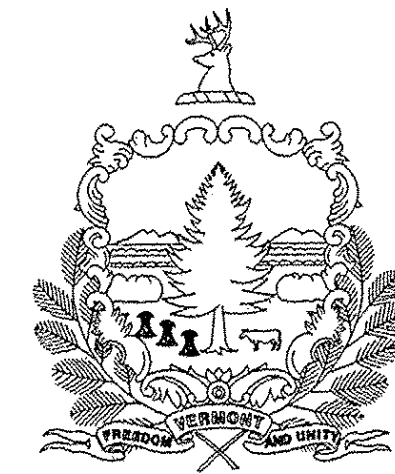


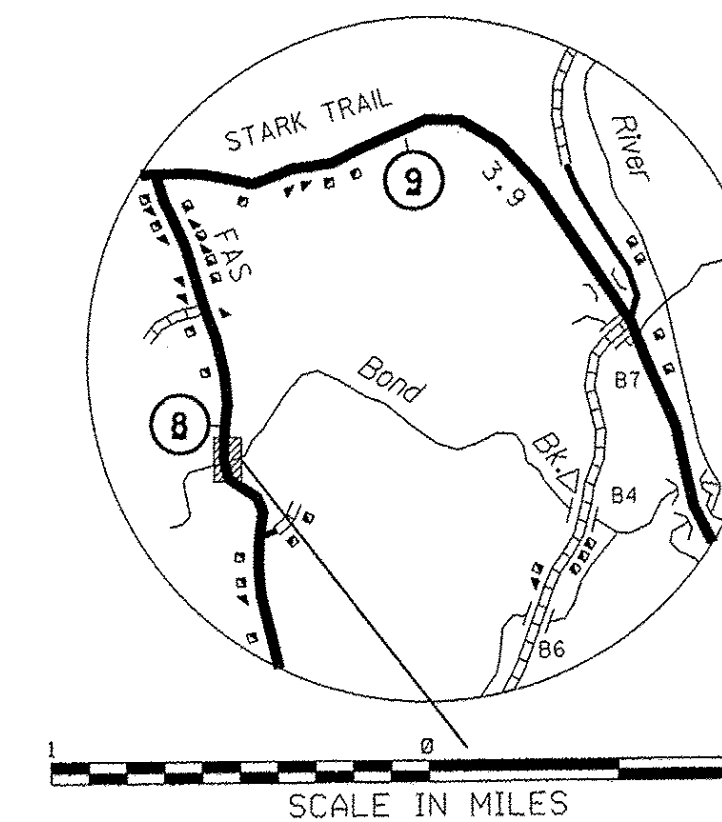
INDEX OF SHEETS  
(SEE SHEET 2)

# STATE OF VERMONT AGENCY OF TRANSPORTATION

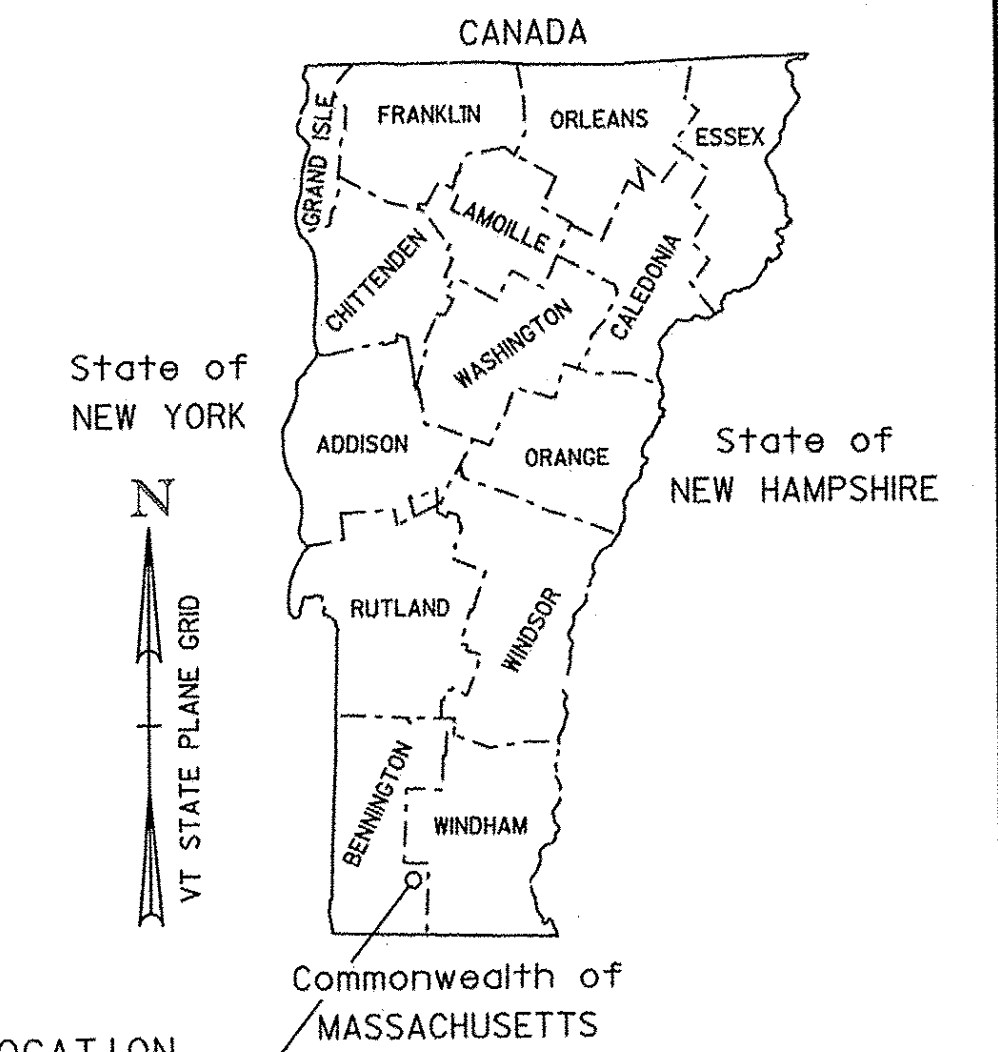


## PROPOSED IMPROVEMENT TOWN OF SEARSBURG COUNTY OF BENNINGTON VT ROUTE 8 (MAJOR COLLECTOR) BRIDGE #4

RECORD PLANS	
CONTRACTOR:	B.U.R. CONSTRUCTION, LLC, CLAREMONT, NH
RESIDENT ENGINEER:	RON LEMAIRE
CONSTRUCTION BEGAN:	JULY 8, 2013
CONSTRUCTION COMPLETE:	JUNE 28, 2014
RECORD PLANS BY:	RON LEMAIRE & CHIP PIERCE
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY:	RESIDENT ENGINEER
DATE:	2/20/15
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.	



SCALE IN MILES  
0 1 MILE

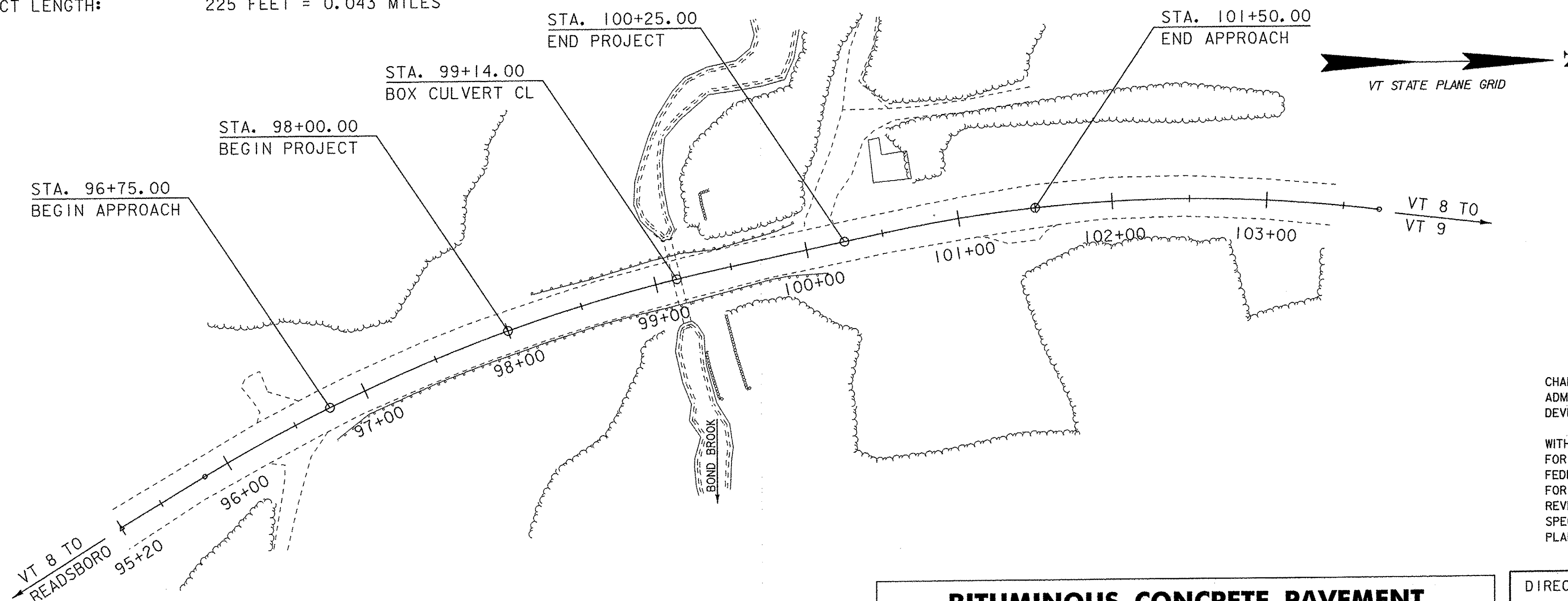


PROJECT LOCATION  
SEARSBURG STP SCR (7)

PROJECT LOCATION: BEGINNING AT A POINT IN THE TOWN OF SEARSBURG, ON VT ROUTE 8, APPROXIMATELY 1.856 MILES FROM THE READSBORO TOWN LINE AND EXTENDING NORTHERLY APPROXIMATELY 0.043 MILES TO MILE MARKER 1.899.

PROJECT INFORMATION: WORK TO BE PERFORMED UNDER THIS PROJECT CONSISTS OF INSTALLATION OF NEW BOX CULVERT, HEAD WALLS, WING WALLS, GUARD RAIL, EARTHWORKS, AND OTHER INCIDENTAL ROADWAY ITEMS.

PROJECT LENGTH: 225 FEET = 0.043 MILES



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 : LGO  
SURVEYED DATE : 4/26/11

DATUM  
VERTICAL NAVD88  
HORIZONTAL NAV83(2007)

0 50 100  
SCALE IN FEET

### BITUMINOUS CONCRETE PAVEMENT SUPER PAVE DESIGN MIXTURE CRITERIA

DESIGN LIFE ESAL'S (DESIGN LANE)	287,280
DESIGN NUMBER OF GYRATIONS	65
PERFORMANCE GRADED ASPHALT BINDER	SEE SUBSECTION 490.03(b)

DIRECTOR OF PROGRAM DEVELOPMENT  
APPROVED: DATE: 2-28-15  
PROJECT MANAGER: KEN UPMAL  
PROJECT NAME: SEARSBURG  
PROJECT NUMBER: STP SCR (7)  
SHEET 1 OF 35 SHEETS

# PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

INDEX OF SHEETS

PLAN SHEETS

1	TITLE SHEET
2	PRELIMINARY INFORMATION SHEET
3	PRECAST CONCRETE BOX NOTES
4 - 5	TYPICAL SECTIONS SHEETS 1-2
6 - 7	QUANTITY SHEETS 1-2
8 - 9	TIE SHEETS 1-2
10	LAYOUT SHEET
11	MAINLINE PROFILE SHEET
12	BANKING DIAGRAM
13 - 14	BOX DETAIL SHEETS 1-2
15	BORING LOG LEGEND
16	BORING LOGS
17	TRAFFIC CONTROL - TYPICAL SECTIONS
18 - 20	TRAFFIC CONTROL PHASE 1-3
21	TRAFFIC CONTROL - SIGN PLAN
22	EPSC NARRATIVE
23 - 25	EPSC PLAN, EXISTING, CONSTRUCTION, FINAL CONDITIONS
26 - 27	EPSC DETAILS SHEETS 1-2
28 - 31	MAINLINE CROSS SECTIONS 1-4
32 - 35	CHANNEL CROSS SECTIONS 1-4

STANDARDS LIST

E-100	CONSTRUCTION APPROACH SIGNS	01-02-2004
E-101	CONSTRUCTION SIGN DETAILS	05-30-2003
E-102	CONSTRUCTION SIGN DETAILS	06-30-2003
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-2003
E-134	BRIDGE NUMBER PLAQUE	08-08-1995
E-164	SQUARE STEEL SIGN POST	06-08-2009
E-193	PAVEMENT MARKING DETAILS	08-18-1995
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	01-03-2000
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	01-03-2000

STRUCTURES DETAILS

SD-501.00	CONCRETE DETAILS AND NOTES	05-07-2010
SD-502.00	CONCRETE DETAILS AND NOTES	05-08-2010

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: Jan. 2012

DRAINAGE AREA : 0.74 sq. mi.  
 CHARACTER OF TERRAIN : Hilly, mostly forested with a few open areas and ponds  
 STREAM CHARACTERISTICS : Sinuous, probably incised and semi-alluvial  
 NATURE OF STREAMBED : Mostly cobbles and boulders with some gravel

PEAK FLOW DATA

Q 2.33 =	60 cfs	Q 50 =	210 cfs
Q 10 =	140 cfs	Q 100 =	240 cfs
Q 25 =	180 cfs	Q 500 =	340 cfs

DATE OF FLOOD OF RECORD : Unknown  
 ESTIMATED DISCHARGE : Unknown  
 WATER SURFACE ELEV. : Unknown  
 NATURAL STREAM VELOCITY : @ Q50 = 8.7 fps  
 ICE CONDITIONS : Moderate  
 DEBRIS : moderate  
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes  
 IS ORDINARY RISE RAPID? Yes  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No  
 IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Concrete box  
 YEAR BUILT: Unknown, widened in 1963  
 CLEAR SPAN(NORMAL TO STREAM): 5'  
 VERTICAL CLEARANCE ABOVE STREAMBED: 5'  
 WATERWAY OF FULL OPENING: 25 sq. ft.  
 DISPOSITION OF STRUCTURE: Remove and replace with a new box  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: \_\_\_\_\_

WATER SURFACE ELEVATIONS AT:

Q2.33 =	2321.7'	VELOCITY =	13.5 fps
Q10 =	2323.8'	"	16.0 fps
Q25 =	2324.8'	"	16.8 fps
Q50 =	2325.6'	"	17.4 fps
Q100 =	2326.5'	"	17.8 fps

LONG TERM STREAMBED CHANGES: The stream may be degrading downstream of the structure. We do not have enough historical information to know long term changes.

IS THE ROADWAY OVERTOPPED BELOW Q100: No  
 FREQUENCY: Above Q100  
 RELIEF ELEVATION: 2335.5'  
 DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: None DISTANCE: \_\_\_\_\_  
 HIGHWAY #: \_\_\_\_\_ STRUCTURE #: \_\_\_\_\_  
 CLEAR SPAN: \_\_\_\_\_ CLEAR HEIGHT: \_\_\_\_\_  
 YEAR BUILT: \_\_\_\_\_ FULL WATERWAY: \_\_\_\_\_  
 STRUCTURE TYPE: \_\_\_\_\_

DOWNSTREAM STRUCTURE

TOWN: Searsburg DISTANCE: 6,700'  
 HIGHWAY #: TH 3 STRUCTURE #: 24  
 CLEAR SPAN: 9.75' CLEAR HEIGHT: 6.58'  
 YEAR BUILT: \_\_\_\_\_ FULL WATERWAY: 52 sq. ft.  
 STRUCTURE TYPE: CGMPPA

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR	4A STR	5A SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:	TABLE TO BE COMPLETED BY CONTRACTOR'S DESIGNER						

PROPOSED STRUCTURE

STRUCTURE TYPE: Pre-cast concrete box with the invert buried 2'  
 CLEAR SPAN(NORMAL TO STREAM): 12'  
 VERTICAL CLEARANCE ABOVE STREAMBED: 5'  
 WATERWAY OF FULL OPENING: 60 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	2321.2'	VELOCITY=	7.6 fps
Q10 =	2322.2'	"	10.4 fps
Q25 =	2322.6'	"	11.5 fps
Q50 =	2322.9'	"	12.1 fps
Q100 =	2323.2'	"	12.8 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No  
 FREQUENCY: Above Q100  
 RELIEF ELEVATION: 2335.7'  
 DISCHARGE OVER ROAD @Q100: none

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: Inside top of box at inlet = 2324.9'  
 VERTICAL CLEARANCE: @ Q50 = 2.0'

SCOUR: Not applicable for a box.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW: 2 cfs DEPTH OR ELEVATION:  
 ORDINARY LOW WATER: 1 cfs Depth = 0.5'  
 ORDINARY HIGH WATER: 26 cfs Depth = 1.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporary bridge required.  
 CLEAR SPAN (NORMAL TO STREAM): Traffic maintained with phased construction.  
 VERTICAL CLEARANCE ABOVE STREAMBED: \_\_\_\_\_  
 WATERWAY AREA OF FULL OPENING: \_\_\_\_\_

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. SEE PLANS AND SPECIAL PROVISIONS

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	d <sub>p</sub> : 3.0 INCH
3. CULVERT OPENING	L: 12.0 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX)	f <sub>y</sub> : ---
6. PRESTRESSED CONCRETE STRENGTH	f' <sub>c</sub> : ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f' <sub>cr</sub> : ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f' <sub>c</sub> : 4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f' <sub>c</sub> : 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f' <sub>c</sub> : 3.5 KSI
11. CONCRETE, CLASS C	f' <sub>c</sub> : 3.0 KSI
12. REINFORCING STEEL	f <sub>y</sub> : 60 KSI
13. STRUCTURAL STEEL AASHTO M270	f <sub>y</sub> : ---
14. SOIL UNIT WEIGHT	γ: 0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q <sub>n</sub> : 4.0 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
17. NOMINAL BEARING RESISTANCE OF ROCK	q <sub>n</sub> : 10.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
19. NOMINAL AXIAL PILE RESISTANCE	q <sub>p</sub> : ---
20. PILE YIELD STRENGTH ASTM A572	f <sub>y</sub> : ---
21. PILE SIZE	L <sub>p</sub> : ---
22. EST. PILE LENGTH	L <sub>p</sub> : ---
23. PILE RESISTANCE FACTOR	φ: ---
24. LATERAL PILE DEFLECTION	Δ: ---
25. BASIC WIND SPEED	V <sub>3s</sub> : ---
26. MINIMUM GROUND SNOW LOAD	p <sub>g</sub> : ---
27. SEISMIC DATA	P <sub>GA</sub> : --- S <sub>s</sub> : --- S <sub>1</sub> : ---

PROJECT NAME: SEARSBURG

PROJECT NUMBER: STP SCR(7)

FILE NAME: d10c198\_Pi Sheet Builder\_v00 PLOT DATE: 2/27/2013  
 PROJECT LEADER: K. UPMAL DRAWN BY: B. MCADAMS  
 DESIGNED BY: B. MCADAMS CHECKED BY: A. KEMPTON  
 PRELIMINARY INFORMATION SHEET SHEET 2 OF 35

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2032 to 2052 : 230000
2032	580	65	56	5.9	35	40 year ESAL for flexible pavement from 2032 to 2072 : 513000
2052	610	70	56	8.1	50	Design Speed : 50 mph

## PRECAST CONCRETE BOX NOTES

### DESIGN CRITERIA:

1. A. SOIL UNIT WEIGHT = 140 PCF  
B. DESIGN LIVE LOAD = HL-93  
C. REINFORCING STEEL GRADE = 60 KSI  
D. CONCRETE, HIGH PERFORMANCE CLASS A  $f_c$ : 4000  
CONCRETE, HIGH PERFORMANCE CLASS B  $f_c$ : 3500  
E. MAX. WINGWALL FOOTING PRESSURE = 4 KSF  
F. FACTOR OF SAFETY FOR SLIDING  $\geq$  2.0  
G. FACTOR OF SAFETY FOR OVERTURNING  $\geq$  1.5  
H. DESIGN FILL OVER BOX = 11.7 FT
2. ALL CONCRETE SHALL BE PRECAST. PRECAST BOX STRUCTURE SHALL MEET THE REQUIREMENTS OF 2011 STANDARD SPECIFICATION FOR CONSTRUCTION SECTION 540 - PRECAST CONCRETE. ITEM 540.10 PRECAST CONCRETE STRUCTURE INCLUDES ALL BOX SEGMENTS, HEADWALLS, WINGWALLS, AND MEMBRANE WATERPROOFING, AND WATER REPELLENT. ALL CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR AND SHALL BE CONSIDERED INCIDENTAL TO ITEM 540.10. WORKING DRAWINGS SHALL BE SUBMITTED IN ACCORDANCE WITH SUBSECTION 105.03
3. THE PRECAST BOX SECTIONS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND SHAPE WILL BE DEPENDENT ON THE FABRICATOR. ALL UNITS EXCEPT THE FIRST AND LAST WILL BE THE SAME SHAPE AND THE SAME LENGTH. THE INSIDE DIMENSIONS SHALL BE 7'-0" RISE AND 12'-0" SPAN. THE OVERALL LENGTH OF THE BOX SHALL BE 80'-0" ALONG THE DEPICTED VERTICAL ALIGNMENT.
4. THE EXTERIOR (TOP AND SIDES) OF ALL CONCRETE BOX JOINTS ALONG WITH ALL LIFTING HOLES SHALL BE FILLED WITH MORTAR TYPE IV AFTER BEING SET IN THEIR FINAL POSITION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 540.10.
5. A TWO (2) FOOT WIDE STRIP OF SHEET MEMBRANE WATERPROOFING SHALL BE APPLIED TO THE SIDES AT EACH BOX JOINT, AND TO THE ENTIRE TOP OF THE BOX CULVERT. MEMBRANE SHALL BE CENTERED ON THE JOINT AND COVER THE FULL WIDTH OF THE TOP AND FULL HEIGHT OF THE SIDES. THE SIDES SHALL BE COVERED FIRST AND THE TOP WILL FOLLOW. ANY OVERLAPPING OF MEMBRANE SHALL BE DONE IN A SHINGLE TYPE STYLE TO SHED WATER AND SHALL OVERLAP A MINIMUM OF ONE FOOT. PAYMENT FOR THE SHEET MEMBRANE SHALL BE CONSIDERED INCIDENTAL TO ITEM 540.10 PRECAST CONCRETE STRUCTURE.
6. THE STRUCTURE WILL BE INSTALLED AT A GRADE OF 5.2490%.
7. WATER REPELLENT, SILANE SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 514 AND SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE WINGWALLS AND HEADWALLS. WATER REPELLENT, SILANE SHALL BE APPLIED TO THE EXPOSED INSIDE SURFACE OF THE BOX STARTING AT THE OPENING AT EACH END AND EXTENDING 3 FEET INTO THE BOX, INCLUDING THE BOTTOM SURFACE OF THE TOP OF THE BOX.
8. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:  
SPACING +/- 1"  
CLEARANCE +/- 1/4"
9. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".
10. THE PROPOSED BOX CULVERT SHALL BE INSTALLED IN DRY CONDITIONS, ANY USE OF A DIVERSION PIPE OR BYPASS PUMPING TO ACHIEVE THESE CONDITIONS SHALL BE PAID UNDER ITEM 900.645 SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM).

PROJECT NAME: SEARSBURG  
PROJECT NUMBER: STP SCR(7)

FILE NAME: dl0c198\_forms.dgn PLOT DATE: 27-FEB-2013  
PROJECT LEADER: K. UPMAL DRAWN BY: B. MCADAMS  
DESIGNED BY: B. MCADAMS CHECKED BY: A. KEMPTON  
PRECAST CONCRETE BOX NOTES SHEET 3 OF 35



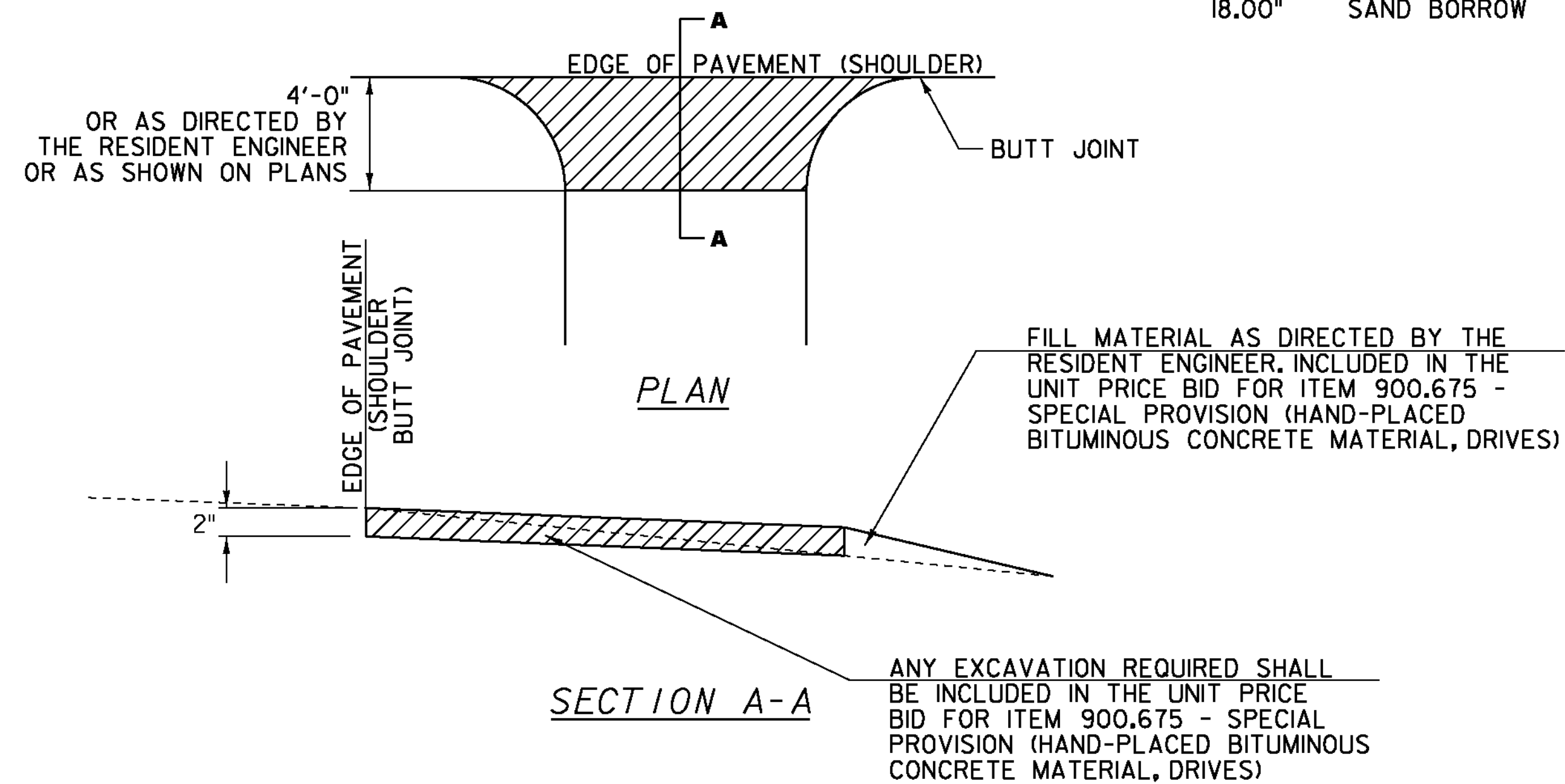
## TYPICAL SECTIONS

(THIS SHEET NOT TO SCALE)

1.50"	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE IVS)
2.50"	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE IIS)
2.50"	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE IIS)
24.00"	SUBBASE OF DENSE GRADED CRUSHED STONE
18.00"	SAND BORROW

### THICKNESS TOLERANCES

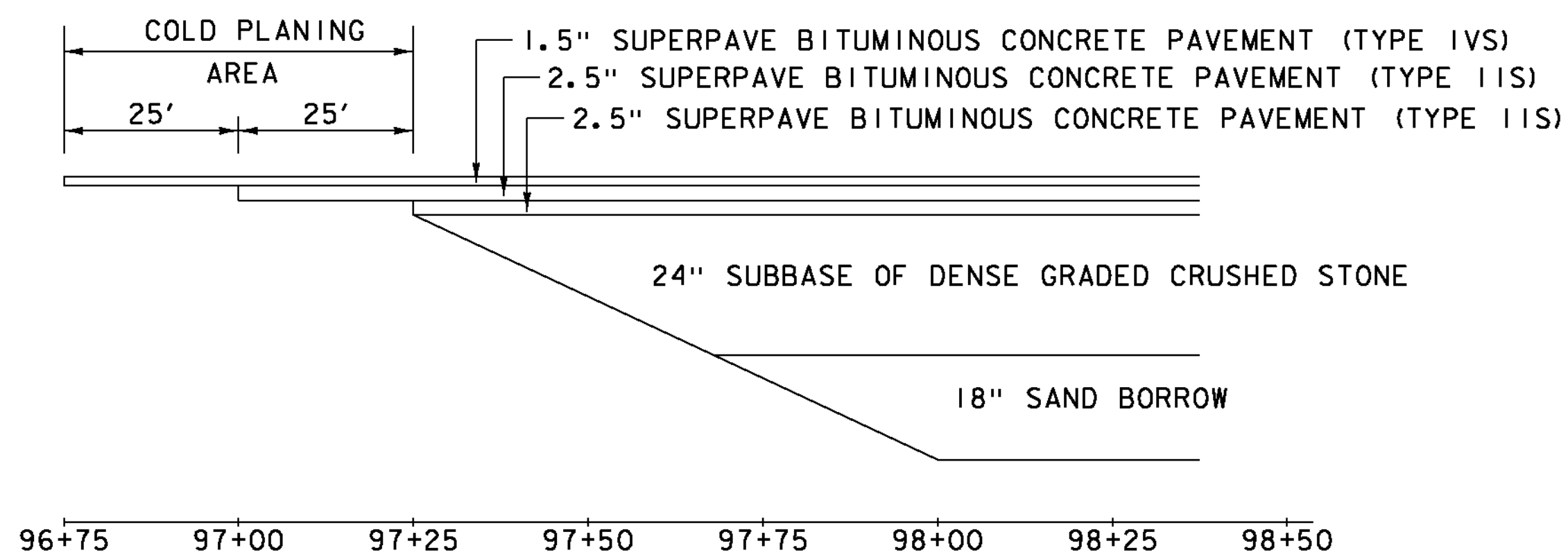
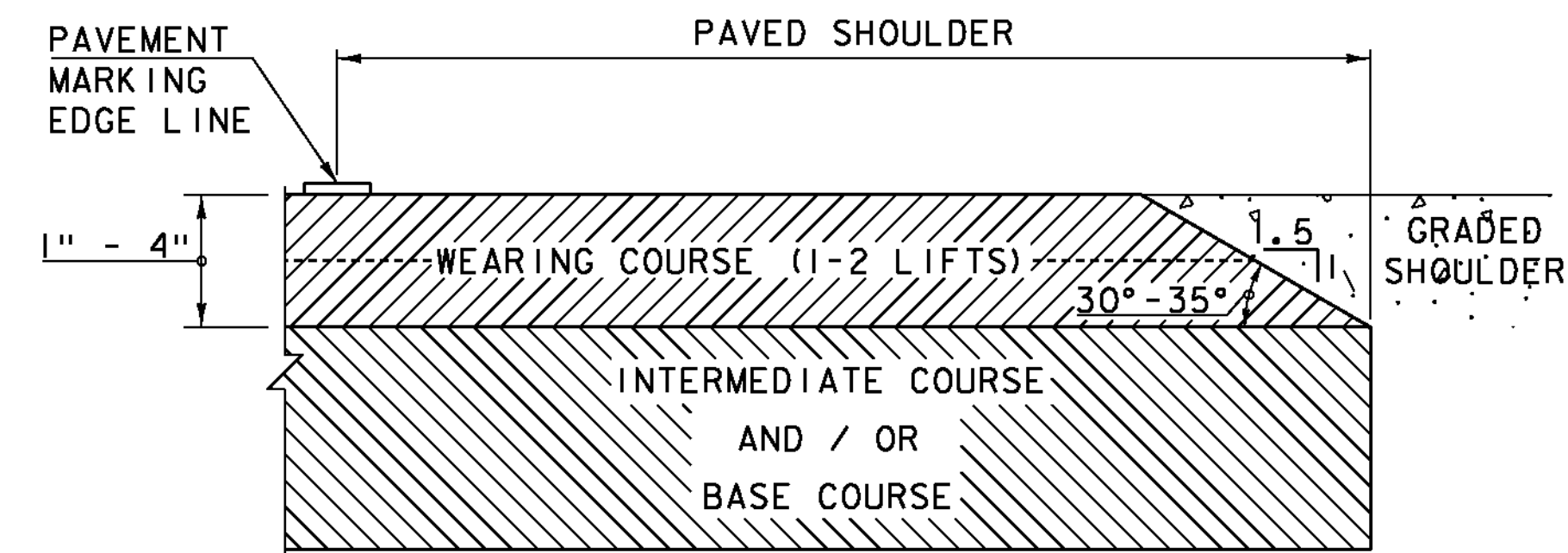
PAVEMENT	1/4" +/-	TOTAL DEPTH
SUBBASE	1" +/-	TOTAL DEPTH
SAND	1" +/-	TOTAL DEPTH



AREAS FOR ITEM 900.675 - SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)

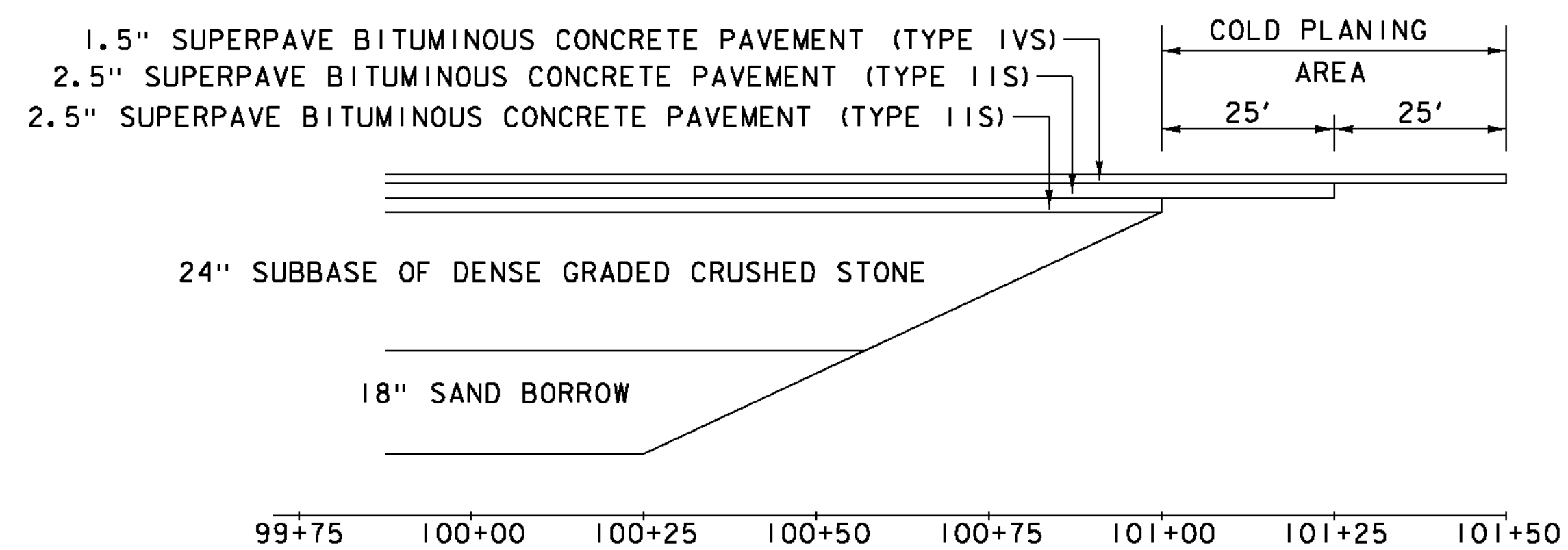
## HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES DETAIL

NOT TO SCALE



## MATERIAL TRANSITION DETAIL BEGIN APPROACH

NOT TO SCALE



## MATERIAL TRANSITION DETAIL END APPROACH

NOT TO SCALE

PROJECT NAME:	SEARSBURG
PROJECT NUMBER:	STP SCR(7)
FILE NAME:	d:\0c198.typ.dgn
PROJECT LEADER:	K. UPMAL
DESIGNED BY:	B. MCADAMS
TYPICAL SECTIONS SHEET 2	
PLOT DATE:	27-FEB-2013
DRAWN BY:	B. MCADAMS
CHECKED BY:	A. KEMPTON
SHEET 5	OF 35

# QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE	FULL CE ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			EARTHWORK SUMMARY
							1510				1510		CY	COMMON EXCAVATION	203.15	5	1505	CY	COMMON EXCAVATION
									60		60		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	6	54	CY	UNCLASSIFIED CHANNEL EXCAVATION
							610				610		CY	EARTH BORROW	203.30	7	1006	CY	STRUCTURE EXCAVATION
							640				640		CY	SAND BORROW	203.31	9	2565	CY	SUBTOTAL
							1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-	15	CY	ROUND
									1010		1010		CY	STRUCTURE EXCAVATION	204.25	4	2580	CY	TOTAL FILL AVAILABLE
									590		590		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	3	0.75	-	REDUCTION FACTOR
							310				310		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	9	1935	CY	TOTAL FACTORED FILL AVAILABLE
							910				910		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	11	603	CY	TOTAL FILL REQUIRED
							50				50		CY	AGGREGATE SHOULDERS, IN PLACE	402.10	5	1332	CY	TOTAL WASTE
							4				4		CWT	EMULSIFIED ASPHALT	404.65	0.4			
							1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-			
									1		1		EACH	REMOVAL OF STRUCTURE (5'-0" X 5'-0" X 55'-0" BOX CULVERT)	529.15	-			
									1		1		LS	PRECAST CONCRETE STRUCTURE (12'-0" x 7'-0" x 80'-0" BOX CULVERT)	540.10	-			
														BEGIN OPTION AA					
							60				60		LF	15" CSP .079 (2-2/3 X 1/2)	601.0011	-			
							60				60		LF	15" RCP CLASS III	601.0810	-			
														END OPTION AA					
									5		5		CY	STONE FILL, TYPE I	613.10	4			
									85		85		CY	STONE FILL, TYPE III	613.12	5			
							463				463		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	-			
							4				4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			
							520				520		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	EST			
							40				40		HR	FLAGGERS	630.15	EST			
										1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
										3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	-			
							1				1		LS	MOBILIZATION/DEMobilIZATION	635.11	-			
							960				960		LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402	EST			
							960				960		LF	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	646.412	EST			
									85		85		SY	GEOTEXTILE UNDER STONE FILL	649.31	5			
							60				60		SY	GEOTEXTILE FOR SILT FENCE	649.51	EST			
							20				20		LB	SEED	651.15	EST			
							75				75		LB	FERTILIZER	651.18	EST			
							0.3				0.3		TON	AGRICULTURAL LIMESTONE	651.20	EST			
							0.5				0.5		TON	HAY MULCH	651.25	EST			
							50				50		CY	TOPSOIL	651.35	EST			
							1				1		LS	EPSC PLAN	652.10	-			
							20				20		HR	MONITORING EPSC PLAN	652.20	-			

PROJECT NAME: SEARSBURG  
PROJECT NUMBER: STP SCRP(7)

FILE NAME: d10ci98\_for.ms.dgn  
PROJECT LEADER: K. UPMAL  
DESIGNED BY: B. MCADAMS  
QUANTITY SHEET 1

PLOT DATE: 19-MAR-2013  
DRAWN BY: B. MCADAMS  
CHECKED BY: A. KEMPTON  
SHEET 6 OF 35

# QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES				
							ROADWAY	EROSION CONTROL	BRIDGE	FULL CE ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
								1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
								1100			1100		SY	TEMPORARY EROSION MATTING	653.20	56			
								36			36		CY	VEHICLE TRACKING PAD	653.35	-			
								1050			1050		LF	PROJECT DEMARCATION FENCE	653.55	EST			
								20			20		LF	EROSION LOG	653.60	-			
							0.33				0.33		SF	TRAFFIC SIGNS, TYPE A	675.20	-			
							6				6		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	-			
							1				1		EACH	REMOVING SIGNS	675.50	-			
							1				1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	-			
									75		75		CY	SPECIAL PROVISION (STONE FILL, CULVERT LINING)	900.608	4			
									1		1		LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)	900.645	-			
							1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645	-			
							1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I.)	900.650	-			
							1				1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I.)	900.650	-			
							11				11		SY	SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)	900.675	1			
							520				520		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680	3			

GPS CONTROL POINTS

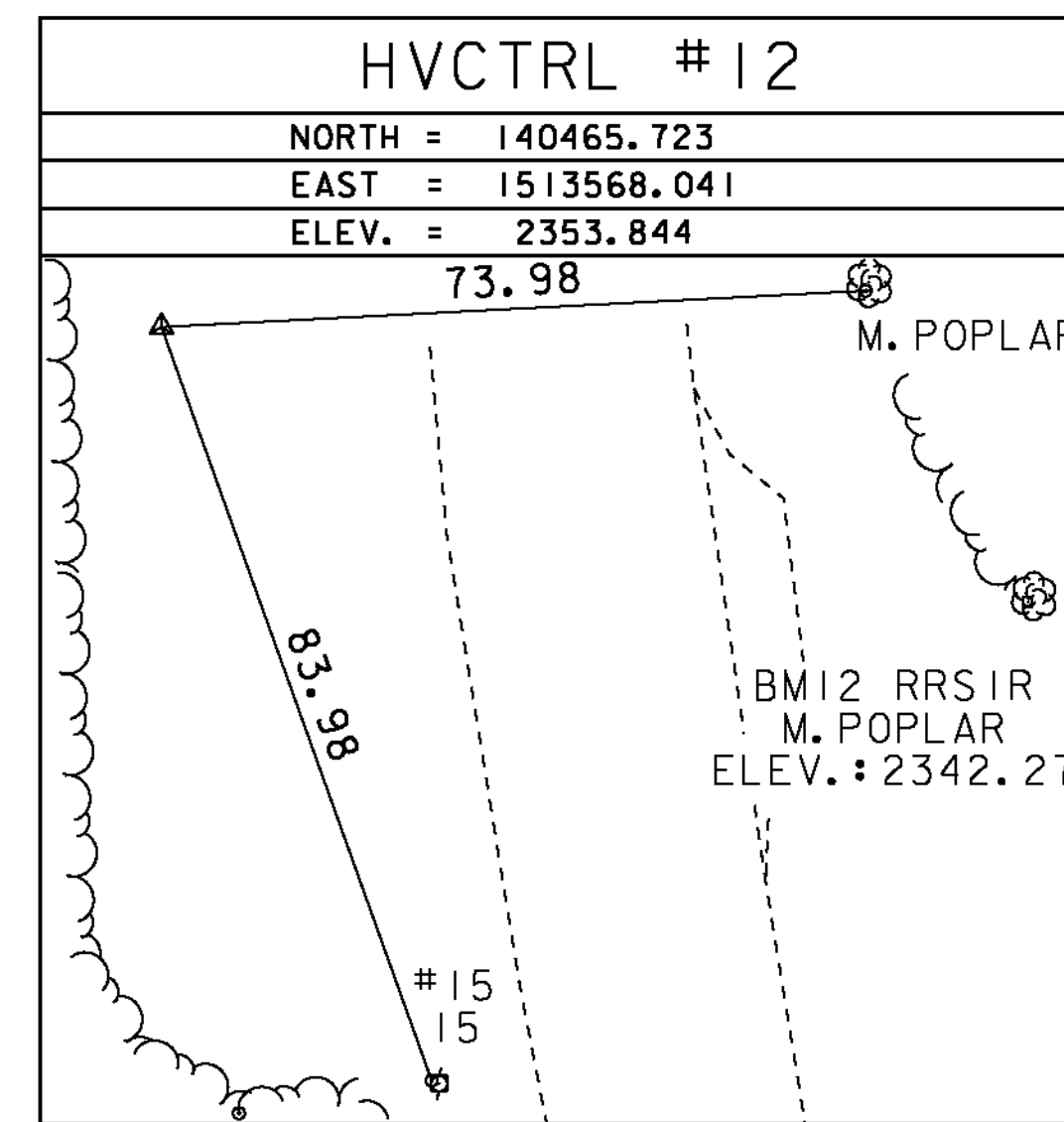
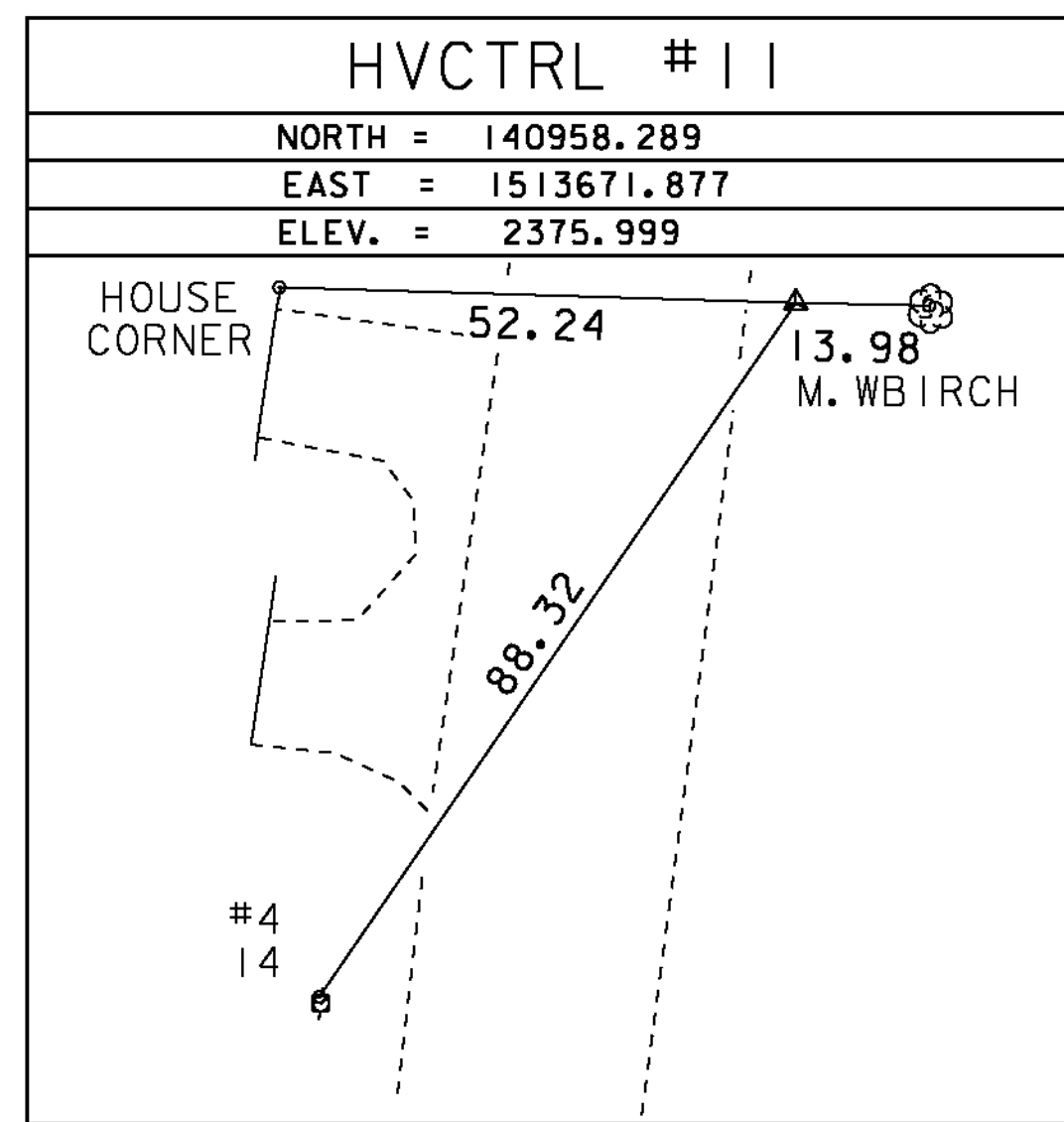
HVCTRL #1  
 B95038  
 NORTH = 144719.608  
 EAST = 1515736.325  
 ELEV. = 2126.030

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1995 (CHR)  
 GENERAL LOCATION, SEARSBURG, VT., ABOUT 5 MI (8.0 KM) WEST OF WILMINGTON, VT., ABOUT 12 MI (19.3 KM) EAST OF BENNINGTON, AND ABOUT 11 MI (17.7 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE. TO REACH FROM THE INTERSECTION OF VT ROUTES 9 AND 8 IN SEARSBURG GO EAST ALONG VT ROUTE 9 FOR 0.6 MI (1.0 KM) TO A TRUCK ESCAPE RAMP AND THE MARK ON THE RIGHT. THE MARK IS SET 3 CM BELOW GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT POURED 1.6 M (5.2 FT) DEEP. IT IS 17.9 M (58.7 FT) SOUTH OF AND ABOUT 2 M (6.6 FT) HIGHER THAN THE CENTERLINE OF VT ROUTE 9, 1.0 M (3.3 FT) NORTH OF THE NORTH EDGE OF THE CRUSHED STONE TRUCK ESCAPE RAMP, 10.3 M (33.8 FT) SOUTHWEST OF POLE NO. 354/607/13 1/2, 18.8 M (61.7 FT) EAST OF A RUNAWAY TRUCK SIGN WITH FLASHING LIGHTS, AND 0.5 M (1.6 FT) NORTH OF A FIBERGLASS WITNESS POST. NOTE, THIS MARK IS INTERVISIBLE WITH MARK B95037.

HVCTRL #2  
 B95037  
 NORTH = 144132.556  
 EAST = 1513922.465  
 ELEV. = 2220.920

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1995 (CHR)  
 GENERAL LOCATION, SEARSBURG, VT., ABOUT 5.5 MI (8.9 KM) WEST OF WILMINGTON, VT., ABOUT 11.5 MI (18.5 KM) EAST OF BENNINGTON, AND ABOUT 11 MI (17.7 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE. TO REACH FROM THE INTERSECTION OF VT ROUTES 9 AND 8 IN SEARSBURG GO EAST ALONG VT ROUTE 9 FOR 0.25 MI (0.40 KM) TO A PULLOUT (OLD ROAD GRADE) ON THE RIGHT AND THE MARK ON THE RIGHT IN A GRASS ISLAND BETWEEN THE OLD ROAD GRADE AND VT ROUTE 9. THE MARK IS SET FLUSH WITH THE GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT POURED 1.5 M (4.9 FT) DEEP. IT IS 13.5 M (44.3 FT) SOUTH OF AND ABOUT 0.5 M (1.6 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 9, 1.5 M (4.9 FT) NORTH OF THE NORTH EDGE OF PAVEMENT OF THE OLD ROAD GRADE, 11.2 M (36.7 FT) NORTH OF POLE NO. 616/20, 37.8 M (124.0 FT) WEST OF THE WEST END OF A CONCRETE DROP INLET AT THE EAST END OF THE PULLOUT, AND 0.4 M (1.3 FT) SOUTH OF A FIBERGLASS WITNESS POST. NOTE, THIS MARK IS INTERVISIBLE WITH MARK B95038.  
 THE MARK IS SET 5 CM (2 INCHES) BELOW GROUND SURFACE IN THE TOP OF A 30 CM (12 INCHES) DIAMETER CONCRETE MONUMENT. IT IS 7.4 M (24.3 FT) NORTHWEST OF AND ABOUT 0.6 M (2.0 FT) LOWER THAN THE VT ROUTE 9 NORTHWEST EDGE OF PAVEMENT, 11.0 M (36.1 FT) SOUTHEAST OF POLE NO 616/20, 27.3 SOUTH-SOUTHWEST OF THE MOST SOUTHWESTERLY OF TWO VERTICALLY INSTALLED STEEL I-BEAMS MARKING THE SOUTHEAST END OF A WOODEN BRIDGE SPANNING A SMALL BROOK, AND 9.5 M (31.2 FT) NORTH-NORTHEAST OF A MOOSE CROSSING SIGN.

TRAVERSE TIES



NORTH =

EAST =

ELEV. =

NORTH =

EAST =

ELEV. =

NORTH =

EAST =

ELEV. =

\* MAIN TRAVERSE COMPLETED 4/12/11 BY L. ORVIS P.C. & G. HITCHCOCK

ALIGNMENT TIES

NORTH =

EAST =

ELEV. =

NORTH =

EAST =

ELEV. =

NORTH =

EAST =

ELEV. =

NORTH =

EAST =

ELEV. =

NORTH =

EAST =

ELEV. =

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (07)
ADJUSTMENT	COMPASS

PROJECT NAME:	SEARSBURG
PROJECT NUMBER:	STP SCR P (7)
FILE NAME:	d:\0c198_forms.dgn
PROJECT LEADER:	K. UPMALL
DESIGNED BY:	B. MCADAMS
TIE SHEET 1	
PLOT DATE:	27-FEB-2013
DRAWN BY:	R. BULLOCK
CHECKED BY:	B. MCADAMS
SHEET 8	OF 35

ALIGNMENT TIES

POB 95+20.00
NORTH = 139853.7129
EAST = 1513812.7292
ELEV. =

PC 95+82.97
NORTH = 139907.7339
EAST = 1513780.3762
ELEV. =

PI 97+64.57
NORTH = 140063.5313
EAST = 1513687.0699
ELEV. =

PT 99+42.78
NORTH = 140241.3332
EAST = 1513650.1188
ELEV. =

PC 100+52.02
NORTH = 140348.2881
EAST = 1513627.8913
ELEV. =

ALIGNMENT TIES

PI 102+14.11
NORTH = 140506.9915
EAST = 1513594.9093
ELEV. =

PT 103+73.17
NORTH = 140667.7256
EAST = 1513615.8638
ELEV. =

POE 105+00.00
NORTH = 140793.4867
EAST = 1513632.2589
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

ALIGNMENT TIES

POB 9+50.00
NORTH = 140186.1860
EAST = 1513544.5781
ELEV. =

POE 12+25.00
NORTH = 140250.8845
EAST = 1513811.8591
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

DATUM
VERTICAL    NAVD 88
HORIZONTAL    NAD 83 (07)
ADJUSTMENT    COMPASS

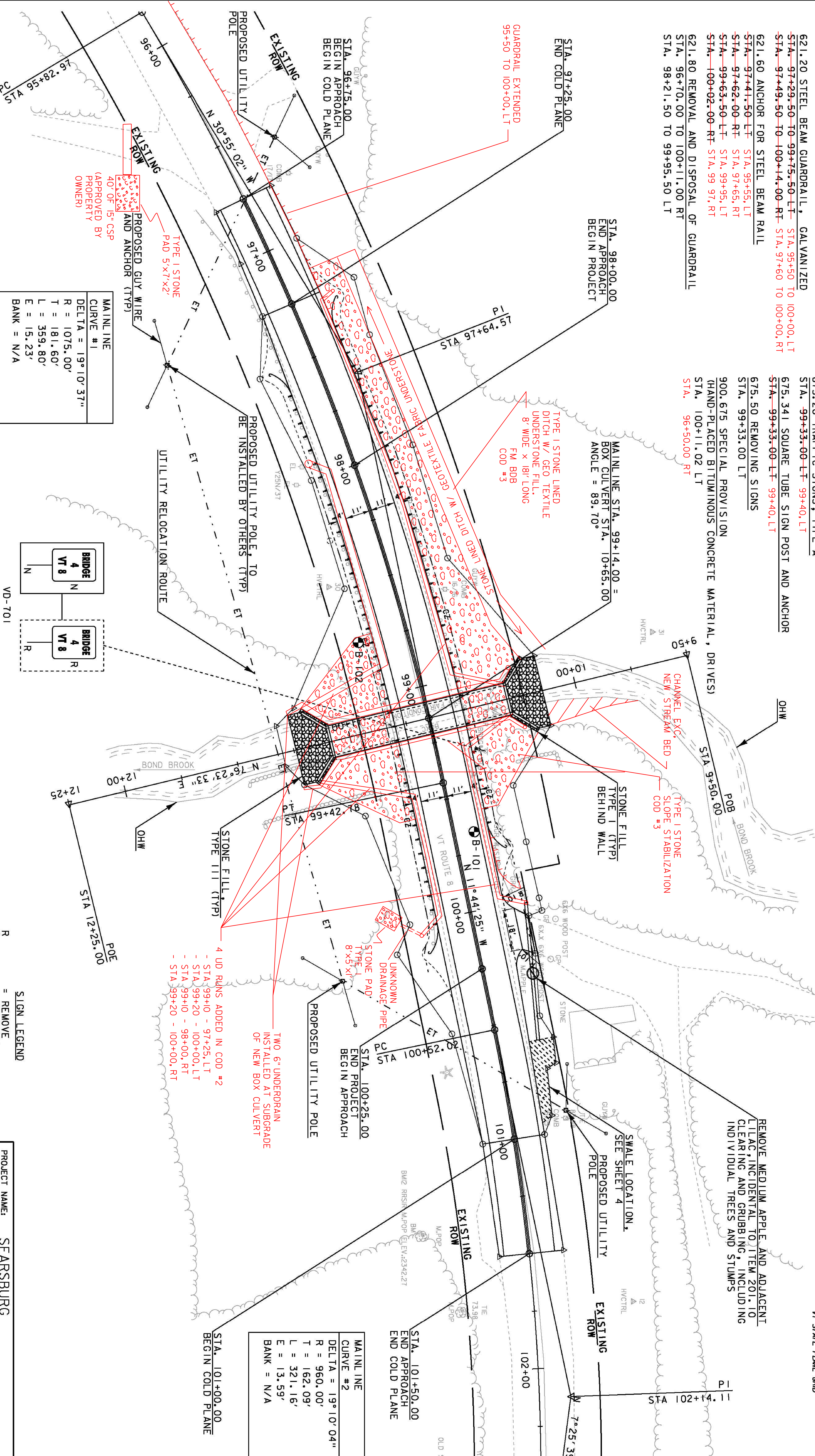
PROJECT NAME: SEARSBURG
PROJECT NUMBER: STP SCR(7)
FILE NAME: d:\0c198_forms.dgn
PROJECT LEADER: K. UPMAL
DESIGNED BY: B. MCADAMS
TIE SHEET 2
PLOT DATE: 27-FEB-2013
DRAWN BY: B. MCADAMS
CHECKED BY:
SHEET 9 OF 35

210.10 COLD PLANING, BITUMINOUS PAVEMENT  
~~STA. 96+75.00 TO 97+25.00~~ STA. 94+50 TO 95+25  
~~STA. 101+00.00 TO 101+50.00~~ STA. 101+00 TO 101+75  
 540.10 PRECAST CONCRETE STRUCTURE (BOX CULVERT)  
 BOX CULVERT STA. 10+29.52 TO 11+08.94 C/L  
 621.20 STEEL BEAM GUARDRAIL, GALVANIZED  
~~STA. 97+29.50 TO 99+75.50~~ LT STA. 95+50 TO 100+00, LT  
~~STA. 97+49.50 TO 100+14.00~~ RT STA. 97+60 TO 100+00, RT  
 621.60 ANCHOR FOR STEEL BEAM RAIL  
~~STA. 97+41.50~~ LT STA. 95+55, LT  
~~STA. 97+62.00~~ RT STA. 97+65, RT  
~~STA. 99+63.50~~ LT STA. 99+95, LT  
~~STA. 100+02.00~~ RT STA. 99.97, RT  
 621.80 REMOVAL AND DISPOSAL OF GUARDRAIL  
 STA. 96+70.00 TO 100+11.00 RT  
 STA. 98+21.50 TO 99+95.50 LT

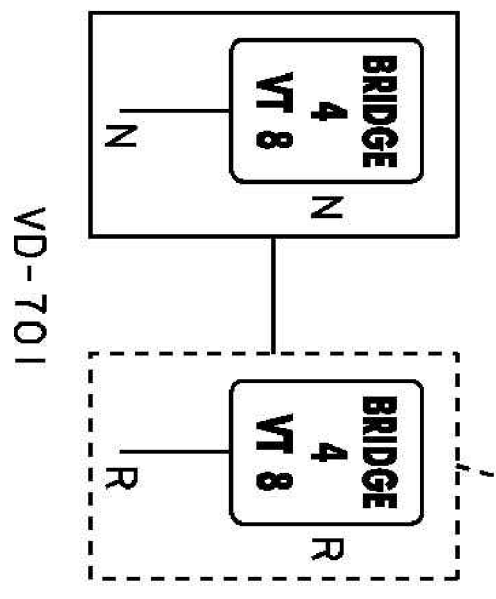
646.402 DURABLE 4" WHITE LINE, THERMOPLASTIC  
~~STA. 96+75.00 TO 101+50.00~~ LT & RT STA. 94+50 TO 102+00, LT & RT  
 646.412 DURABLE 4" YELLOW LINE (DOUBLE), THERMOPLASTIC  
~~STA. 96+75.00 TO 101+50.00~~ STA. 93+50 TO 102+25  
 675.20 TRAFFIC SIGNS, TYPE A  
 STA. 99+33.00 LT 99+40, LT  
 675.341 SQUARE TUBE SIGN POST AND ANCHOR  
~~STA. 99+33.00~~ LT 99+40, LT  
 675.50 REMOVING SIGNS  
 STA. 99+33.00 LT  
 900.675 SPECIAL PROVISION  
 (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)  
 STA. 100+11.02 LT  
 STA. 96+50.00 RT

OPTION AA PIPE 15" X 60"  
 601.001 CSP 0.079 (2 3/4 X 1/2)  
 601.0810 RCP CLASS III  
 STA. 100+01.00 TO 100+60.00 LT  
 STA. 96+25 TO 96+50, RT

REMOVE MEDIUM APPLE AND ADJACENT  
 LILAC, INCIDENTAL TO ITEM 201.10  
 CLEARING AND GRUBBING, INCLUDING  
 INDIVIDUAL TREES AND STUMPS



MAINLINE CURVE #1	
DELTA = 19° 10' 37"	
R = 1075.00'	
T = 181.60'	
L = 359.80'	
E = 15.23'	
BANK = N/A	



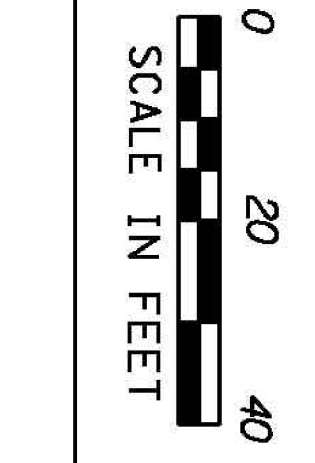
SIGN LEGEND  
 = REMOVE  
 = SALVAGE  
 = NEW  
 = RETAIN  
 = THINNING & TRIMMING  
 = BACK TO BACK  
 --- EXISTING  
 --- NEW

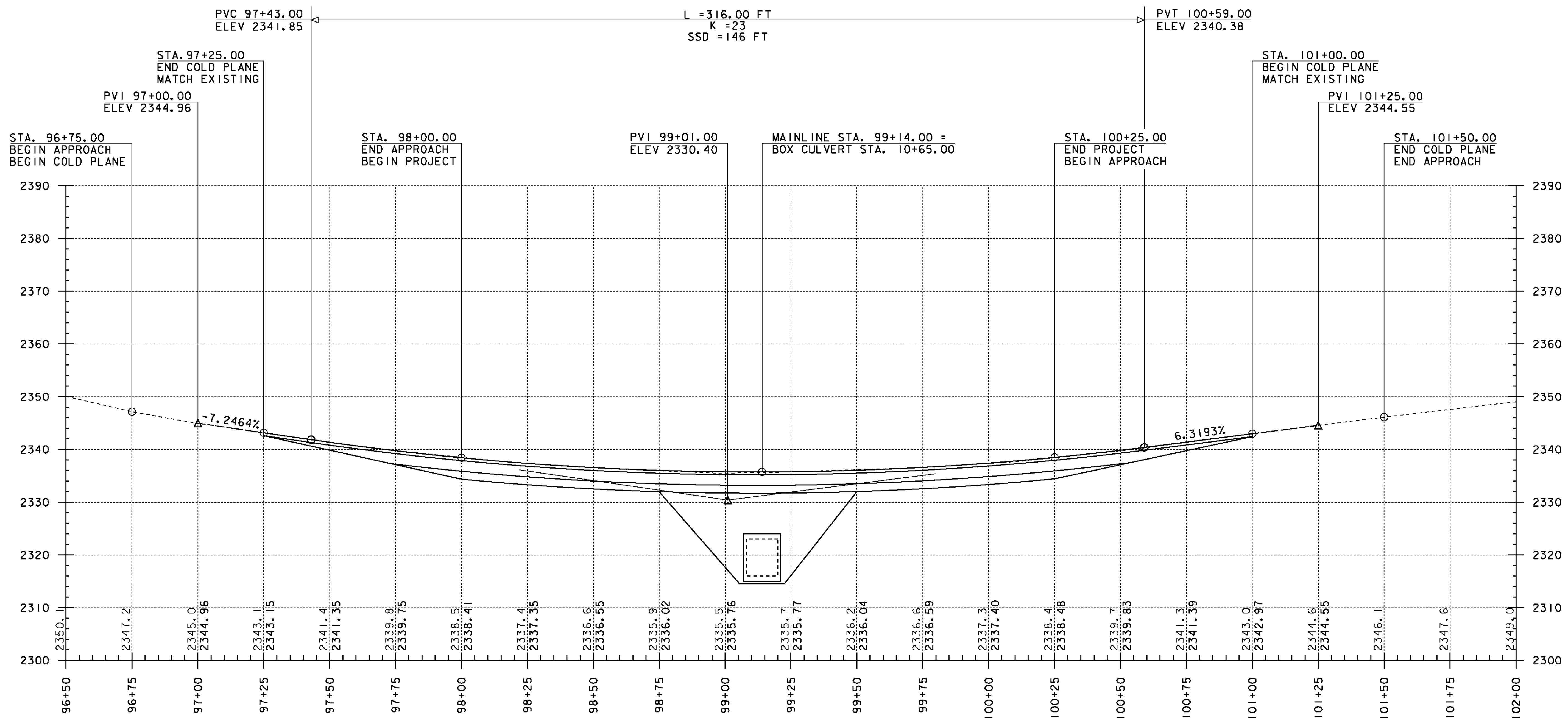
PROJECT NAME: SEARSBURG  
 PROJECT NUMBER: STP SCRP7 101/100

FILE NAME: d10g98\_bdr.dgn  
 PROJECT LEADER: K. UPMAL  
 DESIGNED BY: B. MCADAMS  
 LAYOUT SHEET

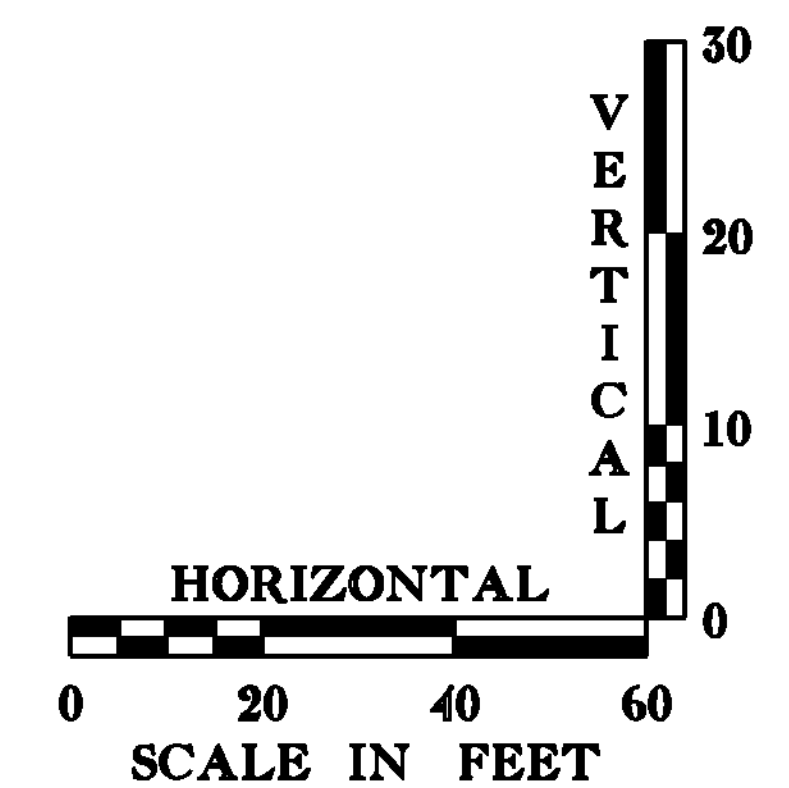
PLOT DATE: 27-FEB-2013  
 DRAWN BY: B. MCADAMS  
 CHECKED BY: A. KEMPTON  
 SHEET 10 OF 35

DATUM  
 VERTICAL NAVD88  
 HORIZONTAL NAD83 (2007)





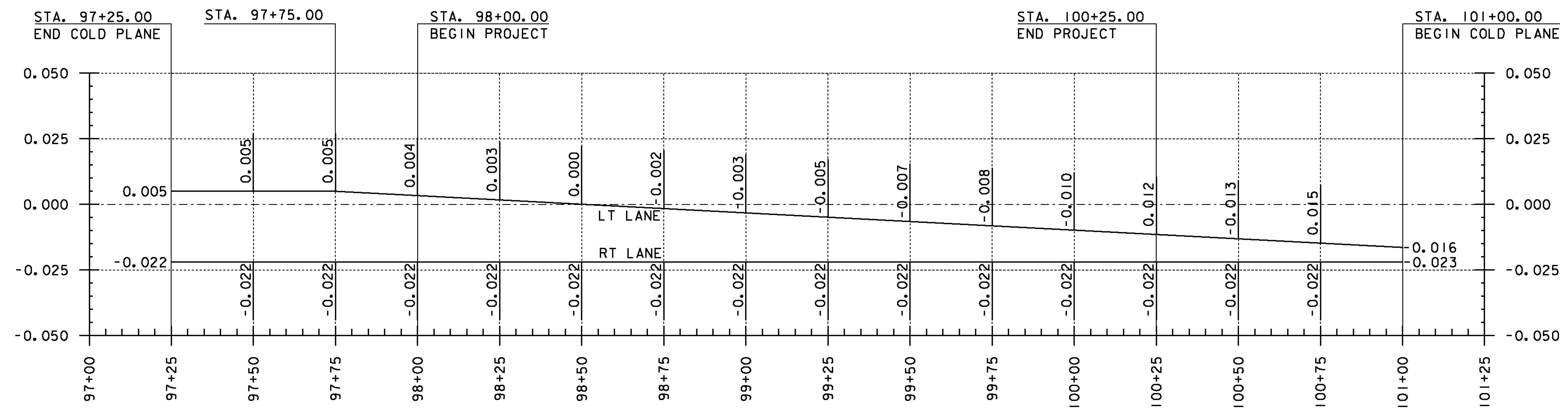
MAINLINE PROFILE



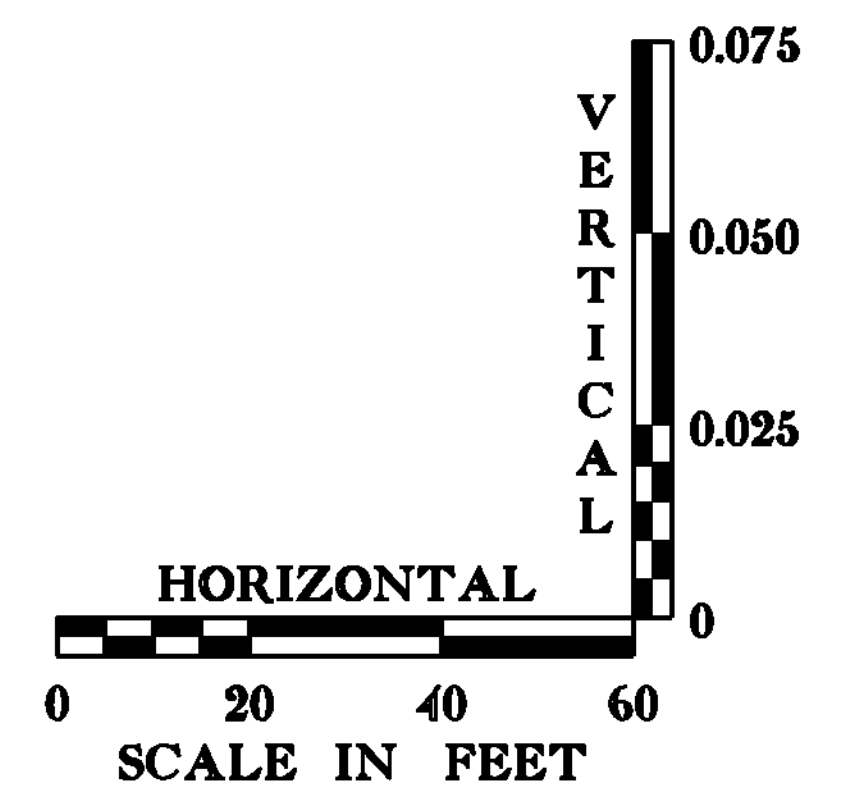
DATUM  
 VERTICAL NAVD88  
 HORIZONTAL NAD83 (2007)

THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDRETH ARE THE FINISHED GRADES FOR THE PROPOSED ALIGNMENT.

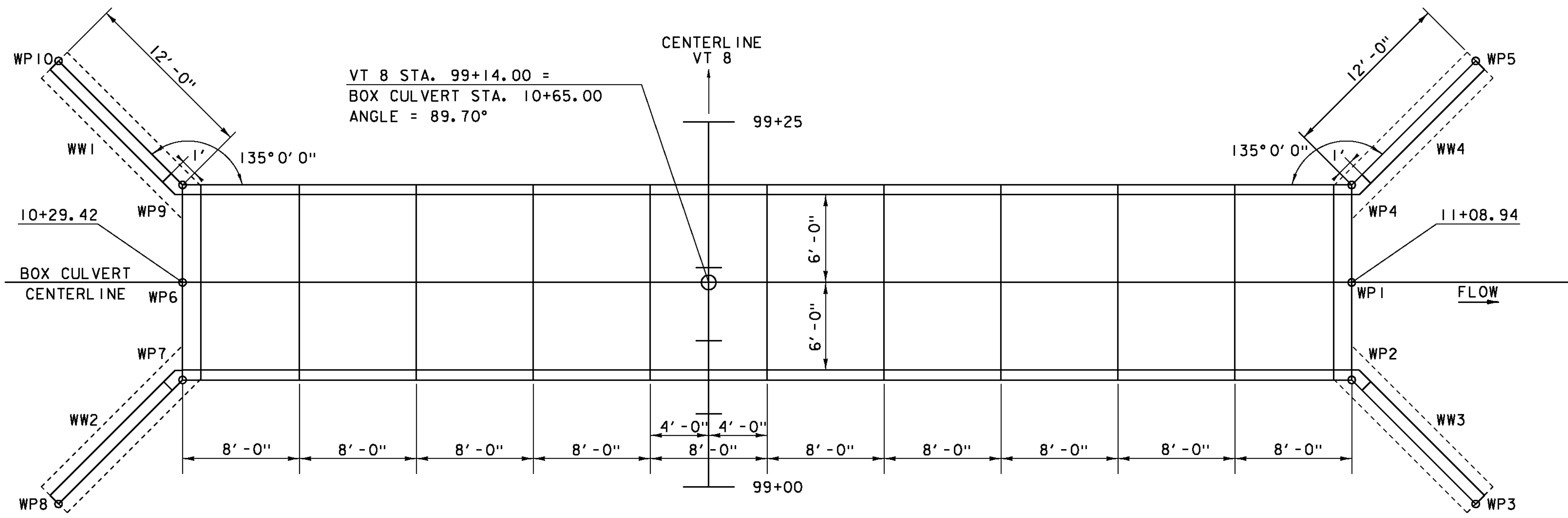
PROJECT NAME: SEARSBURG  
 PROJECT NUMBER: STP SCR(7)  
 FILE NAME: d:\0c198\_xsec.dgn  
 PROJECT LEADER: K. UPMAL  
 DESIGNED BY: B. MCADAMS  
 MAINLINE PROFILE SHEET  
 PLOT DATE: 27-FEB-2013  
 DRAWN BY: B. MCADAMS  
 CHECKED BY: A. KEMPTON  
 SHEET 11 OF 35



**MAINLINE  
BANKING DIAGRAM**



PROJECT NAME:	SEARSBURG
PROJECT NUMBER:	STP SCR(7)
FILE NAME:	d:\0c198_xsec.dgn
PROJECT LEADER:	K. UPMAL
DESIGNED BY:	B. MCADAMS
BANKING DIAGRAM	
PLOT DATE:	27-FEB-2013
DRAWN BY:	B. MCADAMS
CHECKED BY:	A. KEMPTON
SHEET	12 OF 35



VT 8 STA. 99+14.00 =  
 BOX CULVERT STA. 10+65.00  
 ANGLE = 89.70°

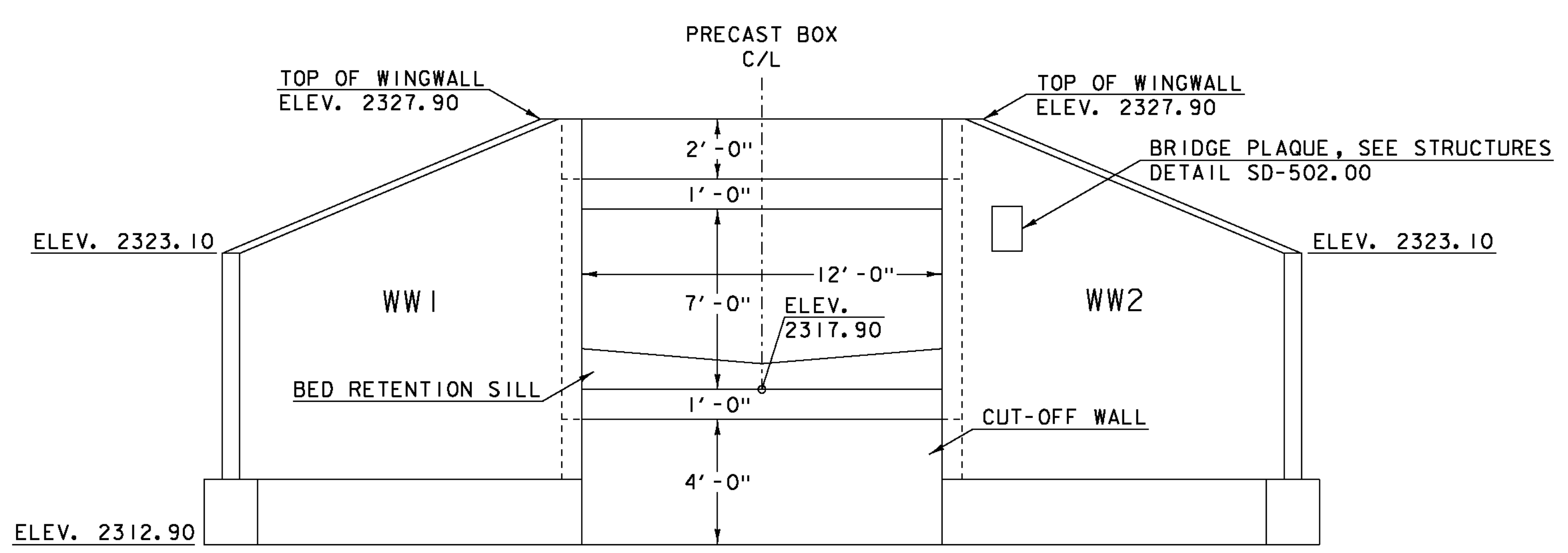
**PRECAST BOX CULVERT  
 LAYOUT**  
 NOT TO SCALE

**NOTES**

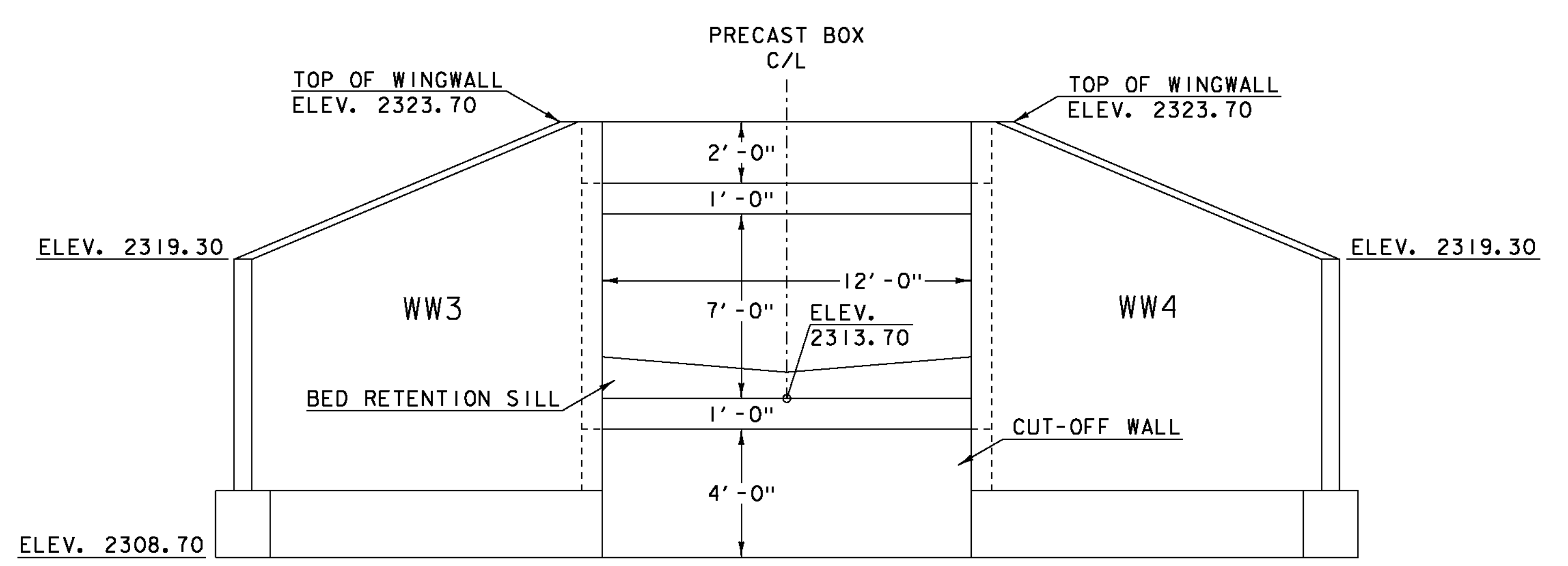
1. DIMENSIONS AND ORIENTATION OF WW1 AND WW2 ARE IDENTICAL.
2. DIMENSIONS AND ORIENTATION OF WW3 AND WW4 ARE IDENTICAL.
3. BOX, WINGWALL, AND FOOTING THICKNESSES ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY. THE ACTUAL THICKNESSES WILL BE DETERMINED BY THE FABRICATOR.
4. CUT-OFF WALLS SHALL EXTEND A MINIMUM OF 4' BELOW THE BOTTOM OF THE BOX CULVERT.

**WORKING POINTS  
 STATION AND OFFSET**

WP#	STATION	OFFSET
WP1	11+08.94	N/A
WP2	11+08.94	6.67 RT
WP3	11+17.43	15.15 RT
WP4	11+08.94	6.67 LT
WP5	11+17.43	15.15 LT
WP6	10+29.42	N/A
WP7	10+29.42	6.67 RT
WP8	10+20.93	15.15 RT
WP9	10+29.42	6.67 LT
WP10	10+20.93	15.15 LT



**PRECAST BOX CULVERT  
 INLET ELEVATION**  
 NOT TO SCALE

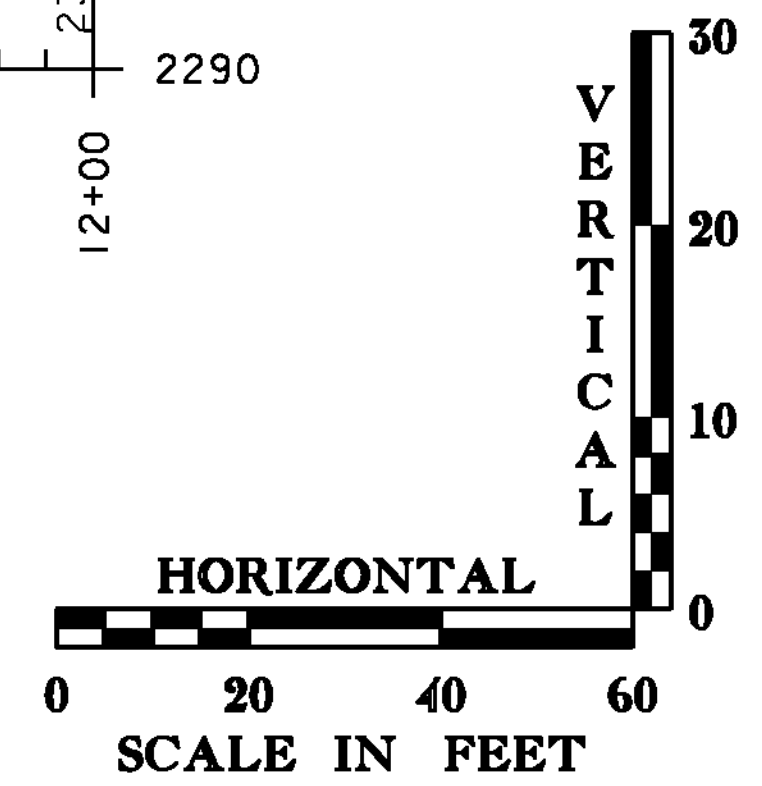
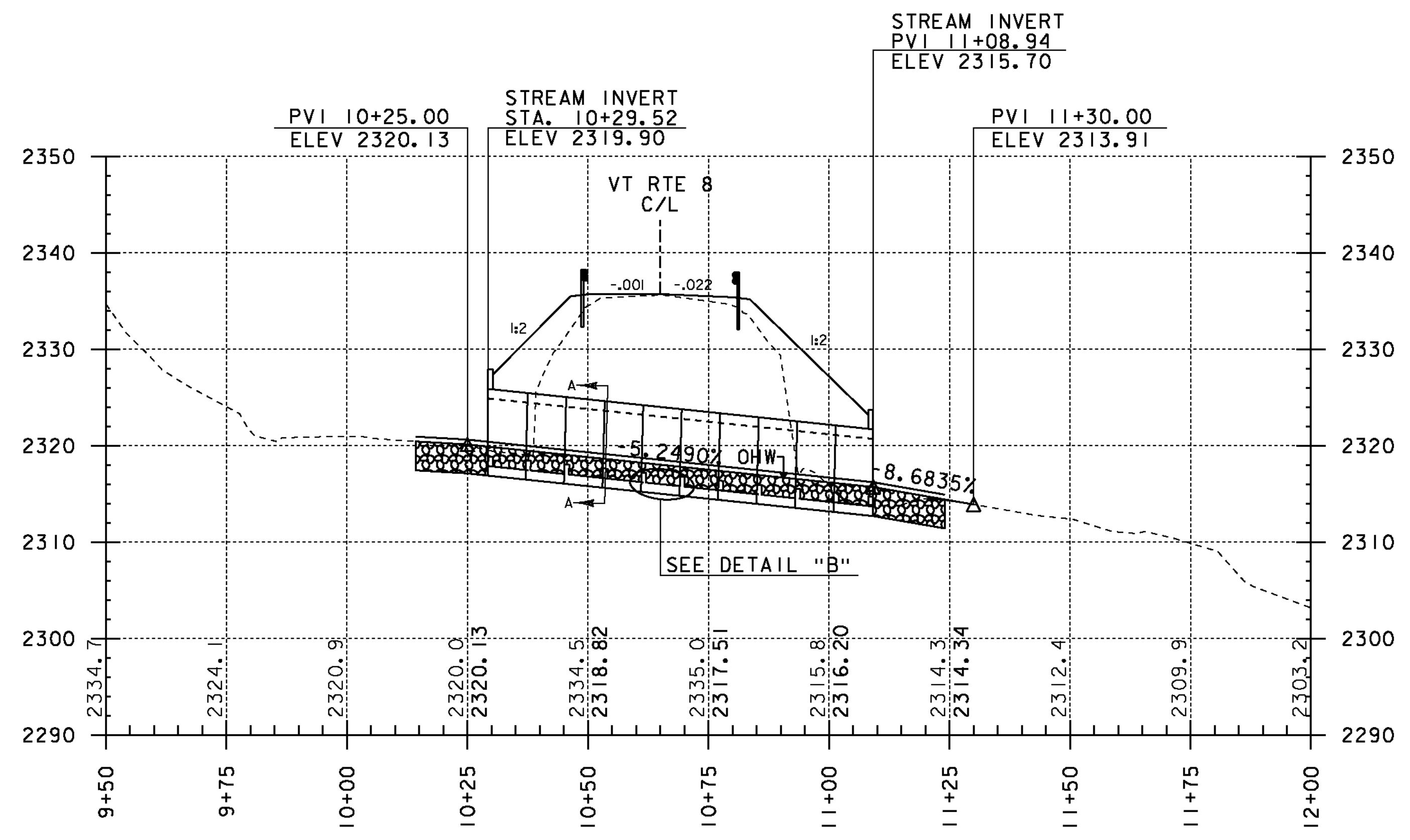
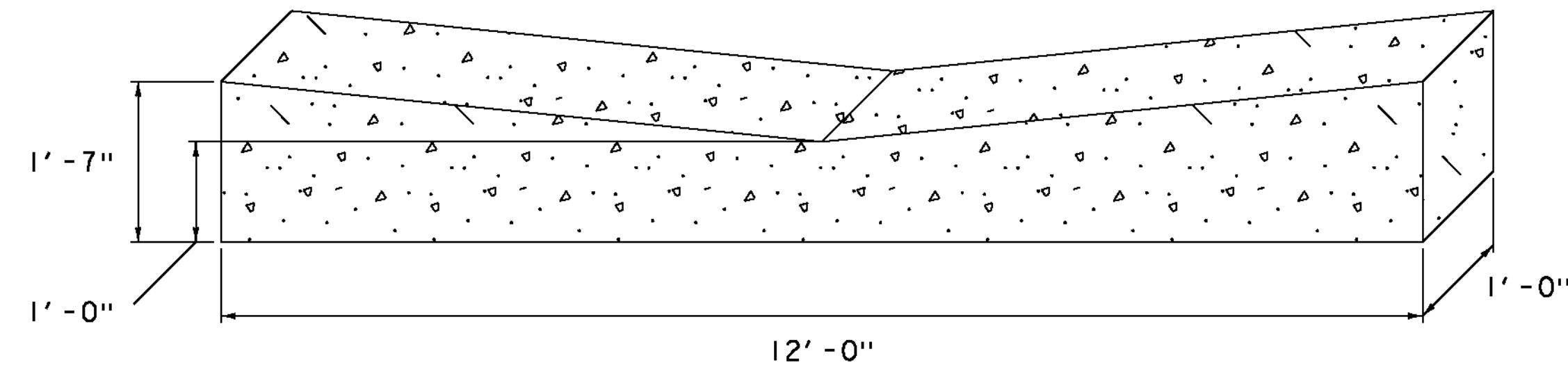
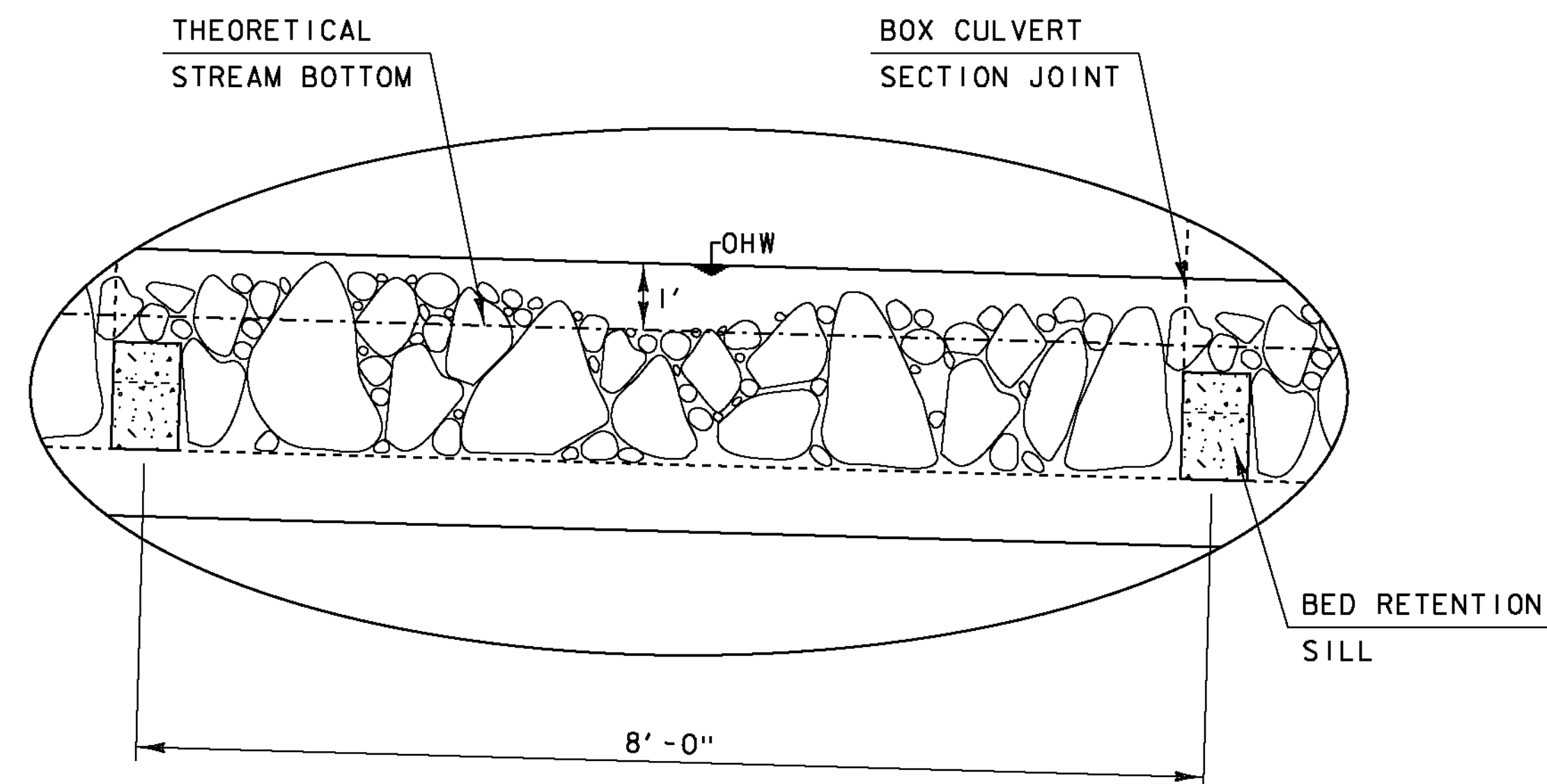
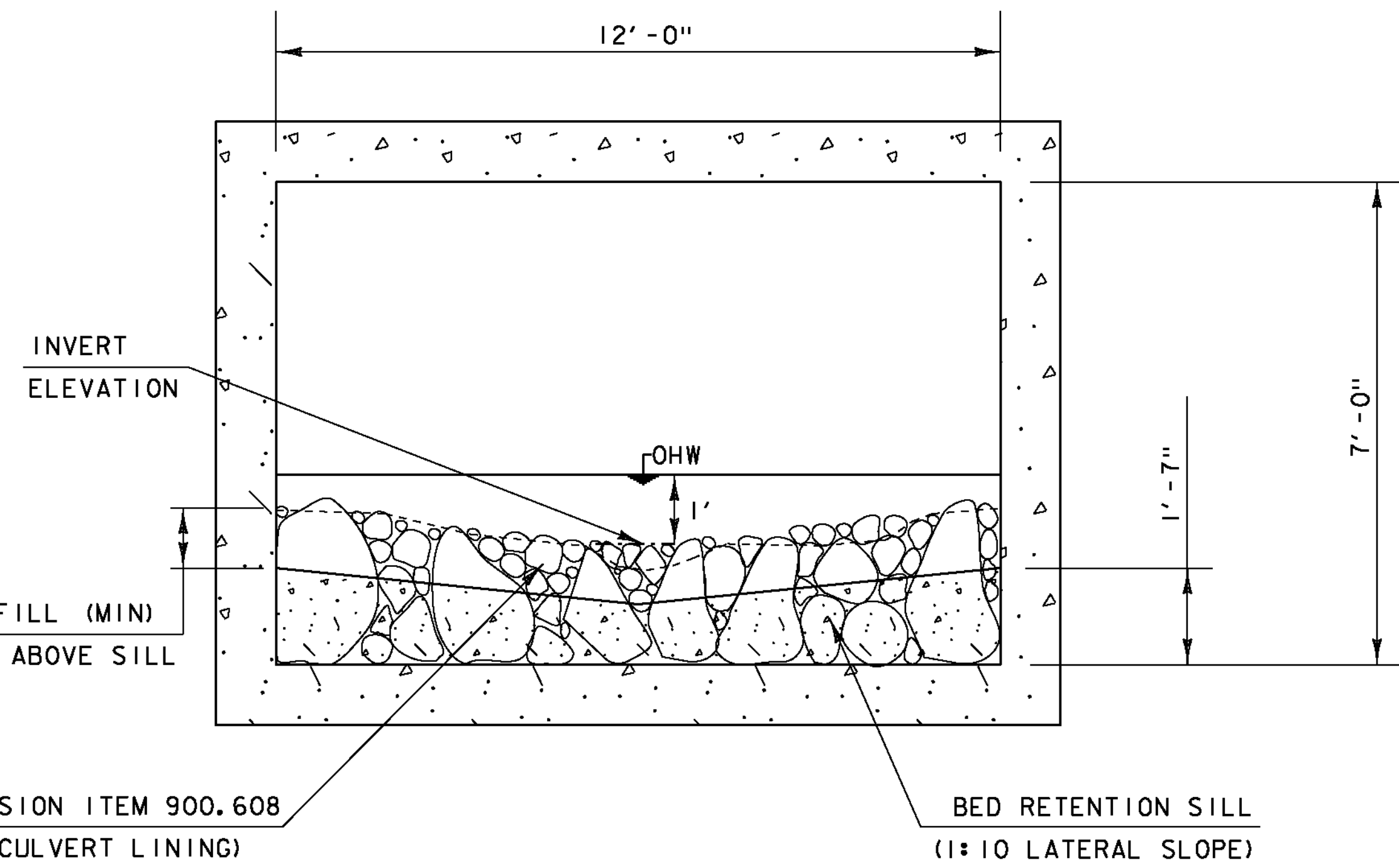


**PRECAST BOX CULVERT  
 OUTLET ELEVATION**  
 NOT TO SCALE

PROJECT NAME:	SEARSBURG
PROJECT NUMBER:	STP SCR(7)
FILE NAME:	d10c198.dtl.dgn
PROJECT LEADER:	K.UPMAL
DESIGNED BY:	B. MCADAMS
BOX DETAIL SHEET 1	
PLOT DATE:	27-FEB-2013
DRAWN BY:	B. MCADAMS
CHECKED BY:	A. KEMPTON
SHEET	13 OF 35

## STONE FILL NOTES

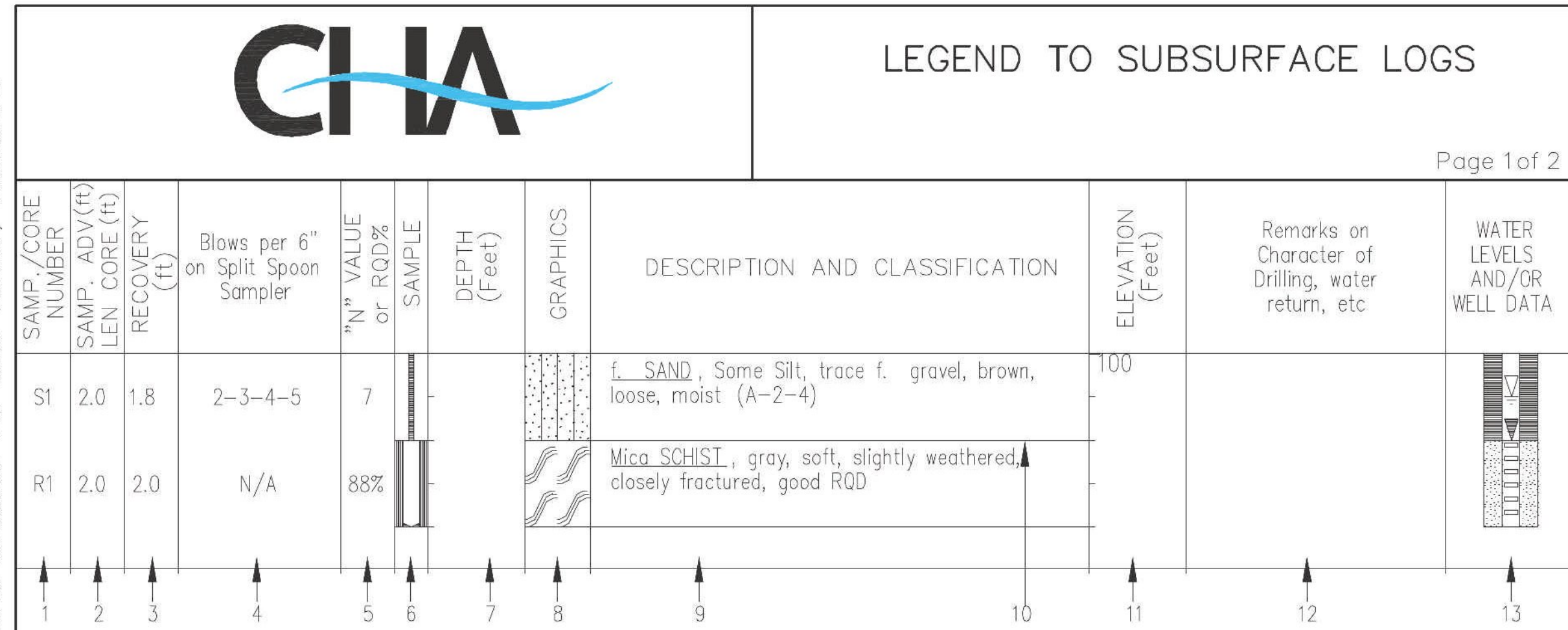
1. SPECIAL PROVISION 900.608 (STONE FILL, CULVERT LINING) SHALL BE OF A SIMILAR SIZE AND HAVE SIMILAR ANGLES AS THE NATURAL STREAM BED MEDIUM LOCATED UP AND DOWNSTREAM FROM THE STRUCTURE.
2. AN ATTEMPT SHALL BE MADE TO LOCATE THE LARGE ROCKS BOTH ALONG THE SIDES AS WELL AS THE MIDDLE OF THE BOX BETWEEN THE SILLS IN ORDER TO ENSURE ANCHORAGE THROUGHOUT THE STRUCTURE.
3. SEE SPECIAL PROVISIONS FOR MORE INFORMATION.



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISHED GRADES FOR THE PROPOSED ALIGNMENT.

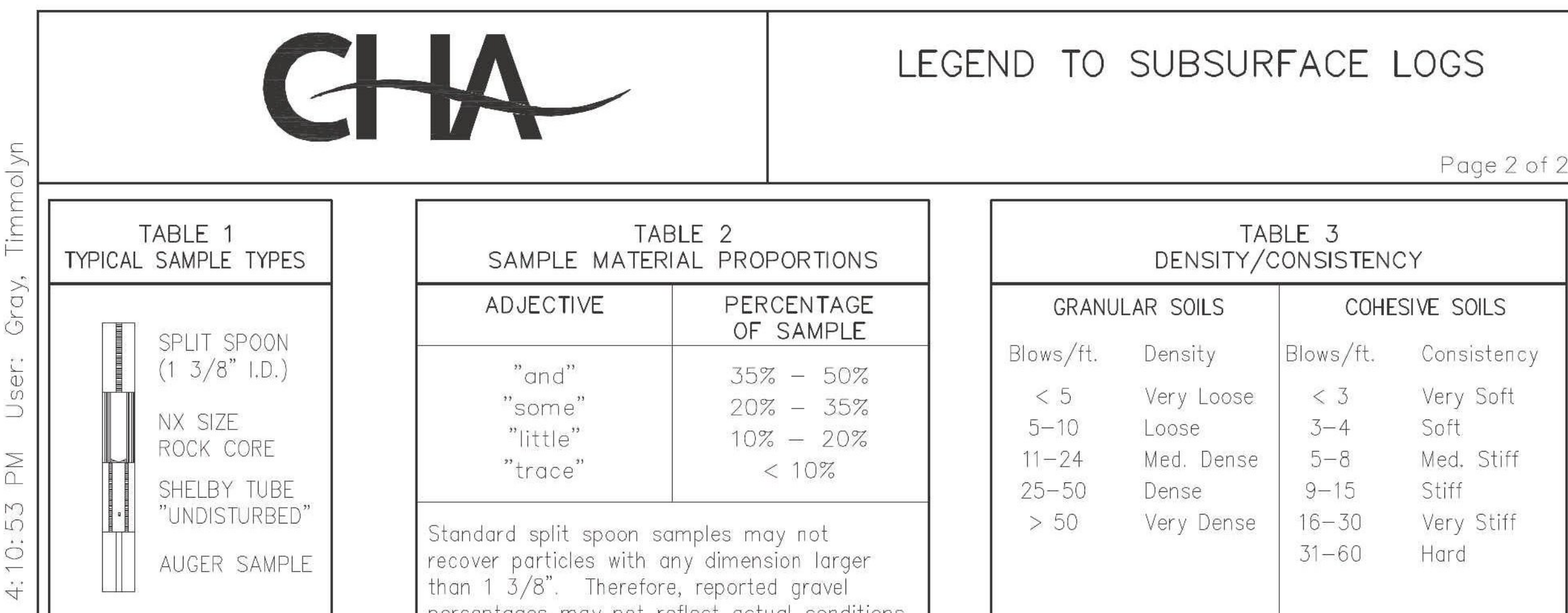
PROJECT NAME: SEARSBURG	
PROJECT NUMBER: STP SCR(7)	
FILE NAME: dl0c198.dtl.dgn	PLOT DATE: 27-FEB-2013
PROJECT LEADER: K. UPMAL	DRAWN BY: B. MCADAMS
DESIGNED BY: B. MCADAMS	CHECKED BY: A. KEMPTON
BOX DETAIL SHEET 2	SHEET 14 OF 35

File: O:\\_GEOPUBLIC\LOG LEGENDS\AASHTO\LL1-ENG-AASHTO.DWG Saved: 9/27/2012 3:02:46 PM Plotted: 9/27/2012 3:03:02 PM User: GRAY, TIMMOLYN



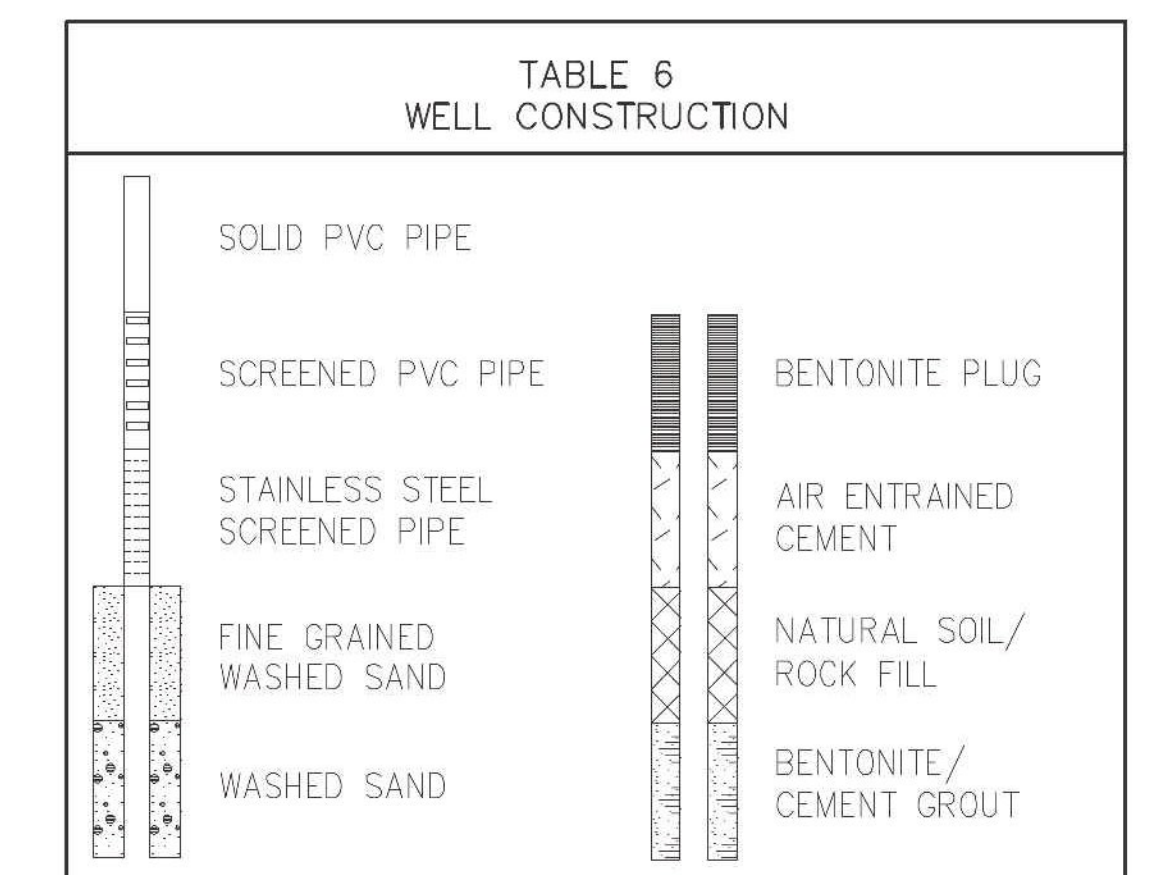
Subsurface Logs present material classifications, test data, and observations from subsurface investigations at the subject site as reported by the inspecting geologist or engineer. In some cases, the classifications may be made based on laboratory test data when available. It should be noted that the investigation procedures only recover a small portion of the subsurface materials at the site. Therefore, actual conditions between borings and sampled intervals may differ from those presented on the Subsurface Logs. The information presented on the logs provide a basis for an evaluation of the subsurface conditions and may indicate the need for additional exploration. Any evaluation of the conditions reported on the logs must be performed by Professional Engineers or Geologists.

- SAMP./CORE NUMBER** - Samples are numbered for identification on containers, laboratory reports or in text reports.
- SAMP.ADV./LEN.CORE** - Length of sampler advance or length of coring run measured in feet.
- RECOVERY** - Amount of sample actually recovered after withdrawing sampler or core barrel from bore hole measured in feet.
- SAMPLE BLOWS/6"** - Unless otherwise noted, blow counts represent values obtained by driving a 2.0" (O.D.), 1-3/8" (I.D.) split spoon sampler into the subsurface strata with a 140 pound weight falling 30" as per AASHTO T 206. After an initial penetration of 6" to seat the sampler into undisturbed material, the sampler is then driven an additional 2 or 3 six inch increments. Refusal is defined as a resistance greater than 50 blows per 6" of penetration.
- "N" Value or RQD** - "N" VALUE - The sum of the second and third sample blow increments is generally termed the Standard Penetration Test (SPT) "N" value. Refusal (R) is defined as a resistance greater than 50 blows for 6 inches of penetration. CORE RQD - Core Rock Quality Designation, RQD, is defined as the summed length of all pieces of core equal to or longer than 4 inches divided by the total length of the coring run. Fresh, irregular breaks distinguishable as being caused by drilling or recovery operations are ignored and the pieces are counted as intact lengths. RQD values are valid only for cores obtained with NX size core barrels.
- SAMPLE** - Graphical presentation of sample type and advance or core run length. See Table 1.
- DEPTH** - Depth as measured from the ground surface in feet.
- GRAPHICS** - Graphical presentation of subsurface materials. See Table 4. Dual soil classification and rock graphics may vary and are not shown on Table 4.
- DESCRIPTION AND CLASSIFICATION** - SOIL - Recovered samples are visually classified in the field by the supervising geologist or engineer unless otherwise noted. Particle size and plasticity classification is based on field observations, and using the AASHTO soil classification system. See Table 4. AASHTO symbols are presented in parentheses following the soil description. Where necessary, dual symbols may be used for combinations of soil types. Relative proportions, by weight and/or plasticity, are described in general accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister, ASTM Special Publication 479, 6-1970. See Table 2. Soil density or consistency description is based on the penetration resistance. See Table 3. Soil moisture description is based on the observed wetness of the soil recovered being dry, moist, wet, or saturated. Water introduced into the boring during drilling may affect the moisture content of the materials. Other geologic terms may also be used to further describe the subsurface materials. ROCK - Rock core descriptions are based on the inspector's observations and may be examined and described in greater detail by the project engineer or geologist. Terms used in the description of rock core are presented in Table 5.
- DIVISION LINES** - Division lines between deposits are based on field observations and changes in recovered material. Solid lines depict contacts between two deposits of different geologic depositional environment of known elevation. Dashed lines represent estimated elevation of contacts between two deposits of different geologic depositional environment. Dotted lines depict transitions of deposits within the same depositional environment, such as grain size or density.
- ELEVATION** - Elevation of strata changes in feet.
- REMARKS** - Miscellaneous observations.
- WATER LEVELS & WELL DATA** - Hollow water level symbol, if present, represents level at which first saturated sample or water level was encountered. Solid water level symbol, if present, depicts the most probable static water elevation at the time of drilling or as measured in an installed observation well at a later date. Subsurface water conditions are influenced by factors such as precipitation, stratigraphic composition, and drilling/coring methods. Conditions at other times may differ from those described on the logs. For graphical presentation of observation/monitoring well construction, see Table 6. Elevations of changes in construction are noted at the bottom of each section.



MAJOR PARTICLE SIZE DIVISION	AASHTO SYMBOL	GRAPHIC SYMBOL	GENERAL DESCRIPTION
GRAVEL Coarse: 3"-3/4" Fine: 3/4"-#10  Classification based on > 50% being gravel	A-1-a		Well graded gravels, gravel & sand mix.
	A-1-b		Poorly graded gravels, gravel & sand mix.
	A-2-4		Sand and silt mix.
	A-2-5		Sand and silt mix.
	A-2-6		Sand and clay mix.
	A-2-7		Sand and clay mix.
	A-3		Sand and gravel mix.
SILT & CLAY  Classification based on > 50% passing #200 sieve.	A-4		Inorganic silt, low plasticity.
	A-5		Inorganic silt, high plasticity.
	A-6		Inorganic clay, low plasticity.
	A-7-5		Inorganic clay, moderate plasticity.
ORGANIC SOILS	A-8		Peat and other highly organic soils.
	Fill		Miscellaneous fill materials.

<b>HARDNESS:</b>		
Very Soft	Carves	
Soft	Groves with knife	
Med. Hard	Scatched easily with knife	
Hard	Scatched with difficulty	
Very Hard	Cannot be scratched with knife	
<b>WEATHERING:</b>		
Fresh	Slight or no staining of fractures, little or no discoloration, few fractures.	
Slightly	Fractures stained, discoloration may extend into rock 1", some soil in fractures.	
Moderately	Significant portions of rock stained and discolored, soil in fractures, loss of strength.	
Highly	Entire rock discolored and dull except quartz grains, severe loss of strength.	
Complete	Weathered to a residual soil.	
<b>BEDDING:</b>		
Massive	> 40"	Excellent
Thick	12' - 40"	Good
Medium	4" - 12"	Fair
Thin	< 4"	Poor
<b>FRACTURE SPACING:</b>		
Massive/V. Wide	> 6'	Excellent
Thick/Wide	2' - 6"	Good
Med./Med.	8" - 24"	Fair
Thin/Close	2 1/2" - 8"	Poor
V. Thin/V. Close	< 2 1/2"	V. Poor
<b>RQD:</b>		
> 90%	Excellent	
76% - 90%	Good	
51% - 75%	Fair	
25% - 50%	Poor	
< 25%	V. Poor	



File: O:\\_GEOPUBLIC\LOG LEGENDS\AASHTO\LL2-ENG-AASHTO.DWG Saved: 3/1/2012 4:08:04 PM Plotted: 3/1/2012 4:10:53 PM User: Gray, Timmoly

PROJECT NAME: SEARSBURG  
 PROJECT NUMBER: STP SCRP(7)  
 FILE NAME: dl0c198\_forms.dgn  
 PROJECT LEADER: K. UPMAL  
 DESIGNED BY: B. MCADAMS  
 BORING LOG LEGEND  
 PLOT DATE: 27-FEB-2013  
 DRAWN BY: B. MCADAMS  
 CHECKED BY: A. KEMPTON  
 SHEET 15 OF 35

Boring Crew: J. Leonhardt, A. Jensen  
 Date Started: 9/12/12 Date Finished: 9/12/12  
 VTSPG NAD83: N 1513635.74 ft E 140262.79 ft  
 Station: 99+65.97 Offset: 8.75 L  
 Ground Elevation: 2336.5 ft

Type: H.S.A. SS  
 I.D.: 3.25 in 1.5 in  
 Hammer Wt: N.A. 140 lb.  
 Hammer Fall: 30 in. 30 in.  
 Hammer/Rod Type: Auto/AWJ  
 Rig: CME 75 ATV Mounted C<sub>E</sub> = 1

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	Groundwater Observations		
										Date	Depth (ft)	Notes
		<b>ASPHALT PAVEMENT</b>			20-14-12 (26)					09/12/12	10.0	Estimated
		A-4, <b>Clayey Silt</b> , Some f.m.c. Sand, little f.c. gravel, very stiff, brown, moist, Rec. = 1.1 ft, (Fill)										
		A-4, <b>Similar Soil</b> , Rec. = 1.5 ft, (Fill)			10-12-8-6 (20)	9.9	12.5	31.4	51.2			
		A-4, <b>Similar Soil</b> , Rec. = 2.0 ft, (Fill)			7-8-21-11 (29)							
		A-4										
		A-4, <b>Clayey Silt</b> , little f.m.c. sand, trace f. gravel, hard, gray/brown, wet, Rec. = 1.0 ft			14-15-100/4" (R)							
		A-4, becomes moist, Rec. = 0.5 ft			30-							
		A-2-4, <b>f.m.c. Sand</b> , Some clayey Silt, Some f.c. Gravel, very compact, gray/brown, wet, Rec. = 2.0 ft, (Till)			100/1" (R)	8.6	15.2	45.3	28.4			
		A-2-4, <b>Similar Soil</b> , Rec. = 2.0 ft, (Till)			25-44-29-67 (73)							
		A-2-4, becomes little f. gravel and moist, Rec. = 1.8 ft, (Till)			40-64-65-75 (129)							
					24-57-74-100/4" (131)							
		A-2-4, <b>Similar Soil</b> , Rec. = 1.3 ft, (Till)			74-81-100/4" (R)							
		33.5 ft - 38.5 ft, Cobbles & boulders NXDC	R-1	0.56								
		A-2-4, <b>Similar Soil</b> , Rec. = 0.3 ft, (Till)			100/4" (R)							
		Hole stopped @ 38.8 ft										
Remarks: Standard sampling was conducted through embankment fill to culvert invert elevation. Water level measurement was based on visual observation, water level not measurable in borehole. Lab Results for the sample taken from 5 to 7 feet: 51.2% Silt, 31.3% Sand, and 17.4% Gravel. Hard drilling encountered from 13' to boring termination. Boulders and cobbles were encountered during augering and while driving and washing. Lab Results for the sample taken from 20 to 22 feet: 45.3% Sand, 28.4% Silt, and 26.3% Gravel. Auger and spoon refusal at 33.5' on cobble/boulder. Augers were pulled and 3" FJC installed and a 5' core run was completed. Coring went through hard and soft zones during core run, interpreted as a cobble and boulder layer. Roller bit refusal at 38.8' interpreted as refusal on boulder/cobble. Boring terminated in till layer at 38.8'. The description of the classification of the materials is based on USCS criteria that gravel is defined as material retained on a #4 sieve or larger. Laboratory data provided follows AASHTO classification guidelines that gravel is defined as material retained on a #10 sieve or larger.												
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. C <sub>E</sub> is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.												

Boring Crew: J. Leonhardt, A. Jensen  
 Date Started: 9/13/12 Date Finished: 9/13/12  
 VTSPG NAD83: N 1513687.40 ft E 140180.19 ft  
 Station: 98+73.88 Offset: 21.29 R  
 Ground Elevation: 2334.0 ft

Type: WB SS  
 I.D.: 3 in 1.5 in  
 Hammer Wt: 140 lb. 140 lb.  
 Hammer Fall: 30 in. 30 in.  
 Hammer/Rod Type: Auto/AWJ  
 Rig: CME 75 ATV Mounted C<sub>E</sub> = 1

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	Groundwater Observations				
								Date	Depth (ft)	Notes		
		A-2-4, <b>f.m.c. Sand</b> , Some clayey Silt, little f. gravel, trace organics, loose, dark brown, moist, Rec. = 0.8 ft, (Fill)	1-2-4-3 (6)									
		A-2-4, <b>f.m.c. Sand</b> , Some clayey Silt, little f.c. gravel, loose, brown, moist, Rec. = 1.2 ft, (Fill)	5-7-1-2 (8)									
		A-4, <b>Clayey Silt</b> , Some f.m.c. Sand, little f.c. gravel, very compact, brown, moist Rec. = 1.3 ft										
		A-4, <b>Clayey Silt</b> , little f.m.c. sand, little f. gravel, stiff, brown, moist, Rec. = 0.9 ft	8-38-25-100/4" (63)									
		A-4, <b>Similar Soil</b> , Rec. = 1.5 ft	6-5-5-5 (10)									
		A-4, <b>Clayey Silt</b> , trace f.m.c. sand, trace f. gravel, hard, gray/brown, moist, Rec. = 1.7 ft, (Till)	8-5-8-9 (13)									
		A-4, grades to little f.m.c. sand, Rec. = 2.0 ft, (Till)	14-12-37-27 (49)									
		A-4, <b>Clayey Silt and f.m.c. Sand</b> , little f. gravel, hard, gray/brown, moist, Rec. = 2.0 ft, (Till)	18-22-22-29 (44)	9.3	11.7	35.8	48.8					
			20-23-33-29 (55)									
		A-4, <b>Similar Soil</b> , Rec. = 0.8 ft, (Till)	9-100/4" (R)									
		A-4, <b>Similar Soil</b> , Rec. = 2.0 ft, (Till)	31-23-25-33 (48)									
		A-4, <b>Similar Soil</b> , Rec. = 2.0 ft, (Till)	10-15-24-26 (39)									
		Hole stopped @ 40.0 ft										
Remarks: Standard sampling was conducted through embankment fill to culvert invert elevation. Water level measurement was based on visual observation. Lab Results for the sample taken from 23 to 25 feet: 48.8% Silt, 35.8% Sand, and 15.4% Gravel. Boulders and cobbles were encountered while driving and washing casing from 11.9' to 15' and 25' to boring termination. Boring terminated in till layer. The description of the classification of the materials is based on USCS criteria that gravel is defined as material retained on a #4 sieve or larger. Laboratory data provided follows AASHTO classification guidelines that gravel is defined as material retained on a #10 sieve or larger.												
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. C <sub>E</sub> is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.												

**TRAFFIC PHASE DESCRIPTION:**

**PHASE 1:**

ALL TRAFFIC SHALL BE SHIFTED TO THE NORTHBOUND SHOULDER AND TRAVEL WAY OF VT 8. THE SOUTHBOUND SHOULDER AND TRAVEL WAY SHALL BE EXCAVATED AND GRADED TO A SUITABLE TEMPORARY TRAVEL WAY AT AN APPROXIMATE DEPTH OF 8.5' BELOW EXISTING GRADE ABOVE THE EXISTING BOX CULVERT. A TEMPORARY TRAFFIC SIGNAL SHALL BE USED TO ALTERNATE NORTH AND SOUTHBOUND TRAFFIC.

**PHASE 2:**

ALL TRAFFIC SHALL BE SHIFTED TO THE TEMPORARY TRAVEL WAY ON THE WESTERN SIDE OF VT 8 CONSTRUCTED DURING PHASE 1. DURING THIS PHASE, THE DOWNSTREAM END OF THE EXISTING CULVERT WILL BE REMOVED AND REPLACED WITH FIVE PRECAST CONCRETE BOX CULVERT SECTIONS. A TEMPORARY TRAVEL WAY SHALL ALSO BE CONSTRUCTED DURING THIS PHASE ON THE EASTERN SIDE OF VT 8 APPROXIMATELY 8' ABOVE THE PROPOSED BOX CULVERT. A TEMPORARY TRAFFIC SIGNAL SHALL BE USED TO ALTERNATE NORTH AND SOUTHBOUND TRAFFIC.

**PHASE 3:**

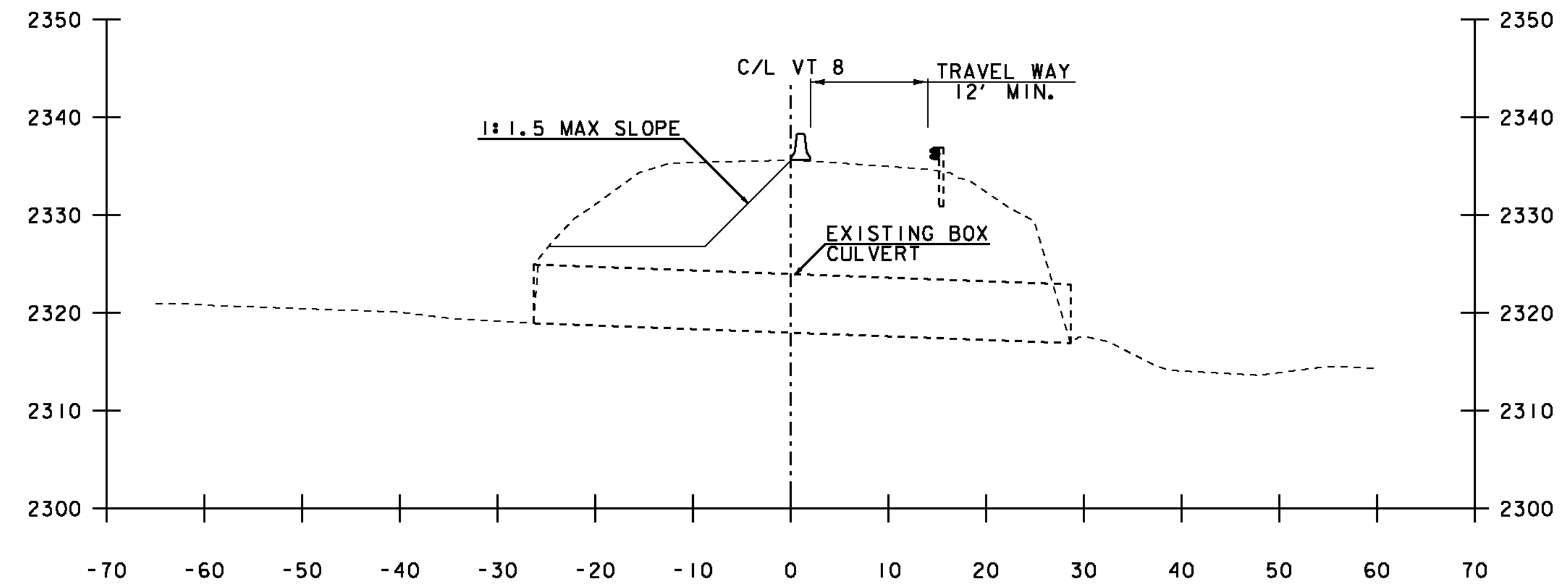
ALL TRAFFIC SHALL BE SHIFTED TO THE TEMPORARY TRAVEL WAY ON THE EASTERN SIDE OF VT 8 CONSTRUCTED DURING PHASE 2. DURING THIS PHASE, THE UPSTREAM END OF THE EXISTING CULVERT WILL BE REMOVED AND REPLACED WITH FIVE PRECAST CONCRETE BOX CULVERT SECTIONS. THE FINAL SOUTHBOUND SHOULDER AND TRAVEL WAY SHALL ALSO BE CONSTRUCTED TO FINISH GRADE DURING THIS PHASE.

**PHASE 4:**

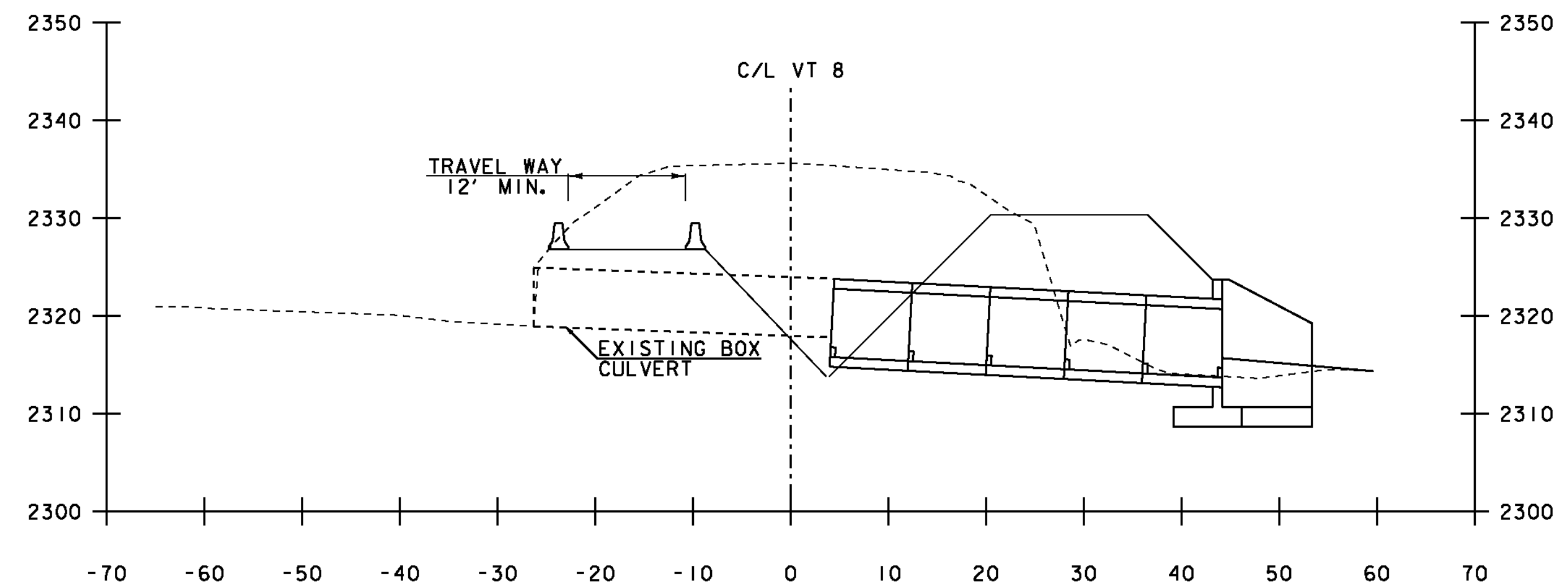
ALL TRAFFIC SHALL THEN BE SHIFTED TO THE SOUTHBOUND SHOULDER AND TRAVEL WAY WHILE THE NORTHBOUND SHOULDER AND TRAVEL WAY ARE CONSTRUCTED. A TEMPORARY TRAFFIC SIGNAL SHALL BE USED TO ALTERNATE NORTH AND SOUTHBOUND TRAFFIC.

**TRAFFIC CONTROL NOTES:**

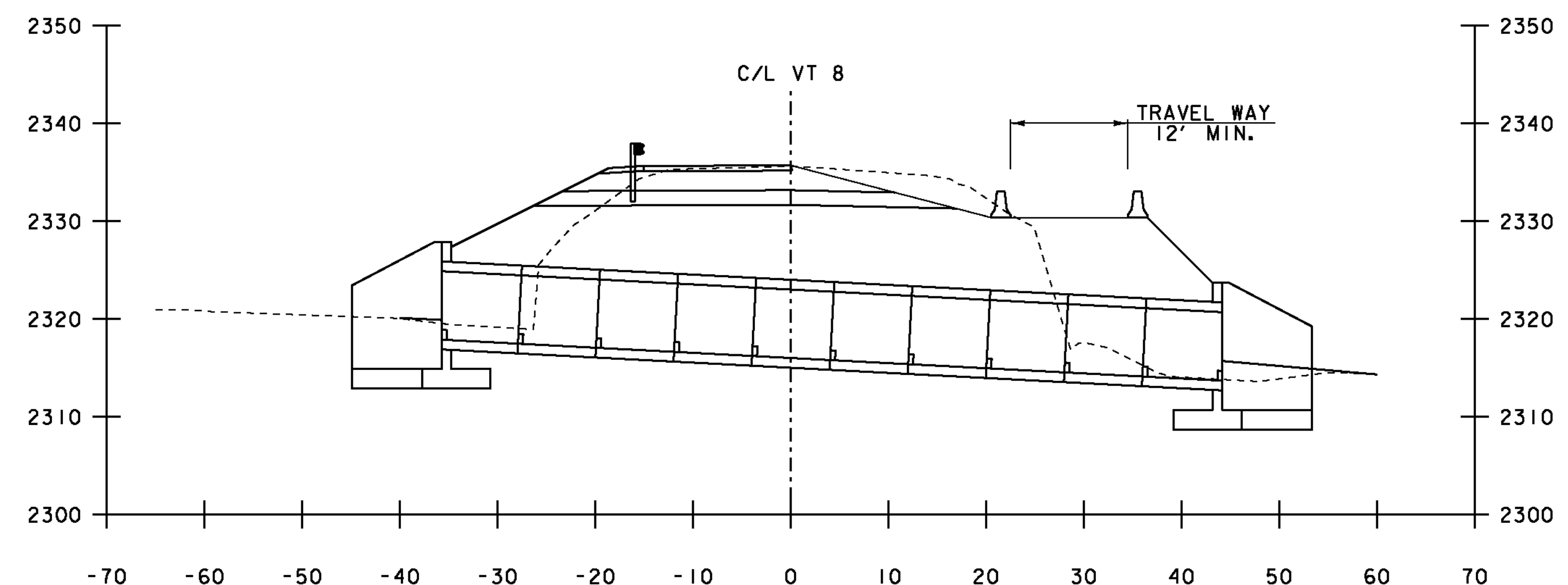
1. ANY TEMPORARY MEANS OF SUPPORTING EXCAVATION NECESSARY FOR THE INSTALLATION OF THE BOX STRUCTURE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 204.25 STRUCTURE EXCAVATION, AND SHALL MEET THE REQUIREMENTS OF SECTION 204.
2. ANY EXCAVATION OR FILL NECESSARY TO MAINTAIN THE STREAM FLOW IN THE BROOK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645 SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM).
3. ANY TEMPORARY EXCAVATION AND FILL NECESSARY TO MAINTAIN TRAFFIC SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
4. ANY USE OF FLAGGERS SHALL BE PAID UNDER ITEM 630.15 FLAGGERS.
5. ANY TEMPORARY TRAVEL WAY AND SHOULDERS UTILIZED TO MAINTAIN TRAFFIC DURING CONSTRUCTION SHALL BE PAVED WITH A MINIMUM OF 3" OF PAVEMENT AND MEET THE MATERIAL REQUIREMENTS OF SUBSECTION 528.04 (a). PAYMENT FOR PLACING AND REMOVING ANY TEMPORARY PAVEMENT WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL ALL-INCLUSIVE).
6. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.
7. THE MINIMUM LANE WIDTH OF ANY TEMPORARY ROADWAY SHALL BE 10 FEET AND THE MINIMUM SHOULDER WIDTH SHALL BE 1 FOOT ON EACH SIDE FOR A TOTAL MINIMUM TRAVEL WIDTH OF 12 FEET.
8. NO ADDITIONAL ACCOMMODATIONS NEED TO BE MADE FOR PEDESTRIAN AND BICYCLE TRAFFIC.
9. IF SIGNALS ARE INCLUDED IN THE TRAFFIC CONTROL PLAN, THE PROPOSED SIGNAL SEQUENCES SHALL BE INCLUDED IN THE SUBMITTAL. PER SUBSECTION 104.04 (b) THE MAXIMUM PERMISSIBLE QUEUE TIME FOR A SINGLE VEHICLE SHALL BE 10 MINUTES. IF THE QUEUE TIME EXCEEDS 10 MINUTES, THEN THE SIGNAL SEQUENCES SHALL BE MODIFIED TO RECTIFY THE SITUATION. PAYMENT FOR TEMPORARY TRAFFIC SIGNAL SYSTEM SHALL BE MADE UNDER ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
10. ANY DISTURBED VEGETATION WITHIN OR OUTSIDE THE CONSTRUCTION LIMITS SHOWN ON THE PLANS WHICH ARE DISTURBED IN ORDER TO MAINTAIN TRAFFIC IN CONJUNCTION WITH THIS PLAN OR ANY OTHER PLAN, SHALL BE RE-ESTABLISHED TO THE SATISFACTION OF THE ENGINEER. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
11. ANY TEMPORARY EXCAVATIONS AND FILLS NECESSARY TO MAINTAIN TRAFFIC OUTSIDE THE CONSTRUCTION LIMITS SHOWN ON THE PLANS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. THIS RESTORATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
12. ACCESS TO ALL EXISTING DRIVES SHALL BE MAINTAINED AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION.
13. INSTALLATION OF NECESSARY SIGNS SHALL NOT BLOCK ANY EXISTING TRAFFIC CONTROL SIGN ASSEMBLIES. THE CONTRACTOR SHALL ATTEMPT TO MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES.
14. THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-344-7233 PRIOR TO BREAKING GROUND TO INSTALL ANY SIGN POSTS.
15. ALL SIGNS THAT ARE 36" X 36" OR LARGER SHALL BE MOUNTED ON TWO POSTS.
16. IF CONSTRUCTION CONTINUES INTO WINTER MONTHS ALL TEMPORARY TRAVEL WAYS SHALL HAVE A MINIMUM WIDTH OF 14 FEET.
17. ALL TEMPORARY PAVEMENT MARKINGS AND REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
18. ALL SIGN PACKAGES SHALL CONFORM TO THE 2009 MUTCD OR ITS LATEST REVISION.



**PHASE 1**



**PHASE 2**

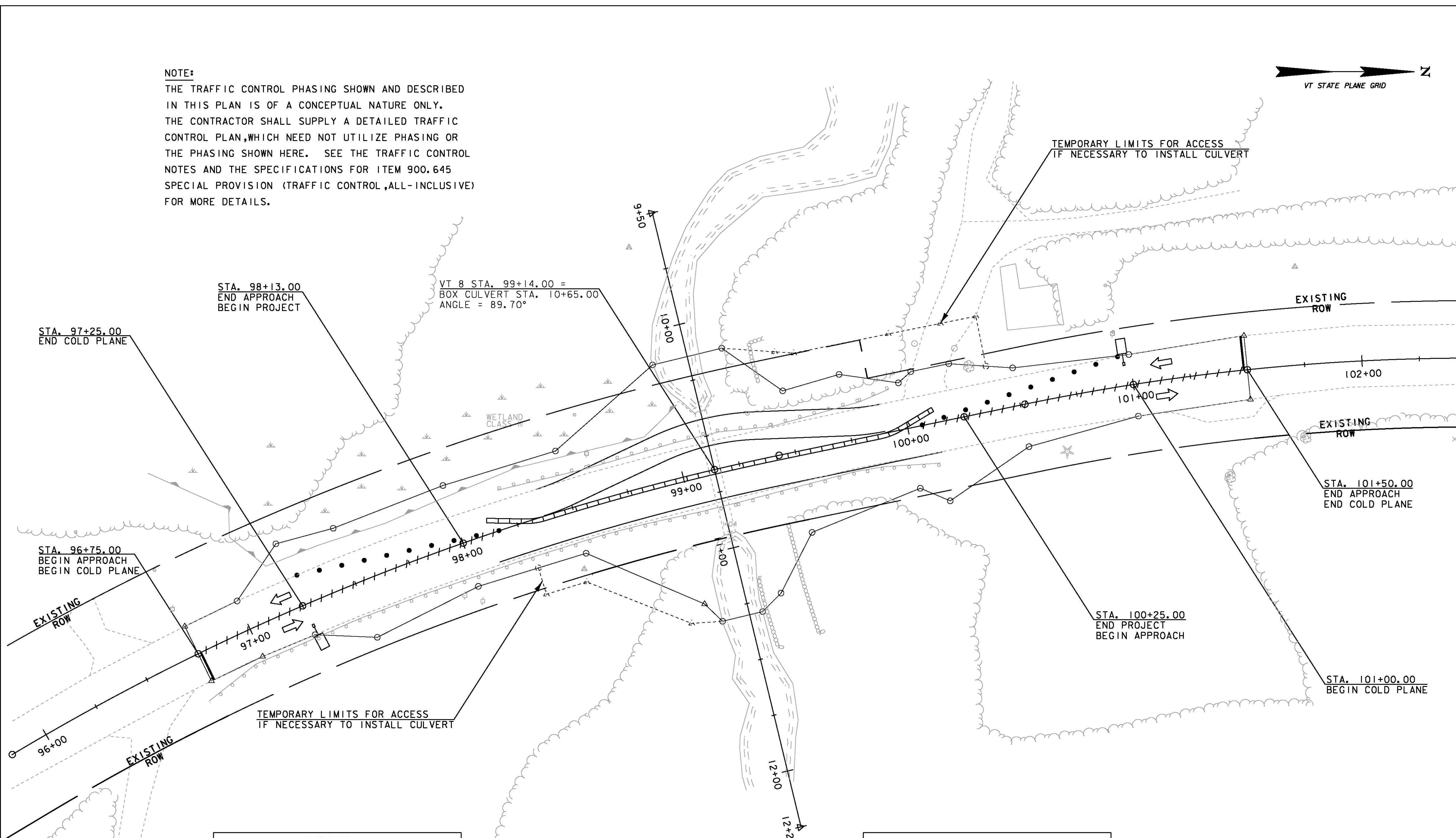


**PHASE 3**

PROJECT NAME:	SEARSBURG	FILE NAME:	d:\0c198_fc.dgn	PLOT DATE:	27-FEB-2013
PROJECT NUMBER:	STP SCRP(7)	PROJECT LEADER:	K. UPMAL	DRAWN BY:	B. MCADAMS
		DESIGNED BY:	B. MCADAMS	CHECKED BY:	A. KEMPTON
		TRAFFIC CONTROL - TYPICAL SECTIONS		SHEET	17 OF 35

**NOTE:**

THE TRAFFIC CONTROL PHASING SHOWN AND DESCRIBED IN THIS PLAN IS OF A CONCEPTUAL NATURE ONLY. THE CONTRACTOR SHALL SUPPLY A DETAILED TRAFFIC CONTROL PLAN, WHICH NEED NOT UTILIZE PHASING OR THE PHASING SHOWN HERE. SEE THE TRAFFIC CONTROL NOTES AND THE SPECIFICATIONS FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) FOR MORE DETAILS.

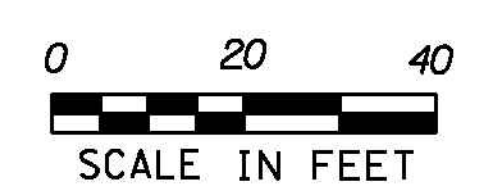


**LEGEND**

- TEMP. TRAFFIC SIGNAL
- TEMP. TRAFFIC BARRIER
- CHANNELIZING DEVICE
- REMOVAL OF EXISTING MARKINGS

**TEMPORARY SIGNAL TIMING**

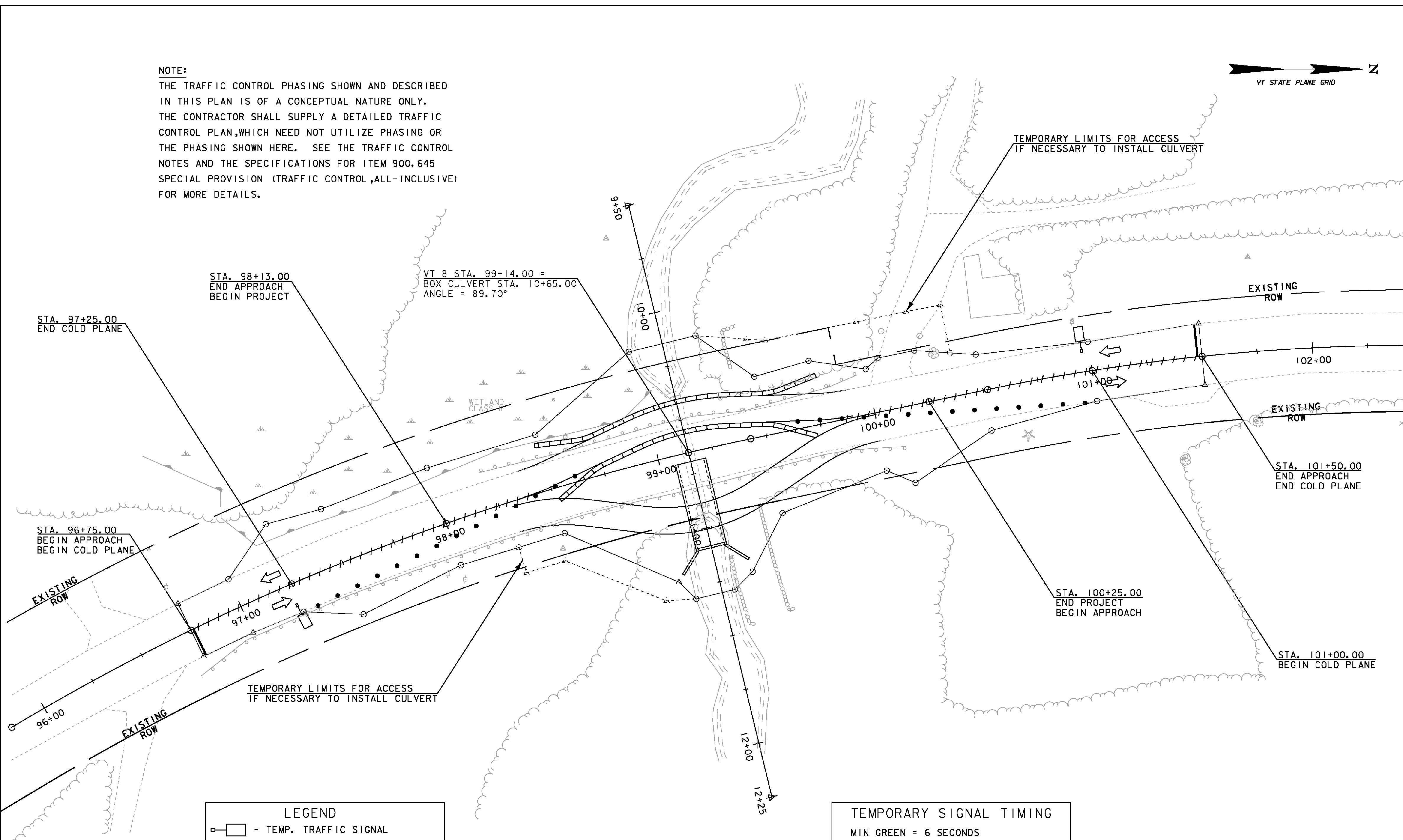
- MIN GREEN = 6 SECONDS
- MAX GREEN = 16 SECONDS
- YELLOW = 4 SECONDS
- RED = 25 SECONDS



PROJECT NAME:	SEARSBURG	FILE NAME:	d:\0c198_fc.dgn	PLOT DATE:	27-FEB-2013
PROJECT NUMBER:	STP SCR(7)	PROJECT LEADER:	K. UPMAL	DRAWN BY:	B. MCADAMS
		DESIGNED BY:	B. MCADAMS	CHECKED BY:	A. KEMPTON
		TRAFFIC CONTROL - PHASE I			SHEET 18 OF 35

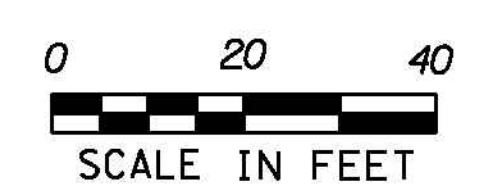
**NOTE:**

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LEGEND	
	- TEMP. TRAFFIC SIGNAL
	- TEMP. TRAFFIC BARRIER
	- CHANNELIZING DEVICE
	- REMOVAL OF EXISTING MARKINGS

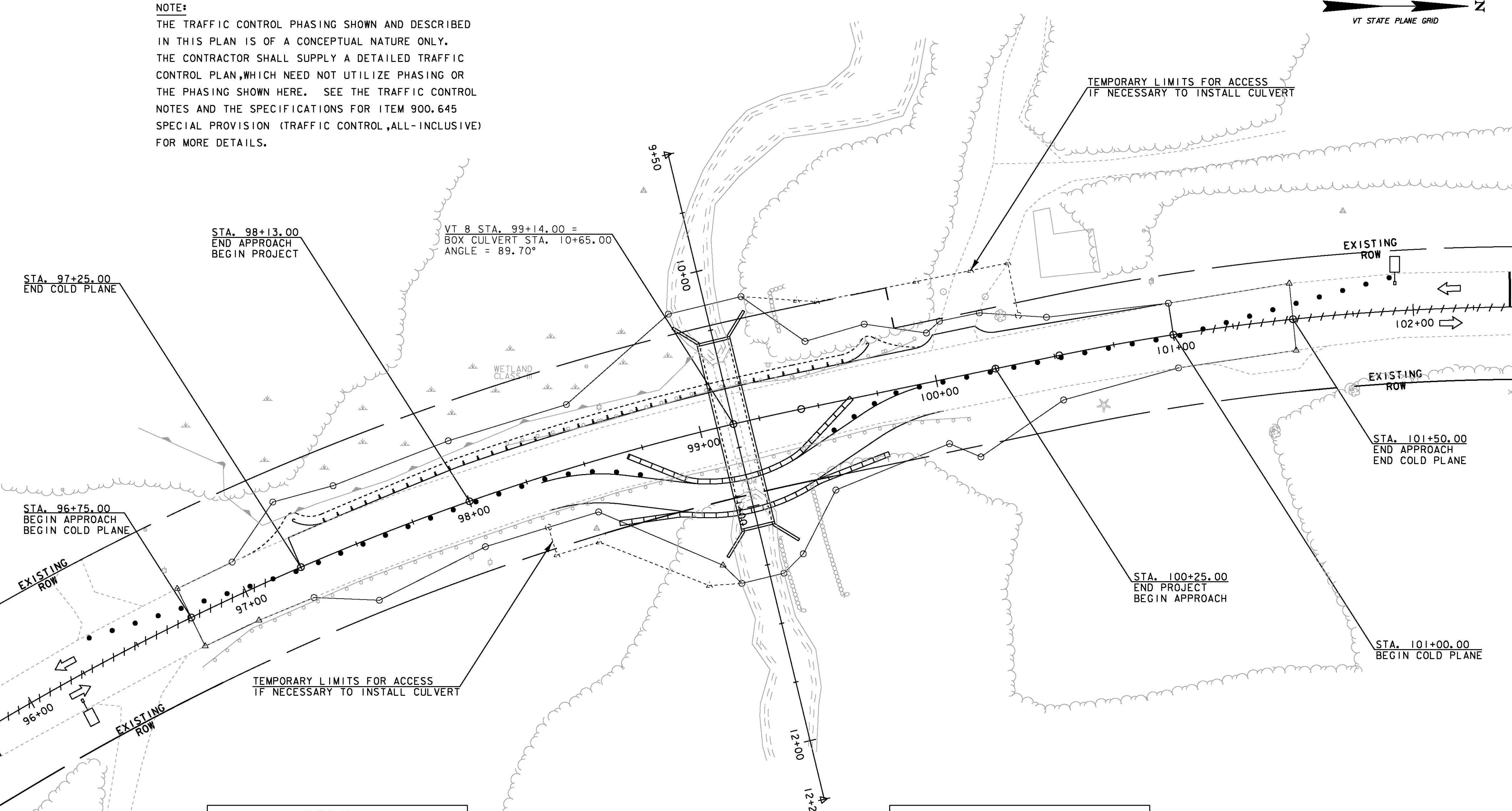
TEMPORARY SIGNAL TIMING	
MIN GREEN	= 6 SECONDS
MAX GREEN	= 16 SECONDS
YELLOW	= 4 SECONDS
RED	= 25 SECONDS



PROJECT NAME:	SEARSBURG	FILE NAME:	d:\0c198_fc.dgn	PLOT DATE:	27-FEB-2013
PROJECT NUMBER:	STP SCR(7)	PROJECT LEADER:	K. UPMAL	DRAWN BY:	B. MCADAMS
		DESIGNED BY:	B. MCADAMS	CHECKED BY:	A. KEMPTON
		TRAFFIC CONTROL - PHASE 2		SHEET	19 OF 35

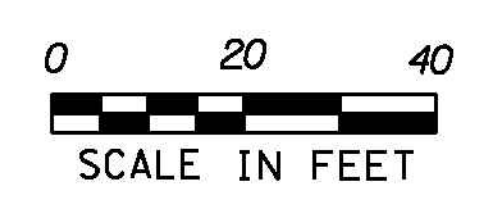
**NOTE:**

THE TRAFFIC CONTROL PHASING SHOWN AND DESCRIBED IN THIS PLAN IS OF A CONCEPTUAL NATURE ONLY. THE CONTRACTOR SHALL SUPPLY A DETAILED TRAFFIC CONTROL PLAN, WHICH NEED NOT UTILIZE PHASING OR THE PHASING SHOWN HERE. SEE THE TRAFFIC CONTROL NOTES AND THE SPECIFICATIONS FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) FOR MORE DETAILS.

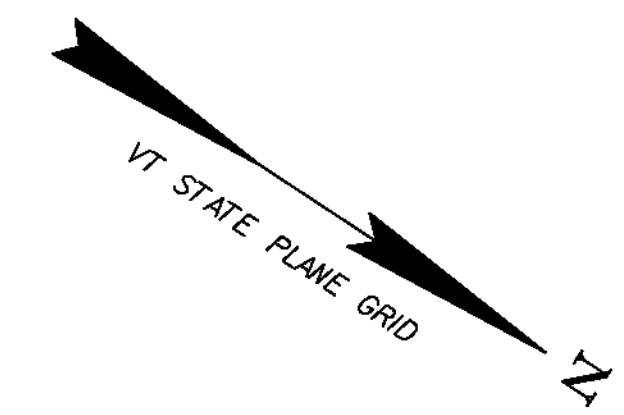


LEGEND	
	- TEMP. TRAFFIC SIGNAL
	- TEMP. TRAFFIC BARRIER
	- CHANNELIZING DEVICE
	- REMOVAL OF EXISTING MARKINGS

TEMPORARY SIGNAL TIMING	
MIN GREEN	= 6 SECONDS
MAX GREEN	= 16 SECONDS
YELLOW	= 4 SECONDS
RED	= 25 SECONDS



PROJECT NAME:	SEARSBURG	FILE NAME:	d:\0c198_fc.dgn	PLOT DATE:	27-FEB-2013
PROJECT NUMBER:	STP SCR(7)	PROJECT LEADER:	K. UPMAL	DRAWN BY:	B. MCADAMS
		DESIGNED BY:	B. MCADAMS	CHECKED BY:	A. KEMPTON
		TRAFFIC CONTROL - PHASE 3			SHEET 20 OF 35



MAINLINE STA. 99+14.00 =  
BOX CULVERT STA. 10+65.00  
ANGLE = 89.70°

W20-2A  
**END ROAD WORK**

W20-1A  
**STOP HERE ON RED**

W3-3

W20-4

W20-1A

**ROAD WORK AHEAD**

W20-1A

**ONE LANE ROAD AHEAD**

W20-4

**STOP HERE ON RED**

W3-3

**STOP HERE ON RED**

R10-6

**END ROAD WORK**

W20-2A

**ONE LANE ROAD AHEAD**

**ROAD WORK AHEAD**

NOTE:  
THE TRAFFIC CONTROL PHASING SHOWN AND DESCRIBED IN THIS PLAN IS OF A CONCEPTUAL NATURE ONLY. THE CONTRACTOR SHALL SUPPLY A DETAILED TRAFFIC CONTROL PLAN, WHICH NEED NOT UTILIZE PHASING OR THE PHASING SHOWN HERE. SEE THE TRAFFIC CONTROL NOTES AND THE SPECIFICATIONS FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE) FOR MORE DETAILS. ALL DIMENSIONS GIVEN ARE ALONG THE ROADWAY CENTERLINE.



PROJECT NAME:	SEARSBURG	PLOT DATE:	27-FEB-2013
PROJECT NUMBER:	STP SCR(7)	DRAWN BY:	B. MCADAMS
FILE NAME:	d:\0c198_fc.dgn	CHECKED BY:	A. KEMPTON
PROJECT LEADER:	K. UPMAL	TRAFFIC CONTROL - SIGN PLAN	SHEET 21 OF 35
DESIGNED BY:	B. MCADAMS		

# EPSC PLAN NARRATIVE

## 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL OF BRIDGE 4 AND ITS HEADWALLS AND WINGWALLS. BRIDGE 4 WILL BE REPLACED WITH A PRECAST BOX CULVERT WITH A 7 FOOT RISE, SPANNING 12 FEET OVER BOND BROOK, ALONG THE SAME ALIGNMENT AS THE EXISTING CULVERT. BRIDGE 4 IS LOCATED IN THE TOWN OF SEARSBURG, ON VT ROUTE 8, AT APPROXIMATE MILE MARKER 1.88. THE LENGTH OF THE CULVERT WILL BE INCREASED TO 80 FEET. THE PROPOSED STRUCTURE WILL INCLUDE MEASURES TO FACILITATE THE PASSAGE OF AQUATIC ORGANISMS.

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

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.75 ACRES.

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

## 1.2 SITE INVENTORY

### 1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS MOUNTAINOUS THAT IS MOSTLY WELL ESTABLISHED FOREST WITH SOME OPEN AREAS. VT ROUTE 8, A CLASS III WETLAND, A CLEARED POWER LINE RUN, AND A GRAVEL DRIVEWAY ARE WITHIN THE PROJECT SITE. THERE IS A RESIDENCE TO THE SOUTHWEST OF THE PROJECT.

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

THE BOND BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS SINUOUS, PROBABLY INCISED AND SEMI-ALLUVIAL AT THE SITE. THE STREAM BED CONSISTS OF MOSTLY COBBLES AND BOULDERS WITH SOME GRAVEL. THE TRIBUTARY AREA AT THE CULVERT CROSSING IS 0.74 MILES<sup>2</sup>. THE WETLAND TO THE SOUTHWEST IS DRAINED BY THE BROOK. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM A FEW NEARBY SLOPES.

### 1.2.3 VEGETATION

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

### 1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF BENNINGTON, VERMONT. SOILS ON THE PROJECT SITE ARE MUNDAL-HOUGHTONVILLE ASSOCIATION, ROLLING, VERY STONEY, 8% TO 15% SLOPES, "K FACTOR" = 0.49. THE SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO SIGNIFICANT SLOPES.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:  
0.0-0.23 = LOW EROSION POTENTIAL  
0.24-0.36 = MODERATE EROSION POTENTIAL  
0.37 AND HIGHER = HIGH EROSION POTENTIAL

### 1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO  
HISTORICAL OR ARCHEOLOGICAL AREAS: YES  
THE STONE FOUNDATION LOCATED TO THE NORTHWEST OF THE PROJECT IS ARCHEAOLOGICALLY SENSITIVE AND MUST REMAIN UNDESTURBED.  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: BOND BROOK  
WETLANDS: YES  
CLASS III WETLANDS ARE LOCATED SOUTHWEST OF THE SITE.

## 1.3 RISK EVALUATION

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

## 1.4 EROSION PREVENTION AND SEDIMENT CONTROL

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

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

### 1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED. PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

### 1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE.

### 1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR'S PROGRESS SCHEDULE.

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

### 1.4.4 INSTALL SEDIMENT BARRIERS

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

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN PRIOR TO ANY SLOPE WORK AS NECESSARY.

### 1.4.5 DIVERT UPLAND RUNOFF

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

NO DIVERIONARY MEASURES SHALL BE USED ON THIS PROJECT TO INTERCEPT OFF SITE RUNOFF.

### 1.4.6 SLOW DOWN CHANNELIZED RUNOFF

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

THERE IS NO TOPOGRAPHY AROUND THE PROJECT AREA THAT WOULD RESULT IN CHANELIZED RUNOFF.

### 1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

NO PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED ON THIS PROJECT.

### 1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

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

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

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

### 1.4.9 WINTER STABILIZATION

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

### 1.4.10 STABILIZE SOIL AT FINAL GRADE

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

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

### 1.4.11 DE-WATERING ACTIVITIES

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

A DIVERSION PIPE, OR BYPASS PUMPING MAY BE USED TO TEMPORARILY RELOCATE THE STREAM.

### 1.4.12 INSPECT YOUR SITE

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

## 1.5 SEQUENCE AND STAGING

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

### 1.5.1 CONSTRUCTION SEQUENCE

### 1.5.2 OFF-SITE ACTIVITIES

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

PROJECT NAME:	SEARSBURG
PROJECT NUMBER:	STP SCRP(7)
FILE NAME: dl0ci98_ero.dgn	PLOT DATE: 27-FEB-2013
PROJECT LEADER: K. UPMAL	DRAWN BY: B. MCADAMS
DESIGNED BY: B. MCADAMS	CHECKED BY: A. KEMPTON
EPSC NARATIVE	SHEET 22 OF 35



VT 8 STA. 99+14.00 =  
BOX CULVERT STA. 10+65.00  
ANGLE = 89.70°

STA. 98+00.00  
END APPROACH  
BEGIN PROJECT

STA. 96+75.00  
BEGIN APPROACH  
BEGIN GQLD PLANE

STA. 101+50.00  
END APPROACH  
END GQLD PLANE

STA. 100+25.00  
END PROJECT  
BEGIN APPROACH

**LEGEND**

	CUT/FILL LIMITS
	PROPERTY LINE
	RIPARIAN BUFFER
	TEMPORARY WETLAND IMPACTS
	PERMANENT WETLAND IMPACTS
	TEMPORARY OHW IMPACTS
	PERMANENT OHW IMPACTS

703 C MUNDAL- HOUGHTONVILLE ASSOCIATION, ROLLING, VERY STONEY  
8-15% SLOPES  
K FACTOR = 0.49



PROJECT NAME: SEARSBURG	PLOT DATE: 27-FEB-2013
PROJECT NUMBER: STP SCR(7)	DRAWN BY: B. MCADAMS
FILE NAME: d:\0c198_ero.dgn	CHECKED BY: A. KEMPTON
PROJECT LEADER: K. UPMAL	SHEET 23 OF 35
DESIGNED BY: B. MCADAMS	
EPSC PLAN, EXISTING CONDITIONS	



VT 8 STA. 99+14.00 =  
BOX CULVERT STA. 10+65.00  
ANGLE = 89.70°

STA. 98+00.00  
END APPROACH  
BEGIN PROJECT

STA. 96+75.00  
BEGIN APPROACH  
BEGIN GQLD PLANE

STA. 101+50.00  
END APPROACH  
END GQLD PLANE

STA. 100+25.00  
END PROJECT  
BEGIN APPROACH

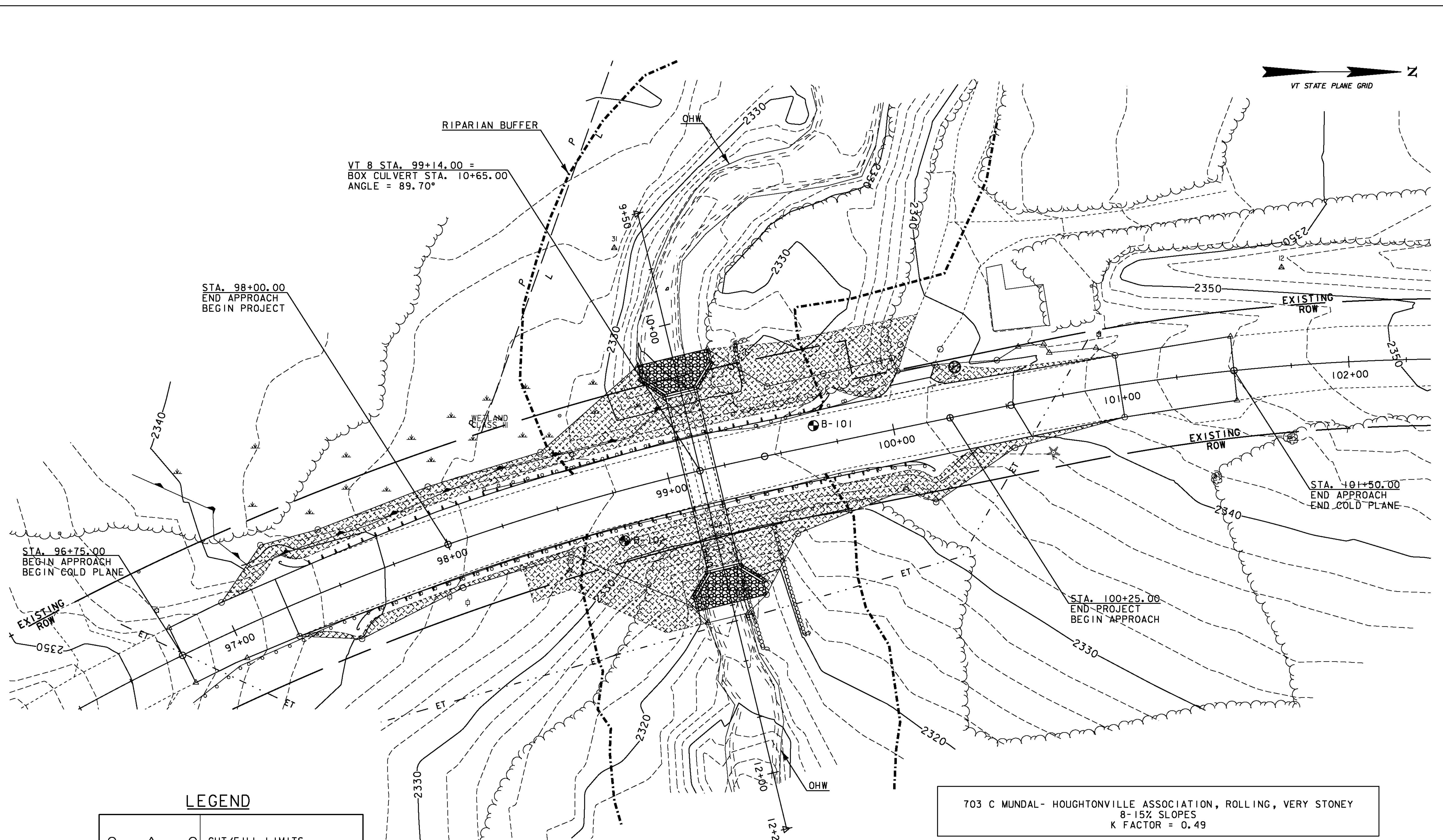
**LEGEND**

	CUT/FILL LIMITS
	PROPERTY LINE
	RIPARIAN BUFFER
	PROJECT DEMARCATION FENCE
	SILT FENCE
	ROLLED EROSION CONTROL PRODUCT (RECP)
	STONE FILL
	STABILIZED CONSTRUCTION ENTRANCE
	FIBER ROLL



703 C MUNDAL- HOUGHTONVILLE ASSOCIATION, ROLLING, VERY STONEY  
8-15% SLOPES  
K FACTOR = 0.49

PROJECT NAME: SEARSBURG	PLLOT DATE: 27-FEB-2013
PROJECT NUMBER: STP SCRP(7)	DRAWN BY: B. MCADAMS
FILE NAME: d:\0c198_ero.dgn	CHECKED BY: A. KEMPTON
PROJECT LEADER: K. UPMAL	SHEET 24 OF 35
DESIGNED BY: B. MCADAMS	
EPSC PLAN, CONSTRUCTION CONDITIONS	



VT 8 STA. 99+14.00 =  
BOX CULVERT STA. 10+65.00  
ANGLE = 89.70°

STA. 98+00.00  
END APPROACH  
BEGIN PROJECT

STA. 96+75.00  
BEGIN APPROACH  
BEGIN COLD PLANE

STA. 101+50.00  
END APPROACH  
END COLD PLANE

STA. 100+25.00  
END PROJECT  
BEGIN APPROACH

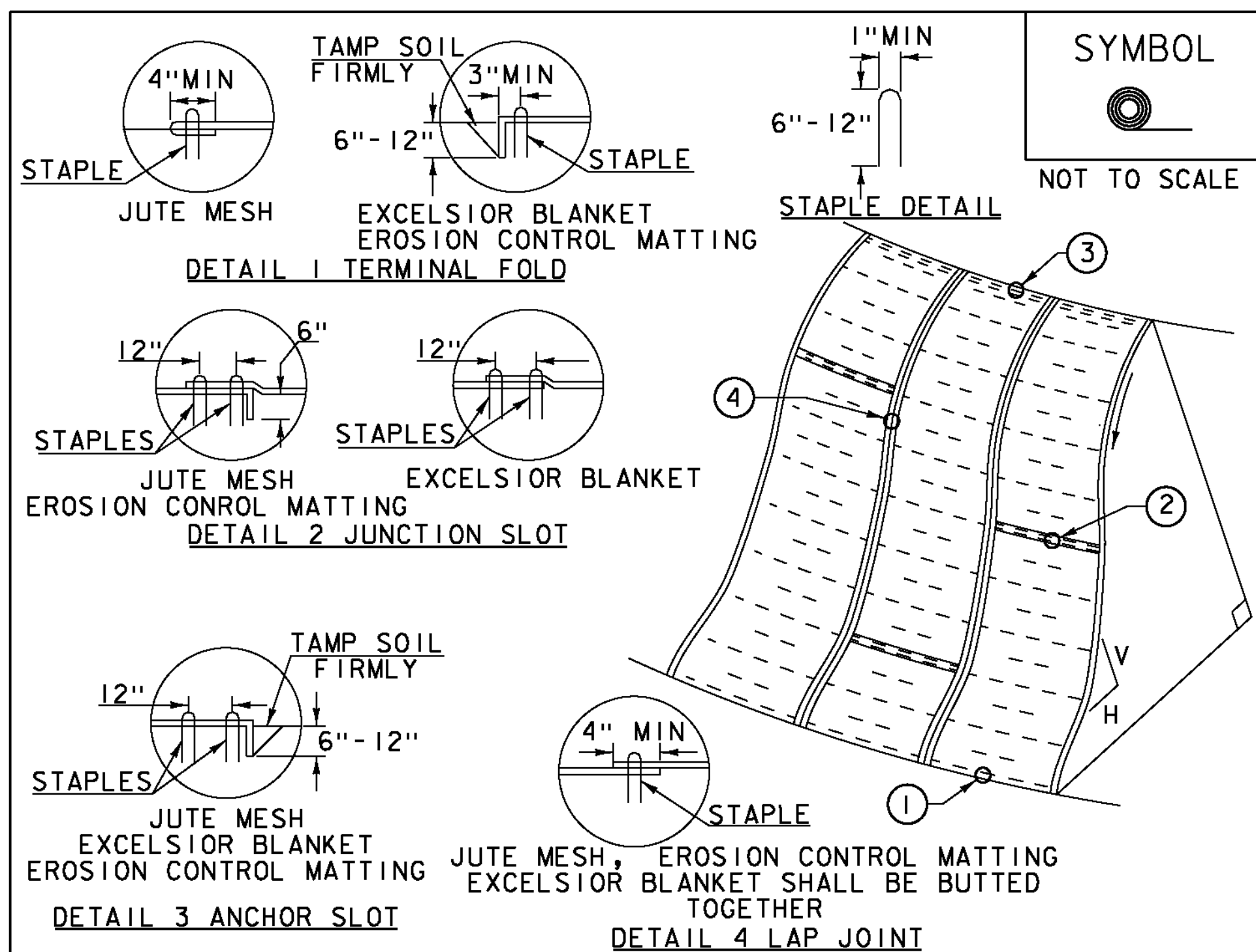
**LEGEND**

	CUT/FILL LIMITS
	PROPERTY LINE
	RIPARIAN BUFFER
	STONE FILL
	DISTURBED AREAS REQUIRING REVEGETATION

703 C MUNDAL- HOUGHTONVILLE ASSOCIATION, ROLLING, VERY STONEY  
8-15% SLOPES  
K FACTOR = 0.49



PROJECT NAME: SEARSBURG	PLLOT DATE: 27-FEB-2013
PROJECT NUMBER: STP SCR(7)	DRAWN BY: B. MCADAMS
FILE NAME: d:\0ci98_ero.dgn	CHECKED BY: A. KEMPTON
PROJECT LEADER: K. UPMAL	SHEET 25 OF 35
DESIGNED BY: B. MCADAMS	
EPSC PLAN, FINAL CONDITIONS	



**CONSTRUCTION SPECIFICATIONS**

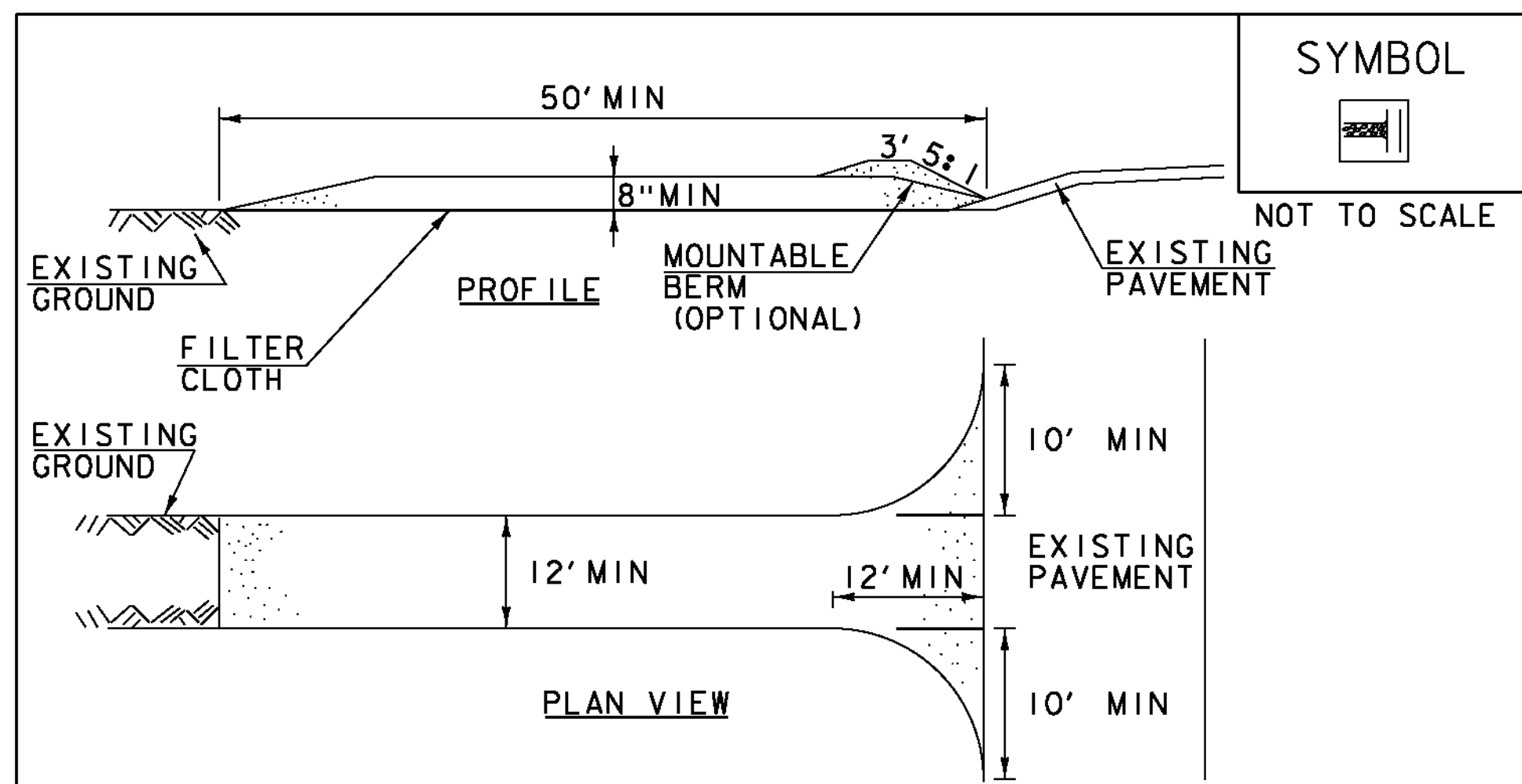
1. APPLY TO SLOPES GREATER THAN 3H:4V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' 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



**CONSTRUCTION SPECIFICATIONS**

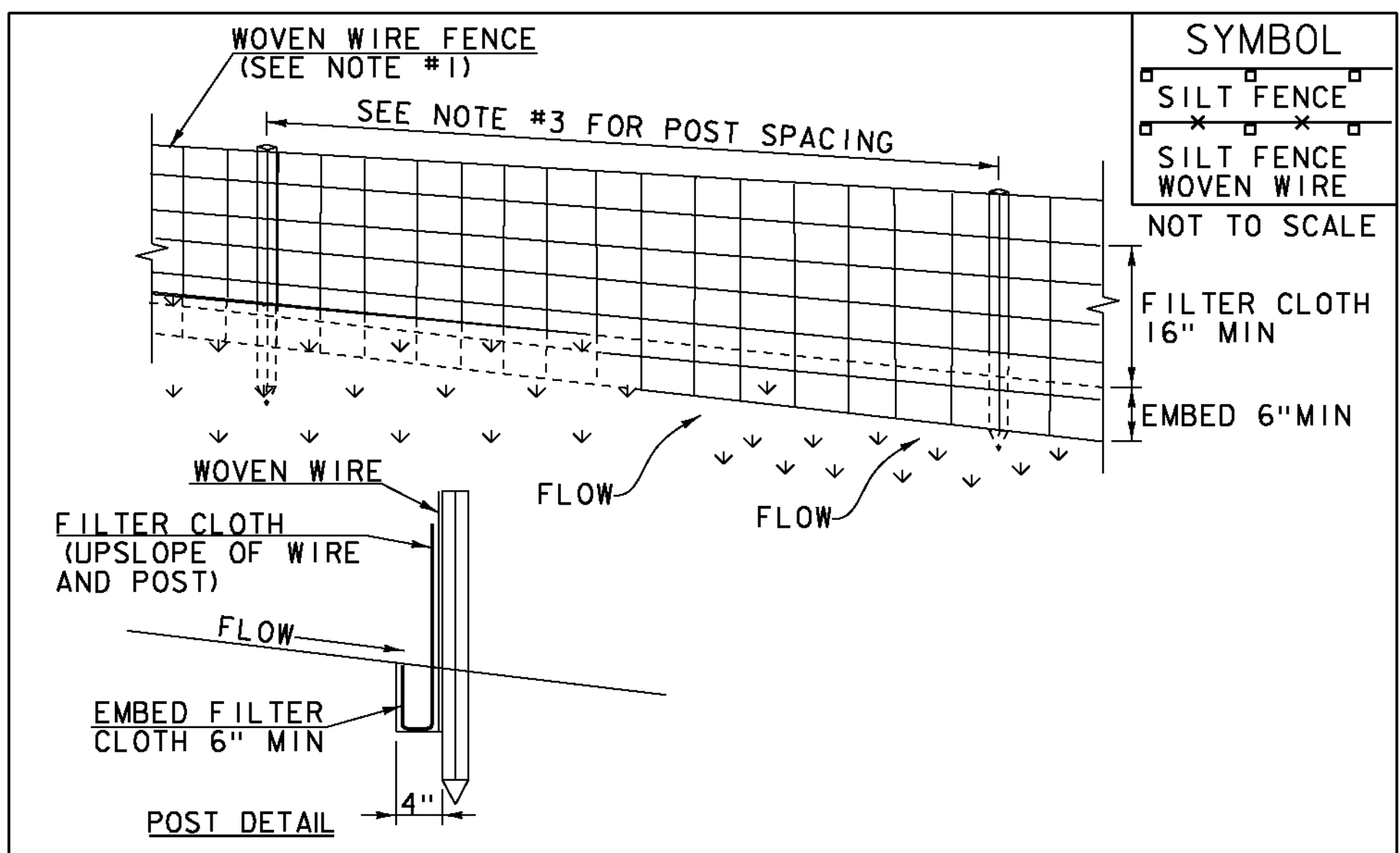
1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 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



**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, MIRAF1100X, 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

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

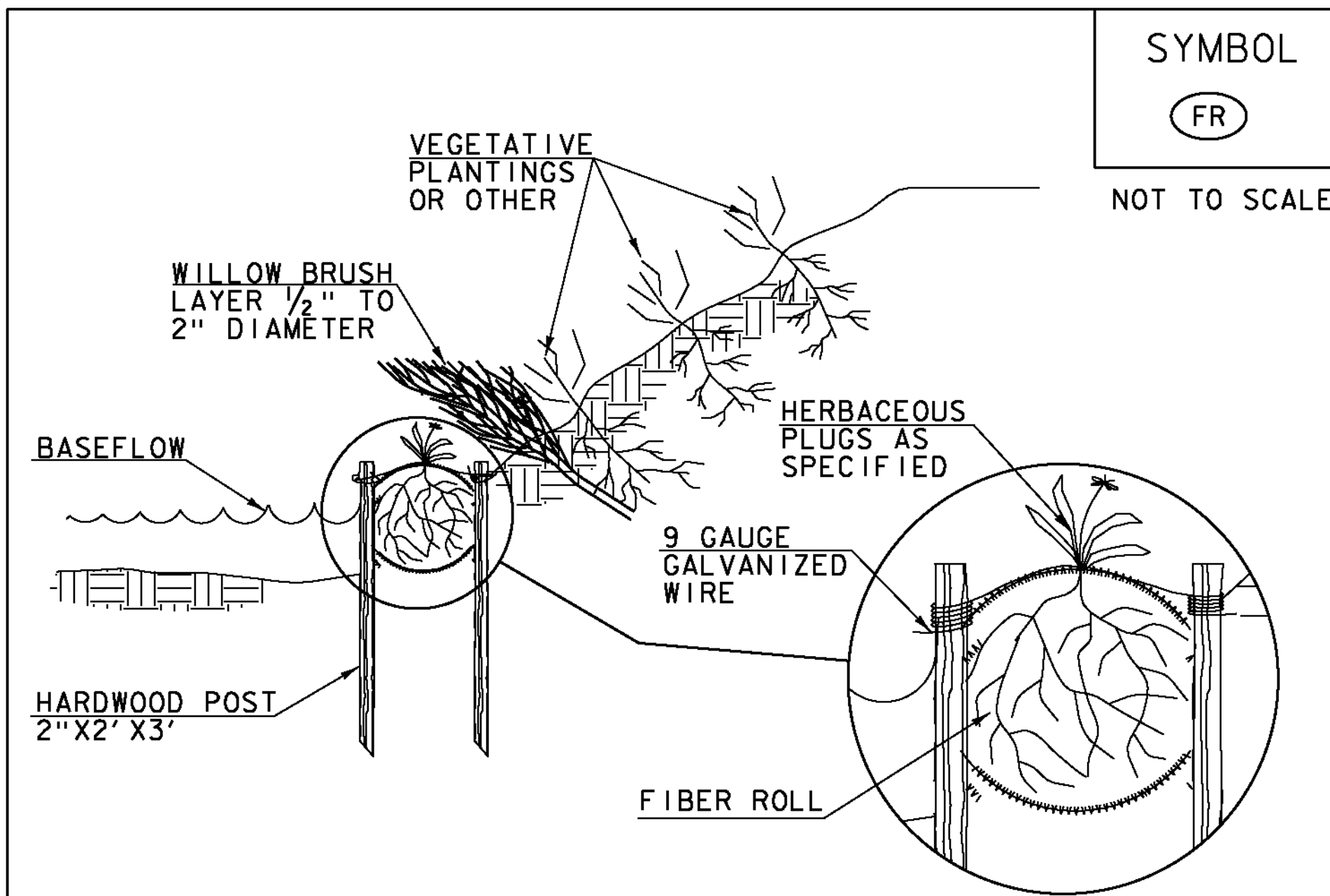
**CONSTRUCTION GUIDANCE**

- RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
- URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
- ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
- 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.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- 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
- 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**

FR

NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

- EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS
- PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2"x2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
- NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE.
- PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANT WITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION, IF SPECIFIED, SHALL BE PLANTED INTO THE FIBER ROLL.

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

**FIBER ROLL  
(EROSION LOG)**

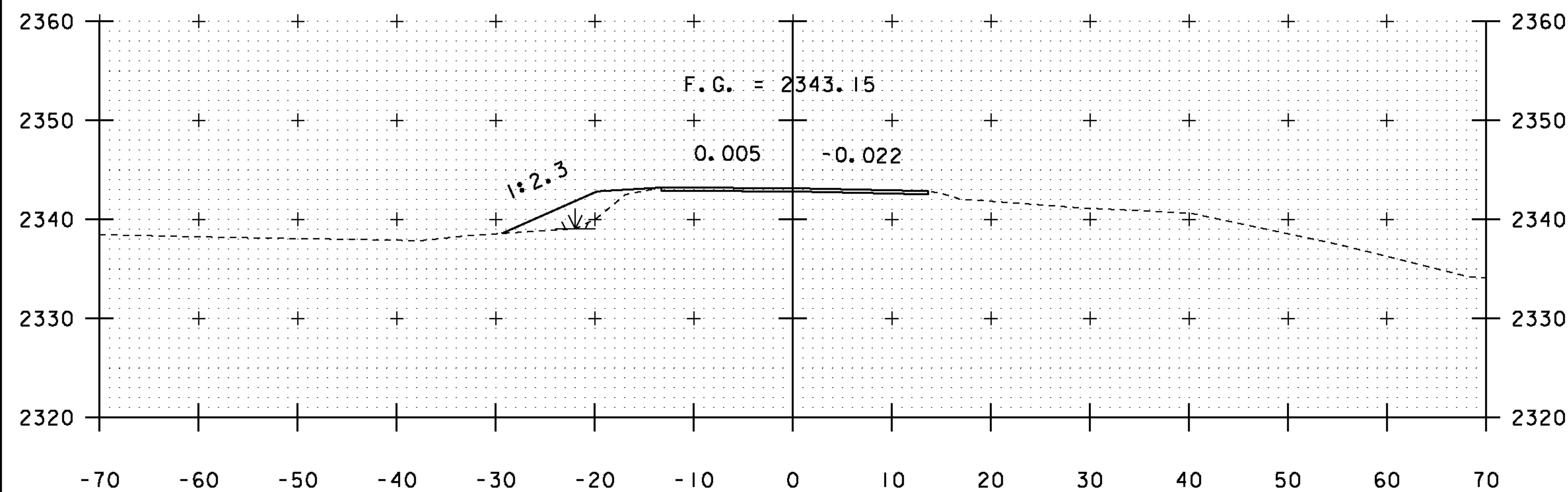
NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR EROSION LOG (PAY ITEM 653.60)

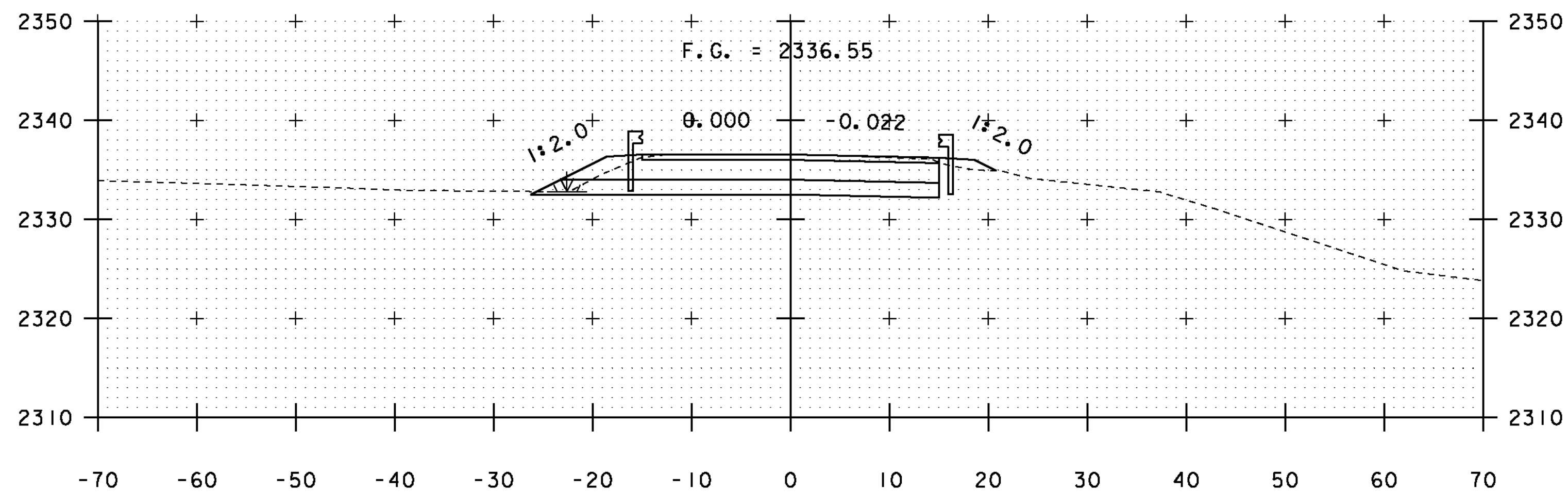
REVISIONS		
MARCH 21, 2008	WHF	
JANUARY 13, 2009	WHF	

PROJECT NAME: SEARSBURG  
PROJECT NUMBER: STP SCR(7)

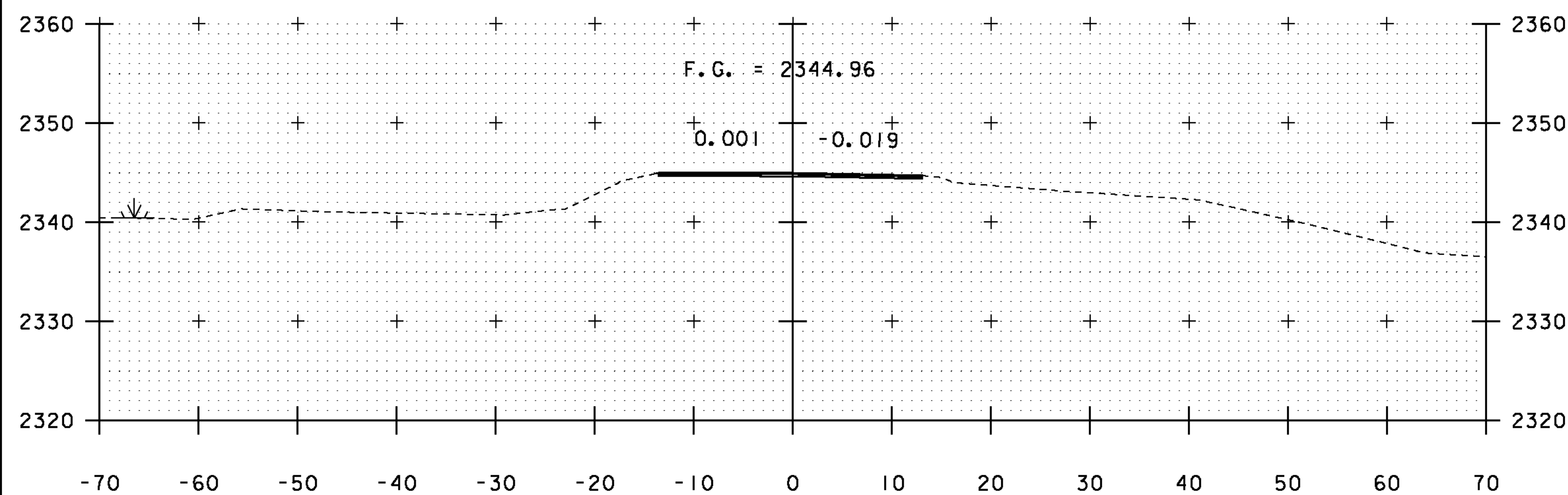
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PROJECT LEADER: K. UPMAL DRAWN BY: B. MCADAMS  
DESIGNED BY: B. MCADAMS CHECKED BY: A. KEMPTON  
EPSC DETAILS SHEET 2 SHEET 27 OF 35



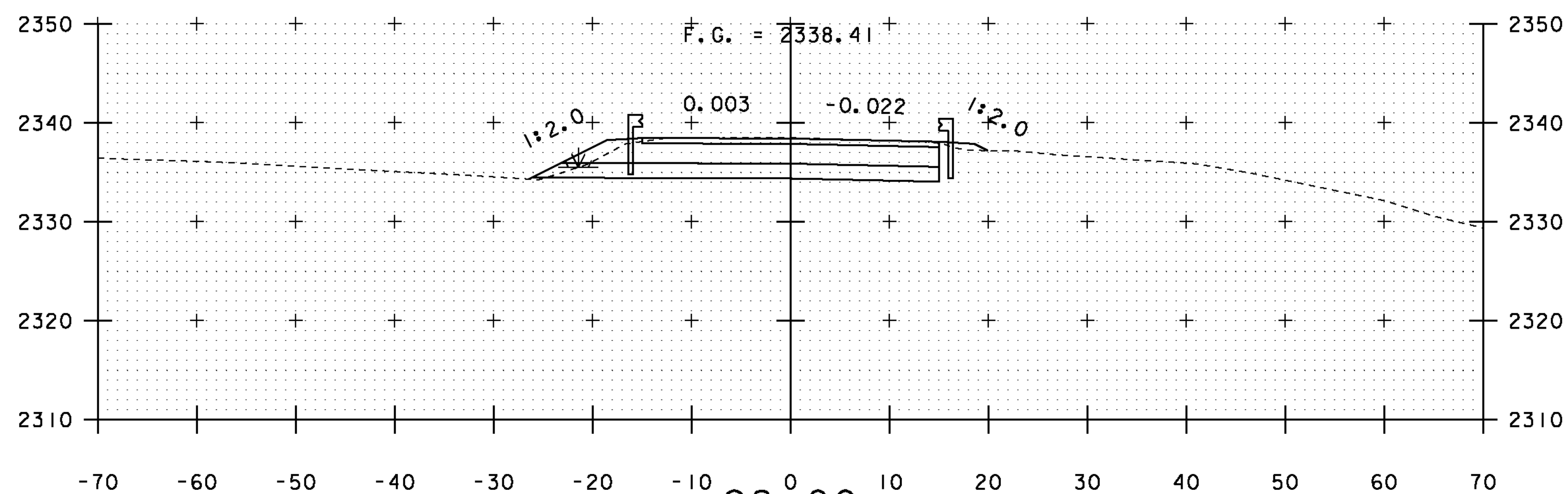
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END COLD PLANE



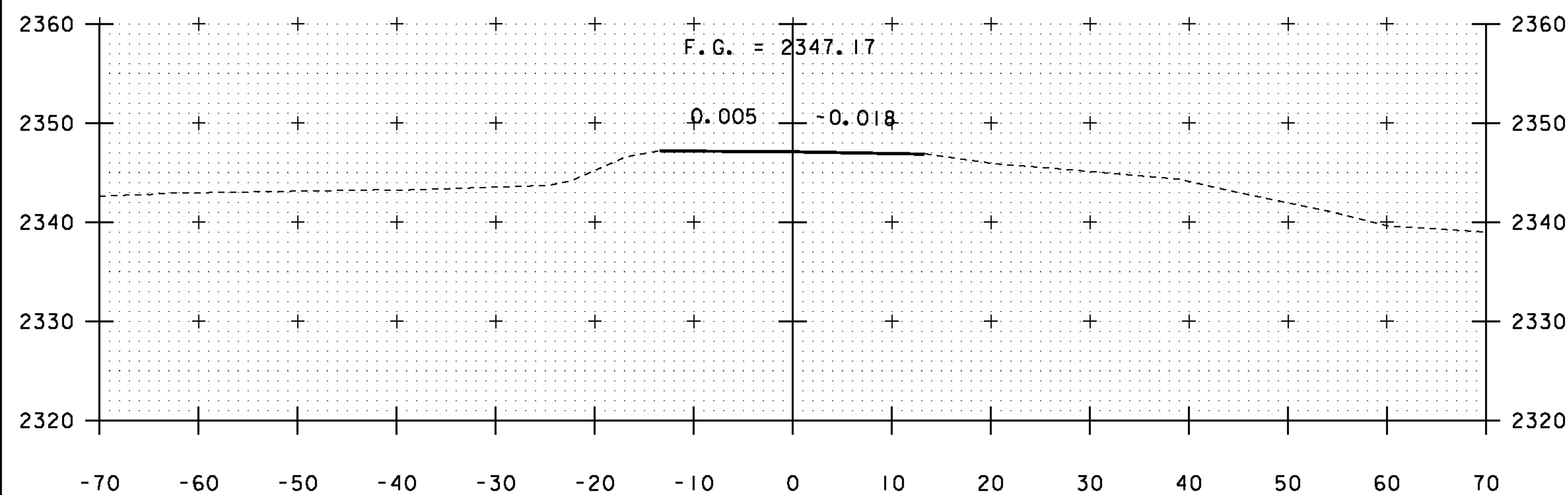
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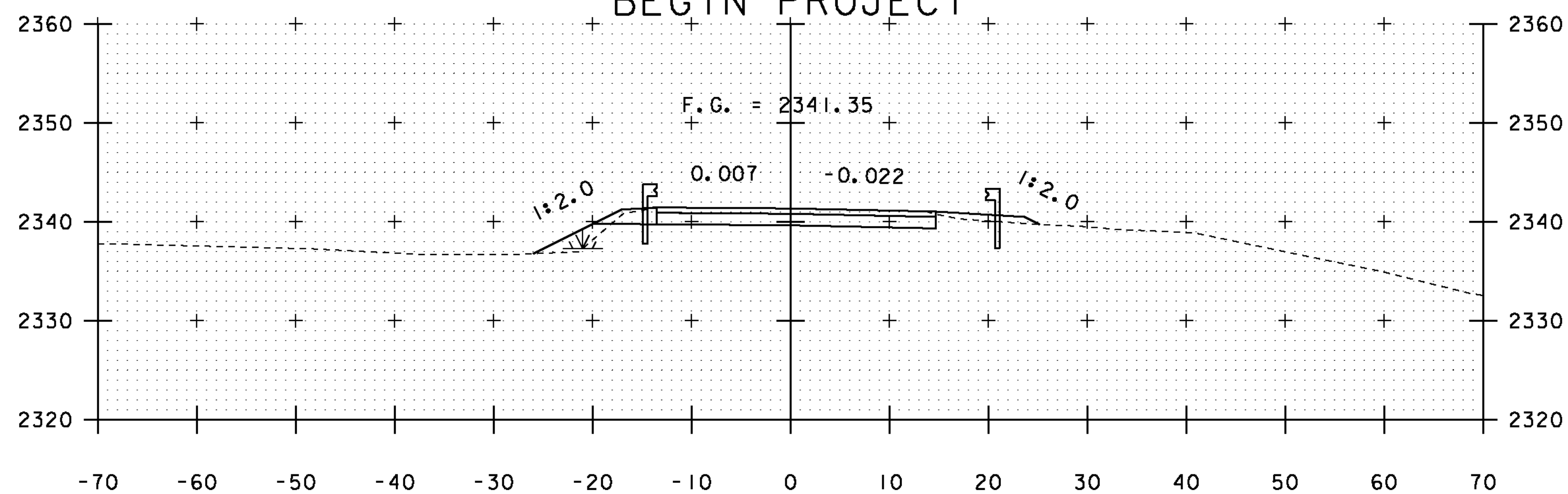
97+00



98+00  
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BEGIN PROJECT



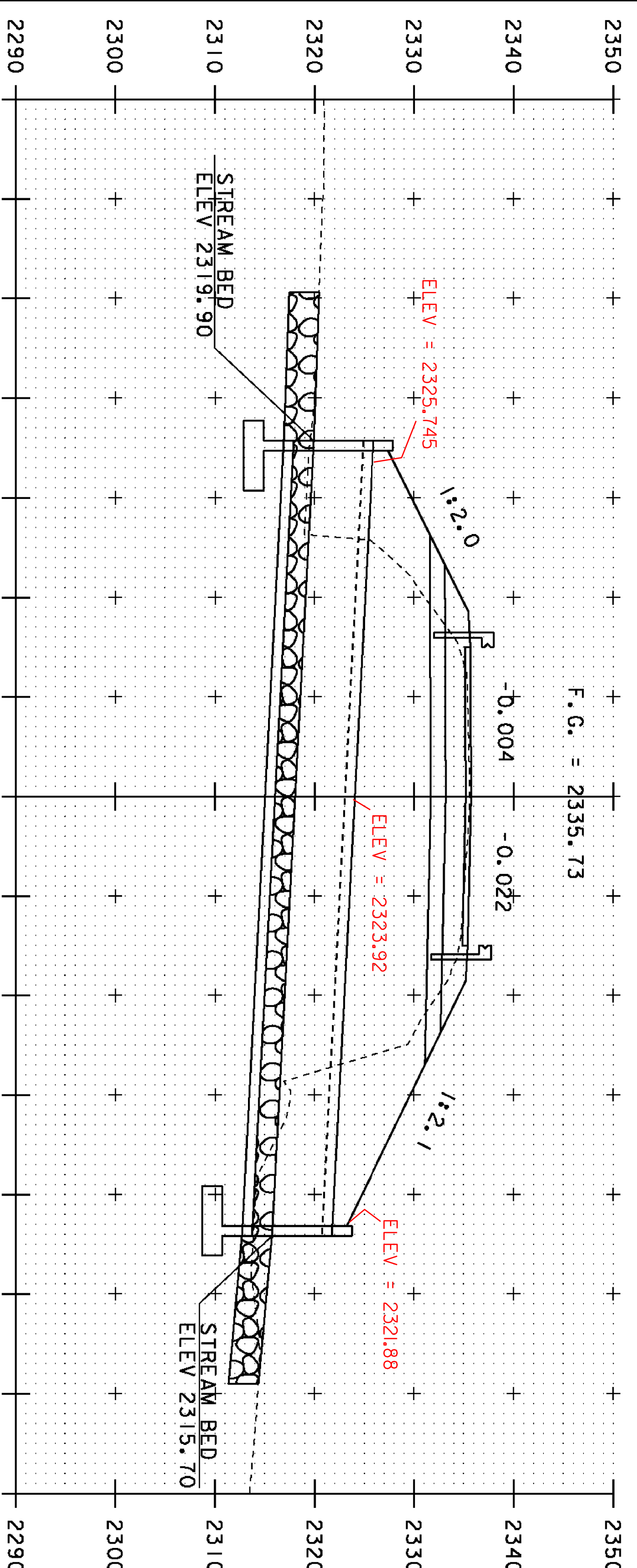
96+75  
BEGIN APPROACH  
BEGIN COLD PLANE



97+50

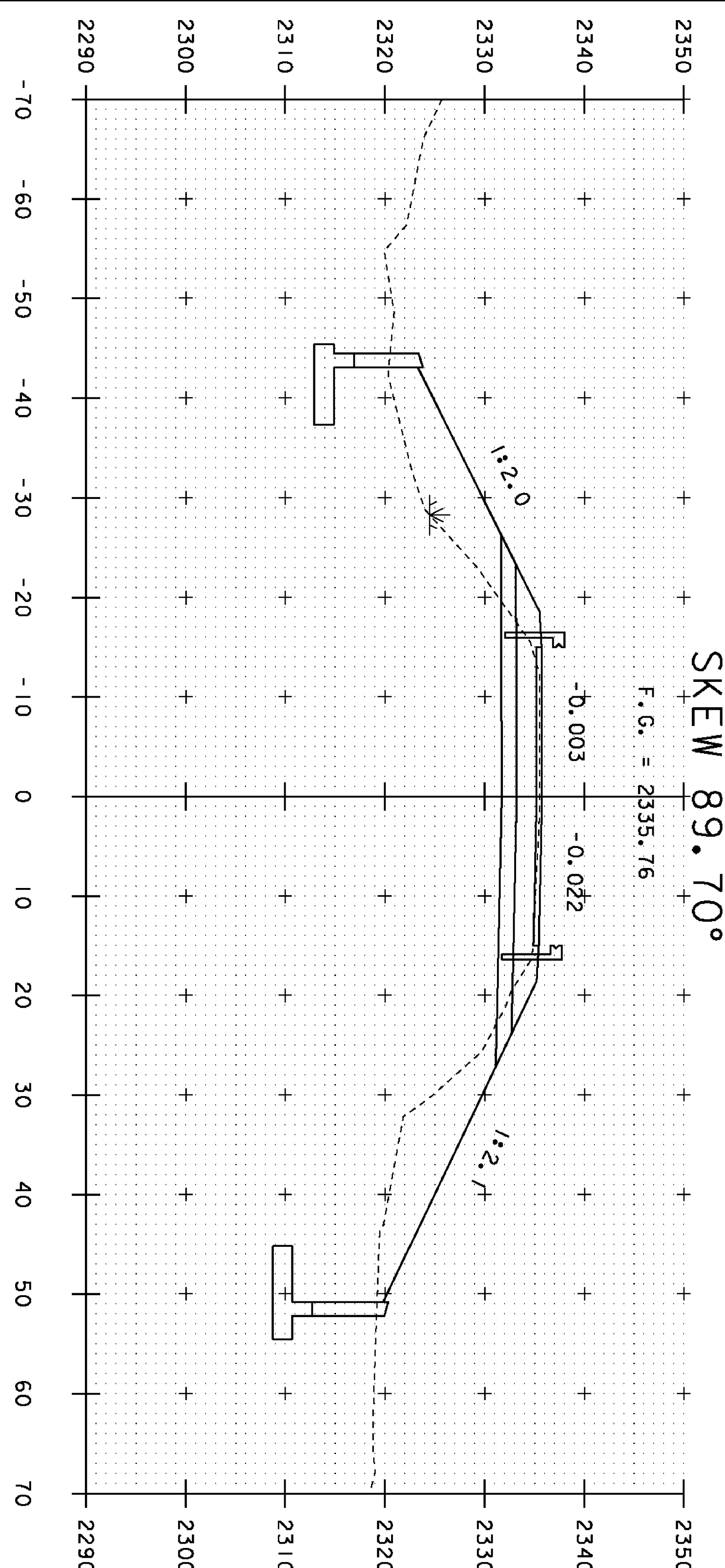
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PROJECT NUMBER: STP SCRP(7)	
FILE NAME: d:\0ci98_xsec.dgn	PLOT DATE: 27-FEB-2013
PROJECT LEADER: K. UPMAL	DRAWN BY: B. MCADAMS
DESIGNED BY: B. MCADAMS	CHECKED BY: A. KEMPTON
MAINLINE CROSS SECTIONS I	SHEET 28 OF 35

STA. 96+75 TO STA. 98+50

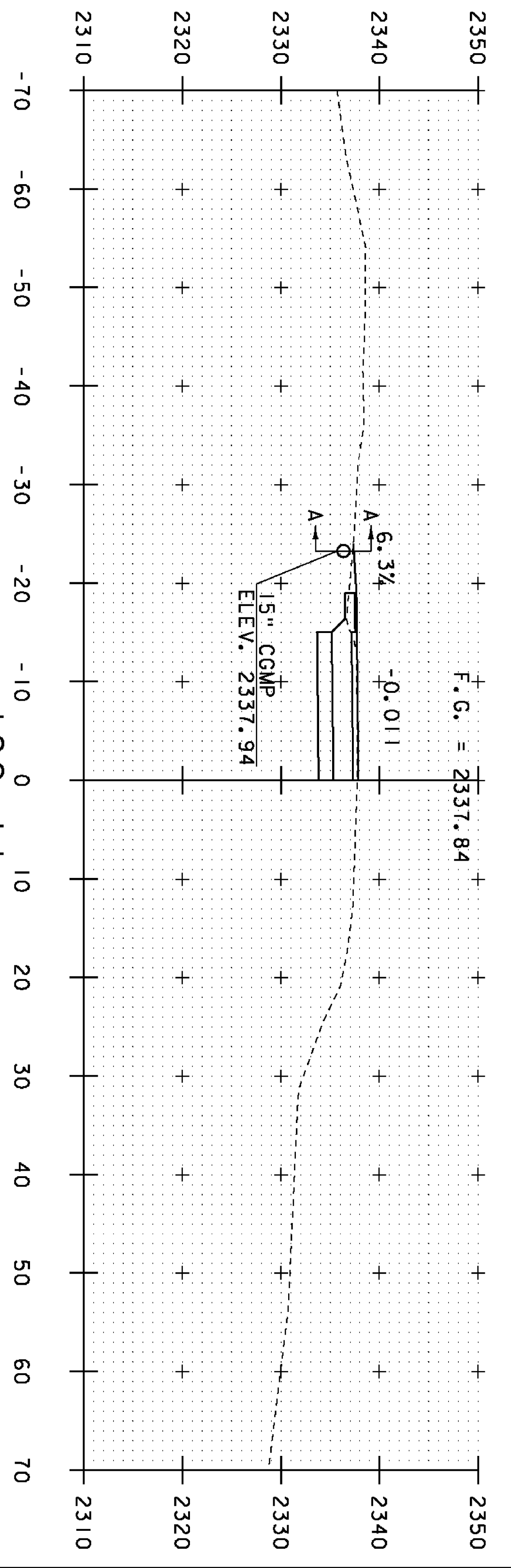


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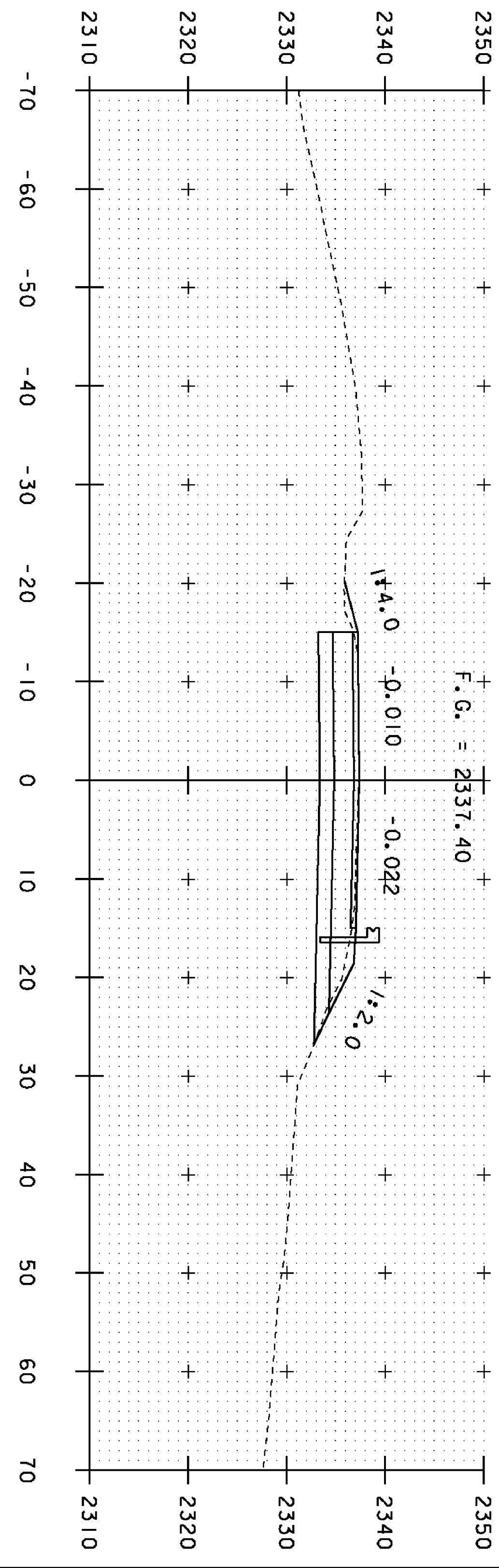
BOX CULVERT  
SKEW 89.70°



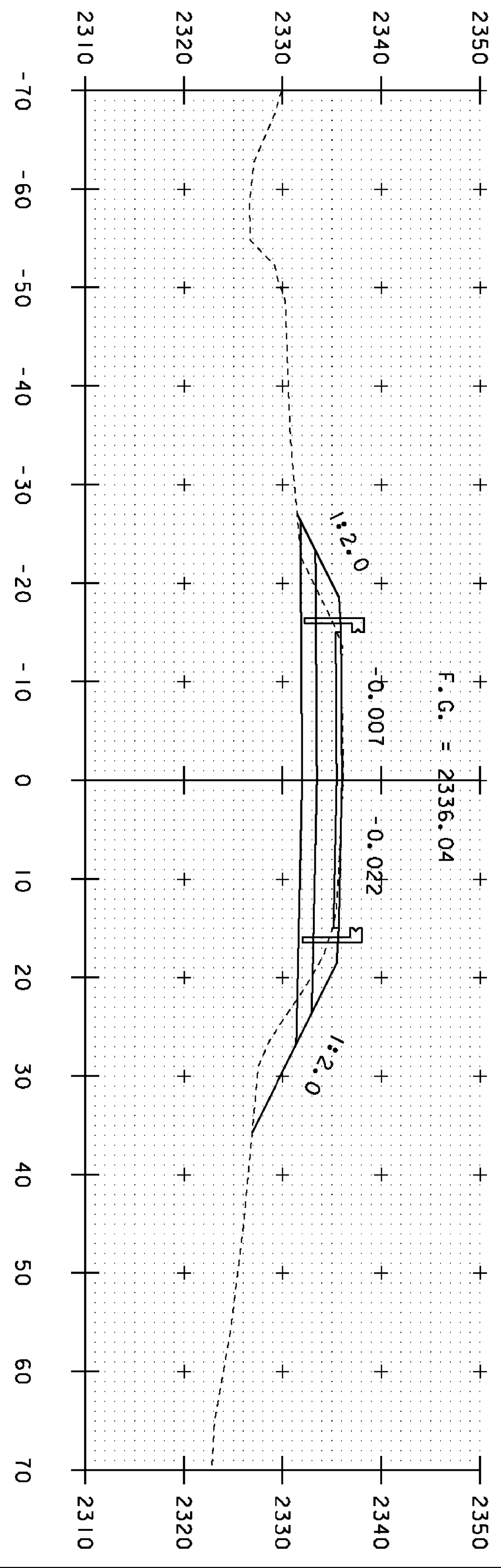
99+00



100+11  
DRIVE LT



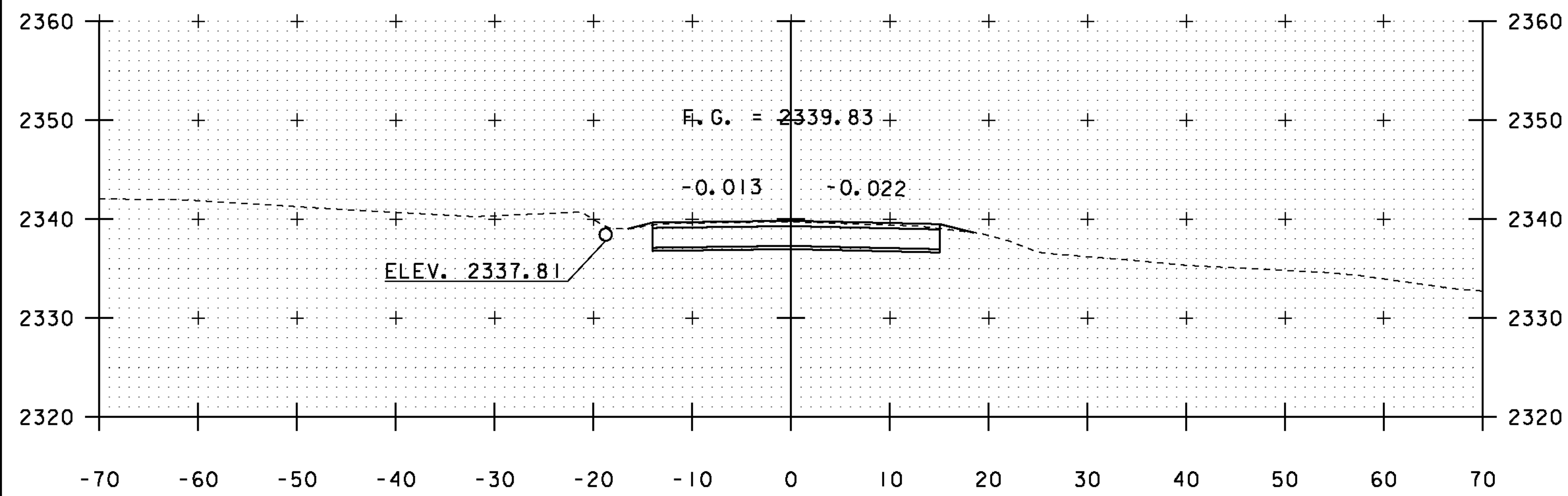
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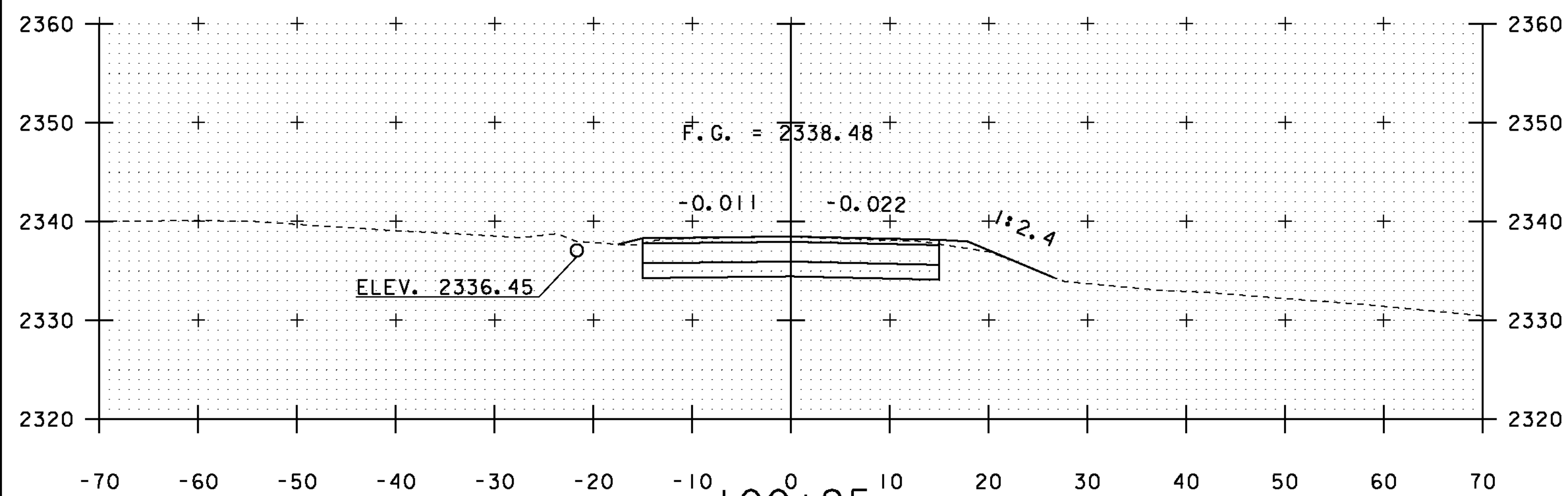
99+50

PROJECT NAME: SEARSBURG  
PROJECT NUMBER: STP SCRPT(7)  
FILE NAME: d:\0918.xsec.dgn  
PROJECT LEADER: K. UPWAL  
DESIGNED BY: B. MCADAMS  
DRAWN BY: B. MCADAMS  
CHECKED BY: A. KEMPTON  
PLOT DATE: 27-FEB-2013  
SHEET 29 OF 35

STA. 99+00 TO STA. 100+11

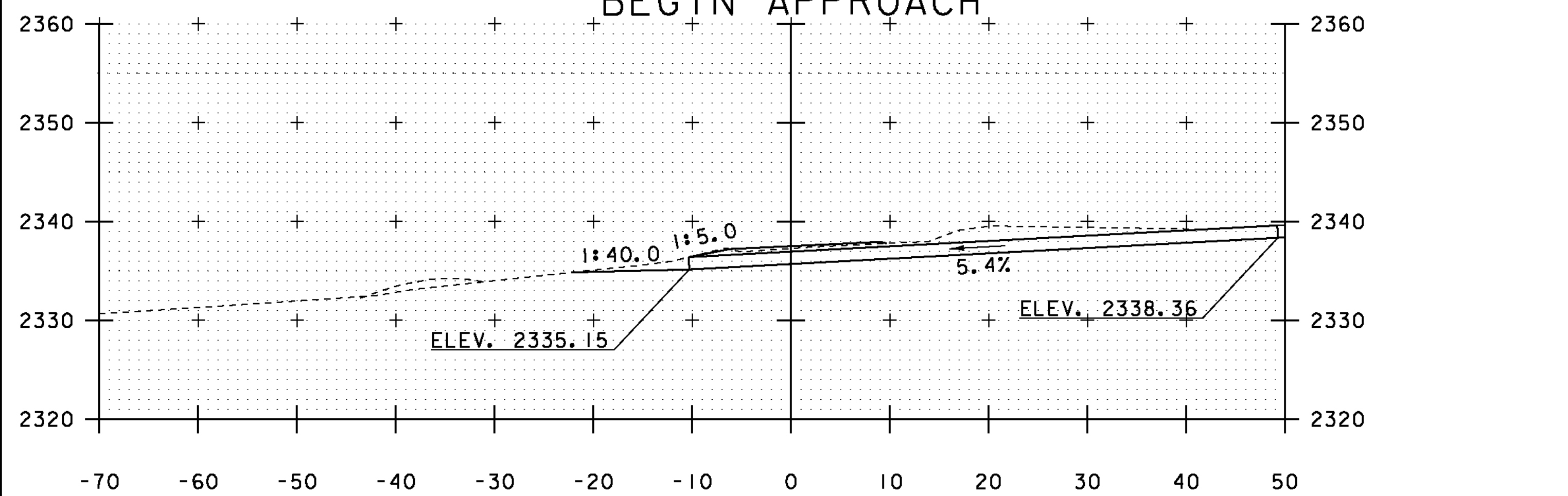


100+50



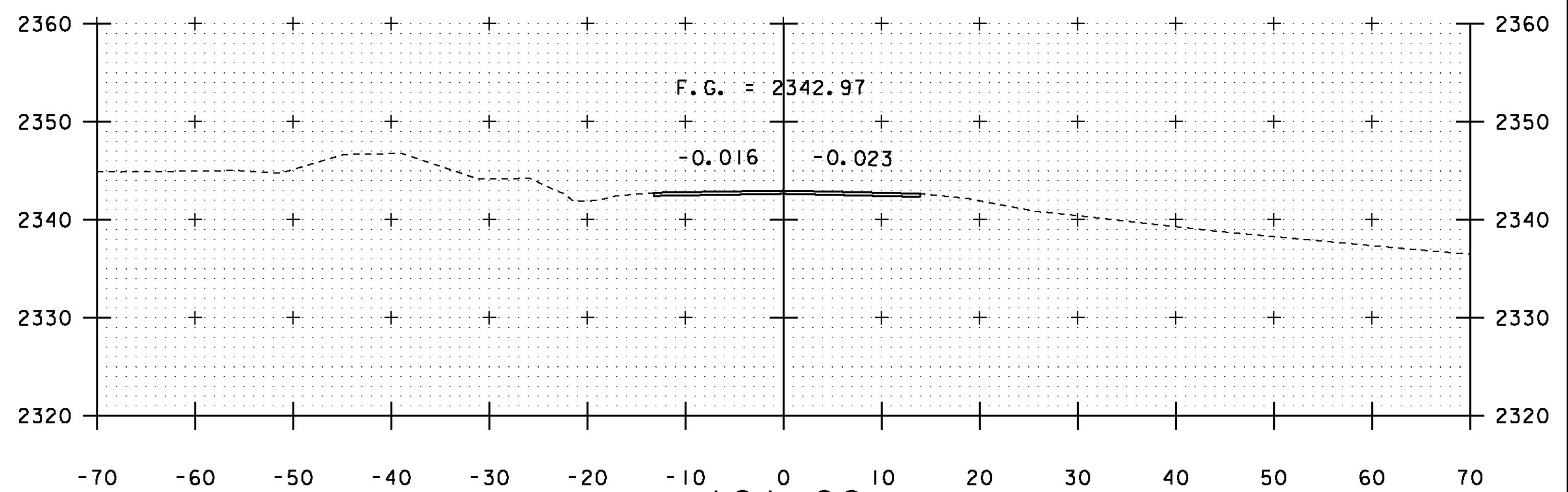
100+25

END PROJECT  
BEGIN APPROACH



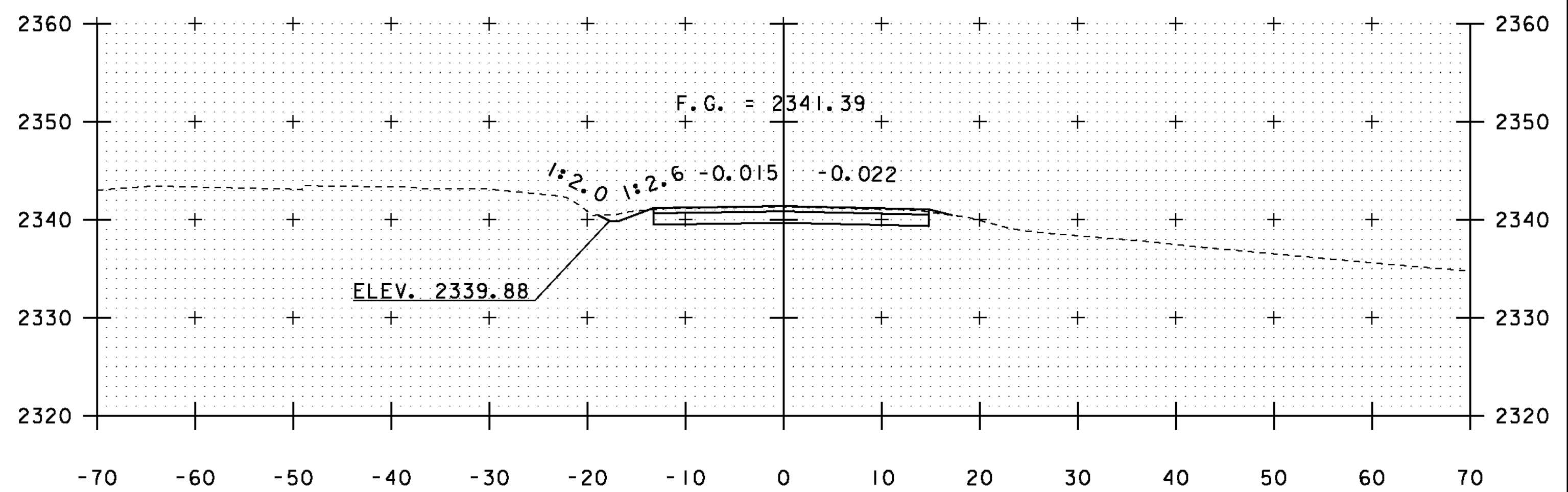
100+11

DRIVE SECTION A-A  
SKEW 83.35°



101+00

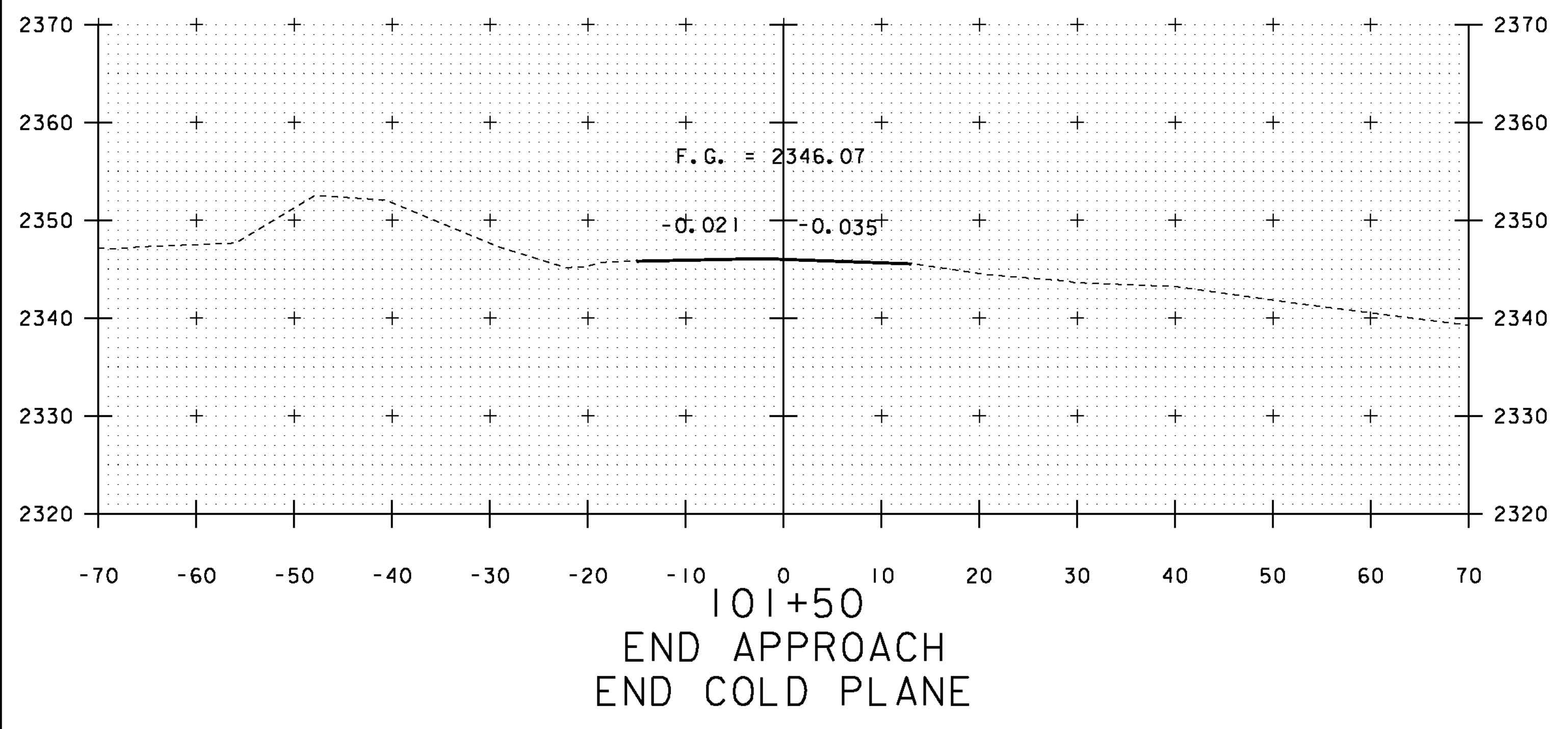
BEGIN COLD PLANE



100+75

STA. 100+11 TO STA. 101+00

PROJECT NAME:	SEARSBURG
PROJECT NUMBER:	STP SCRP(7)
FILE NAME:	d:\0c198_xsec.dgn
PROJECT LEADER:	K. UPMAL
DESIGNED BY:	B. MCADAMS
MAINLINE CROSS SECTION 3	
PLOT DATE:	27-FEB-2013
DRAWN BY:	B. MCADAMS
CHECKED BY:	A. KEMPTON
SHEET	30 OF 35



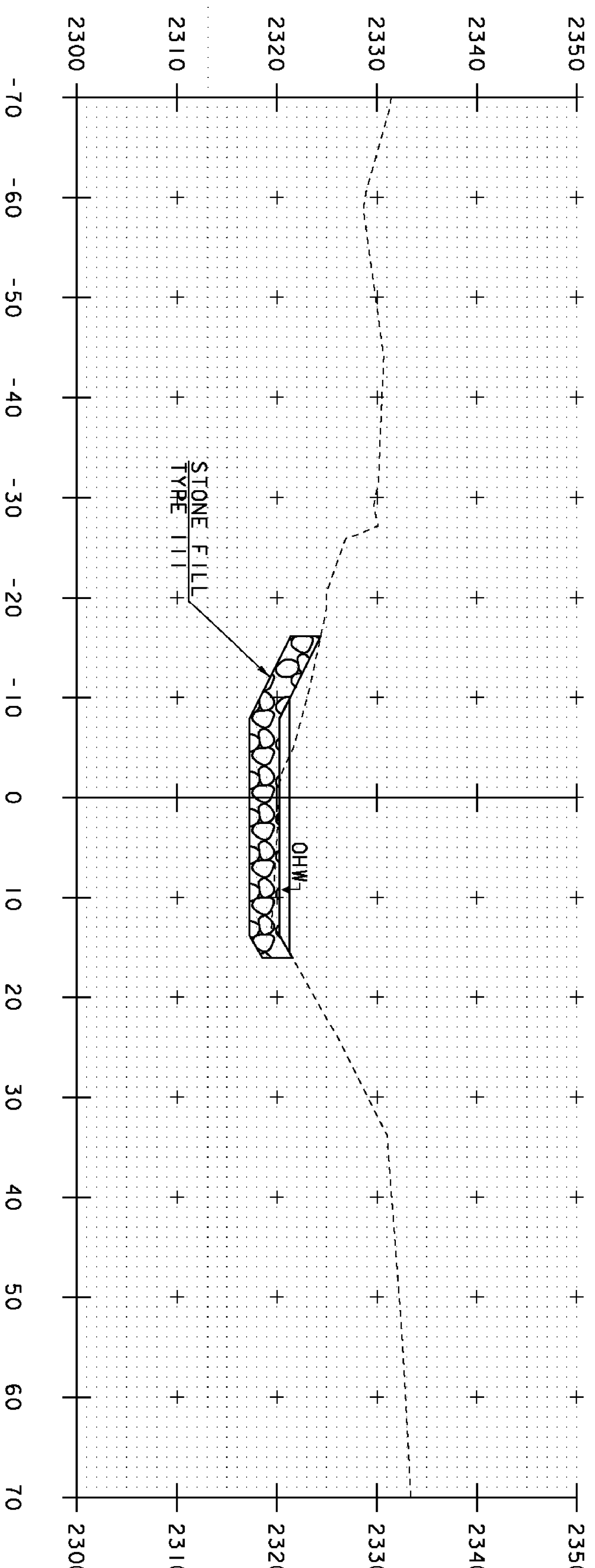
PROJECT NAME: SEARSBURG  
 PROJECT NUMBER: STP SCR(7)

FILE NAME: d10c198\_xsec.dgn  
 PROJECT LEADER: K. UPMAL  
 DESIGNED BY: B.MCADAMS  
 MAINLINE CROSS SECTIONS 4

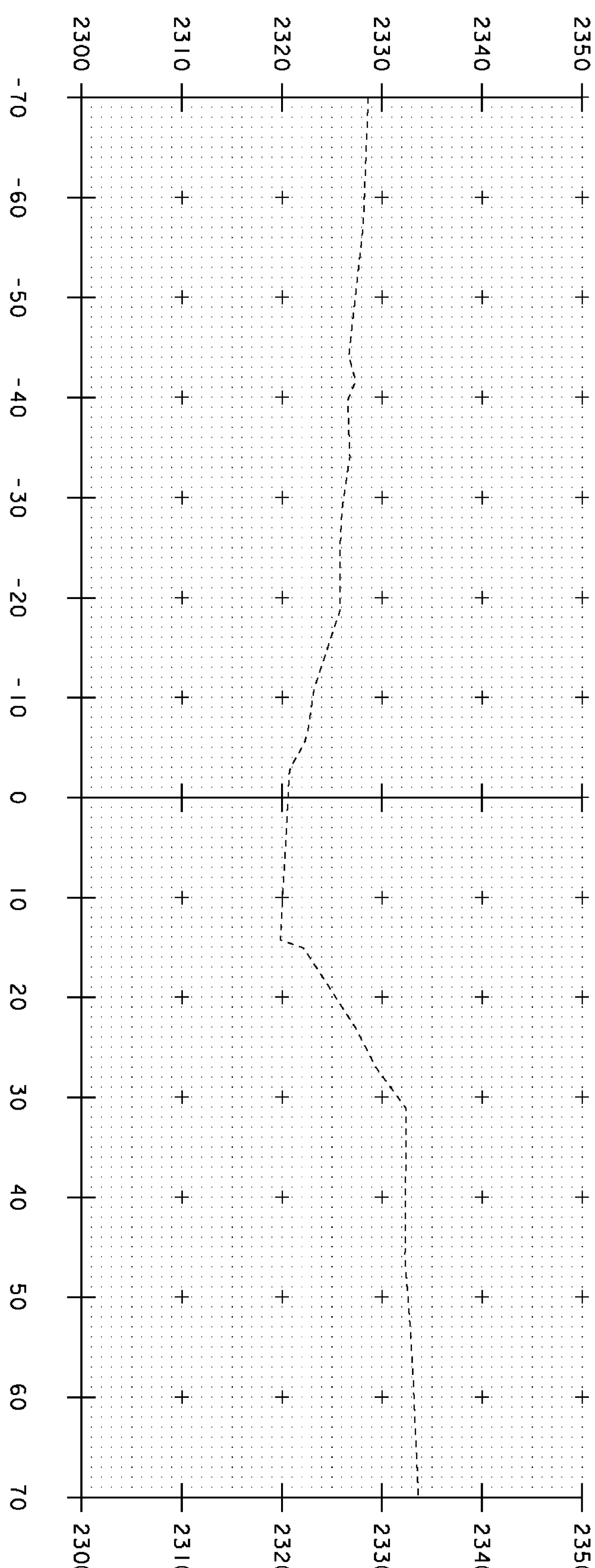
PLOT DATE: 27-FEB-2013  
 DRAWN BY: B.MCADAMS  
 CHECKED BY: A. KEMPTON  
 SHEET 31 OF 35

STA. 101+50

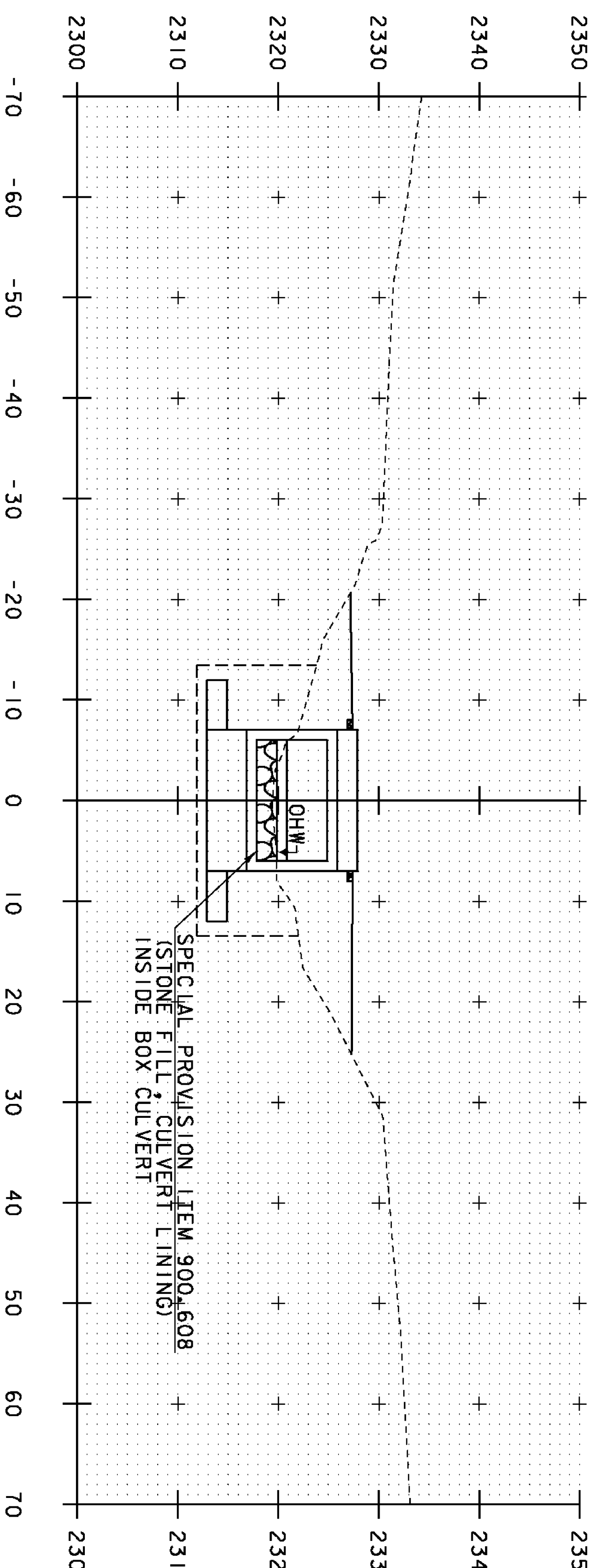
STA 10+14.40  
 BEGIN STONE FILL, TYPE 111  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION



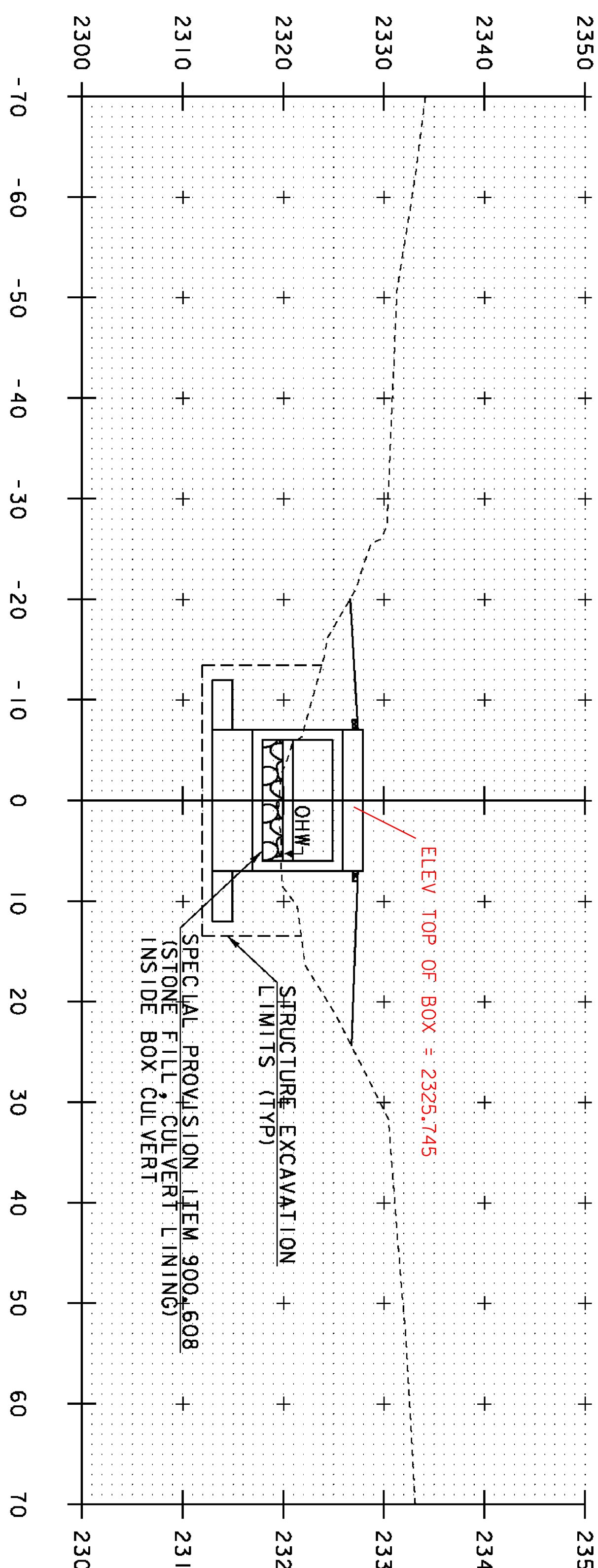
10+20



10+10



10+30



10+29  
 BOX INLET

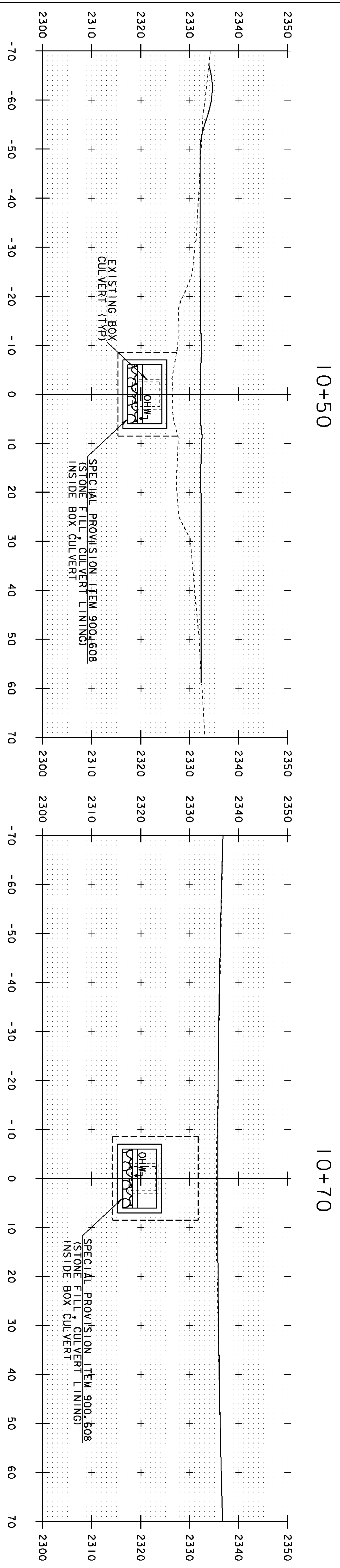
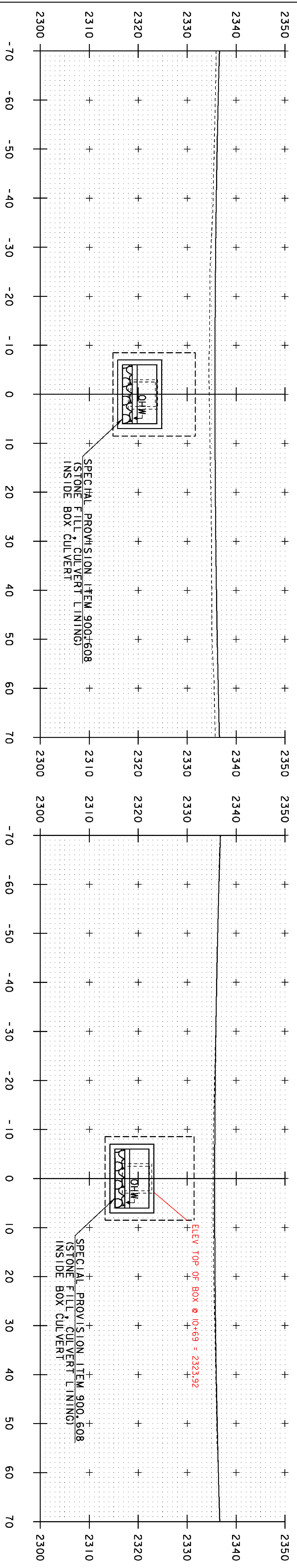
STA 10+28.80  
 END STONE FILL, TYPE 111  
 END GEOTEXTILE UNDER STONE FILL  
 END UNCLASSIFIED CHANNEL EXCAVATION

STA 10+28.80  
 BEGIN SPECIAL PROVISION (STONE FILL,  
 CULVERT LINING)

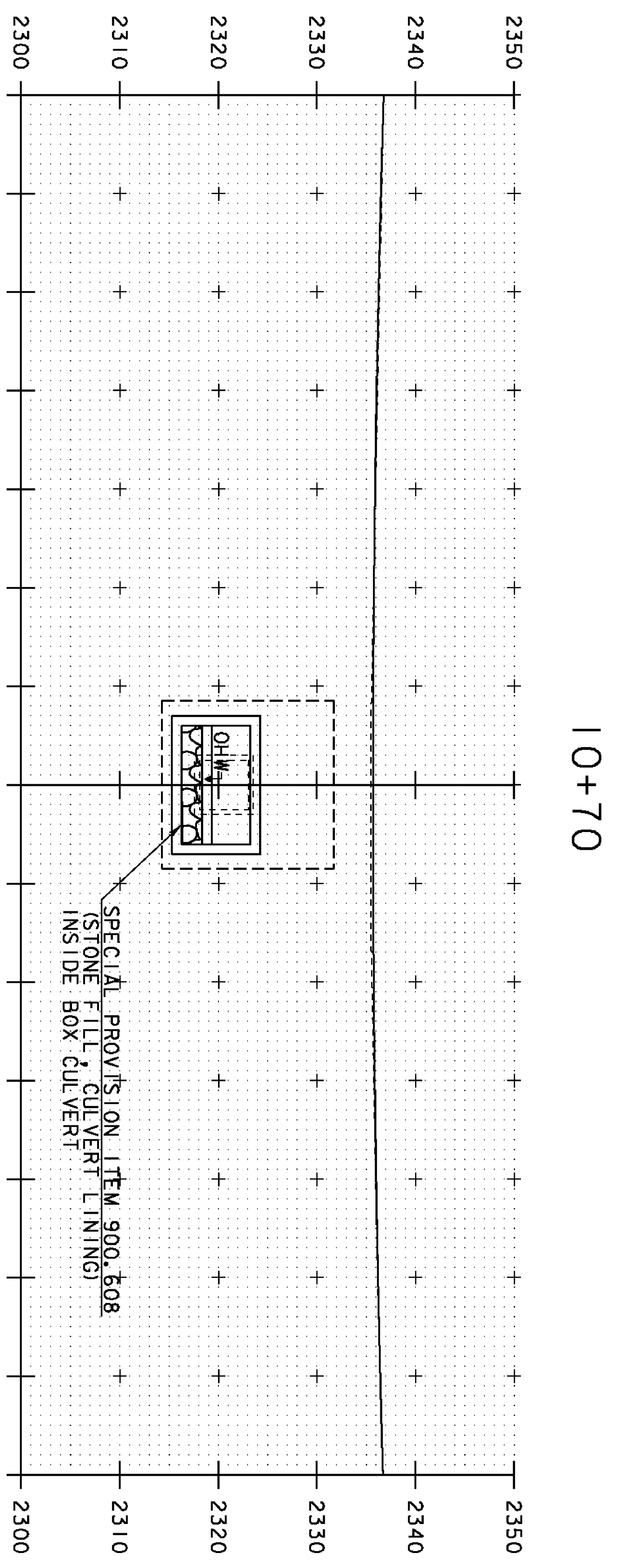
PROJECT NAME: SEARSBURG  
 PROJECT NUMBER: STP SCRPT(7)

FILE NAME: d10c198\_xsec.dgn  
 PROJECT LEADER: K. UPVAL  
 DESIGNED BY: B. MCADAMS  
 CHANNEL CROSS SECTIONS 1

PLOT DATE: 27-FEB-2013  
 DRAWN BY: B. MCADAMS  
 CHECKED BY: A. KEMPTON  
 SHEET 32 OF 35



10+60

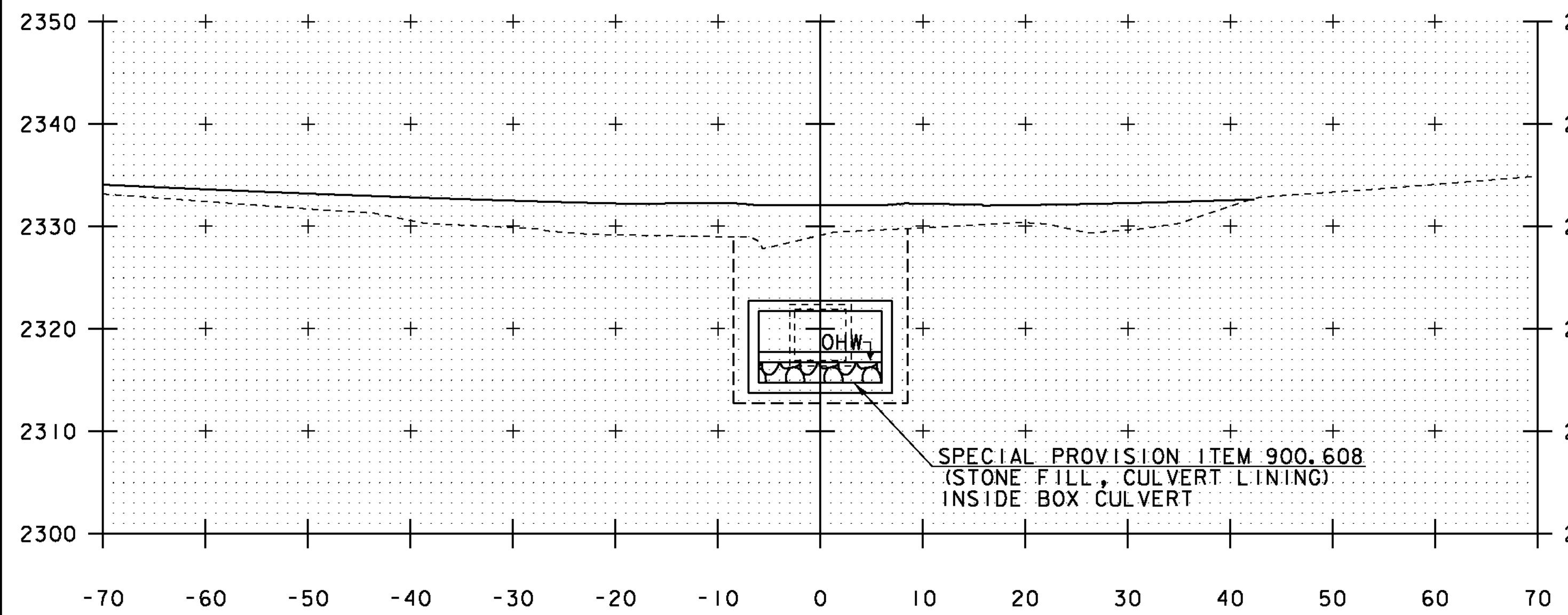


PROJECT NAME: SEARSBURG  
 PROJECT NUMBER: STP SCRPT(7)  
 FILE NAME: d10c198.xsec.dgn  
 PROJECT LEADER: K. UPMIL  
 DESIGNED BY: B. MCADAMS  
 CHANNEL CROSS SECTIONS 2

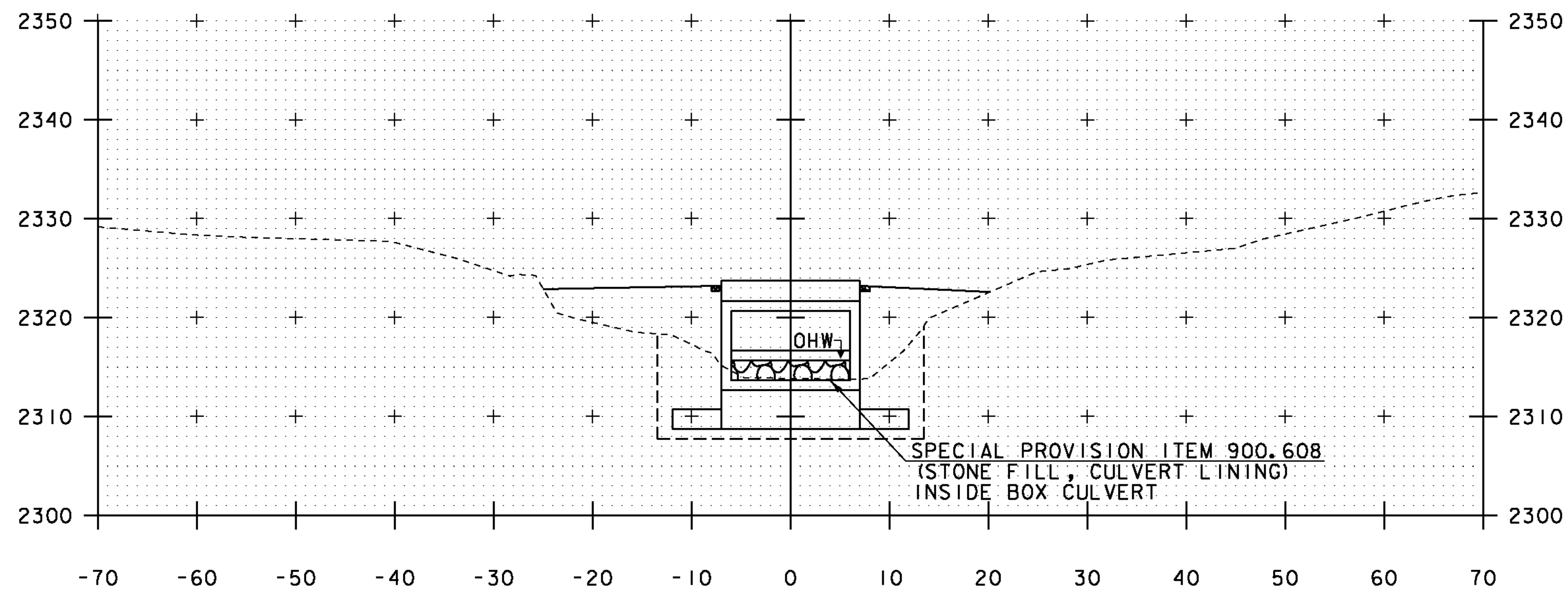
PLOT DATE: 27-FEB-2013  
 DRAWN BY: B. MCADAMS  
 CHECKED BY: A. KEMPTON  
 SHEET 33 OF 35

STA. 10+40 TO STA. 10+70

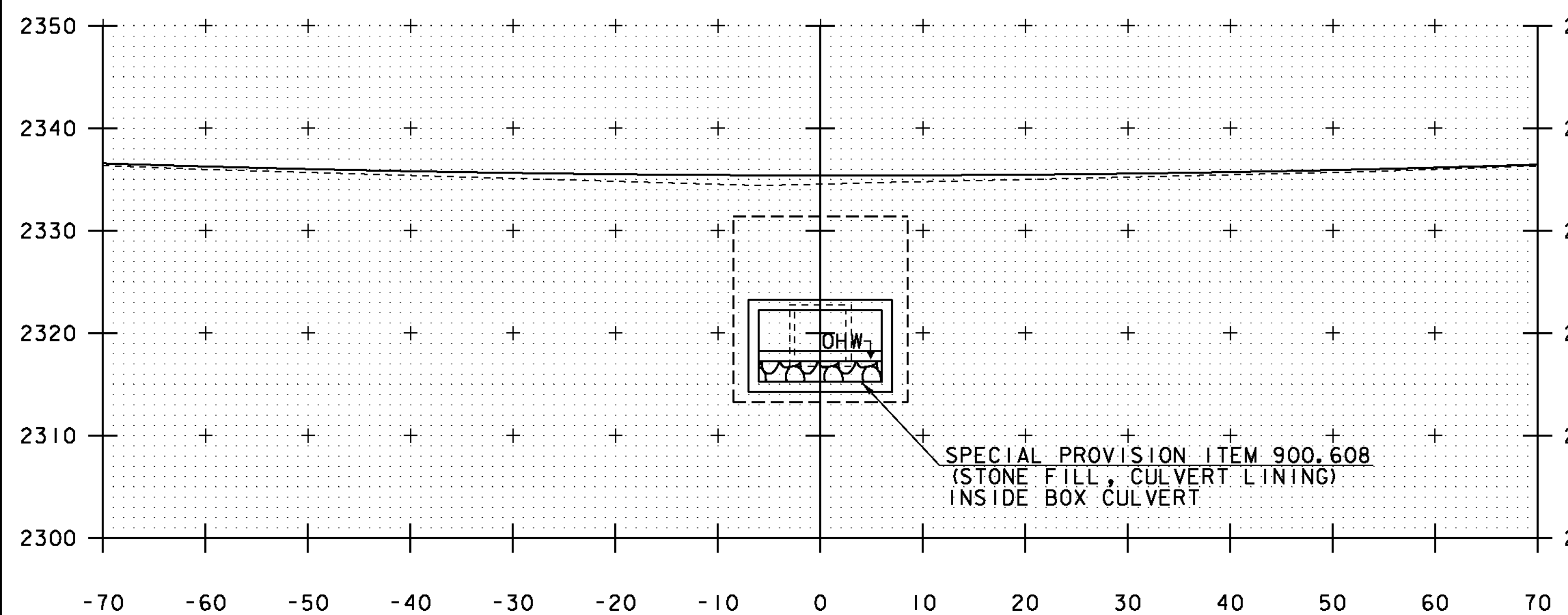
STA 11+09.20 END SPECIAL PROVISION (STONE FILL, CULVERT LINING)



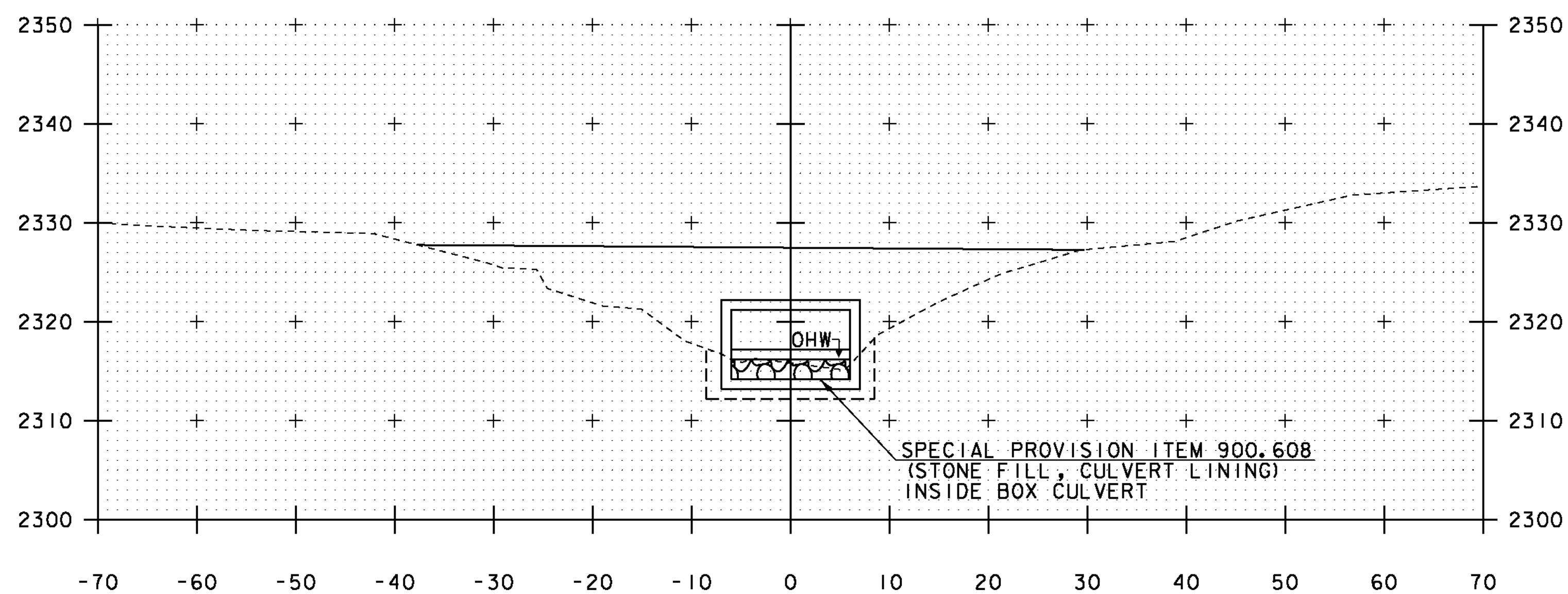
10+90



11+09  
BOX OUTLET



10+80

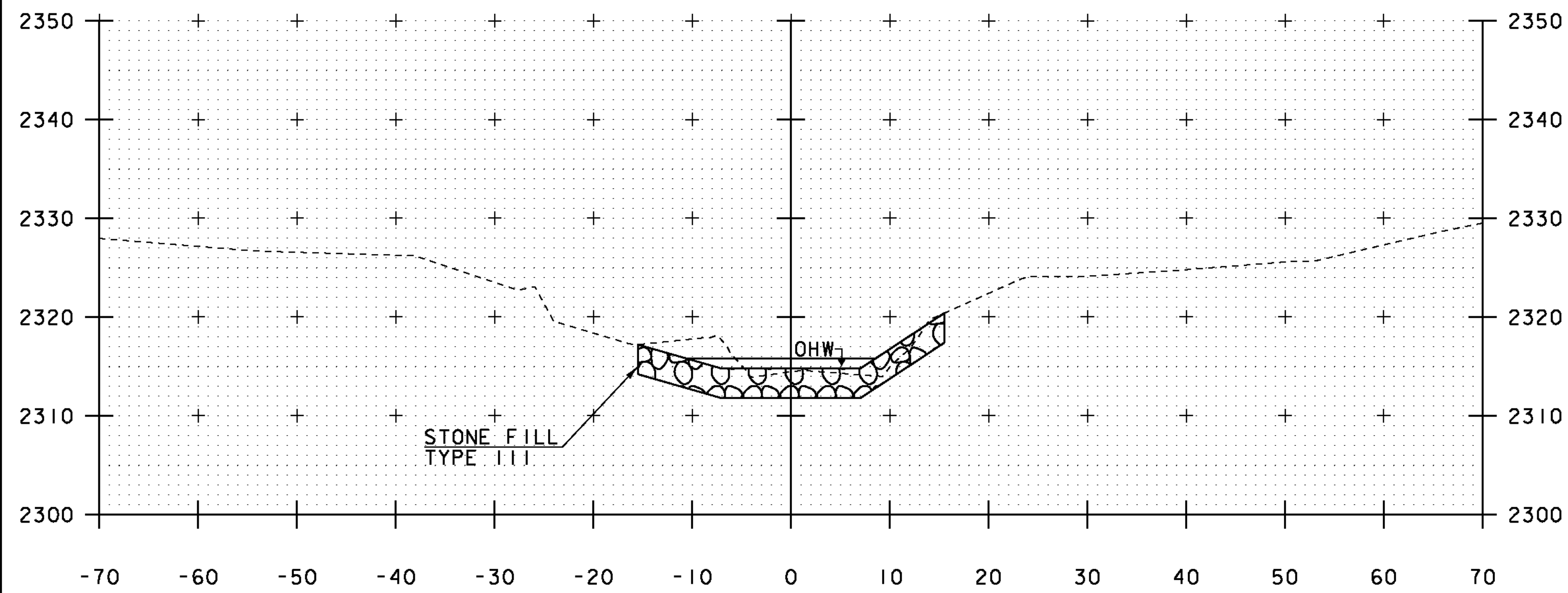


11+00

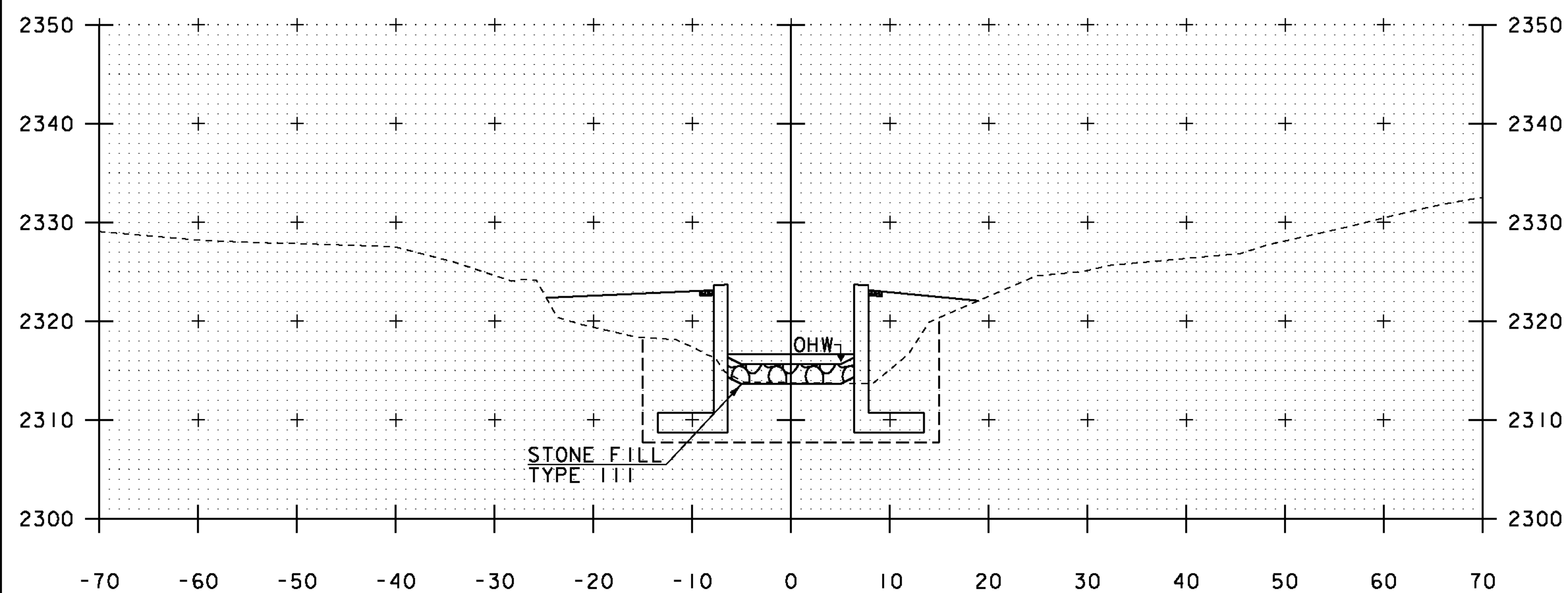
PROJECT NAME: SEARSBURG	
PROJECT NUMBER: STP SCR(7)	
FILE NAME: d10c198_xsec.dgn	PLOT DATE: 27-FEB-2013
PROJECT LEADER: K. UPMAL	DRAWN BY: B. MCADAMS
DESIGNED BY: B. MCADAMS	CHECKED BY: A. KEMPTON
CHANNEL CROSS SECTIONS 3	SHEET 34 OF 35

STA. 10+80 TO STA. 11+09

STA 11+24.10  
 END STONE FILL, TYPE III  
 END GEOTEXTILE UNDER STONE FILL  
 END UNCLASSIFIED CHANNEL EXCAVATION

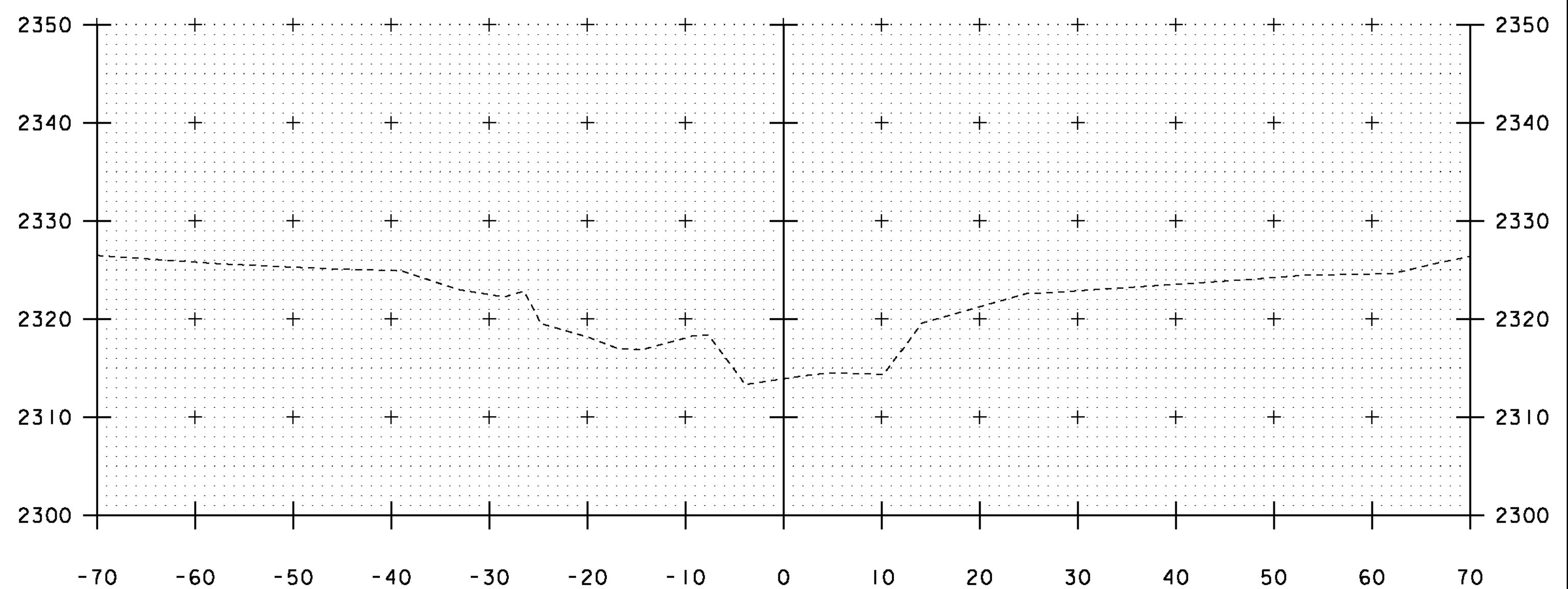


11+20



11+10

STA 11+09.20  
 BEGIN STONE FILL, TYPE III  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION



11+30

PROJECT NAME:	SEARSBURG	FILE NAME:	d:\0c198_xsec.dgn	PLOT DATE:	27-FEB-2013
PROJECT NUMBER:	STP SCR(7)	PROJECT LEADER:	K. UPMAL	DRAWN BY:	B. MCADAMS
		DESIGNED BY:	B. MCADAMS	CHECKED BY:	A. KEMPTON
		CHANNEL CROSS SECTIONS:	4	SHEET:	35 OF 35

STA. 11+10 TO STA. 11+30