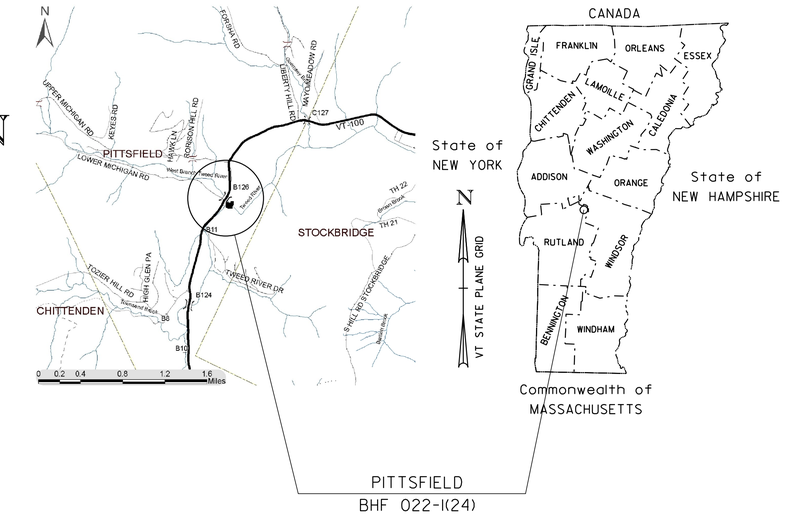
REVIEW NOTES

1. THERE WILL BE A TEMPORARY BRIDGE CONSTRUCTED DOWNSTREAM.
2. A SIMPLIFIED PAVEMENT DESIGN HAS BEEN UNDERTAKEN FOR THIS PROJECT.
3. THE BRIDGE HAS NOT YET BEEN DESIGNED. THEREFORE, A DIFFERENT TYPICAL SECTION MAY BE PROPOSED DURING DESIGN.
4. HYDRAULIC STANDARDS WILL NOT BE MET ON THIS PROJECT.
5. THE BEAMS WILL BE GALVANIZED. SHEAR STUDS WILL BE ATTACHED PRIOR TO GALVANIZATION.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF PITTSFIELD

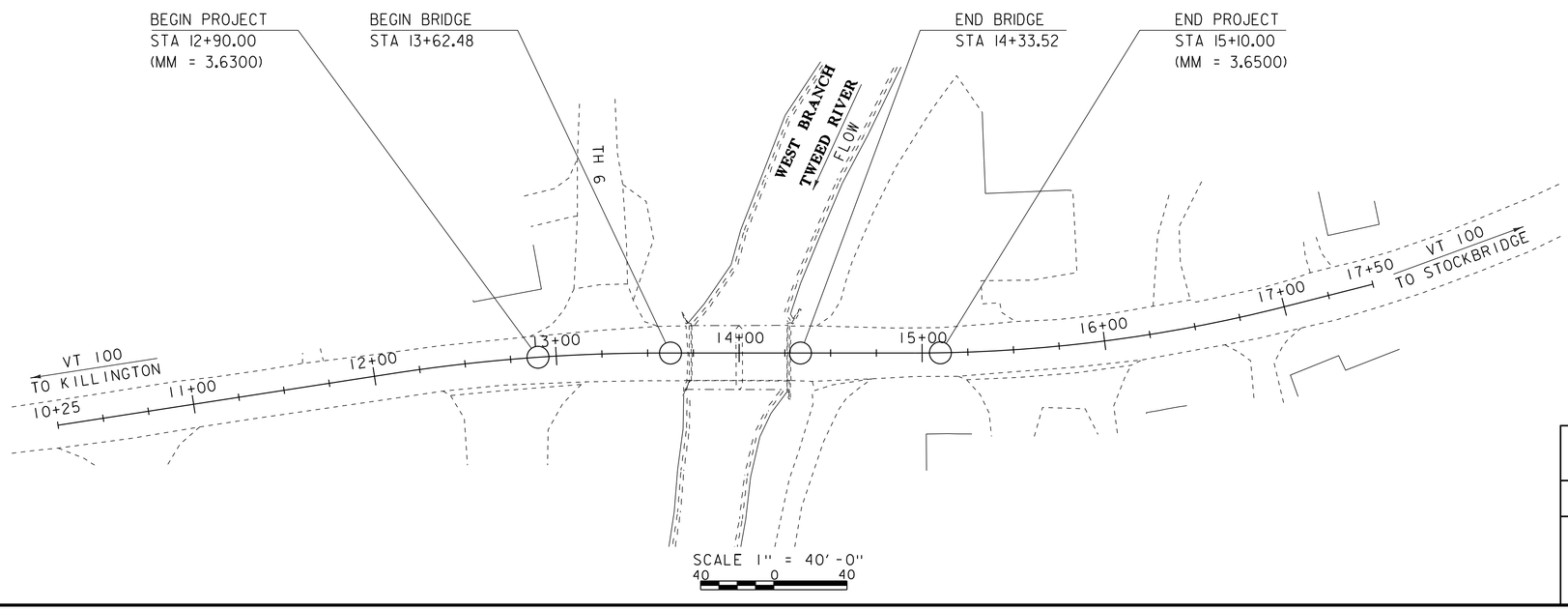
COUNTY OF RUTLAND

ROUTE NO : VT RTE 100, RURAL MINOR ARTERIAL BRIDGE NO : 126

PROJECT LOCATION : 2.3 MILES SOUTH OF JUNCTION WITH VT ROUTE 107

PROJECT DESCRIPTION : DEMOLITION OF EXISTING TWO SPAN BRIDGE, AND REPLACEMENT WITH A NEW SINGLE SPAN BRIDGE OVER WEST BRANCH OF THE TWEED RIVER.

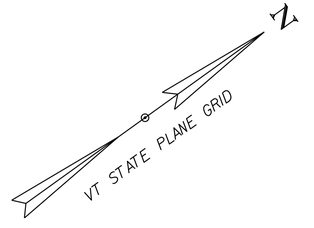
LENGTH OF STRUCTURE :	71.04 FEET.
LENGTH OF ROADWAY :	148.96 FEET.
LENGTH OF PROJECT :	220.00 FEET.



PRELIMINARY PLANS
14-MAR-2016

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.

QUALITY ASSURANCE PROGRAM : LEVEL	2
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	07-08-2011
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (2007)



DIRECTOR OF PROJECT DELIVERY

APPROVED _____ DATE _____

PROJECT MANAGER : DOUGLAS BONNEAU, P.E.

PROJECT NAME : PITTSFIELD
PROJECT NUMBER : BHF 022-1(24)

SHEET 1 OF 44 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 12.09.13

LRFD

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STANDARDS LIST

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: December 2014

DRAINAGE AREA : 17.6 sq. mi.
CHARACTER OF TERRAIN : Mostly wooded, rural
STREAM CHARACTERISTICS : Incised, sinuous and alluvial
NATURE OF STREAMBED : Cobbles, gravel and sand

PEAK FLOW DATA

Q 2.33 =	1500 cfs	Q 50 =	5254 cfs
Q 10 =	3229 cfs	Q 100 =	6294 cfs
Q 25 =	4323 cfs	Q 500 =	9250 cfs

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q50= 14.0 fps
ICE CONDITIONS : Moderate
DEBRIS: Light to moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
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: 2-Span Concrete T-beam
YEAR BUILT: 1932, reconstructed in 1970
CLEAR SPAN(NORMAL TO STREAM): ~53'
VERTICAL CLEARANCE ABOVE STREAMBED: ~8'
WATERWAY OF FULL OPENING: 340 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

Q2.33 =	837.3'	VELOCITY =	9.8 fps
Q10 =	841.8'	"	12.0 fps
Q25 =	842.7'	"	11.8 fps
Q50 =	843.3'	"	14.9 fps
Q100 =	844.5'	"	16.5 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Below Q10
RELIEF ELEVATION: 841.5'
DISCHARGE OVER ROAD @Q100: 2990 cfs

UPSTREAM STRUCTURE

TOWN: N/A
DISTANCE:
HIGHWAY # :
STRUCTURE #:
CLEAR SPAN:
CLEAR HEIGHT:
YEAR BUILT:
FULL WATERWAY:
STRUCTURE TYPE:

DOWNSTREAM STRUCTURE

TOWN: Pittsfield
DISTANCE: 220'
HIGHWAY # :
STRUCTURE #:
CLEAR SPAN:
CLEAR HEIGHT:
YEAR BUILT:
FULL WATERWAY:
STRUCTURE TYPE: Confluence with Tweed River

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	2.17	1.11					
POSTING							
OPERATING	2.81	1.44	2.31	1.53	1.99	1.78	1.95
COMMENTS:							

PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Rolled Beam

CLEAR SPAN(NORMAL TO STREAM): ~66'
VERTICAL CLEARANCE ABOVE STREAMBED: ~8'
WATERWAY OF FULL OPENING: 440 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	836.9'	VELOCITY=	10.0 fps
Q10 =	840.6'	"	12.0 fps
Q25 =	841.6'	"	11.8 fps
Q50 =	842.6'	"	14. 9 fps
Q100 =	844.0'	"	15.3 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Above Q10
RELIEF ELEVATION: 841.5'
DISCHARGE OVER ROAD @Q100: 2220 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 838.8'
VERTICAL CLEARANCE: @ Q50 = -3.8'

SCOUR: Contraction scour at Q500 = 4.5'

REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	40 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	20 cfs	<1.0'
ORDINARY HIGH WATER:	645 cfs	~3.5'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Rolled beam
CLEAR SPAN (NORMAL TO STREAM): ~59'
VERTICAL CLEARANCE ABOVE STREAMBED: Minimum low beam elev. = 839.5'
WATERWAY AREA OF FULL OPENING: 445 sq. ft.

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

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

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_P:	3.0 INCH
3. DESIGN SPAN	L:	68.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5. PRESTRESSING STRAND	f_y:	---
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	---
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	---
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	50 KSI
14. SOIL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	4.0 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	10.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
19. NOMINAL AXIAL PILE RESISTANCE	q_p:	369.0 KIPS
20. PILE YIELD STRENGTH ASTM A572	f_y:	50 KSI
21. PILE SIZE		HP 12X 84
22. EST. PILE LENGTH	L_p:	41 FT
23. PILE RESISTANCE FACTOR	ϕ:	0.65
24. LATERAL PILE DEFLECTION	Δ:	---
25. BASIC WIND SPEED	V_{3s}:	---
26. MINIMUM GROUND SNOW LOAD	p_g:	---
27. SEISMIC DATA PGA: ---	S_s:	---
	S_1:	---

TRAFFIC DATA

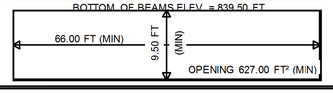
YEAR	ADT	DHV	% D	% T	ADTT
2014	3300	370	57	8.3	360
2034	3500	390	57	11.9	550

20 year ESAL for flexible pavement from 2014 to 2034 : 2650000
40 year ESAL for flexible pavement from 2014 to 2054 : 5954000
Design Speed : 35 mph

AS BUILT "REBAR" DETAIL

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

TEMPORARY BRIDGE PROFILE ALONG TEMP CL



PILE DRIVING AND TESTING REQUIREMENTS

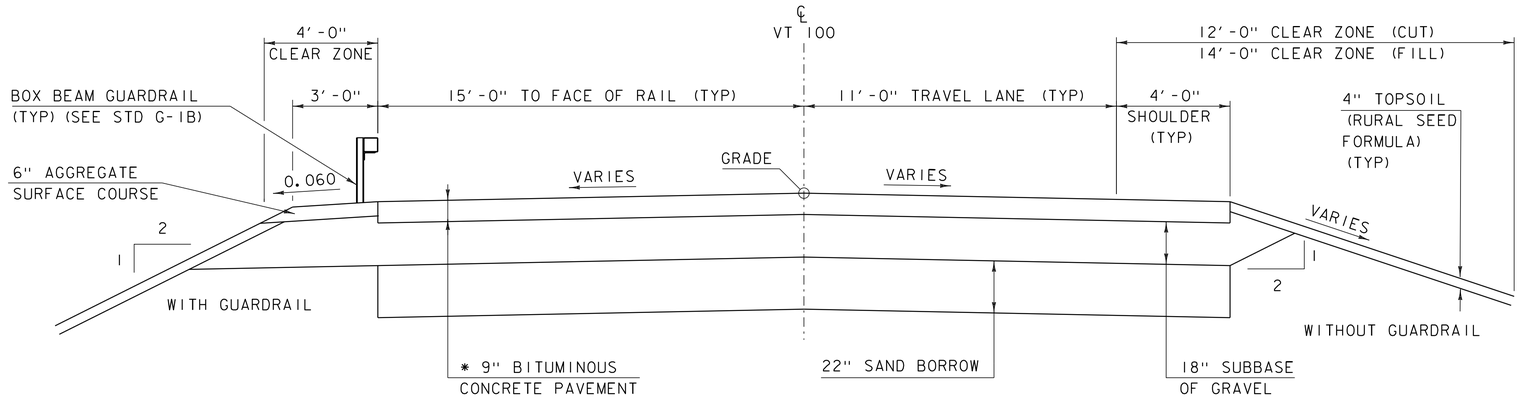
1. NOMINAL PILE DRIVING CAPACITY	Rndr:	369.00 KIP
2. PILE TEST RESISTANCE FACTOR	ϕ:	0.65
3. MAXIMUM PILE TIP ELEVATION		801.00 FT

4. A MINIMUM OF ONE DYNAMIC PILE LOAD TEST MUST BE PERFORMED AT EACH ABUTMENT.

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416pi.xls
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
PRELIMINARY INFORMATION SHEET

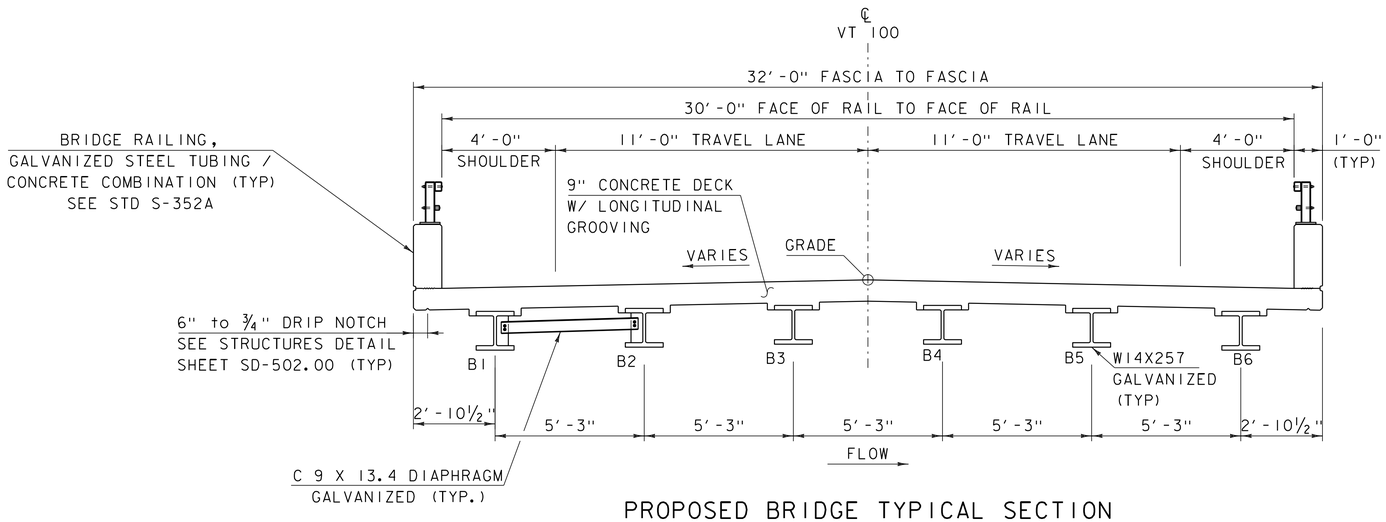
PLOT DATE: 10/8/2015
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M



PROPOSED VT 100 TYPICAL SECTION

SCALE 3/8" = 1'-0"

* 1½" TYPE III OR IV OVER
1½" TYPE III OR IV OVER
3" TYPE I OR II OVER
3" TYPE I OR II



PROPOSED BRIDGE TYPICAL SECTION

SCALE 3/8" = 1'-0"

MATERIAL TOLERANCES

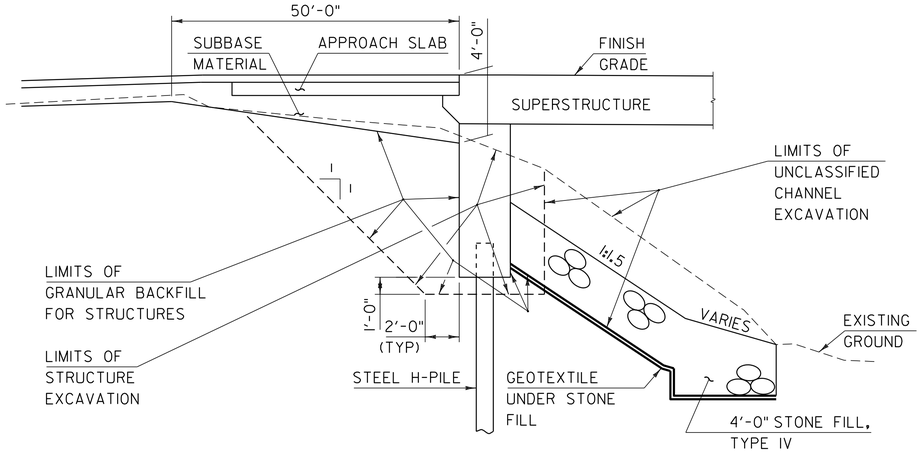
(IF USED ON PROJECT)

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

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

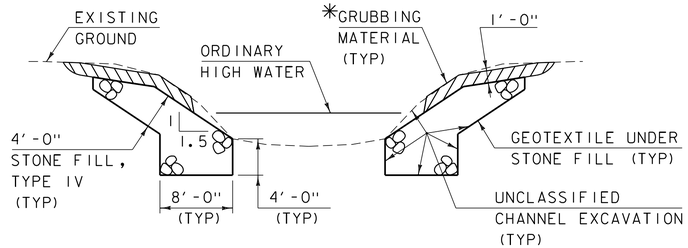
FILE NAME: s10b416typ.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
TYPICAL SECTION 1

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M



ABUTMENT EARTHWORK TYPICAL SECTION

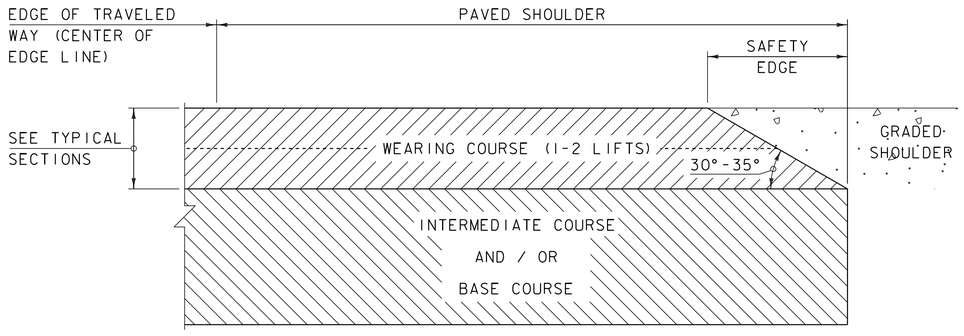
NTS



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

*WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



SAFETY EDGE DETAIL

NOT TO SCALE

1. LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.
2. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
3. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416typ.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
TYPICAL SECTION 2	SHEET 4 OF 44

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY 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. SYMBOLOGY 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	BENCHMARK
	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 SYMBOLOGY

UNDERGROUND UTILITIES

	UTILITY (GENERIC-UNKNOWN)
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)

	UTILITY (GENERIC-UNKNOWN)
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 SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

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 SYMBOLOGY

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/L	PROPERTY LINE (P/L)
SR	SLOPE RIGHTS
6f	6F PROPERTY BOUNDARY
4f	4F PROPERTY BOUNDARY
HAZ	HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

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

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

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
H	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

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:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: sl0b416legend.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
CONVENTIONAL SYMBOLOGY LEGEND	SHEET 5 OF 44

GPS CONTROL POINTS

HVCTRL #1

FRENCH
NORTH = 458048.930
EAST = 1555727.568
ELEV. = 894.135

GENERAL LOCATION, PITTSFIELD, VT. OWNERSHIP, DOUG JOHNSTONE, 352 BOMBADILL PATH, PITTSFIELD, VT 05762.
TO REACH FROM THE INTERSECTION OF VT ROUTE 107 AND VT ROUTE 100 IN STOCKBRIDGE, GO WEST ALONG VT ROUTE 100 FOR 2.8 MI (4.5 KM) TO THE INTERSECTION OF UPPER MICHIGAN ROAD RIGHT. CONTINUE STRAIGHT AHEAD AND GO SOUTH ALONG VT ROUTE 100 FOR 1.3 MI (2.1 KM) TO THE SITE OF THE MARK ON THE RIGHT. THE MARK IS SET FLUSH WITH THE GROUND SURFACE IN THE TOP OF A 30 CM (12 INCHES) DIAMETER CONCRETE MONUMENT. IT IS 12.8 M (42.0 FT) WEST OF AND ABOUT 0.6 M (2.0 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 100, 6.5 M (21.3 FT) NORTH-NORTHEAST OF THE CENTERLINE OF A GRAVEL DRIVE, 17.4 M (57.1 FT) NORTH OF POLE NO 5-1/5/39/25T/146, 17.7 M (58.1 FT) SOUTHWEST OF THE CENTER OF THE WEST (OUTLET) END OF A 40 CM (16 INCHES) DIAMETER CONCRETE CULVERT WITH STONE MASONRY HEAD WALL, 29.7 M (97.4 FT) SOUTHWEST OF POLE NO 38, 29.2 M (95.8 FT) NORTHEAST OF THE NORTHEAST CORNER OF HOUSE NO 2715, AND 2.2 M (7.2 FT) NORTH OF A WOODEN POST AND A FIBERGLASS WITNESS POST.

HVCTRL #2

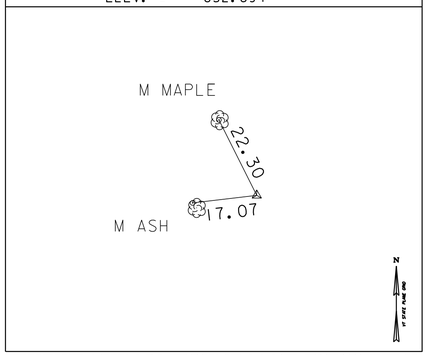
FRENCH AZ MK
NORTH = 459237.372
EAST = 1556107.491
ELEV. = 871.130

GENERAL LOCATION, PITTSFIELD, VT. OWNERSHIP, MEL COLTON, 2903 VT ROUTE 100, PITTSFIELD, VT 05762.
TO REACH FROM THE INTERSECTION OF VT ROUTE 107 AND VT ROUTE 100 IN STOCKBRIDGE, GO WEST ALONG VT ROUTE 100 FOR 2.8 MI (4.5 KM) TO THE INTERSECTION OF UPPER MICHIGAN ROAD RIGHT. CONTINUE STRAIGHT AHEAD AND GO SOUTH ALONG VT ROUTE 100 FOR 1.0 MI (1.6 KM) TO THE SITE OF THE MARK ON THE LEFT. THE MARK IS SET 8 CM (3 INCHES) BELOW GROUND SURFACE IN THE TOP OF A 30 CM (12 INCHES) DIAMETER CONCRETE MONUMENT. IT IS 10.4 M (34.1 FT) EAST OF AND ABOUT 0.3 M (1.0 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 100, 40.7 M (133.5 FT) NORTHEAST OF POLE NO 138/31 WITH TRANSFORMER, 28.5 M (93.5 FT) NORTH-NORTHEAST OF THE CENTERLINE OF THE MOST NORTHERLY ENTRANCE TO A CIRCULAR GRAVEL DRIVE LEADING TO A THREE-BAY GARAGE, 36.3 M (119.1 FT) NORTH OF A WOODEN MARKER POST, 30.2 M (99.1 FT) NORTH OF THE CENTER OF THE NORTHEAST (OUTLET) END OF A 25 CM (10 INCHES) DIAMETER PLASTIC CULVERT, AND 17.4 M (57.1 FT) SOUTH OF POLE NO 5/30/137 AND A FIBERGLASS WITNESS POST.

TRAVERSE TIES

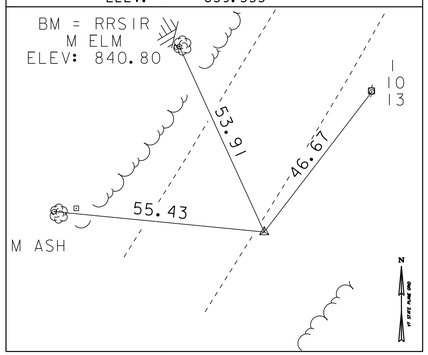
HVCTRL #3

NORTH = 460789.716
EAST = 1556386.700
ELEV. = 852.694



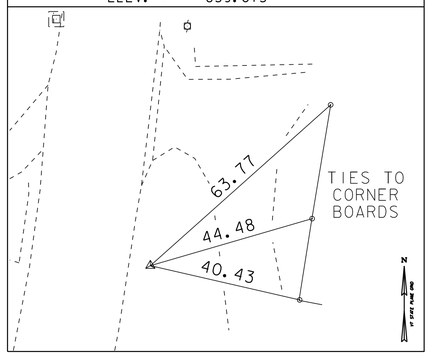
HVCTRL #4

NORTH = 461842.529
EAST = 1557288.903
ELEV. = 839.353



HVCTRL #5

NORTH = 462760.770
EAST = 1557768.292
ELEV. = 859.075



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

* MAIN TRAVERSE COMPLETED 7/8/2011 BY R.GILMAN P.C. & H.MCHOWAN

ALIGNMENT TIES

VT 100

	STATION	NORTHING	EASTING		STATION	NORTHING	EASTING
POB	11+00.00	462063.4585	1557394.1500				
PC	12+09.85	462161.3842	1557443.9236				
PI	12+83.19	462226.7619	1557477.1538	PC	14+96.08	462399.8252	1557601.6345
				PI	15+98.57	462483.0277	1557661.4803
	Radius:	954.93			Radius:	818.51	
	Delta:	8°47'00.00"	Right		Delta:	14°16'27.53"	Left
	Degree of Curvature (Arc):	5°60'00.00"			Degree of Curvature (Arc):	7°00'00.00"	
	Length:	146.39			Length:	203.92	
	Tangent:	73.34			Tangent:	102.49	
	Chord:	146.25			Chord:	203.39	
	Middle Ordinate:	2.80			Middle Ordinate:	6.34	
	External:	2.81			External:	6.39	
PT	13+56.24	462286.2987	1557519.9773				
PC	14+96.08	462399.8252	1557601.6345	POE	17+00.00	462578.4173	1557698.9636

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

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416ti.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
TIE SHEET
PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 6 OF 44

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 13+34.65 - STA 13+67.80 RT
STA 13+49.35 - STA 13+70.30 LT
STA 14+29.70 - STA 14+35.70 RT
STA 14+34.10 - STA 14+48.10 LT

BOX BEAM GUARDRAIL
STA 12+23.55 - STA 13+25.37 RT

BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION
STA 13+59.84 - STA 14+30.88 RT
STA 13+65.12 - STA 14+36.16 LT

PAVED APRON
STA 12+15.18 - STA 12+27.55 RT (12.00 FT)
STA 13+11.39 - STA 13+41.61 LT (31.37 FT)
STA 14+39.92 - STA 14+64.49 RT (24.57 FT)
STA 15+04.29 - STA 15+34.87 LT (30.11 FT)
STA 15+31.62 - STA 15+49.19 RT (14.35 FT)
STA 15+86.18 - STA 16+03.75 RT (18.00 FT)

GUARDRAIL APPROACH SECTION TO CONCRETE COMBINATION BRIDGE RAILING
STA 13+25.37 - STA 13+59.84 RT
STA 20+33.92 RT - STA 13+65.12 LT
STA 14+30.88 - STA 30+45.76 RT
STA 14+36.16 - STA 14+57.84 LT

(1) STA 14+36.52 LT - STA 15+75.57 LT
NEW 18" X 136' CAAP(.060), PCCSP(.064) OR CPEP(SL)

(1) REMOVE EXISTING 12" VPC & DI

NEW MAILBOX SUPPORT

CURVE (1)
DELTA = 8°47'00"
D = 6°00'00"
R = 954.93'
T = 73.34'
L = 146.39'
E = 2.81'

MAINLINE STA 13+25.00 =
TH 6 STA 20+00.00
Δ = 90° 0' 0" LT

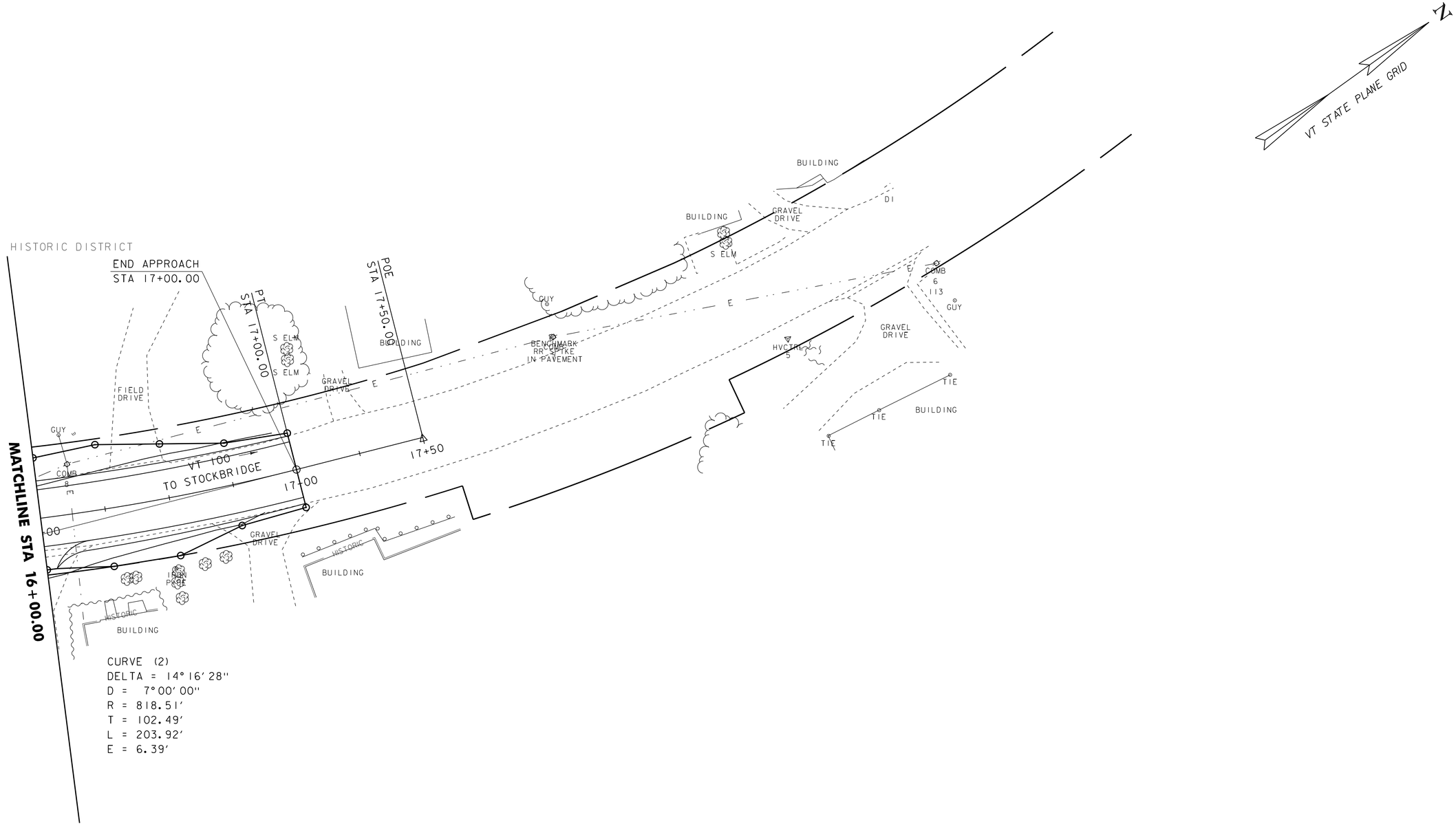
POB STA 10+25.00
BOUNDRY MARKER 6X6 CONCRETE
EXISTING R.O.W.
VT 100 TO KILLINGTON
EXISTING TOWN R.O.W.
PI STA 12+83.19 BK = STA 12+94.16 AH
HISTORIC DISTRICT
BUILDING
GRAVEL DRIVE
MAILBOX
BOULDERS
STONE FILL, TYPE IV (TYP)
S APPLE
WOOD WALL
R=24' (TYP)
80° (TYP)
WEST BRANCH TWEED RIVER
GUY
COMB 9A 116
SUBSURFACE ELECTRIC LINE
END PROJECT STA 15+10.00
PC STA 14+96.08
STONE RETAINING WALL
YARD LIGHT
PAVED PARKING LOT
12" VPC
DI
HVCTRL 102
HVCTRL 111
SIDEWALK
COMB 116
WELL HEAD
MATCHLINE STA 16+00.00
STA 15+98.57 BK = STA 16+97.51 AH
PI STA 13+56.24
BEGIN BRIDGE STA 13+62.48
TEMP ALIGNMENT
HVCTRL 100
HVCTRL 101
STA 12+09.85 PC
ARTESIAN WELL
SEPTIC TANK
APPROXIMATE LEACH FIELD AREA
IRON PIPE
BENCHMARK NO FEATURE GIVEN ELEV = 842.71
END BRIDGE STA 14+33.52
MAINLINE STA 14+00.00 = CHANNEL LINE STA 51+50.00
Δ = 80° 0' 0" RT
M MAPLE
BEGIN APPROACH STA 11+00.00
BEGIN PROJECT STA 12+90.00
THESE BUILDINGS ARE NO LONGER PRESENT. EXPECT MINOR DEVIATIONS TO TOPOGRAPHY SHOWN AS A RESULT OF T.S. IRENE
VT STATE PLANE GRID

EXISTING BRIDGE DATA
2 SPAN CONCRETE T-BEAM
BUILT - 1932, REHAB 1970
OVERALL LENGTH - 56'-0"
SPAN LENGTH - 25'-0"
CURB - 5'-0" ONLY ON RT
ROADWAY WIDTH - 37'-0"
OUT TO OUT WIDTH - 37.6'

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

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416bdr.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
LAYOUT 1
PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 7 OF 44

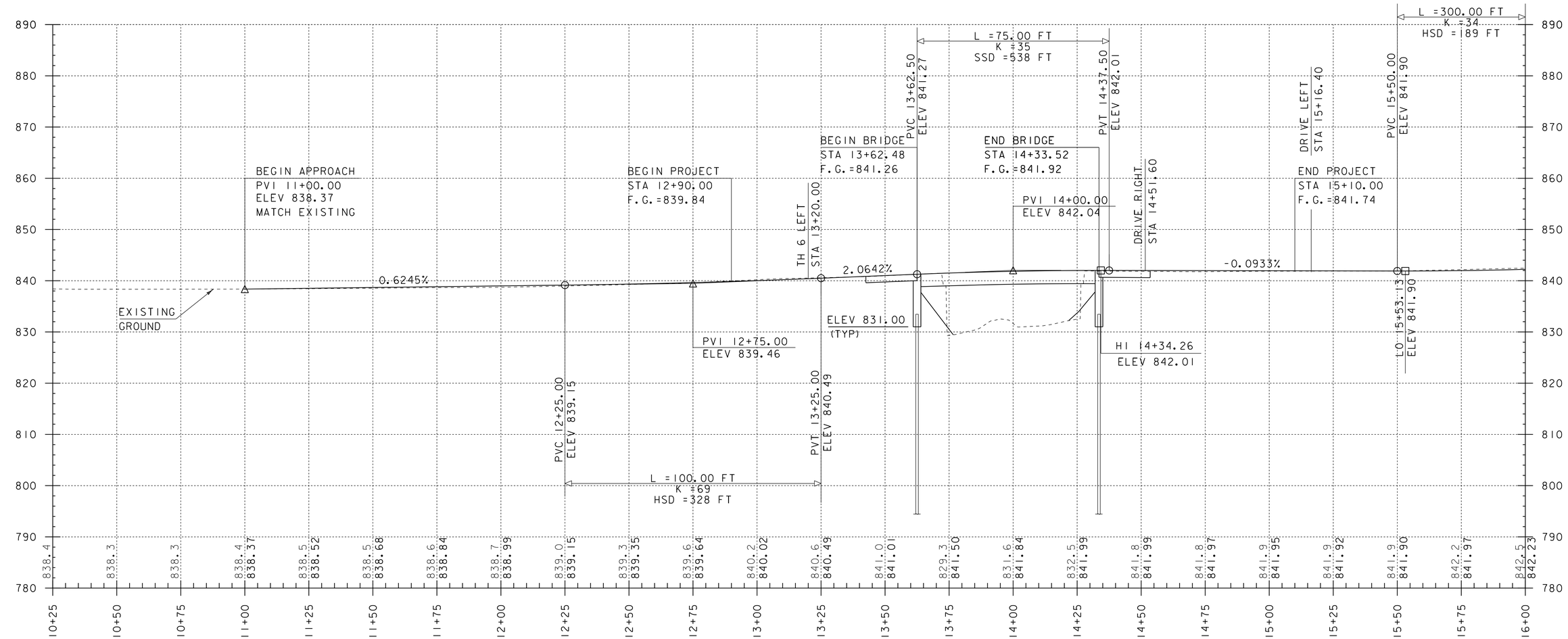


LAYOUT 2

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416bdr.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
LAYOUT 2	SHEET 8 OF 44



VT 100 PROFILE 1

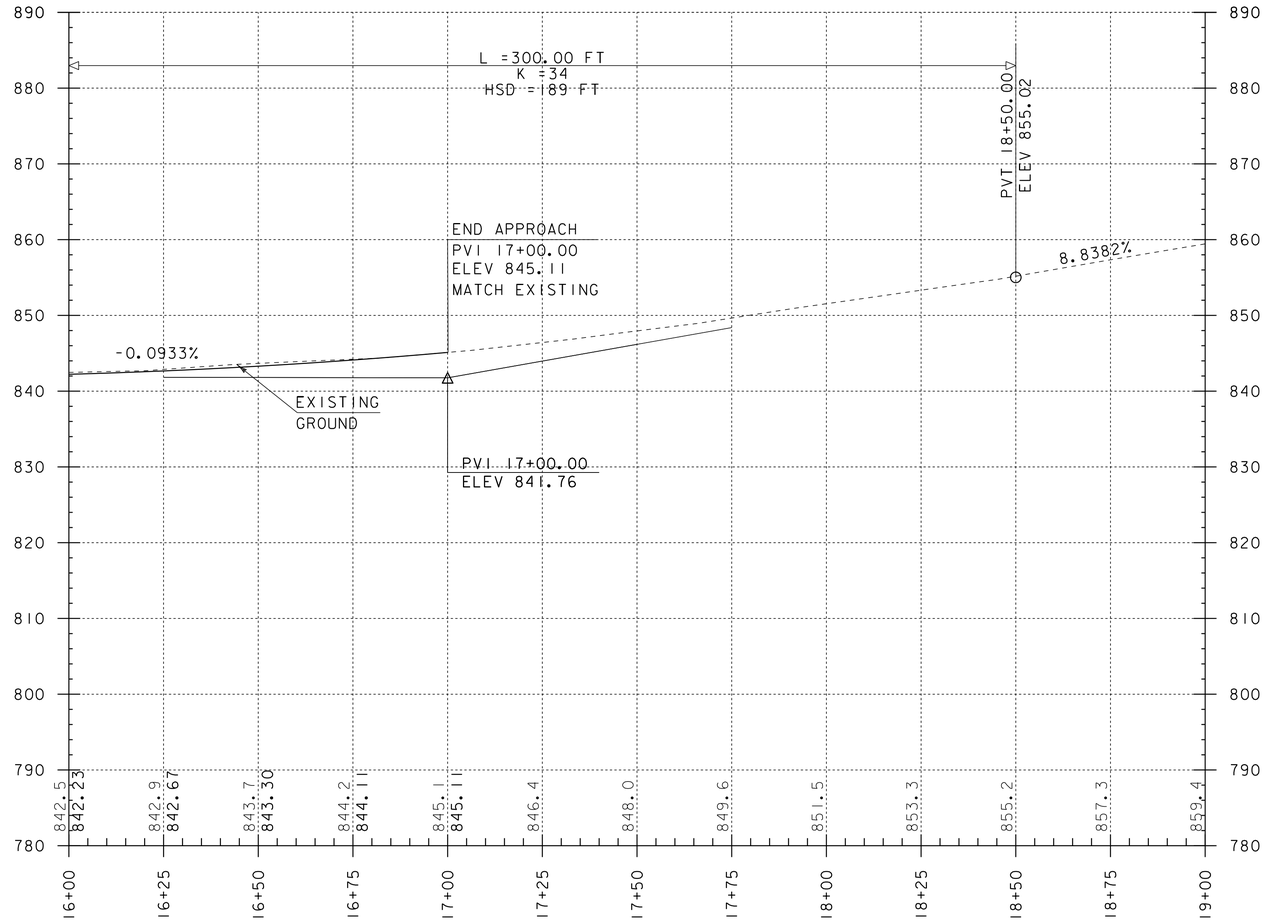
HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: 1" = 10'-0"

NOTE:

ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.

ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG PROPOSED CENTERLINE.

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416pro.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
VT 100 PROFILE 1	SHEET 9 OF 44



VT 100 PROFILE 2

HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: 1" = 10'-0"

NOTE:

ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.

ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG PROPOSED CENTERLINE.

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416pro.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
VT 100 PROFILE 2	SHEET 10 OF 44

N

VT STATE PLANE GRID

EXISTING TOWN R.O.W.

EXISTING TOWN R.O.W.

WEST BRANCH TWEED RIVER

HISTORIC DISTRICT

BEGIN DETOUR
DETOUR STA 40+13.86=
MAINLINE STA 11+13.86

EXISTING R.O.W.

BOUNDRY MARKER 6X6 CONCRETE

VT 100 TO KILLINGTON

TEMP ALIGNMENT

EXISTING R.O.W.

HISTORIC DISTRICT

TEMPORARY CONSTRUCTION LIMIT

THESE BUILDINGS ARE NO LONGER PRESENT. EXPECT MINOR DEVIATIONS TO TOPOGRAPHY SHOWN AS A RESULT OF T.S. IRENE

SUBSURFACE ELECTRIC LINE

ARTESIAN WELL

SEPTIC TANK

APPROXIMATE LEACH FIELD AREA

HISTORIC DISTRICT

MATCHLINE STA 16+00.00

10+25

11+00

12+00

13+00

14+00

15+00

20+00

21+00

21+38

30+00

31+00

31+87

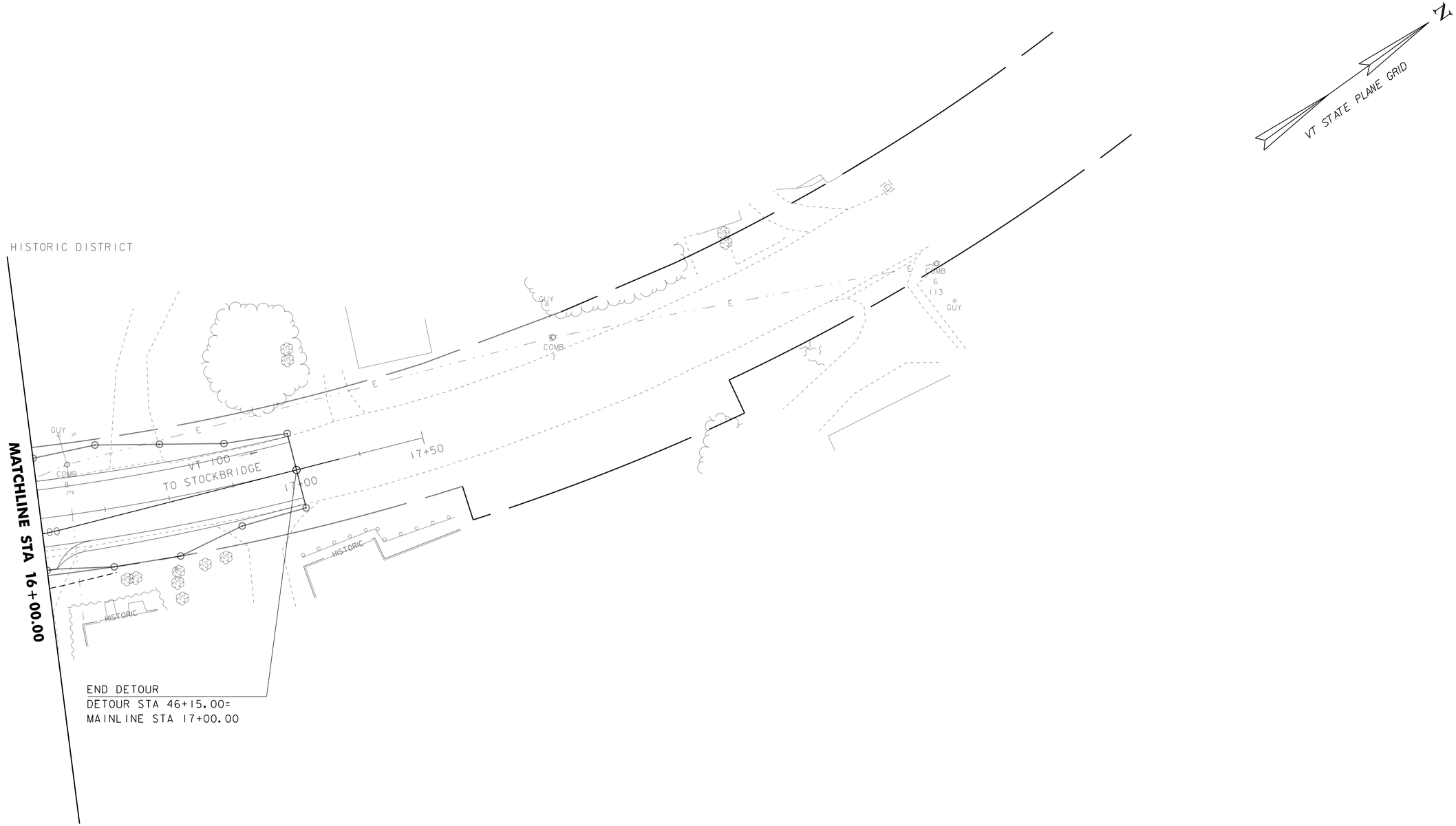
9 HL

DETOUR LAYOUT 1

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME:	s10b416tempbridge.dgn
PROJECT LEADER:	D. BONNEAU
DESIGNED BY:	M. EVANS-MONGEON
DETOUR LAYOUT 1	
PLOT DATE:	14-MAR-2016
DRAWN BY:	R. PELLETT
CHECKED BY:	M. E-M
SHEET	11 OF 44



DETOUR LAYOUT 2

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)

FILE NAME: s10b416bdr.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
DETOUR LAYOUT 2	SHEET 12 OF 44

RETAIN EXISTING POLE

RETIRE E 235' SPAN

EXISTING TOWN R.O.W.

13+62 57' LT
NEW POLE AND ANCHORS

NEW ANCHOR ON EXISTING POLE

RETAIN EXISTING POLE
REMOVE EXISTING ANCHOR

VT STATE PLANE GRID

N

WEST BRANCH TWEED RIVER

RETAIN E SERVICE LINES

COMB 9A 116A

SUBSURFACE ELECTRIC LINE

RELOCATED ELECTRICAL & TELEPHONE

ELECTRIC AND TELEPHONE SERVICE - RETIRE

YARD LIGHT

MATCHLINE STA 16+00.00

HISTORIC DISTRICT

RETAIN EXISTING POLE & REMOVE EXISTING ANCHOR

RETIRE EXISTING POLE & ANCHOR

NEW ANCHOR ON EXISTING POLE

RETIRE 130' TO ANCHOR

TH 6

RELOCATED TELEPHONE SERVICE

RETIRE E ELECTRIC SERVICE

RETIRE E 130' SPAN

VT 100 TO KILLINGTON

RELOCATED ELECTRICAL & TELEPHONE

RETIRE E TELEPHONE SERVICE

10+25

11+00

12+00

13+00

14+00

15+00

16+00

TEMP ALIGNMENT

REMOVE EXISTING POLE AND ANCHOR

ARTESIAN WELL

APPROXIMATE LEACH FIELD AREA

SEPTIC TANK

NEW SERVICE LINE

WELL HEAD

11+93 46' RT
NEW POLE AND ANCHORS

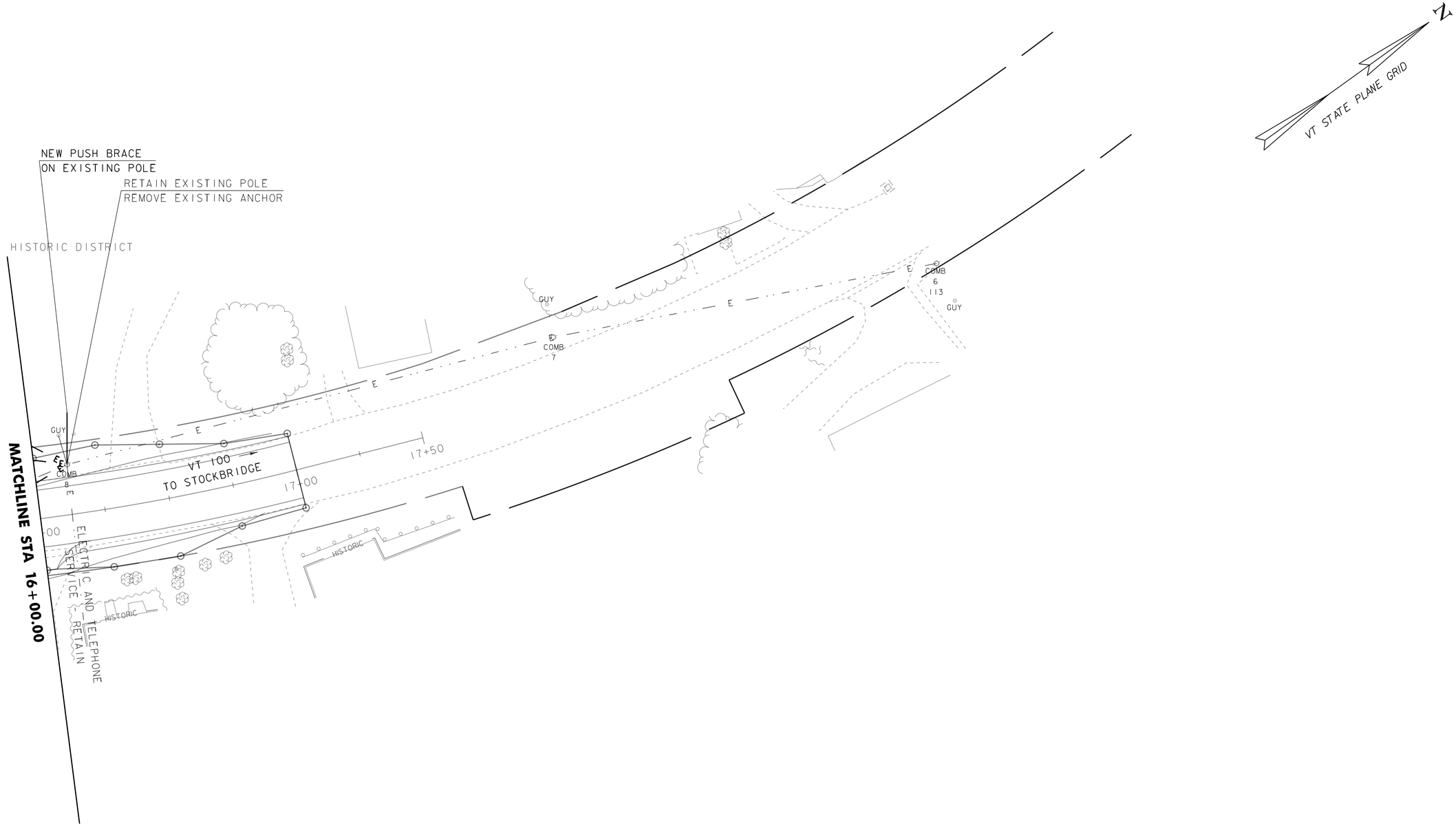
13+19 105' RT
NEW PHASE 2 POLE
W/ ANCHOR

UTILITIES LAYOUT 1

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416util.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
UTILITIES LAYOUT 1	SHEET 13 OF 44



UTILITIES LAYOUT 2

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)

FILE NAME: s10b416util.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
UTILITIES LAYOUT 2	SHEET 14 OF 44

4 INCH WHITE LINE

STA 11+00.00 - STA 16+00.00 RT
STA 11+00.00 - STA 13+00.00 LT
STA 13+60.00 - STA 16+00.00 LT

4 INCH YELLOW LINE (DOUBLE CL)

STA 11+00.00 - STA 13+10.00
STA 13+60.00 - STA 16+00.00

SIGN LEGEND

N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE

EXISTING SIGNS

NEW SIGNS

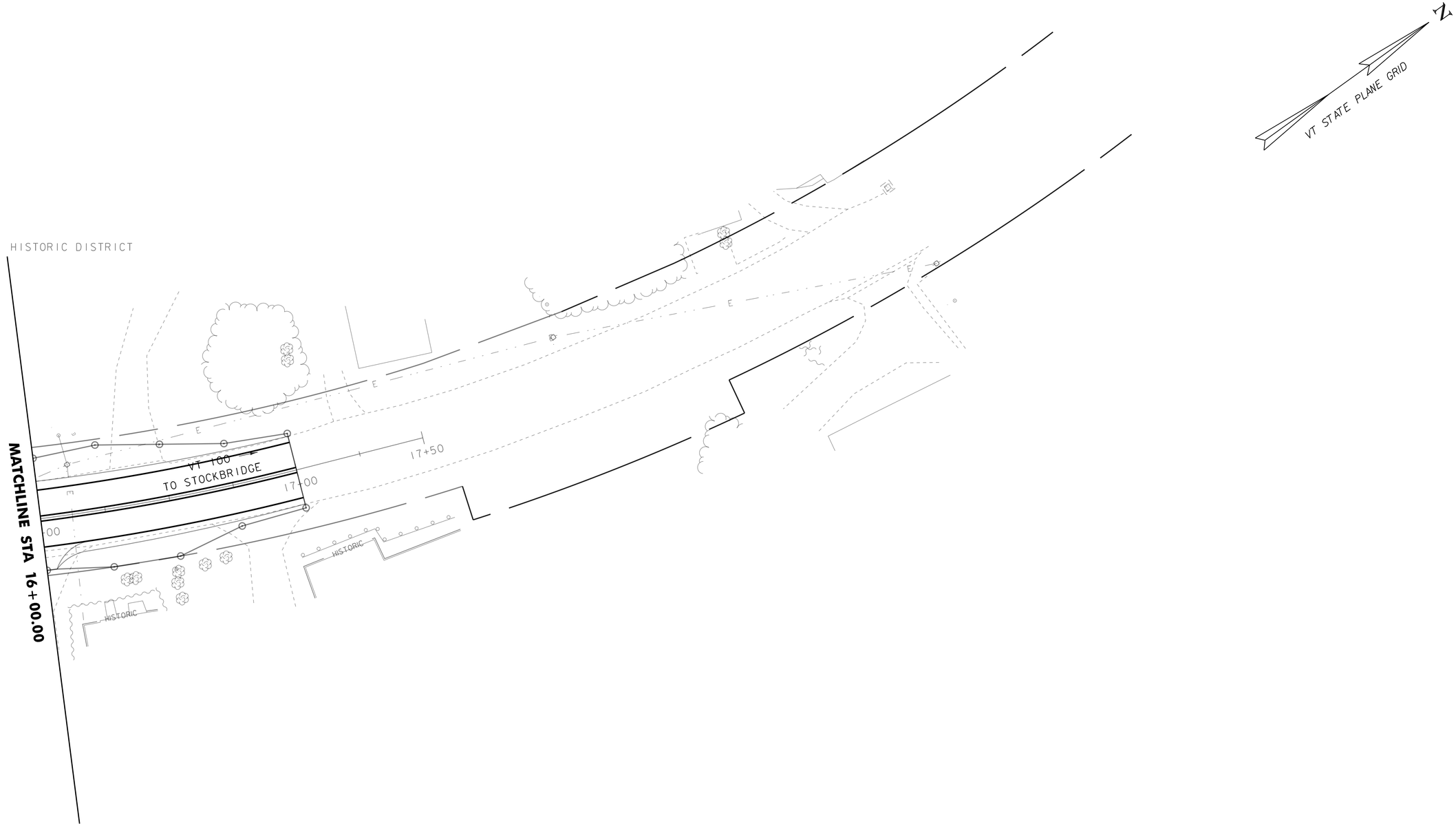
TRAFFIC SIGNS & LINES LAYOUT I

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

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416signs.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
TRAFFIC SIGNS & LINES LAYOUT I

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 15 OF 44



4 INCH WHITE LINE
STA 16+00.00 - STA 17+00.00 RT
STA 16+00.00 - STA 17+00.00 LT

4 INCH YELLOW LINE (DOUBLE CL)
STA 16+00.00 - STA 17+00.00

TRAFFIC SIGNS & LINES LAYOUT 2

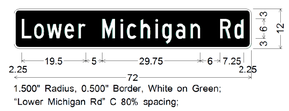
20 0 20
SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416signs.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
TRAFFIC SIGNS & LINES LAYOUT 2	SHEET 16 OF 44

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																				REMARKS	SIGN DETAIL	
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			FOUNDATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN REQUIRED	SHS = FHWA STANDARD HIGHWAY SIGNS AND MARKINGS BOOK	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												1.12	2.0	3.0	1.75	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"						
															1.88	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6								
13+50.00 LT	Lower Michigan Rd	1	72	12	6.00						2					X		X															D3-1	THIS SHEET	
13+52.00 RT	SPEED LIMIT 35	1	24	30	5.00						1					X		X															R2-1		
20+30.00 LT	STOP	1	30	30	6.25						1					X		X															R1-1		
21+16.00 RT	LEGAL LOAD LIMIT 24,000 POUNDS	1	24	30	5.00						1					X		X															VR-017 LINE 3: 24,000		E-141
	SPEED LIMIT 25	1	24	30	5.00						-					-		-															R2-1		



1.500" Radius, 0.500" Border, White on Green;
"Lower Michigan Rd" C 80% spacing;

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

							FT	FT	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB									
											60																					
TOTALS	SF 27.25	SF	EA.	SF		FT				FT 60				LB	EA.	LB							EA.	EA.	LB							

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416signs.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
TRAFFIC SIGNS SUMMARY

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 17 OF 44

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

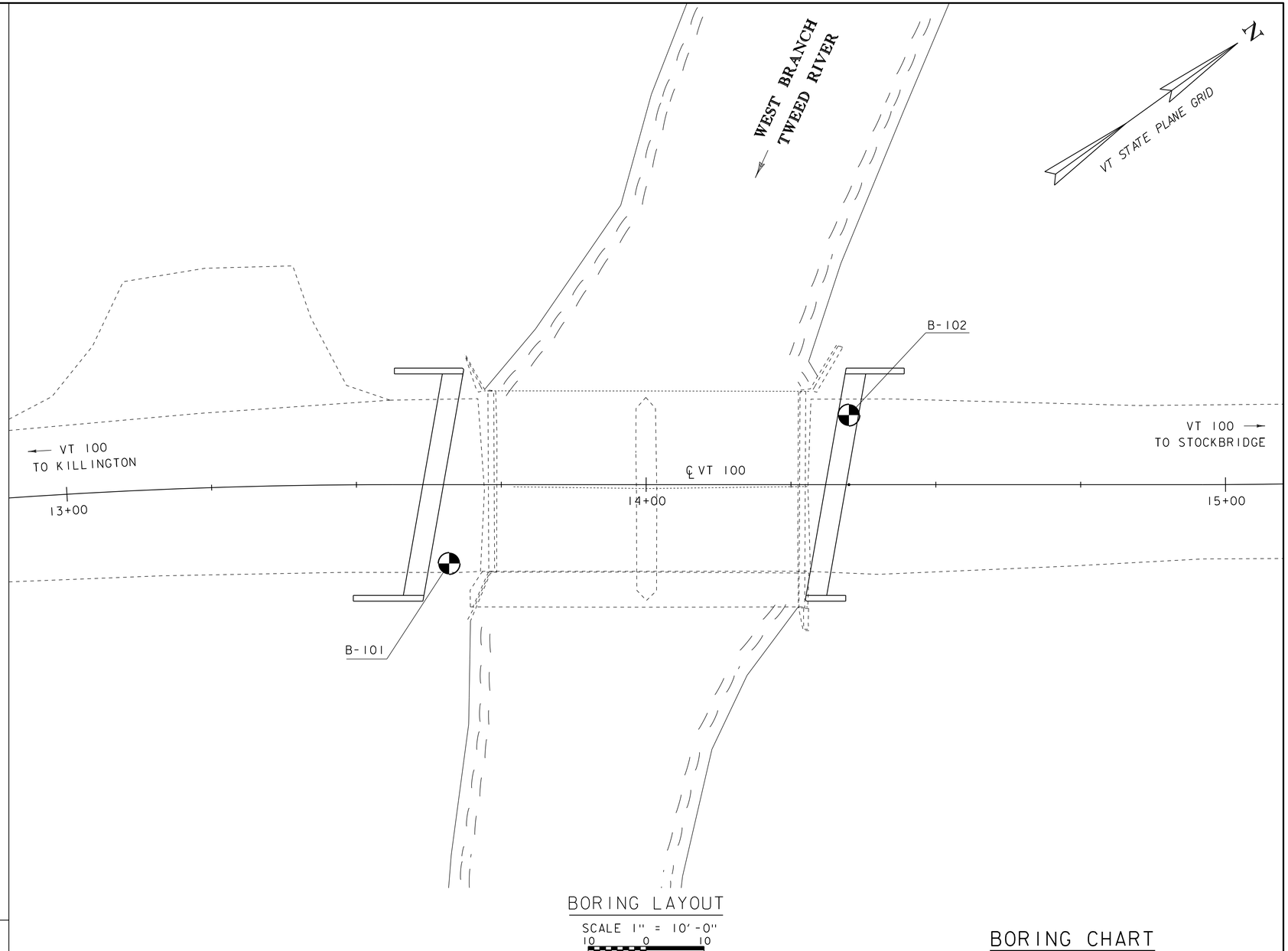
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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 1⅜" 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 1⅛"
BX	Core Size 1⅝"
NX	Core Size 2 ⅛"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

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



BORING LAYOUT

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

DEFINITIONS (AASHTO)

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

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 09/24/2014 and 09/30/2014 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

BORING CHART

HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-101	13+66	13.60' RT	841.4FT	788.7FT
B-102	14+35	12.00' LT	841.6FT	789.7FT

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416boring.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
BORING INFORMATION

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 18 OF 44

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

BORING LOG

PITTSFIELD
BHF 022-1(24)
VT-100 BR-126

Boring No.: **B-101**
Page No.: 1 of 2
Pin No.: 10B416
Checked By: MLM

Boring Crew: HOOK, JUDKINS, DAIGNEAULT
Date Started: 9/24/14 Date Finished: 9/26/14
VTSPG NAD83: N 462286.41 ft E 1557536.78 ft
Station: 13+66 Offset: 13.60
Ground Elevation: 841.4 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	C_e = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
09/25/14	12.5	Before drilling.
09/26/14	16.6	Before drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft - 0.2 ft								
		A-1-b, SaGr, brn, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock & Asphalt Pavement were within sample.				29-30-15-20 (45)	6.6	48.1	37.6	14.3
		A-1-a, SaGr, brn, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample.				11-13-9-17 (22)	4.8	65.3	27.2	7.5
5		A-1-a, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample.				21-15-7-13 (22)	5.6	68.3	24.6	7.1
		Visual Description:, Broken Rock, gry, Moist, Rec. = 0.3 ft, Cleaned out with NXDC.				10-R@3.5" (R)	1.3	68.8	19.7	11.5
BOTTOM OF PILE CAP EL 831.00		Field Note:, No Recovery, Cleaned out with NXDC.				47-43-R@2.5" (R)				
10		A-1-a, SaGr, brn, Moist, Rec. = 0.7 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample.				10-16-21-34 (37)	11.1	63.3	27.7	9.0
		Field Note:, Boulder, Cleaned out with NXDC.				R@0.0"				
15		A-1-b, GrSa, brn, Wet, Rec. = 0.3 ft, Lab Note: Broken Rock was within sample.				15-5-3-3 (8)	15.4	42.4	42.8	14.8
		A-2-4, SiGrSa, brn, MTW, Rec. = 0.5 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample.				8-14-17-18 (31)	13.0	30.9	43.4	25.7
20		A-4, SiSa, brn-gry, MTW, Rec. = 0.5 ft, Cleaned out with NXDC.				21-22-R@5.0" (R)	15.7	11.3	51.9	36.8
		A-1-b, SiSaGr, brn, MTW, Rec. = 0.7 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample.				13-11-12-8 (23)	13.1	49.6	30.1	20.3
25		A-2-4, Sa, brn, MTW, Rec. = 0.8 ft				19-17-17-16 (34)	20.2	2.3	83.5	14.2
		Field Note:, Cleaned out with NXDC.								
30		A-1-b, SaGr, Dk/brn, MTW, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample.				14-15-31-37 (46)	12.9	51.5	33.3	15.2
		Field Note:, Cleaned out with NXDC.								

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 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 PITTSFIELD BHF 022-1(24).GPJ VERMONT AOT.GDT 10/30/14

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

BORING LOG

PITTSFIELD
BHF 022-1(24)
VT-100 BR-126

Boring No.: **B-101**
Page No.: 2 of 2
Pin No.: 10B416
Checked By: MLM

Boring Crew: HOOK, JUDKINS, DAIGNEAULT
Date Started: 9/24/14 Date Finished: 9/26/14
VTSPG NAD83: N 462286.41 ft E 1557536.78 ft
Station: 13+66 Offset: 13.60
Ground Elevation: 841.4 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	C_e = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
09/25/14	12.5	Before drilling.
09/26/14	16.6	Before drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, SiSaGr, brn, MTW, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample.				12-11-13-12 (24)	11.9	45.8	31.5	22.7
		Field Note:, Cleaned out with NXDC.								
40		A-1-b, SaGr, brn-gry, Moist, Rec. = 0.7 ft, Lab Note: Lots of Broken Rock was within sample.				13-20-R@1.0" (R)	12.3	46.5	34.4	19.1
		Field Note:, Cleaned out with NXDC.								
45		A-2-4, SaSiGr, gry, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample.				11-14-12-22 (26)	11.2 15.7	47.6 31.4	25.6 41.5	26.8 27.1
		A-2-4, SiGrSa, brn, Moist, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample.								
		Field Note:, Cleaned out with NXDC.								
50		A-1-b, SiSaGr, brn, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample.				30-16-13-13 (29)	13.0	41.7	38.0	20.3
		52.7 ft - 55.7 ft, Light- greenish-gray to pale-green Phyllite, with layers of quartz. Moderately hard, Unweathered, Good rock, NXMDC, RMR = 73	1 (85)	77 (77)	7 8 9	Top of Bedrock @ 52.7 ft				
55										
60		55.7 ft - 60.7 ft, Light- greenish-gray to pale-green Phyllite, with layers of quartz. Moderately hard, Unweathered, Good rock, NXMDC, RMR = 76	2 (50)	100 (92)	9 9 9 9 9					
		60.7 ft - 62.7 ft, Light- greenish-gray to pale-green Phyllite, with layers of quartz. Moderately hard, Unweathered, Good rock, NXMDC, RMR = 73	3 (50)	95 (80)	7 9					
65		Hole stopped @ 62.7 ft								

Remarks:
1. Hole collapsed at 10.8 ft.
2. Layers of Asphalt & Gravel to 1.4 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 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 PITTSFIELD BHF 022-1(24).GPJ VERMONT AOT.GDT 10/30/14

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416boring.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
BORING LOGS SHEET 1

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M

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

BORING LOG

PITTSFIELD
BHF 022-1(24)
VT-100 BR-126

Boring No.: **B-102**
Page No.: 1 of 2
Pin No.: 10B416
Checked By: MLM

Boring Crew: NIETO, JUDKINS, DAIGNEAULT
Date Started: 9/29/14 Date Finished: 9/30/14
VTSPG NAD83: N 462357.25 ft E 1557556.23 ft
Station: 14+35 Offset: -12.00
Ground Elevation: 841.6 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	C_e = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
09/30/14	12.6	Before drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft - 0.6 ft								
		A-1-b, GrSa, brn, Dry, Rec. = 1.1 ft, Lab Note: Broken Rock was within sample.				6-10-8-6 (18)	7.9	38.1	44.8	17.1
		A-1-b, SaGr, brn, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample.				7-7-7-8 (14)	10.7	47.0	37.0	16.0
5		A-1-b, SaGr, brn, Moist, Rec. = 0.9 ft, Cleaned out with roller cone. Lab Note: Broken Rock was within sample.				27-29-23-14 (52)	13.1	52.7	28.8	18.5
		Field Note:, No Recovery, Cleaned out with roller cone.				R@1.0" (R)				
		A-1-a, SaGr, brn-gry, Moist, Rec. = 0.4 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample.				10-16-R@3.5" (R)	8.8	61.8	26.6	11.6
10		A-2-4, SiGrSa, gry-brn, Moist, Rec. = 0.4 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample.				13-R@5.0" (R)	13.3	32.7	42.2	25.1
		A-2-4, SiSa, gry, MTW, Rec. = 0.7 ft				12-6-4-5 (10)	18.9	12.0	62.7	25.3
15		A-1-b, SaGr, brn-Lt/gry, Moist, Rec. = 1.0 ft, Cleaned out with roller cone.				7-5-11-15 (16)	13.0	48.2	37.4	14.4
		A-1-b, SiSaGr, brn, Moist, Rec. = 0.8 ft, Cleaned out with roller cone.				10-9-10-13 (19)	13.0	46.9	32.8	20.3
20		A-1-b, SiSaGr, Lt/gry, Moist, Rec. = 0.5 ft, Cleaned out with roller cone.				9-14-13-18 (27)	12.3	49.8	26.2	24.0
		A-1-b, SiGrSa, brn, Moist, Rec. = 0.9 ft				14-14-11-6 (25)	13.7	38.4	41.2	20.4
		A-1-b, SaGr, brn, Moist, Rec. = 0.3 ft, Cleaned out with roller cone. Lab Note: Broken Rock was within sample.				6-6-9-12 (15)	12.7	43.8	42.8	13.4
25										
30		A-2-4, SiGrSa, brn, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample.				5-10-18-15 (28)	13.8	30.9	48.8	20.3

BOTTOM OF PILE CAP EL 831.00

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 PITTSFIELD BHF 022-1(24).GPJ VERMONT AOT.GDT 10/30/14

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

BORING LOG

PITTSFIELD
BHF 022-1(24)
VT-100 BR-126

Boring No.: **B-102**
Page No.: 2 of 2
Pin No.: 10B416
Checked By: MLM

Boring Crew: NIETO, JUDKINS, DAIGNEAULT
Date Started: 9/29/14 Date Finished: 9/30/14
VTSPG NAD83: N 462357.25 ft E 1557556.23 ft
Station: 14+35 Offset: -12.00
Ground Elevation: 841.6 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	C_e = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
09/30/14	12.6	Before drilling.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, SiGrSa, gry-brn, Moist, Rec. = 0.8 ft				16-18-20-26 (38)	11.4	37.7	42.2	20.1
		Field Note:, Cleaned out with roller cone								
40		A-1-b, GrSa, gry-Lt/brn, Moist, Rec. = 0.9 ft, Lab Note: Broken Rock was within sample.				13-17-19-21 (36)	12.6	37.2	47.0	15.8
		Field Note:, Cleaned out with roller cone								
45		A-1-a, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample.				28-10-9-9 (19)	12.3	59.3	26.3	14.4
		Field Note:, Cleaned out with roller cone								
50		A-2-4, SiSaGr, brn, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample.				18-13-22-R@5.0" (35)	15.3	35.8	34.6	29.6
		51.9 ft - 56.9 ft, Light- greenish-gray to pale-green Phyllite, with layers of quartz. Moderately hard, Unweathered, Good rock, NXMDC, RMR = 76	1 (30)	100 (100)	8 6 7 9 8	Top of Bedrock @ 51.9 ft				
55		56.9 ft - 61.9 ft, Light- greenish-gray to pale-green Phyllite, with layers of quartz. Moderately hard, Unweathered, Good rock, NXMDC, RMR = 76	2 (60)	100 (100)	6 6 10 7 9					
60		Hole stopped @ 61.9 ft								
65		Remarks: 1. Hole collapsed at 15.1 ft.								

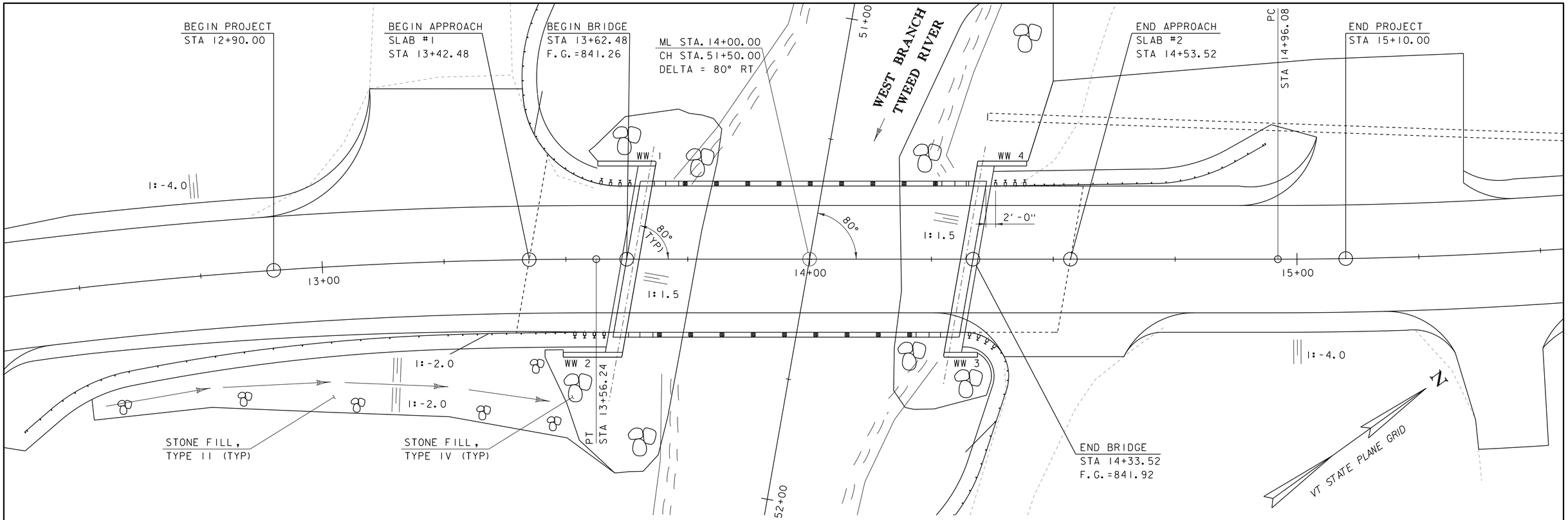
Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. C_e is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

BORING LOG 2 PITTSFIELD BHF 022-1(24).GPJ VERMONT AOT.GDT 10/30/14

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416boring.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
BORING LOGS SHEET 2

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 20 OF 44



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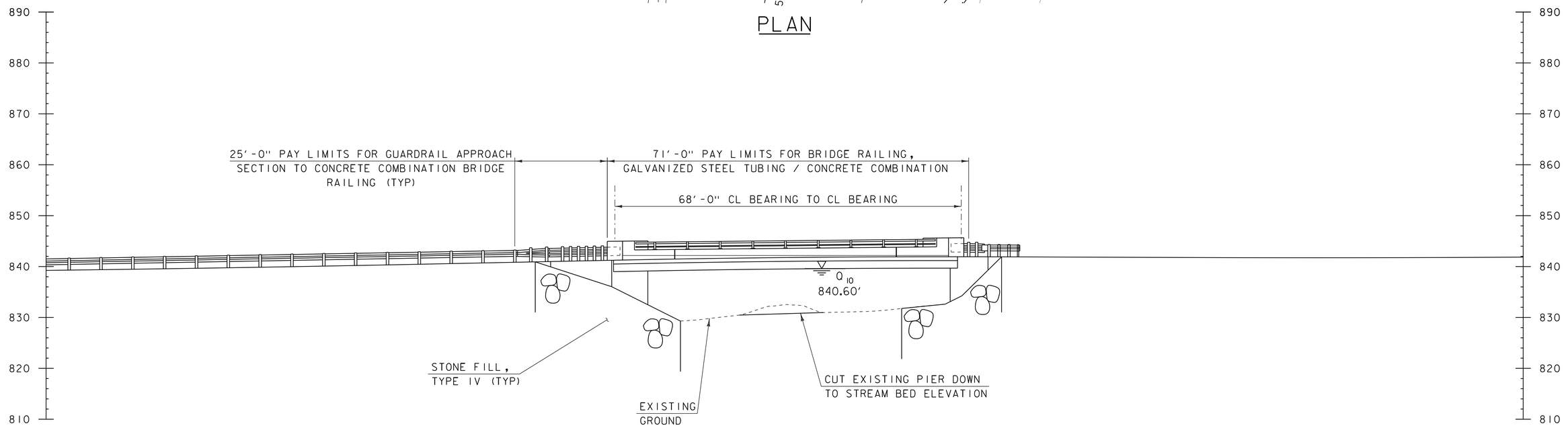
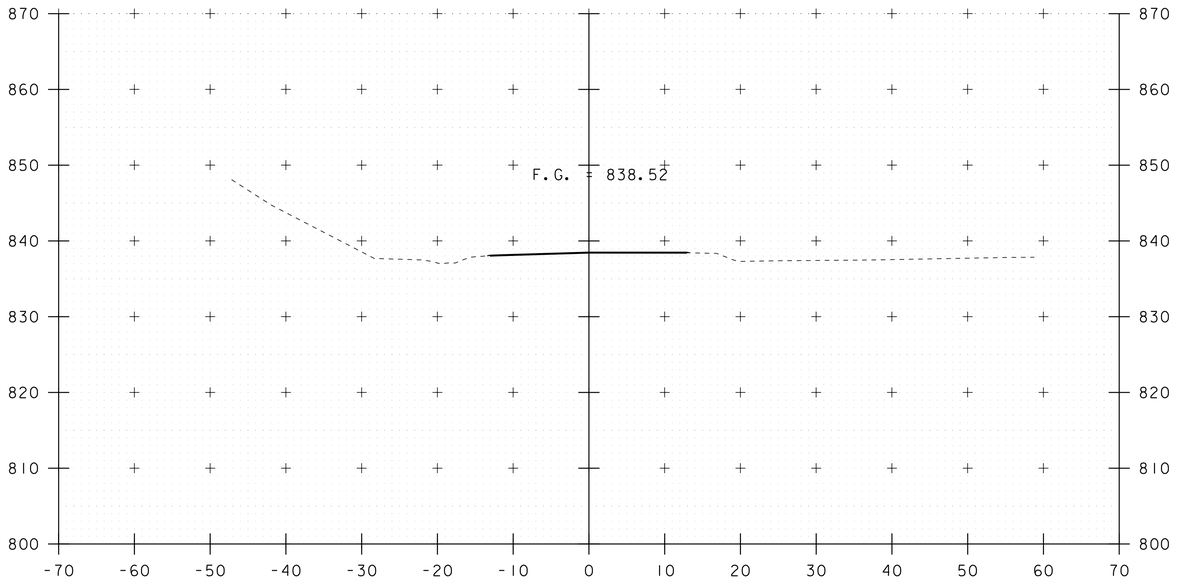


ELEVATION

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

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416pe.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
PLAN & ELEVATION	SHEET 21 OF 44



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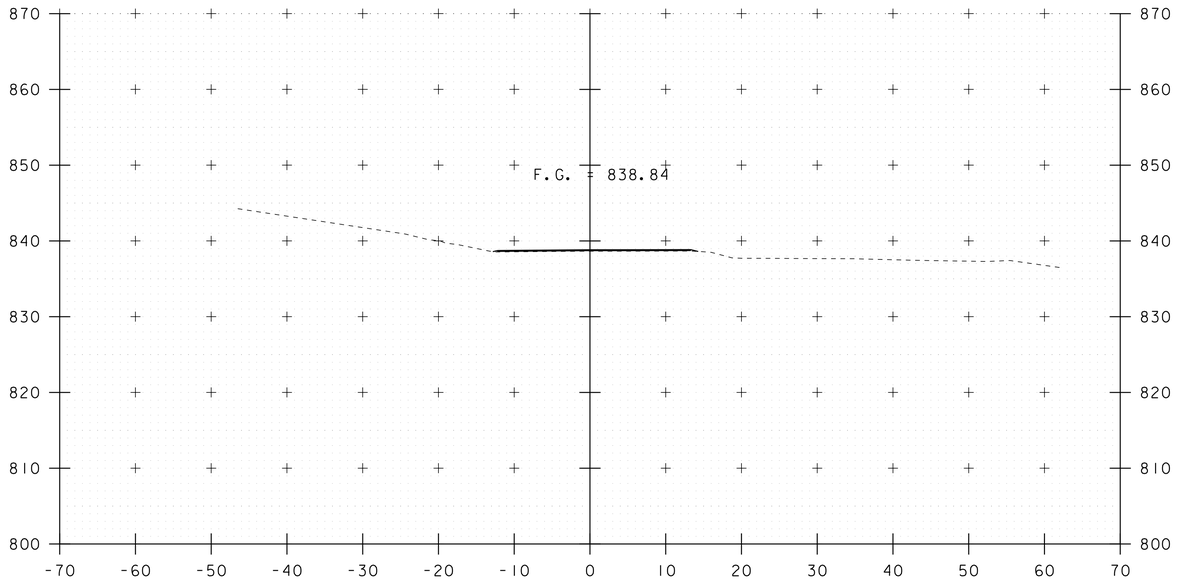

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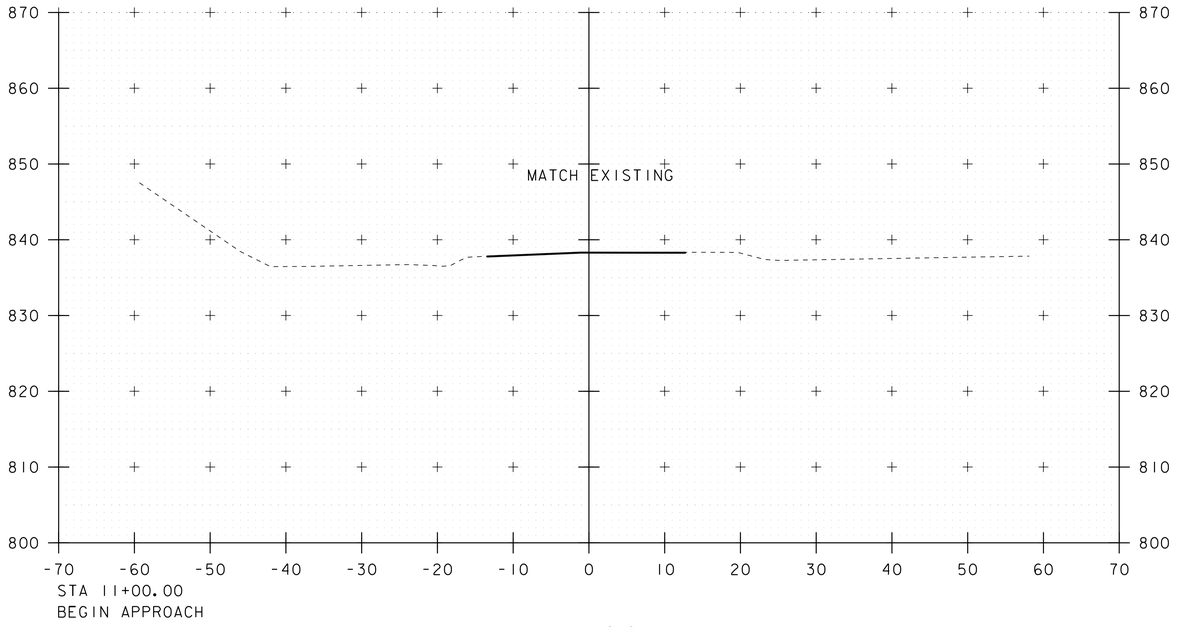

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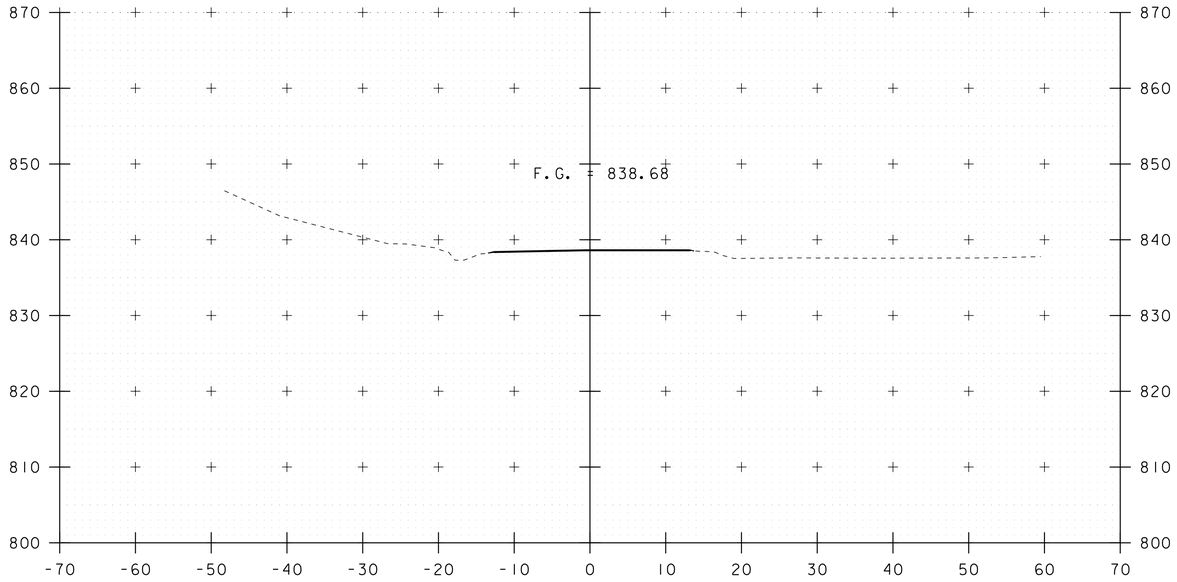
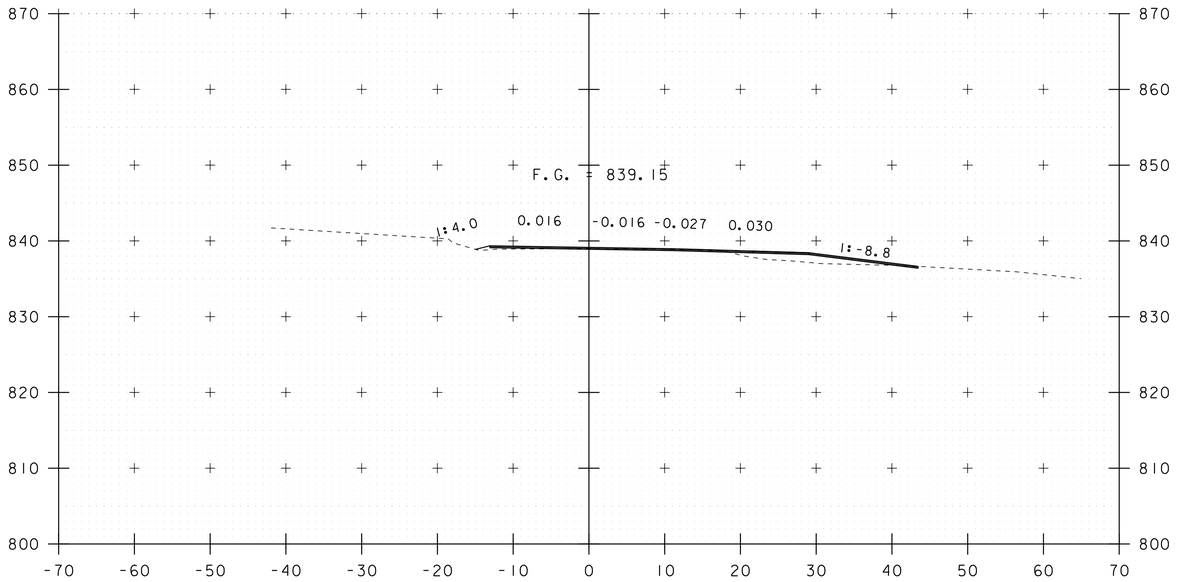


11+50

STA. 11+00 TO STA. 11+75

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: sl0b416xsl.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
VT 100 CROSS SECTIONS 1	SHEET 22 OF 44



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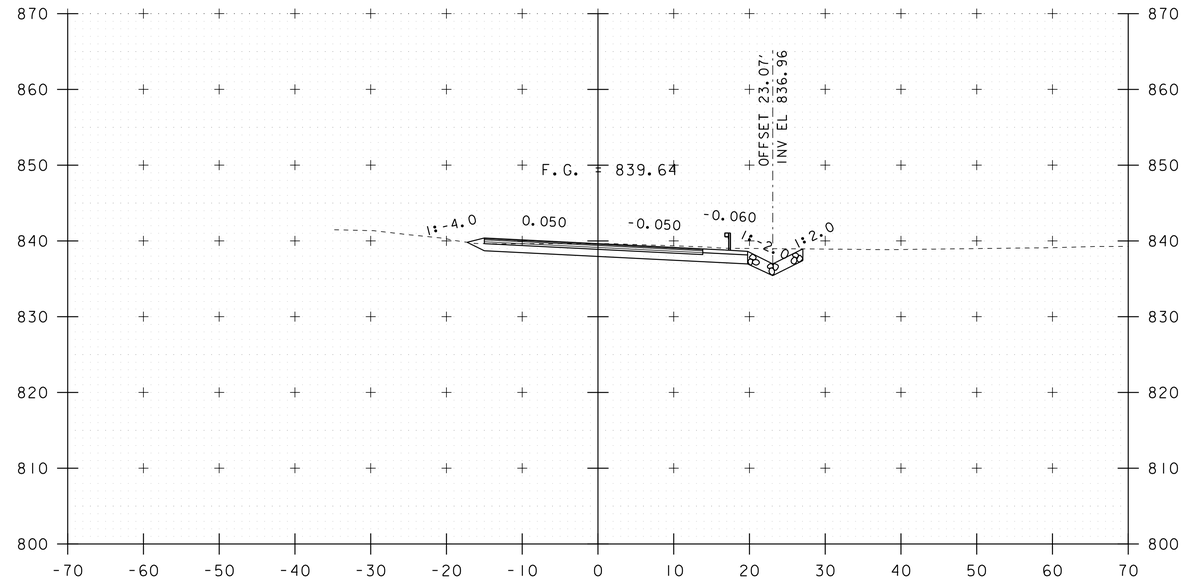

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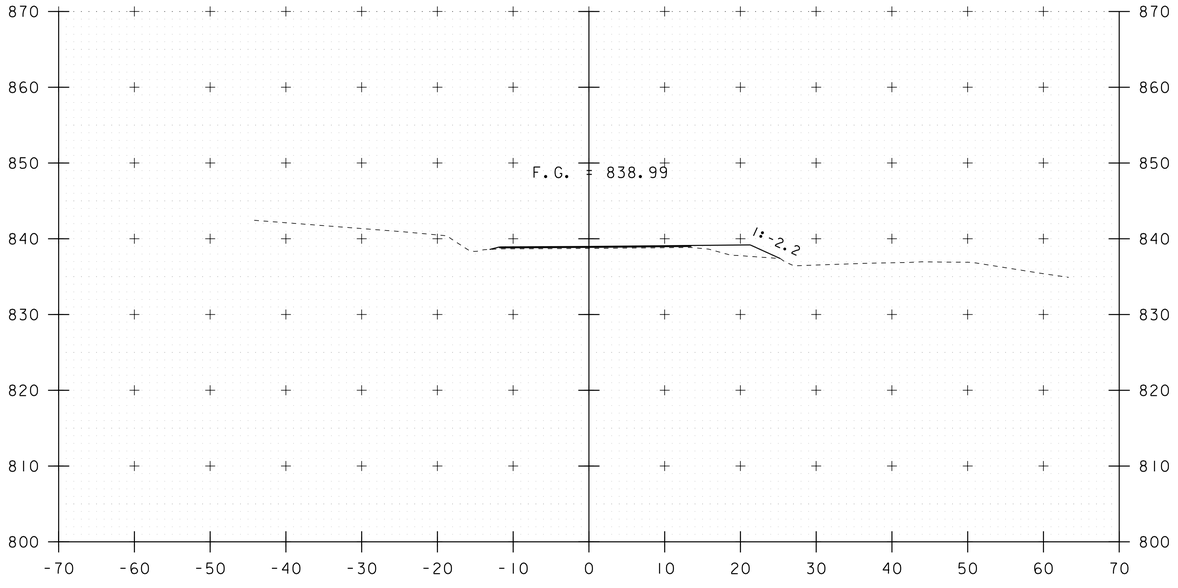

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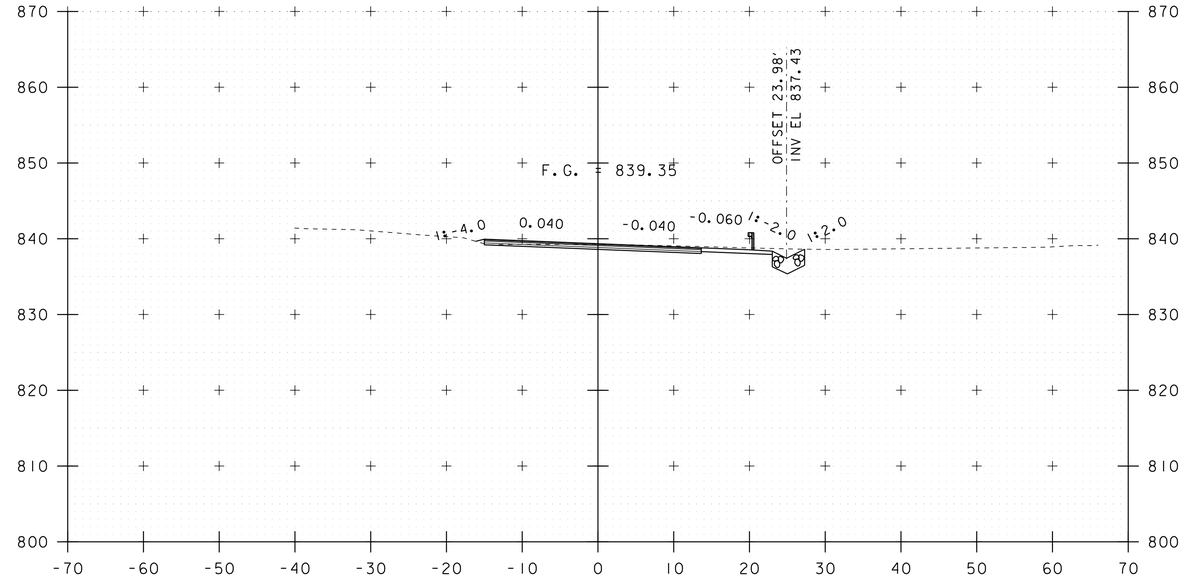
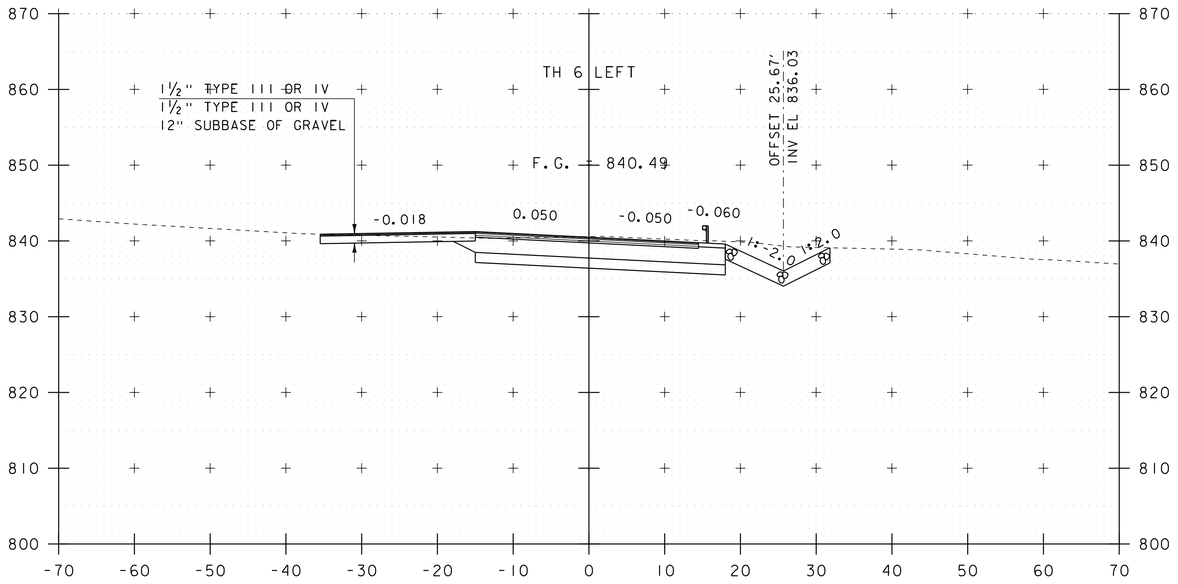


12+50

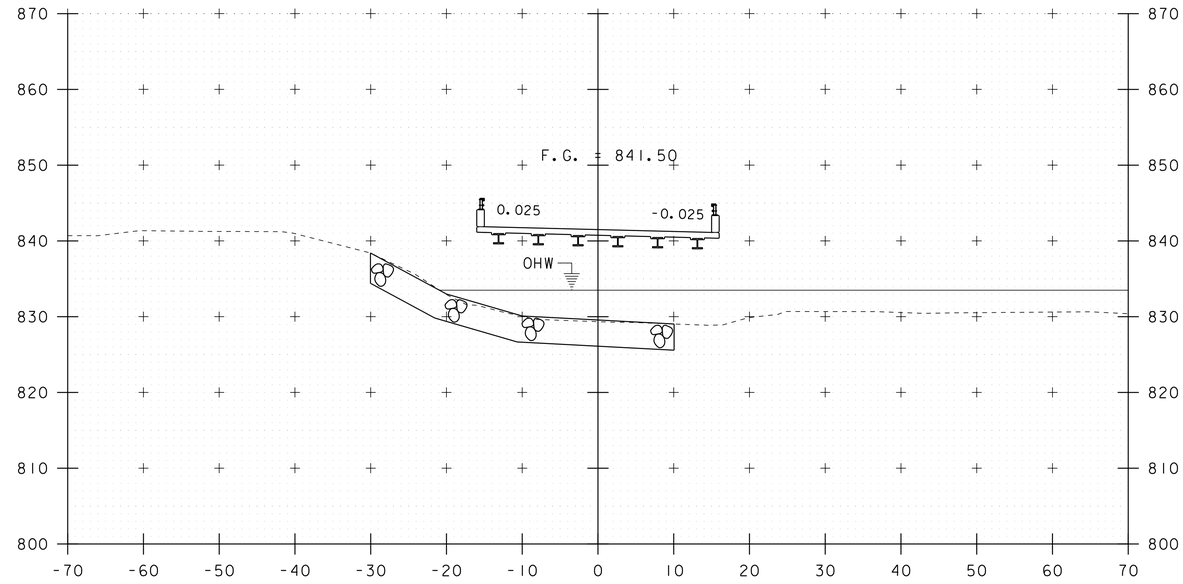
PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)

FILE NAME: s10b416xsl.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
VT 100 CROSS SECTIONS 2	SHEET 23 OF 44

STA. 12+00 TO STA. 12+75

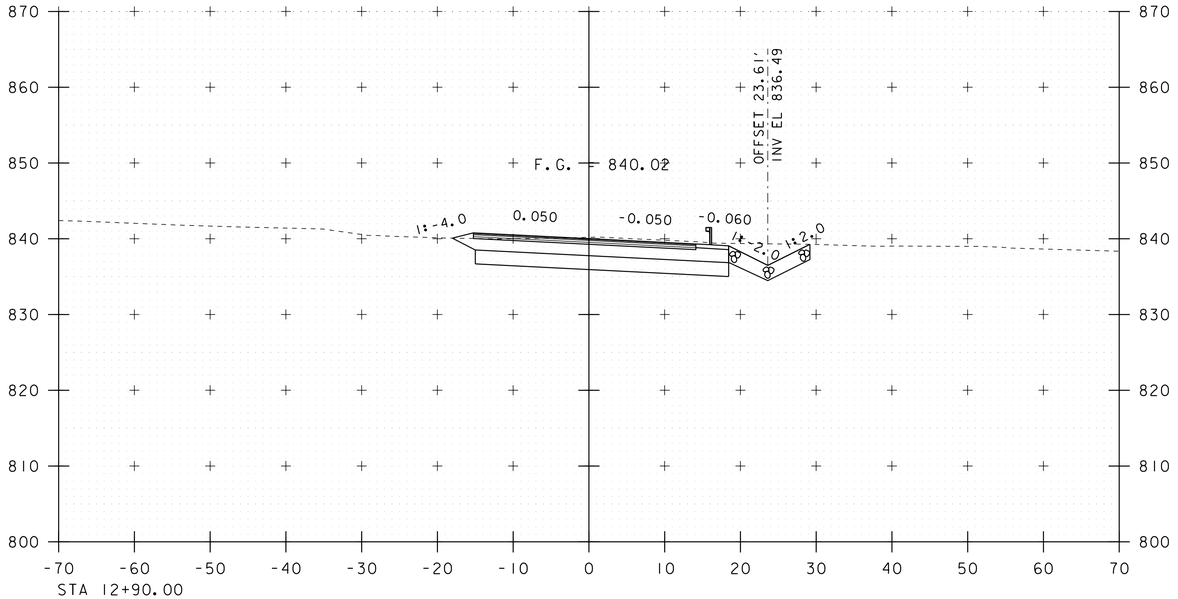


13+25



STA 13+62.48
BEGIN BRIDGE

13+75



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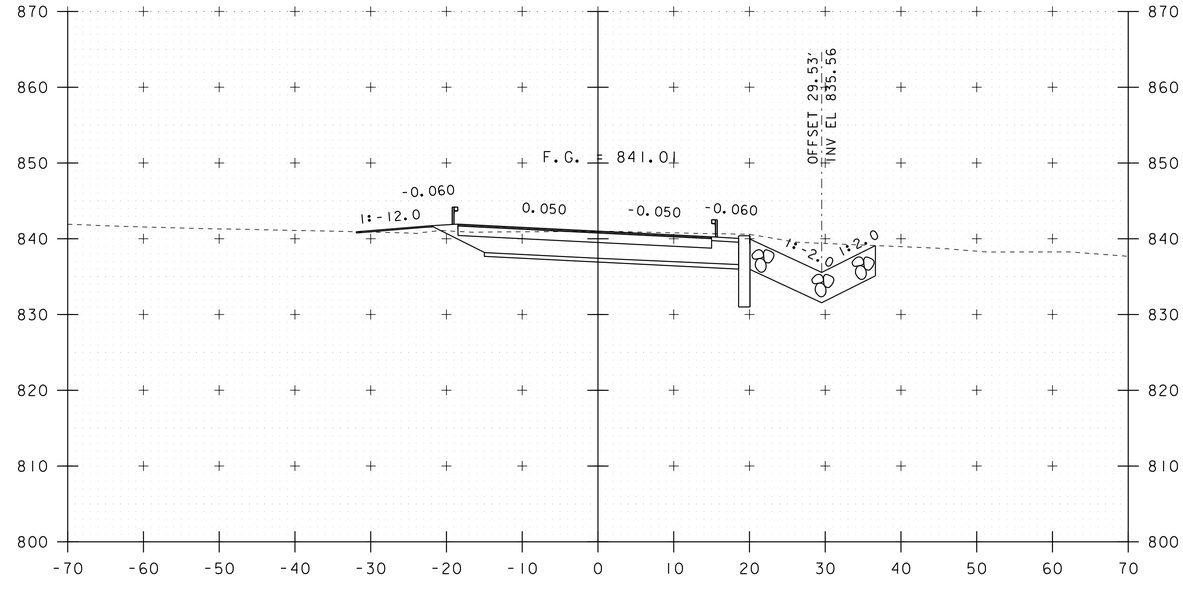
BEGIN PROJECT

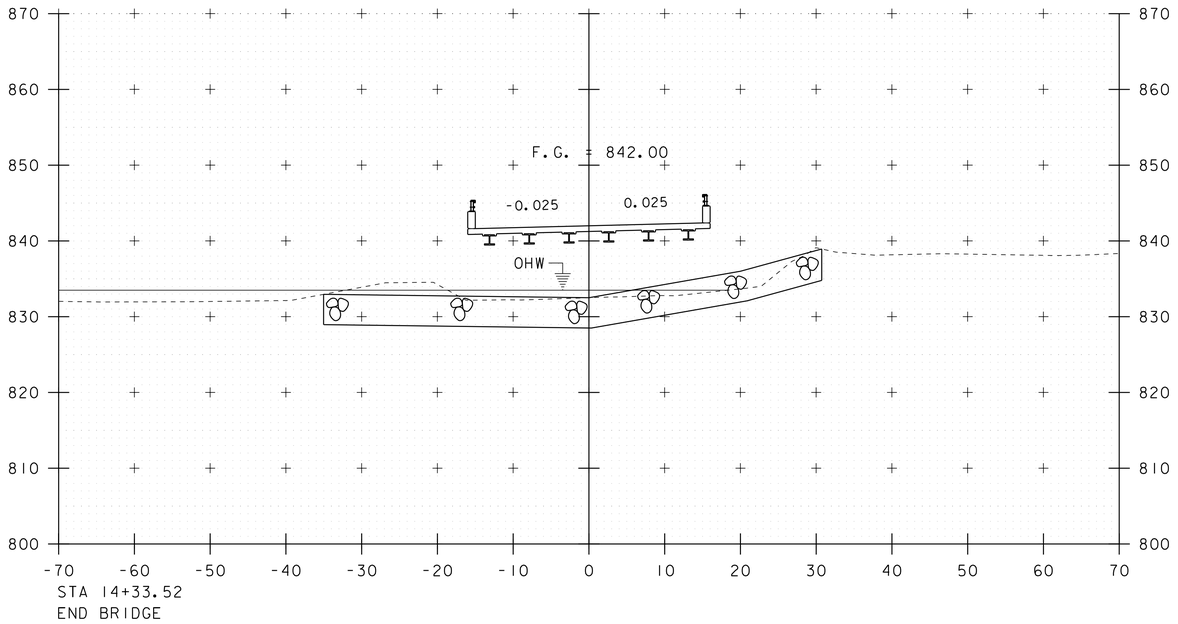
13+00



13+50

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: sl0b416xsl.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
VT 100 CROSS SECTIONS 3	SHEET 24 OF 44

STA. 13+00 TO STA. 13+75



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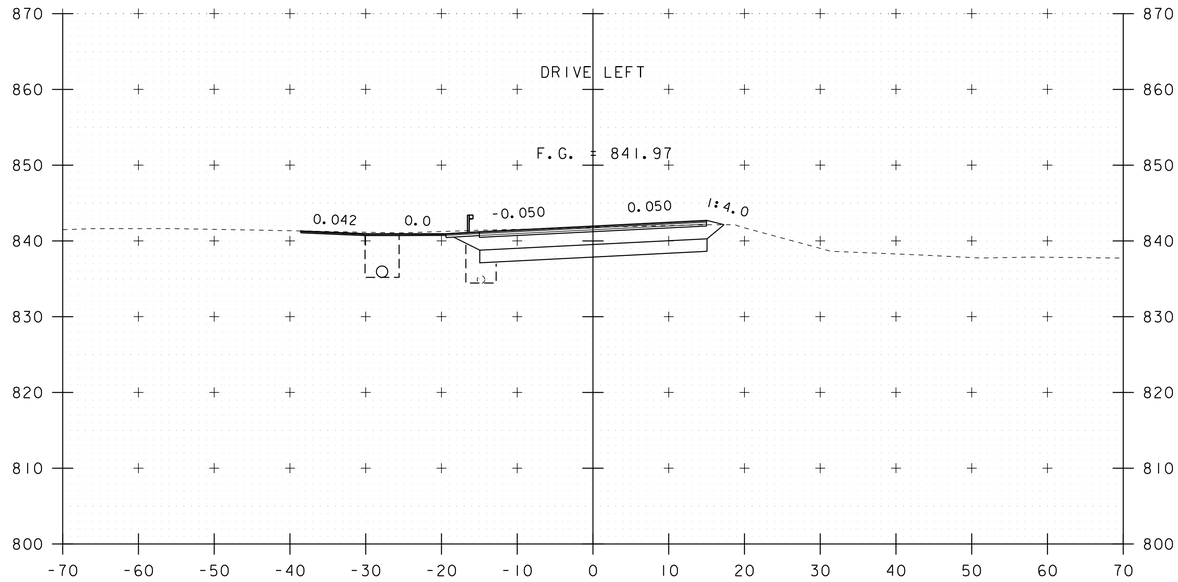

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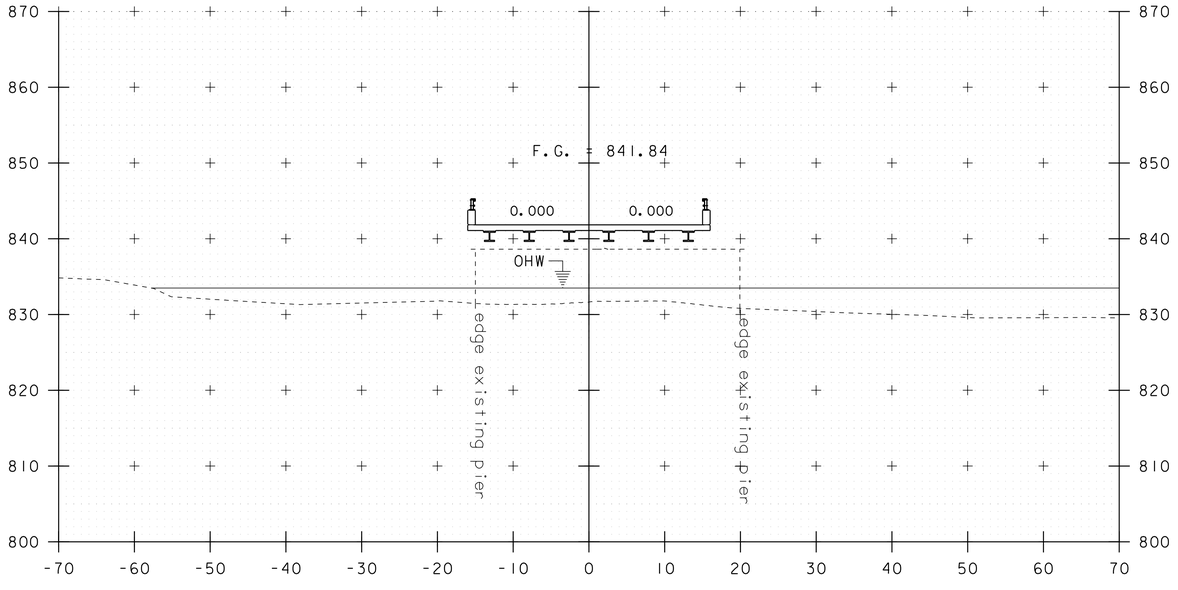

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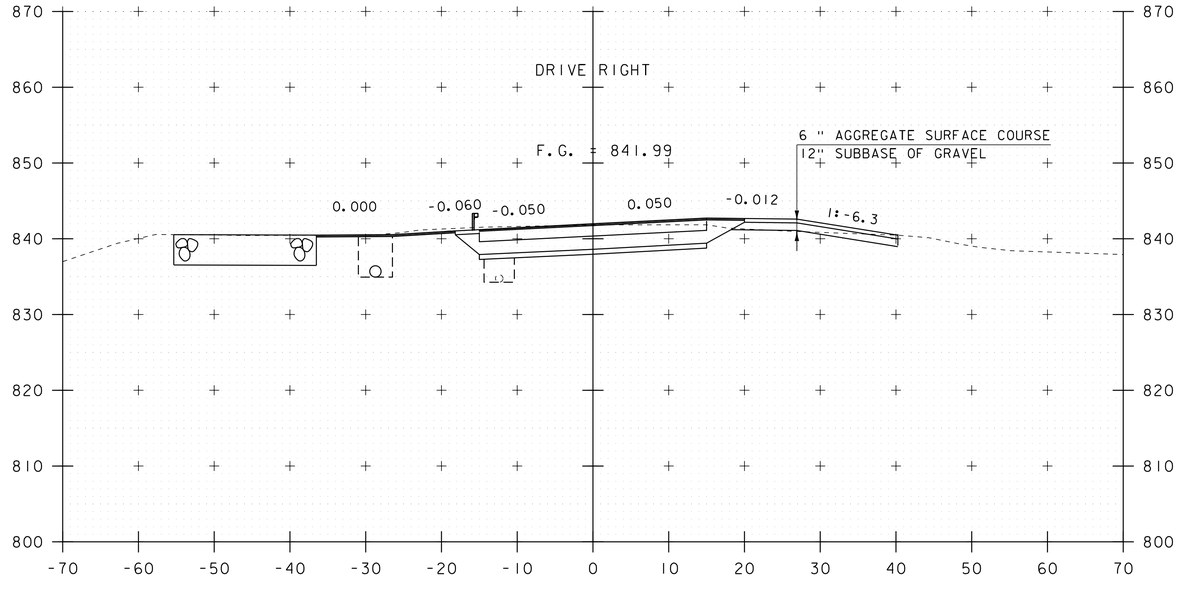


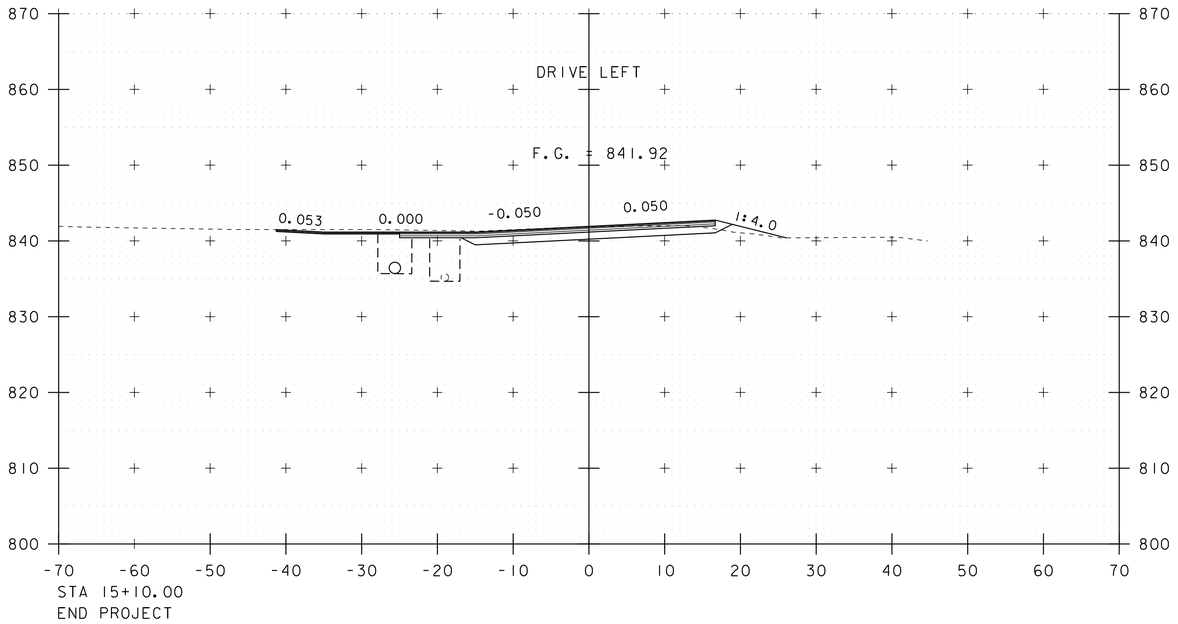
14+50

STA. 14+00 TO STA. 14+75

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

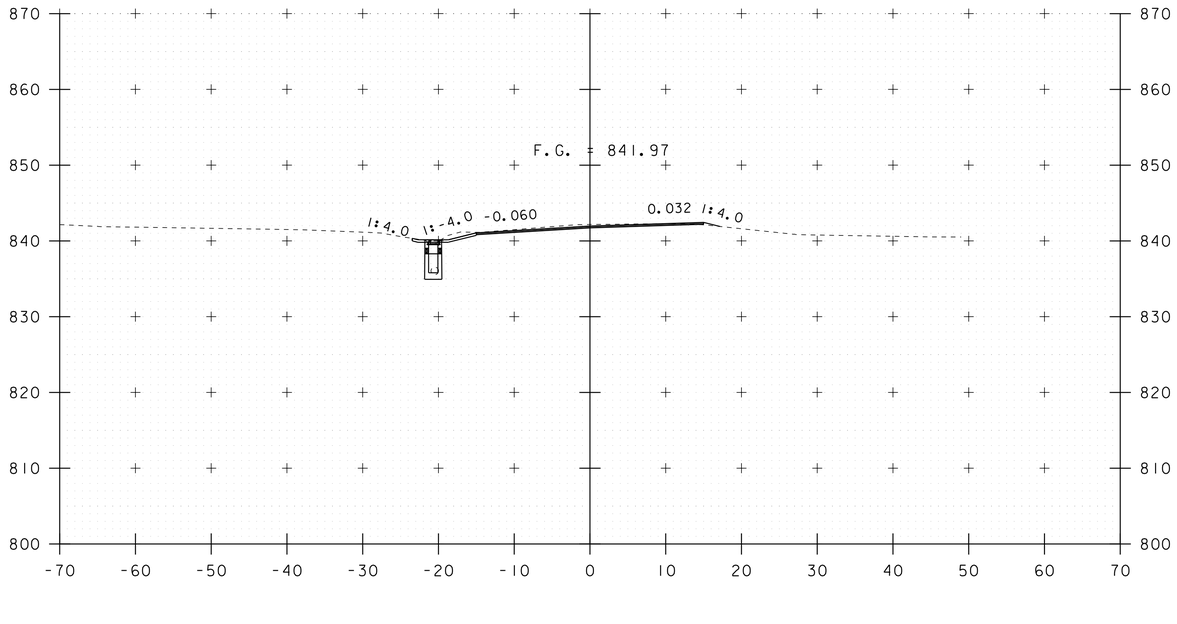
FILE NAME: sl0b416xsl.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
VT 100 CROSS SECTIONS 4

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 25 OF 44

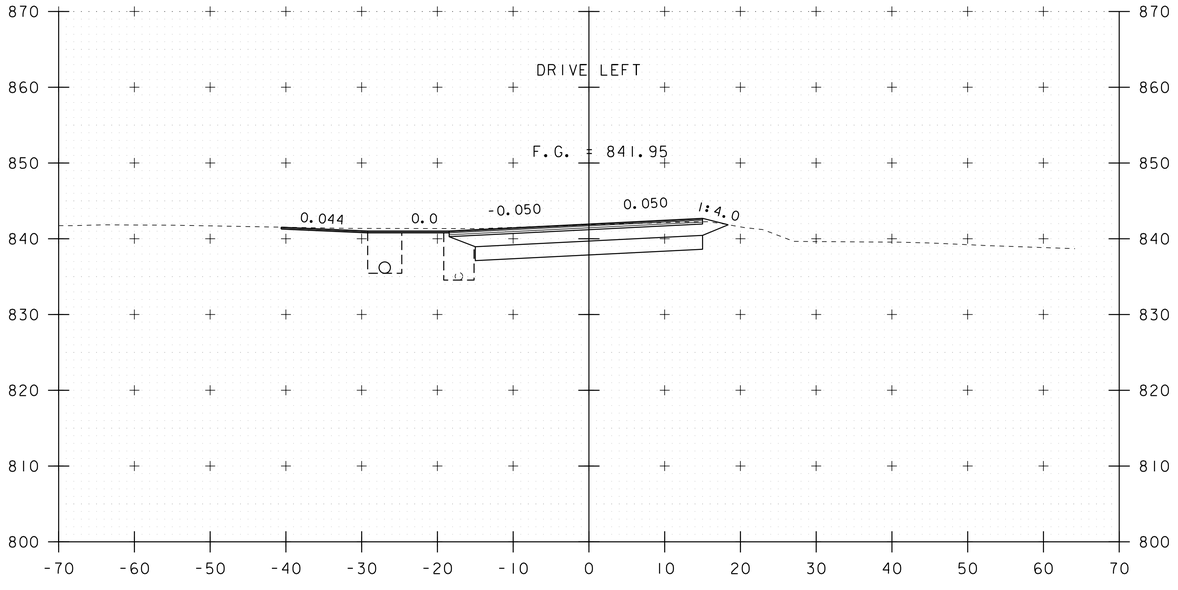


STA 15+10.00
END PROJECT

15+25



15+75



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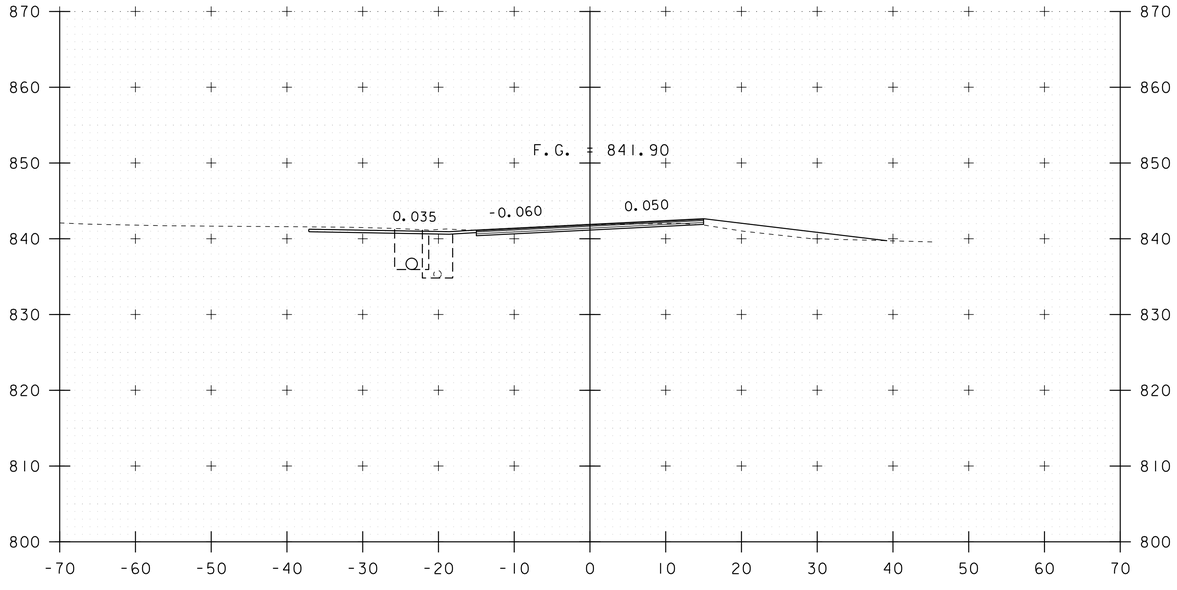


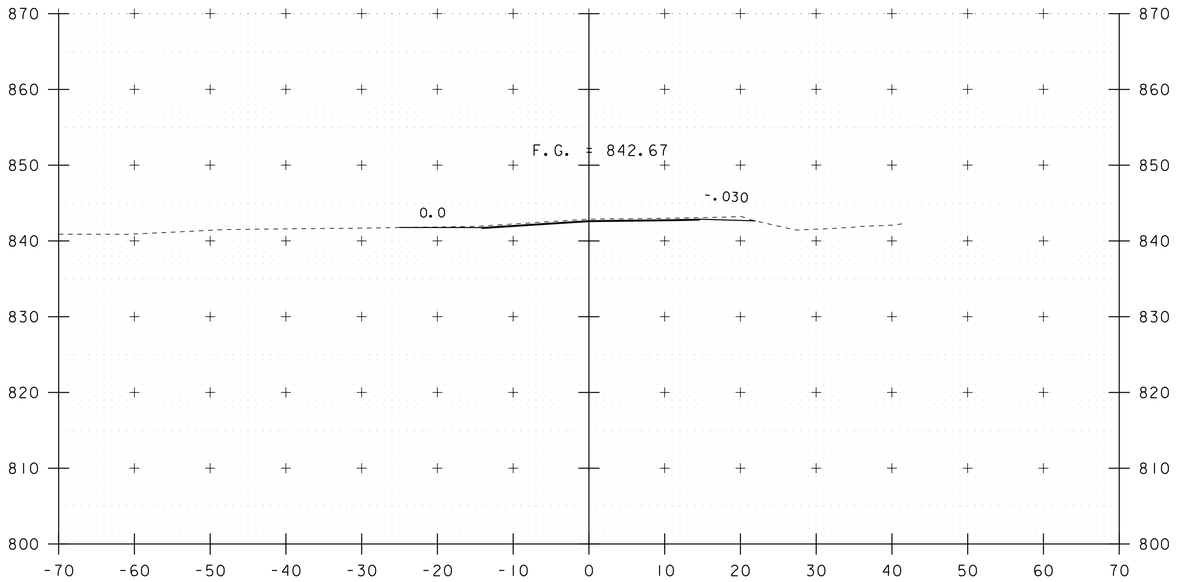
15+50

STA. 15+00 TO STA. 15+75

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: sl0b416xsl.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
VT 100 CROSS SECTIONS 5

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 26 OF 44



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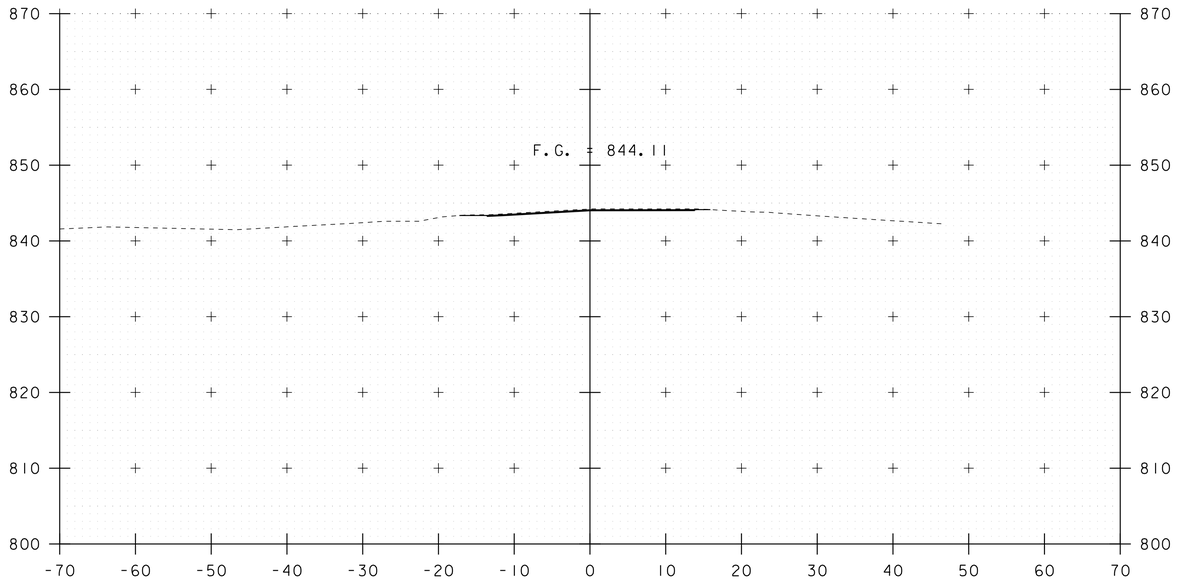

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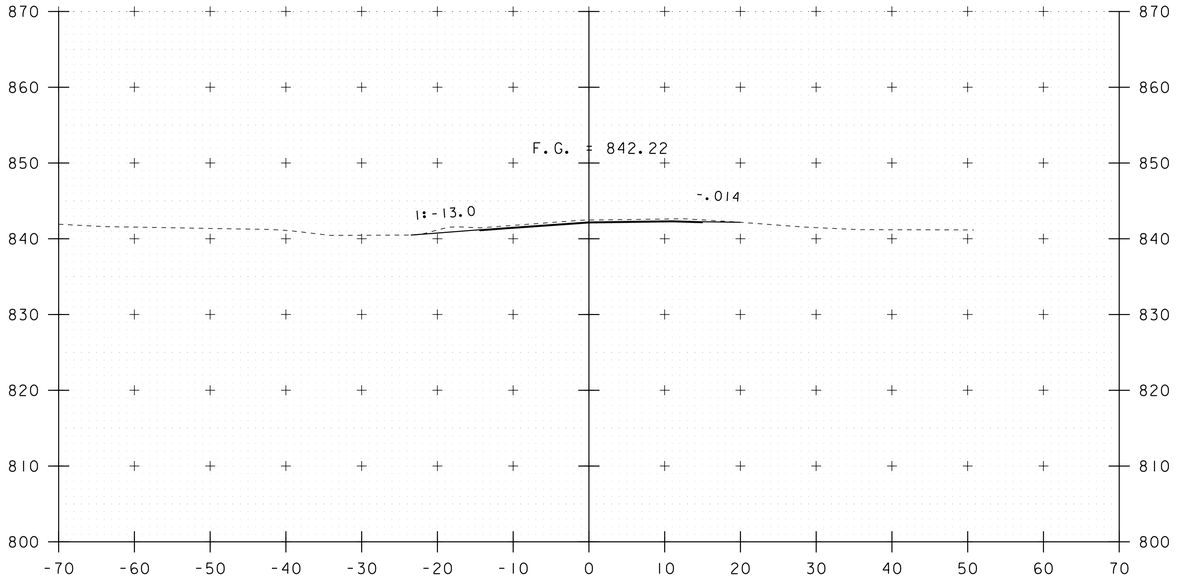

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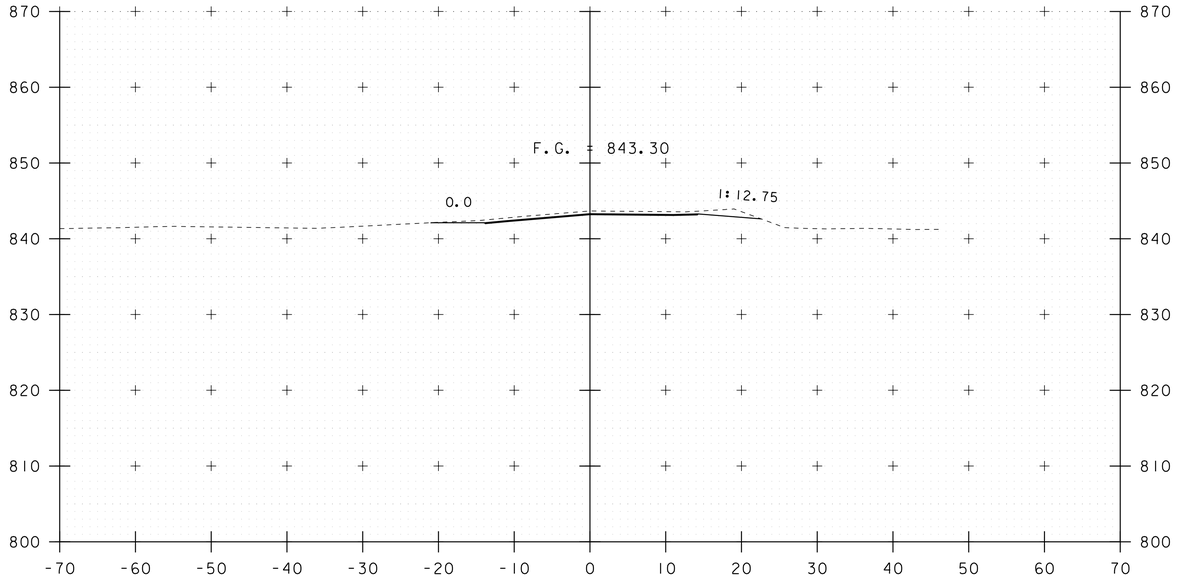


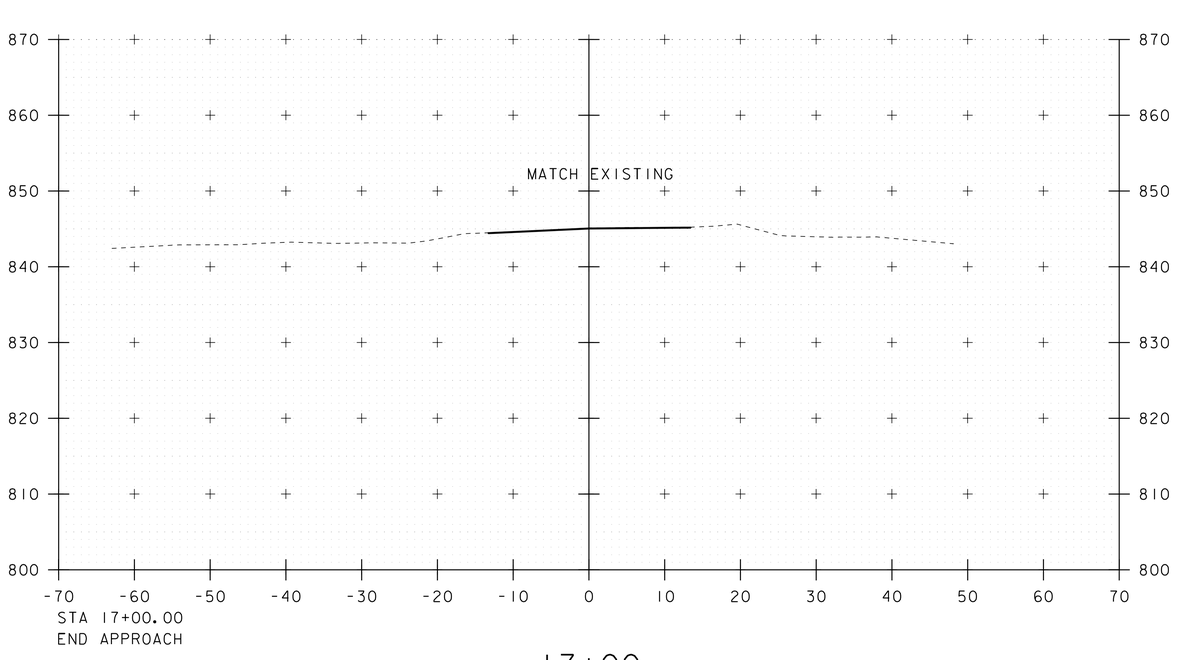
16+50

STA. 16+00 TO STA. 16+75

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: sl0b416xsl.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
VT 100 CROSS SECTIONS 6

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 27 OF 44



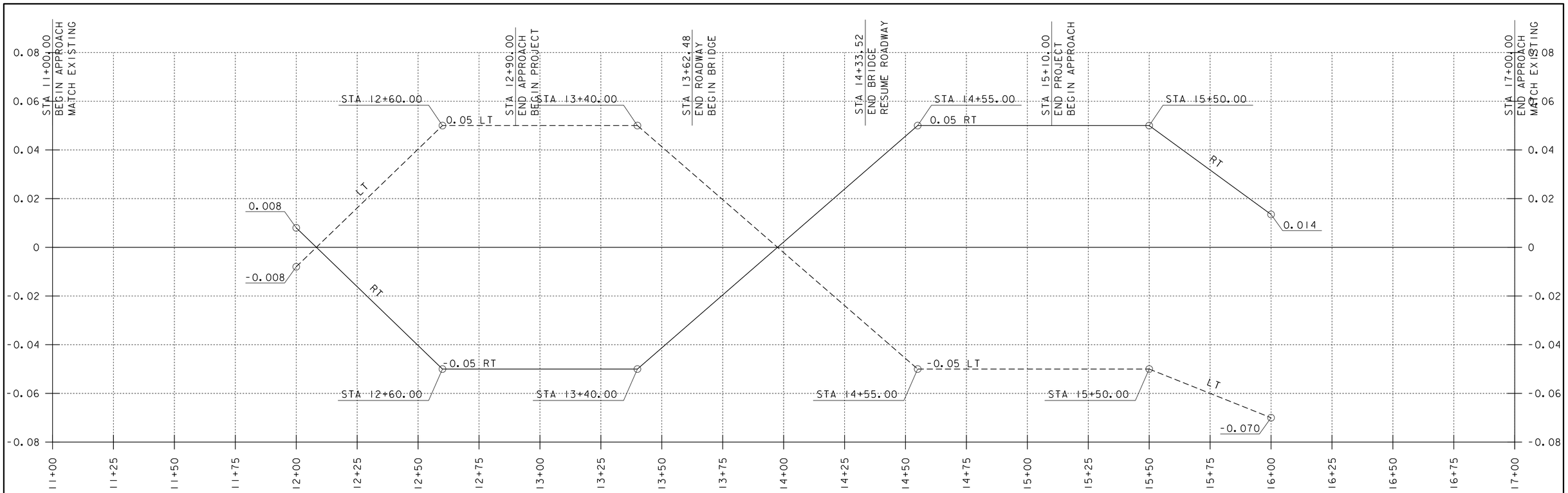
17+00

STA. 17+00 TO STA. 17+00

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

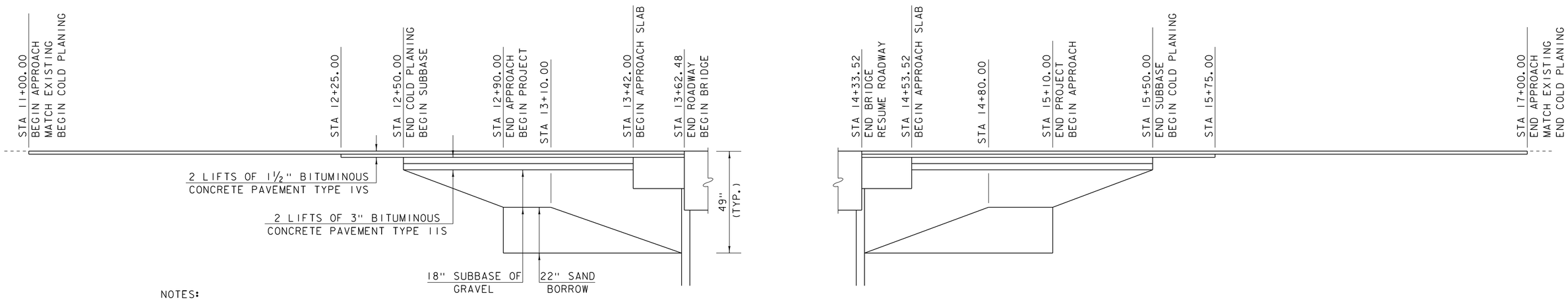
FILE NAME: sl0b416xsl.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
VT 100 CROSS SECTIONS 7

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 28 OF 44



VT 100 BANKING DIAGRAM

HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: 1" = 0.02'/'



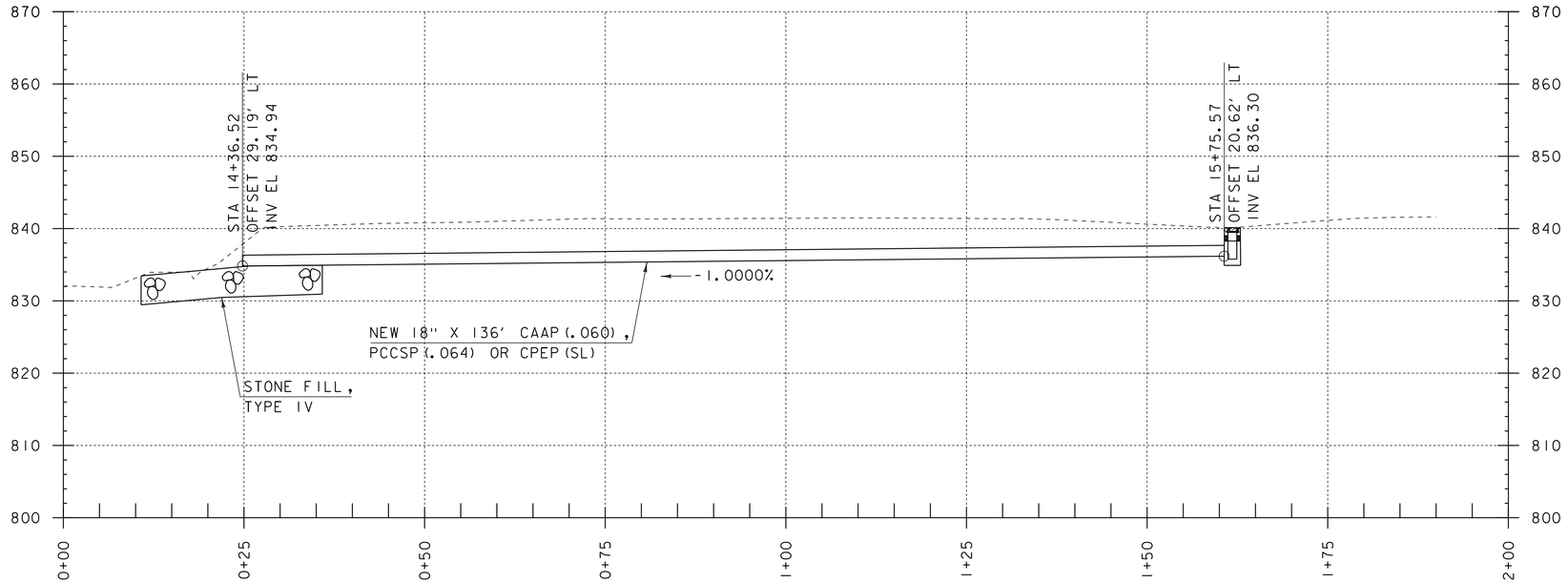
NOTES:

1. SEE SECTIONS TO DETERMINE CUT OR FILL.
2. SEE PROJECT TYPICAL SECTIONS FOR ABUTMENT EARTHWORK DETAILS.

VT 100 MATERIAL TRANSITION DETAIL

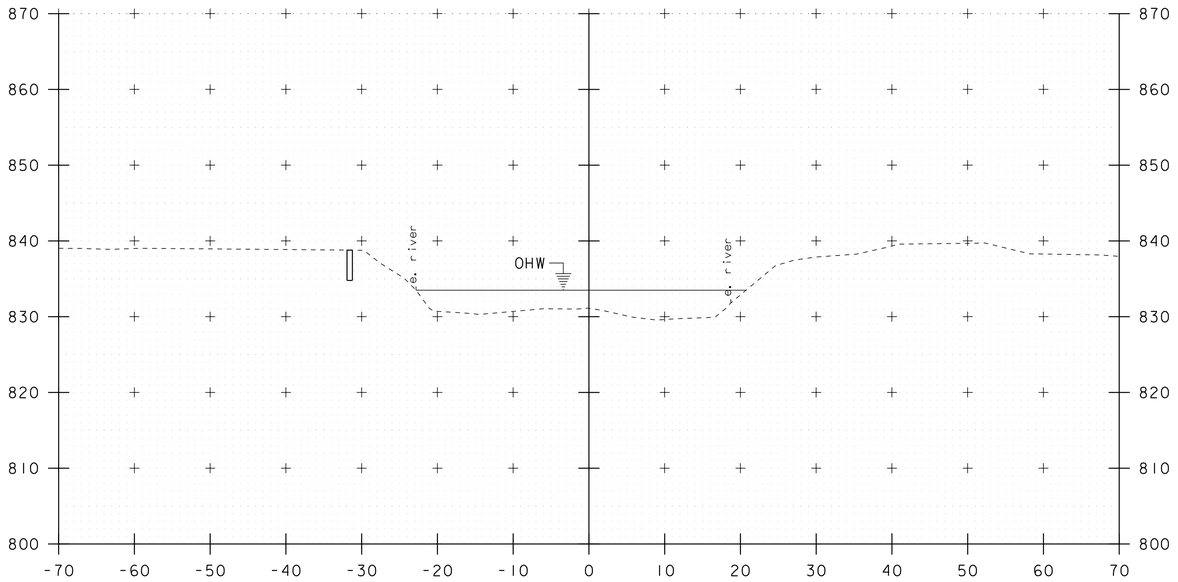
HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: 1" = 2'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416xsl.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
BANKING DIAGRAM & MATERIAL TRANSITION	SHEET 29 OF 44



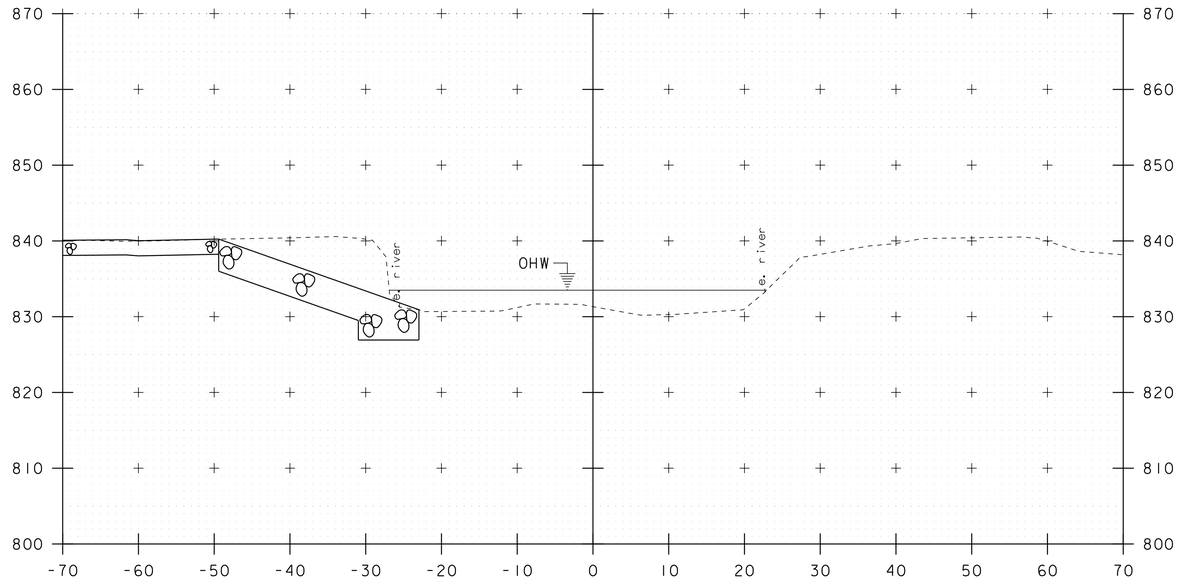
PIPE PROFILE

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416xsl.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
PIPE PROFILE	SHEET 30 OF 44

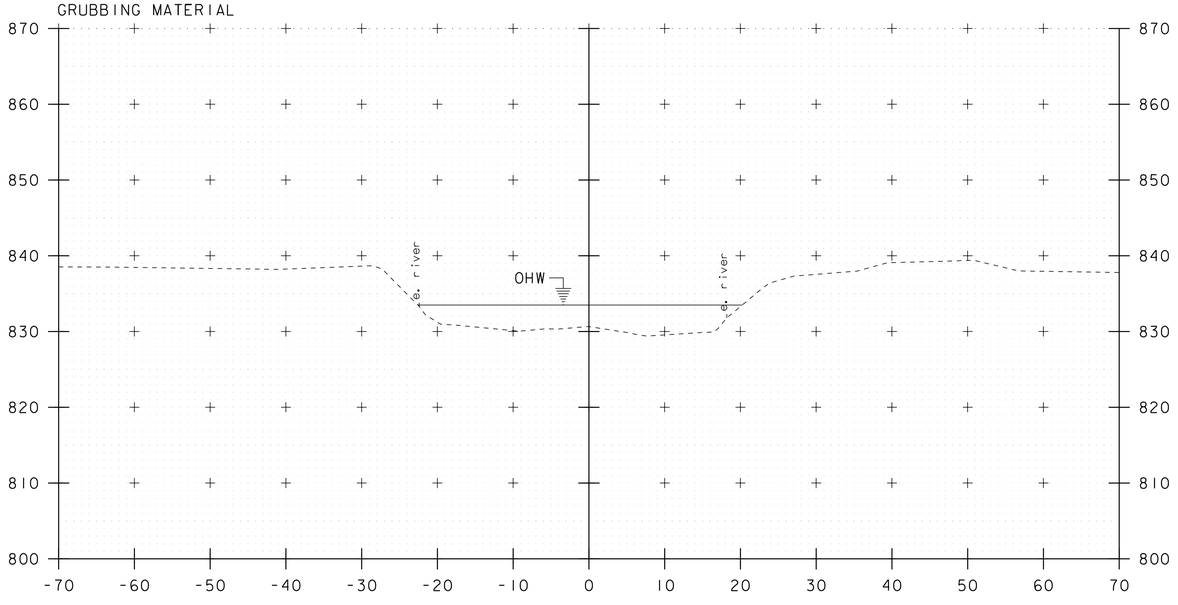


STA 51+00.00 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

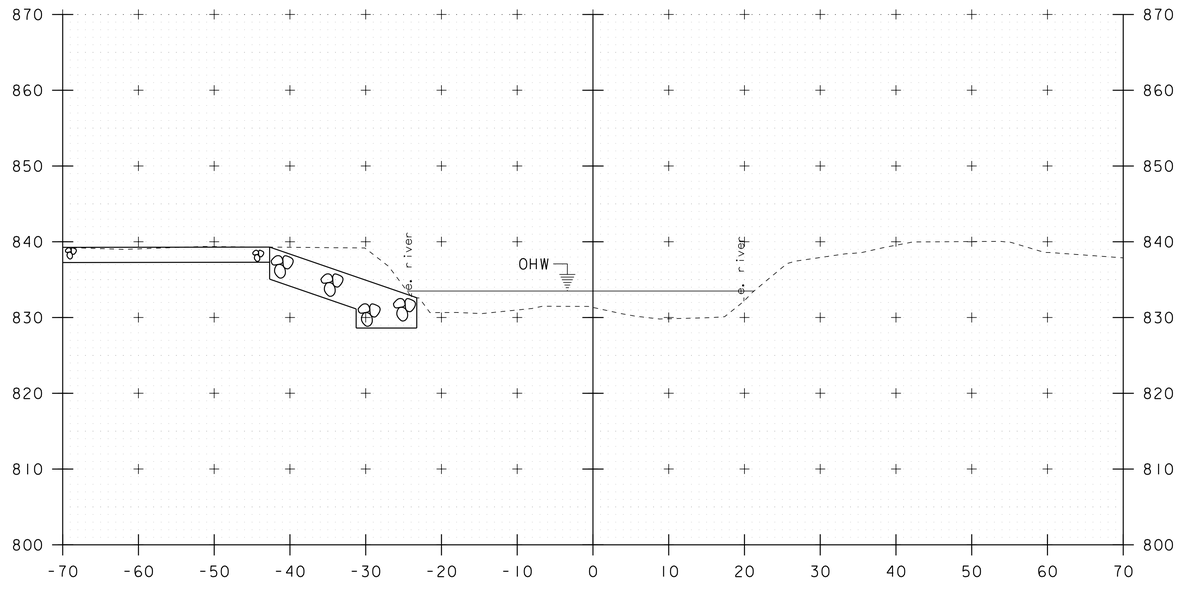
51+00



51+20



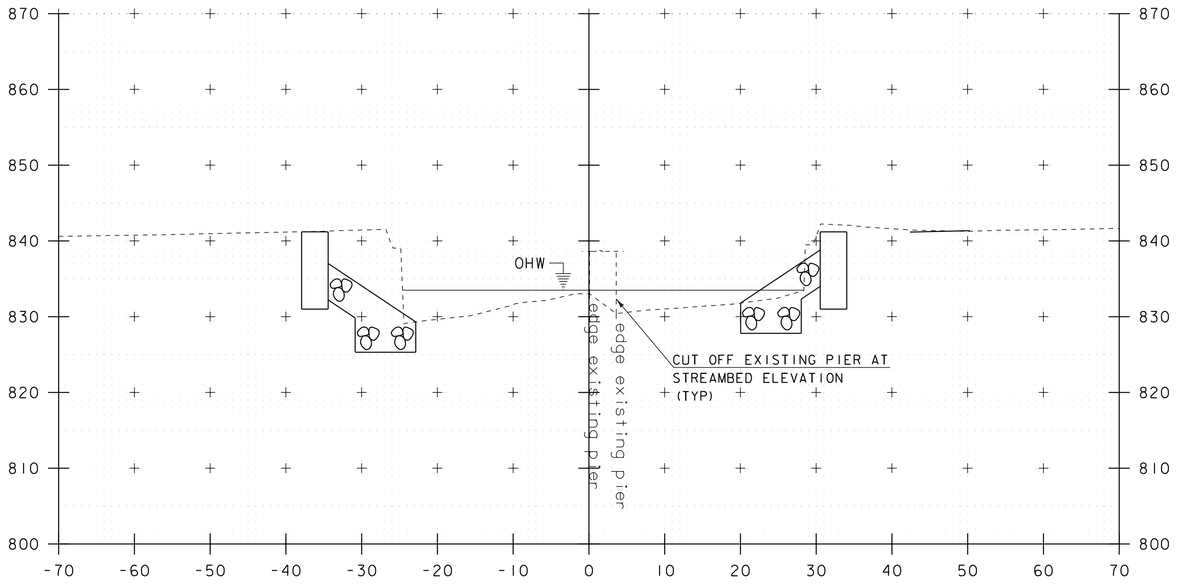
50+90



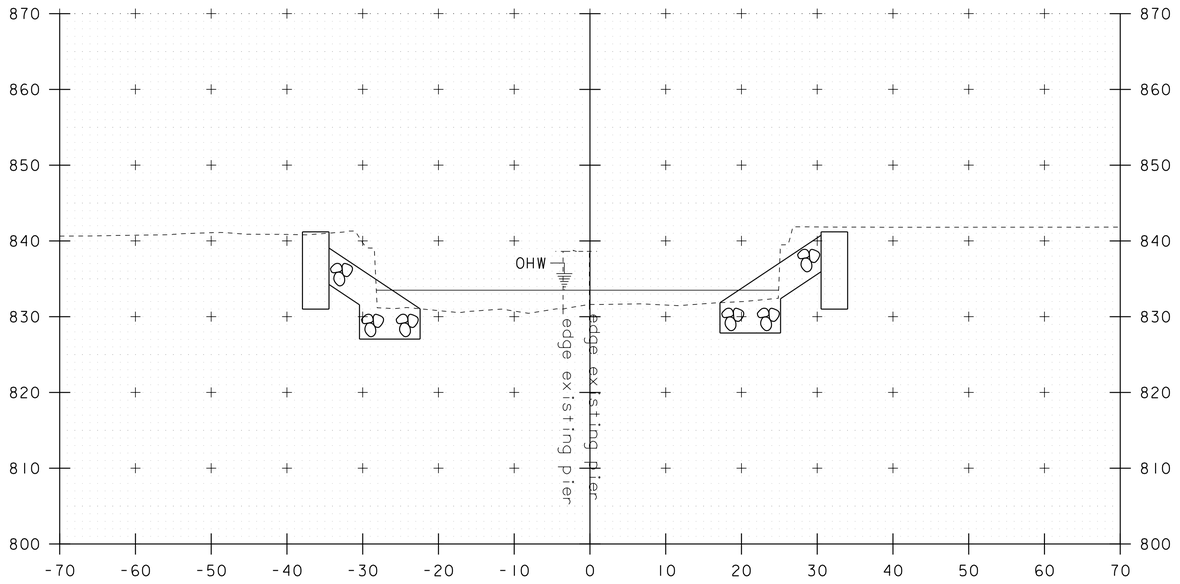
51+10

STA. 50+90 TO STA. 51+20

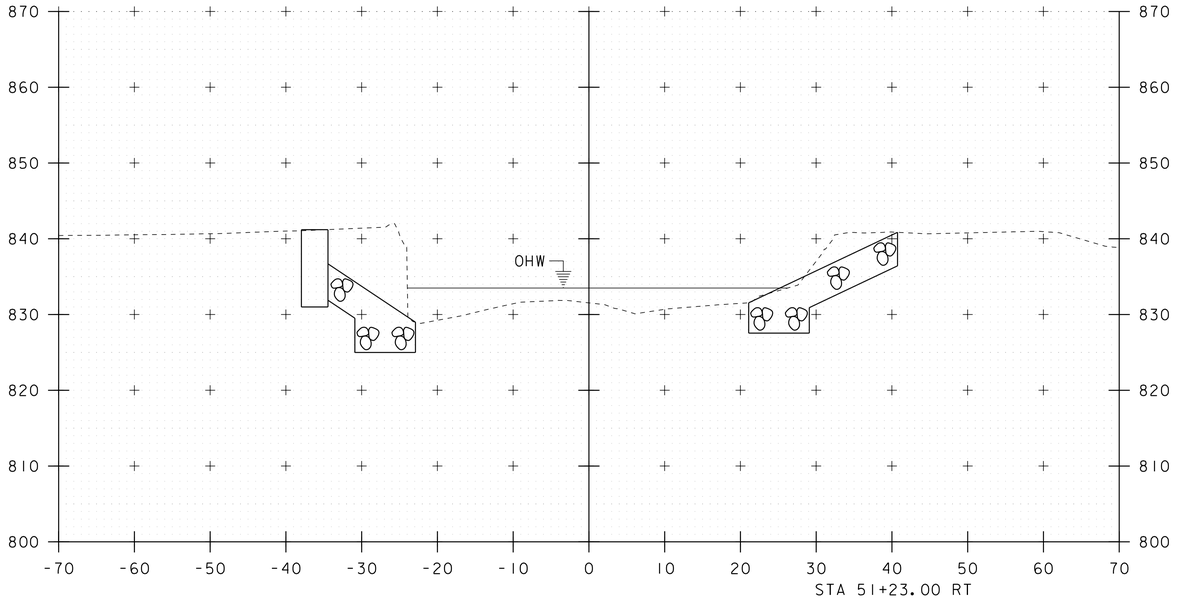
PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: sl0b416xsl.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
CHANNEL CROSS SECTIONS 1	SHEET 31 OF 44



51+40



51+60



51+30

STA 51+23.00 RT
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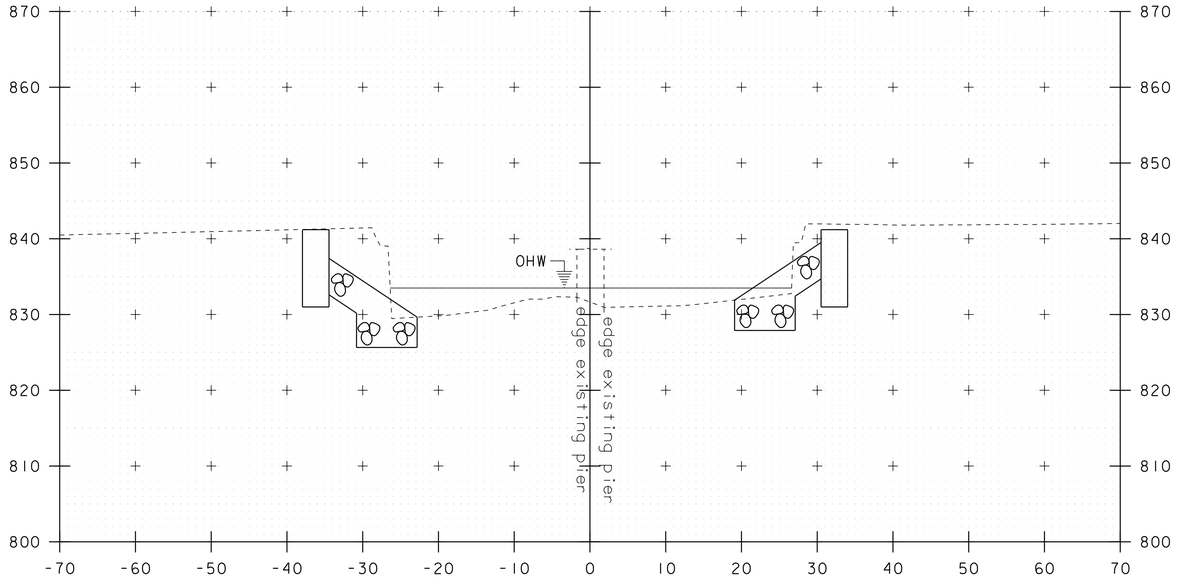
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL



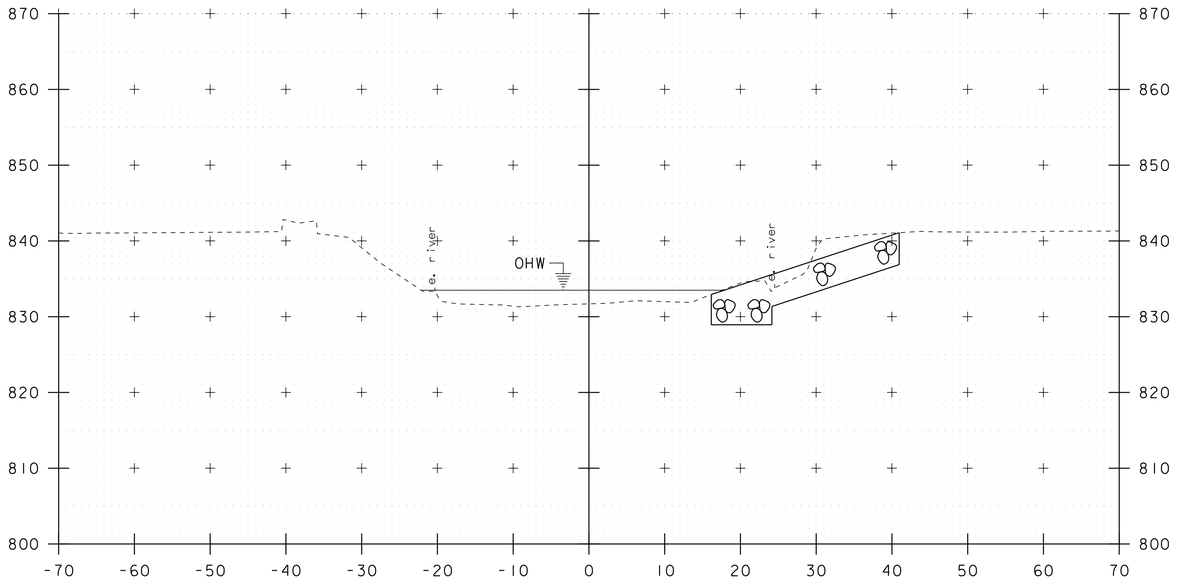
51+50

STA. 51+30 TO STA. 51+60

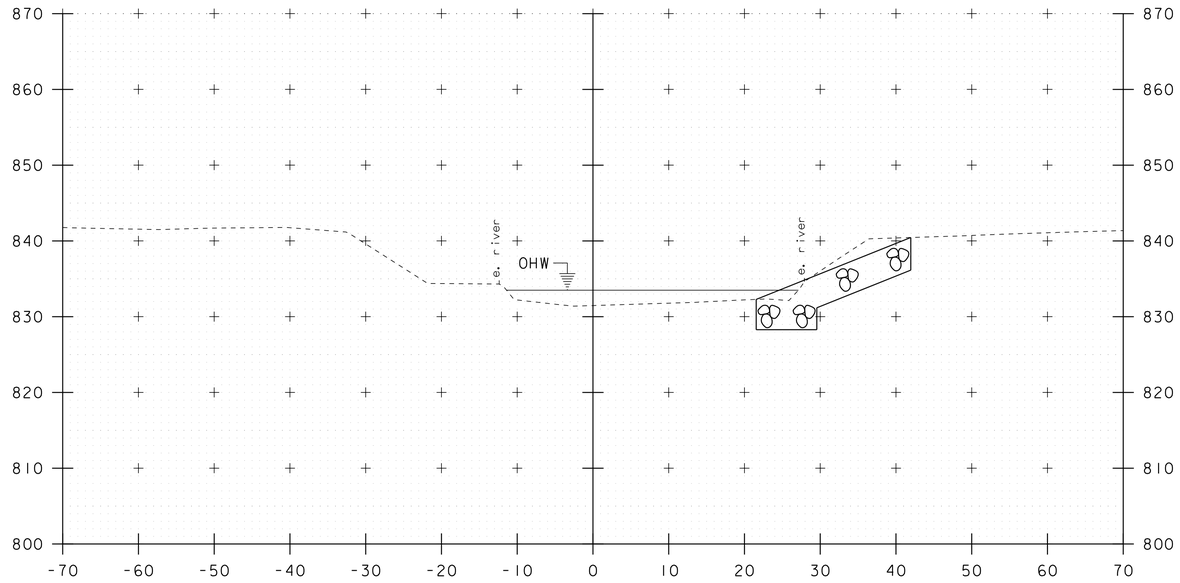
PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: sl0b416xsl.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
CHANNEL CROSS SECTIONS 2

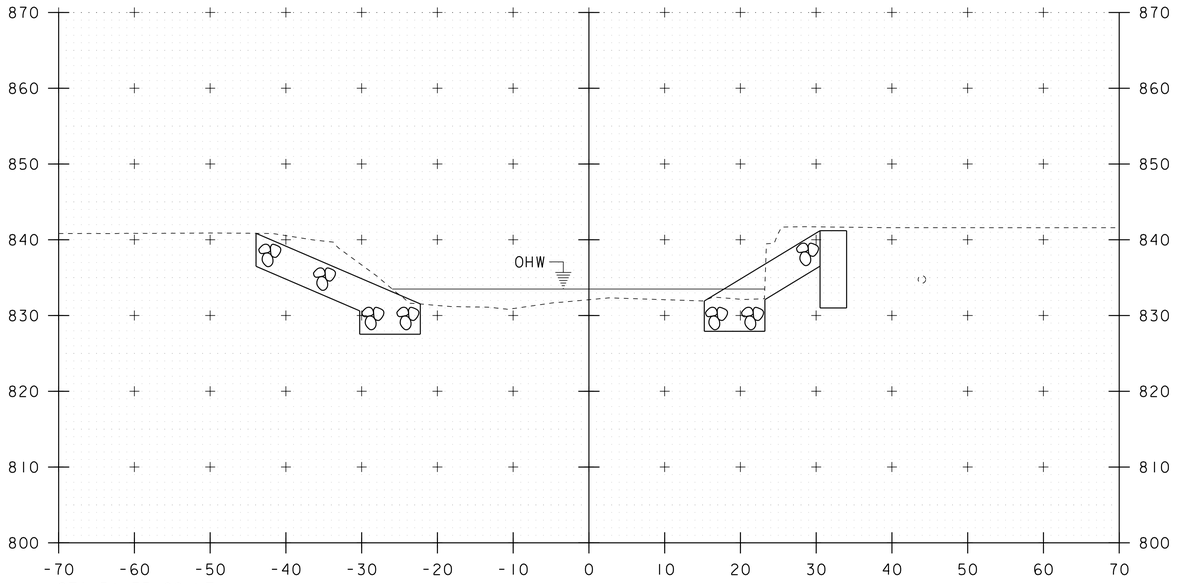
PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 32 OF 44



51+80

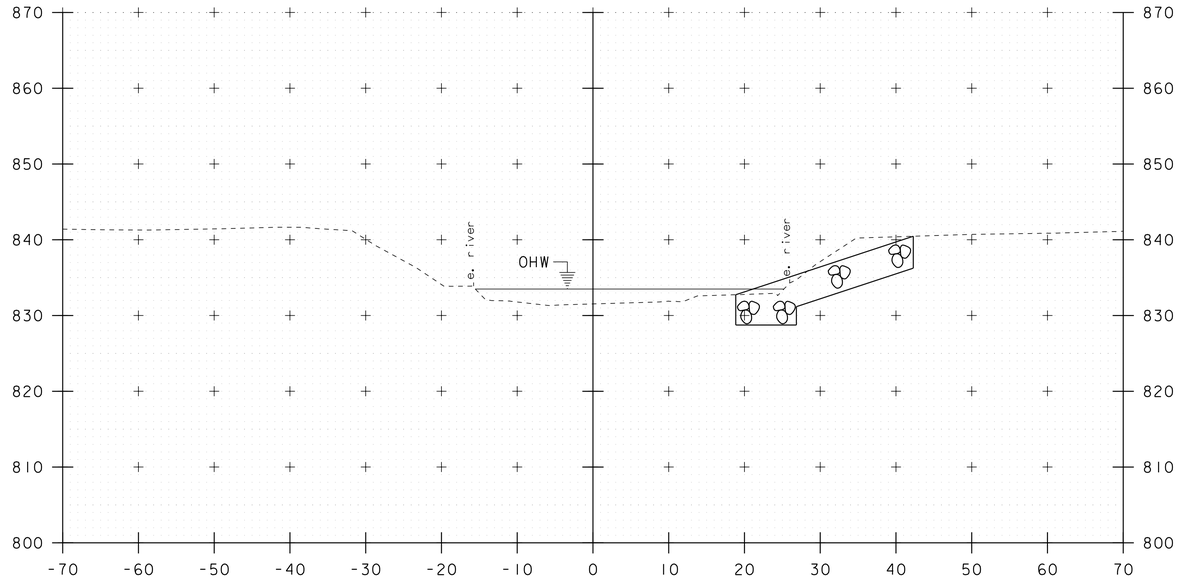


52+00



STA 51+75.00 LT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

51+70



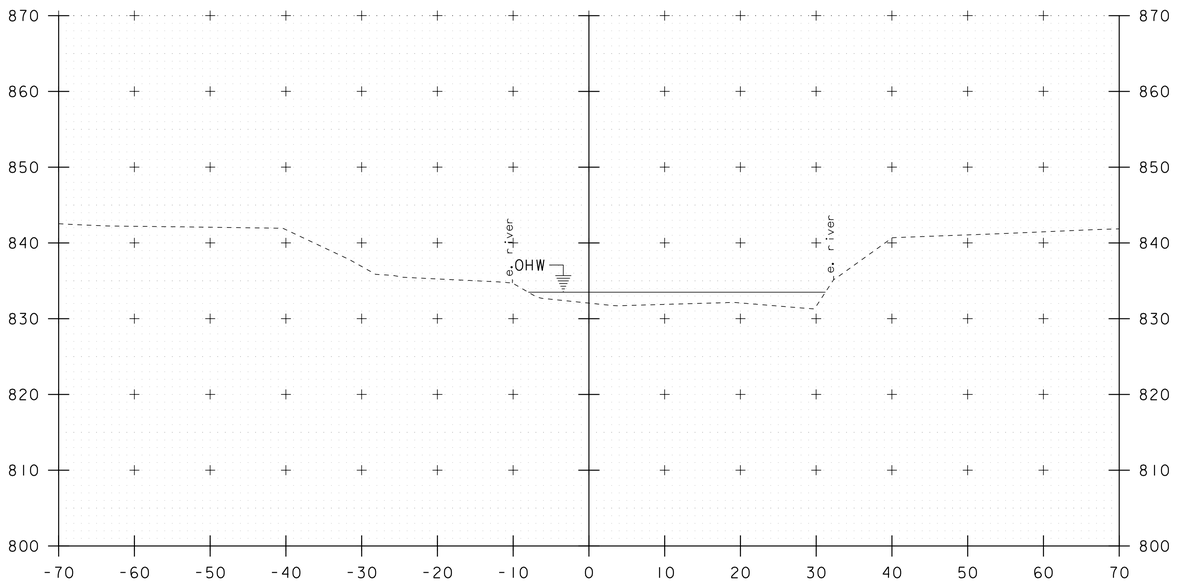
51+90

STA. 51+70 TO STA. 52+00

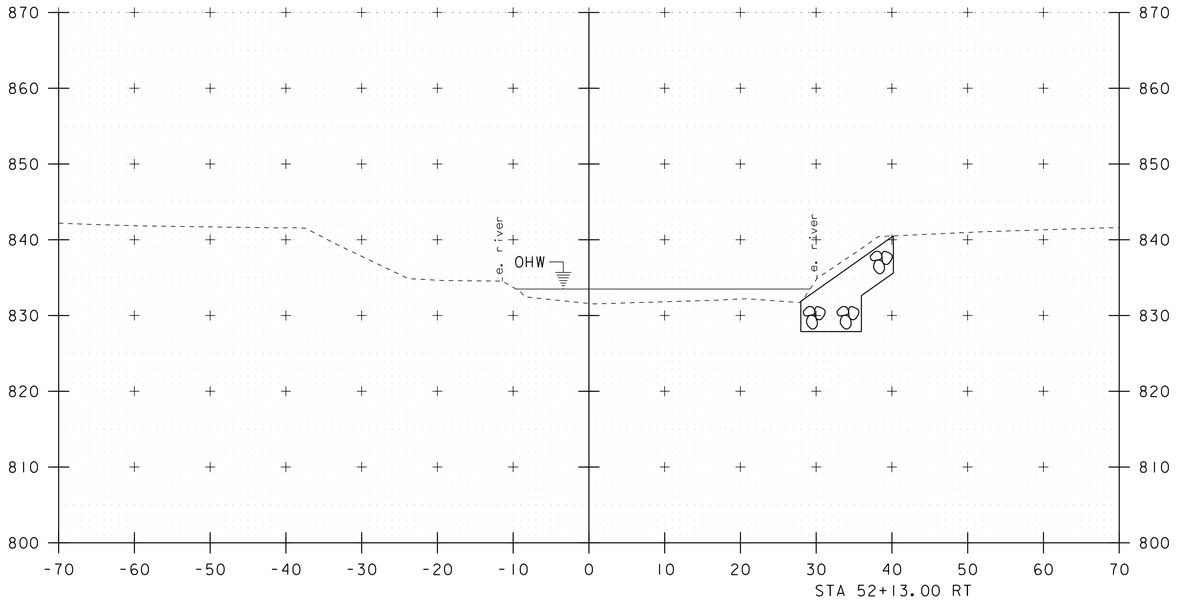
PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: sl0b416xsl.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
CHANNEL CROSS SECTIONS 3

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 33 OF 44



52+20



STA 52+13.00 RT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

52+10

STA. 52+10 TO STA. 52+20

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: sl0b416xsl.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
CHANNEL CROSS SECTIONS 4	SHEET 34 OF 44

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REMOVAL OF BRIDGE 126 AND ITS APPROACHES. BRIDGE 126 WILL BE REPLACED WITH A CONCRETE DECK & STEEL BEAMS SPANNING 68.00 FEET OVER THE WEST BRANCH OF THE TWEED RIVER, ON NEW ABUTMENTS ALONG THE SAME ALIGNMENT. BRIDGE 126 IS LOCATED IN THE TOWN OF PITTSFIELD, ON VT ROUTE 100, APPROXIMATELY 2 MILES SOUTH OF THE JUNCTION OF VT 100 AND VT 107.

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 0.97 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 HILLY TO MOUNTAINOUS, MOSTLY OPEN. VT ROUTE 100, THE WEST BRANCH OF THE TWEED RIVER AND TH 6 ARE WITHIN THE PROJECT SITE. THE IMMEDIATE AREA IS RURAL RESIDENTIAL WITH SEVERAL HOUSES AND BUSINESSES IN THE GENERAL VICINITY OF THE PROJECT. THERE ARE OVERHEAD UTILITES WHICH WILL NEED TO BE RELOCATED PRIOR TO CONSTRUCTION.

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

THE WEST BRANCH OF THE TWEED RIVER IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE RIVER IS CLASSIFIED INCISED, SINUOUS, AND ALLUVIAL. THE MATERIAL MAKE UP THE STREAMBED CONSISTS OF COBBLES, GRAVEL AND SAND. THE TRIBUTARY AREA AT THE BRIDGE IS17.6 MILES^2. DUE TO THE NATURE OF THE SURROUNDING TERRAIN RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED ALONG THE ROADWAY EMBANKMENT.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF LAWNS, HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV 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 WINDSOR, VERMONT. SOIL ON THE PROJECT SITE CONSISTS ENTIRELY OF HINCKLEY GRAVELLY LOAMY FINE SAND, 0% TO 8% SLOPES, “K FACTOR” = 0.17. THE SOIL IS CLASSIFIED AS HYDROLOGIC GROUP A.

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

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES, PROJECT LOCATED WITHIN THE PITTSFIELD HISTORIC DISTRICT
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: YES, NORTHERN LONG EARED BAT
WATER RESOURCE: WEST BRANCH OF THE TWEED RIVER
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.

DUE TO THE PROXIMITY OF SEVERL HISTORIC STRUCTURES, BARRIER FENCE 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.

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.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

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

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT CHECK STRUCTURES WILL BE NECESSARY.

1.4.7 CONSTRUCT PERMANENT CONTROLS

NO PERMANENT STORMWATER TREATMENT DEVICES ARE PLANNED.

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

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

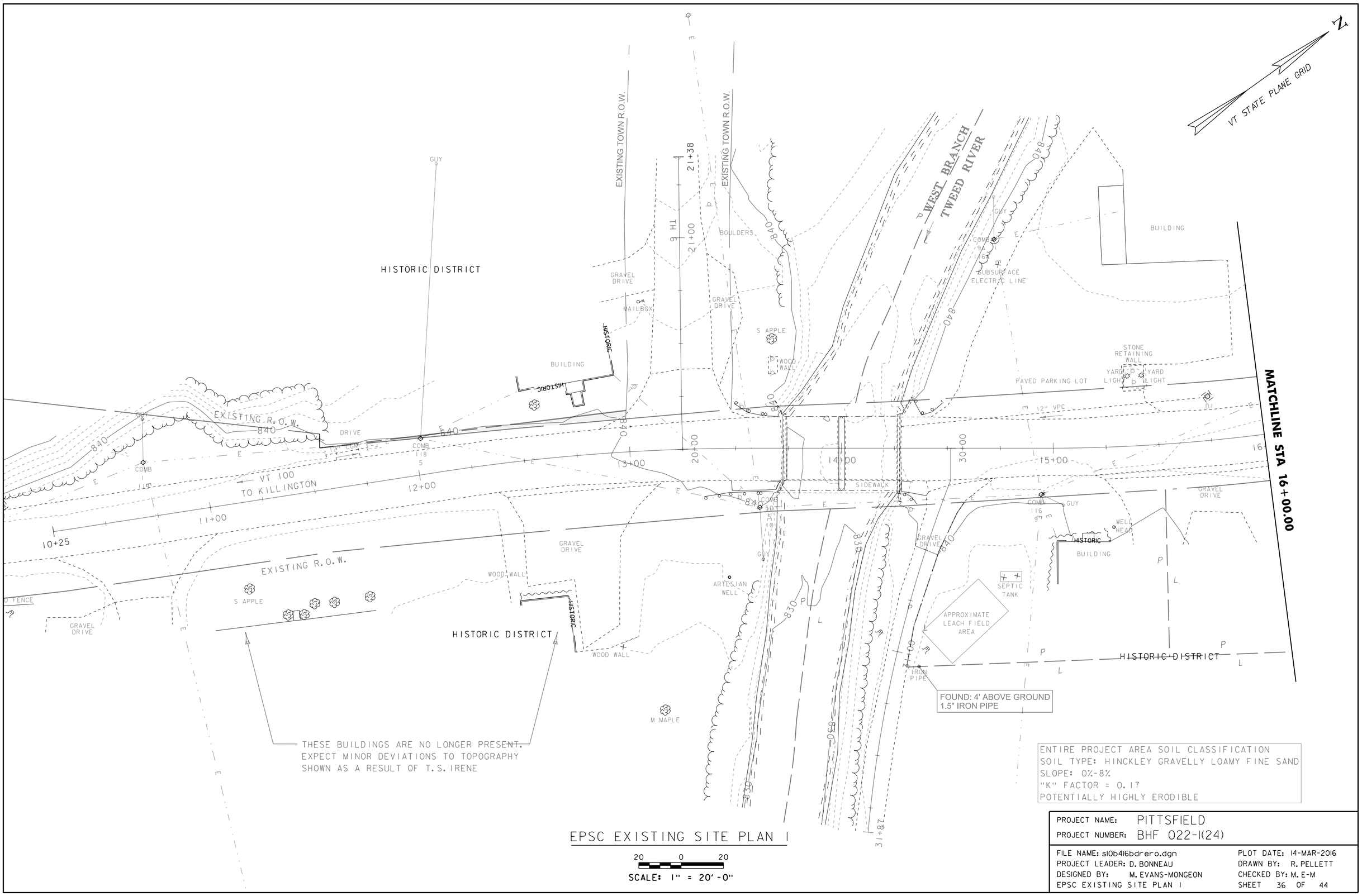
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

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 SPECIFICATION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416epscnotes.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
EPSC NARRATIVE	SHEET 35 OF 44

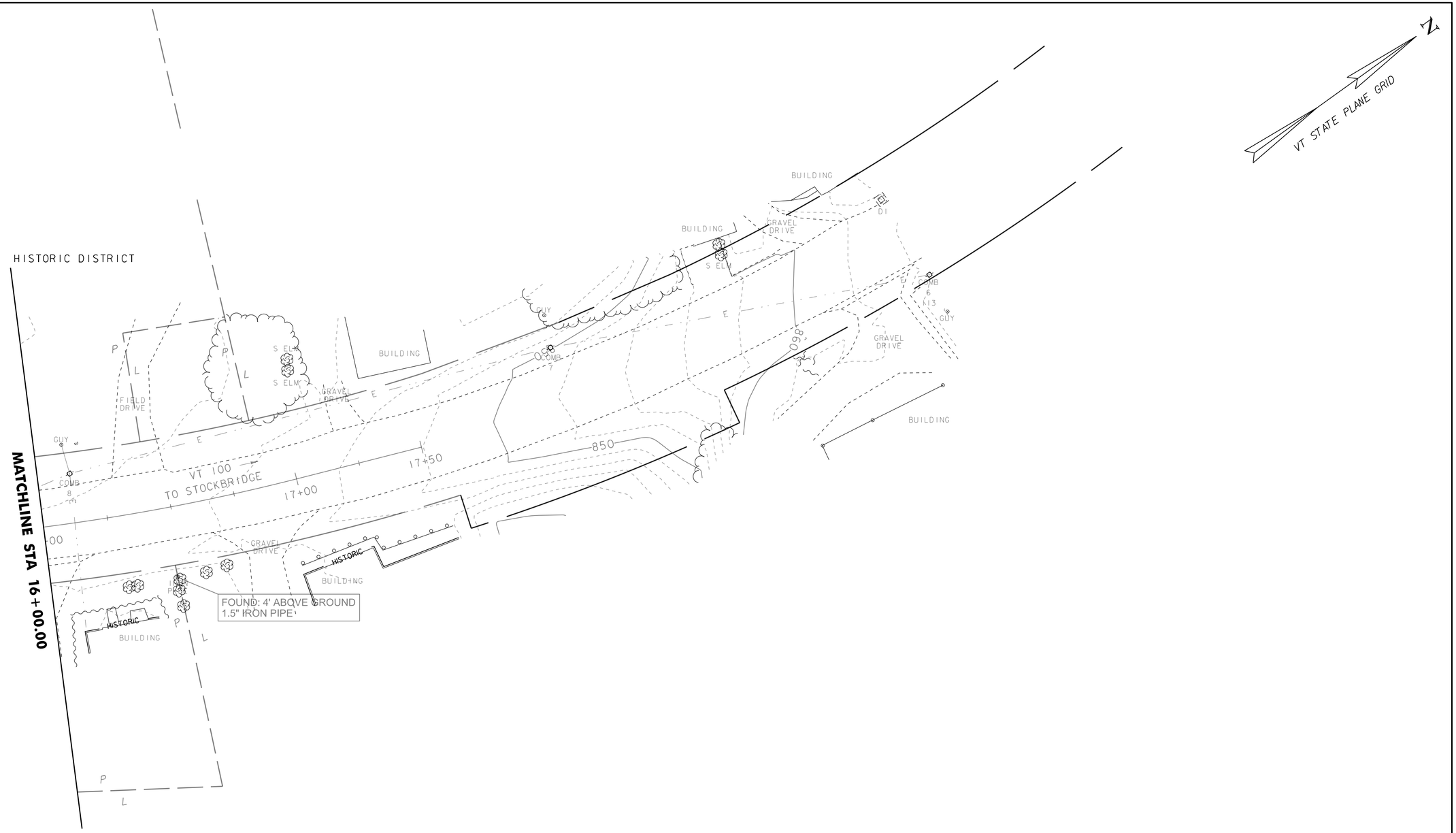


EPSC EXISTING SITE PLAN 1

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416bdrero.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
EPSC EXISTING SITE PLAN 1	SHEET 36 OF 44

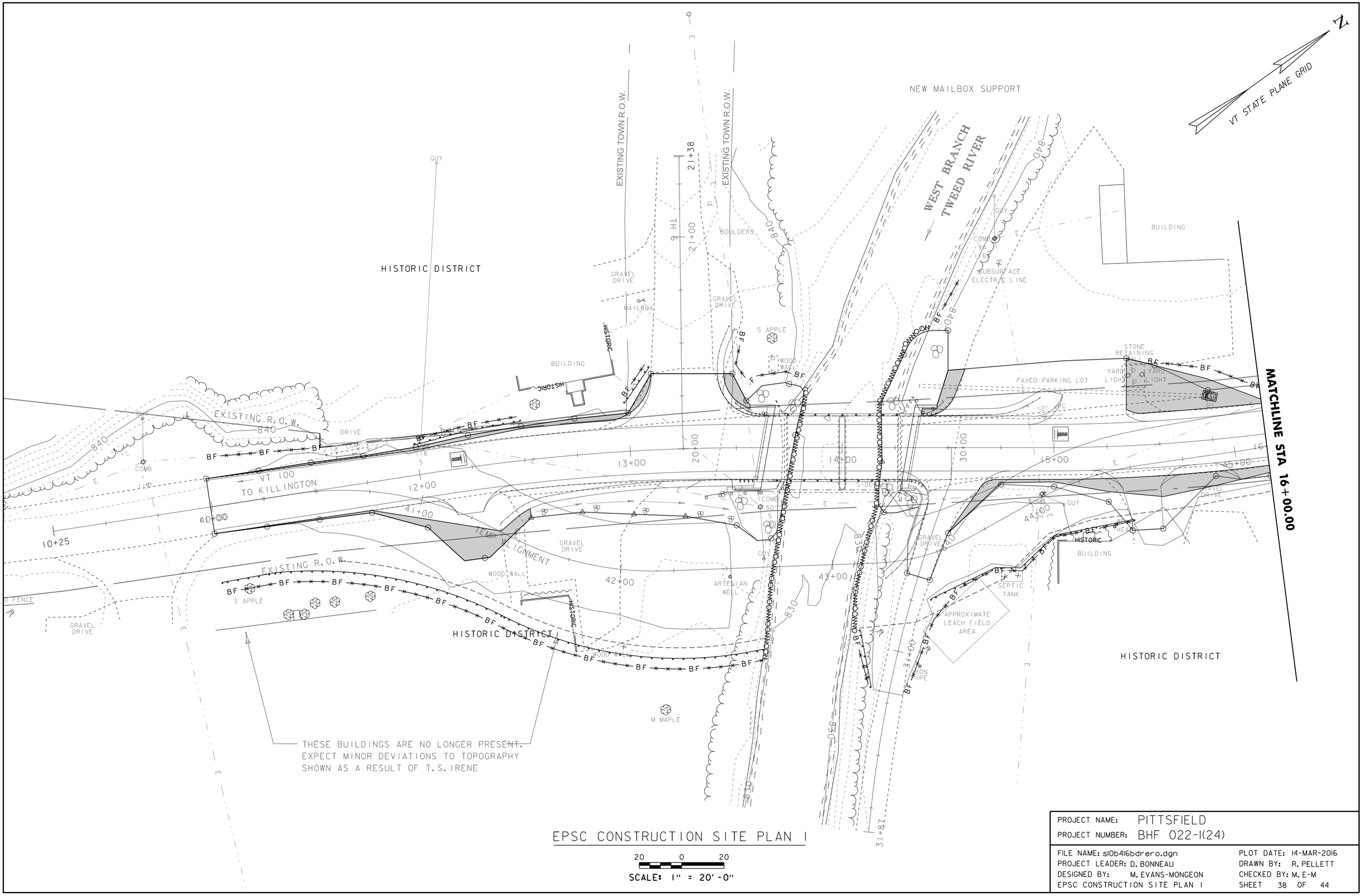


EPSC EXISTING SITE PLAN 2

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416bdrero.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
EPSC EXISTING SITE PLAN 2	SHEET 37 OF 44

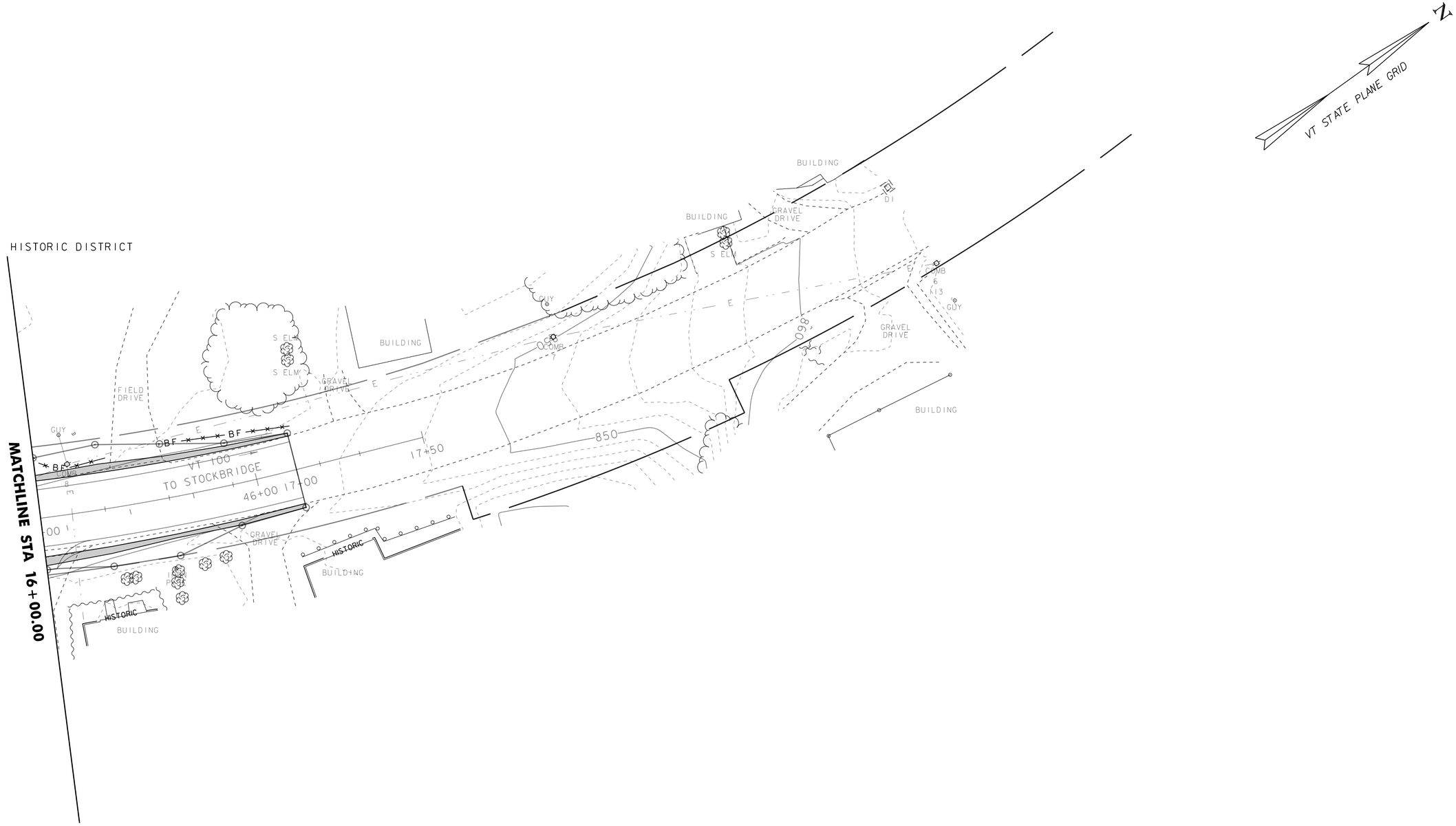


EPSC CONSTRUCTION SITE PLAN 1

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416bdrero.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
EPSC CONSTRUCTION SITE PLAN 1	SHEET 38 OF 44



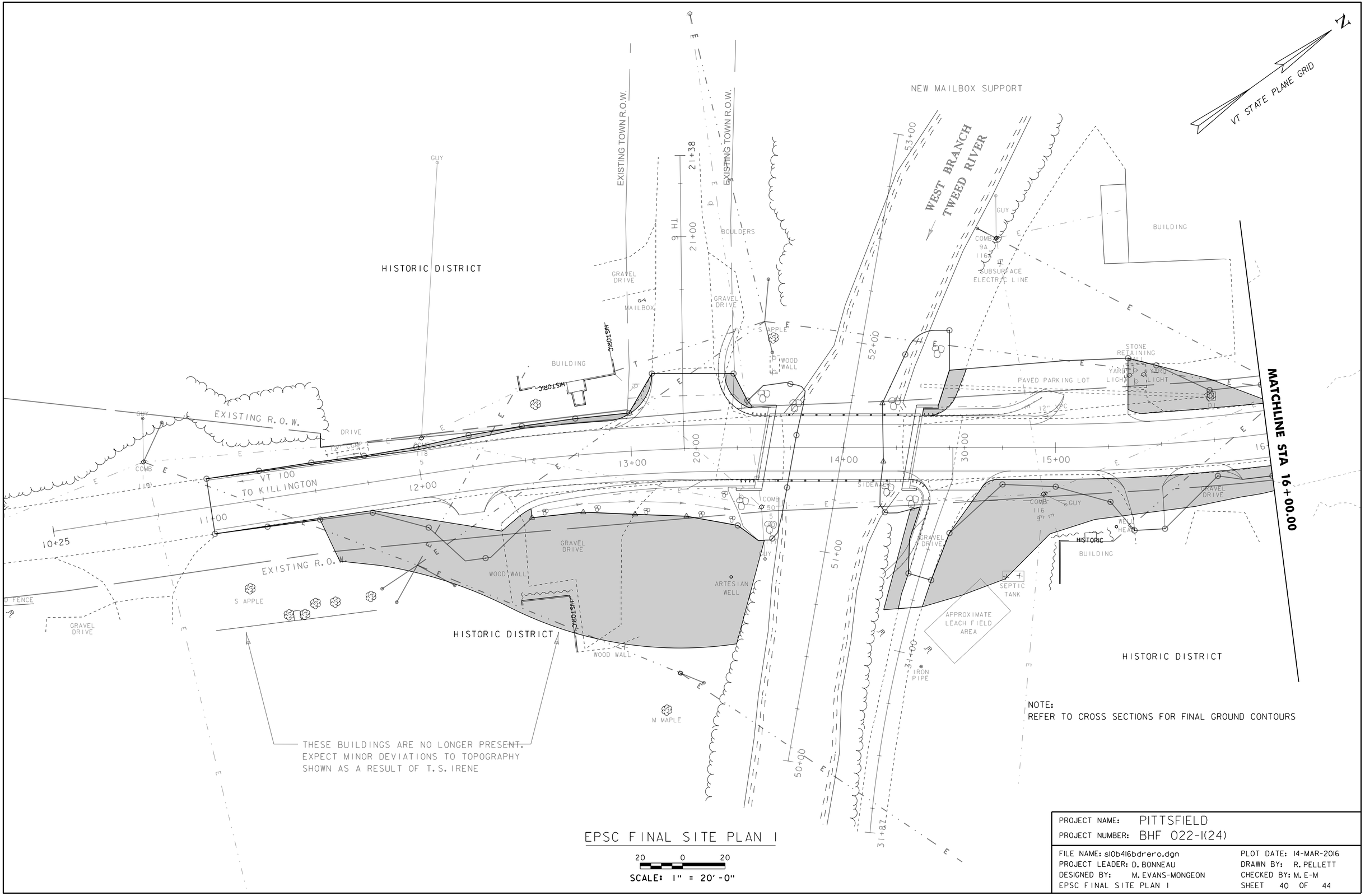
EPSC CONSTRUCTION SITE PLAN 2

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)

FILE NAME: s10b416bdrero.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
EPSC CONSTRUCTION SITE PLAN 2	SHEET 39 OF 44

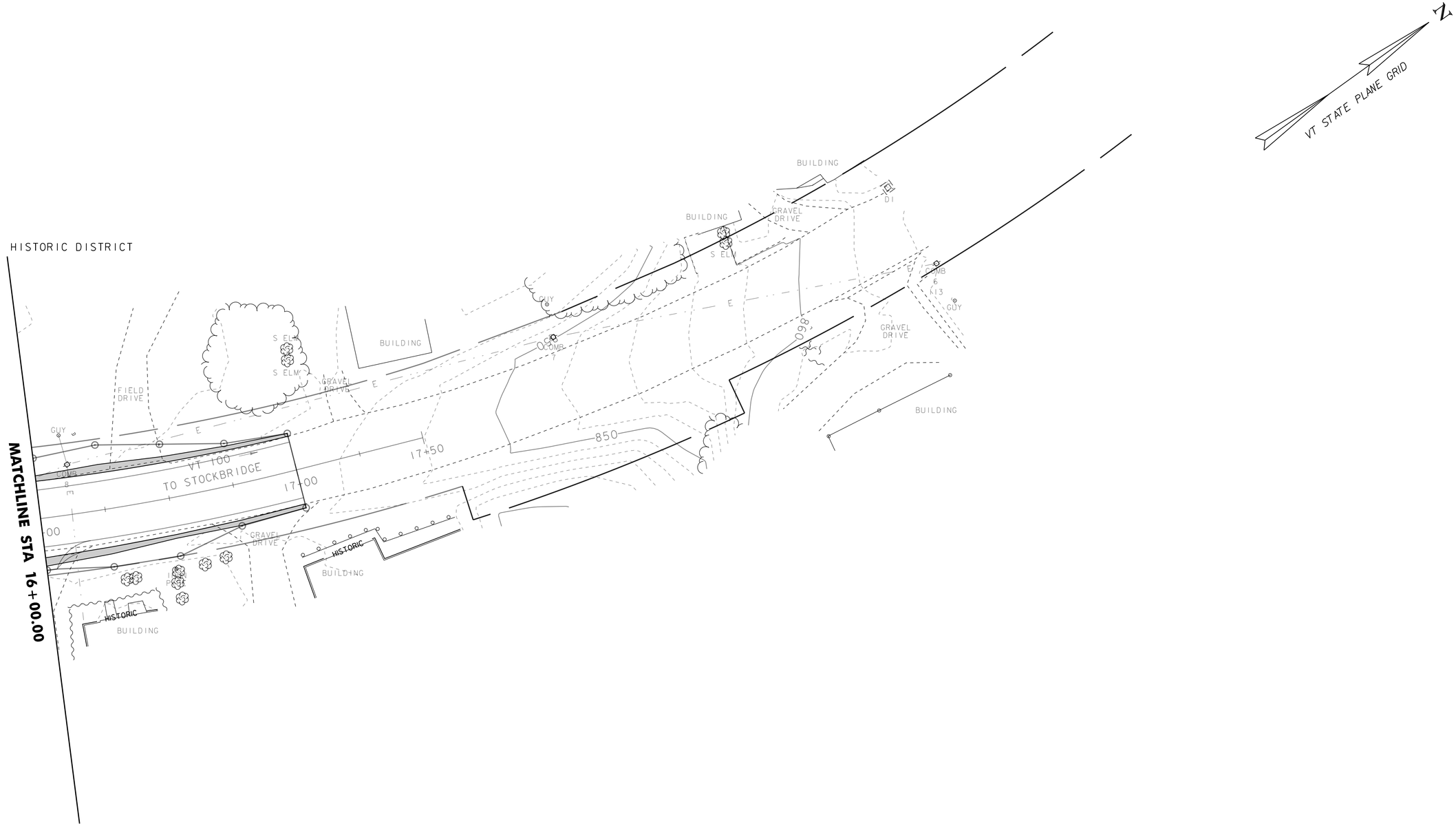


EPSC FINAL SITE PLAN 1

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416bdrero.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
EPSC FINAL SITE PLAN 1	SHEET 40 OF 44



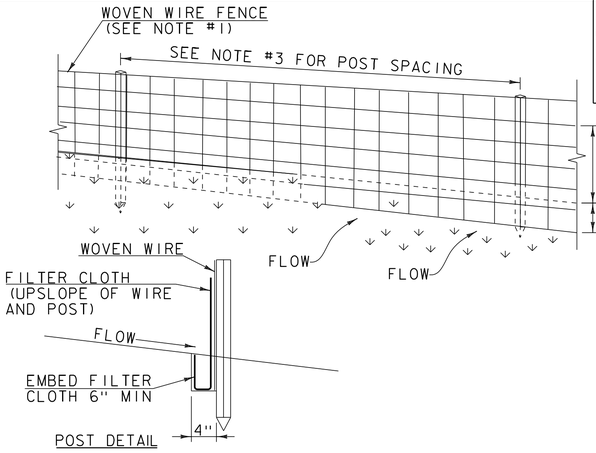
NOTE:
REFER TO CROSS SECTIONS FOR FINAL GROUND CONTOURS

EPSC FINAL SITE PLAN 2

20 0 20

SCALE: 1" = 20'-0"

PROJECT NAME:	PITTSFIELD
PROJECT NUMBER:	BHF 022-1(24)
FILE NAME: s10b416bdrero.dgn	PLOT DATE: 14-MAR-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: R. PELLETT
DESIGNED BY: M. EVANS-MONGEON	CHECKED BY: M. E-M
EPSC FINAL SITE PLAN 2	SHEET 41 OF 44



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

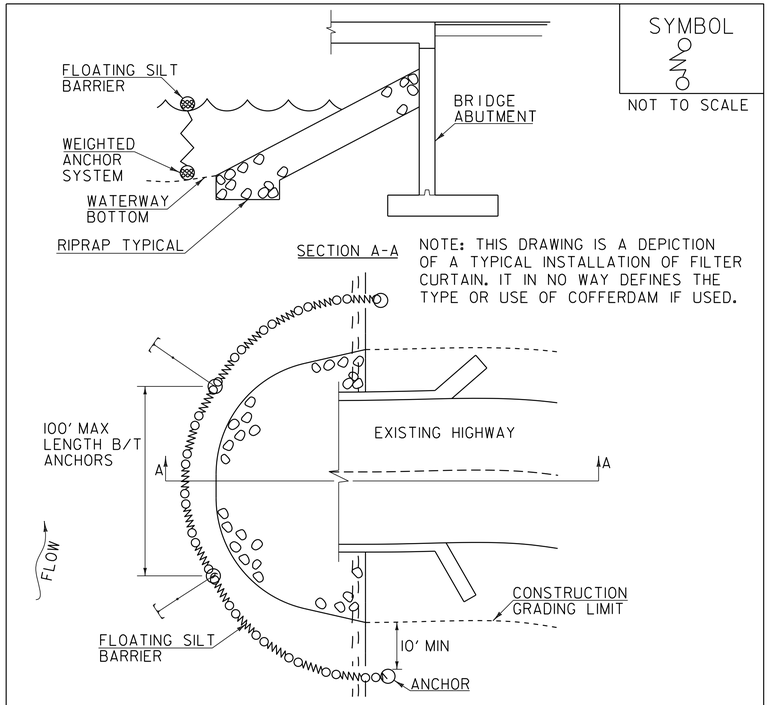
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

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

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

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



SYMBOL

NOT TO SCALE

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

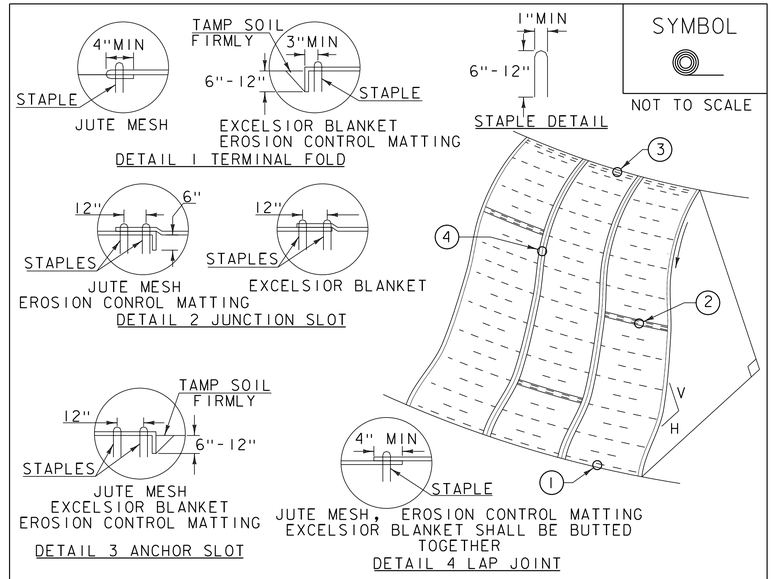
CONSTRUCTION SPECIFICATIONS

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

FILTER CURTAIN

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

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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

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

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

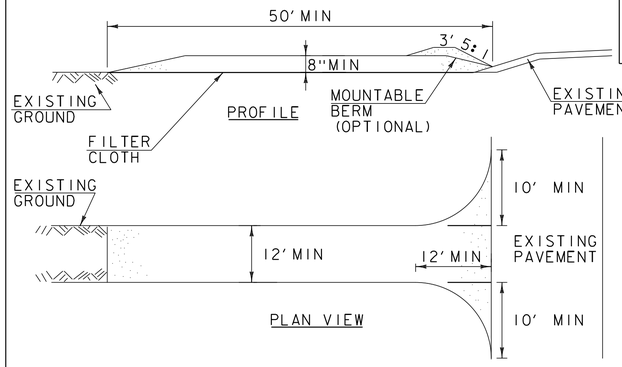
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.21).~~

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416epscdetails.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
EPSC DETAIL SHEET 1

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 42 OF 44



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.

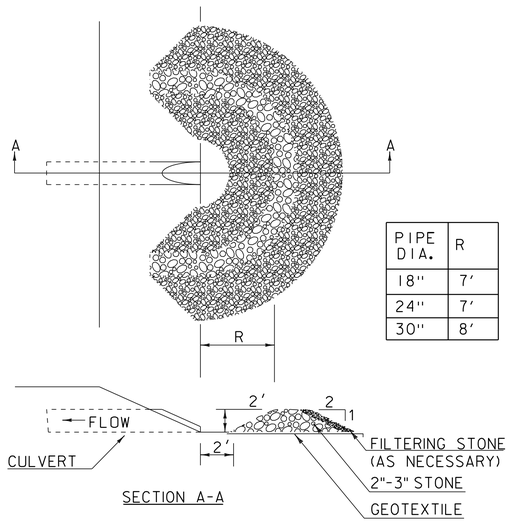
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



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

SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

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

PIPE INLET PROTECTION

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

VAOT LOW GROW/FINE FESCUE MIX

LBS/AC						
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
38%	57	95	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	43.5	72.5	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	22.5	37.5	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	22.5	37.5	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	4.5	7.5	INERTS			
100%	150	250				

VAOT RURAL AREA MIX

LBS/AC						
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
37.5%	22.5	45	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	60	120				

GENERAL AMENDMENT GUIDANCE

FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 12, 2015	WHF

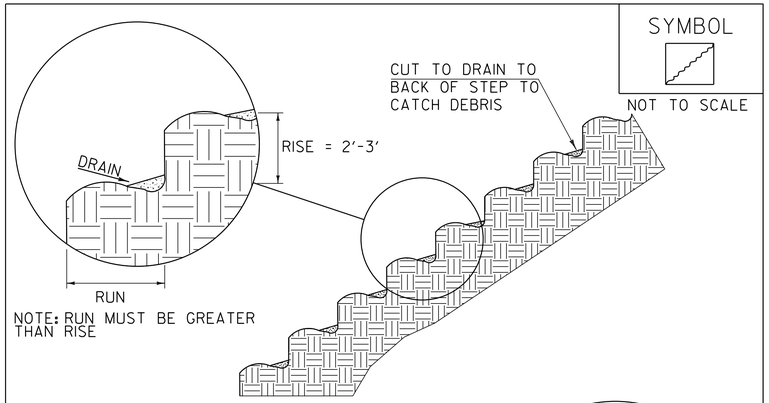
PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: s10b416epscdetails.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
EPSC DETAIL SHEET 2

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M

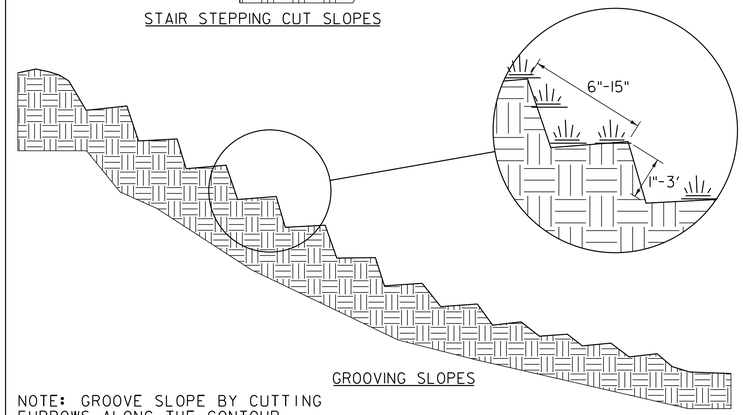
SYMBOL

NOT TO SCALE



NOTE: RUN MUST BE GREATER THAN RISE

STAIR STEPPING CUT SLOPES



GROOVING SLOPES

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

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

SURFACE ROUGHENING

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

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: PITTSFIELD
PROJECT NUMBER: BHF 022-1(24)

FILE NAME: sl0b416epscdetails.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: M. EVANS-MONGEON
EPSC DETAIL SHEET 3

PLOT DATE: 14-MAR-2016
DRAWN BY: R. PELLETT
CHECKED BY: M. E-M
SHEET 44 OF 44