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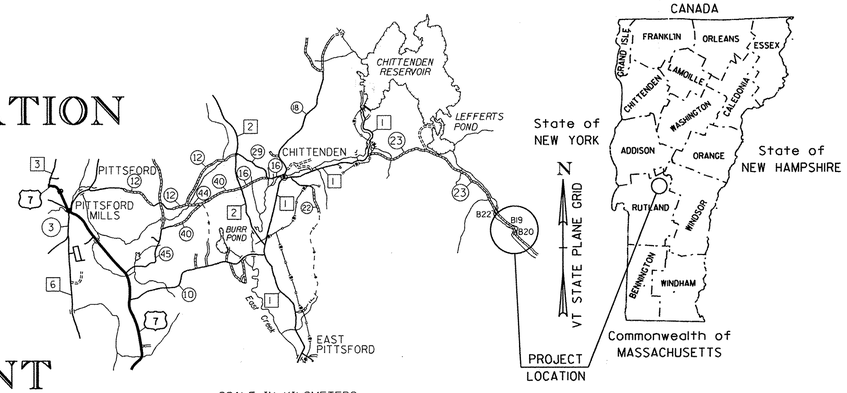
SEE SHEET 2 FOR INDEX OF SHEETS AND LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



RECORD PLANS

CONTRACTOR: TREMBLAY CONSTRUCTION, LLC- WASHINGTON, VT

RESIDENT ENGINEER: NATHAN COVEY

CONSTRUCTION BEGAN: APRIL 14, 2010

CONSTRUCTION COMPLETE: OCTOBER 25, 2010

RECORD PLANS BY: NATHAN COVEY & AMOS KEMPTON

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

BY Nathan Covey RESIDENT ENGINEER

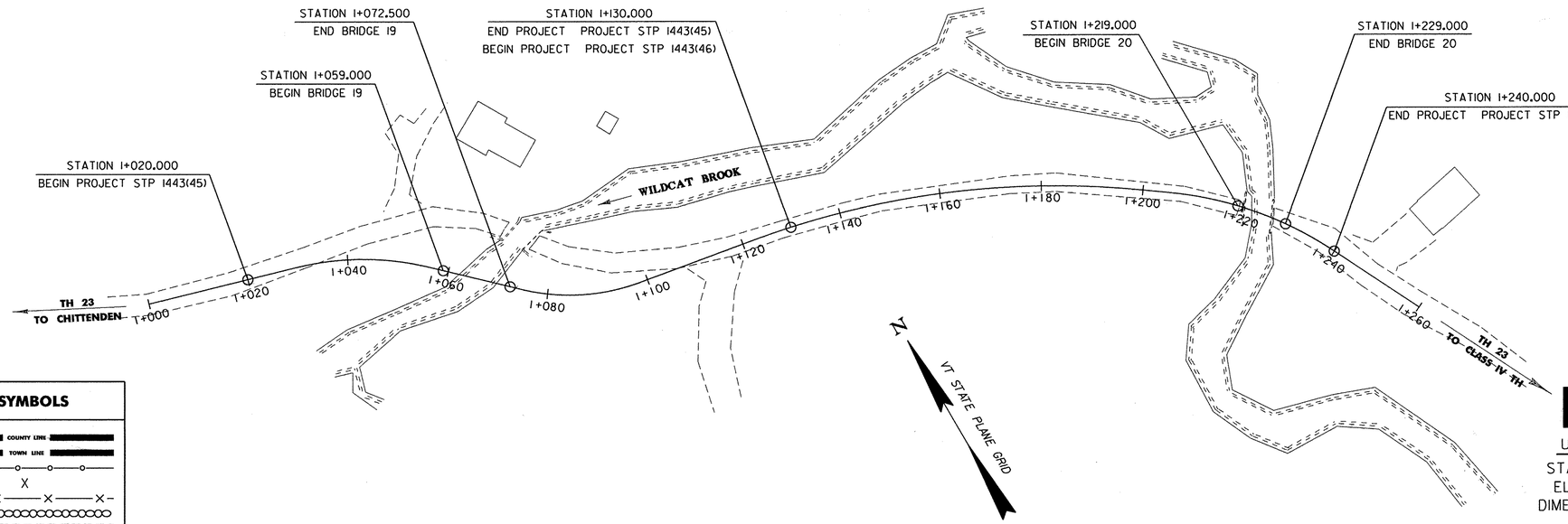
DATE 8/25/11

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.

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF CHITTENDEN
COUNTY OF RUTLAND

CHITTENDEN STP 1443(45)
ROUTE NO:T.H. 23 (LOCAL) BRIDGE 19
SEE SHEET 22 FOR PROJECT LOCATION AND DESCRIPTION

CHITTENDEN STP 1443(46)
ROUTE NO:T.H. 23 (LOCAL) BRIDGE 20
SEE SHEET 53 FOR PROJECT LOCATION AND DESCRIPTION



CONVENTIONAL SYMBOLS

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

SURVEYED BY : L. ORVIS
SURVEYED DATE : AUGUST 1998

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83/92

0 10 20 30
SCALE 1:500

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

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.

/str1/96j236/sj236bdr.dgn sj236t1.i PLOTTED:13-AUG-2009

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Richard Peterson DATE 8/14/09

PROJECT MANAGER : C. CARLSON

PROJECT NAME : CHITTENDEN
PROJECT NUMBER : STP 1443(45)
STP 1443(46)

SHEET 1 OF 81 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

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VAOT Metric

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PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STPI443(45) & STPI443(46)

FILE NAME: 96J236\STR\sj236pi.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: C. CARLSON
PLOT DATE: 14-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: C. CARLSON
SHEET 2 OF 81

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SEVENTEENTH EDITION WITH 2002 INTERIMS.

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

3. THE EXISTING SIGNS THAT ARE REMOVED SHALL REMAIN THE PROPERTY OF THE TOWN OF CHITTENDEN. THE SIGNS AND POSTS SHALL BE STOCKPILED FOR THE TOWN TO PICK UP. CONTACT THE CHITTENDEN ROAD COMMISSIONER AT (802) 483-6647 TO ARRANGE FOR THEIR REMOVAL.

4. THE BRIDGE PLAQUES FOR EACH BRIDGE SHALL BE FURNISHED BY THE AGENCY OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR AS SHOWN ON SHEETS 38 AND 69.

5. FULL ACCESS TO ALL DRIVES AND SIDE ROADS WITHIN PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. WHEN THE CONTRACTOR MUST TEMPORARILY RESTRICT ACCESS TO THE DRIVES, THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNERS IN ADVANCE.

6. 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 ITEM 649.11 "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 INCIDENTAL TO THE ITEM 203.31 "SAND BORROW".

CONCRETE NOTES

7. ALL CONCRETE SHALL BE ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B".

8. REINFORCING STEEL PLACEMENT TOLERANCE SHALL BE AS FOLLOWS:

SPACING	+/-	25mm
CLEARANCE	+/-	6mm

9. ALL REINFORCING STEEL IN THE CONCRETE BRIDGE DECK SLABS SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17. WHEN EPOXY COATED REINFORCING STEEL IS CUT THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIAL AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.

10. THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE 50mm ALONG WALL FACES AGAINST EARTH, AND 80mm ELSEWHERE UNLESS DETAILED OTHERWISE.

11. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25mm X 25mm.

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

13. CONCRETE PORTIONS OF THE ABUTMENT AND WINGWALL ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS SHALL NOT BE PLACED UNTIL THE FINISH GRADE HAS BEEN DETERMINED BY THE RESIDENT ENGINEER.

14. ITEM 514.10 "WATER REPELLENT, SILANE" SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SLAB BETWEEN DRIP NOTCHES. SEE SUPPLEMENTAL SPECIFICATION SECTION 514.

15. THE STONE FILL, TYPE IV SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE CONCRETE SLAB IS POURED AT EACH BRIDGE.

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

BRIDGE 19 NOTES

17. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE THE REMOVAL OF THE EXISTING SUPERSTRUCTURE DOWN TO THE EXISTING BRIDGE SEAT ELEVATION. THE EXISTING ABUTMENTS SHALL BE REMOVED TO STREAM BED ELEVATION UNDER ITEM 203.27, "UNCLASSIFIED CHANNEL EXCAVATION".

18. TRAFFIC FOR BRIDGE 19 SHALL BE MAINTAINED USING THE EXISTING STRUCTURE. THE CONTRACTOR SHALL INSTALL TEMPORARY BRIDGE RAIL AND APPROACH RAILING AS SHOWN ON SHEET 31. TEMPORARY BRIDGE RAILING AND APPROACH RAILING SHALL CONFORM TO SUBSECTION 528.03(c) **RAILING.** THE COST OF THIS WORK SHALL BE PAID FOR UNDER ITEM 527.10, "MAINTENANCE OF STRUCTURES AND APPROACHES."

19. ALL ON AND OFF PROJECT SIGNS AND BARRICADES AS SHOWN ON THE TRAFFIC CONTROL SHEET SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PAID FOR UNDER ITEM 641.10 "TRAFFIC CONTROL".

BRIDGE 20 NOTES

20. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE THE REMOVAL OF THE EXISTING SUPERSTRUCTURE DOWN TO THE EXISTING BRIDGE SEAT ELEVATIONS. THE EXISTING ABUTMENTS SHALL BE REMOVED UNDER ITEMS 208.35, "COFFERDAM EXCAVATION, ROCK", AND THE PORTION OF THE ABUTMENTS/WINGWALLS THAT FALL OUTSIDE THE COFFERDAM LIMITS SHALL BE REMOVED UNDER ITEM 203.27, "UNCLASSIFIED CHANNEL EXCAVATION".

21. TRAFFIC FOR BRIDGE 20 SHALL BE MAINTAINED ON A ONE-WAY TEMPORARY BRIDGE. THIS WORK WILL BE PAID FOR UNDER ITEM 528.10, "ONE-WAY TEMPORARY BRIDGE".

22. ALL ON AND OFF PROJECT SIGNS AND BARRICADES AS SHOWN ON THE TRAFFIC CONTROL SHEET SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PAID FOR UNDER ITEM 641.10 "TRAFFIC CONTROL".

MDOT Metric

GENERAL NOTES

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45) AND STP 1443(46)

FILE NAME: 96j236\str\sj236gen.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: C. CARLSON
PLOT DATE: 25-AUG-2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON

STATE OF VERMONT
AGENCY OF TRANSPORTATION

COMPOSITE QUANTITY SHEET 1

Metric

CHITTENDEN STP 1443(45)				CHITTENDEN STP 1443(46)				TOTALS			DESCRIPTIONS		
ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER
0.5				0.5					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10
670				740					1410		CM	COMMON EXCAVATION	203.15
		290				90			380		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
110				100					210		CM	SAND BORROW	203.31
20				50					70		CM	GRANULAR BORROW	203.32
10	10			10	10				40		CM	TRENCH EXCAVATION OF EARTH	204.20
		250				200			450		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
		410				310			720		CM	COFFERDAM EXCAVATION,EARTH	208.30
		135				105			240		CM	COFFERDAM EXCAVATION,ROCK	208.35
		1							1		LS	COFFERDAM (STA. 1+061.5)	208.40
		1							1		LS	COFFERDAM (STA. 1+070)	208.40
						1			1		LS	COFFERDAM (STA. 1+221)	208.40
						1			1		LS	COFFERDAM (STA. 1+226.8)	208.40
390				430					820		CM	SUBBASE OF GRAVEL	301.15
140				130					270		CM	AGGREGATE SURFACE COURSE	401.10
		178				118			296		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
		10190				6170			16360		KG	REINFORCING STEEL	507.15
		3600				3180			6780		KG	EPOXY COATED REINFORCING STEEL	507.17
		70				47			117		L	WATER REPELLENT, SILANE	514.10
		31				23			54		M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41
1									1		LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10
						1			1		LS	ONE-WAY TEMPORARY BRIDGE (44 SM - EST.)	528.10
		1							1		EACH	PARTIAL REMOVAL OF STRUCTURE (BRIDGE 19)	529.20
						1			1		EACH	PARTIAL REMOVAL OF STRUCTURE (BRIDGE 20)	529.20
												BEGIN OPTION AA	
15				11					26		M	450 CAAP 1.52 (68 X 12)	601.0215
15				11					26		M	450 PCCSP 1.63 (68 X 12)	601.0415
15				11					26		M	450 CPEP(SL)	601.2615
												END OPTION AA	
1				1					2		CM	DUST CONTROL WITH WATER	609.10
30				40					70		CM	STONE FILL, TYPE I	613.10
		260				160			420		CM	STONE FILL, TYPE IV	613.13
2									2		EACH	YIELDING MARKER POSTS	619.17
54				50					104		M	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21
4				4					8		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
100				100					200		HR	FLAGGERS	630.15
			0.5				0.5		1		LS	FIELD OFFICE-ENGINEERS	631.10
			0.5				0.5		1		LS	TESTING EQUIPMENT - CONCRETE	631.16
			0.5				0.5		1		LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25
0.5				0.5					1		LS	MOBILIZATION / DEMOBILIZATION	635.11
1									1		LS	TRAFFIC CONTROL (STP 1443(45))	641.10
				1					1		LS	TRAFFIC CONTROL (STP 1443(46))	641.10
90		255		140		170			655		SM	GEOTEXTILE UNDER STONE FILL	649.31

PROJECT NAME: **CHITTENDEN**
PROJECT NUMBER: **STP 1443(45) & STP 1443(46)**

FILE NAME: **96j236/str/sj236qnt.dgn**
PROJECT MANAGER: **C. CARLSON**
DESIGNED BY: **C. CARLSON**
COMPOSITE QUANTITY SHEET #1

PLOT DATE: **8/14/2009**
DRAWN BY: **D. PETERSON**
CHECKED BY: **C. CARLSON**
SHEET **4** OF **81**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

COMPOSITE QUANTITY SHEET 2

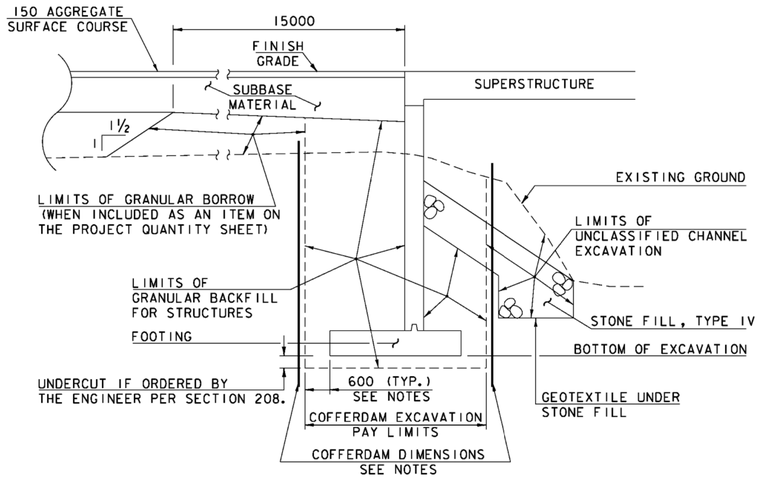
Metric

CHITTENDEN STP 1443(45)				CHITTENDEN STP 1443(46)				TOTALS			DESCRIPTIONS		
ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER
	65				145				210		SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515
	85				85				170		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61
	10				10				20		KG	SEED	651.15
	10				10				20		KG	SEED-WINTER RYE	651.17
	100				100				200		KG	FERTILIZER	651.18
	1				1				2		T	AGRICULTURAL LIMESTONE	651.20
	1				1				2		T	HAY MULCH	651.25
	130				165				295		CM	TOPSOIL	651.35
		190				125			315		SM	GRUBBING MATERIAL	651.40
	0.5				0.5				1		LS	EPSC PLAN	652.10
	50				50				100		HR	MONITORING EPSC PLAN	652.20
	0.5				0.5				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30
	730				1155				1885		SM	TEMPORARY EROSION MATTING	653.20
	40				30				70		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25
	30				30				60		CM	VEHICLE TRACKING PAD	653.35
	1								1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40
	125				150				275		M	BARRIER FENCE	653.50
	115				100				215		M	PROJECT DEMARCATION FENCE	653.55
1									1		SM	TRAFFIC SIGNS, TYPE A	675.20
5									5		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341
3				3					6		EACH	REMOVING SIGNS	675.50
				1					1		EACH	ERECTING SALVAGED SIGNS	675.60

PROJECT NAME: **CHITTENDEN**
PROJECT NUMBER: **STP 1443(45) & STP 1443(46)**

FILE NAME: 96j236/str/sj236qnt.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: C. CARLSON
COMPOSITE QUANTITY SHEET #2

PLOT DATE: 8/14/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 5 OF 81



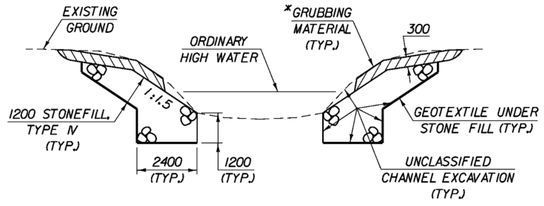
COFFERDAM AND EARTHWORK SECTION
(NOT TO SCALE)

COFFERDAM NOTES

1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.

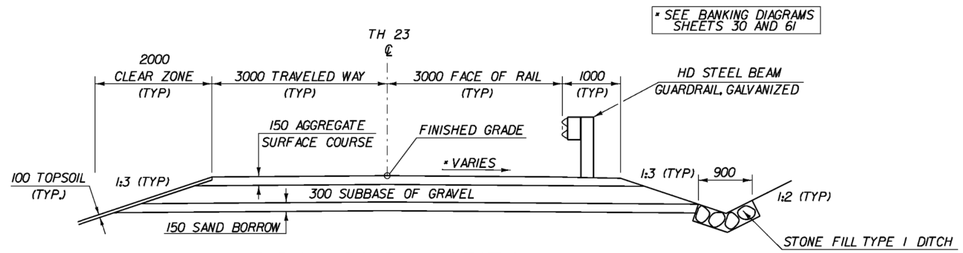
2. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.

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.

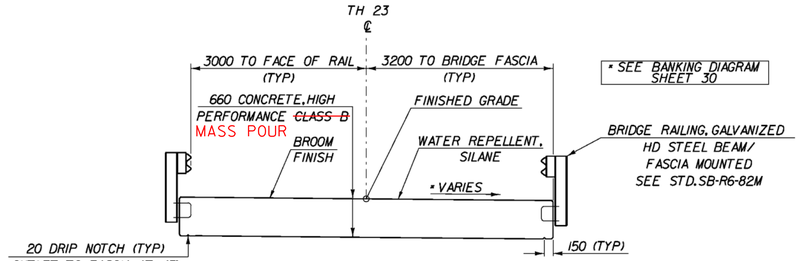


TYPICAL CHANNEL SECTION
(NOT TO SCALE)

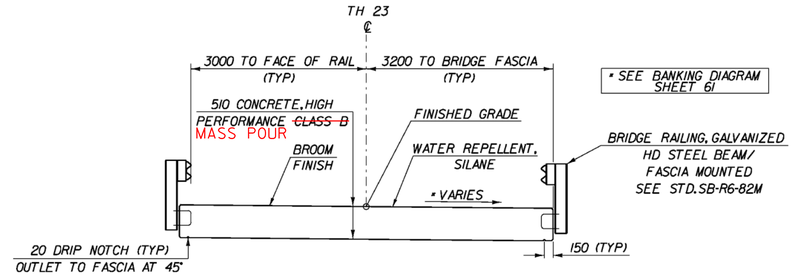
*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



TYPICAL ROADWAY SECTION
SCALE: 1:50



BRIDGE 19 TYPICAL SECTION
SCALE: 1:50



BRIDGE 20 TYPICAL SECTION
SCALE: 1:50

MATERIAL ITEM	TOLERANCE
AGG. SURFACE COURSE	± 10 mm
SUBBASE	± 30 mm
SAND BORROW	± 30 mm

TYPICAL SECTIONS (BRIDGE 19 & 20)

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45) & STP 1443(46)

FILE NAME: 96J236/str/sj236typ.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: K. UPMAL
PLOT DATE: 14-AUG-2009
DRAWN BY: K. UPMAL
CHECKED BY: C. CARLSON
SHEET 6 OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

Metric

STATION km + m	STATION km + m	POS.	ASKEW no. deg.	INLET/OUTLET TYPE INLET	INLET/OUTLET TYPE OUTLET	DITCH IN	DITCH OUT	PIPE ARCH SPAN mm	PIPE ARCH RISE mm	PIPE ARCH L m	PIPE D mm	PIPE L m	ALLOWABLE OPTIONS PCCSP mm	ALLOWABLE OPTIONS CAAP mm	ALLOWABLE OPTIONS CSP mm	ALLOWABLE OPTIONS CPEP (SL) mm	PIPE ELBOW no. deg.	ES ea	CB ea	DEPTH DI mm	CONC CLASS B m^3	REINF STEEL kg	DI GRATE type	CHAN ELEV ea	CRM m^3	TRENCH EXCAVATION EARTH m^3	TRENCH EXCAVATION ROCK m^3	COMM EXC m^3	UNC CHAN EXC m^3	STRUCT EXCAV m^3	GRAN BKFILL STRUCT m^3	GRAN BORR m^3	EROS MATT m^2	STONE FILL m^3	STONE FILL type	MARKER POSTS LT ea	MARKER POSTS RT ea	NUMBER	REMARKS
BRIDGE 19																																						
NEW PIPES																																						
1+120.000	1+120.000	RT/LT									450	15.0	X	X		X									9.220								1.0	I	1	1	2	STONE PAD, TYPE I AT INLET AND OUTLET
BRIDGE 20																																						
NEW PIPES																																						
1+243.203	1+254.173	LT									450	11.0	X	X		X																					5	DRIVE CULVERT
REMOVE EXISTING																																						
1+240.415	1+252.976	LT																							10												4	REMOVE EXISTING PVC PIPE
SUB-TOTAL:											26														19.22								1		1	1		
ROUNDING:																									0.78										0	0		
TOTAL:											**26**														**20**								**1**		**1**	**1**		

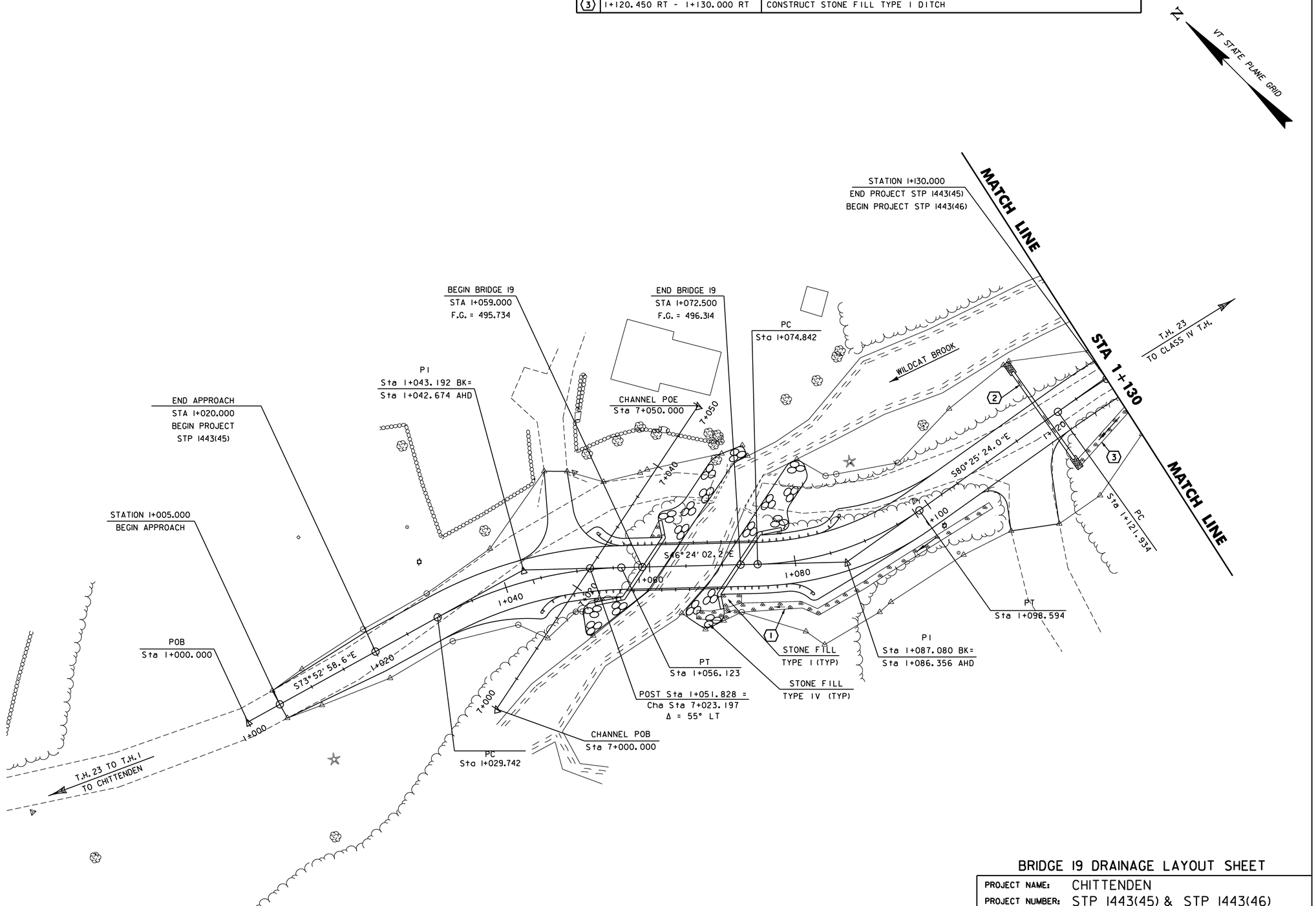
PROJECT NAME: **CHITTENDEN**
PROJECT NUMBER: **STP 1443(45) & STP 1443(46)**

FILE NAME: **/96j236/str/sj236drn.xls**
PROJECT LEADER: **C. CARLSON**
DESIGNED BY: **K. UPMAL**
DRAINAGE DETAIL SUMMARY

PLOT DATE: **8/19/2009**
DRAWN BY: **J. GILMORE**
CHECKED BY: **C. CARLSON**
SHEET **7** OF **81**

NO.	LOCATION	DESCRIPTION
1	1+070.119 RT - 1+107.000 RT	CONSTRUCT STONE FILL TYPE I DITCH
2	1+120.000 RT - 1+120.000 LT	450 x 15000 PIPE OPTIONS WITH STONE PAD, TYPE I AT INLET AND OUTLET
3	1+120.450 RT - 1+130.000 RT	CONSTRUCT STONE FILL TYPE I DITCH

Metric



BRIDGE 19 DRAINAGE LAYOUT SHEET

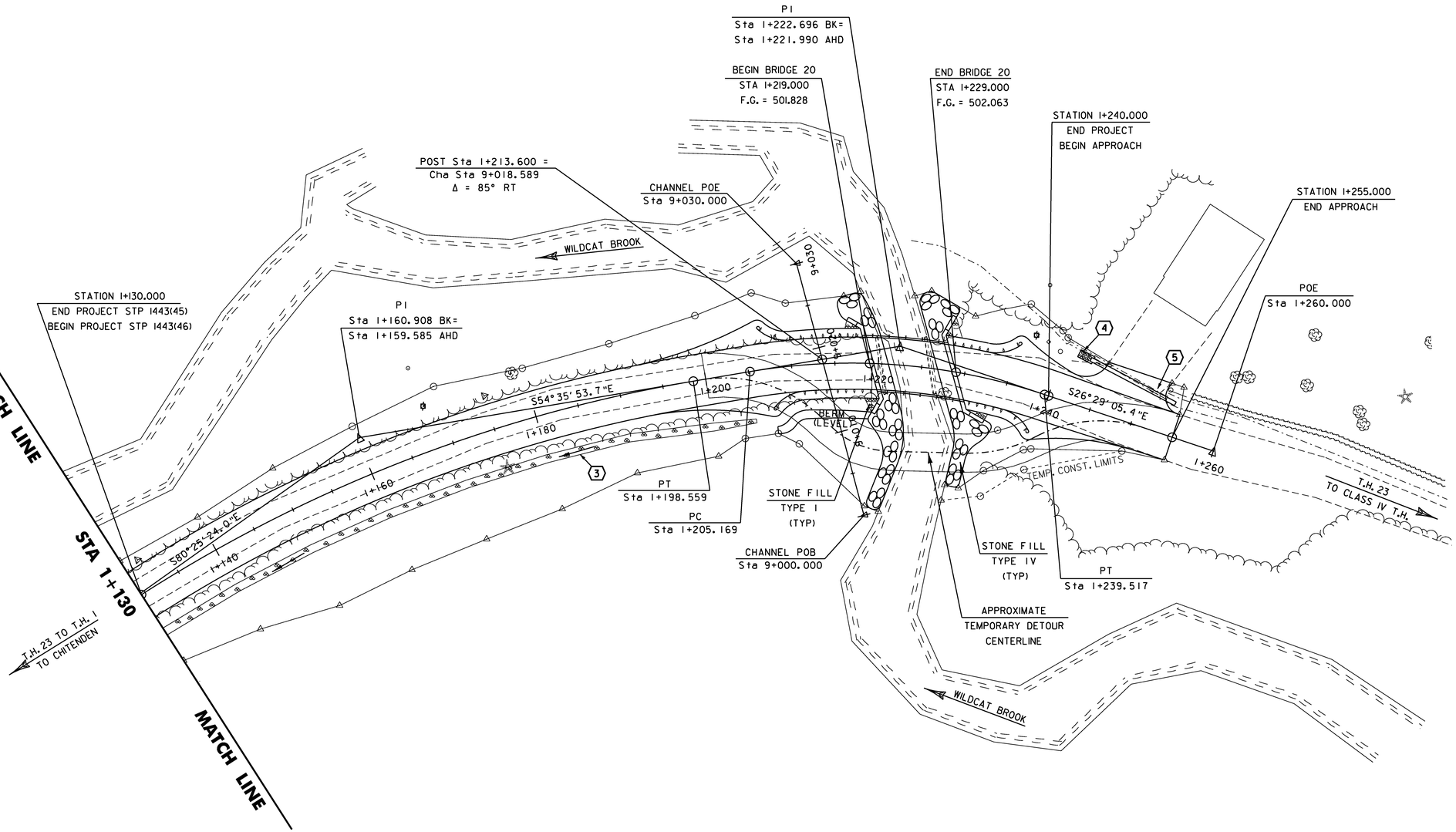
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45) & STP 1443(46)
FILE NAME: /96J236/str/sJ236drn.dgn	PLOT DATE: 14-AUG-2009
PROJECT LEADER: C. CARLSON	DRAWN BY: STR
DESIGNED BY: K. UPMAL	CHECKED BY: C. CARLSON
	SHEET 8 OF 81

NO.	LOCATION	DESCRIPTION
3	1+130.000 RT - 1+205.000 RT	CONSTRUCT STONE FILL TYPE I DITCH
4	1+240.415 LT - 1+252.976 LT	REMOVE 300 PVC PIPE
5	1+243.203 LT - 1+254.173 LT	450 x 11000 PIPE OPTION WITH STONE PAD, TYPE I AT OUTLET

VAOT Metric

N

VT STATE PLANE GRID



0 10 20 30

SCALE (1:250) IN METERS

BRIDGE 20 DRAINAGE LAYOUT SHEET

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45) & STP 1443(46)

FILE NAME: /96j236/str/sj236drn.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: K. UPMAL
PLOT DATE: 14-AUG-2009
DRAWN BY: STR
CHECKED BY: C. CARLSON
SHEET 9 OF 81

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT IS LOCATED ON TH 23 IN CHITTENDEN, VT. THE PROJECT INVOLVES THE CONSTRUCTION OF TWO REPLACEMENT BRIDGES (BR 19 & BR 20) OVER THE WILDCAT BROOK. THE REPLACEMENT FOR BR 19 WILL BE CONSTRUCTED ON NEW ALIGNMENT DOWNSTREAM OF THE EXISTING STRUCTURE. BRIDGE 20 WILL BE RECONSTRUCTED IN-PLACE UTILIZING A TEMPORARY BRIDGE TO MAINTAIN TRAFFIC DURING CONSTRUCTION. PARTIAL REMOVAL OF THE EXISTING BR 19 STRUCTURE WILL BE COMPLETED.

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

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 1.39 ACRES.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)
THE AREA SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED FOREST WITH ROLLING HILLS AT THE PROJECT SITE. THERE ARE TWO HOUSES IN THE PROJECT AREA: ONE UPSLOPE AND TO THE NORTH OF BR 19 AND ONE UPSLOPE TO THE EAST OF BR 20, BOTH WITH GRASS AND TREE BUFFERS.

THE WILDCAT BROOK IS DOWN-GRADIENT OF TH 23 BETWEEN BR 19 AND BR 20. THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM NEARBY SLOPES. DUE TO THE VEGETATED, NATURAL CONDITIONS OF THESE SLOPES, RUNOFF SHOULD BE MINIMAL.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES
THE WILDCAT BROOK IS THE ONLY WATER RESOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS PERENNIAL, ALLUVIAL, SINUOUS, AND LOCALLY ANABRANCHED WITH A STREAM BED CONSISTING OF COBBLES, BOULDERS AND GRAVEL. THE WILDCAT BROOK IS IMMEDIATELY ADJACENT TO DISTURBED SOILS AT BRIDGE 19 AND BRIDGE 20.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES
THE TOPOGRAPHY OF THE AREA IS HILLY TO MOUNTAINOUS, MOSTLY FORESTED. TH 23 AND THREE GRAVEL DRIVEWAYS ARE WITHIN THE PROJECT SITE. THERE ARE TWO HOUSES IN THE PROJECT AREA: ONE UPSLOPE AND TO THE NORTH OF BR 19 AND ONE UPSLOPE TO THE EAST OF BR 20. THERE ARE OVERHEAD UTILITIES WHICH WILL BE RELOCATED PRIOR TO CONSTRUCTION.

1.2.4 VEGETATION
THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASS, HARDWOOD TREES AND UNDERGROWTH. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS. STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS
ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR RUTLAND COUNTY, VERMONT. SOILS ON THE PROJECT SITE ARE PERU AND MARLOW, FINE SANDY LOAM, 5% TO 30% SLOPES, K FACTOR = 0.24. THE SOIL HAS A MODERATE EROSION POTENTIAL BASED ON K FACTOR.

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.

1.2.6 SENSITIVE RESOURCE AREAS
CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WILDCAT BROOK
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES BASED ON THE PROJECT IMPACT AREA. FURTHER RISK EVALUATION DETERMINED THAT THIS PROJECT IS CONSIDERED LOW RISK. ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS (EPSC 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. THESE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS, AND OTHER POLLUTION 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 PREVENTION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE FOLLOWED WHEREVER POSSIBLE.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED AT AN APPROVED 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. BARRIER FENCE IS USED TO DELINEATE THE PROJECT LIMITS WITHIN 30M OF THE WILDCAT BROOK.

1.4.2 LIMIT DISTURBANCE AREA
EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES BEYOND THOSE SHOWN MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT, OR AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZE CONSTRUCTION ENTRANCE
STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED AS SHOWN ON THE EPSC PLANS.

1.4.4 INSTALL SILT FENCE
SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS NECESSARY. SILT FENCE LOCATED WITHIN 30M OF THE WILDCAT BROOK SHALL BE WOVEN WIRE REINFORCED SILT FENCE.

1.4.5 DIVERT UPLAND RUNOFF
DIVERSIONARY MEASURES SHALL BE USED WHEN UPLAND RUNOFF ENTERS THE PROJECT LIMITS.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK DAMS SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS.

1.4.7 CONSTRUCT PERMANENT CONTROLS
TYPE IV STONE FOR SLOPE LINING AND CHANNEL PROTECTION
SEED AND MULCH
DRAINAGE INLETS AND PIPING

1.4.8 STABILIZE EXPOSED SOILS
SEED AND MULCH
EROSION MATTING

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED ON A REGULAR BASIS. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.
SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.9 WINTER STABILIZATION
THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A SPECIFIC WINTER EPSC PLAN FOR THE PROJECT WORK THAT WILL EXTEND INTO THIS COMING WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE
SEED AND MULCH
EROSION MATTTING

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

1.4.11 DE-WATERING ACTIVITIES
DISCHARGE FROM DEWATERING THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS. PROPOSED DEWATERING TREATMENT AREAS ARE SHOWN ON THE EPSC PLANS; HOWEVER, THE CONTRACTOR MUST SUBMIT A PLAN FOR DEWATERING TO THE RESIDENT ENGINEER FOR APPROVAL.

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 LIMITS SHALL FOLLOW SUBSECTIONS 105.23-105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

AN ALTERNATE TEMPORARY EROSION CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE RESIDENT ENGINEER. THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER.

USE THE EPSC PLANS IN CONJUNCTION WITH THE EPSC DETAIL SHEETS PROVIDED.

CONTRACTOR TO DESIGN AND CONSTRUCT FILTER CURTAIN IN ACCORDANCE WITH SUBSECTION 649.04 OF STANDARD SPECIFICATIONS FOR CONSTRUCTION.

EPSC - NARRATIVE

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45) & STP 1443(46)

FILE NAME: 96j236\str\sj236eronotes.dgn	PLOT DATE: 24-AUG-2009
PROJECT LEADER: C. CARLSON	DRAWN BY: W. LAMMER
DESIGNED BY: W. LAMMER	CHECKED BY: C. CARLSON
	SHEET 10 OF 81

VAOT Metric

N
VT STATE PLANE GRID

LEGEND

- EDGE OF EXISTING ROAD
- WOODED AREA
- STONE WALL
- EDGE OF WATER
- SURFACE WATER FLOW DIRECTION
- 499.0 CONTOUR LINES

MATCH LINE

SHED
WOODS
M.APPLES
M.CHERRY
S.ASH
WILDCAT BROOK
EXISTING 3 ROD R.O.W.
Y.BIRCH
M. BALSAM
HOUSE
STONE WALL
DRIVEWAY
S.WB
LILAC
LILACS
M.APPLE
MAPLE
HV CTRL 3
TOWN HIGHWAY 23
OHW
S80° 25' 24.0"E
R=720
HVCTRL
1+100
ø 244
GUY
DRIVE
GUYW
TEL
ø 243
S.WB
S76° 24' 02.2"E
1+060
1+080
1+040
RIPARIAN BUFFER
S73° 52' 58.6"E
1+020
1+000
S.Y. BIRCH
M.SPRUCE
TO CHITTENDEN
HVCTRL 2
3M. BIRCH
3M. MAPLES
BLZ
LOCATION OF NEW BRIDGE

0 10 20
SCALE IN METERS

SHEET NAME:	EPSC - EXISTING CONDITIONS I
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45) & STP 1443(46)
FILE NAME: 96J236/structures/sj236ec.dgn	PLOT DATE: 14-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: W. LAMMER
DESIGNED BY: Weeber	CHECKED BY: C. CARLSON
	SHEET 11 OF 81

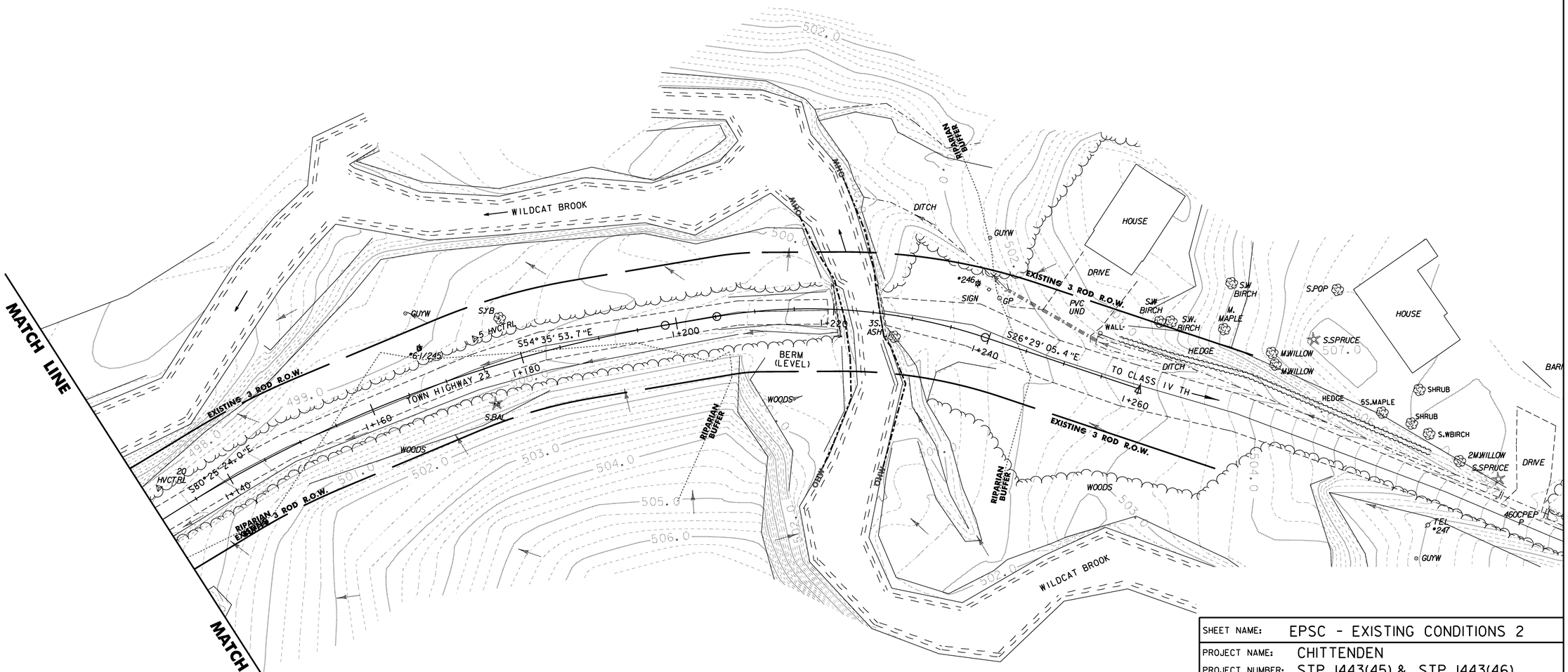
Metric

N

VT STATE PLANE GRID

LEGEND

- EDGE OF EXISTING ROAD
- WOODED AREA
- STONE WALL
- EDGE OF WATER
- SURFACE WATER FLOW DIRECTION
- 499.0 CONTOUR LINES



0 10 20

SCALE IN METERS

SHEET NAME:	EPSC - EXISTING CONDITIONS 2
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45) & STP 1443(46)
FILE NAME: 96j236/structures/sj236ec.dgn	PLOT DATE: 14-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: W. LAMMER
DESIGNED BY: Weeber	CHECKED BY: C. CARLSON
	SHEET 12 OF 81

Metric

LEGEND

- EDGE OF EXISTING ROAD
- WOODED AREA
- STONE WALL
- EDGE OF WATER
- SURFACE WATER FLOW DIRECTION
- 499.0 CONTOUR LINES
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY STONE CHECK DAM, TYPE I
- SILT FENCE, WOVEN WIRE REINFORCED
- PDF — PD PROJECT DEMARCATION FENCE
- BF — BF BARRIER FENCE
- GEOTEXTILE FOR FILTER CURTAIN
- PROPOSED DEWATERING AREA
- INLET PROTECTION DEVICE
- TEMPORARY EROSION MATTING

N

VT STATE PLANE GRID

MATCH LINE

STATION 1+130.000
END PROJECT STP 1443(45)
BEGIN PROJECT STP 1443(46)

BEGIN BRIDGE 19
STA 1+059.000
F.G. = 495.734

END BRIDGE 19
STA 1+072.500
F.G. = 496.314

END APPROACH
STA 1+020.000
BEGIN PROJECT
STP 1443(45)

STATION 1+005.000
BEGIN APPROACH

PROPOSED DEWATERING AREA

TOWN HIGHWAY 23

WILDCAT BROOK

APPROX. UTILITY RELOCATION

RIPARIAN BUFFER

S73° 52' 58.6"E

S80° 25' 24.0"E

S38° 24' 02.2"E

STONE FILL TYPE I (TYP)

STONE FILL TYPE IV (TYP)

LOCATION OF NEW BRIDGE

TO CHITTENDEN

HOUSE, SHED, DRIVEWAY, STONE WALL, WOODS, M.APPLES, M.CHERRY, SUGAR MAPLE, SJ BIRCH, LILAC, HVCTRL 2, 3M. BIRCH, 3M. MAPLES, M.SPRUCE, BIRCH, TELE, GUY, DRIVE, CTR LINE

0 10 20
SCALE IN METERS

EPSC - PLAN 1

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45) & STP 1443(46)

FILE NAME: 96j236/structures/sj236ec.dgn PLOT DATE: 14-AUG-2009
PROJECT MANAGER: C. CARLSON DRAWN BY: W. LAMMER
DESIGNED BY: Weeber CHECKED BY: C. CARLSON
SHEET 13 OF 81

Metric

LEGEND

- EDGE OF EXISTING ROAD
- WOODED AREA
- STONE WALL
- EDGE OF WATER
- SURFACE WATER FLOW DIRECTION
- 499.0 CONTOUR LINES
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY STONE CHECK DAM, TYPE I
- SILT FENCE, WOVEN WIRE REINFORCED
- PDF PD PROJECT DEMARCATION FENCE
- BF BF BARRIER FENCE
- GEOTEXTILE FOR FILTER CURTAIN
- PROPOSED DEWATERING AREA
- INLET PROTECTION DEVICE
- TEMPORARY EROSION MATTING

FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED. HOWEVER, DISTURBED AREAS ASSOCIATED WITH THE TEMPORARY BRIDGE SHALL BE SEEDED AND MULCHED ONCE FINAL GRADES HAVE BEEN ESTABLISHED.

N

VT STATE PLANE GRID

BEGIN BRIDGE 20
STA 1+219.000
F.G. = 501.828

END BRIDGE 20
STA 1+229.000
F.G. = 502.063

STATION 1+240.000
END PROJECT
BEGIN APPROACH

STATION 1+255.000
END APPROACH

STATION 1+130.000
END PROJECT STP 1443(45)
BEGIN PROJECT STP 1443(46)

MATCH LINE

MATCH LINE

WILDCAT BROOK

WILDCAT BROOK

PROPOSED DEWATERING AREA

RIPARIAN BUFFER

RIPARIAN BUFFER

RIPARIAN BUFFER

RIPARIAN BUFFER

CLEAR ZONE

CLEAR ZONE

APPROX. UTILITY RELOCATION

TEMP. CONST. LIMITS

BERM (LEVEL)

STONE FILL TYPE I (TYP)

STONE FILL TYPE IV (TYP)

APPROXIMATE TEMPORARY DETOUR CENTERLINE

TOWN HIGHWAY 23

S54° 35' 53.7"E

S80° 25' 24.0"E

S26° 29' 05.4"E

1+140

1+160

1+180

1+200

1+220

1+240

1+260

TO CLASS IV TH

HOUSE

DRIVE

HEDGE

DITCH

WOODS

SHRUB

S.WBIRCH

S.SPRUCE

M.WILLOW

S.POP

SW BIRCH

M. MAPLE

S.MAPLE

BARN

GUYW

TEL

OHW

PDF

BF

0 10 20
SCALE IN METERS

EPSC - PLAN 2

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45) & STP 1443(46)

FILE NAME: 96j236/structures/sj236ec.dgn	PLOT DATE: 14-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: W. LAMMER
DESIGNED BY: Weeber	CHECKED BY: C. CARLSON
	SHEET 14 OF 81

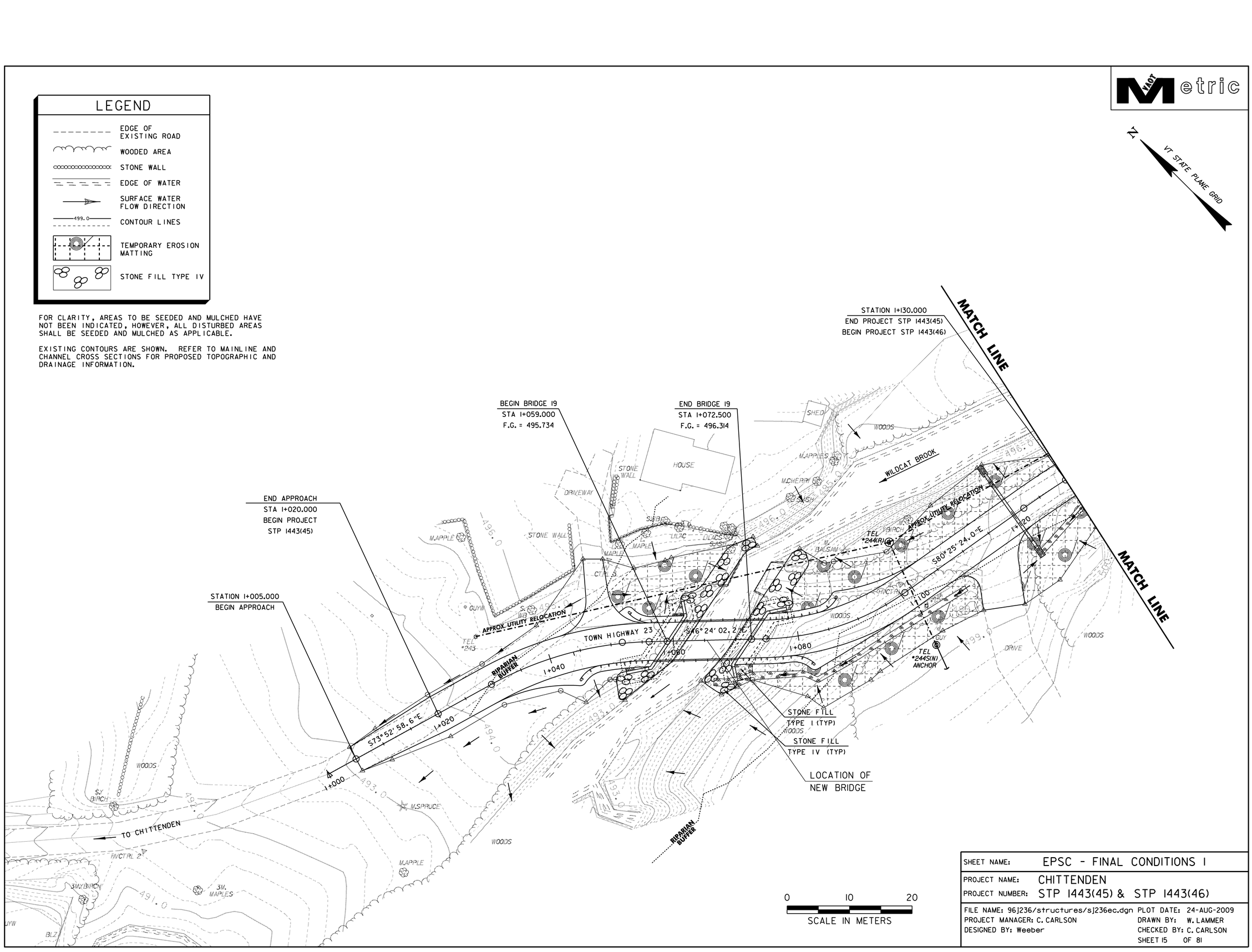
VAOT Metric

LEGEND

- EDGE OF EXISTING ROAD
- WOODED AREA
- STONE WALL
- EDGE OF WATER
- SURFACE WATER FLOW DIRECTION
- 499.0 CONTOUR LINES
- TEMPORARY EROSION MATTING
- STONE FILL TYPE IV

FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED, HOWEVER, ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.

EXISTING CONTOURS ARE SHOWN. REFER TO MAINLINE AND CHANNEL CROSS SECTIONS FOR PROPOSED TOPOGRAPHIC AND DRAINAGE INFORMATION.



SHEET NAME:	EPSC - FINAL CONDITIONS I
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45) & STP 1443(46)
FILE NAME: 96J236/structures/sj236ec.dgn	PLOT DATE: 24-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: W. LAMMER
DESIGNED BY: Weeber	CHECKED BY: C. CARLSON
	SHEET 15 OF 81

Metric

LEGEND

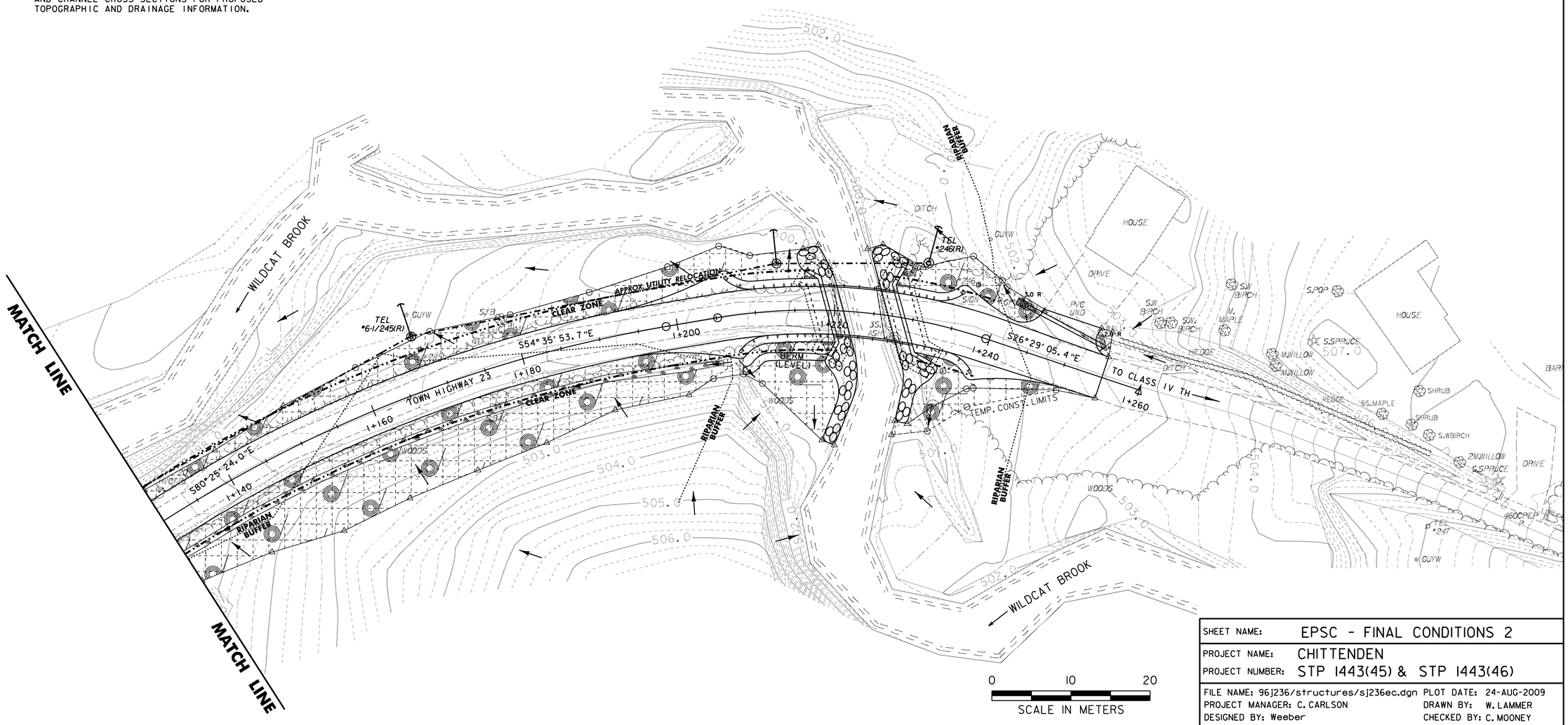
- EDGE OF EXISTING ROAD
- WOODED AREA
- STONE WALL
- EDGE OF WATER
- SURFACE WATER FLOW DIRECTION
- 499.0 CONTOUR LINES
- TEMPORARY EROSION MATTING
- STONE FILL TYPE IV

FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED, HOWEVER, ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.

EXISTING CONTOURS ARE SHOWN. REFER TO MAINLINE AND CHANNEL CROSS SECTIONS FOR PROPOSED TOPOGRAPHIC AND DRAINAGE INFORMATION.

N

VT STATE PLANE GRID



0 10 20

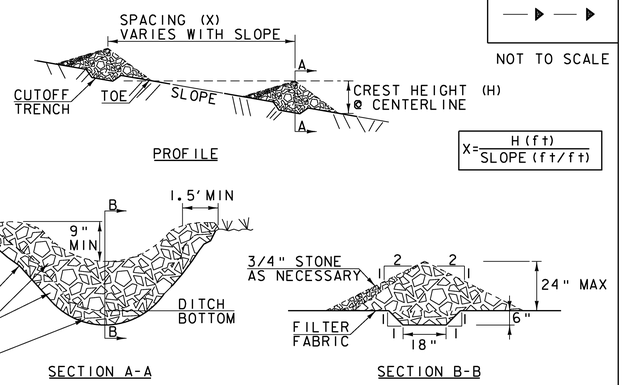
SCALE IN METERS

SHEET NAME:	EPSC - FINAL CONDITIONS 2
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45) & STP 1443(46)
FILE NAME: 96j236/structures/sj236ec.dgn	PLOT DATE: 24-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: W. LAMMER
DESIGNED BY: Weeber	CHECKED BY: C. MOONEY
	SHEET 16 OF 81

Metric

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

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

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

CHECK DAM

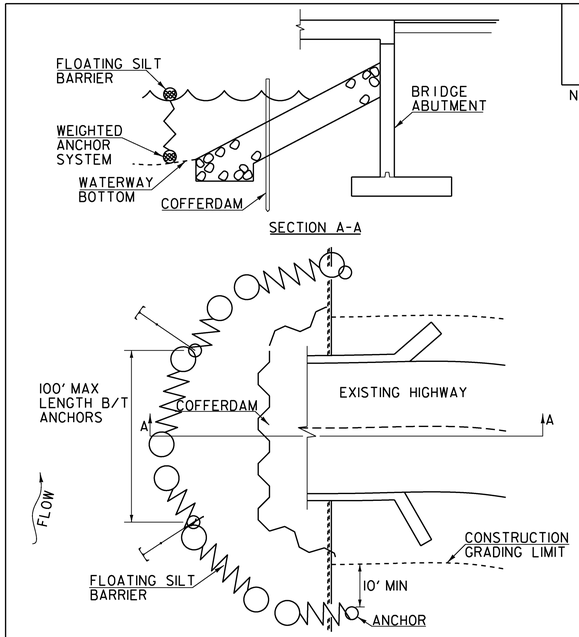
NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

SYMBOL

NOT TO SCALE



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.

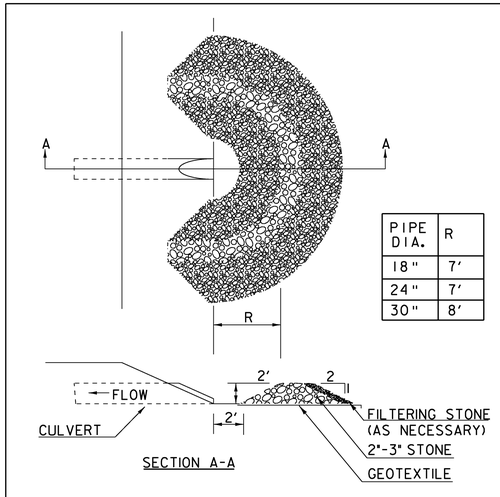
FILTER CURTAIN

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

SYMBOL

NOT TO SCALE



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

CONSTRUCTION SPECIFICATIONS

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

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

PIPE INLET PROTECTION

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

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

EPSC DETAIL SHEET 1

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45) & STP 1443(46)

FILE NAME: 96j236/str/sj236ec.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: W. LAMMER
PLOT DATE: 24-AUG-2009
DRAWN BY: W. LAMMER
CHECKED BY: C. CARLSON
SHEET 17 OF 81

SEEDING FORMULA
RURAL AREAS

% WT.	kg/ha	NAME	PUR %	GERM %
37.5	26.0	CREEPING RED FESCUE	98	85
37.5	26.0	TALL FESCUE	95	90
5.0	4.0	RED TOP	95	90
15.0	10.0	BIRDSFOOT TREFOIL	98	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	70.0			

GENERAL NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

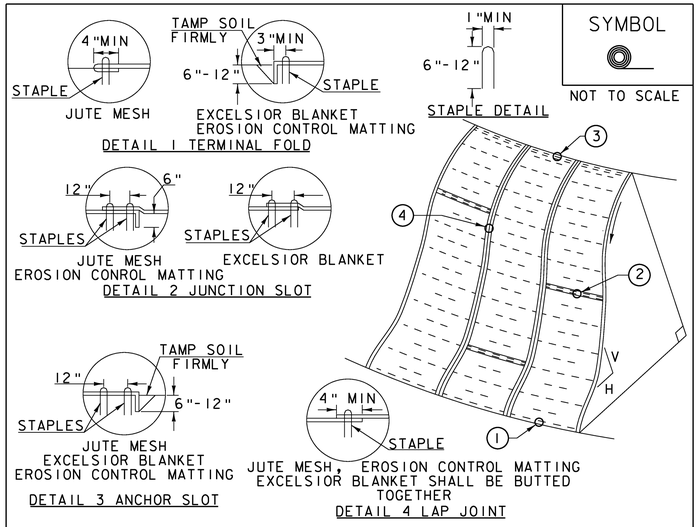
SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.



CONSTRUCTION SPECIFICATIONS

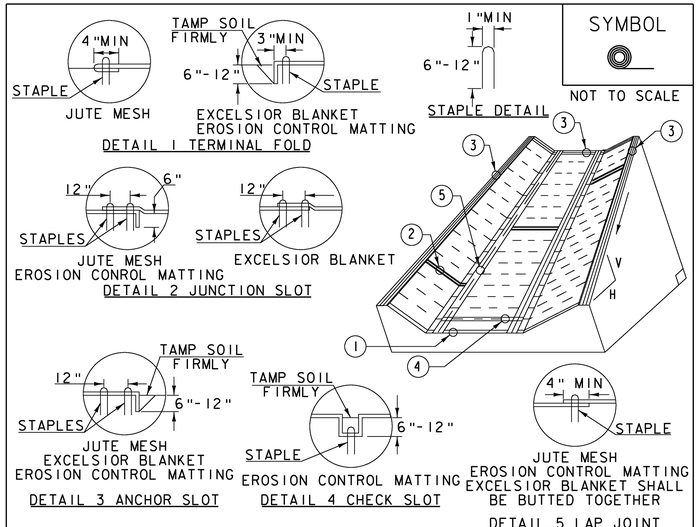
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER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

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



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)

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

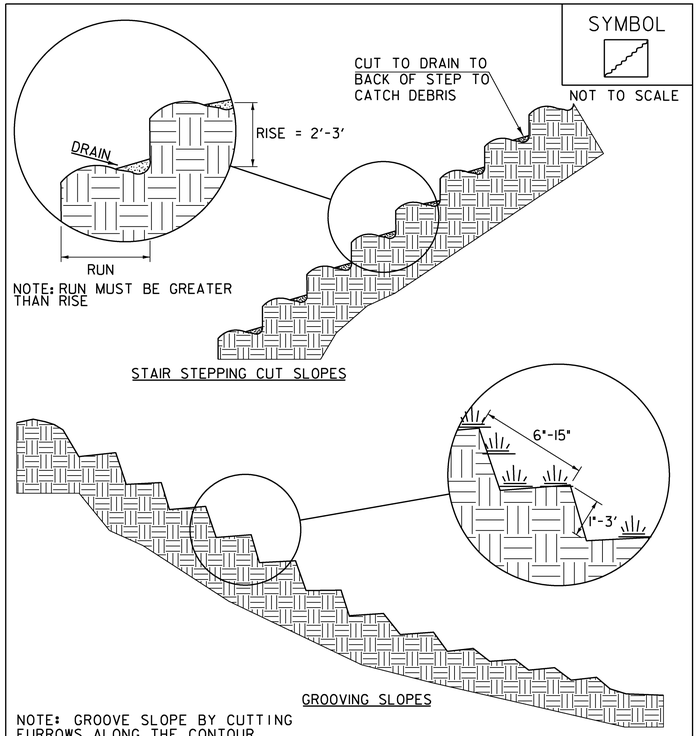
EPSC DETAIL SHEET 2

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45) & STP 1443(46)

FILE NAME: 96J236/str/sj236ec.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: W. LAMMER
PLOT DATE: 14-AUG-2009
DRAWN BY: W. LAMMER
CHECKED BY: C. CARLSON
SHEET 18 OF 81

SYMBOL

NOT TO SCALE



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

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

SURFACE ROUGHENING

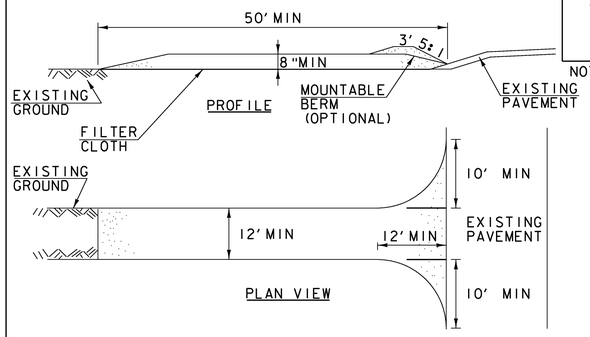
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE 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.

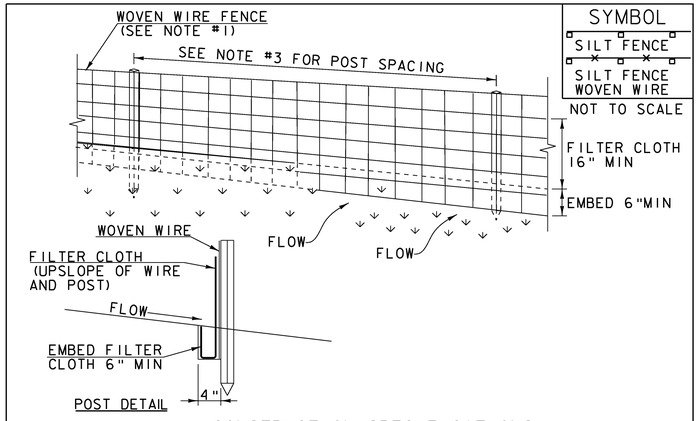
REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

SYMBOL

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

EPSC DETAIL SHEET 3

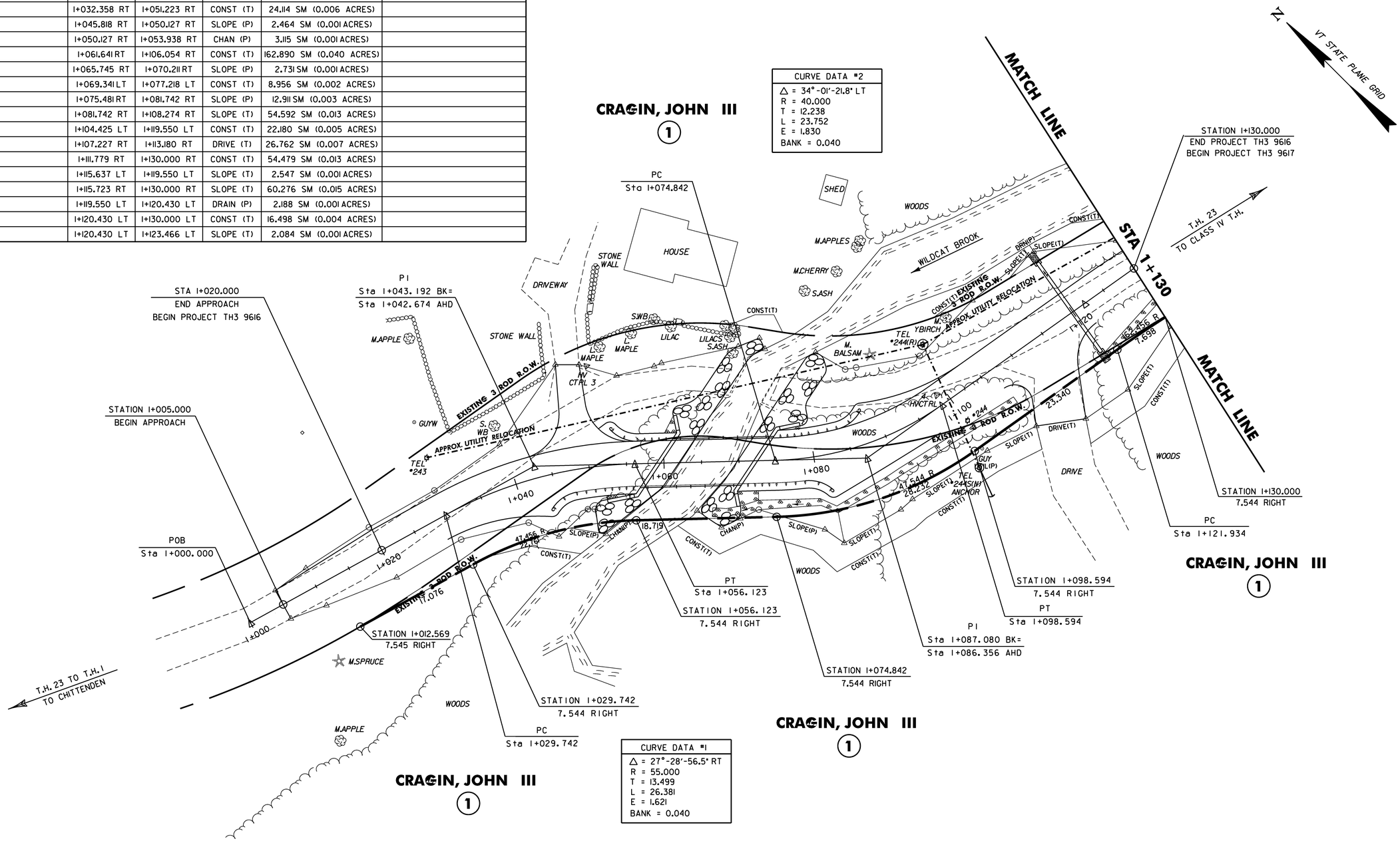
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45) & STP 1443(46)

FILE NAME: 96j236/str/sj236ec.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: W. LAMMER

PLOT DATE: 14-AUG-2009
DRAWN BY: W. LAMMER
CHECKED BY: C. CARLSON
SHEET 19 OF 81

TABLE OF ACQUISITION FOR PROJECT STP 1443(45) (BRIDGE 19)						
PARCEL NO.	GRANTOR	BEGIN STATION	END STATION	RIGHTS	AREA	REMARKS
1	CRAIGIN, JOHN III	1+012.569 RT	1+130.000 RT	TAKE	545.190 SM (0.135 ACRES)	
		1+032.358 RT	1+051.223 RT	CONST (T)	24.114 SM (0.006 ACRES)	
		1+045.818 RT	1+050.127 RT	SLOPE (P)	2.464 SM (0.001 ACRES)	
		1+050.127 RT	1+053.938 RT	CHAN (P)	3.115 SM (0.001 ACRES)	
		1+061.641 RT	1+106.054 RT	CONST (T)	162.890 SM (0.040 ACRES)	
		1+065.745 RT	1+070.211 RT	SLOPE (P)	2.731 SM (0.001 ACRES)	
		1+069.341 LT	1+077.218 LT	CONST (T)	8.956 SM (0.002 ACRES)	
		1+075.481 RT	1+081.742 RT	SLOPE (P)	12.911 SM (0.003 ACRES)	
		1+081.742 RT	1+108.274 RT	SLOPE (T)	54.592 SM (0.013 ACRES)	
		1+104.425 LT	1+119.550 LT	CONST (T)	22.180 SM (0.005 ACRES)	
		1+107.227 RT	1+113.180 RT	DRIVE (T)	26.762 SM (0.007 ACRES)	
		1+111.779 RT	1+130.000 RT	CONST (T)	54.479 SM (0.013 ACRES)	
		1+115.637 LT	1+119.550 LT	SLOPE (T)	2.547 SM (0.001 ACRES)	
		1+115.723 RT	1+130.000 RT	SLOPE (T)	60.276 SM (0.015 ACRES)	
		1+119.550 LT	1+120.430 LT	DRAIN (P)	2.188 SM (0.001 ACRES)	
		1+120.430 LT	1+130.000 LT	CONST (T)	16.498 SM (0.004 ACRES)	
		1+120.430 LT	1+123.466 LT	SLOPE (T)	2.084 SM (0.001 ACRES)	

VAOT Metric



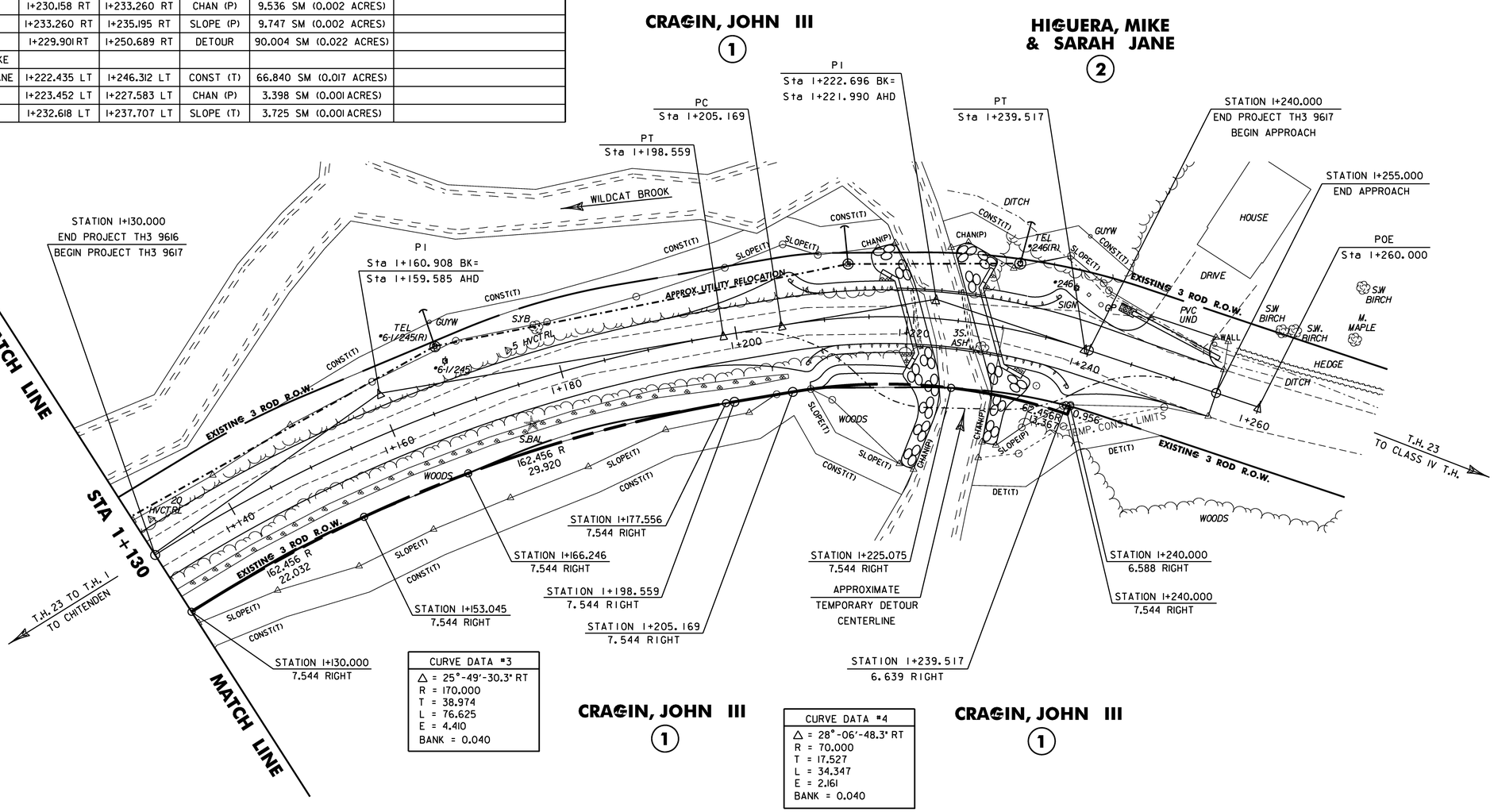
SHEET NAME:	BRIDGE 19 RIGHT-OF-WAY PLAN
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)
FILE NAME: /96J236/str/sj236row.dgn	PLOT DATE: 24-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: K. UPMAL
DESIGNED BY: K. UPMAL	IPARM NAME: sj236row1.i
	SHEET 20 OF 81

TABLE OF ACQUISITION FOR PROJECT STP 1443(46) (BRIDGE 20)						
PARCEL NO.	GRANTOR	BEGIN STATION	END STATION	RIGHTS	AREA	REMARKS
1	CRAIGIN, JOHN III	1+130.000 RT	1+153.045 RT	TAKE	2.433 SM (0.001 ACRES)	
		1+130.000 RT	1+220.983 RT	CONST (T)	269.188 SM (0.067 ACRES)	
		1+130.000 RT	1+203.157 RT	SLOPE (T)	219.908 SM (0.054 ACRES)	
		1+148.945 LT	1+217.850 LT	CONST (T)	135.433 SM (0.033 ACRES)	
		1+166.246 RT	1+198.559 RT	TAKE	9.359 SM (0.002 ACRES)	
		1+200.585 LT	1+209.558 LT	SLOPE (T)	6.439 SM (0.002 ACRES)	
		1+207.464 RT	1+218.866 RT	SLOPE (T)	67.192 SM (0.017 ACRES)	
		1+211.705 LT	1+218.388 LT	CHAN (P)	3.305 SM (0.001 ACRES)	
		1+218.866 RT	1+223.640 RT	CHAN (P)	17.974 SM (0.004 ACRES)	
		1+225.075 RT	1+240.000 RT	TAKE	6.334 SM (0.002 ACRES)	
		1+230.158 RT	1+233.260 RT	CHAN (P)	9.536 SM (0.002 ACRES)	
		1+233.260 RT	1+235.195 RT	SLOPE (P)	9.747 SM (0.002 ACRES)	
		1+229.901 RT	1+250.689 RT	DETOUR	90.004 SM (0.022 ACRES)	
2	HIGUERA, MIKE					
	& SARAH JANE	1+222.435 LT	1+246.312 LT	CONST (T)	66.840 SM (0.017 ACRES)	
		1+223.452 LT	1+227.583 LT	CHAN (P)	3.398 SM (0.001 ACRES)	
		1+232.618 LT	1+237.707 LT	SLOPE (T)	3.725 SM (0.001 ACRES)	

VAOT Metric

N

VT STATE PLANE GRID



0 10 20 30

SCALE (1:250) IN METERS

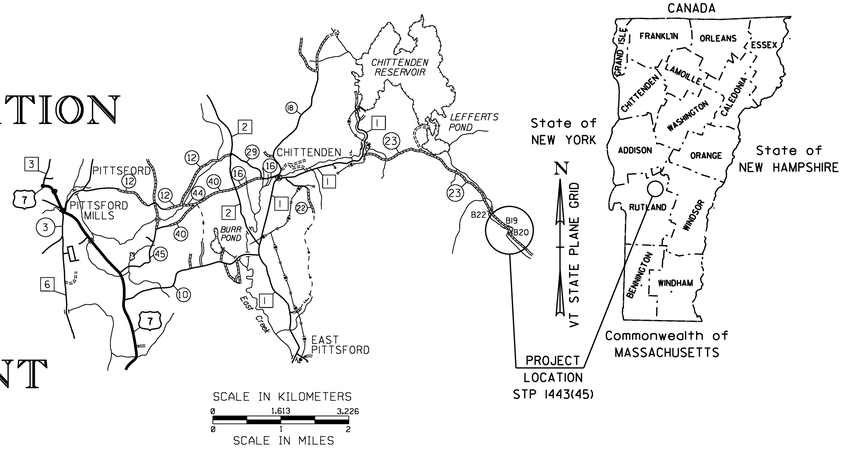
SHEET NAME: BRIDGE 20 RIGHT-OF-WAY PLAN

PROJECT NAME: CHITTENDEN

PROJECT NUMBER: TP 1443(46)

FILE NAME: 96J236\str\sj236row.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
PLOT DATE: 24-AUG-2009
DRAWN BY: K. UPMAL
IPARM NAME: sj236row2.i
SHEET 21 OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

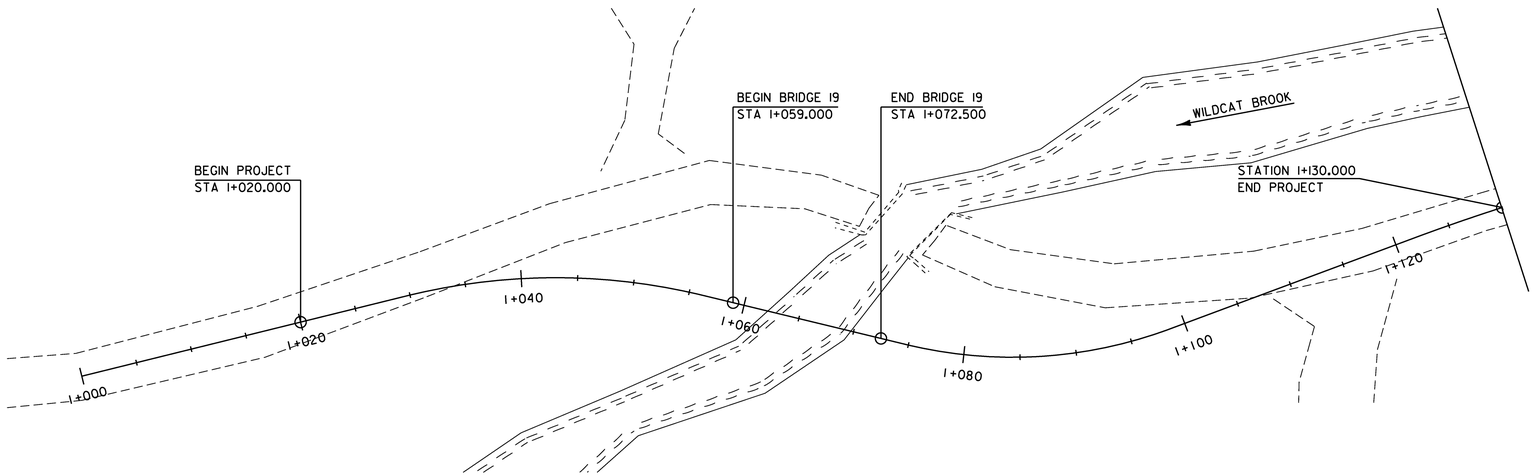
TOWN OF CHITTENDEN
COUNTY OF RUTLAND

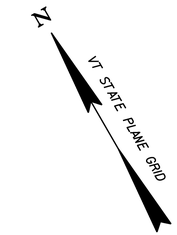
ROUTE NO : TOWN HIGHWAY 23 (LOCAL), BRIDGE 19

PROJECT LOCATION : ON TH 23 OVER WILDCAT BROOK APPROXIMATELY 4 km (2-1/2 MILES) SOUTHEASTERLY FROM THE INTERSECTION OF TH 23 AND TH 1 IN THE CENTER OF TOWN.

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

LENGTH OF STRUCTURE:	13.500	METERS.
LENGTH OF ROADWAY :	96.500	METERS.
LENGTH OF PROJECT :	110.00	METERS.





VAOT Metric

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

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 : L. ORVIS
SURVEYED DATE : AUGUST 1998

DATUM
VERTICAL NAD88
HORIZONTAL NA83/92

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.

PROJECT MANAGER : C. CARLSON

PROJECT NAME : CHITTENDEN
PROJECT NUMBER : STP 1443(45)

SHEET 22 OF 81 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

INDEX OF SHEETS

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 1/17/02

DRAINAGE AREA : 6.9 sq. km
CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested.
STREAM CHARACTERISTICS : Perennial, alluvial, sinuous, and locally anabranched.
NATURE OF STREAMBED : Cobbles, boulders and gravel.

PEAK FLOW DATA

Q 2.33 =	7.6 cms	Q 50 =	18.4 cms
Q 10 =	12.7 cms	Q 100 =	21.2 cms
Q 25 =	15.6 cms	Q 500 =	34.0 cms

DATE OF FLOOD OF RECORD: Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 3.4 mps
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: 2% HEADWATERS: X
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Steel beam bridge with timber deck.
YEAR BUILT: Unknown
CLEAR SPAN(NORMAL TO STREAM): 4.6 m upstream and 4.3 m downstream
VERTICAL CLEARANCE ABOVE STREAMBED: 2.0 m (Low Beam El. 495.2 m)
WATERWAY OF FULL OPENING: 7.5 sq. m
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	494.2 m	VELOCITY =	3.1 mps
Q10 =	494.6 m	"	3.8 mps
Q25 =	494.8 m	"	4.1 mps
Q50 =	495.0 m	"	4.4 mps
Q100 =	495.1 m	"	4.5 mps

LONG TERM STREAMBED CHANGES: There is about 0.3 m of scour along the north abutment. No other changes were noted. The channel appears stable.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 495.4 m
DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Chittenden DISTANCE: 160 m
HIGHWAY # : T.H. 23 STRUCTURE #: 20
CLEAR SPAN: 5.2 m CLEAR HEIGHT: 1.7 m
YEAR BUILT: Unknown FULL WATERWAY: 7.5 sq. m
STRUCTURE TYPE: Steel beam bridge with timber deck

DOWNSTREAM STRUCTURE

TOWN: Chittenden DISTANCE: 550 m
HIGHWAY # : T.H. 23 STRUCTURE #: 22
CLEAR SPAN: 5.8 m CLEAR HEIGHT: 1.7 m
YEAR BUILT: Unknown FULL WATERWAY: N.A.
STRUCTURE TYPE: Corrugated metal plate arch

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A, STR.	4A, STR.	SA, SEMI
INVENTORY	34	47					
POSTED	48	65	93		54	57	81
OPERATING		78	111	106	64	68	
COMMENTS:							

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2004	60	25	58	3	<5
2024	80	30	58	3	5

20 year ESAL for flexible pavement from 2004 to 2024 : <50,000
40 year ESAL for flexible pavement from 2004 to 2044 : <50,000
Design Speed : 50 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span concrete slab bridge.

CLEAR SPAN(NORMAL TO STREAM): 10.1 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.4 m
WATERWAY OF FULL OPENING: 19.0 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	494.0 m	VELOCITY=	1.9 mps
Q10 =	494.3 m	"	2.1 mps
Q25 =	494.4 m	"	2.2 mps
Q50 =	494.6 m	"	2.4 mps
Q100 =	494.7 m	"	2.6 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 495.6 m
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 495.4 m on upstream side
VERTICAL CLEARANCE: @ Q100 = 0.7 m

SCOUR: 0 m of contraction scour up to Q500. Abutments will be protected against abutment scour by stone fill.
REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	0.2 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	0.1 cms	Depth = 0.1 m
ORDINARY HIGH WATER:	4.0 cms	Depth = 0.6 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Traffic will be maintained on the existing bridge.
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

The new bridge is to be located about 10 m downstream of the existing bridge. Water surface elevations for each bridge are listed at a point just upstream of the indicated bridge.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS-22.5
2. DESIGN SPAN 12.6m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 190 kPa
   ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A
   TYPE N/A
   ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO M270/M270M GRADE N/A
6. REINFORCING STEEL GRADE 420
7. CONCRETE CLASS A (HPC-A) f'c: N/A
   CONCRETE CLASS B (HPC-B) f'c: 25 Mpa
8. SOIL UNIT WEIGHT 22.00 kN/m^3
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 392 kPa

TRAFFIC MAINTENANCE

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

PROJECT NAME: **CHITTENDEN**
PROJECT NUMBER: **STP 1443(45)**

FILE NAME: **/96j236/str/sj236pi.xls** PLOT DATE: **4/29/2009**
PROJECT MANAGER: **C. CARLSON** DRAWN BY: **J. GILMORE**
DESIGNED BY: **K. UPMAL** CHECKED BY: **C. CARLSON**
BRIDGE 19 PRELIMINARY INFORMATION SHEET SHEET **23** OF **81**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C. E. ITEMS
0.5			
670			
		290	
110			
20			
10	10		
		250	
		410	
		135	
		1	
		1	
390			
140			
		178	
		10190	
		3600	
		70	
		31	
1			
		1	
15			
15			
15			
1			
30			
		260	
2			
54			
4			
100			
			0.5
			0.5
			0.5
0.5			
1			
90		255	
	65		
	85		

TOTALS

GRAND TOTAL	FINAL
0.5	
670	
290	
110	
20	
20	
250	
410	
135	
1	
1	
390	
140	
178	
10190	
3600	
70	
31	
1	
1	
15	
15	
15	
1	
30	
260	
2	
54	
4	
100	
0.5	
0.5	
0.5	
0.5	
1	
345	
65	
85	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CM	COMMON EXCAVATION	203.15	
CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CM	SAND BORROW	203.31	
CM	GRANULAR BORROW	203.32	
CM	TRENCH EXCAVATION OF EARTH	204.20	
CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
CM	COFFERDAM EXCAVATION,EARTH	208.30	
CM	COFFERDAM EXCAVATION,ROCK	208.35	
LS	COFFERDAM (STA. 1+061.5)	208.40	
LS	COFFERDAM (STA. 1+070)	208.40	
CM	SUBBASE OF GRAVEL	301.15	
CM	AGGREGATE SURFACE COURSE	401.10	
CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
KG	REINFORCING STEEL	507.15	
KG	EPOXY COATED REINFORCING STEEL	507.17	
L	WATER REPELLENT, SILANE	514.10	
M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41	
LS	MAINTENANCE OF STRUCTURES AND APPROACHES	527.10	
EACH	PARTIAL REMOVAL OF STRUCTURE (BRIDGE 19)	529.20	
	BEGIN OPTION AA		
M	450 CAAP 1.52 (68 X 12)	601.0215	
M	450 PCCSP 1.63 (68 X 12)	601.0415	
M	450 CPEP(SL)	601.2615	
	END OPTION AA		
CM	DUST CONTROL WITH WATER	609.10	
CM	STONE FILL, TYPE I	613.10	
CM	STONE FILL, TYPE IV	613.13	
EACH	YIELDING MARKER POSTS	619.17	
M	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21	
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	
HR	FLAGGERS	630.15	
LS	FIELD OFFICE-ENGINEERS	631.10	
LS	TESTING EQUIPMENT - CONCRETE	631.16	
LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25	
LS	MOBILIZATION / DEMOBILIZATION	635.11	
LS	TRAFFIC CONTROL (STP 1443(45))	641.10	
SM	GEOTEXTILE UNDER STONE FILL	649.31	
SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	
SM	GEOTEXTILE FOR FILTER CURTAIN	649.61	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
		FILL REQUIRED
0	CM	COMMON FILL (1.15*0 CM)
		FILL AVAILABLE
469	CM	203.15 COMMON EXCAVATION (0.7*670 CM)
3	CM	204.20 TRENCH EXCAVATION OF EARTH (0.3*10 CM)
123	CM	208.30 COFFERDAMN EXCAVATION, EARTH (0.3*410 CM)
87	CM	203.27 UNCLASSIFIED CHANNEL EXCAVATION (0.3*290 CM)

682	CM	TOTAL FILL AVAILABLE
0	CM	TOTAL FILL REQUIRED

682	CM	WASTE
		TEMPORARY EROSION CONTROL ITEMS
10	CM	204.20 TRENCH EXCAVATION OF EARTH
65	SM	649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
85	SM	649.61 GEOTEXTILE FOR FILTER CURTAIN
10	KG	651.17 SEED, WINTER RYE
0.5	LS	652.10 EPSC PLAN
50	HR	652.20 MONITORING EPSC PLAN
0.5	LU	652.30 MAINTENANCE OF EPSC PLAN (N.A.B.I.)
730	SM	653.20 TEMPORARY EROSION MATTING
40	CM	653.25 TEMPORARY STONE CHECK DAM, TYPE I
30	CM	653.35 VEHICLE TRACKING PAD
1	EACH	653.40 INLET PROTECTION DEVICE, TYPE I
125	M	653.50 BARRIER FENCE
115	M	653.55 PROJECT DEMARCATION FENCE
		N.A.B.I = NOT A BID ITEM

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME:
PROJECT LEADER: C. CARLSON
DESIGNED BY: C. CARLSON
QUANTITY SHEET #1

PLOT DATE: 08/25/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 24 OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C. E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
	10			10		KG	SEED	651.15	
	10			10		KG	SEED-WINTER RYE	651.17	
	100			100		KG	FERTILIZER	651.18	
	1			1		T	AGRICULTURAL LIMESTONE	651.20	
	1			1		T	HAYMULCH	651.25	
	130			130		CM	TOPSOIL	651.35	
		190		190		SM	GRUBBING MATERIAL	651.40	
	0.5			0.5		LS	EPSC PLAN	652.10	
	50			50		HR	MONITORING EPSC PLAN	652.20	
	0.5			0.5		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	
	730			730		SM	TEMPORARY EROSION MATTING	653.20	
	40			40		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25	
	30			30		CM	VEHICLE TRACKING PAD	653.35	
	1			1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40	
	125			125		M	BARRIER FENCE	653.50	
	115			115		M	PROJECT DEMARCATION FENCE	653.55	
1				1		SM	TRAFFIC SIGNS, TYPE A	675.20	
5				5		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341	
3				3		EACH	REMOVING SIGNS	675.50	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		N.A.B.I = NOT A BID ITEM

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME:
PROJECT LEADER: C. CARLSON
DESIGNED BY: C. CARLSON
QUANTITY SHEET #2

PLOT DATE: 08/25/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 25 OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

Metric

SUMMARY OF BRIDGE QUANTITIES

CHANNEL	SUPERSTRUCTURE	ABUTMENT NO. 1	ABUTMENT NO. 2	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER
290				290	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
		85	165	250	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
		200	210	410	CM	COFFERDAM EXCAVATION,EARTH	208.30
		65	70	135	CM	COFFERDAM EXCAVATION,ROCK	208.35
		1		1	LS	COFFERDAM (STA. 1+061.5)	208.40
			1	1	LS	COFFERDAM (STA. 1+070)	208.40
	58	60	60	178	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
		5140	5050	10190	KG	REINFORCING STEEL	507.15
	3500	50	50	3600	KG	EPOXY COATED REINFORCING STEEL	507.17
	42	14	14	70	L	WATER REPELLENT, SILANE	514.10
	31			31	M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41
	1			1	EACH	PARTIAL REMOVAL OF STRUCTURE (BRIDGE 19)	529.20
260				260	CM	STONE FILL, TYPE IV	613.13
255				255	SM	GEOTEXTILE UNDER STONE FILL	649.31
190				190	SM	GRUBBING MATERIAL	651.40

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME:
PROJECT LEADER: C. CARLSON
DESIGNED BY: C. CARLSON
BRIDGE QUANTITY SHEET #1

PLOT DATE: 08/14/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 26 OF 81

GPS CONTROL POINTS

HVCTRL #1

STANDARD DISC STAMPED

TT 12 T

N = 133510.0360

E = 468936.0810

ELEV. = 484.320

GENERAL LOCATION, CHITTENDEN, VT. TO REACH FROM THE INTERSECTION OF U.S. ROUTE 7 (NORTH MAIN STREET) AND U.S. ROUTE 4 EAST (WOODSTOCK AVENUE) IN RUTLAND CITY GO NORTH ALONG U.S. ROUTE 7 FOR 1.8 MI (2.9 KM) TO THE Y-INTERSECTION OF CHITTENDEN ROAD RIGHT. BEAR RIGHT AND GO NORTH ALONG CHITTENDEN ROAD FOR 1.0 MI (1.6 KM) TO THE INTERSECTION OF PROSPECT HILL ROAD STRAIGHT. TURN RIGHT AND CONTINUE EAST AND NORTHEAST ALONG CHITTENDEN ROAD FOR 5.1 MI (8.2 KM) TO THE INTERSECTION OF HOLDEN ROAD LEFT AND DAM ROAD STRAIGHT IN CHITTENDEN VILLAGE. CONTINUE STRAIGHT AHEAD AND GO EAST ALONG DAM ROAD FOR 1.3 MI (2.1 KM) TO THE Y-INTERSECTION OF WILDCAT ROAD RIGHT. BEAR RIGHT AND GO EAST ALONG WILDCAT ROAD FOR 2.5 MI (4.0 KM) TO THE SITE OF MARK ON THE LEFT IN FRONT OF A 1+1/2 STORY HOUSE, DIRECTLY UNDER A TELEPHONE LINE. THE MARK IS SET IN THE TOP OF A 2.0 M (6.6 FT) X 2.0 M (6.6 FT) ROCK OUTCROP WHICH PROJECTS ABOUT 0.4 M (1.3 FT) ABOVE GROUND SURFACE. IT IS 7.2 M (23.6 FT) NORTHEAST OF AND ABOUT 0.7 M (2.3 FT) HIGHER THAN THE CENTERLINE OF WILDCAT ROAD, 36.1 M (118.4 FT) SOUTHWEST OF THE SOUTHEAST CORNER OF THE HOUSE, AND 28.6 M (93.8 FT) NORTH OF POLE NO. 6-1/240.

HVCTRL #6

STANDARD DISC STAMPED

2 BRIDGE

N = 133247.0300

E = 469255.8550

ELEV. = 501.580

GENERAL LOCATION, CHITTENDEN, VT. TO REACH FROM THE INTERSECTION OF U.S. ROUTE 7 (NORTH MAIN STREET) AND U.S. ROUTE 4 EAST (WOODSTOCK AVENUE) IN RUTLAND CITY GO NORTH ALONG U.S. ROUTE 7 FOR 1.8 MI (2.9 KM) TO THE Y-INTERSECTION OF CHITTENDEN ROAD RIGHT. BEAR RIGHT AND GO NORTH ALONG CHITTENDEN ROAD FOR 1.0 MI (1.6 KM) TO THE INTERSECTION OF PROSPECT HILL ROAD STRAIGHT. TURN RIGHT AND CONTINUE EAST AND NORTHEAST ALONG CHITTENDEN ROAD FOR 5.1 MI (8.2 KM) TO THE INTERSECTION OF HOLDEN ROAD LEFT AND DAM ROAD STRAIGHT IN CHITTENDEN VILLAGE. CONTINUE STRAIGHT AHEAD AND GO EAST ALONG DAM ROAD FOR 1.3 MI (2.1 KM) TO THE Y-INTERSECTION OF WILDCAT ROAD RIGHT. BEAR RIGHT AND GO EAST AND SOUTHEAST ALONG WILDCAT ROAD FOR 2.8 MI (4.5 KM) TO THE THIRD BRIDGE OVER WILDCAT BROOK. CONTINUE STRAIGHT AND GO SOUTHEAST ALONG WILDCAT ROAD FOR ABOUT 15 M (49.2 FT) TO THE SITE OF MARK ON THE LEFT, JUST WEST OF A 2 STORY 2 BAY GARAGE. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 5.0 M (16.4 FT) SOUTHEAST OF AND ABOUT 0.3 M (1.0 FT) LOWER THAN THE CENTERLINE OF WILDCAT ROAD, 15.3 M (50.2 FT) WEST OF THE NORTHWEST CORNER OF THE GARAGE, 2.4 M (7.9 FT) SOUTHWEST OF A PROPERTY PIPE WITH CAP, AND 1.5 M (4.9 FT) SOUTH OF POLE NO. 246 AND A FIBERGLASS WITNESS POST.

* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES

HVCTRL #2

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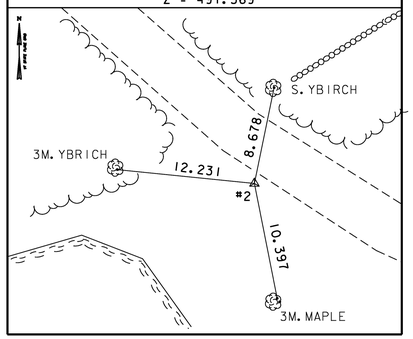
Z = 491.369



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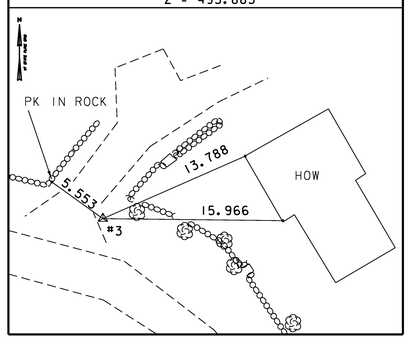

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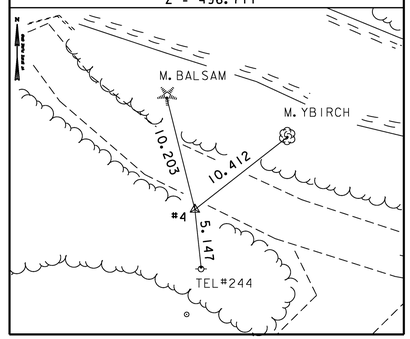

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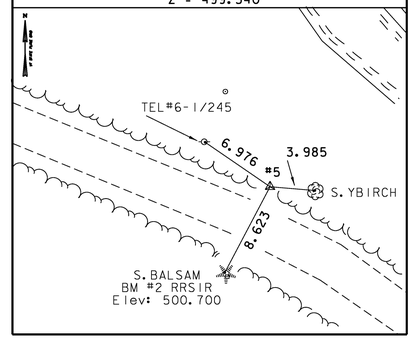

* MAIN TRAVERSE COMPLETED: AUGUST 12, 1998 BY L. ORVIS & R. BULLOCK

ALIGNMENT TIES

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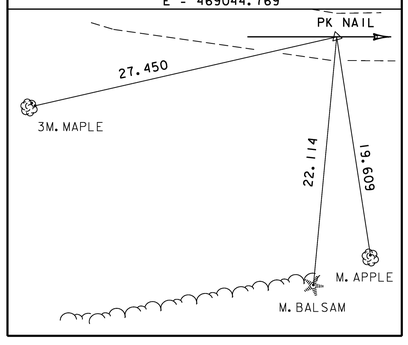

ML PC 1+029.742

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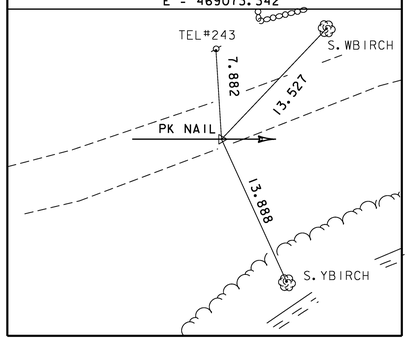

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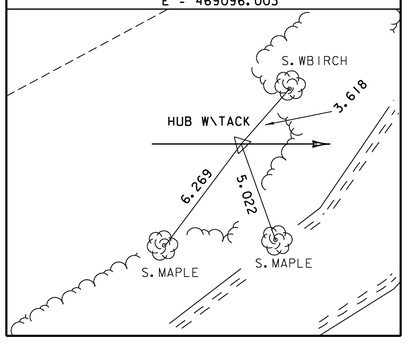

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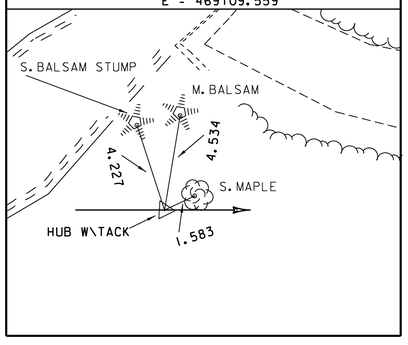

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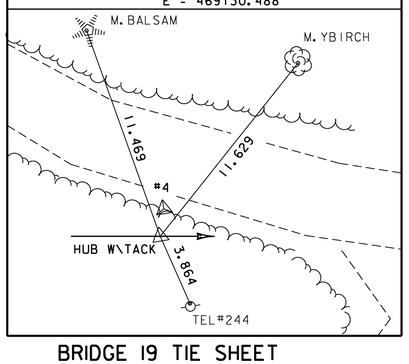


* ALIGMENT STAKED ON JANUARY 2, 2002 BY L. ORVIS & T. WILSON

DATUM

VERTICAL	NAVD88
HORIZONTAL	NAD-83 (92)
ADJUSTMENT	none

BRIDGE 19 TIE SHEET

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: TH3 9616 & TH3 9617

FILE NAME: 96j236\xj236ti.dgn
PROJECT LEADER: C. Carlson
DESIGNED BY: K. UPMAL
Bridge 19 Tie Sheet

PLOT DATE: 14-AUG-2009
DRAWN BY: J. HULETT
CHECKED BY: R. Bullock
SHEET 27 OF 81

EXISTING BRIDGE 19 DATA

SUPERSTRUCTURE: STEEL ROLLED BEAMS/WOOD PLANK DECK
SUBSTRUCTURE: LAID UP STONE ABUTMENTS
BRIDGE WIDTH: 4.7 METERS (15.4 FEET)
ROADWAY WIDTH: 4.6 METERS (15 FEET)
BRIDGE LENGTH: 6.1 METERS (20 FEET)
CLEAR SPAN: 4.6 METERS (15 FEET)
CLEAR HEIGHT: 2.3 METERS (7.5 FEET)

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 1+043.828 RT - STA 1+055.893 RT
STA 1+053.139 LT - STA 1+060.378 LT
STA 1+071.131RT - STA 1+081.759 RT
STA 1+075.674 LT - STA 1+088.064 LT

ANCHOR FOR STEEL BEAM RAIL
STA 1+045.840 RT
STA 1+054.787 LT
STA 1+080.191RT
STA 1+085.937 LT

BRIDGE RAILING, GALVANIZED
HD STEEL BEAM/FASCIA MOUNTED
STA 1+055.893 RT - STA 1+071.131RT
STA 1+060.378 LT - STA 1+075.674 LT

CONSTRUCT DRIVES
STA 1+049.000 LT
STA 1+116.000 RT (SKEWED 117° RT)

CONSTRUCT DITCH
(STONE FILL TYPE I)
STA 1+070.119 RT - STA 1+107.000 RT
STA 1+120.450 RT - STA 1+130.000 RT

PIPE OPTION
STA 1+120.000 RT - STA 1+120.000 LT

REMOVING SIGNS
STA. 1+052.4 ± LT. (2)
STA. 1+088.0 ± LT.

CURVE DATA #2
Δ = 34°-01'-21.8" LT
R = 40.000
T = 12.238
L = 23.752
E = 1.830
BANK = 0.040

STATION 1+130.000
END PROJECT STP 1443(45)
BEGIN PROJECT STP 1443(46)

TRAFFIC SIGNS, TYPE A
STA. 1+020.0 RT. (2)

SQUARE TUBE SIGN POST AND ANCHOR
STA. 1+020.0 RT. (1)

LEGAL LOAD LIMIT 16,000 POUNDS — REMOVE SIGN
DEAD END — REMOVE SIGN
STA. 1+052.4 ± LT.

LEGAL LOAD LIMIT 16,000 POUNDS — REMOVE SIGN
STA. 1+088.0 ± LT.

BEGIN BRIDGE 19
STA 1+059.000
F.G. = 495.734

END BRIDGE 19
STA 1+072.500
F.G. = 496.314

PI
Sta 1+043.192 BK=
Sta 1+042.674 AHD

CHANNEL POE
Sta 7+050.000

PC
Sta 1+074.842

END APPROACH
STA 1+020.000
BEGIN PROJECT
STP 1443(45)

BENCH MARK NO.1
CHISELED SQUARE IN BOULDER
ELEV. 494.080

STATION 1+005.000
BEGIN APPROACH

POB
Sta 1+000.000

PT
Sta 1+056.123

POST Sta 1+051.828 =
Cha Sta 7+023.197
Δ = 55° LT

CHANNEL POB
Sta 7+000.000

PC
Sta 1+029.742

PI
Sta 1+087.080 BK=
Sta 1+086.356 AHD

PT
Sta 1+098.594

PC
Sta 1+121.934

STONE FILL
TYPE I (TYP)

STONE FILL
TYPE IV (TYP)

DEAD END — W14-1 36" X 36" SEE MUTCD
STATION 1+020.0 RT.

CURVE DATA #1
Δ = 27°-28'-56.5" RT
R = 55.000
T = 13.449
L = 26.381
E = 1.621
BANK = 0.040

MATCH LINE (SEE SHEET 59)
MATCH LINE (SEE SHEET 59)
STA 1+130

N
VT STATE PLANE GRID

T.H. 23 TO CLASS IV T.H.
T.H. 23 TO T.H. 1 TO CHITTENDEN

HOUSE, SHED, DRIVEWAY, STONE WALL, WILDCAT BROOK, WOODS, DRIVE, POND
M.APPLES, M.CHERRY, S.ASH, M.APPLE, M.BALSAM, M.YBIRCH, S.BIRCH, 3M.YBIRCH, 3M.MAPLES, M.SPRUCE, L.MAPLE, LILAC, LILACS, SWB, WB, NB, SB, GUYW, GUY, BLZ
TEL #244(R), TEL #243, TEL #244S(IN) ANCHOR
EXISTING 3 ROD R.O.W., APPROX. UTILITY RELOCATION, CLEAR ZONE, HVCTRL 1, HVCTRL 2, HVCTRL 3, NV CTRL 3
S73°52'58.6"E, S16°24'02.2"E, S80°25'24.0"E
1+000, 1+020, 1+040, 1+060, 1+080, 1+100, 7+000, 7+040, 7+060, T+120
6.0 R (TYP), 6.0 R, 2.4R

NOTES

1.) RELOCATED TELEPHONE POLES ARE DENOTED BY AN (R)
2.) NEW TELEPHONE POLES ARE DENOTED BY AN (N)
3.) SEE SHEET 8 FOR DRAINAGE DETAILS

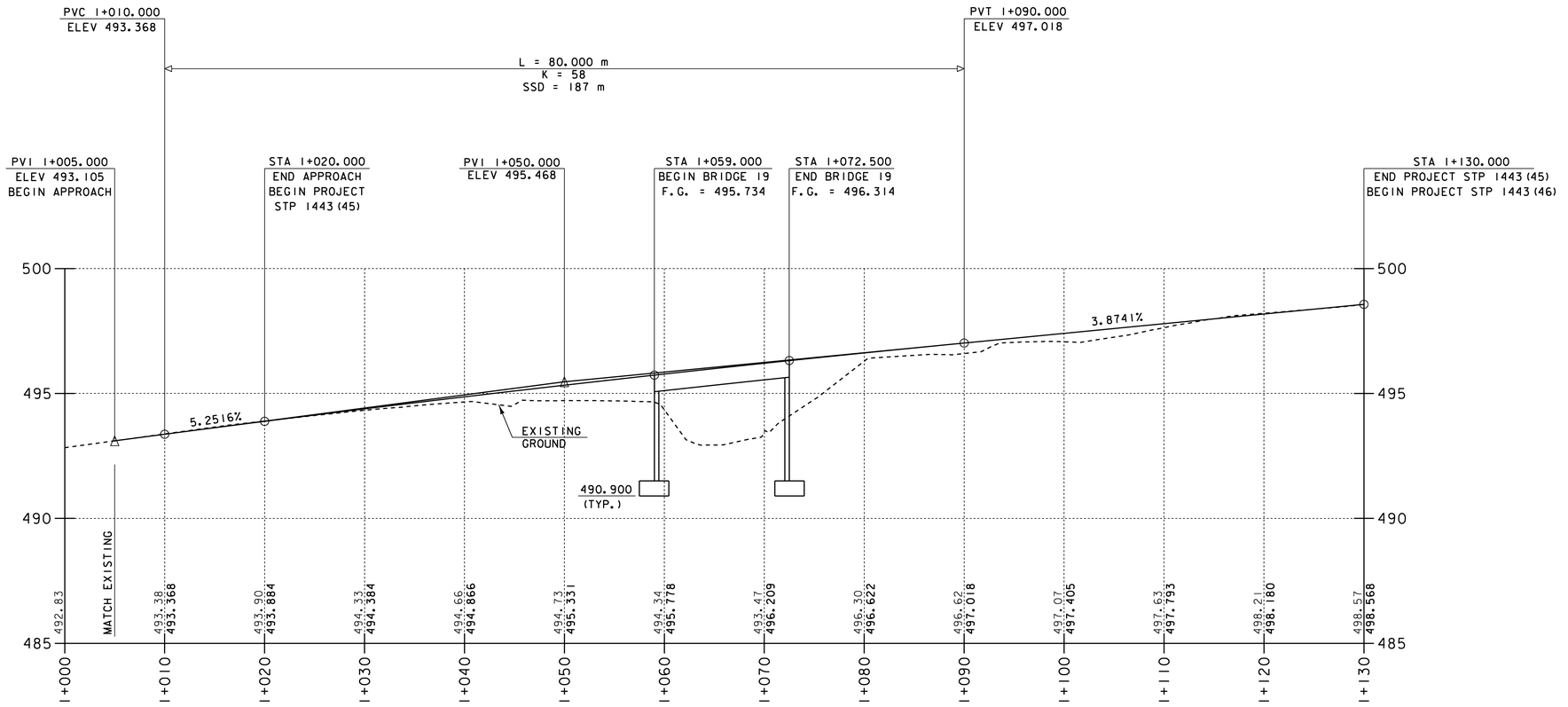
0 10 20 30
SCALE (1:250) IN METERS

BRIDGE 19 LAYOUT SHEET

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: /96j236/str/sj236bdr.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
PLOT DATE: 18-AUG-2009
DRAWN BY: STR
CHECKED BY: C. CARLSON
SHEET 28 OF 81

Metric



MAINLINE PROFILE

5 4 3 2 1 0

0 10 20

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

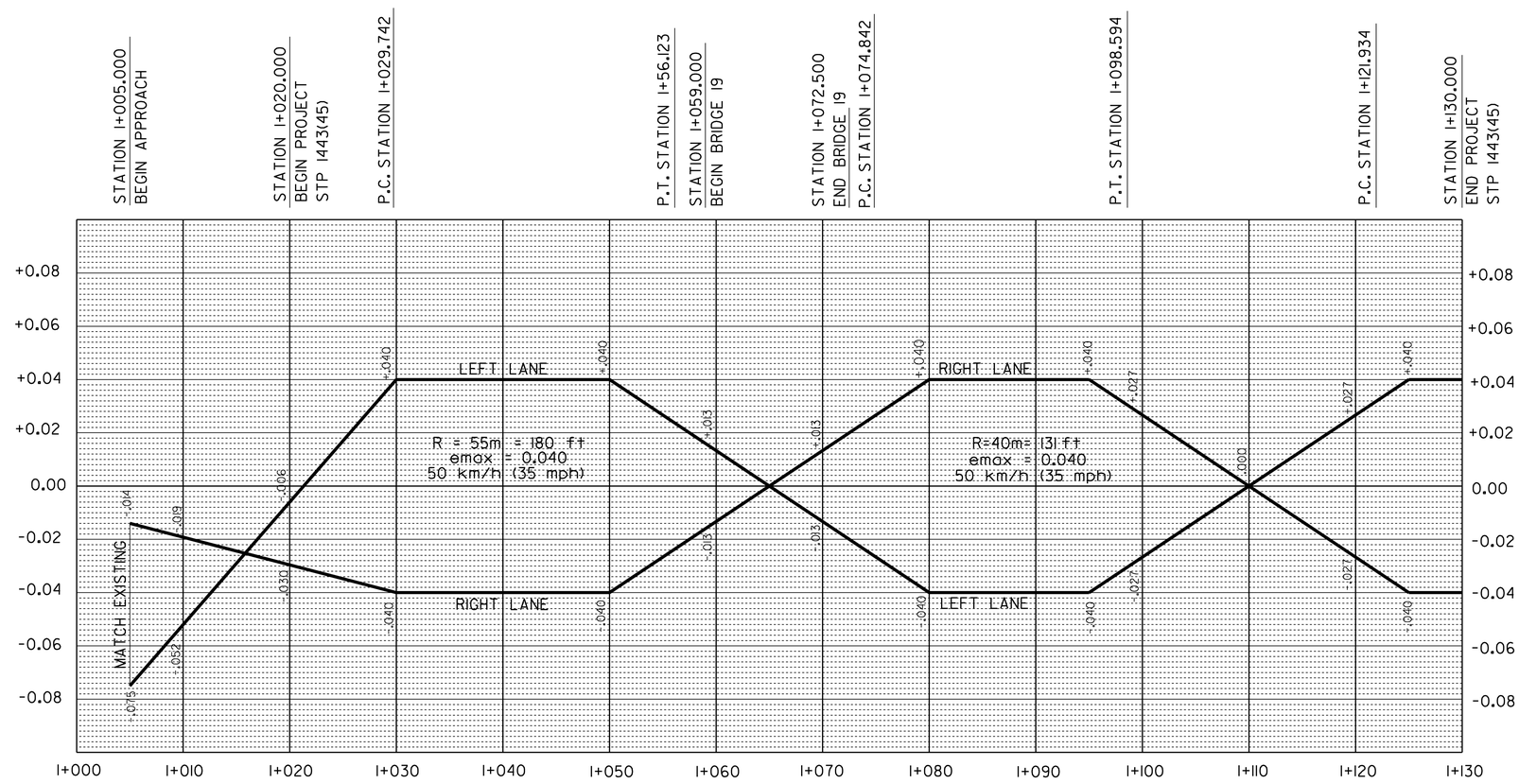
THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE OLD GROUND ALONG THE CENTERLINE. THE GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.

BRIDGE 19 MAINLINE PROFILE

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: /93j236/str/sj236xs.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL

PLOT DATE: 14-AUG-2009
DRAWN BY: STR
IPARM NAME: sj236prl.i
SHEET 29 OF 81



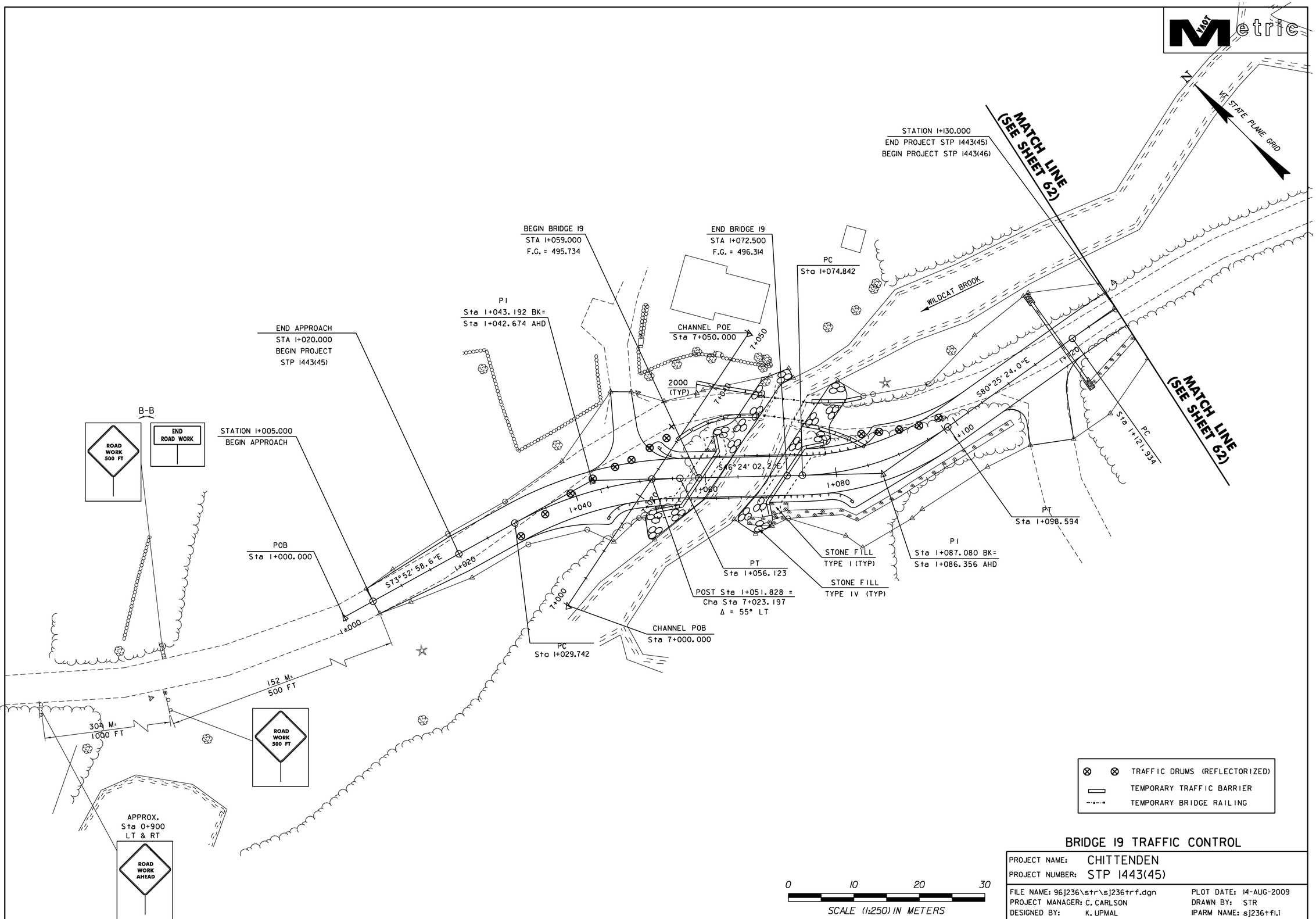
MAINLINE BANKING DIAGRAM

BRIDGE 19 BANKING DIAGRAM

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /93j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236bdl.i
		SHEET 30	OF 81

VAOT Metric



TRAFFIC DRUMS (REFLECTORIZED)
TEMPORARY TRAFFIC BARRIER
TEMPORARY BRIDGE RAILING

0 10 20 30
SCALE (1:250) IN METERS

BRIDGE 19 TRAFFIC CONTROL

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: 96J236\str\sj236trf.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
PLOT DATE: 14-AUG-2009
DRAWN BY: STR
IPARM NAME: sj236tfl.i
SHEET 31 OF 81

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

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

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

DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

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

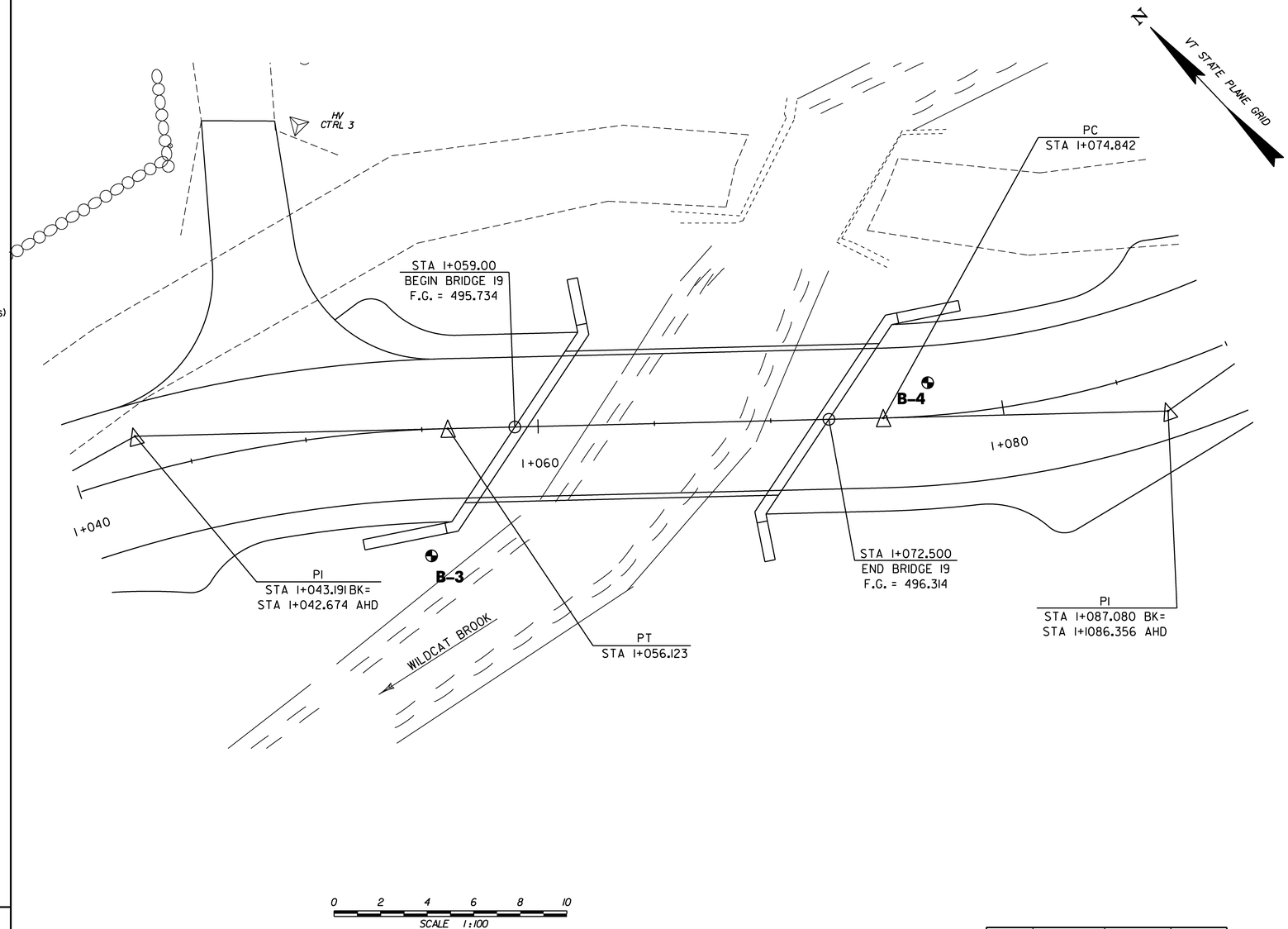
MOISTURE CONTENT - Weight of water divided by dry weight of soil.

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

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

DIP - Inclination of bed with a horizontal plane.

VAOT Metric



GENERAL NOTES

1. The subsurface explorations shown herein were made between 3/20/2002 and 3/28/2002 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.
B-3	1+054.500	4.400 RT	494.660
B-4	1+076.000	3.000 LT	494.630

BRIDGE 19
BORING LOCATIONS

SHEET NAME: BRIDGE 19 BORING PLAN

PROJECT NAME: CHITTENDEN

PROJECT NUMBER: STP 1443(45)

FILE NAME: /96j236/str/sj236bor.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
PLOT DATE: 14-AUG-2009
DRAWN BY: J. GILMORE
IPARM NAME: sj236bri.i
SHEET 32 OF 81

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

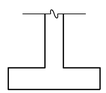
HOLE NO.: B-3
SHEET 1 OF 1
DATE STARTED: 3/20/02
DATE COMPLETED: 3/21/02

PROJECT NAME: CHITTENDEN
SITE NAME: BR 19
STATION: 1+054.50
GROUND EL.: 494.66

PROJECT NUMBER: STP 1443(45)
SITE NO.: TH 23
OFFSET: 4.40
G.W. DEPTH: 1.65 (03/21/02)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL



490.900
BTM. FTG.

DEPTH	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	A-1-b, SaGr with Broken Rock & Wood, brn, Moist, Rec. = 0.30m	4	19.6	54.9	28.7	16.4		
	BXDC, 2.00m-2.45m, Boulder							
	Tried to sample, Appears to be gravel. BXDC, 3.1m-3.7m, Boulder	R						
	Appears to be gravel, No Rec. A-1-b, SiSaGr with Broken Rock, brn, Moist, Rec. = 0.31m	50	11.2	51.6	24.3	24.1		
5	A-1-b, SiSaGr, gry, Moist, Rec. = 0.10m BXDC, 5.17m-5.77m, Boulders	R	10.9	47.3	32.6	20.1		
	BXDC, 6.27m-6.50m, Cleaned casing A-4, GrSaSt, brn-gry, Moist Rec. = 0.06m	R	13.8	22.8	34.2	43		
	BXDC, 7.1m-8.0m, Cleaned out casing.							
	A-1-a, SaGr, gry, Moist, Rec. = 0.09m	R	11.8	60.4	29.5	10.1		
	BXDC, 9.25m-9.50m, Cleaned casing A-1-b, GrSa, gry, Moist, Rec. = 0.23m	R 15	39.8	44.4	15.8			
10	Hole stopped @ 9.73m							

GEOLOGISTS REPORT:

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

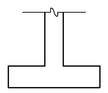
HOLE NO.: B-4
SHEET 1 OF 1
DATE STARTED: 3/26/02
DATE COMPLETED: 3/28/02

PROJECT NAME: CHITTENDEN
SITE NAME: BR 19
STATION: 1+076.00
GROUND EL.: 494.63

PROJECT NUMBER: STP 1443(45)
SITE NO.: TH 23
OFFSET: -3.00
G.W. DEPTH: NA

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL



490.900
BTM. FTG.

DEPTH	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	A-1-a, SaGr, brn-gry, Moist, Rec. = 0.24m	39	13.3	62.2	23.3	14.5		
	BXDC, 1.8m-2.0m, Cleaned casing Not enough sample, Appears to be SiSaGr.	19						
	BXDC, 2.7m-3.0m, Cleaned out casing. A-2-4, SiGrSa, brn, Moist, Rec. = 0.25m	22	13.2	31.8	43.3	24.9		
	BXDC, 3.8m-4.3m, Cleaned out casing, No sample at 4.0m because of Boulder.							
5	A-4, GrSaSt, brn, Moist, Rec. = 0.49m	50	15.2	28.7	30.4	40.9		
	BXDC, 6.27m-6.50m, Cleaned casing A-1-b, SiSaGr, brn-gry, Moist, Rec. = 0.28m	R	10.4	52.2	25.2	22.6		
	BXDC, 7.65m-8.00m, Cleaned out casing.							
	A-2-4, SiSaGr, brn-gry, Moist, Rec. = 0.40m	R	10.6	36.1	32.4	31.5		
	A-4, GrSaSt, brn, Moist, Rec. = 0.45m	48	14.5	25.4	37	37.6		
10	Hole stopped @ 9.60m							

GEOLOGISTS REPORT:

BRIDGE 19 BORING LOGS

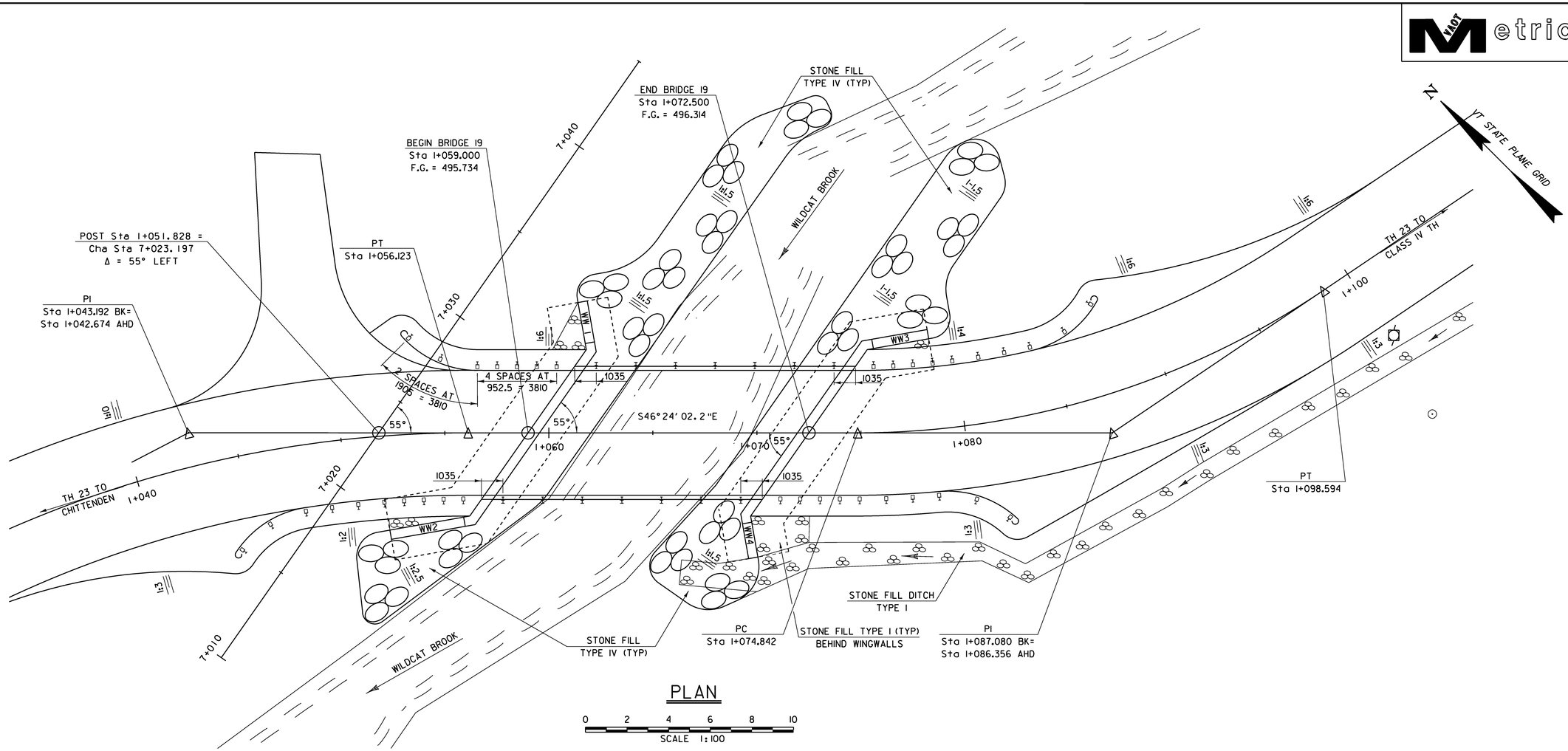
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: /96J236/str/sj236bor.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: K. UPMAL
sj236br1.1

PLOT DATE: 14-AUG-2009
DRAWN BY: J. TOUCHETTE
CHECKED BY: C. CARLSON
SHEET 33 OF 81

VAOT Metric

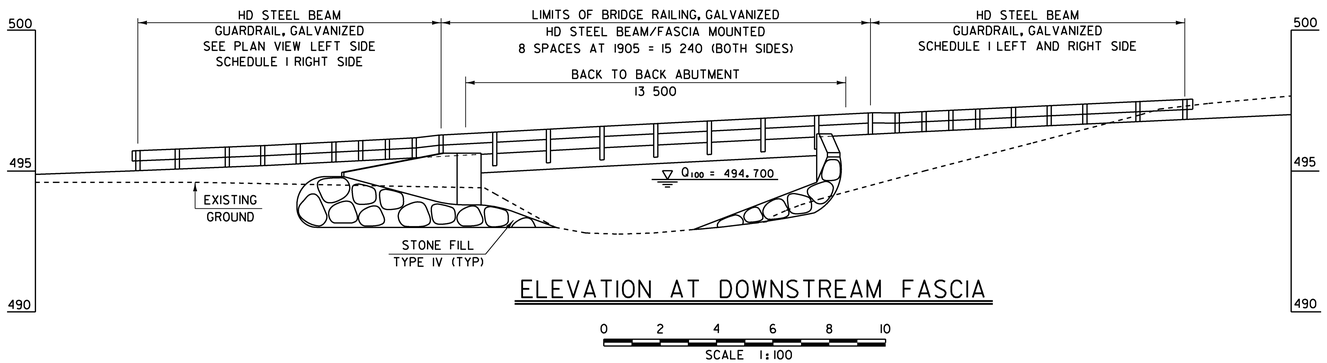
VAOT Metric



PLAN

0 2 4 6 8 10

SCALE 1:100



ELEVATION AT DOWNSTREAM FASCIA

0 2 4 6 8 10

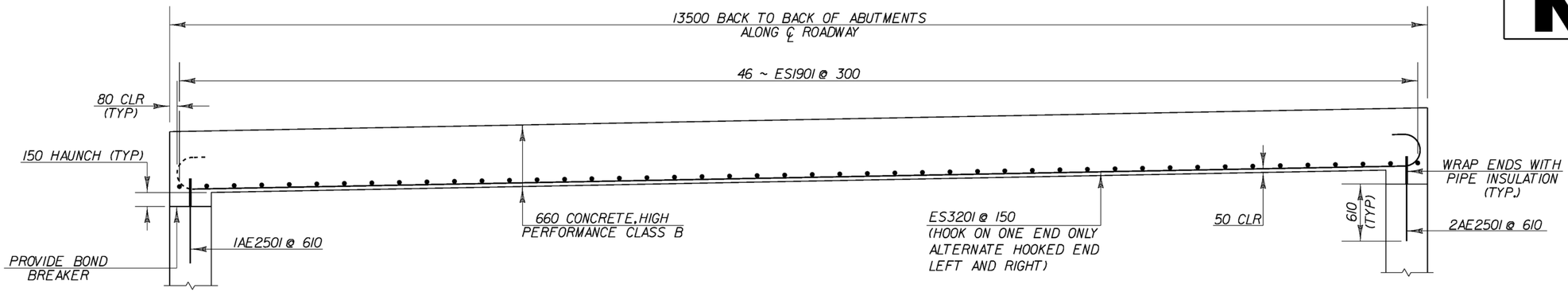
SCALE 1:100

BRIDGE 19 PLAN AND ELEVATION

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

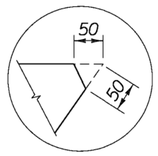
FILE NAME: /str1/96j236/sj236pe.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj088pei.i
		SHEET 34	OF 81

VAOT Metric



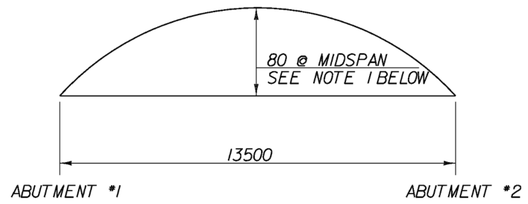
ELEVATION ALONG ℄ ROADWAY

SCALE: 1:25



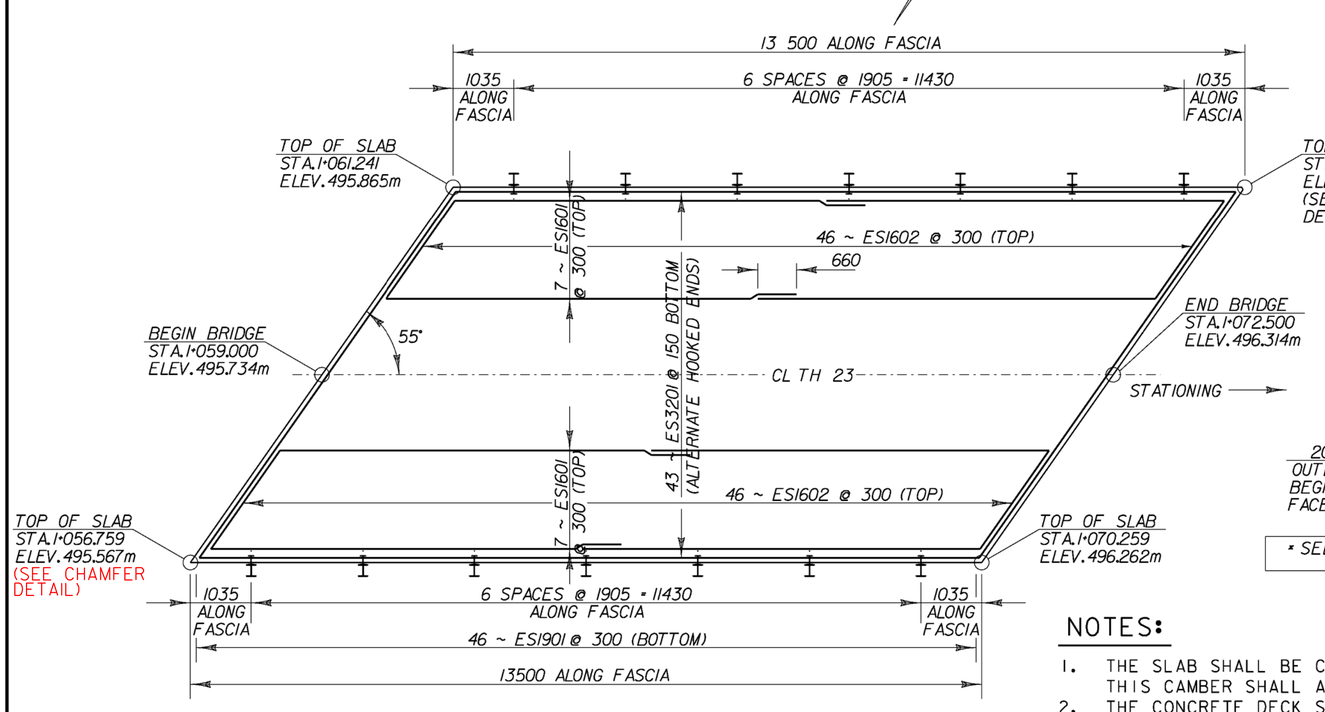
CHAMFER DETAIL

NOT TO SCALE



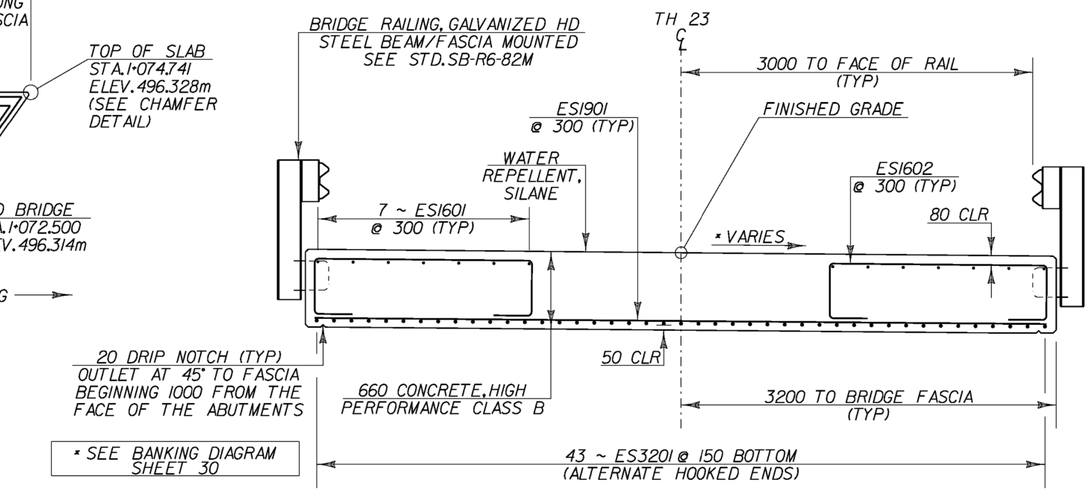
BRIDGE 19 CAMBER

NTS



BRIDGE DECK PLAN

SCALE: 1:50



BRIDGE SECTION

SCALE: 1:25

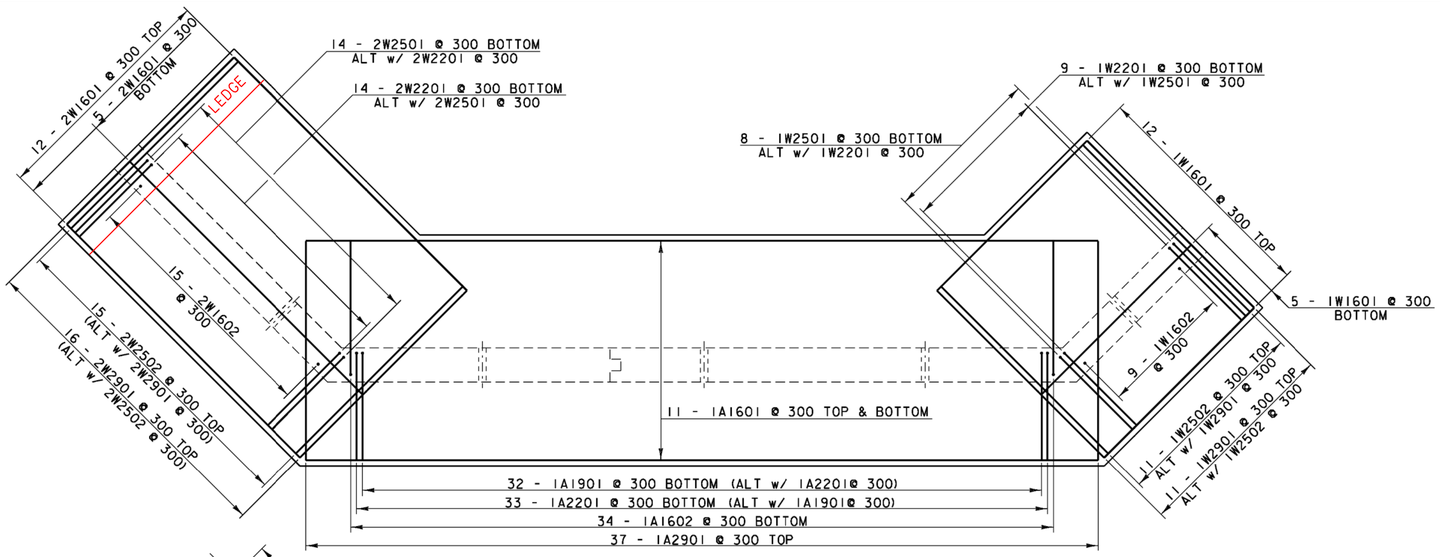
NOTES:

1. THE SLAB SHALL BE CAMBERED A TOTAL OF 80mm AT MIDSPAN. THIS CAMBER SHALL APPROXIMATE A CIRCULAR CURVE.
2. THE CONCRETE DECK SHALL BE BROOM FINISHED NORMAL TO CENTERLINE.
3. THE COST OF THE TAR PAPER AND PIPE INSULATION AND THEIR APPLICATIONS SHALL BE INCIDENTAL TO ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B."
4. THE "E" AND "AE" PREFIX DENOTES EPOXY COATED REINFORCING STEEL.
5. 80mm CLR UNLESS OTHERWISE SPECIFIED ON THE PLANS.
6. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)

BRIDGE 19 SLAB DETAILS

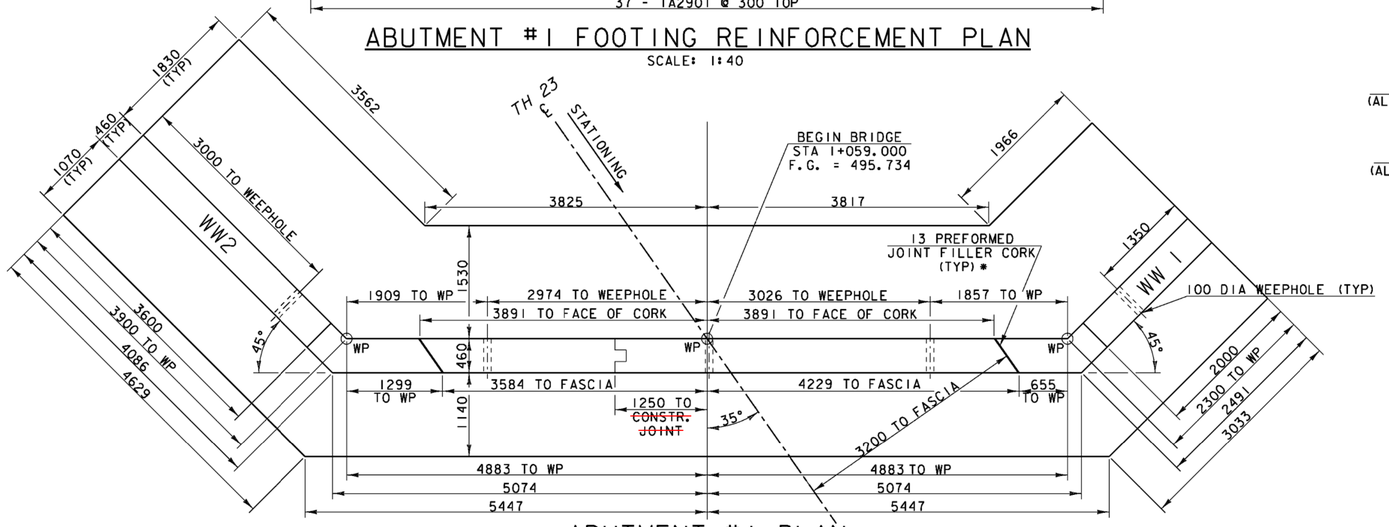
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /96j236/str/sj236deck.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	C. WEEBER
DESIGNED BY:	K. UPMAL	CHECKED BY:	D. PETERSON
sj236br19dck.i		SHEET 35	OF 81



ABUTMENT #1 FOOTING REINFORCEMENT PLAN

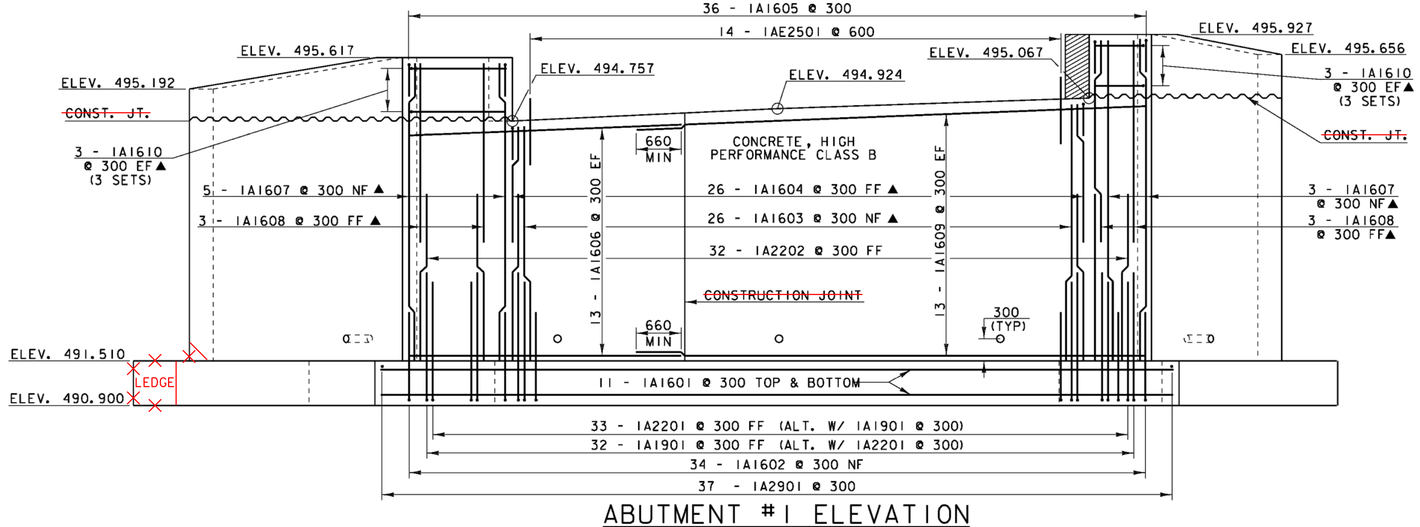
SCALE: 1:40



ABUTMENT #1 PLAN

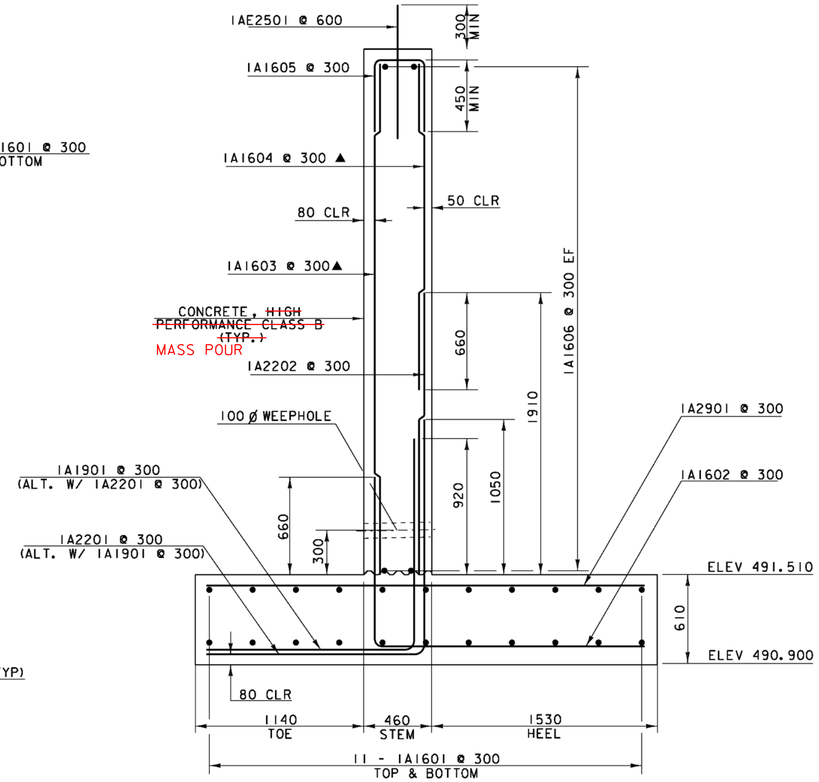
SCALE: 1:40

*SEE NOTE 9



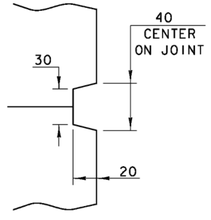
ABUTMENT #1 ELEVATION

SCALE: 1:40



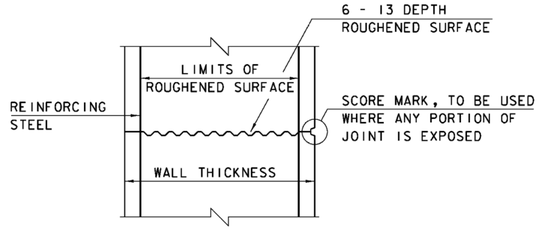
ABUTMENT NO. 1 TYPICAL SECTION

SCALE: 1:20



SCORE MARK DETAIL

SCALE: 1:2.5



~~TYPICAL HORIZONTAL CONSTRUCTION JOINT~~

ELIMINATED BY USING MASS POUR CONCRETE

NOT TO SCALE

NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)
8. "E" - DENOTES EPOXY COATED
9. PAYMENT FOR PREFORMED JOINT FILLER CORK TO BE INCIDENTAL TO CONCRETE, HIGH PERFORMANCE CLASS B

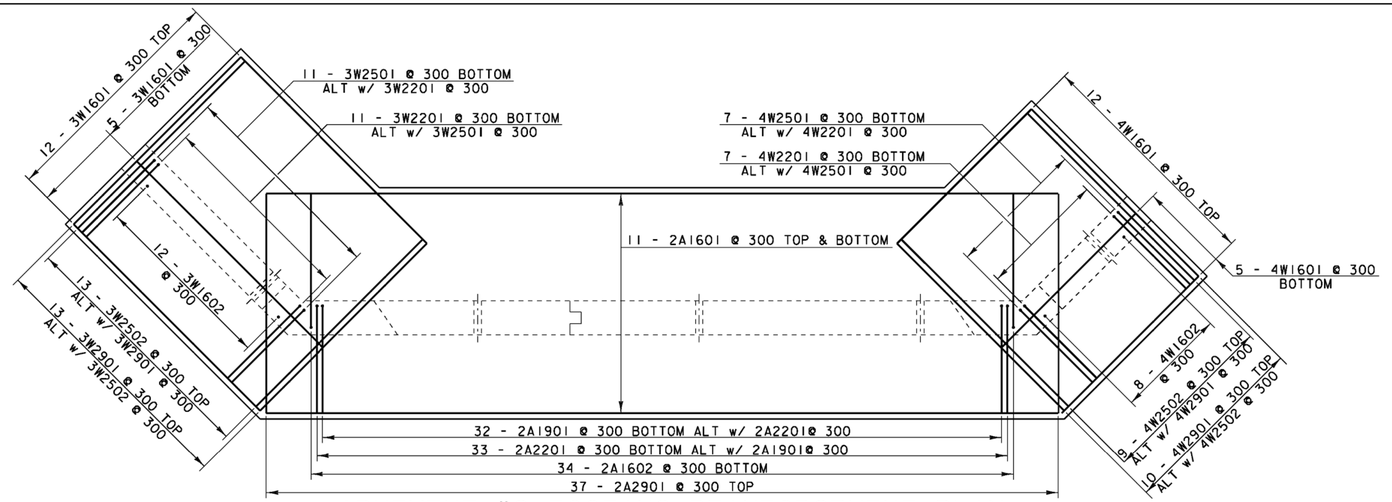
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.

BRIDGE 19 ABUTMENT 1 DETAILS

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

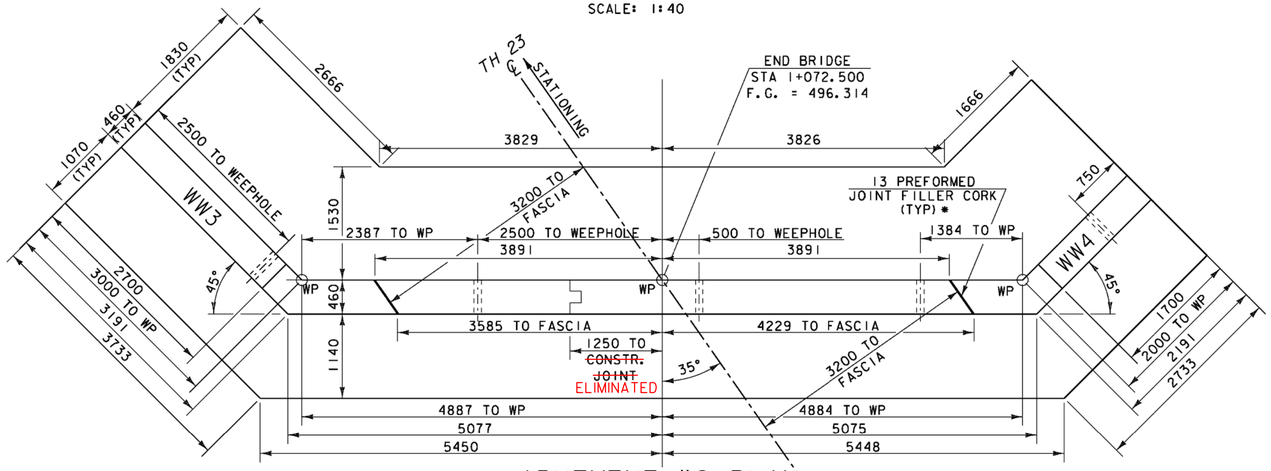
FILE NAME: 96j236/str/sj236ab.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
lparm: sj236br19abl.l

PLOT DATE: 14-AUG-2009
DRAWN BY: C. WEEBER
CHECKED BY: C. CARLSON
SHEET 36 OF 81



ABUTMENT #2 FOOTING REINFORCEMENT PLAN

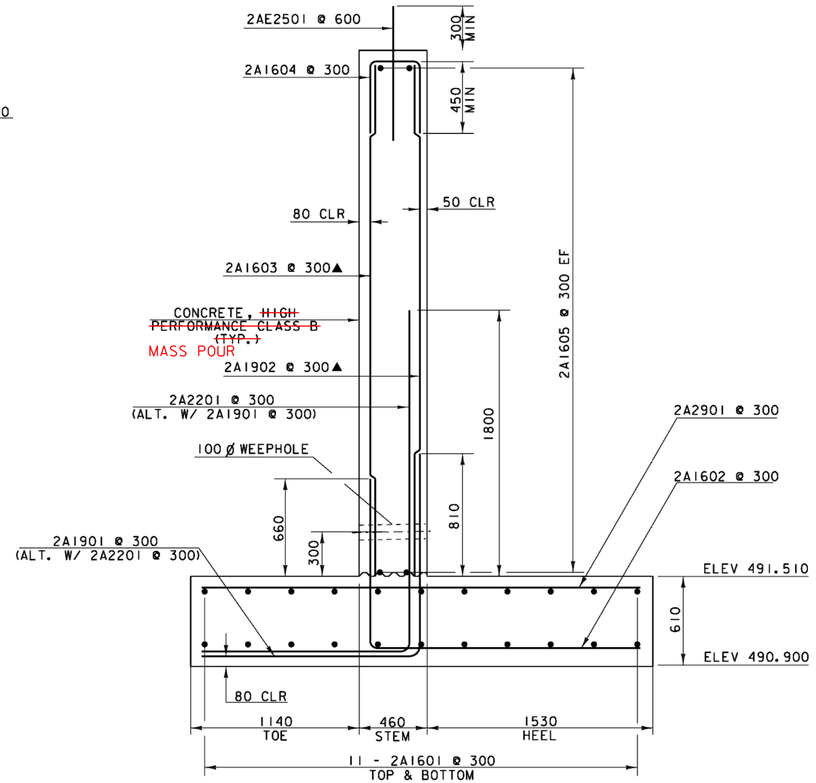
SCALE: 1:40



ABUTMENT #2 PLAN

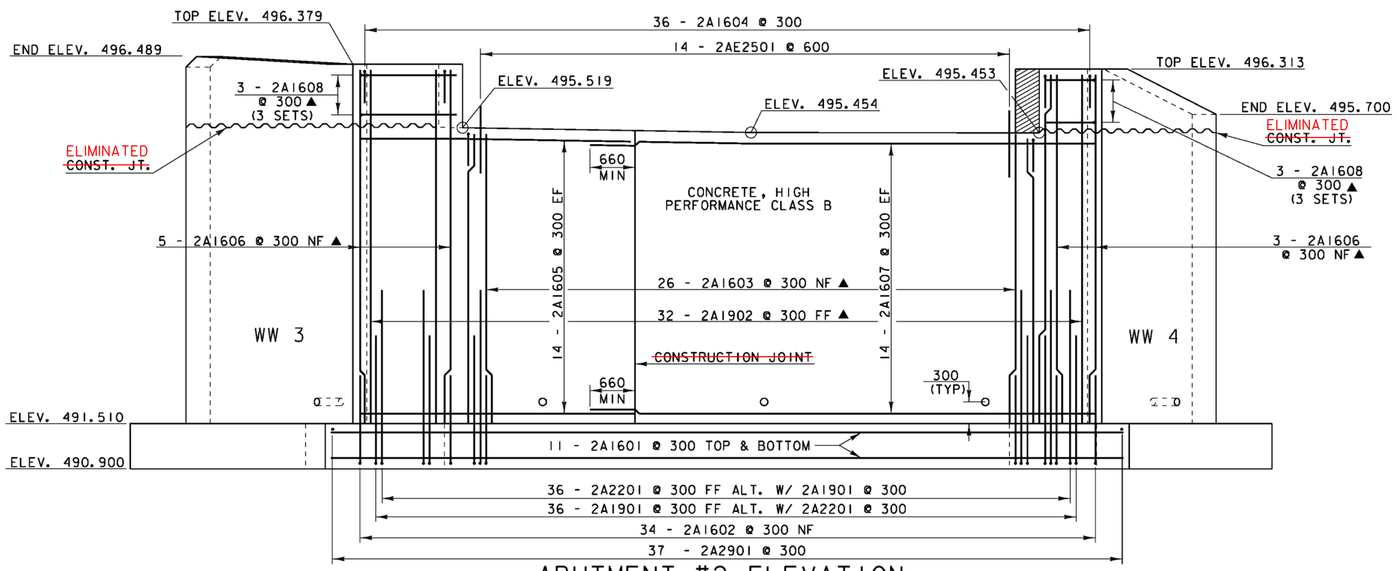
SCALE: 1:40

*SEE NOTE 9



ABUTMENT NO. 2 TYPICAL SECTION

SCALE: 1:20



ABUTMENT #2 ELEVATION

SCALE: 1:40

NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
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4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)
8. "E" - DENOTES EPOXY COATED
9. PAYMENT FOR PREFORMED JOINT FILLER CORK TO BE INCIDENTAL TO CONCRETE, HIGH PERFORMANCE CLASS B

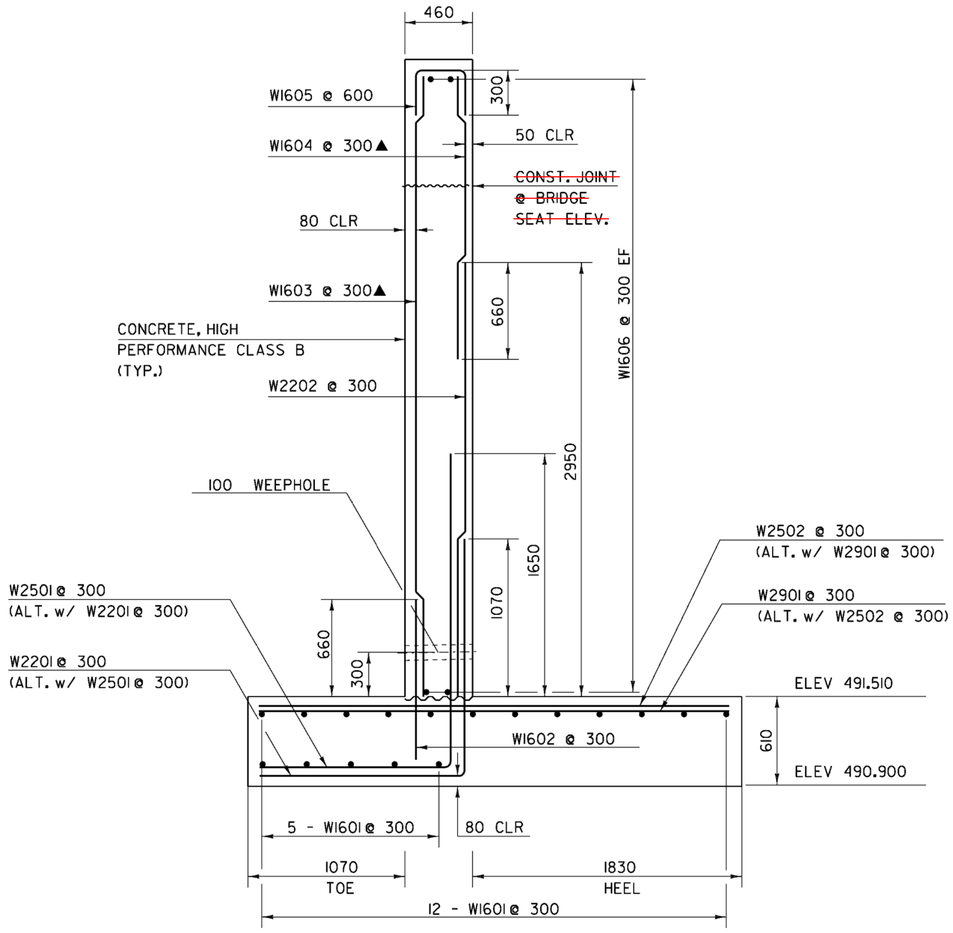
SCALE = 1:40

BRIDGE 19 ABUTMENT 2 DETAILS

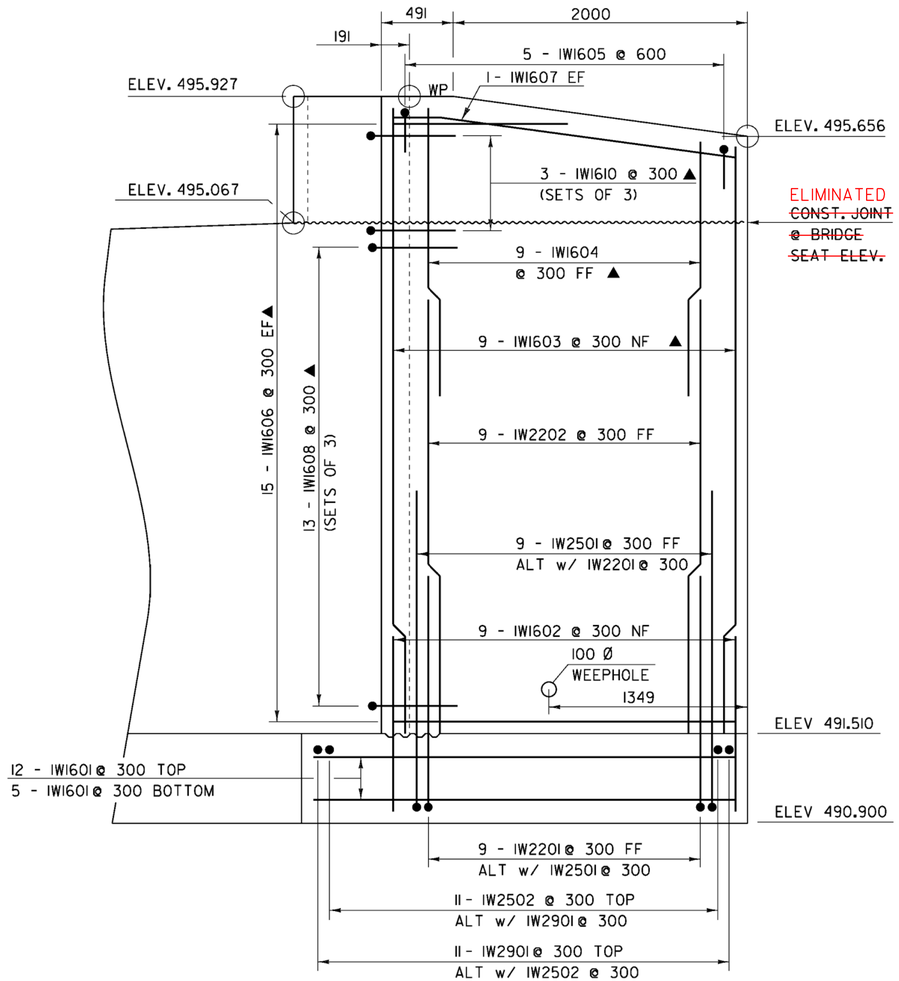
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: 96J236\str\sj236ab.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
iparm: sj236br19ab2.i

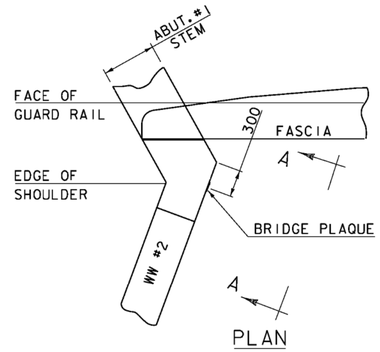
PLOT DATE: 24-AUG-2009
DRAWN BY: C. WEEBER
CHECKED BY: C. CARLSON
SHEET 37 OF 81

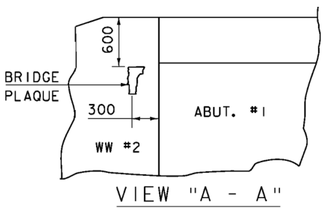


WINGWALL TYPICAL SECTION



WINGWALL #1 ELEVATION

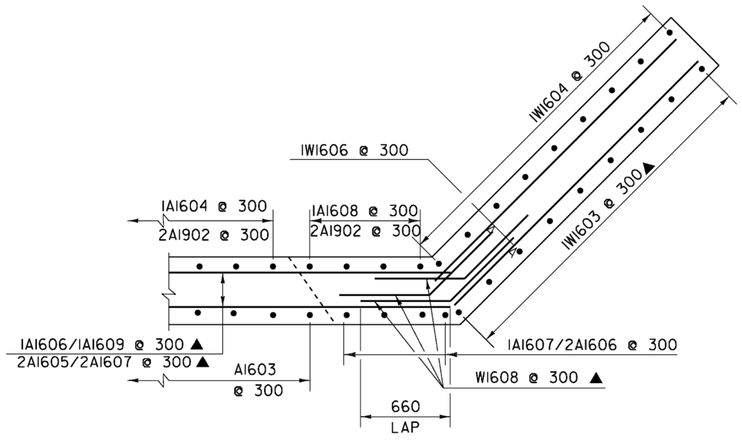




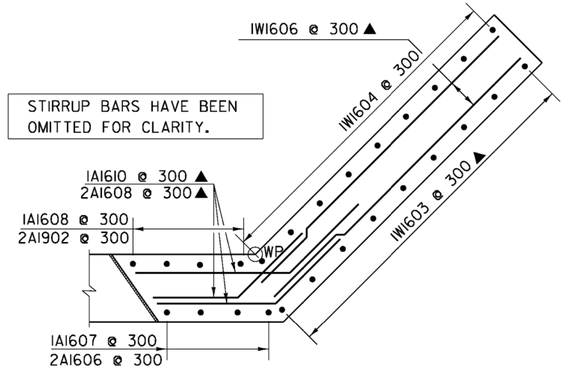
BRIDGE PLAQUE
(NOT TO SCALE)

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

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



CORNER DETAILS BELOW BRIDGE SEAT



CORNER DETAILS ABOVE BRIDGE SEAT

NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲= CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660(MIN)

0 1 2

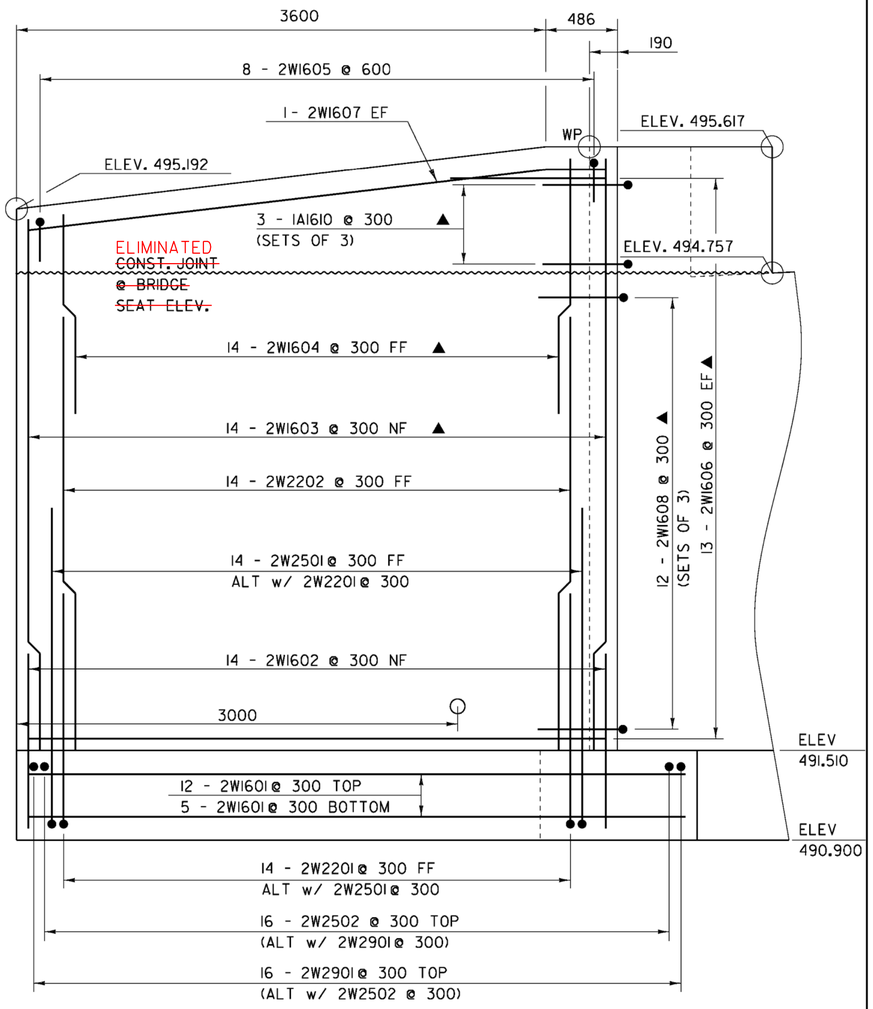
SCALE = 1:200

BRIDGE 19 WINGWALL DETAILS

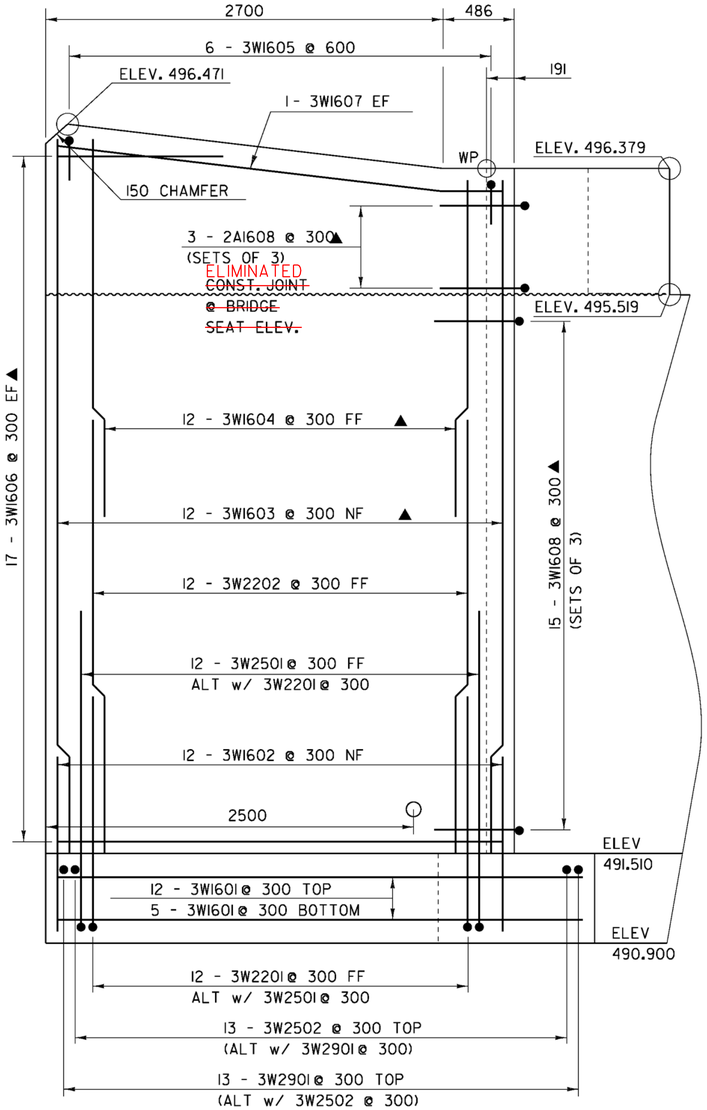
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: 96J236\str\sJ236ww.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
iparm sJ236wwdet.i

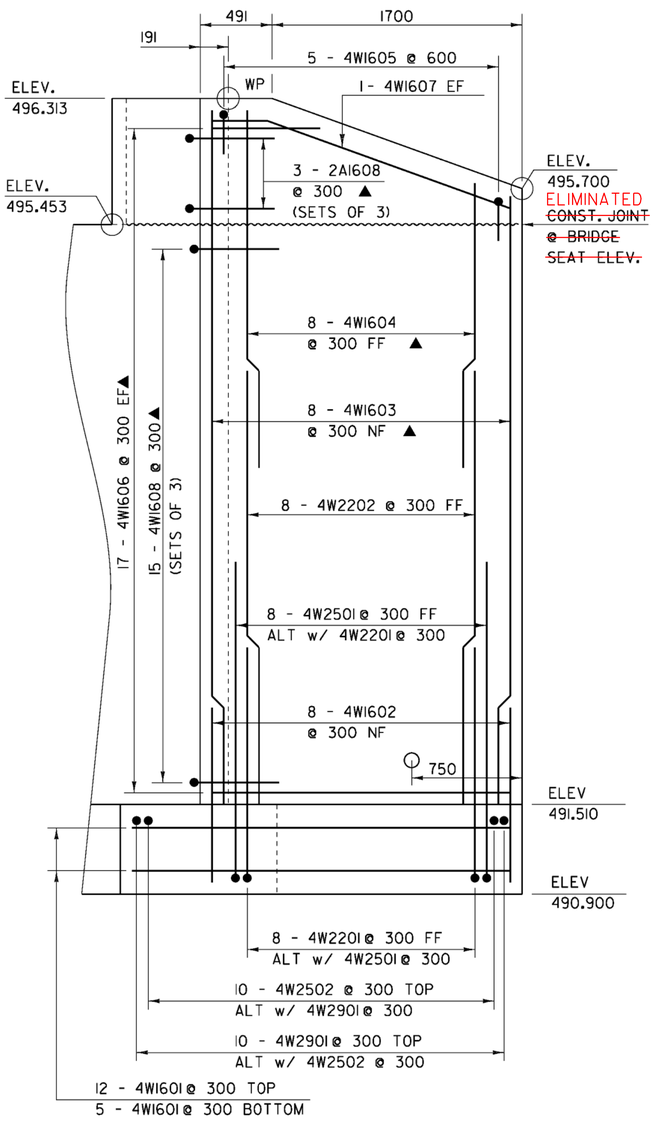
PLOT DATE: 14-AUG-2009
DRAWN BY: C. WEEBER
CHECKED BY: C. CARLSON
SHEET 38 OF 81



WINGWALL #2 ELEVATION



WINGWALL #3 ELEVATION



WINGWALL #4 ELEVATION

NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)

0 1 2

SCALE = 1:200

BRIDGE 19 WINGWALL ELEVATIONS

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: 96J236\str\sj236ww.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
lparm sj236wwelev.l

PLOT DATE: 14-AUG-2009
DRAWN BY: C. WEEBER
CHECKED BY: C. CARLSON
SHEET 39 OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

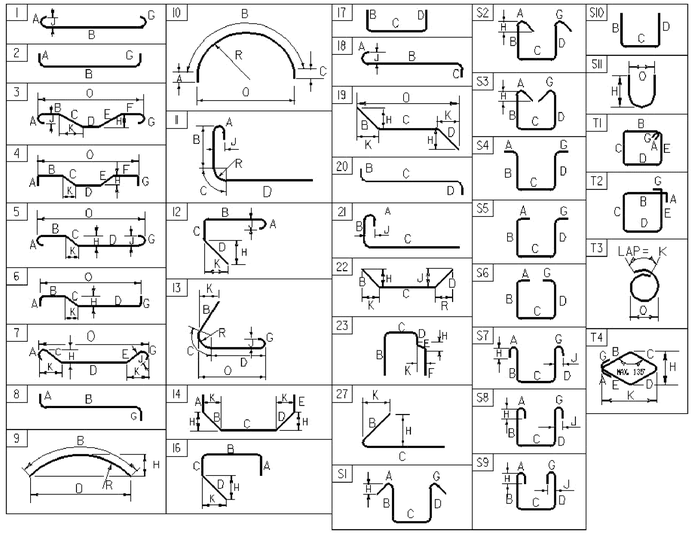
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				SLAB													
	28	16	700	ES1601	STR												
✳	47	19	6240	ES1901	STR												
	92	16	3400	ES1602	S6	300	500	1800	500			300					
✳	44	32	8210	ES3201	1	425	13340					---		335			
				ABUTMENT 1													
	22	16	10734	1A1601	STR												
▲	26	16	3477	1A1603	STR												
▲	26	16	2227	1A1604	STR												
	26	16	3744	1A1606	STR												
▲	8	16	4337	1A1607	STR												
▲	6	16	3087	1A1608	STR												
	26	16	6904	1A1609	STR												
	34	16	3020	1A1602	17		1190	1830	---								
	36	16	1230	1A1605	17		450	330	450								
▲	18	16	1954	1A1610	19		977	977	---				691		691		
✳	33	19	2920	1A1901	17		1450	1470	---								
	32	22	1910	1A2202	STR												
	33	22	3050	1A2201	17		1580	1470	---								
	14	25	910	1AE2501	STR												
	37	29	2970	1A2901	STR												
				WINGWALL 1													
	17	16	2873	1W1601	STR												
	9	16	1190	1W1602	STR												
▲	9	16	4337	1W1603	STR												
▲	9	16	2047	1W1604	STR												
	30	16	2411	1W1606	STR												
	5	16	930	1W1605	17		300	330	300								
✳	3	16	2351	1W1607	19		411	1940	---				55		407		
	39	16	1320	1W1608	19		660	660	---				470		470		---
	9	22	2950	1W2202	STR												
	9	22	3000	1W2201	17		1600	1400	---								
✳	12	25	3200	1W2502	STR												
	9	25	3580	1W2501	17		2180	1400	---								
	11	29	3200	1W2901	STR												
				WINGWALL 2													
	17	16	4469	2W1601	STR												
	14	16	1190	2W1602	STR												
▲	14	16	4027	2W1603	STR												
▲	14	16	1737	2W1604	STR												
	28	16	3926	2W1606	STR												
	8	16	930	2W1605	17		300	330	300								
	2	16	3951	2W1607	19		406	3545					48		403		
	36	16	1320	2W1608	19		660	660	---				470		470		---
	14	22	2950	2W2202	STR												
	14	22	3000	2W2201	17		1600	1400	---								
	16	25	3200	2W2502	STR												
	14	25	3580	2W2501	17		2180	1400	---								
✳	17	29	3200	2W2901	STR												

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				ABUTMENT 2													
	22	16	10734	2A1601	STR												
▲	26	16	3929	2A1603	STR												
✳	29	16	3747	2A1605	STR												
▲	8	16	4789	2A1606	STR												
	28	16	6905	2A1607	STR												
	34	16	3020	2A1602	17		1190	1830	---								
	36	16	1230	2A1604	17		450	330	450								
▲	18	16	1954	2A1608	19		977	977					691		691		
	32	19	2810	2A1901	17		1340	1470	---								
▲	32	19	4790	2A1902	STR												
	33	22	3800	2A2201	17		2330	1470	---								
	14	25	910	2AE2501	STR												
✳	38	29	2970	2A2901	STR												
				WINGWALL 3													
	17	16	3031	3W1601	STR												
	12	16	1190	3W1602	STR												
▲	12	16	4900	3W1603	STR												
▲	11	16	2609	3W1604	STR												
	34	16	3048	3W1606	STR												
	6	16	930	3W1605	17		300	330	300								
	2	16	3028	3W1607	19		406	2622	---				17		405		
	45	16	1320	3W1608	19		660	660	---				470		470		---
✳	13	22	2950	3W2202	STR												
	12	22	3000	3W2201	17		1600	1400	---								
	13	25	3200	3W2502	STR												
	12	25	3580	3W2501	17		2180	1400	---								
	13	29	3200	3W2901	STR												
				WINGWALL 4													
	17	16	2573	4W1601	STR												
	8	16	1190	4W1602	STR												
▲	8	16	4723	4W1603	STR												
▲	8	16	2433	4W1604	STR												
	32	16	2031	4W1606	STR												
	5	16	930	4W1605	17		300	330	300								
	2	16	2133	4W1607	19		411	1722					140		387		
	45	16	1320	4W1608	19		660	660	---				470		470		---
✳	9	22	2950	4W2202	STR												
	8	22	3000	4W2201	17		1600	1400	---								
	10	25	3200	4W2502	STR												
	8	25	3580	4W2501	17		2180	1400	---								
	10	29	3200	4W2901	STR												

~ NOTES ~

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



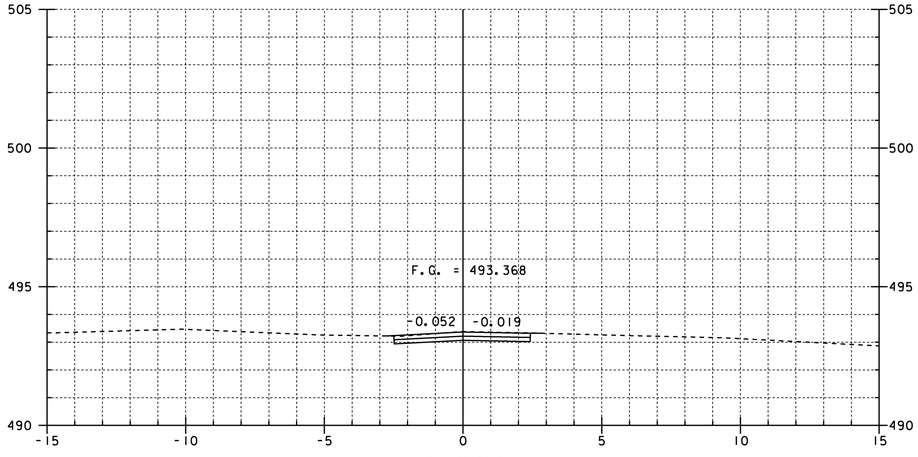
ASTM STANDARD REINFORCING BARS

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

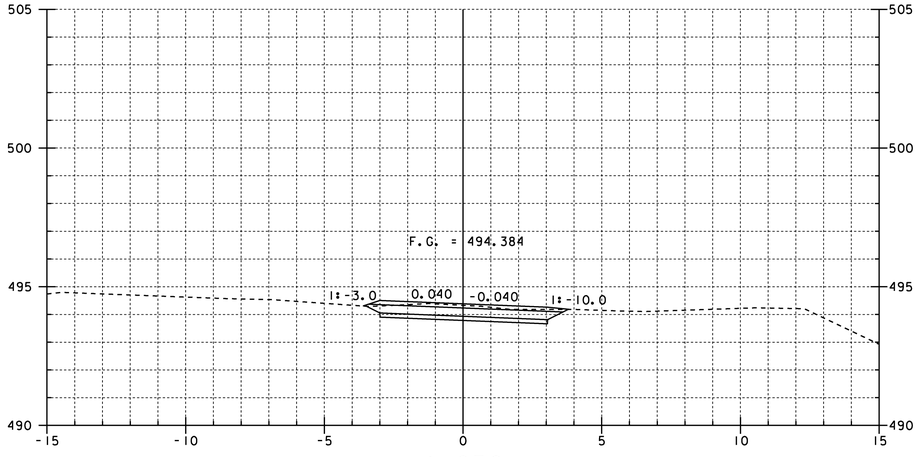
PROJECT NAME: **CHITTENDEN**
PROJECT NUMBER: **STP 1443(45) (BRIDGE 19)**

FILE NAME: **96j236/str/96j236rss1.xls**
PROJECT MANAGER: **C. CARLSON**
DESIGNED BY: **K. UPMAL**
REINFORCING STEEL SCHEDULE

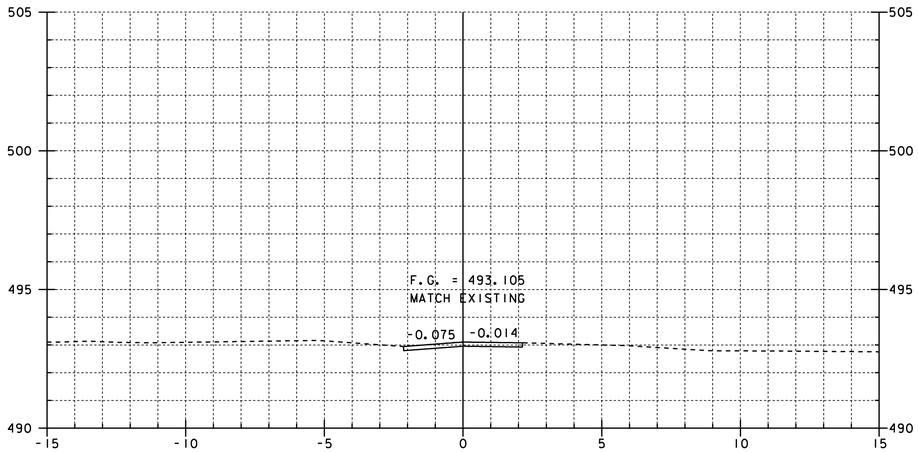
PLOT DATE: **8/13/2009**
DRAWN BY: **C. WEEBER**
CHECKED BY: **C. CARLSON**
SHEET **40** OF **81**



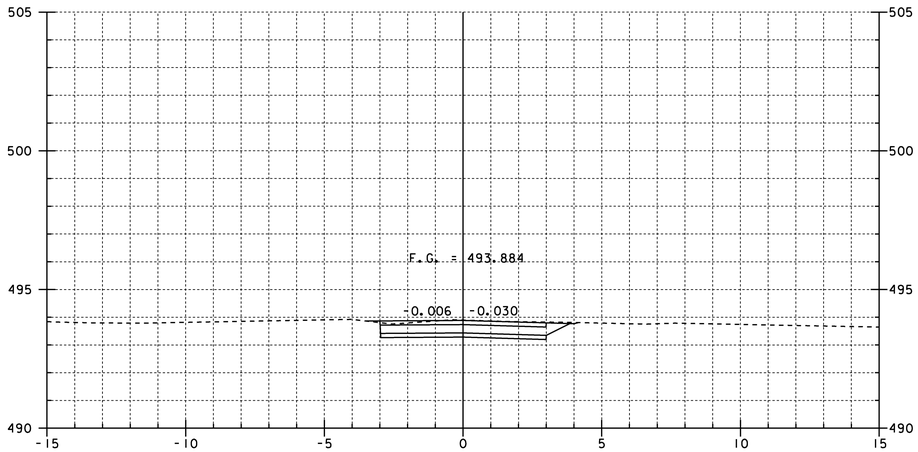
1+010



1+030



1+005
BEGIN APPROACH



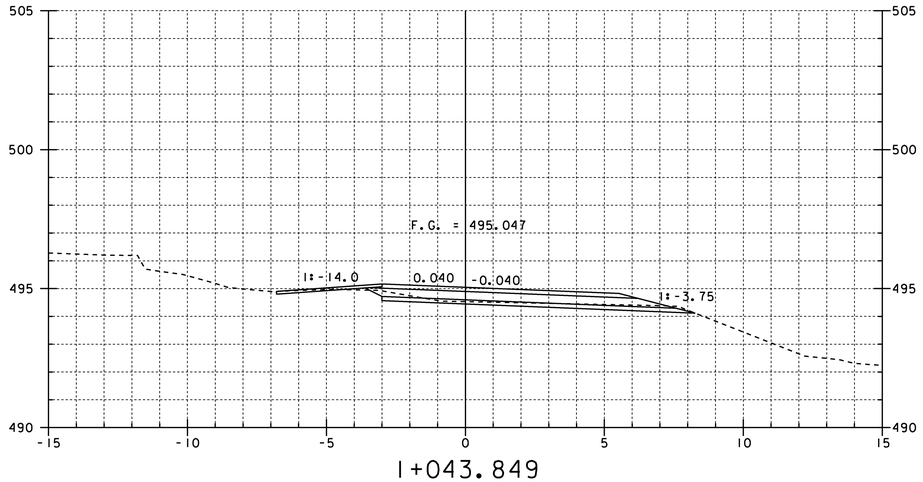
1+020
END APPROACH
BEGIN PROJECT

BRIDGE 19 MAINLINE CROSS SECTIONS 1

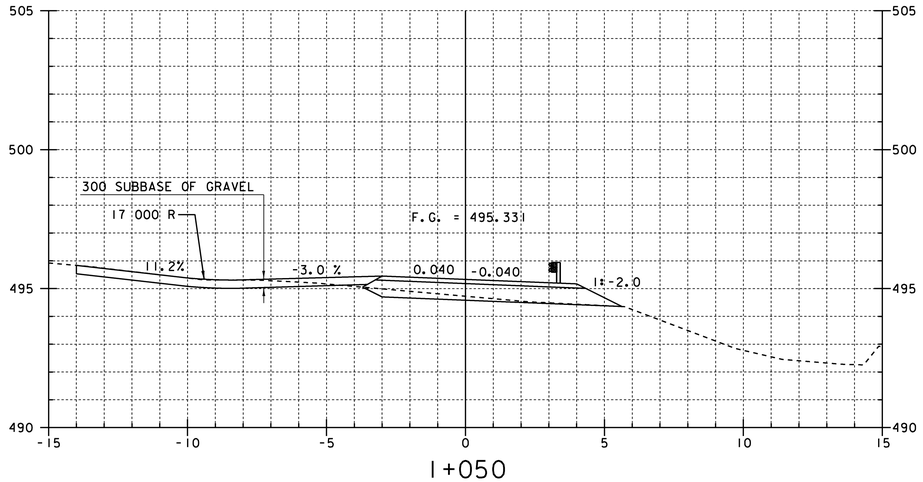
STATION 1+005 - 1+030

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

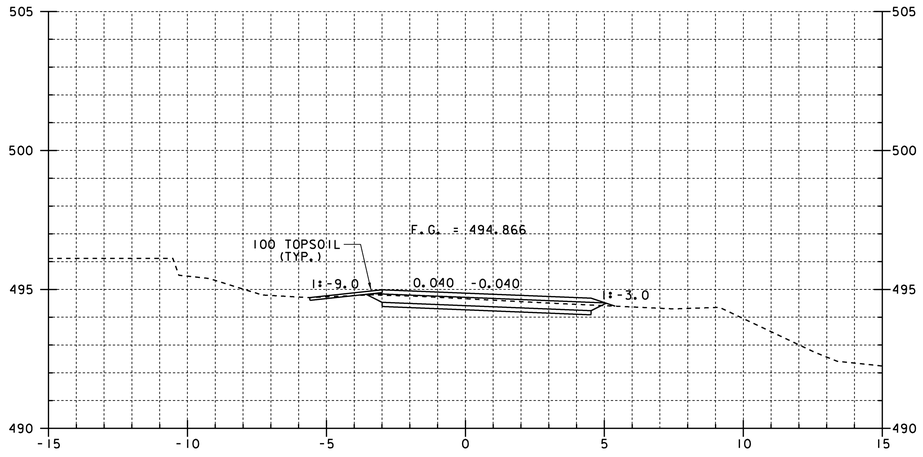
FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236mxl.i
		SHEET 41	OF 81



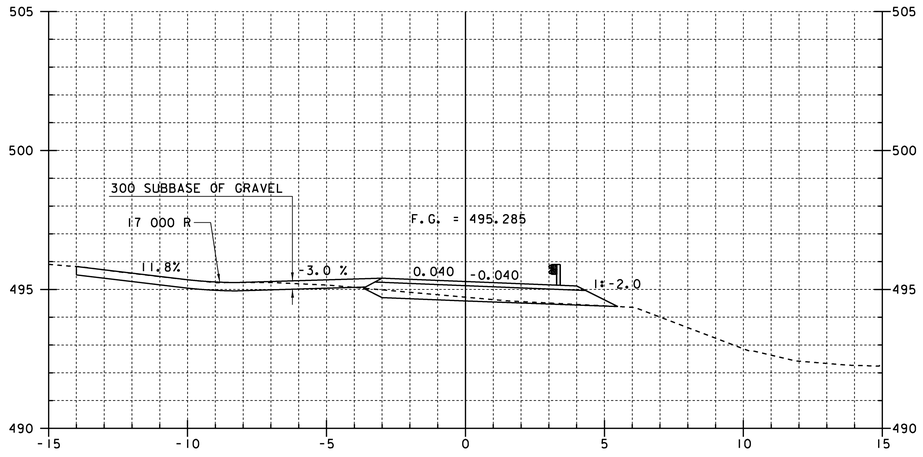
1+043.849
MAX FLARE RIGHT



1+050
DRIVE LEFT

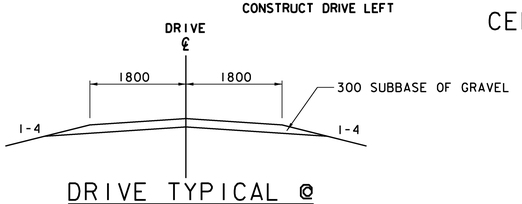


1+040



STA. 1+049
CONSTRUCT DRIVE LEFT

1+049
CENTERLINE DRIVE LEFT



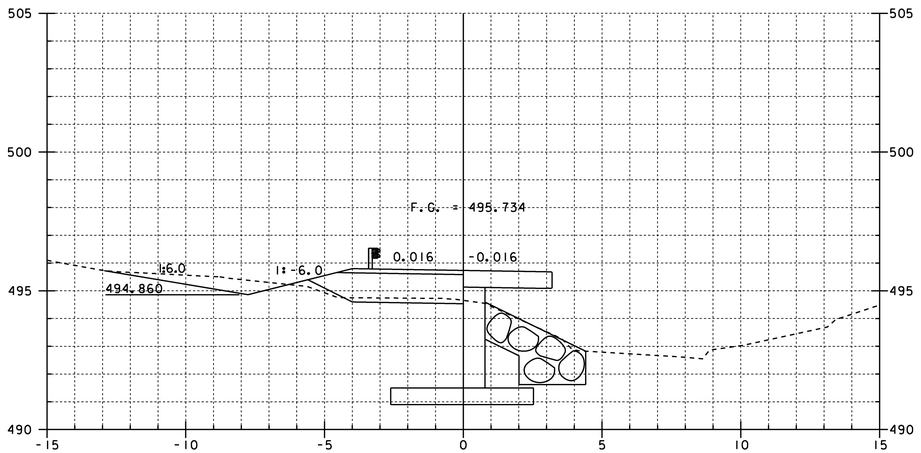
DRIVE TYPICAL ℄
STA. 1+049 LT.
NTS

STATION 1+040 - 1+050

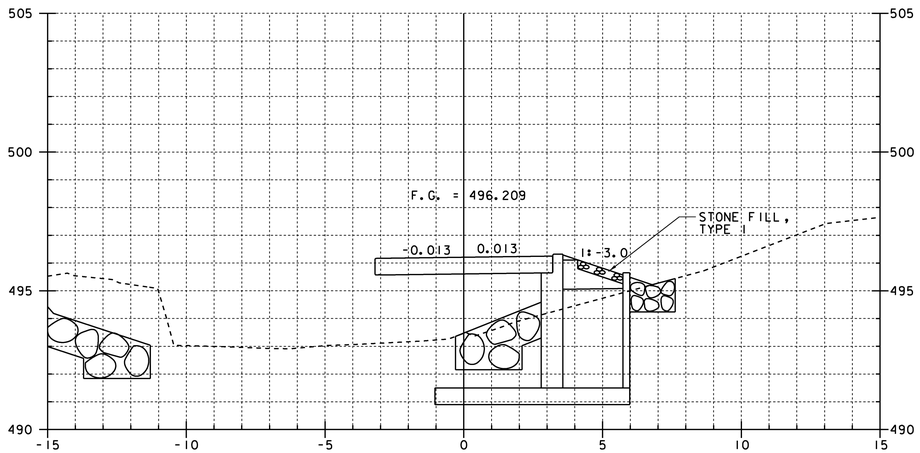
BRIDGE 19 MAINLINE CROSS SECTIONS 2

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236mx2.i
		SHEET	42 OF 81

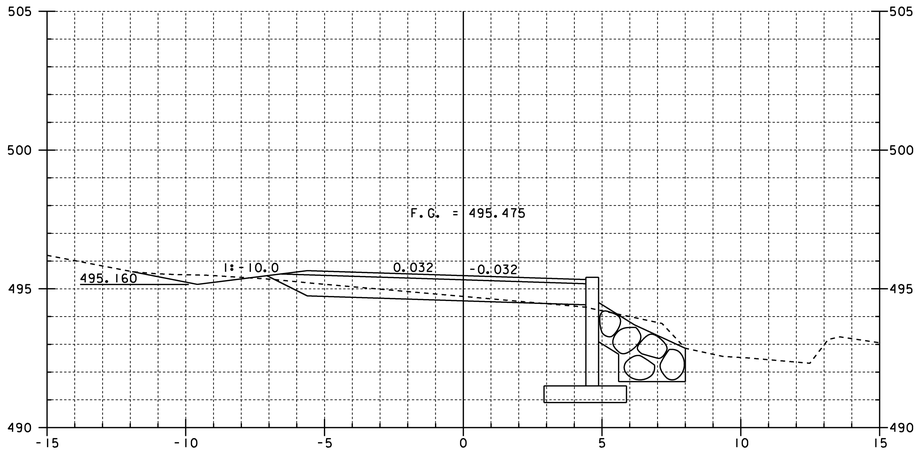


1+059.000
BEGIN BRIDGE 19



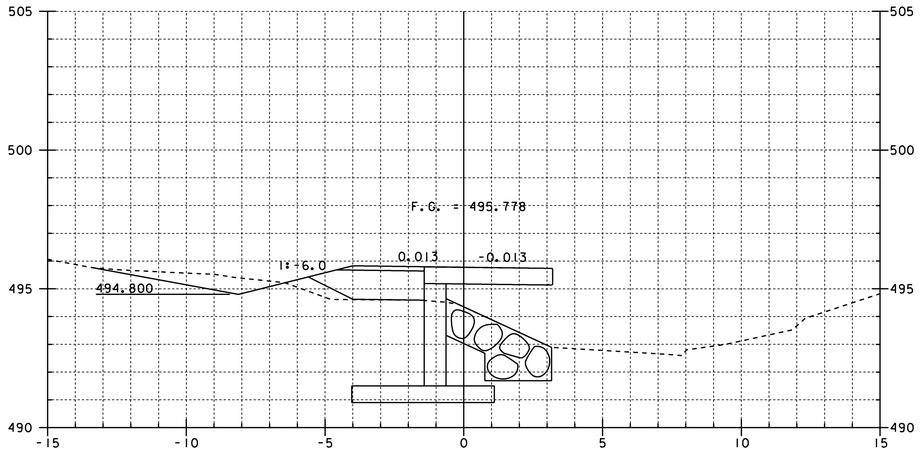
STA. 1+070
END SPECIAL DITCH LEFT

1+070
BRIDGE 19



STA. 1+053.172
BEGIN SPECIAL DITCH LEFT

1+053.172
MAX FLARE LEFT



1+060
BRIDGE 19

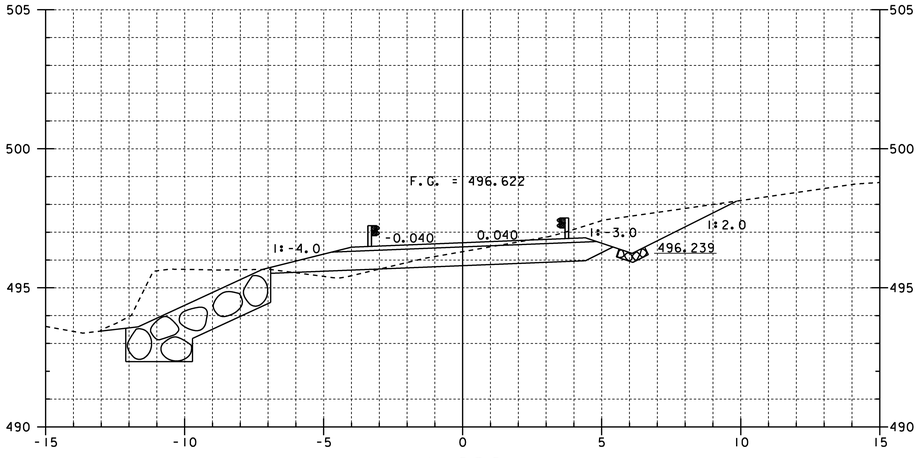
STATION 1+053.172 - 1+070

BRIDGE 19 MAINLINE CROSS SECTIONS 3

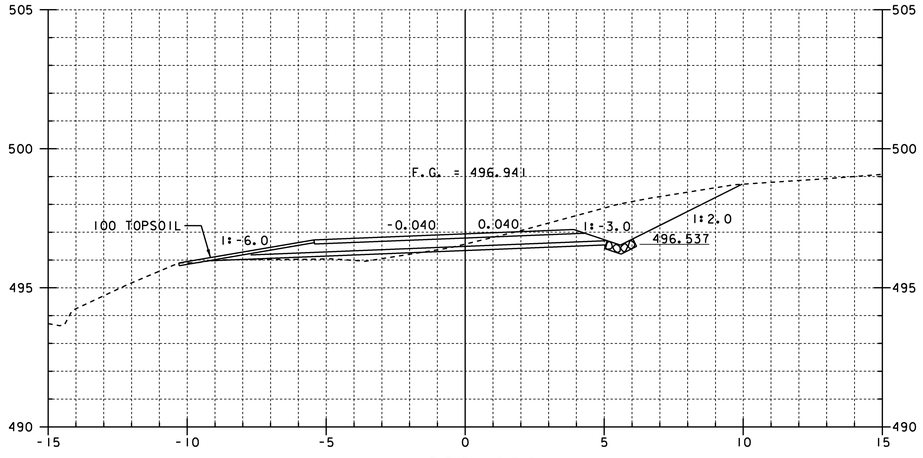
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /96J236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236mx3.i
		SHEET 43	OF 81

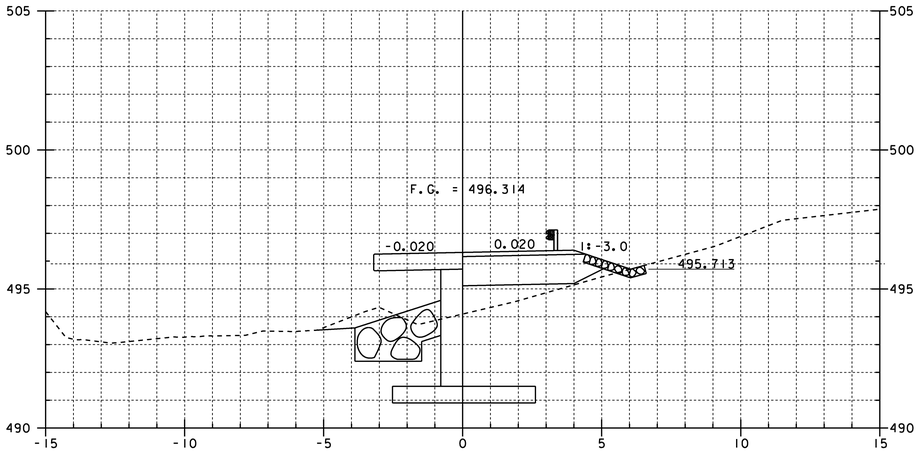
Not Metric



1+080

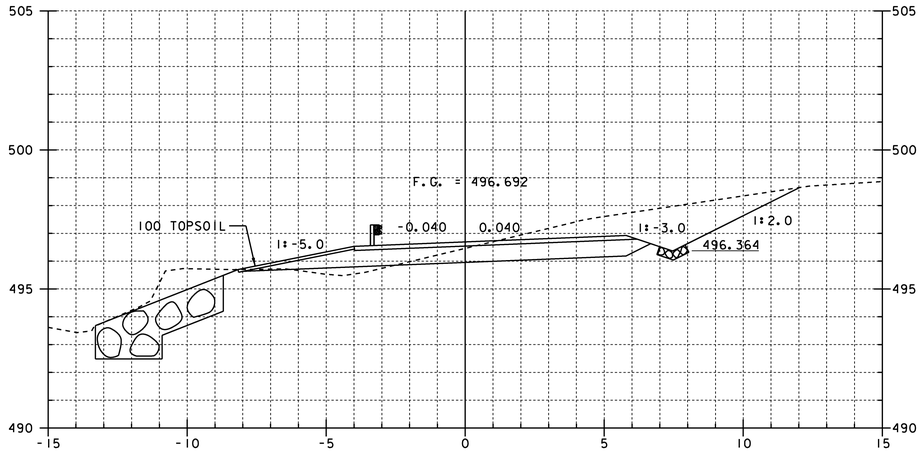


1+088.028
MAX FLARE LEFT



1+072.500
END BRIDGE 19

STA. 1+070.119
CONSTRUCT STONE FILL.
TYPE I DITCH RIGHT

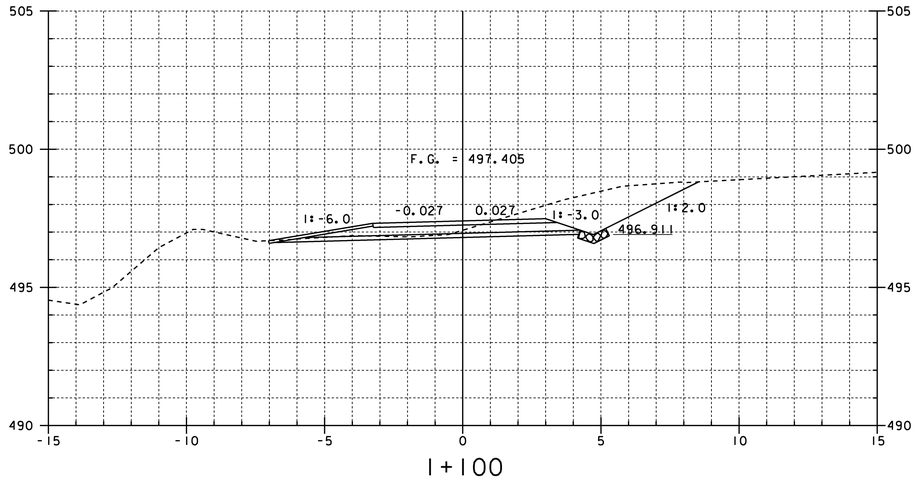


1+081.742
MAX FLARE RIGHT

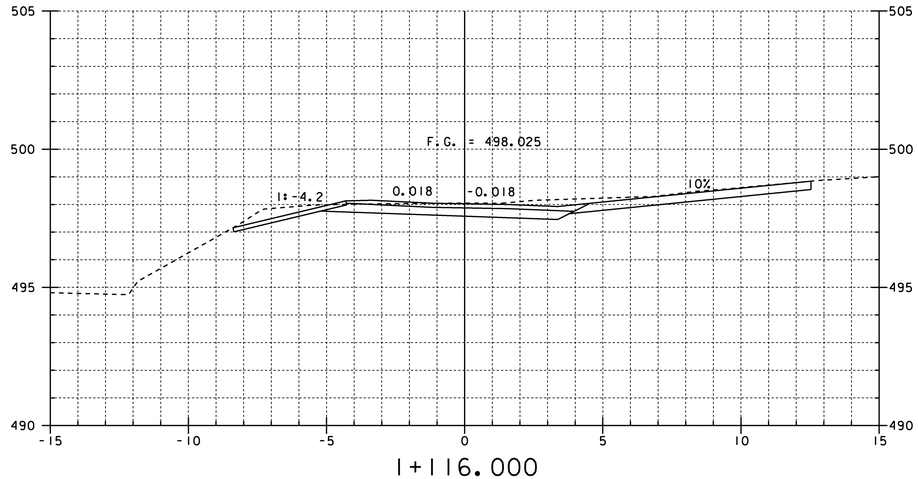
BRIDGE 19 MAINLINE CROSS SECTIONS 4

STATION 1+072.500 - 1+088.028

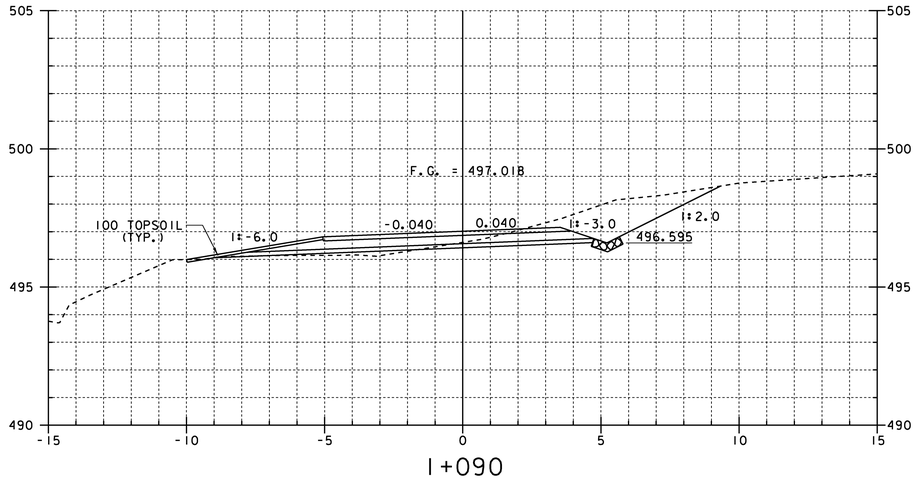
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)
FILE NAME: /96j236/str/sj236xs.dgn	PLOT DATE: 14-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: STR
DESIGNED BY: K. UPMAL	IPARM NAME: sj236mx4.i
	SHEET 44 OF 81



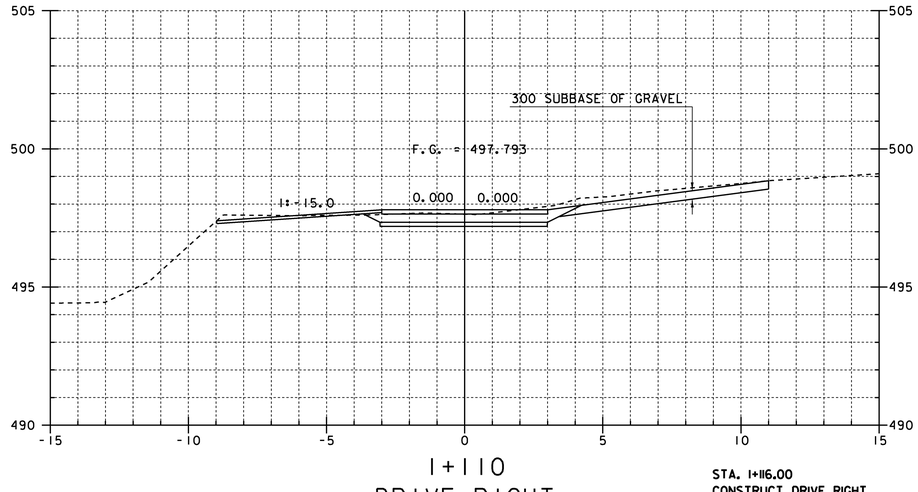
1+100



1+116.000
DRIVE RIGHT
SKEWED 117°-00'-00" RIGHT



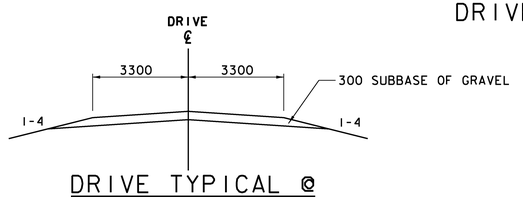
1+090



1+110
DRIVE RIGHT

STA. 1+116.00
CONSTRUCT DRIVE RIGHT

STA. 1+107.00
END STONE FILL
TYPE I DITCH RIGHT

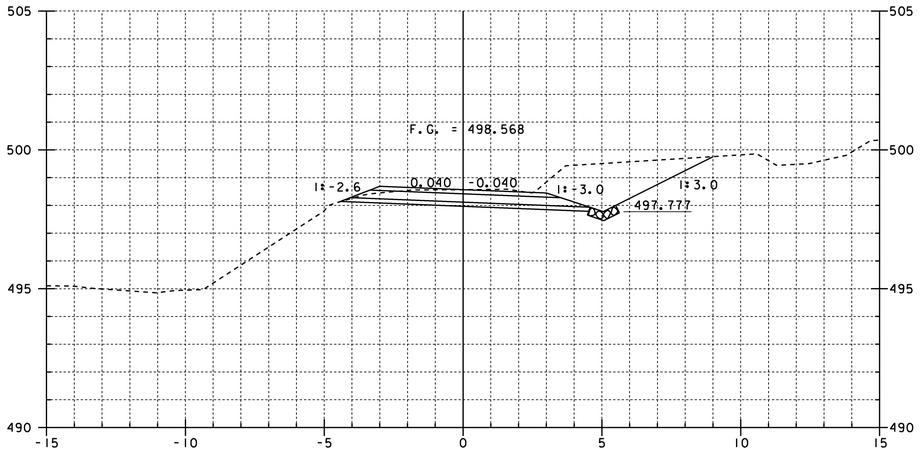


DRIVE TYPICAL @
STA. 1+116 RT.
NTS

STATION 1+090 - 1+116

BRIDGE 19 MAINLINE CROSS SECTIONS 5

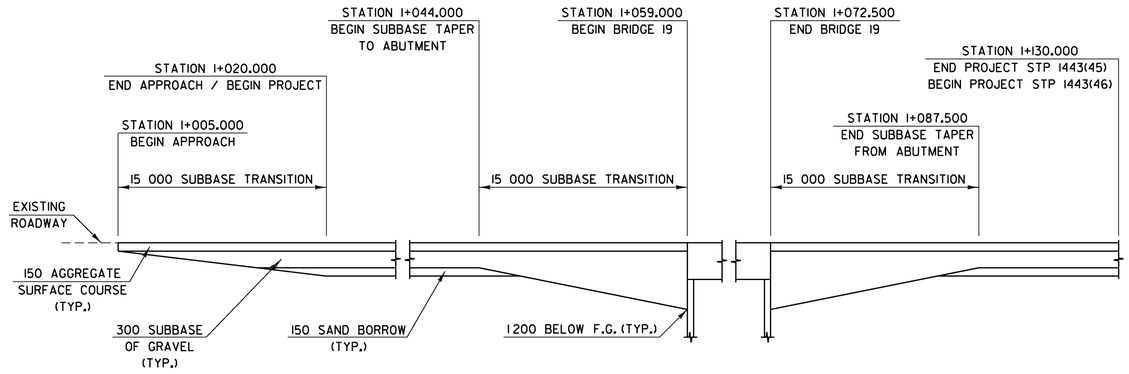
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)
FILE NAME: /96j236/str/sj236xs.dgn	PLOT DATE: 14-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: STR
DESIGNED BY: K. UPMAL	IPARM NAME: sj236mx5.i
	SHEET 45 OF 81



1+130

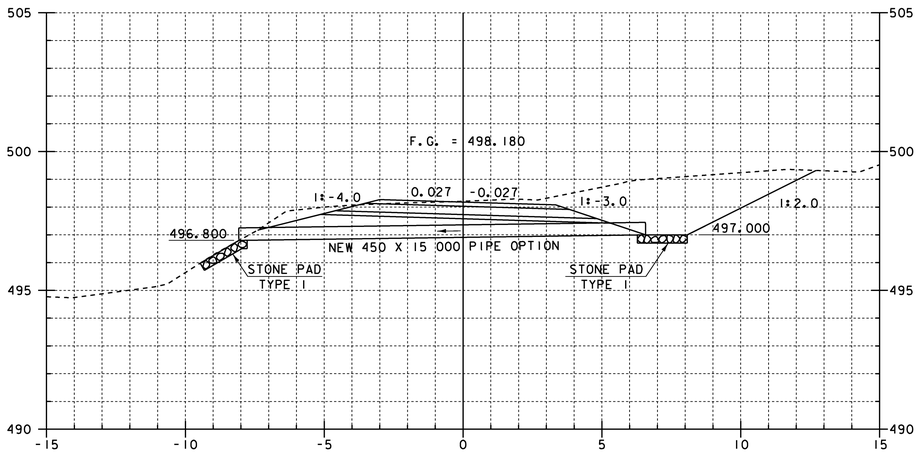
END STP 1443(45)

BEGIN STP 1443(46)



BRIDGE 19 SUBBASE TRANSITION DIAGRAM

(NOT TO SCALE)



1+120

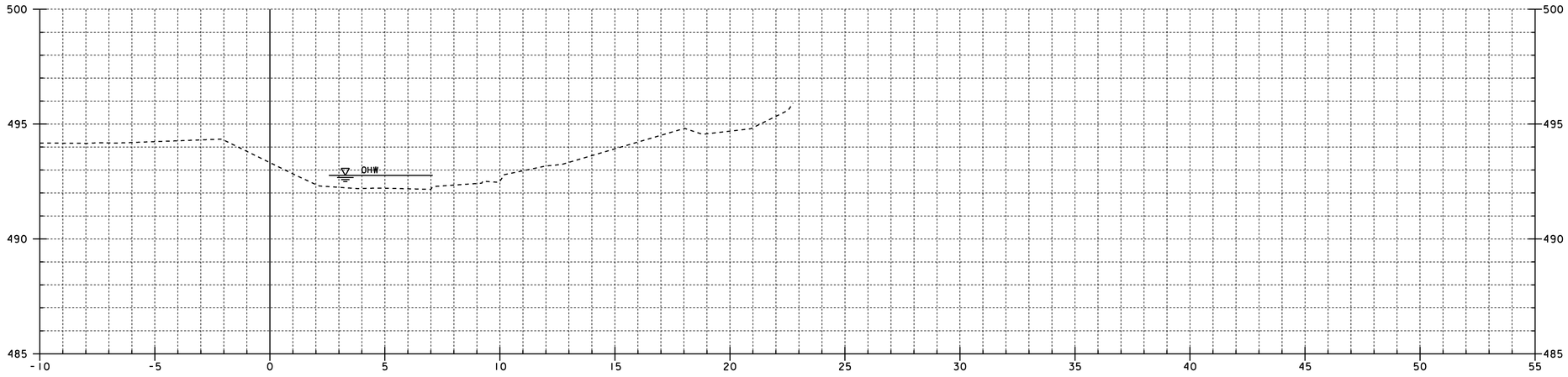
STA. 1+120.450
CONSTRUCT STONE FILL
TYPE I DITCH RIGHT

STATION 1+120 - 1+130

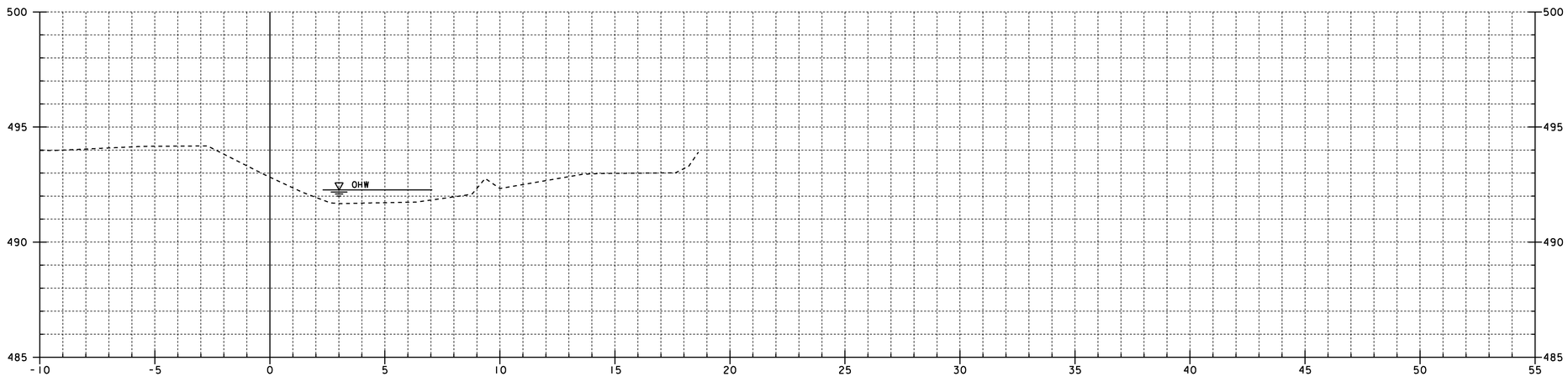
BRIDGE 19 MAINLINE CROSS SECTIONS 6

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236mx6.i
		SHEET 46	OF 81



7+005



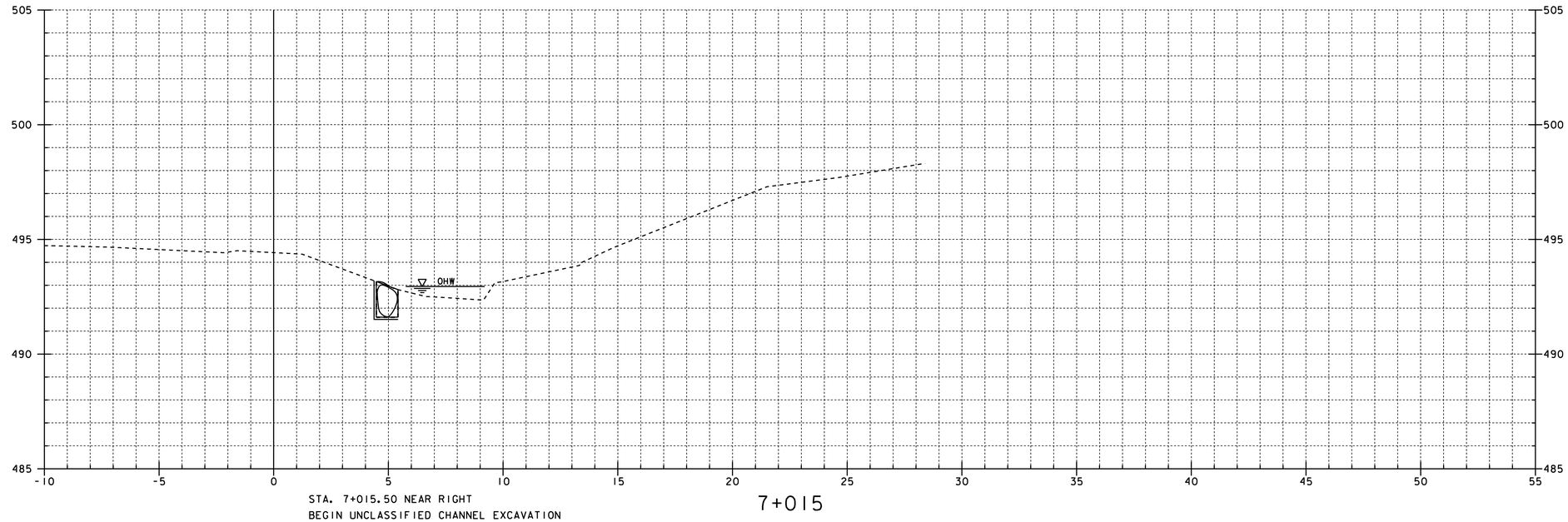
7+000

STATION 7+000 - 7+005

BRIDGE 19 CHANNEL CROSS SECTIONS 1

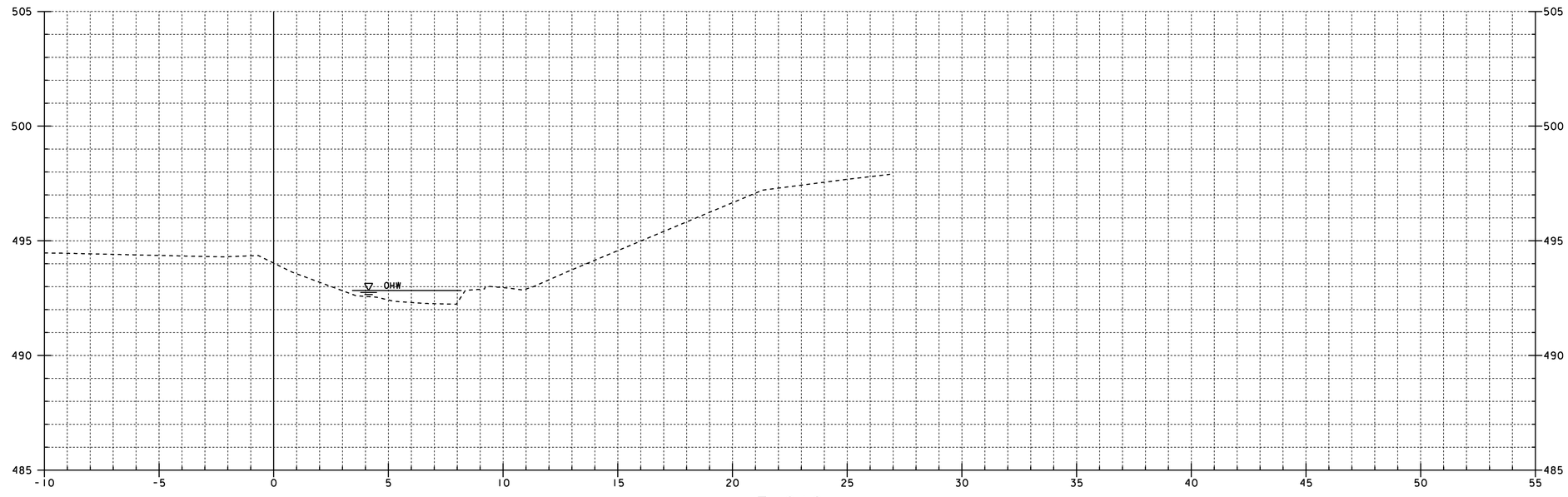
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236cx1.i
		SHEET 47	OF 81



STA. 7+015.50 NEAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL

7+015



7+010

BRIDGE 19 CHANNEL CROSS SECTIONS 2

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: /96j236/str/sj236xs.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL

PLOT DATE: 14-AUG-2009
DRAWN BY: STR
IPARM NAME: sj236cx2.i
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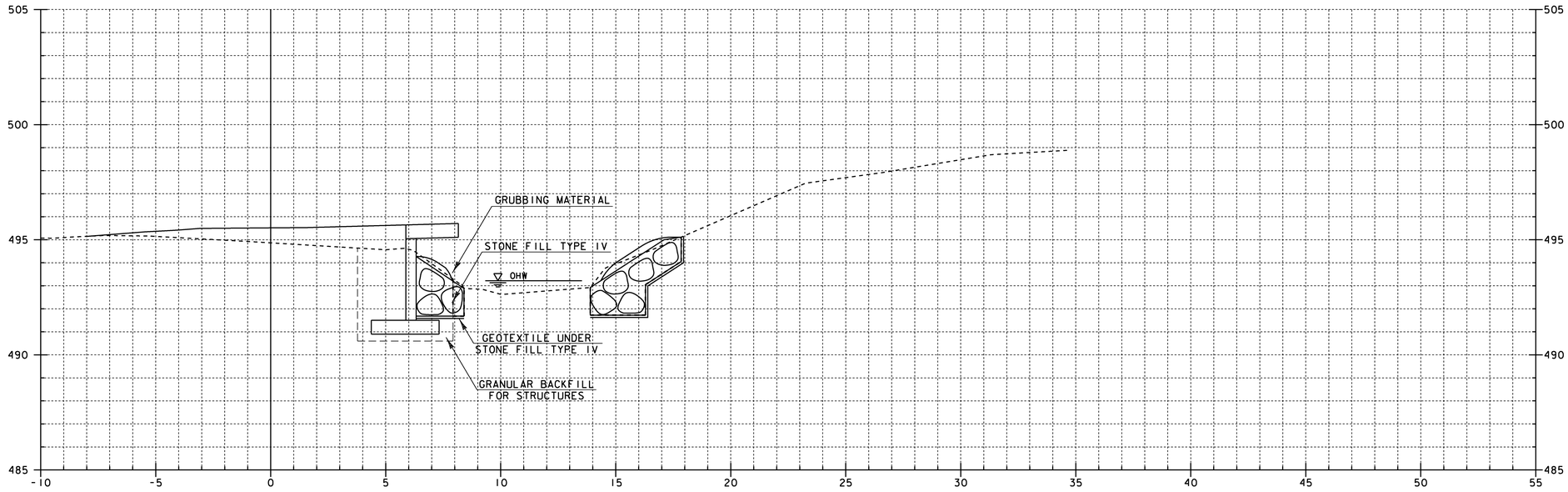
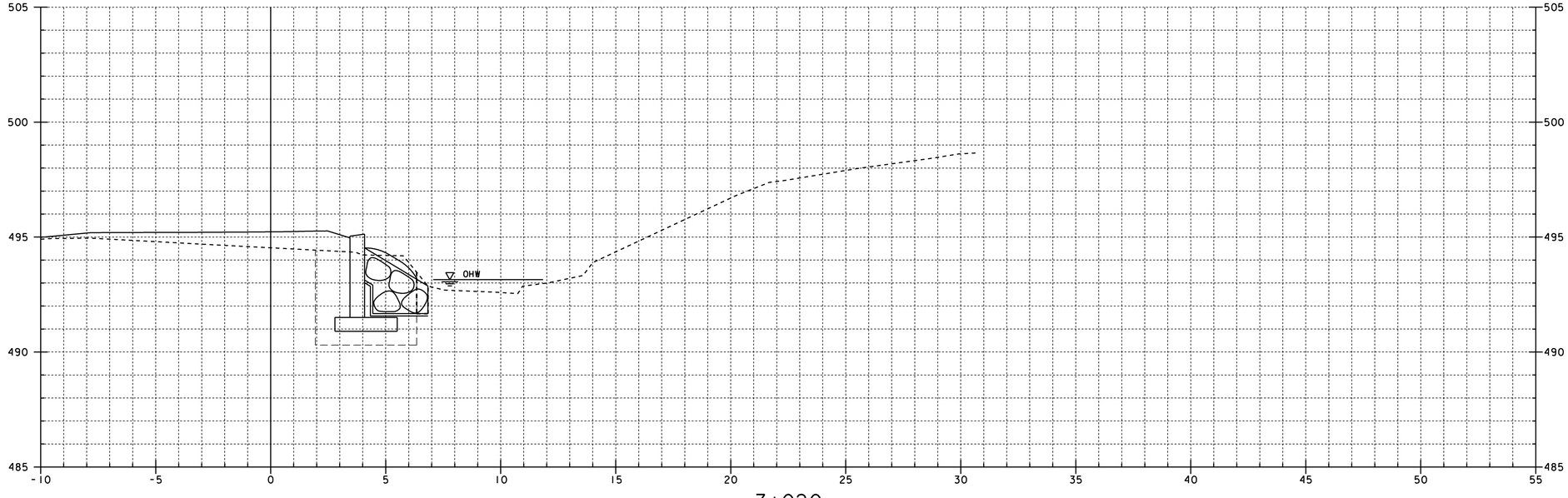
STATION 7+010 - 7+015



7+025

STA. 7+025.180 NEAR RIGHT
STOP GRUBBING MATERIAL

STA. 7+025.000 FAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



7+020

STA. 7+017.800 NEAR RIGHT
BEGIN GRANULAR BACKFILL FOR STRUCTURES

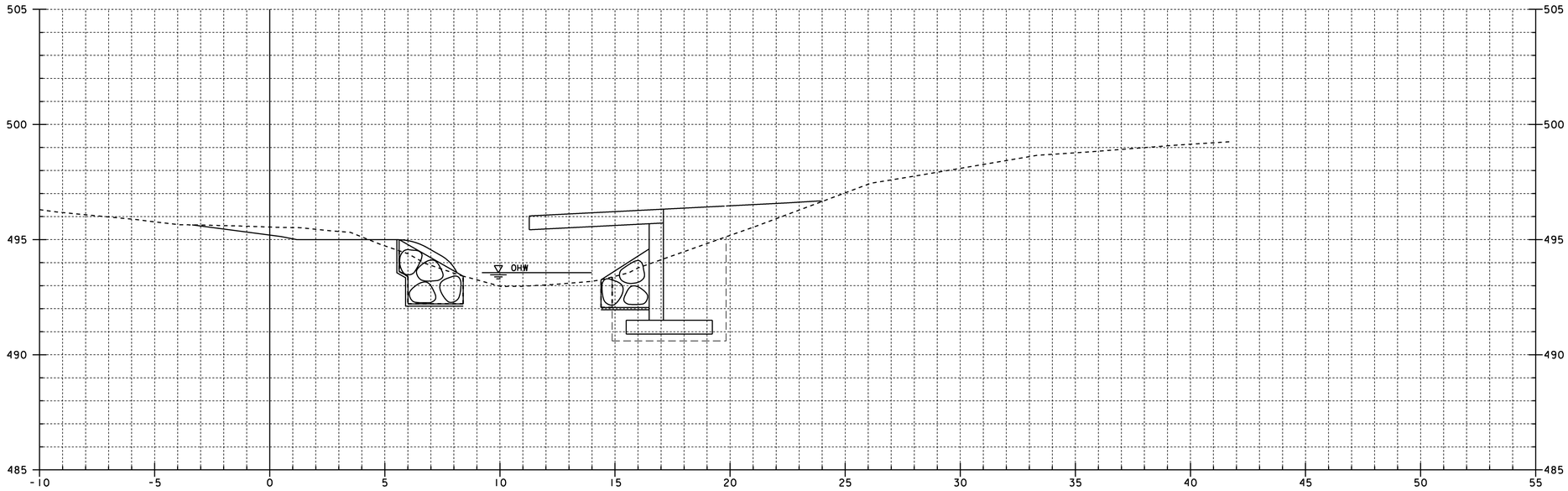
STATION 7+020 - 7+025

BRIDGE 19 CHANNEL CROSS SECTIONS 3

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236cx3.1
		SHEET 49	OF 81

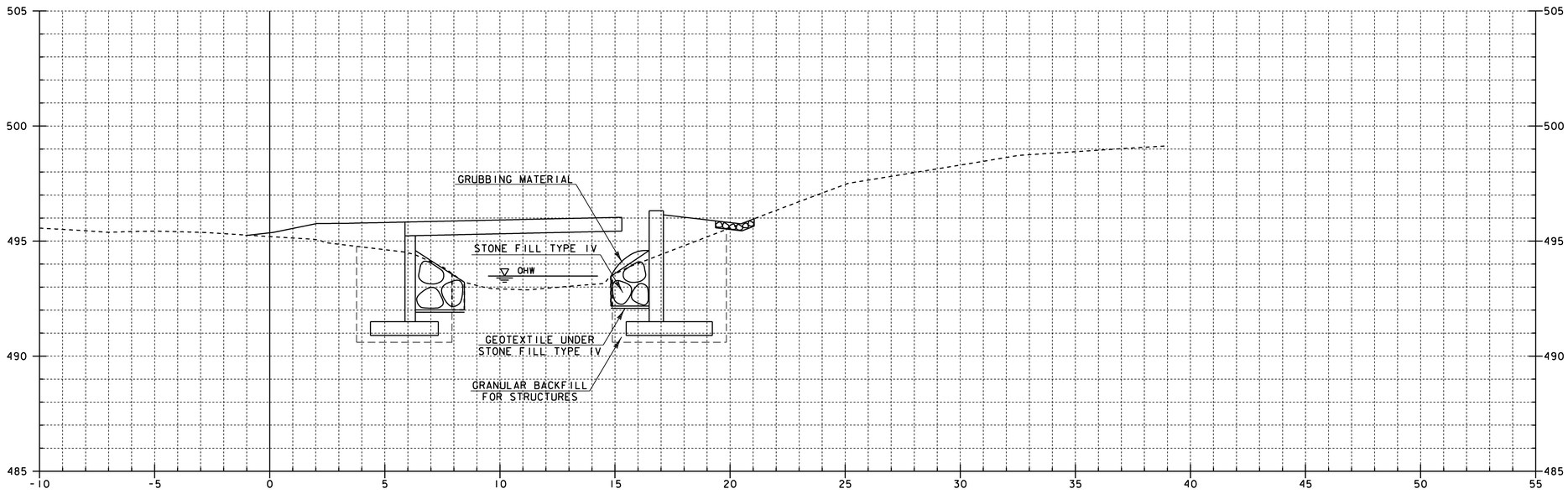
Metric



7+035

STA. 7+035.060 NEAR RIGHT
END GRANULAR BACKFILL FOR STRUCTURES

STA. 7+037.410 FAR RIGHT
RESUME GRUBBING MATERIAL



7+030

STA. 7+031.530 NEAR RIGHT
RESUME GRUBBING MATERIAL

STA. 7+026.880 FAR RIGHT
BEGIN GRANULAR BACKFILL FOR STRUCTURES

STA. 7+030.840 FAR RIGHT
STOP GRUBBING MATERIAL

BRIDGE 19 CHANNEL CROSS SECTIONS 4

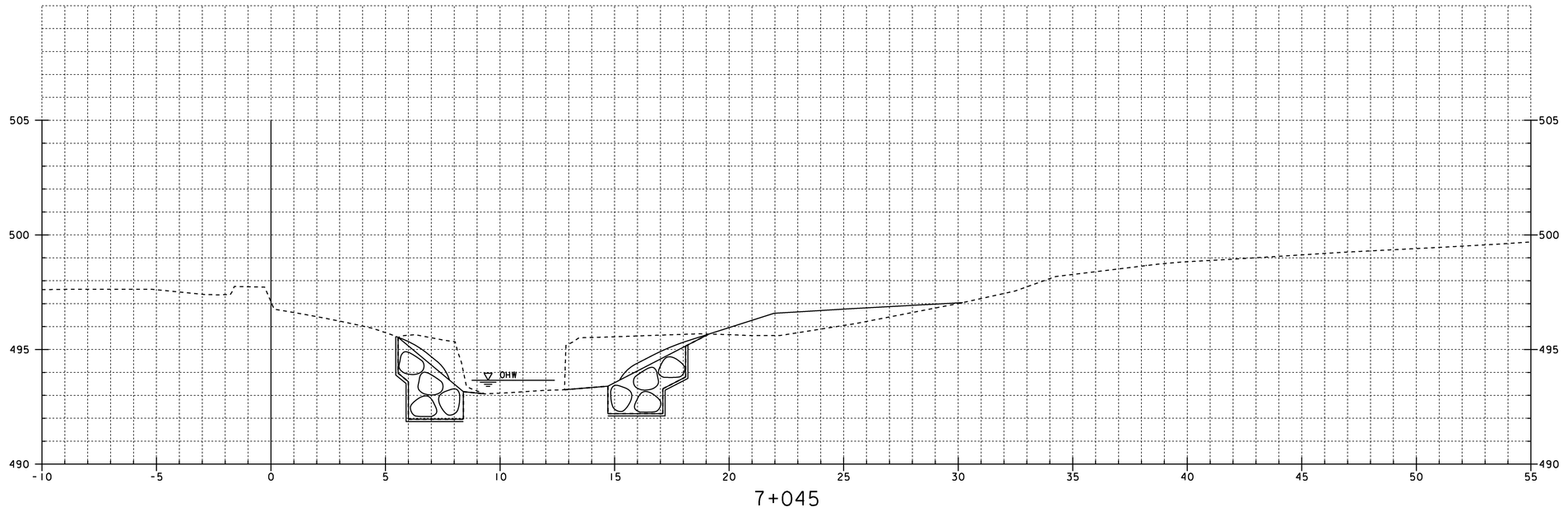
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: /96J236/str/sj236xs.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL

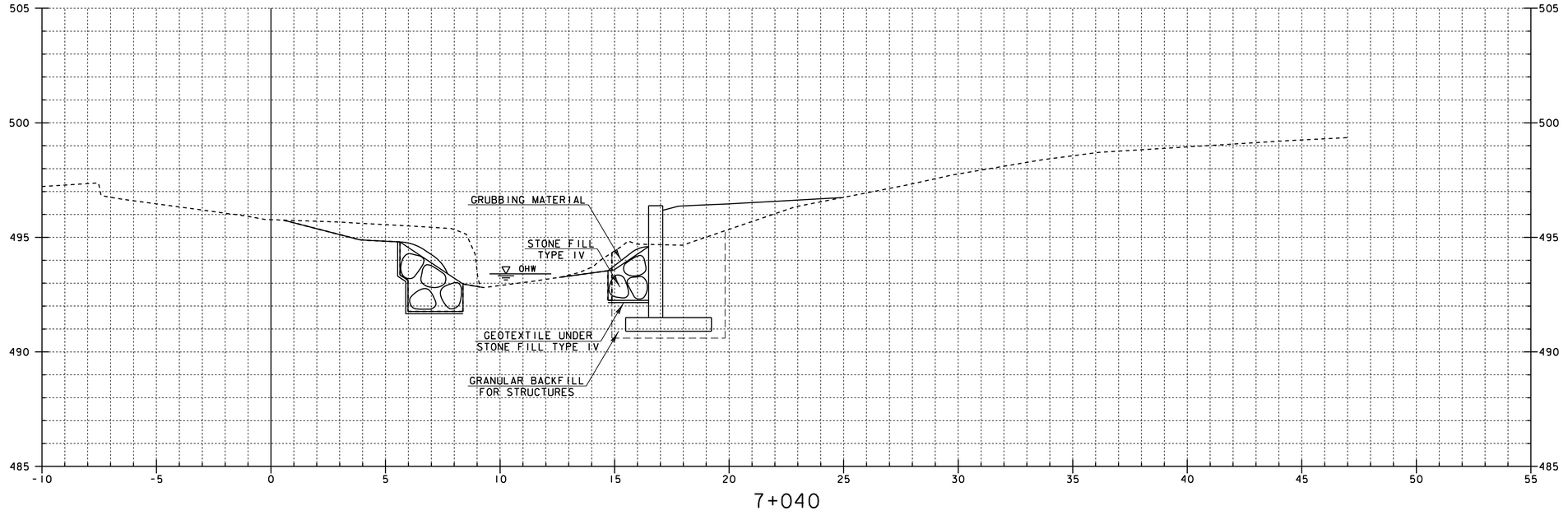
PLOT DATE: 14-AUG-2009
DRAWN BY: STR
IPARM NAME: sj236cx4.1
SHEET 50 OF 81

STATION 7+030 - 7+035

Metric



7+045



7+040

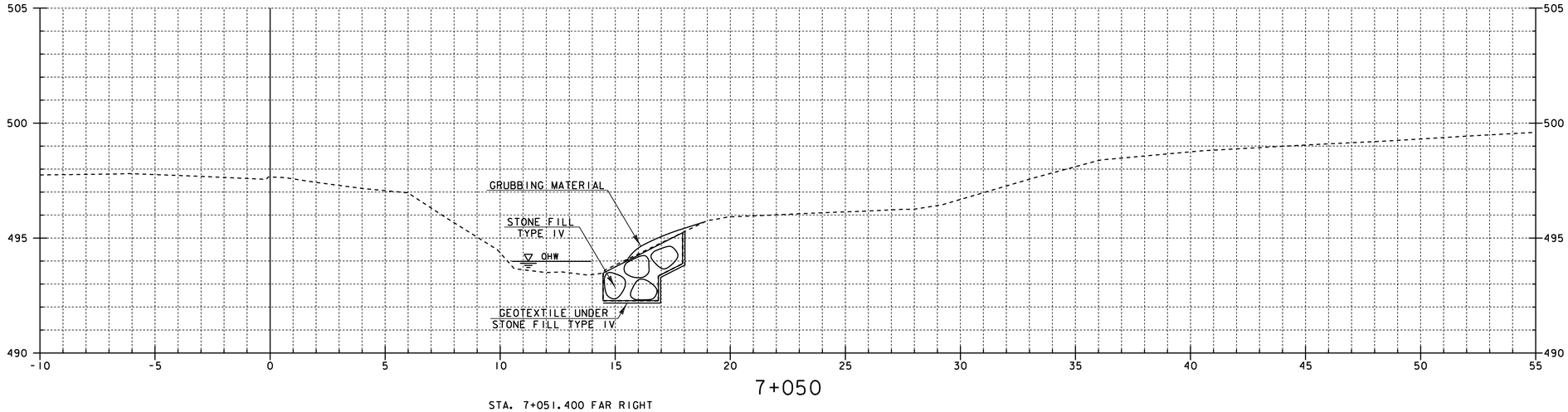
STA. 7+043.940 FAR RIGHT
END GRANULAR BACKFILL FOR STRUCTURES

STATION 7+040 - 7+045

BRIDGE 19 CHANNEL CROSS SECTIONS 5

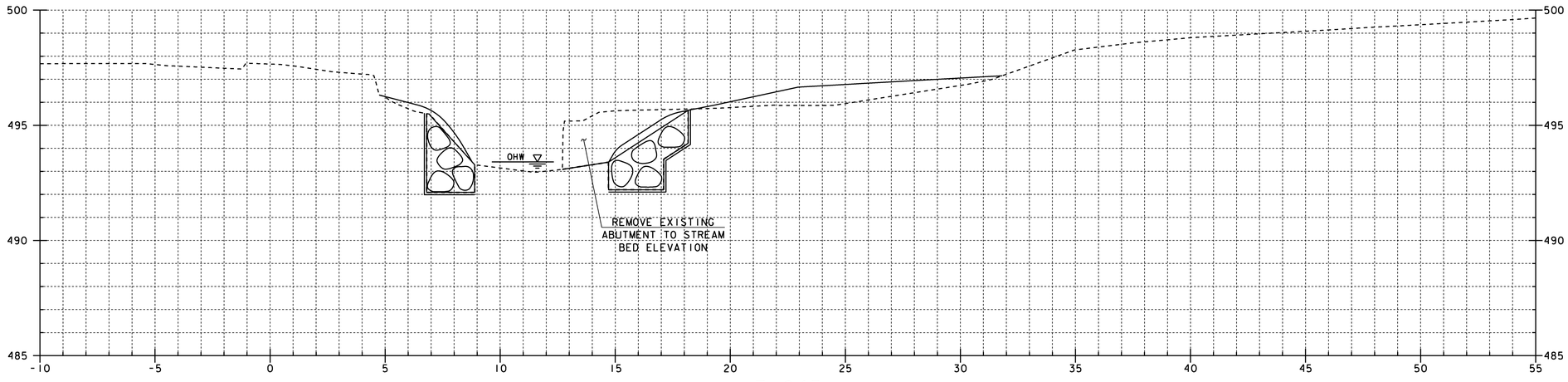
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236cx5.1
		SHEET 51	OF 81



7+050

STA. 7+051.400 FAR RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



7+047

STA. 7+048.800 NEAR RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL

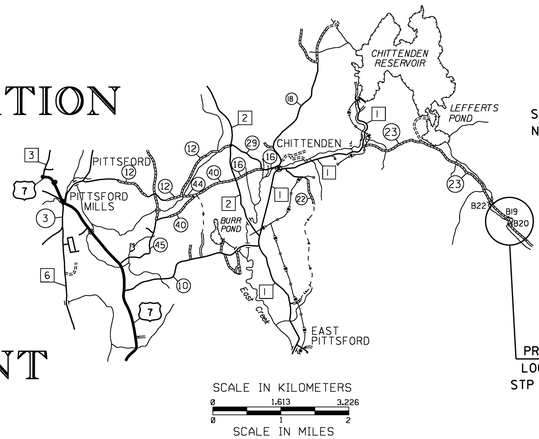
STATION 7+047 - 7+050

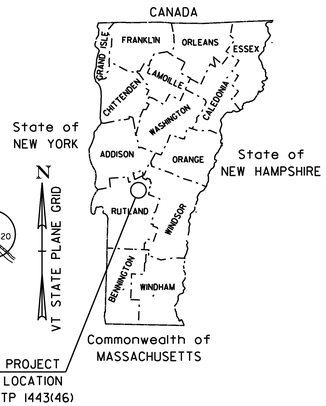
BRIDGE 19 CHANNEL CROSS SECTIONS 6

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236cx6.i
		SHEET 52	OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION



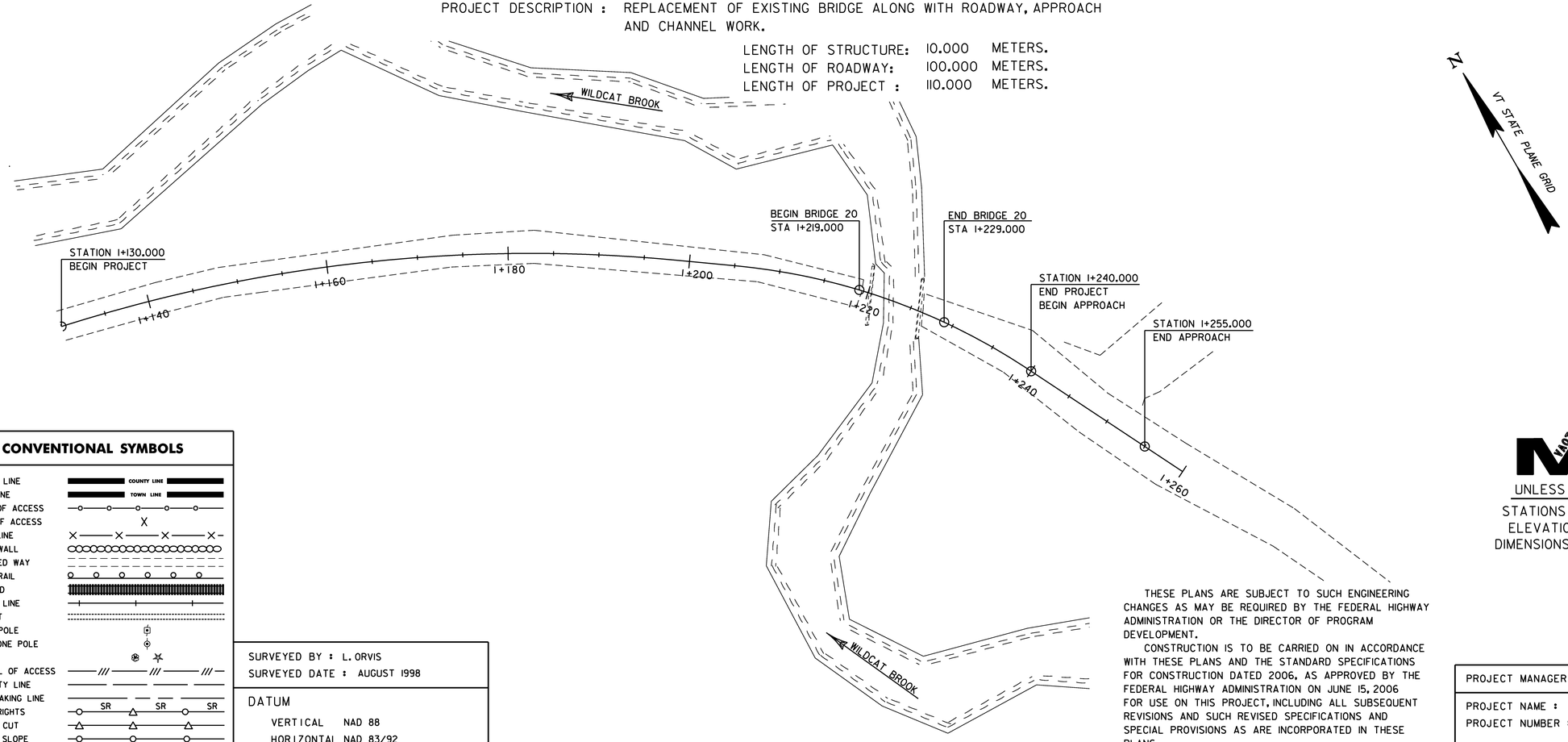


PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF CHITTENDEN
COUNTY OF RUTLAND
ROUTE NO : TOWN HIGHWAY 23 (LOCAL), BRIDGE 20

PROJECT LOCATION : ON TH 23 OVER WILDCAT BROOK APPROXIMATELY 4.13 km (2-1/2 MILES) SOUTHEASTERLY FROM THE INTERSECTION OF TH 23 AND TH 1 IN THE CENTER OF TOWN.

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

LENGTH OF STRUCTURE:	10.000	METERS.
LENGTH OF ROADWAY:	100.000	METERS.
LENGTH OF PROJECT :	110.000	METERS.



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 : L. ORVIS
SURVEYED DATE : AUGUST 1998

DATUM
VERTICAL NAD 88
HORIZONTAL NAD 83/92

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.

VAOT Metric

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

PROJECT MANAGER : C. CARLSON

PROJECT NAME : CHITTENDEN
PROJECT NUMBER : STP 1443(46)

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

INDEX OF SHEETS

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 2/4/02

DRAINAGE AREA : 6.9 sq. km
CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested.
STREAM CHARACTERISTICS : Perennial, alluvial, sinuous, and locally anabranched.
NATURE OF STREAMBED : Cobbles, boulders and gravel.

PEAK FLOW DATA

Q 2.33 =	7.6 cms	Q 50 =	18.4 cms
Q 10 =	12.7 cms	Q 100 =	21.2 cms
Q 25 =	15.6 cms	Q 500 =	34.0 cms

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 2.8 mps
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: 2%
HEADWATERS: X
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Steel beam bridge with timber deck.
YEAR BUILT: Unknown
CLEAR SPAN(NORMAL TO STREAM): 5.2 m
VERTICAL CLEARANCE ABOVE STREAMBED: 1.5 m (Low Beam El. 501.0 m)
WATERWAY OF FULL OPENING: 6.7 sq. m
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	500.7 m	VELOCITY =	2.4 mps*
Q10 =	501.0 m	"	2.8 mps*
Q25 =	501.2 m	"	1.6 mps*
Q50 =	501.3 m	"	1.7 mps*
Q100 =	501.4 m	"	1.8 mps*

LONG TERM STREAMBED CHANGES: No changes noted. The channel appears stable.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: About Q2.33
RELIEF ELEVATION: 500.6 m
DISCHARGE OVER ROAD @Q100: 7.5 cms

UPSTREAM STRUCTURE

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

DOWNSTREAM STRUCTURE

TOWN: Chittenden
HIGHWAY # : T.H. 23
CLEAR SPAN: 4.3 m
YEAR BUILT: Unknown
STRUCTURE TYPE: Steel beam bridge with timber deck
DISTANCE: 160 m
STRUCTURE #: 19
CLEAR HEIGHT: 2.0 m
FULL WATERWAY: 7.5 sq. m

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY	31	48					
POSTED	43	67	86		51	52	85
OPERATING		80	102	95	60	62	
COMMENTS:							

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2004	60	25	58	3	<5
2024	80	30	58	3	5

20 year ESAL for flexible pavement from 2004 to 2024 : <50,000
40 year ESAL for flexible pavement from 2004 to 2044 : <50,000
Design Speed : 50 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span concrete slab bridge.

CLEAR SPAN(NORMAL TO STREAM): 8.4 m
VERTICAL CLEARANCE ABOVE STREAMBED: 1.8 m
WATERWAY OF FULL OPENING: 11.6 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	500.7 m	VELOCITY=	2.1 mps*
Q10 =	501.0 m	"	2.5 mps*
Q25 =	501.1 m	"	2.6 mps*
Q50 =	501.2 m	"	2.7 mps*
Q100 =	501.3 m	"	2.7 mps*

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Just above Q25
RELIEF ELEVATION: 501.1 m **
DISCHARGE OVER ROAD @Q100: 0.1 cms

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 501.3 m on upstream side
VERTICAL CLEARANCE: @ Q25 = 0.2 m

SCOUR: 0.4 m of contraction scour up to Q500. Abutments will be protected against abutment scour by stone fill.
REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	0.2 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	0.1 cms	Depth = 0.1 m
ORDINARY HIGH WATER:	4.0 cms	Depth = 0.6 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 8.0 m minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Minimum elevation 501.7 m
WATERWAY AREA OF FULL OPENING: 11.5 sq. m. minimum

ADDITIONAL INFORMATION

* Velocities listed are the average total velocity of the channel and any roadway overflow.

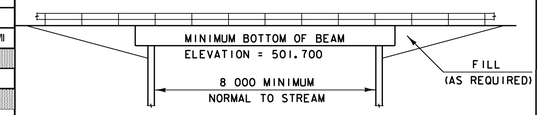
** Based on a berm being constructucted to elevation 501.1 m, at about station 1+210 right, to prevent floodwaters from bypassing the bridge and flowing down the ditch to the west.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS-22.5
2. DESIGN SPAN 9.1m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 190 kPa
   ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A
   TYPE N/A
   ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO M270/M270M GRADE N/A
6. REINFORCING STEEL GRADE 420
7. CONCRETE CLASS A (HPC-A) f'c: N/A
   CONCRETE CLASS B (HPC-B) f'c: 25 Mpa
8. SOIL UNIT WEIGHT 22.00 kN/m^3
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 392 kPa

TRAFFIC MAINTENANCE

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



TEMPORARY BRIDGE DETOUR DETAIL (BRIDGE 20)

(NOT TO SCALE)

PROJECT NAME: **CHITTENDEN**
PROJECT NUMBER: **STP 1443(46)**

FILE NAME: **/96j238/str/sj238pi.xls**
PROJECT MANAGER: **C. CARLSON**
DESIGNED BY: **K. UPMAL**
BRIDGE 20 PRELIMINARY INFORMATION SHEET

PLOT DATE: **4/29/2009**
DRAWN BY: **J. GILMORE**
CHECKED BY: **C. CARLSON**
SHEET **54** OF **81**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C. E. ITEMS
0.5			
740			
		90	
100			
50			
10	10		
		200	
		310	
		105	
		1	
		1	
430			
130			
		118	
		6170	
		3180	
		47	
		23	
		1	
		1	
11			
11			
11			
1			
40			
		160	
50			
4			
100			
			0.5
			0.5
			0.5
0.5			
1			
140		170	
	145		
	85		
	10		

TOTALS

GRAND TOTAL	FINAL
0.5	
740	
90	
100	
50	
20	
200	
310	
105	
1	
1	
430	
130	
118	
6170	
3180	
47	
23	
1	
1	
11	
11	
11	
1	
40	
160	
50	
4	
100	
0.5	
0.5	
0.5	
0.5	
1	
310	
145	
85	
10	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CM	COMMON EXCAVATION	203.15	
CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CM	SAND BORROW	203.31	
CM	GRANULAR BORROW	203.32	
CM	TRENCH EXCAVATION OF EARTH	204.20	
CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
CM	COFFERDAM EXCAVATION,EARTH	208.30	
CM	COFFERDAM EXCAVATION,ROCK	208.35	
LS	COFFERDAM (STA. 1+221)	208.40	
LS	COFFERDAM (STA. 1+226.8)	208.40	
CM	SUBBASE OF GRAVEL	301.15	
CM	AGGREGATE SURFACE COURSE	401.10	
CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
KG	REINFORCING STEEL	507.15	
KG	EPOXY COATED REINFORCING STEEL	507.17	
L	WATER REPELLENT, SILANE	514.10	
M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41	
LS	ONE-WAY TEMPORARY BRIDGE (44 SM - EST.)	528.10	
EACH	PARTIAL REMOVAL OF STRUCTURE (BRIDGE 20)	529.20	
	BEGIN OPTION AA		
M	450 CAAP 1.52 (68 X 12)	601.0215	
M	450 PCCSP 1.63 (68 X 12)	601.0415	
M	450 CPEP(SL)	601.2615	
	END OPTION AA		
CM	DUST CONTROL WITH WATER	609.10	
CM	STONE FILL, TYPE I	613.10	
CM	STONE FILL, TYPE IV	613.13	
M	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21	
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	
HR	FLAGGERS	630.15	
LS	FIELD OFFICE-ENGINEERS	631.10	
LS	TESTING EQUIPMENT - CONCRETE	631.16	
LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25	
LS	MOBILIZATION / DEMOBILIZATION	635.11	
LS	TRAFFIC CONTROL (STP 1443(46))	641.10	
SM	GEOTEXTILE UNDER STONE FILL	649.31	
SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	
SM	GEOTEXTILE FOR FILTER CURTAIN	649.61	
KG	SEED	651.15	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
		FILL REQUIRED
123	CM	COMMON FILL (1.15*107 CM)
		FILL AVAILABLE
518	CM	203.15 COMMON EXCAVATION (0.7*740 CM)
3	CM	204.20 TRENCH EXCAVATION OF EARTH (0.3*10 CM)
93	CM	208.30 COFFERDAM EXCAVATION, EARTH (0.3*310 CM)
27	CM	203.27 UNCLASSIFIED CHANNEL EXCAVATION (0.3*90 CM)

641	CM	TOTAL FILL AVAILABLE
123	CM	TOTAL FILL REQUIRED

518	CM	WASTE
		TEMPORARY EROSION CONTROL ITEMS
10	CM	204.20 TRENCH EXCAVATION OF EARTH
145	SM	649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
85	SM	649.61 GEOTEXTILE FOR FILTER CURTAIN
10	KG	651.17 SEED, WINTER RYE
0.5	LS	652.10 EPSC PLAN
50	HR	652.20 MONITORING EPSC PLAN
0.5	LU	652.30 MAINTENANCE OF EPSC PLAN (N.A.B.I.)
1155	SM	653.20 TEMPORARY EROSION MATTING
30	CM	653.25 TEMPORARY STONE CHECK DAM, TYPE I
30	CM	653.35 VEHICLE TRACKING PAD
150	M	653.50 BARRIER FENCE
100	M	653.55 PROJECT DEMARCATION FENCE
		N.A.B.I = NOT A BID ITEM

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: \96J238\Excel Sheets\QuantitySheetBu
PLOT DATE: 08/24/2009
PROJECT LEADER: C. CARLSON
DRAWN BY: D. PETERSON
DESIGNED BY: C. CARLSON
CHECKED BY: C. CARLSON
QUANTITY SHEET #1
SHEET 55 OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

Metric

SUMMARY OF ESTIMATED QUANTITIES											TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE	FULL C. E. ITEMS		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							10				10		KG	SEED-WINTER RYE	651.17				
							100				100		KG	FERTILIZER	651.18				
							1				1		T	AGRICULTURAL LIMESTONE	651.20				
							1				1		T	HAYMULCH	651.25				
							165				165		CM	TOPSOIL	651.35				
								125			125		SM	GRUBBING MATERIAL	651.40				
							0.5				0.5		LS	EPSC PLAN	652.10				
							50				50		HR	MONITORING EPSC PLAN	652.20				
							0.5				0.5		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							1155				1155		SM	TEMPORARY EROSION MATTING	653.20				
							30				30		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
							30				30		CM	VEHICLE TRACKING PAD	653.35				
							150				150		M	BARRIER FENCE	653.50				
							100				100		M	PROJECT DEMARCATION FENCE	653.55				
						3					3		EACH	REMOVING SIGNS	675.50				
						1					1		EACH	ERECTING SALVAGED SIGNS	675.60				
																			N.A.B.I = NOT A BID ITEM

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: \96J238\Excel Sheets\QuantitySheetBa PLOT DATE: 08/24/2009
PROJECT LEADER: C. CARLSON DRAWN BY: D. PETERSON
DESIGNED BY: C. CARLSON CHECKED BY: C. CARLSON
QUANTITY SHEET #2 SHEET 56 OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

Metric

SUMMARY OF BRIDGE QUANTITIES

CHANNEL	SUPERSTRUCTURE	AUBTMENT NO.1	ABUTMENT NO.2	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER
90				90	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
		90	110	200	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
		130	180	310	CM	COFFERDAM EXCAVATION,EARTH	208.30
		45	60	105	CM	COFFERDAM EXCAVATION,ROCK	208.35
		1		1	LS	COFFERDAM (STA. 1+221)	208.40
			1	1	LS	COFFERDAM (STA. 1+226.8)	208.40
	34	39	45	118	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
		2890	3280	6170	KG	REINFORCING STEEL	507.15
	3090	45	45	3180	KG	EPOXY COATED REINFORCING STEEL	507.17
	30	8	9	47	L	WATER REPELLENT, SILANE	514.10
	23			23	M	BRIDGE RAILING, GALVANIZED HD STEEL BEAM/FASCIA MOUNTED	525.41
	1			1	LS	ONE-WAY TEMPORARY BRIDGE (44 SM - EST.)	528.10
	1			1	EACH	PARTIAL REMOVAL OF STRUCTURE (BRIDGE 20)	529.20
160				160	CM	STONE FILL, TYPE IV	613.13
170				170	SM	GEOTEXTILE UNDER STONE FILL	649.31
125				125	SM	GRUBBING MATERIAL	651.40

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: \96J238\Excel Sheets\QuantitySheetBu PLOT DATE: 08/14/2009
PROJECT LEADER: C. CARLSON DRAWN BY: D. PETERSON
DESIGNED BY: C. CARLSON CHECKED BY: C. CARLSON
BRIDGE QUANTITY SHEET #1 SHEET 57 OF 81

Metric

GPS CONTROL POINTS

TRAVERSE TIES

ALIGNMENT TIES

ML PC 1+121.934

N = 133301.842
E = 469153.503

ML PT 1+198.559

N = 133272.780
E = 469223.702

ML PC 1+205.169

N = 133268.950
E = 469229.091

ML PT 1+239.517

N = 133243.110
E = 469251.193

POE 1+260.000

N = 133224.776
E = 469260.328

* ALIGMENT STAKED ON JANUARY 2, 2002 BY L. ORVIS & T. WILSON

DATUM

VERTICAL	NAVD88
HORIZONTAL	NAD-83(92)

TIE DISTANCES ARE SHOWN IN METERS

BRIDGE 20 TIE SHEET

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

FILE NAME:	/96j236/str/sj236tie.dgn	PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	J.HULETT
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236t12.i
		SHEET 58	OF 81

EXISTING BRIDGE 20 DATA

SUPERSTRUCTURE: STEEL ROLLED BEAMS/WOOD PLANK DECK
SUBSTRUCTURE: LAID UP STONE/RETRO STEEL BEAM ABUTMENTS
BRIDGE WIDTH: 3.1 METERS (10 FEET)
ROADWAY WIDTH: 3.1 METERS (10 FEET)
BRIDGE LENGTH: 4.6 METERS (15 FEET
CLEAR SPAN: 3.4 METERS (11FEET)
CLEAR HEIGHT: 1.1 METERS (3.5 FEET)

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 1+206.623 LT - STA 1+217.378 LT
STA 1+207.435 RT - STA 1+219.316 RT
STA 1+228.273 LT - STA 1+235.393 LT
STA 1+231.294 RT - STA 1+239.249 RT

BRIDGE RAILING, GALVANIZED
HD STEEL BEAM/FASCIA MOUNTED
STA 1+217.378 LT - STA 1+228.273 LT
STA 1+219.316 RT - STA 1+231.294 RT

PIPE OPTION
~~STA 1+243.203 LT~~ - STA 1+254.175 LT
STA 1+241.203 LT

ERECTING SALVAGED SIGNS
STA. 1+236.9 LT.

CONSTRUCT DRIVES
STA 1+249.000 LT

CONSTRUCT BERM
STA 1+207.400 (+/-) RT - STA 1+219.300 RT

ANCHOR FOR STEEL BEAM RAIL
STA 1+208.340 LT
STA 1+209.335 RT
STA 1+233.793 LT
STA 1+237.116 RT

CONSTRUCT DITCH
(STONE FILL TYPE I)
STA 1+130.000 RT - STA 1+205.000 RT

REMOVING SIGNS
STA. 1+213.4 ± RT.
STA. 1+231.5 ± LT.
STA. 1+236.9 LT.

VTrans Metric

N
VT STATE PLANE GRID

PI
Sta 1+222.696 BK=
Sta 1+221.990 AHD

STA. 1+231.5 ± LT.
LEGAL LOAD LIMIT 16,000 POUNDS
REMOVE SIGN

STA. 1+236.9 LT.
SURVEY MARKER
REMOVE SIGN
ERECT SALVAGE SIGN

BEGIN BRIDGE 20
STA 1+219.000
F.G. = 501.828

END BRIDGE 20
STA 1+229.000
F.G. = 502.063

STATION 1+240.000
END PROJECT
BEGIN APPROACH

BENCH MARK NO.3
VTGS MARK STAMPED
"2 BRIDGE 1998"
ELEV. 501.580

STATION 1+255.000
END APPROACH

POST Sta 1+213.600 =
Cha Sta 9+018.589
Δ = 85° RT

CHANNEL POE
Sta 9+030.000

WILDCAT BROOK

STATION 1+130.000
END PROJECT STP 1443(45)
BEGIN PROJECT STP 1443(46)

PI
Sta 1+160.908 BK=
Sta 1+159.585 AHD

MATCH LINE (SEE SHEET 28)

STA 1+130

T.H. 23 TO T.H. 1
TO CHITTENDEN

EXISTING 3 ROD R.O.W.

APPROX. UTILITY RELOCATION

CLEAR ZONE

S54° 35' 53.7" E

S80° 25' 24.0" E

S26° 29' 05.4" E

TEL
•6-1/245(R)

GUYW

S.Y.B.

5 HORIZ.

6-1/245

20 TWCT RT

S.BAL.

WOODS

1+120

1+140

1+160

1+180

1+200

1+220

1+240

1+260

1+280

1+300

1+320

35 ASH

BERM (LEVEL)

DITCH

TEL
•246(R)

GUYW

•246 SIGN

GP

3.0 R

PVC UND

EXISTING 3 ROD R.O.W.

NO NEW STONE ADDED EXISTING DITCH HAD STONE

HOUSE

DRIVE

POE
Sta 1+260.000

S.W. BIRCH

M. MAPLE

S.POP

S.SPRUCE

M.WILLOW

HEDGE

DITCH

WALL 5.2 0 R

TEMP. CONST. LIMITS

EXISTING 3 ROD R.O.W.

T.H. 23
TO CLASS IV T.H.

SHRUB

55.MAPLE

S.WBIRCH

PT
Sta 1+198.559

PC
Sta 1+205.169

STONE FILL TYPE I (TYP)

CHANNEL POB
Sta 9+000.000

STONE FILL TYPE IV (TYP)

PT
Sta 1+239.517

WOODS

TEL
•247

GUYW

APPROXIMATE TEMPORARY DETOUR CENTERLINE

BENCH MARK NO.2
RR SPIKE IN BALSAM
ELEV. 500.700

LEGAL LOAD LIMIT 16,000 POUNDS
REMOVE SIGN
STA. 1+213.4 ± RT.

CURVE DATA #3
Δ = 25°-49'-30.3" RT
R = 170.000
T = 38.974
L = 76.625
E = 4.410
BANK = 0.040 M / M

CURVE DATA #4
Δ = 28°-06'-48.3" RT
R = 70.000
T = 17.527
L = 34.347
E = 2.161
BANK = 0.040 M / M

MATCH LINE (SEE SHEET 28)

WILDCAT BROOK

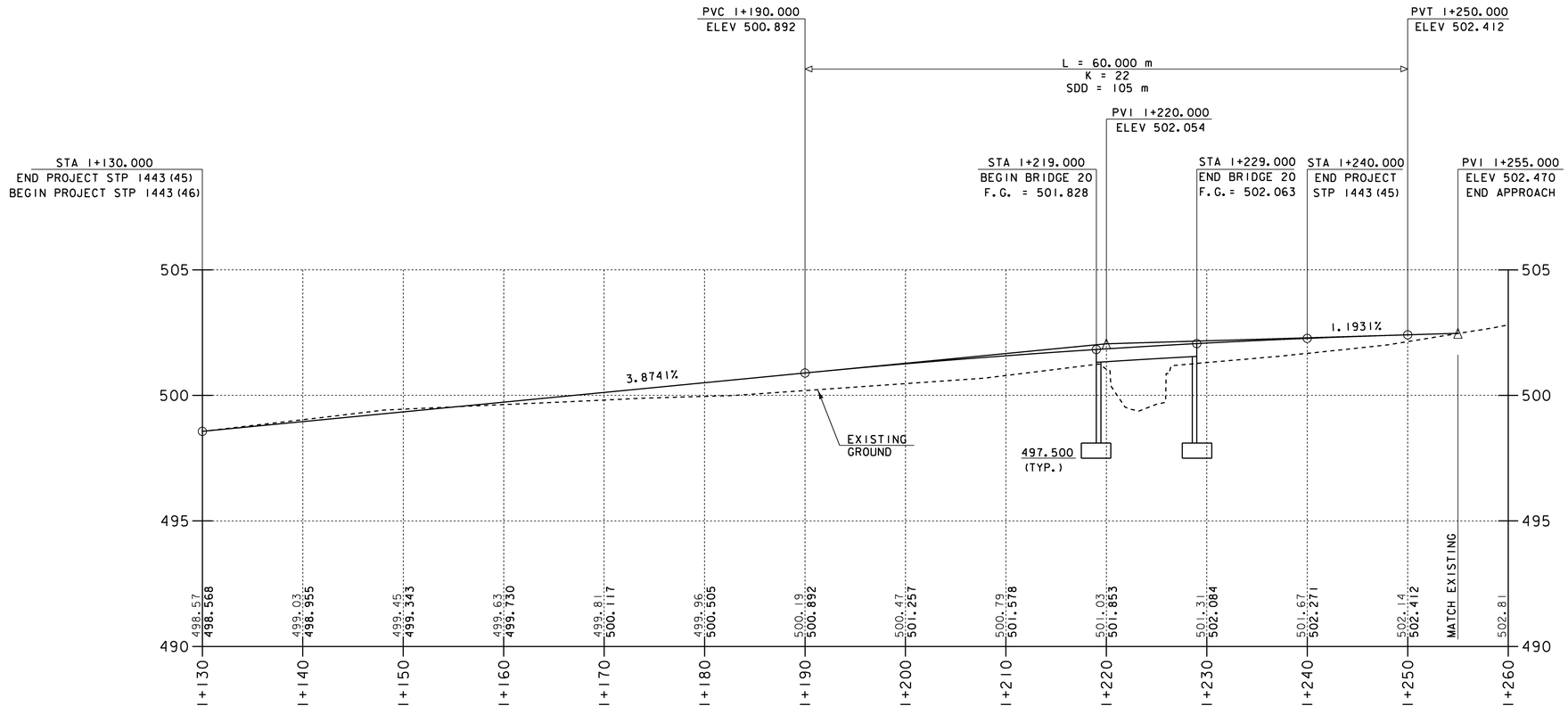
NOTES
1.) RELOCATED TELEPHONE POLES ARE DENOTED BY AN (R)
2.) SEE SHEET 9 FOR DRAINAGE DETAILS

0 10 20 30
SCALE (1:250) IN METERS

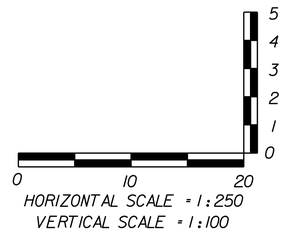
BRIDGE 20 LAYOUT SHEET

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: /96J236/str/sj236bdr.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
PLOT DATE: 14-AUG-2009
DRAWN BY: STR
CHECKED BY: C. CARLSON
SHEET 59 OF 81



MAINLINE PROFILE



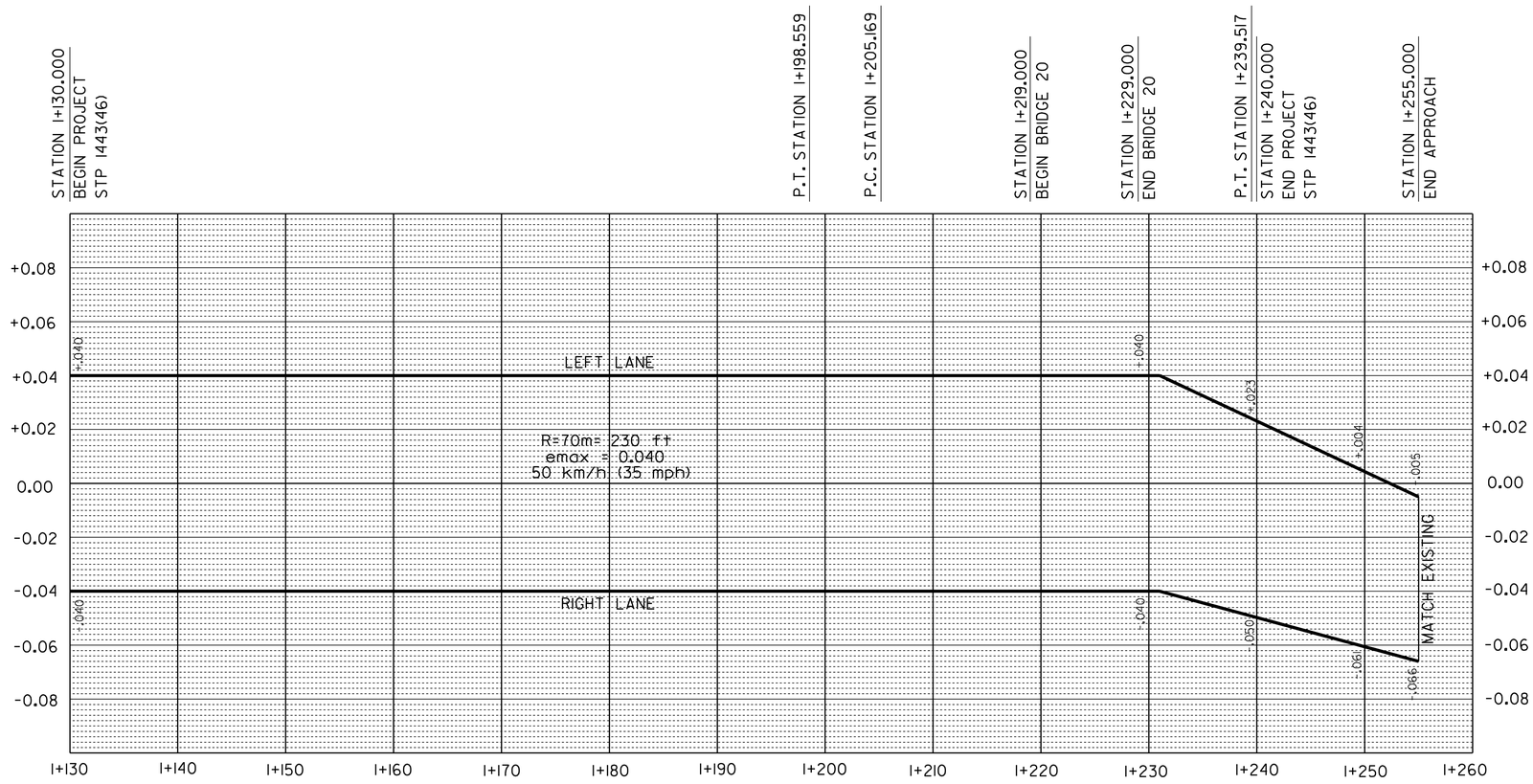
HORIZONTAL SCALE = 1:250
VERTICAL SCALE = 1:100

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE OLD GROUND ALONG THE CENTERLINE. THE GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.

BRIDGE 20 MAINLINE PROFILE

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443 (46)

FILE NAME: /93j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236pr2.i
		SHEET 60	OF 81



MAINLINE BANKING DIAGRAM

BRIDGE 20 BANKING DIAGRAM

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

FILE NAME: /93j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236bd2.i
		SHEET 61	OF 81

VAOT Metric

N

VT STATE PLANE GRID

B-B
Sta 1+140 Sta 1+140

ONE LANE BRIDGE AHEAD

ROAD WORK 100 FT

STATION 1+130.000
END PROJECT STP 1443(45)
BEGIN PROJECT STP 1443(46)

MATCH LINE (SEE SHEET 31)

PI
Sta 1+160.908 BK=
Sta 1+159.585 AHD

S80°25'24.0"E

S54°35'53.7"E

1+140

1+160

1+180

1+200

POST Sta 1+213.600 =
Cha Sta 9+018.589
Δ = 85° RT

CHANNEL POE
Sta 9+030.000

WILDCAT BROOK

9+030

PI
Sta 1+222.696 BK=
Sta 1+221.990 AHD

BEGIN BRIDGE 20
STA 1+219.000
F.G. = 501.828

END BRIDGE 20
STA 1+229.000
F.G. = 502.063

1+220

1+240

S26°29'05.4"E

BERM (LEVEL)

2000 (TYP)

STONE FILL TYPE I (TYP)

PT
Sta 1+198.559

PC
Sta 1+205.169

CHANNEL POB
Sta 9+000.000

Sta 1+185

15 M.P.H.

YIELD

Sta 1+200

ROAD CLOSED

STONE FILL TYPE IV (TYP)

PT
Sta 1+239.517

APPROXIMATE TEMPORARY DETOUR CENTERLINE

STATION 1+240.000
END PROJECT
BEGIN APPROACH

Sta 1+255

ROAD CLOSED

STATION 1+255.000
END APPROACH

Sta 1+265

15 M.P.H.

POE
Sta 1+260.000

1+260

152 M=
500 FT

304 M=
1000 FT

ROAD WORK 500 FT

ROAD WORK AHEAD

B-B
Sta 1+140 Sta 1+140

ONE LANE BRIDGE AHEAD

ROAD WORK 100 FT

MATCH LINE (SEE SHEET 31)

WILDCAT BROOK

B-B

ROAD WORK 500 FT

END ROAD WORK

TYPE III BARRICADES (MOD.)
TRAFFIC DRUMS (REFLECTORIZED)

0 10 20 30
SCALE (1:250) IN METERS

BRIDGE 20 TRAFFIC CONTROL

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: /96j236/str/sj236trf.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL

PLOT DATE: 25-AUG-2009
DRAWN BY: STR
IPARM NAME: sj236tf2.1
SHEET 62 OF 81

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

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

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

DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

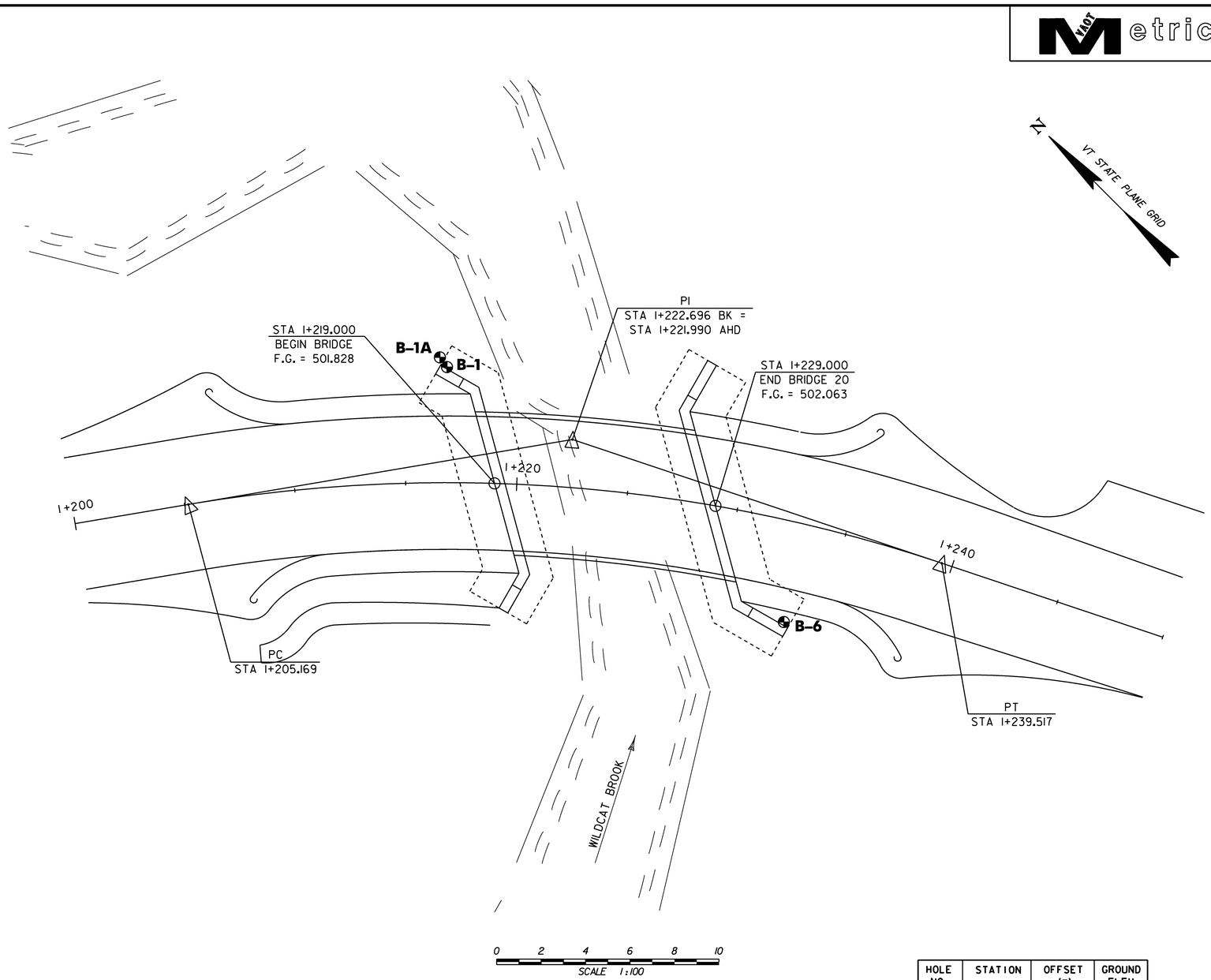
MUCK - Soft organic soil (containing > 10% organic material.

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

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

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

DIP - Inclination of bed with a horizontal plane.



HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.
B-1	1+217.000	5.200 LT	500.150
B-1A	1+216.650	5.500 LT	500.160
B-6	1+233.000	4.500 RT	501.090

BRIDGE 20
BORING CHART

GENERAL NOTES

1. The subsurface explorations shown herein were made between 3/28/2002 and 4/3/2002 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

SHEET NAME: BRIDGE 20 BORING PLAN

PROJECT NAME: CHITTENDEN

PROJECT NUMBER: STP 1443(46)

FILE NAME: /96j236/str/sj236bor.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL

PLOT DATE: 14-AUG-2009
DRAWN BY: J. GILMORE
IPARM NAME: sj236br2.i
SHEET 63 OF 81

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

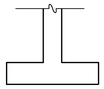
HOLE NO.: B-1
SHEET I OF I
DATE STARTED: 3/28/02
DATE COMPLETED: 3/28/02

PROJECT NAME: CHITTENDEN
SITE NAME: BR 20
STATION: 1+217.00
GROUND EL.: 500.15

PROJECT NUMBER: STP 1443(46)
SITE NO.: TH 23
OFFSET: -5.20
G.W. DEPTH: NA

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL



497.500
BTM. FTG.

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Boulder, No sample, Advanced casing							
		BXDC, 1.75m-2.0m, Cleaned casing							
		No sample, Stone in end of sampler, Appears to be SiSa, Advanced casing.	11						
		A-2-4, SiSaGr, brn, Moist, Rec. = 0.13m, Casing broke off around 3.50m							
		Hole stopped @ 3.50m							
5									
10									

DRILLER'S NOTES:
Casing broke off at around 3.50m.

GEOLOGISTS REPORT:

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

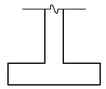
HOLE NO.: B-1A
SHEET I OF I
DATE STARTED: 3/29/02
DATE COMPLETED: 4/1/02

PROJECT NAME: CHITTENDEN
SITE NAME: BR 20
STATION: 1+216.65
GROUND EL.: 500.16

PROJECT NUMBER: STP 1443(46)
SITE NO.: TH 23
OFFSET: -5.50
G.W. DEPTH: NA

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL



497.500
BTM. FTG.

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-1-a, SaGr, brn, Moist, Rec. = 0.26m	37	10.4	57.9	30.9	11.2		
		BXDC, 1.77m-2.00m, Cleaned casing							
		2.0m-2.6m, Not enough recovery for a sample, Appears to be SaGr	9						
		A-2-4, SiGrSa, brn, Moist, Rec. = 0.40m	R	10.4	33.1	37.1	29.8		
		BXDC, 3.42m-4.10m, Cleaned out casing.							
		A-2-4, SiGrSa, brn, Moist, Rec. = 0.30m	R	10.7	31	39.1	29.9		
		BXDC, 4.65m-5.00m, Cleaned casing							
5		A-2-4, SiGrSa, brn, Moist, Rec. = 0.30m	R	12.2	32	42	26		
		A-1-b, SiSaGr, brn, Moist, Rec. = 0.20m	R	11.3	38.8	36.6	24.6		
		BXDC, 7.75m-8.00m, Cleaned casing							
		A-1-b, SiSaGr, brn, Moist, Rec. = 0.15m	R	11	40.9	36.8	22.3		
		BXDC, 8.94m-9.14m, Cleaned casing	R						
		Not enough recovery for a sample, Appears to be moist brown SiSaGr.							
		Hole stopped @ 9.22m							
10									

GEOLOGISTS REPORT:

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

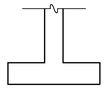
HOLE NO.: B-6
SHEET I OF I
DATE STARTED: 4/3/02
DATE COMPLETED: 4/3/02

PROJECT NAME: CHITTENDEN
SITE NAME: BR 20
STATION: 1+233.00
GROUND EL.: 501.09

PROJECT NUMBER: STP 1443(46)
SITE NO.: TH 23
OFFSET: 4.50
G.W. DEPTH: NA

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL



497.500
BTM. FTG.

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		0.70m-1.45m, BXDC, Cleaned out casing, Boulder at 1.00m.							
		BXDC, 1.65m-2.0m, Cleaned casing							
		A-1-b, SaGr, brn, Moist, Rec. = 0.29m	R	10.6	47	34.4	18.6		
		BXDC, 2.75m-3.0m, Cleaned casing							
		A-1-b, SiSaGr, brn, Moist, Rec. = 0.32m	R	12.5	43.4	31.2	25.4		
		BXDC, 3.85m-4.0m, Cleaned casing	R	10.4	40.4	36.3	23.3		
		A-1-b, SiSaGr, brn-gry, Moist, Rec. = 0.10m							
5		BXDC, 4.87m-5.78m, Cleaned out casing, Boulder at 5.00m							
		BXDC, 6.35m-6.50m, Cleaned casing	R	10.5	39.9	36.8	23.3		
		A-1-b, SiSaGr, brn-gry, Moist, Rec. = 0.19m							
		BXDC, 7.55m-8.40m, Cleaned out casing, Boulder at 8.00m.							
		BXDC, 8.54m-9.14m, Cleaned out casing	R	14.6	16.3	52	31.7		
		A-2-4, SiSa, brn-gry, Moist, Rec. = 0.11m							
		Hole stopped @ 9.25m							
10									

GEOLOGISTS REPORT:

BRIDGE 20 BORING LOGS

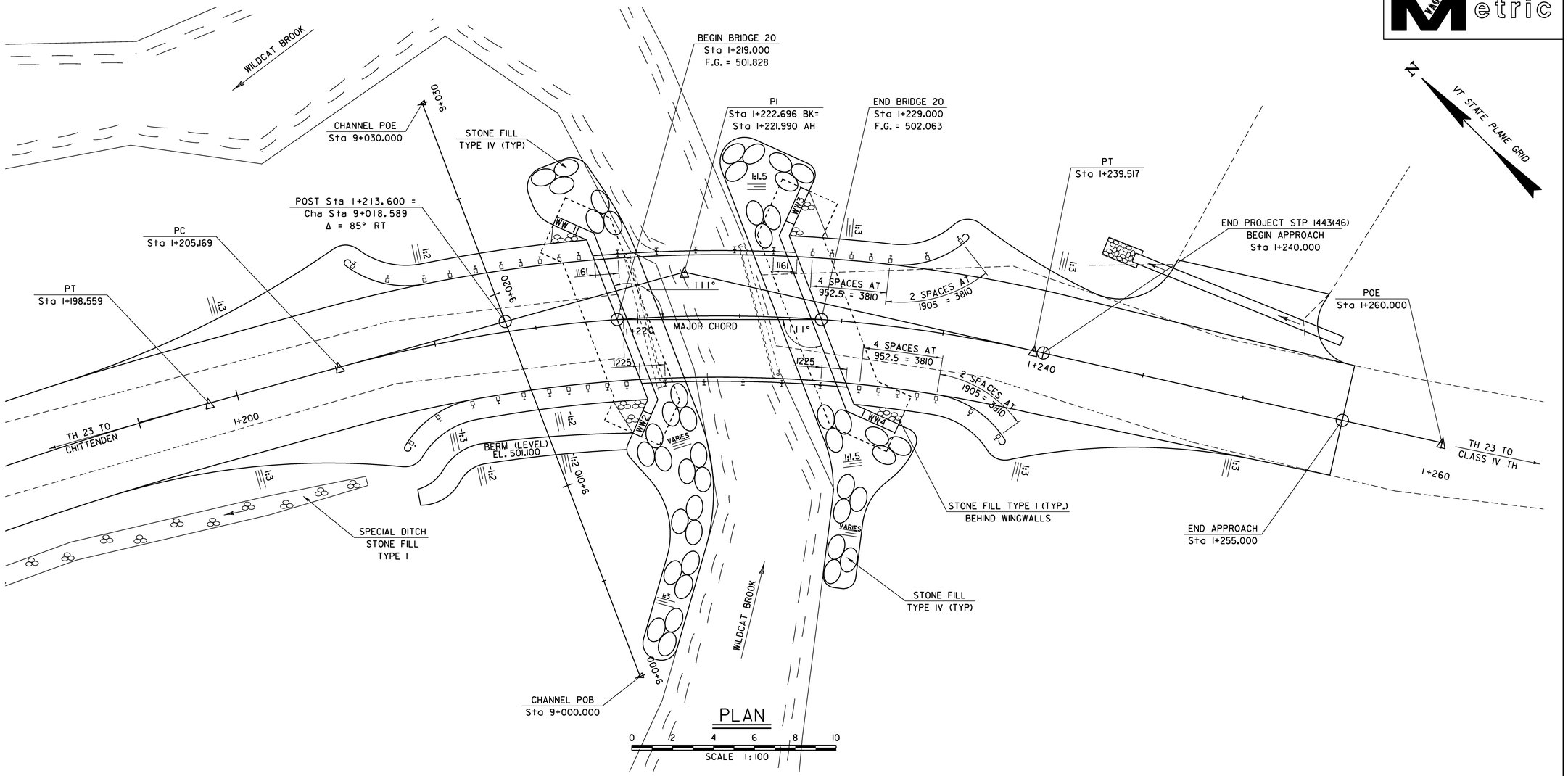
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: /96J236/str/sj236bor.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: K. UPMAL
sj236br2.1

PLOT DATE: 14-AUG-2009
DRAWN BY: J. TOUCHETTE
CHECKED BY: C. CARLSON
SHEET 64 OF 81

Metric

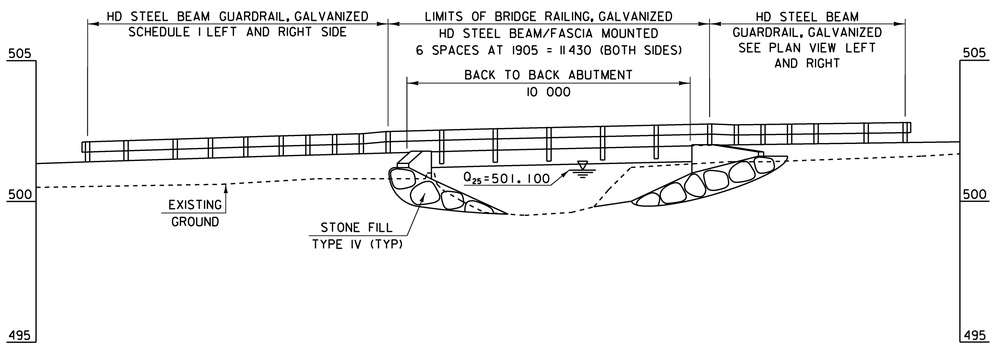
VAOT Metric



PLAN

0 2 4 6 8 10

SCALE 1:100



ELEVATION AT UPSTREAM FASCIA

0 2 4 6 8 10

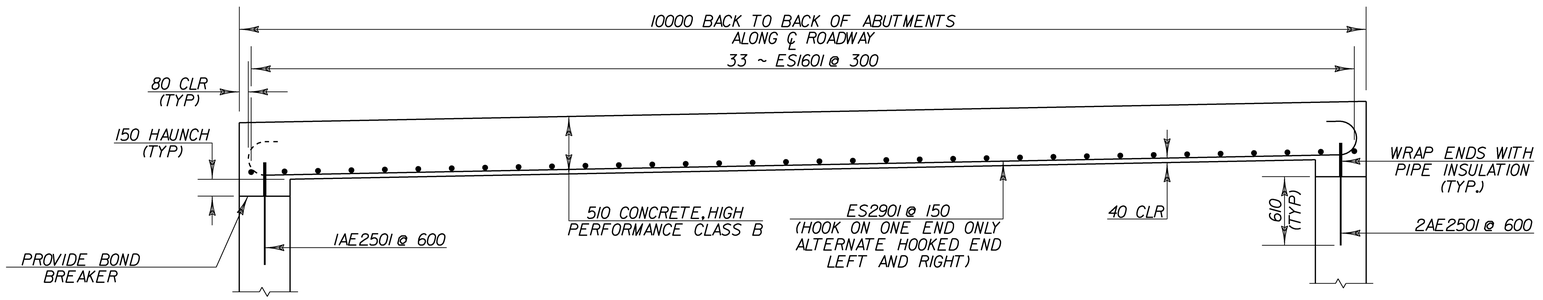
SCALE 1:100

BRIDGE 20 PLAN AND ELEVATION

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

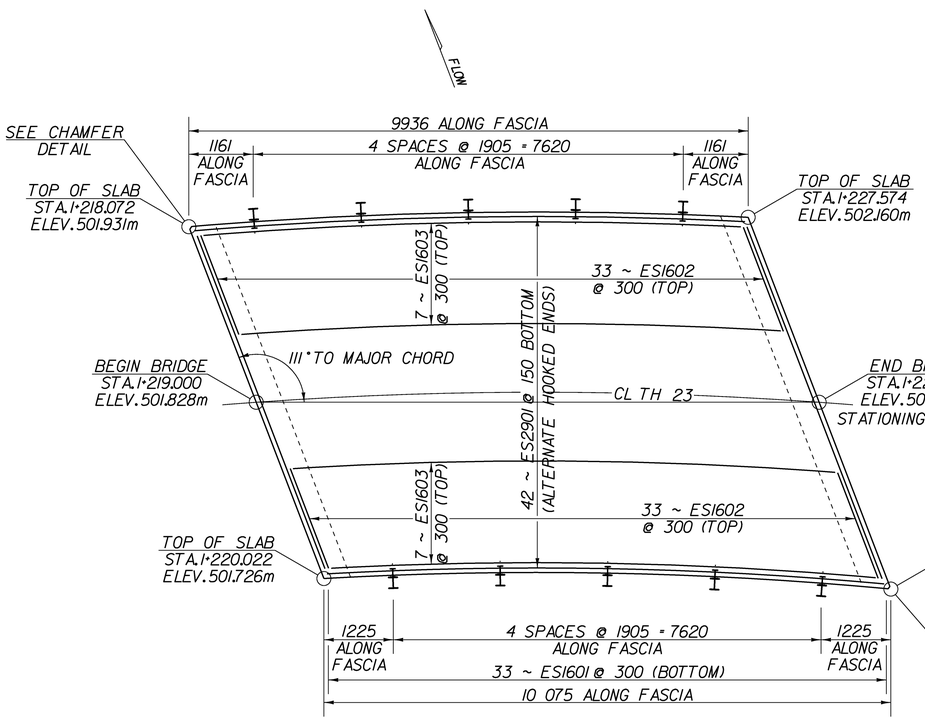
FILE NAME: /96j236/str/sj236pe.dgn		PLOT DATE:	24-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	J. GILMORE
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj088pe2.i
		SHEET 65	OF 81

Metric



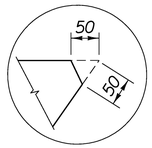
ELEVATION ALONG ℄ ROADWAY

SCALE: 1:25



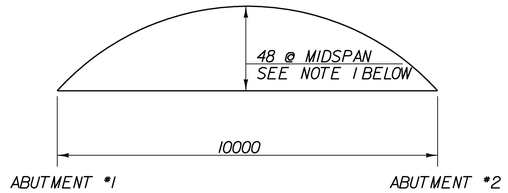
BRIDGE DECK PLAN

SCALE: 1:50



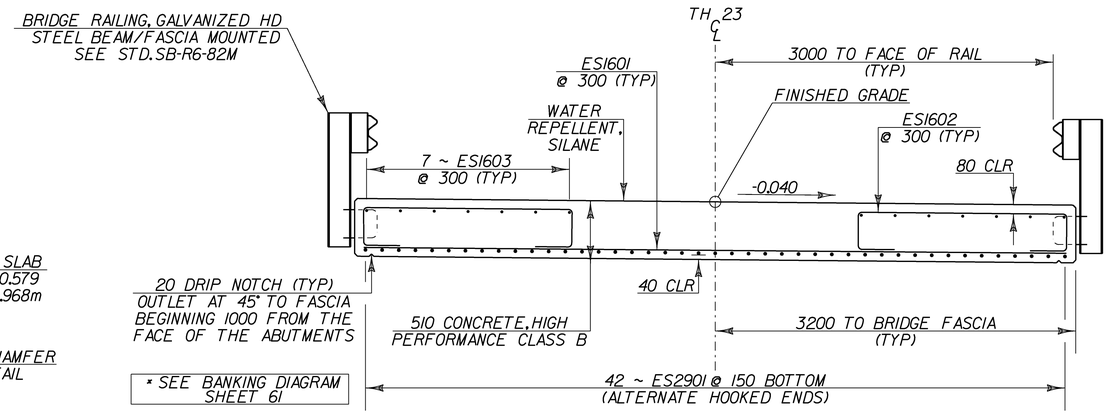
CHAMFER DETAIL

NOT TO SCALE



BRIDGE 20 CAMBER

NTS



BRIDGE SECTION

SCALE: 1:25

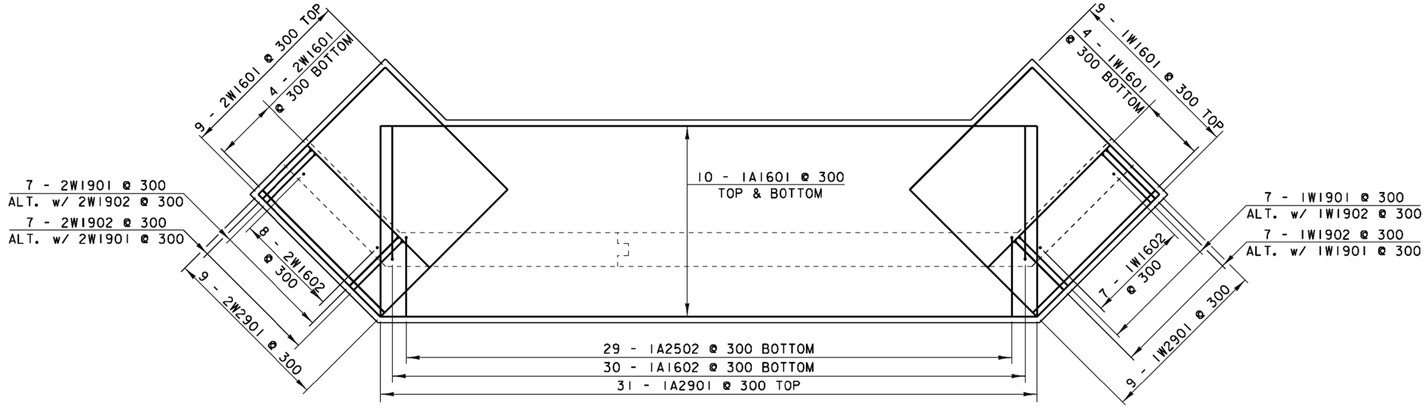
NOTES:

1. THE SLAB SHALL BE CAMBERED A TOTAL OF 48mm AT MIDSPAN. THIS CAMBER SHALL APPROXIMATE A CIRCULAR CURVE.
2. THE CONCRETE DECK SHALL BE BROOM FINISHED NORMAL TO CENTERLINE.
3. THE COST OF THE TAR PAPER AND PIPE INSULATION AND THEIR APPLICATIONS SHALL BE INCIDENTAL TO ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B."
4. THE "E" AND "AE" PREFIX DENOTES EPOXY COATED REINFORCING STEEL.
5. 80mm CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)

BRIDGE 20 DECK DETAILS

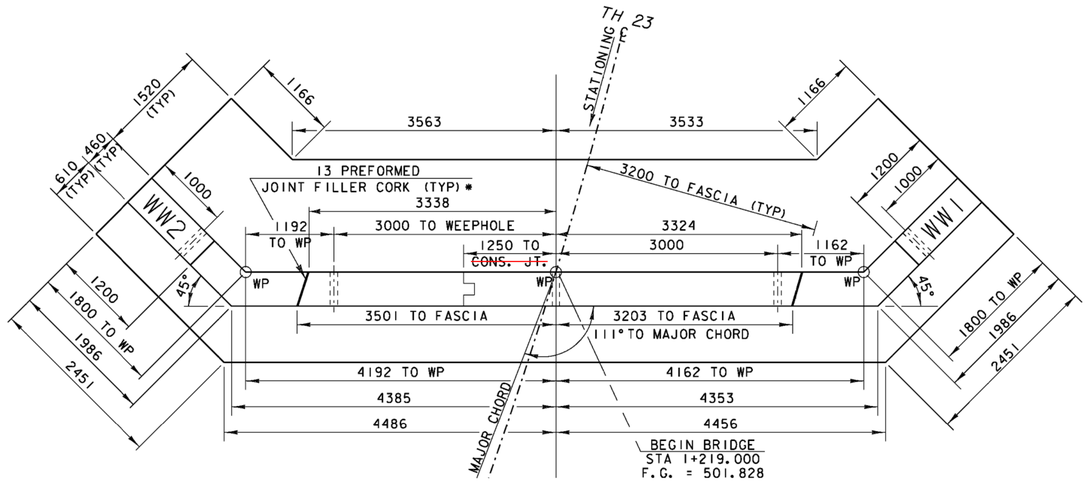
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

FILE NAME: /96j236/str/sj236deck.dg		PLOT DATE:	18-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	C. WEEBER
DESIGNED BY:	K. UPMAL	CHECKED BY:	D. PETERSON
sj236br20dck.i		SHEET 66	OF 81



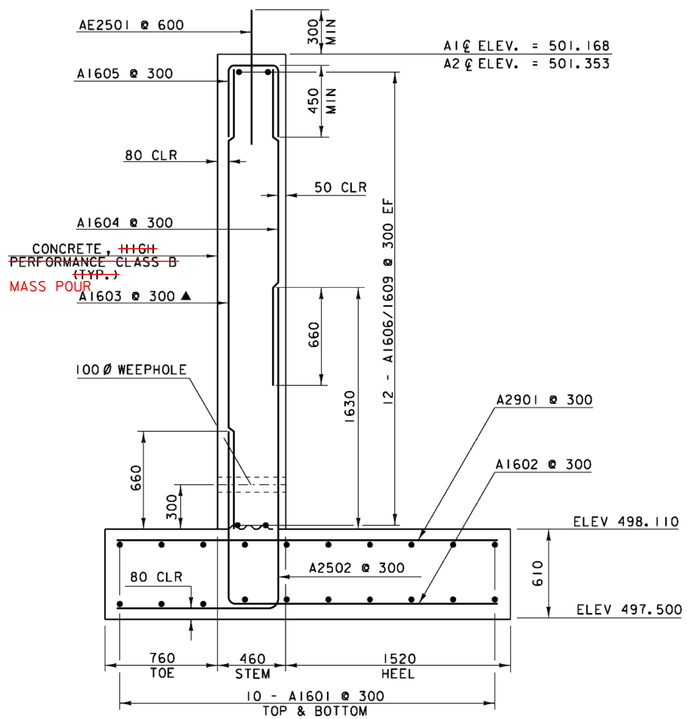
ABUTMENT #1 FOOTING REINFORCEMENT PLAN

SCALE: 1:40



ABUTMENT #1 PLAN

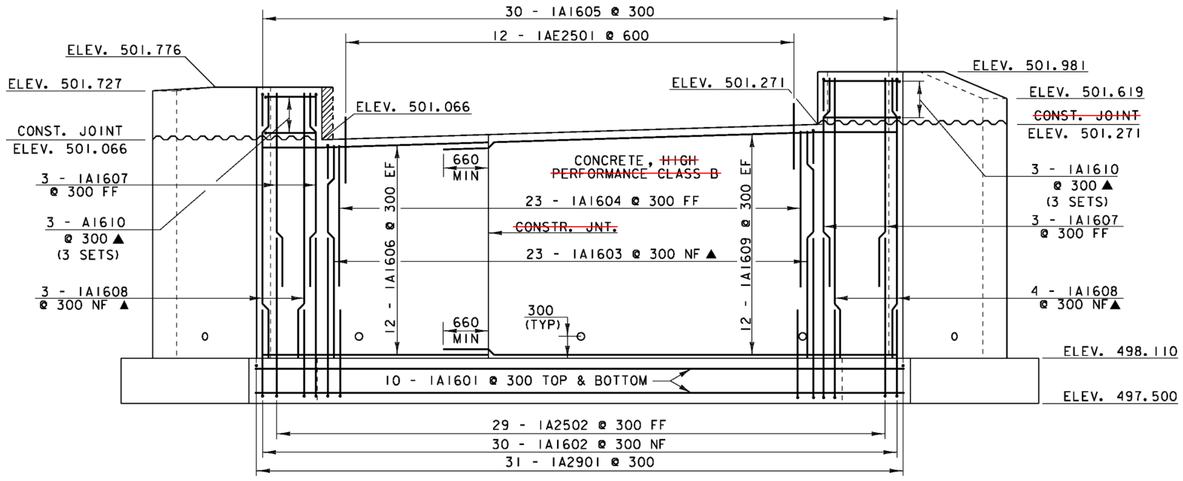
SCALE: 1:40



ABUTMENT TYPICAL SECTION

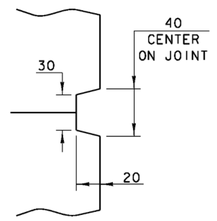
SCALE: 1:20

*SEE NOTE 9



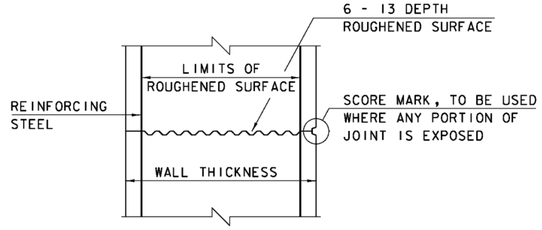
ABUTMENT #1 ELEVATION

SCALE: 1:40



SCORE MARK DETAIL

SCALE: 1:2.5



~~TYPICAL HORIZONTAL CONSTRUCTION JOINT~~ ELIMINATED, MASS POUR CONCRETE

NOT TO SCALE

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

NOTES

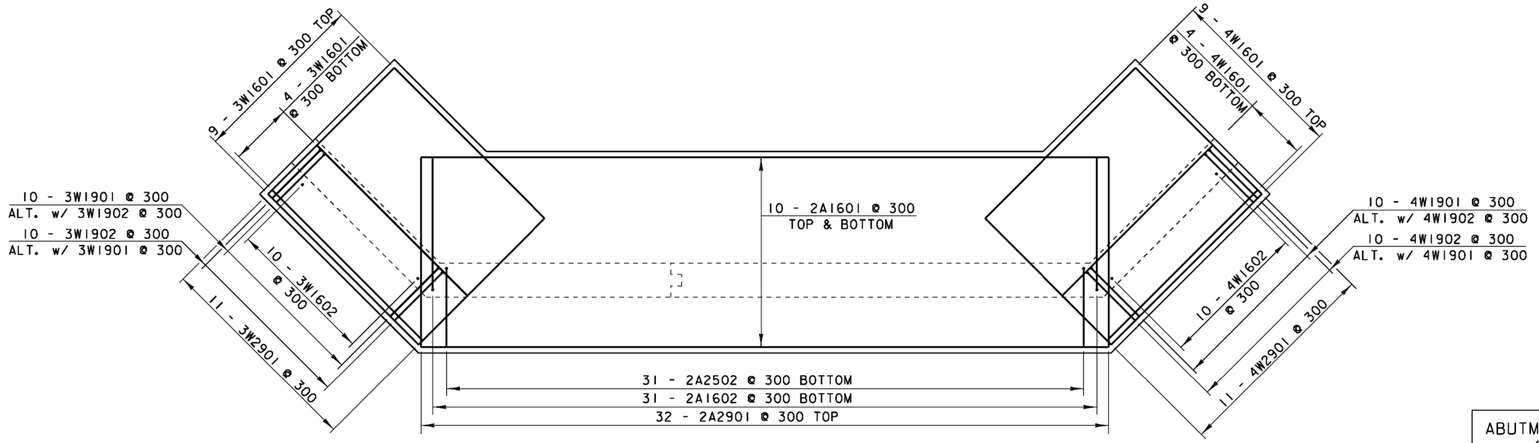
1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)
8. "E" - DENOTES EPOXY COATED
- *9. PAYMENT FOR PREFORMED JOINT FILLER CORK TO BE INCIDENTAL TO CONCRETE, HIGH PERFORMANCE CLASS B

BRIDGE 20 ABUTMENT 1 DETAILS

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

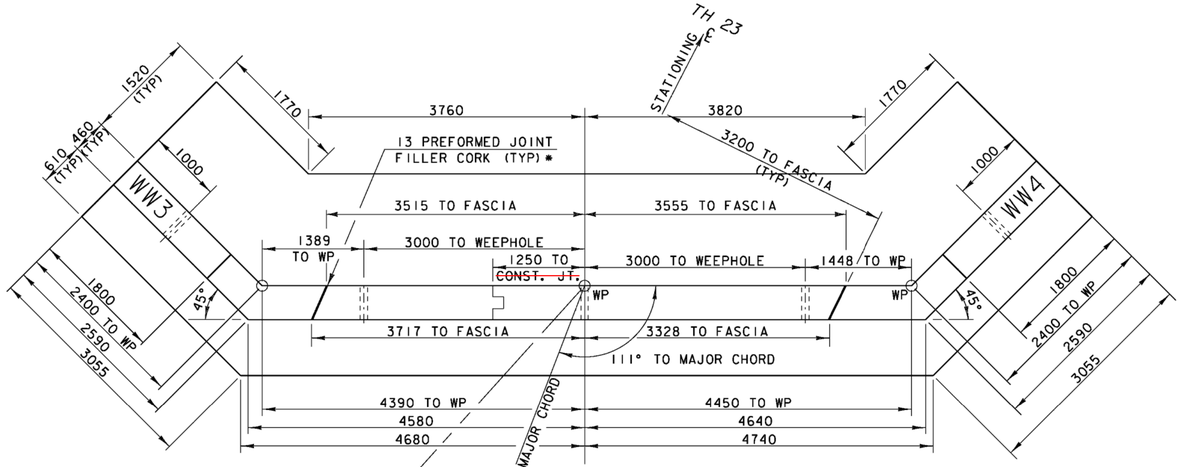
FILE NAME: /96j236/str/sj236ab.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
[parm: sj236br20ab1]

PLOT DATE: 24-AUG-2009
DRAWN BY: C. WEEBER
CHECKED BY: C. CARLSON
SHEET 67 OF 81



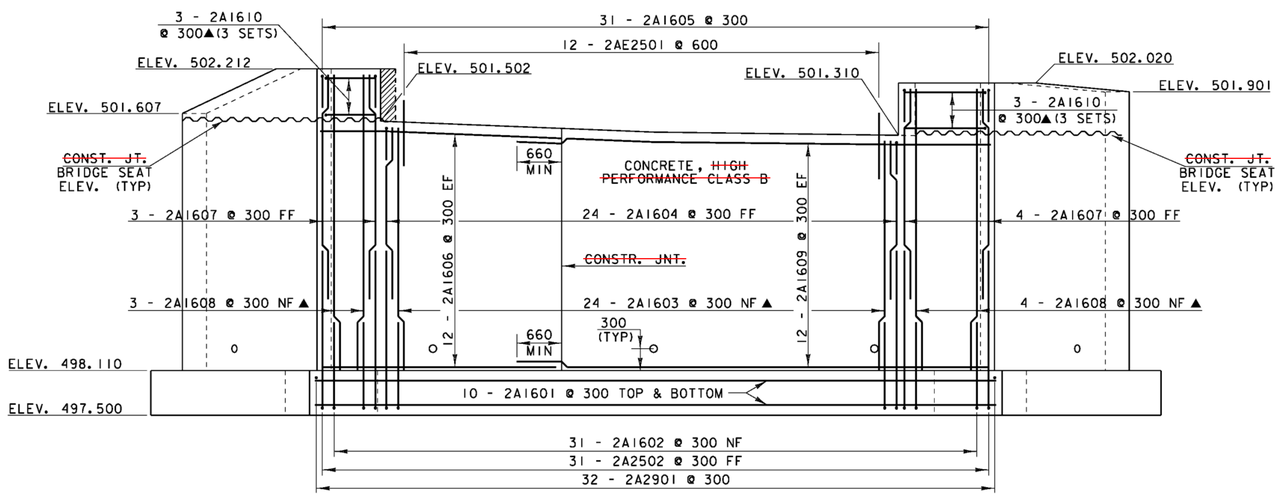
ABUTMENT #2 FOOTING REINFORCEMENT PLAN

ABUTMENT TYPICAL SECTION
CAN BE FOUND ON
ABUTMENT I DETAIL SHEET 67



ABUTMENT #2 PLAN

*SEE NOTE 9



ABUTMENT #2 ELEVATION

NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲= CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660 (MIN)
8. "E" - DENOTES EPOXY COATED
9. PAYMENT FOR PREFORMED JOINT FILLER CORK TO BE INCIDENTAL TO CONCRETE, HIGH PERFORMANCE CLASS B

0 1 2 3 4

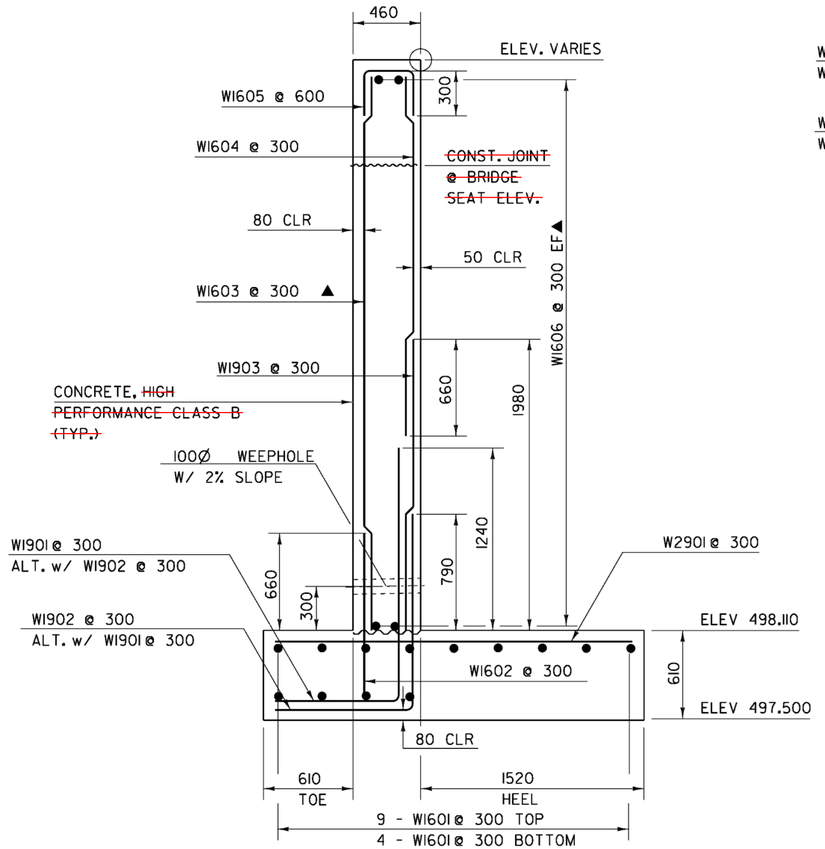
SCALE = 1:40

BRIDGE 20 ABUTMENT 2 DETAILS

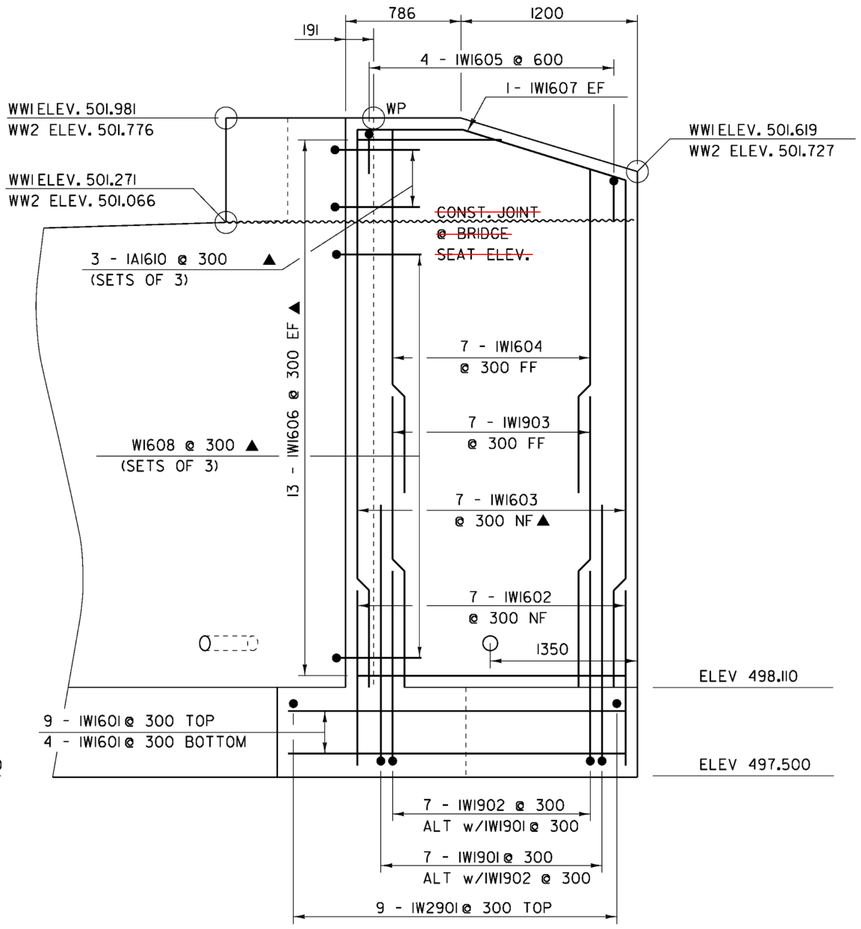
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: /96j236/str/sj236ab.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
lparm: sj236br20ab2.i

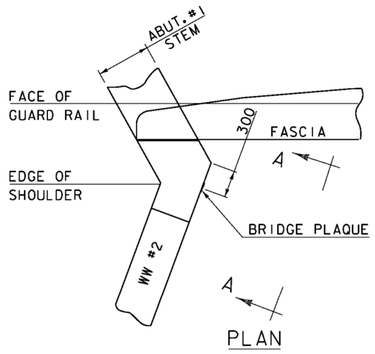
PLOT DATE: 14-AUG-2009
DRAWN BY: C. WEEBER
CHECKED BY: C. CARLSON
SHEET 68 OF 81



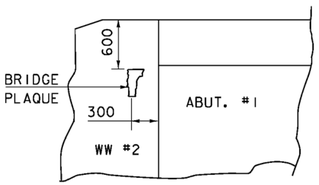
WINGWALL TYPICAL SECTION



WINGWALL #1 ELEVATION
(WW2 IS SIMILAR)



PLAN

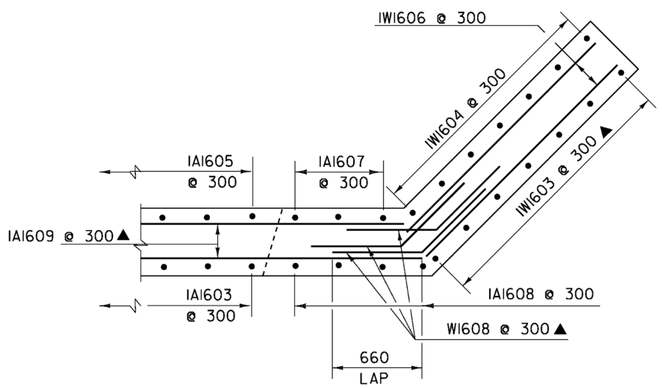


VIEW "A - A"

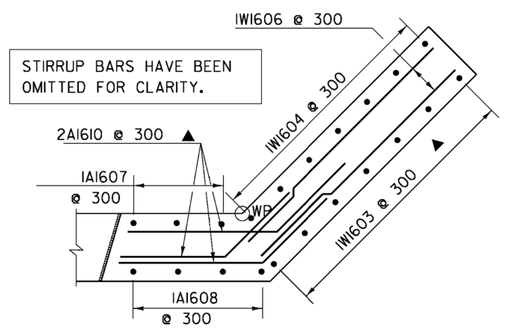
BRIDGE PLAQUE
(NOT TO SCALE)

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

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



CORNER DETAILS BELOW BRIDGE SEAT
(WW2, WW3, WW4 ARE SIMILAR)



CORNER DETAILS ABOVE BRIDGE SEAT
(WW2, WW3, WW4 ARE SIMILAR)

NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲= CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660(MIN)

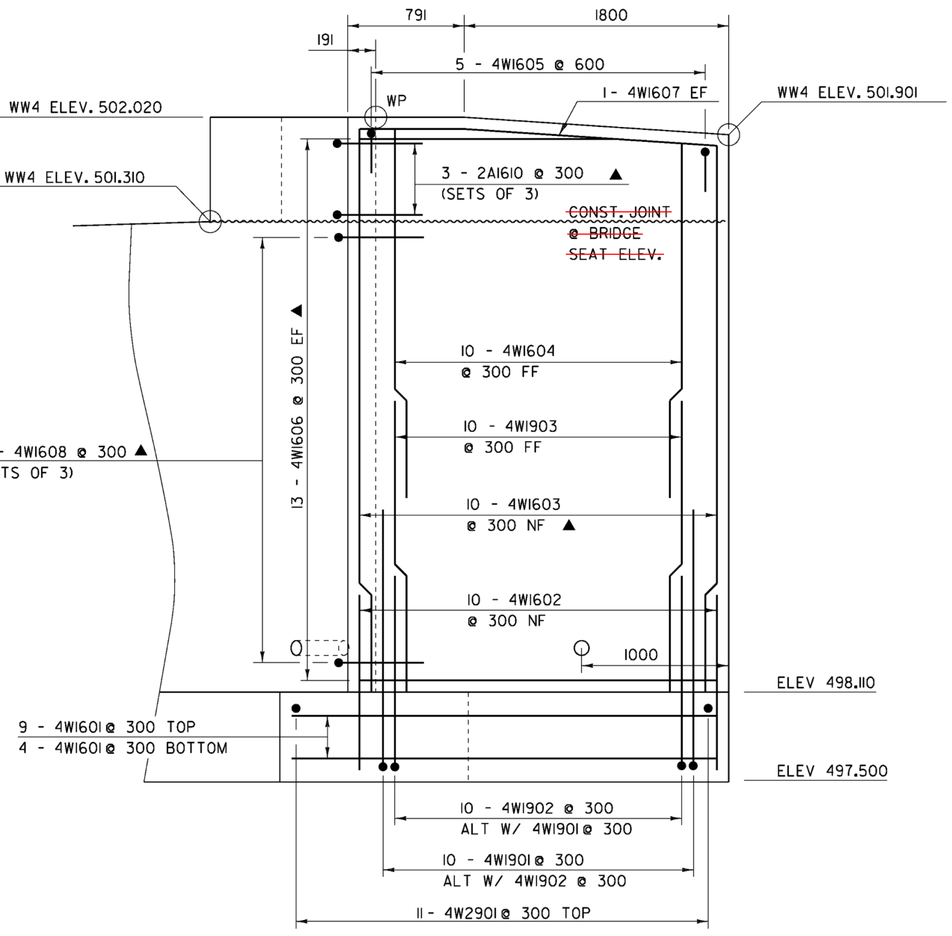
0 2
SCALE = 1:200

BRIDGE 20 WINGWALL DETAILS

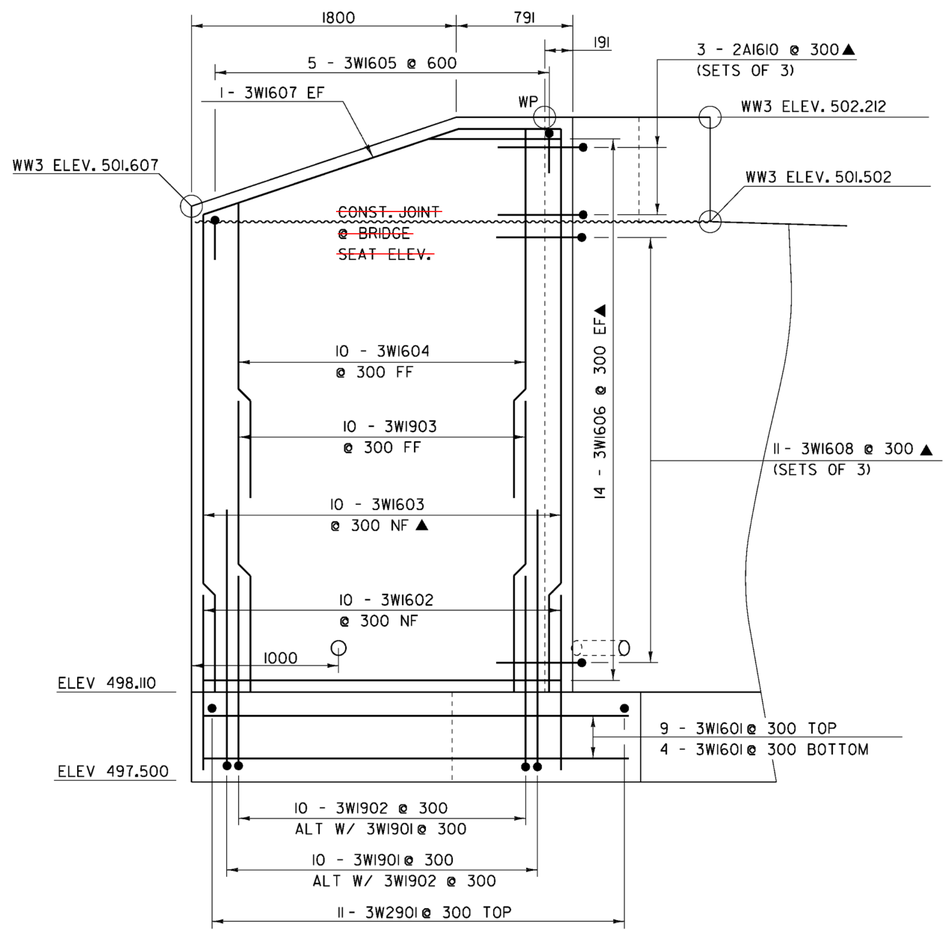
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: 96J236/str/sJ236ww.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
lparm sJ236br20ww.i

PLOT DATE: 14-AUG-2009
DRAWN BY: C. WEEBER
CHECKED BY: C. CARLSON
SHEET 69 OF 81



WINGWALL #4 ELEVATION



WINGWALL #3 ELEVATION

NOTES

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲= CUT TO FIT IN FIELD
5. 80 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. 3000 MAX. WEEPHOLE SPACING
7. ALL LAPS NOT DETAILED SHALL BE 660(MIN)

0 1 2

SCALE = 1:200

BRIDGE 20 WINGWALL ELEVATIONS

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: 96j236/str/sj236ww.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL
lparm sj236br20ww2elev.i

PLOT DATE: 14-AUG-2009
DRAWN BY: C. WEEBER
CHECKED BY: C. CARLSON
SHEET 70 OF 81

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

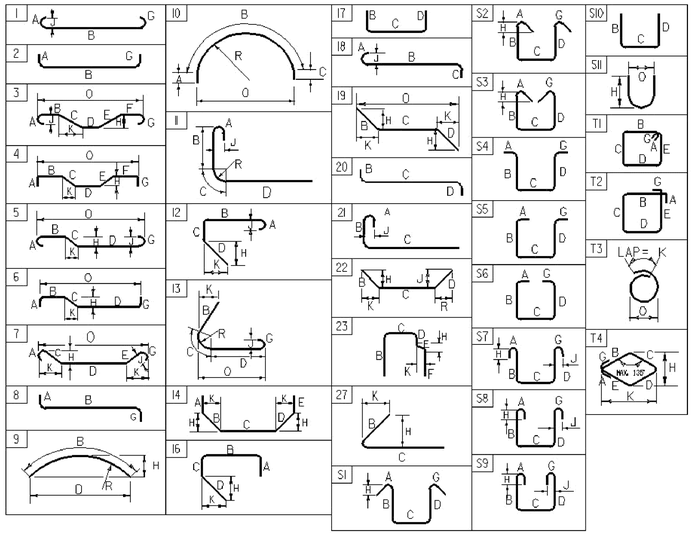
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				SLAB													
✳	34	16	6240	ES1601	STR												
	14	16	9840	ES1603	STR												
	66	16	3120	ES1602	S6	300	360	1800	360			300					
✳	43	29	10215	ES2901	1	375	9840					---					
				ABUTMENT 1													
	20	16	8782	1A1601	STR												
▲	23	16	3081	1A1603	STR												
	23	16	2111	1A1604	STR												
	24	16	3053	1A1606	STR												
	6	16	2821	1A1607	STR												
▲	6	16	3791	1A1608	STR												
	24	16	6183	1A1609	STR												
✳	31	16	3010	1A1602	17		1190	1820	---								
	30	16	1230	1A1605	17		450	330	450								
▲	18	16	1730	1A1610	19		660	1070	---								
✳	12	25	910	1AE2501	STR												
	29	25	3250	1A2502	17		2160	1090	---								
✳	31	29	2580	1A2901	STR												
				WINGWALL 1													
	13	16	2291	1W1601	STR												
	7	16	1190	1W1602	STR												
▲	7	16	3793	1W1603	STR												
	7	16	2473	1W1604	STR												
▲	26	16	1826	1W1606	STR												
	4	16	930	1W1605	17		300	330	300								
	2	16	1876	1W1607	19		706	1170	---				204		675		
▲	33	16	1320	1W1608	19		---	660	660								
	7	19	1980	1W1903	STR												
	7	19	2710	1W1901	17		1770	940	---								
	7	19	2260	1W1902	17		1320	940	---								
	9	29	2430	1W2901	STR												
				WINGWALL 2													
	13	16	2291	2W1601	STR												
	7	16	1190	2W1602	STR												
▲	7	16	3586	2W1603	STR												
	7	16	2266	2W1604	STR												
▲	26	16	1826	2W1606	STR												
	4	16	930	2W1605	17		300	330	300								
	2	16	1827	2W1607	19		706	1121	---				29		705		
▲	30	16	1320	2W1608	19		660	660	---								
	7	19	1980	2W1903	STR												
	7	19	2710	2W1901	17		1770	940	---								
	7	19	2260	2W1902	17		1320	940	---								
	9	29	2430	2W2901	STR												

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				ABUTMENT 2													
	20	16	9265	2A1601	STR												
▲	24	16	3312	2A1603	STR												
	24	16	2342	2A1604	STR												
	24	16	3250	2A1606	STR												
	7	16	3052	2A1607	STR												
▲	7	16	4022	2A1608	STR												
	24	16	6469	2A1609	STR												
✳	32	16	3010	2A1602	17		1190	1820	---								
	31	16	1230	2A1605	17		450	330	450								
▲	18	16	1730	2A1610	19		660	1070	---								
	12	25	910	2AE2501	STR												
	31	25	3250	2A2502	17		2160	1090	---								---
✳	33	29	2580	2A2901	STR												---
				WINGWALL 3													
	13	16	2895	3W1601	STR												
	10	16	1190	3W1602	STR												
▲	10	16	4022	3W1603	STR												
	10	16	2702	3W1604	STR												
▲	28	16	1826	3W1606	STR												
	5	16	930	3W1605	17		300	330	300								
	2	16	2526	3W1607	19		711	1815	---				227		674		
▲	33	16	1320	3W1608	19		660	660	---								
	10	19	1980	3W1903	STR												
	10	19	2710	3W1901	17		1770	940	---								
	10	19	2260	3W1902	17		1320	940	---								
	11	29	2430	3W2901	STR												
				WINGWALL 4													
	13	16	2895	4W1601	STR												
	10	16	1190	4W1602	STR												
▲	10	16	3830	4W1603	STR												
	10	16	2510	4W1604	STR												
▲	26	16	1826	4W1606	STR												
	5	16	930	4W1605	17		300	330	300								
	2	16	2431	4W1607	19		711	1720	---				47		710		
▲	33	16	1320	4W1608	19		---	660	660								
	10	19	1980	4W1903	STR												
	10	19	2710	4W1901	17		1770	940	---								
	10	19	2260	4W1902	17		1320	940	---								
	11	29	2430	4W2901	STR												

~ NOTES ~

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



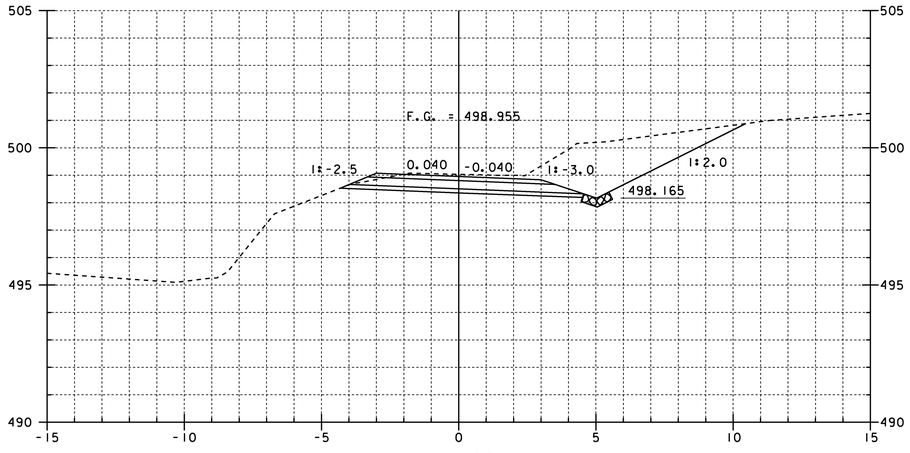
ASTM STANDARD REINFORCING BARS

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

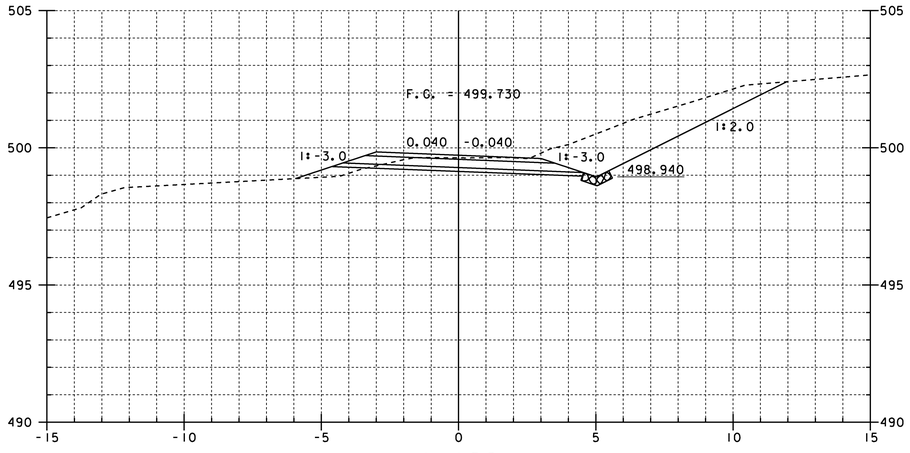
PROJECT NAME: **CHITTENDEN**
PROJECT NUMBER: **STP1443(46) (BRIDGE 20)**

FILE NAME: **/96j236/str/sj236rss2.xls**
PROJECT MANAGER: **C. CARLSON**
DESIGNED BY: **K. UPMAL**
REINFORCING STEEL SCHEDULE

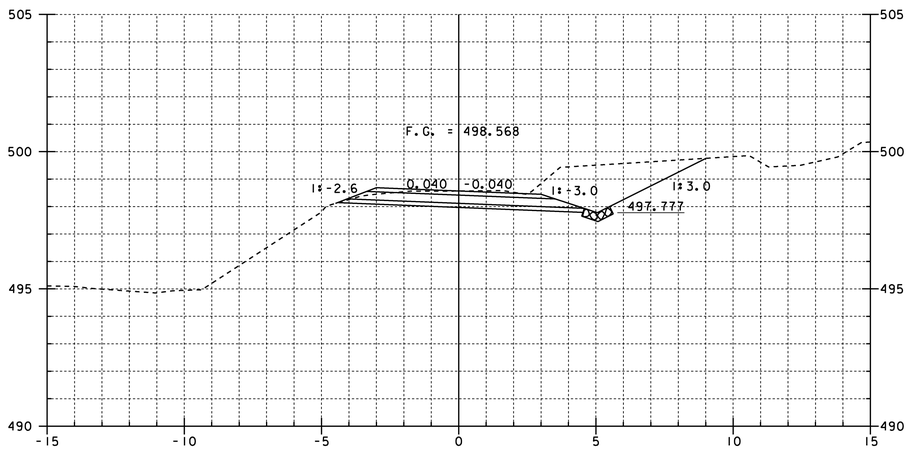
PLOT DATE: **8/13/2009**
DRAWN BY: **C. WEEBER**
CHECKED BY: **C. CARLSON**
SHEET **71** OF **81**



1+140

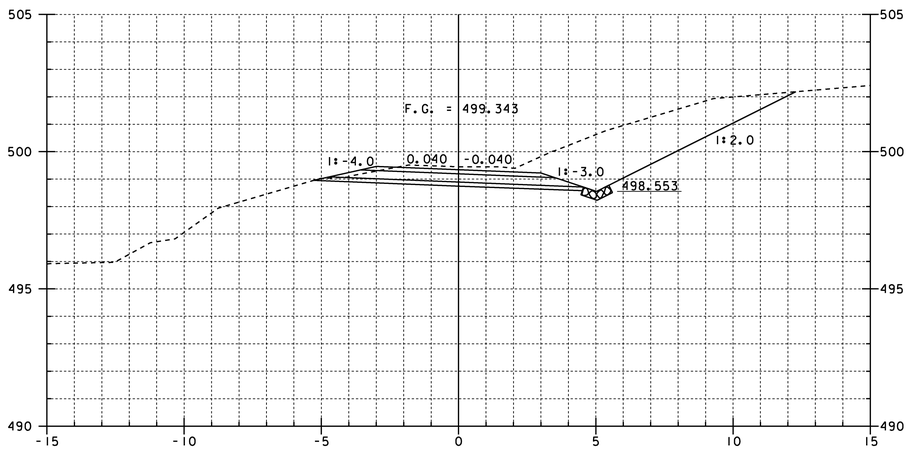


1+160



1+130

STA. 1+130.00
CONSTRUCT STONE FILL,
TYPE I DITCH RIGHT



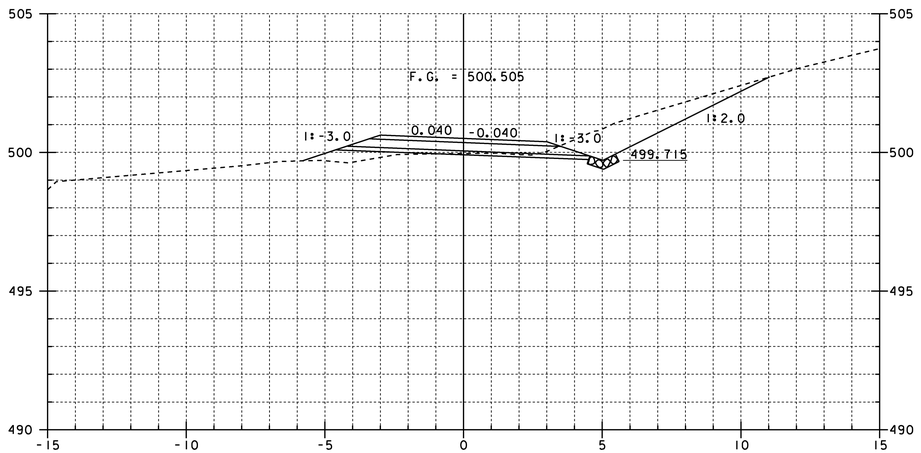
1+150

STATION 1+130 - 1+160

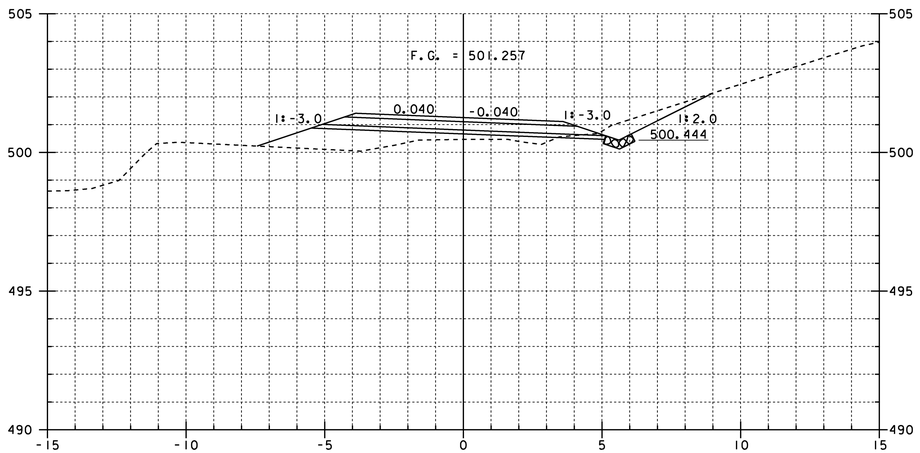
BRIDGE 20 MAINLINE CROSS SECTIONS 1

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

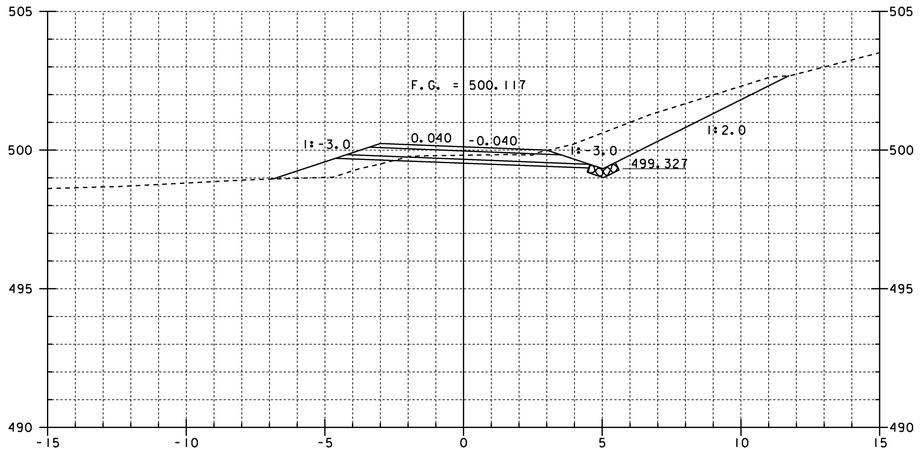
FILE NAME: /96j236/str/sj236xs.dgn	PLOT DATE: 14-AUG-2009
PROJECT MANAGER: C. CARLSON	DRAWN BY: STR
DESIGNED BY: K. UPMAL	IPARM NAME: sj236mx7.i
	SHEET 72 OF 81



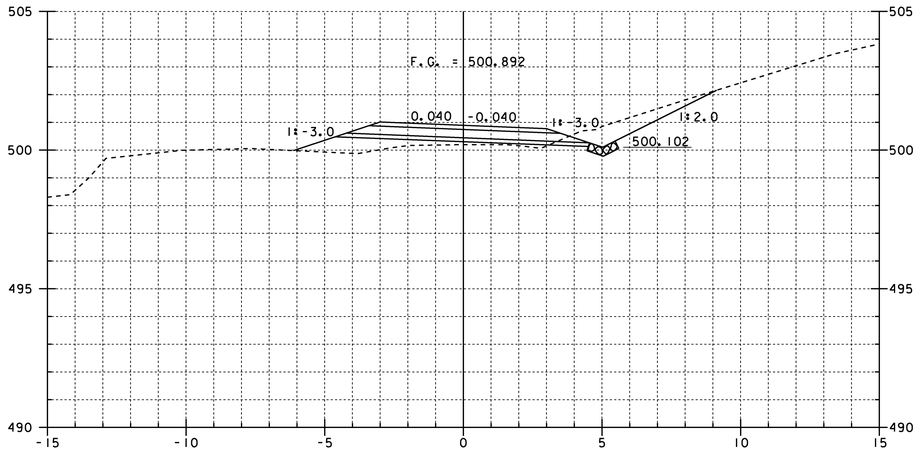
1+180



1+200



1+170



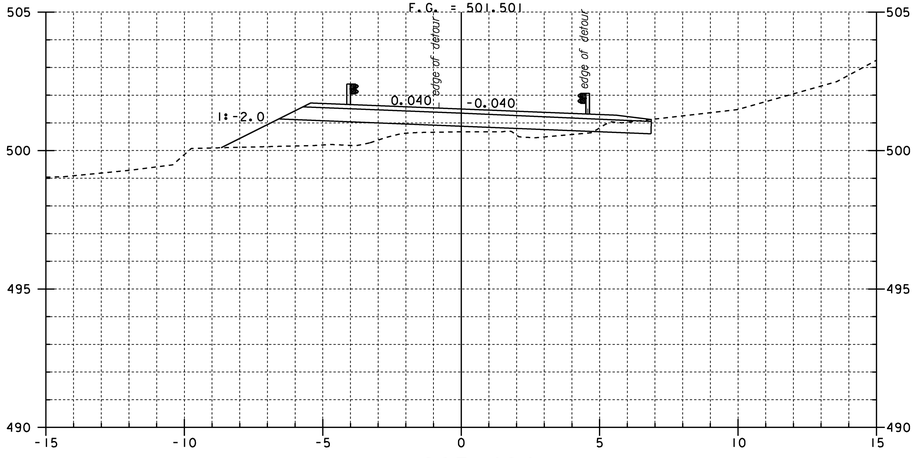
1+190

STATION 1+170 - 1+200

BRIDGE 20 MAINLINE CROSS SECTIONS 2

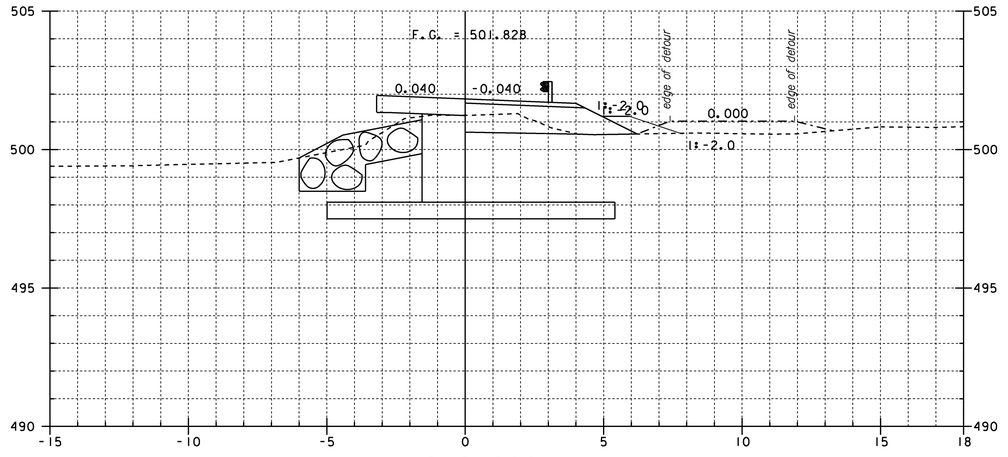
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236mx8.i
		SHEET 73	OF 81



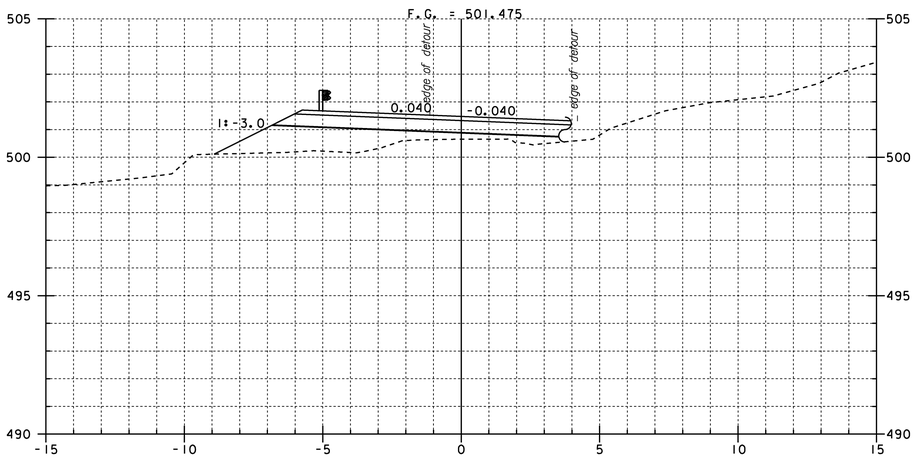
1+207.464
MAX FLARE RIGHT

STA. 1+207.5 RT
CONSTRUCT BERM



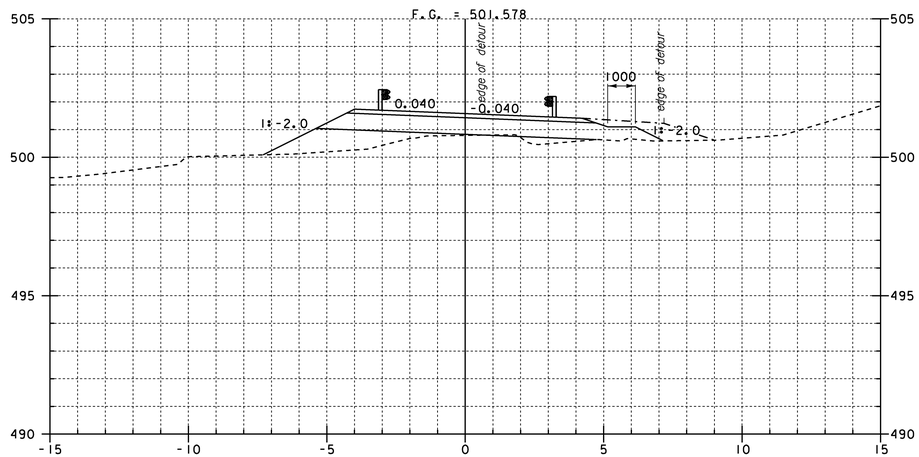
1+219.000
BEGIN BRIDGE 20

STA. 1+219.300 RT
END BERM



1+206.626
MAX FLARE LEFT

STA. 1+205 RT
END STONE FILL.
TYPE I DITCH



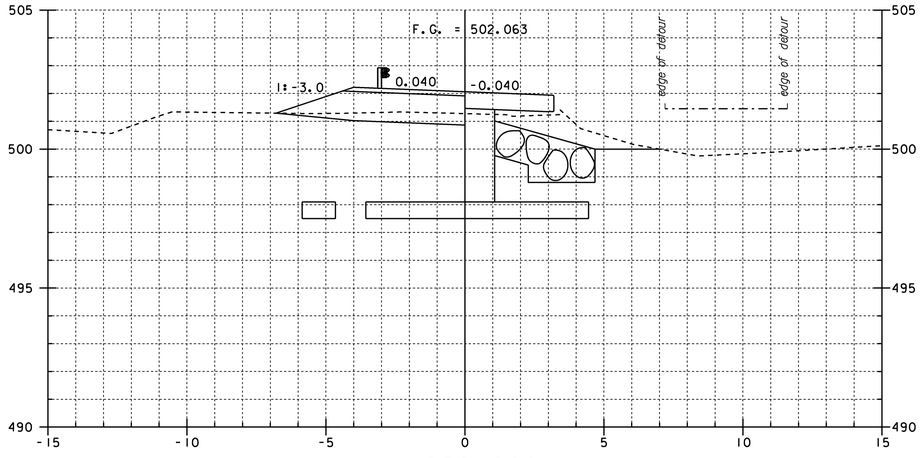
1+210

STATION 1+206.626 - 1+219

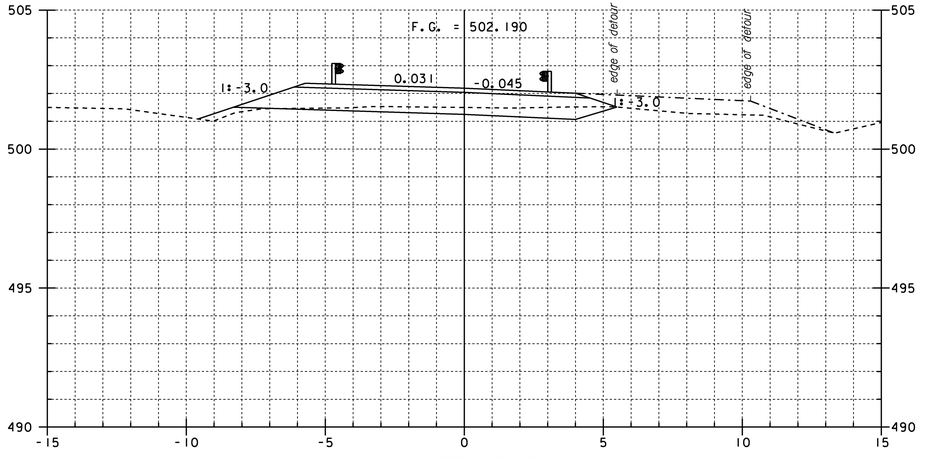
BRIDGE 20 MAINLINE CROSS SECTIONS 3

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

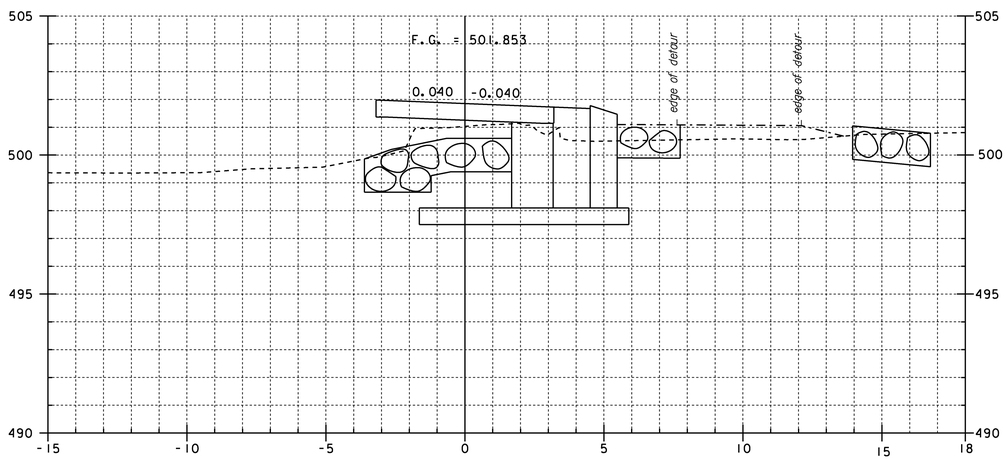
FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	24-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236mx9.i
		SHEET 74	OF 81



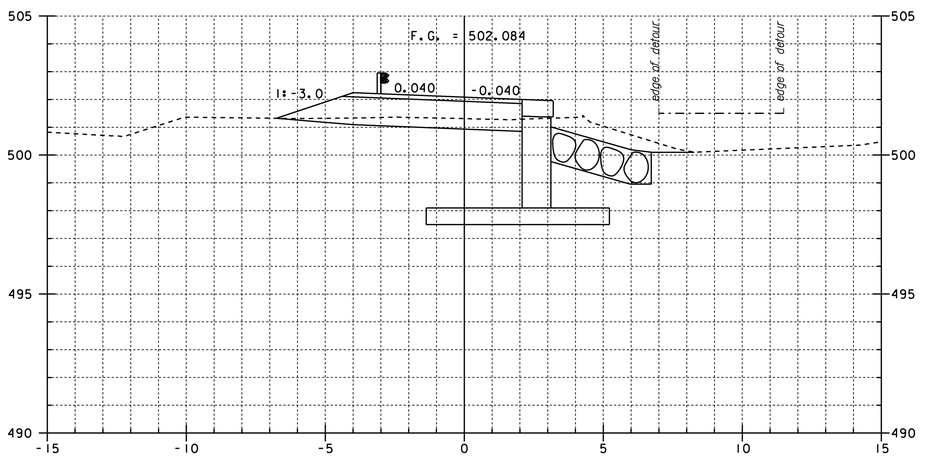
1+229.000
END BRIDGE 20



1+235.365
MAX FLARE LEFT



1+220
BRIDGE 20



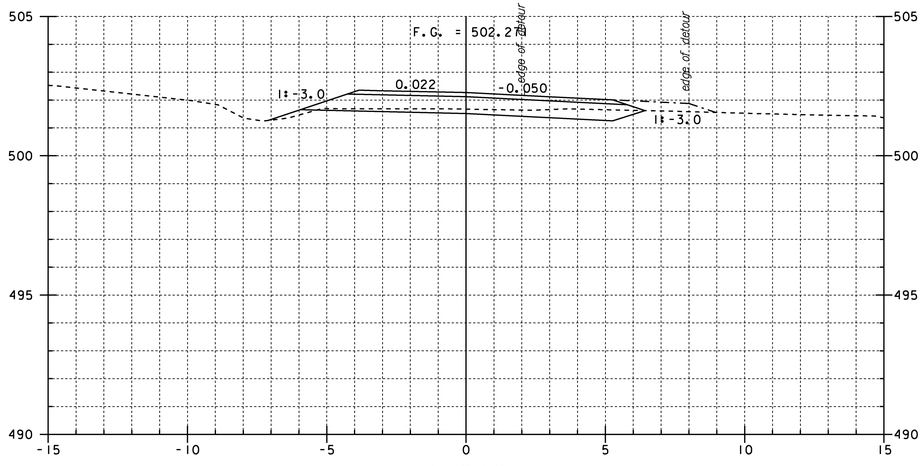
1+230

STATION 1+220 - 1+235.365

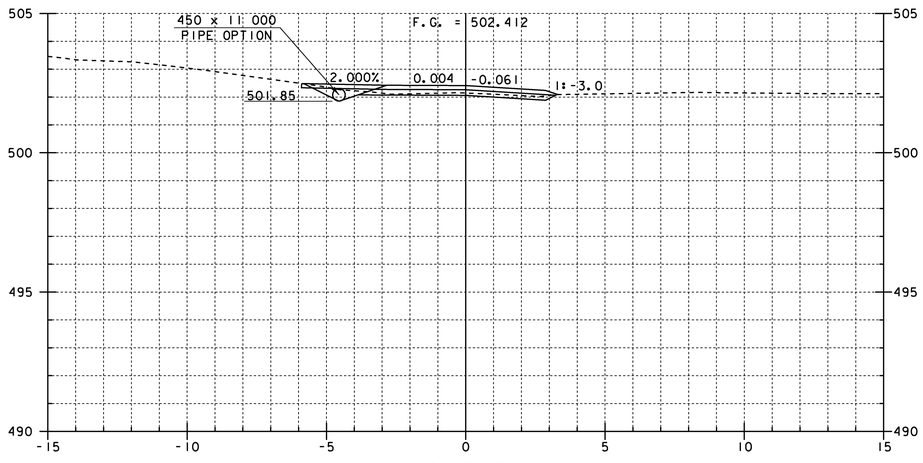
BRIDGE 20 MAINLINE CROSS SECTIONS 4

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

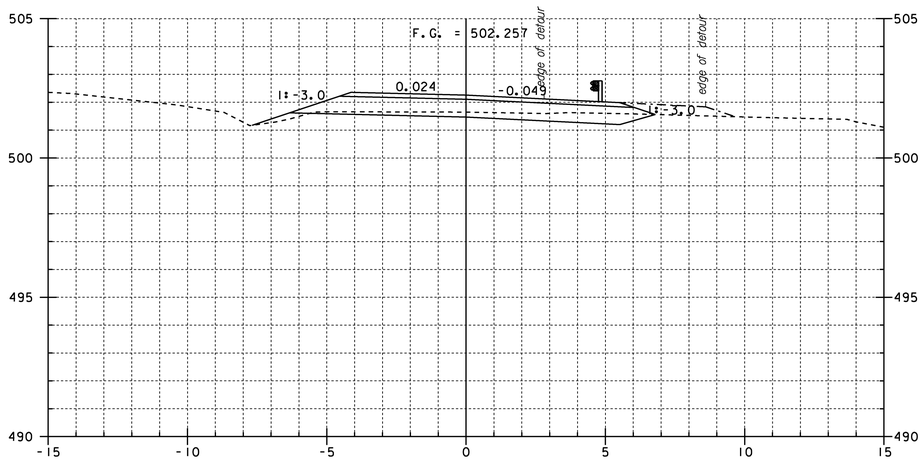
FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	24-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236m10.i
		SHEET 75	OF 81



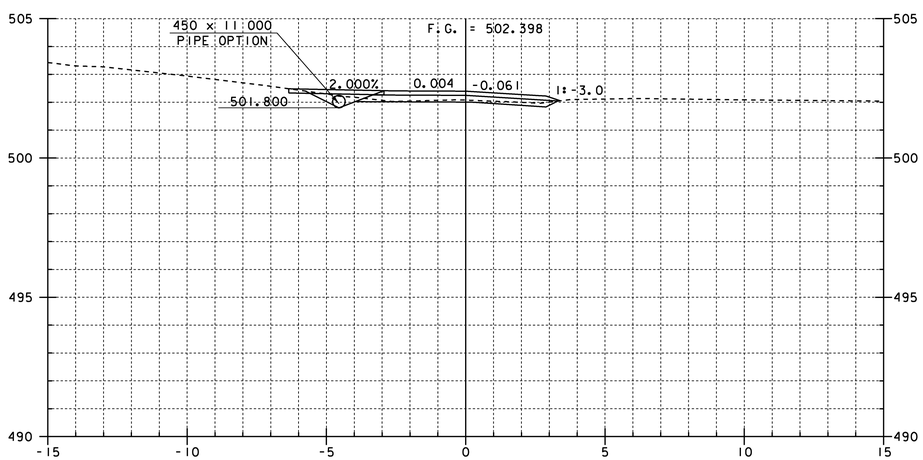
1+240
END PROJECT



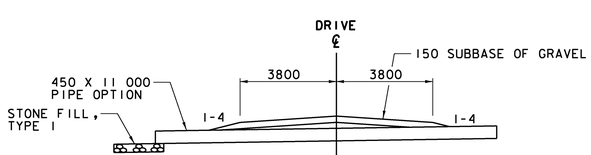
1+250
DRIVE LEFT



1+239.190
MAX FLARE RIGHT



1+249.000
CENTERLINE DRIVE LEFT



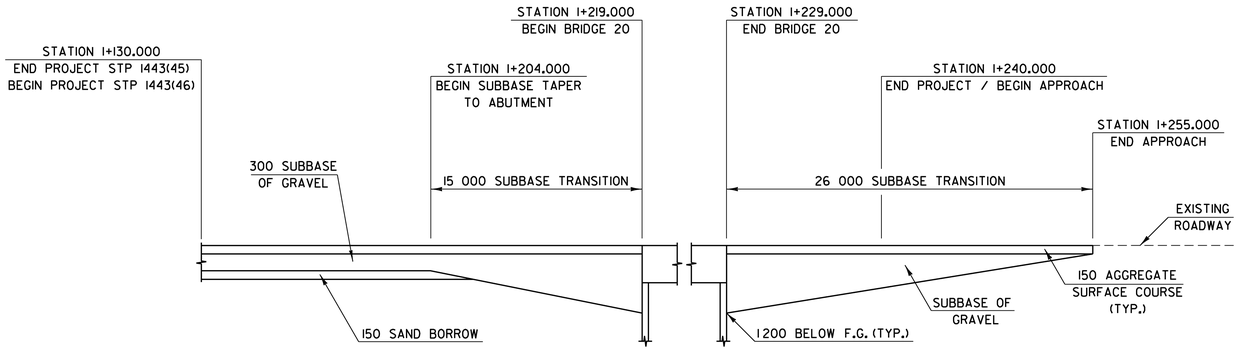
DRIVE TYPICAL @
STA. 1+249 LT.
NTS

STATION 1+239.190 - 1+250

BRIDGE 20 MAINLINE CROSS SECTIONS 5

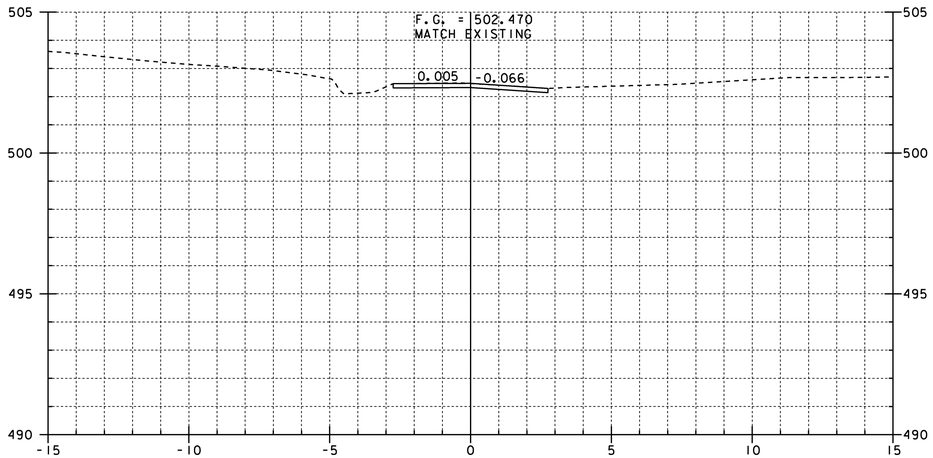
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	24-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236mll
		SHEET 76	OF 81



BRIDGE 20 SUBBASE TRANSITION DIAGRAM

(NOT TO SCALE)



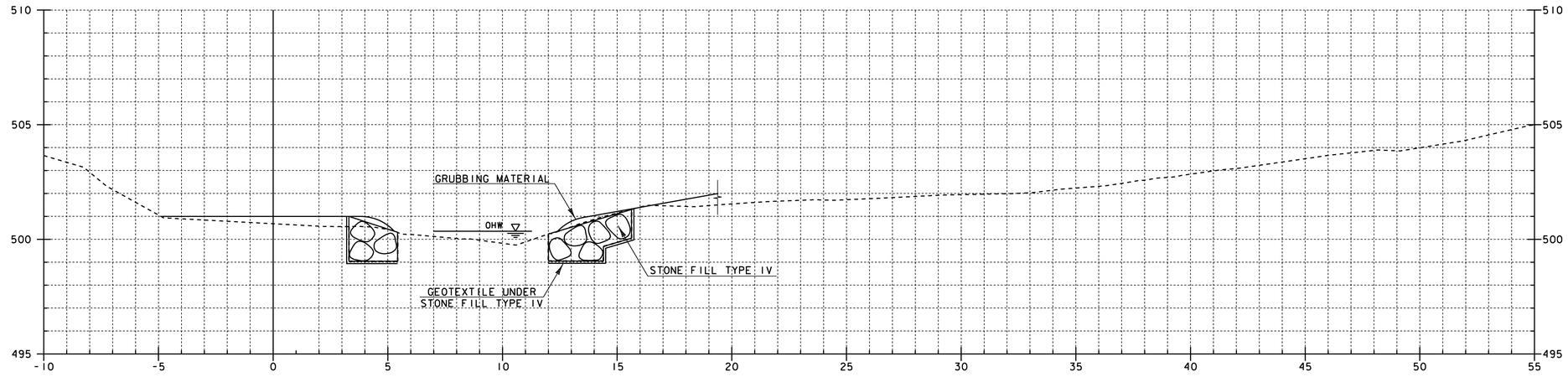
1+255
END APPROACH

STATION 1+255

BRIDGE 20 MAINLINE CROSS SECTIONS 6

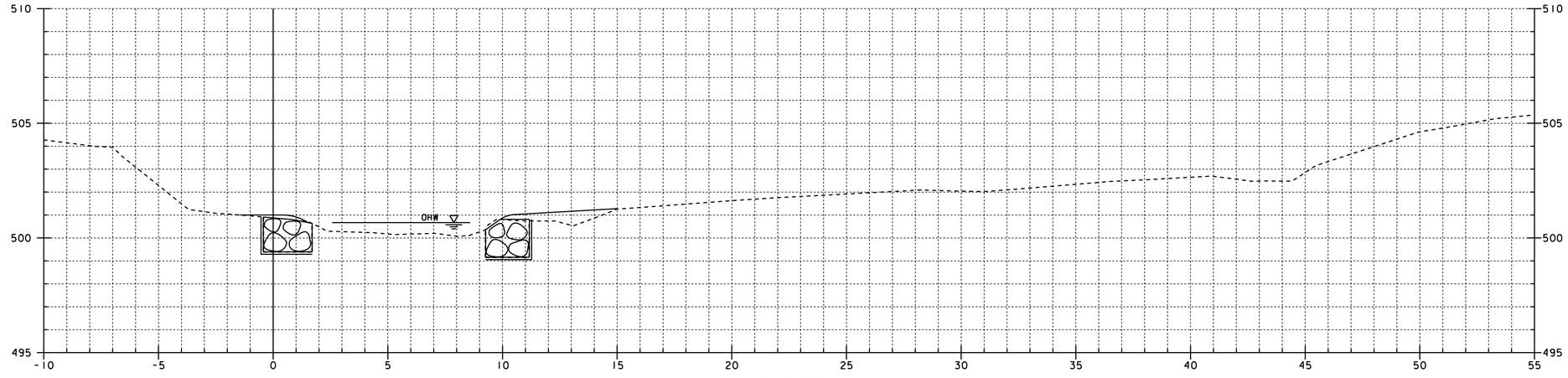
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236mll.i
		SHEET 77	OF 81



9+005

STA. 9+005.160 FAR RIGHT
BEGIN GRANULAR BACKFILL FOR STRUCTURES



9+000

STA. 9+000.320 NEAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL

STA. 9+000.440 FAR RIGHT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL

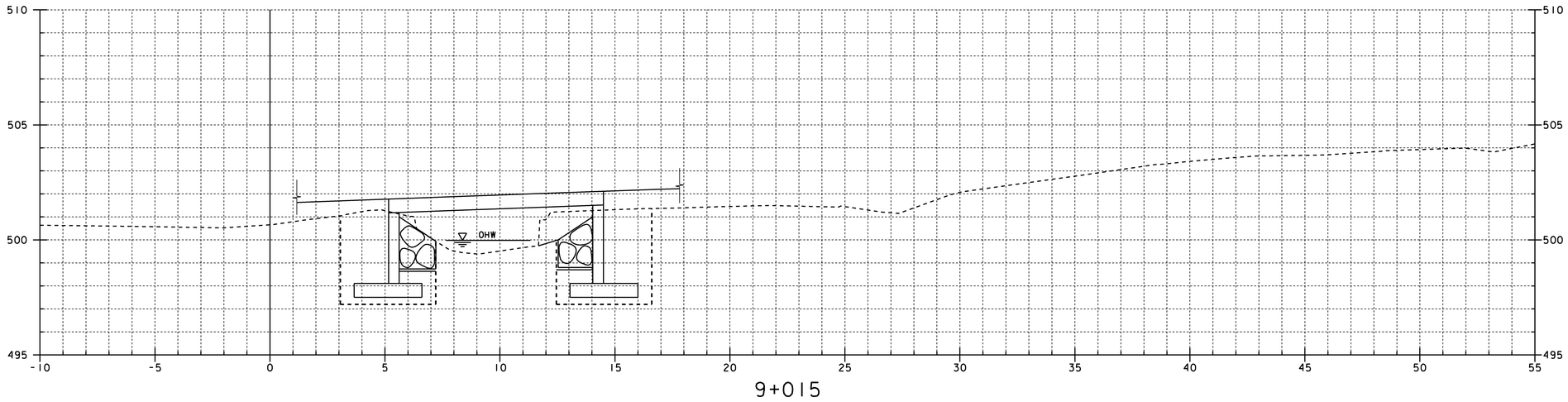
STATION 9+000 - 9+005

BRIDGE 20 CHANNEL CROSS SECTIONS I

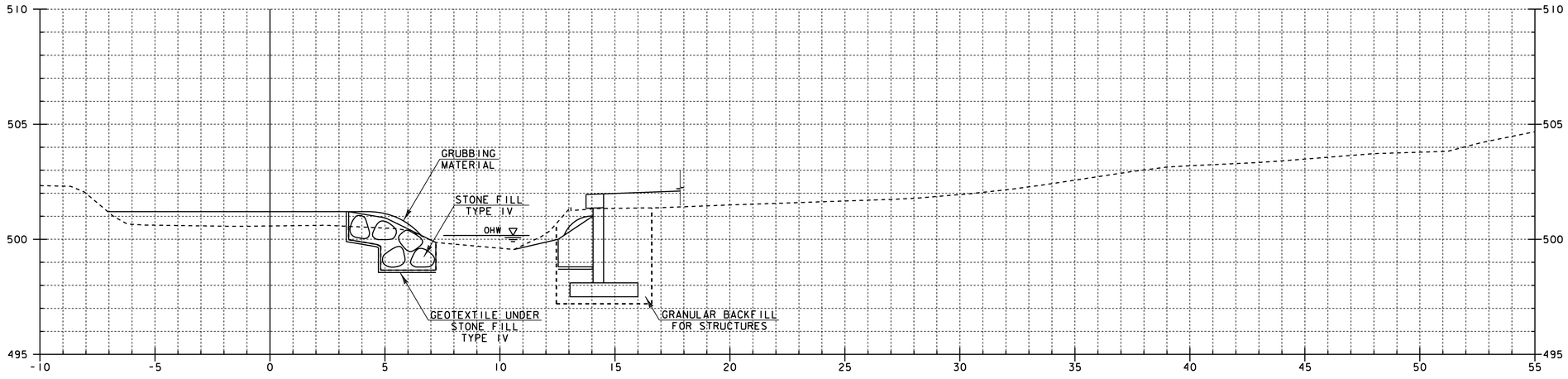
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

FILE NAME: /96j236/str/sj236xs.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL

PLOT DATE: 14-AUG-2009
DRAWN BY: STR
IPARM NAME: sj236cx7.i
SHEET 78 OF 81



9+015



9+010

STA. 9+009.400 NEAR RIGHT
BEGIN GRANULAR BACKFILL FOR STRUCTURES

STA. 9+013.240 NEAR RIGHT
STOP GRUBBING MATERIAL

STA. 9+010.560 FAR RIGHT
STOP GRUBBING MATERIAL

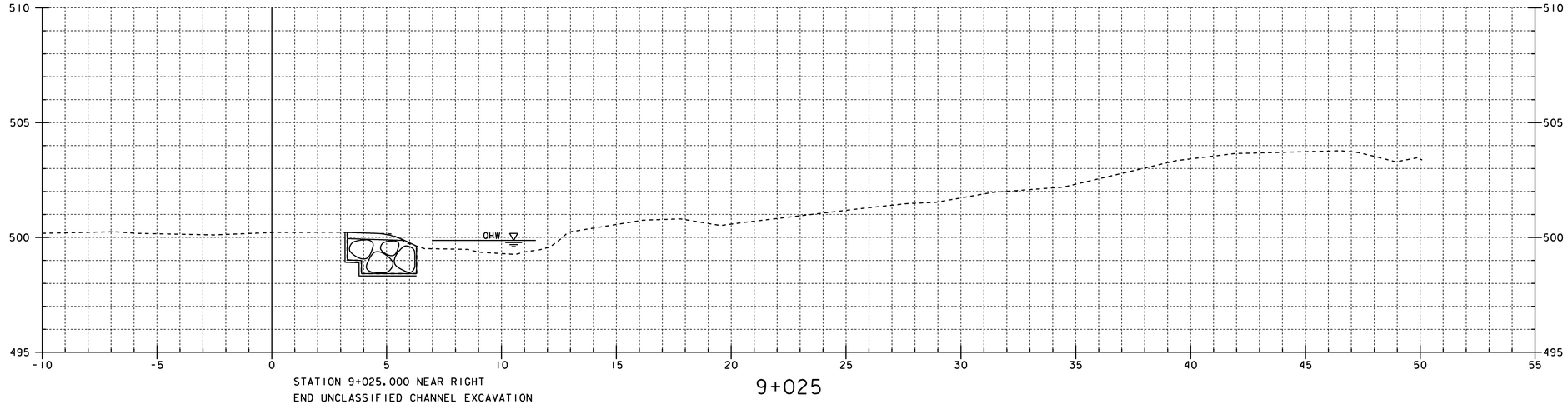
STATION 9+010 - 9+015

BRIDGE 20 CHANNEL CROSS SECTIONS 2

PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(46)

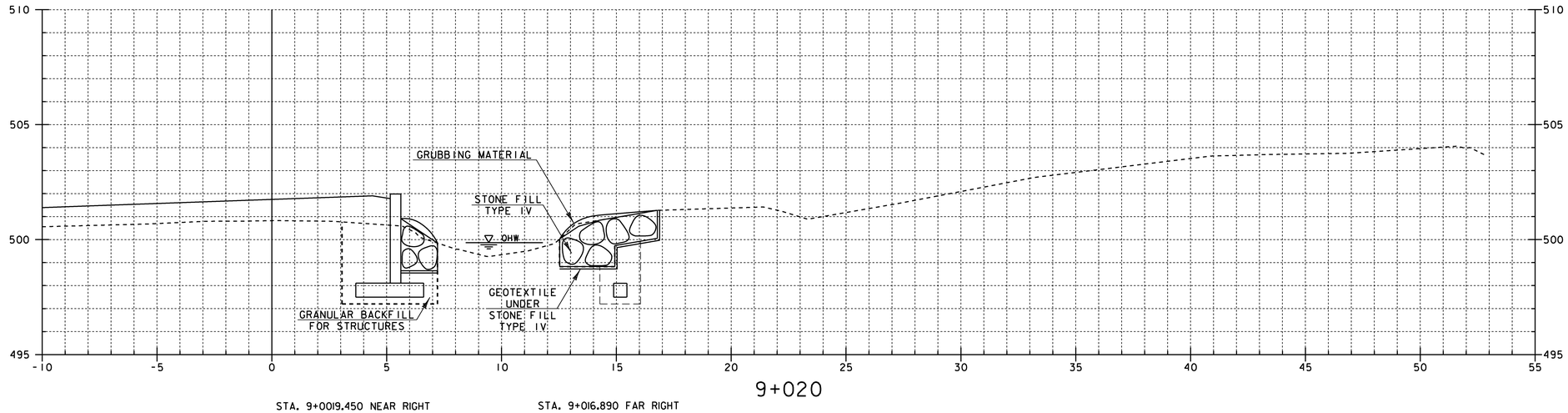
FILE NAME: /96j236/str/sj236xs.dgn
PROJECT MANAGER: C. CARLSON
DESIGNED BY: K. UPMAL

PLOT DATE: 14-AUG-2009
DRAWN BY: STR
IPARM NAME: sj236cx8.i
SHEET 79 OF 81



9+025

STATION 9+025.000 NEAR RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



9+020

STA. 9+0019.450 NEAR RIGHT
RESUME GRUBBING MATERIAL

STA. 9+024.000 NEAR RIGHT
END GRANULAR BACKFILL FOR STRUCTURES

STA. 9+016.890 FAR RIGHT
RESUME GRUBBING MATERIAL

STA. 9+021.140 FAR RIGHT
END GRANULAR BACKFILL FOR STRUCTURES

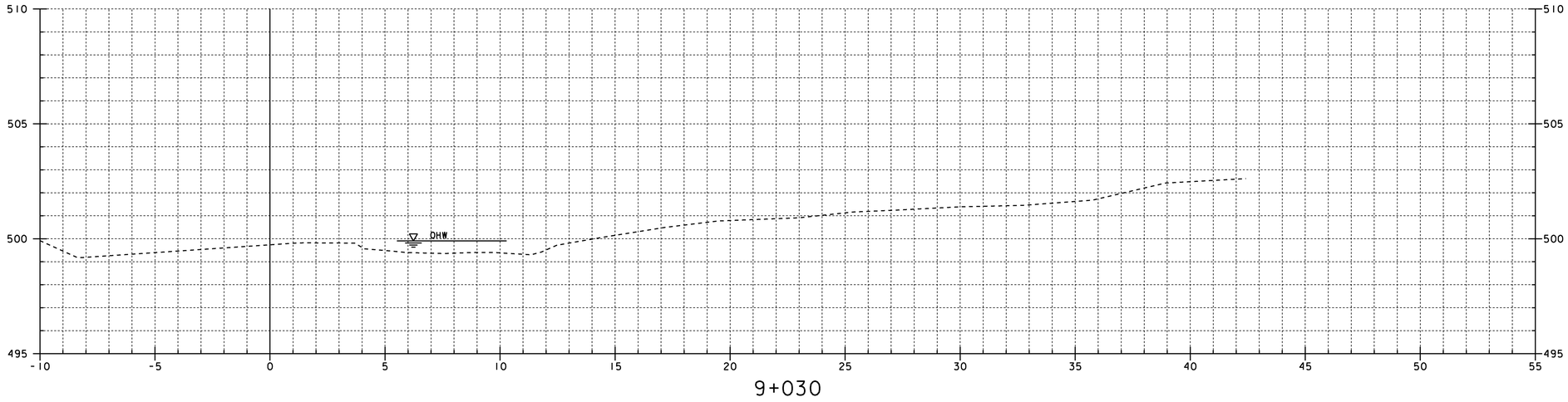
STA. 9+022.930 FAR RIGHT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL

STATION 9+020 - 9+025

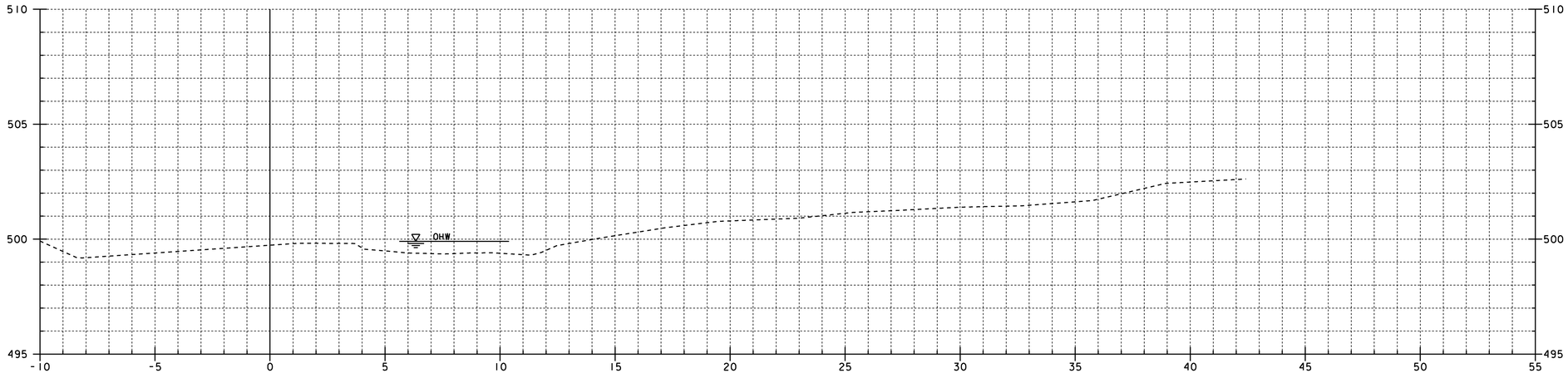
BRIDGE 20 CHANNEL CROSS SECTIONS 3

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

FILE NAME: /96J236/str/sJ236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sJ236cx9.I
		SHEET 80	OF 81



9+030



9+030

STATION 9+030

BRIDGE 20 CHANNEL CROSS SECTIONS 4

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(46)

FILE NAME: /96j236/str/sj236xs.dgn		PLOT DATE:	14-AUG-2009
PROJECT MANAGER:	C. CARLSON	DRAWN BY:	STR
DESIGNED BY:	K. UPMAL	IPARM NAME:	sj236c10.i
		SHEET 81	OF 81

N

VT STATE PLANE GRID

7+040

1+060

7+020

Sta 7+035.697

7034.37 Mid

Sta 7+033.047

Sta 7+032.761

Sta 7+031.326

Sta 7+043.940

7042.47 mid

Sta 7+041.006

Sta 7+040.793

1+080

Sta 7+038.075

Sta 7+023.298

Sta 7+021.579

Sta 7+020.731

7019.26 mid

Sta 7+017.797

Sta 7+031.044

Sta 7+029.821

Sta 7+029.323

7+029.10 Mid

Sta 7+026.885

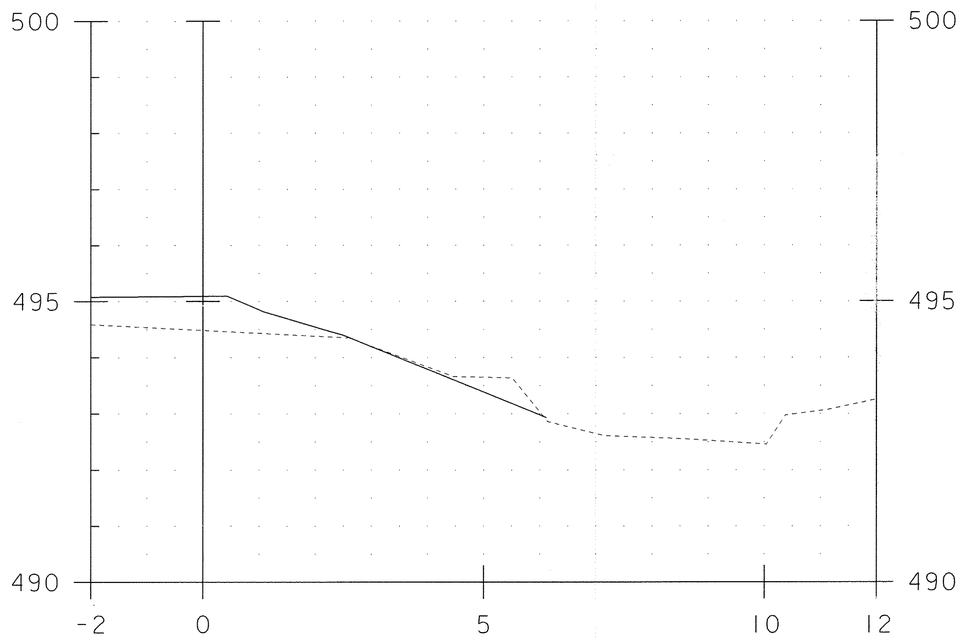
ABUT. #1 FOOTING
AREA = 46.965 M²
W/2FT = 71.0452 M²

ABUT #2 FOOTING
AREA = 43.442 M²
W/2FT = 66.0995 M²

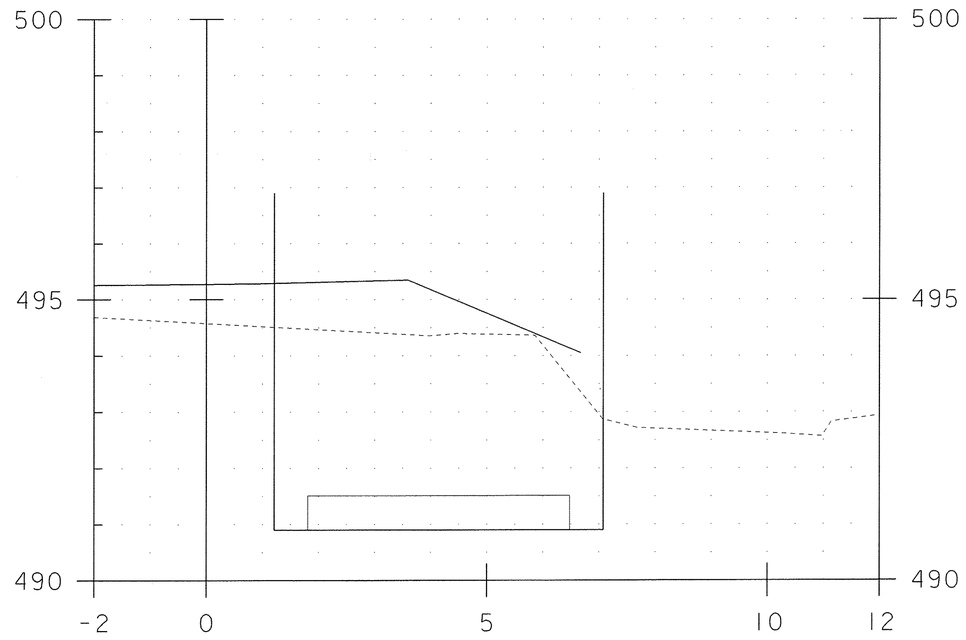
0 1 2 3 4 5
SCALE = 1:50

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)
FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 COFFERDAM LAYOUT	SHEET 1 OF 18

Metric



7+017.80



7+020.73

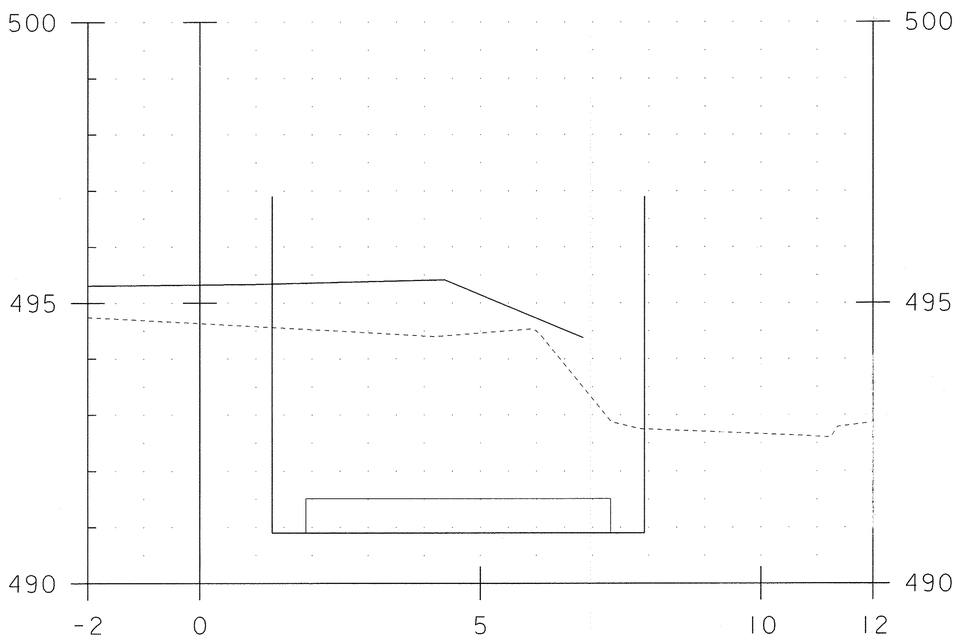
Coffer Ex - 19.613 M²

STA. 7+018 TO STA. 7+021

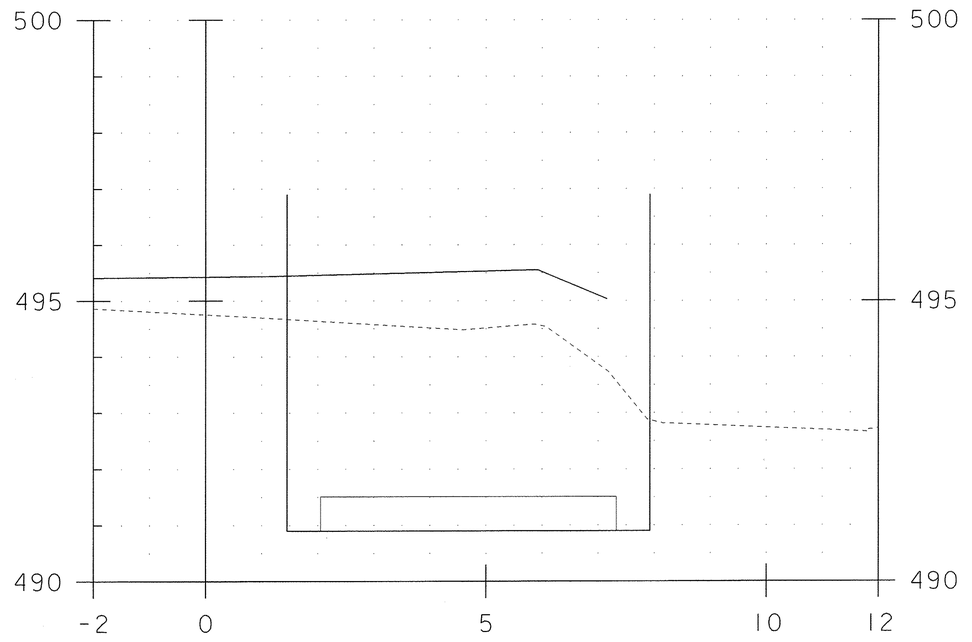
BRIDGE 19 ABUTMENT 1
COFFERDAM SECTIONS 1

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 19 ABUT 1 COFFERDAM XS 1	SHEET 2 OF 18



7+021.58 COFFER EX - 21.7142 m²



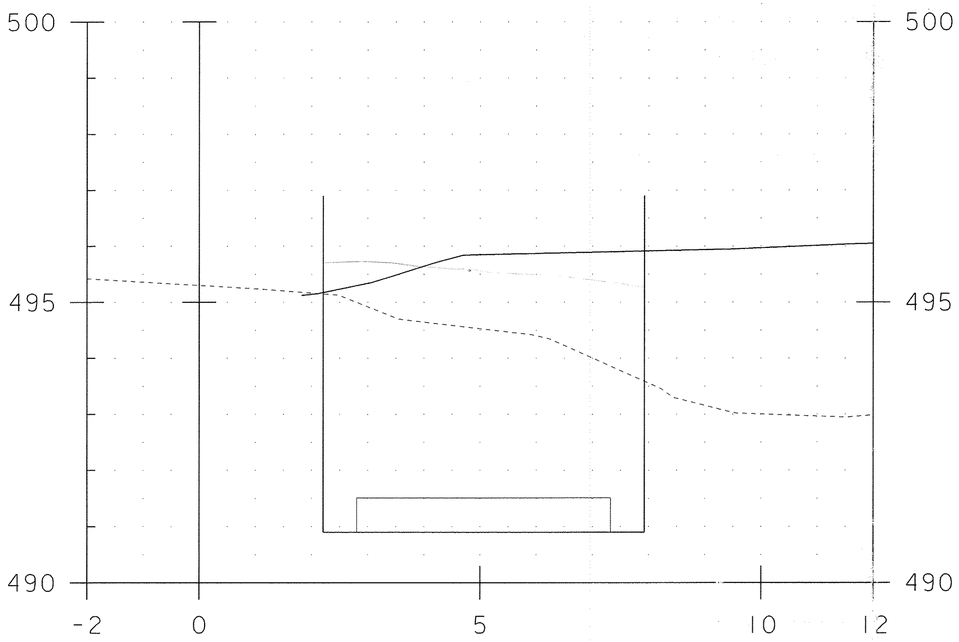
7+023.30 COFFER EX - 22.2701 m²

STA. 7+022 TO STA. 7+023

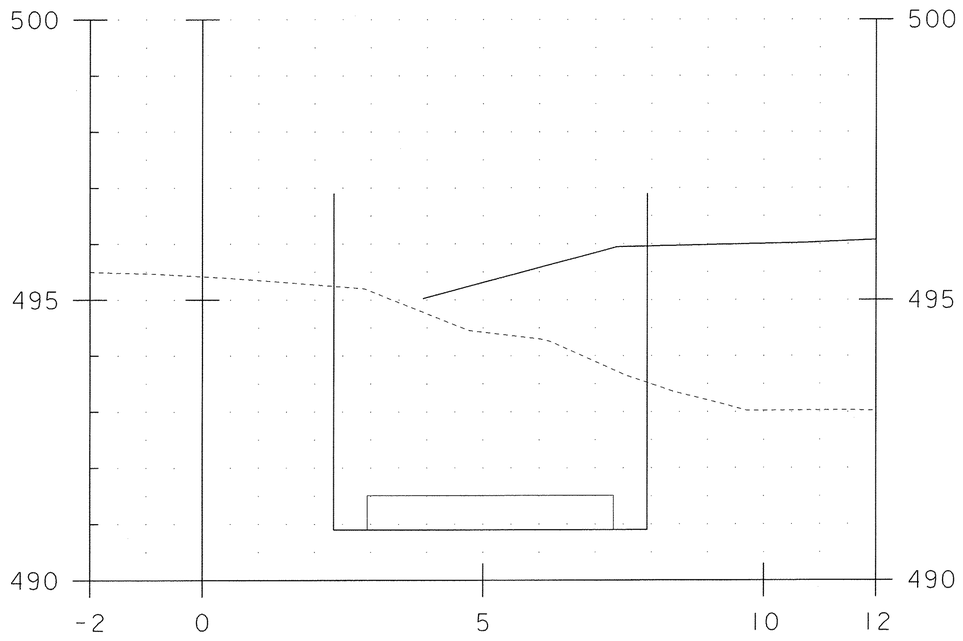
BRIDGE 19 ABUTMENT 1
COFFERDAM SECTIONS 2

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96J236/str/sJ236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 19 ABUT 1 COFFERDAM XS 2	SHEET 3 OF 18



7+031.33 COFFER EX - 20.4006 M²



7+032.76 COFFER EX 19.8095 M²

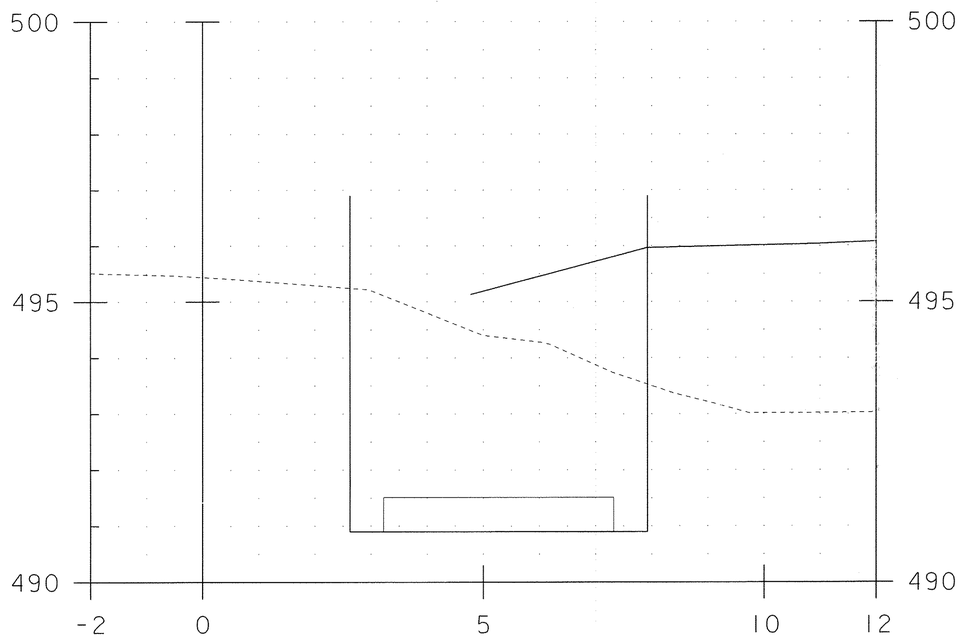
STA. 7+031 TO STA. 7+033

BRIDGE 19 ABUTMENT 1
COFFERDAM SECTIONS 3

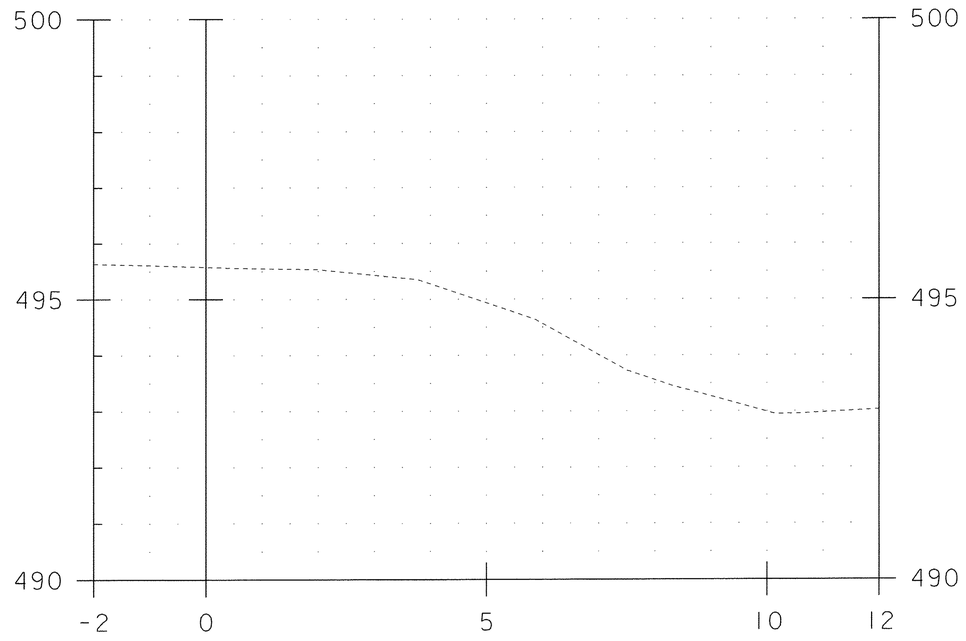
PROJECT NAME: CHITTENDEN
PROJECT NUMBER: STP 1443(45)

FILE NAME: 96J236/str/sj236_CoffXs.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: C. CARLSON
BR 19 ABUT 1 COFFERDAM XS 3

PLOT DATE: 26-MAY-2010
DRAWN BY: C. MOONEY
CHECKED BY: C. CARLSON
SHEET 4 OF 18



7+033.05 COFFER EX - 18.6311 M²

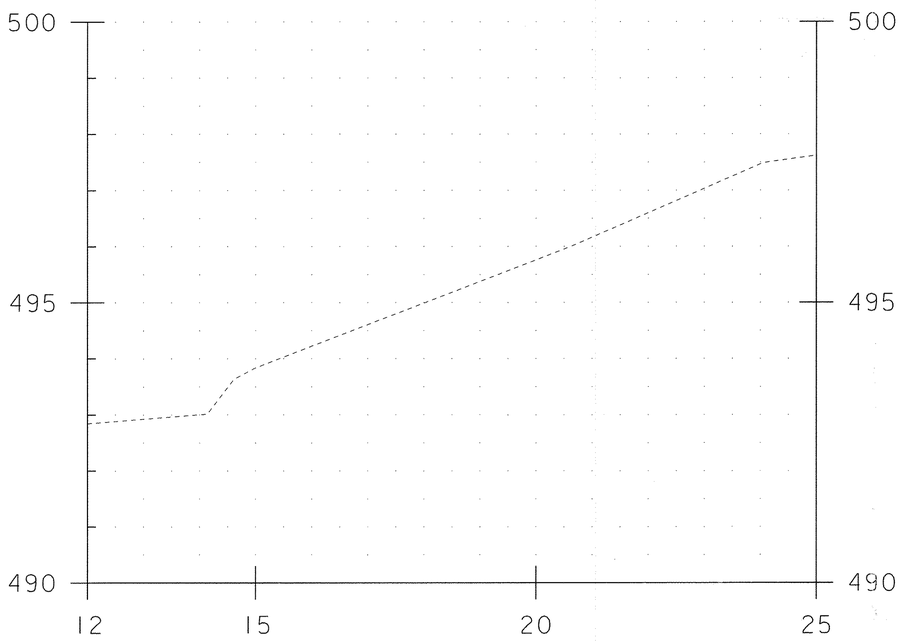


7+035.70

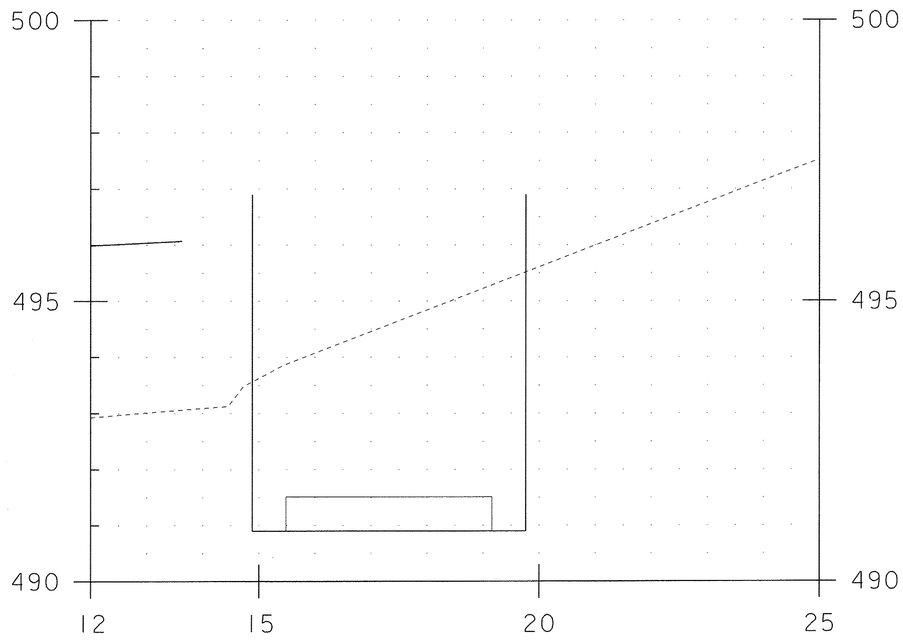
BRIDGE 19 ABUTMENT 1
COFFERDAM SECTIONS 4

STA. 7+033 TO STA. 7+036

PROJECT NAME: CHITTENDEN	
PROJECT NUMBER: STP 1443(45)	
FILE NAME: 96J236/str/sJ236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 19 ABUT 1 COFFERDAM XS 4	SHEET 5 OF 18



7+026.89



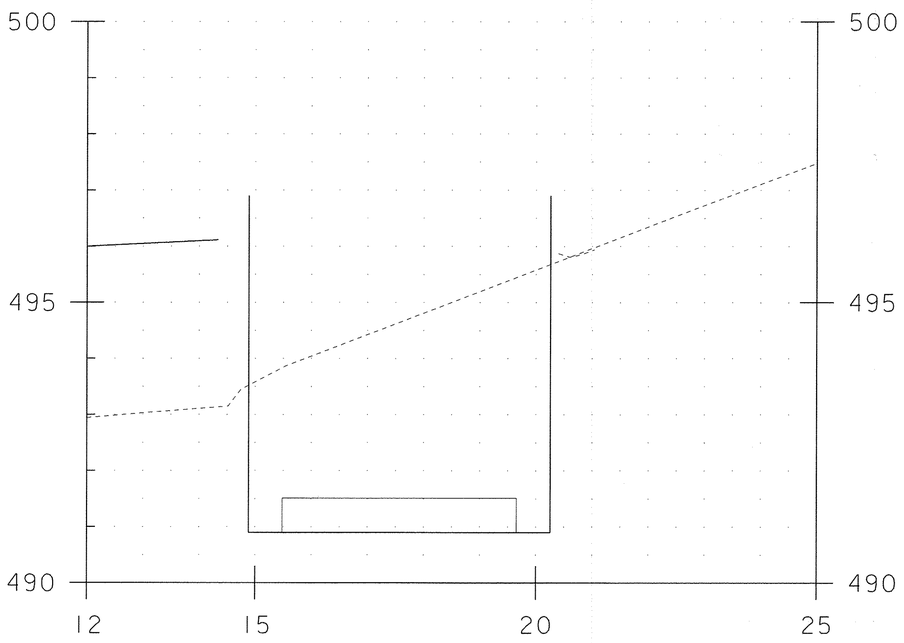
7+029.32 COFFER EX - 17.9137 m^2

STA. 7+027 TO STA. 7+029

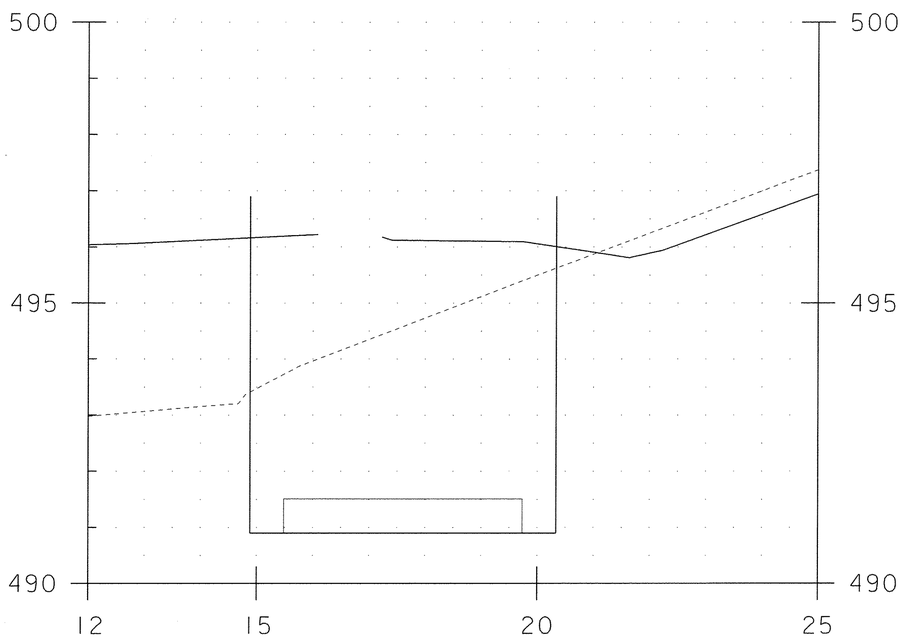
BRIDGE 19 ABUTMENT 2
COFFERDAM SECTIONS 1

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 19 ABUT 2 COFFERDAM XS 1	SHEET 6 OF 18



7+029.82 COFFER EX - 20.0846 M²



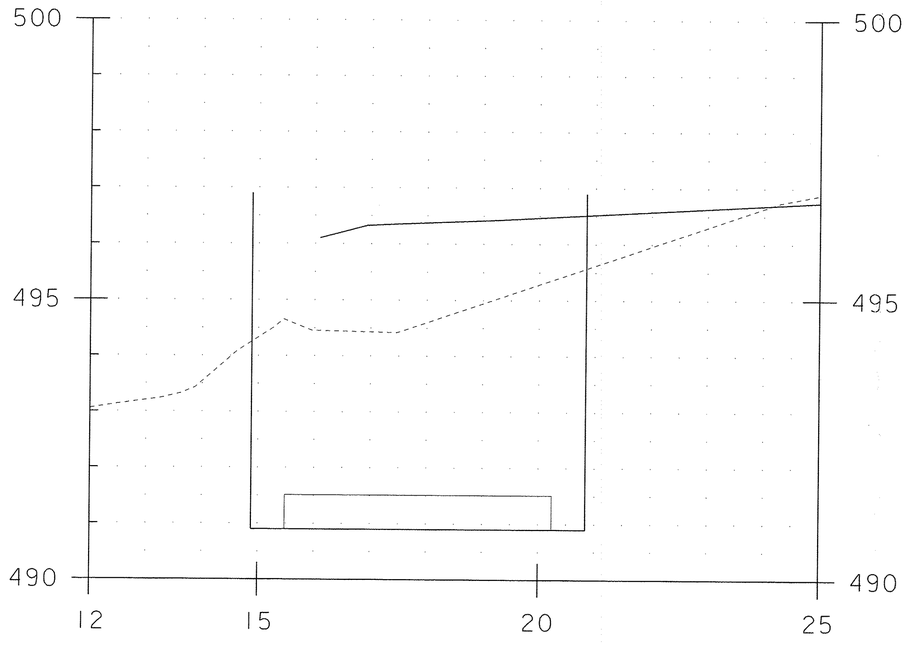
7+031.04 Coffer Ex 20.0174 M²

STA. 7+030 TO STA. 7+031

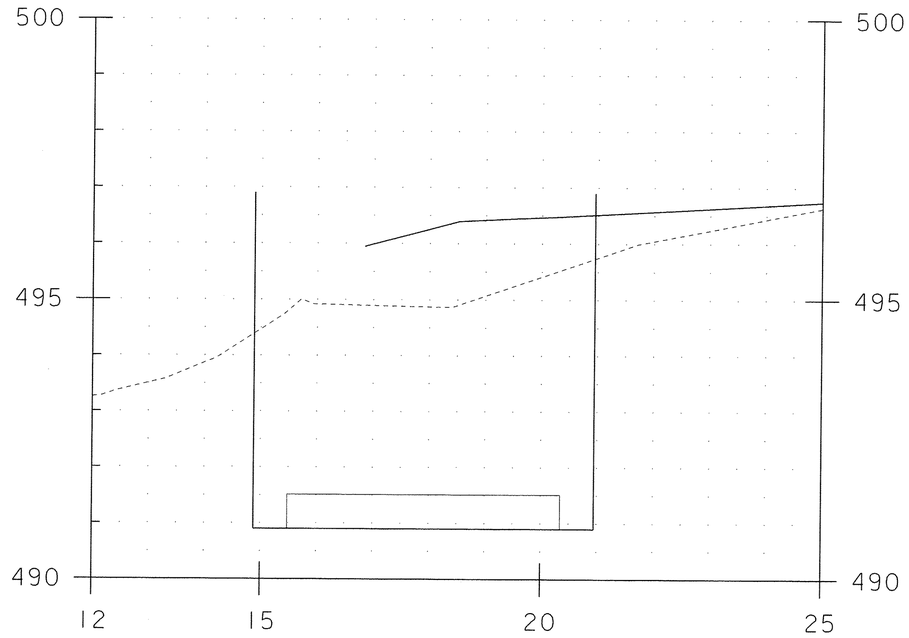
BRIDGE 19 ABUTMENT 2
COFFERDAM SECTIONS 2

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 19 ABUT 2 COFFERDAM XS 2	SHEET 7 OF 18



7+039.08



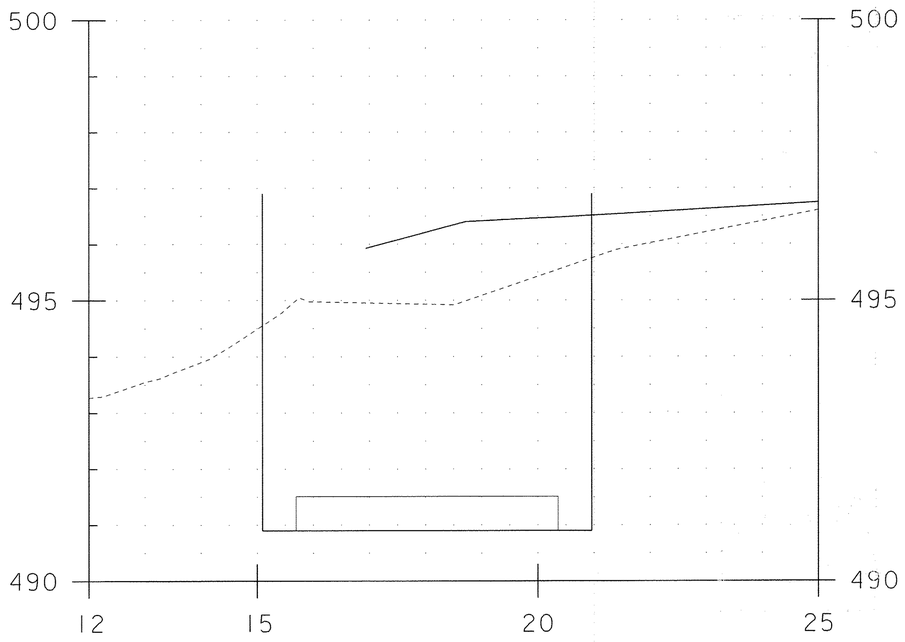
7+040.79 COFFEREX - 25.0882 M²

BRIDGE 19 ABUTMENT 2
COFFERDAM SECTIONS 3

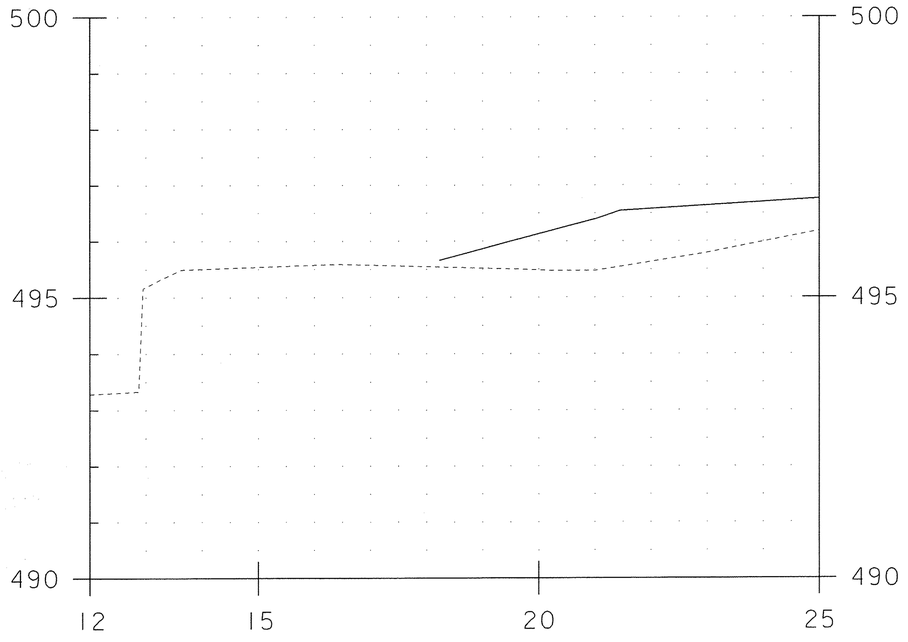
STA. 7+039 TO STA. 7+041

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 19 ABUT 2 COFFERDAM XS 3	SHEET 8 OF 18



7+041.01 COFFER EX - 24.6009 M2



7+043.94

STA. 7+041 TO STA. 7+044

BRIDGE 19 ABUTMENT 2
COFFERDAM SECTIONS 4

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 19 ABUT 2 COFFERDAM XS 4	SHEET 9 OF 18

Metric

ABUT. # 1 FOOTING
AREA = 35.1605 M²
W/Z' = 54.4539 M²

ABUT. # 2 FOOTING
AREA = 39.7228 M²
W/Z' = 61.4157 M²

N

VT STATE PLANE GRID

9+030

9+020

1+220

1+240

Sta 9+024.0564

9022.90 Mid

Sta 9+021.7474

Sta 9+021.1169

Sta 9+020.0286

Sta 9+021.1348

9019.775 Mid

Sta 9+018.4159

Sta 9+018.1976

Sta 9+016.6958

Sta 9+013.4150

Sta 9+012.3368

Sta 9+011.6939

9010.55 Mid

Sta 9+009.4036

Sta 9+009.6117

Sta 9+008.0957

Sta 9+007.8921

9006.5249 Mid

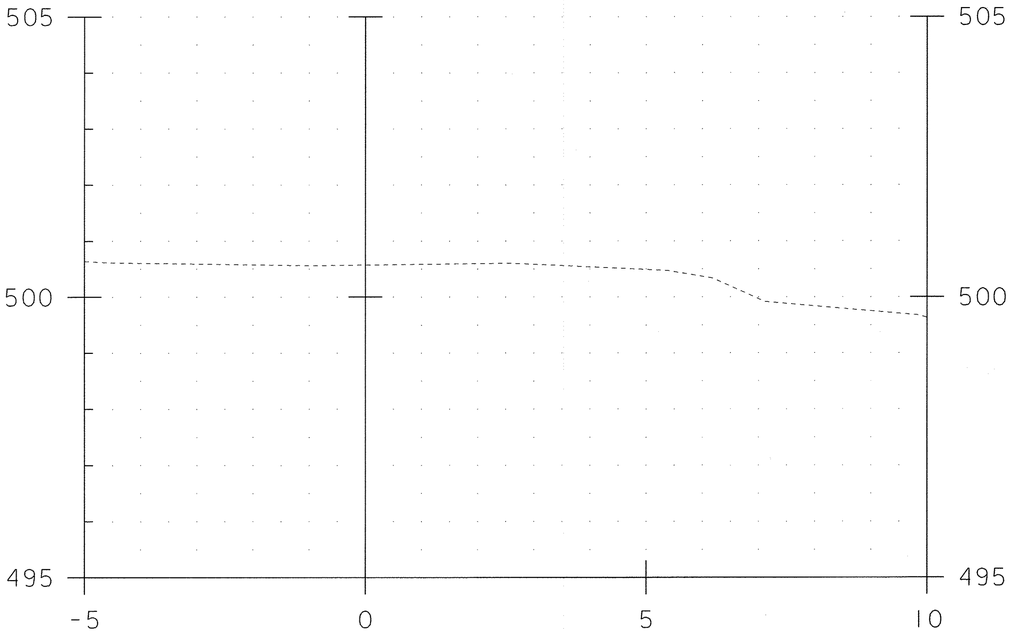
Sta 9+005.1577

0 1 2 3 4 5

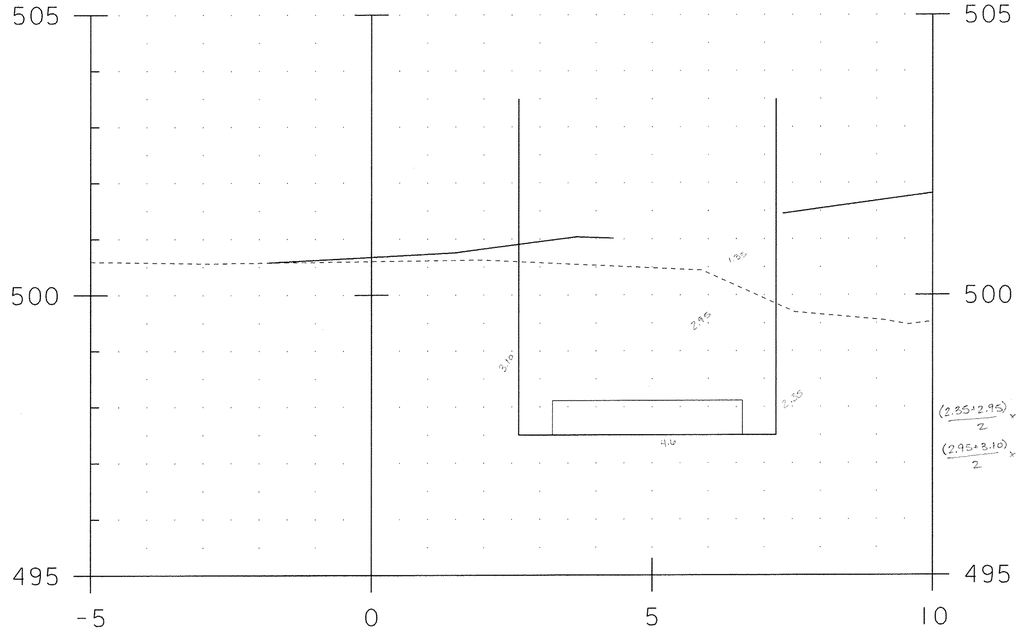
SCALE = 1:50

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)
FILE NAME: 96J236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 COFFERDAM LAYOUT	SHEET 10 OF 18

Metric



9+009.40



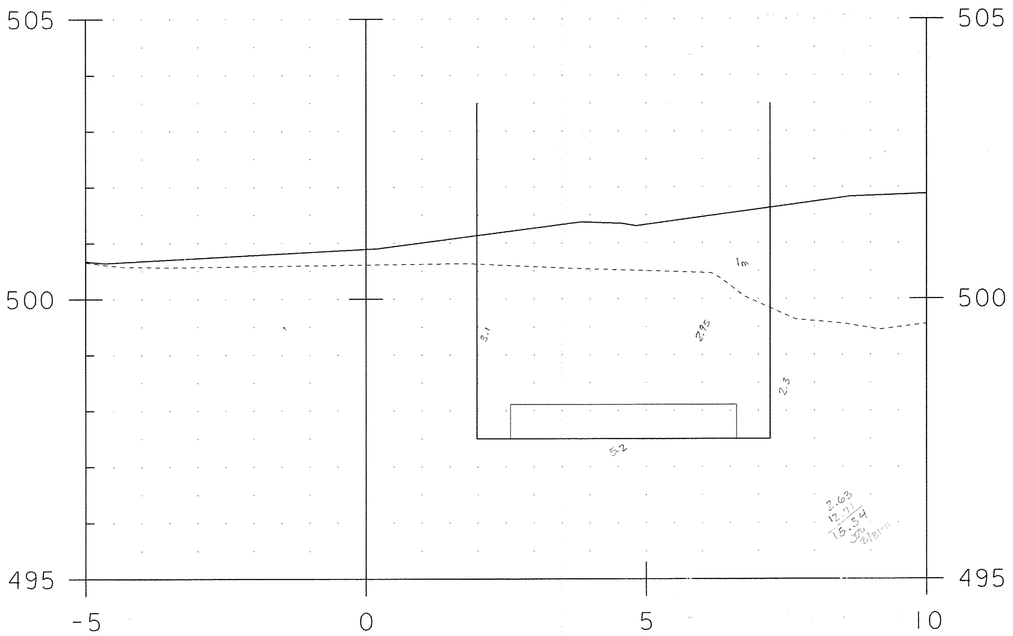
9+011.69 COFFER EX - 13.3408 m²

BRIDGE 20 ABUTMENT 1
COFFERDAM SECTIONS 1

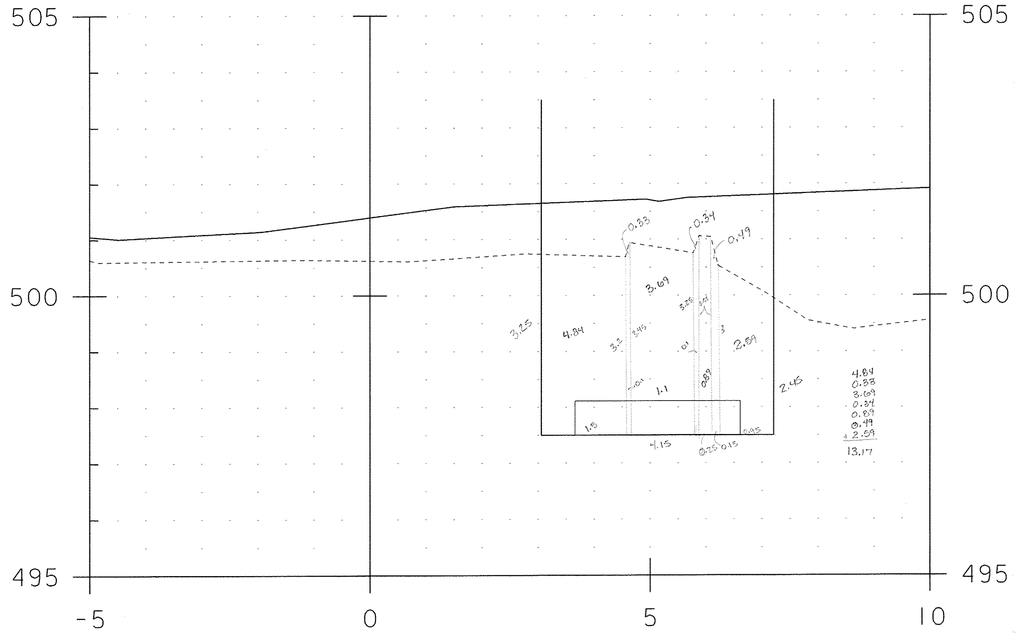
STA. 9+009 TO STA. 9+012

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 ABUT 1 COFFERDAM XS 1	SHEET 11 OF 18



9+012.34 COFFER EX - 15.4372 M²

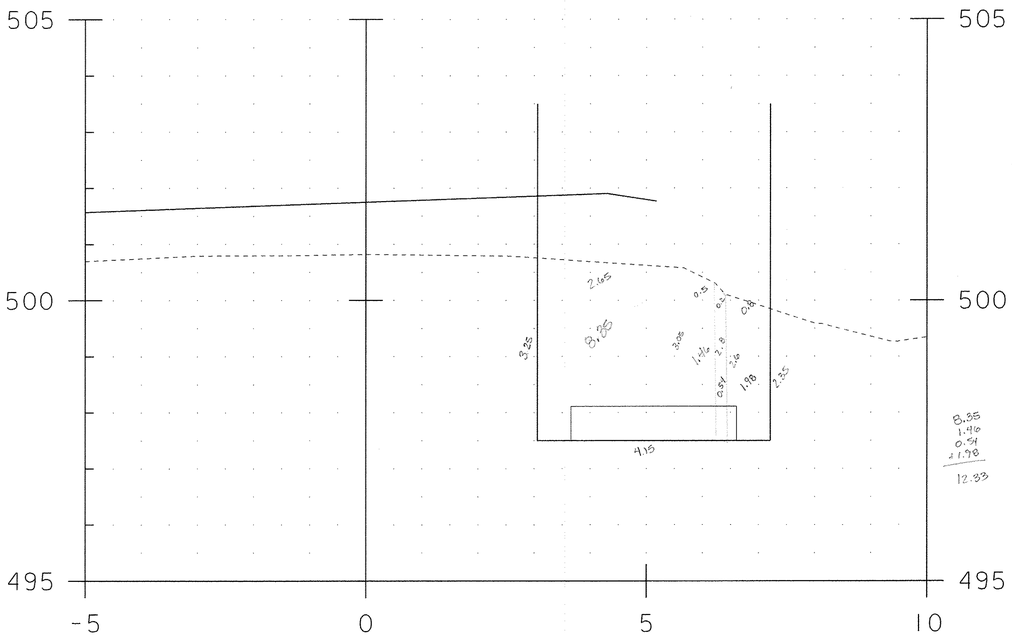


9+013.42 COFFER EX - 13.1257 M²

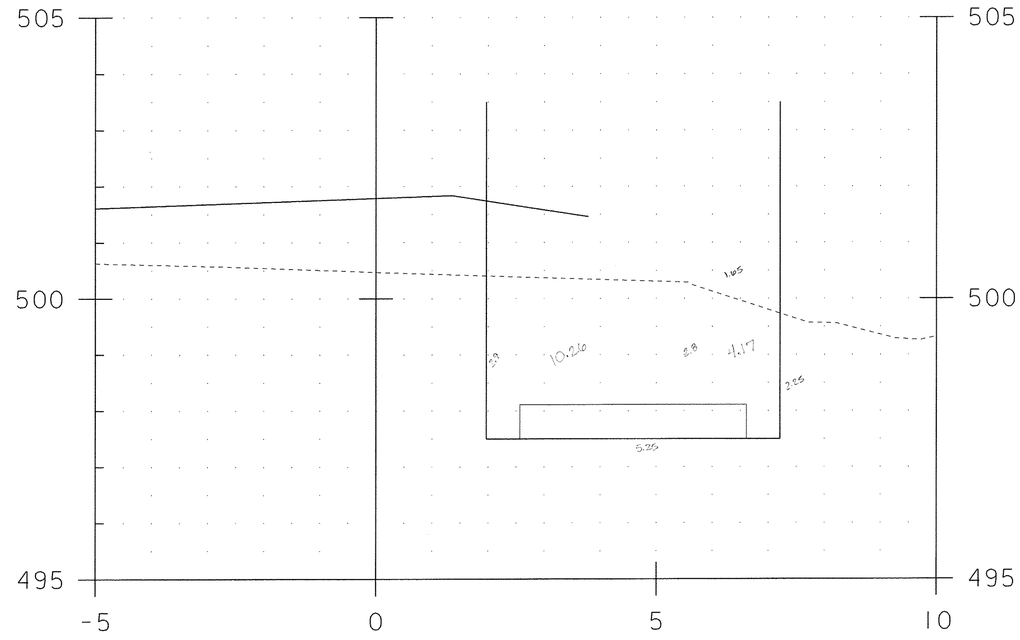
BRIDGE 20 ABUTMENT 1
COFFERDAM SECTIONS 2

STA. 9+012 TO STA. 9+013

PROJECT NAME: CHITTENDEN	
PROJECT NUMBER: STP 1443(45)	
FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 ABUT 1 COFFERDAM XS 2	SHEET 12 OF 18



9+020.03 COFFER EX - 12.3796 M²



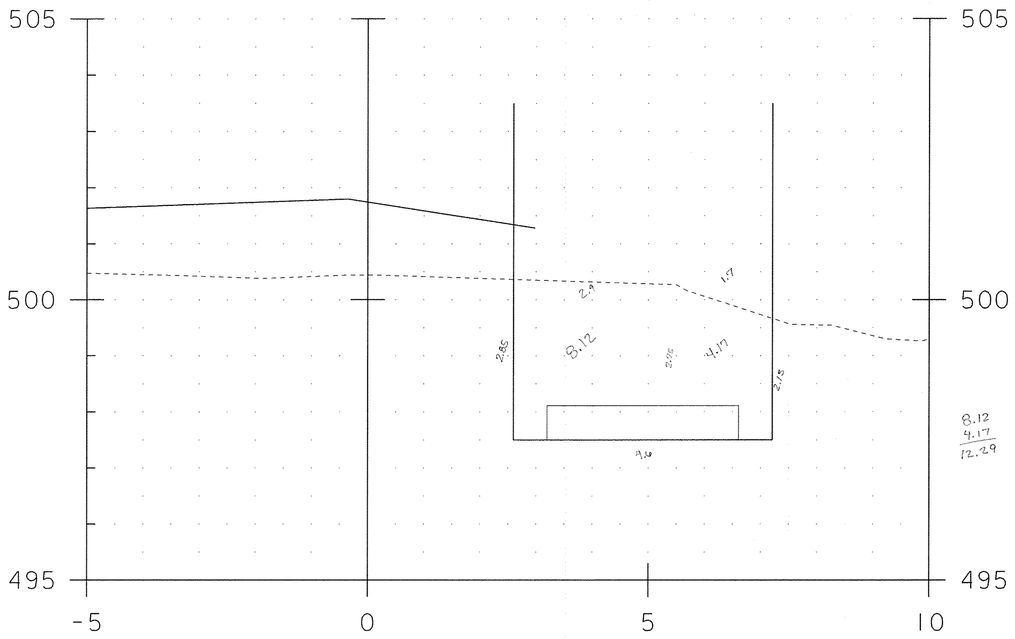
9+021.12 COFFER EX - 14.3468 M²

STA. 9+020 TO STA. 9+021

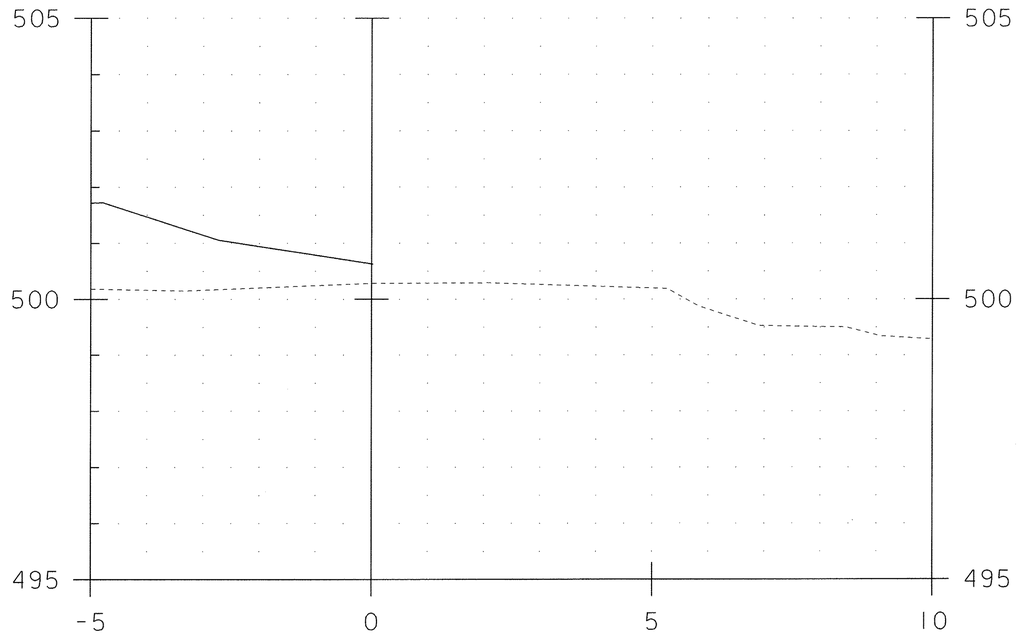
BRIDGE 20 ABUTMENT 1
COFFERDAM SECTIONS 3

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96J236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 ABUT 1 COFFERDAM XS 3	SHEET 13 OF 18



9+021.75 COFFER EX 12.3474 M²

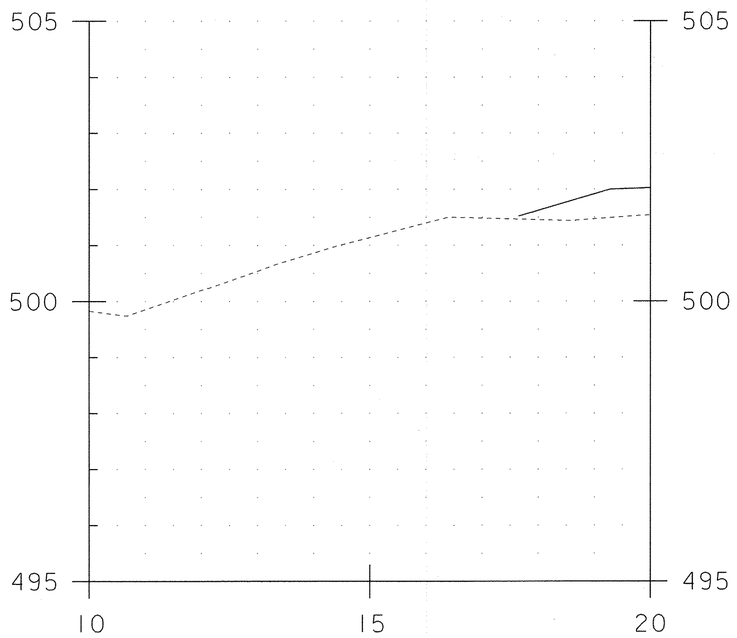


9+024.06

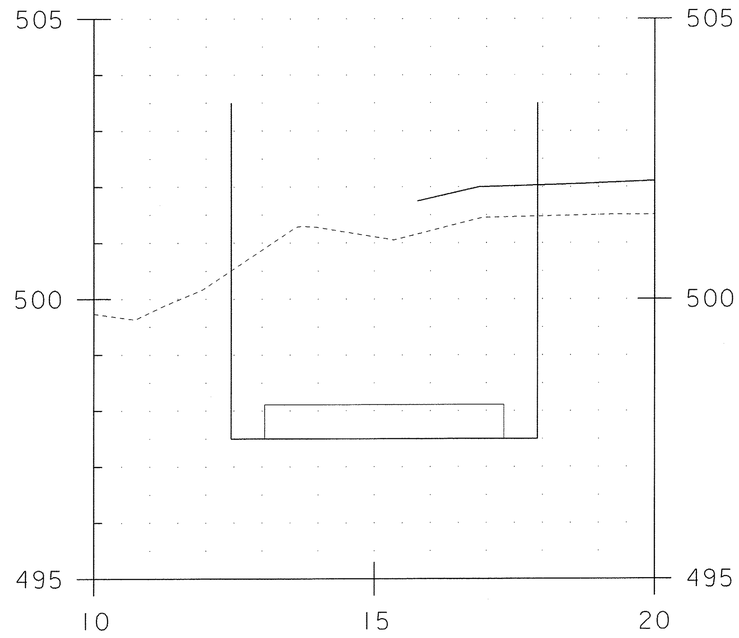
BRIDGE 20 ABUTMENT 1
COFFERDAM SECTIONS 4

STA. 9+022 TO STA. 9+024

PROJECT NAME: CHITTENDEN	
PROJECT NUMBER: STP 1443(45)	
FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 ABUT 1 COFFERDAM XS 4	SHEET 14 OF 18



9+005.16



9+007.89 COFFER EX - 20.1756 M²

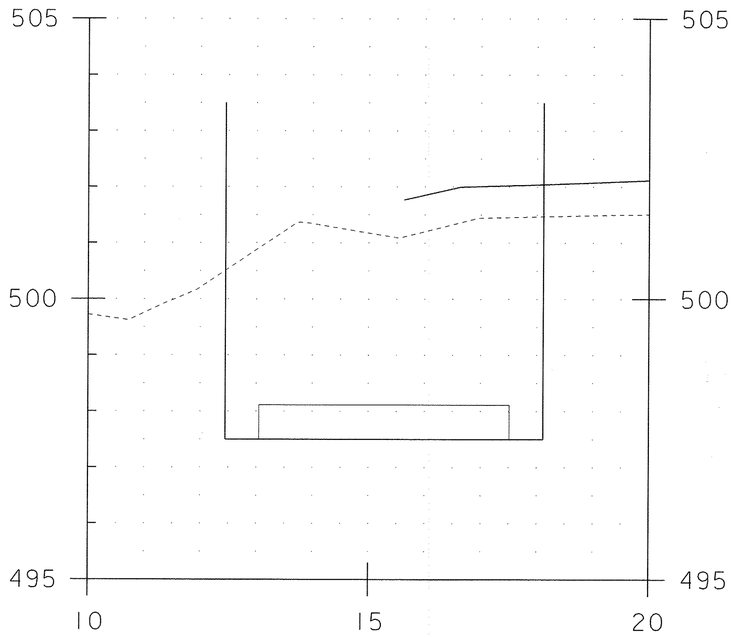
PC 6-8-11

STA. 9+005 TO STA. 9+008

BRIDGE 20 ABUTMENT 2
COFFERDAM SECTIONS 1

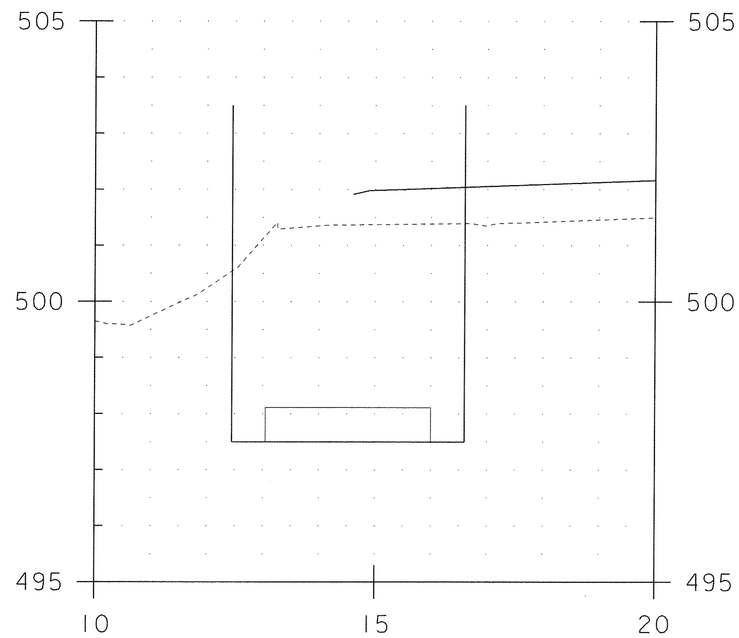
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 ABUT 2 COFFERDAM XS 1	SHEET 15 OF 18



9+008.10 COFFER EX- 21.0807 m^2

DC 6-2-11



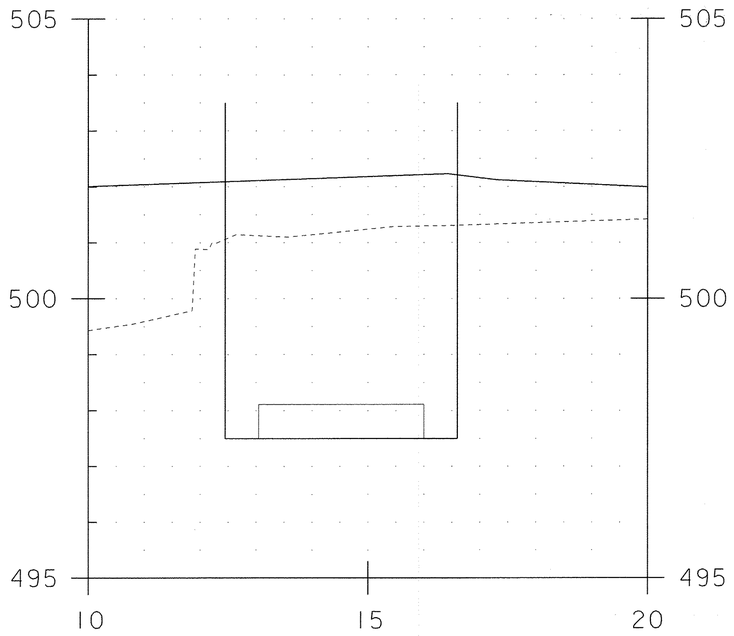
9+009.61 COFFER EX - 15.7007 m^2

6-2-11

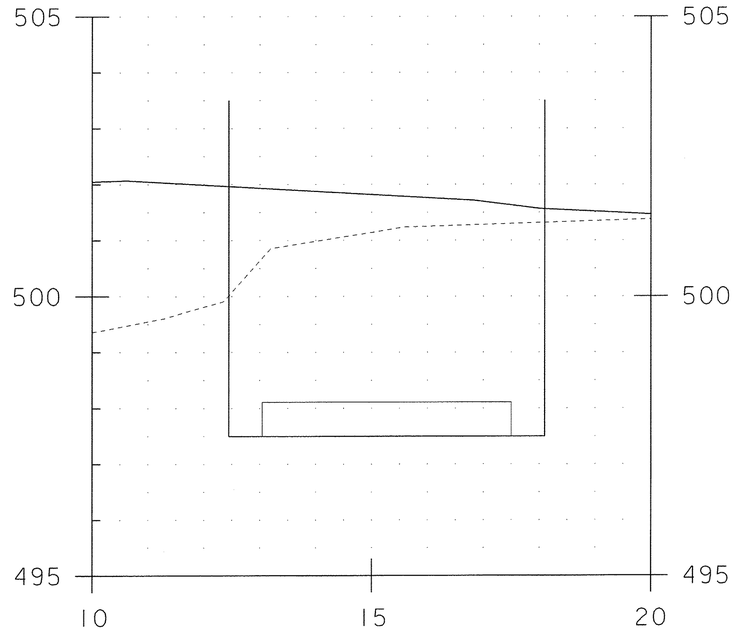
STA. 9+008 TO STA. 9+010

BRIDGE 20 ABUTMENT 2
COFFERDAM SECTIONS 2

PROJECT NAME: CHITTENDEN	
PROJECT NUMBER: STP 1443(45)	
FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 ABUT 2 COFFERDAM XS 2	SHEET 16 OF 18



9+016.70 COFFER EX - 15.3648 m^2



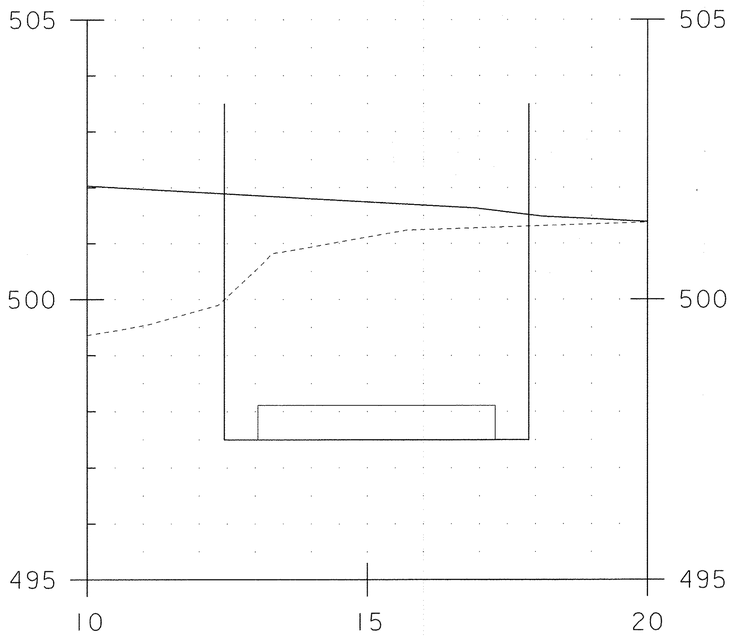
9+018.20 COFFER EX - 20.1847 m^2

STA. 9+017 TO STA. 9+018

BRIDGE 20 ABUTMENT 2
COFFERDAM SECTIONS 3

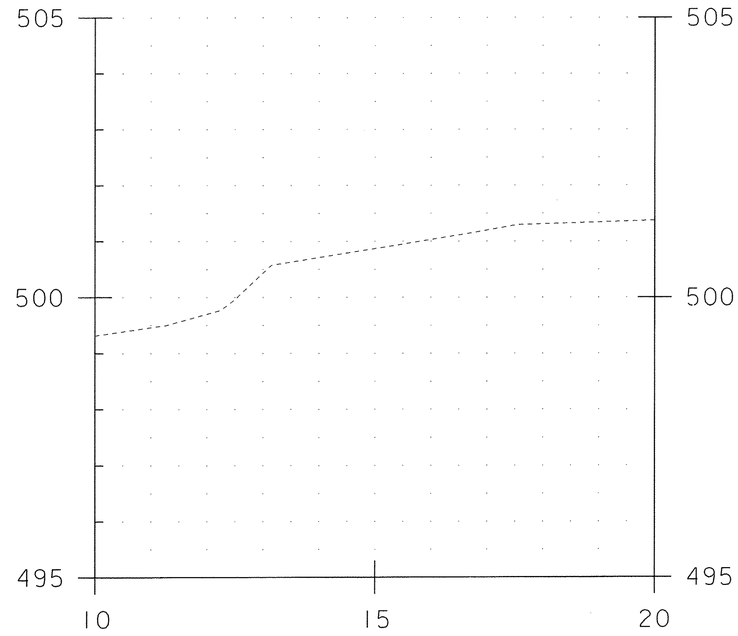
PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)

FILE NAME: 96j236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 ABUT 2 COFFERDAM XS 3	SHEET 17 OF 18



9+018.42 COFFER EX - 19.1739 M²

DC G-2.19



9+021.13

STA. 9+018 TO STA. 9+021

BRIDGE 20 ABUTMENT 2
COFFERDAM SECTIONS 4

PROJECT NAME:	CHITTENDEN
PROJECT NUMBER:	STP 1443(45)
FILE NAME: 96J236/str/sj236_CoffXs.dgn	PLOT DATE: 26-MAY-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
BR 20 ABUT 2 COFFERDAM XS 4	SHEET 18 OF 18