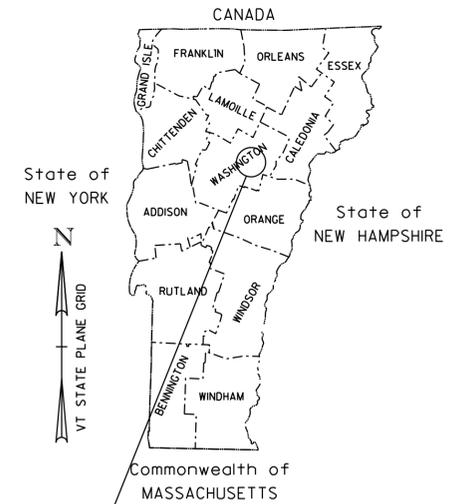
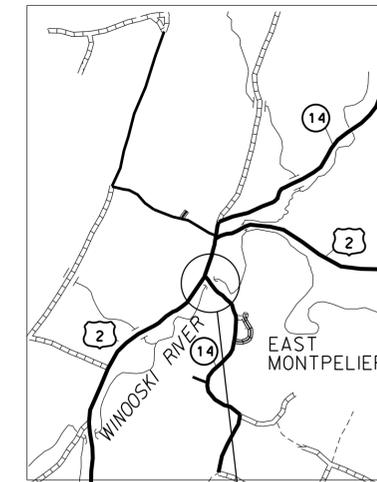


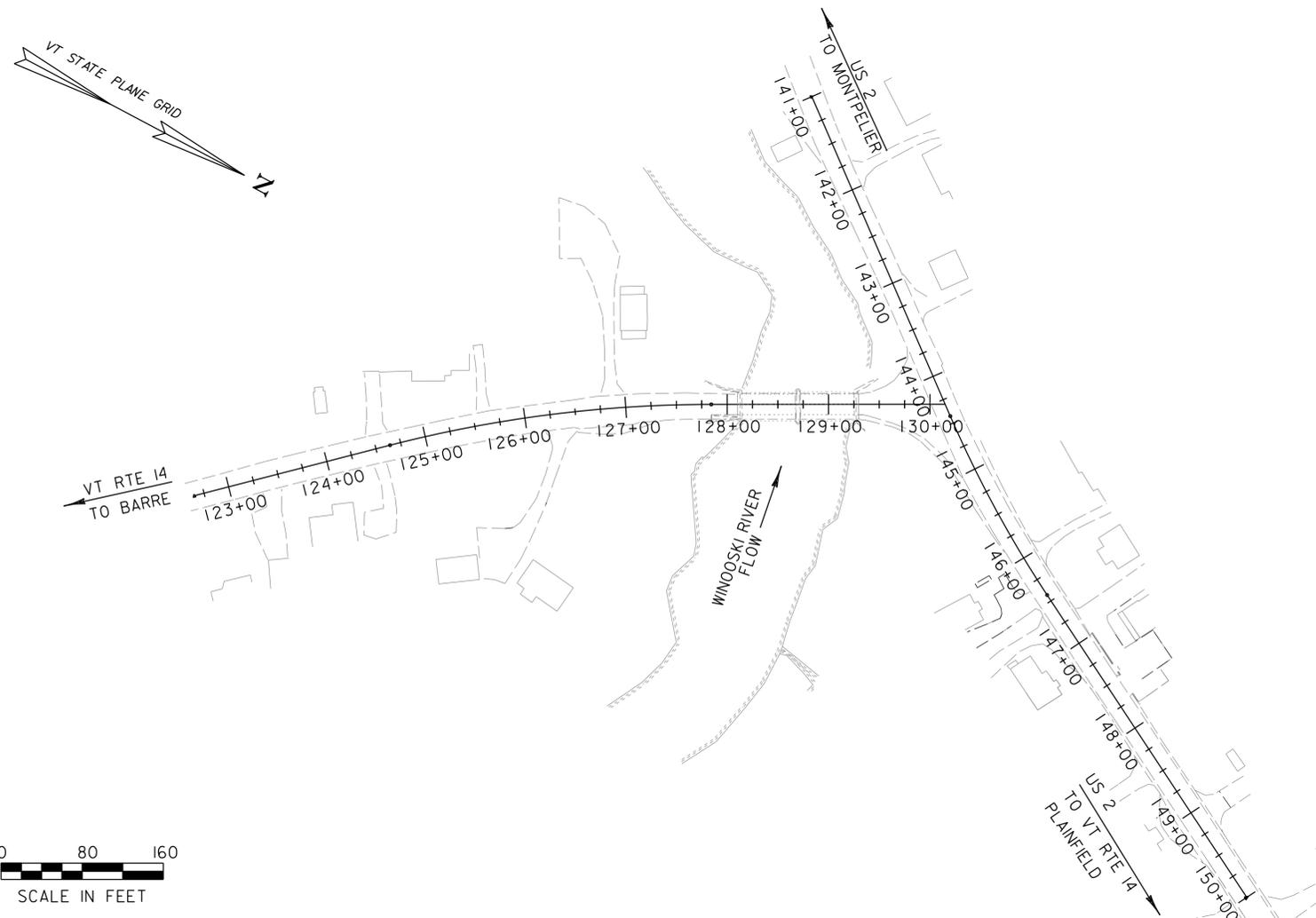
STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT TOWN OF EAST MONTPELIER COUNTY OF WASHINGTON US ROUTE 2 (PRINCIPAL ARTERIAL)



PROJECT
EAST MONTPELIER BR# 037-1 (7)
LOCATION MAP NOT TO SCALE



PROJECT LOCATION : LOCATED IN THE COUNTY OF WASHINGTON, TOWN OF EAST MONTPELIER, ON US ROUTE 2, NEAR THE INTERSECTION WITH VERMONT ROUTE 14 SOUTH.

PROJECT DESCRIPTION : CONSTRUCTION OF NEW DRAINAGE, RETAINING WALL AND CONDUIT FOR UNDERGROUND UTILITIES.

LENGTH OF STRUCTURE: 0 FEET
LENGTH OF ROADWAY: 584.0 FEET
LENGTH OF PROJECT: 584.0 FEET

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 I	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	OCTOBER 1999
DATUM	
VERTICAL	DATUM NAVD 88
HORIZONTAL	ASSUMED



DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATOR	
APPROVED _____	DATE _____
DIRECTOR OF PROJECT DELIVERY	
APPROVED _____	DATE _____
PROJECT MANAGER : MARK SARGENT	
PROJECT NAME : EAST MONTPELIER	
PROJECT NUMBER : BF EWP2 (11)	
SHEET 1 OF 42 SHEETS	

STATE OF VERMONT
THOMAS E. KNICKER
No. 8277
Structural
LICENSED
PROFESSIONAL ENGINEER
5/27/2016

Stantec
Stantec Consulting Services Inc.
55 Green Mountain Drive
South Burlington VT U.S.A. 05403
Phone: (802) 864-0223
Fax: (802) 864-0165
www.stantec.com

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STANDARDS

STANDARD	NAME	REVISED DATE
D-1	PRECAST REINFORCED CONCRETE DROP INLET	6/1/1994
D-11	STEEL OR IRON GRATES& COVERS (TYPE A)	6/1/1994
D-20	HIGHWAY CROSSING FOR UNDERGROUND UTILITIES	3/3/2003
D-30	UNDERDRAIN CONSTRUCTION DETAILS	8/13/2007
D-33	REINFORCED CONCRETE STRAIGHT HEADWALL	3/12/2007
D-8	REINFORCED CONCRETE DROP INLET WITH PRECAST COVER & GRATE	1/3/2000
D-9	REINFORCED CONCRETE DROP INLET WITH VERTICAL CURB & THROAT ADAPTER	6/1/1994
E-119	UTILITY WORK ZONE	3/1/2004
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
T-1	TRAFFIC CONTROL GENERAL NOTES	8/6/2012
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	8/6/2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	8/6/2012
T-24	TRAFFIC CONTROL FOR MAINTENANCE PAVEMENT MARKING OPERATION	8/6/2012
T-25	TRAFFIC CONTROL FOR MAINTENANCE MOWING OPERATIONS	8/6/2012
T-28	CONSTRUCTION SIGN DETAILS	8/6/2012
T-29	CONSTRUCTION SIGN DETAILS	8/6/2012
T-30	CONSTRUCTION SIGN DETAILS	8/6/2012
T-31	CONSTRUCTION SIGN DETAILS	8/6/2012
T-35	CONSTRUCTION ZONE LONGITUDNAL DROP-OFFS	8/6/2012
T-36	CONSTRUCTION ZONE LONGITUDNAL DROP-OFFS FOR PAVING	8/6/2012
T-45	SQUARE TUBE SIGN POST AND ANCHOR	1/2/2013

PROJECT NOTES:

1. THE PROPOSED PROJECT IS A PREPARATION FOR THE PLANNED REPLACEMENT OF BRIDGE 68 AND THE RECONSTRUCTION OF THE INTERSECTION OF VT 14S AND US ROUTE 2. THE WORK COVERS ONLY A PORTION OF THE WORK TO BE DONE IN THE ULTIMATE BRIDGE REPLACEMENT AND INTERSECTION RECONSTRUCTION PROJECT. THE PLANS IDENTIFY WORK INCLUDED IN THIS CONTRACT AND REFERENCE WORK TO BE INCLUDED IN A LATER CONTRACT OR CONTRACTS. THE SCOPE OF WORK FOR THIS EARLY PROJECT INCLUDES:
 - A. FURNISHING AND INSTALLING 4 DRAINAGE CROSS PIPES UNDER US ROUTE 2 AND ASSOCIATED DRAINAGE STRUCTURES.
 - B. FURNISHING AND INSTALLING OF CONDUIT FOR UTILITIES (RELOCATION BY UTILITY COMPANIES).
 - C. FURNISHING AND INSTALLING CONDUIT FOR PEDESTRIAN SIGNAL AT THE INTERSECTION.
 - D. FURNISHING AND INSTALLING A GRAVITY RETAINING WALL FROM STATION 144+80 LT - 145+83 LT.

2. THE NORTHERN LONG-EARED BAT (NLEB) IS FEDERALLY LISTED AS A THREATENED SPECIES UNDER THE ENDANGERED SPECIES ACT EFFECTIVE APRIL 2015. THIS PROJECT IS SUBJECT TO AVOIDANCE AND MINIMIZATION MEASURES TO PROTECT THE HABITAT AND HIBERNACULA OF THIS SPECIES. HABITAT TREES HAVE BEEN IDENTIFIED INSIDE OF THE PROJECT LIMITS, THEREFORE, CLEARING AND GRUBBING IS SUBJECT TO TIME OF YEAR RESTRICTIONS. CONTRACTOR SHALL NOT CUT TREES GREATER THAN 3" IN DIAMETER FROM APRIL 15 THROUGH AUGUST 31. PLEASE REFER TO SPECIAL PROVISION FOR MORE INFORMATION.

PROJECT NAME: EAST MONTPELIER
 PROJECT NUMBER: BF EWP2(I)

FILE NAME: 02_Index & Standards - ER.dgn PLOT DATE: 5/26/2016
 PROJECT LEADER: T. KNIGHT DRAWN BY: C. GENDRON
 DESIGNED BY: K. RICHARDSON CHECKED BY: T. KNIGHT
 INDEX AND STANDARDS & PROJECT NOTES SHEET 2 OF 42



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
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	
—	CLEAR ZONE
—	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

△	TOP OF CUT SLOPE
○	TOE OF FILL SLOPE
⊗	STONE FILL
---	BOTTOM OF DITCH L
---	CULVERT PROPOSED
---	STRUCTURE SUBSURFACE
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
XXXXXX	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
—	PROPERTY LINE (P/L)
SR	SLOPE RIGHTS
6f	6F PROPERTY BOUNDARY
4f	4F PROPERTY BOUNDARY
HAZ	HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLGY**

EPSC MEASURES	
ONNOONNOONNO	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
—	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: EAST MONTEPELIER  
PROJECT NUMBER: BF EWP2(I)

FILE NAME: 07_Legend - ER.dgn PLOT DATE: 5/26/2016  
PROJECT LEADER: T. KNIGHT DRAWN BY: VTRANS  
DESIGNED BY: VTRANS CHECKED BY: VTRANS  
CONVENTIONAL SYMBOLGY LEGEND SHEET 3 OF 42

### HVCTRL

Standard Disk Stamped

Donnelly  
 NORTH = 649672.03  
 EAST = 1649052.82  
 ELEV. =

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1996 (DJM)

TO REACH FROM THE NORTH INTERSECTION OF U.S.ROUTE 2 AND VT ROUTE 14 PROCEED NORTHERLY ALONG ROUTE 14 FOR 1.2 MI(1.9 KM) TO A GRAVEL DRIVE ON THE RIGHT. PROCEED UP THE GRAVEL DRIVE FOR 0.15 MI (0.24 KM) TO A PAVED DRIVE ON THE LEFT AND A YELLOW RANCH WITH A ONE CAR GARAGE. PROCEED UP THE PAVED DRIVE TO THE YELLOW RANCH. THE MARK IS 28.8 M (94.5 FT) NORTH NORTHEAST OF AN IRON PIPE SEPARATING THE TWO ADJACENT PROPERTIES, 26.5 M (86.9 FT) NORTHWEST OF THE SOUTHWEST CORNER OF THE ADJACENT WHITE RANCH, 24.7 M (81.0 FT) WEST OF THE NORTHWEST CORNER OF THE ADJACENT WHITE RANCH, 20.2 M (66.3 FT) EAST NORTHEAST OF THE SOUTHEAST CORNER OF THE YELLOW GARAGE, AND 13.0 M (42.7 FT) EAST OF THE NORTHEAST CORNER OF THE YELLOW GARAGE.

### HVCTRL

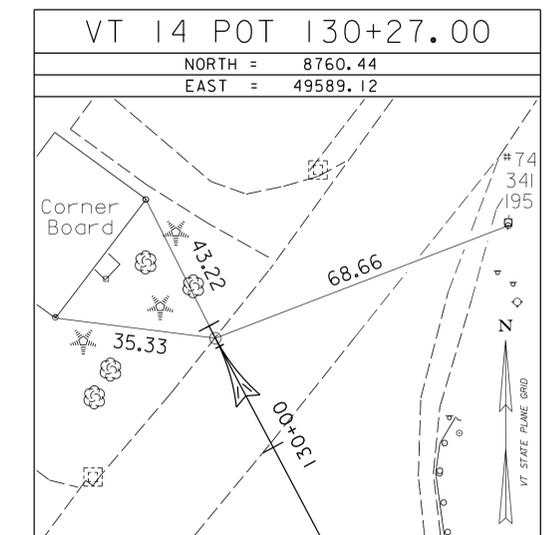
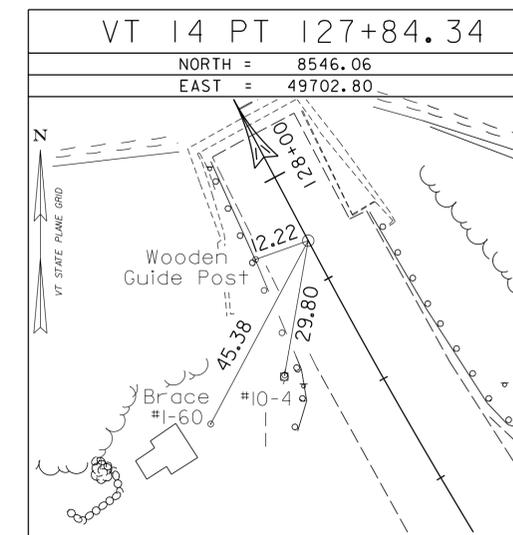
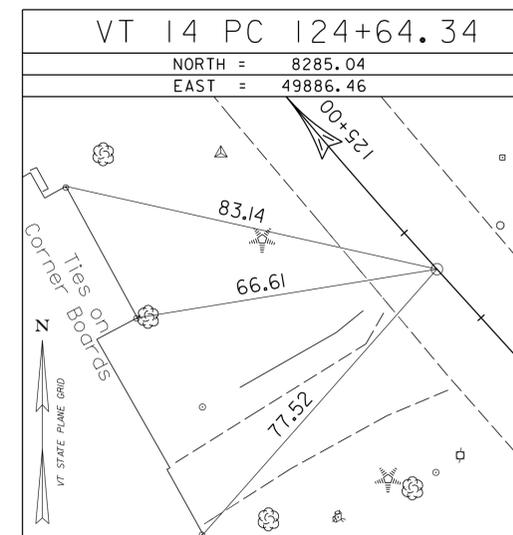
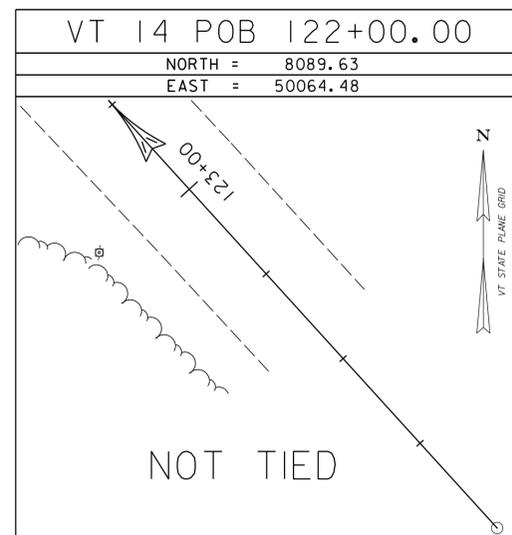
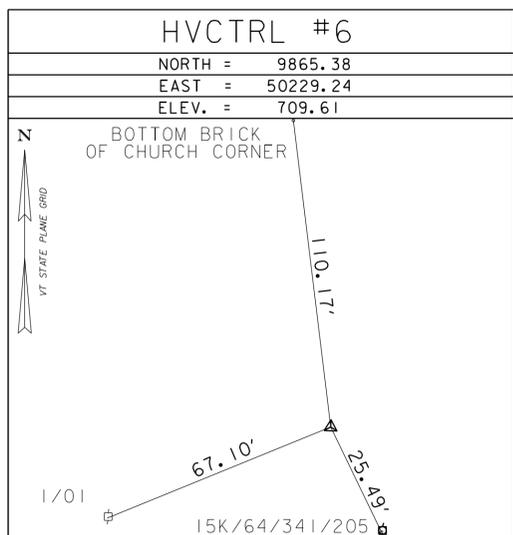
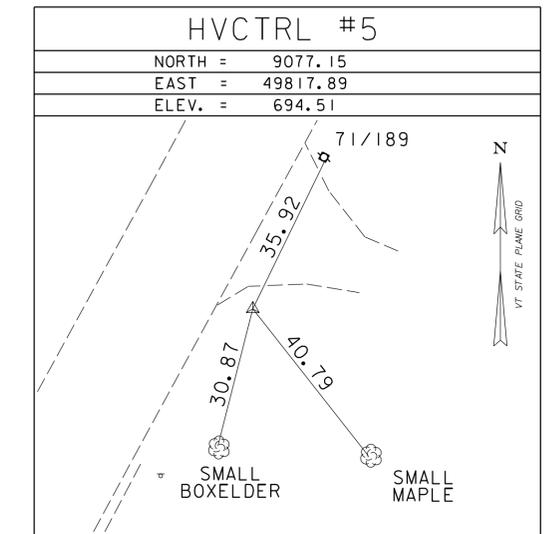
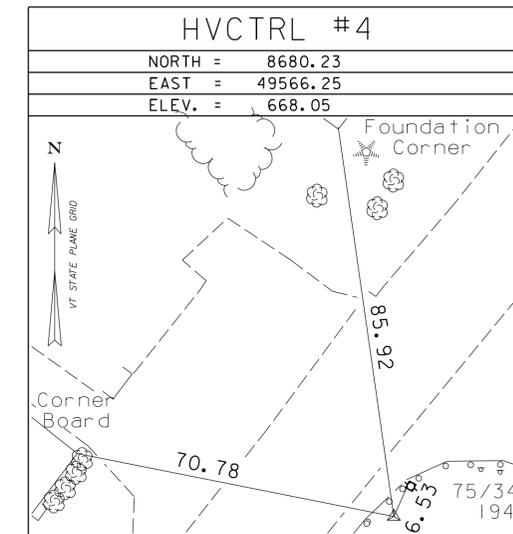
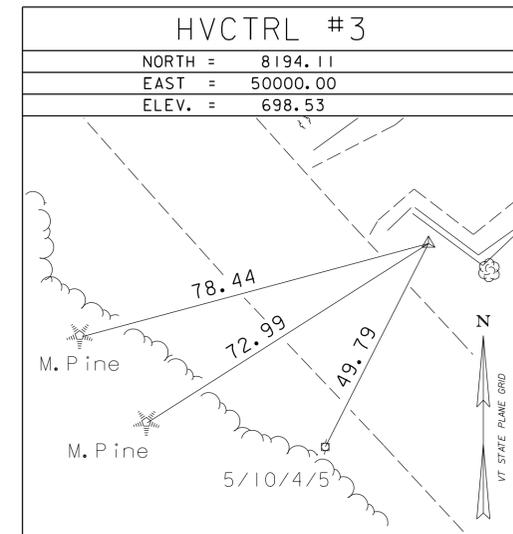
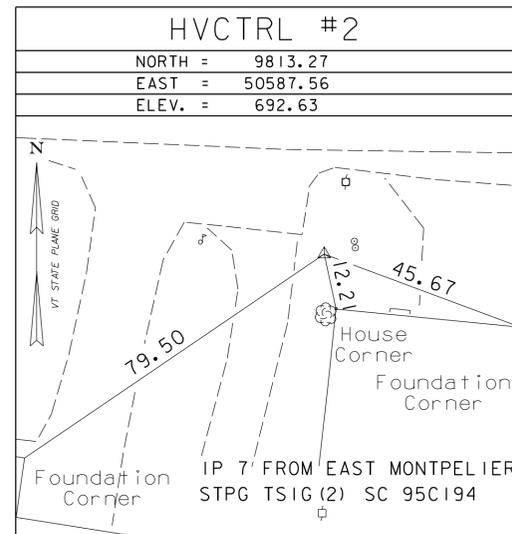
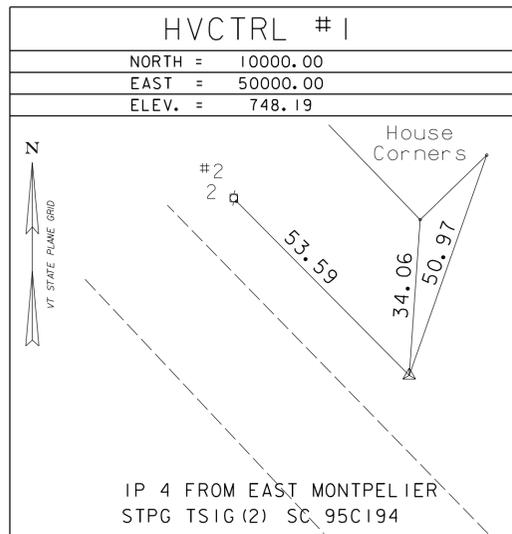
Standard Disk Stamped

Banfield  
 NORTH = 639661.19  
 EAST = 1646682.28  
 ELEV. =

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1996 (DJM)

TO REACH FROM THE JUNCTION OF U.S.ROUTE 2 AND VERMONT ROUTE 14 SOUTH IN THE VILLAGE OF EAST MONTPELIER, PROCEED SOUTH ON ROUTE 14 FOR 1.2 MI(1.9 KM) TO A DIRT ROAD ON THE LEFT. TURN LEFT ONTO DIRT ROAD AND CONTINUE FOR 0.55 MI(0.89 KM) TO A T-INTERSECTION WITH THE ROAD, TURN LEFT AT INTERSECTION (COUNTRY CLUB ROAD) AND CONTINUE FOR 0.35 MI(0.56 KM) TO A POINT WHERE THE MAIN DIRT ROAD TURNS SHARPLY RIGHT, FROM THIS POINT TURN SHARPLY LEFT ON A LESSER DIRT ROAD FOR 0.05 MI(0.08 KM) TO A DIRT DRIVE RIGHT, TURN RIGHT ONTO DRIVE, TO A TWO STORY HOUSE, AND THE SITE OF THE MARK. THE MARK IS LOCATED ON THE NORTHEAST SIDE OF THE HOUSE. THE MARK IS A STATE OF VERMONT SURVEY DISK SET IN THE TOP OF A 6X6 INCH SQUARE CONCRETE MONUMENT, FLUSH WITH THE GROUND SURFACE. IT IS LOCATED 62.5 FT (19.1M) NORTH OF THE NORTHEAST CORNER OF HOUSE / ATTACHED GARAGE, 54 FT (16.5 M) NORTHEAST OF A QUADRUPLE WHITE BIRCH, 45.5 FT (13.9 M) NORTHWEST OF A 36 INCH OAK TREE, 17.5 FT (5.3 M) EAST OF THE SOUTHEAST CORNER OF A LARGE EXPOSED BOULDER, 10 FT (3.0 M) NORTHEAST OF THE SOUTHEAST CORNER OF A FLOWER BED, AND 0.8 FT (24.4 CM) SOUTH OF A FIBERGLASS WITNESS POST. OWNERSHIP IS MR. AND MRS. EDWARD BANFIELD.

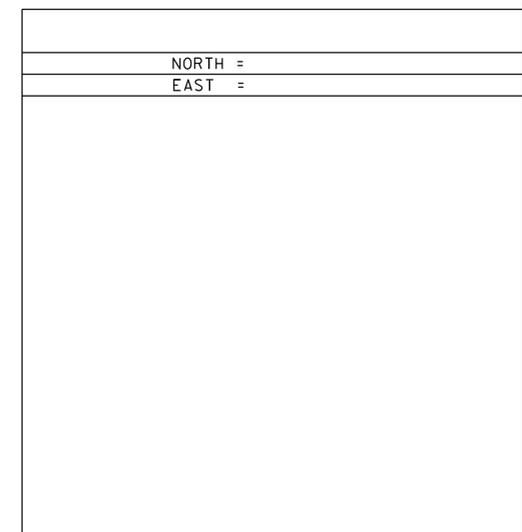
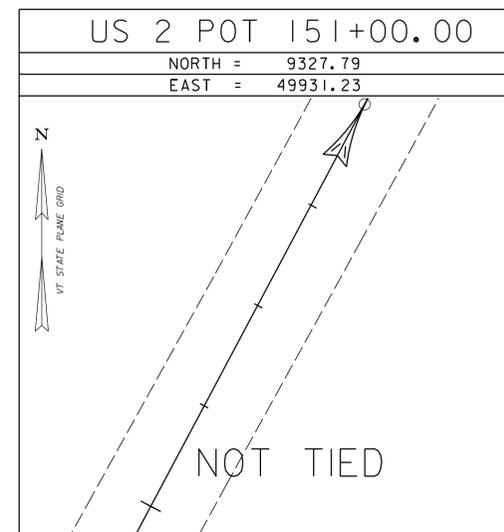
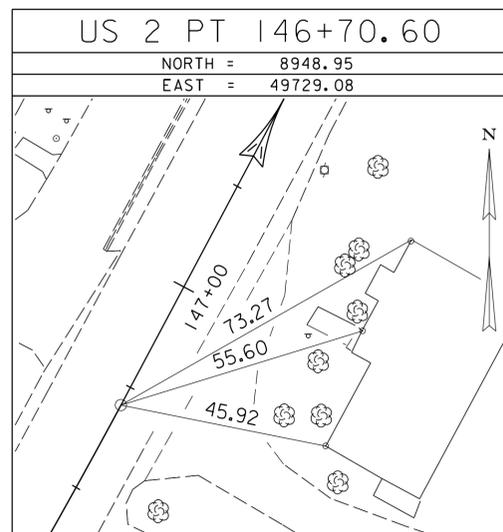
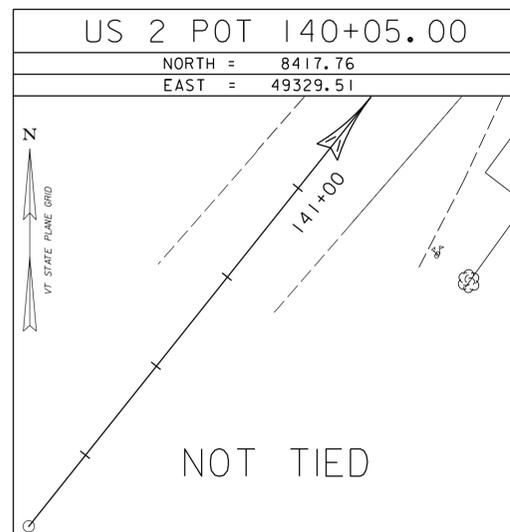
**To bring the project back to Vermont State Plane Grid Coordinates add 635,781.30 to the Northings and 1,593,715.26 to the Eastings



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)
ADJUSTMENT	Compass

PROJECT NAME: EAST MONTPELIER	
PROJECT NUMBER: BF EWP2(I)	
FILE NAME: 05_Survey Tie - ER.dgn	PLOT DATE: 5/26/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: VTRANS
DESIGNED BY: VTRANS	CHECKED BY: VTRANS
SURVEY TIE SHEET - TIE 1	SHEET 4 OF 42

ALIGNMENT TIES



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)
ADJUSTMENT	Compass

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	05_Survey Tie - ER.dgn
PROJECT LEADER:	T. KNIGHT
DESIGNED BY:	VTRANS
SURVEY TIE SHEET 2 - TIE 2	
PLOT DATE:	5/26/2016
DRAWN BY:	VTRANS
CHECKED BY:	VTRANS
SHEET	5 OF 42

# QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
								ROADWAY	EROSION CONTROL	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
								1			1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			
								175			175		CY	TRENCH EXCAVATION OF EARTH	204.20	-			
								12			12		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-			
								990			990		LB	REINFORCING STEEL, LEVEL I	507.11	-			
								9			9		CY	CONCRETE, CLASS B	541.25	-			
								37			37		LF	18" RCP CLASS V	601.0817	-			
								45			45		LF	18" CPEP(SL)	601.2615	-			
								1			1		EACH	18" CPEPES	601.7015	-			
								2			2		EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE (4' X 4')	604.18	-			
								3			3		EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE (4' X 6')	604.18	-			
								2			2		MGAL	DUST CONTROL WITH WATER	609.10	-			
								1			1		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	-			
								4			4		CY	STONE FILL, TYPE I	613.10	-			
								25			25		LF	REMOVE AND RESET GUARDRAIL	621.75	-			
								300			300		HR	UNIFORMED TRAFFIC OFFICERS	630.10	-			
								1100			1100		HR	FLAGGERS	630.15	-			
										1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
								1			1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
								3			3		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-			
								9			9		SY	GEOTEXTILE UNDER STONE FILL	649.31	-			
								135			135		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	-			
								20			20		LB	SEED	651.15	-			
								110			110		LB	FERTILIZER	651.18	-			
								0.5			0.5		TON	AGRICULTURAL LIMESTONE	651.20	-			
								0.5			0.5		TON	HAY MULCH	651.25	-			
								100			100		CY	TOPSOIL	651.35	-			
								1			1		LS	EPSC PLAN	652.10	-			
								40			40		HR	MONITORING EPSC PLAN	652.20	-			
								1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
								115			115		SY	TEMPORARY EROSION MATTING	653.20	-			
								30			30		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25	-			
								20			20		CY	VEHICLE TRACKING PAD	653.35	-			
								1			1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40	-			
								2			2		EACH	FILTER BAG	653.45	-			
								280			280		LF	BARRIER FENCE	653.50	-			
								240			240		LF	PROJECT DEMARCATION FENCE	653.55	-			
								3			3		EACH	SPECIAL PROVISION (INLET PROTECTION DEVICE, FILTER FIBER)	900.620	-			
								100			100		HR	SPECIAL PROVISION (HORIZONTAL DIRECTION DRILLING OBSTRUCTION REMOVAL)	900.630	-			
								40			40		HR	SPECIAL PROVISION (TRENCHLESS PIPE OBSTRUCTION REMOVAL)	900.630	-			
								54			54		LF	SPECIAL PROVISION (HORIZONTAL DIRECTIONAL DRILLING)(10")(HDPE)	900.640	-			

PROJECT NAME: EAST MONTPELIER  
 PROJECT NUMBER: BF EWP2(I)  
 FILE NAME: 06_Quantities - ER.dgn PLOT DATE: 6/14/2016  
 PROJECT LEADER: T. KNIGHT DRAWN BY: C. GENDRON  
 DESIGNED BY: K. RICHARDSON CHECKED BY: E. ALLING  
**QUANTITY SHEET 05 1** SHEET 6 OF 42





**604.18 - NEW 4' X 4' REINFORCED CONCRETE DROP INLET**

* 12 STA 145+00 LT

FUTURE - 4' X 4' REINFORCED CONCRETE DROP INLET

* 18 STA 129+83 RT

* 5B STA 127+40 RT

* 5 STA 127+40 RT

DROP INLET TO BE REMOVED IN FUTURE

* 24 STA 143+43 LT

* 9 STA 143+94 LT

* 11 STA 144+78 LT

EXISTING PIPES TO BE REMOVED IN FUTURE

* 7 STA 142+74 LT - 142+79 RT (WITH HEADWALL)

* 24 STA 143+21 RT - 143+41 LT

* 9 STA 143+59 RT - 143+94 LT

* 11 STA 143+94 LT - 144+78 LT

* 14 STA 144+78 LT - 146+22 LT

FUTURE 6" UNDERDRAIN PIPE

* U19 STA 126+75 RT - 127+40 RT

* U20 STA 142+66 LT - 145+00 LT

* U20A STA 145+00 LT - 145+75 LT

* U21 NOT USED

* U22 STA 145+00 RT - 145+75 RT

SAND FILTER (PAID AS SPECIAL PROVISION (INFILTRATION TRENCH & FUTURE SAND FILTER))

* 22 STA 126+75 RT - 126+97 RT

FUTURE STONE FILL, TYPE I

* STA 127+28 - 127+65 RT

* STA 142+66 RT

* STA 142+90 RT

FUTURE GEOTEXTILE UNDER STONE FILL

* STA 127+28 - 127+65 RT

* STA 142+66 RT

* STA 142+90 RT

**605.95 - UNDERDRAIN FLUSHING BASIN (SEE STANDARD D-30)**

* U21 NOT USED

* U20 STA 145+00 LT

**NOTES:**

- FINAL LOCATION AND ELEVATIONS OF DRAINAGE ITEMS MAY BE ADJUSTED IN THE FIELD AS DEEMED NECESSARY BY THE ENGINEER.
- DITCH MODIFICATIONS SHALL BE INCIDENTAL TO SPECIAL PROVISION (TRENCHLESS PIPE) (42")

**604.18 - NEW 4' X 6' REINFORCED CONCRETE DROP INLET W/ TYPE 'D' GRATES**

* 6 STA 142+66 RT

* 12A STA 145+00 RT

FUTURE 4' X 6' REINFORCED CONCRETE DROP INLET W/ TYPE 'D' GRATES

* 5C STA 127+54 RT

* 5A STA 127+54 LT

* 10 STA 143+50 LT

**601.2615 - NEW 18" CPEP (SL)**

* 6 STA 142+66 LT - RT

FUTURE 18" CPEP (SL)

* 26 STA 142+05 LT - 142+66 LT

* 10 STA 142+66 LT - 143+50 LT

* 12 STA 143+50 LT - 145+00 LT

* 13 STA 145+00 LT - 146+15 LT

* 18 STA 129+49 RT - 129+83 RT

FUTURE CONCRETE MANHOLE WITH CAST IRON COVER

* 23 STA 126+84, 75.5' RT

FUTURE 18" DIA - OPTION PIPE CPEP (SL), RCP

* 5 STA 127+54 RT - 127+40 RT

* 5A STA 127+54 LT - 127+40 LT

* 5B STA 127+40, LT-RT

* 5C STA 127+54 RT - 124+40 RT

FUTURE 18" DIAMETER - OPTION PIPE PCCSP, CAAP OR CPEP

* 23 STA 126+91 RT - 127+30 RT

* 23A STA 126+84 RT - 126+89 RT

FUTURE 18" DIA END SECTION OPTION CPEPES, RCPES

* 5 STA 127+54 RT

FUTURE 18" DIA END SECTION OPTION CPEPES, CAAPES, CPEPES

* 23 STA 127+30 RT

**601.7015 - NEW 18" CPEPES**

* 6 STA 142+66 RT

FUTURE 18" CPEPES

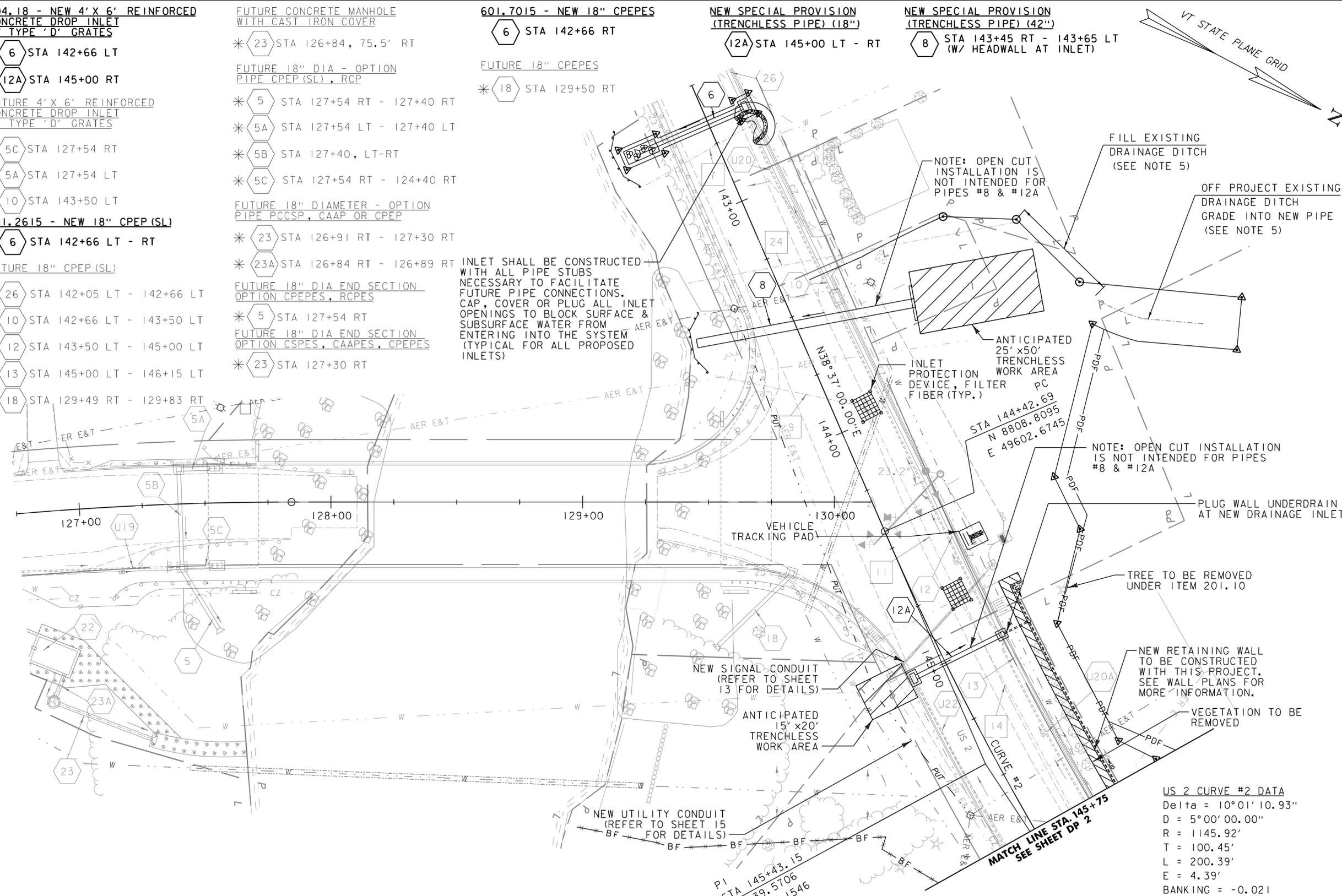
* 18 STA 129+50 RT

**NEW SPECIAL PROVISION (TRENCHLESS PIPE) (18")**

* 12A STA 145+00 LT - RT

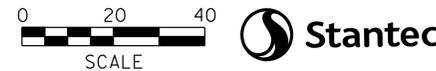
**NEW SPECIAL PROVISION (TRENCHLESS PIPE) (42")**

* 8 STA 143+45 RT - 143+65 LT (W/ HEADWALL AT INLET)



**NOTE**  
PIPE #6, #8, #12A, AND CONNECTED INLETS ARE PART OF THIS PROJECT. ALL OTHER DRAINAGE INFORMATION IS SHOWN FOR REFERENCE ONLY AND IS INTENDED TO BE BUILT AS PART OF A FUTURE CONTRACT.

* DRAINAGE FEATURE IS NOT PART OF THIS CONTRACT; SHOWN FOR INFORMATION ONLY



PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME: ...N8.Drainage plans - ER.dgn	PLOT DATE: 6/14/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: E. ALLING
DESIGNED BY: K. RICHARDSON	CHECKED BY: G. GOYETTE
GENERAL PLAN - GP 1	SHEET 8 OF 42

**US 2 CURVE #2 DATA**  
 Delta = 10°01'10.93"  
 D = 5°00'00.00"  
 R = 1145.92'  
 T = 100.45'  
 L = 200.39'  
 E = 4.39'  
 BANKING = -0.021

604.18 - NEW 4' X 4' REINFORCED CONCRETE DROP INLET

*15 STA 147+18 LT

FUTURE 4' X 4' REINFORCED CONCRETE DROP INLET

*13 STA 146+03 LT

*17 STA 147+55 LT

*17A STA 147+70 LT

FUTURE UNDERDRAIN FLUSHING BASIN (SEE STANDARD D-30)

*U20A STA 147+70 LT

*U22 STA 147+90 RT

604.18 - NEW 6' X 4' REINFORCED CONCRETE DROP INLET

*15A STA 147+18 RT

601.0817 - NEW 18" RCP CLASS V PIPE

*15A STA 147+18 LT - RT

FUTURE 18" DIA - OPTION PIPE PCCSP, CAAP, CPEP, RCP, CPEP (SL)

*13 STA 145+00 LT - 146+03 LT

*15 STA 146+03 LT - 147+18 LT

*17 STA 147+18 LT - 147+70 LT

*17A STA 147+54 LT - 147+70 LT

EXISTING DROP INLET TO BE REMOVED IN FUTURE

*14 STA 146+22 LT

*16 STA 147+42 LT

*18 STA 147+55 LT

EXISTING PIPE TO BE REMOVED IN FUTURE

*14 STA 144+78 LT - 146+22 LT

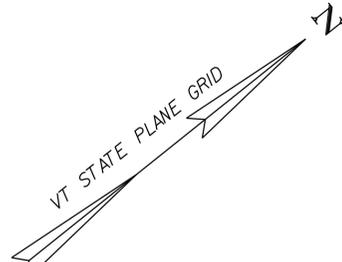
*16 STA 146+22 LT - 147+42 LT

*18 STA 147+42 LT - 147+55 LT

FUTURE 6" UNDERDRAIN PIPE

*U20A STA 145+75 LT - 147+70 RT

*U22 STA 145+75 RT - 147+90 RT



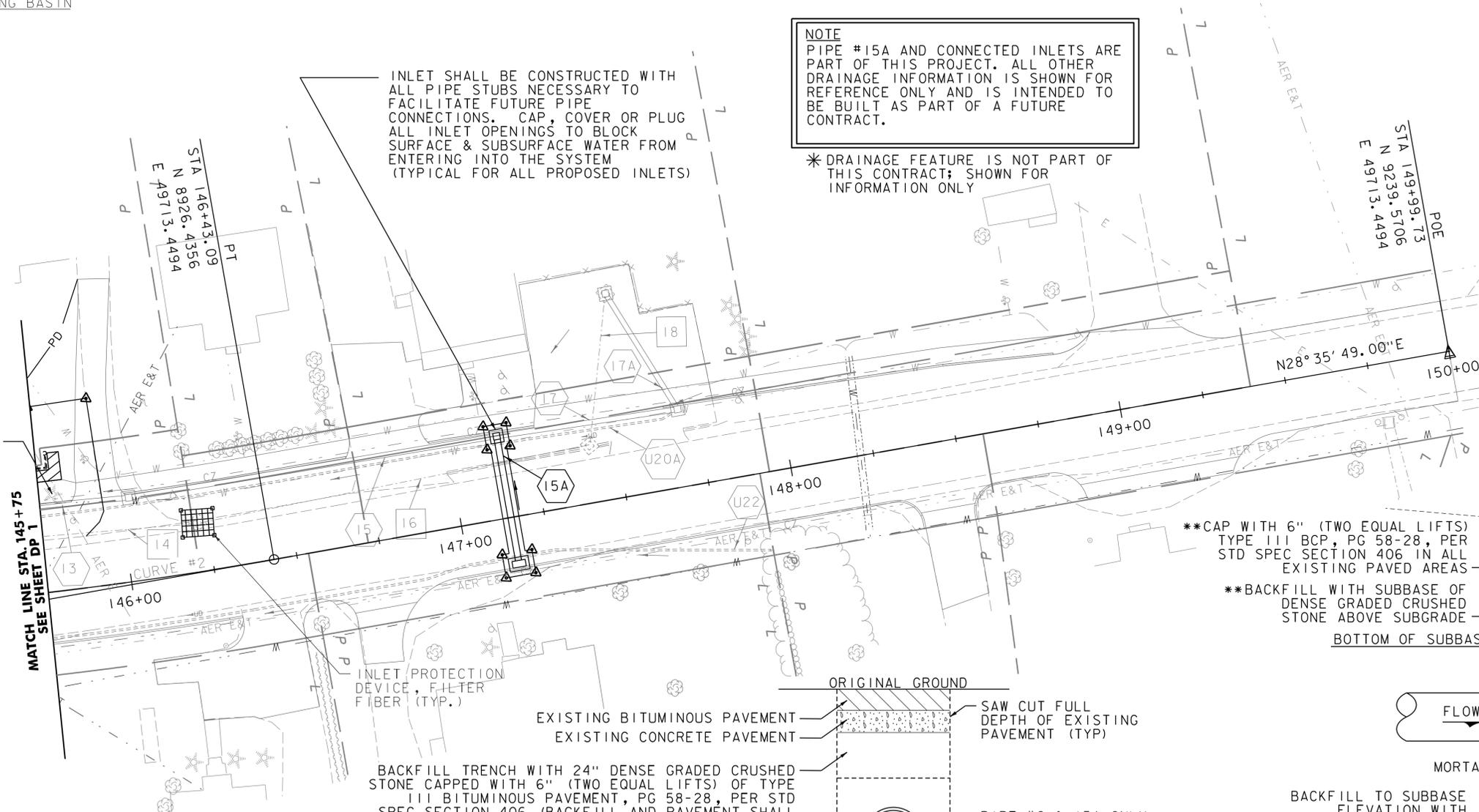
**NOTE**  
PIPE #15A AND CONNECTED INLETS ARE PART OF THIS PROJECT. ALL OTHER DRAINAGE INFORMATION IS SHOWN FOR REFERENCE ONLY AND IS INTENDED TO BE BUILT AS PART OF A FUTURE CONTRACT.

* DRAINAGE FEATURE IS NOT PART OF THIS CONTRACT; SHOWN FOR INFORMATION ONLY

INLET SHALL BE CONSTRUCTED WITH ALL PIPE STUBS NECESSARY TO FACILITATE FUTURE PIPE CONNECTIONS. CAP, COVER OR PLUG ALL INLET OPENINGS TO BLOCK SURFACE & SUBSURFACE WATER FROM ENTERING INTO THE SYSTEM (TYPICAL FOR ALL PROPOSED INLETS)

TREE TO BE REMOVED (THIS TREE IS NOT CONSIDERED HABITAT FOR THE NORTHERN LONG EARED BAT AND IS NOT SUBJECT TO TIME OF YEAR RESTRICTIONS ON CLEARING)

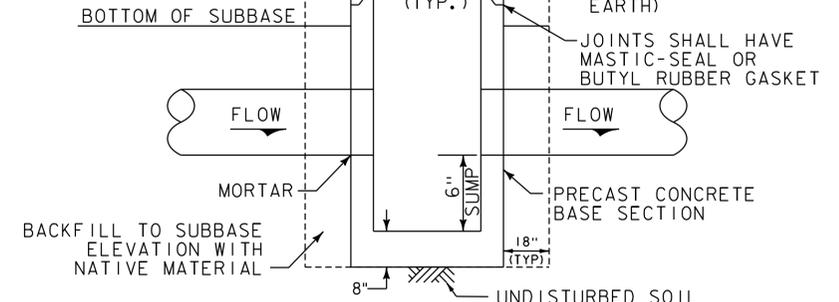
MATCH LINE STA. 145+75 SEE SHEET DP 1



CAST IRON FRAME AND GRATE TEMPORARILY COVERED AND BURIED. SEE DRAINAGE PROFILES FOR RIM ELEVATIONS (ELEVATION TO BE ADJUSTED DURING FUTURE CONTRACT)

**CAP WITH 6" (TWO EQUAL LIFTS) TYPE III BCP, PG 58-28, PER STD SPEC SECTION 406 IN ALL EXISTING PAVED AREAS

**BACKFILL WITH SUBBASE OF DENSE GRADED CRUSHED STONE ABOVE SUBGRADE



NOTE:  
1. REFERENCE VTRANS STANDARDS D-6, D-8, AND D-9 FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

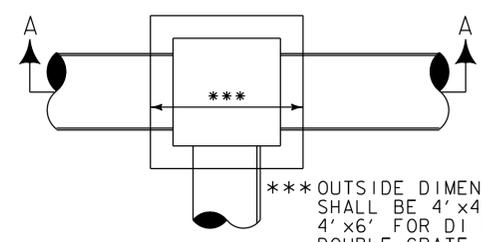
**TYPICAL PRECAST DROP INLET IN ROADWAY (SECTION A-A)**  
NOT TO SCALE

BACKFILL TRENCH WITH 24" DENSE GRADED CRUSHED STONE CAPPED WITH 6" (TWO EQUAL LIFTS) OF TYPE III BITUMINOUS PAVEMENT, PG 58-28, PER STD SPEC SECTION 406 (BACKFILL AND PAVEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR TRENCH EXCAVATION)

**PAY LIMIT OF ITEM 204.20 TRENCH EXCAVATION OF EARTH (SAW CUTTING AND REMOVAL OF PAVEMENT TO BE INCIDENTAL TO TRENCH EXCAVATION OF EARTH)

UNDISTURBED SOIL. IF SOIL IS DETERMINED TO BE UNSUITABLE BY THE ENGINEER, ADDITIONAL EXCAVATION NECESSARY SHALL BE PAID AS TRENCH EXCAVATION; AND THE BEDDING MATERIAL USED SHALL BE CONSIDERED INCIDENTAL TO THE NEW PIPE ITEMS.

**STORM DRAIN OPEN CUT TRENCH DETAIL**  
NOT TO SCALE

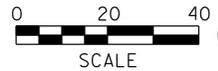


***OUTSIDE DIMENSION SHALL BE 4' x 4' OR 4' x 6' FOR DI WITH DOUBLE GRATE

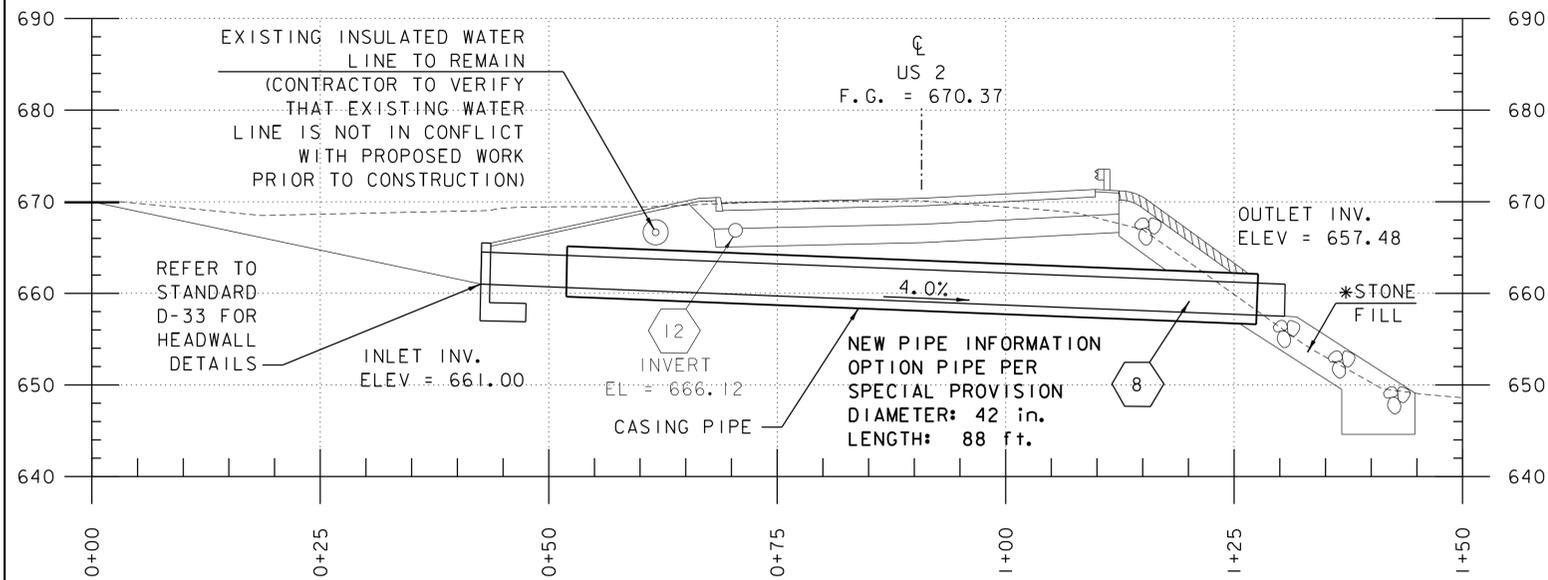
**PLAN VIEW FOR PRECAST REINFORCED CONCRETE DROP INLET IN DITCHES & ROADWAY**  
NOT TO SCALE

** BACKFILL, PAVEMENT AND REMOVAL OF EXISTING CONCRETE AND BITUMINOUS PAVEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 204.20 TRENCH EXCAVATION OF EARTH

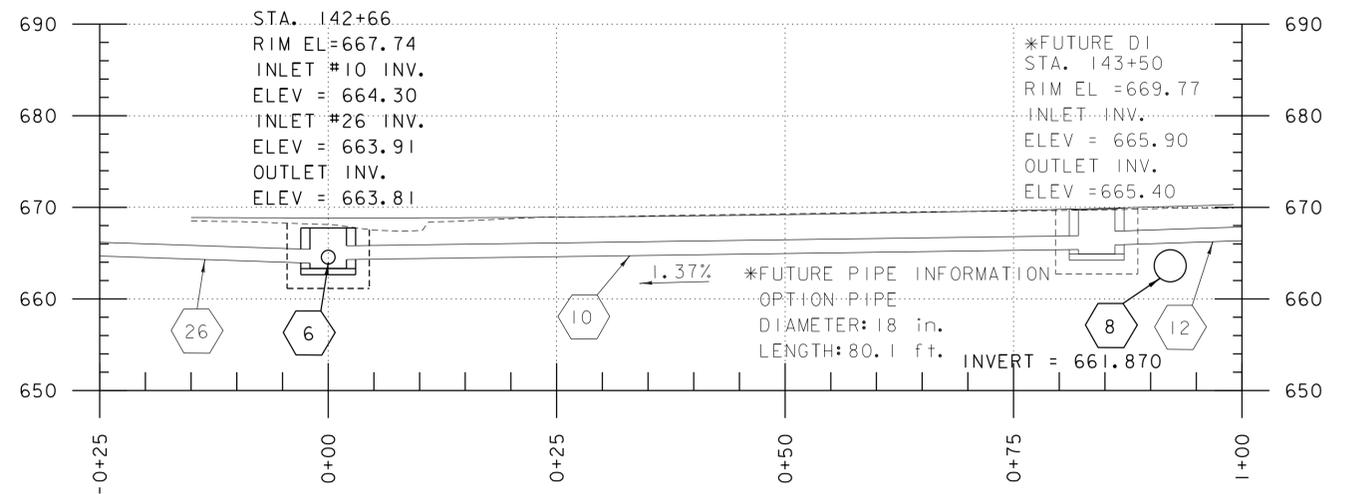
- NOTES:
- FINAL LOCATION AND ELEVATIONS OF DRAINAGE ITEMS MAY BE ADJUSTED IN THE FIELD AS DEEMED NECESSARY BY THE RESIDENT ENGINEER.
  - SEE DRAINAGE PROFILES FOR RIM AND INVERT ELEVATIONS OF DRAINAGE PIPES AND STRUCTURES.



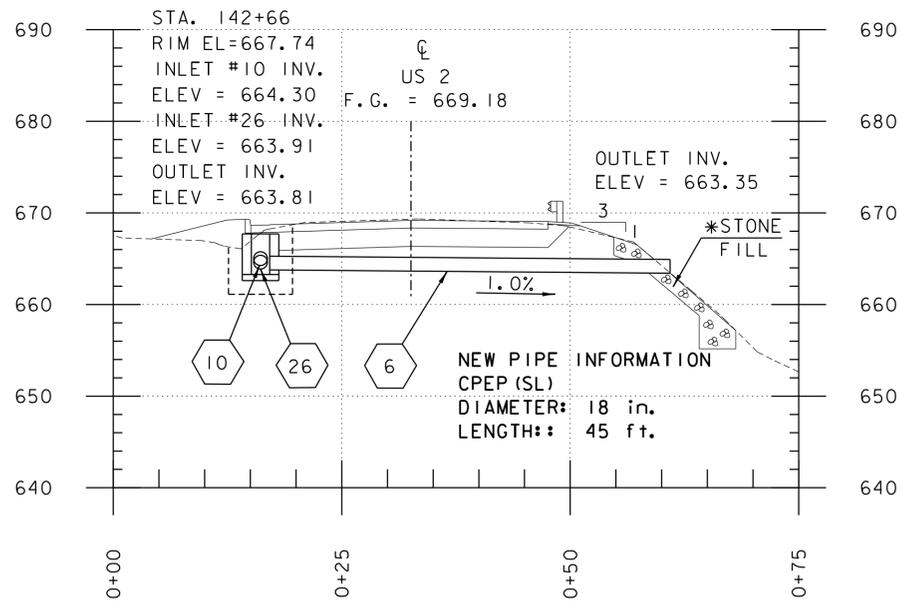
PROJECT NAME:	EAST MONTEPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME: ...N8.Drainage plans - ER.dgn	PLOT DATE: 5/26/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: E. ALLING
DESIGNED BY: K. RICHARDSON	CHECKED BY: G. GOYETTE
GENERAL PLAN - GP 2	SHEET 9 OF 42



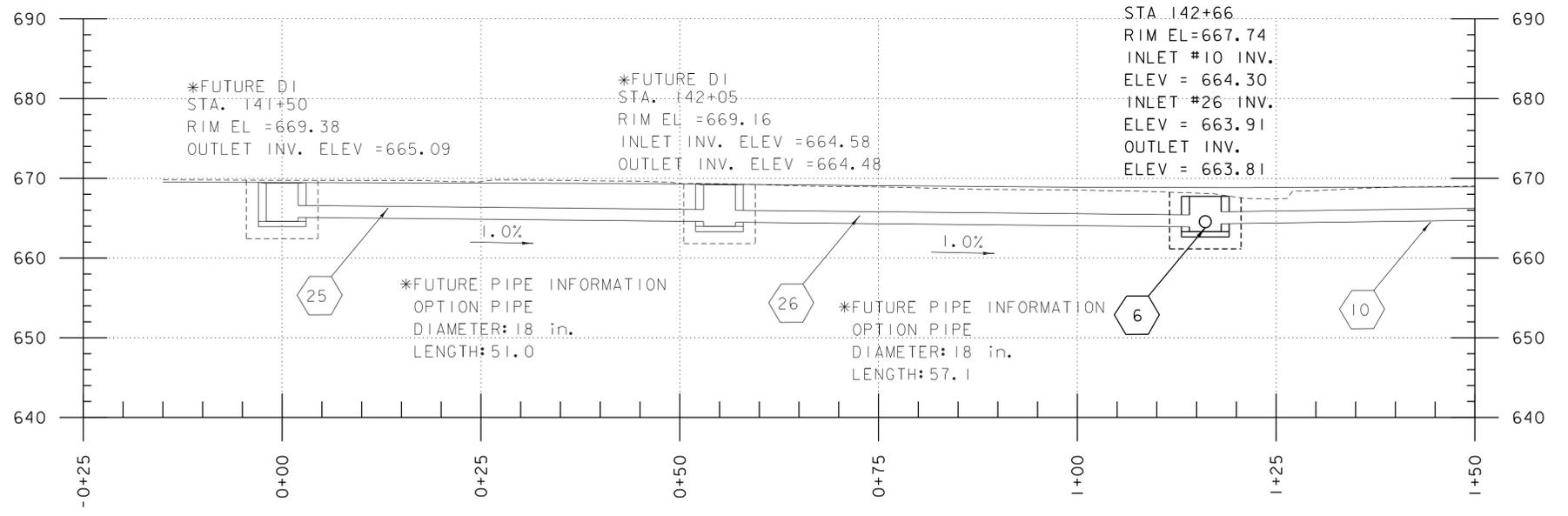
**PIPE #8 PROFILE**  
(SEE SHEET GP 1 FOR PLAN)



**PIPE #10 PROFILE**  
(SEE SHEET GP 1 FOR PLAN)



**PIPE #6 PROFILE**  
(SEE SHEET GP 1 FOR PLAN)



**PIPES #25 & 26 PROFILE**  
(SEE SHEET GP 1 FOR PLAN)

**NOTE**  
PIPE #6, #8, AND CONNECTED INLETS ARE PART OF THIS PROJECT. ALL OTHER DRAINAGE INFORMATION IS SHOWN FOR REFERENCE ONLY AND IS INTENDED TO BE BUILT AS PART OF A FUTURE CONTRACT.

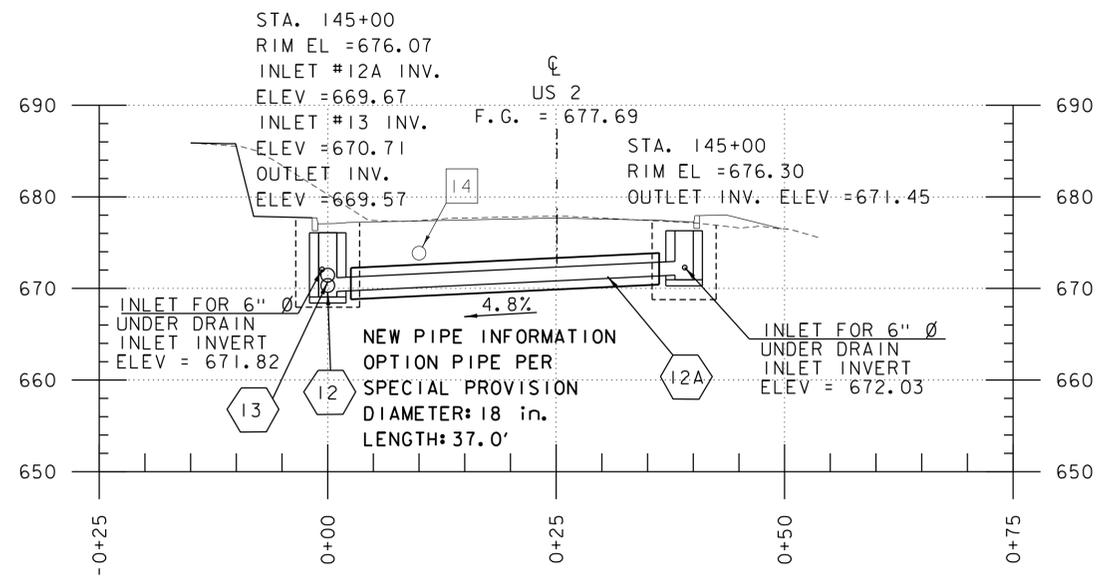
* DRAINAGE FEATURE IS NOT PART OF THIS CONTRACT; SHOWN FOR INFORMATION ONLY

**NOTE:**

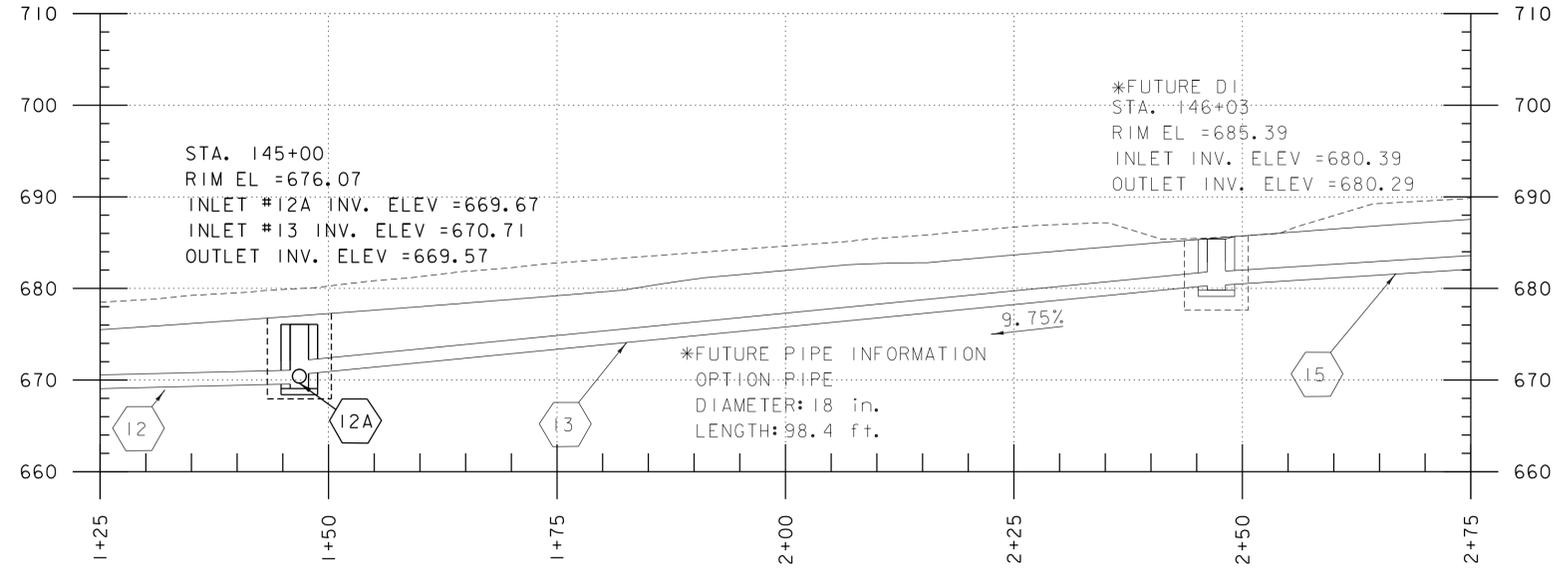
FOR CLARITY UNDERDRAIN IS NOT SHOWN IN PROFILES ADJUST UNDERDRAIN AS REQUIRED TO AVOID CULVERTS DRAINAGE STRUCTURES.



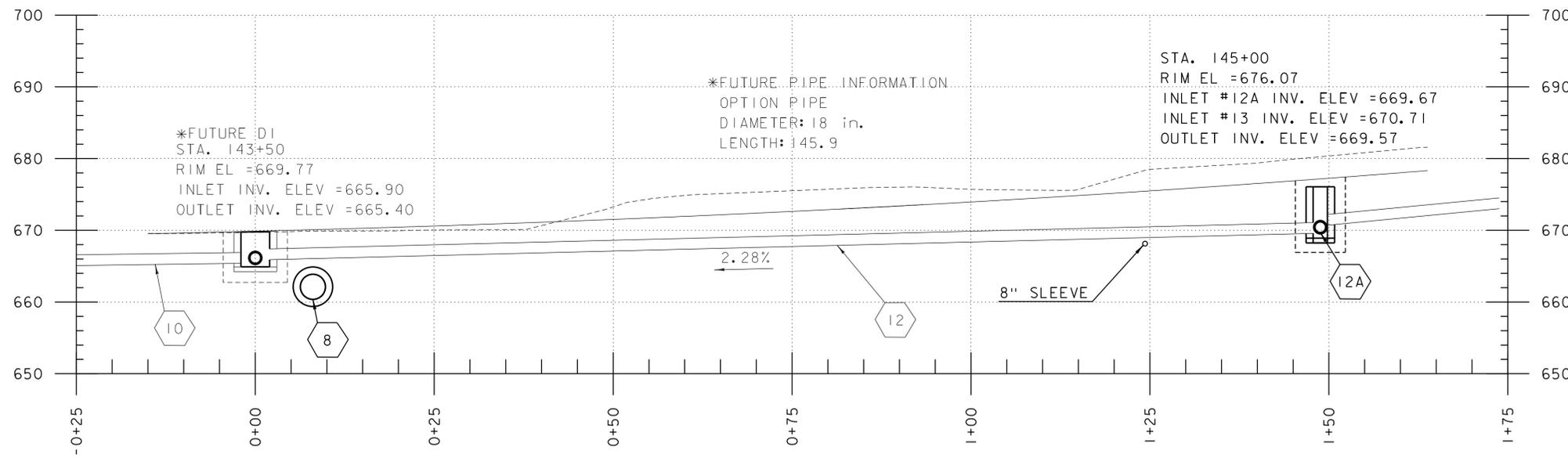
PROJECT NAME:	EAST MONTEPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	I9_Drainage_profiles - ER.dgn
PROJECT LEADER:	T. KNIGHT
DESIGNED BY:	K. RICHARDSON
DRAINAGE PROFILES DP 1	
PLOT DATE:	5/26/2016
DRAWN BY:	C. GENDRON
CHECKED BY:	T. KNIGHT
SHEET	10 OF 42



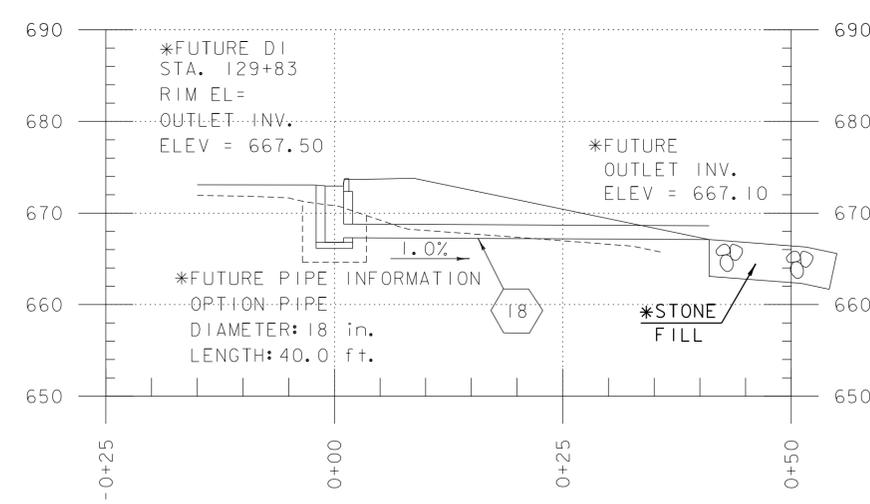
**PIPE #12A PROFILE**  
(SEE SHEET GP 1 FOR PLAN)



**PIPE #13 PROFILE**  
(SEE SHEET GP 1 FOR PLAN)



**PIPE #12 PROFILE**  
(SEE SHEET GP 1 FOR PLAN)



**PIPE #18 PROFILE**  
(NOT IN CONTRACT)

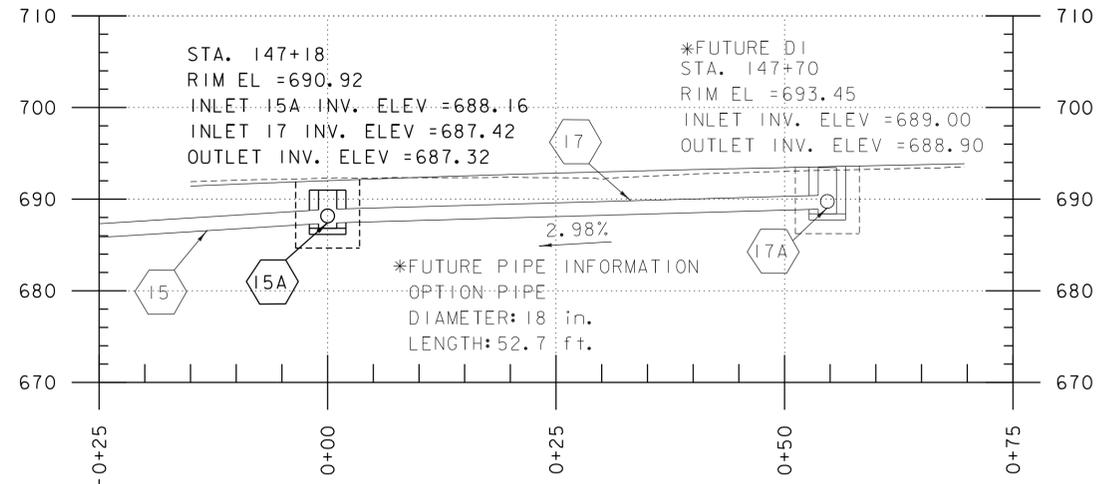
**NOTE**  
PIPE #8, 12A AND CONNECTED INLETS ARE PART OF THIS PROJECT. ALL OTHER DRAINAGE INFORMATION IS SHOWN FOR REFERENCE ONLY AND IS INTENDED TO BE BUILT AS PART OF A FUTURE CONTRACT.

* DRAINAGE FEATURE IS NOT PART OF THIS CONTRACT; SHOWN FOR INFORMATION ONLY

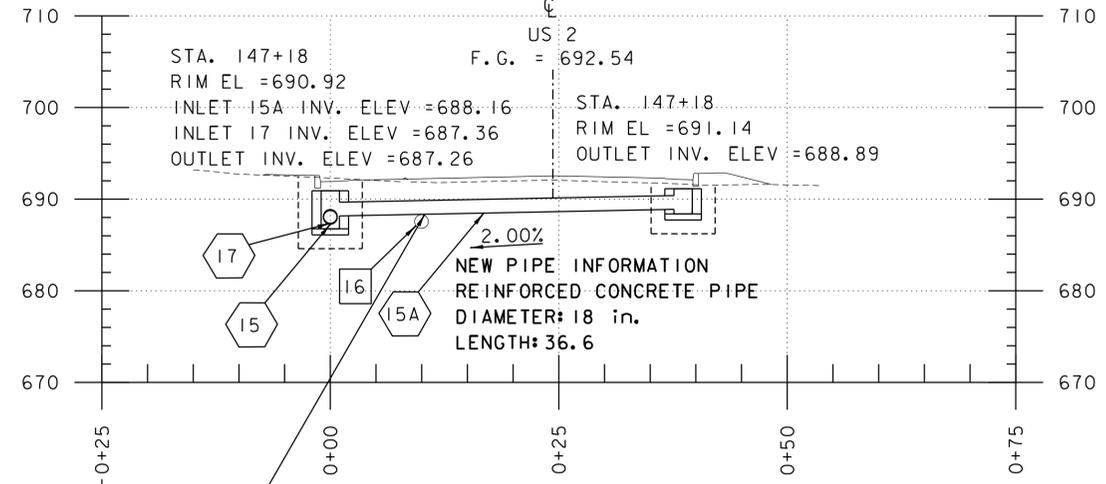
**NOTE:**  
FOR CLARITY UNDERDRAIN IS NOT SHOWN IN PROFILES ADJUST UNDERDRAIN AS REQUIRED TO AVOID CULVERTS DRAINAGE STRUCTURES.

PROJECT NAME: EAST MONTEPELIER	
PROJECT NUMBER: BF EWP2(I)	
FILE NAME: I9_Drainage_profiles - ER.dgn	PLOT DATE: 5/26/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: C. GENDRON
DESIGNED BY: K. RICHARDSON	CHECKED BY: T. KNIGHT
DRAINAGE PROFILES DP 2	SHEET II OF 42



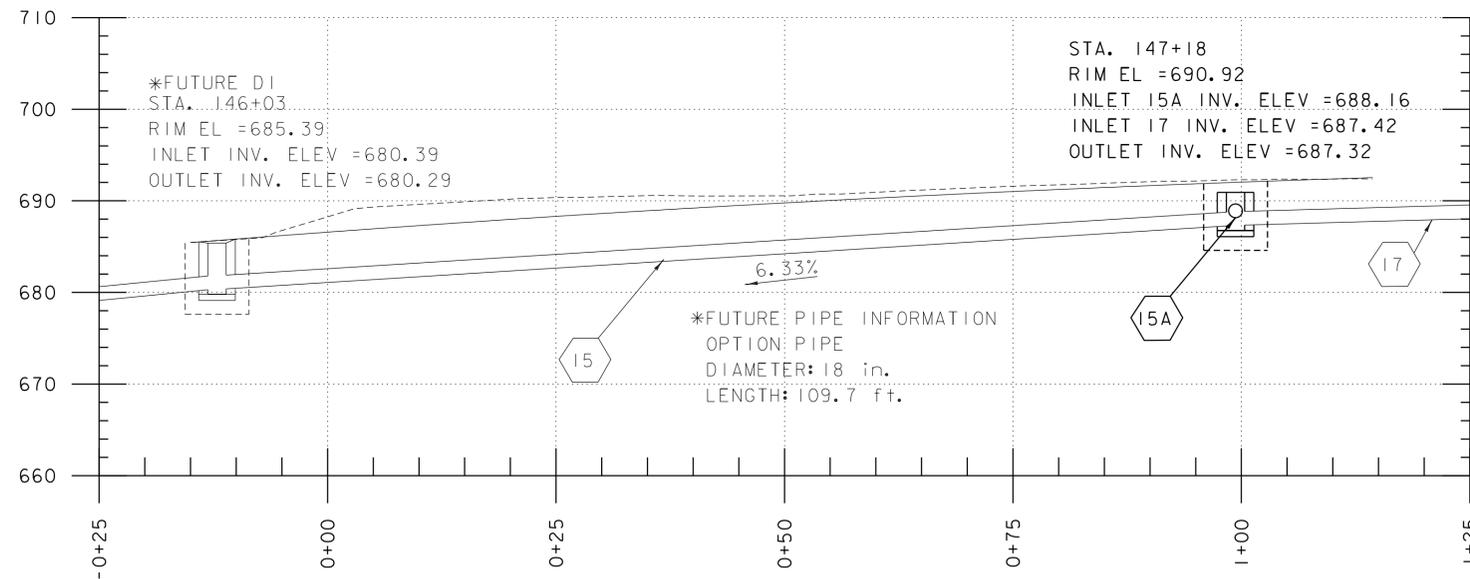


**PIPE #17 PROFILE**  
(SEE SHEET GP 2 FOR PLAN)

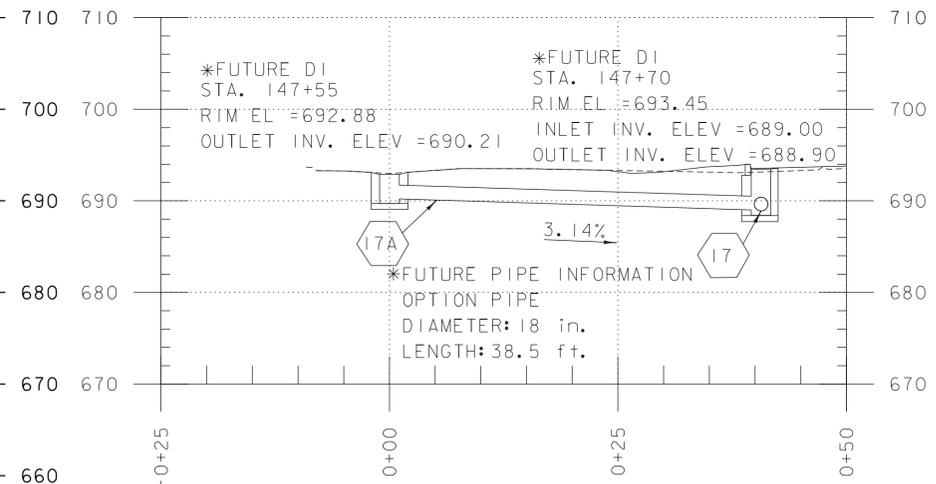


**PIPE #15A PROFILE**  
(SEE SHEET GP 2 FOR PLAN)

EXPLORATORY EXCAVATION  
 REQUIRED TO VERIFY ELEVATION  
 OF THE TOP OF PIPE #16  
 (TRANS MAY ELECT TO ELIMINATE  
 PIPE #15A FROM THE WORK, IF  
 PROFILE IS NOT FEASIBLE)



**PIPE #15 PROFILE**  
(SEE SHEET GP 2 FOR PLAN)



**PIPE #17A PROFILE**  
(NOT IN CONTRACT)

**NOTE**  
 PIPE #15A AND CONNECTED INLETS ARE  
 PART OF THIS CONTRACT. ALL OTHER  
 DRAINAGE INFORMATION IS SHOWN FOR  
 REFERENCE ONLY AND IS INTENDED TO  
 BE BUILT AS PART OF A FUTURE  
 CONTRACT.

* DRAINAGE FEATURE IS NOT PART OF  
 THIS CONTRACT; SHOWN FOR  
 INFORMATION ONLY

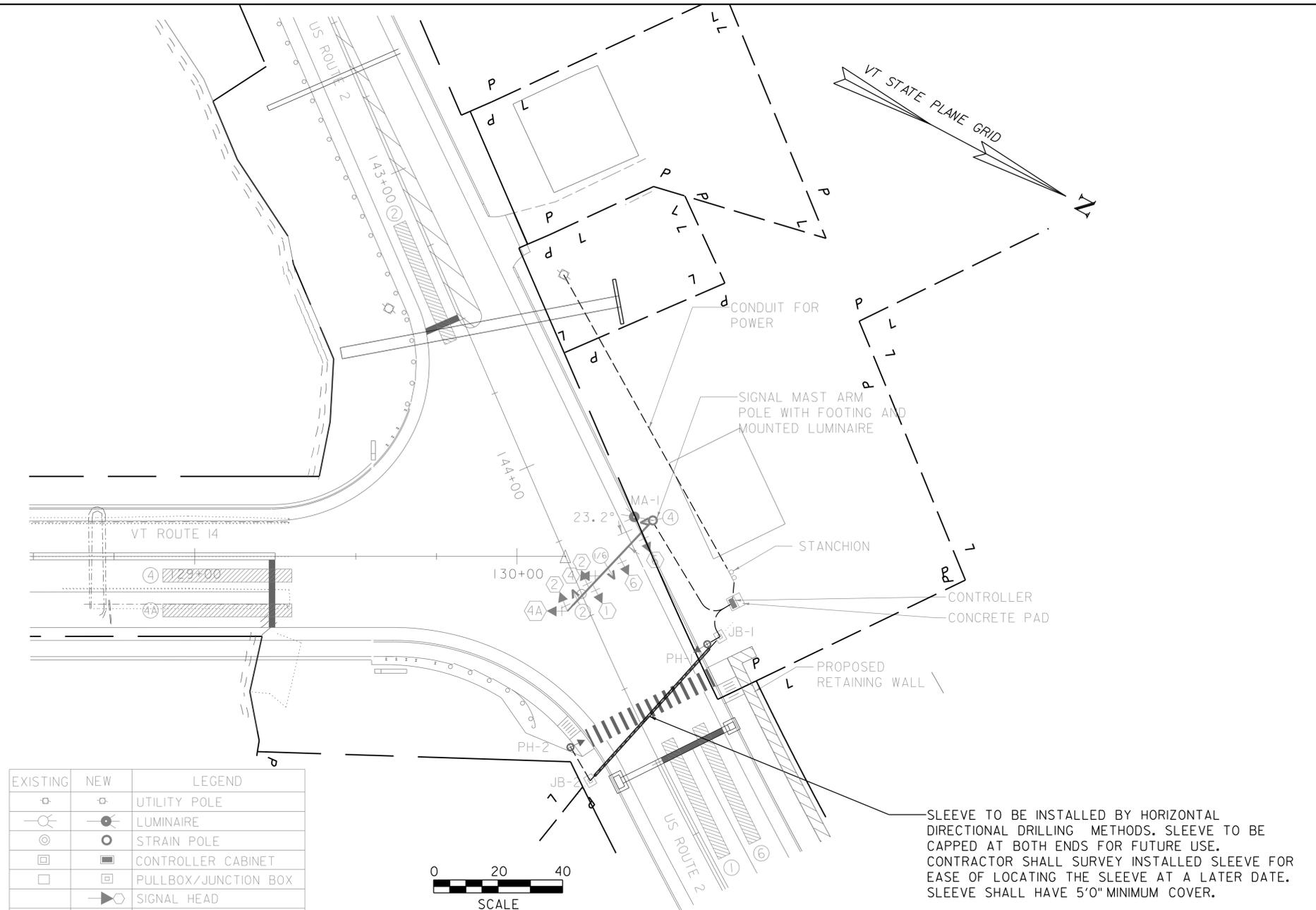
**NOTE:**

FOR CLARITY UNDERDRAIN IS NOT SHOWN IN PROFILES  
 ADJUST UNDERDRAIN AS REQUIRED TO AVOID CULVERTS  
 DRAINAGE STRUCTURES.

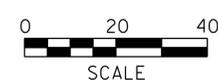
PROJECT NAME: EAST MONTPELIER  
 PROJECT NUMBER: BF EWP2(I)

FILE NAME: I9_Drainage_profiles - ER.dgn PLOT DATE: 5/26/2016  
 PROJECT LEADER: T. KNIGHT DRAWN BY: C. GENDRON  
 DESIGNED BY: K. RICHARDSON CHECKED BY: T. KNIGHT  
 DRAINAGE PROFILES DP 3 SHEET 12 OF 42





EXISTING	NEW	LEGEND
⊙	⊙	UTILITY POLE
—○—	—●—	LUMINAIRE
⊙	⊙	STRAIN POLE
⊠	⊠	CONTROLLER CABINET
□	□	PULLBOX/JUNCTION BOX
—○—	—○—	SIGNAL HEAD
— EX —	---	CONDUIT
	▨	VEHICLE DETECTION AREA
	⊙→	VEHICLE DETECTOR
⊠	⊠	SIGNS
---	---	SLEEVE
	⊙→	PEDESTRIAN POLE AND PUSH BUTTON



SLEEVE TO BE INSTALLED BY HORIZONTAL DIRECTIONAL DRILLING METHODS. SLEEVE TO BE CAPPED AT BOTH ENDS FOR FUTURE USE. CONTRACTOR SHALL SURVEY INSTALLED SLEEVE FOR EASE OF LOCATING THE SLEEVE AT A LATER DATE. SLEEVE SHALL HAVE 5'0" MINIMUM COVER.

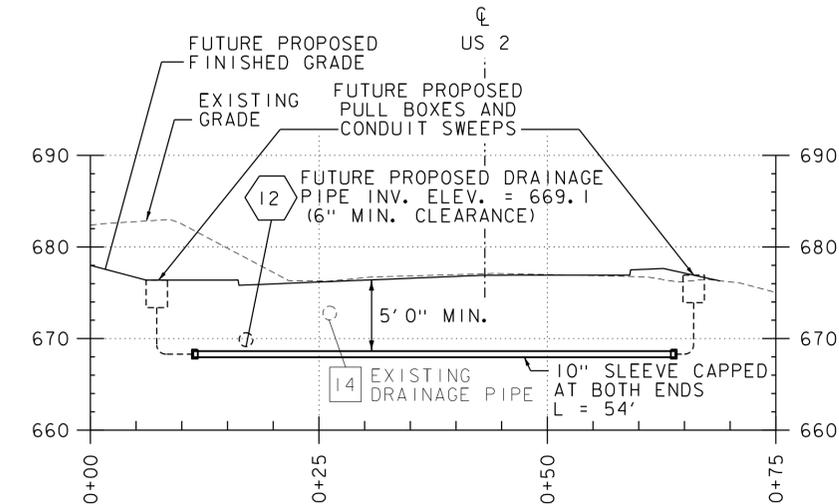
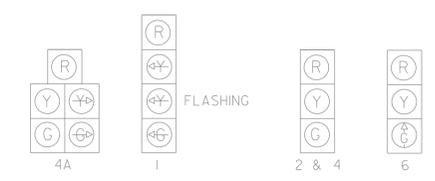
<b>ITEM 900.640 SPECIAL PROVISION (HORIZONTAL DIRECTIONAL DRILLING)(10'')(HDPE)</b>
LOCATION
144+73, 34' LT. TO 144+98, 22' RT. (US 2/VT 14)

AVERAGE WEEKDAY PEAK HOUR TRAFFIC

AM	OFF	PM
80	50	160
100	240	160

AM	OFF	PM
210	210	340
600	600	340

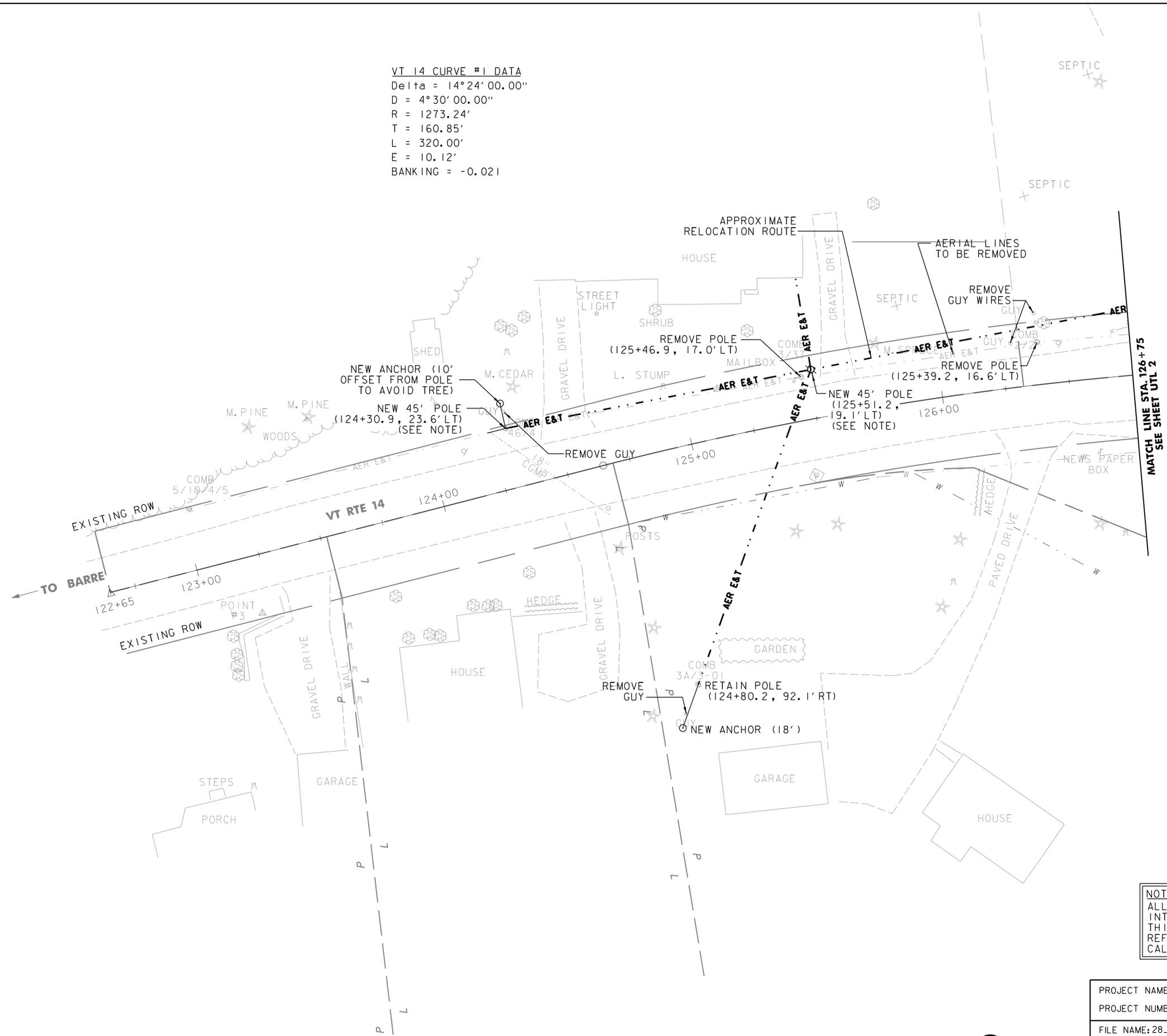
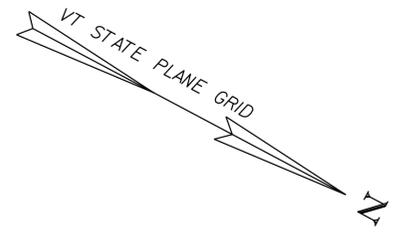


**NOTE:**  
THE 10" HDPE SLEEVE CROSSING US-ROUTE 2 BETWEEN JB-1 & JB-2 IS PART OF THIS PROJECT. ALL OTHER INFORMATION, INCLUDING FUTURE CONDUIT(S) TO BE INSTALLED WITHIN THE SLEEVE AND JUNCTION BOXES, IS SHOWN FOR REFERENCE ONLY AND IS INTENDED TO BE BUILT AS PART OF A FUTURE CONTRACT.

PROJECT NAME: EAST MONTPELIER	PLOT DATE: 5/26/2016
PROJECT NUMBER: BF EWP2(I)	DRAWN BY: C. GENDRON
FILE NAME: 26a1-Traff Sig & PH- ER.dgn	DESIGNED BY: D. DEBAIE
PROJECT LEADER: T. KNIGHT	CHECKED BY: T. KNIGHT
TRAFFIC SIGNAL & PHASING TSP 1	SHEET 13 OF 42



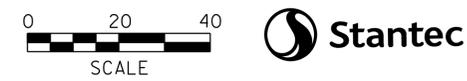
VT 14 CURVE #1 DATA  
 Delta = 14°24'00.00"  
 D = 4°30'00.00"  
 R = 1273.24'  
 T = 160.85'  
 L = 320.00'  
 E = 10.12'  
 BANKING = -0.021



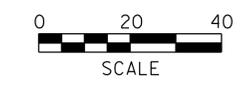
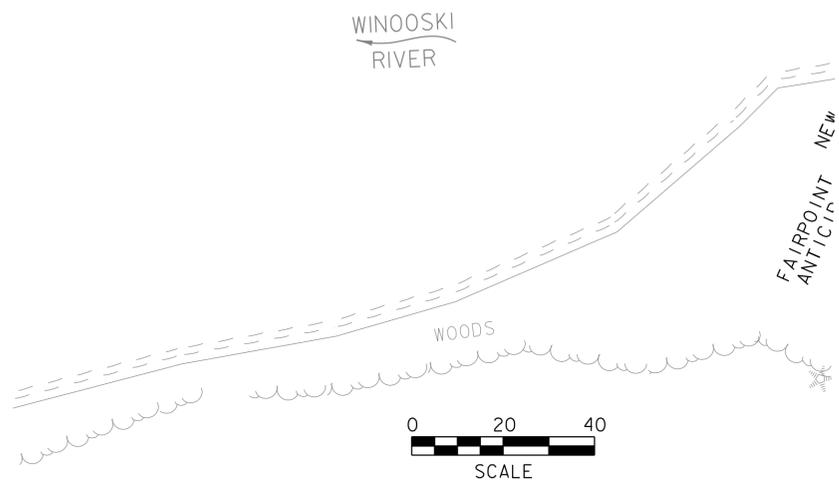
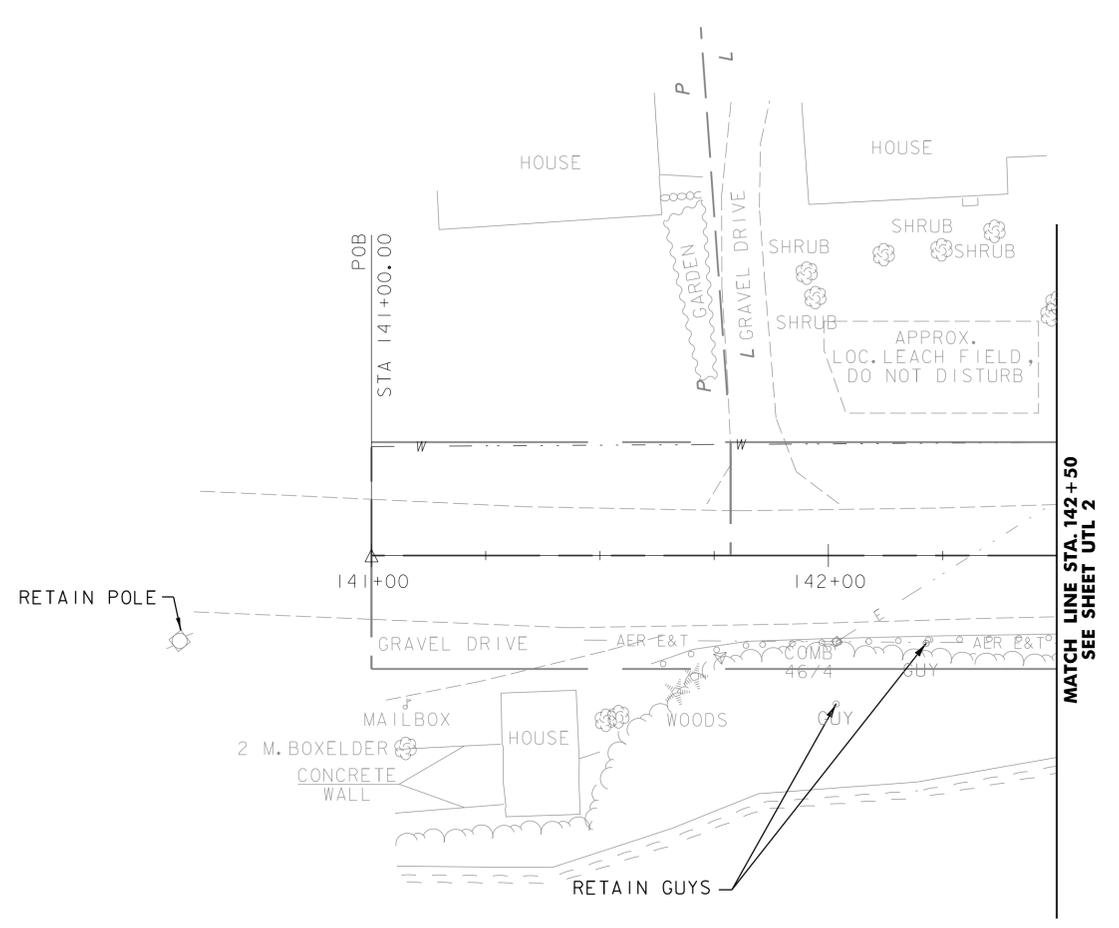
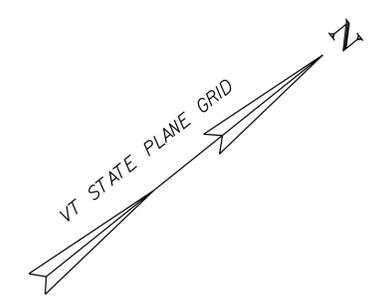
MATCH LINE STA. 126+75  
 SEE SHEET UTL 2

**NOTE**  
 ALL WORK THAT IS SHOWN ON THIS SHEET IS INTENDED TO BE COMPLETED BY OTHERS. THIS SHEET IS BEING PROVIDED FOR REFERENCE ONLY. POLE HEIGHTS SHOWN WERE CALCULATED AND PROVIDED BY FAIRPOINT.

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	28.Utility plans - ER.dgn
PROJECT LEADER:	T. KNIGHT
DESIGNED BY:	K. RICHARDSON
UTILITIES PLAN UTL 1	
PLOT DATE:	5/26/2016
DRAWN BY:	E. ALLING
CHECKED BY:	G. GOYETTE
SHEET	14 OF 42



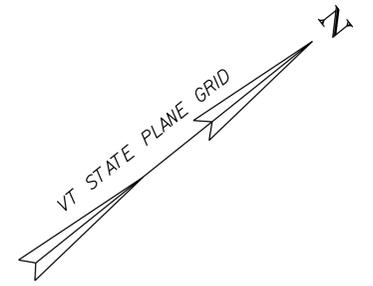




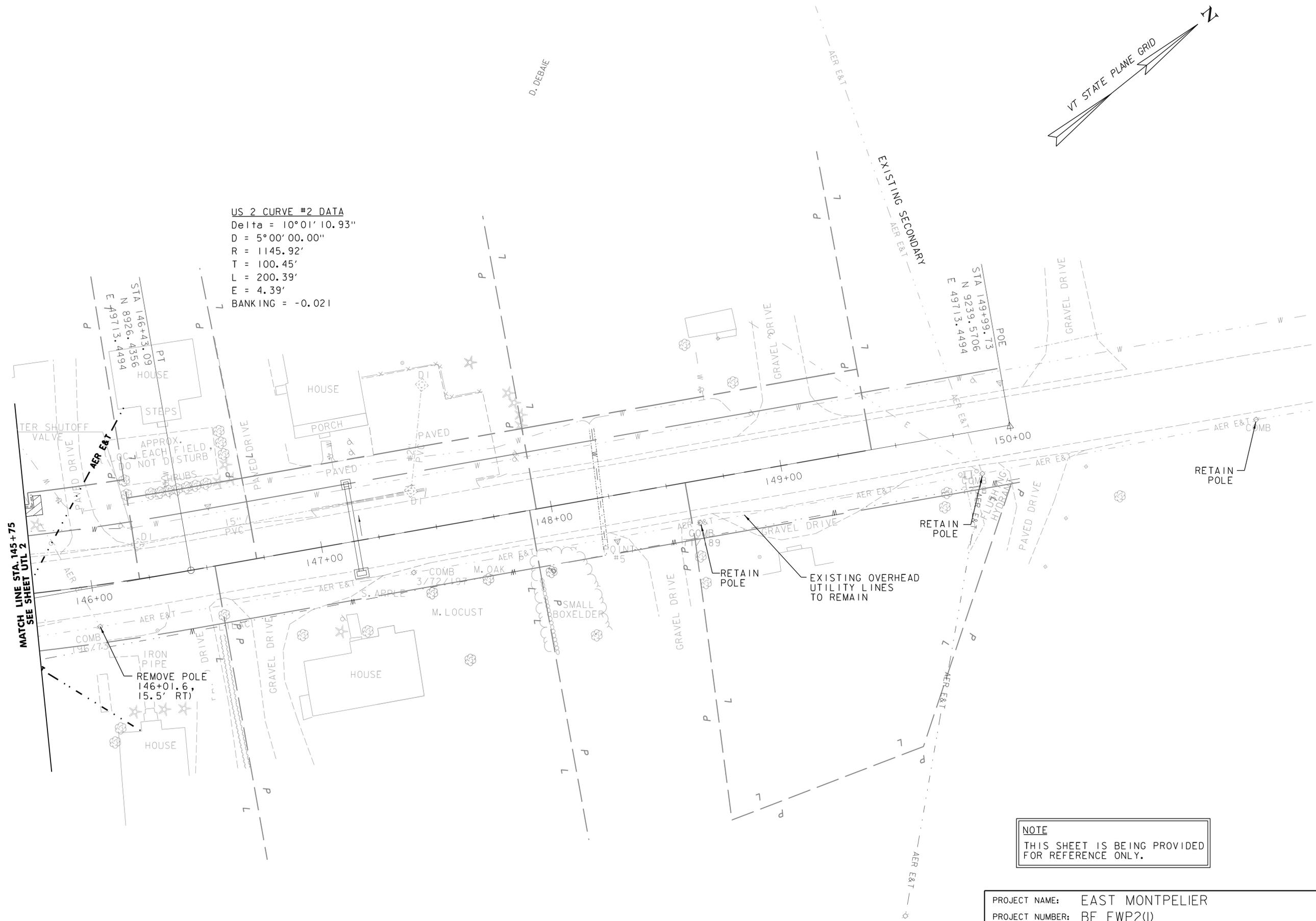
**NOTE**  
THIS SHEET IS BEING PROVIDED FOR REFERENCE ONLY.

PROJECT NAME:	EAST MONTPELIER	PLOT DATE:	5/26/2016
PROJECT NUMBER:	BF EWP2(I)	DRAWN BY:	E. ALLING
FILE NAME:	28.Utility plans - ER.dgn	DESIGNED BY:	K. RICHARDSON
PROJECT LEADER:	T. KNIGHT	CHECKED BY:	G. GOYETTE
UTILITIES PLAN UTL 3		SHEET	16 OF 42





US 2 CURVE #2 DATA  
 Delta = 10°01'10.93"  
 D = 5°00'00.00"  
 R = 1145.92'  
 T = 100.45'  
 L = 200.39'  
 E = 4.39'  
 BANKING = -0.021

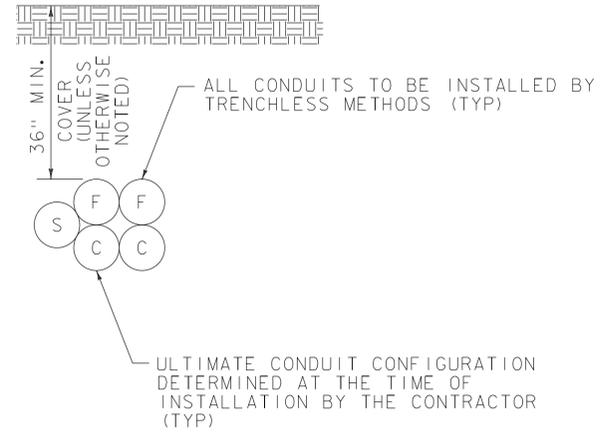


**NOTE**  
 THIS SHEET IS BEING PROVIDED  
 FOR REFERENCE ONLY.

PROJECT NAME:	EAST MONTPELIER	PLOT DATE:	5/26/2016
PROJECT NUMBER:	BF EWP2(I)	DRAWN BY:	E. ALLING
FILE NAME:	28.Utility plans - ER.dgn	CHECKED BY:	G. GOYETTE
PROJECT LEADER:	T. KNIGHT	UTILITIES PLAN UTL 4	SHEET 17 OF 42
DESIGNED BY:	K. RICHARDSON		

0 20 40  
 SCALE

LEGEND	REQUIRED CONDUITS PER UTILITY COMPANY	PAID AS:
S	SOVERNET - (1) HDPE (DR-11) @ 4"	ITEM 900.640 S.P. (HORIZONTAL DIRECTIONAL DRILLING) (4") (HDPE)
C	COMCAST - (2) HDPE (DR-11) @ 4"	ITEM 900.640 S.P. (HORIZONTAL DIRECTIONAL DRILLING) (4") (HDPE)
F	FAIRPOINT - (2) HDPE (DR-11) @ 4"	ITEM 900.640 S.P. (HORIZONTAL DIRECTIONAL DRILLING) (4") (HDPE)

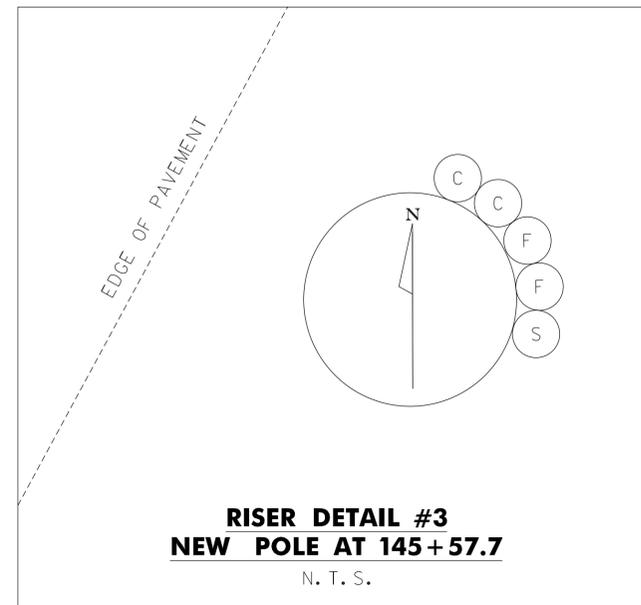
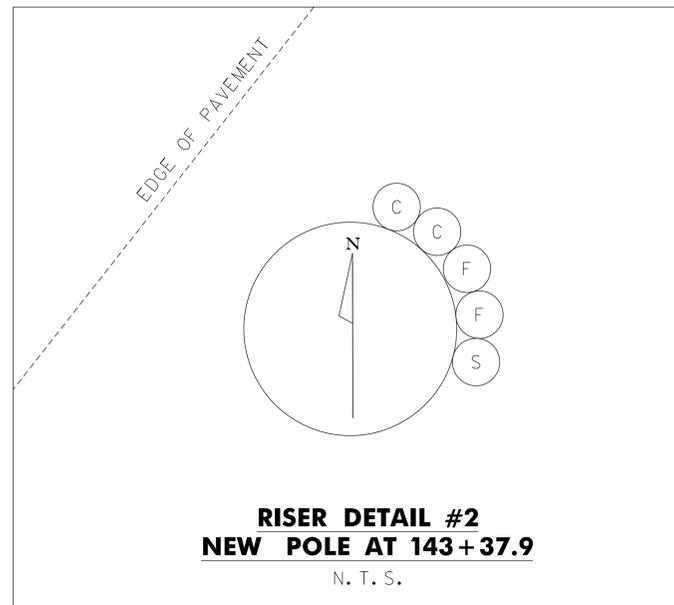


**UTILITY DUCT LAYOUT  
TYPICAL SECTION A-A**

N. T. S.  
143+37.9, RT - 145+57.7, RT

**NOTES:**

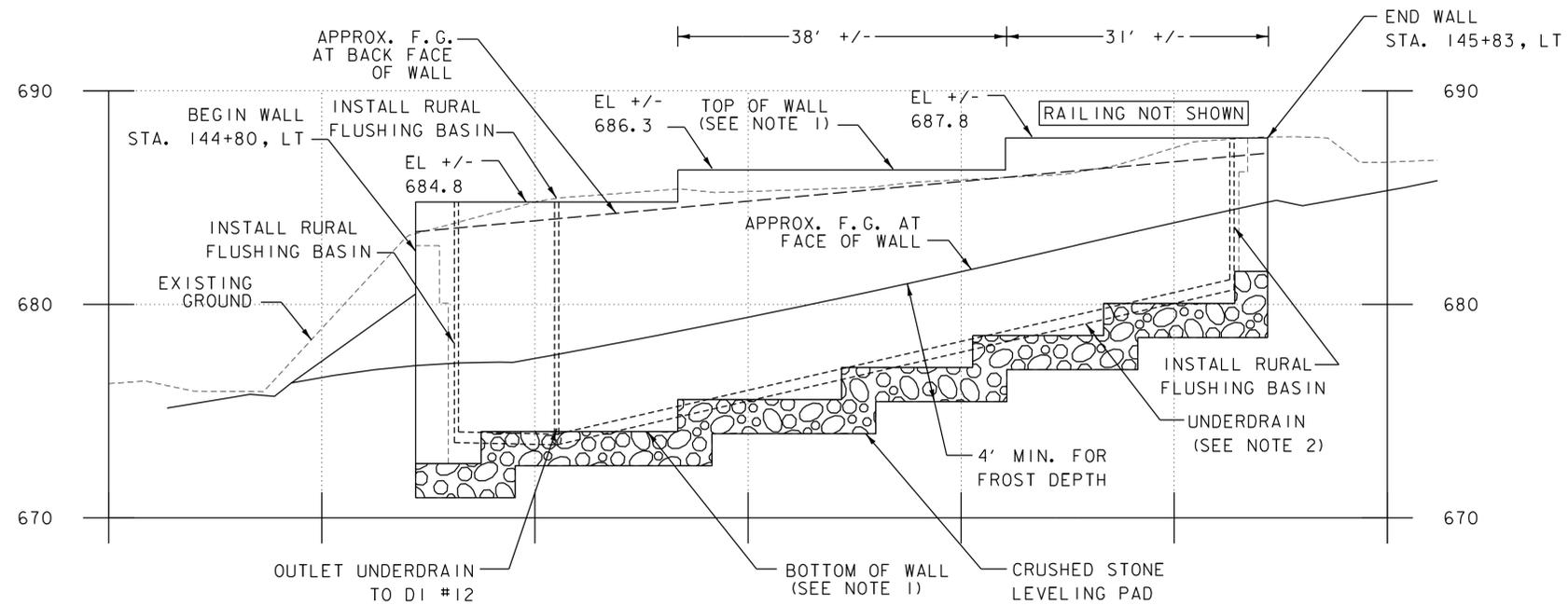
1. CONDUIT SWEEPS SHALL NOT BE CONSTRUCTED PRIOR TO THE UTILITY POLE INSTALLATIONS.
2. ALL BRACKETS OR OTHER MATERIALS NECESSARY TO SECURE THE CONDUITS TO THE POLES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE DIRECTIONAL DRILLING PAY ITEMS.
3. CONDUIT CONNECTIONS SHOWN ON THIS SHEET MAY NOT ADHERE TO ALL UTILITY COMPANY SPECIFICATIONS. THE CONTRACTOR SHALL WORK CLOSELY WITH THE UTILITY COMPANIES TO OBTAIN ALL CURRENT SPECIFICATIONS AND INSPECTION REQUIREMENTS.



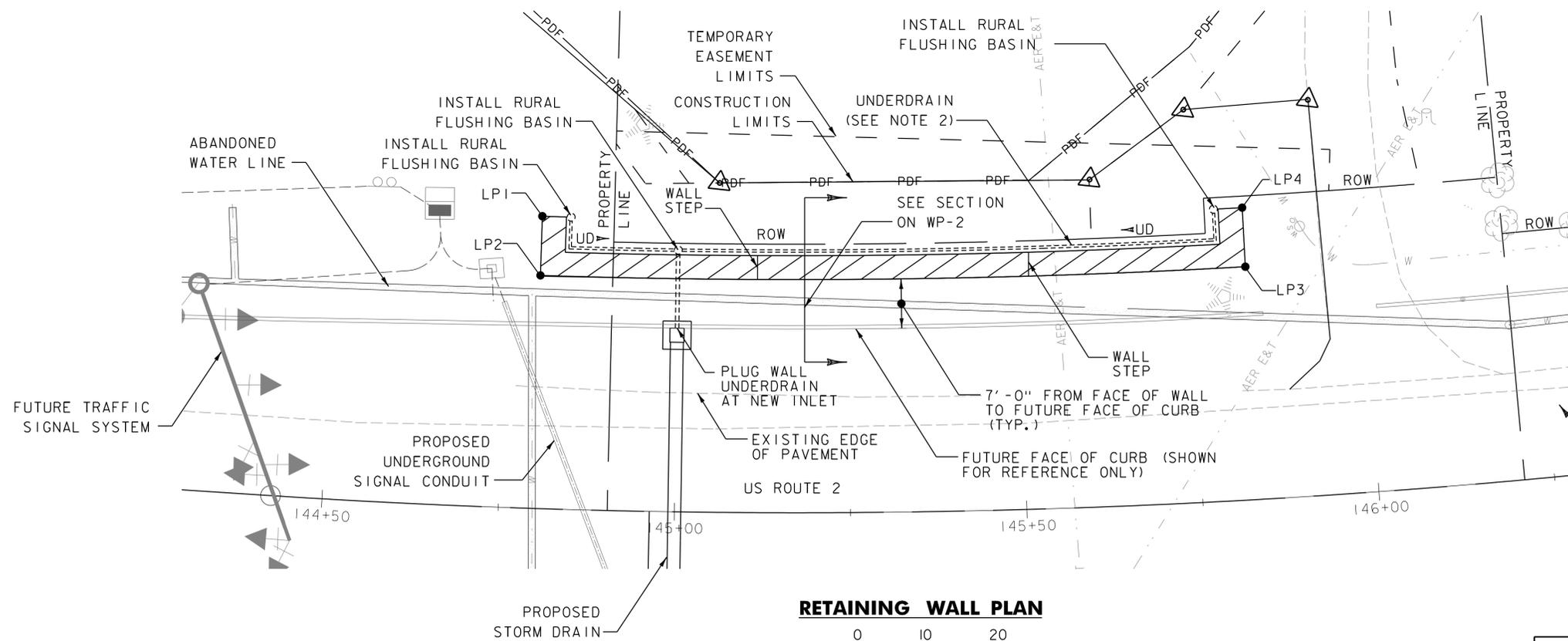
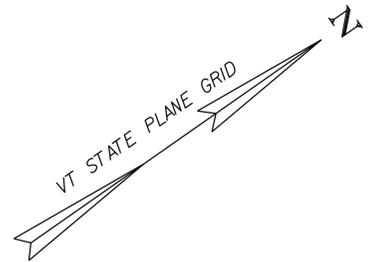
PROJECT NAME: EAST MONTPELIER  
PROJECT NUMBER: BF EWP2(I)

FILE NAME: 28a_Utility_Details - ER.dgn PLOT DATE: 5/26/2016  
PROJECT LEADER: T. KNIGHT DRAWN BY: C. GENDRON  
DESIGNED BY: K. RICHARDSON CHECKED BY: T. KNIGHT  
UTILITY DETAILS UD 1 SHEET 18 OF 42

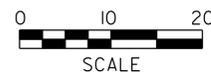




**RETAINING WALL ELEVATION  
STA 144+80, LT - 145+83, LT**



**RETAINING WALL PLAN**



**NOTES:**

1. ACTUAL BOTTOM OF WALL ELEVATION AND STEPPING LOCATIONS TO BE DETERMINED BY THE WALL MANUFACTURER.
2. UNDERDRAIN LOCATION AND DEPTH TO BE SPECIFIED BY THE WALL MANUFACTURER. PAYMENT SHALL BE INCIDENTAL TO 900.675 SPECIAL PROVISION (PRECAST CONCRETE GRAVITY RETAINING WALL WITH PEDESTRIAN RAILING)

RETAINING WALL LAYOUT TABLE		
LAYOUT POINT	US 2 STATION	US 2 OFFSET (FT)
1	144+80	41.4
2	144+80	33.0
3	145+83	33.0
4	145+83	41.4

PROJECT NAME: EAST MONTPELIER  
PROJECT NUMBER: BF EWP2(I)

FILE NAME: ...XX_Retaining_Wall - ER.dgn PLOT DATE: 5/26/2016  
PROJECT LEADER: T. KNIGHT DRAWN BY: J. SOTER  
DESIGNED BY: K. RICHARDSON CHECKED BY: T. KNIGHT  
WALL PLAN & PROFILE WP 1 SHEET 19 OF 42



## RETAINING WALL NOTES

### GENERAL:

1. THE AGENCY OF TRANSPORTATION CONDUCTED A FIELD INVESTIGATION INCLUDING SOIL BORINGS, TESTING, ANALYSIS AND RECOMMENDATIONS FOR THE IN-SITU SOIL PARAMETERS FOR THE WALL. THE INVESTIGATION IS SUMMARIZED IN A MEMORANDUM DATED 11/22/2013 THAT IS AVAILABLE FOR THE CONTRACTOR'S USE IN DESIGN OF THE WALL.
2. THE PRECAST CONCRETE GRAVITY RETAINING WALLS SHALL BE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SHALL BE FROM THE VAOT'S LIST OF APPROVED RETAINING WALLS.
3. AFTER THE WALL IS ERECTED, ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH WATER REPELLENT, SILANE MEETING THE REQUIREMENTS OF SECTION 514. CONTRACTOR SHALL PROVIDE WRITTEN VERIFICATION THAT THE WATER REPELLENT IS COMPATIBLE WITH THE STAIN USED TO COLOR THE WALL. THE COST OF THE WATER REPELLENT SHALL BE INCIDENTAL TO THE PRECAST GRAVITY RETAINING WALL.
4. EXPOSED FACE OF WALL SHALL HAVE A TEXTURE AND TWO TONE COLOR REPLICATING DRY LAID NATURAL STONE. AN IMAGE DEPICTING THE DESIRED TEXTURE AND COLORING IS INCLUDED BELOW:



5. TOP BLOCK OF RETAINING WALL SHALL BE RECESSED TO ACCEPT LAWN OR LANDSCAPING AS CLOSE AS POSSIBLE TO THE FRONT EDGE OF THE WALL.
6. TOPSOIL, SEED, AND EROSION CONTROL MATTING SHALL BE PAID PER THEIR RESPECTIVE PAY ITEMS. ANY OTHER WORK OR MATERIALS NECESSARY TO ESTABLISH TURF SHALL BE INCIDENTAL TO ALL OTHER CONTRACT ITEMS. SEE SHEET ECD-3 AND SECTION 651 OF THE VAOT STANDARD SPECIFICATIONS FOR TURF ESTABLISHMENT DETAILS.

### PEDESTRIAN RAILING:

7. THE WALL SHALL INCLUDE A FABRICATOR DESIGNED GALVANIZED & PAINTED STEEL PEDESTRIAN RAILING AND CONNECTION TO THE RETAINING WALL WHERE THE HEIGHT OF THE DROP FROM THE TOP OF WALL EXCEEDS 30 INCHES. THE RAILING SHALL BE DESIGNED TO MEET OR EXCEED THE FOLLOWING CRITERIA:

#### MATERIALS:

MATERIALS FOR RAILING SHALL MEET THE REQUIREMENTS OF SECTION 506 AND BE GALVANIZED IN ACCORDANCE WITH SECTION 726.08.

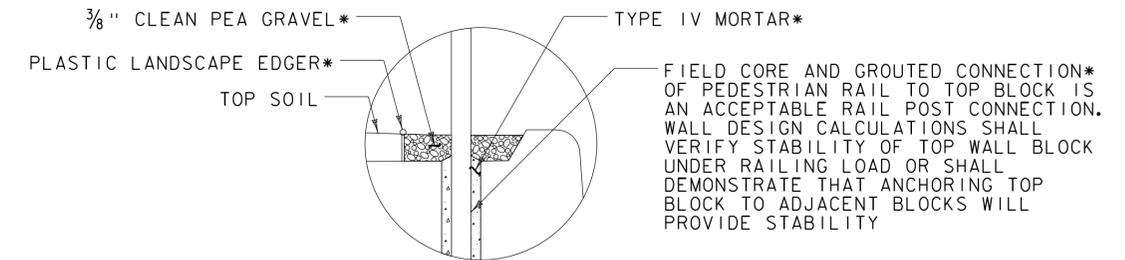
THE GALVANIZED RAILING SHALL BE AIR COOLED, AND NOT WATER QUENCHED OR TREATED WITH A CHROMATE CONVERSION COATING. AFTER THE COMPONENTS ARE GALVANIZED AND ALL CONTAMINATION, ASH RESIDUE, ETC. IS CLEANED OFF, THEIR EXTERIOR SURFACES SHALL BE SWEEP / BRUSH-OFF BLAST CLEANED IN ACCORDANCE WITH PER SSPC-SP 16. THE RAILING SHALL BE PAINTED BLACK IN ACCORDANCE WITH 708.01 WITH A COATING SYSTEM LISTED ON THE QUALIFIED PRODUCTS LIST ON FILE WITH THE AGENCY'S RESEARCH AND DEVELOPMENT SECTION.

#### DESIGN LOAD:

- POST AND BASE PLATE: EQUIVALENT POINT LOAD EQUAL TO THE MAXIMUM OF 200 LB. LOAD OR 50 LB./FT. X POST SPACING (FT.) APPLIED TRANSVERSELY AT TOP RAIL CONNECTION.
- TOP & BOTTOM RAILS: THE MAXIMUM OF EITHER A 50 LB./FT. UNIFORM LOAD OR A 200 LB. CONCENTRATED POINT LOAD APPLIED IN ANY DIRECTION TO THE RAIL.
- HANDRAILS: NOT REQUIRED.
- PICKETS: CONCENTRATED 200 LB. LOAD APPLIED TRANSVERSELY OVER AN AREA OF 1.0 SQUARE FOOT.

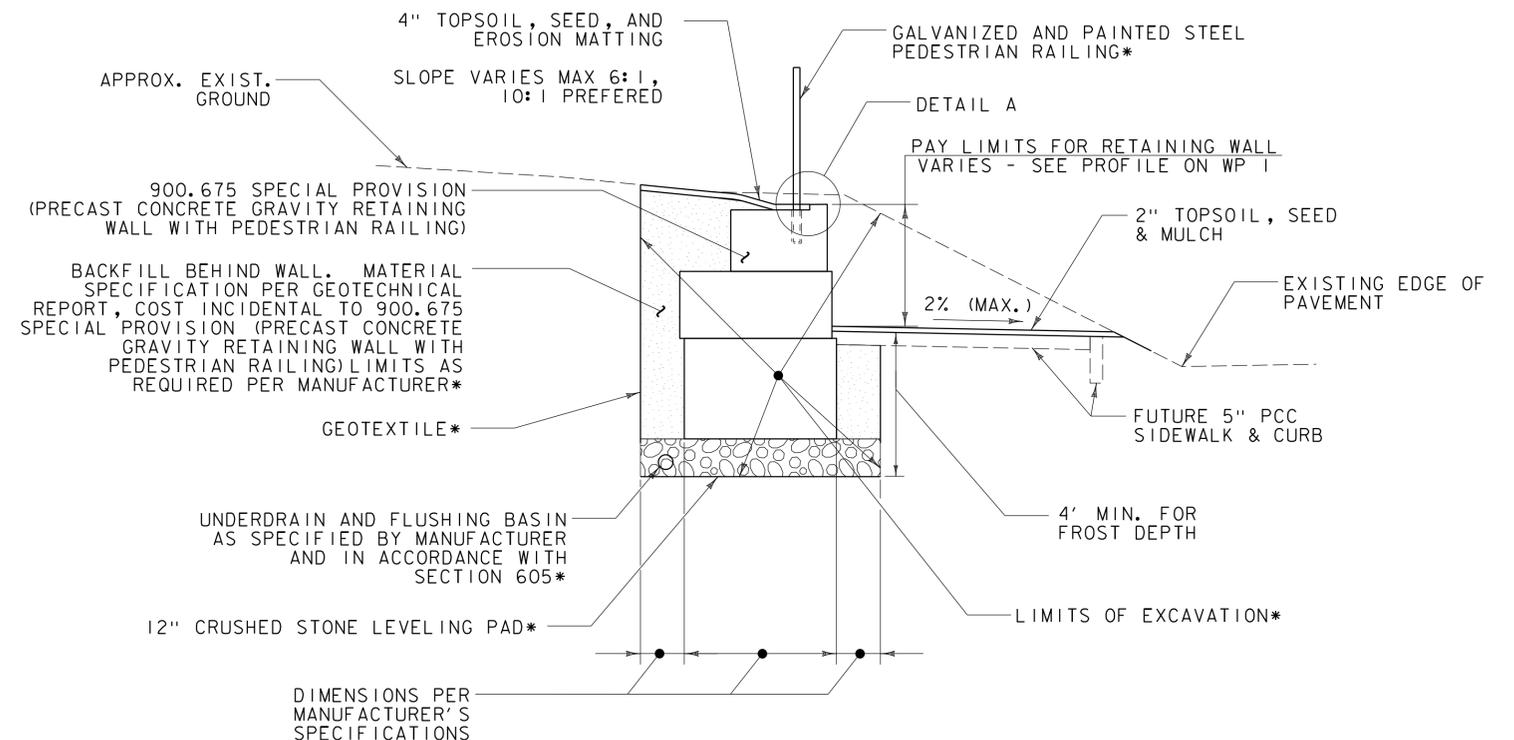
#### GEOMETRY:

- RAILING HEIGHT: 42" MINIMUM.
- CLEAR OPENING BETWEEN PICKETS: SHALL REJECT THE PASSAGE OF A 4" DIAMETER SPHERE BELOW 42" HEIGHT.
- CLEAR OPENING UNDER BOTTOM RAIL: SHALL REJECT THE PASSAGE OF A 2" DIAMETER SPHERE.



### DETAIL A

(ALTERNATE CONNECTION DETAILS MAY BE DETAILED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL)



### RETAINING WALL CROSS SECTION

NOT TO SCALE

* INCIDENTAL TO ITEM 900.675 - SPECIAL PROVISION (PRECAST CONCRETE GRAVITY RETAINING WALL WITH PEDESTRIAN RAILING)

PROJECT NAME: EAST MONTEPELIER

PROJECT NUMBER: BF EWP2(I)

FILE NAME: ...XX-Retaining-Wall.dwg - ER.dwg PLOT DATE: 5/26/2016

PROJECT LEADER: T. KNIGHT DRAWN BY: J. SOTER

DESIGNED BY: K. RICHARDSON CHECKED BY: T. KNIGHT

WALL PLAN & PROFILE WP 2 SHEET 20 OF 42



**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

**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 7/8" 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 7/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
1/2 Rec.	Percent Recovery
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (IN > 100)

**ROCK QUALITY DESIGNATION**

R.O.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**

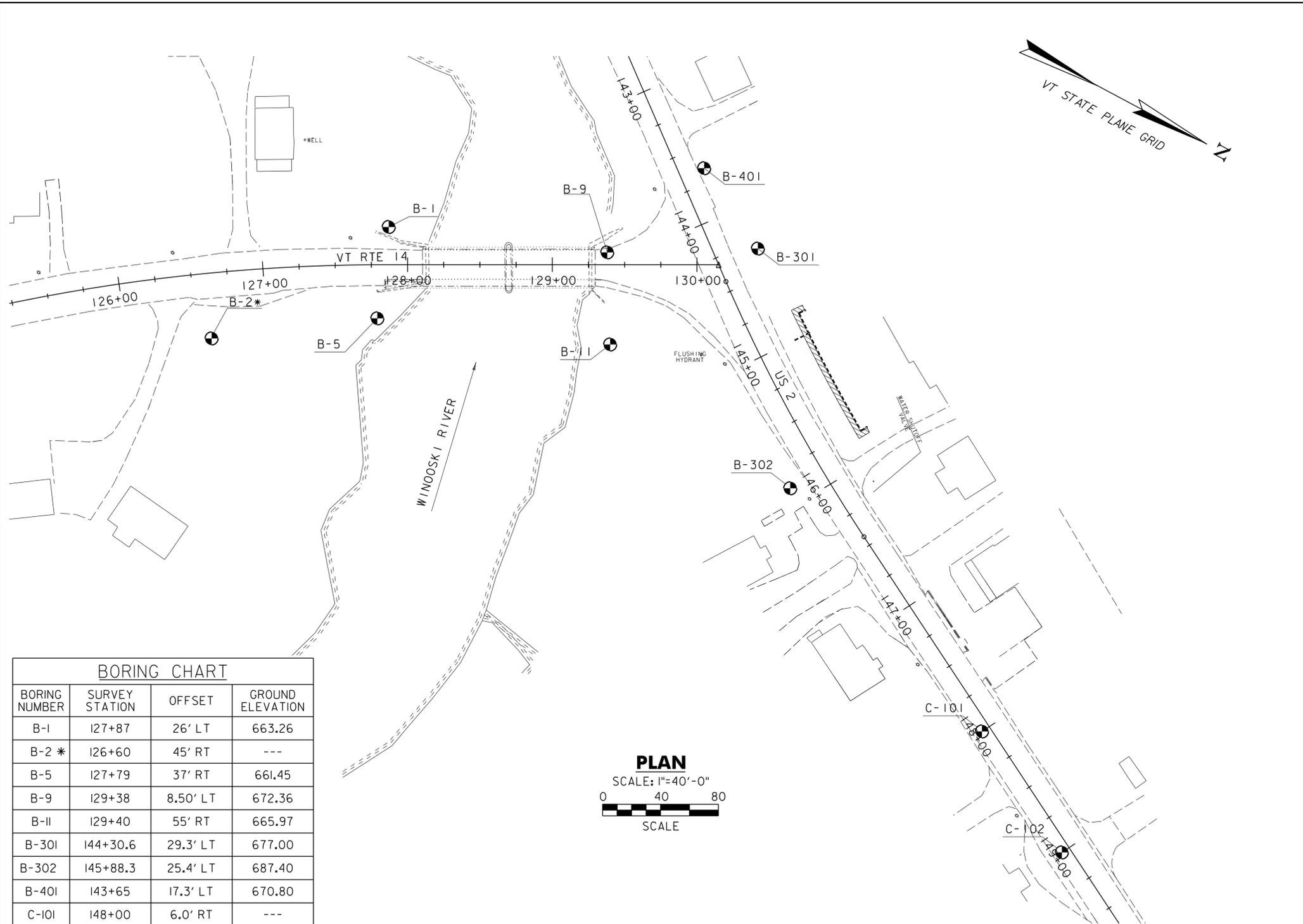
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

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

**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 > 0.0029" (#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.



BORING CHART			
BORING NUMBER	SURVEY STATION	OFFSET	GROUND ELEVATION
B-1	127+87	26' LT	663.26
B-2 *	126+60	45' RT	---
B-5	127+79	37' RT	661.45
B-9	129+38	8.50' LT	672.36
B-11	129+40	55' RT	665.97
B-301	144+30.6	29.3' LT	677.00
B-302	145+88.3	25.4' LT	687.40
B-401	143+65	17.3' LT	670.80
C-101	148+00	6.0' RT	---
C-102	149+00	6.0' RT	---

* - ADDITIONAL BORING FOR INFILTRATION TEST  
 BOTTOM OF TRENCH ELEVATION = 663.00

**GENERAL NOTES**

- The subsurface explorations shown herein were made between 02/07/06 and 11/18/15 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 judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- 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.

**LEGEND:**

⊕ BRIDGE BORING

PROJECT NAME: EAST MONTPELIER

PROJECT NUMBER: BF EWP2(I)

FILE NAME: s98b252bor_plot - ER.dgn

PROJECT LEADER: T. KNIGHT

DESIGNED BY: VTRANS

BORING LAYOUT PLAN BOR I

PLOT DATE: 5/26/2016

DRAWN BY: J. SOTER

CHECKED BY: T. KNIGHT

SHEET 21 OF 42



PROJECT NAME: EAST MONTPELIER  
 SITE NAME: RT-14  
 STATION: 127+87  
 OFFSET: -26.00  
 VTSPG: N 644317.5276 ft E 1643393.8366 ft

PROJECT NUMBER: BRF 037-1(7)  
 SITE NUMBER: BR-68  
 GROUND ELEVATION: 663.26 ft  
 GROUNDWATER DEPTH: 8.0 ft 3/16/06  
 PROJECT PIN NUMBER: 98B252

BORING CREW  
 CREW CHIEF: TALLMAN  
 DRILLER: TALLMAN  
 LOGGER: PORTER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER  
 BORING TYPE: WASH BORE  
 SAMPLE TYPE: SPLIT BARREL  
 CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
4		A-4, SiSa with Wood & small roots, brn, Moist, Rec. = 0.6 ft	7	32.9	6.8	54.3	38.9
5		A-4, SaSi, brn, Moist, Rec. = 1.9 ft	6	22.9	2.7	44.9	52.4
8		A-4, Si, brn, Moist, Rec. = 1.9 ft	8	29.9	2.7	19.2	78.1
10		No Recovery, 6.0 ft - 8.0 ft	5				
10		A-2-4, SiGrSa, brn, Moist, Rec. = 1.6 ft	35	15.2	34.8	36.5	28.7
10		A-2-4, GrSiSa, brn, Moist, Rec. = 1.3 ft	35	16.1	25.9	44.0	30.1
15		A-1-b, SiGrSa, brn, Moist, Rec. = 1.1 ft	32	14.5	34.7	41.9	23.4
15		A-2-4, GrSiSa, brn, Moist, Rec. = 1.1 ft	27	14.6	27.4	40.6	32.0
15		A-1-b, SiSaGr, gry, Moist, Rec. = 0.6 ft, Cleaned out casing.	21	8.0	48.2	31.0	20.8
20		A-4, Si, gry, Moist, Rec. = 1.5 ft, Cleaned out casing.	31	18.0	0.9	14.2	84.9
20		A-4, Si, gry, Moist, Rec. = 1.65 ft, Cleaned out casing.	68	17.3	2.4	8.6	89.0
25		A-4, SaSi, gry, Moist, Rec. = 1.0 ft, Cleaned out casing.	R	13.2	9.3	20.1	70.6
25		A-4, SaSi, gry, Moist, Rec. = 0.5 ft, Cleaned out casing.	R	9.7	16.2	24.7	59.1
25		A-4, SaSi, gry, Moist, Rec. = 0.65 ft, Cleaned out casing.	R	9.7	13.3	24.1	62.6
25		A-4, SaGrSi, gry, Moist, Rec. = 0.35 ft, Cleaned out casing.	R	8.7	23.4	23.4	53.2
30		A-4, SaSi, gry, Moist, Rec. = 1.0 ft, Cleaned out casing.	R	10.0	8.8	27.3	63.9
35		A-4, SaSi, gry, Moist, Rec. = 0.7 ft, Cleaned out casing.	R	10.6	10.7	25.0	64.3
40		A-4, SaGrSi, gry, Moist, Rec. = 0.75 ft, Cleaned out casing.	R	9.2	30.7	28.0	41.3
45		A-4, SaSi, gry, Moist, Rec. = 0.5 ft	R	10.0	15.3	25.0	59.7

LOG OF BORING EAST MONTPELIER BRF 037-1(7) (LP) VT AUT.DAT. 5/24/06

PROJECT NAME: EAST MONTPELIER  
 SITE NAME: RT-14  
 STATION: 127+87  
 OFFSET: -26.00  
 VTSPG: N 644317.5276 ft E 1643393.8366 ft

PROJECT NUMBER: BRF 037-1(7)  
 SITE NUMBER: BR-68  
 GROUND ELEVATION: 663.26 ft  
 GROUNDWATER DEPTH: 8.0 ft 3/16/06  
 PROJECT PIN NUMBER: 98B252

BORING CREW  
 CREW CHIEF: TALLMAN  
 DRILLER: TALLMAN  
 LOGGER: PORTER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER  
 BORING TYPE: WASH BORE  
 SAMPLE TYPE: SPLIT BARREL  
 CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
55		A-4, SaSi, gry, Moist, Rec. = 1.75 ft, Cleaned out casing.	75	10.1	17.4	21.8	60.8
65		A-4, SaSi, gry, Moist, Rec. = 0.5 ft, Cleaned out casing.	R	10.7	7.6	24.4	68.0
75		A-4, SaSi, gry, Moist, Rec. = 0.7 ft, Cleaned out casing.	R	10.5	10.8	25.7	63.5
85		A-4, SaSi, gry, Moist, Rec. = 1.2 ft, Cleaned out casing.	85	11.2	10.5	25.2	64.3
95		No Sample, Stone in the end of sample barrel., 95.0 ft - 97.0 ft					

LOG OF BORING EAST MONTPELIER BRF 037-1(7) (LP) VT AUT.DAT. 5/24/06

PROJECT NAME: EAST MONTPELIER  
 SITE NAME: RT-14  
 STATION: 127+87  
 OFFSET: -26.00  
 VTSPG: N 644317.5276 ft E 1643393.8366 ft

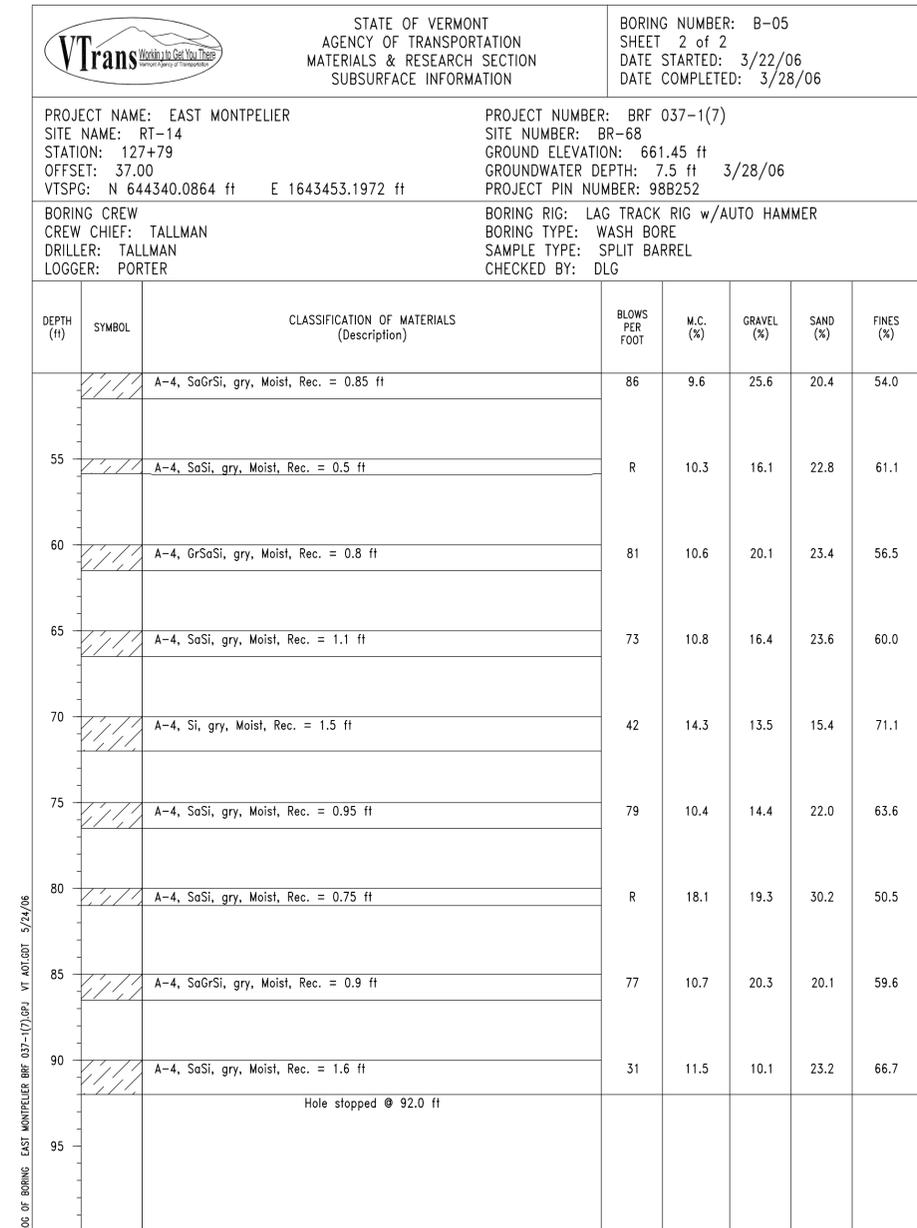
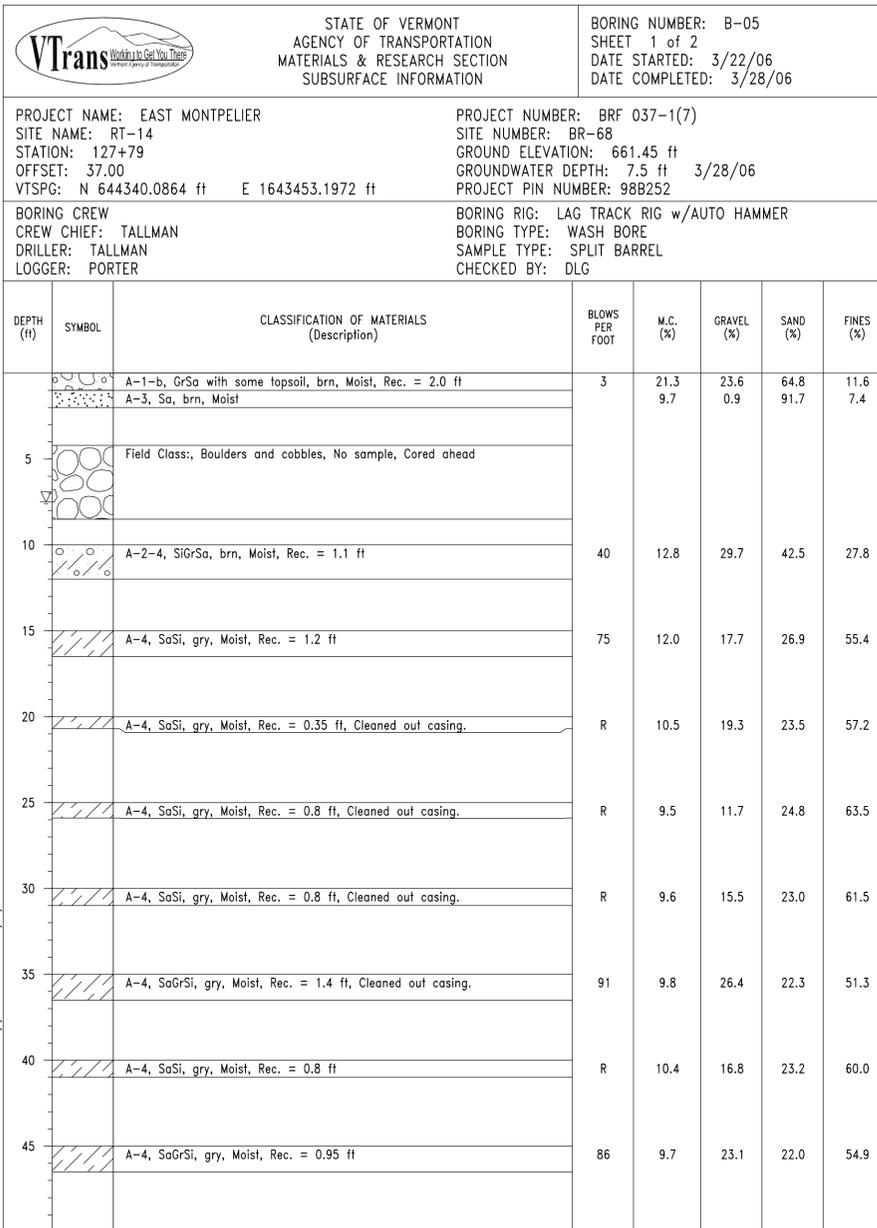
PROJECT NUMBER: BRF 037-1(7)  
 SITE NUMBER: BR-68  
 GROUND ELEVATION: 663.26 ft  
 GROUNDWATER DEPTH: 8.0 ft 3/16/06  
 PROJECT PIN NUMBER: 98B252

BORING CREW  
 CREW CHIEF: TALLMAN  
 DRILLER: TALLMAN  
 LOGGER: PORTER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER  
 BORING TYPE: WASH BORE  
 SAMPLE TYPE: SPLIT BARREL  
 CHECKED BY: DLG

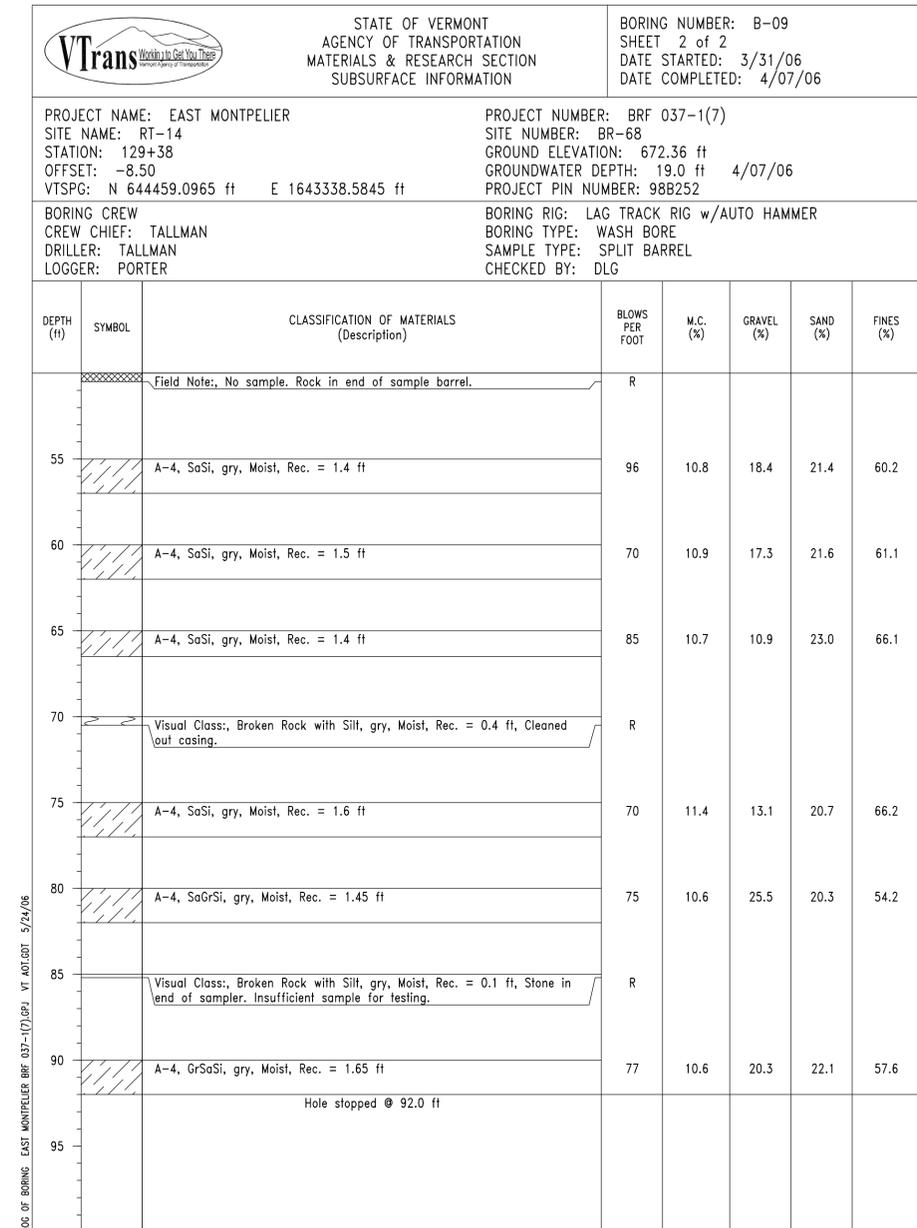
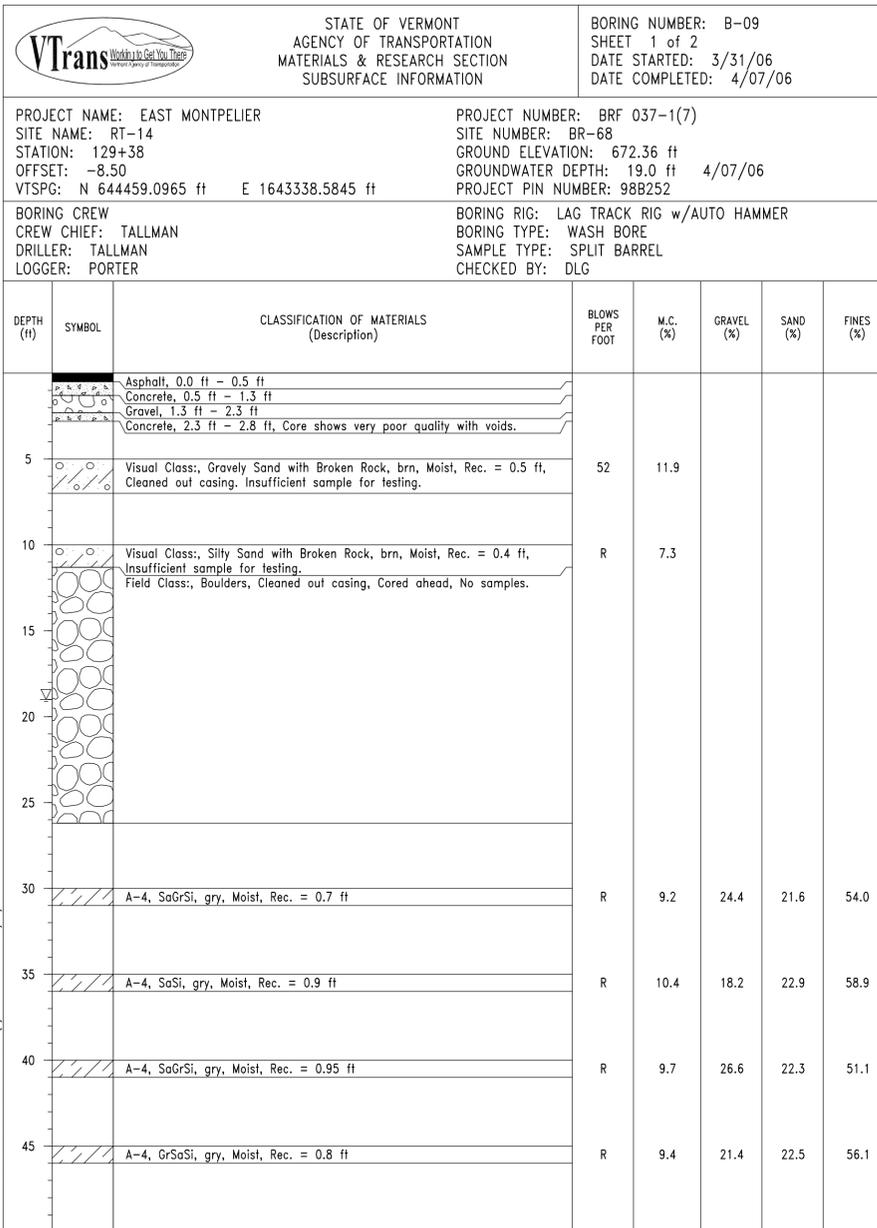
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
105		Field Note: Cobbles, No sample, Cleaned out casing.					
115		A-4, GrSi, gry, Moist, Rec. = 1.45 ft	60	11.1	25.9	17.8	56.3
125		A-4, SaSi, gry, Moist, Rec. = 1.6 ft	70	10.7	19.4	23.3	57.3
135		Dark gray, Carbonaceous Slate, with calcite and quartz veins., Competent., Moderately soft, Unweathered, NXMDC, 133.0 ft - 138.0 ft, Rec. = 5.0 ft	1	100	74	65	9 9 15 13 9
140		Dark gray, Carbonaceous Slate, with calcite and quartz veins., Competent., Last part of core while pulling it up the casing. Tried retrieving but couldn't., Moderately soft, Unweathered, NXMDC, 138.0 ft - 143.0 ft, Rec. = 2.7 ft	2	54	54	65	12 13 9 10 9
145		Hole stopped @ 143.0 ft					

LOG OF BORING EAST MONTPELIER BRF 037-1(7) (LP) VT AUT.DAT. 5/24/06



PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	z98b252bor_logs-ER.dgn
PROJECT LEADER:	T. KNIGHT
DESIGNED BY:	VTRANS
BORING LOG BOR 3	
PLOT DATE:	5/26/2016
DRAWN BY:	J. SOTER
CHECKED BY:	T. KNIGHT
SHEET	23 OF 42





PROJECT NAME: EAST MONTPELIER	
PROJECT NUMBER: BF EWP2(I)	
FILE NAME: z98b252bor_logs-ER.dgn	PLOT DATE: 5/26/2016
PROJECT LEADER: T. KNIGHT	DRAWN BY: J. SOTER
DESIGNED BY: VTRANS	CHECKED BY: T. KNIGHT
BORING LOG BOR 4	SHEET 24 OF 42



PROJECT NAME: EAST MONTPELIER  
 SITE NAME: RT-14  
 STATION: 129+40  
 OFFSET: 55.00  
 VTSPG: N 644490.6443 ft E 1643393.7302 ft

PROJECT NUMBER: BRF 037-1(7)  
 SITE NUMBER: BR-68  
 GROUND ELEVATION: 665.97 ft  
 GROUNDWATER DEPTH: 13.7 ft  
 PROJECT PIN NUMBER: 98B252

BORING CREW  
 CREW CHIEF: TALLMAN  
 DRILLER: TALLMAN  
 LOGGER: PORTER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER  
 BORING TYPE: WASH BORE  
 SAMPLE TYPE: SPLIT BARREL  
 CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
0-2.5		A-2-4, Sa with small root material, brn, Moist, Rec. = 0.25 ft	2	38.2	8.3	79.5	12.2
2.5-5		A-2-4, SiSa, brn, Moist, Rec. = 0.25 ft	2	15.1	11.1	68.7	20.2
5-7.5		A-2-4, GrSa, brn, Moist, Rec. = 0.5 ft	2	15.2	21.3	67.4	11.3
7.5-10		A-4, SaSi with Little Organics (12.7%), gry, Moist, Rec. = 1.1 ft	4	78.0	2.1	35.6	62.3
10-12		A-4, Si with a Trace of Organics (9.8%), gry, Moist, Rec. = 1.4 ft	4	57.1	2.4	16.8	80.8
12-14		A-4, SaSi with Wood particles, gry, Moist, Rec. = 0.4 ft	4	60.8	3.0	28.7	68.3
14-15		Visual Class: Wood, brn, Moist, Rec. = 0.9 ft, Lost water at 13.0', Cleaned out casing	2				
15-17		A-4, SaSi, gry, Moist, Rec. = 0.2 ft, Water returned at the start of the day	2	12.1	13.1	25.6	61.3
17-18		A-4, SaGrSi, gry, Moist, Rec. = 1.1 ft, Cleaned out casing	21	10.2	27.3	25.1	47.6
18-20		A-4, GrSaSi, gry, Moist, Rec. = 0.4 ft	R	7.8	21.6	29.0	49.4
20-22		A-4, SaSi, gry, Moist, Rec. = 0.9 ft, Cleaned out casing	R	10.1	13.8	24.5	61.7
22-24		A-4, SaSi, gry, Moist, Rec. = 0.95 ft	R	10.0	13.6	25.5	60.9
24-26		A-4, SaSi, gry, Moist, Rec. = 0.9 ft	R	9.8	18.1	25.3	56.6
26-28		A-4, GrSaSi, gry, Moist, Rec. = 0.8 ft, Cleaned out casing	R	9.3	21.6	24.4	54.0
28-30		A-4, SaSi, gry, Moist, Rec. = 0.8 ft	R	9.0	19.0	27.7	53.3
30-32		A-4, SaSi, gry, Moist, Rec. = 1.2 ft, Cleaned out casing	88	10.4	16.9	24.6	58.5
32-34							
34-36		A-4, SaSi, gry, Moist, Rec. = 0.6 ft, Cleaned out casing	R	10.7	19.2	26.2	54.6
36-38							
38-40		A-4, SaGrSi, gry, Moist, Rec. = 0.65 ft, Cleaned out casing	R	9.2	24.5	24.3	51.2
40-42							
42-44							
44-45		A-4, SaSi, gry, Moist, Rec. = 1.25 ft, Cleaned out casing	73	10.7	15.7	24.4	59.9

LOG OF BORING EAST MONTPELIER BRF 037-1(7) (LP) VT AUT.DAT 5/24/06

PROJECT NAME: EAST MONTPELIER  
 SITE NAME: RT-14  
 STATION: 129+40  
 OFFSET: 55.00  
 VTSPG: N 644490.6443 ft E 1643393.7302 ft

PROJECT NUMBER: BRF 037-1(7)  
 SITE NUMBER: BR-68  
 GROUND ELEVATION: 665.97 ft  
 GROUNDWATER DEPTH: 13.7 ft  
 PROJECT PIN NUMBER: 98B252

BORING CREW  
 CREW CHIEF: TALLMAN  
 DRILLER: TALLMAN  
 LOGGER: PORTER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER  
 BORING TYPE: WASH BORE  
 SAMPLE TYPE: SPLIT BARREL  
 CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
0-0.5		A-4, SaSi, gry, Moist, Rec. = 0.5 ft, Cleaned out casing	R	9.3	17.5	24.4	58.1
0.5-55							
55-60		A-4, GrSaSi, gry, Moist, Rec. = 1.3 ft, Cleaned out casing	80	10.0	20.7	24.3	55.0
60-65							
60-62		A-4, SaSi, gry, Moist, Rec. = 0.9 ft, Cleaned out casing	R	10.1	16.5	23.2	60.3
62-65							
65-70		A-4, SaSi, gry, Moist, Rec. = 0.5 ft, Cleaned out casing	R	11.0	19.2	20.4	60.4
70-73							
70-75		A-4, SaSi, gry, Moist, Rec. = 1.4 ft, Cleaned out casing	73	10.9	14.1	23.6	62.3
75-80							
80-85							
80-82		A-4, SaSi, gry, Moist, Rec. = 1.3 ft, Cleaned out casing	55	11.0	17.0	25.7	57.3
82-90							
85-90		Field Note: Cobbles					
90-95							
90-92		A-4, GrSi, gry, Moist, Rec. = 1.6 ft	64	10.0	30.3	18.8	50.9

LOG OF BORING EAST MONTPELIER BRF 037-1(7) (LP) VT AUT.DAT 5/24/06

PROJECT NAME: EAST MONTPELIER  
 SITE NAME: RT-14  
 STATION: 129+40  
 OFFSET: 55.00  
 VTSPG: N 644490.6443 ft E 1643393.7302 ft

PROJECT NUMBER: BRF 037-1(7)  
 SITE NUMBER: BR-68  
 GROUND ELEVATION: 665.97 ft  
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 PROJECT PIN NUMBER: 98B252

BORING CREW  
 CREW CHIEF: TALLMAN  
 DRILLER: TALLMAN  
 LOGGER: PORTER

BORING RIG: LAG TRACK RIG w/AUTO HAMMER  
 BORING TYPE: WASH BORE  
 SAMPLE TYPE: SPLIT BARREL  
 CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	ROD (%)	Dip (deg)	Drill Rate (min/ft)
0-64		A-4, SaSi, gry, Moist, Rec. = 1.75 ft	64	11.0	18.2	20.9	60.9
64-110							
110-112		A-4, SaSi, gry, Moist, Rec. = 1.4 ft	65	11.2	13.8	22.6	63.6
112-120							
120-125		Dark gray, Slate, Poor ROD may be due to mechanical breakage., Moderately soft, Unweathered, NXMDC, 120.0 ft - 125.0 ft, Rec. = 3.65 ft	1	73	0	10	13 8 8 6 6
125-130		Dark gray, Slate, Poor ROD may be due to mechanical breakage., Moderately soft, Unweathered, NXMDC, 125.0 ft - 130.0 ft, Rec. = 5.0 ft	2	100	0	10	6 7 7 6 6
130-145		Hole stopped @ 130.0 ft					

LOG OF BORING EAST MONTPELIER BRF 037-1(7) (LP) VT AUT.DAT 5/24/06

VT		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: <b>B-301</b>			
		EAST MONTPELIER BRF 037-1(7) VT-14 BR-68		Page No.: 1 of 1		Pin No.: 98B252			
		Checked By: MLM		Groundwater Observations					
Boring Crew: DAIGNEAULT, GARROW		Type: WB		Casing: SS		Sampler: SS			
Date Started: 10/25/13 Date Finished: 10/25/13		I.D.: 4.25 in 1.5 in		Date: 10/25/13		Depth (ft): 3.8			
VTSPG NAD83: N 644545.00 ft E 1643296.92 ft		Hammer Wt: N.A. 140 lb.		Notes: 10/25/13		While drilling.			
Station: 144+30.6 Offset: -29.30		Hammer Fall: N.A. 30 in.							
Ground Elevation: 677.01 ft		Hammer/Rod Type: Auto/AWJ							
		Rig: CME 55 TRACK C _c = 1.46							
Depth (ft)	Strata (f)	CLASSIFICATION OF MATERIALS (Description)			Blow(s) (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0.0-0.7	A-1-b, SiGrSa, brn, Moist, Rec. = 0.7 ft				WH-2-3-3 (5)	15.2	29.5	50.0	20.5
0.7-1.2	A-4, Si, brn, Moist, Rec. = 1.2 ft				2-2-2-3 (4)	30.9	1.1	5.3	93.6
1.2-1.5	A-4, Si, brn, Moist, Rec. = 1.5 ft, Sample was tested for Limits. (NP)				2-3-3-3 (6)	38.4		1.4	98.6
1.5-1.4	Field Note: No Recovery, Appears to be silt.				4-4-4-3 (8)				
1.4-1.4	A-4, Si, brn, Moist, Rec. = 1.4 ft, Sample was tested for Limits. (NP)				WH-2-2-3 (4)	37.6	2.1	1.7	96.2
1.4-1.0	A-4, Si, gry, Moist, Rec. = 1.0 ft, Sample was tested for Limits. (NP)				1-2-2-3 (4)	38.4		1.2	98.8
1.0-1.5	Field Note: No Recovery, Appears to be silt.				5-6-6-5 (12)				
1.5-1.9	Field Note: Cleaned out casing. Hit hard packed material at 19.0 ft.				10-12-12-14 (24)	11.2	23.2	22.7	54.1
1.9-2.0	A-4, SaGrSi (HP), gry, Moist, Rec. = 1.2 ft								
2.0-2.5	A-4, SaSiGr (HP), gry, Moist, Rec. = 0.9 ft				22-34-41-R@1.0" (75)	9.6	40.0	20.3	39.7
2.5-27.0	Hole stopped @ 27.0 ft								
27.0-30.0	Remarks: Hole collapsed at 22.6 ft.								

VT		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: <b>B-302</b>			
		EAST MONTPELIER BRF 037-1(7) VT-14 BR-68		Page No.: 1 of 1		Pin No.: 98B252			
		Checked By: MLM		Groundwater Observations					
Boring Crew: DAIGNEAULT, GARROW		Type: WB		Casing: SS		Sampler: SS			
Date Started: 10/28/13 Date Finished: 10/28/13		I.D.: 4.25 in 1.5 in		Date: 10/28/13		Depth (ft): None taken.			
VTSPG NAD83: N 644677.65 ft E 1643381.89 ft		Hammer Wt: N.A. 140 lb.							
Station: 145+88.3 Offset: -25.40		Hammer Fall: N.A. 30 in.							
Ground Elevation: 687.35 ft		Hammer/Rod Type: Auto/AWJ							
		Rig: CME 55 TRACK C _c = 1.46							
Depth (ft)	Strata (f)	CLASSIFICATION OF MATERIALS (Description)			Blow(s) (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0.0-0.5	A-4, SiSa, brn, Moist, Rec. = 0.5 ft				WH-WH-1-1 (1)	15.2	15.0	47.7	37.3
0.5-1.2	A-1-b, Sa, brn, Moist, Rec. = 1.2 ft				2-2-2-1 (4)	5.3	9.9	83.1	7.0
1.2-0.7	A-1-b, Sa, brn, Moist, Rec. = 0.7 ft				2-1-2-2 (3)	5.8	7.6	86.1	6.3
0.7-0.5	A-4, Si, brn, MTW, Rec. = 0.5 ft					33.0	1.2	15.3	83.5
0.5-1.6	A-4, Si, brn, MTW, Rec. = 1.6 ft, Sample was tested for Limits. (NP)				2-2-2-2 (4)	39.9		0.3	99.7
1.6-1.5	A-4, Si, brn, MTW, Rec. = 1.5 ft, Sample was tested for Limits. (NP)				WH-1-3-3 (4)	40.2		0.4	99.6
1.5-1.6	A-4, Si, brn, MTW, Rec. = 1.6 ft, Sample was tested for Limits. (NP)				WH-2-2-3 (4)	40.6		0.6	99.4
1.6-1.2	A-4, Si, brn, MTW, Rec. = 1.2 ft, Sample was tested for Limits. (NP)				1-2-3-3 (5)	37.8		0.8	99.2
1.2-1.6	A-4, Si, brn, MTW, Rec. = 1.6 ft, Sample was tested for Limits. (NP)				3-3-3-3 (6)	36.3		1.6	98.4
1.6-1.4	A-4, Si, brn-gry, MTW, Rec. = 1.4 ft, Sample was tested for Limits. (NP)				1-3-2-3 (5)	35.0		0.8	99.2
1.4-1.3	A-4, Si, gry, MTW, Rec. = 1.3 ft				2-2-1-1 (3)	32.9	10.1	3.0	86.9
1.3-1.6	Visual Description: Broken Rock with sand, gry, Moist, Rec. = 0.3 ft, Insufficient sample for testing.				17-13-13-48 (26)				
1.6-0.8	A-4, SaSi (HP), gry, Moist, Rec. = 0.8 ft				30-R@5.0" (R)	11.7	18.5	27.6	53.9
0.8-0.4	A-4, SaSi (HP), gry, Moist, Rec. = 0.4 ft					9.4	17.1	26.0	56.9
0.4-35.4	Hole stopped @ 35.4 ft								

VT		STATE OF VERMONT AGENCY OF TRANSPORTATION CONSTRUCTION AND MATERIALS BUREAU CENTRAL LABORATORY		BORING LOG		Boring No.: <b>B-401</b>			
		EAST MONTPELIER BRF 037-1(7) VT-14 BR-68		Page No.: 1 of 1		Pin No.: 98B252			
		Checked By: MRG		Groundwater Observations					
Boring Crew: GARROW, NIETO		Type: H.S.A.		Casing: SS		Sampler: SS			
Date Started: 11/18/15 Date Finished: 11/18/15		I.D.: 3 in 1.5 in		Date: 11/18/15		Depth (ft): 17.1			
VTSPG NAD83: N 644488.50 ft E 1643254.08 ft		Hammer Wt: N.A. 140 lb.		Notes: 11/18/15					
Station: 143+65 Offset: -17.30		Hammer Fall: N.A. 30 in.		W.T. after drilling					
Ground Elevation: 670.8 ft		Hammer/Rod Type: Auto/AWJ							
		Rig: CME 45C SKID C _c = Unknown							
Depth (ft)	Strata (f)	CLASSIFICATION OF MATERIALS (Description)			Blow(s) (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0.0-0.3	Asphalt Pavement, 0.0 ft - 0.3 ft								
0.3-1.1	A-1-b, SiGrSa, brn, Moist, Rec. = 1.1 ft				8-13-12-12 (25)	6.0	33.0	45.0	22.0
1.1-1.5	A-1-b, SiSaGr, gry, Moist, Rec. = 1.5 ft, Lab Note: Broken rock was within sample.				9-8-7-6 (15)	8.0	41.8	36.5	21.7
1.5-1.2	A-4, GrSaSi, Dk/brn, Moist, Rec. = 1.2 ft, Lab Note: Sample tested non-plastic.				3-4-5-3 (9)	17.3	22.8	31.7	45.5
1.2-0.8	A-4, SiSa, gry-brn, Moist, Rec. = 0.8 ft, Lab Note: Wood fibers and pieces of wood were within sample.				1-4-3-2 (7)	25.1	12.8	47.4	39.8
0.8-0.9	A-4, GrSaSi, gry, Moist, Rec. = 0.9 ft, Lab Note: A lot of wood fibers were within sample.				2-6-8-8 (14)	18.0	20.6	31.7	47.7
0.9-1.1	A-2-4, GrSaSi, gry, Moist, Rec. = 1.1 ft, Lab Note: Wood fibers and pieces of wood were within sample.				3-7-5-6 (12)	13.5	31.9	32.9	35.2
1.1-1.5	A-4, SaSi, gry, Moist, Rec. = 1.5 ft				2-3-20-40 (23)	13.6	17.6	27.1	55.3
1.5-1.5	A-4, SaSi, gry, Moist, Rec. = 1.5 ft, Lab Note: Wood fibers were within sample.				10-18-28-24 (46)	13.0	14.7	25.2	60.1
1.5-1.8	A-4, SaSi, gry, Moist, Rec. = 1.8 ft				13-16-48-R@3.5" (64)	12.0	15.2	21.3	63.5
1.8-0.5	A-4, SaGrSi, gry, Moist, Rec. = 0.5 ft				R@6" (R)	12.5	21.3	21.2	57.5
0.5-19.5	Hole stopped @ 19.5 ft								
19.5-22.5	Remarks: Hole Collapsed at 9.6 feet.								



VERMONT AGENCY OF TRANSPORTATION  
CONSTRUCTION & MATERIALS BUREAU  
GEOTECHNICAL ENGINEERING SECTION  
DRILLING NOTES

PROJECT NAME: East Montpelier PROJECT NUMBER: BRF 037-1(7) SITE: US-2 DATE: 11/19/2015  
BORING CREW: Garrow, Nieto TESTED BY: J. Daigneault REVIEWED BY: MRG

BORING No.	DATE DRILLED	STATION	OFFSET (FT)	DEPTH (FT)	SAMPLE TYPE	FIELD DESCRIPTION		LABORATORY RESULTS							
						SOIL TYPE, COLOR, MOISTURE		% MOISTURE	AASHTO CLASS.	SOIL DES.	% GRAVEL	% SAND	% FINES	LIQUID LIMIT	PLASTIC LIMIT
C-101	11/19/15	148+00	6.0	0.00-0.90	SSA	Asphalt Pavement									
				0.90-1.45		Concrete									
				1.45-3.00		Si Sa, brn, M	9.8	A-4	Si Sa	10.4	50.8	38.9	N.P.	N.P.	
				3.00-4.00		Sa Si, brn, M	15.8	A-4	Si Sa	3.3	51.1	45.7	N.P.	N.P.	
C-102	11/19/15	149+00	6.0	0.00-1.00	SSA	Asphalt Pavement									
				1.00-1.60		Concrete									
				1.60-2.50		Si Sa, brn, M	8.2	A-2-4	Si Sa	13.8	56.6	29.6	N.P.	N.P.	
				2.50-5.00		Si Sa, brn, M	9.6	A-2-4	Si Sa	16.8	52.2	31.1	N.P.	N.P.	
Sample Type "SSA" = Solid Stem Auger															
No Ledge To Depth C-101, C-102															
No Water To Depth C-101, C-102															

SCALE: 1/4" = 1'-0"



PROJECT NAME: EAST MONTPELIER  
PROJECT NUMBER: BF EWP2(I)  
FILE NAME: z98b252bor_logs-ER.dgn PLOT DATE: 5/26/2016  
PROJECT LEADER: T. KNIGHT DRAWN BY: J. SOTER  
DESIGNED BY: VTRANS CHECKED BY: T. KNIGHT  
BORING LOG BOR 7 SHEET 26 OF 42

## INTRODUCTION

1. THE FOLLOWING TRAFFIC CONTROL PLAN IS INTENDED TO BE A GENERAL CONCEPT FOR STAGING THE WORK WHILE MAINTAINING TRAFFIC. SPECIFIC DETAILS TO ADDRESS SPECIFIC SITUATIONS ARE PROVIDED SEPARATELY IN THE CONTRACT DOCUMENTS. IF THE CONTRACTOR REQUIRES MINOR REVISIONS TO THE SPECIFIC TRAFFIC CONTROL PLAN SHEETS, THE CONTRACTOR SHALL ALLOW THE ENGINEER 2 WEEKS FOR THE REVIEW AND APPROVAL OF THE CHANGES.
2. ALL TRAFFIC CONTROL DETAILS MUST BE DESIGNED AND IMPLEMENTED IN ACCORDANCE WITH THE 2009 FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND VTRANS STANDARDS T-1, T-10, T-17, T-24, T-25 AND T-45.

3. NOT USED

## GENERAL

4. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE 2009 EDITION OF THE MUTCD AND PAID FOR AS ITEM 641.15 PORTABLE CHANGEABLE MESSAGE SIGN.
5. ALL ITEMS REQUIRED FOR TRAFFIC CONTROL MEASURES SHALL BE PAID UNDER ITEM 900.645 TRAFFIC CONTROL, ALL-INCLUSIVE. THESE ITEMS WILL INCLUDE BUT ARE NOT LIMITED TO: FURNISHING, INSTALLING, RELOCATING AND REMOVING REFLECTORIZED DRUMS, TEMPORARY TRAFFIC BARRIER, REMOVE AND RESET TRAFFIC BARRIER, ENERGY ABSORPTION ATTENUATOR, PORTABLE ARROW BOARDS, ANY NECESSARY CONSTRUCTION SIGNAGE, RELOCATING EXISTING SIGNS, REMOVAL OF EXISTING PAVEMENT MARKINGS, TEMPORARY PAVEMENT LINES AND MARKINGS, RESTORATION OF EXISTING PAVEMENT MARKINGS, TEMPORARILY RELOCATING MAILBOXES, LIGHTING PLAN, TEMPORARY WORK ZONE LIGHTING, AND ALL OTHER INCIDENTALS REQUIRED TO CONTROL TRAFFIC DURING THE ENTIRE DURATION OF CONSTRUCTION, FOR BOTH DAYTIME AND NIGHTTIME CONSTRUCTION ACTIVITIES.
6. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 641 TRAFFIC CONTROL OF THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION 2011, THE FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND ANY PROVISIONS IN THE PLANS AND/OR CONTRACT, OR AS DIRECTED BY THE ENGINEER.
7. THE TRAFFIC CONTROL PLANS SHOWN ARE CONSIDERED TO BE MINIMUM REQUIREMENTS. ADDITIONAL SIGNS AND/OR CONTROL DEVICES MAY BE REQUIRED BY THE MUTCD OR AS DIRECTED BY THE ENGINEER. THESE WILL BE PAID INCIDENTAL TO ITEM 900.645 TRAFFIC CONTROL, ALL-INCLUSIVE.
8. THE SIGN LOCATIONS ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.
9. VEHICLES BELONGING TO THE CONTRACTOR OR WORKERS SHALL NOT BE PARKED ON THE PAVEMENT OR SHOULDERS ALONG A ROADWAY BEING USED BY THE GENERAL PUBLIC. VEHICLES SHALL NOT BE PARKED IN A MANNER WHICH OBSTRUCTS ANY SIGNS, BANNERS, BARRICADES, OR ANY OTHER TRAFFIC CONTROL DEVICES.
10. THE CONTRACTOR SHALL NOT PARK EQUIPMENT OR STORE MATERIAL WHERE IT IS DEEMED BY THE ENGINEER TO BE A SAFETY HAZARD.
11. ANY EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE MASKED OR REMOVED AS DIRECTED BY THE ENGINEER. UPON COMPLETION OF WORK, THE EXISTING PAVEMENT MARKINGS SHALL BE RE-INSTALLED IN-KIND. THIS WORK SHALL PAID UNDER ITEM 900.645 TRAFFIC CONTROL, ALL-INCLUSIVE.
12. THE CONTRACTOR SHALL SCHEDULE CONSTRUCTION OPERATIONS IN A MANNER SO AS TO MINIMIZE THE LENGTH OF TIME THAT NORMAL TRAFFIC FLOWS ARE DISTURBED.
13. TEMPORARY PAVEMENT MARKINGS AND/OR DELINEATION DEVICES SHALL BE PROVIDED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
14. THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SCHEDULE FOR EACH CONSTRUCTION STAGE.
15. THE CONTRACTOR SHALL MAINTAIN TWO LANES OF TRAFFIC (ONE EASTBOUND, ONE WESTBOUND) THROUGH THE PROJECT AREA DURING PEAK HOURS AS DEFINED IN THE PROJECT SPECIAL PROVISIONS, UNLESS APPROVED IN WRITING BY THE ENGINEER .
16. NOT USED
17. WHEN TYPE III BARRICADES ARE USED NEAR DRIVEWAYS OR INTERSECTIONS, THEY SHALL BE PLACED IN SUCH A WAY AS TO NOT OBSCURE SIGHT DISTANCE.
18. THE CONTRACTOR SHALL NOT MIX DELINEATION DEVICES IN A LINEAR CLOSURE OR TAPER (I.E. CONES, VERTICAL PANELS, OR DRUMS SHALL NOT BE USED IN THE SAME TAPER OR CLOSURE). HOWEVER, DIFFERENT DELINEATION DEVICES MAY BE USED IN DIFFERENT AREAS OF THE PROJECT.
19. THE MAXIMUM SPACING OF DELINEATORS, IN FEET, IS 1.0 TIMES THE CONSTRUCTION ZONE SPEED LIMIT FOR TAPERS AND 2.0 TIMES THE SPEED LIMIT FOR TANGENTS UNLESS OTHERWISE INDICATED BY THE PLANS OR ENGINEER.

# TRAFFIC CONTROL GENERAL NOTES

## GENERAL (CONT.)

20. THE ENGINEER SHALL COORDINATE ANY UTILITY WORK, SUBCONTRACTOR WORK, PUBLIC MAINTENANCE, OR OTHER CONSTRUCTION OPERATIONS IN THE AREA. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PROPER TRAFFIC CONTROL IS OBTAINED FOR ALL CONDITIONS.
  21. ALL ROADWAY AREAS TEMPORARILY CLOSED FOR TRENCH, CULVERT, OR CONDUIT EXCAVATION SHALL BE REOPENED AT THE END OF THE WORKDAY. AT ALL TIMES WHEN WORK IS NOT IN PROGRESS, ALL OPENINGS IN THE ROADWAY SHALL BE COVERED WITH ANCHORED STEEL PLATES OR SHALL BE BACKFILLED.
  22. WHEN TWO OR MORE WORK AREAS ARE ADJACENT, OVERLAP, OR ARE IN CLOSE PROXIMITY AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL ENSURE THERE IS NO CONFLICTING SIGNAGE AND THAT LANE CONTINUITY IS MAINTAINED THROUGHOUT ALL WORK AREAS.
  23. DROP OFF PROTECTION IN CONSTRUCTION AREAS SHALL CONFORM TO VTRANS STANDARD SHEET T-1, T-35 AND T-36.
  24. TERMINALS OF TEMPORARY TRAFFIC BARRIERS SHALL BE EXTENDED BEYOND THE CLEAR ZONE WHEN POSSIBLE. IF TERMINALS CAN NOT BE EXTENDED BEYOND THE CLEAR ZONE, THEN ENERGY ABSORPTION ATTENUATORS SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER AND SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 TRAFFIC CONTROL, ALL-INCLUSIVE.
  25. IN ACCORDANCE WITH SECTION 641, THE CONTRACTOR SHALL MAINTAIN DRAINAGE FACILITIES AND OTHER HIGHWAY ELEMENTS. THE CONTRACTOR SHALL DEVOTE PARTICULAR ATTENTION TO ALL DRAINAGE FACILITIES TO KEEP THEM FULLY OPERATIVE AT ALL TIMES (INCLUDING WORK AREAS). ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 TRAFFIC CONTROL, ALL-INCLUSIVE.
- ## EMERGENCY ACCESS
26. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR MUST PROVIDE SAFE AND CONVENIENT EMERGENCY ACCESS. LOCAL FIRE, POLICE AND AMBULANCE AGENCIES SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO THE START OF WORK IN ORDER TO COORDINATE AND MAINTAIN SUFFICIENT EMERGENCY ROUTES.
  27. THE CONTRACTOR SHALL SUBMIT TO THE APPROPRIATE LAW ENFORCEMENT AND EMERGENCY AGENCIES IN WRITING THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON OR PERSONS AUTHORIZED TO SECURE LABOR, MATERIALS AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE THE NORMAL WORKING HOURS. DUPLICATE COPIES OF THE ABOVE SHALL BE FILED WITH THE ENGINEER.
- ## PUBLIC INGRESS AND EGRESS
28. THE CONTRACTOR SHALL PROVIDE PROPERTY OWNERS WITH PROPER ACCESS TO THEIR DRIVEWAYS AND SHALL MAINTAIN THEM THROUGH ALL TEMPORARY TRAFFIC CONTROL ZONES AND SHALL DELINEATE THEM BY MEANS OF SIGNS, CONES AND/OR DRUMS AND POST FLAGGERS AS DIRECTED BY THE ENGINEER.
  29. WHERE DIRECT ACCESS TO DRIVEWAYS IS NOT POSSIBLE DUE TO NECESSARY CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PLAN ALTERNATE MEANS OF ACCESS AND SUBMIT SUCH PLANS FOR APPROVAL BEFORE OPERATIONS COMMENCE. THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 - SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
  30. LEFT TURNS IN AND OUT OF DRIVEWAYS DO NOT NEED TO BE MAINTAINED IN AREAS WHERE EXCAVATION OR PAVING OPERATIONS ARE ON-GOING. AT THE END OF THE CONSTRUCTION DAY, ACCESS ACROSS THE WORK ZONE WILL BE RESTORED.
  31. THE CONTRACTOR SHALL NOTIFY THE OWNERS/USERS OF DRIVEWAYS AT LEAST 24 HOURS IN ADVANCE OF ANY WORK TO BE DONE AT THAT LOCATION. COMMERCIAL ESTABLISHMENTS SHALL HAVE A MINIMUM OF ONE DRIVEWAY OPEN AT ALL TIMES DURING NORMAL BUSINESS HOURS. THE CONTRACTOR HAS THE RESPONSIBILITY OF MAINTAINING SAFE AND PROPER ACCESS TO BUILDINGS IN THE VICINITY OF CONSTRUCTION.
  32. NO DESIGNATED PEDESTRIAN ROUTES EXIST ON USE ROUTE 2 THROUGH THE PROJECT LIMITS, HOWEVER OCCASIONAL PEDESTRIAN TRAFFIC SHOULD BE EXPECTED. DURING LANE AND SHOULDER CLOSURES, TRAFFIC CONTROL PLANS SHALL PROVIDE FOR A MINIMUM 3 FOOT WIDE SHOULDER FOR PEDESTRIAN TRAFFIC WHEN POSSIBLE. DURING NIGHTTIME LANE CLOSURES WHEN SPACE DOES NOT ALLOW FOR A PEDESTRIAN CORRIDOR, THE CONTRACTOR SHALL PROVIDE DESIGNATED STAFF TO ESCORT THE OCCASIONAL PEDESTRIANS THROUGH THE WORK AREA. THIS WORK WILL BE CONSIDERED INCIDENTAL TO SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). IF PEDESTRIAN TRAFFIC EXCEEDS AN AVERAGE OF 2 PEDESTRIANS CROSSING THE WORK AREA PER NIGHT SHIFT, THE ENGINEER WILL ORDER THE CONTRACTOR TO MAKE AN ADDITIONAL FLAGGER AVAILABLE FOR ESCORTING PEDESTRIANS, AND THAT WORK WILL BE PAID FOR UNDER ITEM 630.15 "FLAGGER".

33. THE COVERING AND/OR REMOVING, RELOCATING, AND REPLACING OF EXISTING SIGN PANELS AND ASSEMBLIES SHALL BE AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCIDENTAL TO ITEM 900.645 TRAFFIC CONTROL, ALL-INCLUSIVE. SIGNS WHICH ARE NOT APPLICABLE DURING NON-WORKING HOURS SHALL BE COVERED OR REMOVED FROM VIEW AS DIRECTED BY THE ENGINEER.
34. CARE SHOULD BE TAKEN NOT TO DAMAGE THE PERMANENT SIGNS IF THEY ARE COVERED. ANY SIGN SO DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
35. ADVANCE POSTING DISTANCE FOR SIGNS SHALL BE PER VTRANS STANDARD SHEETS T-1, T-10, T-17, T-28, T-29, T-30 AND T-31.
36. ALL CONSTRUCTION SIGNS SHALL BE BLACK LETTERS ON REFLECTORIZED FLUORESCENT ORANGE BACKGROUND, AS IN SPECIFIED VTRANS STANDARDS.
37. SIGN MOUNTING HEIGHT SHALL BE 7 FEET IN ALL AREAS WHERE PEDESTRIANS AND PARKED CARS ARE ENCOUNTERED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
38. EXISTING SIGNING SHALL REMAIN, WITH RELOCATION AS NECESSARY, UNTIL IT IS NO LONGER NEEDED. TEMPORARY SIGNING SHALL BE ADDED, AS NEEDED AND AS REQUIRED BY THE M.U.T.C.D. NEW SIGNING SHALL BE INSTALLED AS IT BECOMES APPLICABLE AND AS CONSTRUCTION NEARS COMPLETION IN EACH STAGE.
39. THE CONTRACTOR SHALL PROVIDE TEMPORARY SIGNS FOR DIRECTING MOTORISTS TO THE ENTRANCES TO BUSINESSES ALONG THE CORRIDOR. SIGNS SHALL BE RECTANGULAR WITH WHITE TEXT ON BLUE BACKGROUND. SIGNS SHALL INCLUDE THE NAME OF THE BUSINESS WITH ARROW POINTING IN THE DIRECTION OF THE BUSINESS. LETTER HEIGHTS SHALL NOT EXCEED 4". SIGNS SHALL BE INSTALLED ON AN NCHRP 350 COMPLIANT SIGN STAND. THESE SIGNS SHALL BE MOVED AND/OR ALTERED AS APPROPRIATE FOR EACH STAGE OF CONSTRUCTION. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 TRAFFIC CONTROL, ALL-INCLUSIVE.

## FLAGGING AND UNIFORMED TRAFFIC OFFICERS

40. THE CONTRACTOR SHALL PROVIDE FLAGGERS FOR ONE LANE TRAFFIC CONTROL, AND AT LOCATIONS WHERE SIGHT DISTANCES ARE IMPAIRED BY CONSTRUCTION OPERATIONS OR OTHER SITUATIONS PAID AS ITEM 630.15 FLAGGERS. UNIFORMED TRAFFIC OFFICER SHALL BE PROVIDED DURING LANE CLOSURES PAID AS ITEM 630.10 UNIFORMED TRAFFIC OFFICERS.
41. FLAGGING STATIONS SHALL BE ADJACENT TO THE TRAFFIC LANES BEING CONTROLLED AND SHALL BE POSITIONED SO THAT FLAGGER VISIBILITY TO APPROACHING TRAFFIC IS OPTIMIZED. THE FLAGGER SHALL BE READILY VISIBLE TO APPROACHING TRAFFIC BETWEEN 250 FEET AND 300 FEET IN ADVANCE OF THE FLAGGER LOCATION. ACCORDINGLY, THE TANGENT DIMENSIONS ON EACH END OF THE WORK AREA SHALL BE ESTABLISHED TO ACHIEVE THE APPROPRIATE FLAGGING STATION LOCATION, AS DIRECTED BY THE ENGINEER.
42. FLAGGERS SHALL BE REQUIRED TO USE TWO-WAY RADIOS, WALKIE-TALKIES OR OTHER FORMS OF ENHANCED COMMUNICATION WHEN ONE FLAGGER IS NOT VISIBLE TO THE OTHER, OR IF THE ENGINEER DEEMS IT NECESSARY.
43. STOP/SLOW PADDLES SHALL BE USED FOR ALL FLAGGING, AND SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE M.U.T.C.D. AND STATE STANDARD T-30.
44. FLAGGER STATIONS FOR NIGHT WORK SHALL BE ILLUMINATED TO A MINIMUM CATEGORY ONE (5 FOOTCANDLES) ILLUMINANCE LEVEL PER NCHRP REPORT 476.

## NIGHT WORK

45. NIGHT WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 476 - "GUIDELINES FOR DESIGN AND OPERATION OF NIGHTTIME TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE AND CONSTRUCTION". REFER TO THE CONTRACT SPECIAL PROVISION FOR COMPLETE LIST OF REQUIREMENTS FOR WORKING AT NIGHT. ALL COSTS ASSOCIATED WITH THE DESIGN, APPROVAL AND IMPLEMENTAION OF THE LIGHTING SYSTEM WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

PROJECT NAME: EAST MONTEPELIER

PROJECT NUMBER: BF EWP2(I)

FILE NAME: z98b252tmp_det - ER.dgn

PLOT DATE: 5/26/2016

PROJECT LEADER: T. KNIGHT

DRAWN BY: C.GENDRON

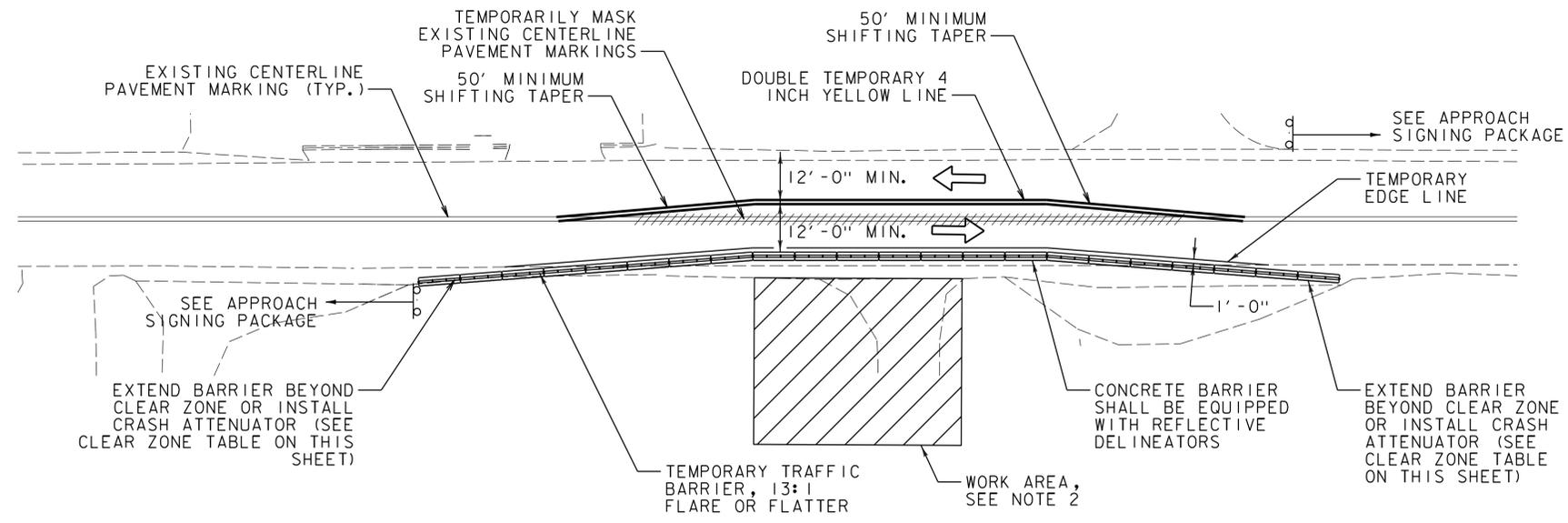
DESIGNED BY: C. GENDRON

CHECKED BY: K. RICHARDSON

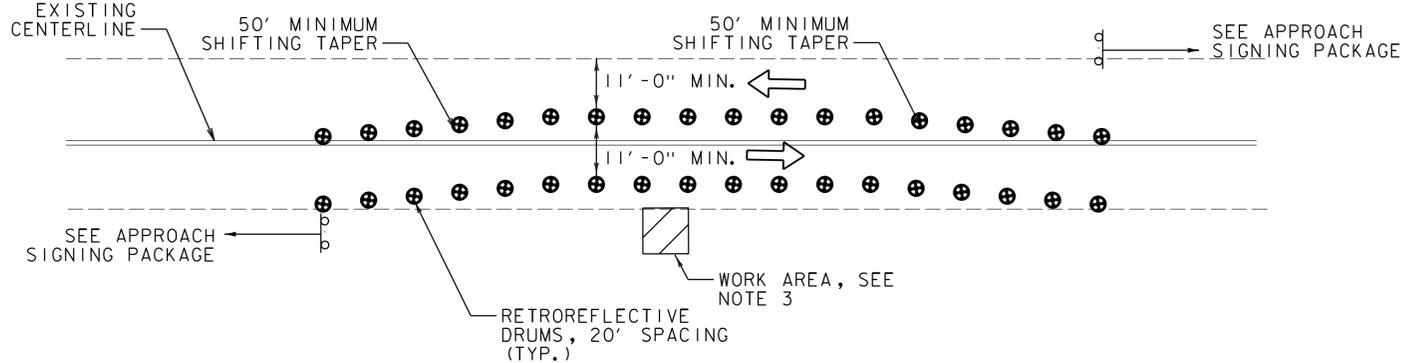
TRAFFIC CONTROL PLAN - TC I

SHEET 27 OF 42

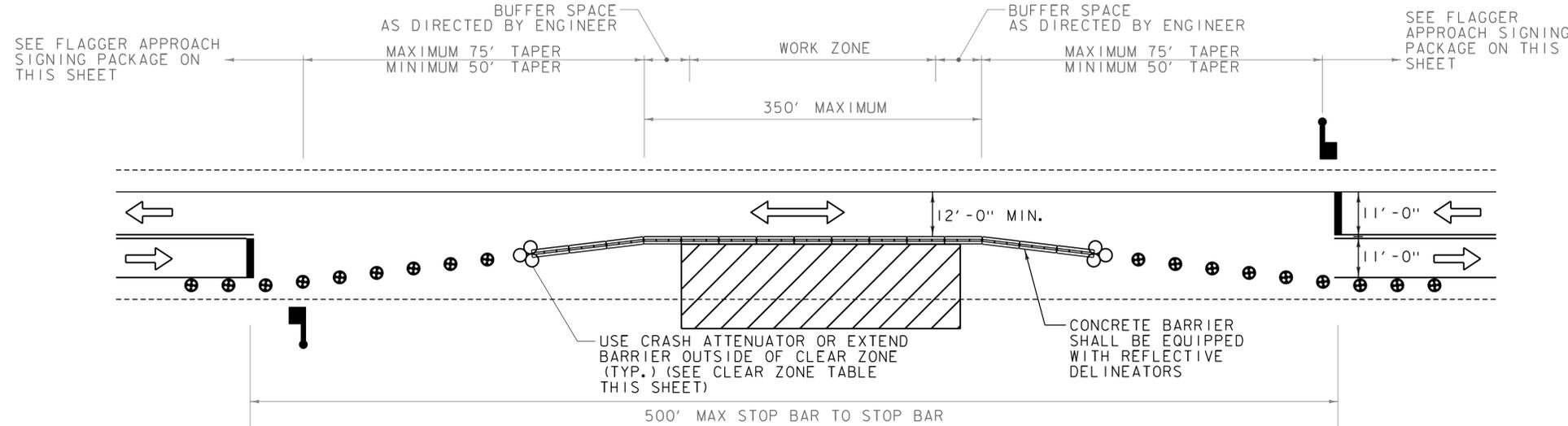




LONG DURATION LANE SHIFT  
NOT TO SCALE

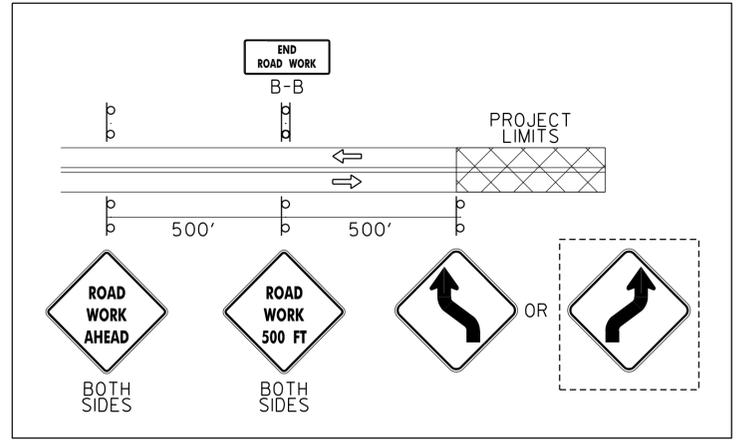


SHORT DURATION LANE SHIFT  
NOT TO SCALE



ALTERNATING ONE-WAY TRAFFIC CONTROL PACKAGE (FLAGGER)  
NOT TO SCALE

- NOTES:  
1. ANTICIPATED FOR TRENCH WORK IN ROADWAY  
2. SEE NOTE 4



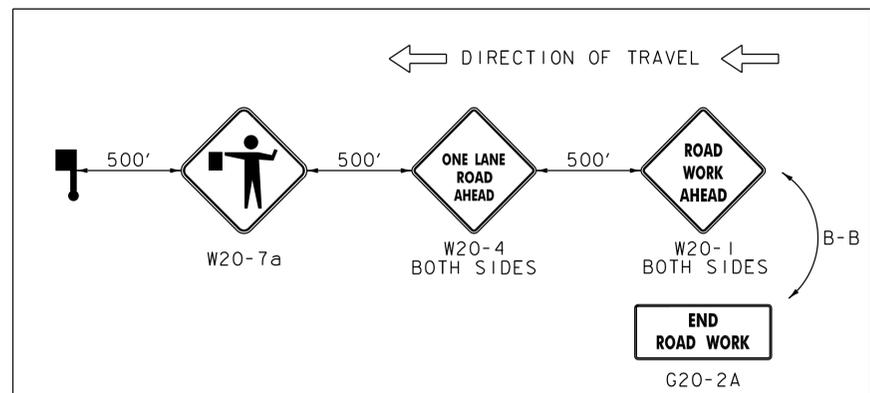
APPROACH SIGNING PACKAGE

- TRAFFIC CONTROL NOTES:
1. SEE SHEET TC 1 FOR GENERAL TRAFFIC CONTROL NOTES.
  2. IF HAZARDS ARE REMOVED FROM THE CLEAR ZONE DURING NON-WORK HOURS, THE DETAIL FOR "SHORT DURATION LANE SHIFT" IS PERMISSIBLE AS APPROVED BY THE ENGINEER.
  3. TRAFFIC CONTROL FOR HAZARDS WITHIN THE CLEAR ZONE ONLY DURING WORK HOURS. IF IT IS NECESSARY FOR A HAZARD TO BE LEFT WITHIN THE CLEAR ZONE DURING NON-WORK HOURS, THE DETAIL FOR "LONG DURATION LANE SHIFT" IS REQUIRED.

CLEAR ZONE TABLE  
DESIGN SPEED: 25 MPH  
ADT: 10,800 VPD (US 2 EB)  
CLEAR ZONE: 10'

LEGEND

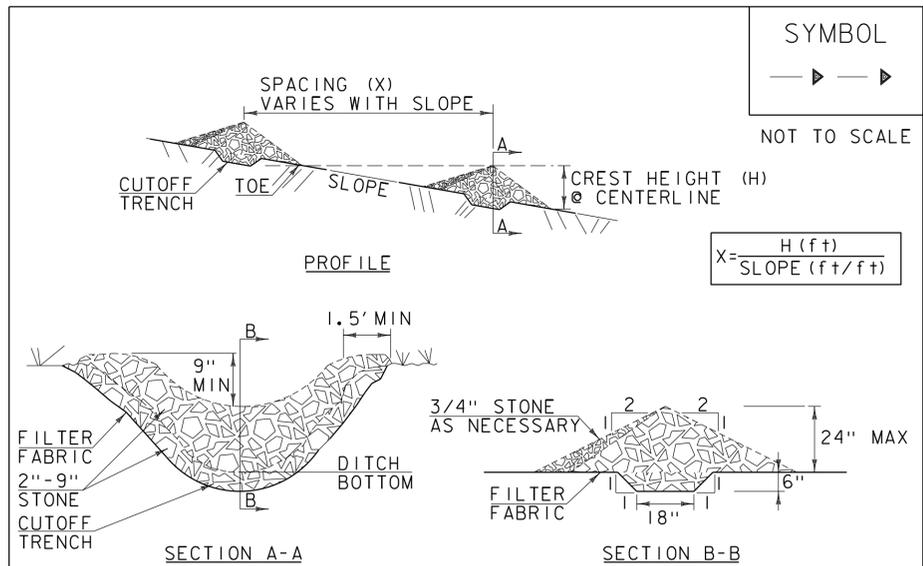
- ⊕ RETROREFLECTIVE DRUM
- ▬ TEMPORARY TRAFFIC BARRIER WITH REFLECTIVE DELINEATORS
- ⊙ ENERGY ABSORPTION ATTENUATOR
- ▨ WORK ZONE
- ➔ DIRECTION OF TRAVEL



FLAGGER APPROACH SIGNING PACKAGE

PROJECT NAME: EAST MONTPELIER	PLOT DATE: 5/26/2016
PROJECT NUMBER: BF EWP2(I)	DRAWN BY: C.GENDRON
FILE NAME: z98b252tmp_det - ER.dgn	CHECKED BY: K. RICHARDSON
PROJECT LEADER: T. KNIGHT	SHEET 28 OF 42
DESIGNED BY: C. GENDRON	
TRAFFIC CONTROL PLAN - TC 2	





SYMBOL  
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NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

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

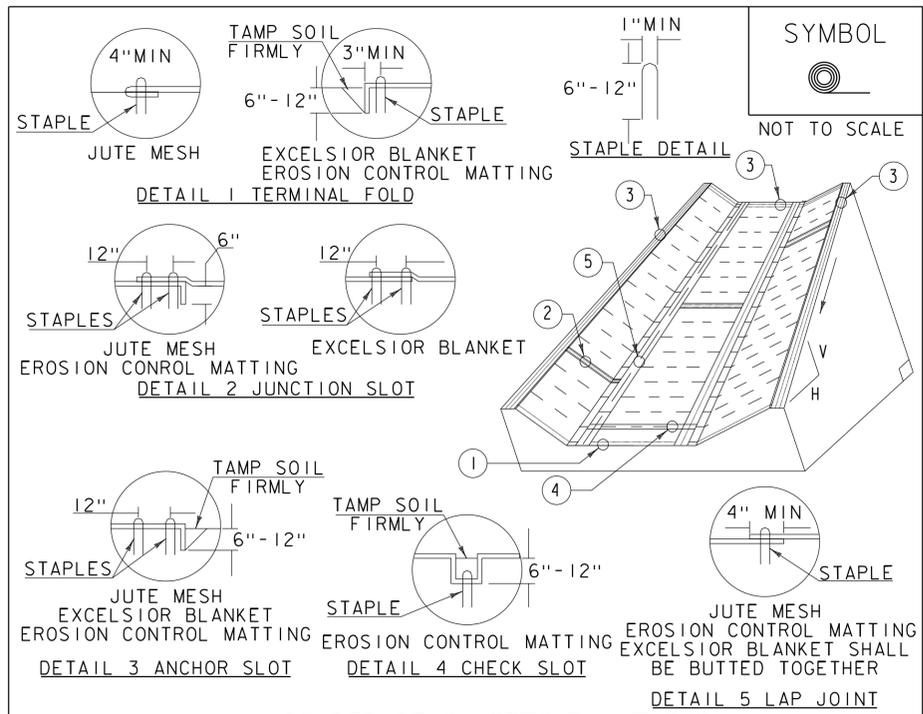
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ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**CHECK DAM**

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

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

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF



SYMBOL  
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NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

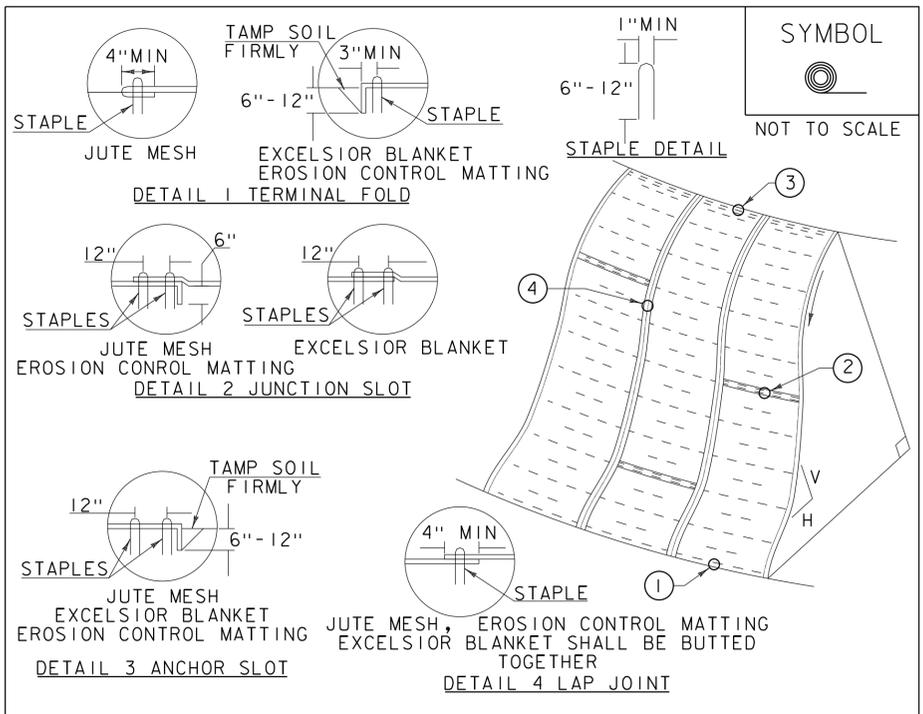
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VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**ROLLED EROSION CONTROL PRODUCT (RECP) DITCH**

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

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

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



SYMBOL  
⊙

NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

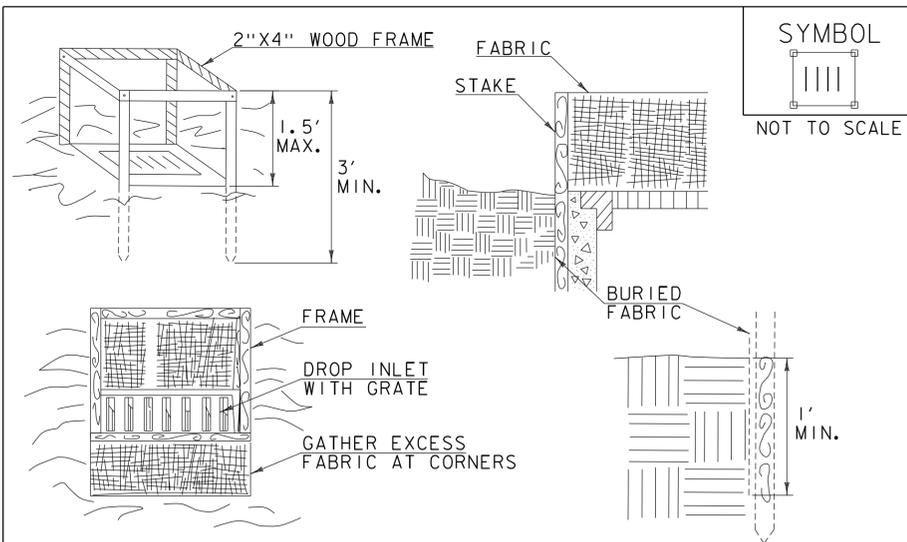
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VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**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:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	I5_EPSC Det - ER.dgn
PROJECT LEADER:	VTRANS
DESIGNED BY:	VTRANS
EROSION CONTROL DETAILS ECD 1	
PLOT DATE:	5/26/2016
DRAWN BY:	VTRANS
CHECKED BY:	VTRANS
SHEET	29 OF 42



SYMBOL

NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

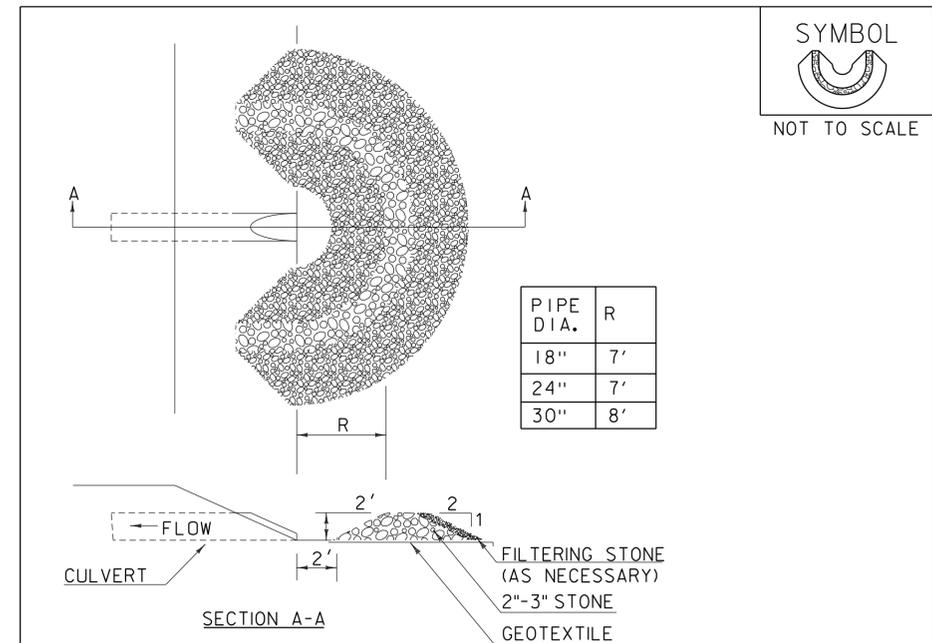
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**FILTER FABRIC  
DROP INLET  
PROTECTION**

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 INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF



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.

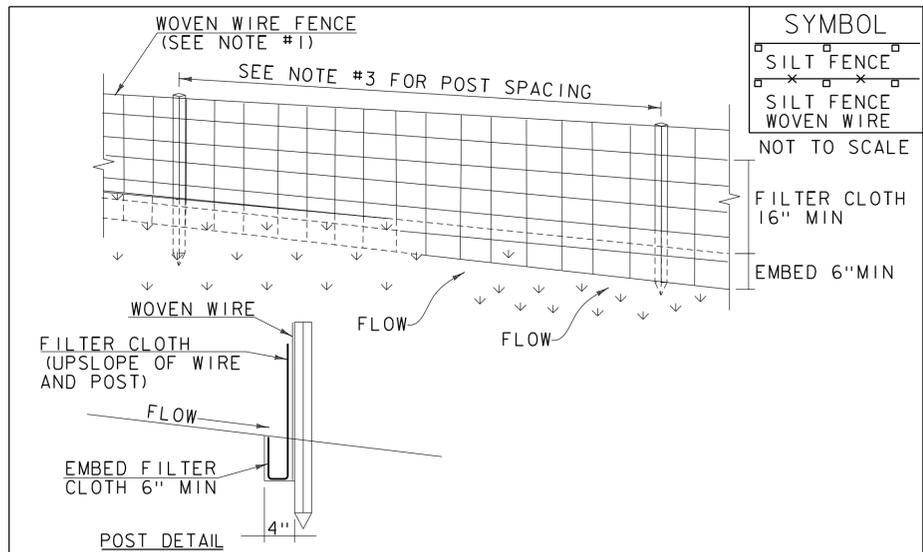
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ORIGINALLY DEVELOPED BY USDA-NRCS

**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

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	I5_EPSC Det - ER.dgn
PROJECT LEADER:	VTRANS
DESIGNED BY:	VTRANS
EROSION CONTROL DETAILS	ECD 2
PLOT DATE:	5/26/2016
DRAWN BY:	VTRANS
CHECKED BY:	VTRANS
SHEET	30 OF 42



**CONSTRUCTION SPECIFICATIONS**

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

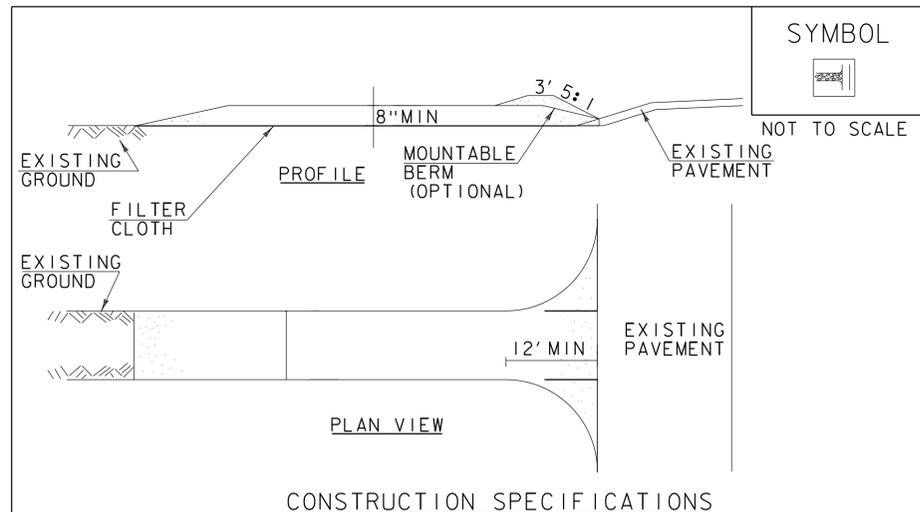
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ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**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



**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

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

GENERAL GUIDANCE			
FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

**CONSTRUCTION GUIDANCE**

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

ADAPTED FROM VTRANS TECHNICAL LANSCAPE MAUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

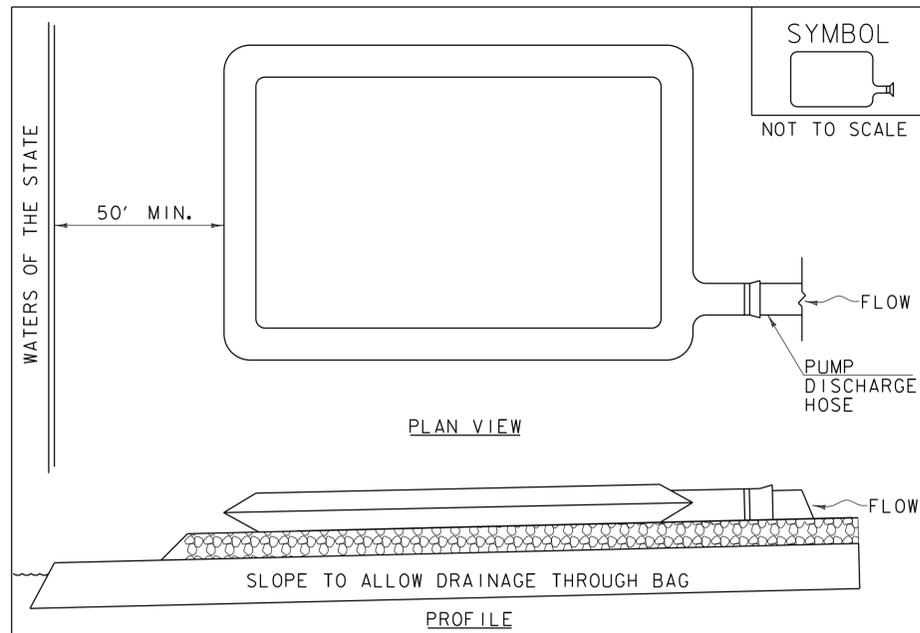
**TURF ESTABLISHMENT**

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF

PROJECT NAME: EAST MONTPELIER

PROJECT NUMBER: BF EWP2(I)

FILE NAME: I5_EPSC Det - ER.dgn PLOT DATE: 5/26/2016  
PROJECT LEADER: VTRANS DRAWN BY: VTRANS  
DESIGNED BY: VTRANS CHECKED BY: VTRANS  
EROSION CONTROL DETAILS ECD 3 SHEET 31 OF 42



**CONSTRUCTION SPECIFICATIONS**

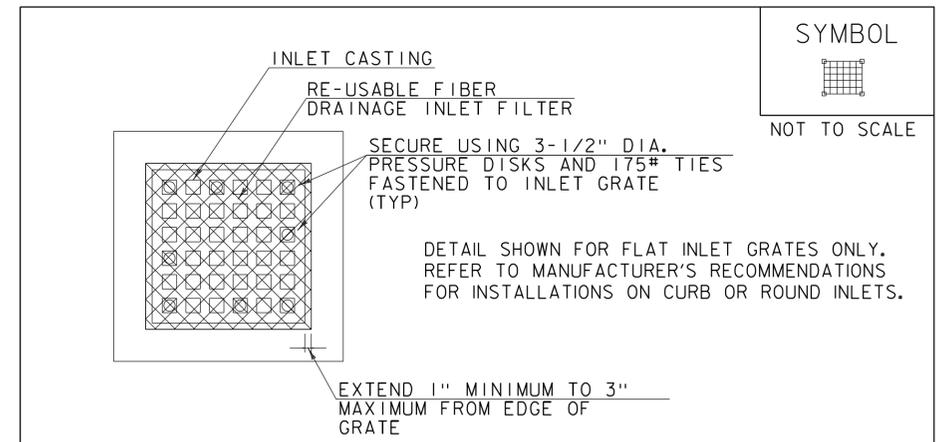
1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION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

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



**CONSTRUCTION SPECIFICATIONS**

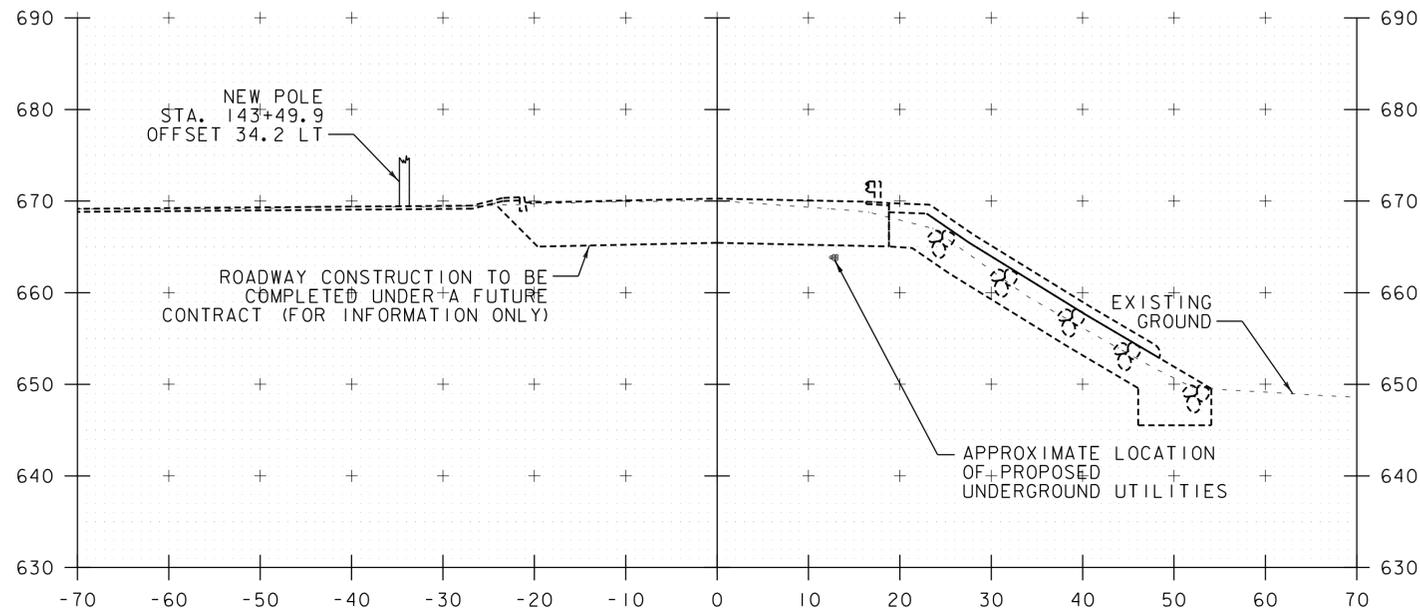
1. FILTERS SHALL RETAIN ALL CONSTRUCTION DEBRIS AND SHALL RETAIN OR OTHERWISE CONTROL MOST OF THE SEDIMENT PRODUCED BY CONSTRUCTION OPERATIONS.
2. IF CLOGGING OCCURS, INLETS SHALL BE ABLE TO BE EASILY UNCLOGGED BY BROOMING THE SIDES AND TOP OF THE FILTER.
3. INSTALLED FILTERS SHALL BE RESISTANT TO TRAFFIC DAMAGE, INCLUDING TRAFFIC BY STREET CLEANING MACHINES.
4. FILTER UNITS SHALL BE BIODEGRADABLE AND MAY OFTEN BE RE-USED.
5. INSTALL FILTER UNIT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. MINIMUM NUMBER OF ANCHORS PER FILTER UNIT: 7 FOR CURB INLETS, 8 FOR FLAT GRATES.
7. INSPECT ALL INSTALLED FILTER UNITS AFTER EVERY RAIN.
8. INSPECT ALL INSTALLED FILTER UNITS PRIOR TO INITIATING CONSTRUCTION ACTIVITIES FOR THE DAY IF RAIN PERSISTS OVERNIGHT.
9. IF, UPON VISUAL INSPECTION, 50% OR MORE OF FILTER FABRIC SURFACE AREA IS INUNDATED WITH SEDIMENT OR FILTER FABRIC IS CLOGGED, CONTRACTOR SHALL BROOM COLLECTED MATERIAL OFF FILTER UNIT SURFACES AND AWAY FROM EDGES.
10. REMOVE SEDIMENT AND DEBRIS COLLECTED AROUND FILTER UNITS. DISPOSE OF COLLECTED SEDIMENT AND DEBRIS AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

INLET PROTECTION DEVICE, FILTER FIBER

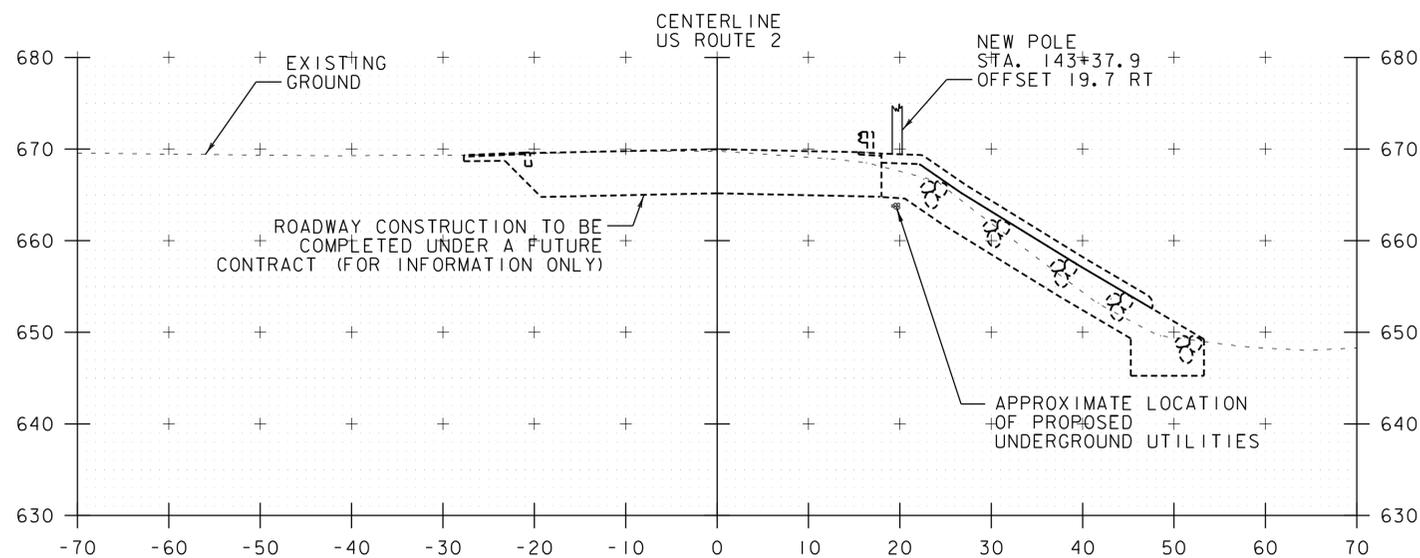
NOTES:  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 900 FOR PAY ITEM 900.620 SPECIAL PROVISION (INLET PROTECTION DEVICE, FILTER FIBER).



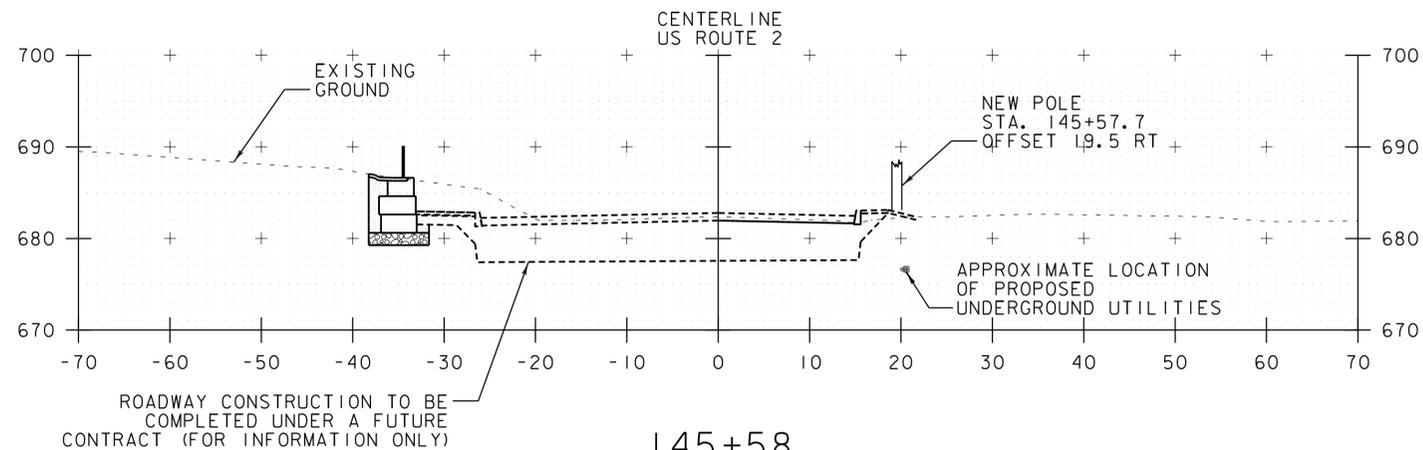
PROJECT NAME: EAST MONTPELIER	PLOT DATE: 5/26/2016
PROJECT NUMBER: BF EWP2(I)	DRAWN BY: VTRANS
FILE NAME: I5_EPSC Det - ER.dgn	CHECKED BY: VTRANS
PROJECT LEADER: VTRANS	DESIGNED BY: VTRANS
EROSION CONTROL DETAILS ECD 4	SHEET 32 OF 42



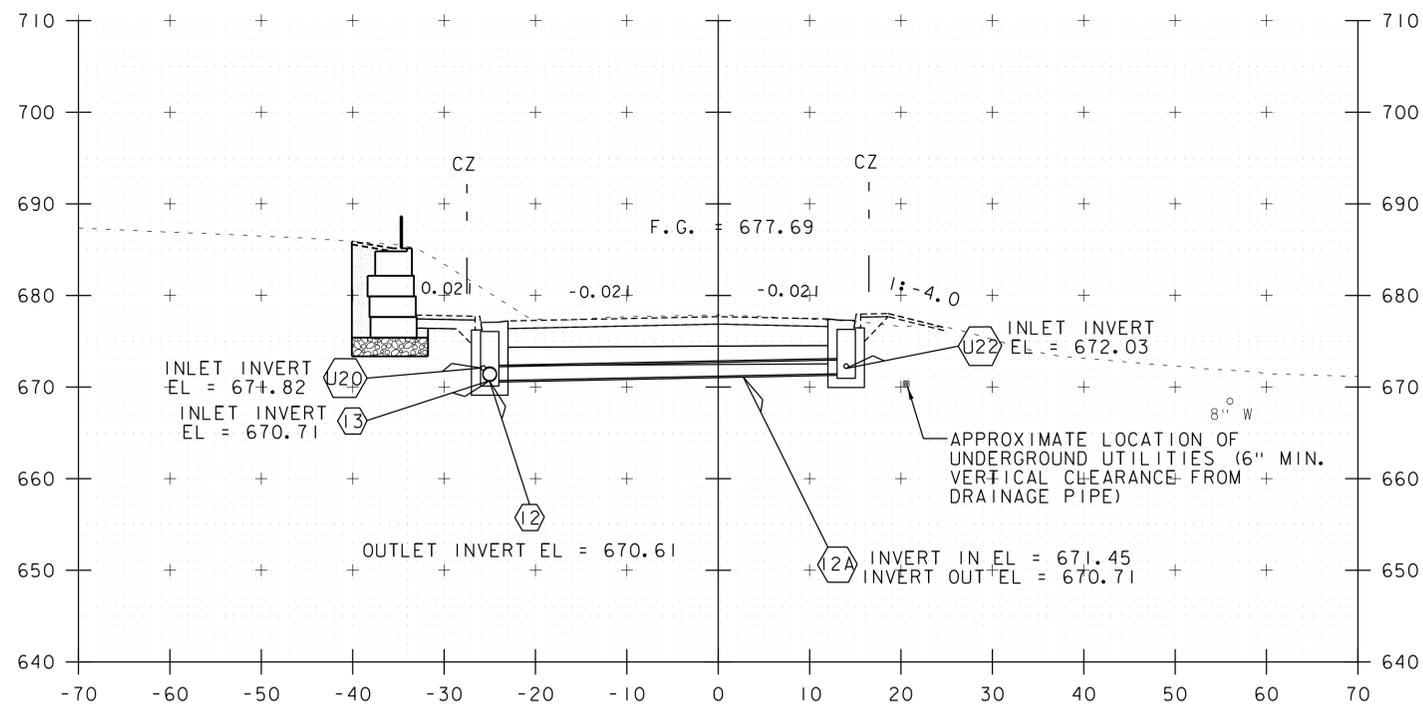
143+50



143+38  
CENTERLINE  
US ROUTE 2



145+58  
CENTERLINE  
US ROUTE 2



145+00

**LEGEND**

- EXISTING GROUND -----
- FUTURE CONSTRUCTION -----
- PROPOSED UTILITY POLE (BY OTHERS)



PROJECT NAME: EAST MONTPELIER  
PROJECT NUMBER: BF EWP2(I)

FILE NAME: XS - ER.dgn  
PROJECT LEADER: T. KNIGHT  
DESIGNED BY: K. RICHARDSON  
UTILITY CROSS SECTIONS - UXS 1

PLOT DATE: 5/26/2016  
DRAWN BY: C. GENDRON  
CHECKED BY: G. GOYETTE  
SHEET 33 OF 42

# CONSTRUCTION PHASING

## PHASE 1 DIRECTIONAL DRILLING FOR UNDERGROUND COMMUNICATIONS:

IT IS ANTICIPATED THAT THE DRILLING AND CONDUIT INSTALLATION WILL TAKE APPROXIMATELY ONE WEEK TO COMPLETE, BUT COULD TAKE LONGER IF UNKNOWN OBSTRUCTIONS ARE ENCOUNTERED. A DRILLING EQUIPMENT STAGING AREA WILL BE IN PLACE FOR THE ENTIRETY OF THIS WORK AND WILL REQUIRE A SHOULDER CLOSURE PACKAGE TO BE IMPLEMENTED TO PROTECT THE TRAVELING PUBLIC FROM HAZARDS THAT WILL BE WITHIN THE ROADWAY CLEAR ZONE. TWO-WAY TRAFFIC WILL BE MAINTAINED THROUGH THE AREA OF THE SHOULDER CLOSURE. TRAFFIC CONTROL FOR THIS WORK IS SHOWN ON THE "WORK ZONE #1" DETAIL SHEET.

AN AREA FOR CONDUIT STAGING AND PULL-BACK WILL BE NECESSARY AT THE EXITING END OF THE DRILLING OPERATION. THIS AREA WILL REQUIRE ALTERNATING ONE-LANE TRAFFIC OPERATIONS AS SHOWN ON THE "WORK ZONE #2" DETAIL SHEET. THE LANE CLOSURE TRAFFIC CONTROL WILL BE IMPLEMENTED DURING NON-PEAK TRAFFIC HOURS AND WILL BE REMOVED AND TWO-LANE TRAFFIC WILL BE RESTORED PRIOR TO PEAK TRAFFIC HOURS.

## PHASE 2 DRAINAGE SYSTEMS & UNDERGROUND CONDUIT CONNECTIONS:

DRAINAGE PIPE CROSSINGS OF US-ROUTE 2 WILL BE DONE UTILIZING BOTH OPEN-CUT AND TRENCHLESS METHODS AS SPECIFIED IN THE PLANS. THE OPEN-CUT PIPES WILL REQUIRE ALTERNATING ONE-LANE TRAFFIC CONTROL TO BE IMPLEMENTED DURING NON-PEAK TRAFFIC HOURS AND WILL BE REMOVED AND TWO-LANE TRAFFIC WILL BE RESTORED PRIOR TO PEAK TRAFFIC HOURS. IT IS ANTICIPATED THAT EACH OPEN-CUT PIPE CROSSING WILL TAKE TWO NIGHTS TO COMPLETE.

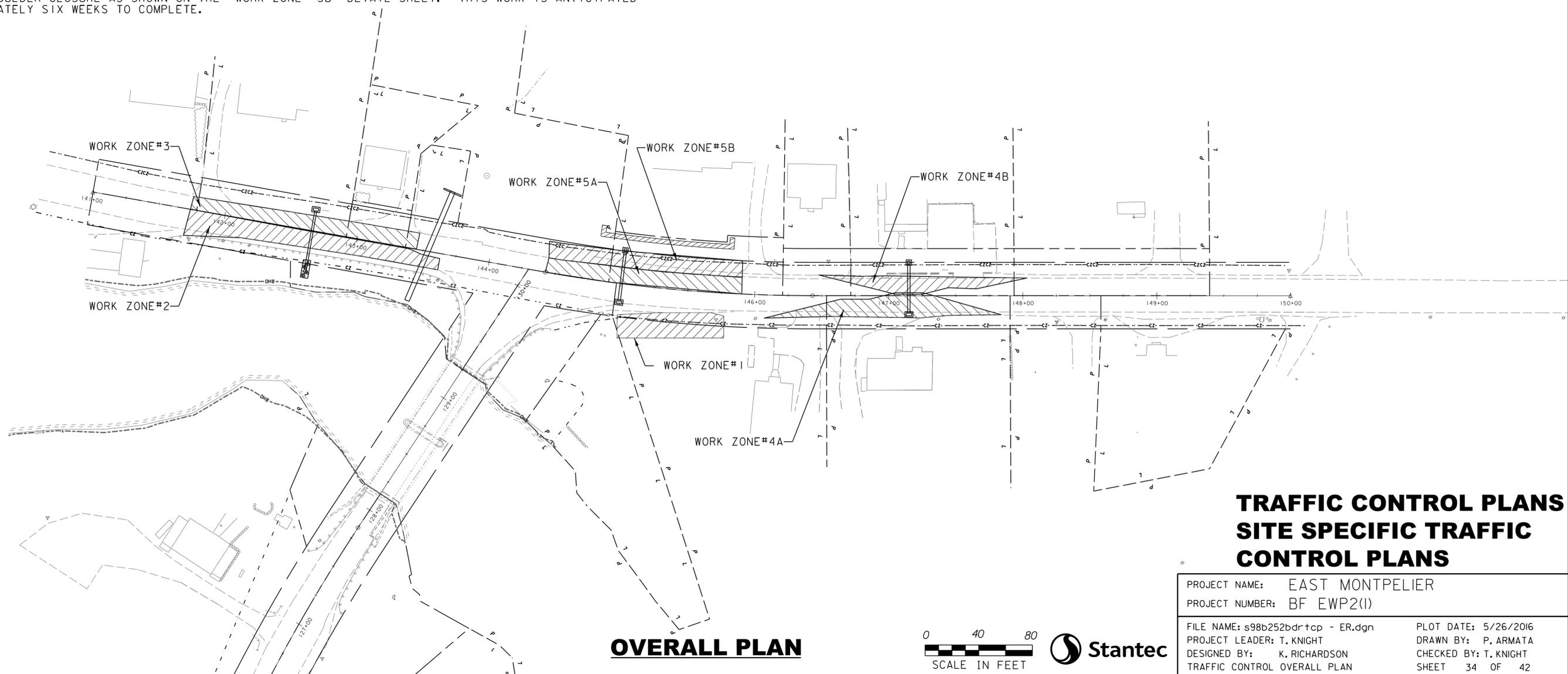
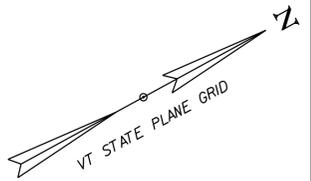
TRAFFIC CONTROL IS NOT NEEDED FOR THE INSTALLATION OF THE TRENCHLESS DRAINAGE PIPES OR THE TRENCHLESS TRAFFIC SIGNAL CONDUIT AS HAZARDS WILL BE LOCATED OUTSIDE OF THE ROADWAY CLEAR ZONE.

DURING THE TIME THAT TRAFFIC CONTROL IS IN PLACE FOR THE OPEN-CUT DRAINAGE INSTALLATION, INTERCEPT PITS WILL BE DUG ADJACENT TO THE UTILITY POLES AND CONDUIT SWEEPS INSTALLED AND SECURED TO THE UTILITY POLES. THE DURATION OF THIS WORK IS EXPECTED TO BE BETWEEN 2-4 HOURS PER PIT LOCATION.

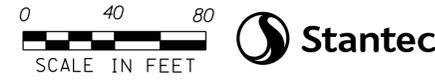
## PHASE 3 GRAVITY RETAINING WALL:

THE RETAINING WALL EXCAVATION ADJACENT TO US-2 NECESSARY FOR THE RETAINING WALL WILL REQUIRE ONE-LANE ALTERNATING TRAFFIC AS SHOWN ON THE "WORK ZONE #5A" DETAIL SHEET. TRAFFIC CONTROL FOR THIS WORK WILL BE IMPLEMENTED DURING NON-PEAK TRAFFIC HOURS AND TRAFFIC WILL BE RESTORED TO TWO LANES PRIOR TO PEAK TRAFFIC HOURS. THE DURATION OF THIS WORK IS EXPECTED TO BE APPROXIMATELY TWO NIGHTS.

ONCE THE EXCAVATION IS COMPLETE, TRAFFIC CONTROL FOR THE INSTALLATION OF THE RETAINING WALL WILL BE ADJUSTED TO A SHOULDER CLOSURE AS SHOWN ON THE "WORK ZONE #5B" DETAIL SHEET. THIS WORK IS ANTICIPATED TO TAKE APPROXIMATELY SIX WEEKS TO COMPLETE.



**OVERALL PLAN**



## TRAFFIC CONTROL PLANS SITE SPECIFIC TRAFFIC CONTROL PLANS

PROJECT NAME: EAST MONTEPELIER	PLOT DATE: 5/26/2016
PROJECT NUMBER: BF EWP2(I)	DRAWN BY: P. ARMATA
FILE NAME: s98b252bdr+tcp - ER.dgn	CHECKED BY: T. KNIGHT
PROJECT LEADER: T. KNIGHT	TRAFFIC CONTROL OVERALL PLAN
DESIGNED BY: K. RICHARDSON	SHEET 34 OF 42

# SITE SPECIFIC TRAFFIC CONTROL GENERAL NOTES

## **INTRODUCTION**

1. THE FOLLOWING SITE SPECIFIC TRAFFIC CONTROL PLAN PROVIDES CONSTRUCTION PHASING AND DETAILED TRAFFIC CONTROL DEVICES TO BE USED TO FACILITATE THE SAFE PASSAGE OF MOTOR VEHICLES WHILE PROTECTING CONSTRUCTION PERSONAL FROM MOTOR VEHICLES.

2. ALL TRAFFIC CONTROL WILL BE IMPLEMENTED IN ACCORDANCE WITH THE 2009 FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND VTRANS STANDARDS T-1, T-10, T-17, T-24, T-25 AND T-45.

3. ALTERNATING ONE WAY TRAFFIC WILL BE UTILIZED TO COMPLETE THE WORK. ALTERNATING ONE-WAY TRAFFIC WILL NOT BE IN PLACE DURING PEAK TRAFFIC HOURS AS DEFINED IN THE CONTRACT DOCUMENTS (7-9:00 AM AND 3-6:00PM).

## **GENERAL**

4. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE 2009 EDITION OF THE MUTCD AND PAID FOR AS ITEM 641.15 PORTABLE CHANGEABLE MESSAGE SIGN.

5. THE SIGN LOCATIONS ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.

6. DROP OFF PROTECTION IN CONSTRUCTION AREAS SHALL CONFORM TO VTRANS STANDARD SHEET T-1, T-35 AND T-36.

7. TERMINALS OF TEMPORARY TRAFFIC BARRIERS SHALL BE EXTENDED BEYOND THE CLEAR ZONE WHEN POSSIBLE. IF TERMINALS CAN NOT BE EXTENDED BEYOND THE CLEAR ZONE, THEN ENERGY ABSORPTION ATTENUATORS SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER AND SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 TRAFFIC CONTROL, ALL-INCLUSIVE.

## **EMERGENCY ACCESS**

8. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR MUST PROVIDE SAFE AND CONVENIENT EMERGENCY ACCESS. LOCAL FIRE, POLICE AND AMBULANCE AGENCIES SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO THE START OF WORK IN ORDER TO COORDINATE AND MAINTAIN SUFFICIENT EMERGENCY ROUTES.

9. THE CONTRACTOR SHALL SUBMIT TO THE APPROPRIATE LAW ENFORCEMENT AND EMERGENCY AGENCIES IN WRITING THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON OR PERSONS AUTHORIZED TO SECURE LABOR, MATERIALS AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE THE NORMAL WORKING HOURS. DUPLICATE COPIES OF THE ABOVE SHALL BE FILED WITH THE ENGINEER.

## **PUBLIC INGRESS AND EGRESS**

10. THE CONTRACTOR SHALL PROVIDE PROPERTY OWNERS WITH PROPER ACCESS TO THEIR DRIVEWAYS AND SHALL MAINTAIN THEM THROUGH ALL TEMPORARY TRAFFIC CONTROL ZONES AND SHALL DELINEATE THEM BY MEANS OF SIGNS, CONES AND/OR DRUMS AND POST FLAGGERS AS DIRECTED BY THE ENGINEER.

11. THE CONTRACTOR SHALL NOTIFY THE OWNERS/USERS OF DRIVEWAYS AT LEAST 24 HOURS IN ADVANCE OF ANY WORK TO BE DONE AT THAT LOCATION. COMMERCIAL ESTABLISHMENTS SHALL HAVE A MINIMUM OF ONE DRIVEWAY OPEN AT ALL TIMES DURING NORMAL BUSINESS HOURS. THE CONTRACTOR HAS THE RESPONSIBILITY OF MAINTAINING SAFE AND PROPER ACCESS TO BUILDINGS IN THE VICINITY OF CONSTRUCTION.

12. ADVANCE POSTING DISTANCE FOR SIGNS SHALL BE PER VTRANS STANDARD SHEETS T-1, T-10, T-17, T-28, T-29, T-30 AND T-31.

13. ALL CONSTRUCTION SIGNS SHALL BE BLACK LETTERS ON REFLECTORIZED FLUORESCENT ORANGE BACKGROUND, AS IN SPECIFIED VTRANS STANDARDS.

14. SIGN MOUNTING HEIGHT SHALL BE 7 FEET IN ALL AREAS WHERE PEDESTRIANS AND PARKED CARS ARE ENCOUNTERED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

15. NO DESIGNATED PEDESTRIAN ROUTES EXIST ON USE ROUTE 2 THROUGH THE PROJECT LIMITS, OCCASIONAL PEDESTRIAN TRAFFIC IS STILL EXPECTED. WHEN POSSIBLE, TRAFFIC CONTROL PLANS PROVIDE FOR A MINIMUM 3 FOOT WIDE SHOULDER FOR PEDESTRIAN TRAFFIC. DURING NIGHTTIME LANE CLOSURES WHEN SPACE DOES NOT ALLOW FOR A PEDESTRIAN CORRIDOR, THE CONTRACTOR WILL PROVIDE DESIGNATED STAFF TO ESCORT THE OCCASIONAL PEDESTRIANS THROUGH THE WORK AREA. THIS STAFF WILL BE IN COMMUNICATION WITH THE ROADWAY FLAGGERS BY TWO WAY RADIO.

## **FLAGGING AND UNIFORMED TRAFFIC OFFICERS**

16. THE CONTRACTOR SHALL PROVIDE FLAGGERS FOR ONE LANE TRAFFIC CONTROL, AND AT LOCATIONS WHERE SIGHT DISTANCES ARE IMPAIRED BY CONSTRUCTION OPERATIONS OR OTHER SITUATIONS AS DIRECTED BY THE ENGINEER. FLAGGERS SHALL HAVE THE AUTHORITY TO STOP AND RELEASE TRAFFIC ONLY. UNIFORMED TRAFFIC OFFICERS (UTO'S) SHALL BE PROVIDED TO DIRECT OR CONTROL TRAFFIC, AND SHALL BE PROVIDED DURING ALL WORK ACTIVITIES THAT AFFECT OPERATIONS AT INTERSECTIONS AND OTHER SITUATIONS AS DIRECTED BY ENGINEER. SEE SECTION 630 OF THE 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION FOR ADDITIONAL REQUIREMENTS FOR UTO'S AND FLAGGERS.

17. FLAGGING STATIONS SHALL BE ADJACENT TO THE TRAFFIC LANES BEING CONTROLLED AND SHALL BE POSITIONED SO THAT FLAGGER VISIBILITY TO APPROACHING TRAFFIC IS OPTIMIZED. THE FLAGGER SHALL BE READILY VISIBLE TO APPROACHING TRAFFIC

18. BETWEEN 250 FEET AND 300 FEET IN ADVANCE OF THE FLAGGER LOCATION. ACCORDINGLY, THE TANGENT DIMENSIONS ON EACH END OF THE WORK AREA SHALL BE ESTABLISHED TO ACHIEVE THE APPROPRIATE FLAGGING STATION LOCATION, AS DIRECTED BY THE ENGINEER.

19. FLAGGERS SHALL BE REQUIRED TO USE TWO-WAY RADIOS, WALKIE-TALKIES OR OTHER FORMS OF ENHANCED COMMUNICATION WHEN ONE FLAGGER IS NOT VISIBLE TO THE OTHER, OR IF THE ENGINEER DEEMS IT NECESSARY.

20. STOP/SLOW PADDLES SHALL BE USED FOR ALL FLAGGING, AND SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE M.U.T.C.D. AND STATE STANDARD T-30.

21. FLAGGER STATIONS FOR NIGHT WORK SHALL BE ILLUMINATED TO A MINIMUM CATEGORY ONE (5 FOOT CANDLES) ILLUMINANCE LEVEL PER NCHRP REPORT 476.

## **NIGHT WORK**

22. NIGHT WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 476 - "GUIDELINES FOR DESIGN AND OPERATION OF NIGHTTIME TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE AND CONSTRUCTION". REFER TO THE CONTRACT SPECIAL PROVISION FOR COMPLETE LIST OF REQUIREMENTS FOR WORKING AT NIGHT. CONTRACTOR SHALL SUBMIT A SITE SPECIFIC LIGHTING PLAN FOR APPROVAL. ALL COSTS ASSOCIATED WITH THE DESIGN AND IMPLEMENTATION OF THE LIGHTING SYSTEM WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

PROJECT NAME: EAST MONTEPELIER

PROJECT NUMBER: BF EWP2(I)

FILE NAME: s98b252bdr+cp - ER.dgn

PROJECT LEADER: T. KNIGHT

DESIGNED BY: C. GENDRON

TRAFFIC CONTROL NOTES

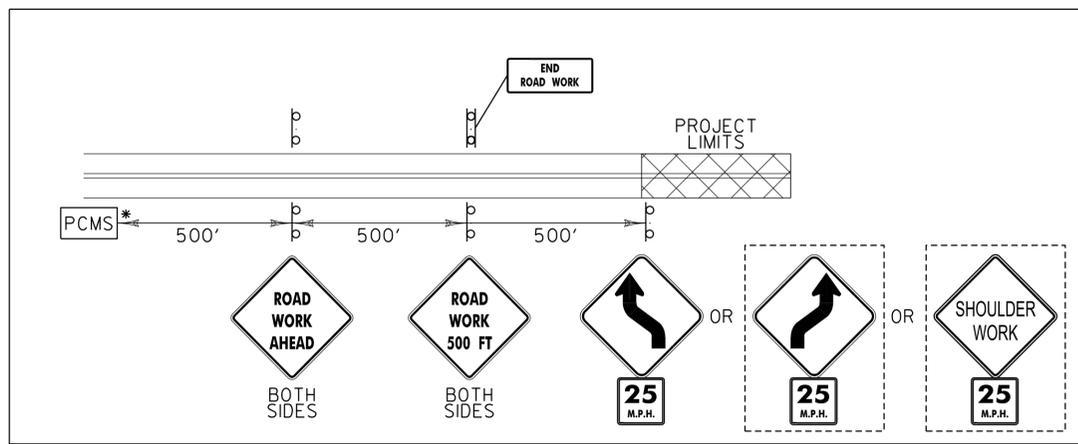
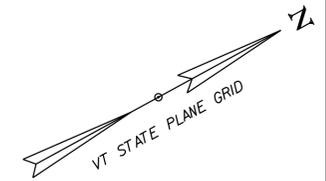
PLOT DATE: 5/26/2016

DRAWN BY: C.GENDRON

CHECKED BY: K. RICHARDSON

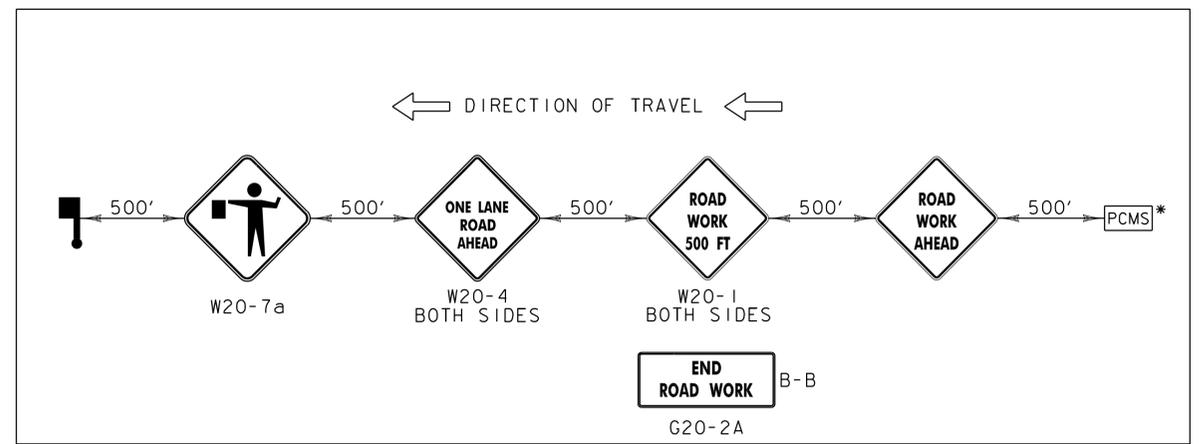
SHEET 35 OF 42





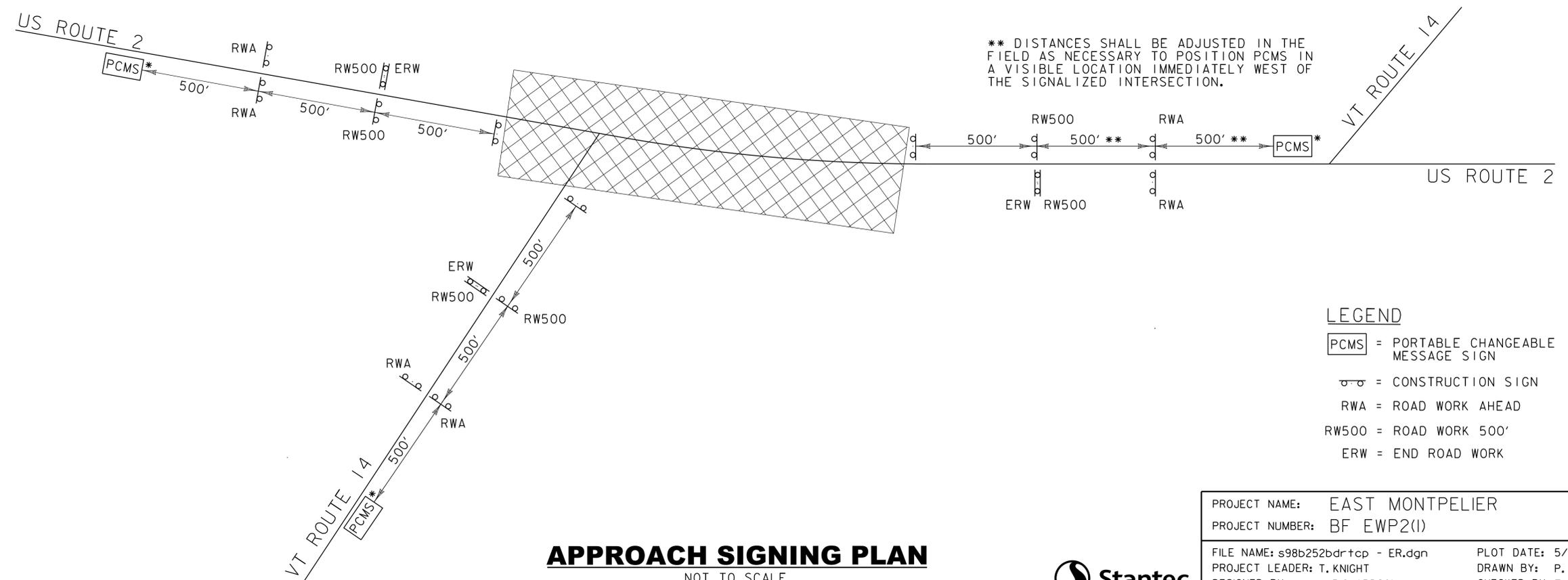
APPROACH SIGNING PACKAGE

*THE PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD.



FLAGGER APPROACH SIGNING PACKAGE

*THE PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD.

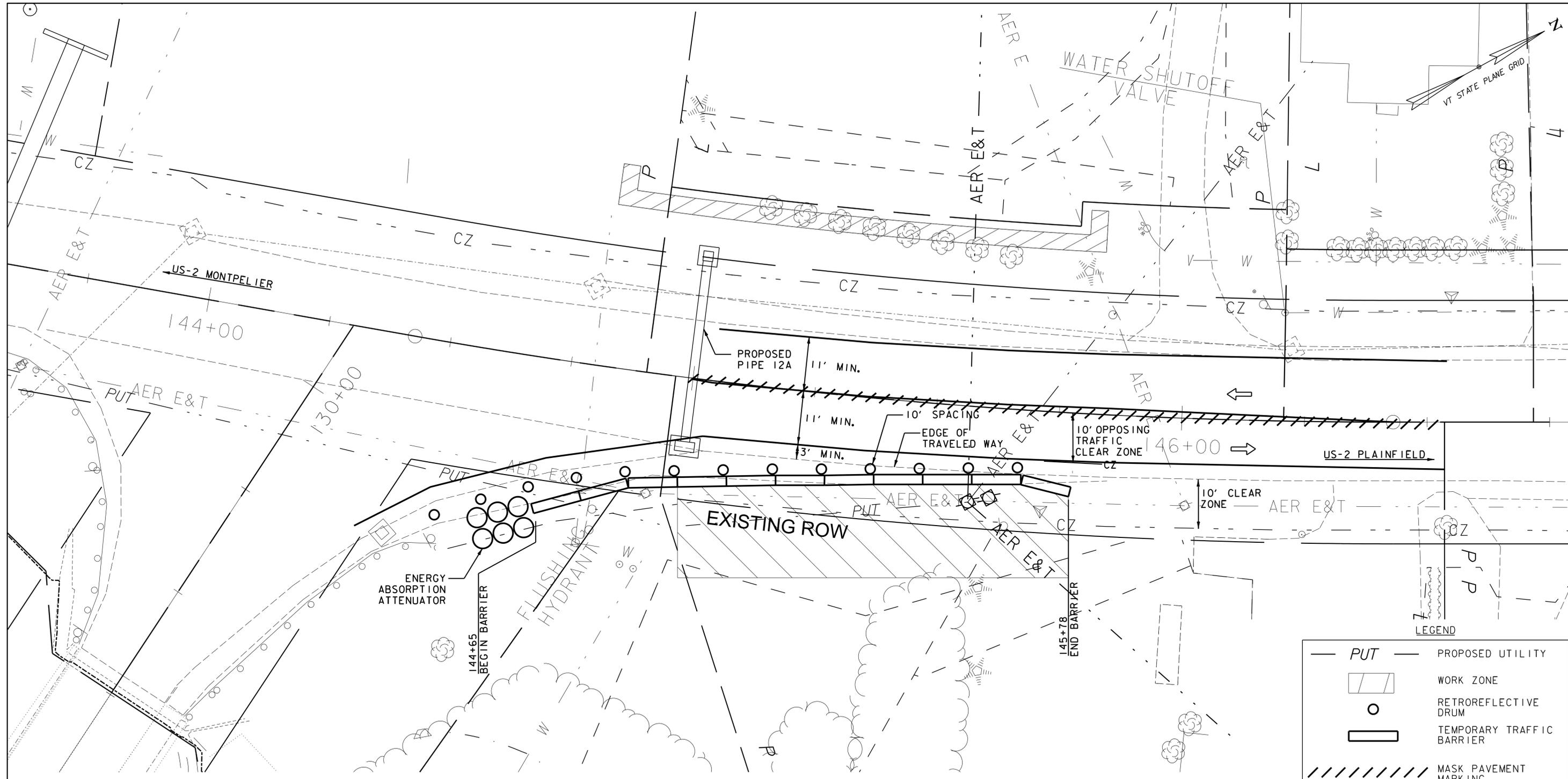


- LEGEND**
- PCMS = PORTABLE CHANGEABLE MESSAGE SIGN
  - ⚡ = CONSTRUCTION SIGN
  - RWA = ROAD WORK AHEAD
  - RW500 = ROAD WORK 500'
  - ERW = END ROAD WORK

**APPROACH SIGNING PLAN**  
NOT TO SCALE



PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	s98b252bdr+tcp - ER.dgn
PROJECT LEADER:	T. KNIGHT
DESIGNED BY:	K. RICHARDSON
APPROACH SIGNING PLAN	
PLOT DATE:	5/26/2016
DRAWN BY:	P. ARMATA
CHECKED BY:	T. KNIGHT
SHEET	36 OF 42



**WORK ZONE #1 NOTES**

OBJECTIVE: THE PURPOSE OF WORK ZONE #1 IS TO PROTECT THE TRAVELING PUBLIC FROM CONSTRUCTION HAZARDS STAGED WITHIN THE ROADWAY CLEAR ZONE THAT ARE NECESSARY TO COMPLETE THE DIRECTIONAL DRILLING FOR THE INSTALLATION OF POWER AND COMMUNICATION CONDUITS. THE ROADWAY SHOULDER WILL BE CLOSED AND TWO-WAY TRAFFIC MAINTAINED ALONG US-2 AT ALL TIMES.

THIS TRAFFIC CONTROL PACKAGE WILL BE IMPLEMENTED AND LEFT IN PLACE FOR THE DURATION OF THE DRILLING OPERATIONS (APPROXIMATELY ONE WEEK) AND WILL BE COMPLETELY REMOVED AFTER DRILLING WORK IS COMPLETE. FLAGGERS/UTO'S WILL NOT BE NEEDED FOR THIS WORK ZONE.

1. IF EXISTING PAVEMENT MARKINGS ARE COVERED BY TEMPORARY TRAFFIC BARRIER, TEMPORARY TAPE OR TEMPORARY RAISED PAVEMENT MARKERS SHALL BE USED TO DELINEATE THE TRAVEL LANES AT ALL TIMES THAT THE EXISTING MARKINGS ARE OBSTRUCTED. PAYMENT FOR TEMPORARY MARKINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR TRAFFIC CONTROL, ALL-INCLUSIVE.

**WORK ZONE #1**



VT STATE PLANE GRID

14

US-2 MONTPELIER

144+00

130+00

146+00

US-2 PLAINFIELD

PROPOSED PIPE 12A

11' MIN.

11' MIN.

10' SPACING

EDGE OF TRAVELED WAY

10' OPPOSING TRAFFIC CLEAR ZONE

10' CLEAR ZONE

EXISTING ROW

144+65 BEGIN BARRIER

145+78 END BARRIER

ENERGY ABSORPTION ATTENUATOR

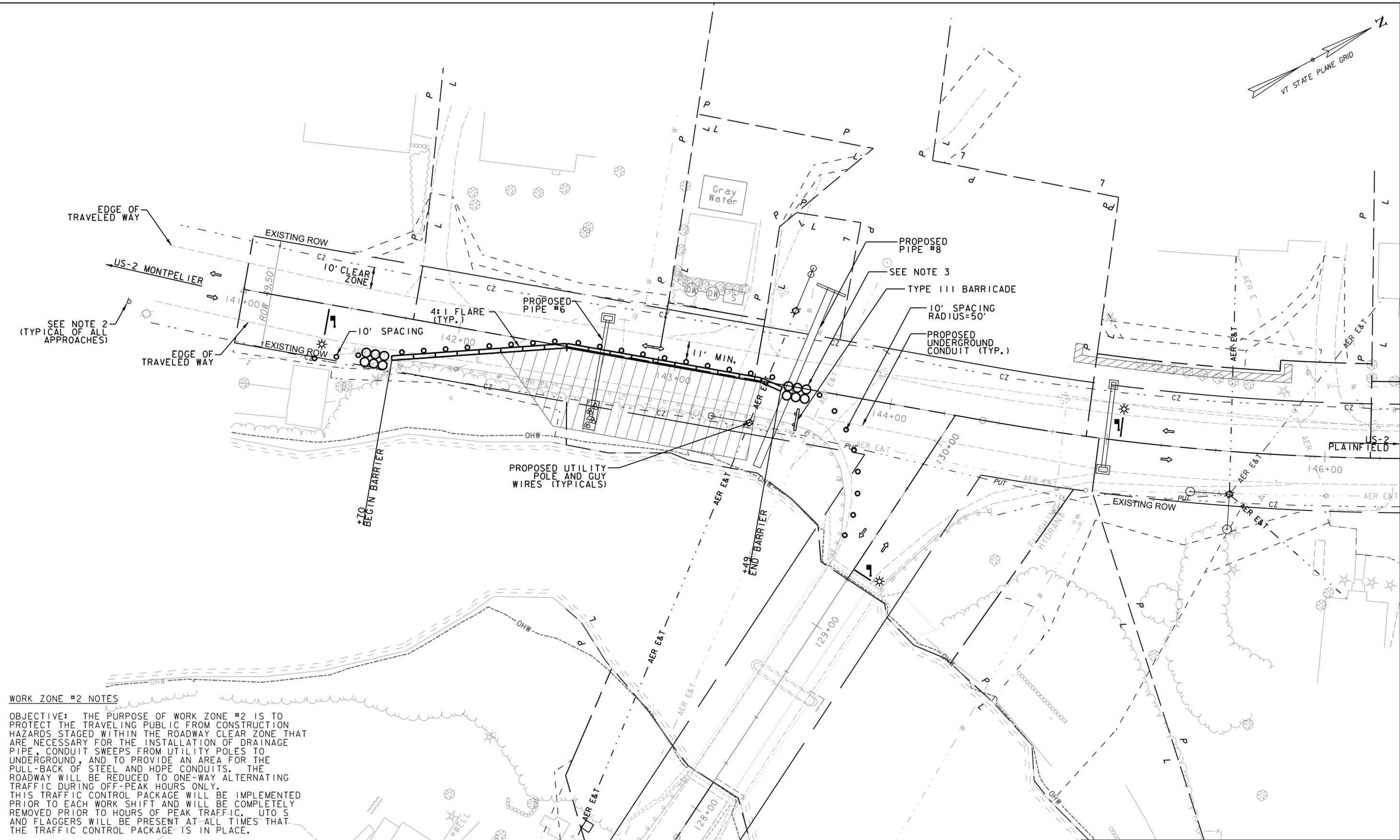
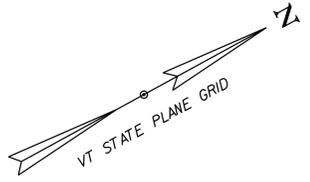
FLUSHING HYDRANT

WATER SHUTOFF VALVE

LEGEND

	PUT	PROPOSED UTILITY
		WORK ZONE
		RETROREFLECTIVE DRUM
		TEMPORARY TRAFFIC BARRIER
		MASK PAVEMENT MARKING
		ENERGY ABSORPTION ATTENUATOR
		DIRECTION OF TRAVEL
		FLAGGER
		FLAGGER STATION ILLUMINATION

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	s98b252bdrtcp - ER.dgn
PROJECT LEADER:	T. KNIGHT
DESIGNED BY:	K. RICHARDSON
TRAFFIC CONTROL PLAN - WORK ZONE #1	
PLOT DATE:	5/26/2016
DRAWN BY:	P. ARMATA
CHECKED BY:	T. KNIGHT
SHEET	37 OF 42

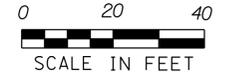


**WORK ZONE #2 NOTES**

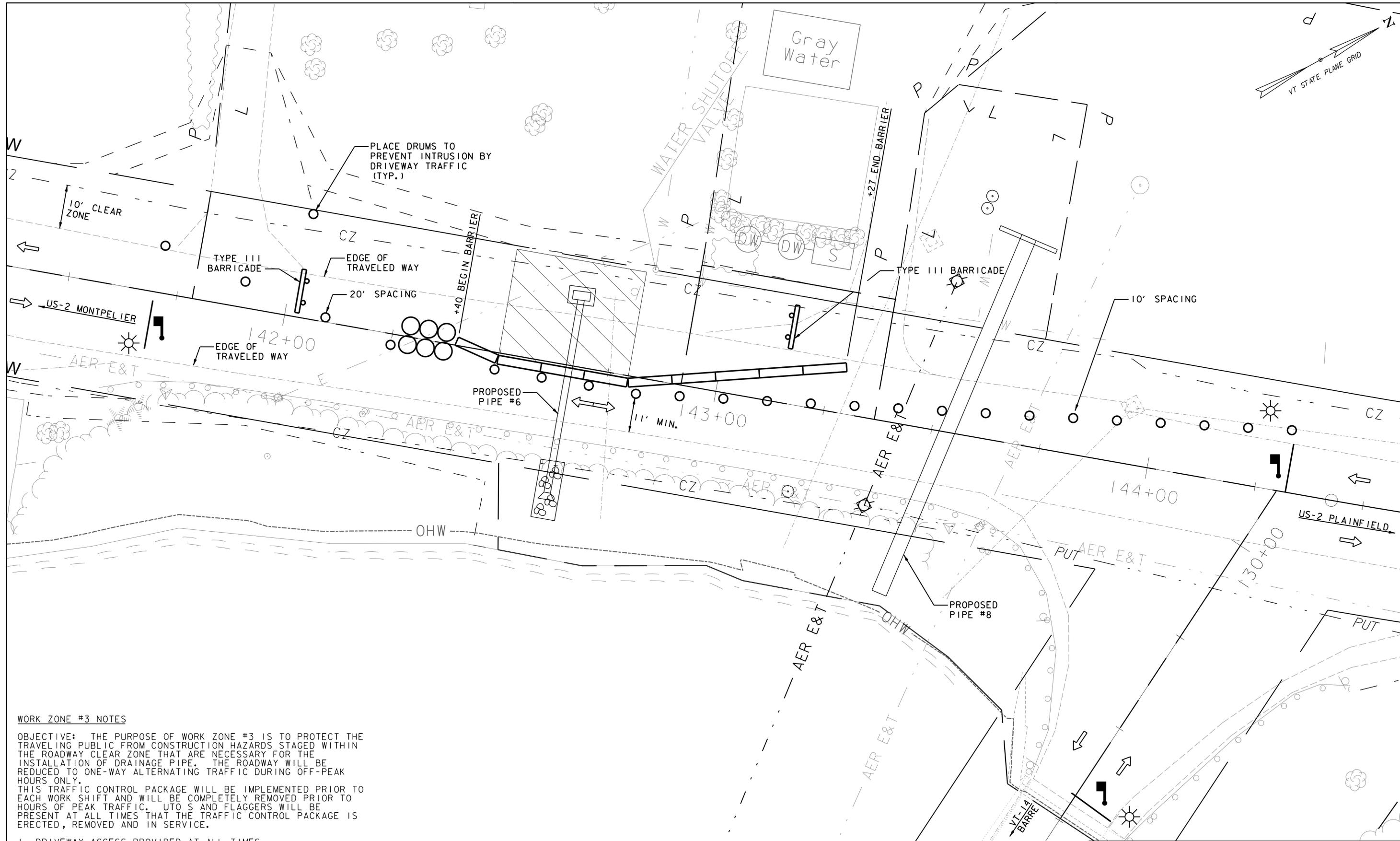
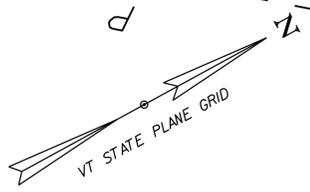
OBJECTIVE: THE PURPOSE OF WORK ZONE #2 IS TO PROTECT THE TRAVELING PUBLIC FROM CONSTRUCTION HAZARDS STAGED WITHIN THE ROADWAY CLEAR ZONE THAT ARE NECESSARY FOR THE INSTALLATION OF DRAINAGE PIPE, CONDUIT SWEEPS FROM UTILITY POLES TO UNDERGROUND, AND TO PROVIDE AN AREA FOR THE PULL-BACK OF STEEL AND HDPE CONDUITS. THE ROADWAY WILL BE REDUCED TO ONE-WAY ALTERNATING TRAFFIC DURING OFF-PEAK HOURS ONLY. THIS TRAFFIC CONTROL PACKAGE WILL BE IMPLEMENTED PRIOR TO EACH WORK SHIFT AND WILL BE COMPLETELY REMOVED PRIOR TO HOURS OF PEAK TRAFFIC. UTO S AND FLAGGERS WILL BE PRESENT AT ALL TIMES THAT THE TRAFFIC CONTROL PACKAGE IS IN PLACE.

1. DRIVEWAY ACCESS PROVIDED AT ALL TIMES.
2. INSTALL DAILY FLAGGER APPROACH SIGN PACKAGE PER DETAIL PROVIDED ON APPROACH PLAN SHEET.
3. SIX-ARRAY SAND-FILLED BARREL IMPACT ATTENUATOR SYSTEM TO PROTECT WEST-BOUND TRAFFIC FROM THE BLUNT END OF THE TRAFFIC BARRIER.

**WORK ZONE #2**



PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	s98b252bdrtcp - ER.dgn
PROJECT LEADER:	T. KNIGHT
DESIGNED BY:	K. RICHARDSON
TRAFFIC CONTROL PLAN - WORK ZONE #2	
PLOT DATE:	5/26/2016
DRAWN BY:	P. ARMATA
CHECKED BY:	T. KNIGHT
SHEET	38 OF 42

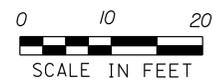


**WORK ZONE #3 NOTES**

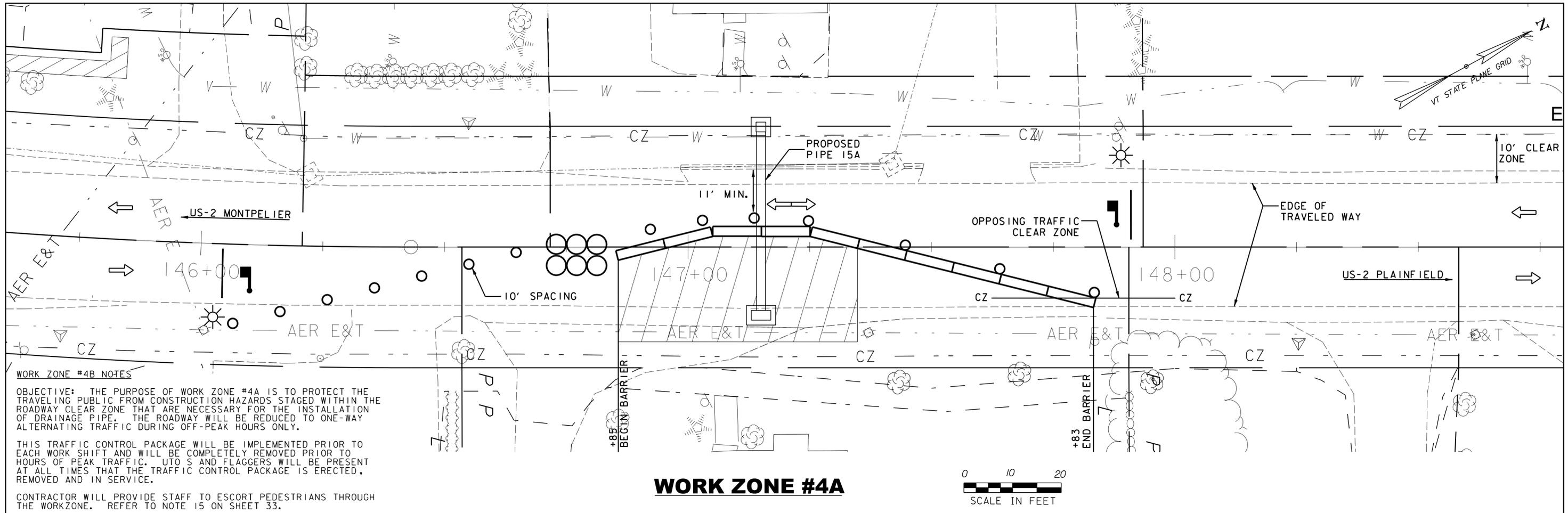
OBJECTIVE: THE PURPOSE OF WORK ZONE #3 IS TO PROTECT THE TRAVELING PUBLIC FROM CONSTRUCTION HAZARDS STAGED WITHIN THE ROADWAY CLEAR ZONE THAT ARE NECESSARY FOR THE INSTALLATION OF DRAINAGE PIPE. THE ROADWAY WILL BE REDUCED TO ONE-WAY ALTERNATING TRAFFIC DURING OFF-PEAK HOURS ONLY. THIS TRAFFIC CONTROL PACKAGE WILL BE IMPLEMENTED PRIOR TO EACH WORK SHIFT AND WILL BE COMPLETELY REMOVED PRIOR TO HOURS OF PEAK TRAFFIC. UTO S AND FLAGGERS WILL BE PRESENT AT ALL TIMES THAT THE TRAFFIC CONTROL PACKAGE IS ERECTED, REMOVED AND IN SERVICE.

1. DRIVEWAY ACCESS PROVIDED AT ALL TIMES.
2. INSTALL DAILY FLAGGER APPROACH SIGN PACKAGE PER DETAIL PROVIDED IN THE APPROACH PLANS.
3. SIX-ARRAY SAND-FILLED BARREL IMPACT ATTENUATOR SYSTEM TO PROTECT WEST-BOUND TRAFFIC FROM THE BLUNT END OF THE TRAFFIC BARRIER.

**WORK ZONE #3**



PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BF EWP2(I)
FILE NAME:	s98b252bdrtcp - ER.dgn
PROJECT LEADER:	T. KNIGHT
DESIGNED BY:	K. RICHARDSON
TRAFFIC CONTROL PLAN - WORK ZONE #3	
PLOT DATE:	5/26/2016
DRAWN BY:	P. ARMATA
CHECKED BY:	T. KNIGHT
SHEET	39 OF 42

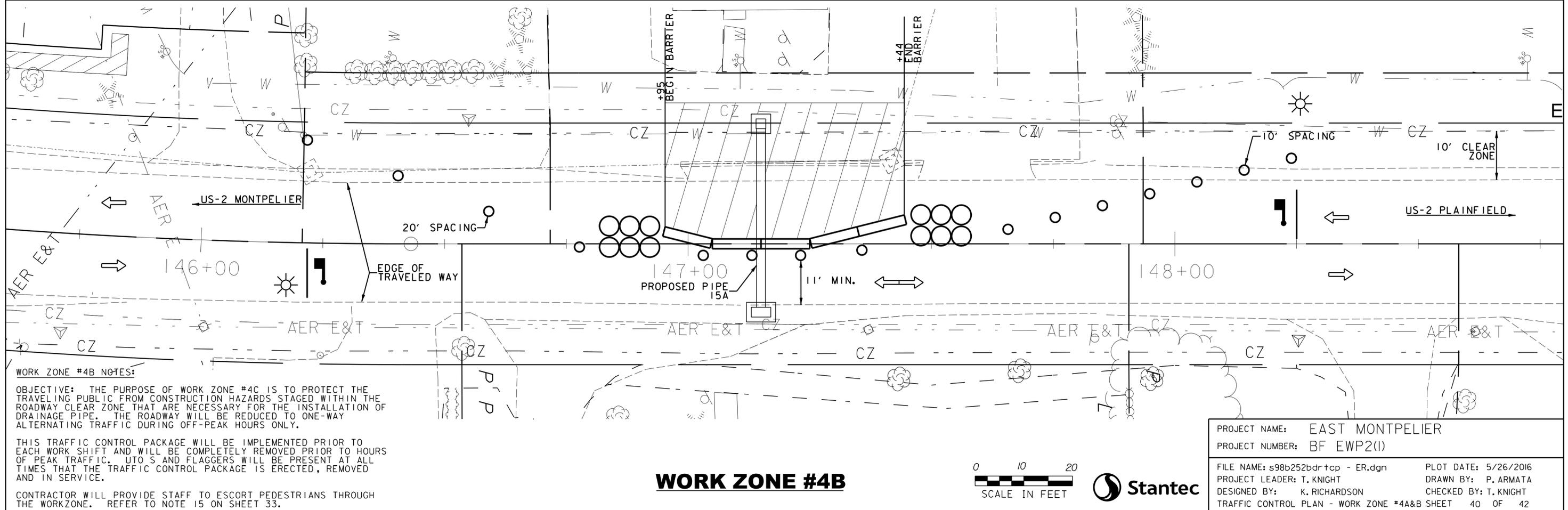


**WORK ZONE #4B NOTES**

OBJECTIVE: THE PURPOSE OF WORK ZONE #4A IS TO PROTECT THE TRAVELING PUBLIC FROM CONSTRUCTION HAZARDS STAGED WITHIN THE ROADWAY CLEAR ZONE THAT ARE NECESSARY FOR THE INSTALLATION OF DRAINAGE PIPE. THE ROADWAY WILL BE REDUCED TO ONE-WAY ALTERNATING TRAFFIC DURING OFF-PEAK HOURS ONLY.

THIS TRAFFIC CONTROL PACKAGE WILL BE IMPLEMENTED PRIOR TO EACH WORK SHIFT AND WILL BE COMPLETELY REMOVED PRIOR TO HOURS OF PEAK TRAFFIC. UTO S AND FLAGGERS WILL BE PRESENT AT ALL TIMES THAT THE TRAFFIC CONTROL PACKAGE IS ERECTED, REMOVED AND IN SERVICE.

CONTRACTOR WILL PROVIDE STAFF TO ESCORT PEDESTRIANS THROUGH THE WORKZONE. REFER TO NOTE 15 ON SHEET 33.



**WORK ZONE #4B NOTES:**

OBJECTIVE: THE PURPOSE OF WORK ZONE #4C IS TO PROTECT THE TRAVELING PUBLIC FROM CONSTRUCTION HAZARDS STAGED WITHIN THE ROADWAY CLEAR ZONE THAT ARE NECESSARY FOR THE INSTALLATION OF DRAINAGE PIPE. THE ROADWAY WILL BE REDUCED TO ONE-WAY ALTERNATING TRAFFIC DURING OFF-PEAK HOURS ONLY.

THIS TRAFFIC CONTROL PACKAGE WILL BE IMPLEMENTED PRIOR TO EACH WORK SHIFT AND WILL BE COMPLETELY REMOVED PRIOR TO HOURS OF PEAK TRAFFIC. UTO S AND FLAGGERS WILL BE PRESENT AT ALL TIMES THAT THE TRAFFIC CONTROL PACKAGE IS ERECTED, REMOVED AND IN SERVICE.

CONTRACTOR WILL PROVIDE STAFF TO ESCORT PEDESTRIANS THROUGH THE WORKZONE. REFER TO NOTE 15 ON SHEET 33.

PROJECT NAME: EAST MONTPELIER

PROJECT NUMBER: BF EWP2(I)

FILE NAME: s98b252bdrtcp - ER.dgn

PLOT DATE: 5/26/2016

PROJECT LEADER: T. KNIGHT

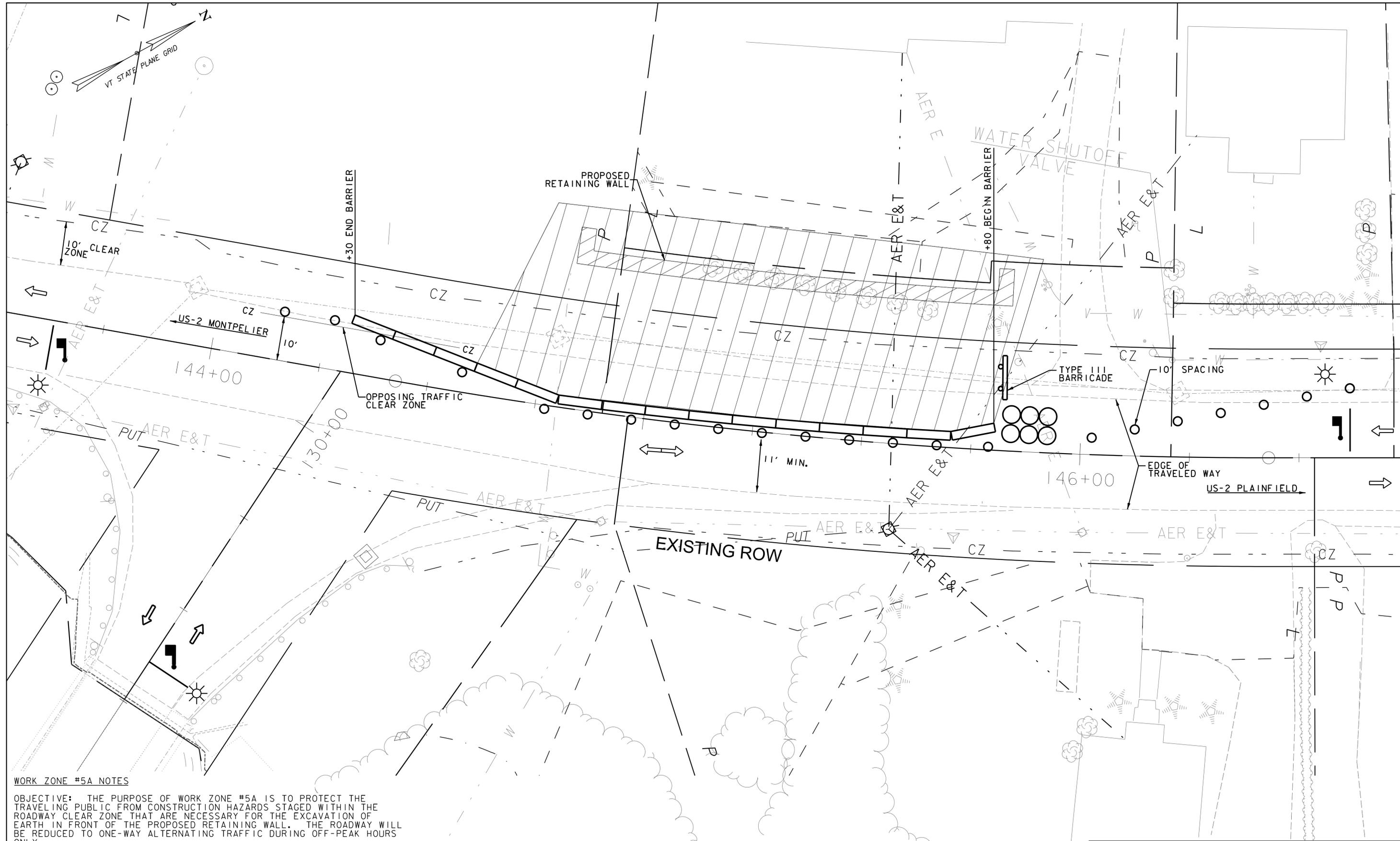
DRAWN BY: P. ARMATA

DESIGNED BY: K. RICHARDSON

CHECKED BY: T. KNIGHT

TRAFFIC CONTROL PLAN - WORK ZONE #4A&B SHEET 40 OF 42





**WORK ZONE #5A NOTES**

OBJECTIVE: THE PURPOSE OF WORK ZONE #5A IS TO PROTECT THE TRAVELING PUBLIC FROM CONSTRUCTION HAZARDS STAGED WITHIN THE ROADWAY CLEAR ZONE THAT ARE NECESSARY FOR THE EXCAVATION OF EARTH IN FRONT OF THE PROPOSED RETAINING WALL. THE ROADWAY WILL BE REDUCED TO ONE-WAY ALTERNATING TRAFFIC DURING OFF-PEAK HOURS ONLY.

THIS TRAFFIC CONTROL PACKAGE WILL BE IMPLEMENTED PRIOR TO EACH WORK SHIFT AND WILL BE COMPLETELY REMOVED PRIOR TO HOURS OF PEAK TRAFFIC. UTO S AND FLAGGERS WILL BE PRESENT AT ALL TIMES THAT THE TRAFFIC CONTROL PACKAGE IS ERECTED, REMOVED AND IN SERVICE.

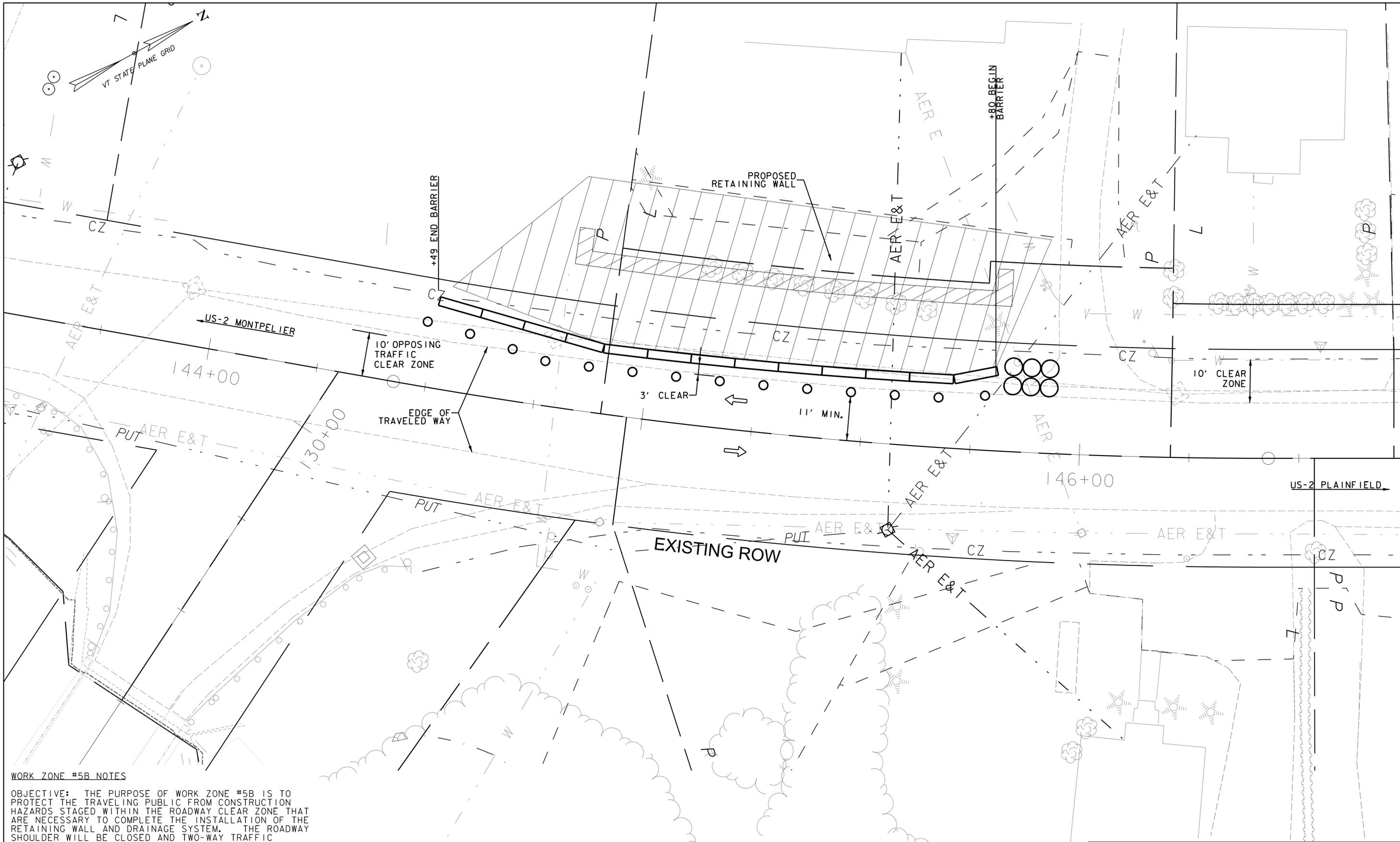
CONTRACTOR WILL PROVIDE STAFF TO ESCORT PEDESTRIANS THROUGH THE WORKZONE. REFER TO NOTE 15 ON SHEET 33.

**WORK ZONE #5A**



PROJECT NAME:	EAST MONTPELIER	PLOT DATE:	5/26/2016
PROJECT NUMBER:	BF EWP2(I)	DRAWN BY:	P. ARMATA
FILE NAME:	s98b252bdrtcp - ER.dgn	DESIGNED BY:	K. RICHARDSON
PROJECT LEADER:	T. KNIGHT	CHECKED BY:	T. KNIGHT
TRAFFIC CONTROL PLAN - WORK ZONE #5A		SHEET	41 OF 42





**WORK ZONE #5B NOTES**

OBJECTIVE: THE PURPOSE OF WORK ZONE #5B IS TO PROTECT THE TRAVELING PUBLIC FROM CONSTRUCTION HAZARDS STAGED WITHIN THE ROADWAY CLEAR ZONE THAT ARE NECESSARY TO COMPLETE THE INSTALLATION OF THE RETAINING WALL AND DRAINAGE SYSTEM. THE ROADWAY SHOULDER WILL BE CLOSED AND TWO-WAY TRAFFIC MAINTAINED ALONG US-2 AT ALL TIMES. THIS TRAFFIC CONTROL PACKAGE WILL BE IMPLEMENTED AND LEFT IN PLACE FOR THE DURATION OF THE RETAINING WALL CONSTRUCTION (APPROXIMATELY SIX WEEKS) AND WILL BE COMPLETELY REMOVED AFTER WORK IS COMPLETE. FLAGGERS/UTOS WILL NOT BE NEEDED FOR THIS WORK ZONE, WITH THE EXCEPTION OF FLAGGERS USED OCCASIONALLY TO FACILITATE MATERIAL DELIVERIES.

**WORK ZONE #5B**



PROJECT NAME: EAST MONTPELIER  
PROJECT NUMBER: BF EWP2(I)

FILE NAME: s98b252bdrtcp - ER.dgn PLOT DATE: 5/26/2016  
PROJECT LEADER: T. KNIGHT DRAWN BY: P. ARMATA  
DESIGNED BY: K. RICHARDSON CHECKED BY: T. KNIGHT  
TRAFFIC CONTROL PLAN - WORK ZONE #5B SHEET 42 OF 42