

REVIEWER NOTES

1. THERE WILL BE A WEEKEND CLOSURE PERIOD.

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

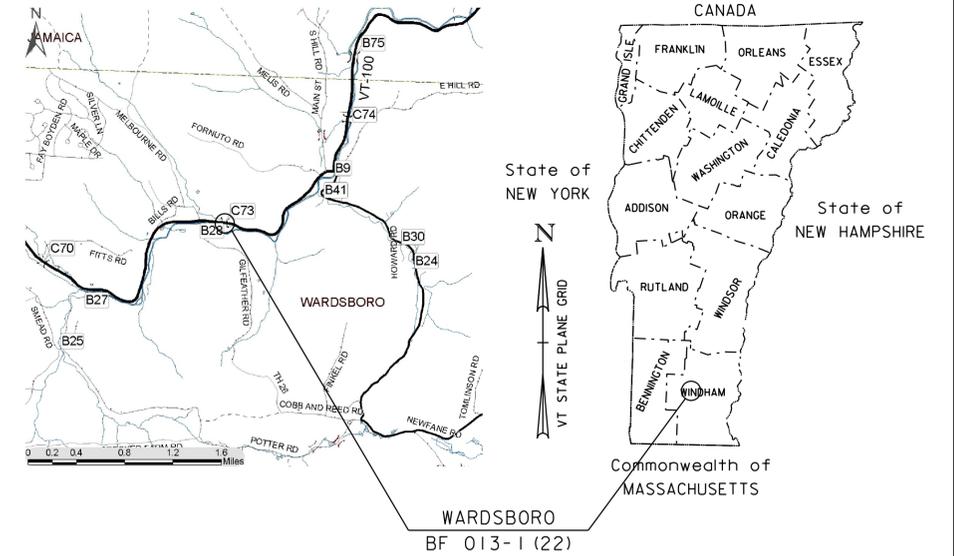
TOWN OF WARDBORO
COUNTY OF WINDHAM

ROUTE NO : VT ROUTE 100, RURAL MINOR ARTERIAL. CULVERT NO : 73

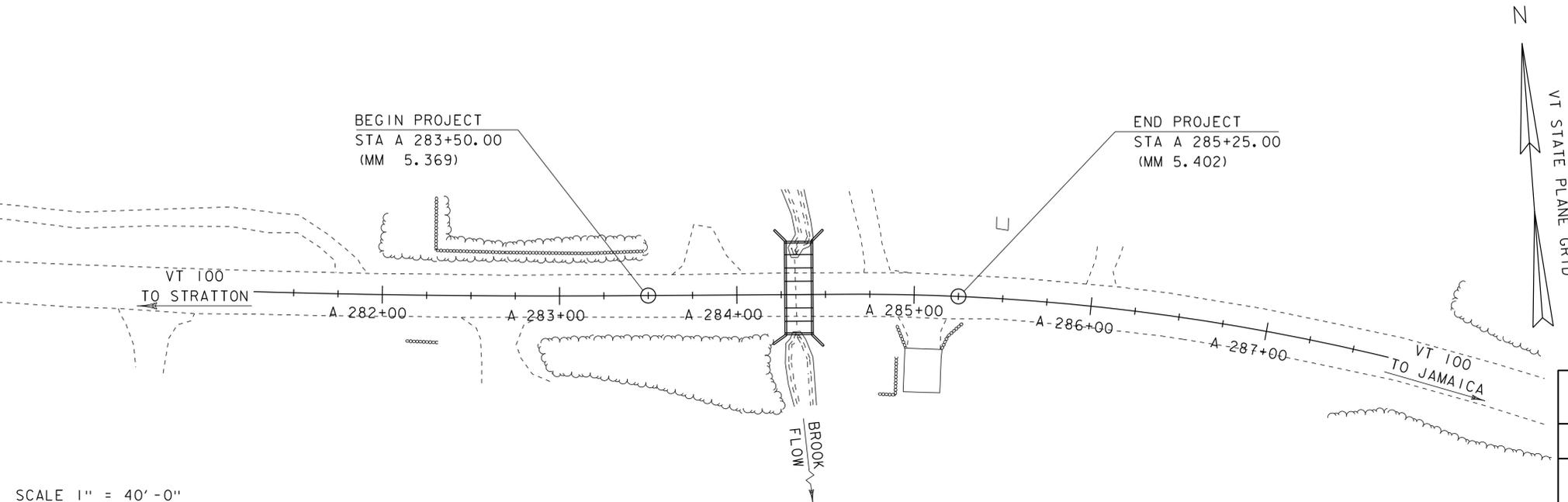
PROJECT LOCATION: 5.6 MILES SOUTH OF THE JUNCTION OF VT ROUTE 100 AND VT ROUTE 30

PROJECT DESCRIPTION: REMOVAL OF EXISTING STRUCTURE AND REPLACEMENT WITH A NEW PRECAST STRUCTURE.

LENGTH OF STRUCTURE: 16.00 FEET
LENGTH OF ROADWAY: 159.00 FEET
LENGTH OF PROJECT: 175.00 FEET



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



**PRELIMINARY PLANS
31-DEC-2013**

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	L. ORVIS
SURVEYED DATE :	09/19/2012
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83 (2007)

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

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED _____	DATE _____
PROJECT MANAGER : K. HIGGINS, P.E.	
PROJECT NAME :	WARDSBORO
PROJECT NUMBER :	BF 013-1 (22)
SHEET 1 OF 23	SHEETS

INDEX OF SHEETS

PLAN SHEETS

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STANDARDS LIST

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: Nov 2013

DRAINAGE AREA : 1.2 sq. mi.
 CHARACTER OF TERRAIN : Mountainous, mostly forested, some development
 STREAM CHARACTERISTICS : Sinuous and alluvial
 NATURE OF STREAMBED : Boulders, cobbles and gravel

PEAK FLOW DATA

Q 2.33 =	90 cfs	Q 50 =	370 cfs
Q 10 =	230 cfs	Q 100 =	450 cfs
Q 25 =	300 cfs	Q 500 =	630 cfs

DATE OF FLOOD OF RECORD : Unknown
 ESTIMATED DISCHARGE : Unknown
 WATER SURFACE ELEV. : Unknown
 NATURAL STREAM VELOCITY : @ Q50 = 8.3 fps
 ICE CONDITIONS : Moderate
 DEBRIS : Moderate
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
 IS ORDINARY RISE RAPID? Yes
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
 IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE : Multiplate Pipe Arch
 YEAR BUILT : 1957
 CLEAR SPAN(NORMAL TO STREAM): 8' - 2"
 VERTICAL CLEARANCE ABOVE STREAMBED: 5' - 9"
 WATERWAY OF FULL OPENING: 38 sq. ft.
 DISPOSITION OF STRUCTURE: Remove and replace
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1087.0'	VELOCITY =	5.4 fps
Q10 =	1089.7'	"	9.9 fps
Q25 =	1090.8'	"	11.1 fps
Q50 =	1092.0'	"	11.9 fps
Q100 =	1092.2'	"	12.1 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
 FREQUENCY: Below Q50
 RELIEF ELEVATION: 1091.9' @ arch
 DISCHARGE OVER ROAD @Q100: 90 cfs

UPSTREAM STRUCTURE

TOWN: Wardsboro DISTANCE: 1800'
 HIGHWAY #: TH STRUCTURE #:
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:
 STRUCTURE TYPE:

DOWNSTREAM STRUCTURE

TOWN: Wardsboro DISTANCE: 600'
 HIGHWAY #: STRUCTURE #:
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:
 STRUCTURE TYPE: Confluence with Wardsboro Brook

LRFR LOAD RATING FACTORS

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

AS BUILT "REBAR" DETAIL

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

- CULVERT DESIGN CRITERIA**
- PROPOSED CULVERT IS A PRESTRESS CONCRETE STRUCTURE (14'-0" X 8'-0" X 52'-6" BOX).
 - CULVERT ENDS ARE SKEWED BY AN ANGLE OF 90°
 - CULVERT WILL BE SET AT A SLOPE OF 41.60 IN. ON 100 FT.
 - CULVERT WILL REQUIRE FISH PASSAGE ACCOMMODATIONS
 - CULVERT CONSTRUCTION WILL REQUIRE A TEMPORARY PIPE

PROPOSED STRUCTURE

STRUCTURE TYPE: Concrete Box
 CLEAR SPAN(NORMAL TO STREAM): 14'
 VERTICAL CLEARANCE ABOVE STREAMBED: 6'
 WATERWAY OF FULL OPENING: 84 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1086.2'	VELOCITY=	7.5 fps
Q10 =	1087.6'	"	10.7 fps
Q25 =	1088.1'	"	11.7 fps
Q50 =	1088.7'	"	12.5 fps
Q100 =	1089.3'	"	13.4 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 1091.9' at box
 DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1090.7' at inlet
 VERTICAL CLEARANCE: @ Q50 = 2.0'

SCOUR: Scour not calculated for a box

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW: 3 cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 1 cfs < 0.5'
 ORDINARY HIGH WATER: 40 cfs ~1.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None required - phased construction
 CLEAR SPAN (NORMAL TO STREAM):
 VERTICAL CLEARANCE ABOVE STREAMBED:
 WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

- MAINTAIN ONE-WAY TRAFFIC ON THE EXISTING STRUCTURE.
- INSTALL AND MAINTAIN TRAFFIC SIGNALS.
- SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	d _p : 3.0 INCH
3. CULVERT OPENING	D: 84.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	f _y : ---
6. PRESTRESSED CONCRETE STRENGTH	f' _c : ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f' _{cr} : ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f' _c : 4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f' _c : 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f' _c : 3.5 KSI
11. CONCRETE, CLASS C	f' _c : 3.0 KSI
12. REINFORCING STEEL	f _y : 60 KSI
13. STRUCTURAL STEEL AASHTO M270	f _y : ---
14. SOIL UNIT WEIGHT	γ: 0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q _n : 4.0 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
17. NOMINAL BEARING RESISTANCE OF ROCK	q _n : 10.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
19. NOMINAL AXIAL PILE RESISTANCE	q _p : ---
20. PILE YIELD STRENGTH ASTM A572	f _y : ---
21. PILE SIZE	---
22. EST. PILE LENGTH	L _p : ---
23. PILE RESISTANCE FACTOR	φ: ---
24. LATERAL PILE DEFLECTION	Δ: ---
25. BASIC WIND SPEED	V _{3s} : ---
26. MINIMUM GROUND SNOW LOAD	p _g : ---
27. SEISMIC DATA	PGA: --- S: ---

PROJECT NAME: **WARDSBORO**
 PROJECT NUMBER: **BF 013-1(22)**
 FILE NAME: 13b074/s13b074excel.dgn PLOT DATE: 12/30/2013
 PROJECT LEADER: **K. HIGGINS** DRAWN BY: **J. SALVATORI**
 DESIGNED BY: **J. SALVATORI** CHECKED BY: **G. LAROCHE**
PRELIMINARY INFORMATION SHEET 1 SHEET 2 OF 23

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2016 to 2036 : 898000
2016	1100	150	55	13.7	130	40 year ESAL for flexible pavement from 2016 to 2056 : 2056000
2036	1200	170	55	20.4	210	Design Speed : 50 mph

GENERAL NOTES

- 1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6th EDITION, AND ITS LATEST REVISIONS.
- 2. THE CONTRACTOR WILL BE ALLOWED TO CLOSE THE BRIDGE FOR ONE WEEKEND (TWO CONSECUTIVE DAYS) BEGINNING ON A FRIDAY AT 6PM AND REOPENING THE FOLLOWING MONDAY AT 6 AM, TO A MINIMUM OF ONE-LANE, TWO-WAY TRAFFIC. DURING THAT TIME THE CONTRACTOR WILL BE ALLOWED TO WORK 24 HOURS PER DAY. THE CONTRACTOR SHALL SCHEDULE THEIR WORK SUCH THAT THE BRIDGE IS NOT CLOSED DURING HOLIDAY PERIODS. SEE SPECIAL PROVISIONS FOR FURTHER DETAILS.
- 3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES F UNLESS OTHERWISE NOTED.
- 4. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR ALL WORK REQUIRED TO REMOVE AND PROPERLY BACKFILL TO PROPOSED SUBGRADE, THE EXISTING CGMPPA UNDER VT 100.
- 5. ITEM 404.65 "EMULSIFIED ASPHALT" IS TO BE APPLIED AT A RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.
- 6. AN EXISTING CONDITIONS SHEET HAS BEEN INCLUDED IN THE PLANS FOR USE OF CONTRACTOR IN SUBMITTALS.
- 7. EXCAVATION FOR OR PLACEMENT OF BOX SECTIONS WILL ONLY BE ALLOWED DURING CLOSURE PERIOD.

TRAFFIC CONTROL

- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN FOR ALL STAGES OF CONSTRUCTION. THE PLAN SHALL CLEARLY DETAIL HOW TRAFFIC WILL BE MAINTAINED PRIOR TO, DURING AND AFTER THE CLOSURE PERIOD. THE PLAN SHALL SPECIFY ALL CONSTRUCTION ACTIVITIES REQUIRING ALTERNATING ONE WAY TRAFFIC, RELATE THOSE ACTIVITIES TO THE CONSTRUCTION SCHEDULE AND SHOW APPROPRIATE TEMPORARY TRAFFIC CONTROL. THE CONTRACTOR SHALL SUBMIT DETAILED TRAFFIC CONTROL PLANS TO THE RESIDENT ENGINEER FOR APPROVAL PER SUBSECTION 105.03. ALL COSTS SHALL BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). SEE SPECIAL PROVISIONS.
- 9. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). FOR ADDITIONAL SIGNING INSTRUCTIONS SEE THE T SERIES OF THE STANDARDS. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN.
- 10. INSTALLATION OF TEMPORARY TRAFFIC CONTROL SIGNS SHALL NOT BLOCK ANY EXISTING TRAFFIC CONTROL SIGN ASSEMBLIES. THE CONTRACTOR SHALL TRY TO MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES.
- 11. ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN NOT PAID UNDER A SEPARATE CONTRACT ITEM WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
- 12. DURING THE CLOSURE PERIOD, TOWN HIGHWAYS SHALL BE PATROLLED FOR ANY OVERSIZED OR OVERLOADED VEHICLES NOT USING THE SIGNED DETOUR. PAYMENT FOR PATROLS SHALL BE UNDER ITEM 630.10.

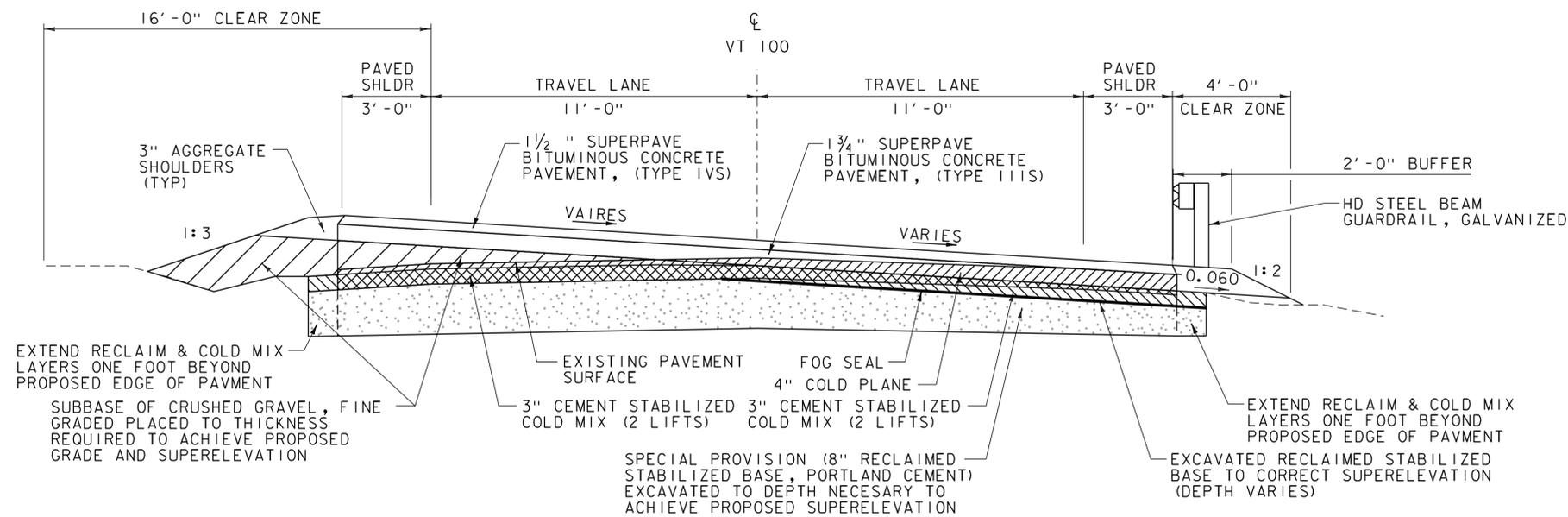
PRECAST CONCRETE

- 13. DESIGN CRITERIA:
 - A. SOIL UNIT WEIGHT = 135 PCF
 - B. DESIGN LIVE LOAD = HL-93
 - C. NOMINAL BEARING RESISTANCE (BEDROCK) = 70 KSF
 - D. NOMINAL BEARING RESISTANCE (GRANULAR BACKFILL) = 21 KSF
 - E. BEARING RESISTANCE FACTOR = 0.45
 - F. DESIGN FILL OVER BOX = 0-2 FEET
 - G. CONCRETE COMPRESSIVE STRENGTH = SEE SUBSECTION 540.05(e)
- 14. ALL CONCRETE SHALL BE PRECAST. ITEM 540.10 "PRECAST CONCRETE STRUCTURE" INCLUDES ALL BOX SEGMENTS, HEADWALLS, AND CUTOFF WALLS. ALL CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR AND SHALL BE CONSIDERED INCIDENTAL TO ITEM 540.10.
- 15. THE PRECAST CONCRETE STRUCTURE SHALL BE DESIGNED FOR HYDROSTATIC PRESSURE UNLESS RAPID DRAINING MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 704.18 IS USED. ANY RAPID DRAINING MATERIAL SHALL BE CONSIDERED INCIDENTAL TO ITEM 540.10. NO WEEPHOLES IN THE BOX SECTIONS WILL BE ALLOWED.
- 16. THE PRECAST BOX SECTIONS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND SHAPE WILL BE DEPENDENT ON THE FABRICATOR. THE MINIMUM INSIDE DIMENSIONS SHALL BE 8'-0" IN HEIGHT AND 16'-0" IN WIDTH. THE OVERALL LENGTH OF THE BOX SHALL BE 60'-0" ALONG THE STREAMBED GRADE. THE EXPOSED ENDS OF THE FIRST AND LAST UNITS SHALL BE VERTICAL.
- 17. ALL LIFTING HOLES AND BOLT POCKETS SHALL BE FILLED WITH MORTAR TYPE IV AFTER BEING SET IN THEIR FINAL POSITION. THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 540.10. FILLING THE JOINTS BETWEEN BOX SEGMENTS WITH GROUT IS NOT REQUIRED.
- 18. NO ADDITIONAL WORK (I.E. BACKFILLING OR MEMBRANE) IS ALLOWED UNTIL THE GROUT HAS REACHED A STRENGTH OF 2000 PSI OR 30% OF MAXIMUM.
- 19. A TWO (2) FOOT WIDE STRIP OF SHEET MEMBRANE WATERPROOFING SHALL BE PLACED AT EACH JOINT. MEMBRANE SHALL BE CENTERED ON THE JOINT AND COVER THE FULL HEIGHT. THE SIDES SHALL BE COVERED PRIOR TO THE TOP. ANY OVERLAPPING OF MEMBRANE SHALL BE DONE IN A SHINGLE TYPE STYLE TO SHED WATER AND SHALL OVERLAP A MINIMUM OF ONE FOOT. PAYMENT FOR MEMBRANE AT EACH VERTICAL JOINT WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 540.10.
- 20. WATER REPELLENT, SILANE SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 514 AND SHALL BE SHOP APPLIED TO ALL EXPOSED EXTERIOR SURFACES OF THE PRECAST CONCRETE STRUCTURE. PAYMENT FOR SILANE WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 540.10.

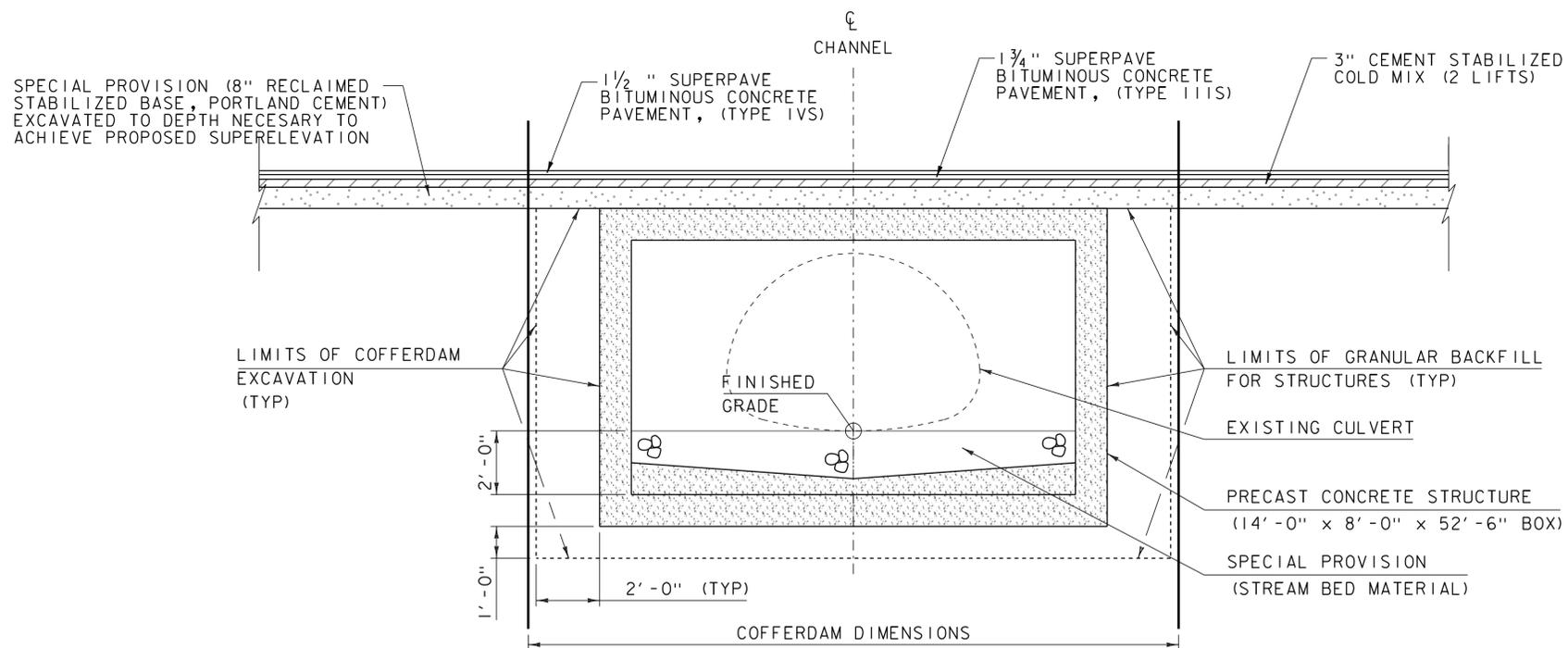
REINFORCING STEEL

- 21. ALL REINFORCING STEEL SHALL BE LEVEL II REINFORCING STEEL IN ACCORDANCE WITH SECTION 507. PAYMENT FOR ALL REINFORCING STEEL WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 540.10.
- 22. ALL REINFORCING STEEL SHALL HAVE A MINIMUM CLEAR COVER OF 2".
- 23. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:
 - SPACING +/- 1"
 - CLEARANCE +/- 1/4"

PROJECT NAME:	WARDSBORO	PLOT DATE:	31-DEC-2013
PROJECT NUMBER:	BF 013-1(22)	DRAWN BY:	----
FILE NAME:	sl3b074.dgn	CHECKED BY:	J. SALVATORI
PROJECT LEADER:	K. HIGGINS	SHEET	3 OF 23
DESIGNED BY:	J. SALVATORI		
GENERAL NOTES			



VT ROUTE 100 ROADWAY TYPICAL SECTION
NOT TO SCALE



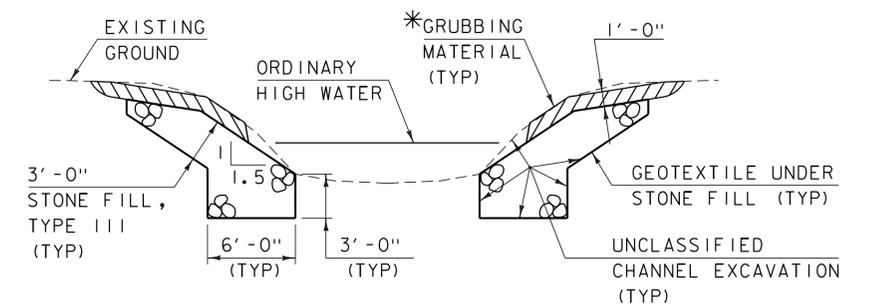
TYPICAL PRECAST BOX CULVERT SECTION
SCALE 3/8" = 1'-0"

MATERIAL TOLERANCES
(IF USED ON PROJECT)

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

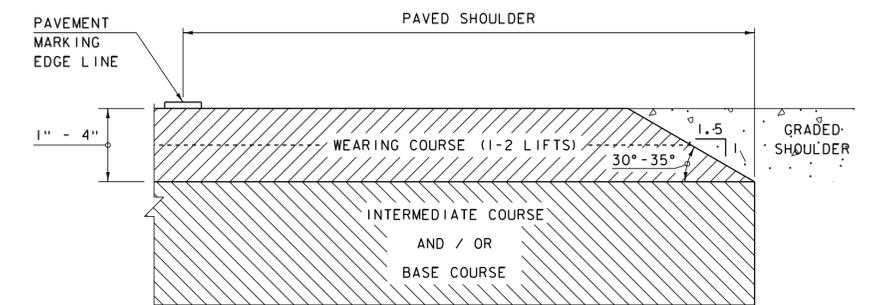
COFFERDAM NOTES

1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH" OR "COFFERDAM EXCAVATION, ROCK" SHALL BE AS DETAILED IN THE TYPICAL SECTION.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN DETAILED, NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THOSE PAY LIMITS.



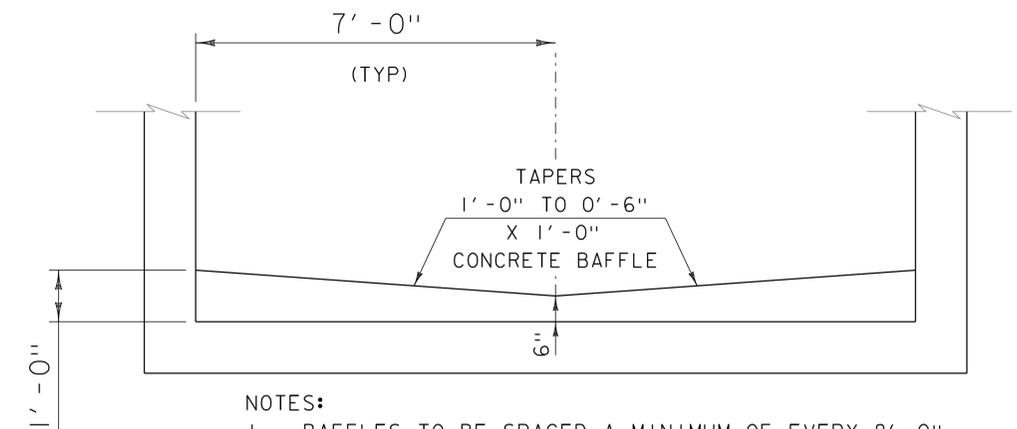
TYPICAL CHANNEL SECTION
(NOT TO SCALE)

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



SAFETY EDGE DETAIL
NOT TO SCALE

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



NOTES:

1. BAFFLES TO BE SPACED A MINIMUM OF EVERY 8'-0" AND AT THE INLET AND OUTLET.
2. FABRICATOR TO DETAIL BAFFLE CONNECTION.

LOW FLOW BAFFLE DETAIL
NOT TO SCALE

PROJECT NAME: WARDSBORO	PLOT DATE: 31-DEC-2013
PROJECT NUMBER: BF 013-1(22)	DRAWN BY: J. SALVATORI
FILE NAME: s13b074typ.dgn	CHECKED BY: -----
PROJECT LEADER: K. HIGGINS	SHEET 4 OF 23
DESIGNED BY: J. SALVATORI	
TYPICAL SECTIONS	

GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

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

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

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

COMMON TOPOGRAPHIC POINT SYMBOLS

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

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

PROPOSED GEOMETRY CODES

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

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

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

ABOVE GROUND UTILITIES (AERIAL)

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

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

— CZ —	CLEAR ZONE
—	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

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

CONVENTIONAL BOUNDARY SYMBOLGY

BOUNDARY LINES

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

EPSC LAYOUT PLAN SYMBOLGY

EPSC MEASURES

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

ENVIRONMENTAL RESOURCES

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

ARCHEOLOGICAL & HISTORIC

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
⊞	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLGY

EXISTING FEATURES

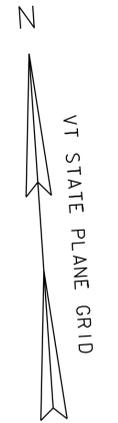
—	ROAD EDGE PAVEMENT
—	ROAD EDGE GRAVEL
—	DRIVEWAY EDGE
—	DITCH
—	FOUNDATION
—	FENCE (EXISTING)
—	FENCE WOOD POST
—	FENCE STEEL POST
—	GARDEN
—	ROAD GUARDRAIL
—	RAILROAD TRACKS
—	CULVERT (EXISTING)
—	STONE WALL
—	WALL
—	WOOD LINE
—	BRUSH LINE
—	HEDGE
—	BODY OF WATER EDGE
—	LEDGE EXPOSED

PROJECT NAME: WARDSBORO
PROJECT NUMBER: BF 013-1(22)

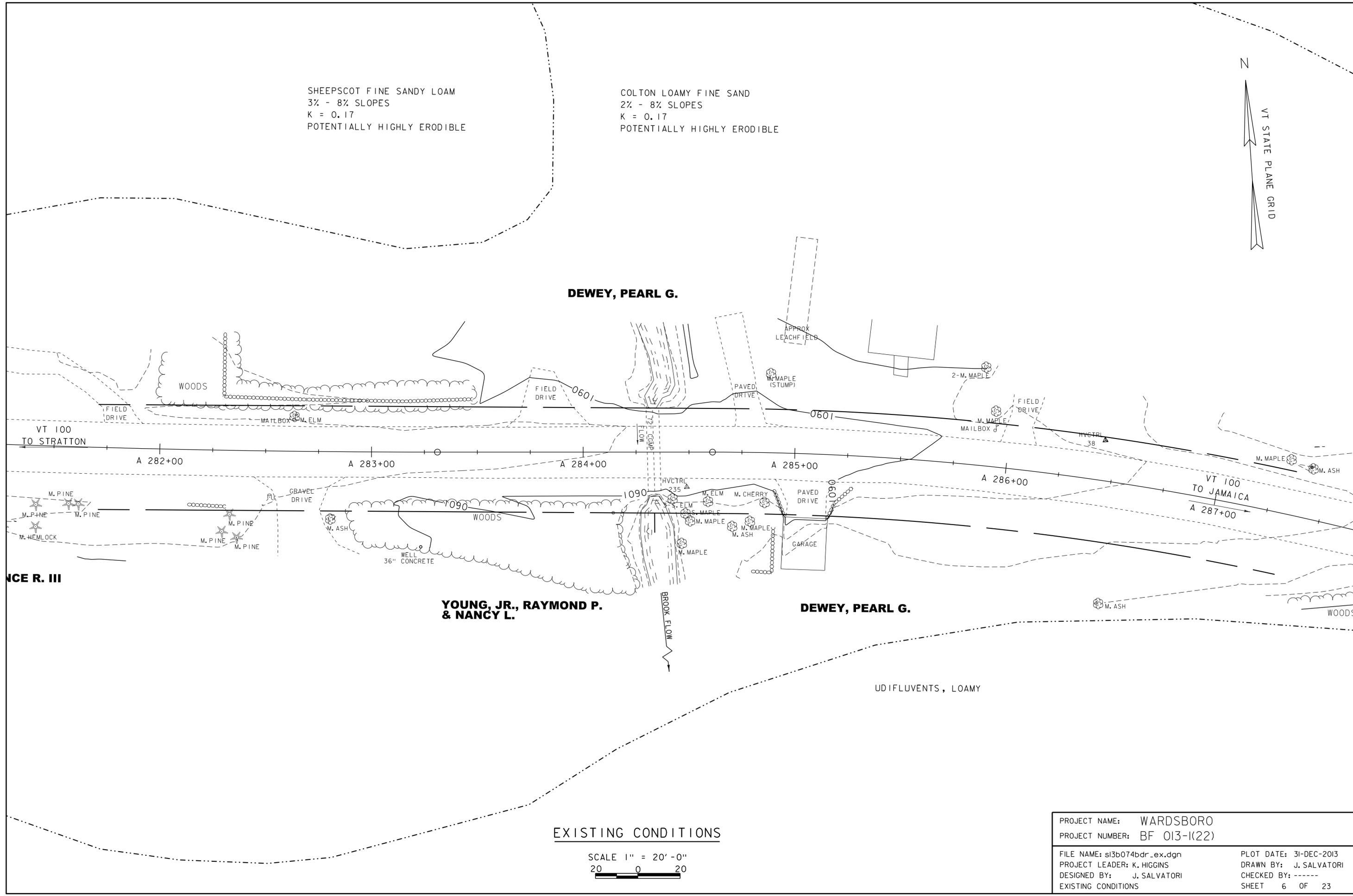
FILE NAME: I3b074/sI3b074excel.dgn PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS DRAWN BY: K. FRIEDLAND
DESIGNED BY: J. SALVATORI CHECKED BY: G. LAROCHE
LEGEND SHEET SHEET 5 OF 23

SHEEPSCOT FINE SANDY LOAM
 3% - 8% SLOPES
 K = 0.17
 POTENTIALLY HIGHLY ERODIBLE

COLTON LOAMY FINE SAND
 2% - 8% SLOPES
 K = 0.17
 POTENTIALLY HIGHLY ERODIBLE



DEWEY, PEARL G.



NCE R. III

**YOUNG, JR., RAYMOND P.
 & NANCY L.**

DEWEY, PEARL G.

UDIFLUENTS, LOAMY

EXISTING CONDITIONS

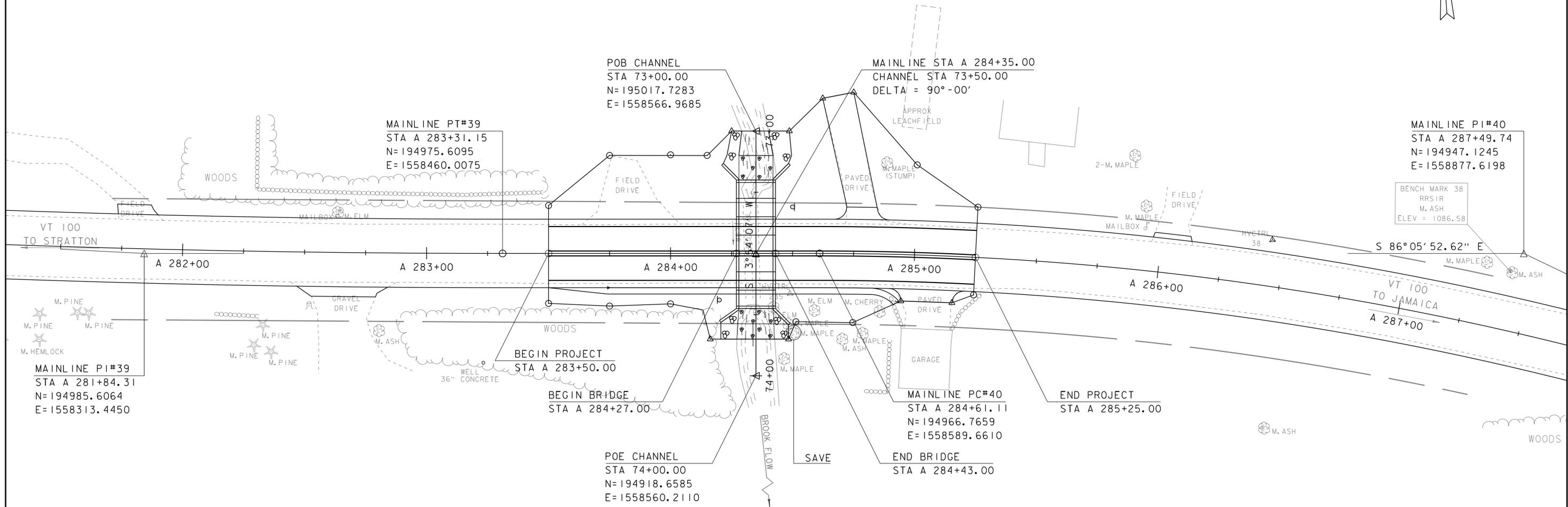
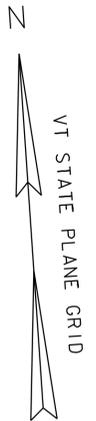
SCALE 1" = 20'-0"
 20 0 20

PROJECT NAME:	WARDSBORO	PLOT DATE:	31-DEC-2013
PROJECT NUMBER:	BF 013-1(22)	DRAWN BY:	J. SALVATORI
FILE NAME:	sl3b074bdr_ex.dgn	CHECKED BY:	-----
PROJECT LEADER:	K. HIGGINS	EXISTING CONDITIONS	SHEET 6 OF 23

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW SIGN "A"	EXIST POST SALVAGE	NEW SIGN POSTS					REMARKS	SIGN DETAIL		
		WIDTH (in)	HEIGHT (in)			SQUARE STEEL (in)			ANCHOR	S L F		DETAIL IN SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
						2.0	2.0	2.5						
A 284+20.00 RT.	BRIDGE 73 VT 100	6	8	0.33		2.16	2.42	3.35	X				E-134	
A 284+50.00 LT.	BRIDGE 73 VT 100	6	8	0.33		2.16	2.42	3.35	X				E-134	
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."						FT	FT	FT	EA					
TOTALS						SF	FT			SHSM = STANDARD HIGHWAY SIGNS AND MARKINGS (MUTCD) (APPROVED BY THE FHWA)				
						0.66	16							

4 INCH WHITE LINE
STA A 283+50.00 - A 285+25.00 LT/RT

4 INCH YELLOW LINE
STA A 283+50.00 - A 285+25.00 CL

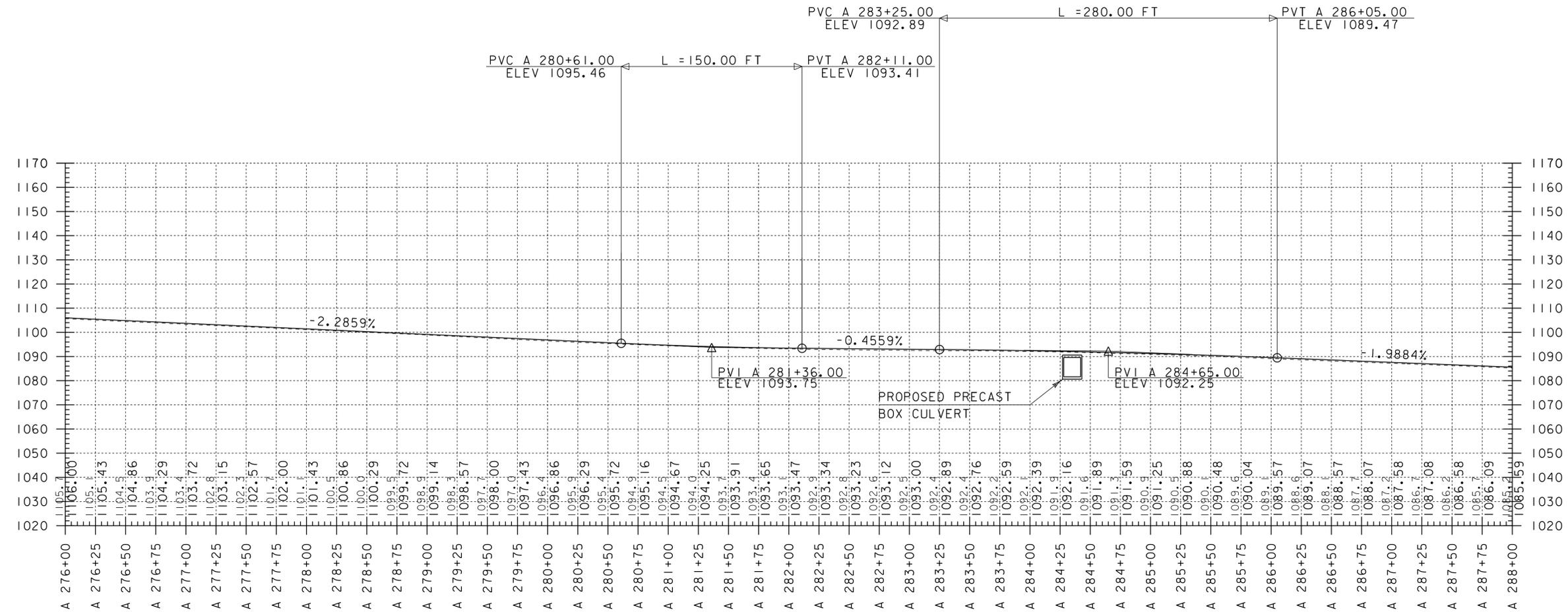


CURVE (39)	CURVE (40)
DELTA = 2°56'14"	DELTA = 25°36'28"
D = 1°00'00"	D = 4°30'41"
R = 5730.00'	R = 1270.00'
T = 146.90'	T = 288.63'
L = 293.74'	L = 567.61'
E = 1.88'	E = 32.38'

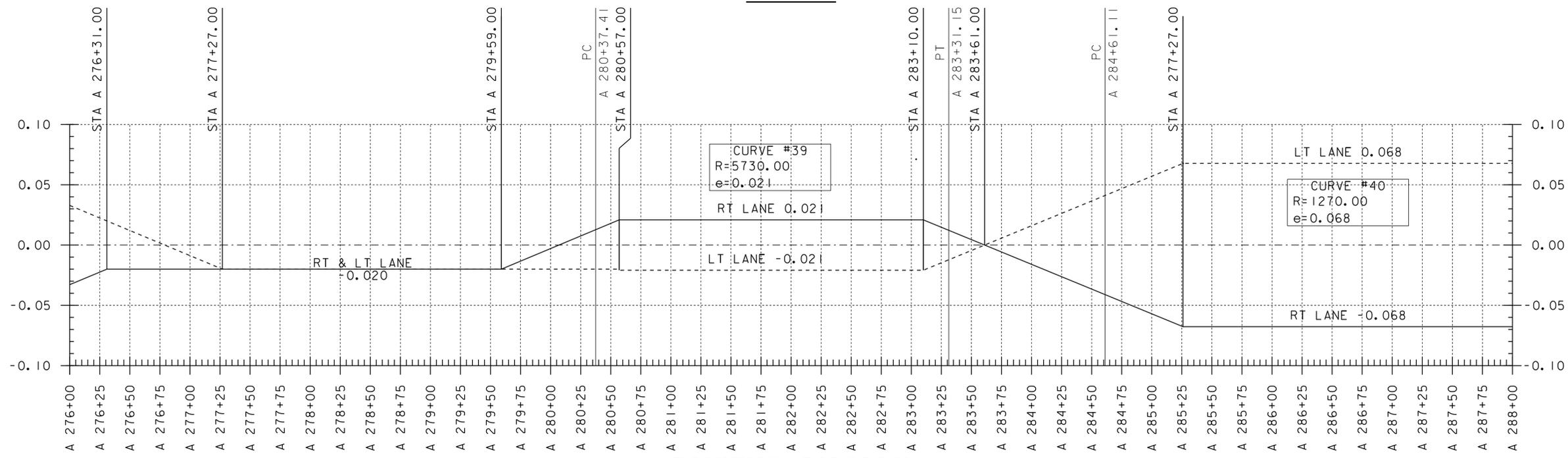
LAYOUT SHEET

SCALE 1" = 20' - 0"

PROJECT NAME: WARDSBORO	PLOT DATE: 31-DEC-2013
PROJECT NUMBER: BF 013-1(22)	DRAWN BY: J. SALVATORI
FILE NAME: s13b074bdr.dgn	CHECKED BY: -----
PROJECT LEADER: K. HIGGINS	SHEET 7 OF 23
DESIGNED BY: J. SALVATORI	
LAYOUT SHEET	



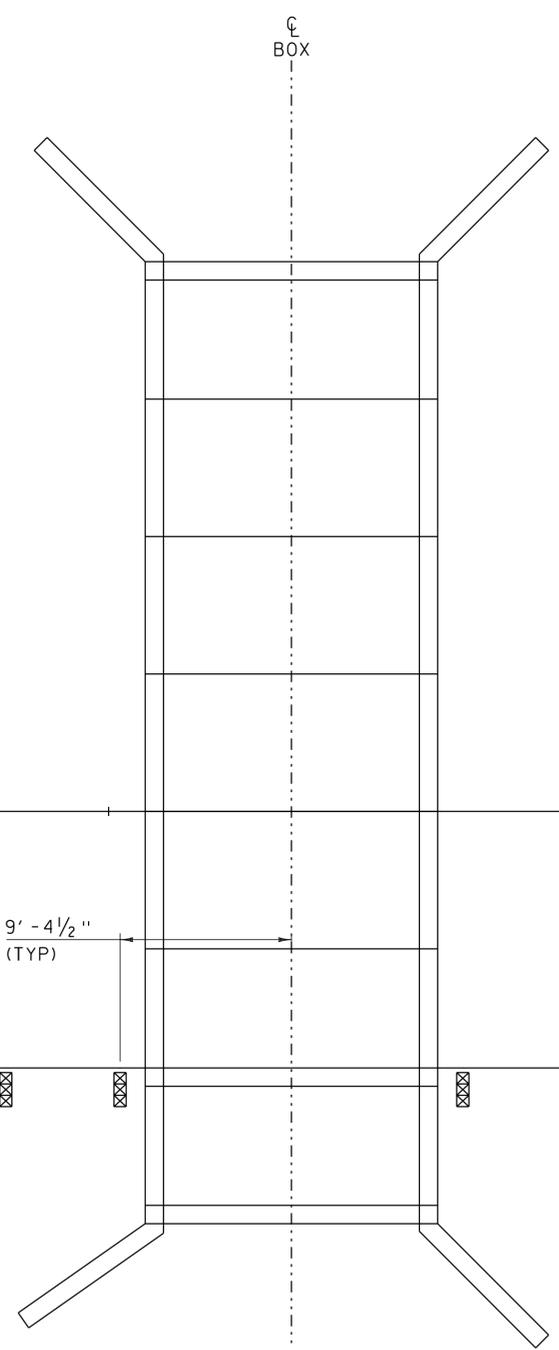
PROFILE



BANKING DIAGRAM

THE GRADES SHOWN TO THE NEAREST TENTH OF A FOOT ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDRETH OF A FOOT ARE FINISH GRADES FOR THE PROPOSED ALIGNMENT. SUPERELEVATIONS ARE SHOWN IN PERCENTAGES.

PROJECT NAME:	WARDSBORO-JAMAICA	PLOT DATE:	31-DEC-2013
PROJECT NUMBER:	ER STP 013-1(I7)	DRAWN BY:	B. KIPP
FILE NAME:	d12b236_pro.bnk	CHECKED BY:	A. KEMPTON
PROJECT LEADER:	K. UPMAL	SHEET	8 OF 23
DESIGNED BY:	B. KIPP		
VT 100 PROFILE & BANKING DIAGRAM			



A 284+00

A 285+00

9' - 4 1/2" (TYP)

DELINEATOR WITH STEEL POST (TYP)

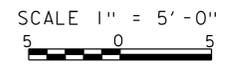
14' - 0" MANUFACTURED TERMINAL END SECTION, TANGENT

14' - 6" HD STEEL BEAM GUARDRAIL, GALVANIZED

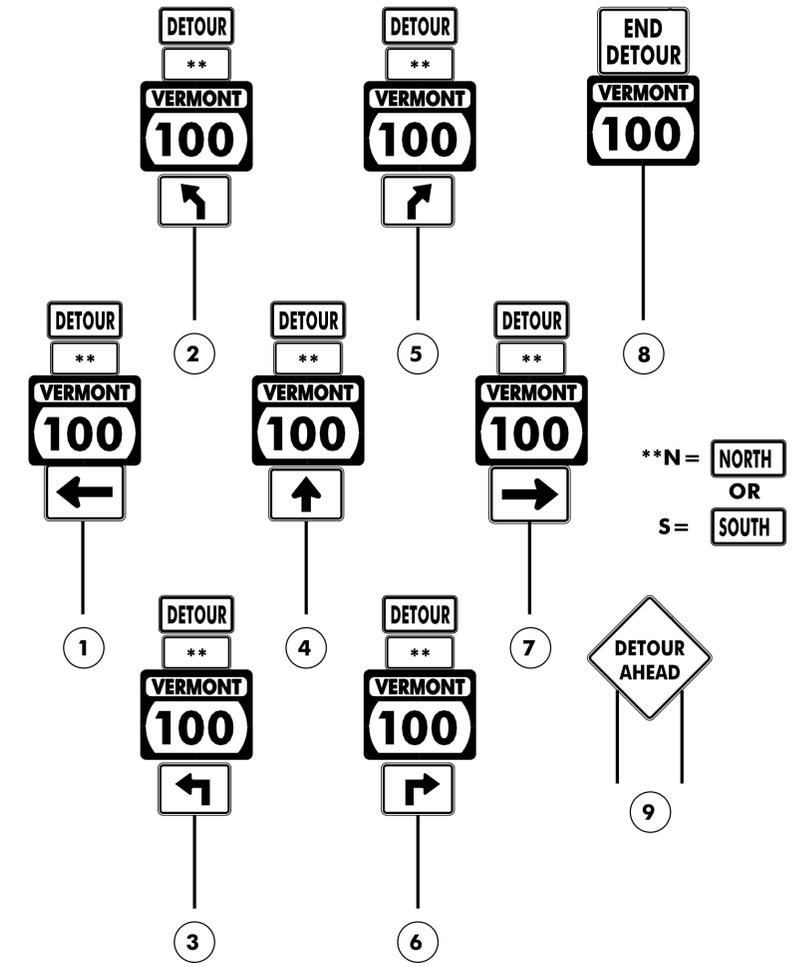
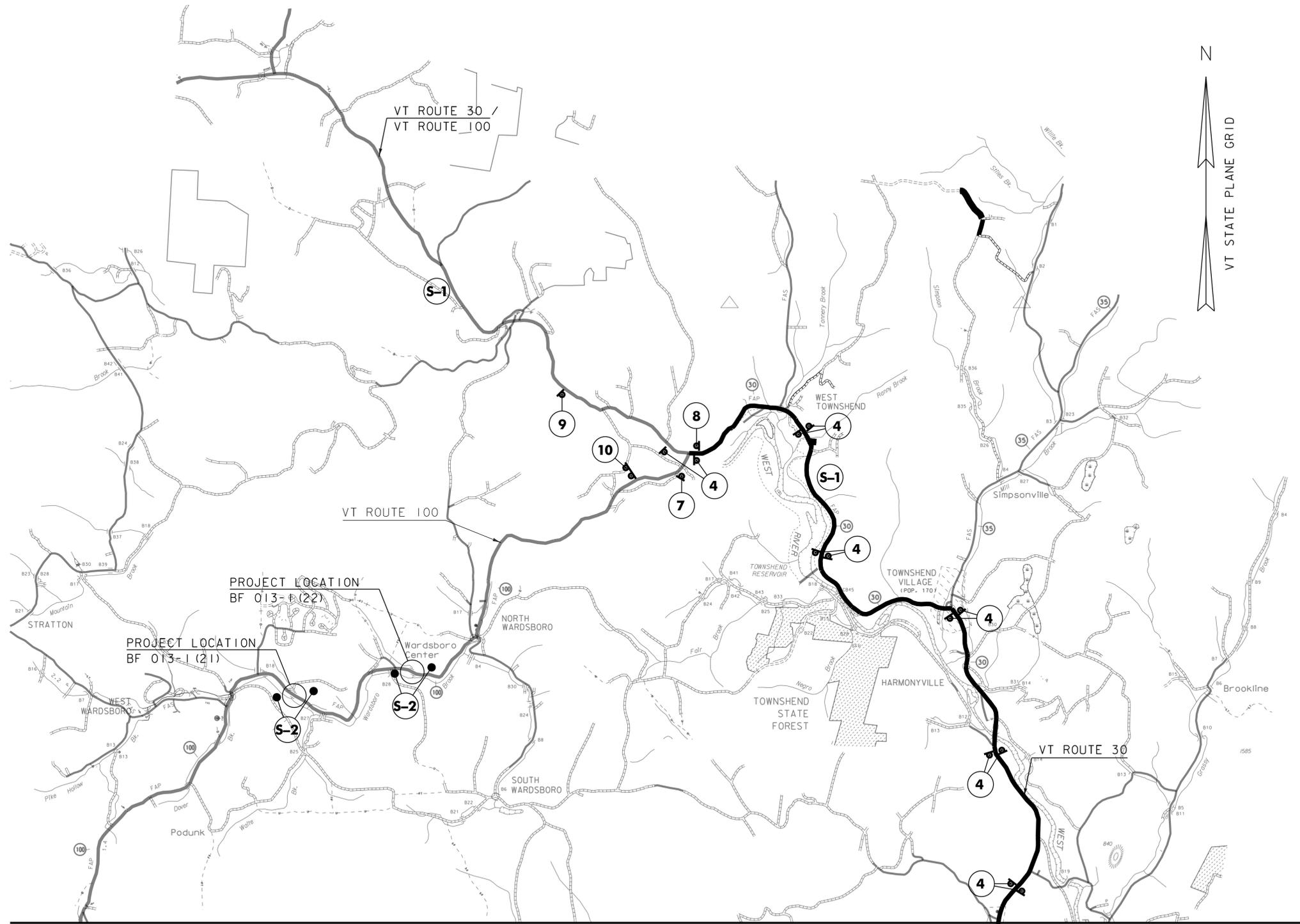
93' - 9" SPECIAL PROVISION (LONGSPAN STEEL BEAM GUARDRAIL)

- NOTES:
- SEE STANDARDS G-1, S-366 AND T-40 FOR ADDITIONAL DETAILS.

RAIL LAYOUT SHEET



PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(22)	
FILE NAME: S13b074rail	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: -----
RAIL LAYOUT SHEET	SHEET 9 OF 23



**N = NORTH
OR
S = SOUTH

VT	100		
C	C	C	C

PHASE 1

S	O	U	T	H		O	F
W	A	R	D	S	-		
B	O	R	O				

PHASE 2

*	F	R	I	M	/	D	D
*	6	P	M	-	M	O	N
	M	/	D	D	6	A	M

PHASE 3

B	R	I	D	G	E		
C	L	O	S	E			

PHASE 1

*	F	R	I	M	/	D	D
*	6	P	M	-	M	O	N
	M	/	D	D	6	A	M

PHASE 2

* M=MONTH
D=DAY
(S-1)

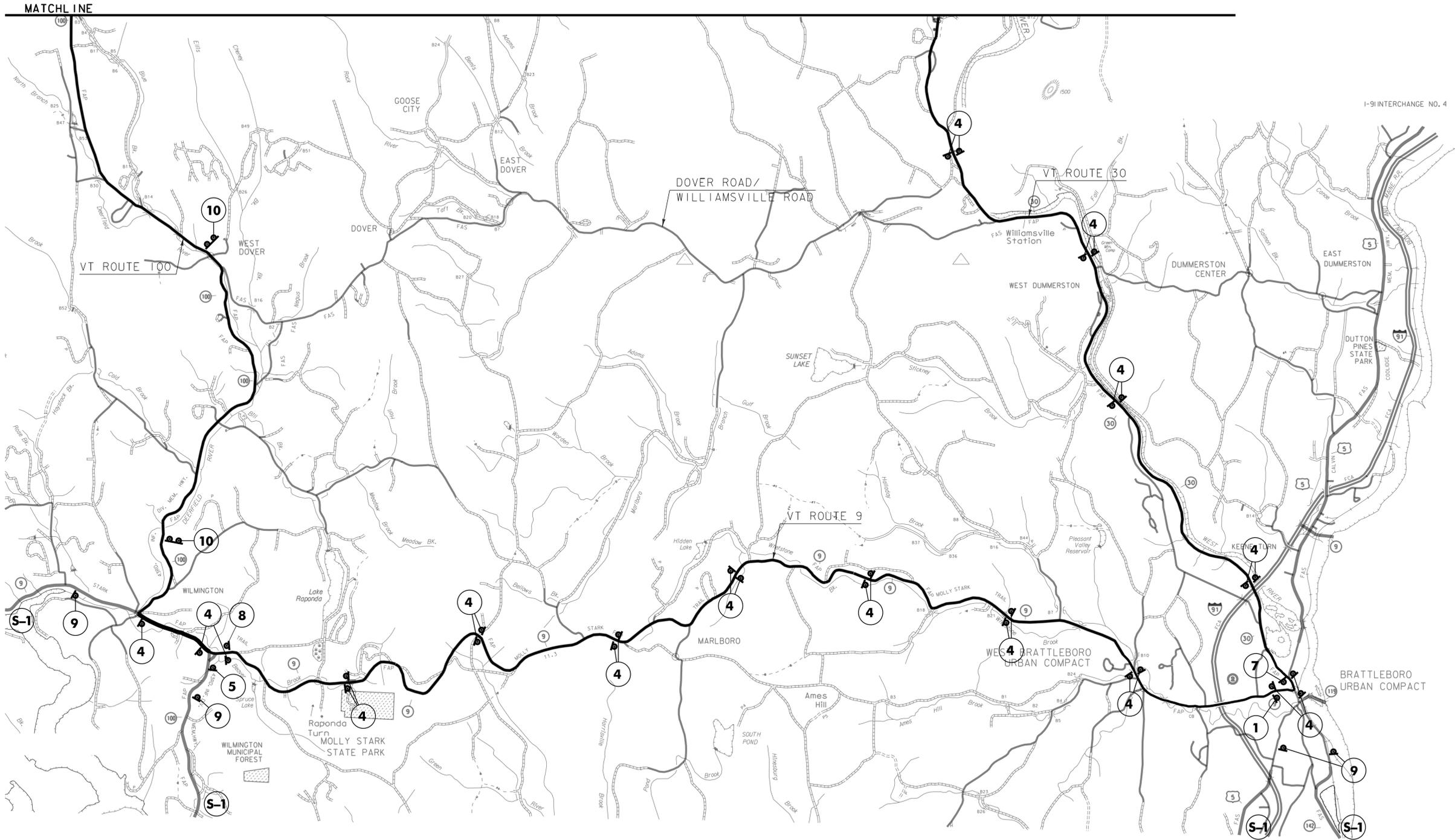
* M=MONTH
D=DAY
(S-2)

ROAD CLOSED
XX MILES AHEAD
NO THRU TRAFFIC

10

DETOUR PLAN I
NOT TO SCALE

PROJECT NAME: WARDSBORO
PROJECT NUMBER: BF 013-1(22)
FILE NAME: s13b074detour.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
DETOUR PLAN I
PLOT DATE: 31-DEC-2013
DRAWN BY: J. SALVATORI
CHECKED BY: ----
SHEET 10 OF 23



DETOUR PLAN 2
NOT TO SCALE

PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(22)	
FILE NAME: s13b074detour.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: ----
DETOUR PLAN 2	SHEET 11 OF 23

SOIL CLASSIFICATION

AASHTO

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

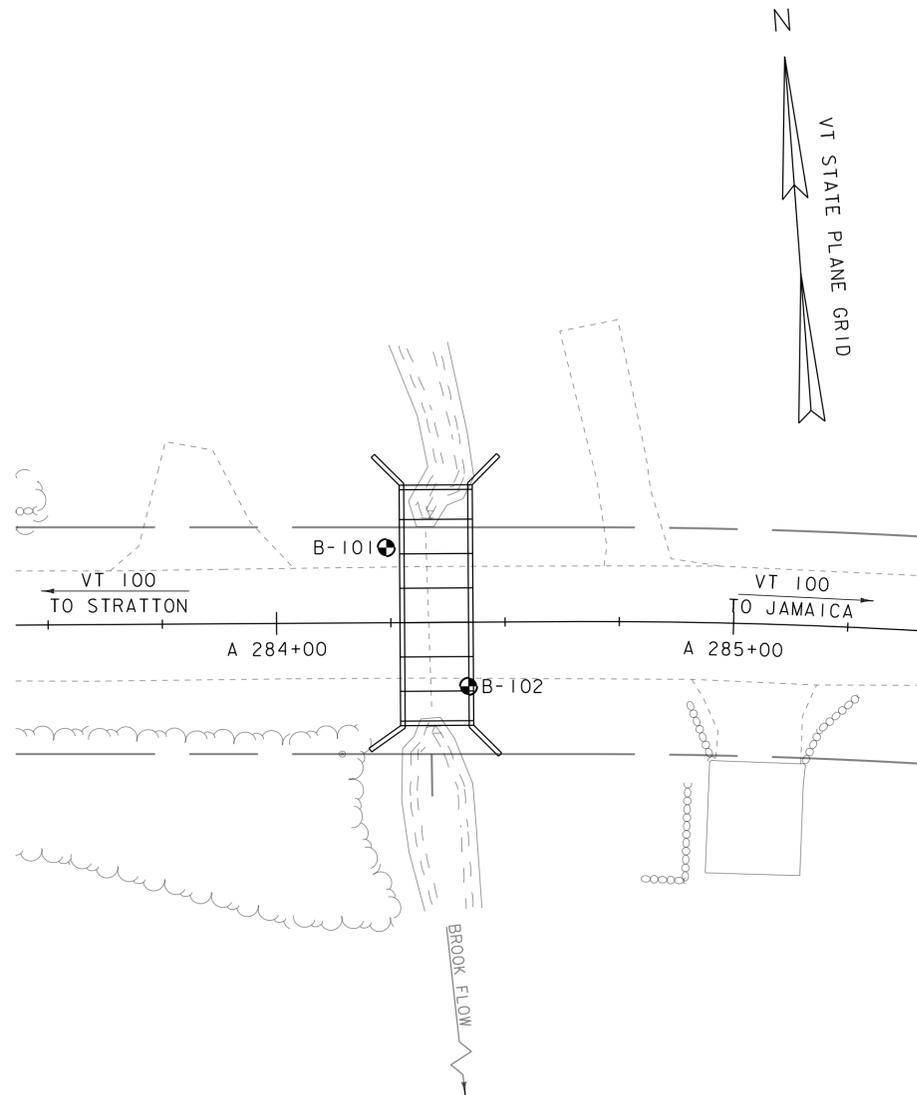
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊕ Auger Boring
- ⊙ Rod Sounding
- S Sample
- N Standard Penetration Test Blow Count Per Foot For: 2" O. D. Sampler 1 3/8" I. D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 1 1/8"
- BX Core Size 1 7/8"
- NX Core Size 2 1/8"
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
- D Dry
- M Moist
- MTW Moist To Wet
- W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- Si Silt
- Cl Clay
- HP Hardpan
- Le Ledge
- NLTD No Ledge To Depth
- CNPF Can Not Penetrate Further
- TLOB Top of Ledge Or Boulder
- NR No Recovery
- Rec. Recovery
- %Rec. Percent Recovery
- ROD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)
- VTSPG NAD83 - See Note 7

COLOR

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



BORING LAYOUT

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

GENERAL NOTES

- The subsurface explorations shown herein were made between 12/4/13 and 12/5/13 by the Agency.
- 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.
- 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.
- Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
- 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.
- 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.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

DEFINITIONS (AASHTO)

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).
- SLT** - Soil < 0.0025" (#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.

PROJECT NAME: WARDSBORO
PROJECT NUMBER: BF 013-1(22)

FILE NAME: si3b074boring.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
BORING INFORMATION SHEET

PLOT DATE: 31-DEC-2013
DRAWN BY: J. SALVATORI
CHECKED BY: -----
SHEET 12 OF 23

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-101	
		WARDSBORO BF 013-1(22) VT-100 BR-73		Page No.: 1 of 1		Pin No.: 13B074	
		Checked By: TDE		Casing		Sampler	
Boring Crew: DAIGNEAULT, GARROW, JUDKINS		Type: WB SS		Date		Depth (ft)	
Date Started: 12/04/13 Date Finished: 12/04/13		I.D.: 4 in 1.5 in		12/04/13		6.0	
VTSPG NAD83: N 194985.67 ft E 1558554.00 ft		Hammer Wt: N.A. 140 lb.		Notes		While drilling.	
Station: 284+24 Offset: -16.40		Hammer Fall: N.A. 30 in.					
Ground Elevation: 1092.0 ft		Hammer/Rod Type: Auto/AWJ					
		Rig: CME 55 TRACK C _e = 1.46					
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-1-b, GrSa, brn, Moist, Rec. = 1.1 ft	16-10-5-5 (15)	10.1	25.1	62.0	12.9
		A-1-a, SaGr, Dk/brn, Moist, Rec. = 0.3 ft, Lab Note: Lots of Broken Rock was within sample.	7-7-9-9 (16)	9.0	50.5	40.5	9.0
		A-1-b, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Lots of Broken Rock was within sample.	8-5-6-8 (11)	6.9	46.7	37.6	15.7
		A-1-b, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Lots of Broken Rock was within sample.	6-8-10-10 (18)	8.1	48.1	40.6	11.3
10		Lab Note, Sample was mostly broken Rock, brn-gry, Moist, Rec. = 0.4 ft	33-23-28-R@3.5" (51)	7.2	64.3	27.1	8.6
		Field Note: Cleaned out with roller cone					
		A-1-b, SaGr, gry, Moist, Rec. = 0.3 ft, Lab Note: Lots of Broken Rock was within sample.	14-R@1.0" (R)	8.5	49.8	36.6	13.6
		Field Note: Cleaned out with NXDC					
15		A-1-b, SiSaGr, gry, Moist, Rec. = 0.3 ft, Lab Note: Lots of Broken Rock was within sample.	23-R@1.0" (R)	8.8	45.4	32.1	22.5
		Field Note: Cleaned out with NXDC					
		A-2-4, GrSiSa, gry, MTW, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample.	30-35-26-R@2.5" (61)	14.4	24.3	48.6	27.1
		A-2-4, SiSa, gry, MTW, Rec. = 1.3 ft	11-19-24-31 (43)	20.1	2.8	65.1	32.1
20		A-2-4, SiSa, gry, Moist, Rec. = 1.4 ft, Cleaned out with NXDC.	4-16-25-30 (41)	15.6	8.6	61.5	29.9
		Field Note: No Recovery	R@1.0"				
		Field Note: Cleaned out with NXDC, Cobbles in cleanout.					
		A-4, SaSi, gry, Moist, Rec. = 0.3 ft	R@5.0"	9.5	17.8	41.0	41.2
25		Field Note: Cleaned out with NXDC					
		A-4, GrSiSa (HP), gry, Moist, Rec. = 1.1 ft	32-47-R@5.0" (R)	9.3	21.0	40.1	38.9
		Hole stopped @ 25.1 ft					
		Remarks: 1. Hole collapsed at 13.4 ft.					
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. C _e is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.							

BORING LOG 2 WARDSBORO BF 013-1(22) GP1 VERMONT ADT GDT 12/16/13

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-102	
		WARDSBORO BF 013-1(22) VT-100 BR-73		Page No.: 1 of 1		Pin No.: 13B074	
		Checked By: TDE		Casing		Sampler	
Boring Crew: DAIGNEAULT, HOOK, JUDKINS		Type: WB SS		Date		Depth (ft)	
Date Started: 12/05/13 Date Finished: 12/05/13		I.D.: 4 in 1.5 in		12/05/13		No water to depth.	
VTSPG NAD83: N 194954.14 ft E 1558569.60 ft		Hammer Wt: N.A. 140 lb.		Notes		No water to depth.	
Station: 284+42 Offset: 14.00		Hammer Fall: N.A. 30 in.					
Ground Elevation: 1091.0 ft		Hammer/Rod Type: Auto/AWJ					
		Rig: CME 55 TRACK C _e = 1.46					
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/ft (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		Visual Description: Broken Rock with sand, brn, Moist, Rec. = 0.4 ft, Insufficient sample for testing.	10-3-3-16 (6)	4.9			
		Visual Description: Broken Rock with sand, brn, Moist, Rec. = 0.4 ft, Insufficient sample for testing.	6-5-5-7 (10)	11.0			
		A-2-4, SiGrSa, brn, Moist, Rec. = 0.4 ft, Lab Note: Broken Rock was within sample.	4-3-3-4 (6)	11.3	28.2	50.3	21.5
		A-2-4, GrSa, brn, Moist, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample. Cleaned out with roller cone.	2-4-3-4 (7)	12.6	31.4	53.0	15.6
10		A-1-b, SaGr, Lt/brn, Moist, Rec. = 1.0 ft, Lab Note: Lots of Broken Rock was within sample. Cleaned out with roller cone.	20-23-26-24 (49)	9.0	57.1	30.8	12.1
		A-1-a, SaGr, Lt/brn, Wet, Rec. = 0.4 ft, Lab Note: Lots of Broken Rock was within sample. Cleaned out with roller cone.	20-38-25-R@2.5" (63)	10.3	63.0	27.4	9.6
		A-1-b, GrSa, Lt/brn, Wet, Rec. = 0.9 ft, Lab Note: Broken Rock was within sample.	11-16-13-11 (29)	14.7	34.8	53.1	12.1
		A-2-4, SiSa, Lt/brn, MTW, Rec. = 1.1 ft	15-25-44-R@0.0" (69)	14.6	13.7	59.5	26.8
15		A-4, SiSa, brn-gry, MTW, Rec. = 1.2 ft	37-39-R@2.5" (R)	12.8	14.6	49.3	36.1
		A-2-4, GrSiSa, Lt/gry, Moist, Rec. = 0.2 ft, Lab Note: Broken Rock was within sample.	R@3.5"	11.2	22.3	47.0	30.7
		Visual Description: GrSiSa, Lt/gry, Moist, Rec. = 0.2 ft, Insufficient sample for testing.	R@3.5"	10.0			
		Field Note: NXDC, Cleaned out casing.					
25		A-2-4, SiSa, Lt/gry, Moist, Rec. = 1.3 ft, Lab Note: Broken Rock was within sample.	35-22-28-R@2.5" (50)	16.2	14.9	60.1	25.0
		A-4, SiSa, Lt/gry, Moist, Rec. = 1.2 ft	15-29-R@5.0" (R)	13.0	12.6	45.5	41.9
		Hole stopped @ 25.4 ft					
		Remarks: 1. Hole collapsed at 25.4 ft.					
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. C _e is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.							

BORING LOG 2 WARDSBORO BF 013-1(22) GP1 VERMONT ADT GDT 12/16/13

PROJECT NAME: WARDSBORO
PROJECT NUMBER: BF 013-1(22)

FILE NAME: si3b074boring.dgn PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI CHECKED BY: -----
BORING LOGS SHEET 13 OF 23

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF THE EXISTING CULVERT WITH A NEW REINFORCED PRECAST CONCRETE BOX CULVERT WITH RELATED APPROACH AND CHANNEL WORK.

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

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.32 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS A SADDLE THAT IS MOSTLY WELL ESTABLISHED FOREST WITH OCCASIONAL OPEN AREAS.

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

AN UNNAMED BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS STEEP, SINUOUS, NARROW, WITH A CONFINED AND ARMORED CHANNEL AT THE SITE. THE STREAM BED CONSISTS OF GRAVEL, COBBLES AND BOULDERS.

1.2.3 VEGETATION

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

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDHAM, VERMONT. SOILS ON THE PROJECT SITE ARE AS FOLLOWS:

COLTON LOAMY FINE SAND, WITH 2-8% SLOPES. "K" FACTOR = 0.17

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

1.2.5 SENSITIVE RESOURCE AREAS

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

1.3 RISK EVALUATION

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

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

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

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

1.4.1 MARK SITE BOUNDARIES

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

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

1.4.2 LIMIT DISTURBANCE AREA

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

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

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

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

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

1.4.4 INSTALL SEDIMENT BARRIERS

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

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

FILTER CURTAINS SHALL BE INSTALLED ON THE INLET AND OUTLET ENDS OF THE PROPOSED BOX AS SHOWN IN THE EROSION CONTROL PLAN.

1.4.5 DIVERT UPLAND RUNOFF

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

NO DIVERSIONARY MEASURES ARE ANTICIPATED ON THIS PROJECT.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

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

NO CHECK STRUCTURES ARE ANTICIPATED ON THIS PROJECT.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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

NO PERMANENT CONTROLS ARE ANTICIPATED ON THIS PROJECT.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

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

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

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

1.4.9 WINTER STABILIZATION

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

1.4.10 STABILIZE SOIL AT FINAL GRADE

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

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

1.4.11 DE-WATERING ACTIVITIES

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

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

1.4.12 INSPECT YOUR SITE

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

1.5 SEQUENCE AND STAGING

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

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

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

PROJECT NAME: WARDSBORO

PROJECT NUMBER: BF 013-1(22)

FILE NAME: si3b074epsc.nar.dgn

PROJECT LEADER: K. HIGGINS

DESIGNED BY: J. SALVATORI

EPSC NARRATIVE

PLOT DATE: 31-DEC-2013

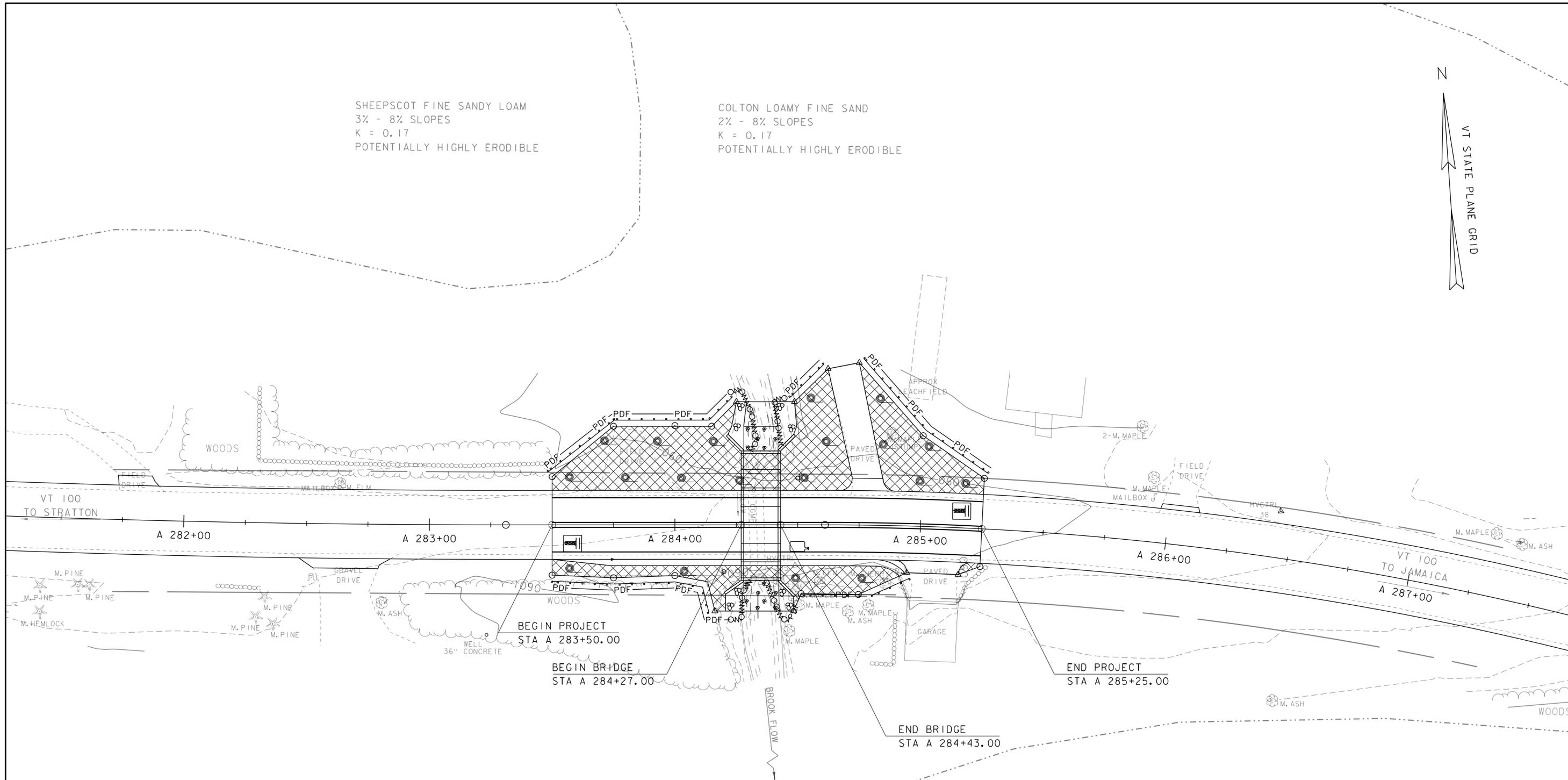
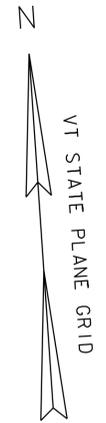
DRAWN BY: J. SALVATORI

CHECKED BY: ---

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SHEEPSCOT FINE SANDY LOAM
 3% - 8% SLOPES
 K = 0.17
 POTENTIALLY HIGHLY ERODIBLE

COLTON LOAMY FINE SAND
 2% - 8% SLOPES
 K = 0.17
 POTENTIALLY HIGHLY ERODIBLE



NOTES:

1. EXISTING CONTOURS SHOWN. SEE CROSS SECTIONS FOR FINAL CONDITIONS.
2. FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.

EPSC PLAN

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

PROJECT NAME: WARDSBORO
 PROJECT NUMBER: BF 013-1(22)

FILE NAME: s13b074bdr.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: J. SALVATORI
 EPSC PLAN

PLOT DATE: 31-DEC-2013
 DRAWN BY: J. SALVATORI
 CHECKED BY: -----
 SHEET 15 OF 23

VAOT RURAL AREA MIX					
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREeping RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX					
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREeping RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	88%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

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

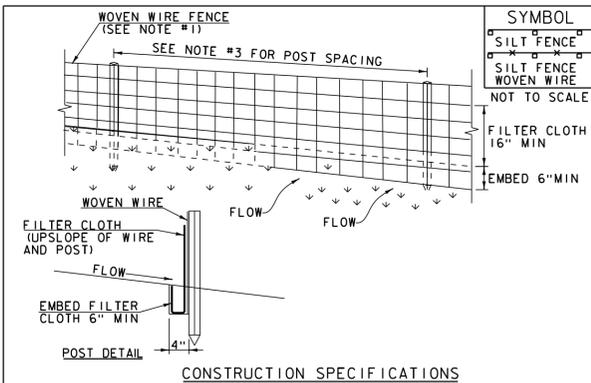
CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

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



- 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.
- FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
- 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'.
- 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.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

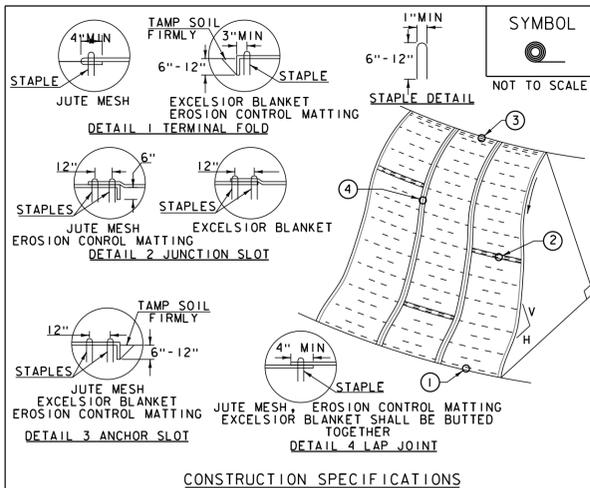
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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 FOR GEOTEXTILE OR SILT FENCE OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED.

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



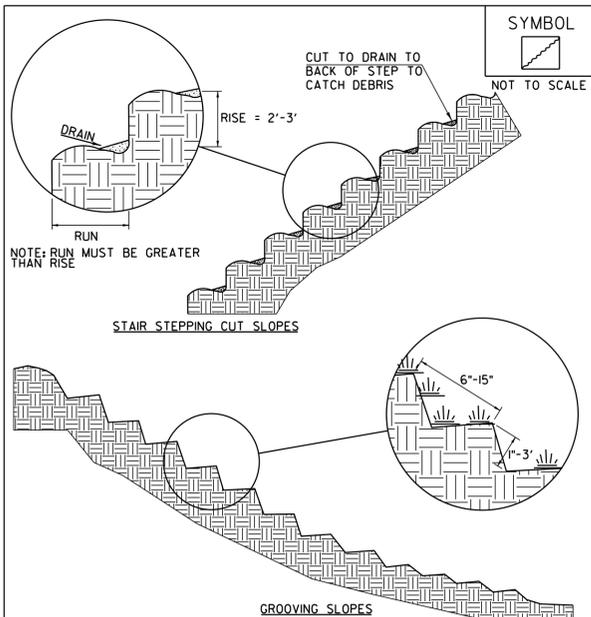
- APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
- APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
- STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' ROLL OF MATERIAL.
- DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
- 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 FOR TEMPORARY EROSION MATTING OR PERMANENT EROSION MATTING.

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



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

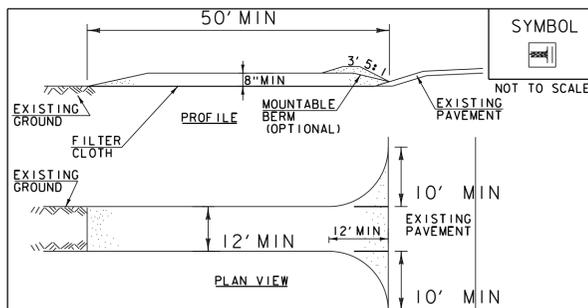
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



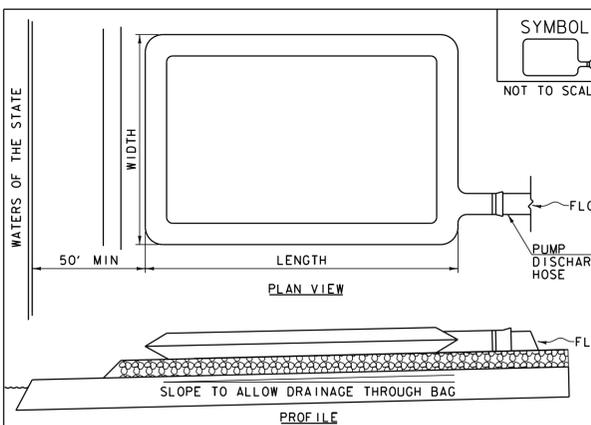
- STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH- NOT LESS THAN 50'. (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
- THICKNESS- NOT LESS THAN 8".
- WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
- GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
- 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.
- 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.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- 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.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



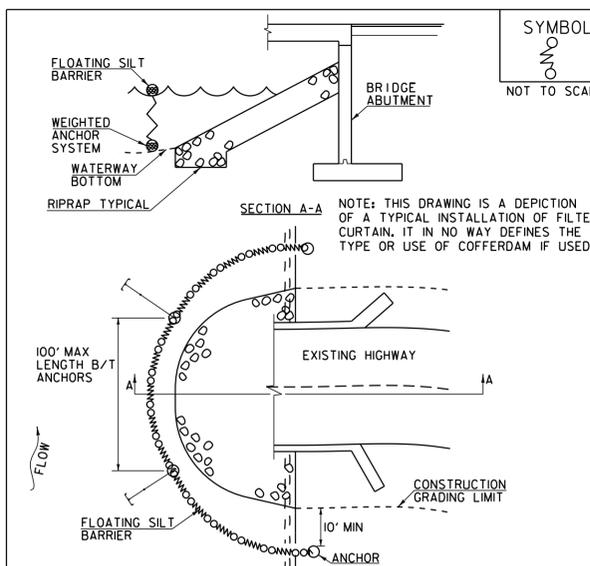
- THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
- FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
- FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION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

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

FILTER BAG

NOTES: REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



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

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

FILTER CURTAIN

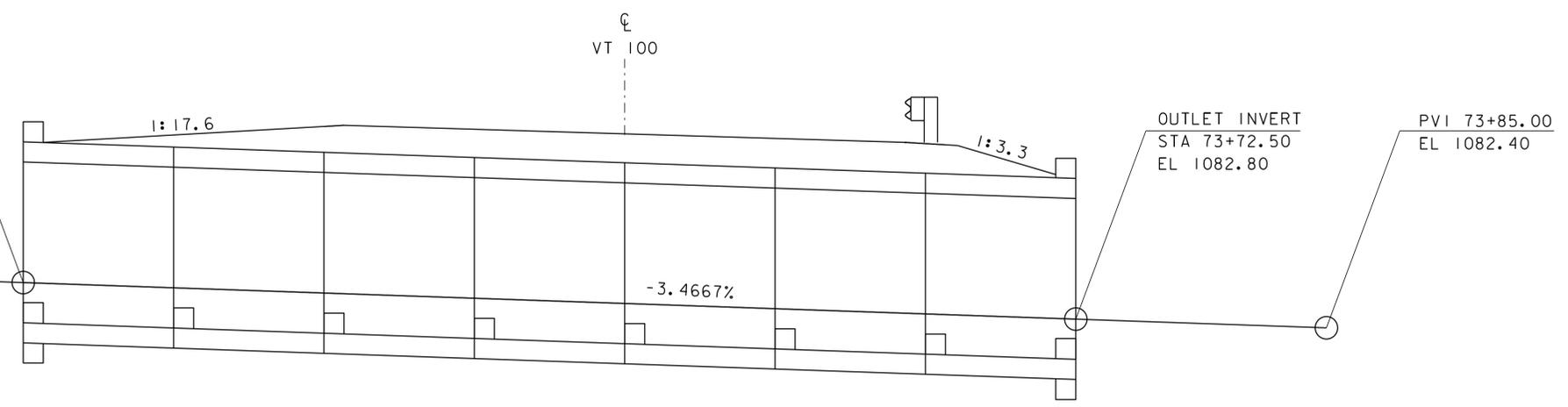
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

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

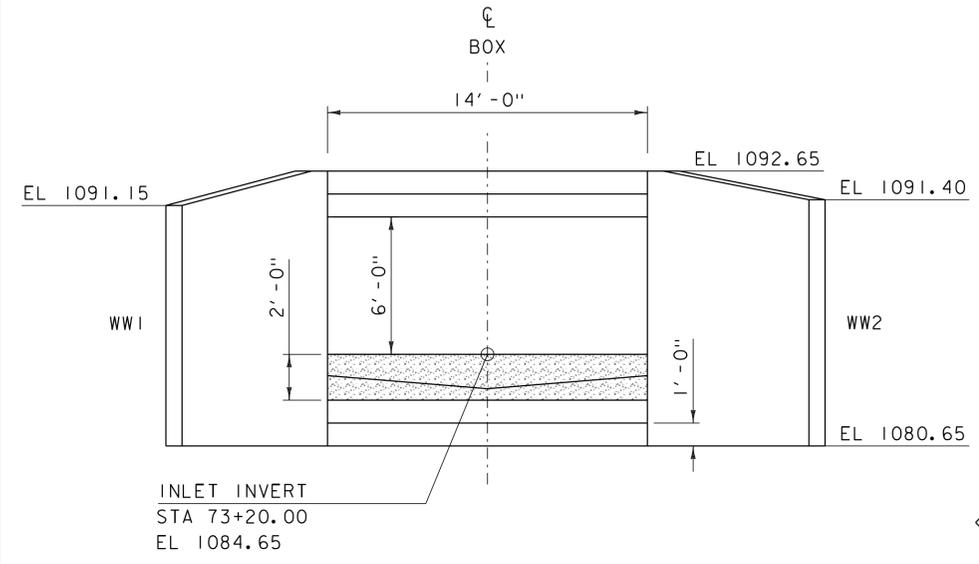
PROJECT NAME: WARDSBORO
PROJECT NUMBER: BF 013-1(22)

FILE NAME: s13b074epsc.def.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
EPSC DETAILS

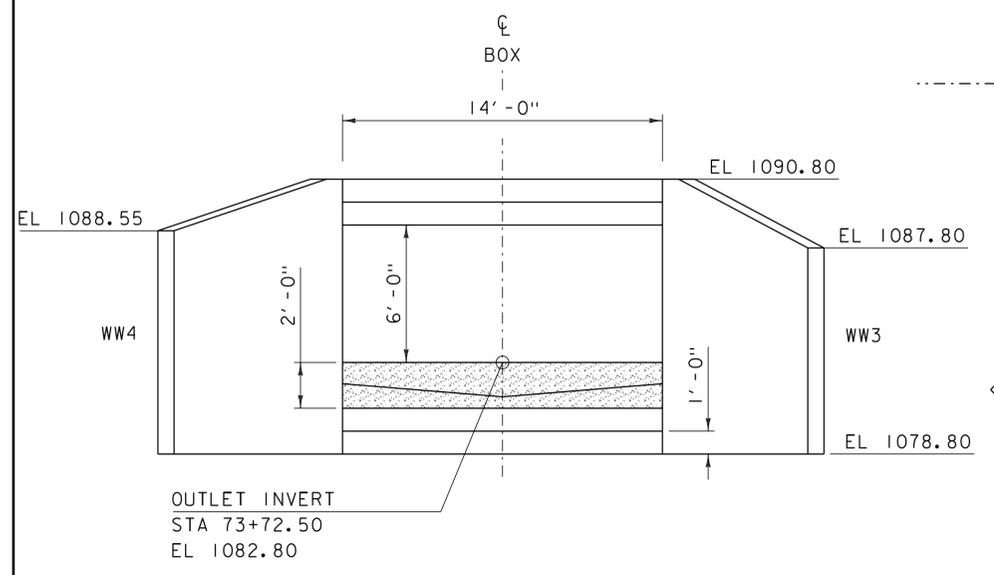
PLOT DATE: 31-DEC-2013
DRAWN BY: J. SALVATORI
CHECKED BY: ---
SHEET 16 OF 23



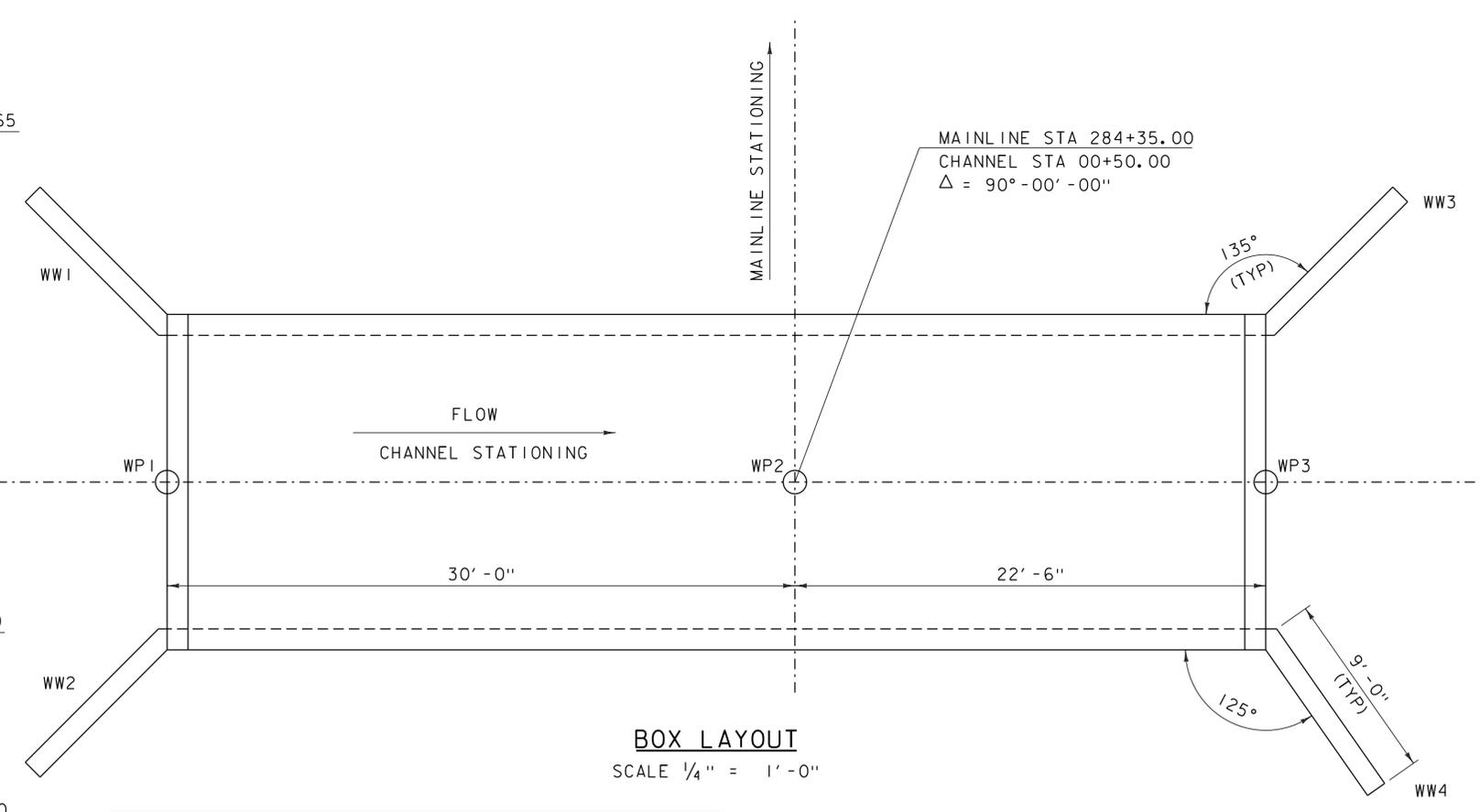
BOX PROFILE
SCALE 1/4" = 1'-0"



INLET ELEVATION
SCALE 1/4" = 1'-0"



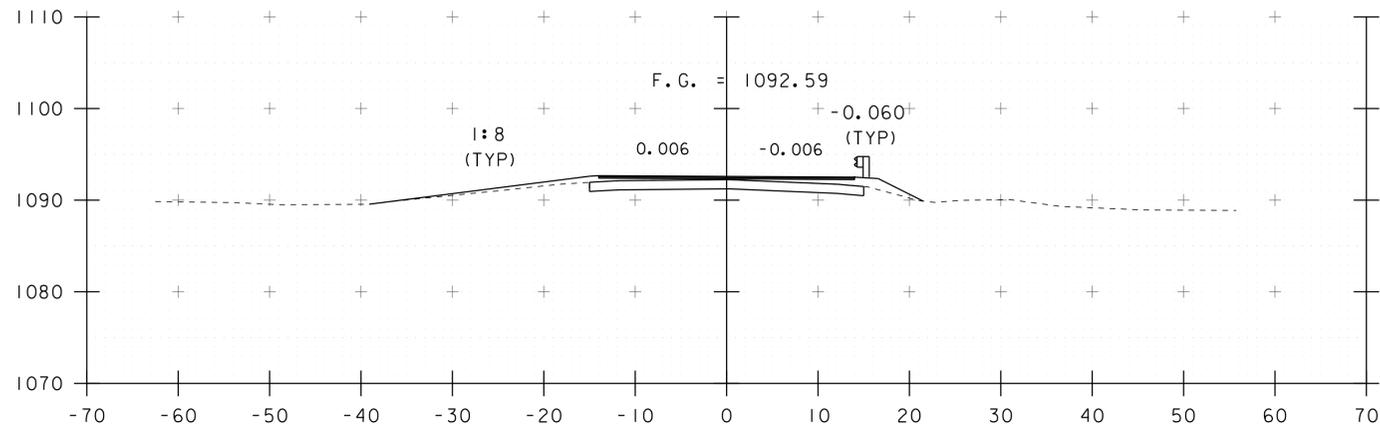
OUTLET ELEVATION
SCALE 1/4" = 1'-0"



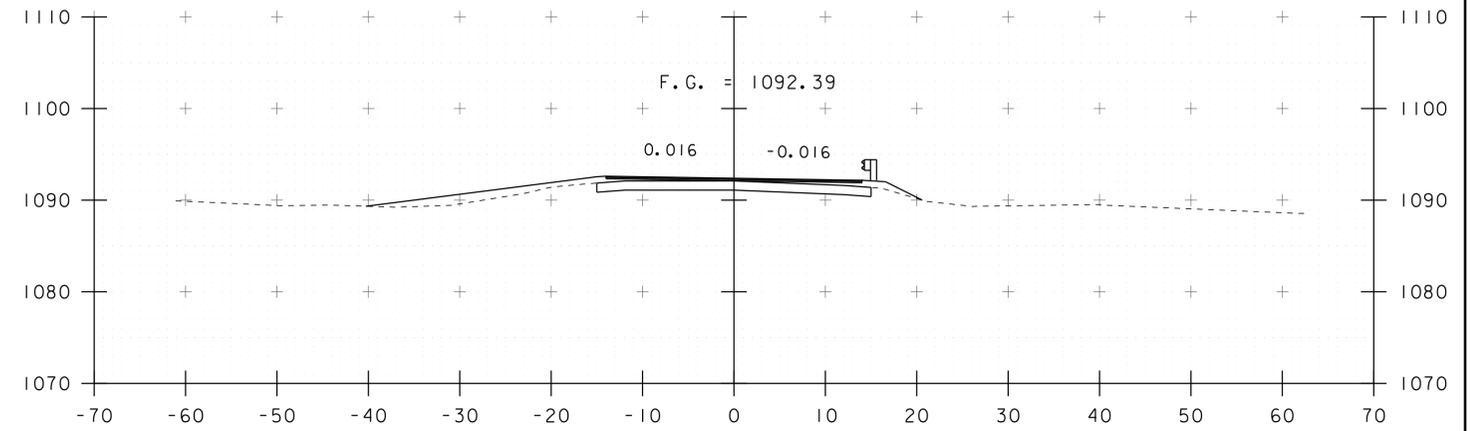
BOX LAYOUT
SCALE 1/4" = 1'-0"

- NOTES:**
1. DIMENSIONS SHOWN ARE BASED ON AN ASSUMED WALL THICKNESS OF 1'-0"
 2. THE PRECAST BOX SECTIONS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND SHAPE WILL BE DEPENDENT ON THE FABRICATOR.

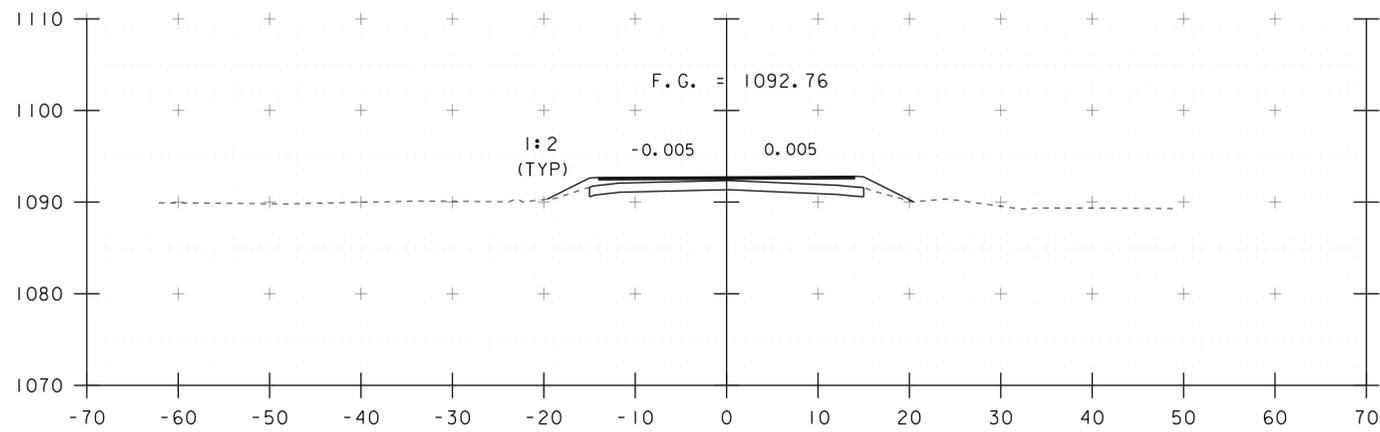
PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(22)	
FILE NAME: sl3b074box.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: G. LAROCHE
BOX LAYOUT	SHEET 17 OF 23



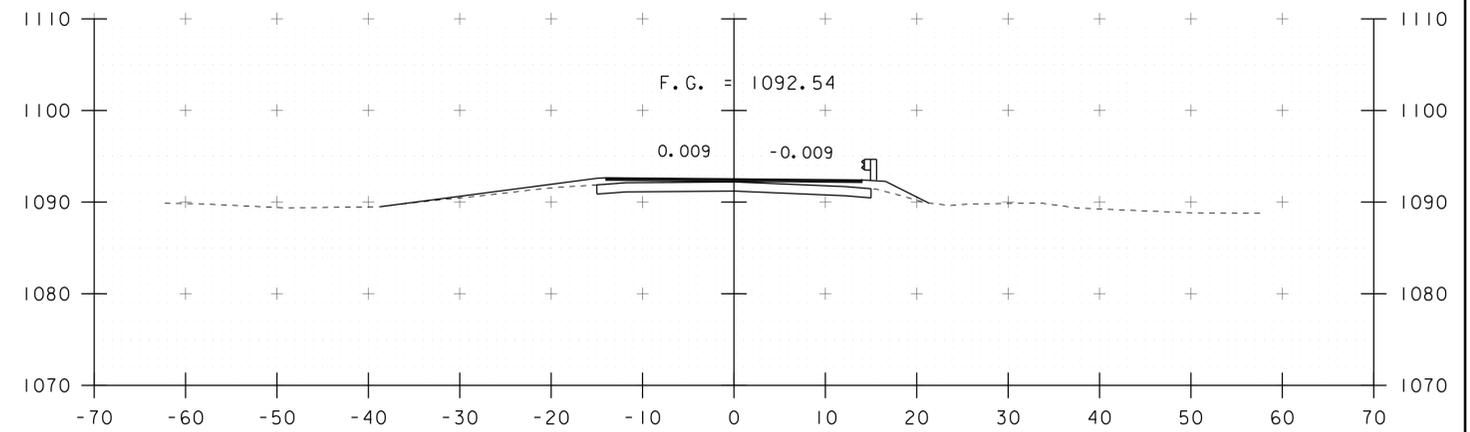
A 283+75



A 284+00



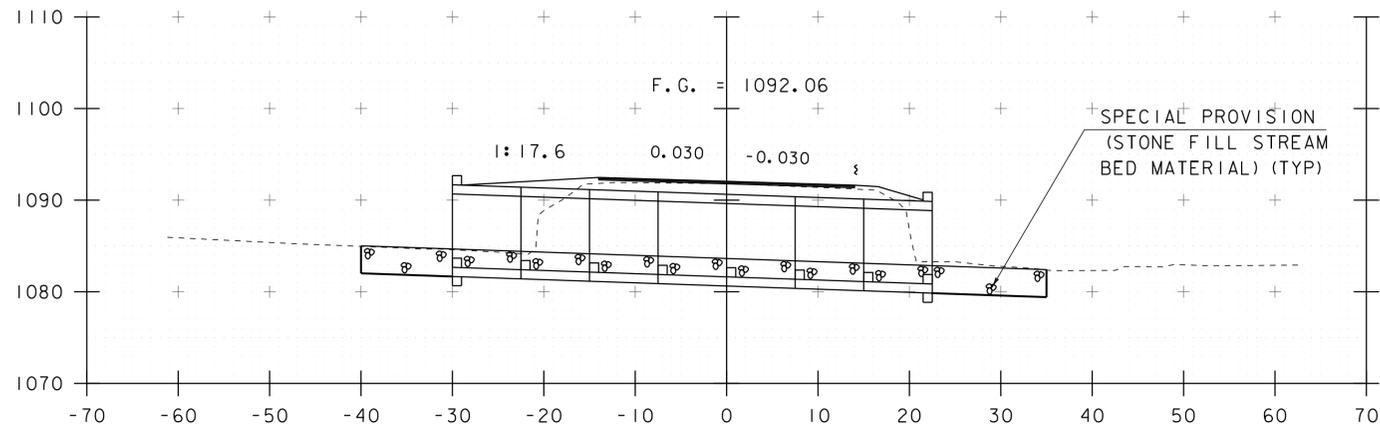
A 283+50
BEGIN PROJECT



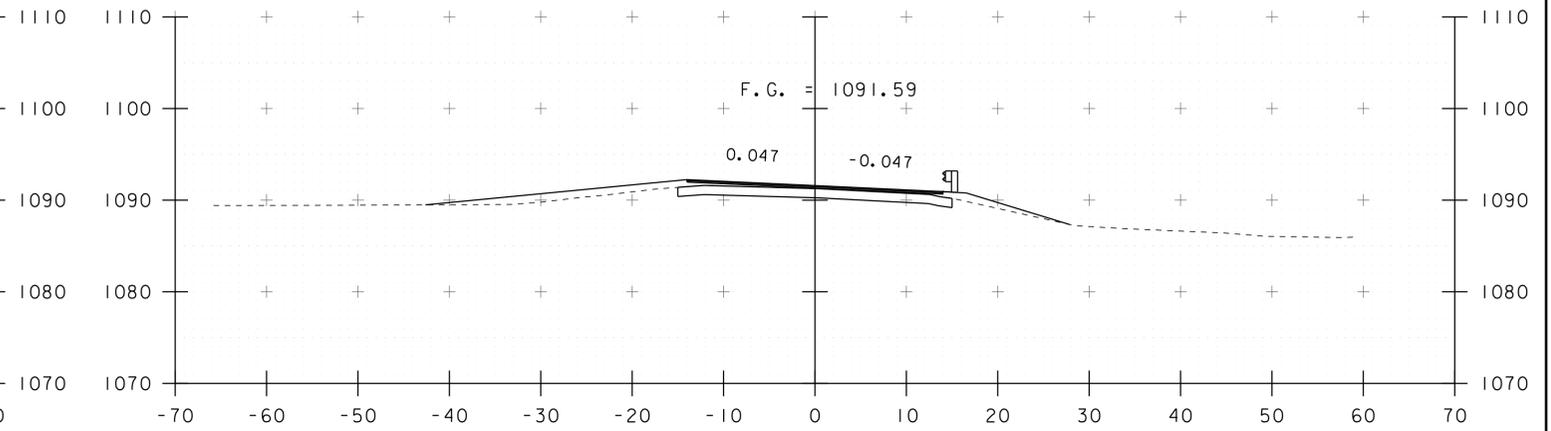
A 283+82
FIELD DRIVE

STA. A 283+50 TO STA. A 284+00

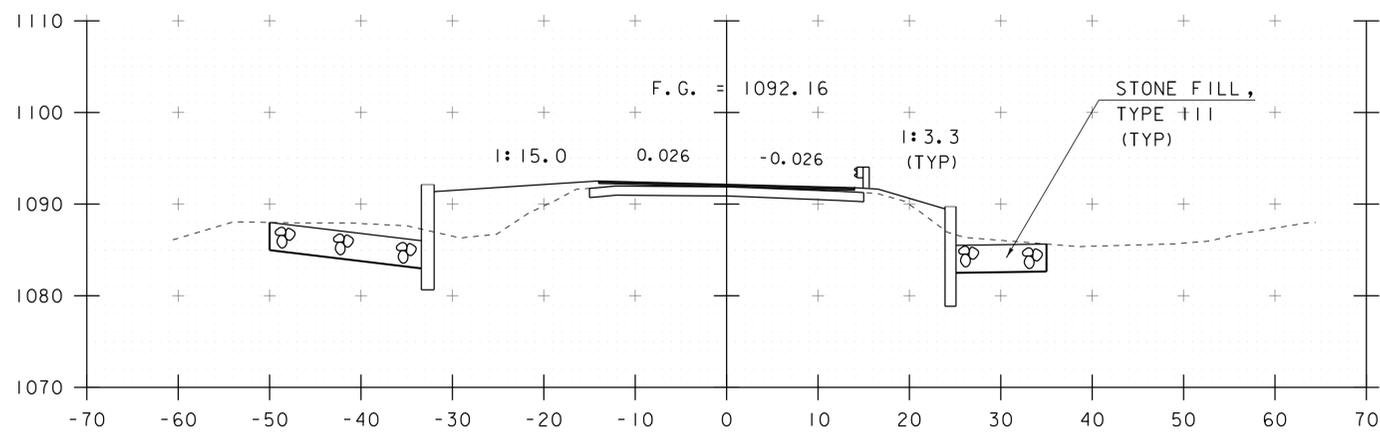
PROJECT NAME: WARDBORO	
PROJECT NUMBER: BF 013-1(22)	
FILE NAME: s13b074xs.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: J. SALVATORI	CHECKED BY: J. SALVATORI
MAINLINE SECTIONS	SHEET 18 OF 23



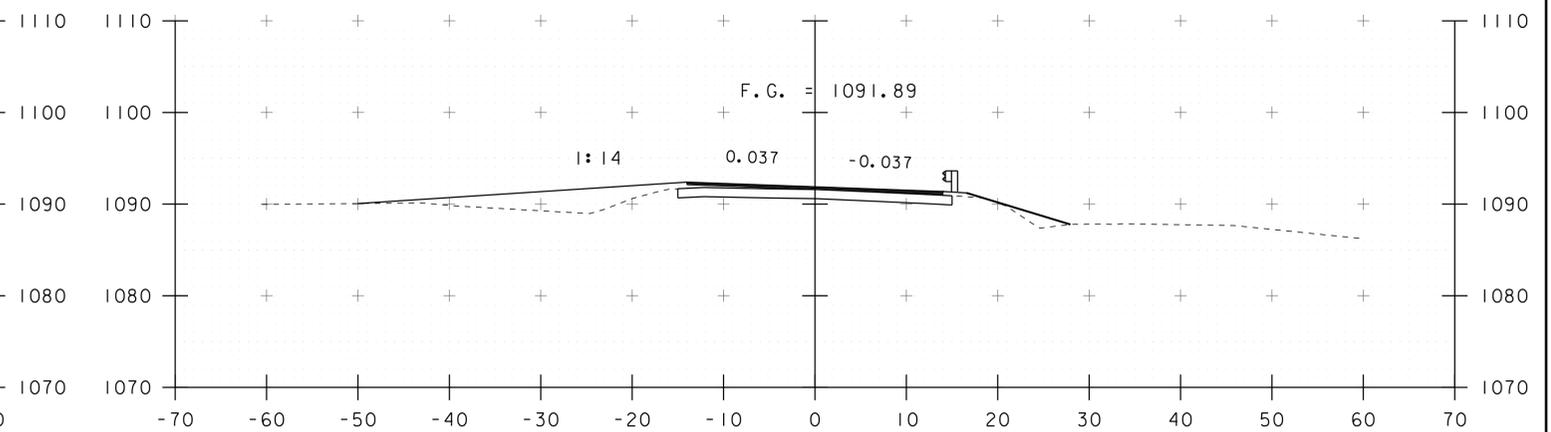
A 284+35



A 284+75



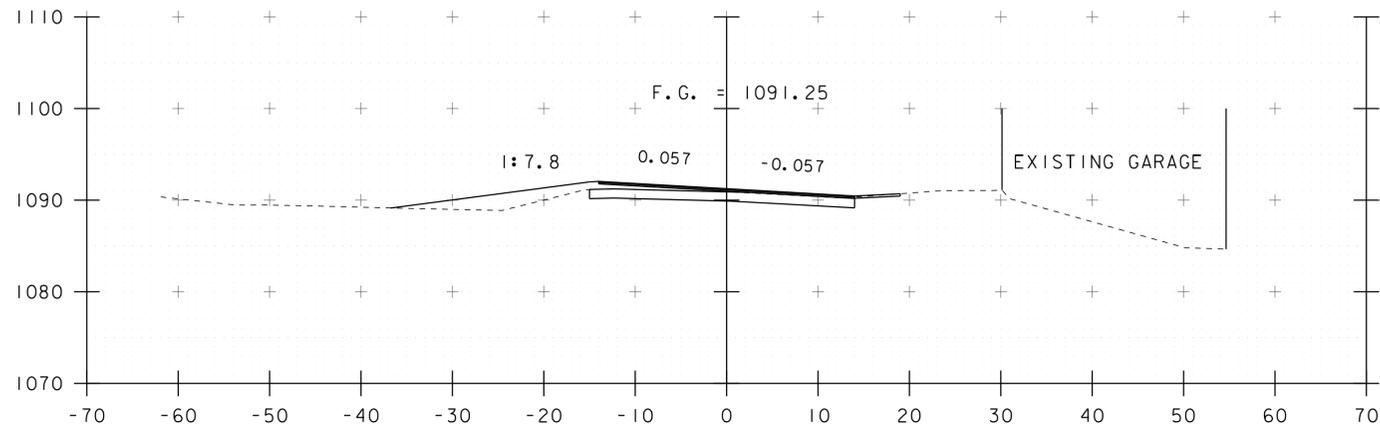
A 284+25



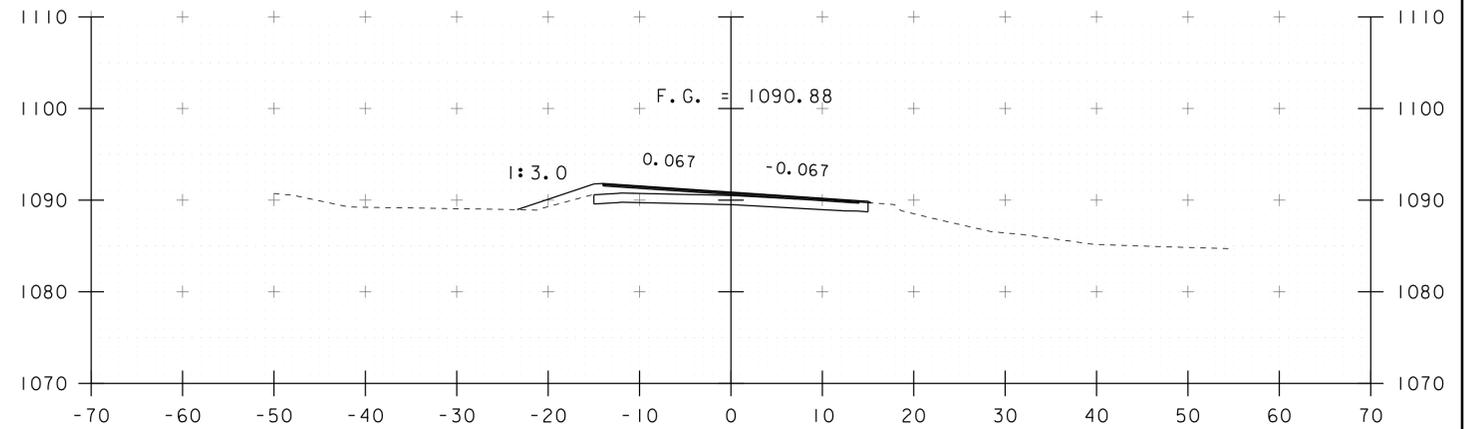
A 284+50

STA. A 284+25 TO STA. A 284+75

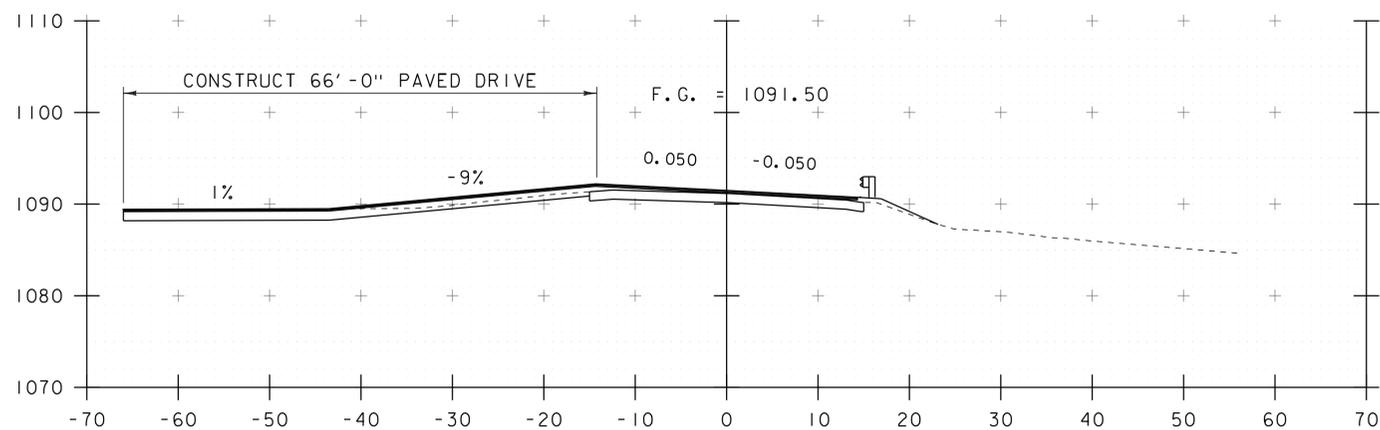
PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(22)	
FILE NAME: s13b074xs.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: J. SALVATORI	CHECKED BY: J. SALVATORI
MAINLINE SECTIONS	SHEET 19 OF 23



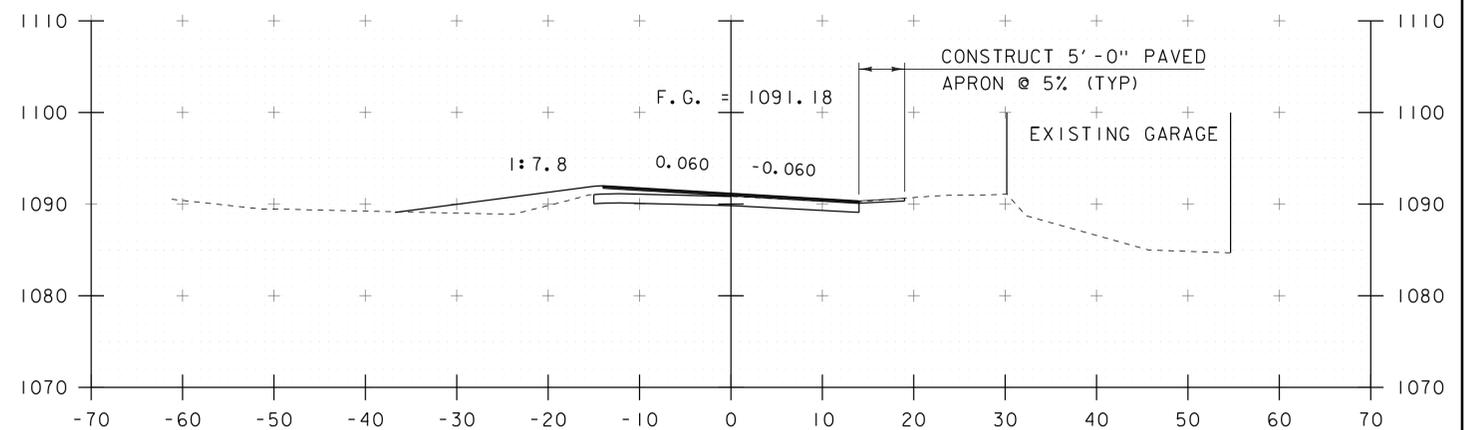
A 285+00



A 285+25
END PROJECT



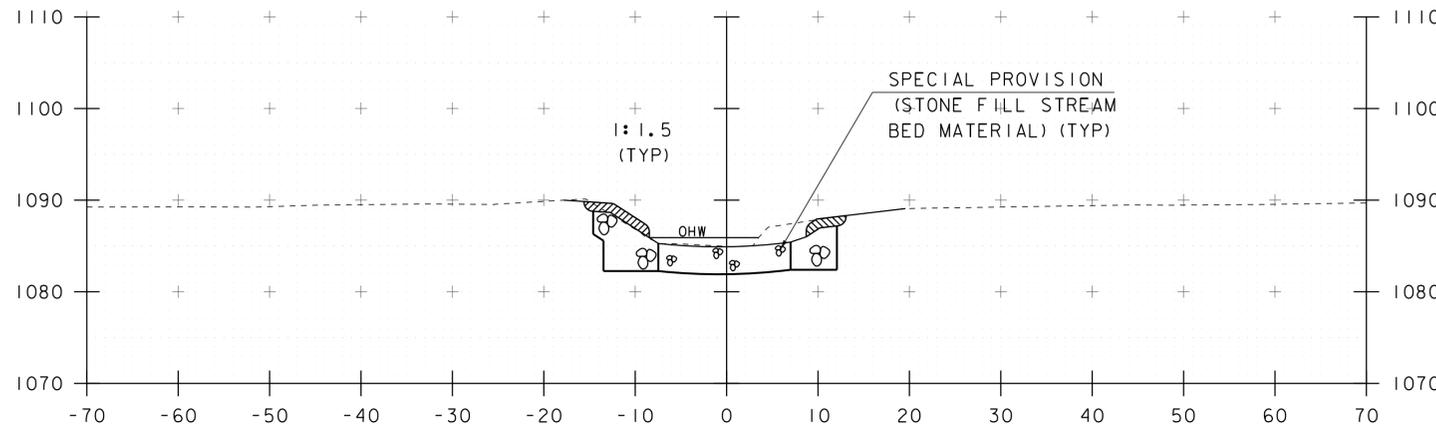
A 284+82 SKEWED @ 12°
CL DRIVEWAY



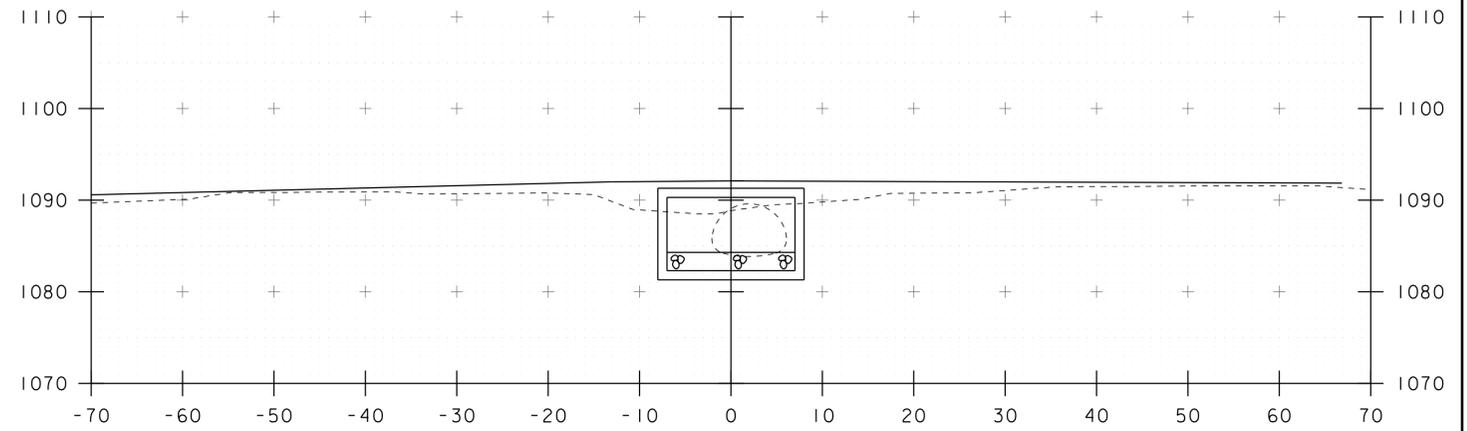
A 285+05
CL DRIVEWAY

STA. A 284+82 TO STA. A 285+25

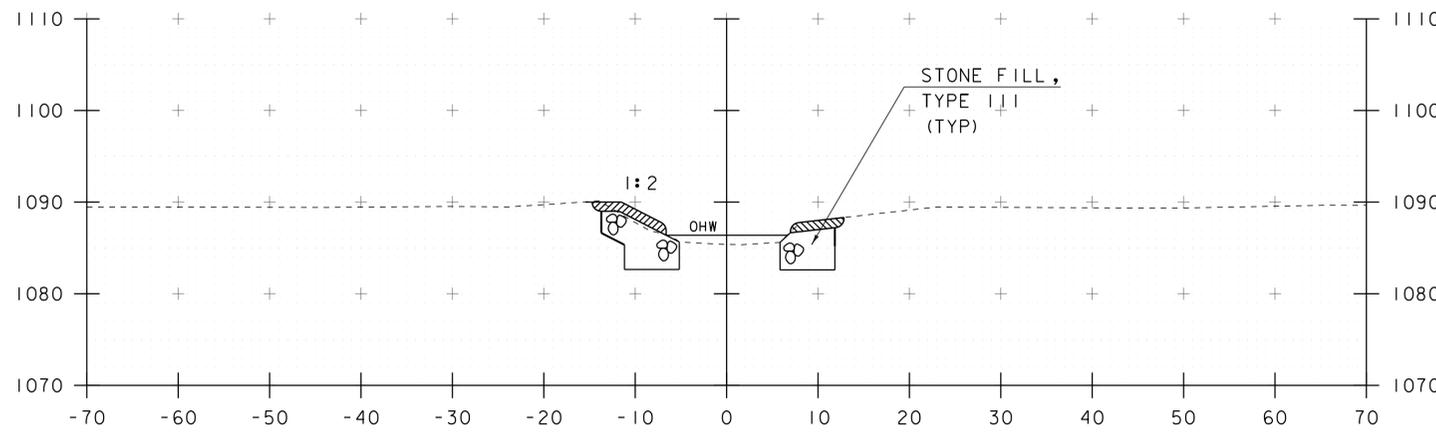
PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(22)	
FILE NAME: sl3b074xs.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: J. SALVATORI	CHECKED BY: J. SALVATORI
MAINLINE SECTIONS	SHEET 20 OF 23



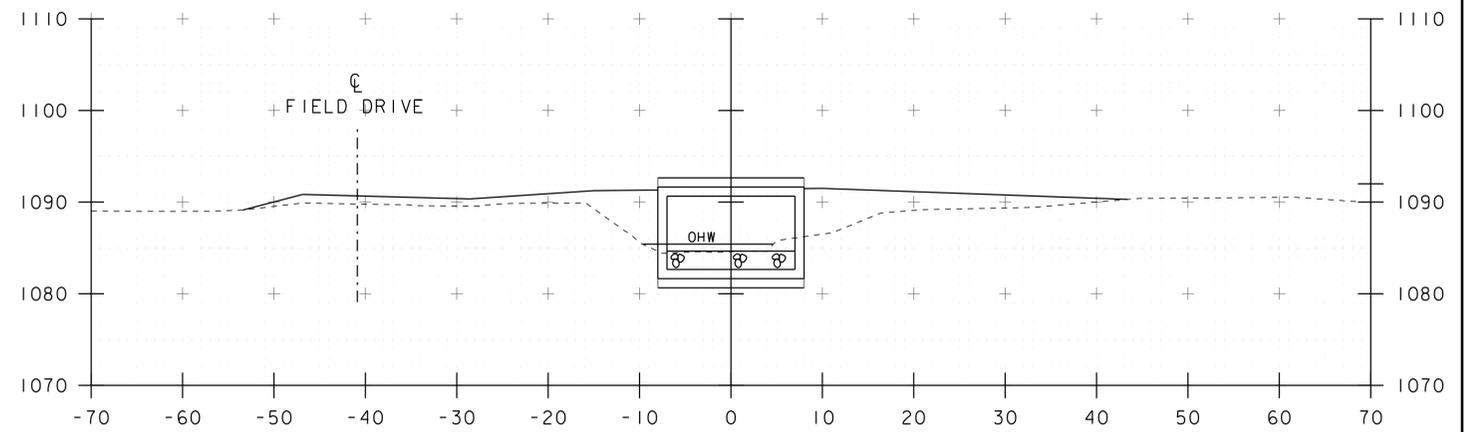
73+10



73+30



73+00



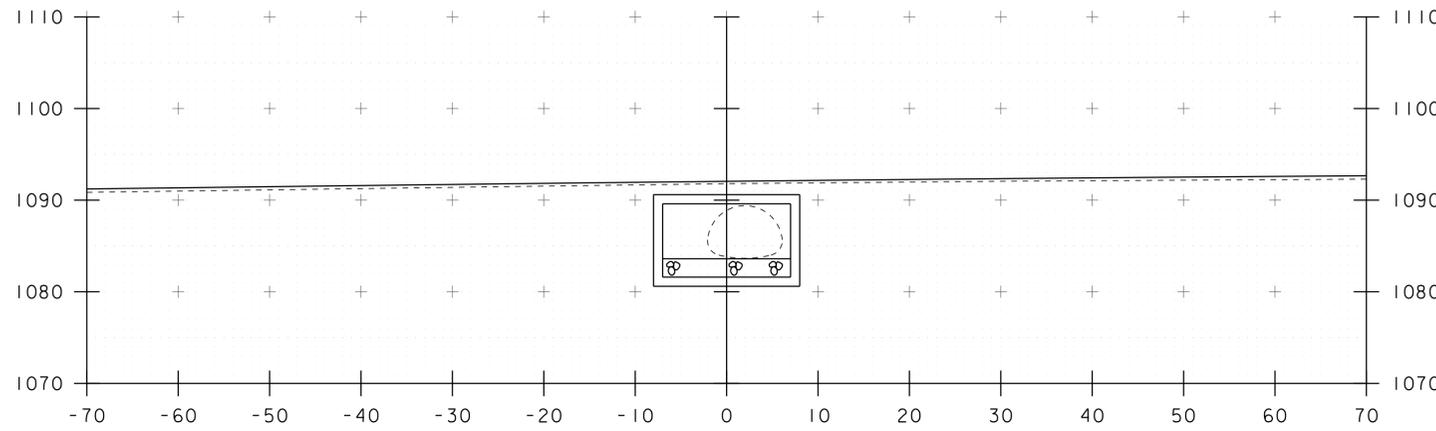
73+20

STA 73+00.00
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL, TYPE III
 BEGIN GRUBBING MATERIAL

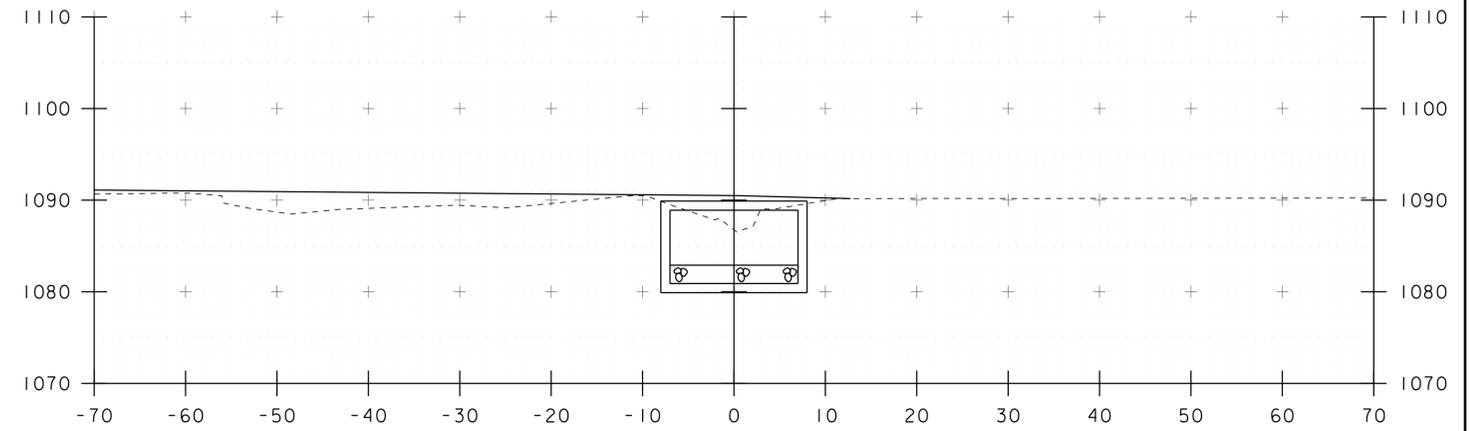
STA 73+20.00
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GEOTEXTILE UNDER STONE FILL
 END STONE FILL, TYPE III
 END GRUBBING MATERIAL

STA. 73+00 TO STA. 73+30

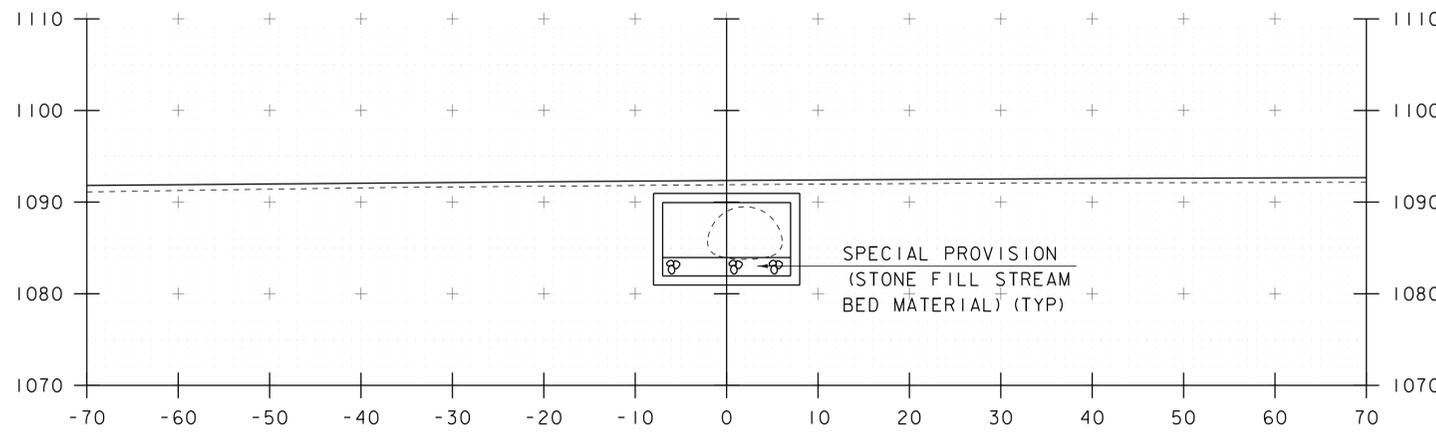
PROJECT NAME: WARDSBORO	
PROJECT NUMBER: BF 013-1(22)	
FILE NAME: s13b074xs.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: G. LAROCHE
CHANNEL SECTIONS	SHEET 21 OF 23



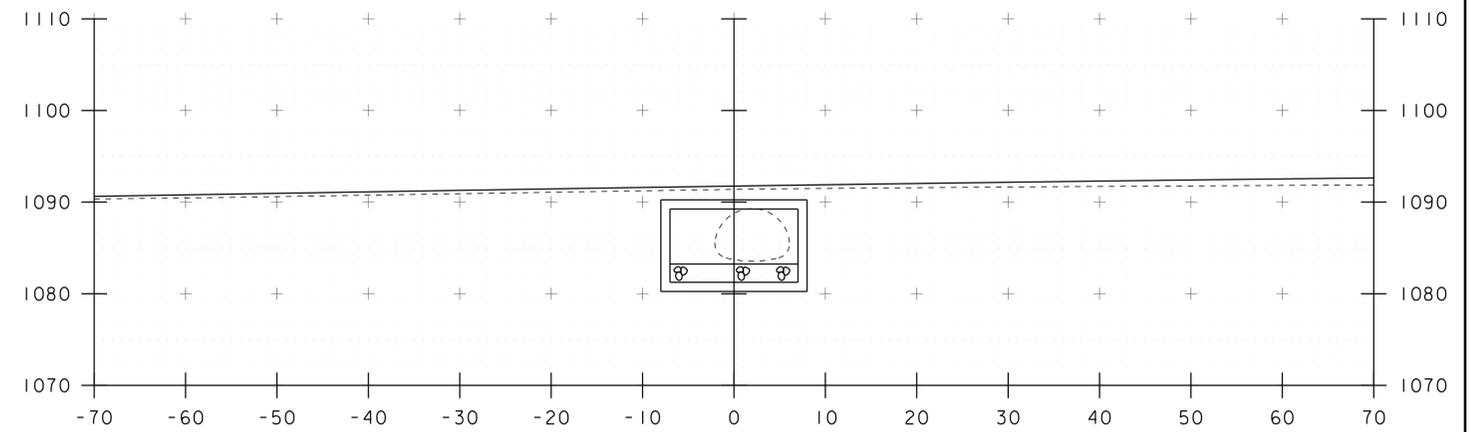
73+50



73+70



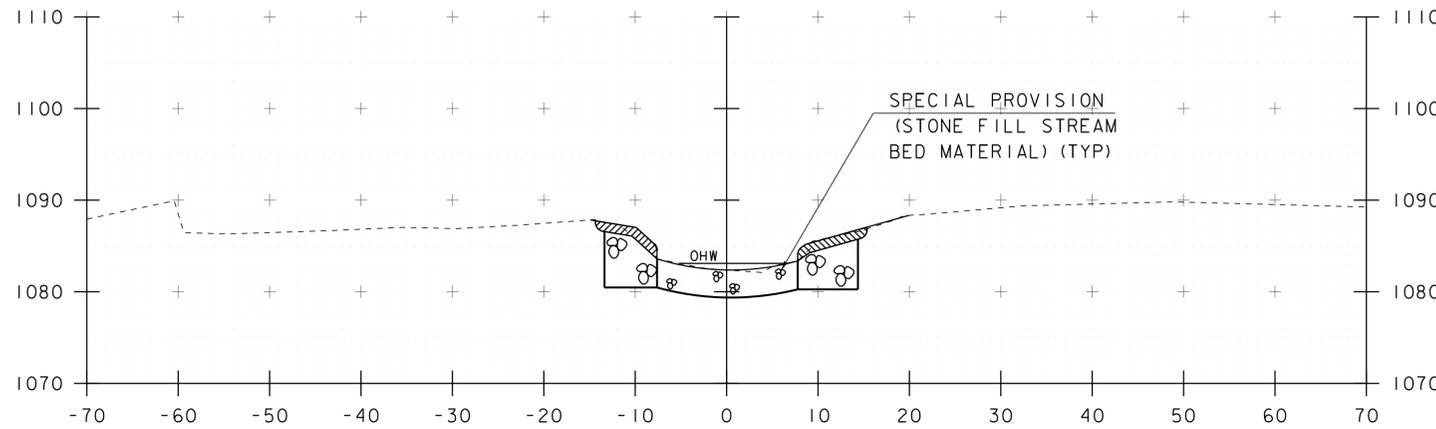
73+40



73+60

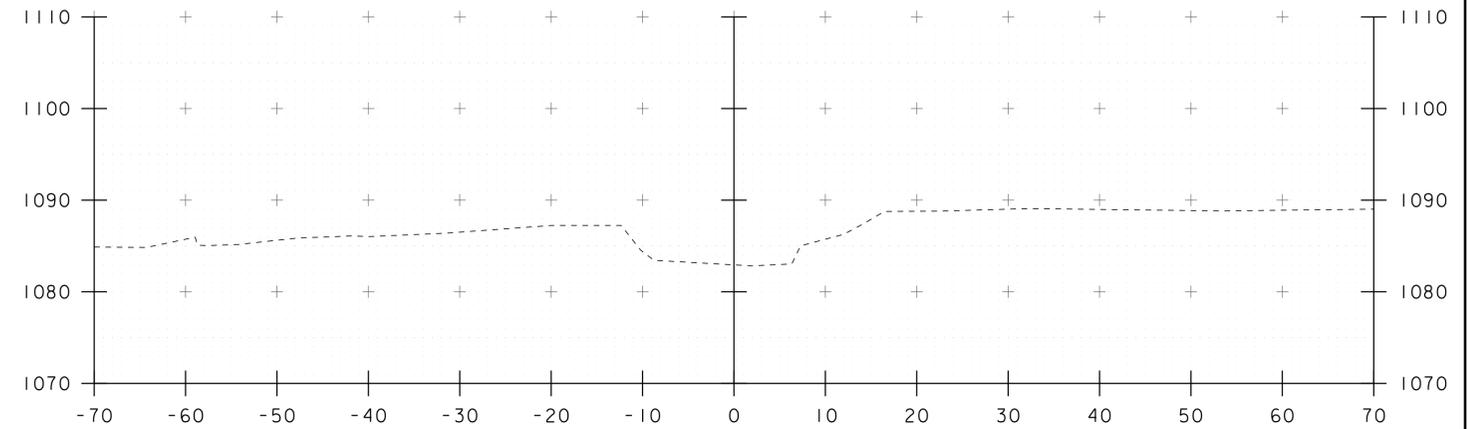
STA. 73+40 TO STA. 73+70

PROJECT NAME: WARDBORO	
PROJECT NUMBER: BF 013-1(22)	
FILE NAME: s13b074xs.dgn	PLOT DATE: 31-DEC-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: G. LAROCHE
CHANNEL SECTIONS	SHEET 22 OF 23

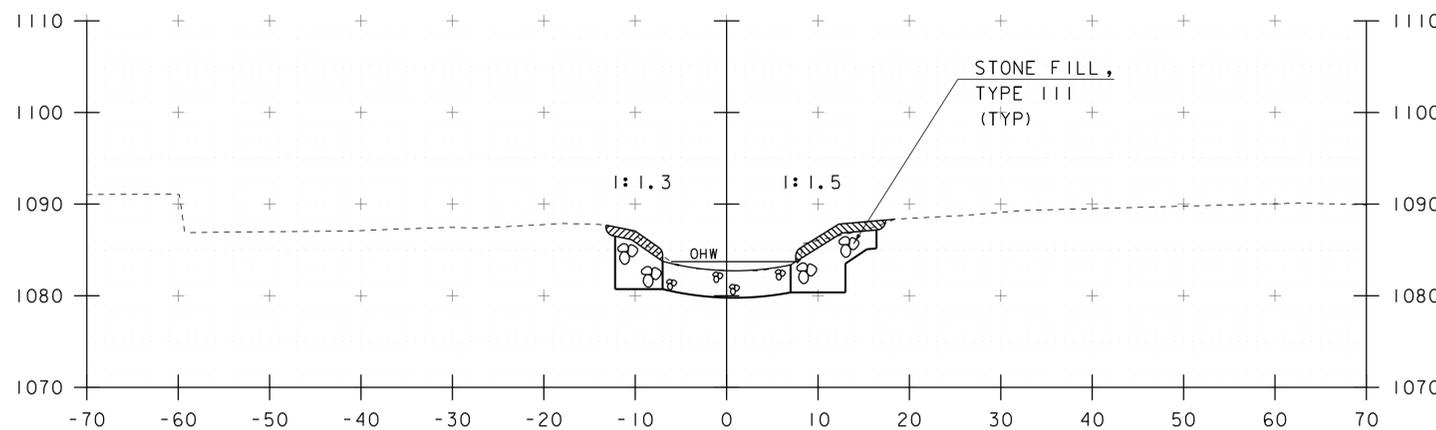


STA 73+85.00
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GEOTEXTILE UNDER STONE FILL
 END STONE FILL, TYPE III
 END GRUBBING MATERIAL

73+85

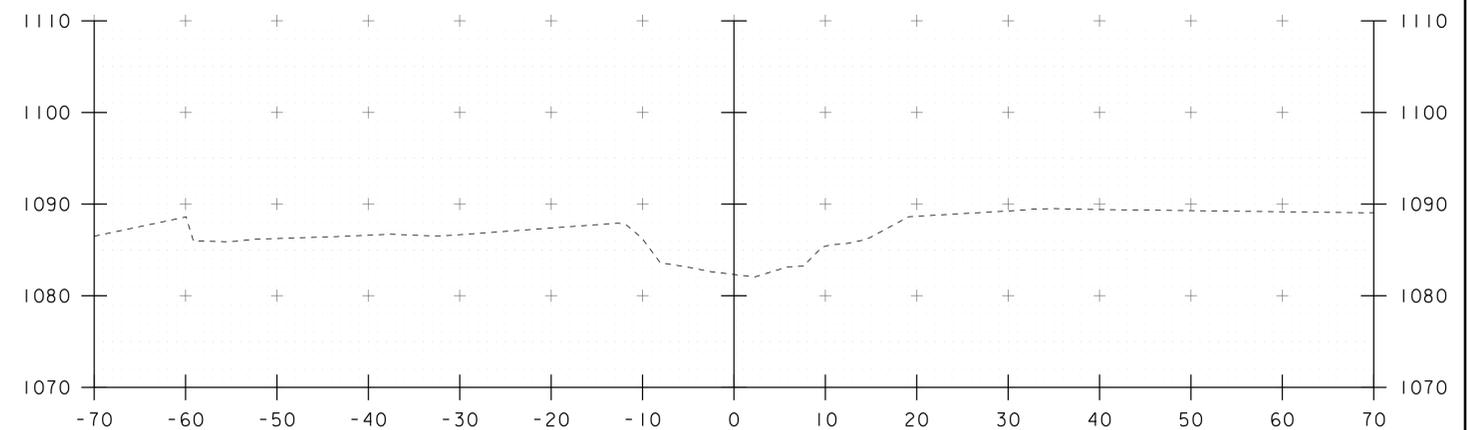


74+00



STA 73+72.50
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL, TYPE III
 BEGIN GRUBBING MATERIAL

73+80



73+90

STA. 73+80 TO STA. 74+00

PROJECT NAME: WARDSBORO	PLOT DATE: 31-DEC-2013
PROJECT NUMBER: BF 013-1(22)	DRAWN BY: J. SALVATORI
FILE NAME: s13b074xs.dgn	CHECKED BY: G. LAROCHE
PROJECT LEADER: K. HIGGINS	SHEET 23 OF 23
DESIGNED BY: J. SALVATORI	CHANNEL SECTIONS