APPROVED ✓
BY ____ DATE 11/15/11

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
1/8	1	.063"	300 A ± 30	29 V ± 2	15 ipm ± 2	TYPICAL FILLET WELDS (5/16" MAX) 
3/16	1	.063"	300 A ± 30	29 V ± 2	15 ipm ± 2	
1/4	1	.063"	300 A ± 30	29 V ± 2	15 ipm ± 2	
5/16	1	.063"	300 A ± 30	29 V ± 2	15 ipm ± 2	

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 / D1.5

Paul A Radice
CWI 98070221
QC1 EXP. 7/1/2013

WPS no. W-1PFILLET
Revision no. 1
Supporting PQR no. Pre-Qualified
Project Name BETHEL, VT

Fabricator Highway Safety Corporation
Prepared by Robert Light
Date 06/22/2011
Project Number BHF 0241 (30)

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: ASTM A36, A572 gr 50, A709 Gr 36, ASTM A709 Gr 50, A500 gr B, A53 gr B

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: Multiple

Single or multiple arc: Single

Welding current: DCEP

Polarity: Reverse - electrode positive

Welding progression: Stringers

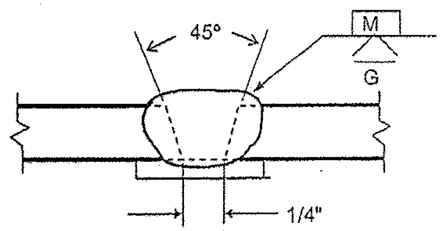
Root treatment: clean base metal

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

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
---	all	0.063"	300 A ± 30	29 V ± 2	15 ipm ± 2	B-U2a-GF 

VTrans Received NOV 14 2011

CK'D_____ OK'd BY JWC

Resubmit_____ APPROVED

BY_____ DATE 11/15/11

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 / D1.1

Paul A Radice
CWI 98070221
QC1 EXP. 7/1/2013

WPS no. W-VGWBCK

Revision no. 1

Supporting PQR no. Pre-Qualified

Project Name BETHEL VT

Fabricator Highway Safety Corporation

Prepared By: Robert Light

Date 06/22/11

BHF 0241(30)

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

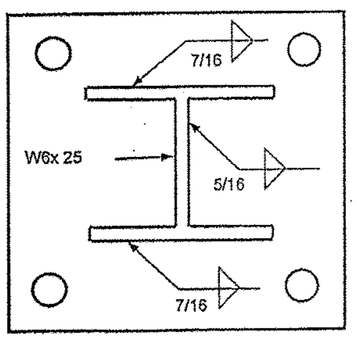
Root treatment: clean base metal

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	

√Trans
Received
CK'D_____ OK'd BY_____

NOV 14 2011

Resubmit_____ APPROVED_____
BY_____ DATE_____
11/15/11

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

Paul A Radice
CWI 98070221
QC1 EXP. 7/1/2013

WPS no. W-VTPEDPOST1

Revision no. 1

Supporting PQR no. Pre-Qualified

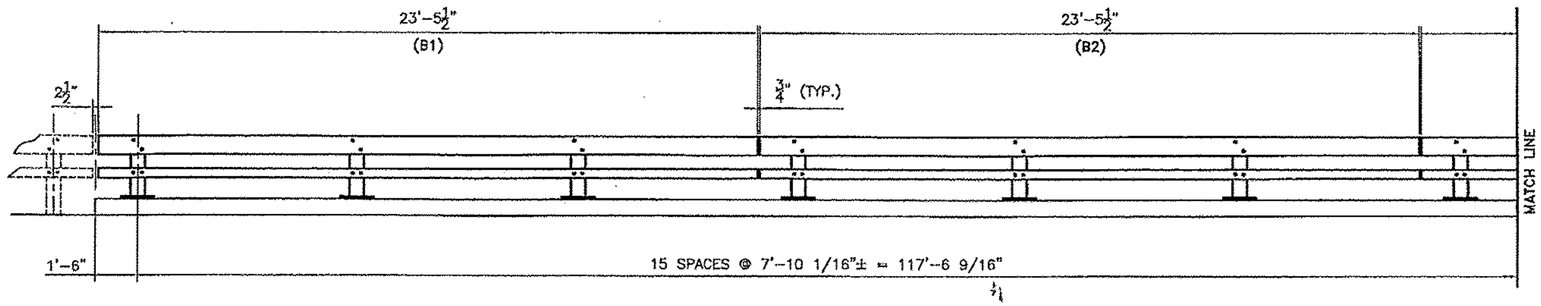
Project Name BETHEL, VT

Fabricator Highway Safety Corporation

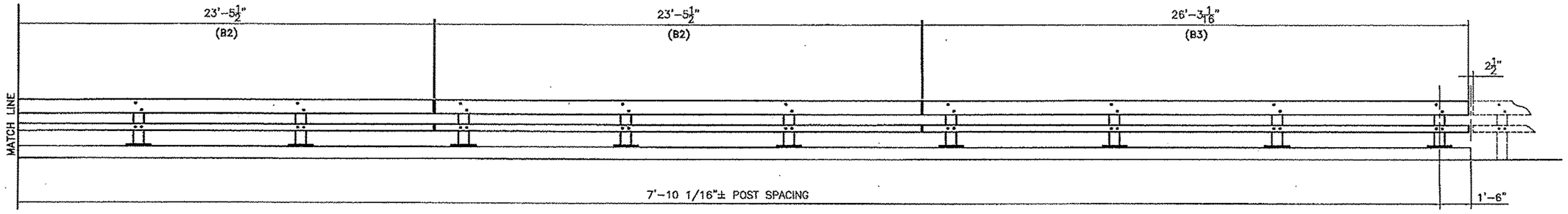
Prepared By: Robert Light

Date 06/22/11

Project Number BHF 0241 (30)



	BILL OF MATERIAL (BOTH SIDES)				
mk.	Qty.	Description	Size/Shape	Weight/Unit Length	Material
	32	BRIDGE RAIL PED POST 2'-2 3/8" OAH W/ BASE PLATE			
	32	POST UPRIGHT	W6 x 25	2'-1 3/8"	A709 Gr. 50
	32	POST BASE PLATE	10" x 1"	1'-2"	A709 Gr. 50
	8	UPPER SPLICE TUBE FOR 8 x 4 RAIL			
	8	TUBE	TS 7x3x3/8	1'-8"	A500 Gr. B
	16	WELDED LOCK NUT (OUTER HOLES ONLY)	5/8"	---	A563
	8	LOWER SPLICE TUBE FOR 4 x4 RAIL			
	8	TUBE	TS 3x3x5/16	1'-8"	A500 Gr. B
	16	WELDED LOCK NUT (OUTER HOLES ONLY)	5/8"	---	A563
B1	2	UPPER RAIL	TS 8x4x5/16	23'-5 1/2"	A500 Gr. B
	2	LOWER RAIL	TS 4x4x1/4	23'-5 1/2"	A500 Gr. B
B2	6	UPPER RAIL	TS 8x4x5/16	23'-5 1/2"	A500 Gr. B
	6	LOWER RAIL	TS 4x4x1/4	23'-5 1/2"	A500 Gr. B
B3	2	UPPER RAIL	TS 8x4x5/16	26'-3 1/16"	A500 Gr. B
	2	LOWER RAIL	TS 4x4x1/4	26'-3 1/16"	A500 Gr. B
	32	ANCHOR PLATE	9 3/8" x 3/8"	1'-1"	A36
	128	ANCHOR STUD	1" DIA.	12"	A449
	128	HEX NUT	1" DIA.	- - -	A563
	256	HEAVY HEX NUT	1" DIA.	- - -	A563DH
	128	WASHER	1" DIA.	- - -	F436
	128	ROUND HEAD BOLT	3/4" DIA.	6"	M164 type 1
	128	LOCK NUT	3/4" DIA.	- - -	A563DH
	128	WASHER	3/4" DIA.	- - -	F436
	64	CAP SCREW	5/8" DIA.	1 3/4"	A325
	64	WASHER	5/8" DIA.	- - -	F436
	32	PIPE SPACER (SCH. 40)	3/4" DIA.	1/2"	A53
	32	BEARING PAD	10" x 1/8"	1'-2"	M251



TYPICAL RAIL ELEVATION
looking from center of road

Vermont Agency of Transportation

RECEIVED

CK'D BY UBS OK'D BY CWC

16 November 2011

RESUBMIT APPROVED ✓

BY C.W.CARLSON DATE 11-16-2011

No.	Remarks	Date
0	Initial submittal	11-03-11

REVISIONS

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 NETC 2 RAIL BRIDGE RAIL
VT ROUTE 12
BETHEL, VERMONT
PROJECT NO. BHF 0241(30)

AISC CERTIFIED FABRICATOR

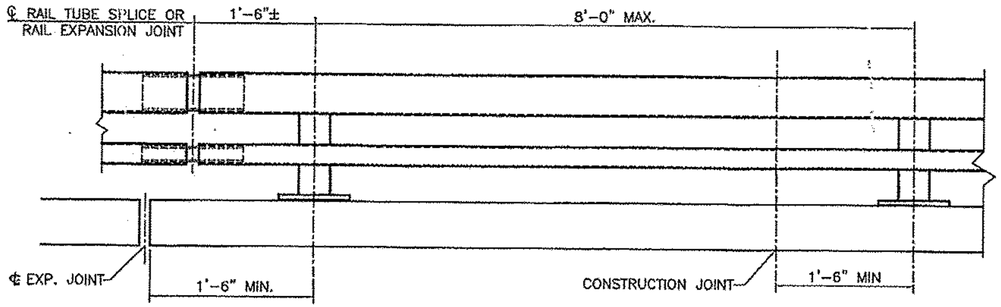
ISSO JOB NO. 1856

SHEET NO. 1 of 3

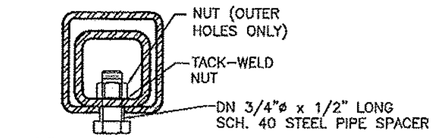
GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE

DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	10-27-11	NONE	D



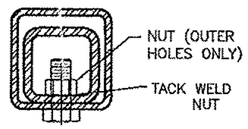
BRIDGE RAILING ELEVATION



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

FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION."



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

NOTES:

1. ALL RAILINGS AND MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATION FOR CONSTRUCTION SECTION 525, METAL RAILING.

2. PRIOR TO GALVANIZING, ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.

3. RAIL POSTS SHALL BE SET NORMAL TO GRADE.

4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.

5. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.

6. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232.

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 AASHTO M164 (TYPE 1) ROUND HEAD BOLT INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.

9. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT SHALL BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.

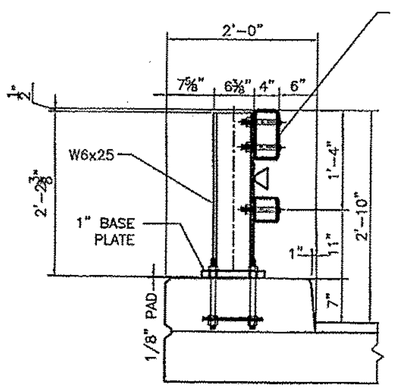
10. IF THERE IS A CONFLICT BETWEEN THE DETAILS SHOWN ON THIS SHEET AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.

11. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY, AND SHALL BE DONE AT THE FABRICATION PLANT.

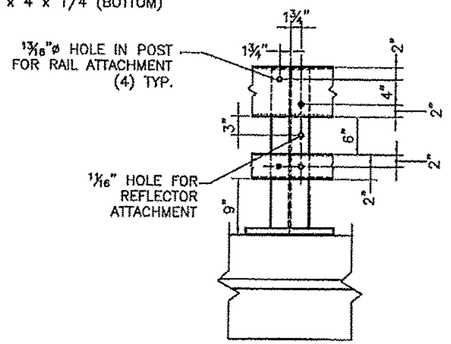
12. THE FABICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 506.04 OF THE STANDARD SPECIFICATIONS. ALL WELDING SHALL CONFORM WITH SUBSECTION 506.10.

13. RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A-370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN

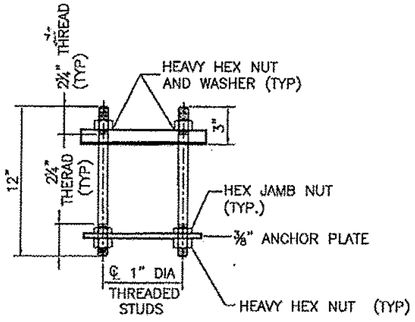
14. EXPANSION JOINT HARDWARE, REFLECTORS AND REFLECTOR HARDWARE PROVIDED BY OTHERS.



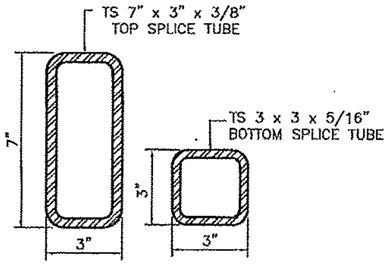
TYPICAL SECTION



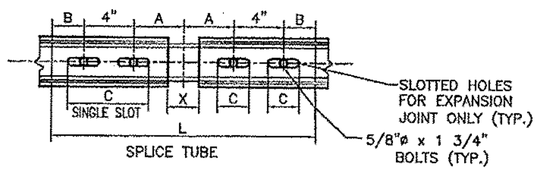
ELEVATION



RAIL POST ANCHORAGE



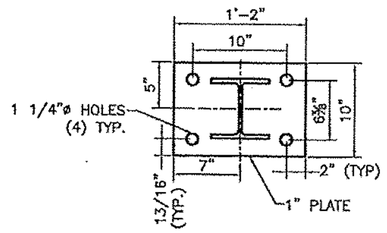
RAIL TUBE SPLICE SECTION



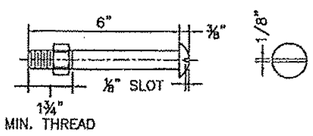
RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	—	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 5

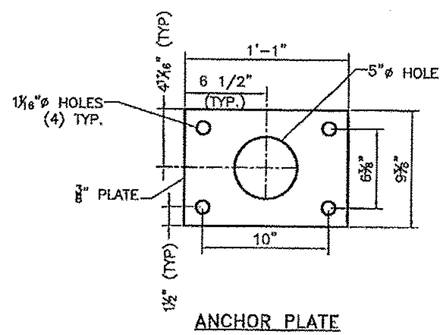


POST AND BASE PLATE

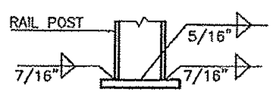


3/4" DIA. M164 (TYPE 1) ROUND HEAD BOLT

(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT) (SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



ANCHOR PLATE



BASE WELD DETAIL

MATERIALS

RAIL TUBES	ASTM A500, GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATES	ASTM A709/A709M, GRADE 50
AALL OTHER SHAPRE AND PLATES	ASTM A709/A709M, GARDE 36
ANCHOR STUDS	ASTM A449
ALL OTHER BOLTS (UNLESS NOTED)	AASHTO M164, TYPE1

NUTS FOR AASHTO M164 BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASTHO M291 (ASTM A563).

WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFCATIONS.

1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

Vermont Agency of Transportation

RECEIVED

CK'D BY UBS OK'D BY CWC

16 November 2011

RESUBMIT BY C.W.CARLSON APPROVED ✓ DATE 11-16-2011

REVISIONS		
No.	Remarks	Date

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 NETC 2 RAIL BRIDGE RAIL
VT ROUTE 12
BETHEL, VERMONT
PROJECT NO. BHF 0241(30)

CERTIFIED FABRICATOR

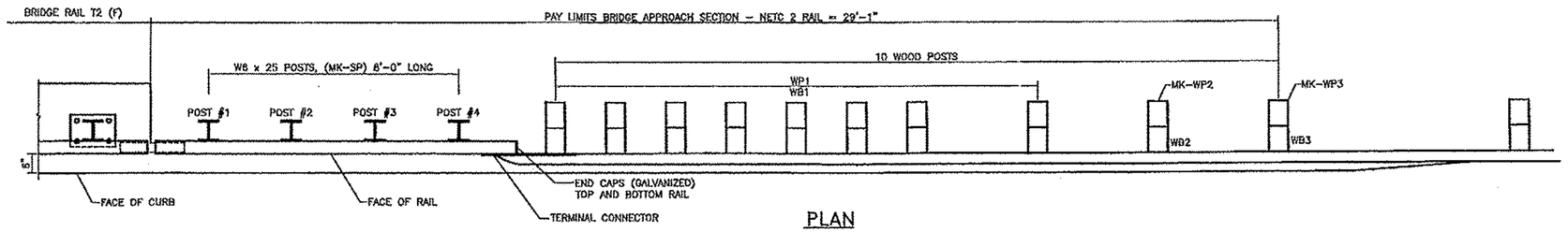
GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE

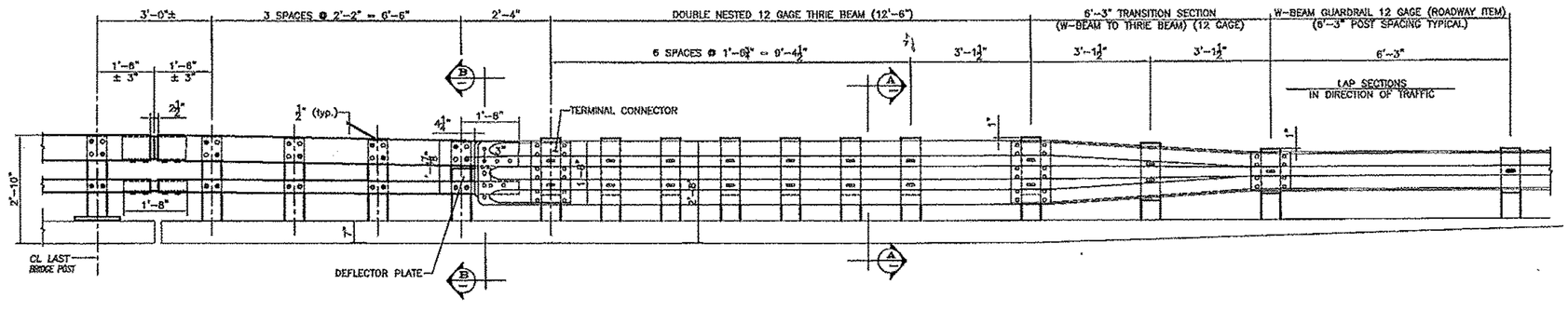
ROAD APP NO. 1856

SHEET NO. 2 of 3

DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	10-27-11	NONE	D

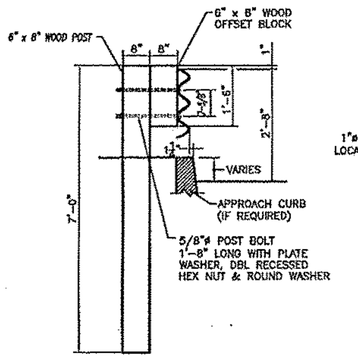


PLAN

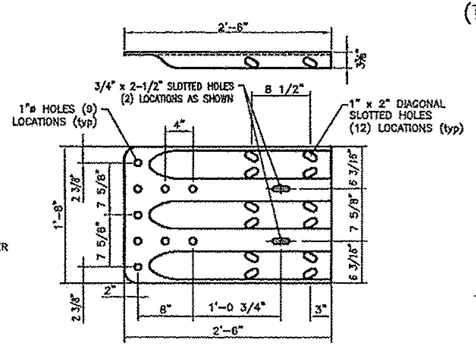


APPROACH RAIL ELEVATION

(TOTAL LIMIT ITEM 621.72 = 116.5 LF)

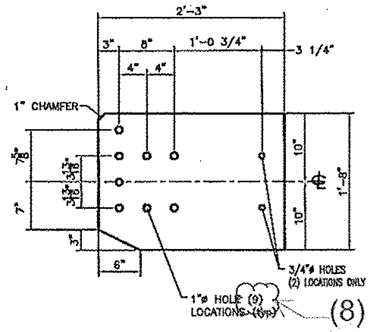


SECTION A–A



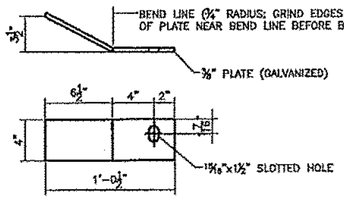
TERMINAL CONNECTOR

10 GAUGE (AASHTO M180 B2)

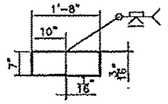


CONNECTION PLATE

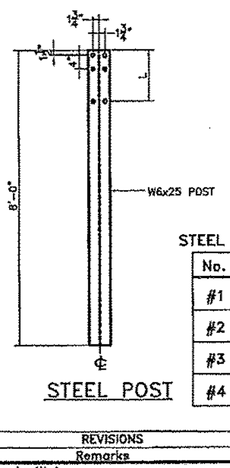
3/8" x 1'-8" x 2'-3" (A709 gr 36)



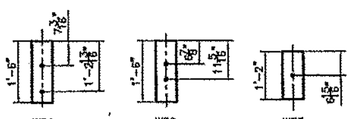
DEFLECTOR PLATE



ANGLED RAIL TUBE SPLICE DETAIL



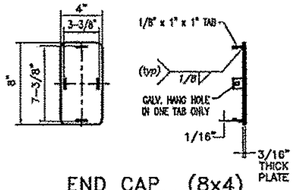
STEEL POST



WOOD BLOCK DETAILS

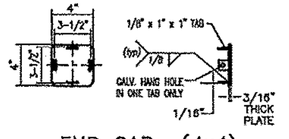
STEEL POST CHART

No.	L
#1	1'-3.250"
#2	1'-3"
#3	1'-2.688"
#4	1'-2.375"



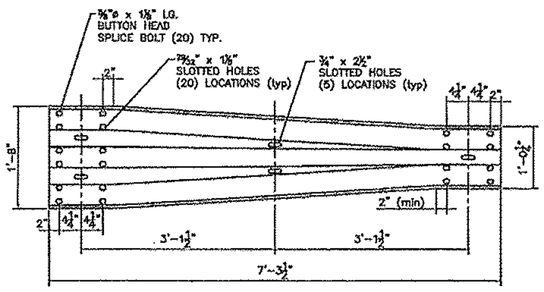
END CAP (8x4)

3/16" x 8" x 4" (A709 gr 36)



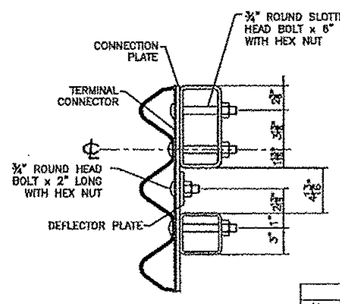
END CAP (4x4)

3/16" x 4" x 4" (A709 gr 36)



THRIE TRANSITION PANEL

12 GAUGE (AASHTO M180 A2)



SECTION B–B

REVISIONS		
No.	Remarks	Date
0	Initial submittal	

BILL OF MATERIAL (4 APPROACHES)

MK.	Qty.	Description	Size/Shape	Length/Qty. per Unit	Material
	4	UPPER APPROACH RAIL	TS 8x4x0.313"	9'-4"	A500 Gr. B
	4	LOWER APPROACH RAIL	TS 4x4x0.25"	9'-4"	A500 Gr. B
SP	16	STEEL POST	W6 x 25	6'-0"	A572 Gr. 50
WP1	32	WOOD POST	6" x 8"	7'-0"	TIMBER
WP2	4	WOOD POST	6" x 8"	7'-0"	TIMBER
WP3	4	WOOD POST	6" x 8"	7'-0"	TIMBER
WB1	32	WOOD BLOCK	6" x 8"	1'-6"	TIMBER
WB2	4	WOOD BLOCK	6" x 8"	1'-6"	TIMBER
WB3	4	WOOD BLOCK	6" x 8"	1'-2"	TIMBER
	4	ANGLED SPLICE TUBE FOR TS 8x4x0.313"			
	4	TUBE	TS 7x3x0.375"	1'-8"	A500 Gr. B
	8	WELDED LOCK NUTS	0.625"ø	----	A563 Gr. A
	4	SPLICE TUBE FOR TS 4x4x0.250"			
	4	TUBE	TS 3x3x0.313"	1'-8"	A500 Gr. B
	8	WELDED LOCK NUTS	0.625"ø	----	A563 Gr. A
	4	TERMINAL CONNECTOR	10 Ga.	2'-6"	M180
	4	CONNECTION PLATE	0.375" x 1'-8"	2'-3"	A709 Gr. 36
	4	END CAP FOR TS 8x4 RAIL TUBE			
	4	PLATE	0.188" x 4"	8"	A709 Gr. 36
	16	PLATE	0.125" x 1"	1"	A709 Gr. 36
	4	END CAP FOR TS 4x4 RAIL TUBE			
	4	PLATE	0.188" x 4"	4"	A709 Gr. 36
	16	PLATE	0.125" x 1"	1"	A709 Gr. 36
	2	DEFLECTOR PLATE (LEFT)	0.375"x4"	12.5"	A709 Gr. 36
	2	DEFLECTOR PLATE (RIGHT)	0.375"x4"	12.5"	A709 Gr. 36
	4	0.75"ø x 2" LG. ROUND HEAD BOLT W/NUT			A307
	4	THRIE TRANSITION PANEL	12 Ga.	7'-3.50"	M180 A2
	4	THRIE BEAM	12 Ga.	12'-6"	M180 A2
	92	0.75"ø x 6" ROUND HEAD BOLT W/NUT & ROUND WASHER			A307
	8	0.625"ø x 20" LG. POST BOLT W/DBL RECESSED NUT, PLATE & ROUND WASHER			A307
	64	0.625"ø x 18" LG. POST BOLT W/DBL RECESSED NUT, PLATE & ROUND WASHER			A307
	32	0.625"ø x 1.75" LG. CAP SCREW W/WASHER			A325
	128	0.625"ø x 1.25" LG. PANEL SPLICE BOLT W/DBL RECESSED NUT			A307
	32	0.75" x 0.5" LG. (SCH 40) SPACER PIPE			A53

NOTES:

1. PAYMENT FOR GUARDRAIL APPROACH SECTION – GALVANIZED NETC 2 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.

2. REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE A 0.063" ALUMINUM BACKING WHITE OR YELLOW REFLECTOR. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE-WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT.

3. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.

4. ALL APPROACH RAIL MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.

5. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM 563 GRADE A OR BETTER (GALVANIZED). WASHERS SHALL BE ASTM F844.

6. WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).

Vermont Agency of Transportation

RECEIVED

CK'D BY UBS OK'D BY CWC

16 November 2011

RESUBMIT APPROVED ✓

BY C.W.CARLSON DATE 11-16-2011

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 621.72 NETC 2 RAIL BRIDGE APPROACH
VT ROUTE 12
BETHEL, VERMONT
PROJECT NO. BHF 0241(30)

CERTIFIED FABRICATOR

HSC JOB NO. 1856

SHEET NO. 3 of 3

GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE

DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	10-27-11	NONE	D

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

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

MATERIAL SPECIFICATIONS

1) ALL STEEL TO BE UNPAINTED
AASHTO M270 (ASTM A709) GRADE 50W.

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

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

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

FABRICATION

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

WELDING

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

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

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

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

FIELD CONNECTIONS

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

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

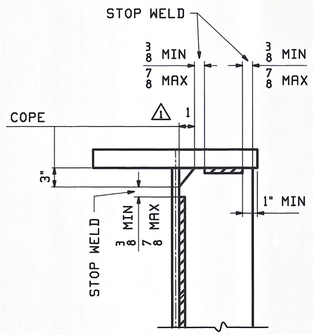
3) PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.

CLEANING

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

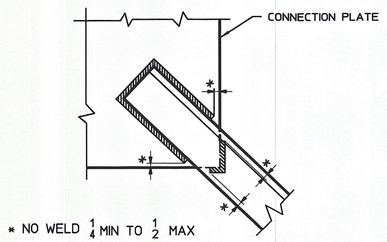
PAINTING

1) NO PRINT REQUIRED ON THIS STRUCTURE.



DETAIL "WS1"

STIFFENER WELD TERMINATION



DETAIL "WS2"

TYP. WELD TERMINATION

Structures

VTrans Received
CK'D VDS OK'd BY
DEC 7 2011
Resubmit BY CWC APPROVED DATE 12-8-11

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

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	11/30	APPROVAL COMMENTS	TJB	PCP		
0					12-1-11	

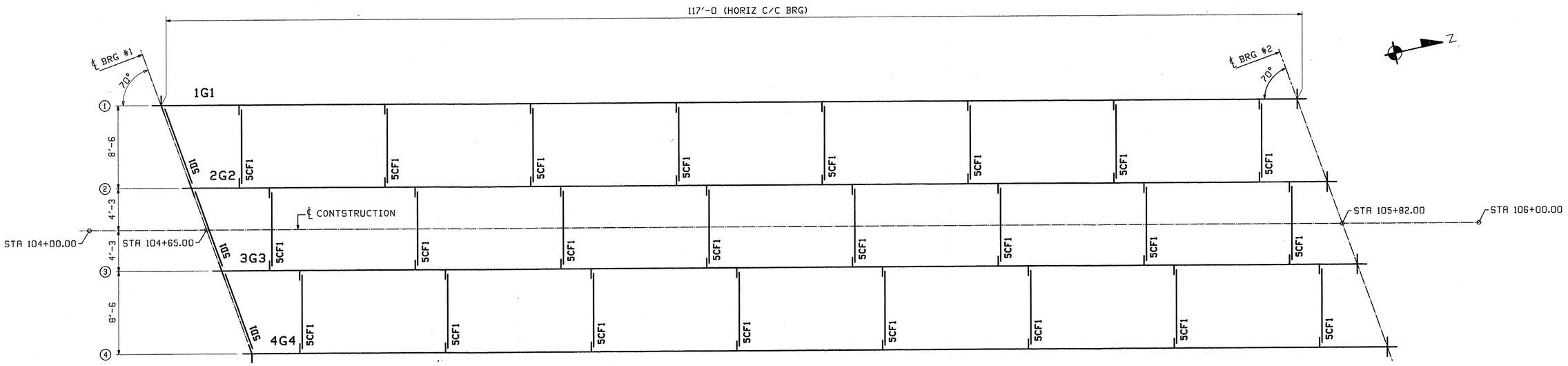
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W (UN)	SEE GN1	AS NOTED	AS NOTED

DESCRIPTION: GENERAL NOTES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3089

STRUCTURE: VT 12 over LOCUST CREEK BRIDGE 30 BETHEL Windsor County	DRAWN: TJB	DATE: 10/09	
	CHK'D: PCP	DATE: 10/11	
LOCATION: BETHEL	JOB NO.	DWG NO.	
PROJ NO. BHF 0241(30)	507	GN1	
CUSTOMER: VERMONT AOT		REV. 1	

TJB Wed, Nov 30, 2011 08:51:03 AM /users/pbs/3089/GN1.Rev1



FRAMING PLAN

FIELD BOLT LIST						A325 Type 3 BOLTS											
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED									WASH CODE	PIECES CONNECTED AND REMARKS
1																	END DIAPHRAGMS
2	120	1	2 3/4	20	6	1 1/4	5/8	5/8								1	5DI WEB TO BRG STIFFENER
3																	
WASHER CODES																	
1: 1 Hard Flat Washer																	

FIELD BOLT LIST						A325 Type 3 BOLTS											
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED									WASH CODE	PIECES CONNECTED AND REMARKS
4																	INTERMEDIATE CROSSFRAMES
5	192	5/8	2 1/4	4	48	3 1/16	5/8	9/16								1	TOP GUSSET ~ INT STIFFENER
6	192	5/8	2 1/4	4	48	3 1/16	5/8	9/16								1	BTM GUSSET ~ INT STIFFENER
7																	
WASHER CODES																	
1: 1 Hard Flat Washer																	

FIELD BOLT SUMMARY			2% + 3 ADDED, MIN. 3 EXTRA			
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	395	5/8	A325 Type 3	2 1/4	384	
2						
3	395	Hard Flat Washers for 5/8 ø BOLT				
4						
5						
6	125	1	A325 Type 3	2 3/4	120	
7						
8	125	Hard Flat Washers for 1 ø BOLT				
9						
10						
11						

VTrans Received OCT 24 2011 CK'D LRS OK'd BY

Resubmit BY APPROVED DATE 11-7-11

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

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

DESCRIPTION: FRAMING PLAN & FIELD BOLTS

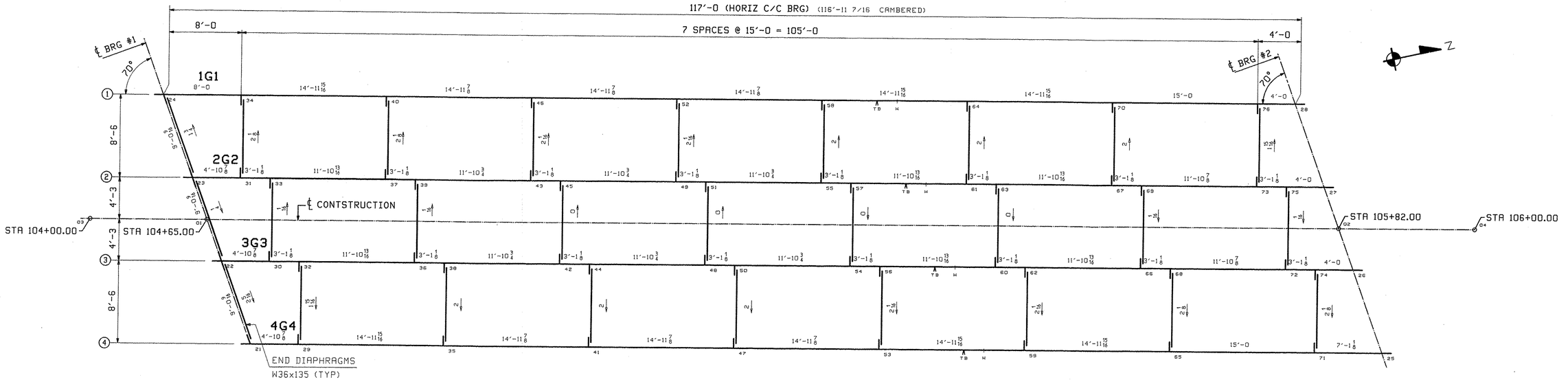
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3089

STRUCTURE: VT 12 over LOCUST CREEK
BRIDGE 30
BETHEL
Windsor County

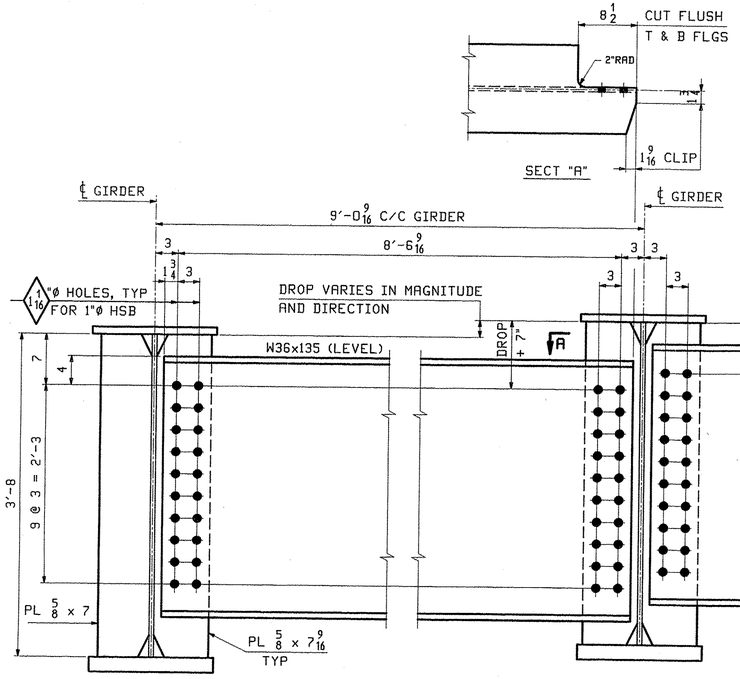
DRAWN: TJB DATE: 10/05
CHK'D: PCP DATE: 10/11

LOCATION: BETHEL | JOB NO. 507 | DWG NO. E1
PROJ NO. BHF 0241(30) | REV. △
CUSTOMER: VERMONT AOT

AGP Thu, Oct 13, 2011 03:43:33 PM J:\steel\jobs\3089\E1.dwg

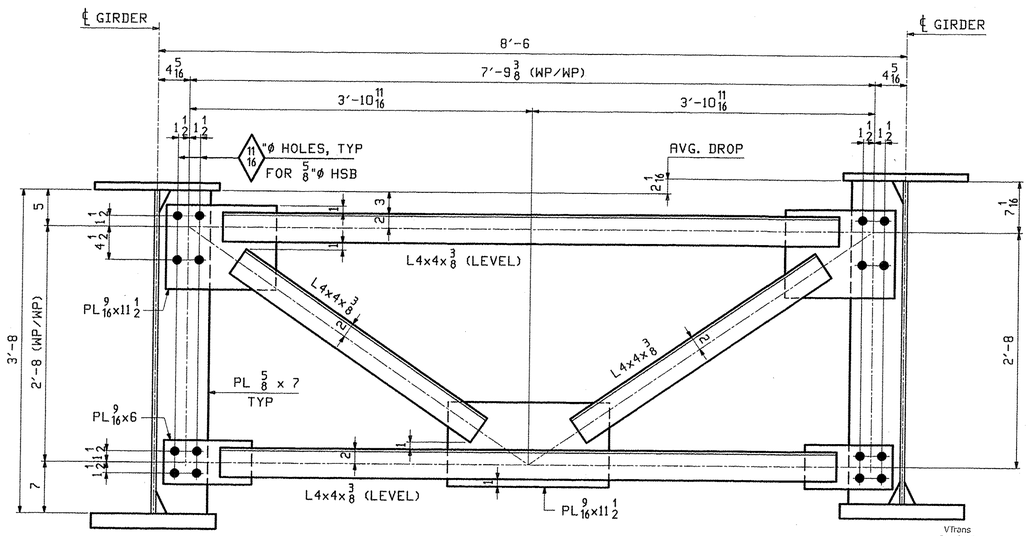


CALCULATION PLAN



END DIAPHRAGM @ ABUT 1

LOOKING TOWARD BACKWALL



TYPICAL INTERMEDIATE CROSSFRAME

LOOKING BACK STATION

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

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

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

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W	SEE GN1	AS NOTED	AS NOTED

DESCRIPTION: CALCULATION PLAN & LAYOUTS

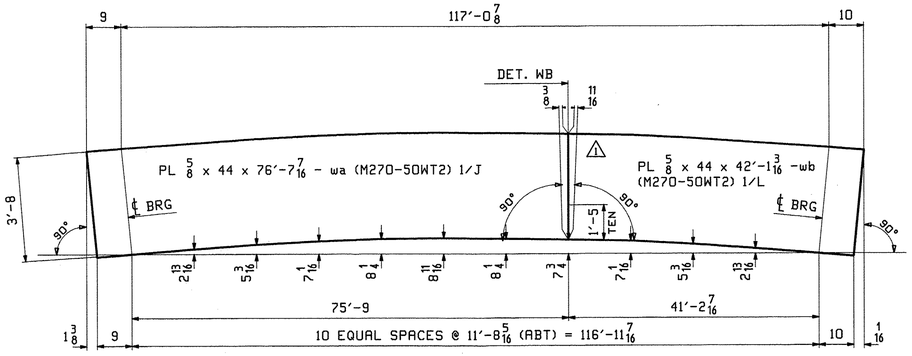
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3089

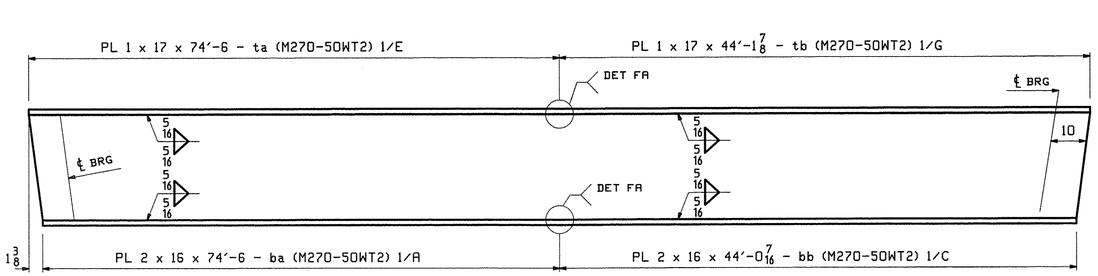
STRUCTURE: VT 12 over LOCUST CREEK BRIDGE 30 BETHEL Windsor County	DRAWN: TJB	DATE: 10/05	
	CHKD: PCP	DATE: 10/11	
LOCATION: BETHEL	JOB NO.	DWG NO.	
PROJ NO. BHF 0241(30)	507	WS1	
CUSTOMER: VERMONT AOT		REV. △	

VTrans Received OCT 24 2011 Ckd BY
Ckd. UBS
Resubmit BY APPROVED DATE

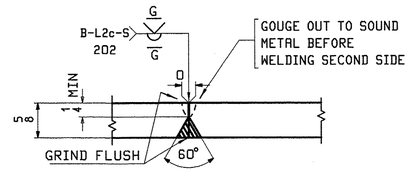
PCP Thu, Oct 13, 2011 09:45:54 AM J:\work\bhf\0241(30)\WS1 - Rev0



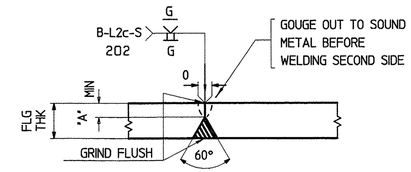
CAMBER DIAGRAM FOR 1G1, 2G2, 3G3 & 4G4



FLANGE DIAGRAM FOR 1G1, 2G2, 3G3 & 4G4



WEB PLATE SPLICE DETAIL "WB"



FLANGE PLATE SPLICE DETAIL "FA"

FLG THK	"A"
1	1/4
2	1/2

VTrans Received
CK'D VRG CK'd BY
DEC 7 2011
Resubmit BY CWC APPROVED DATE 12-8-11

NOTES:

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

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	11/30	APPROVAL COMMENTS	TJB	PCP		
0					12-1-11	

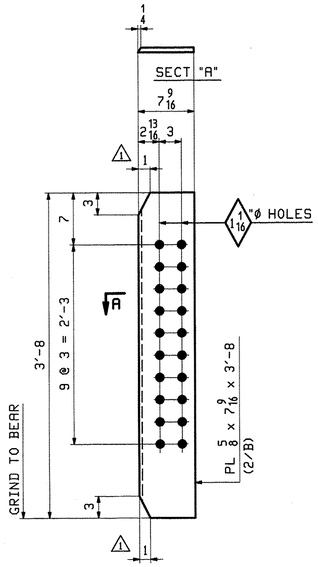
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
		AS NOTED	AS NOTED

DESCRIPTION: WEB & FLANGE CUTTING

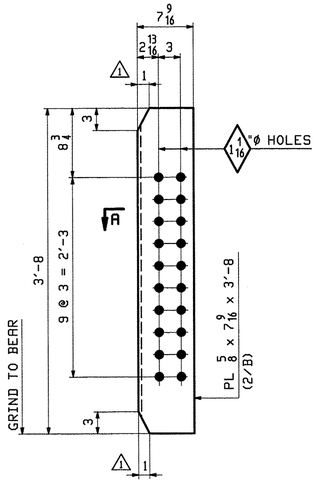
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3089

STRUCTURE: VT 12 over LOCUST CREEK BRIDGE 30 BETHEL Windsor County	DRAWN: TJB	DATE: 10/06	
	CHK'D: PCP	DATE: 10/11	
LOCATION: BETHEL	JOB NO.	DWG NO.	
PROJ NO. BHF 0241(30)	507	C1	
CUSTOMER: VERMONT AOT		REV. 1	

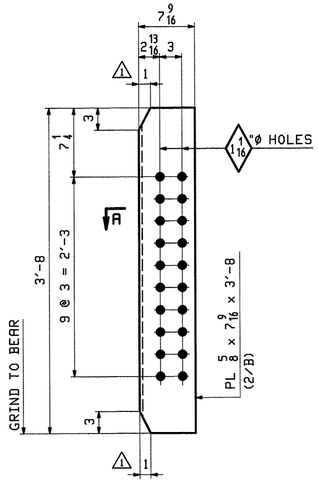
EJB Wed, Nov 30, 2011 08:49:54 AM J:\steel\jobs\2009\C1.dwg



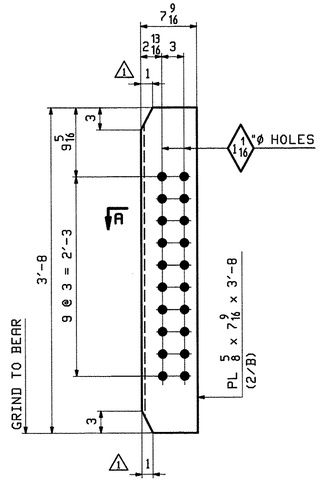
3 ~ x1a
ABUT 1 BRG STIFF



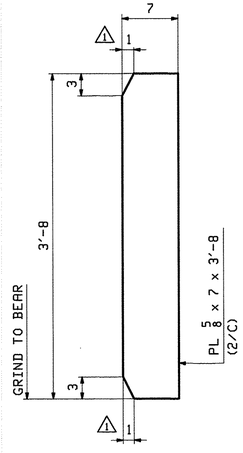
1 ~ x1b
ABUT 1 BRG STIFF



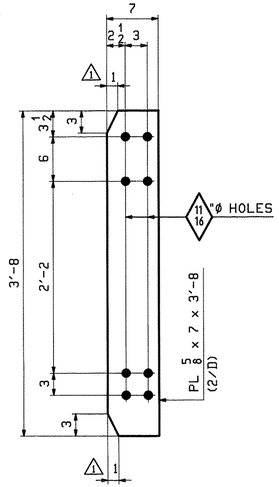
1 ~ x1c
ABUT 1 BRG STIFF



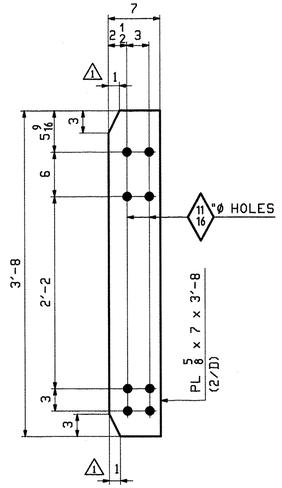
1 ~ x1d
ABUT 1 BRG STIFF



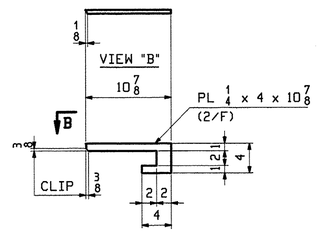
10 ~ x1f
ABUT 1 BRG STIFF
ABUT 2 BRG STIFF



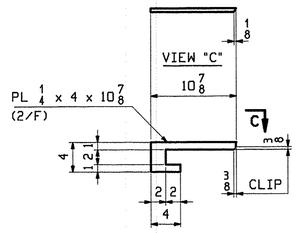
32 ~ x1g
CROSSFRAME STIFFENER
LOW SIDE



16 ~ x1h
CROSSFRAME STIFFENER
HIGH SIDE



1 ~ x1k
DRIP PLATE - GIRDER 1G1
FASCIA SIDE



1 ~ x1m
DRIP PLATE - GIRDER 4G4
FASCIA SIDE

VTrans
Received
CK'D. CBS O/C'd BY.
DEC 7 2011
Resubmit BY CWC APPROVED DATE 12-8-11

NOTE:
FOR GENERAL NOTES SEE DRAWING GN1.

1	11/30	APPROVAL COMMENTS	TJB	PCP		
0					12-1-11	
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP

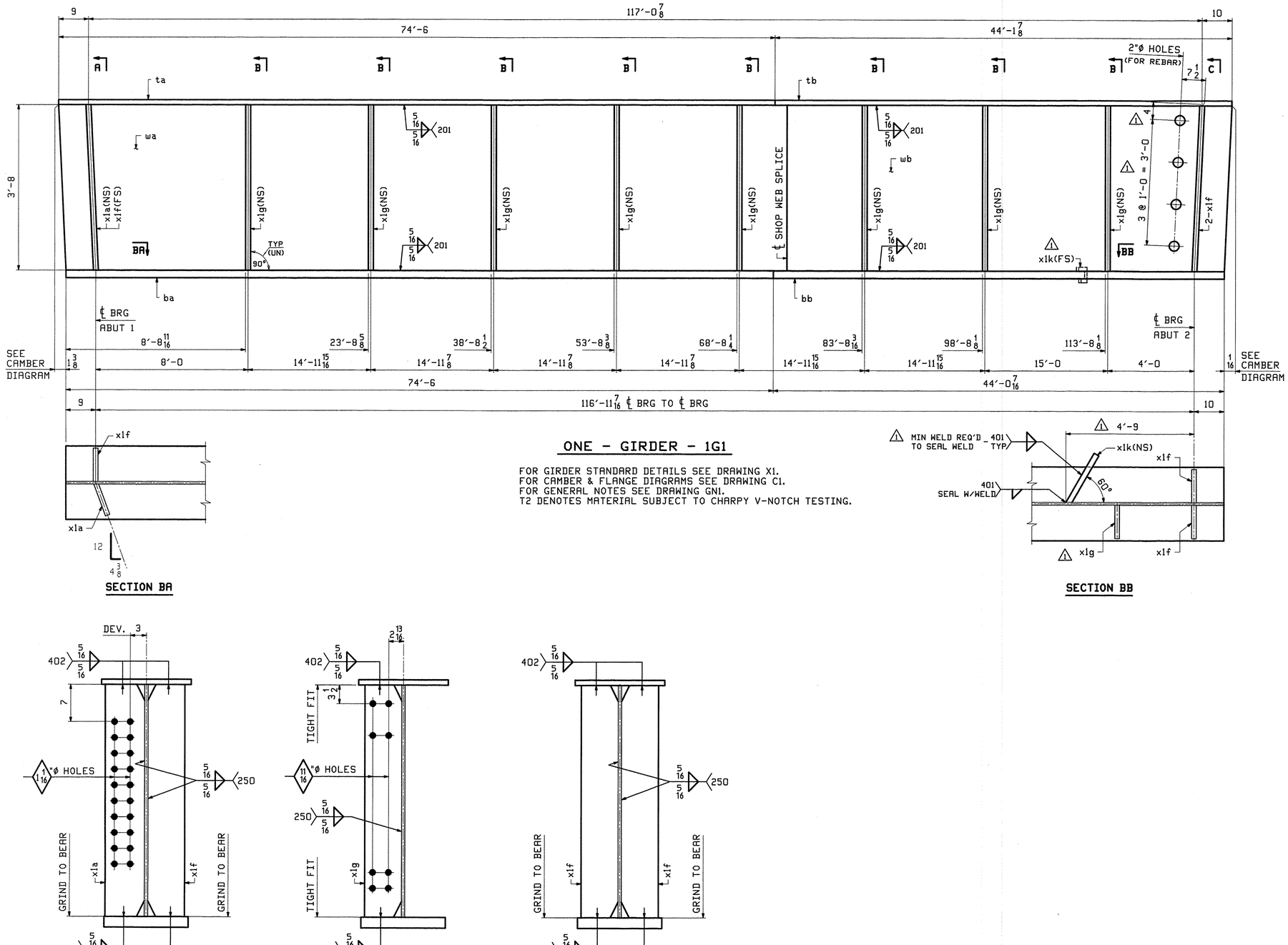
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W	SEE DWG GN1	AS NOTED	NONE

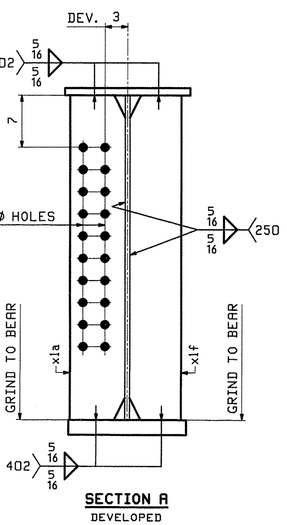
DESCRIPTION: STANDARD DETAIL DRAWINGS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3089

STRUCTURE: VT 12 over LOCUST CREEK BRIDGE 30 BETHEL Windsor County	DRAWN: TJB	DATE: 10/06	
	CHK'D: PCP	DATE: 10/11	
LOCATION: BETHEL	JOB NO.	DWG NO.	
PROJ NO. BHF 0241(30)	507	X1	
CUSTOMER: VERMONT AOT		REV. 1	

118 Wed, Nov 30, 2011 08:05:28 AM J:\steel\jobs\2089\01\Revit





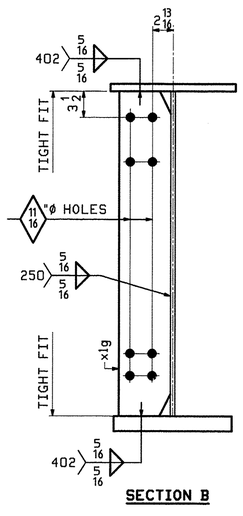
SECTION BA

ONE - GIRDER - 1G1

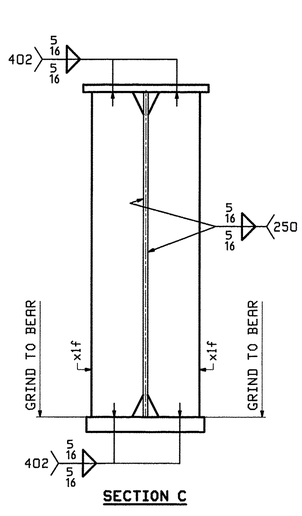
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

SECTION BB

SECTION A
DEVELOPED



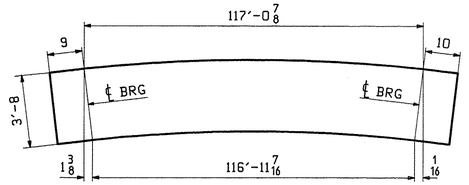
SECTION B



SECTION C

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
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PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				31543	
1	J		1	wa	PL 5/8×44	76	7 7/16	M270-50WT2		
1	L		1	wb	PL 5/8×44	42	1 3/16	M270-50WT2		
1	E		1	ta	PL 1×17	74	6	M270-50WT2		
1	G		1	tb	PL 1×17	44	1 7/8	M270-50WT2		
1	A		1	ba	PL 2×16	74	6	M270-50WT2		
1	C		1	bb	PL 2×16	44	0 7/16	M270-50WT2		
2	B		1	x1a	PL 5/8×7 9/16	3	8	M1E M270-50WT2		
2	C		3	x1f	PL 5/8×7	3	8	M1E M270-50WT2		
2	D		8	x1g	PL 5/8×7	3	8	M270-50W		
2	F		1	x1k	PL 1/4×4	0	10 7/8	M270-50W		

VTrans Received
CK'D 0859 OK'd BY
DEC 7 2011
Resubmit APPROVED
BY CWC DATE 12-8-11



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1	11/30	APPROVAL COMMENTS	TJB	PCP		
0					12-1-11	

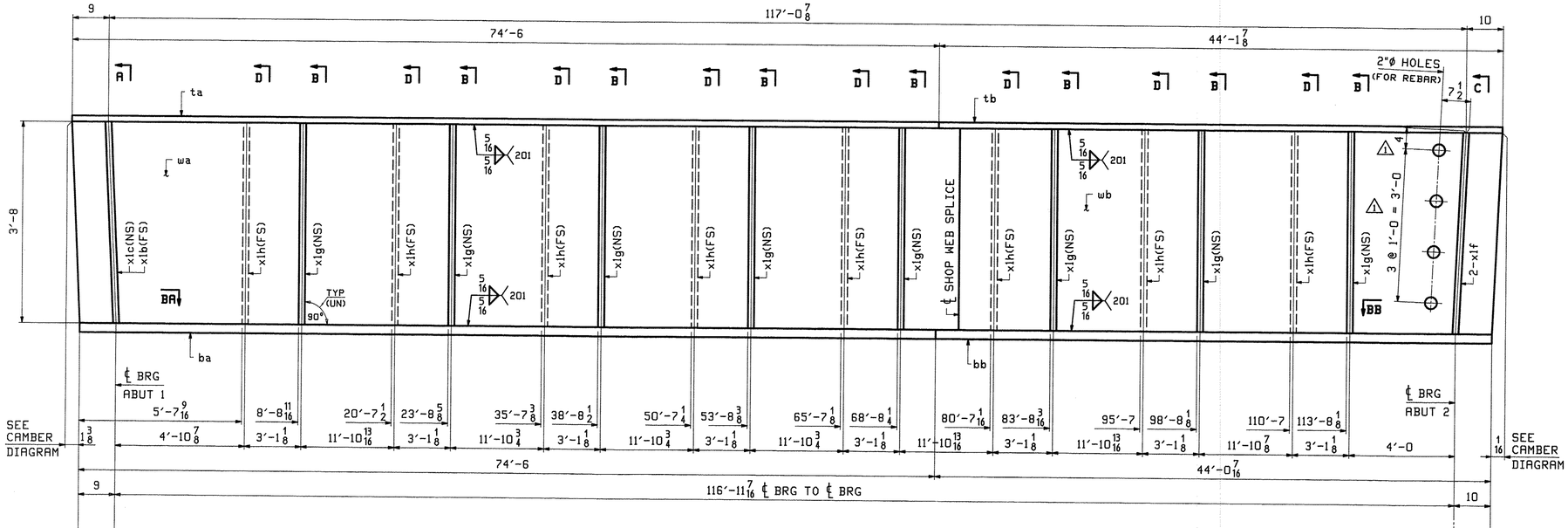
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W	SEE DWG GN1	AS NOTED	NONE

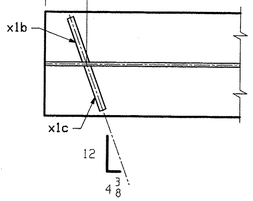
DESCRIPTION: GIRDER 1G1

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3089

STRUCTURE:	DRAWN:	DATE:
VT 12 over LOCUST CREEK BRIDGE 30 BETHEL Windsor County	TJB	10/06
	CHK'D: PCP	DATE: 10/11
LOCATION: BETHEL	JOB NO.	DWG NO.
PROJ NO. BHF 0241(30)	507	1
CUSTOMER: VERMONT AOT		REV. ⚠1

TJB Wed, Nov 30, 2011 09:38:16 AM J:\steel\jobs\2089\1 Rev1

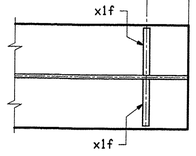




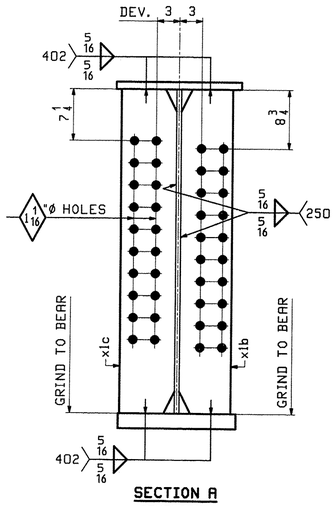
SECTION BA

ONE - GIRDER - 2G2

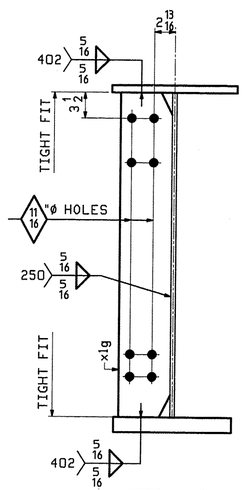
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



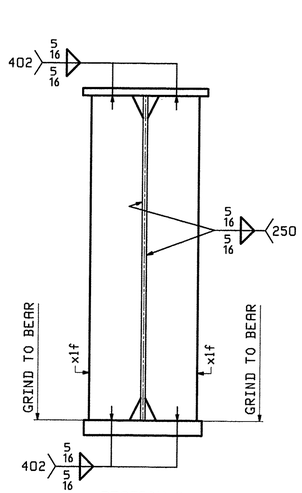
SECTION BB



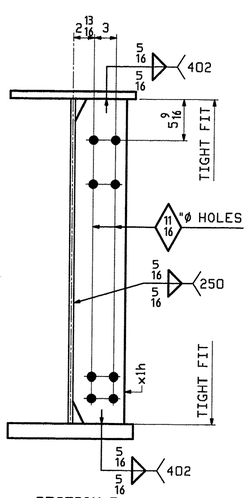
SECTION A
DEVELOPED



SECTION B



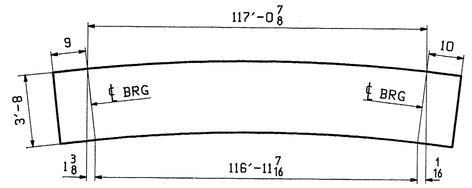
SECTION C



SECTION D

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								507	2	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				31981	
1	J		1	wa	PL 5/8×44	76	7 7/16	M270-50WT2		
1	L		1	wb	PL 5/8×44	42	1 3/16	M270-50WT2		
1	E		1	ta	PL 1×17	74	6	M270-50WT2		
1	G		1	tb	PL 1×17	44	1 7/8	M270-50WT2		
1	A		1	ba	PL 2×16	74	6	M270-50WT2		
1	C		1	bb	PL 2×16	44	0 7/16	M270-50WT2		
2	B		1	x1b	PL 5/8×7 9/16	3	8	MIE M270-50WT2		
2	B		1	x1c	PL 5/8×7 9/16	3	8	MIE M270-50WT2		
2	C		2	x1f	PL 5/8×7	3	8	MIE M270-50WT2		
2	D		8	x1g	PL 5/8×7	3	8	M270-50W		
2	D		8	x1h	PL 5/8×7	3	8	M270-50W		

VTrans Received
CK'D UCSS CK'd BY
DEC 7 2011
Resubmit BY Owe APPROVED DATE 12-11



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	11/30	APPROVAL COMMENTS	TJB	PCP		
0					12-1-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W	SEE DWG GN1	AS NOTED	NONE

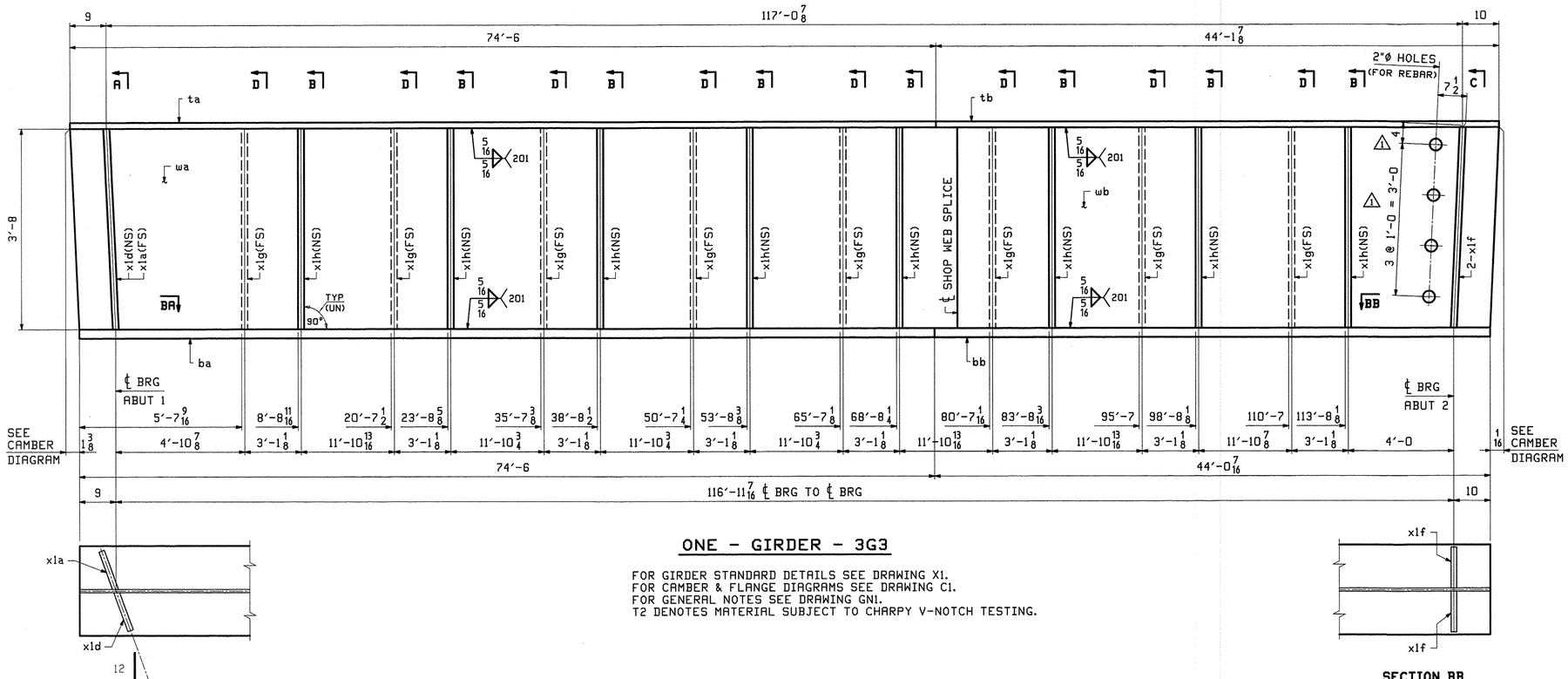
DESCRIPTION: GIRDER 2G2

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

TENSOR 3089

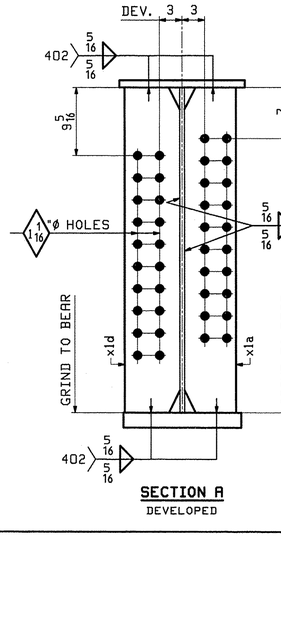
STRUCTURE:	DRAWN:	DATE:
VT 12 over LOCUST CREEK BRIDGE 30 BETHEL Windsor County	TJB	10/07
	CHK'D: PCP	DATE: 10/11
LOCATION: BETHEL	JOB NO.	DWG NO.
PROJ NO. BHF 0241(30)	507	2
CUSTOMER: VERMONT AOT		REV. 1

Wed, Nov 30, 2011 09:39:39 AM //users/jobs/2009/2 1.dwg



ONE - GIRDER - 3G3

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

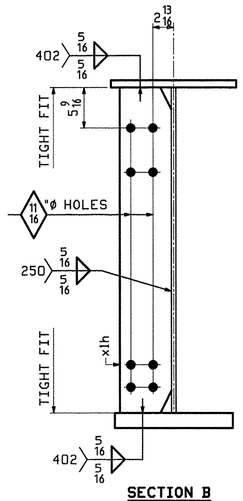


SECTION BA

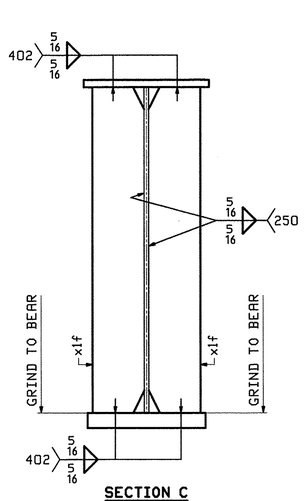


SECTION BB

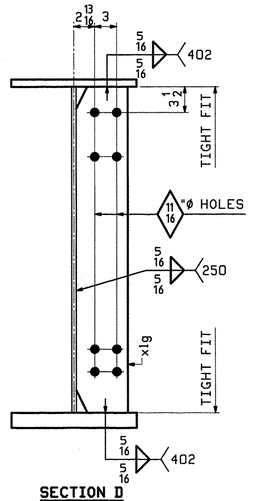
SECTION A
DEVELOPED



SECTION B



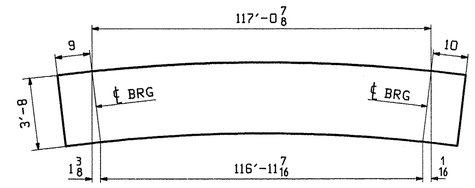
SECTION C



SECTION D

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								507	3	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				31981	
1	J		1	wa	PL 5/8x44	76	7 7/16	M270-50WT2		
1	L		1	wb	PL 5/8x44	42	3 1/16	M270-50WT2		
1	E		1	ta	PL 1x17	74	6	M270-50WT2		
1	G		1	tb	PL 1x17	44	1 1/8	M270-50WT2		
1	A		1	ba	PL 2x16	74	6	M270-50WT2		
1	C		1	bb	PL 2x16	44	0 7/16	M270-50WT2		
2	B		1	x1a	PL 5/8x7 9/16	3	8	MIE M270-50WT2		
2	B		1	x1d	PL 5/8x7 9/16	3	8	MIE M270-50WT2		
2	C		2	x1f	PL 5/8x7	3	8	MIE M270-50WT2		
2	D		8	x1g	PL 5/8x7	3	8	M270-50W		
2	D		8	x1h	PL 5/8x7	3	8	M270-50W		

VTrans
Received
CK'D WDS OK'd BY
DEC 7 2011
Returned BY CWC APPROVED DATE 12-8-11



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	11/30	APPROVAL COMMENTS	TJB	PCP		
0					12-1-11	

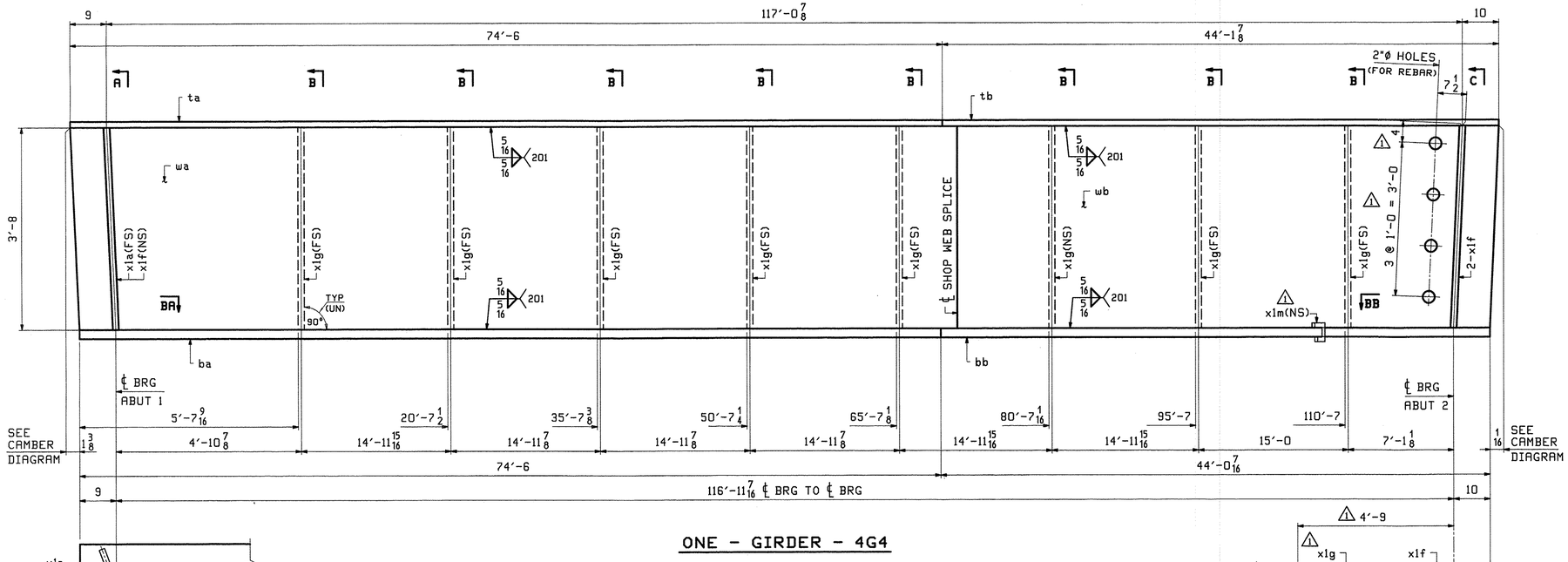
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W	SEE DWG GN1	AS NOTED	NONE

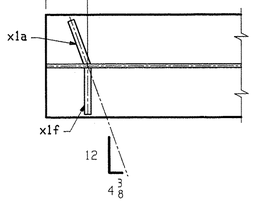
DESCRIPTION: GIRDER 3G3

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3089

STRUCTURE:	VT 12 over LOCUST CREEK BRIDGE 30 BETHEL Windsor County	DRAWN: TJB	DATE: 10/09
		CHK'D: PCP	DATE: 10/11
LOCATION:	BETHEL	JOB NO.	DWG NO.
PROJ NO.	BHF 0241(30)	507	3
CUSTOMER:	VERMONT AOT		REV. 1

TJB Wed, Nov 30, 2011 09:39:18 AM J:\users\jobs\3089\3-1.dgn

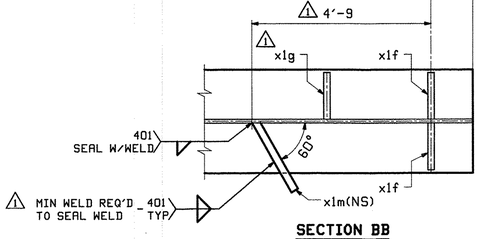




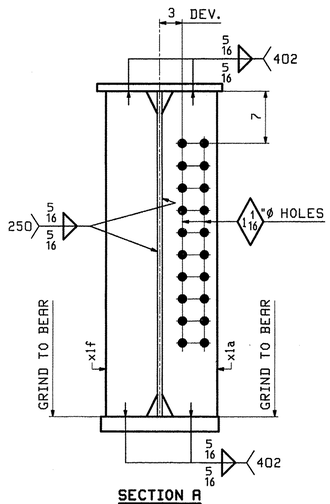
SECTION BA

ONE - GIRDER - 4G4

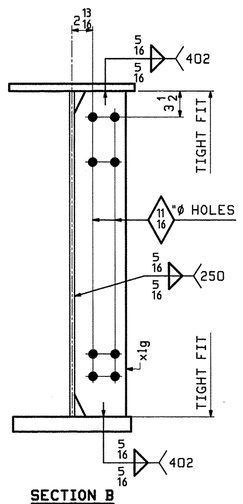
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



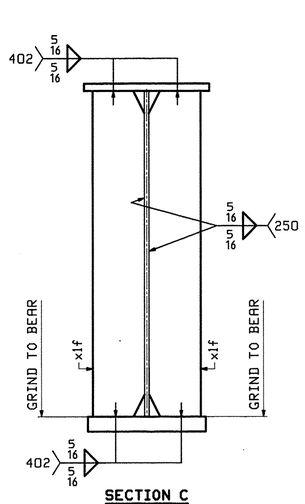
SECTION BB



SECTION A
DEVELOPED



SECTION B

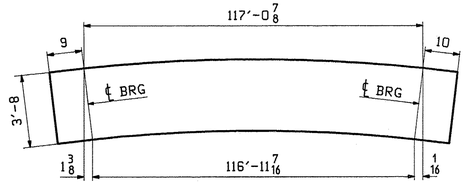


SECTION C

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH FT	LENGTH INCHES	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER				31543	
1	J		1	wa	PL 5/8x44	76	7 7/16	M270-50WT2		
1	L		1	wb	PL 5/8x44	42	1 3/16	M270-50WT2		
1	E		1	ta	PL 1x17	74	6	M270-50WT2		
1	G		1	tb	PL 1x17	44	1 7/8	M270-50WT2		
1	A		1	ba	PL 2x16	74	6	M270-50WT2		
1	C		1	bb	PL 2x16	44	0 7/16	M270-50WT2		
2	B		1	x1a	PL 5/8x7 9/16	3	8	MIE M270-50WT2		
2	C		3	x1f	PL 5/8x7	3	8	MIE M270-50WT2		
2	D		8	x1g	PL 5/8x7	3	8	M270-50W		
2	F		1	x1m	PL 1/4x4	0	10 7/8	M270-50W		

VTrans Received DEC 7 2011 CKD BY

Resubmit BY APPROVED DATE 12/8/11



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	11/30	APPROVAL COMMENTS	TJB	PCP		
0					12-1-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W	SEE DWG GN1	AS NOTED	NONE

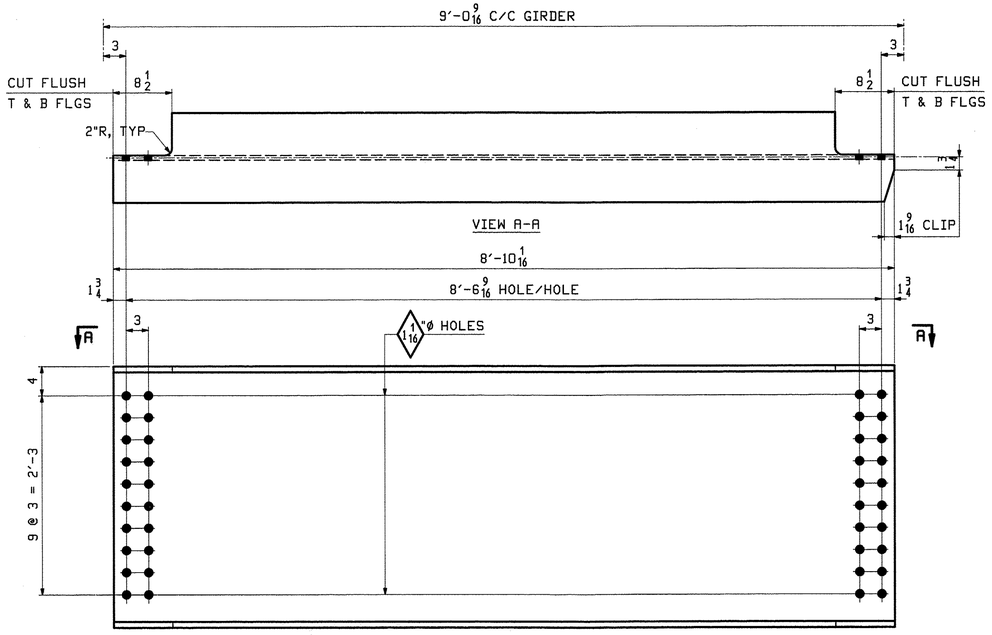
DESCRIPTION: GIRDER 4G4

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726
TENSOR 3089

STRUCTURE:	DRAWN:	DATE:
VT 12 over LOCUST CREEK BRIDGE 30 BETHEL Windsor County	TJB	10/09
	CHKD: PCP	DATE: 10/11
LOCATION: BETHEL	JOB NO.	DWG NO.
PROJ NO. BHF 0241(30)	507	4
CUSTOMER: VERMONT AOT		REV. 1

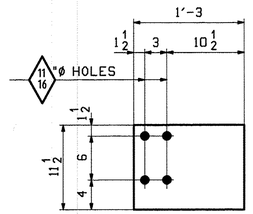
T2B Wed, Nov 30, 2011 09:40:30 PM //users/jobs/3089/4.dwg

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								507	5	1
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		5D1	3		DIAPHRAGMS				1193	
2	S		3		W 36x135	8	10 1/16	M270-50W		
		5CF1	24		CROSSFRAMES				320	
2	K		48	a5	L 4x4x 3/8	7	0	M270-50W		
2	L		48	b5	L 4x4x 3/8	3	4 1/8	M270-50W		
2	M		48	c5	PL 9/16x11 1/2	1	3	M270-50W		
2	N		48	d5	PL 9/16x6	1	0	M270-50W		
2	P		24	f5	PL 9/16x11 1/2	1	10	M270-50W		



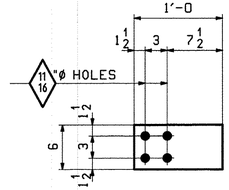
3 ~ BRG DIAPHRAGMS - 5D1

24 - CROSSFRAMES - 5CF1



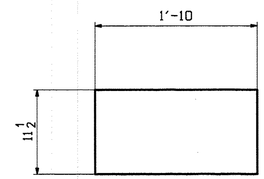
DETAIL ~ c5

(48 REQ'D)



DETAIL ~ d5

(48 REQ'D)



DETAIL ~ f5

(24 REQ'D)

VTrans Received
CK'D UCC CK'd BY
DEC 7 2011
Resubmit APPROVED
BY OWE DATE 12-8-11

NOTES:
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	11/30	APPROVAL COMMENTS	TJB	PCP		
0					12-1-11	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270-50W	SEE DWG GN1	AS NOTED	NONE

DESCRIPTION: DIAPHRAGMS & CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3089

STRUCTURE: VT 12 over LOCUST CREEK
BRIDGE 30
BETHEL
Windsor County

DRAWN:	DATE:
TJB	10/06
CHK'D:	DATE:
PCP	10/11

LOCATION:	BETHEL	JOB NO.	DWG NO.
PROJ NO.	BHF 0241(30)	507	5
CUSTOMER:	VERMONT AOT		REV. 1

TJB Wed, Nov 30, 2011 08:11:18 AM J:\steel\jobs\3089\5 - 1.dwg

VERMONT

State of Vermont
Program Development
One National Life Drive
Montpelier, VT 05633-5001
www.aot.state.vt.us

Agency of Transportation

[phone] 802-828-2621
[fax] 802-828-3566
[ttd] 800-253-0191

November 8, 2011

D.S. Brown Company
300 East Cherry Street
North Baltimore, OH 45872

Attn: LuAnn Hayfield

Project Name: Bethel **Project #: BHF 0241(30)**
Structure Identification: VT RTE 12 Over the Locust Creek

The following **bearing device details** (Item 531.11, "Bearing Device Assembly, Elastomeric Pad" and Item 531.14, "Bearing Device Assembly, Integral Abutment") for the above project (Vendor's Job **#34421**), transmitted by Winterset, Inc. and received by our office on November 2, 2011 has been reviewed and is being returned herewith.

Drawing numbers 1103-1 (Sheet 1) is approved "as noted". (See comments in red.)

Drawing numbers 1104-1 (Sheet 1) is approved [X].

The welding procedures are approved [X].

Upon receipt of these "as noted" and "approved" sheets, please make appropriate changes and submit white prints for our use in the record plans for this project,

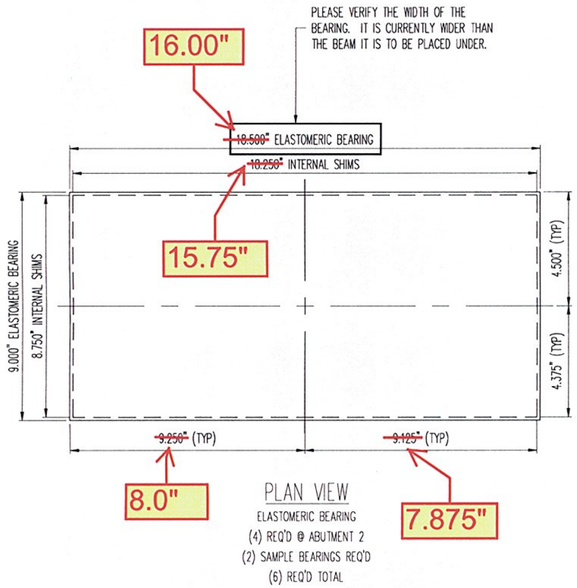
You must provide notice to our fabrication inspector, Jeff Clark, as to the date fabrication represented by these drawings will begin. That notice must be received and acknowledged at least seven days prior to that date, as per Specification 506.03. Jeff may be contacted by phone at (802)828-0044 or email at jeff.clark@state.vt.us. Any material fabricated prior to the notification date is subject to rejection without further cause.

Sincerely,

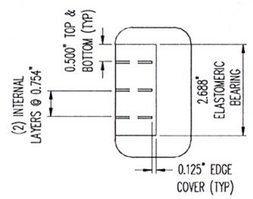
Carolyn W. Carlson, PE
Project Manager

Attachments
cc: [X] Resident Engineer, Tom Chase –w/prints
[X] Winterset Inc. – w/prints
[X] Shop Inspector - Jeff Clark - w/prints
[X] Construction Division - letter only
[X] Materials & Research Section (C&IA Unit) – letter only
[X] CWC - w/prints

VTrans Working to Get You There
Vermont Agency of Transportation



LOAD DATA	
DEAD LOAD (KIPS)	77.1
LIVE LOAD (KIPS)	–
TOTAL LOAD (KIPS)	77.1



DETAIL 'A'

GENERAL NOTES:

1. PAD AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED 2006 AND THE LATEST REVISIONS, INCLUDING SUPPLEMENTARY SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS. GENERAL SHOP PRACTICES, STRUCTURAL FABRICATION, WELDING AND ASSEMBLY SHALL BE GOVERNED BY ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

2. THIS SHOP DRAWING WAS PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THIS SHOP DRAWING.

3. THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THIS DRAWING.

4. ALL STEEL SHALL BE PRODUCED IN THE UNITED STATES OF AMERICA.

5. THE BEARINGS SHALL BE SUBJECTED TO RANDOM IN-HOUSE ELASTOMER TESTING AND IN-HOUSE PROOF LOAD TESTING IN ACCORDANCE WITH AASHTO LRFD DESIGN SPECIFICATIONS, SECTION 14 (METHOD "A") AND AASHTO LRFD CONSTRUCTION SPECIFICATIONSI, SECTION 18.

6. TESTING SHALL BE IN ACCORDANCE WITH AASHTO M251.

MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
1A	6	ELASTOMERIC BEARING			4 + 2 SAMPLES	-
1a1	6	2.688" X ~~18.500"~~	NATURAL RUBBER	9.000"	50+/-5 DURO GR.4	-
1a2	18	16 GA. X ~~18.250"~~	A1011 GR 36	8.750"	PLAIN	-
					10/27/2011 11:38:51 AM	

16.0"
15.75"

TOLERANCE TABLE	
DESCRIPTION (ELASTOMER)	TOLERANCE
ELASTOMERIC BEARING DESIGN THICKNESS > 1.250"	+ 1/4", -0
ELASTOMERIC BEARING PLAN ≤ 36"	+ 1/4", -0
ELASTOMERIC BEARING PLAN > 36"	+ 1/2", -0
ELASTOMERIC COVER TOP & BOTTOM	+ 1/8", -0
ELASTOMERIC COVER SIDES	+ 1/8", -0
THICKNESS OF INDIVIDUAL LAYERS OF ELASTOMER (LAMINATED BEARINGS	
ONLY) AT ANY POINT WITHIN THE BEARING	± 1/8"
VARIATION FROM A PLANE PARALLEL TO THE THEORETICAL SURFACE	
(AS DETERMINED BY MEASUREMENTS AT THE EDGE OF THE BEARINGS)	
TOP	± 0.005 rad
SIDES	± 1/4"
POSITION OF EXPOSED CONNECTION MEMBERS	± 1/8"
EDGE COVER OF EMBEDDED LAMINATES OF CONNECTION MEMBERS	+ 1/8", -0
SIZE OF HOLES, SLOTS, OR INSERTS	± 1/8"
POSITION OF HOLES, SLOTS, OR INSERTS	± 1/8"

Vermont Agency of Transportation
RECEIVED
CK'D BY U.Stanley OK'D BY C. Carlson
NOV. 02 2011
RESUBMIT APPROVED As Noted
BY CWC DATE 11/8/11

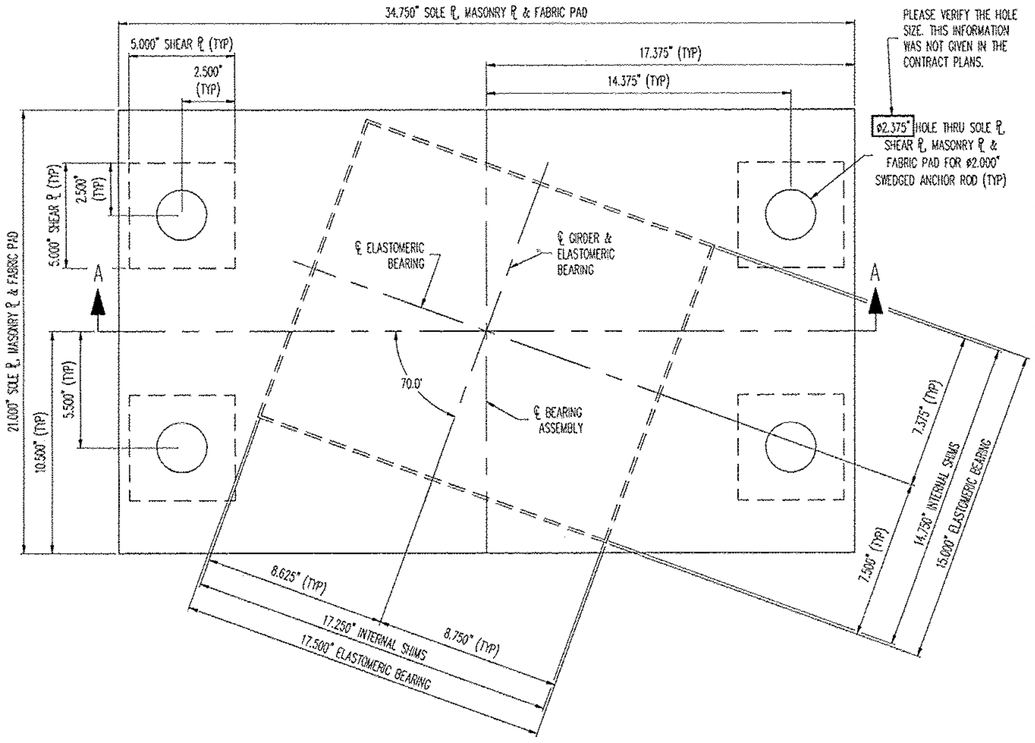
REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
WWW.DSBROWN.COM

	ITEM	QUANTITY
LOCATION — VT RT 12 OVER LOCUST CREEK	34421-1103-2	6 OF 6
PROJ. NAME — BETHEL	–	–
PROJECT NO. — BHF 0241(30)	–	–
—	–	–
P.O. NO. — C-3190	–	–
—	–	–
CUSTOMER — WINTERSET, INC	–	–
	–	–

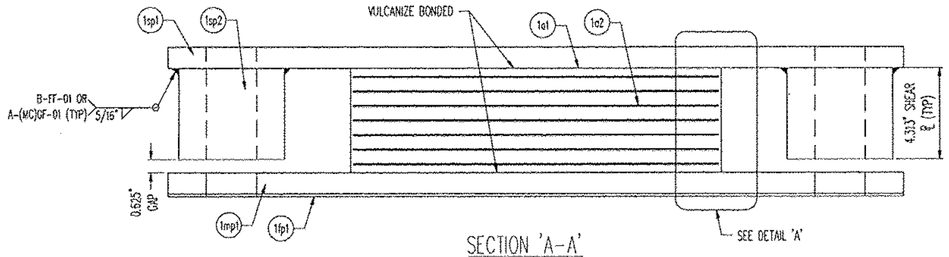
DESCRIPTION: VERSIFLEX ELASTOMERIC BEARING WINDSOR CO., VT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	NRA	ANK	10/28/11	
PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET	
34421	1103	1	01	



PLAN VIEW

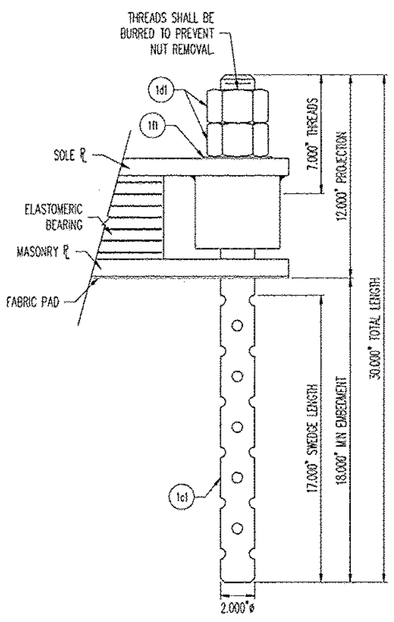
ELASTOMERIC BEARING ASSEMBLY
(4) REQ'D @ ABUTMENT 1
(2) SAMPLES REQ'D W/O EXTERNAL STEEL



SECTION 'A-A'

ELASTOMERIC BEARING SHOWN SQUARE FOR CLARITY

LOAD DATA	
DEAD LOAD (KIPS)	101.1
LIVE LOAD (KIPS)	103.7
TOTAL LOAD (KIPS)	204.8



ANCHOR ROD DETAIL

GENERAL NOTES:

1. PAD AND MATERIALS SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED 2006 AND THE LATEST REVISIONS, INCLUDING SUPPLEMENTARY SPECIFICATIONS, CONTRACT PLANS, AND THE SPECIAL PROVISIONS. GENERAL SHOP PRACTICES, STRUCTURAL FABRICATION, WELDING AND ASSEMBLY SHALL BE GOVERNED BY ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

2. THIS SHOP DRAWING WAS PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THIS SHOP DRAWING.

3. THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THIS DRAWING.

4. ALL STEEL SHALL BE PRODUCED IN THE UNITED STATES OF AMERICA.

5. ALL CORNERS AND EDGES OF STEEL PLATES SHALL BE GROUND TO A 1/16" RADIUS.

6. THE BEARINGS SHALL BE SUBJECTED TO RANDOM IN-HOUSE ELASTOMER TESTING AND IN-HOUSE PROOF LOAD TESTING IN ACCORDANCE WITH AASHTO LRFD DESIGN SPECIFICATIONS, SECTION 14 (METHOD "A") AND AASHTO LRFD CONSTRUCTION SPECIFICATIONS, SECTION 18.

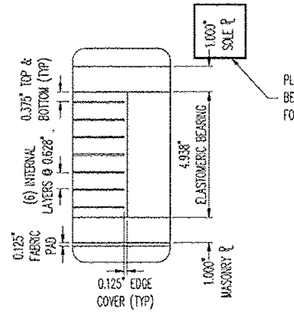
7. ALL SPECIFIED STEEL TO BE GALVANIZED SHALL BE IN ACCORDANCE WITH ASTM A123 SPECIFICATIONS.

8. GALVANIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780, STANDARD PRACTICE FOR REPAIR OF THE DAMAGES HOT DIPPED GALVANIZED COATINGS, ANNEX A2. THE PAINT USED IN THE REPAIR SHALL BE ORGANIC ZINC-RICH CONTAINING 92 PERCENT (MIN) ZINC BY WEIGHT, IN THE DRY FILM. THE PAINT SHALL BE APPLIED PER MANUFACTURER RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.

9. WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE TEMPERATURE TO A MAXIMUM OF 93°C (200°F) FOR SURFACES IN CONTACT WITH THE ELASTOMER. TEMPERATURES SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.

10. TESTING SHALL BE IN ACCORDANCE WITH AASHTO M251.

FLATNESS TOLERANCE	
CLASS	X NOM. DIM.
A	0.001
B	0.002
C	0.005



DETAIL 'A'

MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
1A	4	ELASTOMERIC BEARING ASSEMBLY				-
1a1	4	4.938" X 17.500"	NATURAL RUBBER	15.000"	50+/-5 DURO GR.4	-
1a2	28	16 GA. X 17.250"	A1011 GR 36	14.750"	PLAIN	-
1mp1	4	1.000" X 34.750"	A709 GR 36	21.000"	A123-HDG	-
1sp1	4	1.000" X 34.750"	A709 GR 36	21.000"	A123-HDG	-
1sp2	16	4.313" X 5.000"	A36	5.000"	A123-HDG	-
1B	4	FABRIC PAD				-
1fp1	4	0.125" X 34.750"	VT 731.01	21.000"	HOLES	-
1C	16	ANCHOR ROD				-
1c1	16	ø2.000" X 30.000" SWEDGED ROD	F1554 GR 36		7" THREADS, 17" SWEDGE; A153-HDG	-
1D	32	HEAVY HEX NUT				-
1d1	32	ø2.000" HEX NUT	A563-DH OR A194-2H		A153-HDG, DRY LUBE & DYE	-
1F	16	ELASTOMERIC WASHER				-
1f1	16	0.125" X ø4.000"	NEOPRENE		70+/-5 DURO GR.3; 2.063"ø HOLE CENTERED	-
1G	2	SAMPLE ELASTOMERIC BEARING				-
1a1	2	4.938" X 17.500"	NATURAL RUBBER	15.000"	50+/-5 DURO GR.4	-
1a2	14	16 GA. X 17.250"	A1011 GR 36	14.750"	PLAIN	-
					11/1/2011 2:31:02 PM	

TOLERANCE TABLE	
DESCRIPTION (ELASTOMER)	TOLERANCE
ELASTOMERIC BEARING DESIGN THICKNESS > 1.250"	+ 1/4", -0
ELASTOMERIC BEARING PLAN ≤ 36"	+ 1/4", -0
ELASTOMERIC BEARING PLAN > 36"	+ 1/2", -0
ELASTOMERIC COVER TOP & BOTTOM	+ 1/8", -0
ELASTOMERIC COVER SIDES	+ 1/8", -0
THICKNESS OF INDIVIDUAL LAYERS OF ELASTOMER (LAMINATED BEARINGS	
ONLY) AT ANY POINT WITHIN THE BEARING	± 1/8"
VARIATION FROM A PLANE PARALLEL TO THE THEORETICAL SURFACE	
(AS DETERMINED BY MEASUREMENTS AT THE EDGE OF THE BEARINGS)	
TOP	± 0.005 rad
SIDES	± 1/4"
POSITION OF EXPOSED CONNECTION MEMBERS	± 1/8"
EDGE COVER OF EMBEDDED LAMINATES OF CONNECTION MEMBERS	+ 1/8", -0
SIZE OF HOLES, SLOTS, OR INSERTS	± 1/8"
POSITION OF HOLES, SLOTS, OR INSERTS	± 1/8"
STEEL PLATE PLAN DIMENSIONS	± 1/4"
STEEL PLATE THICKNESS	± 1/16"
HOLE OR SLOTS LOCATION	± 1/16"
SIZE OF HOLES & SLOTS	± 1/16"
STEEL PLATE SURFACE FINISH	x 125 RMS
STEEL PLATE SURFACE FLATNESS	x CLASS A

x FOR SURFACES IN CONTACT WITH THE ELASTOMER, PRIOR TO GALVANIZATION.

Vermont Agency of Transportation
RECEIVED
CK'D BY U. Stanley OK'D BY C. Carlson
NOV. 02 2011
RESUBMIT APPROVED X
BY CWC DATE 11/8/11

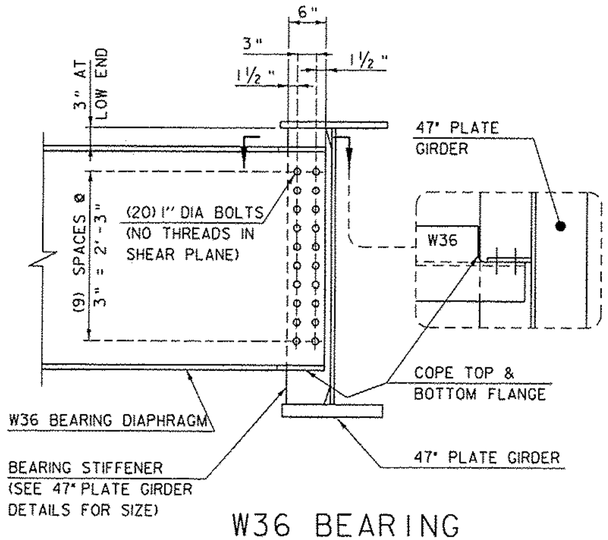
REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
WWW.DSBROWN.COM

	ITEM	QUANTITY
LOCATION — VT RT 12 OVER LOCUST CREEK	34421-1104-1	4 OF 4
PROJ. NAME — BETHEL	34421-1103-1	2 OF 2
PROJECT NO. — BHF 0241(30)	--	--
—	--	--
P.O. NO. — C-3190	--	--
—	--	--
CUSTOMER — WINTERSET, INC	--	--
	--	--

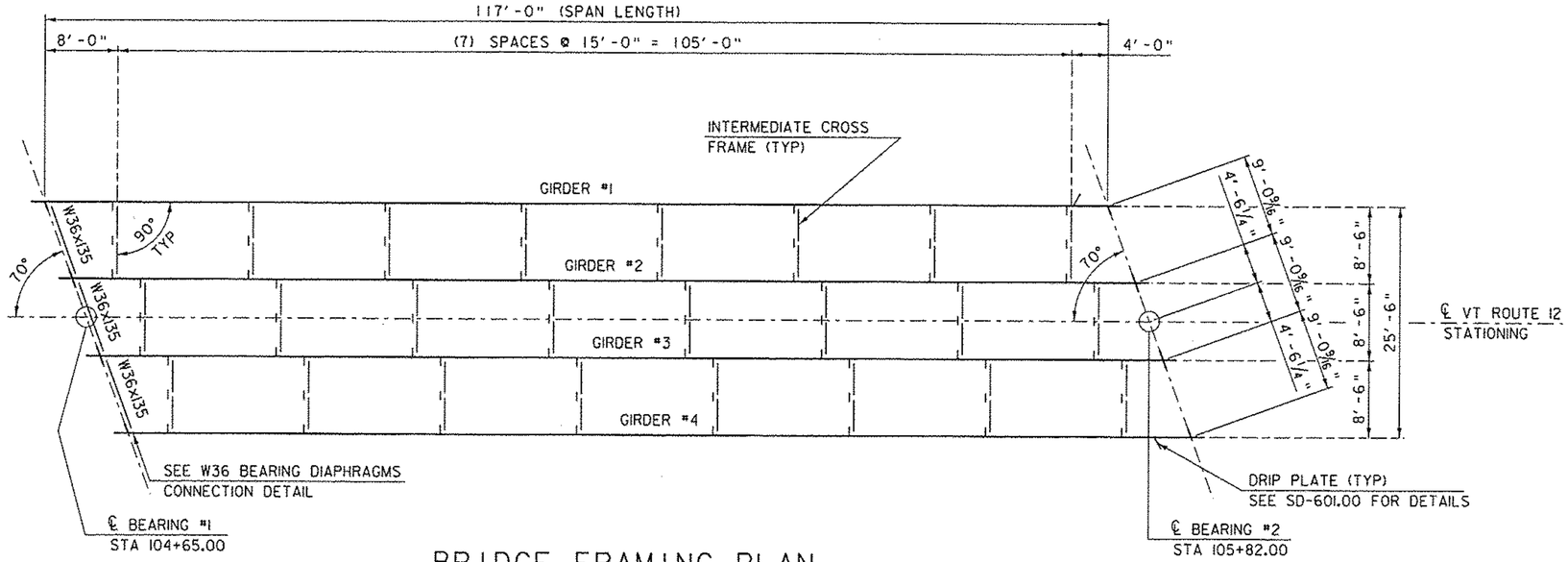
DESCRIPTION: VERSIFLEX ELASTOMERIC BEARING
WINDSOR CO., VT

SCALE: N.T.S.	DRAWN BY: NRA	CHECKED BY: ANK	DATE: 10/28/11	
PROJECT NUMBER: 34421	PRODUCT CODE: 1104	RELEASE: 1	SHEET: 01	



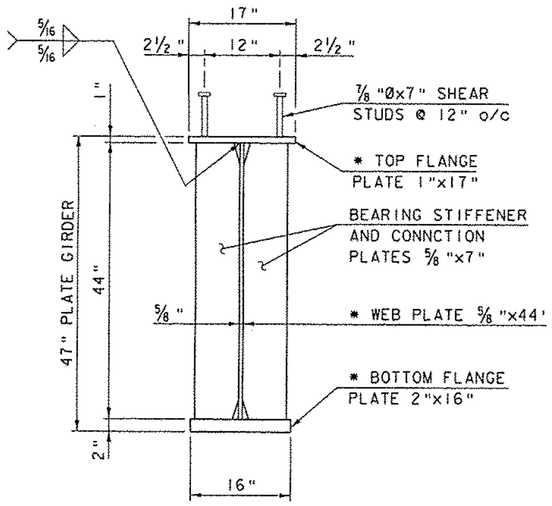
W36 BEARING DIAPHRAGMS CONNECTION DETAIL

SCALE 1" = 1'-0"



BRIDGE FRAMING PLAN

SCALE ⅛" = 1'-0"

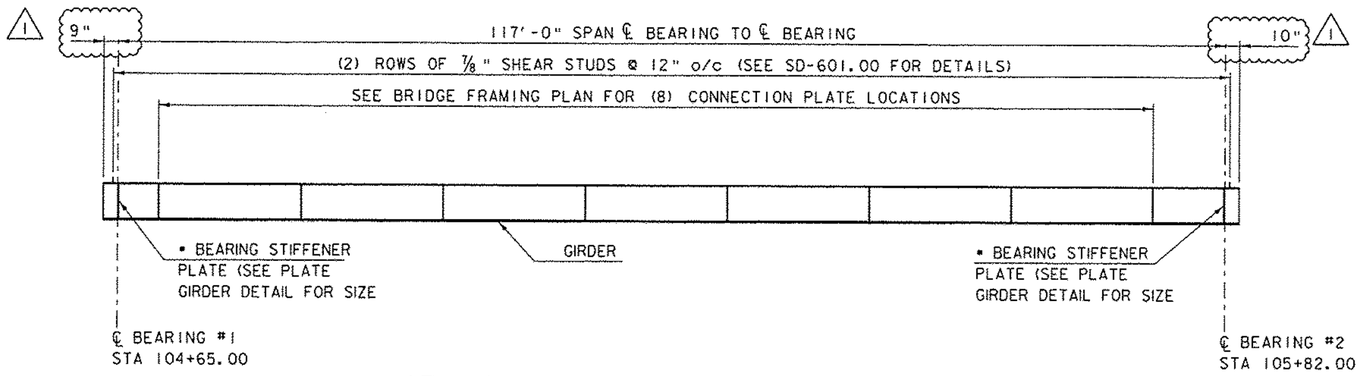


SEE SD-602.00 FOR WELDING DETAILS

47" PLATE GIRDER DETAIL

SCALE 1" = 1'-0"

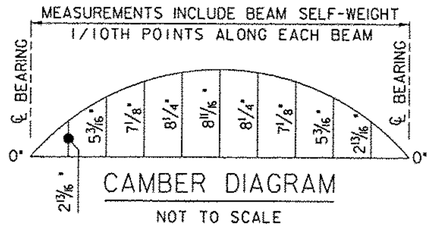
• DENOTES CHARPY V-NOTCH TEST REQUIRED



47" PLATE GIRDER ELEVATION

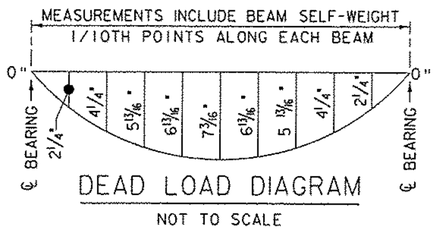
SCALE ⅛" = 1'-0"

• DENOTES CHARPY V-NOTCH TEST REQUIRED



CAMBER DIAGRAM

NOT TO SCALE



DEAD LOAD DIAGRAM

NOT TO SCALE

REVISION	DATE	DESCIPTION	BY
1	09-13-2011	BEARING OVERHANGE ADJUSTMENT	MCL

PROJECT NAME: BETHEL
PROJECT NUMBER: BHF 0241(30)

FILE NAME: s95c002sup.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
DECK FRAMING PLAN & DETAILS

PLOT DATE: $$$$DATE$$$
DRAWN BY: M. LONGSTREET
CHECKED BY: U. STANLEY
SHEET $S#$ OF $T#$