REVIEWER NOTES

1. THE PROJECT WILL HAVE A TEMPORARY BRIDGE CONSTRUCTED DOWNSTREAM OF THE EXISTING STRUCTURE. THE TEMPORARY BRIDGE SHALL HAVE A MINIMUM CLEAR WIDTH BETWEEN FACES OF RAILING OF 18'-0" TO ACCOMMODATE FARM EQUIPMENT THAT NAVIGATES THE CONSTRUCTION AREA FREQUENTLY.

2. RIGHT-OF-WAY ACQUISITION WILL BE NECESSARY.

3. AERIAL UTILITY RELOCATION WILL BE NEEDED.

4. A SIMPLIFIED PAVEMENT DESIGN HAS BEEN DONE FOR THIS PROJECT.

5. THE DRIVEWAY AT 15+30 LT IS SHOWN CLOSED AS IT DOES NOT APPEAR TO BE UNDER A CURRENT PERMIT.

6. TURNING MOVEMENTS WERE EVALUATED FOR ACCESS THROUGH THE DRIVEWAY AT 16+63 LT. A VEHICLE WITH A TRAILER HEADING NORTHBOUND CANNOT MAKE THE LEFT TURN INTO THE DRIVEWAY. RELOCATION OF DRIVEWAY COULD RESULT IN ADDITIONAL UTILITY RELOCATIONS.

7. STRUCTURE TYPE IS A SINGLE SPAN CURVED STEEL GIRDER BRIDGE WITH INTEGRAL ABUTMENTS.

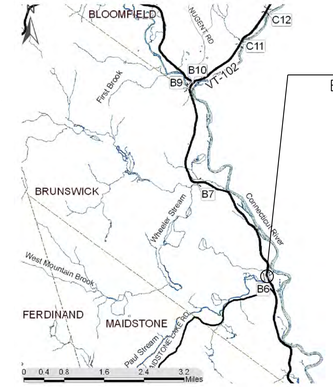
8. WINGWALLS ARE PARALLEL TO THE ROADWAY. THE WINGWALLS WILL BE RETAINING WALLS CONSTRUCTED INDEPENDENTLY OF THE ABUTMENTS.

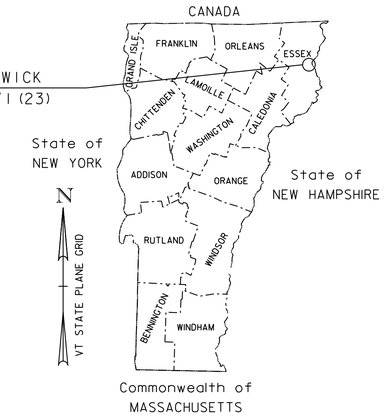
9. FILLS IN THE WATERCOURSE SHALL CONSIST OF CLEAN STONE FILL ONLY.

10. PROPOSED DESIGN MATCHES INTO EXISTING SUPERELEVATION OF ROADWAY, WHICH DOES NOT MEET AASHTO STANDARDS. IN ORDER TO CORRECT THIS, THE PROJECT LIMITS WOULD NEED TO BE EXTENDED.

11. BASED ON THE 20 YEAR ADT, THE PAVEMENT DESIGN FROM THE CONCEPTUAL PLANS DOES NOT MATCH THAT OF THE "SIMPLIFIED PAVEMENT DESIGN FOR SMALL PROJECTS" DOCUMENT DATED APRIL 30, 2013. IT DOES MATCH FOR THE ESALS. CLD MAINTAINED THE PAVEMENT DESIGN UNDER THE ASSUMPTION THAT VTRANS USED THE ESALS, RATHER THAN THE ADT, TO GOVERN THE PAVEMENT DESIGN. THE SUBBASE WAS CHANGED FROM SUBBASE OF CRUSHED GRAVEL, FINE GRADED TO SUBBASE OF DENSE GRADED CRUSHED STONE.

STATE OF VERMONT
AGENCY OF TRANSPORTATION





BRUNSWICK
BF 0271(23)

PROPOSED IMPROVEMENT
BRIDGE PROJECT

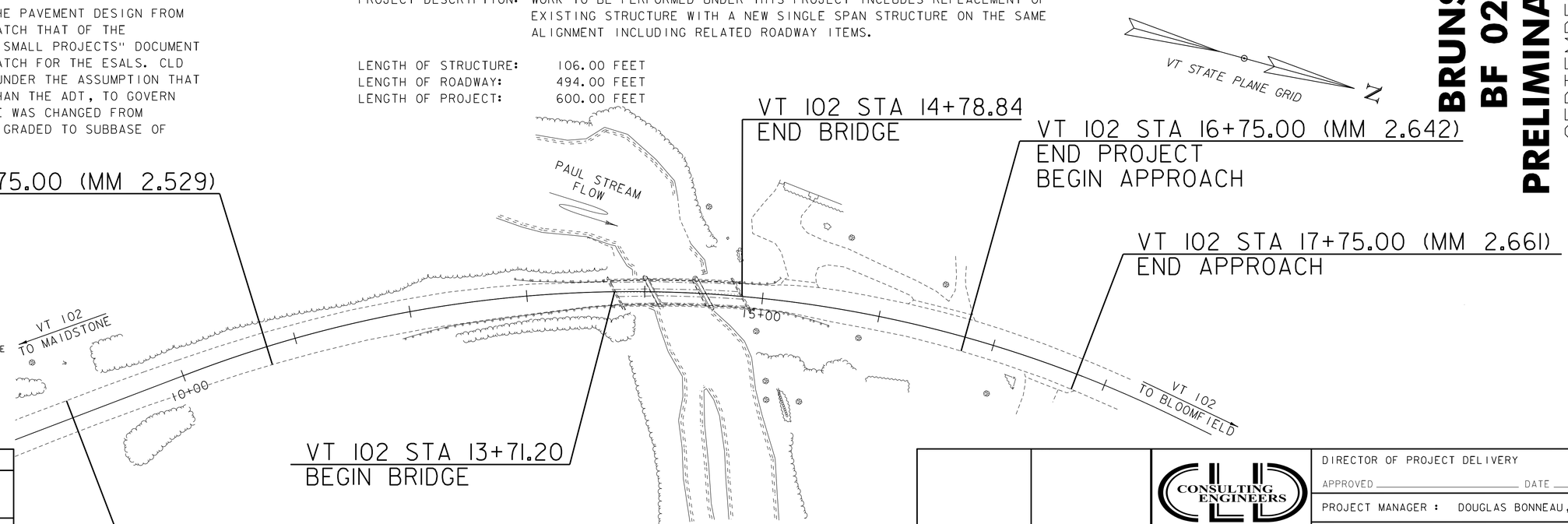
TOWN OF BRUNSWICK
COUNTY OF ESSEX
VT ROUTE 102 (RURAL MAJOR COLLECTOR) BRIDGE NO. 6

PROJECT LOCATION: LOCATED IN THE TOWN OF BRUNSWICK ON VT ROUTE 102, APPROXIMATELY 4.8 MILES SOUTH OF THE INTERSECTION OF VT ROUTE 105 AND VT ROUTE 102 AND EXTENDING APPROXIMATELY 600 FEET TO THE END.

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF EXISTING STRUCTURE WITH A NEW SINGLE SPAN STRUCTURE ON THE SAME ALIGNMENT INCLUDING RELATED ROADWAY ITEMS.

LENGTH OF STRUCTURE: 106.00 FEET
LENGTH OF ROADWAY: 494.00 FEET
LENGTH OF PROJECT: 600.00 FEET

BRUNSWICK
BF 0271(23)
PRELIMINARY PLANS
SEPTEMBER 17, 2015



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

QUALITY ASSURANCE PROGRAM : LEVEL 2

SURVEYED BY : VTRANS
SURVEYED DATE : 05/20/2013

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (2011)

CLD CONSULTING ENGINEERS
540 Commercial Street
Manchester, NH 03101
(603) 668-8223
www.cldengineers.com

DIRECTOR OF PROJECT DELIVERY
APPROVED _____ DATE _____

PROJECT MANAGER : DOUGLAS BONNEAU, P.E.

PROJECT NAME : BRUNSWICK
PROJECT NUMBER : BF 0271(23)

SHEET 1 OF 57 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

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4	TYPICAL EARTHWORK SECTIONS
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STANDARDS LIST

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-1994
B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	07-08-2005
G-1BM	BOX BEAM GUARD RAIL	06-13-1997
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11-15-2002
J-3	MAIL BOX SUPPORT DETAILS	08-07-1995
T-1	TRAFFIC CONTROL GENERAL NOTES	08-06-2012
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDNAL DROP-OFFS	08-06-2012
T-42	DELINEATORS AND MILEPOSTS	01-02-2013
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

STRUCTURES DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-502.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-516.10	BRIDGE JOINT ASHPALTIC PLUG	8/29/2011
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	5/7/2010

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: August 2015

DRAINAGE AREA : 53.3 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested
STREAM CHARACTERISTICS : Sinuous, alluvial, locally braided and anabranched
NATURE OF STREAMBED : Silt, sand, gravel and cobbles

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	1300 cfs	2% =	4100 cfs
10% =	2550 cfs	1% =	4800 cfs
4% =	3400 cfs	0.2% =	6700 cfs

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ 2% AEP = 8.0 fps
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Maybe
IF YES, DESCRIBE: This site may be affected by floodwaters from the Connecticut River. We do not have enough information to determine that and it was not considered in this study.

WATERSHED STORAGE: 5% HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Three span conrete T-beam bridge
YEAR BUILT: 1932
CLEAR SPAN(NORMAL TO STREAM): approximately 87' total
VERTICAL CLEARANCE ABOVE STREAMBED: 13'
WATERWAY OF FULL OPENING: 650 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace with a new bridge
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs

WATER SURFACE ELEVATIONS AT:

43% AEP =	868.4'	VELOCITY =	5.4 fps
10% AEP =	870.2'	"	7.3 fps
4% AEP =	871.1'	"	7.8 fps
2% AEP =	871.7'	"	9.5 fps
1% AEP =	872.4'	"	10.7 fps

LONG TERM STREAMBED CHANGES: About 4' of scour through the bridge area.

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: Above 1% AEP
RELIEF ELEVATION: 875.0'
DISCHARGE OVER ROAD @ 1% AEP: NA

UPSTREAM STRUCTURE

TOWN: NA - stream divides DISTANCE:
HIGHWAY # : STRUCTURE #:
CLEAR SPAN: CLEAR HEIGHT:
YEAR BUILT: FULL WATERWAY:
STRUCTURE TYPE:

DOWNSTREAM STRUCTURE

TOWN: NA - confluence with Connecticut River DISTANCE: 900'
HIGHWAY # : STRUCTURE #:
CLEAR SPAN: CLEAR HEIGHT:
YEAR BUILT: FULL WATERWAY:
STRUCTURE TYPE:

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span steel beam bridge

CLEAR SPAN(NORMAL TO STREAM): 80'
VERTICAL CLEARANCE ABOVE STREAMBED: 14'
WATERWAY OF FULL OPENING: 780 sq. ft.

WATER SURFACE ELEVATIONS AT:

43% AEP =	868.3'	VELOCITY=	5.4 fps
10% AEP =	870.1'	"	7.4 fps
4% AEP =	870.9'	"	7.8 fps
2% AEP =	871.4'	"	8.7 fps
1% AEP =	871.9'	"	9.9 fps

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: Above 1% AEP
RELIEF ELEVATION: 875.0'
DISCHARGE OVER ROAD @ 1% AEP: NA

BRIDGE LOW CHORD ELEVATION: 872.6' average, downstream
FREEBOARD: @ 2% AEP = 1.2'

SCOUR: Foundations should be designed to be freestanding to 6' below streambed

REQUIRED CHANNEL PROTECTION: Stone fill, Type III

PERMIT INFORMATION

		DEPTH OR ELEVATION:
AVERAGE DAILY FLOW:	-	
ORDINARY LOW WATER:	-	-
ORDINARY HIGH WATER:	-	-

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 90' minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Elev. 872.5' minimum
WATERWAY AREA OF FULL OPENING: 660 sq. ft. minimum

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

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

DESIGN VALUES

1.	DESIGN LIVE LOAD		HL-93
2.	FUTURE PAVEMENT	d_p:	3.0 INCH
3.	DESIGN SPAN	L:	106.00 FT
4.	MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	- - -
5.	PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX)	f_y:	270 KSI
6.	PRESTRESSED CONCRETE STRENGTH	f'_c:	6.0 KSI
7.	PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	5.0 KSI
8.	CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	4.0 KSI
9.	CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10.	CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11.	CONCRETE, CLASS C	f'_c:	3.0 KSI
12.	REINFORCING STEEL	f_y:	60 KSI
13.	STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f_y:	50 KSI
14.	NOMINAL BEARING RESISTANCE OF SOIL	q_n:	4.0 KSF
15.	SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
16.	NOMINAL BEARING RESISTANCE OF ROCK	q_n:	10.0 KSF
17.	ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
18.	PILE RESISTANCE FACTOR	ϕ:	- - -
19.	LATERAL PILE DEFLECTION	Δ:	- - -
20.	BASIC WIND SPEED	V_{3s}:	- - -
21.	MINIMUM GROUND SNOW LOAD	p_g:	- - -
22.	SEISMIC DATA PGA: 0	S_s:	- - -
		S_1:	- - -
23.			
24.			- - -
25.			- - -
26.			- - -

LRFR LOAD RATING FACTORS

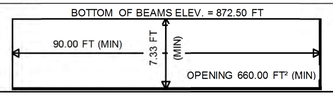
LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

AS BUILT "REBAR" DETAIL

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

TEMPORARY BRIDGE PROFILE ALONG TEMP CL

BOTTOM OF BEAMS ELEV. = 872.50 FT



TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT					
2016	550	75	58	11.2	65	20 year ESAL for flexible pavement from	2016	to	2036	: 269000
2036	580	75	58	16.1	100	40 year ESAL for flexible pavement from	2016	to	2056	: 602000
						Design Speed :	50	mph		

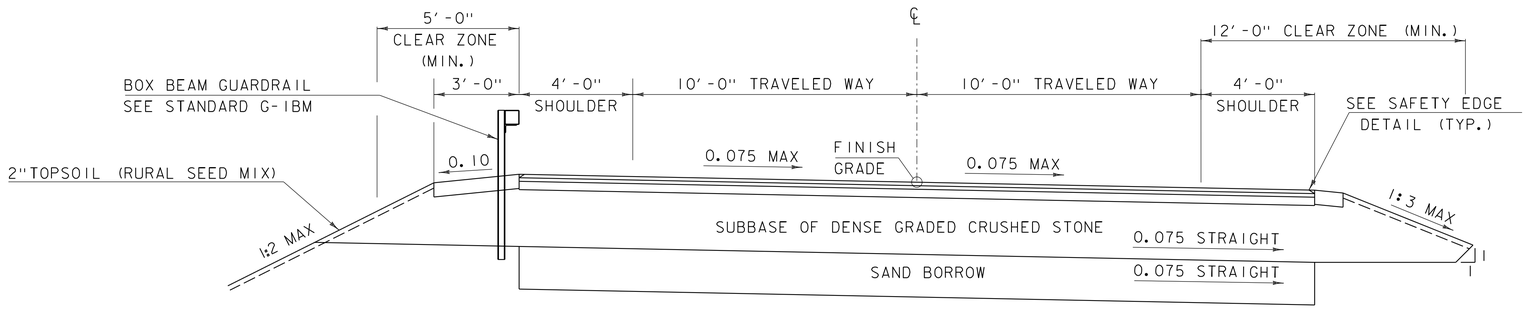
PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 027I(23)

FILE NAME: zI3c056pi.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: J. FRENCH
PRELIMINARY INFORMATION SHEET

PLOT DATE: 9/17/2015
DRAWN BY: M. SMITH
CHECKED BY: J. BYATT
SHEET 2 OF 57

MODEL: PI01
CLD 14-0149

3" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (2-11#2" LIFTS) (TYPE IVS)
3 1/2" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (TYPE IIS)
24" SUBBASE OF DENSE GRADED CRUSHED STONE
18" SAND BORROW



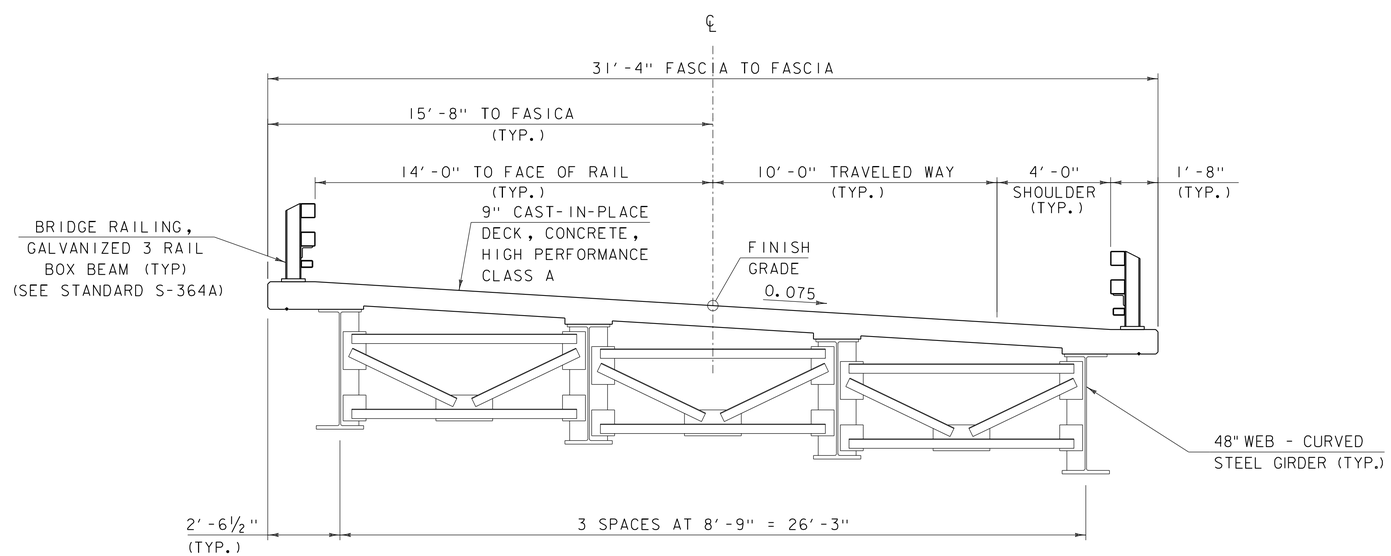
VT 102 MAXIMUM BANKED SECTION

SCALE 3/8" = 1'-0"

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

NOTE

1. EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL COLD PLANED SURFACES AT A RATE OF 0.080 GAL/SY AND BETWEEN EACH LIFT OF PAVEMENT AT A RATE OF 0.040 GAL/SY OR AS DIRECTED BY THE ENGINEER.

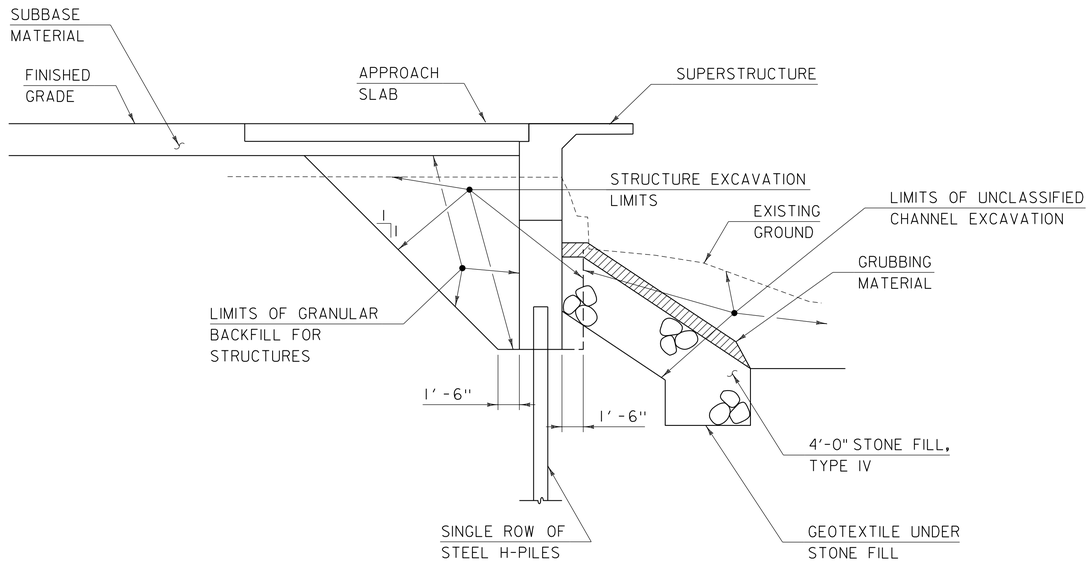


TYPICAL BRIDGE SECTION

SCALE 3/8" = 1'-0"

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056frm.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TYPICAL SECTIONS	SHEET 3 OF 57

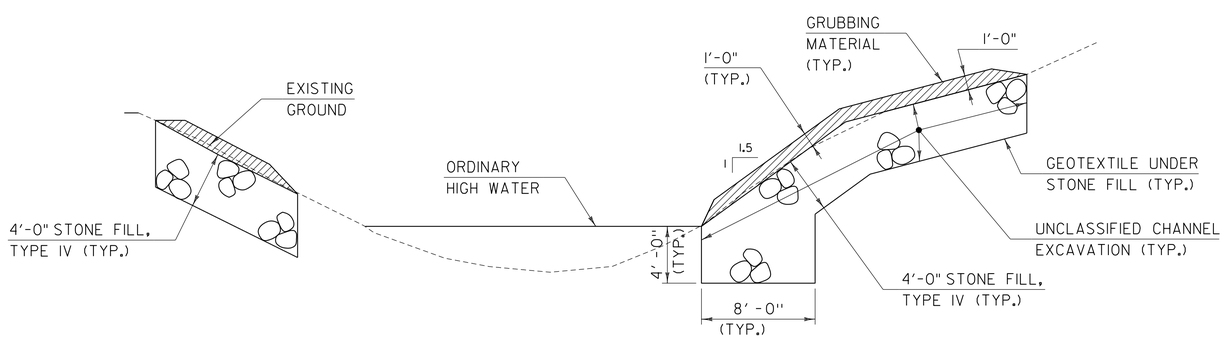
CLD 14-0149 MODEL: Typ



TYPICAL ABUTMENT EARTHWORK SECTION

SCALE: 3/16" = 1'-0"

NOTE: ACTUAL EXCAVATION LIMITS SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, PAYMENT UNDER CONTRACT ITEM 204.25 WILL ONLY BE MADE TO THE LIMITS SHOWN.



TYPICAL CHANNEL SECTION

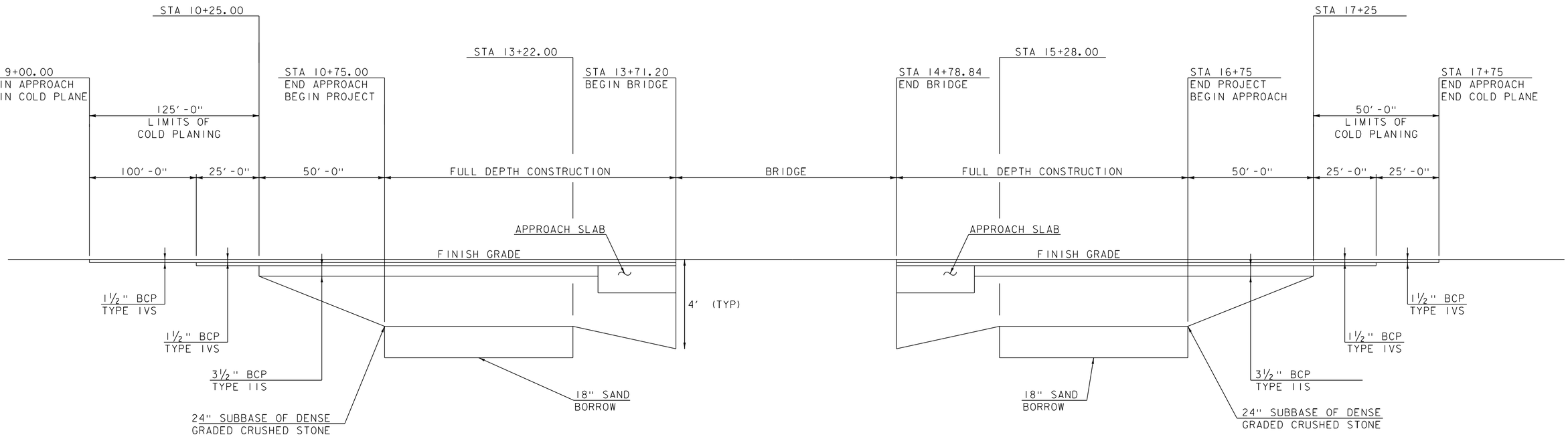
SCALE: 3/16" = 1'-0"

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

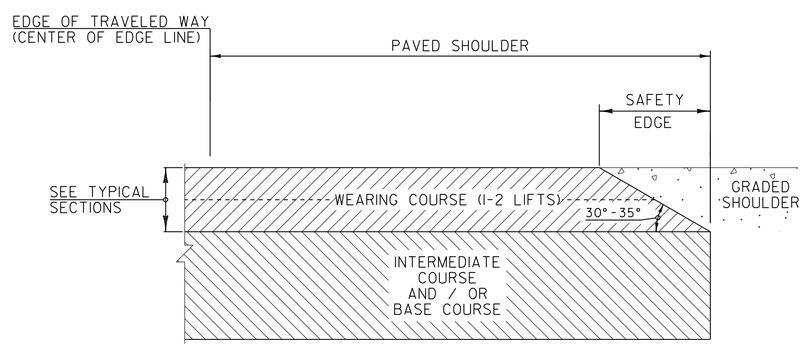
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056sub.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: M. SMITH
DESIGNED BY: J. FRENCH	CHECKED BY: J. BYATT
TYPICAL EARTHWORK SECTIONS	SHEET 4 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: EARTHWORK01



VT 102 MATERIAL TRANSITION DIAGRAM



SAFETY EDGE DETAIL

SAFETY EDGE NOTES

1. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.

2. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".

NOT TO SCALE

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056frm.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
MATERIAL TRANSITION DIAGRAM	SHEET 5 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: Mat

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

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

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

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

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	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 RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOGY

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 SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

CZ	CLEAR ZONE
	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

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

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

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

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

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

ENVIRONMENTAL RESOURCES

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

ARCHEOLOGICAL & HISTORIC

ARCH	ARCHEOLOGICAL BOUNDARY
HISTORIC DIST	HISTORIC DISTRICT BOUNDARY
HISTORIC	HISTORIC AREA
H	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

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

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

FILE NAME: z13c056frmsdgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
CONVENTIONAL SYMBOLOGY LEGEND SHEET

PLOT DATE: 9/17/2015
DRAWN BY: J. FOWLER
CHECKED BY: K. RUTTER
SHEET 6 OF 57

CLD 14-0149 MODEL: Legend

GPS CONTROL POINTS

RUS
NORTH = 798683.542
EAST = 1874495.072
ELEV. = 917.998

GENERAL LOCATION, BRUNSWICK, VT. OWNERSHIP, STEPHEN RUSSO, 5234 VT ROUTE 102, BRUNSWICK, VT 05905. TO REACH FROM THE INTERSECTION OF VT ROUTE 102 AND VT ROUTE 105 IN BLOOMFIELD GO SOUTH ALONG VT ROUTE 102 FOR 5.2 MI (8.4 KM) TO THE INTERSECTION OF MAIDSTONE LAKE ACCESS ROAD RIGHT. CONTINUE STRAIGHT AHEAD AND GO SOUTH ALONG VT ROUTE 102 FOR 0.25 MI (0.4 KM) TO THE INTERSECTION OF A FIELD DRIVE RIGHT, JUST NORTHEAST OF THE RUSSO FAMILY FARM. TURN RIGHT AND GO NORTHWEST ALONG THE FIELD DRIVE FOR ABOUT 20 M (65.6 FT) TO THE SITE OF THE MARK ON THE LEFT. THE MARK IS SET 5 CM (2 INCHES) BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 19.6 M (64.3 FT) NORTHWEST OF AND ABOUT 1.0 M (3.3 FT) HIGHER THAN THE CENTERLINE OF VT ROUTE 102, 2.6 M (8.5 FT) SOUTHWEST THE CENTERLINE OF THE FIELD DRIVE, 26.8 M (87.9 FT) NORTH-NORTHEAST OF THE EAST CORNER OF THE PORCH ON THE FRONT OF THE RUSSO HOUSE, 28.7 M (94.2 FT) NORTHEAST OF THE NORTH CORNER OF THE RUSSO HOUSE, 33.2 M (108.9 FT) SOUTH-SOUTHEAST OF THE SOUTHEAST CORNER OF AN EQUIPMENT SHED AND 24.5 M (80.4 FT) SOUTHWEST OF POLE NO 107/143/139.

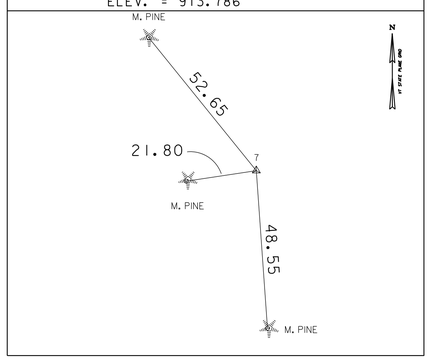
RUS AZ MK
NORTH = 797405.112
EAST = 1874383.972
ELEV. = 899.564

GENERAL LOCATION, BRUNSWICK, VT.
TO REACH FROM THE INTERSECTION OF VT ROUTE 102 AND VT ROUTE 105 IN BLOOMFIELD GO SOUTH ALONG VT ROUTE 102 FOR 5.2 MI (8.4 KM) TO THE INTERSECTION OF MAIDSTONE LAKE ACCESS ROAD RIGHT. CONTINUE STRAIGHT AHEAD AND GO SOUTH ALONG VT ROUTE 102 FOR 0.5 MI (0.8 KM) TO THE SITE OF THE MARK ON THE RIGHT, JUST NORTH OF THE NORTH END OF A GUARDRAIL. IT IS 0.2 MI (0.3 KM) SOUTH OF THE RUSSO FAMILY FARM. THE MARK IS SET 5 CM (2 INCHES) BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 6.2 M (20.3 FT) WEST OF AND ABOUT 0.2 M (0.7 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 102, 18.8 M (61.7 FT) SOUTH-SOUTHEAST OF POLE NO 143/107/147, 1.2 M (3.9 FT) NORTH OF THE NORTH END OF A STEEL BAND GUARDRAIL, 7.5 M (24.6 FT) EAST-NORTHEAST OF A 20 CM (8 INCH) TRIPLE TRUNK ELM AND 0.3 M (1.0 FT) EAST OF A FIBERGLASS WITNESS POST.

TRAVERSE TIES

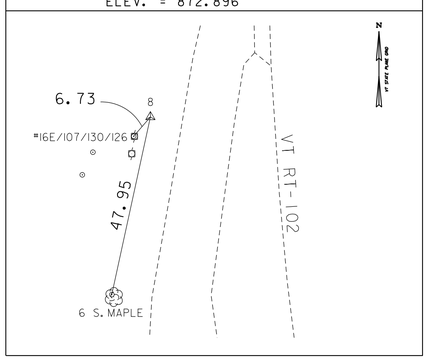
HVCTRL #7

NORTH = 801031.275
EAST = 1874197.923
ELEV. = 913.786



HVCTRL #8

NORTH = 802143.942
EAST = 1873582.012
ELEV. = 872.896



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

ALIGNMENT TIES

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 2011
ADJUSTMENT	COMPASS

VERMONT SURVEY AND ENGINEERING

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

FILE NAME: z13c056tie.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: VSE
TIE SHEET 01

PLOT DATE: 9/17/2015
DRAWN BY: VSE
CHECKED BY: VSE
SHEET 7 OF 57

MODEL: TIE 01
CLD 14-0149

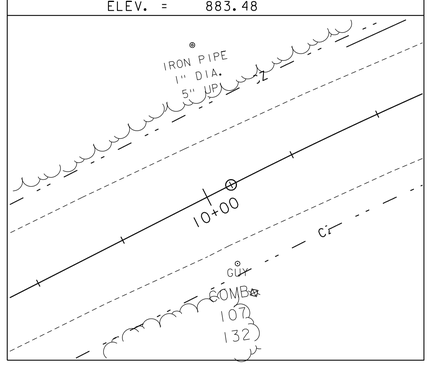
GPS CONTROL POINTS

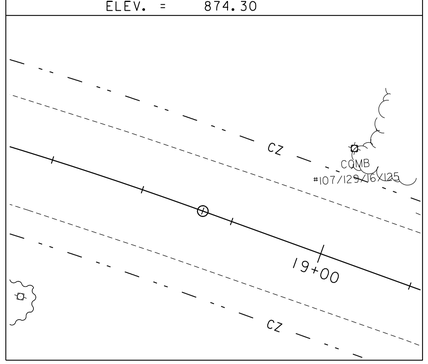
TRAVERSE TIES

NORTH =	NORTH =	NORTH =	NORTH =	NORTH =
EAST =	EAST =	EAST =	EAST =	EAST =
ELEV. =	ELEV. =	ELEV. =	ELEV. =	ELEV. =

ALIGNMENT TIES

PC 10+07.12	PT 18+66.90			
NORTH = 801586.33	NORTH = 802401.92	NORTH =	NORTH =	NORTH =
EAST = 1873830.42	EAST = 1873646.99	EAST =	EAST =	EAST =
ELEV. = 883.48	ELEV. = 874.30	ELEV. =	ELEV. =	ELEV. =





DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 2011
ADJUSTMENT	COMPASS

PROJECT NAME: BRUSNWICK
PROJECT NUMBER: BF 027I(23)

FILE NAME: z13c056tibdr.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
TIE SHEET 02

PLOT DATE: 9/17/2015
DRAWN BY: J. FOWLER
CHECKED BY: K. RUTTER
SHEET 8 OF 57

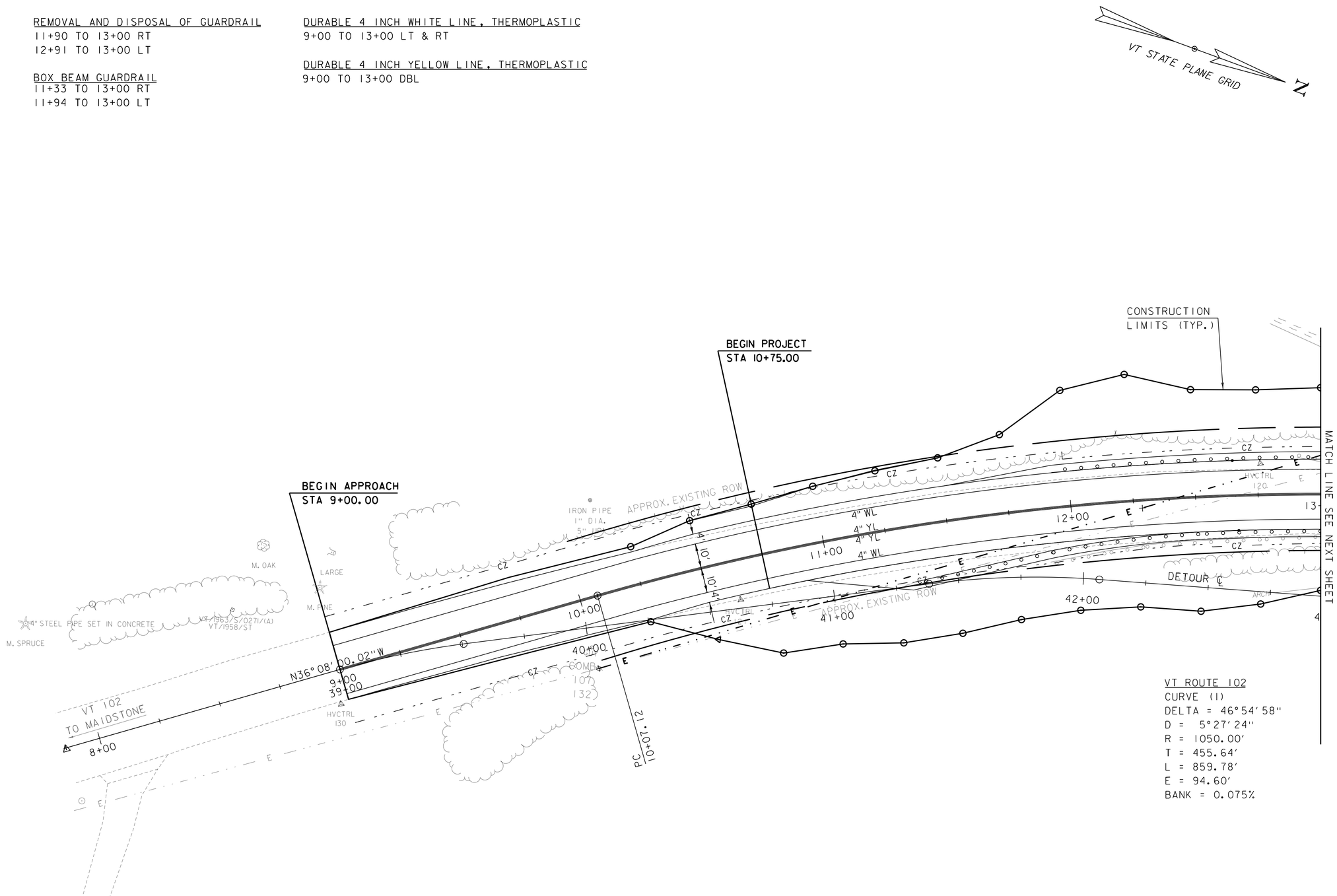
CLD 14-0149 MODEL: TIE 02

REMOVAL AND DISPOSAL OF GUARDRAIL
11+90 TO 13+00 RT
12+91 TO 13+00 LT

BOX BEAM GUARDRAIL
11+33 TO 13+00 RT
11+94 TO 13+00 LT

DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
9+00 TO 13+00 LT & RT

DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
9+00 TO 13+00 DBL



PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056bdrnul.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: S. FORTIER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
LAYOUT SHEET 1	SHEET 9 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: Layout 1

RELOCATE MAILBOX, SINGLE SUPPORT
15+72 RT

CONSTRUCT DRIVES
16+63 LT (30.5 FT WIDE, GRAVEL, RES.)

REMOVAL AND DISPOSAL OF GUARDRAIL
13+00 TO 13+79 RT
13+00 TO 13+69 LT
14+90 TO 15+60 RT
14+77 TO 15+14 LT

MANUFACTURED TERMINAL SECTION, TANGENT
15+99 TO 16+13 LT

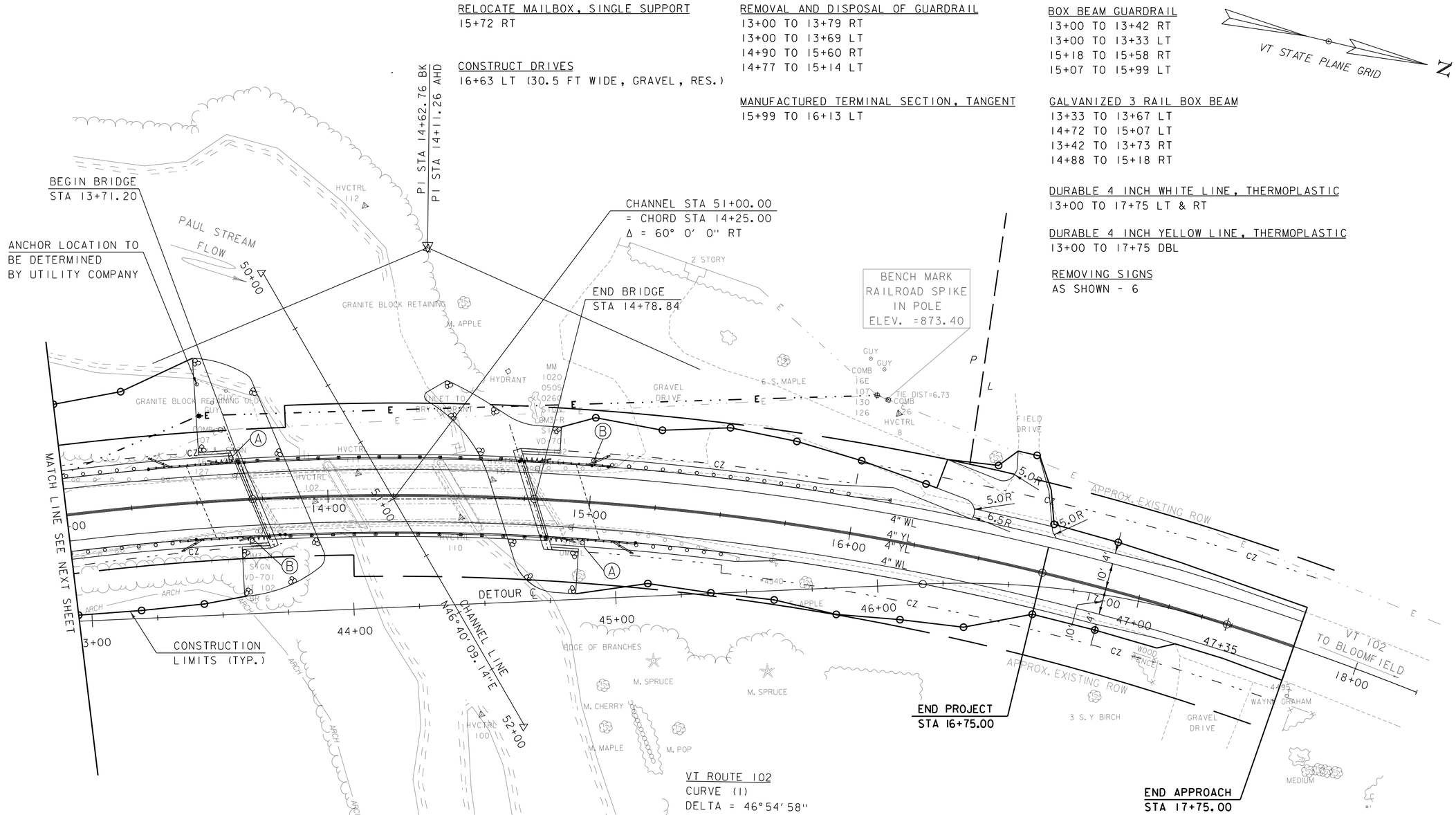
BOX BEAM GUARDRAIL
13+00 TO 13+42 RT
13+00 TO 13+33 LT
15+18 TO 15+58 RT
15+07 TO 15+99 LT

GALVANIZED 3 RAIL BOX BEAM
13+33 TO 13+67 LT
14+72 TO 15+07 LT
13+42 TO 13+73 RT
14+88 TO 15+18 RT

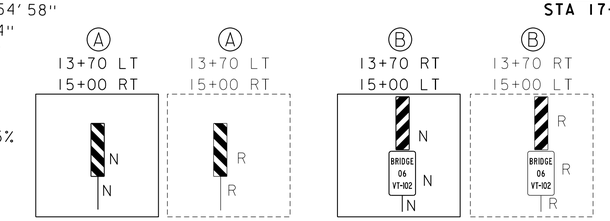
DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
13+00 TO 17+75 LT & RT

DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
13+00 TO 17+75 DBL

REMOVING SIGNS
AS SHOWN - 6



VT ROUTE 102
CURVE (1)
DELTA = 46°54′58″
D = 5°27′24″
R = 1050.00′
T = 455.64′
L = 859.78′
E = 94.60′
BANK = 0.075%

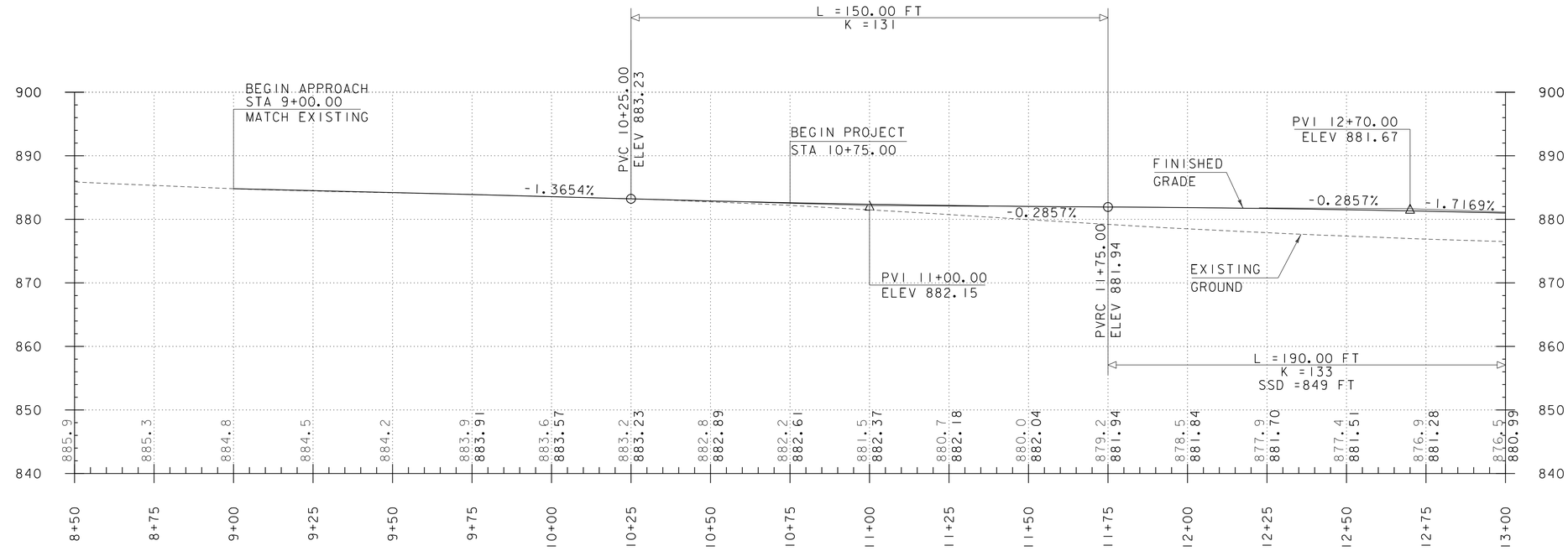


EXISTING BRIDGE INFORMATION
3 SPAN CONCRETE T-BEAM
BUILT 1932, 109′ LENGTH
40′ MAXIMUM SPAN
23′-4″ FASCIA TO FASCIA

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 027I(23)	
FILE NAME: zl3c056bdrnul.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: S. FORTIER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
LAYOUT SHEET 2	SHEET 10 OF 57

CLD 14-0149 MODEL: Layout 2



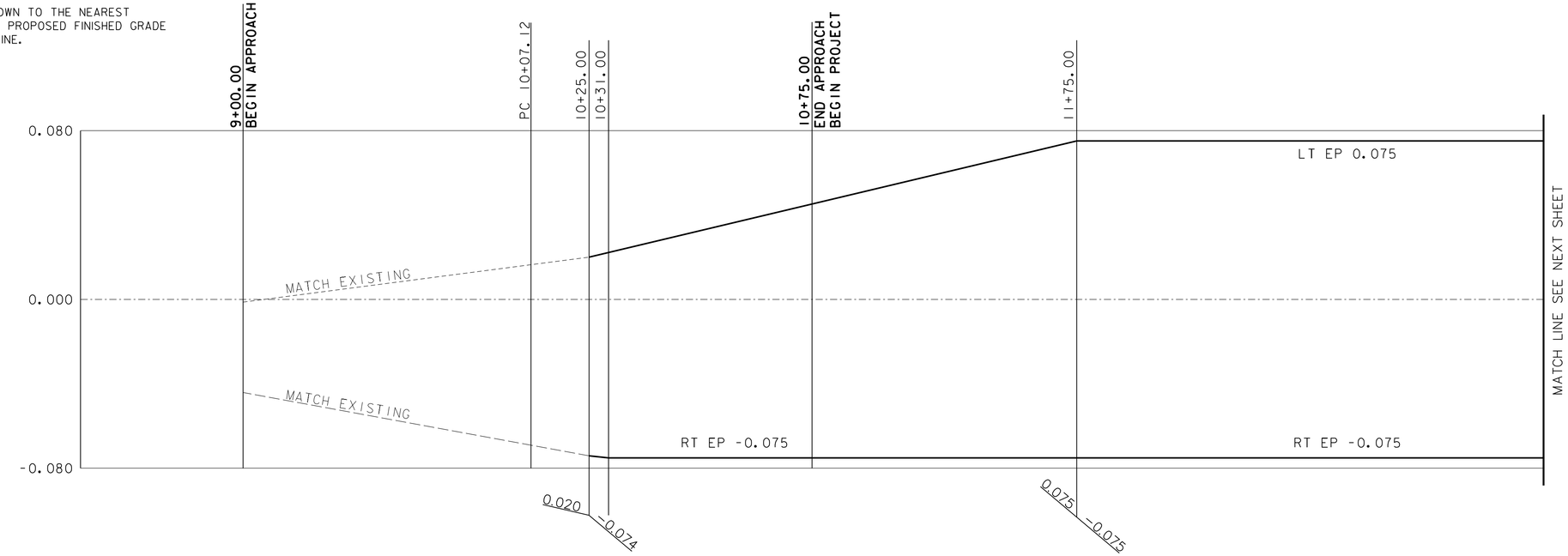
STATIONS AND ELEVATIONS ARE IN FEET.

THE ELEVATIONS SHOWN TO THE NEAREST TENTH ARE THE OLD GROUND ALONG THE CENTERLINE.

THE ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.

VT 102 PROFILE

HOR. SCALE 1" = 20'-0"
VER. SCALE 1" = 10'-0"



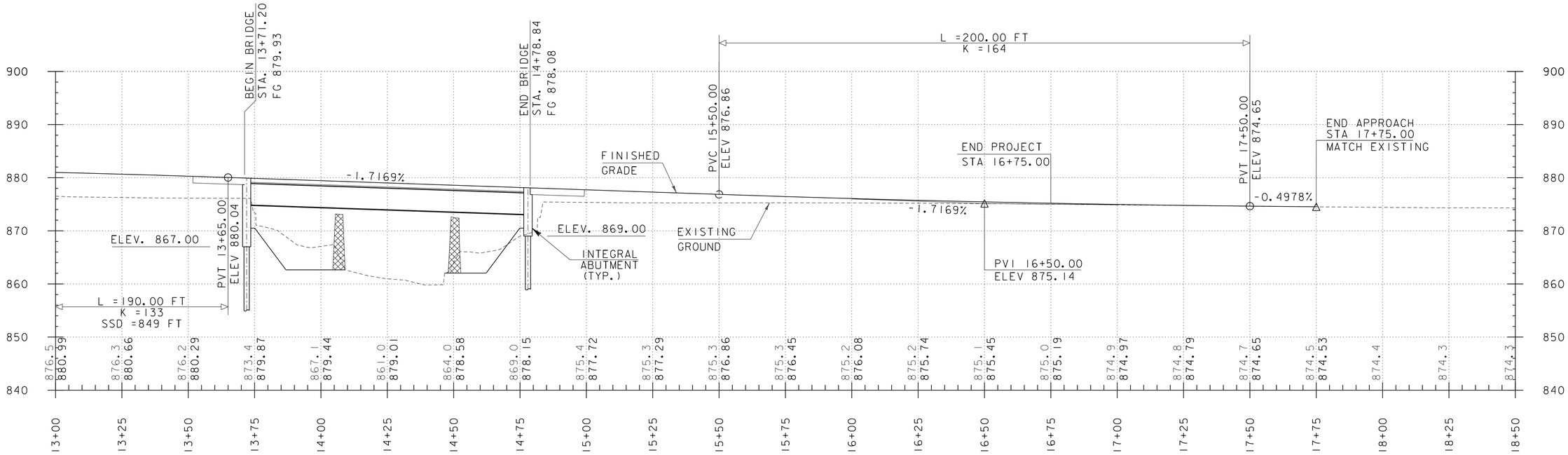
VT 102 BANKING DIAGRAM

SCALE = HORIZONTAL IN FEET
= VERTICAL SUPERELEVATION IN PERCENTAGE

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056pro.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: S. FORTIER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 PROFILE AND BANKING DIAGRAM 1	SHEET 11 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: PRO01



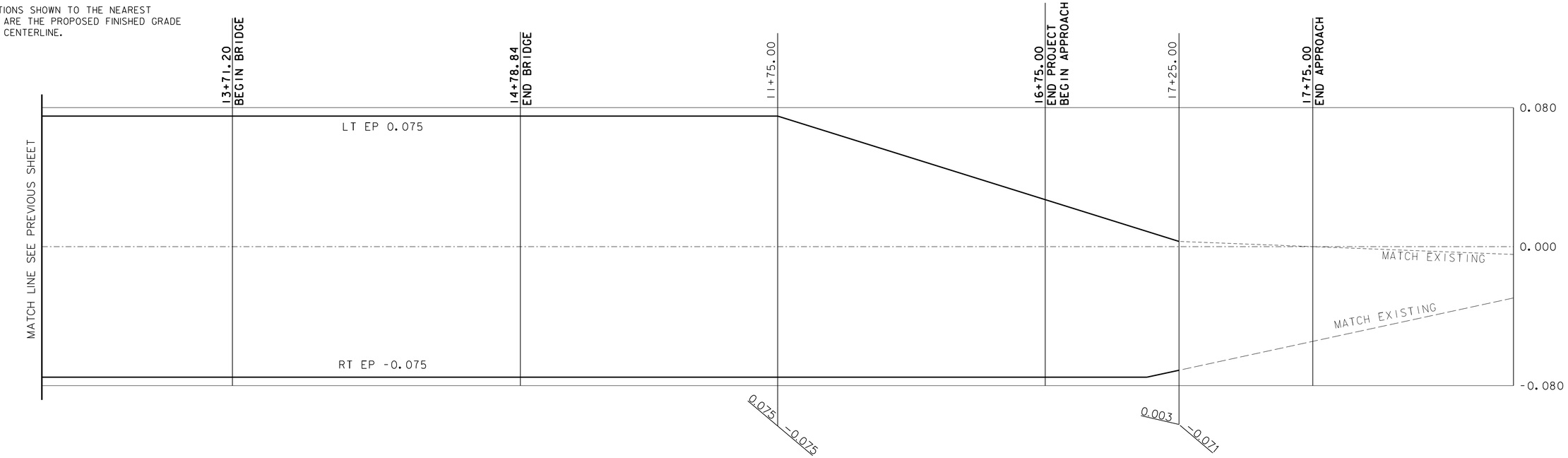
VT 102 PROFILE

HOR. SCALE 1" = 20'-0"
VER. SCALE 1" = 10'-0"

STATIONS AND ELEVATIONS ARE IN FEET.

THE ELEVATIONS SHOWN TO THE NEAREST TENTH ARE THE OLD GROUND ALONG THE CENTERLINE.

THE ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.



VT 102 BANKING DIAGRAM

SCALE = HORIZONTAL IN FEET
= VERTICAL SUPERELEVATION IN PERCENTAGE

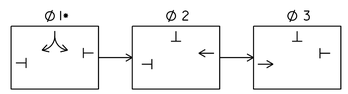
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056pro.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 PROFILE AND BANKING DIAGRAM 2	SHEET 12 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: PR002

NEW	LEGEND
	SIGNAL HEAD (12 INCH, LED, RED, YELLOW, GREEN BALLS)
	PORTABLE TRAFFIC SIGNAL TRAILER WITH TRAFFIC ACTUATORS, EMERGENCY VEHICLE PRE-EMPTION, AND RADIO COMMUNICATION.

PHASE SEQUENCE



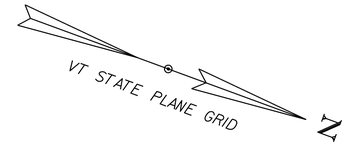
* IF CALLED

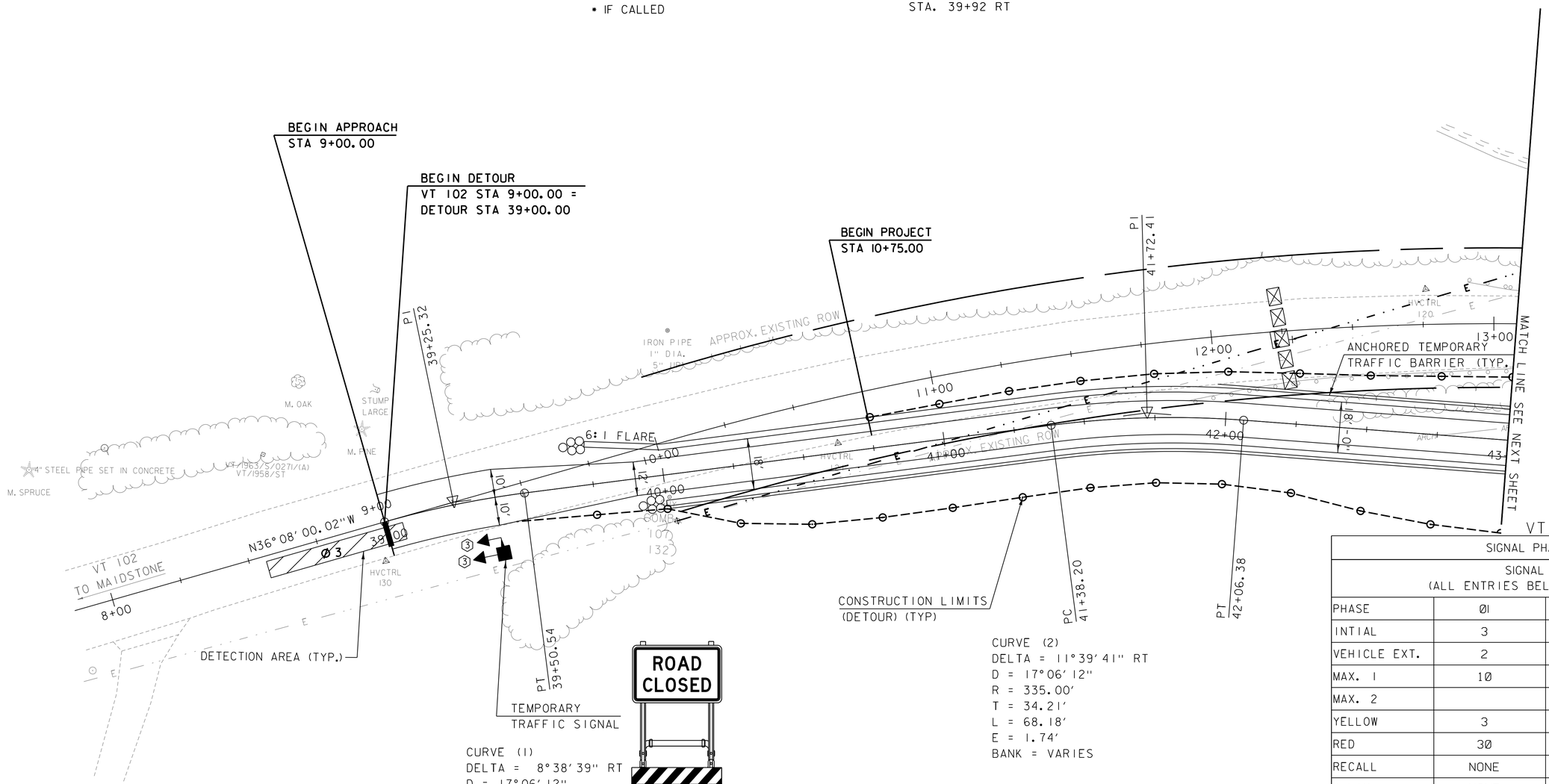
TEMPORARY TRAFFIC BARRIER
STA. 39+73 TO 43+00 LT
STA. 40+00 TO 43+00 RT

TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 39+00 TO 43+00 LT
STA. 39+00 TO 43+00 RT

TEMPORARY 24 INCH STOP BAR, PAINT
STA. 39+00 RT

ENERGY ABSORPTION ATTENUATOR
STA. 39+66 LT
STA. 39+92 RT





CURVE (1)
DELTA = 8°38'39" RT
D = 17°06'12"
R = 335.00'
T = 25.32'
L = 50.54'
E = 0.96'
BANK = VARIES

CURVE (2)
DELTA = 11°39'41" RT
D = 17°06'12"
R = 335.00'
T = 34.21'
L = 68.18'
E = 1.74'
BANK = VARIES

R11-2 B/W SIGN
MOUNTED ON
TYPE III BARRICADE
(MODIFIED)

0 20 40
(SCALE 1" = 20')

SIGNAL PHASING DATA			
SIGNAL PHASING (ALL ENTRIES BELOW ARE IN SECONDS)			
PHASE	Ø1	Ø2	Ø3
INTIAL	3	5	5
VEHICLE EXT.	2	3	3
MAX. 1	10	15	15
MAX. 2			
YELLOW	3	3	3
RED	30	39	39
RECALL	NONE	SOFT	NONE
DELAY	NONE	NONE	NONE

LEGEND
TYPE III BARRICADE
TYPE III BARRICADE (MOD.)

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

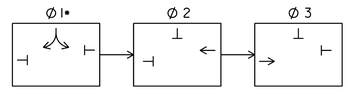
FILE NAME: z13c056tcpbdr.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
PHASE 1 TRAFFIC CONTROL SHEET 1
PLOT DATE: 9/17/2015
DRAWN BY: S. FORTIER
CHECKED BY: K. RUTTER
SHEET 13 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: Layout 1

NEW	LEGEND
→▶⬡	SIGNAL HEAD (12 INCH, LED, RED, YELLOW, GREEN BALLS
■	PORTABLE TRAFFIC SIGNAL TRAILER WITH TRAFFIC ACTUATORS, EMERGENCY VEHICLE PRE-EMPTION, AND RADIO COMMUNICATION.

PHASE SEQUENCE



* IF CALLED

NOTES:

1. TEMPORARY BRIDGE AND ALL TEMPORARY APPROACH WORK, INCLUDING ITEMS SHOWN ON THIS SHEET NOT OTHERWISE PAID UNDER A SEPARATE CONTRACT ITEM, SHALL BE PAID AS ITEM 528.10, ONE-WAY TEMPORARY BRIDGE.

2. TEMPORARY SHEET PILING OR OTHER MEANS OF RETAINING STRUCTURE MAY BE REQUIRED. PAYMENT WILL BE INCIDENTAL TO ITEM 528.10, ONE-WAY TEMPORARY BRIDGE.

3. TEMPORARILY RELOCATE THE MAILBOX LOCATED AT APPROXIMATELY STA. 15+71, RIGHT AS DIRECTED BY THE ENGINEER, WHILE THE TEMPORARY DETOUR IS IN PLACE. ONCE THE DETOUR IS REMOVED THE MAILBOX SHALL BE RESET IN ITS ORIGINAL LOCATION. THIS WORK SHALL BE INCIDENTAL TO ITEM 528.10, ONE-WAY TEMPORARY BRIDGE.

4. SEE TRAFFIC CONTROL PLAN FOR TEMPORARY SIGNING

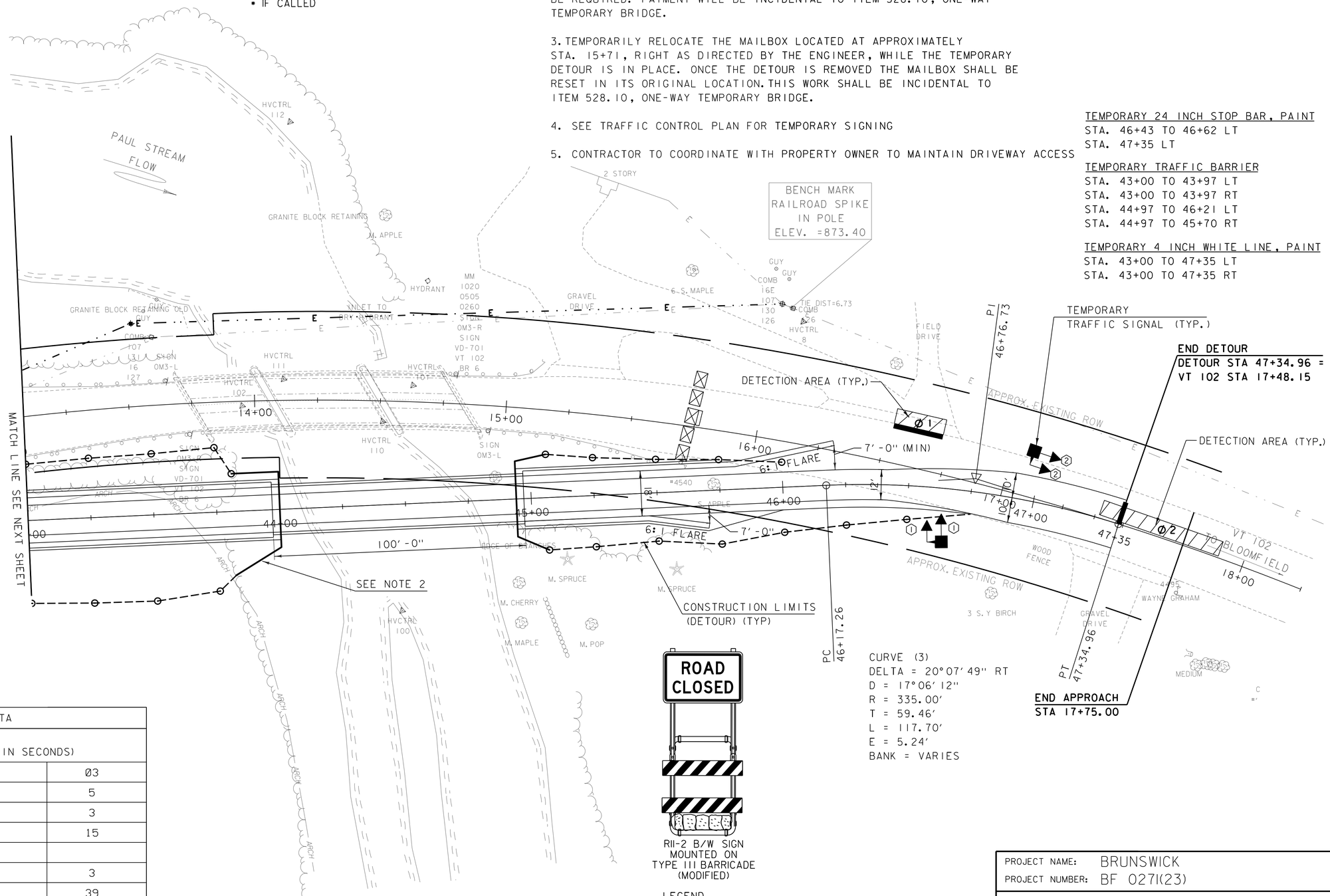
5. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER TO MAINTAIN DRIVEWAY ACCESS

VT STATE PLANE GRID

TEMPORARY 24 INCH STOP BAR, PAINT
STA. 46+43 TO 46+62 LT
STA. 47+35 LT

TEMPORARY TRAFFIC BARRIER
STA. 43+00 TO 43+97 LT
STA. 43+00 TO 43+97 RT
STA. 44+97 TO 46+21 LT
STA. 44+97 TO 45+70 RT

TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 43+00 TO 47+35 LT
STA. 43+00 TO 47+35 RT



CURVE (3)
DELTA = 20°07'49" RT
D = 17°06'12"
R = 335.00'
T = 59.46'
L = 117.70'
E = 5.24'
BANK = VARIES

R11-2 B/W SIGN MOUNTED ON TYPE III BARRICADE (MODIFIED)

VT 102

SIGNAL PHASING DATA			
SIGNAL PHASING (ALL ENTRIES BELOW ARE IN SECONDS)			
PHASE	Ø1	Ø2	Ø3
INTIAL	3	5	5
VEHICLE EXT.	2	3	3
MAX. 1	10	15	15
MAX. 2			
YELLOW	3	3	3
RED	30	39	39
RECALL	NONE	SOFT	NONE
DELAY	NONE	NONE	NONE

0 20 40
(SCALE 1" = 20')

LEGEND
TYPE III BARRICADE
TYPE III BARRICADE (MOD.)

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

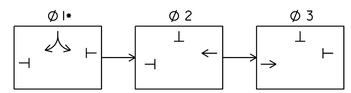
FILE NAME: z13c056tcpbdr.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
PHASE 1 TRAFFIC CONTROL SHEET 2

PLOT DATE: 9/17/2015
DRAWN BY: S. FORTIER
CHECKED BY: K. RUTTER
SHEET 14 OF 57

MODEL: Layout 2
CLD 14-0149

NEW	LEGEND
	SIGNAL HEAD (12 INCH, LED, RED, YELLOW, GREEN BALLS)
■	PORTABLE TRAFFIC SIGNAL TRAILER WITH TRAFFIC ACTUATORS, EMERGENCY VEHICLE PRE-EMPTION, AND RADIO COMMUNICATION.

PHASE SEQUENCE

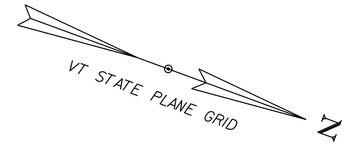


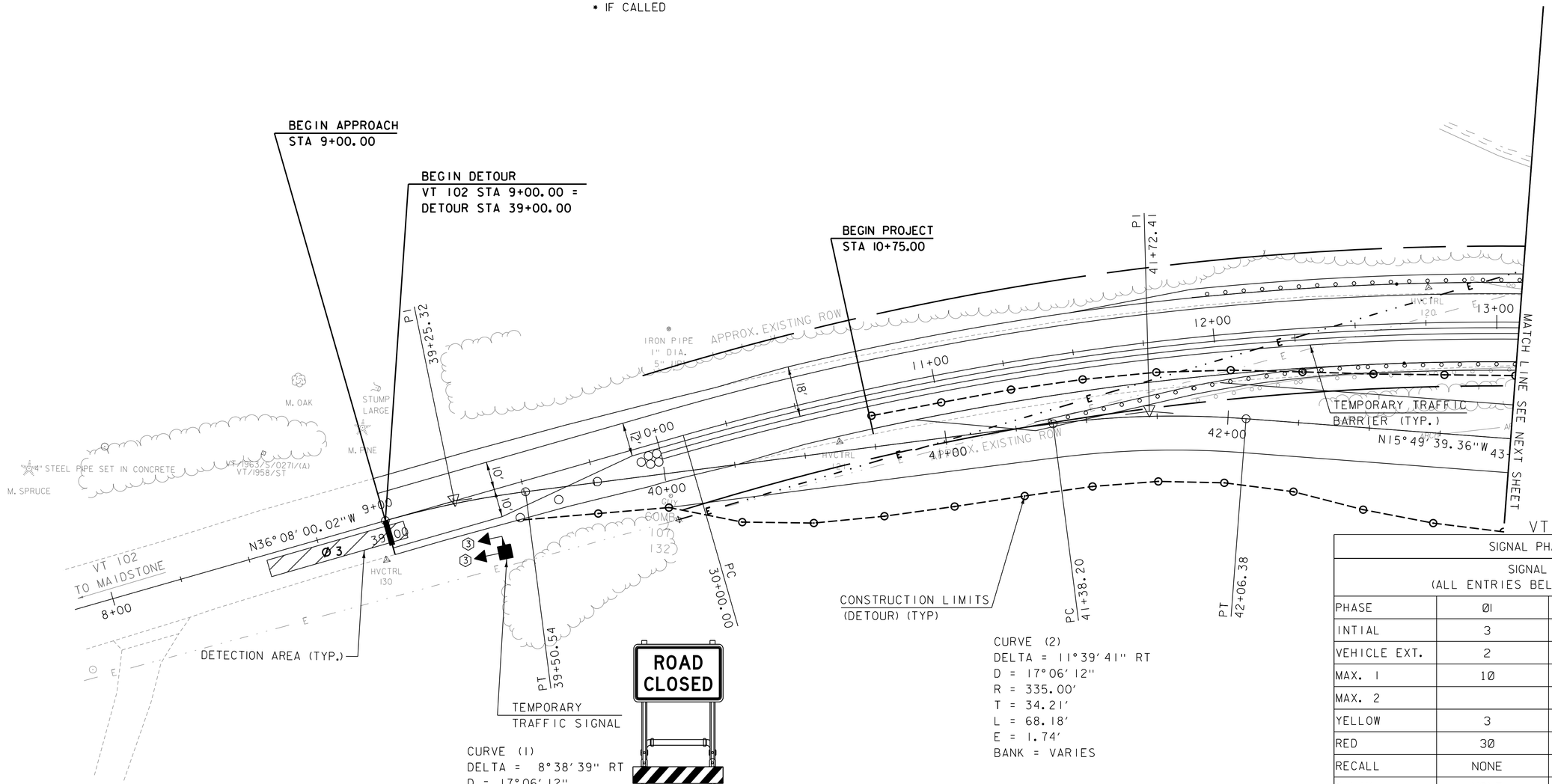
* IF CALLED

TEMPORARY TRAFFIC BARRIER
STA. 10+00 TO 13+08 RT

TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 9+00 TO 13+08 LT
STA. 9+00 TO 13+08 RT

ENERGY ABSORPTION ATTENUATOR
STA. 9+92 RT





CURVE (1)
DELTA = 8°38'39" RT
D = 17°06'12"
R = 335.00'
T = 25.32'
L = 50.54'
E = 0.96'
BANK = VARIES

R11-2 B/W SIGN
MOUNTED ON
TYPE III BARRICADE
(MODIFIED)

CURVE (2)
DELTA = 11°39'41" RT
D = 17°06'12"
R = 335.00'
T = 34.21'
L = 68.18'
E = 1.74'
BANK = VARIES

0 20 40
(SCALE 1" = 20')

SIGNAL PHASING DATA			
SIGNAL PHASING (ALL ENTRIES BELOW ARE IN SECONDS)			
PHASE	Ø1	Ø2	Ø3
INTIAL	3	5	5
VEHICLE EXT.	2	3	3
MAX. 1	10	15	15
MAX. 2			
YELLOW	3	3	3
RED	30	39	39
RECALL	NONE	SOFT	NONE
DELAY	NONE	NONE	NONE

LEGEND
TYPE III BARRICADE ⊠
TYPE III BARRICADE (MOD.) ⊠

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

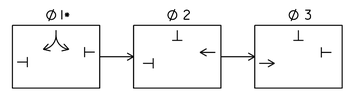
FILE NAME: z13c056tcpbdr.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
PHASE 2 TRAFFIC CONTROL SHEET 1
PLOT DATE: 9/17/2015
DRAWN BY: S. FORTIER
CHECKED BY: K. RUTTER
SHEET 15 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: Layout 1

NEW	LEGEND
	SIGNAL HEAD (12 INCH, LED, RED, YELLOW, GREEN BALLS
■	PORTABLE TRAFFIC SIGNAL TRAILER WITH TRAFFIC ACTUATORS, EMERGENCY VEHICLE PRE-EMPTION, AND RADIO COMMUNICATION.

PHASE SEQUENCE



* IF CALLED

NOTES:

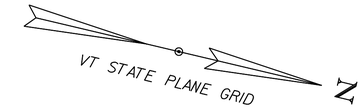
1. TEMPORARY BRIDGE AND ALL TEMPORARY APPROACH WORK, INCLUDING ITEMS SHOWN ON THIS SHEET NOT OTHERWISE PAID UNDER A SEPARATE CONTRACT ITEM, SHALL BE PAID AS ITEM 528.10, ONE-WAY TEMPORARY BRIDGE.

2. TEMPORARY SHEET PILING OR OTHER MEANS OF RETAINING STRUCTURE MAY BE REQUIRED. PAYMENT WILL BE INCIDENTAL TO ITEM 528.10, ONE-WAY TEMPORARY BRIDGE.

3. TEMPORARILY RELOCATE THE MAILBOX LOCATED AT APPROXIMATELY STA. 15+71, RIGHT AS DIRECTED BY THE ENGINEER, WHILE THE TEMPORARY DETOUR IS IN PLACE. ONCE THE DETOUR IS REMOVED THE MAILBOX SHALL BE RESET IN ITS ORIGINAL LOCATION. THIS WORK SHALL BE INCIDENTAL TO ITEM 528.10, ONE-WAY TEMPORARY BRIDGE.

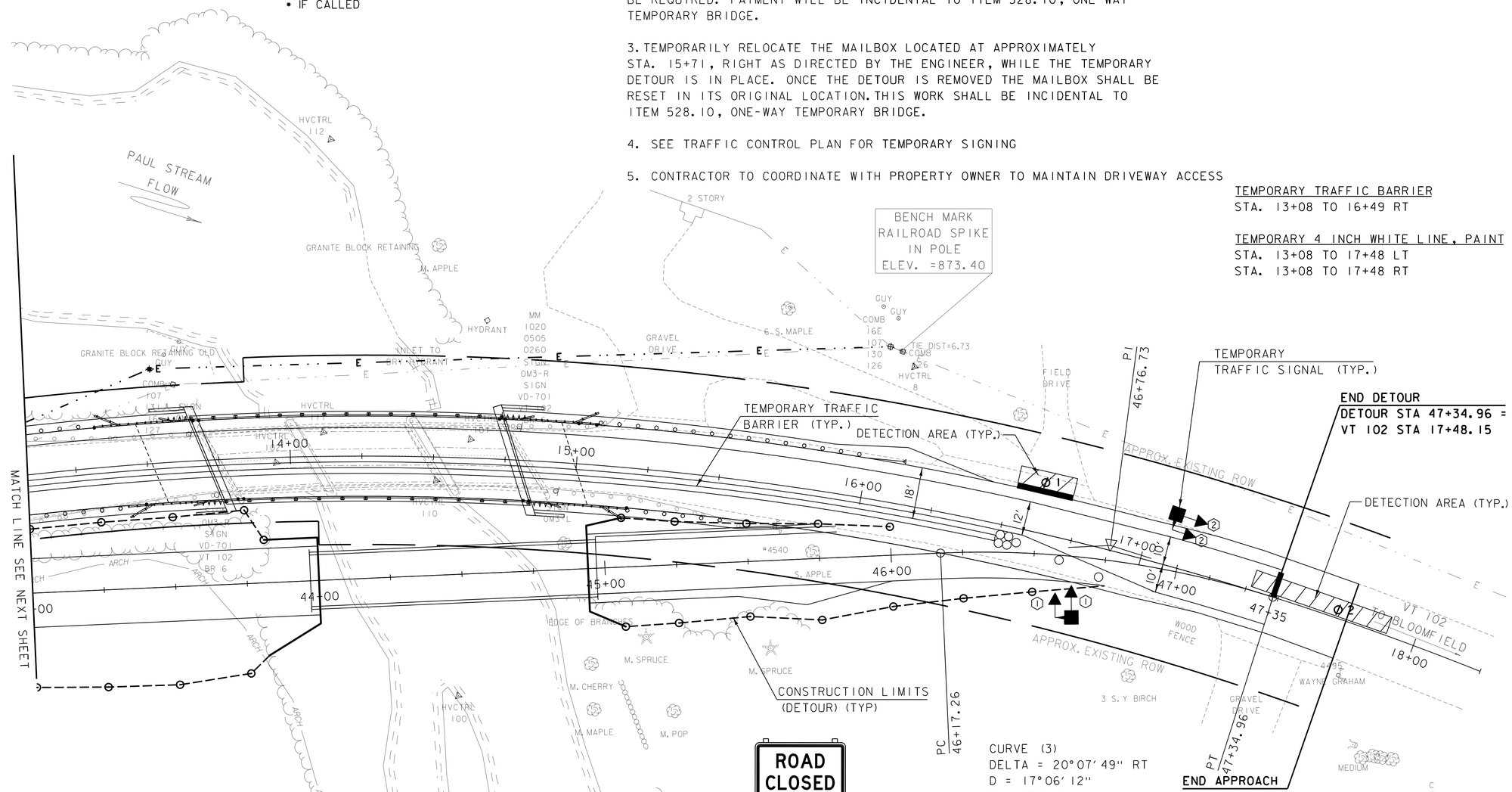
4. SEE TRAFFIC CONTROL PLAN FOR TEMPORARY SIGNING

5. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER TO MAINTAIN DRIVEWAY ACCESS



TEMPORARY TRAFFIC BARRIER
STA. 13+08 TO 16+49 RT

TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 13+08 TO 17+48 LT
STA. 13+08 TO 17+48 RT



CURVE (3)
DELTA = 20°07'49" RT
D = 17°06'12"
R = 335.00'
T = 59.46'
L = 117.70'
E = 5.24'
BANK = VARIES

R11-2 B/W SIGN
MOUNTED ON
TYPE III BARRICADE
(MODIFIED)

LEGEND
TYPE III BARRICADE
TYPE III BARRICADE (MOD.)

0 20 40
(SCALE 1" = 20')

VT 102

SIGNAL PHASING DATA			
SIGNAL PHASING (ALL ENTRIES BELOW ARE IN SECONDS)			
PHASE	Ø1	Ø2	Ø3
INTIAL	3	5	5
VEHICLE EXT.	2	3	3
MAX. 1	10	15	15
MAX. 2			
YELLOW	3	3	3
RED	30	39	39
RECALL	NONE	SOFT	NONE
DELAY	NONE	NONE	NONE

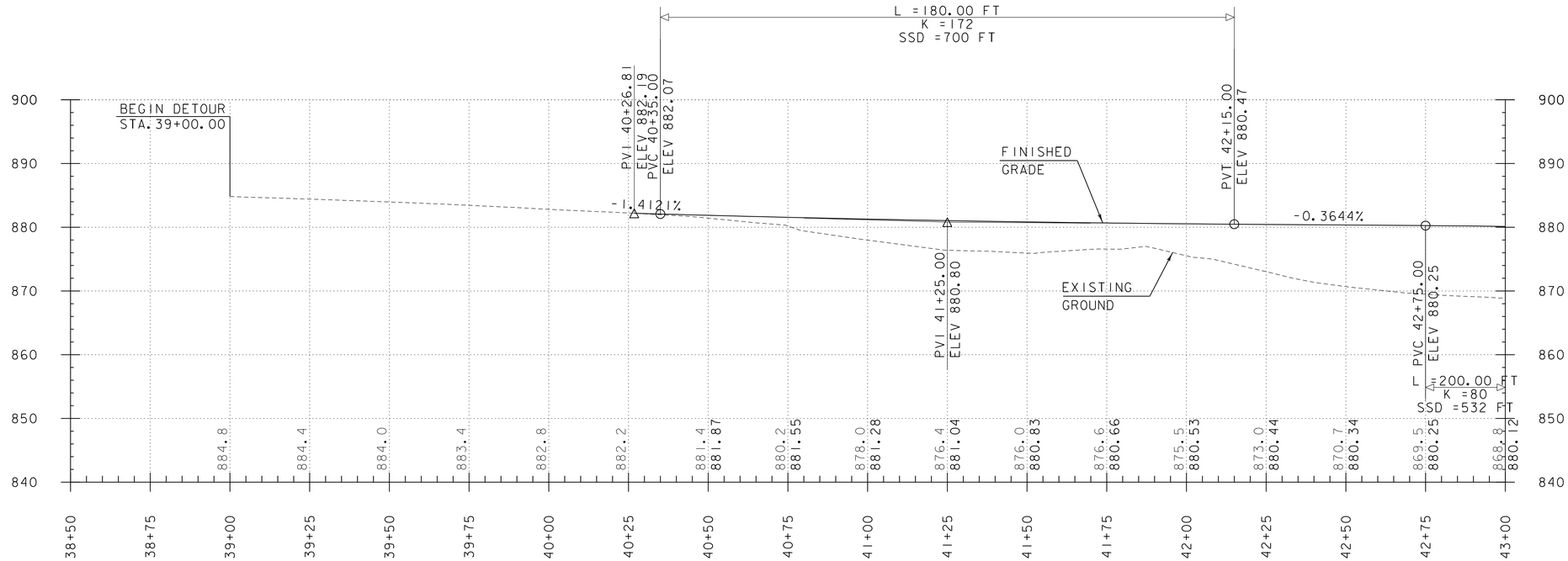
PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

FILE NAME: z13c056tcpbdr.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
PHASE 2 TRAFFIC CONTROL SHEET 2

PLOT DATE: 9/17/2015
DRAWN BY: S. FORTIER
CHECKED BY: K. RUTTER
SHEET 16 OF 57

CONSULTING ENGINEERS

MODEL: Layout 2
CLD 14-0149



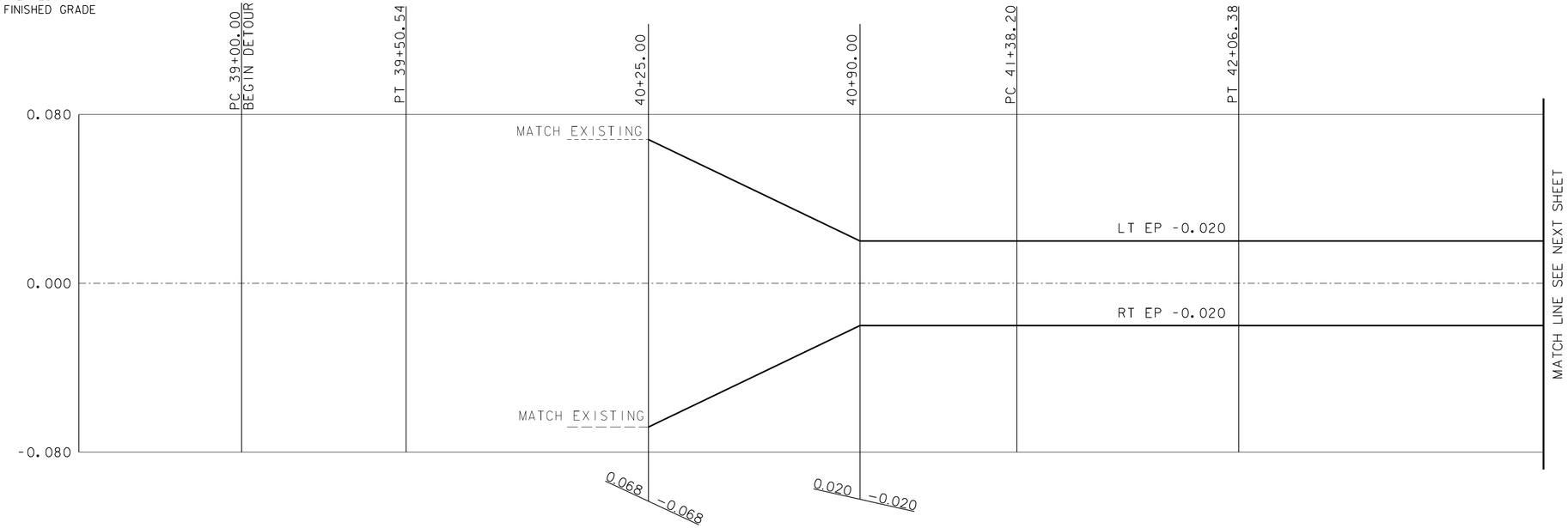
STATIONS AND ELEVATIONS ARE IN FEET.

THE ELEVATIONS SHOWN TO THE NEAREST TENTH ARE THE OLD GROUND ALONG THE CENTERLINE.

THE ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.

TEMPORARY DETOUR PROFILE

HOR. SCALE 1" = 20'-0"
VER. SCALE 1" = 10'-0"



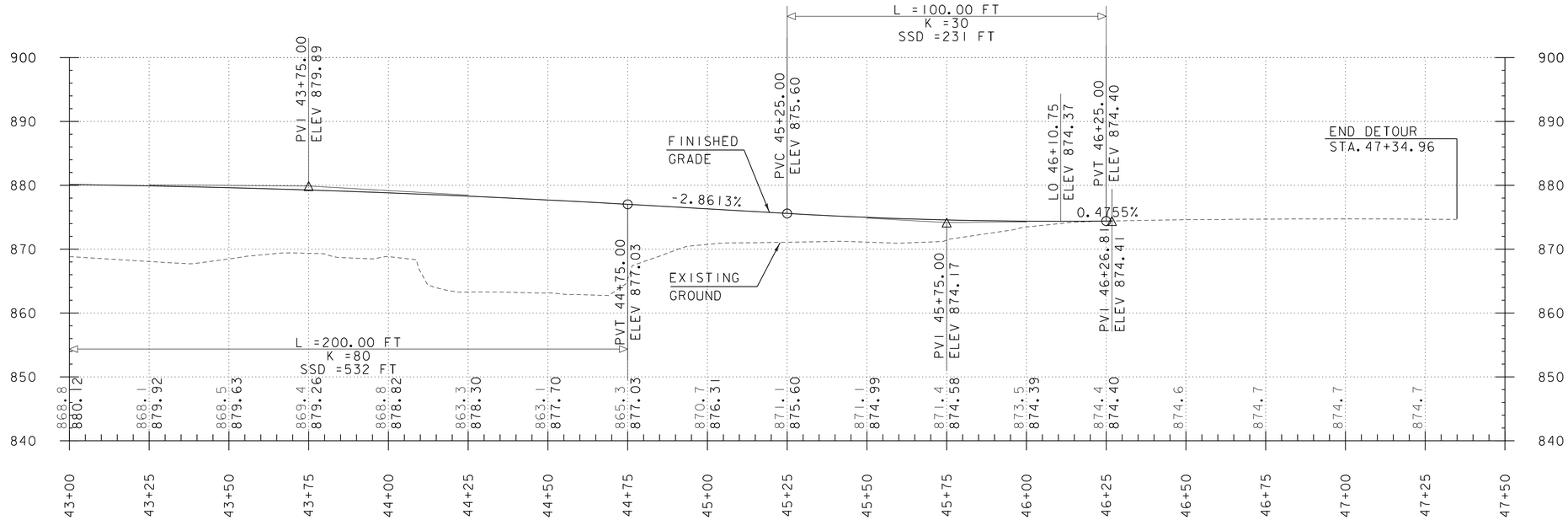
TEMPORARY DETOUR BANKING DIAGRAM

SCALE = HORIZONTAL IN FEET
= VERTICAL SUPERELEVATION IN PERCENTAGE

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056tcppro.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: S. FORTIER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
DETOUR PROFILE AND BANKING DIAGRAM 1	SHEET 17 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: PRO01



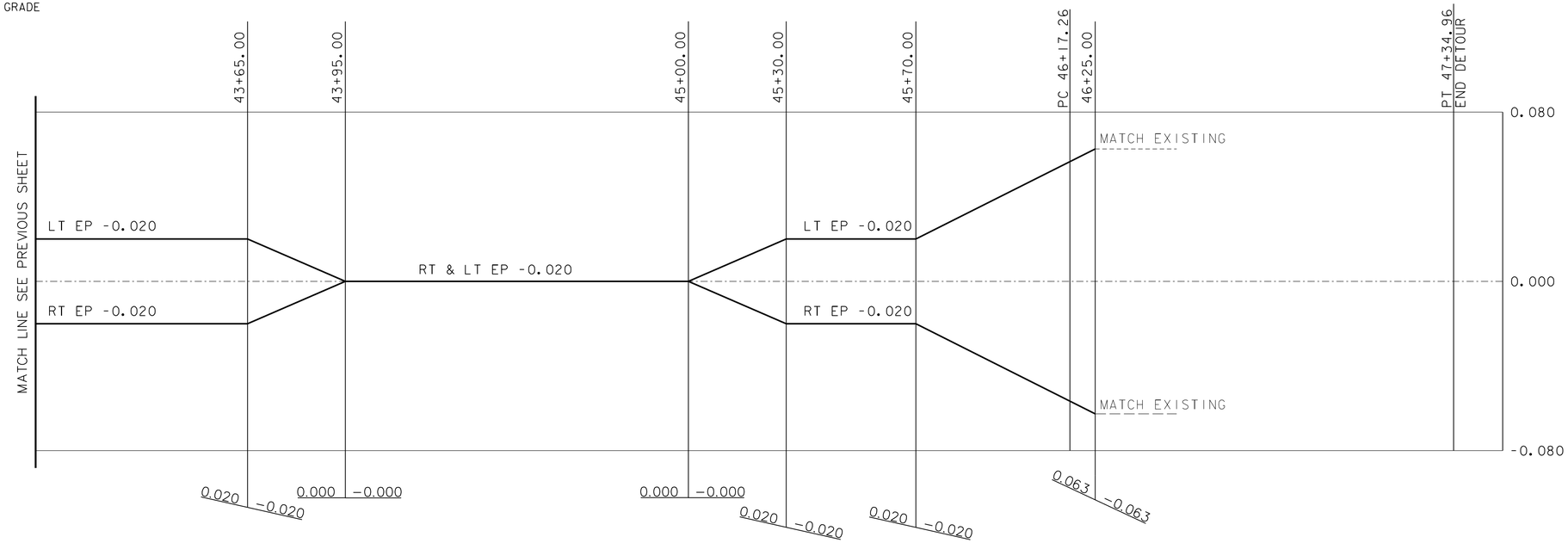
TEMPORARY DETOUR PROFILE

HOR. SCALE 1" = 20'-0"
VER. SCALE 1" = 10'-0"

STATIONS AND ELEVATIONS ARE IN FEET.

THE ELEVATIONS SHOWN TO THE NEAREST TENTH ARE THE OLD GROUND ALONG THE CENTERLINE.

THE ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED FINISHED GRADE ALONG THE CENTERLINE.



TEMPORARY DETOUR BANKING DIAGRAM

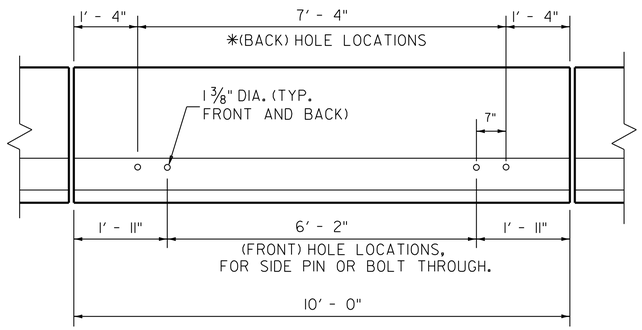
SCALE = HORIZONTAL IN FEET
= VERTICAL SUPERELEVATION IN PERCENTAGE

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056tcppro.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
DETOUR PROFILE AND BANKING DIAGRAM 2	SHEET 18 OF 57

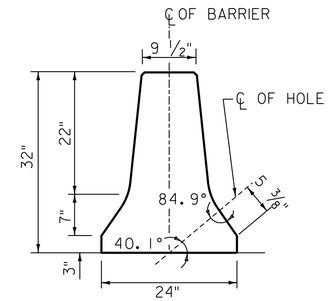
CLD 14-0149 MODEL: PR002

ANCHORED TEMPORARY TRAFFIC BARRIER

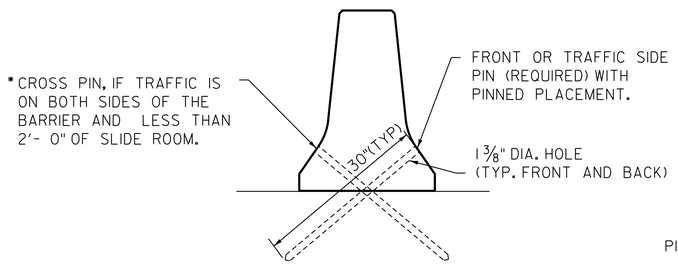
(NOT TO SCALE)



DETAIL 1

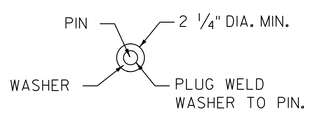


HOLE LOCATION DETAIL

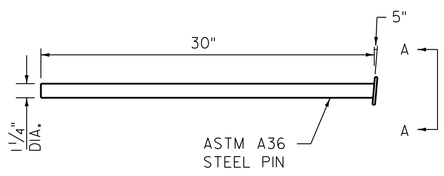


DETAIL 2

PLACEMENT ON BITUMINOUS CONCRETE PAVEMENT OR TREATED BASE MATERIAL (30" PIN REQUIRED)



VIEW A-A



(30") PIN DETAIL
SEE DETAIL 2

GENERAL NOTES

1. THE DETAILS PROVIDED ARE INTENDED TO BE A SCHEMATIC ONLY. THE EXACT LAYOUT OF THE ANCHORS SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER AND BE BASED FROM MEASUREMENT OF THE BARRIER ONSITE. THE ANCHORING SYSTEM SHALL BE CRASH TESTED FOR A MINIMUM TL-3 RATING.

2. THESE DETAILS PROVIDE A METHOD OF LATERALLY RESTRAINING PRECAST CONCRETE BARRIER TO LIMIT DEFLECTIONS UNDER NORMALLY EXPECTED PASSENGER VEHICLE IMPACTS. THESE DETAILS ARE INTENDED FOR USE IN WORK ZONES, PRIMARILY ON PAVEMENT WHERE TEMPORARY BARRIER MUST BE PLACED LESS THEN 2 FEET FROM THE LONGITUDINAL EDGE OF THE DECK OR DROPOFF AND PARALLEL TO THE DIRECTION OF TRAVEL. OTHER APPLICATIONS OF THESE DETAILS ARE ACCEPTABLE AS DIRECTED BY THE ENGINEER.

3. EACH PRECAST CONCRETE BARRIER SECTION SHALL HAVE A MINIMUM OF TWO OR TOTAL OF FOUR 1 3/8" ID. HOLES FORMED OR CORED THROUGH THE BARRIER.

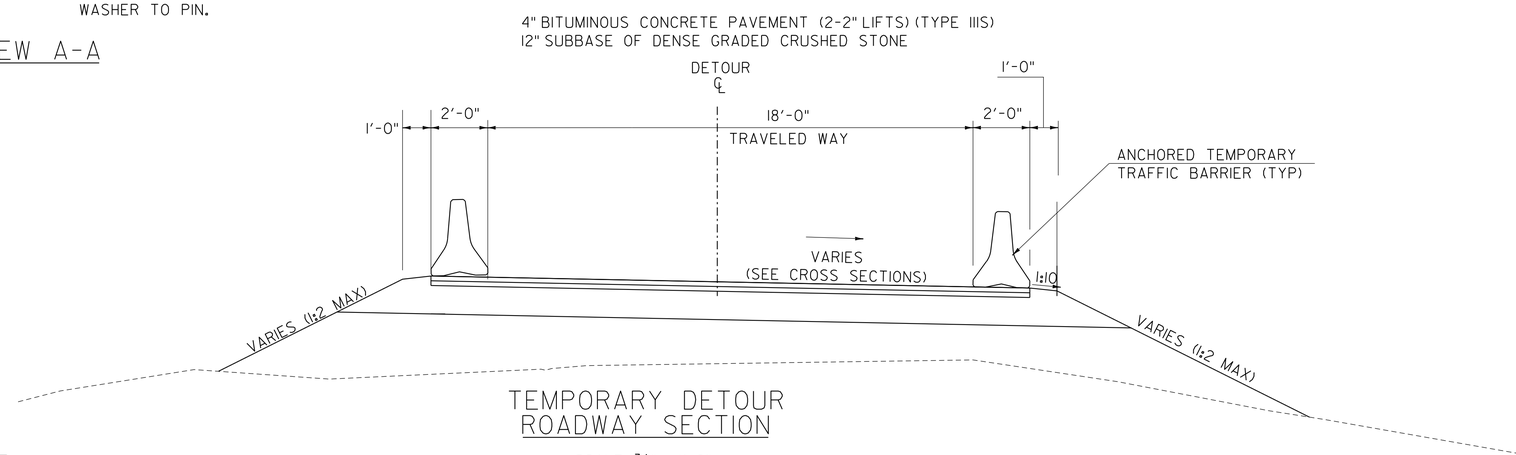
4. THE DRILLING OF THE TRAVEL SURFACE IS ACCOMPLISHED BY PLACING THE PRE-DRILLED BARRIER SECTION ON THE TRAVEL SURFACE IN THE DESIRED POSITION. THE HOLE IS DRILLED WITH THE BIT PASSING THROUGH THE HOLE IN THE BARRIER. THE BIT IS TO BE INSERTED INTO THE HOLE IN THE BARRIER SO THAT THE TRAVEL SURFACE IS DRILLED TO A POINT WHICH IS SLIGHTLY MORE THAN THE PIN LENGTH.

5. NOTE THAT STEEL WASHERS HAVE BEEN WELDED TO THE TOP OF THE STEEL PINS TO AID IN THE REMOVAL OF THE PINS, WHEN THE BARRIER IS REMOVED.

6. PAYMENT FOR FORMING OR CORING OF HOLES IN THE BARRIER, DRILLING OF HOLES IN BRIDGE DECK OR PAVEMENT, FABRICATION AND MATERIALS FOR THE 1 1/4" PINS, INSTALLATION OF PINS, AND ANY REPAIR TO THE BARRIER SHALL BE CONSIDERED INCIDENTAL TO ITEM 528.11, TWO-WAY TEMPORARY BRIDGE.

7. THE BARRIER AND TRAVEL SURFACE WILL BE REPAIRED AS DIRECTED BY THE ENGINEER.

8. PROVIDE GALVANIZED BOLTS, NUTS, AND PLATE WASHERS. ALL STEEL PINS SHALL BE GALVANIZED. ALL NUTS, BOLTS, PLATE WASHERS, AND PINS SHALL BE INCIDENTAL TO ITEM 528.11, TWO-WAY TEMPORARY BRIDGE.



TEMPORARY DETOUR ROADWAY SECTION

SCALE: 3/8" = 1'-0"

NOTE: TEMPORARY APPROACH WORK SHALLBE PAID AS ITEM 528.10, ONE-WAY TEMPORARY BRIDGE

CORE DRILLING EXISTING BARRIER

CORE DRILLING EXISTING CONCRETE BARRIER IS PERMITTED. HOLES SHALL BE DRILLED WITH CORING OR MASONRY DRILLING TYPE EQUIPMENT. PERCUSSION (STAR) DRILLING SHALL NOT BE USED. A SPECIAL DRILL BIT (TO CUT THROUGH EXISTING REINFORCING) WILL LIKELY BE REQUIRED. SPALLS IN THE CONCRETE EXCEEDING 1/2" SHALL BE PATCHED.

NOT TO SCALE

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056tcpdet.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TRAFFIC CONTROL DETAIL SHEET	SHEET 19 OF 57

CONSULTING ENGINEERS

CLD 14-0149 MODEL: TCPdet01

SIGNAL OPERATION NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S (VTRANS) "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2011, WITH CURRENT MODIFICATIONS.

2. TEMPORARY TRAFFIC SIGNAL SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 678, "TRAFFIC CONTROL SIGNALS" AND WILL BE CONSIDERED INCIDENTAL TO ITEM 900.620 SPECIAL PROVISION (TEMPORARY TRAFFIC SIGNAL SYSTEM, PORTABLE).

3. THE TEMPORARY TRAFFIC CONTRTOL SYSTEM SHALL CONSIST OF POLES, SIGNS, AND POSTS, WARNING SIGNS, LUMINAIRES, FLASHING BEACONS, ASSOCIATED PAVEMENT MARKINGS AND SIGNAL EQUIPMENT TO PROVIDE FOR AN ADEQUATE DESIGN. IT ALSO INCLUDES PERMITS AND COSTS ASSOCIATED WITH PROVIDING ELECTRICAL POWER.

4. THE CONTRACTOR SHALL INSTALL PORTABLE TRAFFIC SIGNAL TRAILERS IN PLACE OF A STATIC SIGNAL SYSTEM AS SHOWN ON THE PLANS. THE TRAILERS SHALL COMMUNICATE VIA RADIO INTERFACE TO FUNCTION AS A SINGLE CONTROL SYSTEM. AT LEAST ONE SIGNAL HEAD SHALL BE UNMISTAKABLY IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. THE SECOND SIGNAL HEAD MAY BE POST MOUNTED ON THE TRAILER, LOCATED AT A DISTANCE OF 14.5 FEET FROM THE CENTER OF THE APPROACH LANE WHEN THE STOP BAR IS 40 FEET FROM THE SIGNAL HEAD. CONSULT THE LATEST EDITION OF THE MUTCD FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.

5. THE BOTTOM OF A SIGNAL FACE NOT MOUNTED OVER A ROADWAY SHALL NOT BE LESS THAN 8.0 FEET NOR MORE THAN 15.0 FEET ABOVE THE GROUND. CAUTION SHOULD BE USED TO ENSURE COMPLIANCE WITH THE HEIGHT REQUIREMENTS IN THE EVENT THE NEW APPROACH GRADES DIFFER SIGNIFICANTLY FROM THE OLD ROADWAY GRADE.

6. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 8 FEET APART MEASURED HORIZONTALLY BETWEEN CENTER FACES.

7. SIGNAL FACES SHALL BE L.E.D. AND CONSIST OF 12 INCH LENSES (RED, YELLOW AND GREEN BALLS)

8. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES UNDER EACH PHASE OF CONSTRUCTION IF NECESSARY.

9. THE TRAFFIC SIGNALS SHALL NOT OPERATE WITHOUT THE PAVEMENT MARKINGS AND SIGNAL RELATED SIGNING IN PLACE.

10. INSTALL WIRING BETWEEN POWER SOURCES AND SIGNAL TRAILERS TO PROVIDE FOR A SAFE INSTALLATION. ANY NECESSARY CONNECTIONS TO UTILITY POLES SHALL BE COORDINATED BY THE CONTRACTOR WITH THE UTILITY COMPANY.

11. ANY TEMPORARY POLES SHALL BE PLACED BEHIND GUARDRAIL OR OUTSIDE OF THE CLEAR ZONE.

12. LUMINAIRES SHALL BE INSTALLED AT EACH OF THE APPROACHES TO ADEQUATELY ILLUMINATE THE STOP BAR AREAS. 250 WATT HIGH PRESSURE SODIUM, 150 WATT MERCURY OR AN EQUIVALENT WATTAGE L.E.D. LAMP ARE ALL ACCEPTABLE FORMS OF LUMINAIRE. THE MOUNTING HEIGHT SHALL BE 30 FEET ABOVE THE CENTERLINE OR AS DIRECTED BY THE ENGINEER. WHILE THE INTENT IS TO ILLUMINATE THE TEMPORARY SIGNAL SYSTEM, MEASURED NIGHTTIME ILLUMINANCE AT EACH STOP BAR SHALL NOT BE LESS THAN 1.0 FOOT-CANDLE. THE ENGINEER SHALL ORDER CHANGES TO THE LIGHTING COMPONENTS IF DETERMINED TO BE INSUFFICIENT.

13. ALL TRAFFIC SIGNS, INCLUDING STOP SIGNS, MADE IRRELEVANT DUE TO THE TEMPORARY SIGNAL SHALL BE COMPLETELY COVERED DURING OPERATION OF THE TEMPORARY SIGNAL OR AT THE DISCRETION OF THE ENGINEER.

14. CONSTRUCTION APPROACH SIGNS SHALL BE PROVIDED ON EACH APPROACH PER THE TRAFFIC CONTROL PLANS IN THIS PLAN SET. ADDITIONAL SIGNS SHALL BE INSTALLED AS REQUIRED BY THE ENGINEER PER STANDARD T-1.

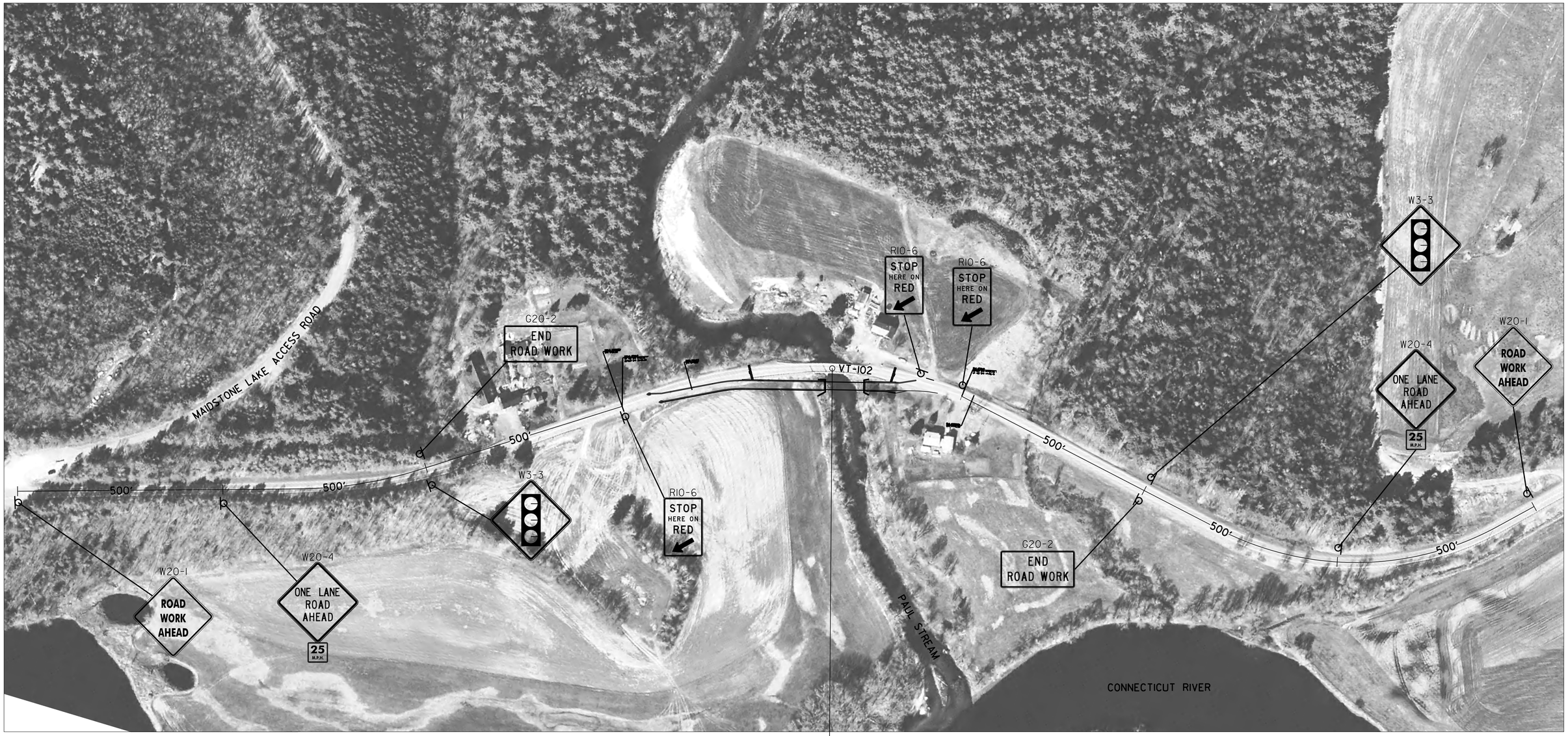
15. SIGNAL TIMING SHOWN ON THE PLANS MAY REQUIRE FINE-TUNING BY THE ENGINEER IN THE FIELD BASED ON TRAFFIC OBSERVATION (COST OF ADJUSTMENTS SHALL BE INCIDENTAL TO OTHER ITEMS).

16. WHEN THE TEMPORARY TRAFFIC CONTROL SIGNALS ARE CHANGED TO FLASHING MODE, EITHER MANUALLY OR AUTOMATICALLY, RED SIGNAL INDICATIONS SHALL BE FLASHED ON ALL APPROACHES.

17. ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, ETC., SHALL BELONG TO THE CONTRACTOR AT THE END OF THE PROJECT AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR REMOVAL INCLUDING ANY TEMPORARY PAVEMENT MARKINGS, UTILITY POLES, WIRES, ETC.

VT STATE PLANE GRID

N



CHANNEL STA. 51+00.00
= CHORD STA. 14+25.00
△ = 60° 00' 00"

NOTES:

1. ALL TEMPORARY TRAFFIC SIGNS SHALL BE PAID FOR UNDER ITEM 641.10, TRAFFIC CONTROL, UNLESS OTHERWISE SPECIFIED.
2. NO CONSTRUCTION SIGN SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCE FROM DRIVES AND INTERSECTING ROADS.
3. ALL PERMANENT SIGNS THAT CONFLICT WITH TEMPORARY TRAFFIC CONTROL SHALL BE COMPLETELY COVERED DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL PROVIDE TWO (2) PORTABLE CHANGEABLE MESSAGE SIGNS FOR THE DURATION OF THE PROJECT, WHICH SHALL BE PAID UNDER ITEM 641.15, PORTABLE CHANGEABLE MESSAGE SIGN. THE LOCATION AND MESSAGE CONTENT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
5. CONTRACTOR SHALL COORINATE WITH ADJACENT PROPERTY OWERS TO MAINTAIN ACCESS TO DRIVES.

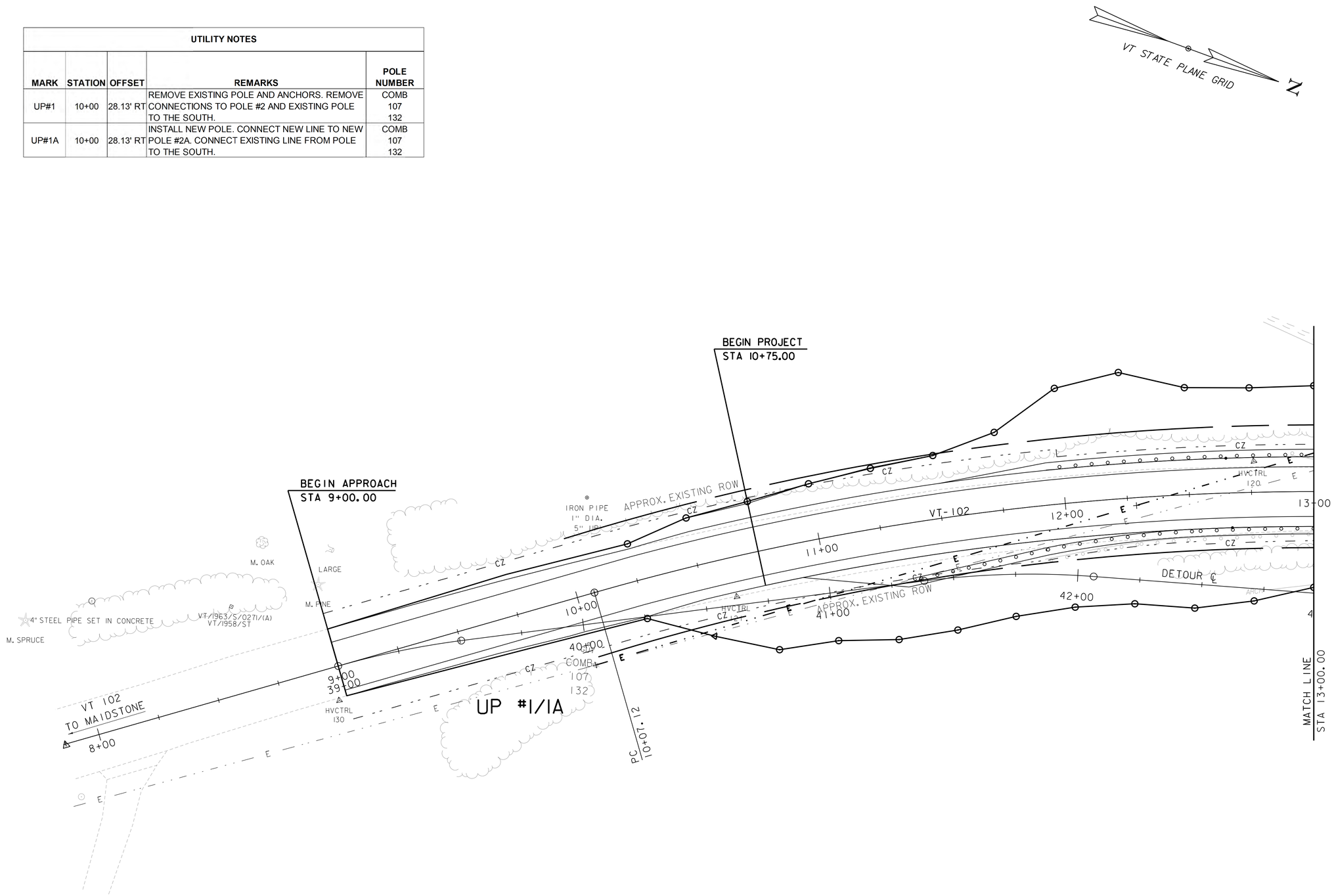
0 120 240
(SCALE 1" = 120')

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056tcpsign.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: S. FORTIER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TRAFFIC CONTROL PLAN	SHEET 21 OF 57

CLD 14-0149 MODEL: Layout

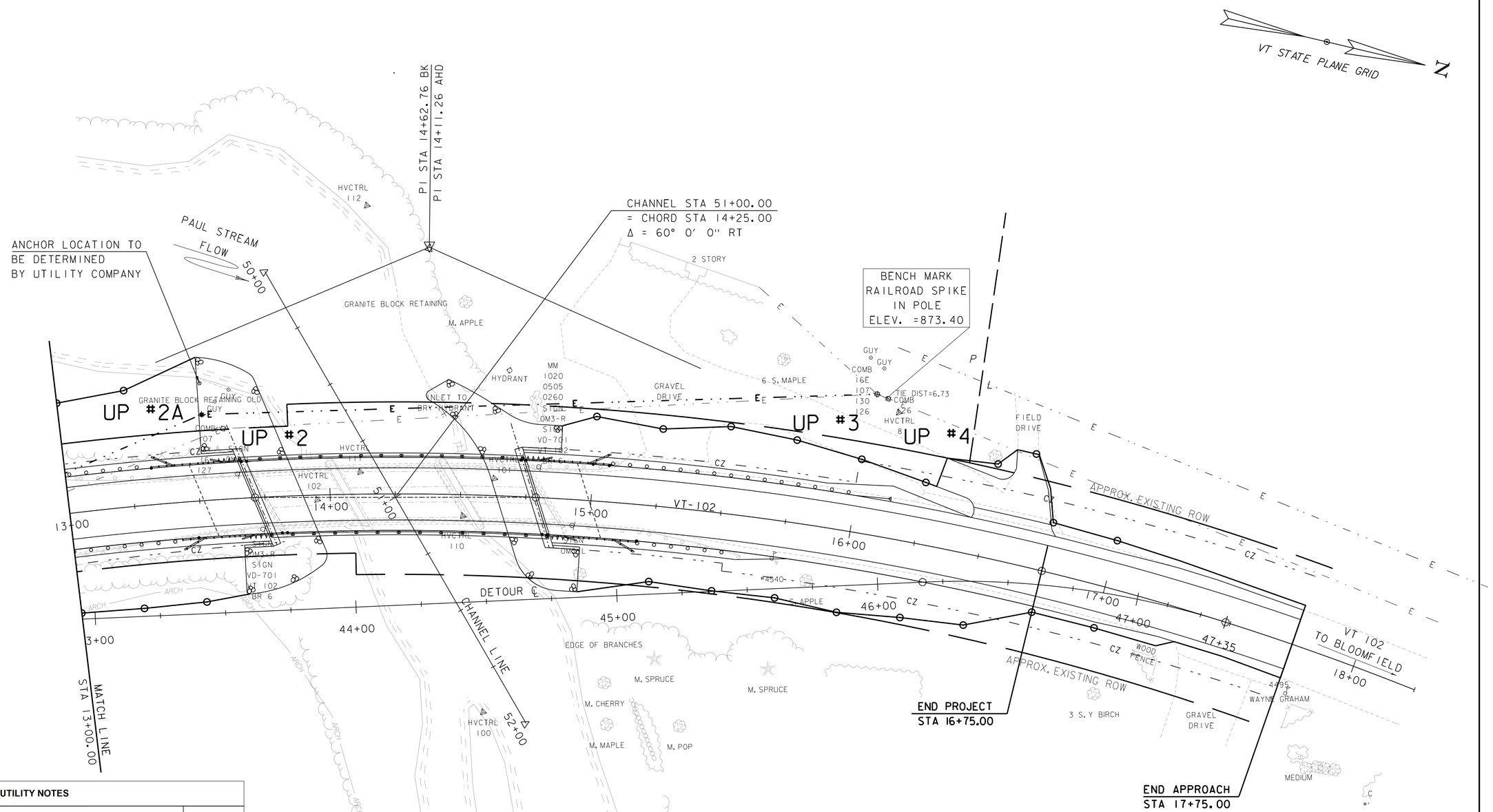
UTILITY NOTES				
MARK	STATION	OFFSET	REMARKS	POLE NUMBER
UP#1	10+00	28.13' RT	REMOVE EXISTING POLE AND ANCHORS. REMOVE CONNECTIONS TO POLE #2 AND EXISTING POLE TO THE SOUTH.	COMB 107 132
UP#1A	10+00	28.13' RT	INSTALL NEW POLE. CONNECT NEW LINE TO NEW POLE #2A. CONNECT EXISTING LINE FROM POLE TO THE SOUTH.	COMB 107 132



0 20 40
(SCALE 1" = 20')

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 027I(23)	
FILE NAME: zI3c056bdrutI.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: S. FORTIER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
UTILITY RELOCATION SHEET I	SHEET 22 OF 57

CLD I4-0I49 MODEL: Layout I



UTILITY NOTES				
MARK	STATION	OFFSET	REMARKS	POLE NUMBER
UP#2	13+60.6	27.05' LT	REMOVE EXISTING POLE AND ANCHORS. REMOVE CONNECTIONS TO POLE #1 AND POLE #3.	COMB 107 131 16 127
UP#2A	13+53	33' LT	INSTALL NEW POLE AND ANCHOR. CONNECT NEW LINES TO NEW POLE #1A AND EXISTING POLE #3.	COMB 107 131 16 127
UP#3	16+01.5	53.66' LT	RETAIN EXISTING POLE AND ANCHORS. CONNECT NEW LINE TO NEW POLE #2A. RETAIN EXISTING CONNECTION TO EXISTING POLE #4.	COMB 126 + COMB 16E, 107, 130, 126
UP#4	16+05.8	52.67' LT	RETAIN EXISTING POLE AND ANCHORS. RETAIN EXISTING CONNECTION TO EXISTING POLE #3 AND EXISTING POLE TO THE NORTH.	COMB 126

EXISTING BRIDGE INFORMATION
3 SPAN CONCRETE T-BEAM
BUILT 1932, 109' LENGTH
40' MAXIMUM SPAN
23'-4" FASCIA TO FASCIA

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

FILE NAME: zl3c056bdrutl.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
UTILITY RELOCATION SHEET 2

PLOT DATE: 9/17/2015
DRAWN BY: S. FORTIER
CHECKED BY: K. RUTTER
SHEET 23 OF 57

CLD 14-0149 MODEL: Layout 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

SHSM = FHWA 2004 STANDARD HIGHWAY SIGNS AND MARKINGS BOOK AND THE 2012 SUPPLEMENT TO THE 2004 EDITION

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																	REMARKS	SIGN DETAIL		
											NO. OF POSTS	SQUARE STEEL (in)					TUBULAR ALUMINUM Ø (in)			TUBULAR STEEL Ø (in)					W-SHAPE STEEL							
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE		1.75	2.0	2.5	ANCHOR	SLEEVE	3.0	4.0	4.0 MOD	FOUND-ATION	3.0	3.5	4.0	5.0	FTG. SIZE 24"	FTG. SIZE 30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED		SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												lb/ft					lb/ft				lb/ft												
												1.88	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6									
BRUNSWICK VT 102																																	
STA. 13+70 RT			12	36	3						1	×			×															OM3-L		
STA. 13+70 RT	BRIDGE 06 VT-102		6	10	.42																								VD-701			T-42
STA. 13+70 LT			12	36	3						1	×			×															OM3-R		
STA. 15+00 LT			12	36	3						1	×			×															OM3-L		
STA. 15+00 LT	BRIDGE 06 VT-102		6	10	.42																								VD-701			T-42
STA. 15+00 RT			12	36	3						1	×			×															OM3-R		
	SUBTOTALS				12.84							60																					
	ROUNDING				.16							0																					
												FT 60	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB									
	PROJECT TOTALS				SF 13.0	SF	EA.	EA.				FT 60					LB			EA.	LB				EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND VTRANS "SIGN POST DESIGN GUIDELINE."

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

FILE NAME: z13c056tsdet.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
TRAFFIC SIGN SUMMARY SHEET

PLOT DATE: 9/17/2015
DRAWN BY: J. FOWLER
CHECKED BY: K. RUTTER
SHEET 24 OF 57

MODEL: TSS01
CLD 14-0149

SOIL CLASSIFICATION

AASHTO

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)

N	DESCRIPTIVE TERM
<5	Very Loose
5-10	Loose
11-24	Med. Dense
25-50	Dense
>50	Very Dense

CONSISTENCY (COHESIVE SOILS)

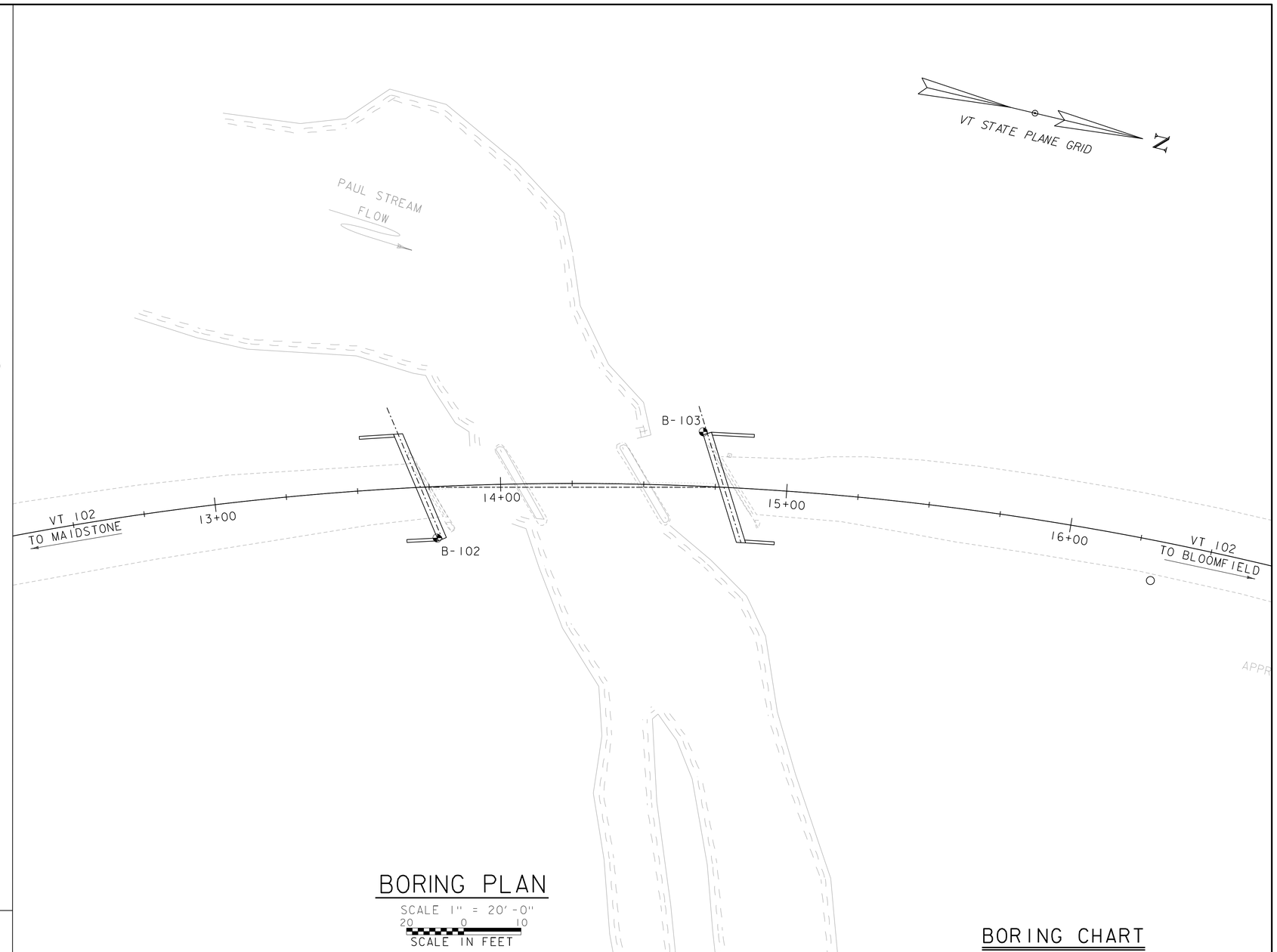
N	DESCRIPTIVE TERM
<2	Very Soft
2-4	Soft
5-8	Med. Stiff
9-15	Stiff
16-30	Very Stiff
31-60	Hard
>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 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	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

COLOR

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



BORING PLAN

SCALE 1" = 20'-0"

20 0 10

SCALE IN FEET

DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 8/21/14 and 9/17/14 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

BORING CHART

HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-102	13+77	18.0 RT	875.85	692.95
B-103	14+70	19.0 LT	873.00	684.30

PROJECT NAME: BRUNSWICK

PROJECT NUMBER: BF 0271(23)

FILE NAME: z13c056boring.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: J. FRENCH
BORING LAYOUT SHEET

PLOT DATE: 9/17/2015
DRAWN BY: M. SMITH
CHECKED BY: J. BYATT
SHEET 25 OF 57

CLD 14-0149 MODEL: BOR01

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

BORING LOG

BRUNSWICK
BF 0271(23)
VT-102 BR-6

Boring No.: **B-102**
Page No.: 1 of 3
Pin No.: 13C056
Checked By: END

Boring Crew: GARROW, HOOK, NIETO
Date Started: 9/09/14 Date Finished: 9/17/14
VTSPG NAD83: N 801914.92 ft E 1873682.66 ft
Station: 13+77.00 Offset: 18.00
Ground Elevation: 875.85 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 55 TRACK	C_E = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
09/10/14	11.4	After 14 hrs.
09/11/14	5.6	After 12 hrs.
09/11/14	137.0	Aquifer, See Remark

BOTTOM OF ABUT. I
EL. 867.0'

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate min/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note:, Fill material was added for drill rig platform, Fill material was Broken Rock, Gravel, and Sand.				2-4-2-1 (6)				
						2-1-1-3 (2)	4.3			
						3-4-9-6 (13)	5.7	82.7	13.7	3.6
						3-4-5-4 (9)	6.4	64.4	29.5	6.1
						5-2-3-4 (5)	11.9	38.0	53.9	8.1
10						13-13-22-30 (35)	9.8	48.1	42.5	9.4
						9-29-35-25 (64)	13.1	24.1	55.3	20.6
							9.7	61.6	29.8	8.6
		A-2-4, SiSa, gry, MTW, Rec. = 0.9 ft				47-16-12-5 (28)	24.4	4.2	65.5	30.3
		A-2-4, Sa, gry, MTW, Rec. = 0.9 ft				6-3-3-3 (6)	24.1	0.4	85.9	13.7
20		A-4, SiSa, gry, MTW, Rec. = 1.0 ft				1-2-1-2 (3)	26.0	0.2	62.6	37.2
						WH-1-2-2 (3)				
30		A-3, Sa, gry, MTW, Rec. = 0.7 ft				1-3-3-3 (6)	20.6	5.2	91.3	3.5
		Field Note:, Open hole drilling. Sampled with NWJ rod								
40		A-2-4, Sa, gry, MTW, Rec. = 1.0 ft				5-5-6-8 (11)	20.6	0.4	81.5	18.1
50		A-1-b, Sa, gry, Moist, Rec. = 2.0 ft				1-5-9-11 (14)	16.7	5.1	87.9	7.0
60		A-2-4, Sa, gry, MTW, Rec. = 1.1 ft				2-6-10-9 (16)	20.1	1.4	82.9	15.7

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

2010 COPY 2 BRUNSWICK BF 0271(23).GPJ VERMONT AOT.GDT 10/2/14

ESTIMATED
PILE TIP
EL. 735.0'

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

BORING LOG

BRUNSWICK
BF 0271(23)
VT-102 BR-6

Boring No.: **B-102**
Page No.: 2 of 3
Pin No.: 13C056
Checked By: END

Boring Crew: GARROW, HOOK, NIETO
Date Started: 9/09/14 Date Finished: 9/17/14
VTSPG NAD83: N 801914.92 ft E 1873682.66 ft
Station: 13+77.00 Offset: 18.00
Ground Elevation: 875.85 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 55 TRACK	C_E = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
09/10/14	11.4	After 14 hrs.
09/11/14	5.6	After 12 hrs.
09/11/14	137.0	Aquifer, See Remark

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate min/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-2-4, SiSa, gry, MTW, Rec. = 1.5 ft				7-8-9-9 (17)	22.1	0.1	78.3	21.6
80		A-4, Si, gry, MTW, Rec. = 1.6 ft				6-6-7-10 (13)	30.3		16.6	83.4
90		Field Note:, No Recovery. Appears to be Silty Sand				5-5-8-10 (13)				
100		A-2-4, SiSa, gry, MTW, Rec. = 1.3 ft				2-4-6-10 (10)	22.3	0.2	71.4	28.4
110		A-2-4, SiSa, gry, MTW, Rec. = 0.6 ft				5-8-12-36 (20)	21.6	1.5	71.8	26.7
		Field Note:, Cleaned out with roller cone								
120		A-4, SiSa, gry, MTW, Rec. = 1.9 ft				10-14-13-15 (27)	23.0		61.0	39.0
130		A-4, SaSi, gry, MTW, Rec. = 1.5 ft				14-20-17-22 (37)	20.5	3.8	44.1	52.1
		Field Note:, Aquifer at 137.0 ft.								

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

2010 COPY 2 BRUNSWICK BF 0271(23).GPJ VERMONT AOT.GDT 10/2/14

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

BORING LOG

BRUNSWICK
BF 0271(23)
VT-102 BR-6

Boring No.: **B-102**
Page No.: 3 of 3
Pin No.: 13C056
Checked By: END

Boring Crew: GARROW, HOOK, NIETO
Date Started: 9/09/14 Date Finished: 9/17/14
VTSPG NAD83: N 801914.92 ft E 1873682.66 ft
Station: 13+77.00 Offset: 18.00
Ground Elevation: 875.85 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 55 TRACK	C_E = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
09/10/14	11.4	After 14 hrs.
09/11/14	5.6	After 12 hrs.
09/11/14	137.0	Aquifer, See Remark

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate min/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-4, Si, brn, MTW, Rec. = 1.0 ft				8-10-16-21 (26)	24.0		16.0	84.0
		Field Note:, Sleaved 3.0 inch casing. Sampling with AWJ rod								
150		A-4, SiSa, Lt/brn, MTW, Rec. = 1.0 ft				7-13-16-20 (29)	18.2	3.7	52.9	43.4
160		A-4, SiSa, brn-gry, MTW, Rec. = 1.4 ft				11-42-27-R@5.0" (69)	18.5	7.0	54.2	38.8
170		Field Note:, Cleaned out with roller cone								
		Visual Description:, GrSa with Broken Rock, brn-gry, Moist, Rec. = 0.1 ft, Insufficient sample for testing.				13-19-28-29 (47)				
		Field Note:, Pulled 3.0 inch casing and changed bit. Advanced to 175.0 ft.								
		Field Note:, Pulled 3.0 inch casing and changed bit. Advanced to 179.0 ft.								
180		A-2-4, SiGrSa, Lt/brn, Moist, Rec. = 0.4 ft, Lab Note: Broken Rock was within sample.				6-4-8-12 (12)	14.3	35.8	39.6	24.6
		Top of Bedrock @ 182.9 ft								
		182.9 ft - 183.9 ft, White to dark-gray to pink, medium to coarse-grained Granite, with close to very closely spaced horizontal jointing. Very hard, Unweathered, Fair rock, BXDC, RMR = 42	1 (None)	100 (0)	5					
			2 (None)	12 (0)	5 24 15 23					
190		183.9 ft - 188.9 ft, White to dark-gray to pink, medium to coarse-grained Granite, with close to very closely spaced horizontal jointing. Very hard, Unweathered, Fair rock, BXGDC, RMR = 42 Note: Drillers reported catcher in bottom of core barrel failed resulting in rock becoming ground up by core barrel.	3 (None)	96 (0)	24 4 5 6					
		188.9 ft - 193.9 ft, White to dark-gray to pink, medium to coarse-grained Granite, with close to very closely spaced horizontal jointing. Very hard, Unweathered, Fair rock, BXGDC, RMR = 42	4 (None)	90 (0)	6 7					
200		193.9 ft - 197.9 ft, White to dark-gray to pink, medium to coarse-grained Granite, with close to very closely spaced horizontal jointing. Very hard, Unweathered, Fair rock, BXGDC, RMR = 42			5 5 6 6					
		Hole stopped @ 197.9 ft								

Remarks:
1. Artesian conditions noted at 137.0 feet. Water overflowed casing sticking up 12 feet above the ground surface.
2. The Ground Elevation was taken on top of the fill material that was added for a drill rig platform.
3. 3-inch steel drill casing lost during removal of casing. 3-inch casing still remains in the ground from 50 feet below the ground surface to bottom of exploration.

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

2010 COPY 2 BRUNSWICK BF 0271(23).GPJ VERMONT AOT.GDT 10/2/14

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

FILE NAME: zl3c056boring.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: J. FRENCH
BORING LOGS (1 OF 2)

PLOT DATE: 9/17/2015
DRAWN BY: M. SMITH
CHECKED BY: J. BYATT
SHEET 26 OF 57

CLD 12-0120 $FILEABBREV$ MODEL: BOR02

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

BORING LOG

BRUNSWICK
BF 0271(23)
VT-102 BR-6

Boring No.: B-103
Page No.: 1 of 3
Pin No.: 13C056
Checked By: END

Boring Crew: GARROW, HOOK, NIETO
Date Started: 8/21/14 Date Finished: 8/29/14
VTSPG NAD83: N 802008.42 ft E 1873627.34 ft
Station: 14+70 Offset: 19.00
Ground Elevation: 873.0 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 55 TRACK	C_E = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
08/22/14	11.5	AM
08/26/14	5.4	Overnight.
08/29/14	4.1	Overnight.

BOTTOM OF ABUT. 2
EL. 865.0'

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec., % (RQD %)	Drill Rate min/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-2-4, Sa, brn, Moist, Rec. = 0.6 ft, Lab Note: Grass & Roots were within sample.				1-1-1-1 (2)	15.1	12.2	70.9	16.9
		A-2-4, Sa, tan-brn, Moist, Rec. = 1.3 ft				1-1-1-2 (2)	12.2	0.1	82.2	17.7
		A-1-b, GrSa, Lt/brn, Moist, Rec. = 1.3 ft, Lab Note: Broken Rock was within sample.				3-7-11-16 (18)	5.2	33.5	62.3	4.2
		A-1-a, SaGr, Lt/gry, Moist, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample.				26-27-21-20 (48)	8.8	50.1	40.1	9.8
10		Field Note:, No Recovery				26-13-15-5 (28)	24.0	9.1	47.2	43.7
		A-4, SiSa, Lt/brn, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample.				3-3-1-3 (4)	24.1	11.4	65.6	23.0
		A-2-4, SiSa, Lt/brn, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample.				5-2-1-2 (3)	22.8	1.2	54.0	44.8
		A-4, SiSa, Lt/brn, Moist, Rec. = 1.2 ft				2-2-2-2 (4)	24.0	2.0	86.9	11.1
		A-2-4, Sa, Lt/brn, Moist, Rec. = 0.4 ft				2-2-2-1 (4)	24.0	2.2	73.3	24.5
20		A-2-4, SiSa, Lt/brn, Moist, Rec. = 1.1 ft				4-2-1-1 (3)	23.4	0.8	84.7	14.5
		A-2-4, Sa, Lt/brn, Moist, Rec. = 1.6 ft				1-2-2-3 (4)				
		A-3, Sa, Lt/brn, Moist, Rec. = 0.3 ft				4-5-4-5 (9)	21.8	4.1	89.4	6.5
25		A-2-4, Sa, gry, Moist, Rec. = 1.3 ft				2-2-3-4 (5)	24.0	0.8	83.0	16.2
		A-3, Sa, gry, Moist, Rec. = 0.7 ft				3-3-4-5 (7)	20.8	4.0	89.1	6.9
40		A-3, Sa, gry, Moist, Rec. = 0.6 ft				4-5-4-5 (9)	25.0		92.3	7.7
		A-3, Sa, gry, Moist, Rec. = 0.9 ft				2-3-3-4 (6)	23.6	0.2	90.0	9.8
50		A-2-4, SiSa, gry, Moist, Rec. = 1.3 ft				1-3-3-4 (6)	21.5	0.5	73.8	25.7
		Field Note:, Switched to NWJ due to and open hole drilling								
		A-2-4, Sa, gry, Moist, Rec. = 0.2 ft				4-4-5-7 (9)	25.4	0.3	83.8	15.9
60		A-3, Sa, gry, Moist, Rec. = 0.5 ft				5-9-7-14 (16)	17.4	0.5	95.3	4.2
		A-4, Si, gry, Moist, Rec. = 0.7 ft				5-8-10-11 (18)	25.9		18.9	81.1

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

BORING LOG 2 BRUNSWICK BF 0271(23).GPJ VERMONT AOT.GDT 10/2/14

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

BORING LOG

BRUNSWICK
BF 0271(23)
VT-102 BR-6

Boring No.: B-103
Page No.: 2 of 3
Pin No.: 13C056
Checked By: END

Boring Crew: GARROW, HOOK, NIETO
Date Started: 8/21/14 Date Finished: 8/29/14
VTSPG NAD83: N 802008.42 ft E 1873627.34 ft
Station: 14+70 Offset: 19.00
Ground Elevation: 873.0 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 55 TRACK	C_E = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
08/22/14	11.5	AM
08/26/14	5.4	Overnight.
08/29/14	4.1	Overnight.

ESTIMATED
PILE TIP
EL. 733.0'

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec., % (RQD %)	Drill Rate min/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-4, SiSa, gry, Moist, Rec. = 0.8 ft				2-3-5-10 (8)	26.6	0.2	51.9	47.9
		A-4, SaSi, gry, Moist, Rec. = 1.3 ft				5-9-11-14 (20)	22.9		47.6	52.4
80		A-4, SiSa, gry, Moist, Rec. = 0.7 ft				7-10-10-11 (20)	22.7	0.3	62.1	37.6
		A-2-4, SiSa, gry, Moist, Rec. = 1.0 ft				7-9-12-14 (21)	22.7	0.2	78.2	21.6
90		A-4, SiSa, gry, Moist, Rec. = 0.5 ft				10-12-18-20 (30)	24.5	0.2	63.8	36.0
		A-3, Sa, gry, Moist, Rec. = 0.6 ft				9-10-10-14 (20)	19.0	4.0	90.7	5.3
100		A-4, SaSi, gry, Moist, Rec. = 1.3 ft				13-18-23-30 (41)	22.7		44.3	55.7
		A-2-4, SiSa, gry, Moist, Rec. = 1.4 ft				10-18-21-25 (39)	22.4		64.8	35.2
110		A-4, Si, gry, Moist, Rec. = 1.6 ft, Lab Note: Some very thin layers of clay were noticeable.				15-21-22-26 (43)	22.4		5.0	95.0
		A-4, Si, gry, Moist, Rec. = 1.5 ft				20-24-25-30 (49)	21.5		3.5	96.5
120		A-4, Si, gry, Moist, Rec. = 0.9 ft, Lab Note: Some very thin layers of clay were noticeable.				10-15-21-24 (36)	24.5		5.1	94.9
		A-4, SiSa, brn, Moist, Rec. = 0.6 ft					20.7	0.2	53.1	46.7
		A-3, Sa, Lt/brn, Moist, Rec. = 1.0 ft				14-15-17-19 (32)	17.6	4.2	87.8	8.0
130		Field Note:, Advanced casing and cleaned out to 135.0 feet.								
		A-1-b, Sa, brn, Moist, Rec. = 0.8 ft				12-18-18-27 (36)	13.6	8.9	81.6	9.5

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

BORING LOG 2 BRUNSWICK BF 0271(23).GPJ VERMONT AOT.GDT 10/2/14

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

BORING LOG

BRUNSWICK
BF 0271(23)
VT-102 BR-6

Boring No.: B-103
Page No.: 3 of 3
Pin No.: 13C056
Checked By: END

Boring Crew: GARROW, HOOK, NIETO
Date Started: 8/21/14 Date Finished: 8/29/14
VTSPG NAD83: N 802008.42 ft E 1873627.34 ft
Station: 14+70 Offset: 19.00
Ground Elevation: 873.0 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 55 TRACK	C_E = 1.46

Groundwater Observations

Date	Depth (ft)	Notes
08/22/14	11.5	AM
08/26/14	5.4	Overnight.
08/29/14	4.1	Overnight.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec., % (RQD %)	Drill Rate min/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, GrSa, brn-gry, MTW, Rec. = 0.9 ft				8-16-23-25 (39)	18.5	23.3	68.8	7.9
150		Field Note:, Sleaved 3" casing into 4" casing. Cleaned out casing.								
		Visual Description:, Broken Rock with sand, brn-gry, Moist, Rec. = 0.2 ft, Insufficient sample for testing.				6-11-5-9 (16)				
160										
		A-1-b, GrSa, gry, Moist, Rec. = 0.4 ft, Lab Note: Broken Rock was within sample.				R@5.0"	9.7	29.4	57.3	13.3
170										
		Field Note:, Cleaned out with roller cone								
		Field Note:, No Recovery. Appears to be Gravelly Sand				R@5.0"				
180										
		Field Note:, No Recovery. Appears to be Gravelly Sand				17-R@2.5"				
190		188.7 ft - 193.7 ft, White to dark-gray to pink, medium to coarse-grained Granite, with close to very closely spaced horizontal jointing. Very hard, Unweathered, Fair rock, BXMDC, RMR = 42	1 (None)	80 (0)	3 5 8 22	Top of Bedrock @ 188.7 ft				
		193.7 ft - 198.7 ft, White to dark-gray to pink, medium to coarse-grained Granite, with the top 1.6 feet of run having close to very closely spaced horizontal jointing. Remainer of the run is unjointed. Very hard, Unweathered, Fair rock, BXMDC, RMR = 52	2 (None)	100 (68)	15 7 7 6					
200		Hole stopped @ 198.7 ft			8 8					

Remarks:
1. Hole collapsed at 9.0 ft.

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

BORING LOG 2 BRUNSWICK BF 0271(23).GPJ VERMONT AOT.GDT 10/2/14

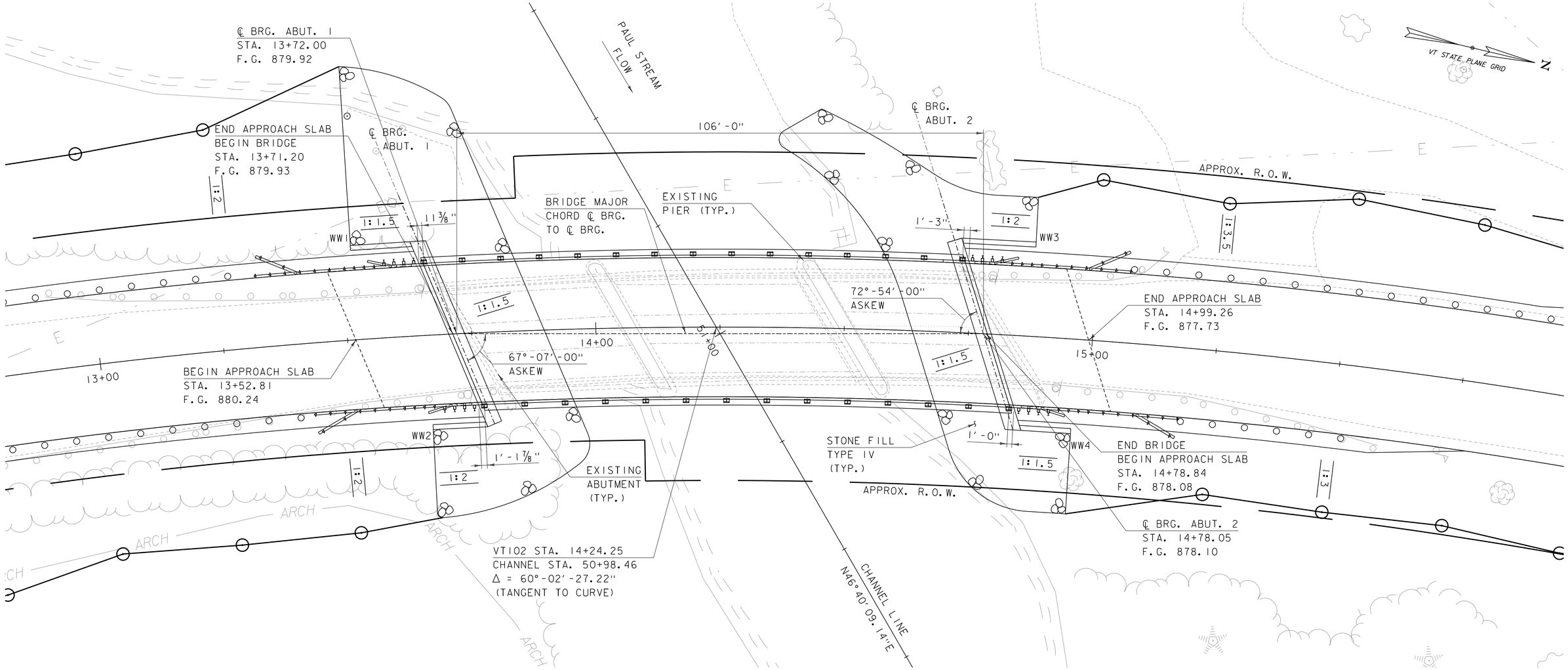
CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

FILE NAME: z13c056boring.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: J. FRENCH
BORING LOGS (2 OF 2)

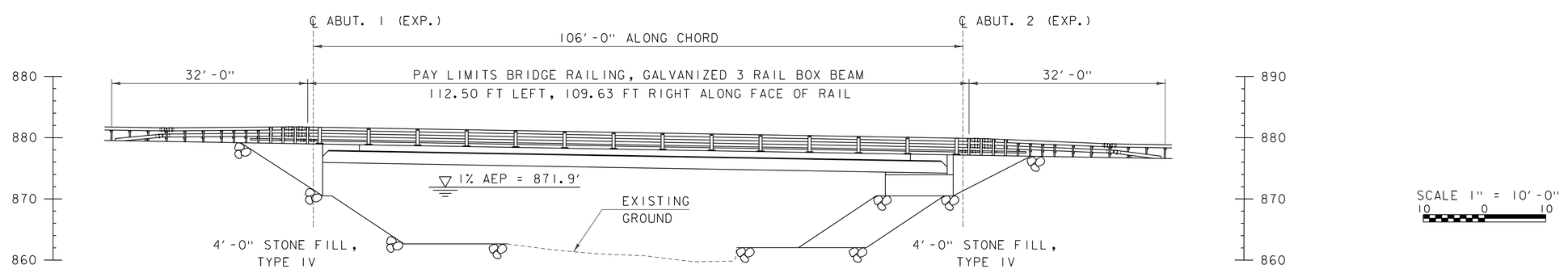
PLOT DATE: 9/17/2015
DRAWN BY: M. SMITH
CHECKED BY: J. BYATT
SHEET 27 OF 57

CLD 12-0120 $FILEABBREV$ MODEL: BOR03



PLAN

SCALE 1" = 10'-0"



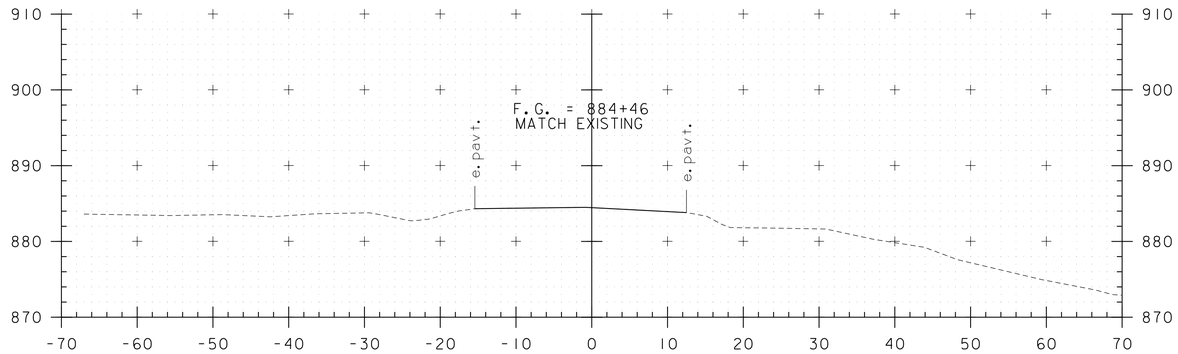
ELEVATION

SCALE 1" = 10'-0"

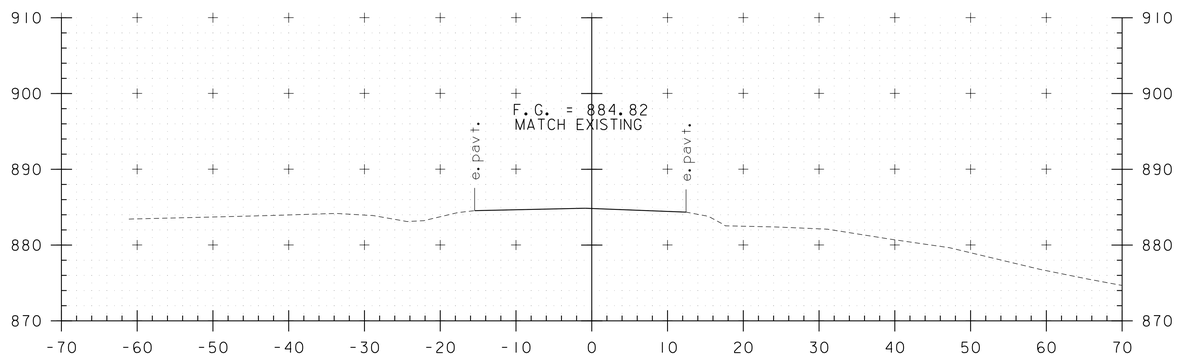
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056pe.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: M. SMITH
DESIGNED BY: J. FRENCH	CHECKED BY: J. BYATT
PLAN AND ELEVATION	SHEET 28 OF 57

CONSULTING ENGINEERS

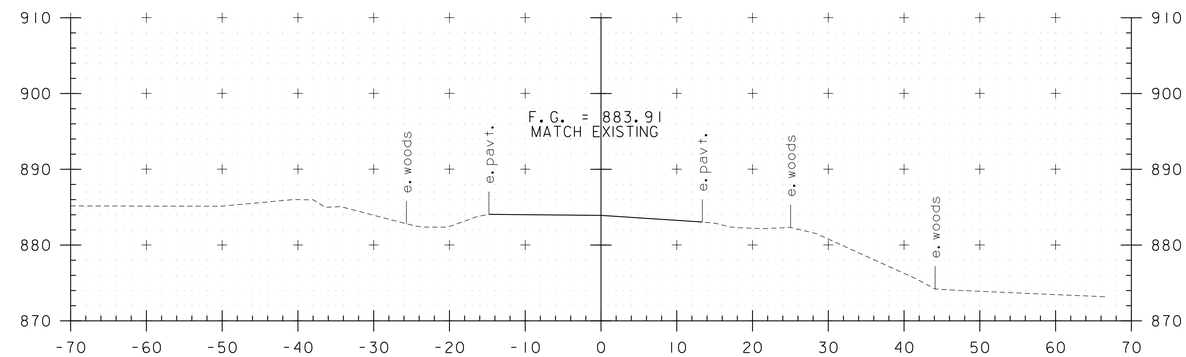
CLD 14-0149 MODEL: PE01



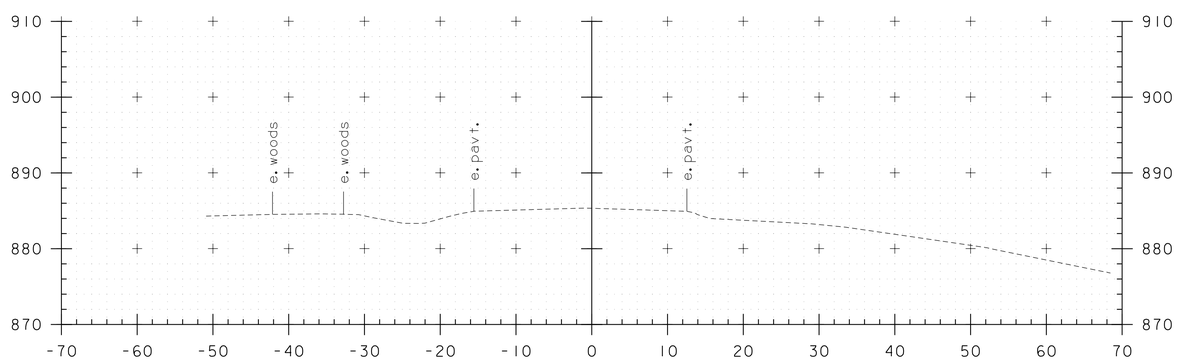
9+25



9+00
BEGIN APPROACH



9+75



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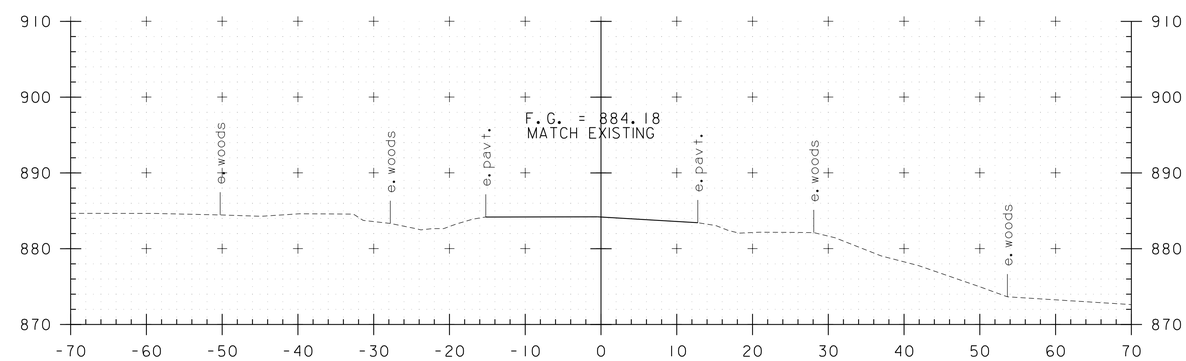


9+50

0 10 20
(SCALE 1" = 10')

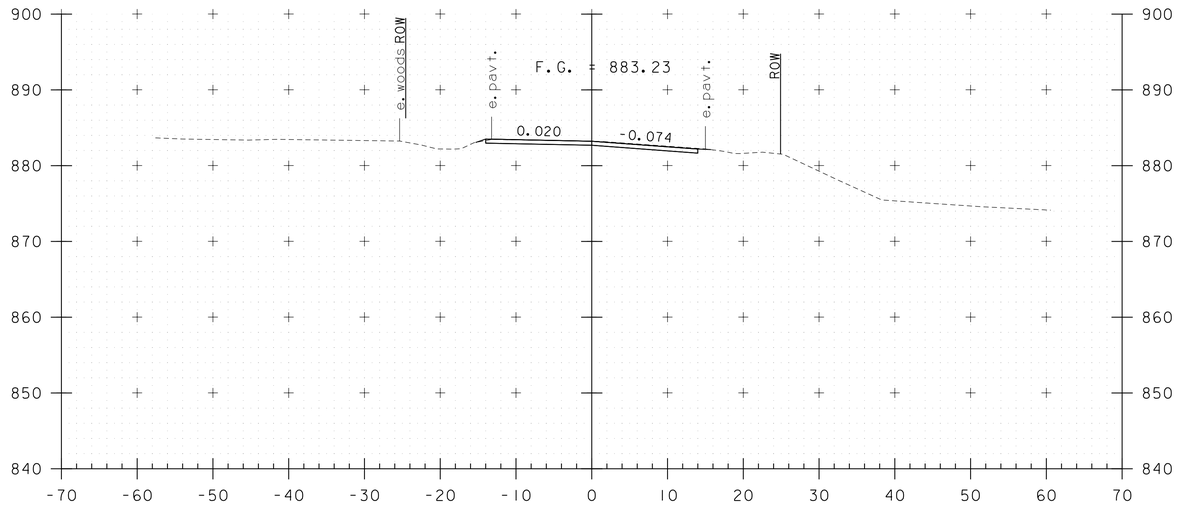
STA. 8+75 TO STA. 9+75

CONSULTING ENGINEERS

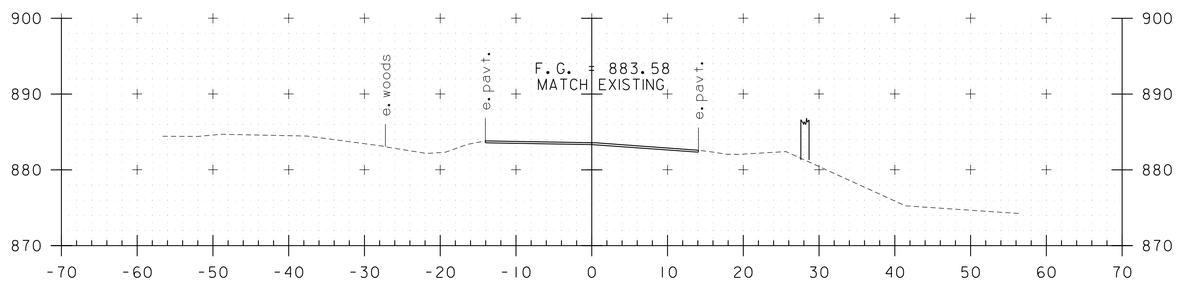
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K.RUTER
VT 102 CROSS SECTIONS 1	SHEET 29 OF 57

MODEL: XSI

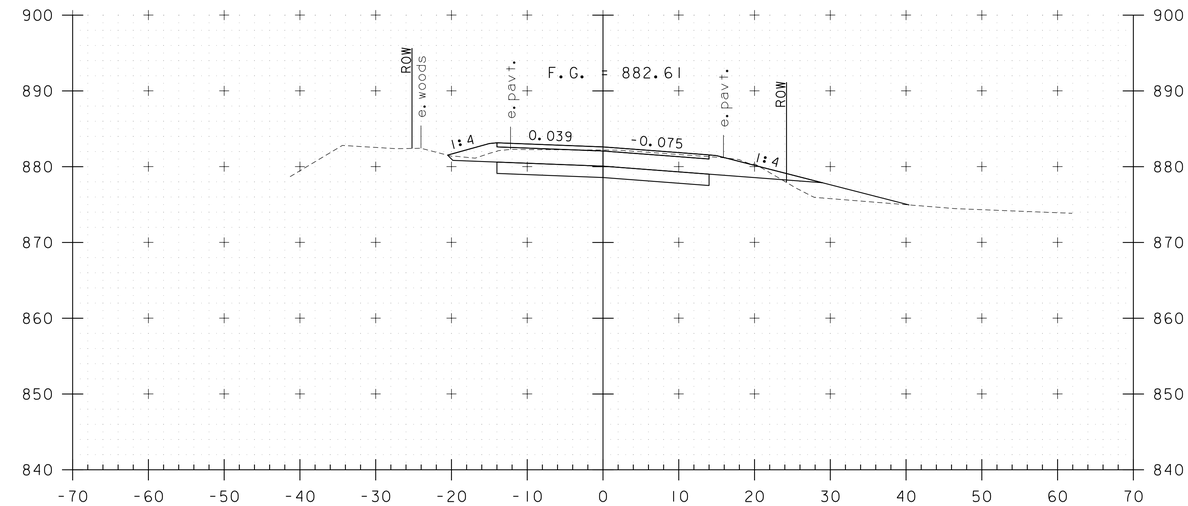
CLD 14-0149



10+25



10+00



10+75
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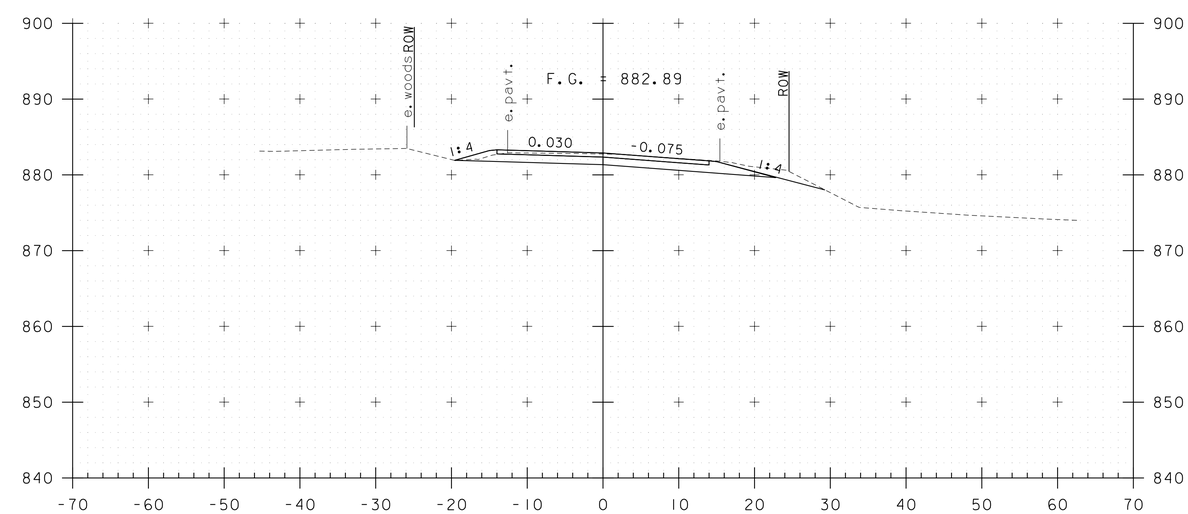


10+50

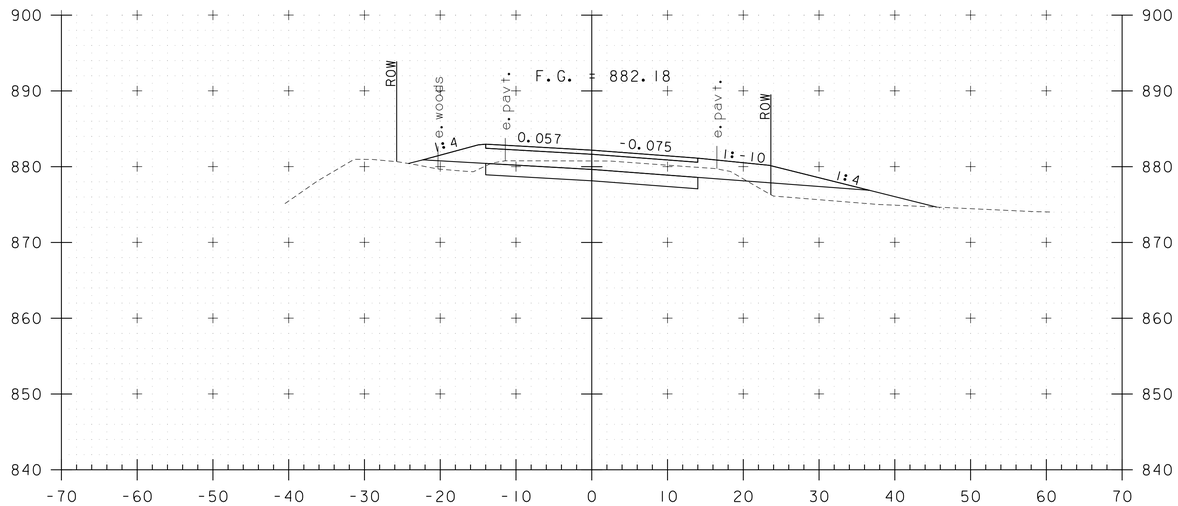
0 10 20
(SCALE 1" = 10')

STA. 9+75 TO STA. 10+75

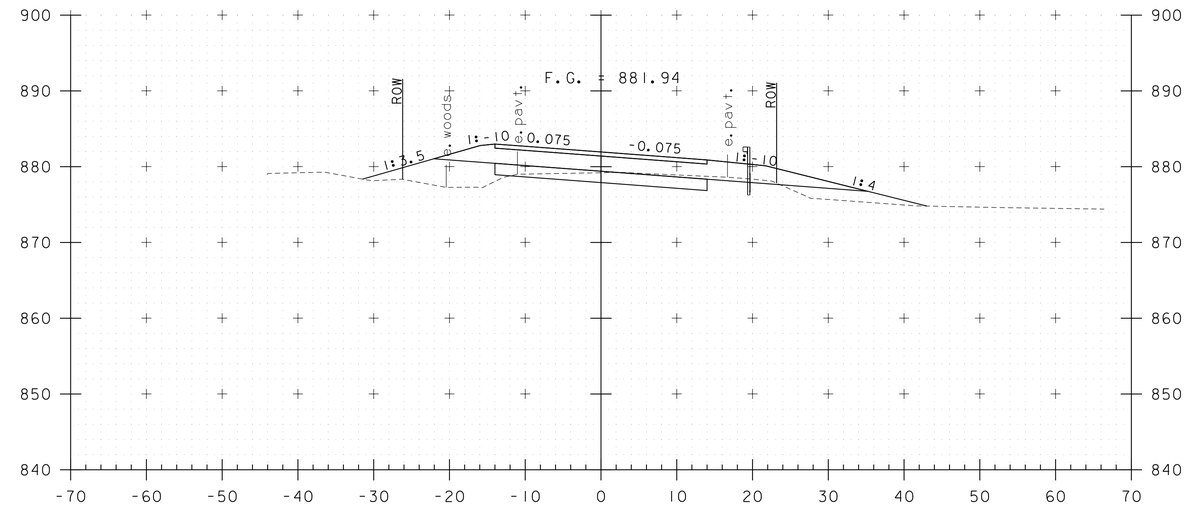
CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K.RUTER
VT 102 CROSS SECTIONS 2	SHEET 30 OF 57

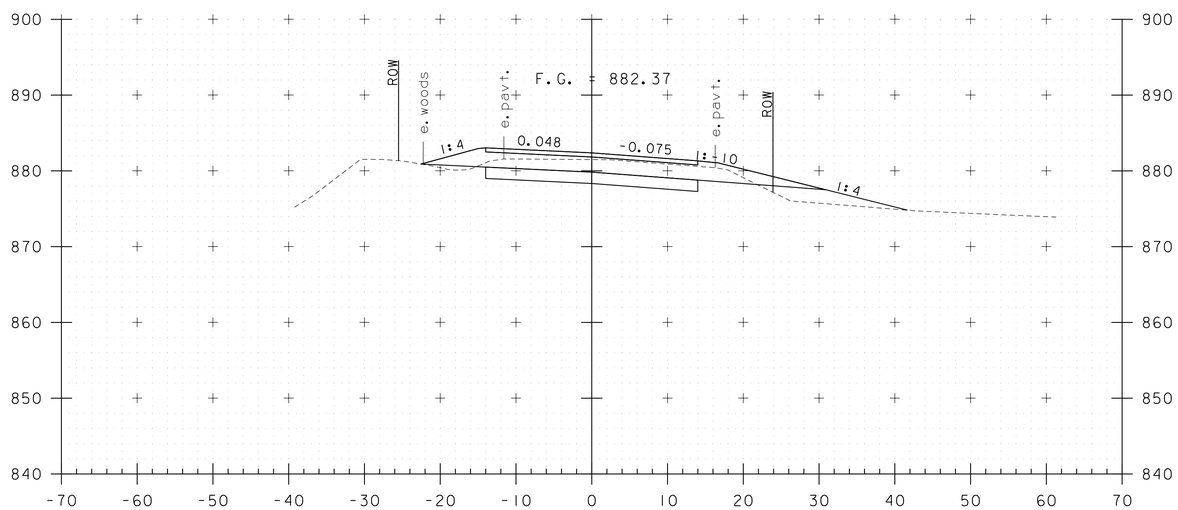
CLD 14-0149 MODEL: XS2



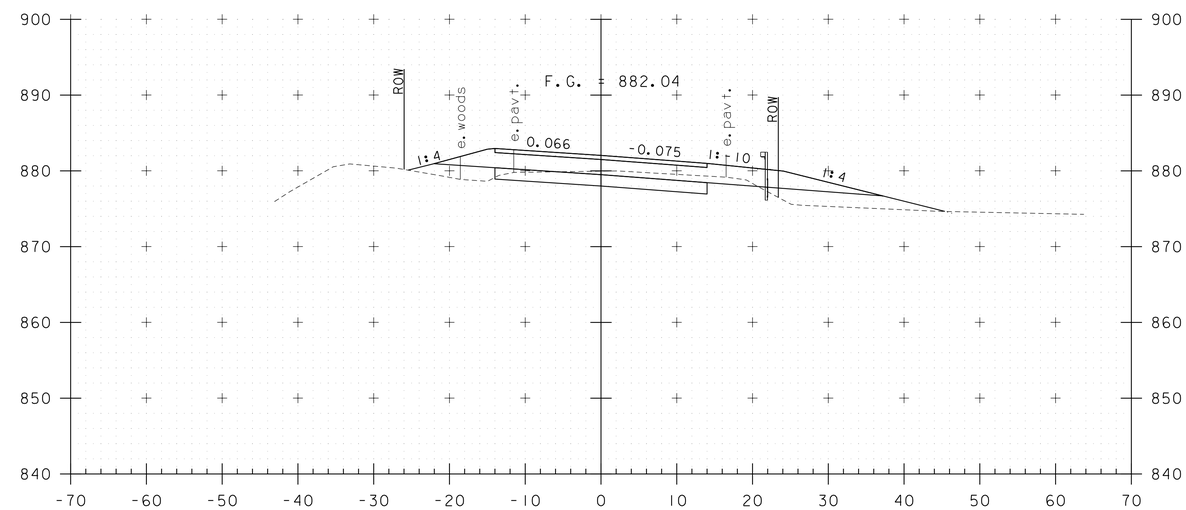
11+25



11+75



11+00



11+50

0 10 20
(SCALE 1" = 10')

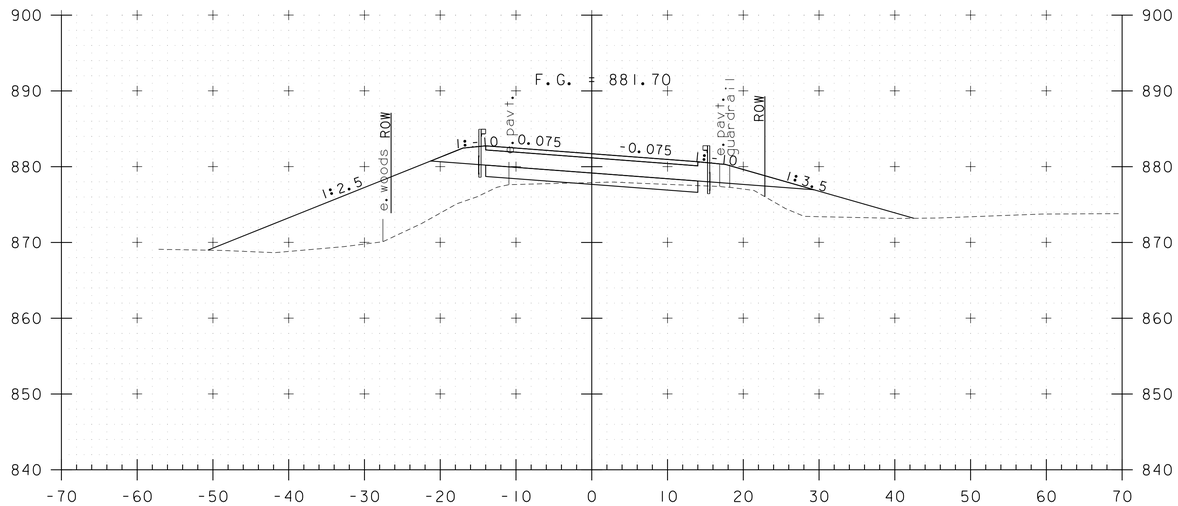
STA. 11+00 TO STA. 11+75

CONSULTING ENGINEERS

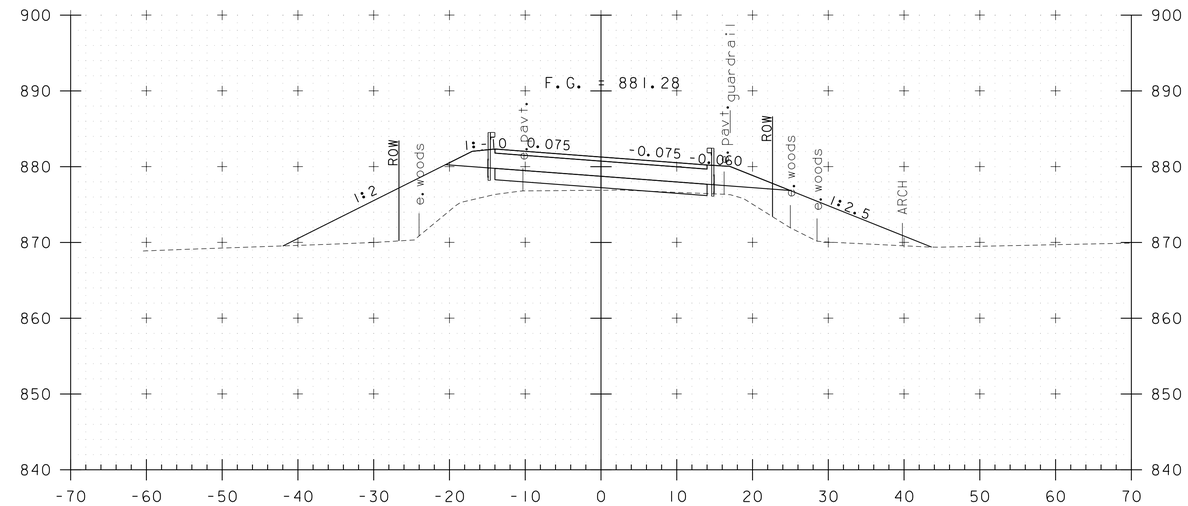
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 CROSS SECTIONS 3	SHEET 31 OF 57

MODEL: XS3

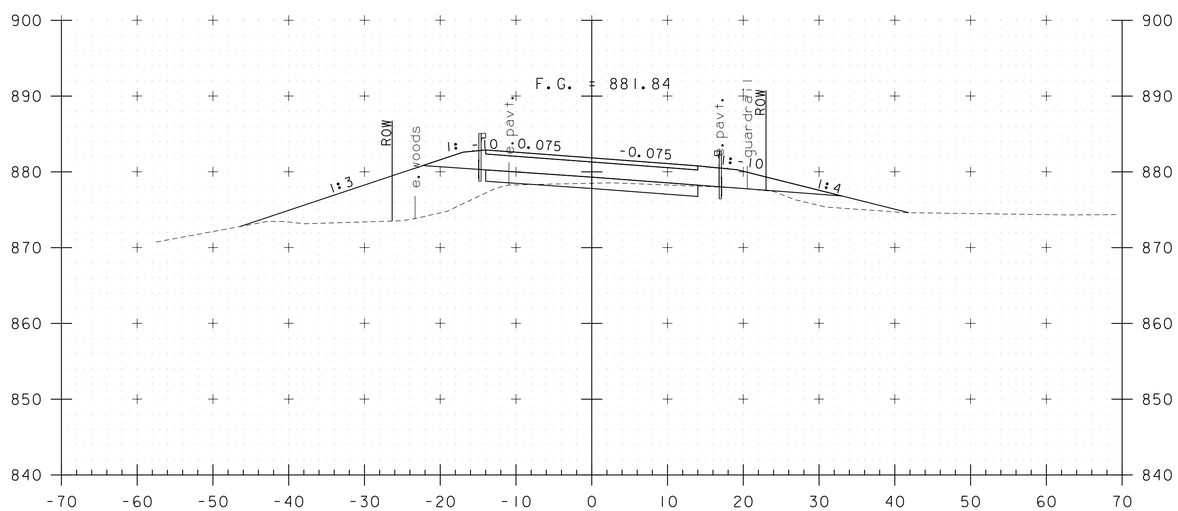
CLD 14-0149



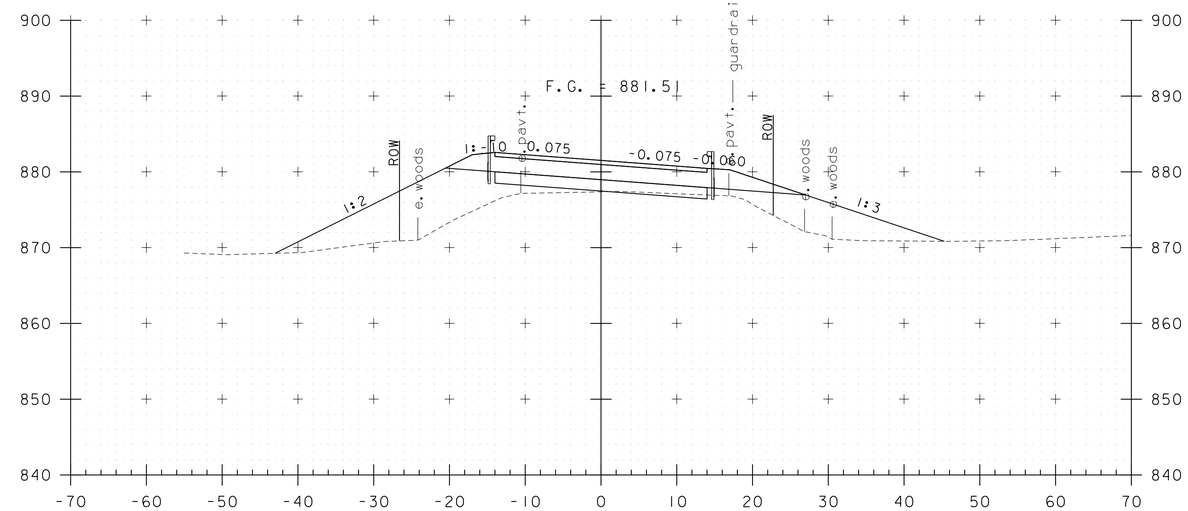
12+25



12+75



12+00



12+50

0 10 20
(SCALE 1" = 10')

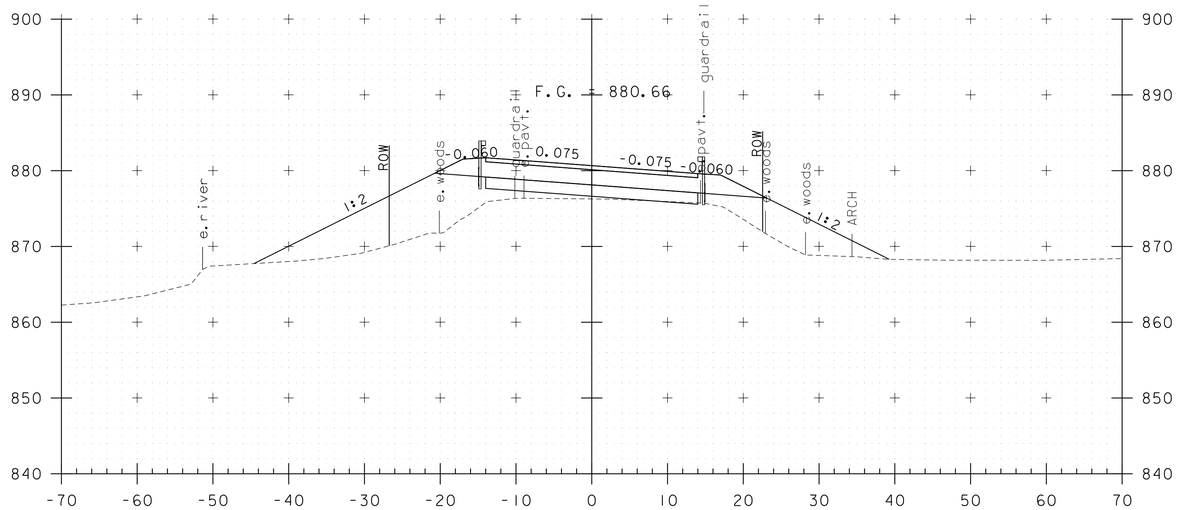
STA. 12+00 TO STA. 12+75

CONSULTING ENGINEERS

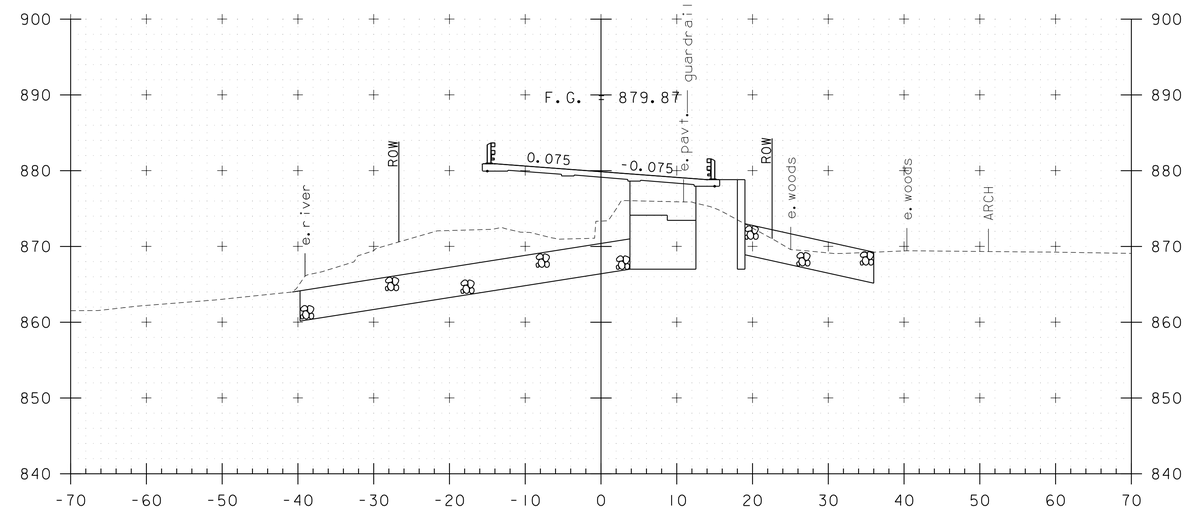
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 CROSS SECTIONS 4	SHEET 32 OF 57

MODEL: XS4

CLD 14-0149

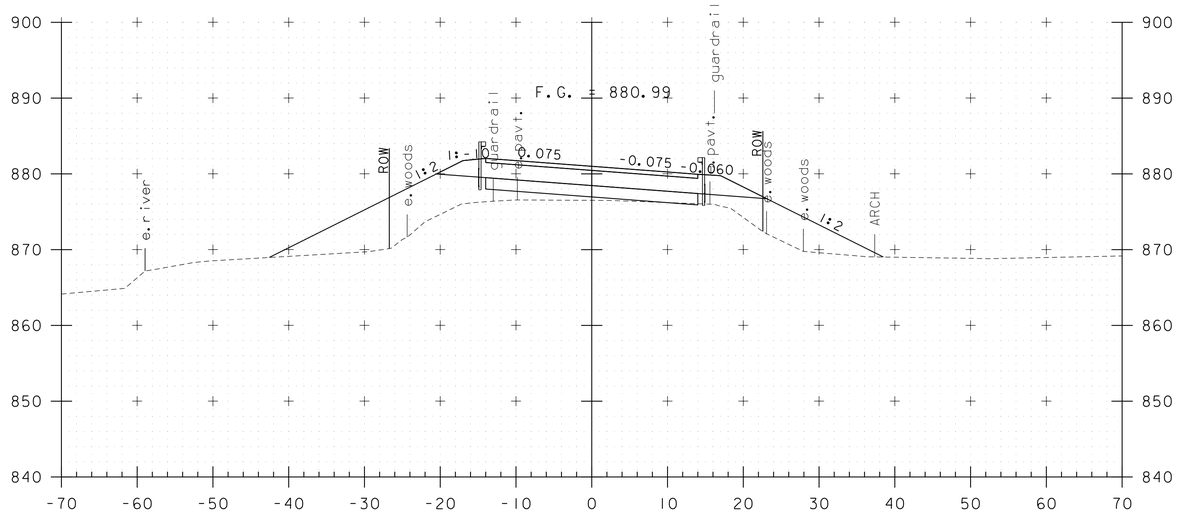


13+25

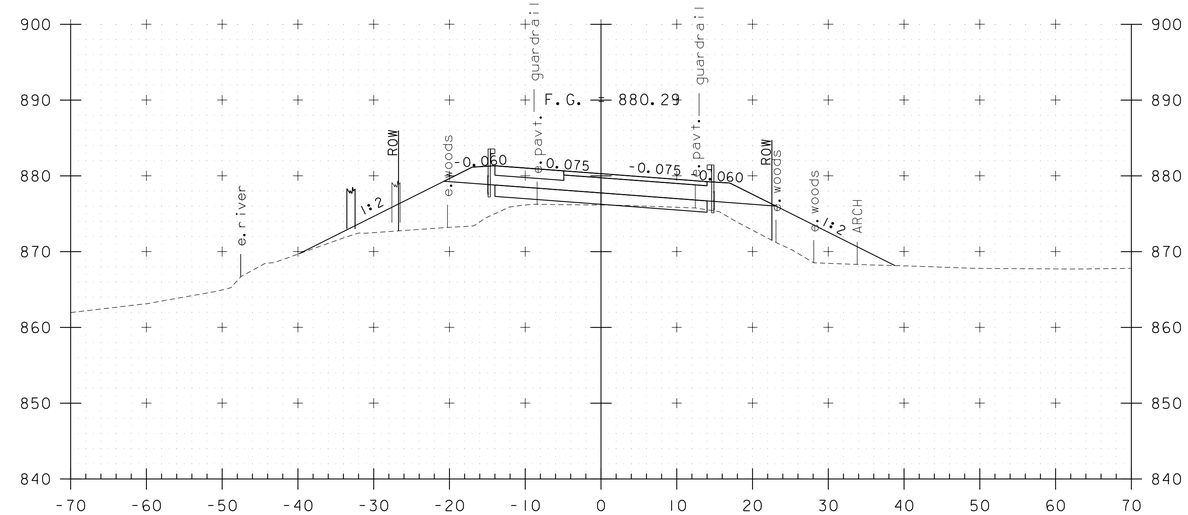


BEGIN BRIDGE
STA 13+71.20

13+75



13+00



13+50

0 10 20
(SCALE 1" = 10')

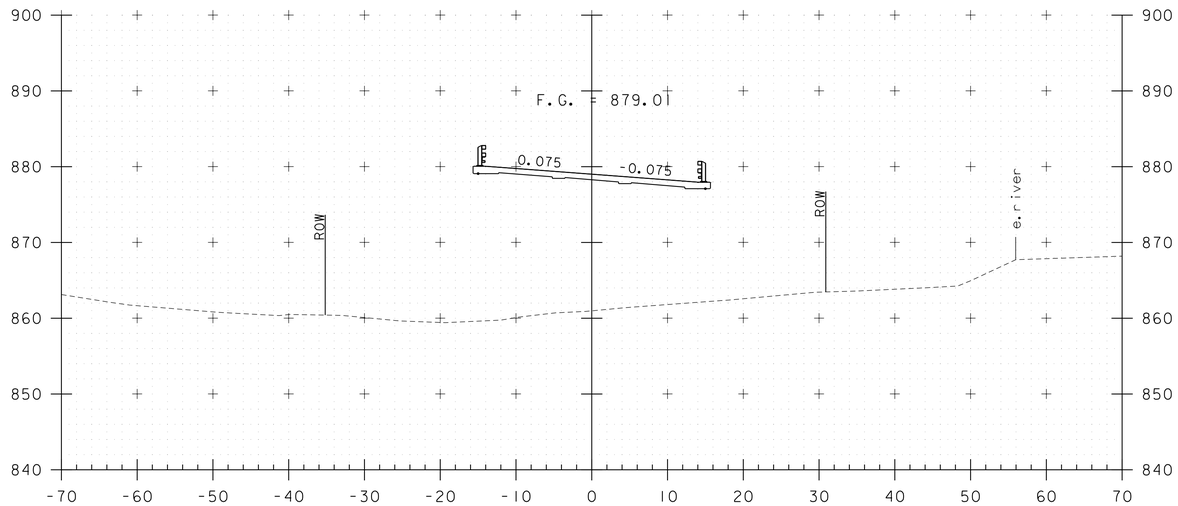
STA. 13+00 TO STA. 13+75

CONSULTING ENGINEERS

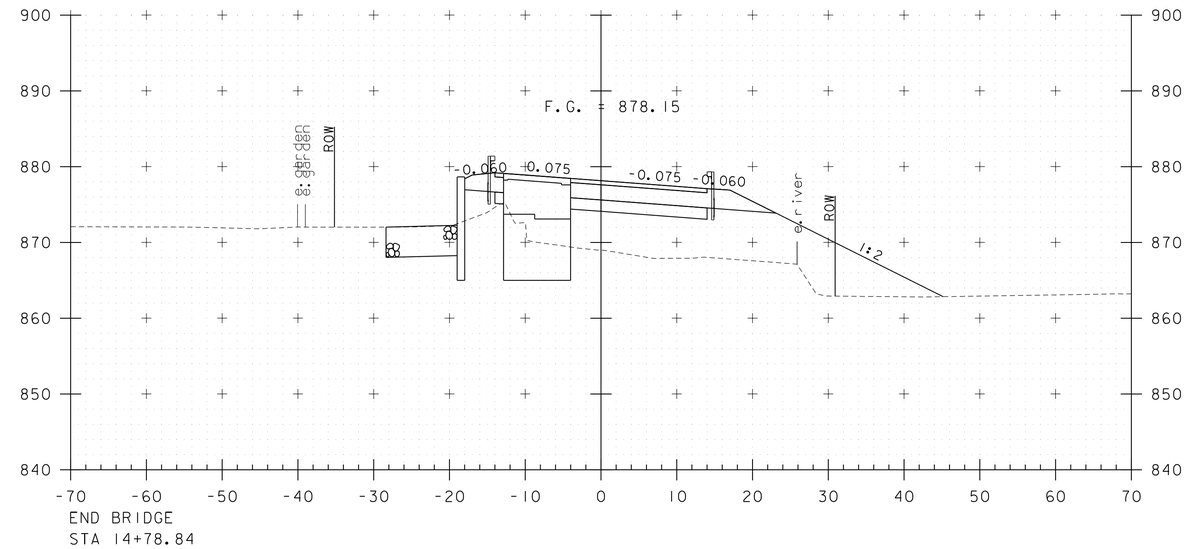
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 CROSS SECTIONS 5	SHEET 33 OF 57

MODEL: XS5

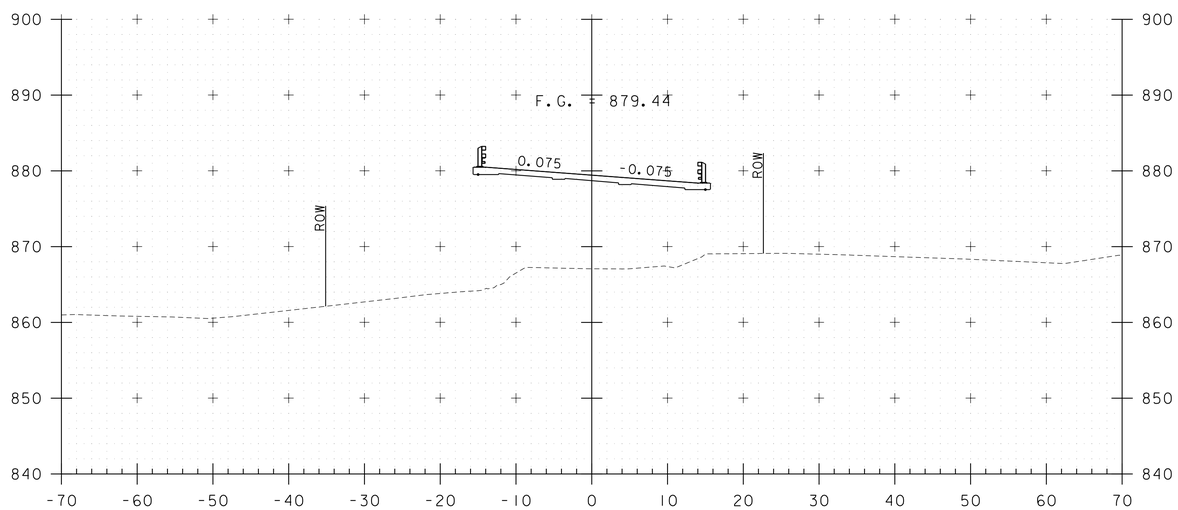
CLD 14-0149



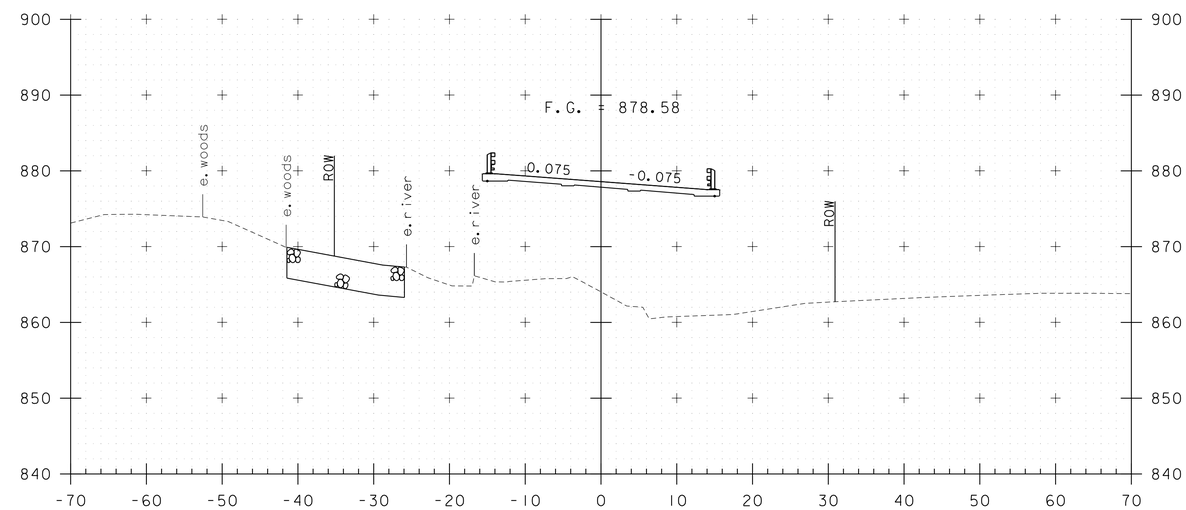
14+25



14+75



14+00



14+50

0 10 20
(SCALE 1" = 10')

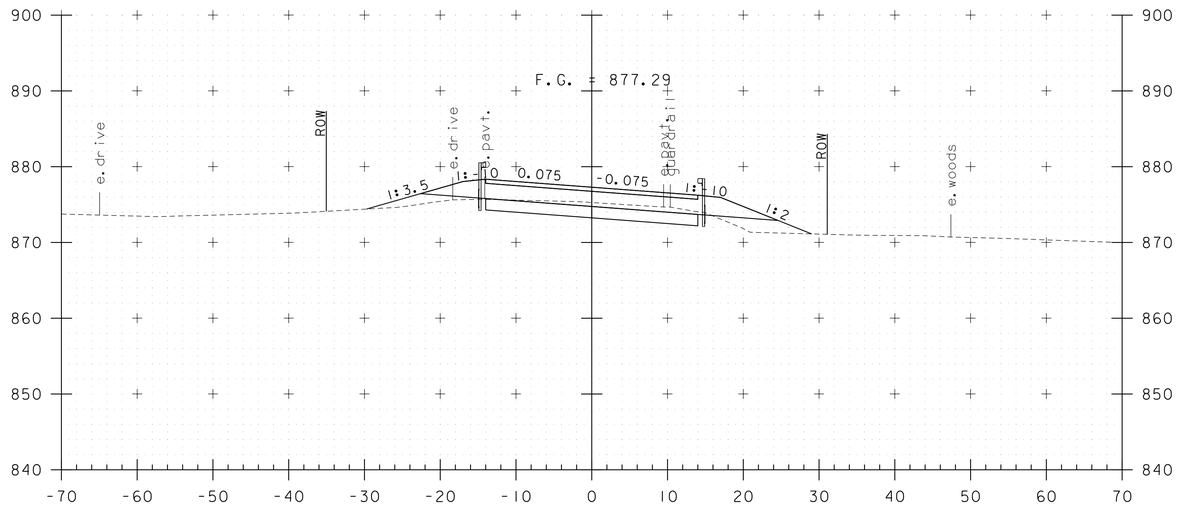
STA. 14+00 TO STA. 14+75

CONSULTING ENGINEERS

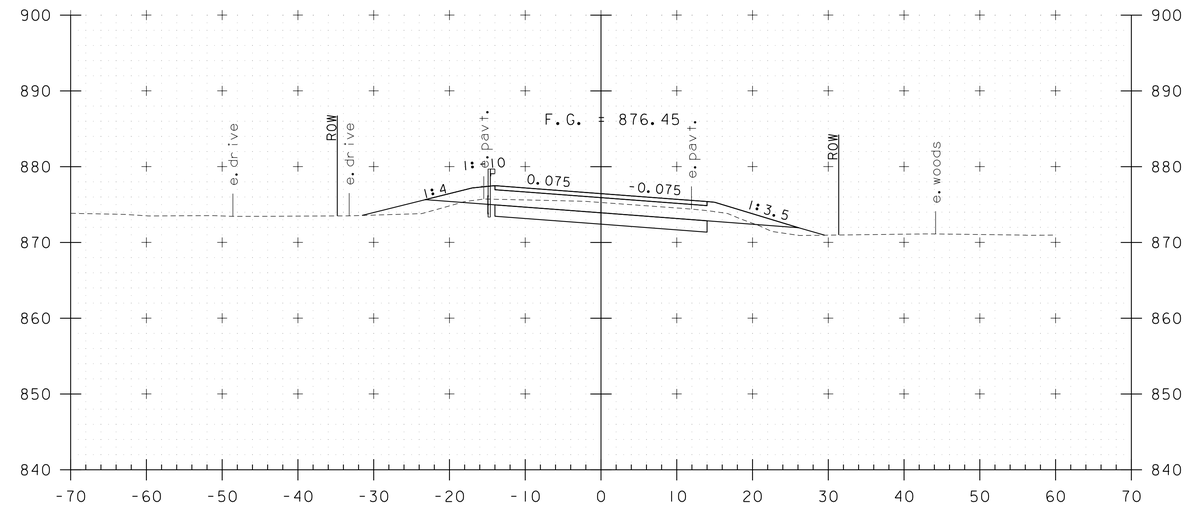
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 CROSS SECTIONS 6	SHEET 34 OF 57

MODEL: XS6

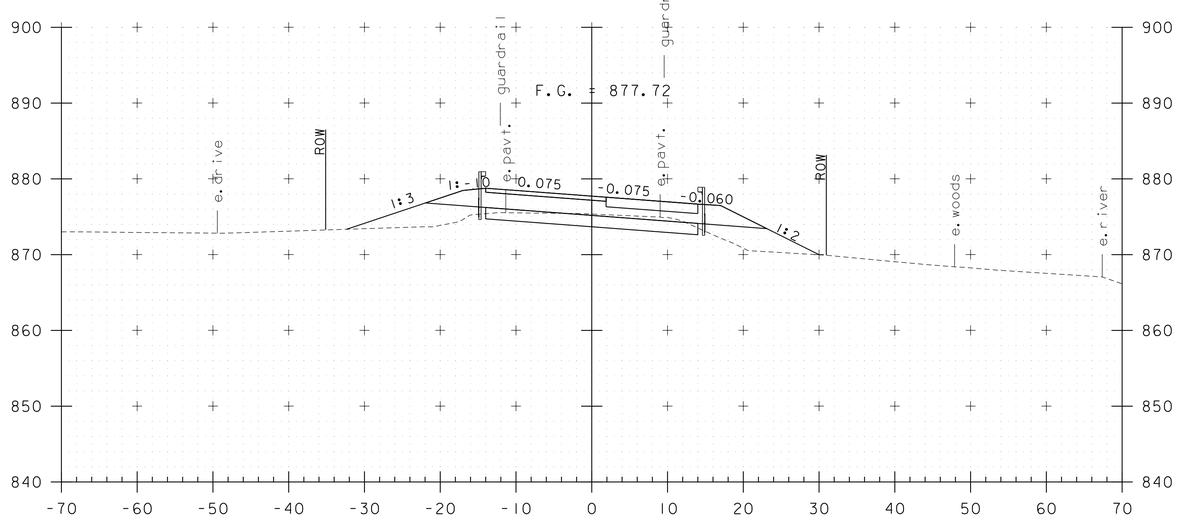
CLD 14-0149



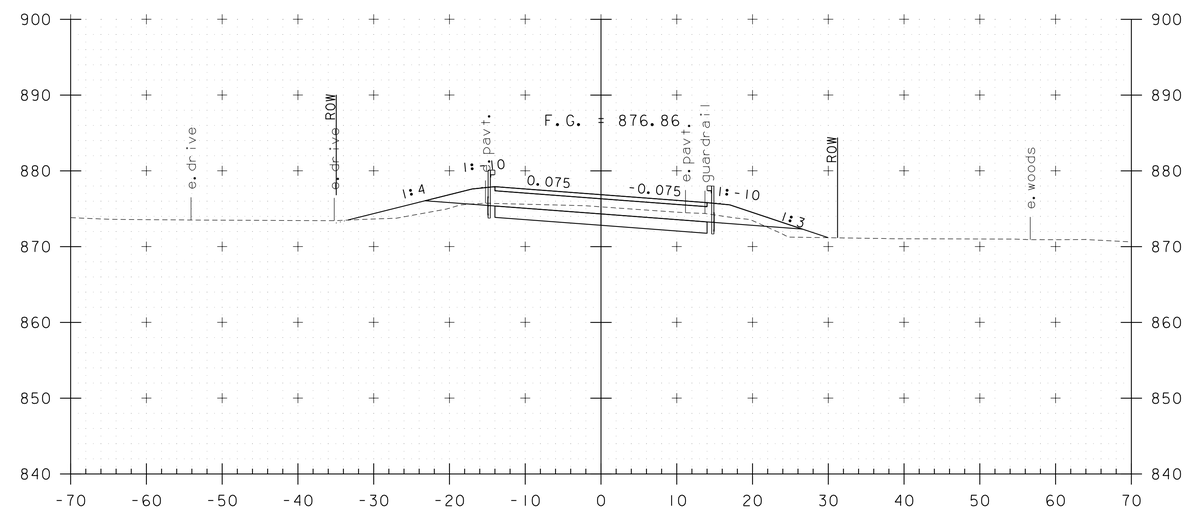
15+25



15+75



15+00



15+50

0 10 20
(SCALE 1" = 10')

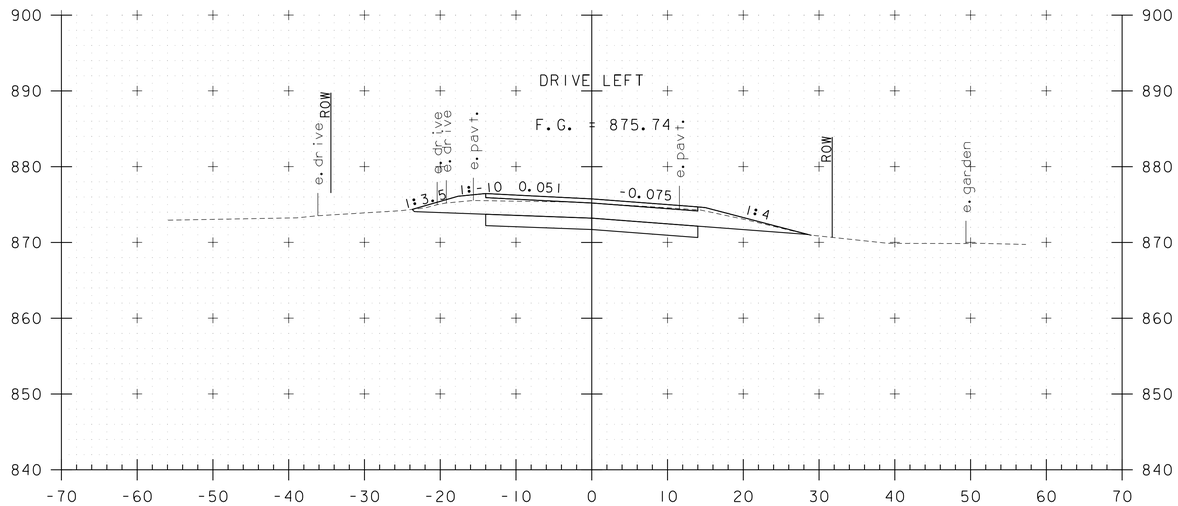
STA. 15+00 TO STA. 15+75

CONSULTING ENGINEERS

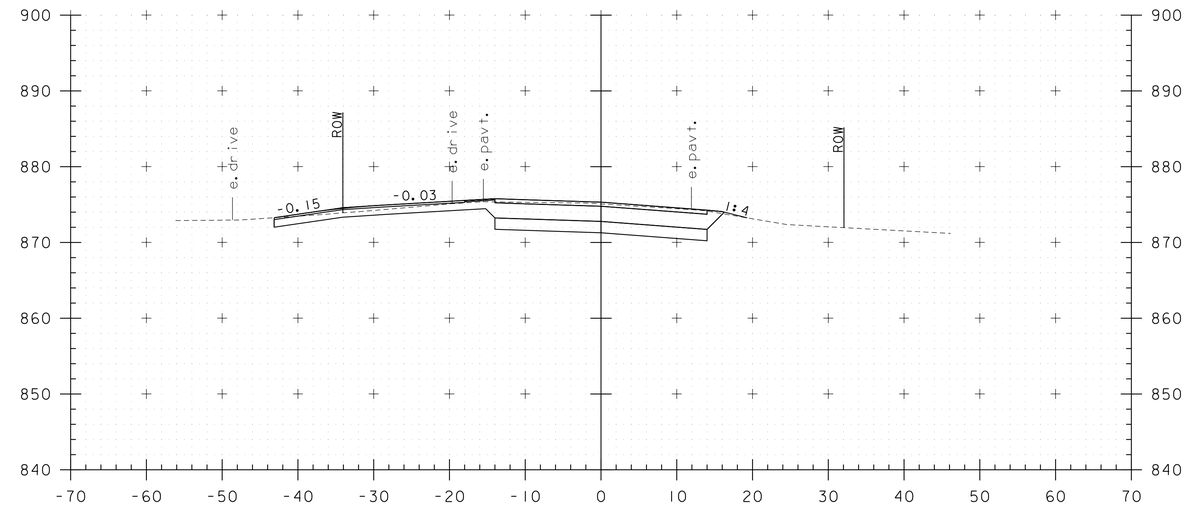
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 CROSS SECTIONS 7	SHEET 35 OF 57

MODEL: XS7

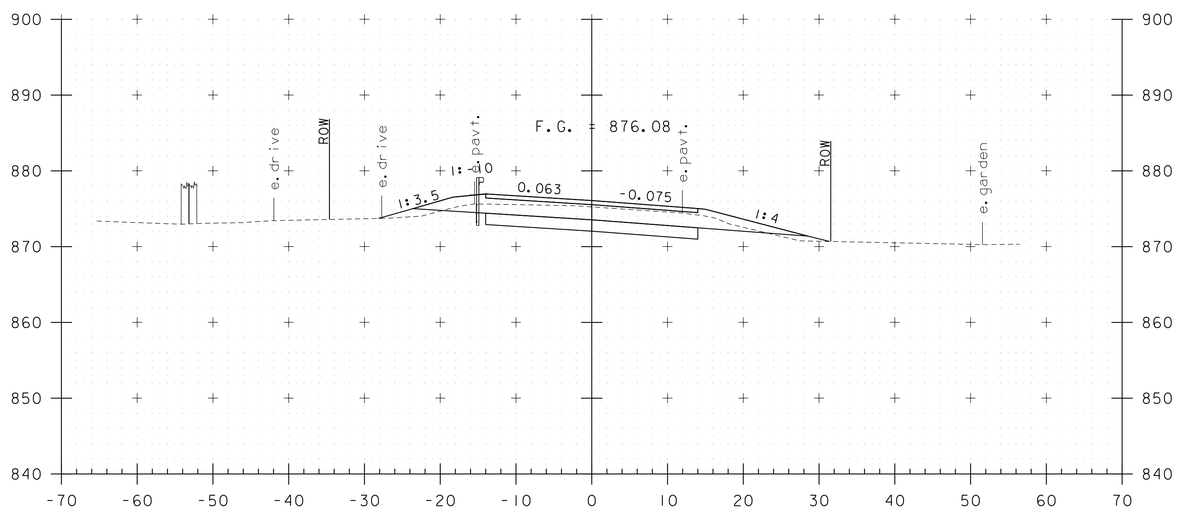
CLD 14-0149



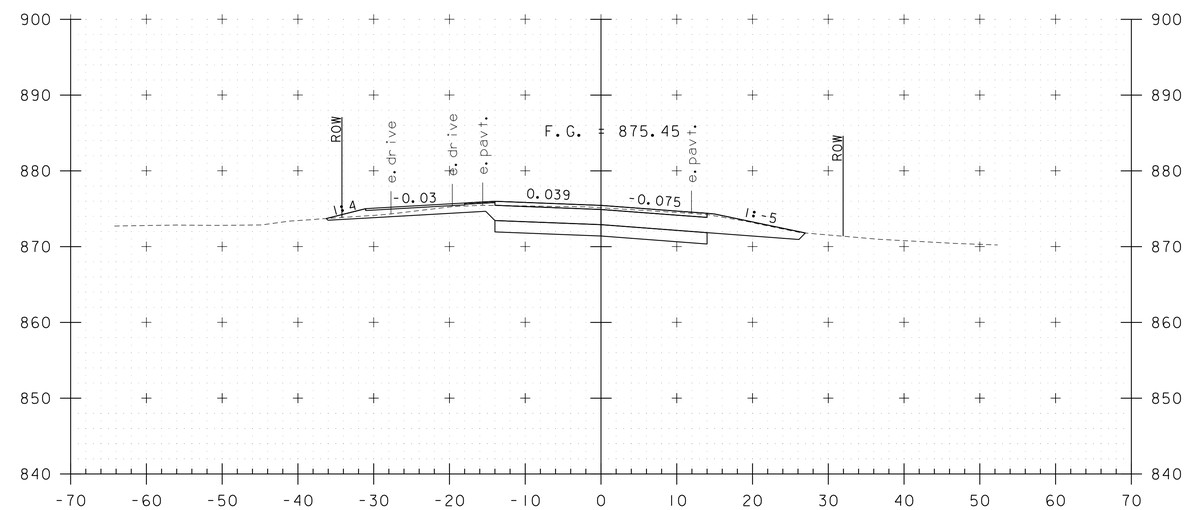
16+25



16+63
DRIVE LT



16+00



16+50

MODEL: XS8

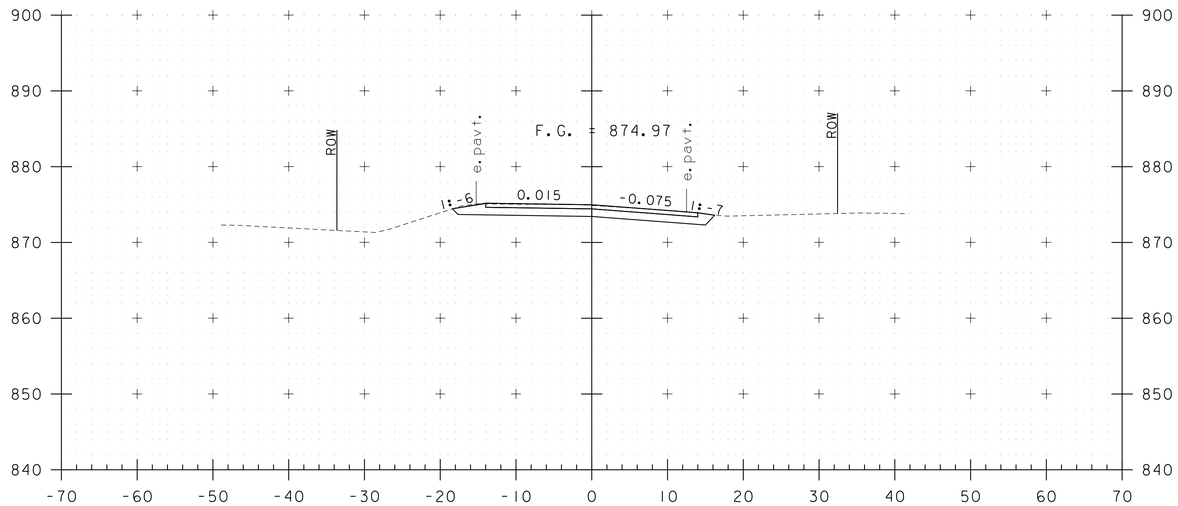
CLD 14-0149

0 10 20
(SCALE 1" = 10')

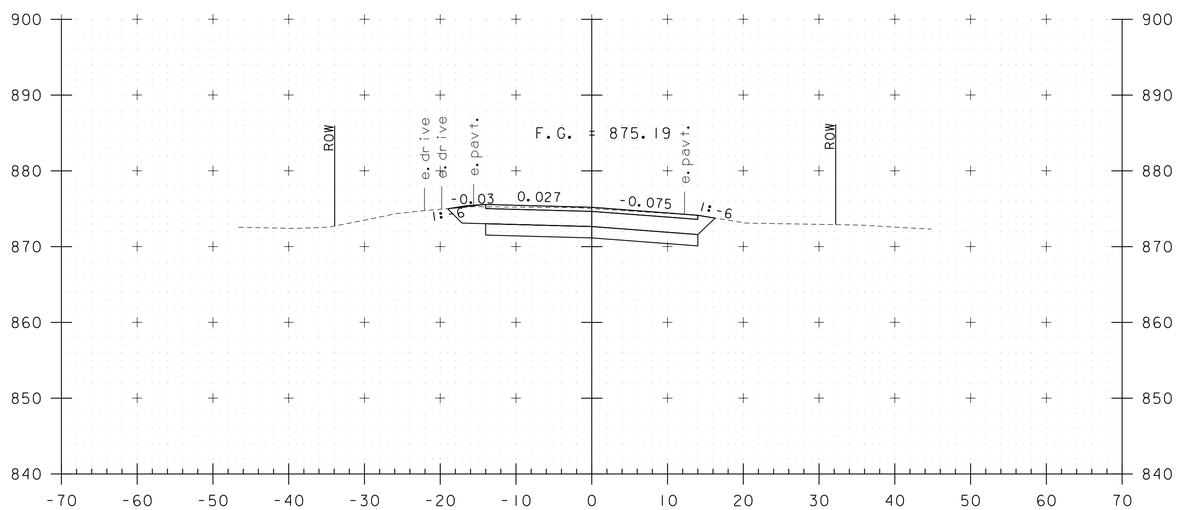
STA. 16+00 TO STA. 16+63

CONSULTING ENGINEERS

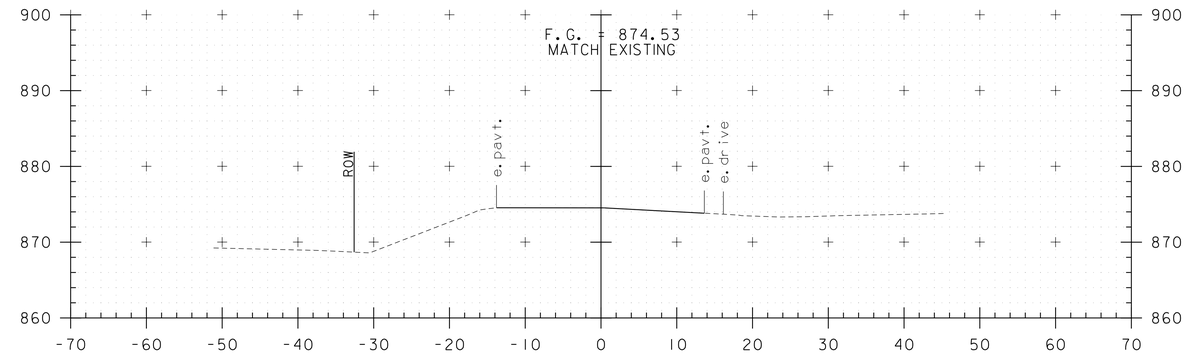
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 CROSS SECTIONS 8	SHEET 36 OF 57



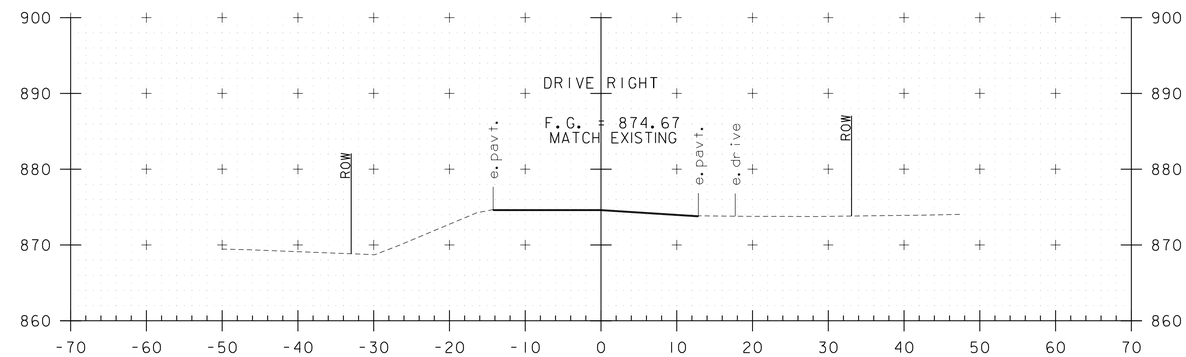
17+00



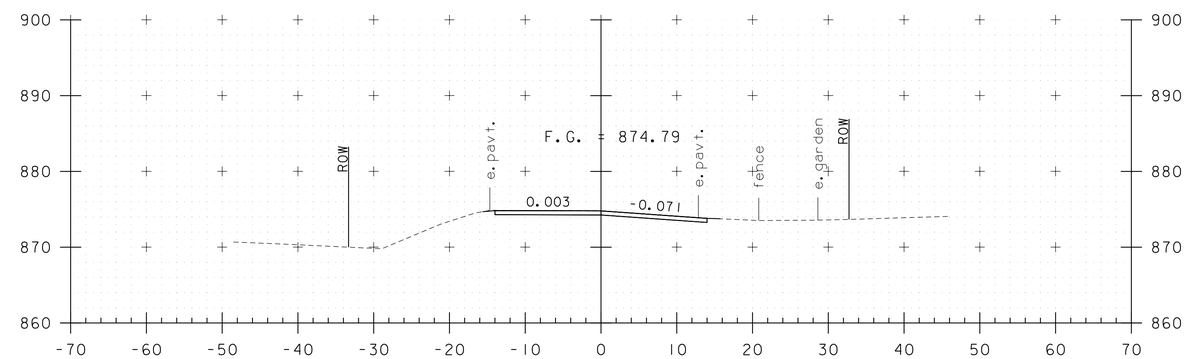
16+75
END PROJECT



17+75
END APPROACH



17+50



17+25

0 10 20
(SCALE 1" = 10')

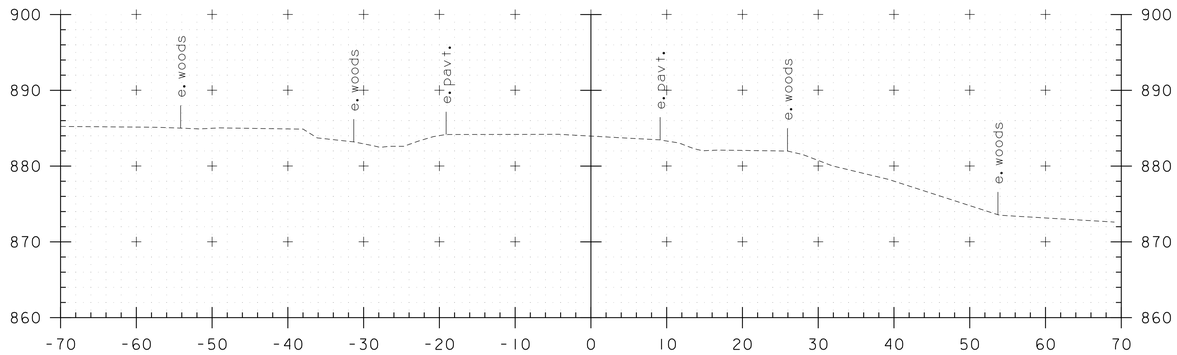
STA. 16+75 TO STA. 17+75

CONSULTING ENGINEERS

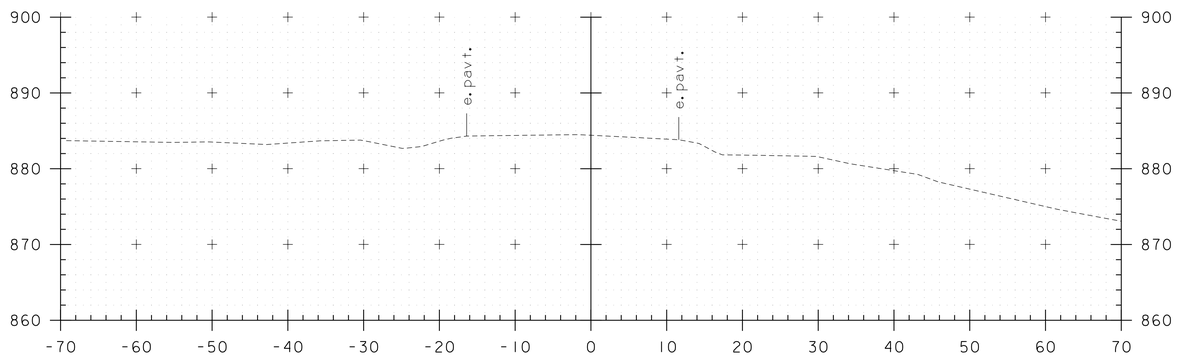
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
VT 102 CROSS SECTIONS 9	SHEET 37 OF 57

MODEL: XS9

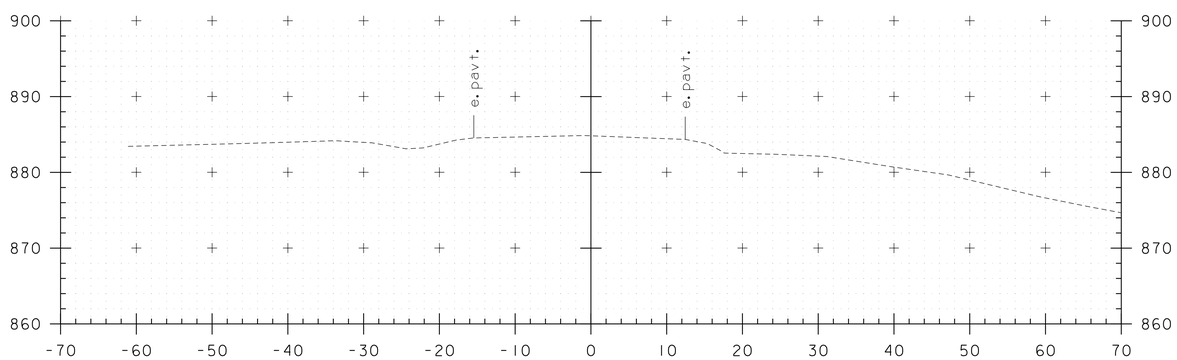
CLD 14-0149



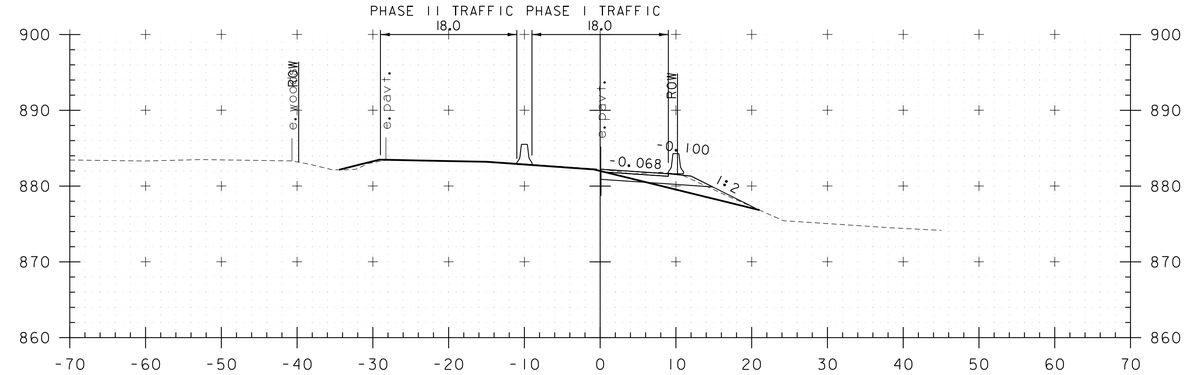
39+50



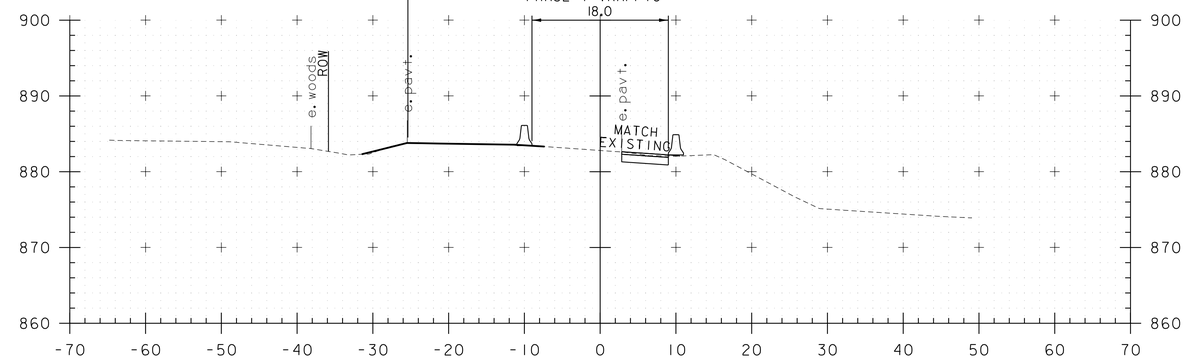
39+25



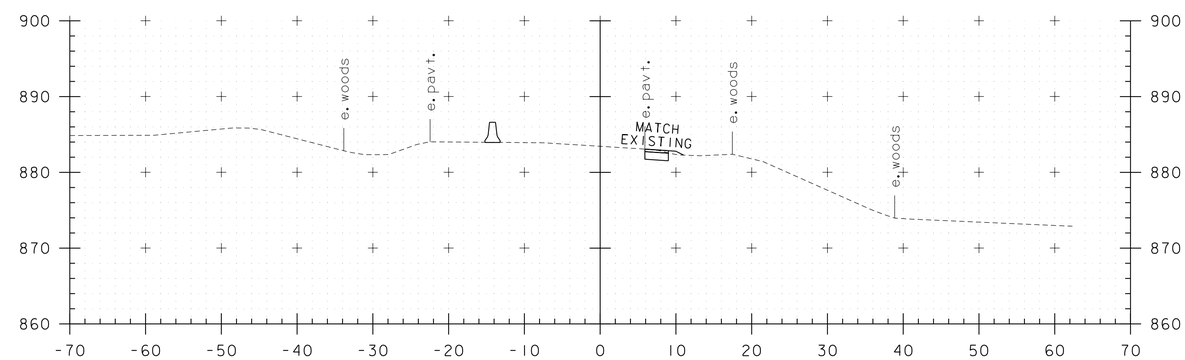
39+00



40+25



40+00



39+75

0 10 20
(SCALE 1" = 10')

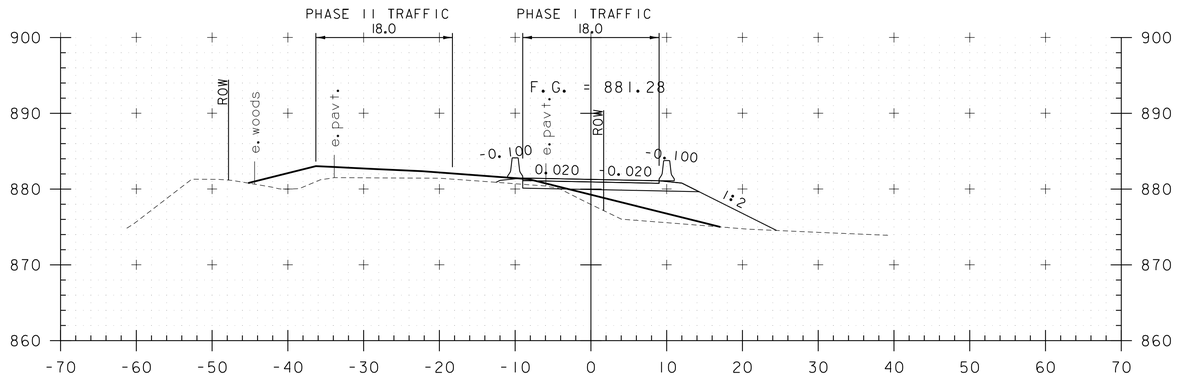
STA. 39+00 TO STA. 40+25

CONSULTING ENGINEERS

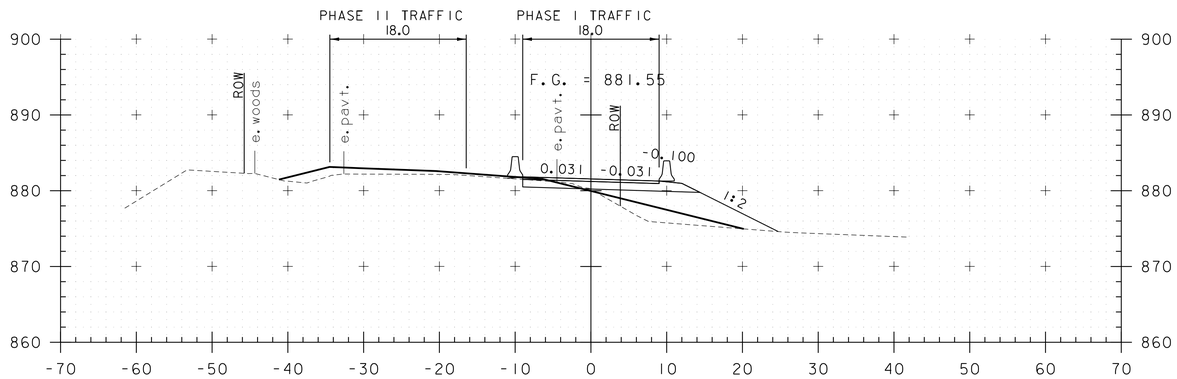
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056tcpxs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TEMP DETOUR CROSS SECTIONS 1	SHEET 38 OF 57

MODEL: XS 1

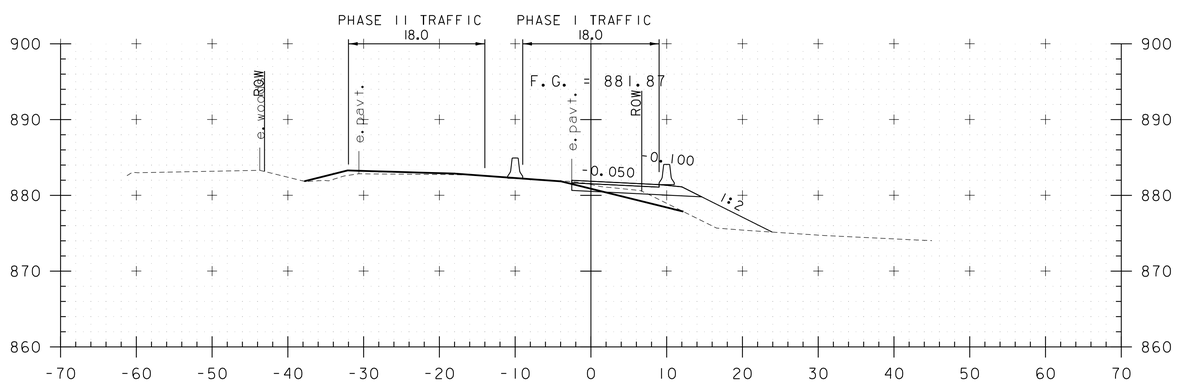
CLD 14-0149



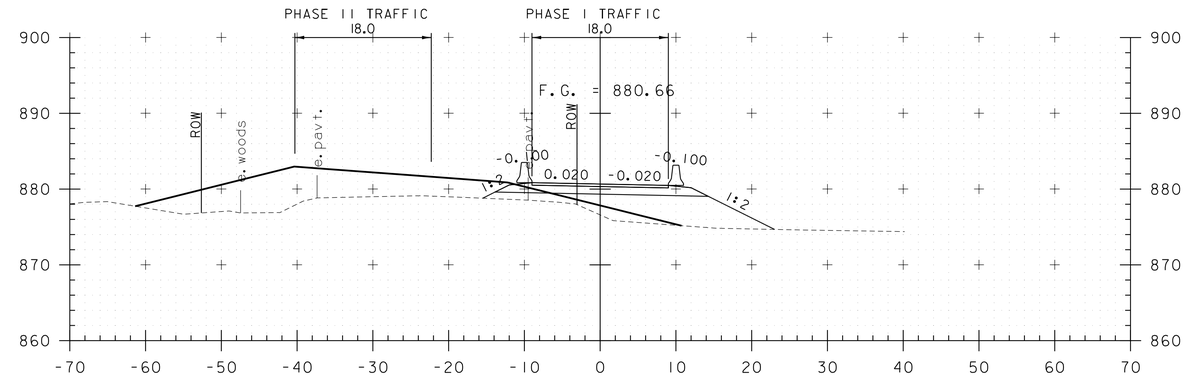
41+00



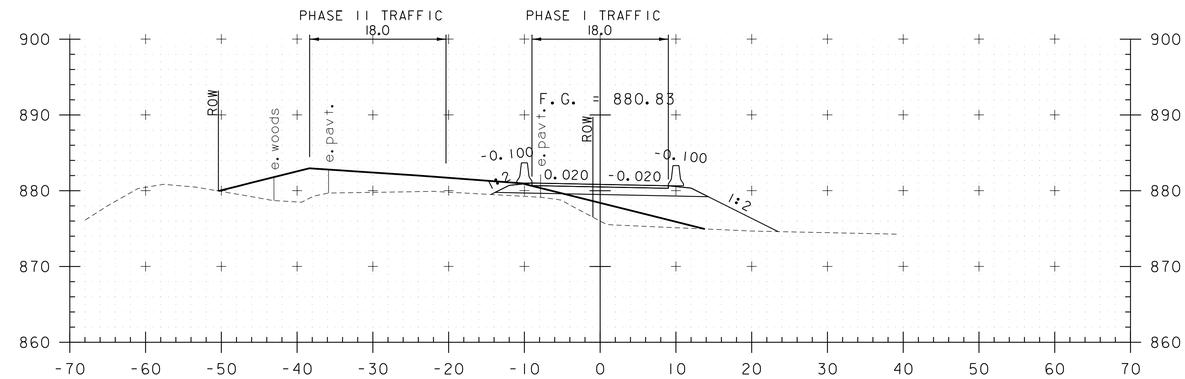
40+75



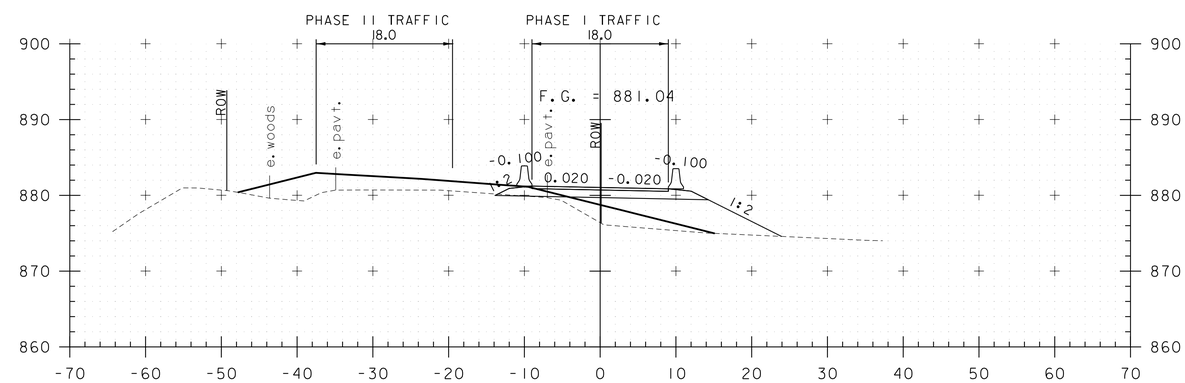
40+50



41+75



41+50



41+25

0 10 20
(SCALE 1" = 10')

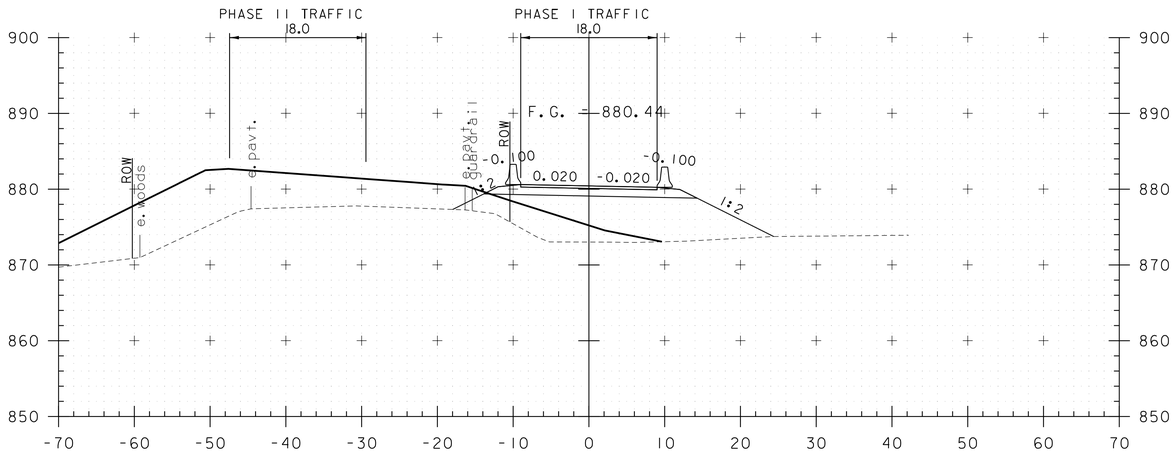
STA. 40+50 TO STA. 41+75

CONSULTING ENGINEERS

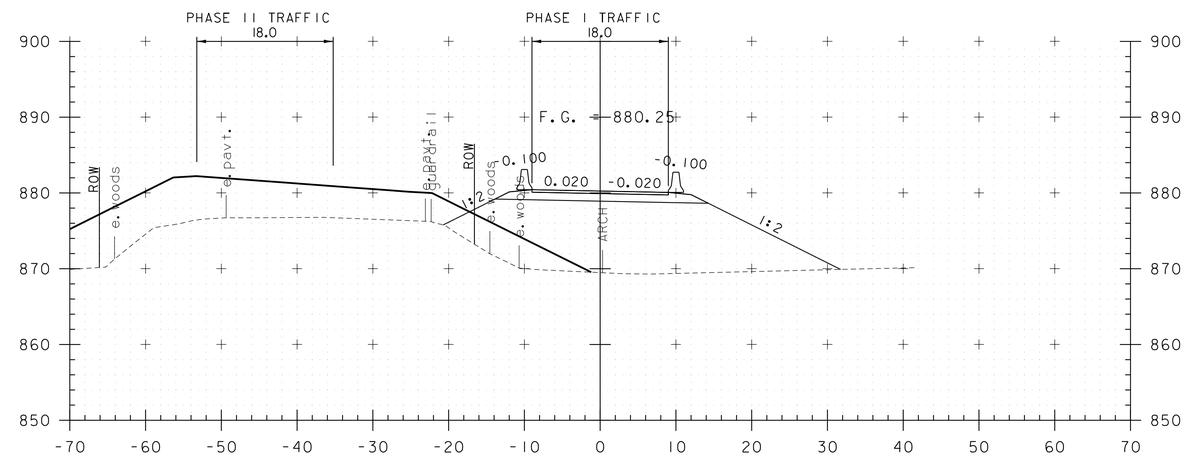
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056tcpxs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TEMP DETOUR CROSS SECTIONS 2	SHEET 39 OF 57

MODEL: XS 2

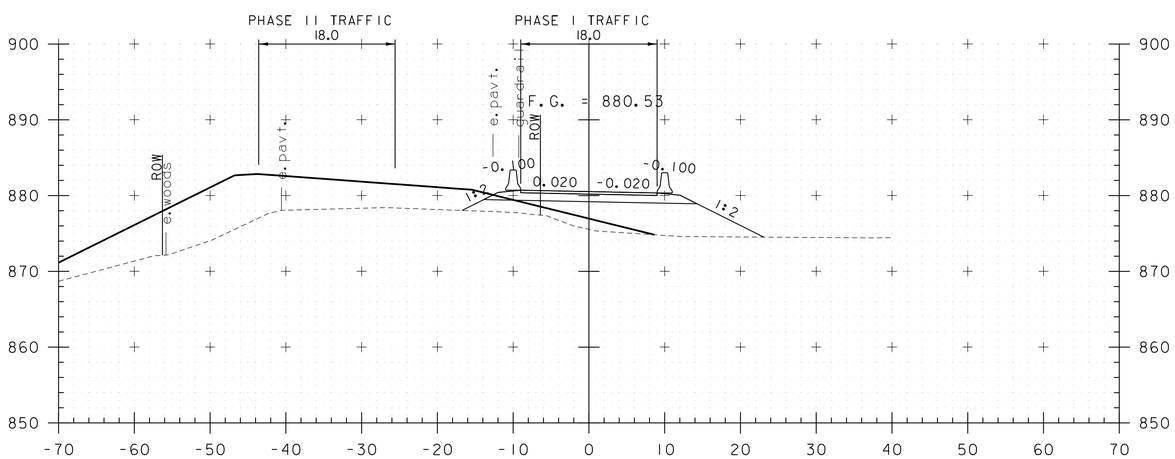
CLD 14-0149



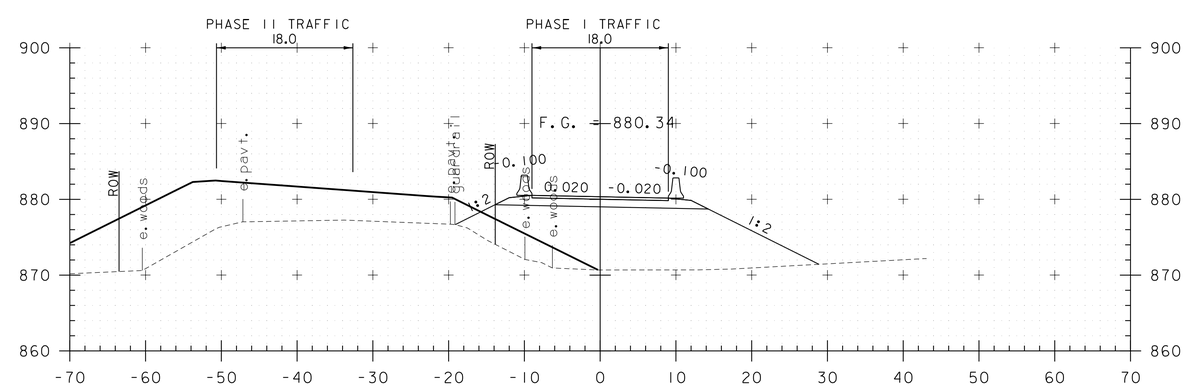
42+25



42+75



42+00



42+50

0 10 20
(SCALE 1" = 10')

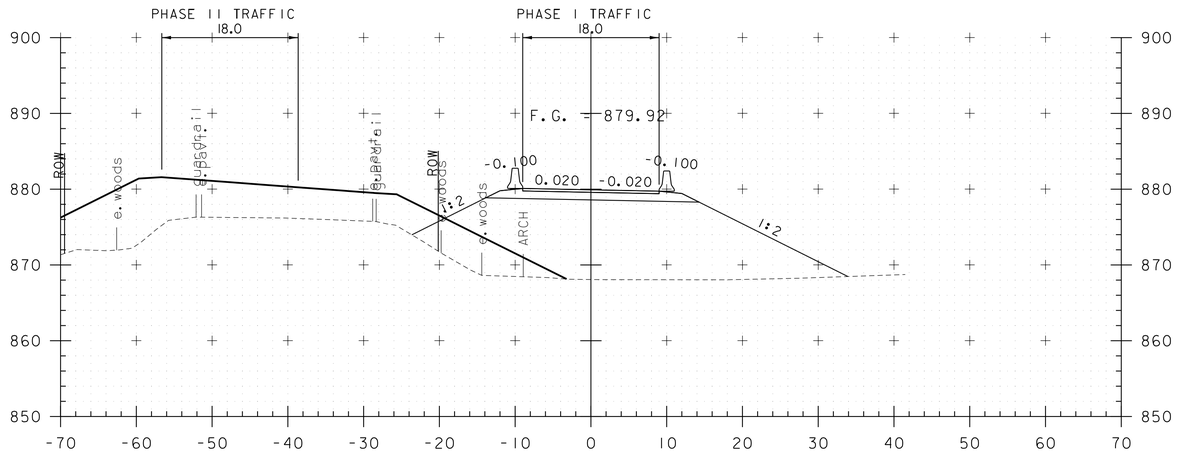
STA. 42+00 TO STA. 42+75

CONSULTING ENGINEERS

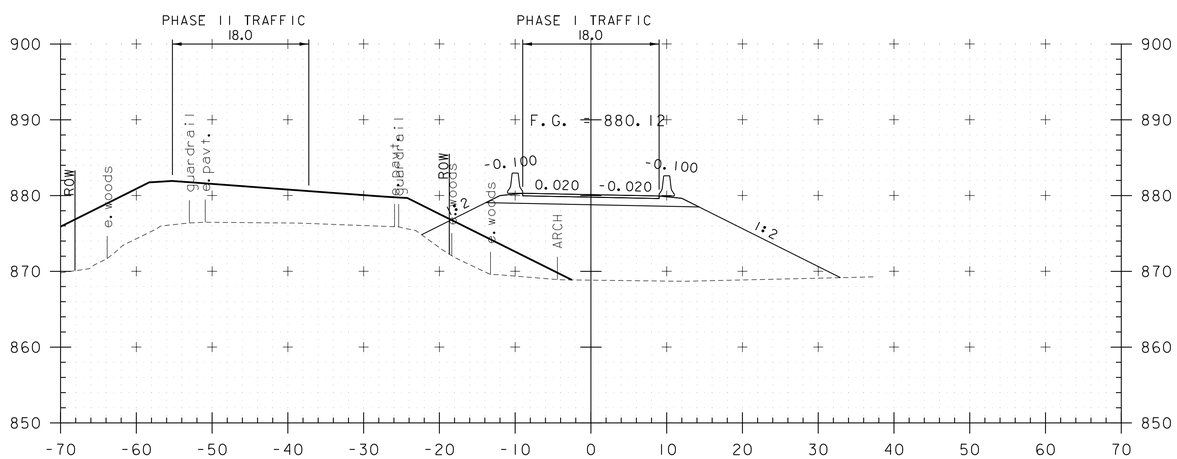
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056tcpxs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TEMP DETOUR CROSS SECTIONS 3	SHEET 40 OF 57

MODEL: XS 3

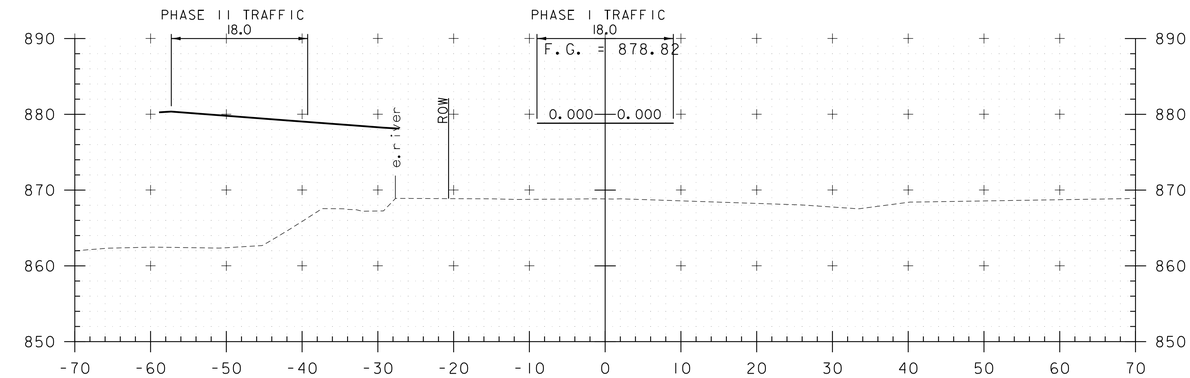
CLD 14-0149



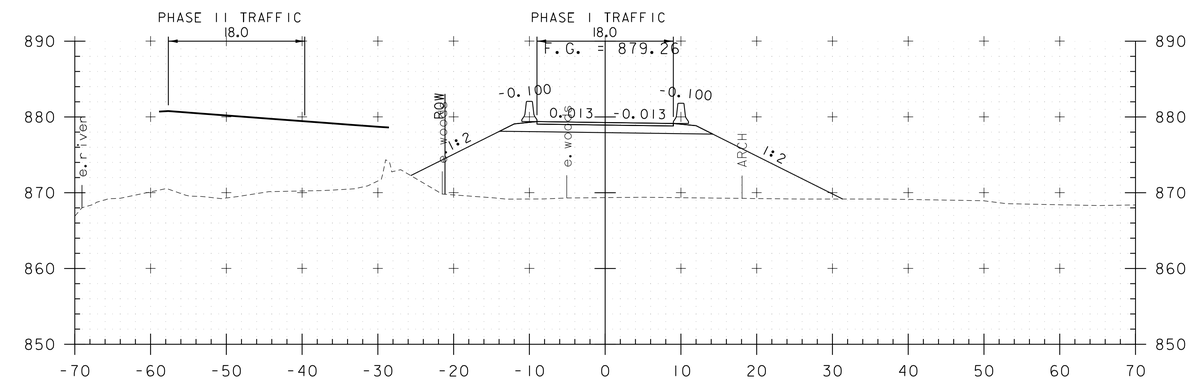
43+25



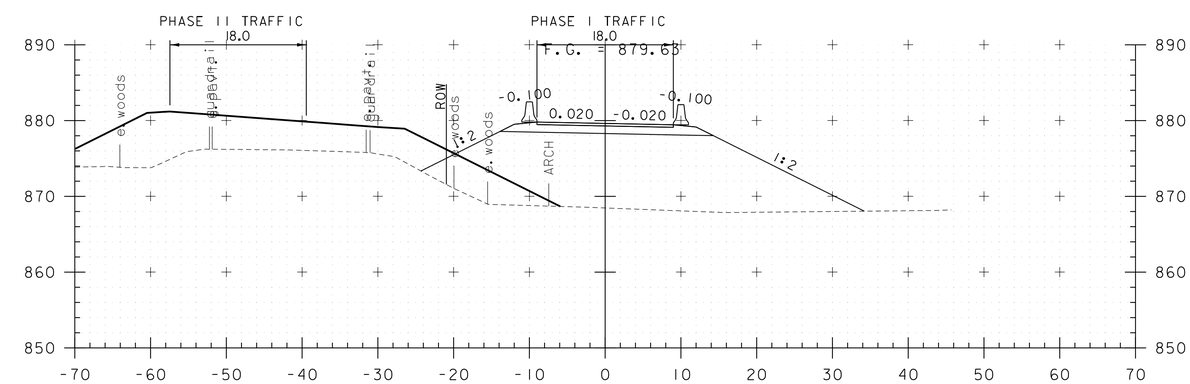
43+00



44+00



43+75



43+50

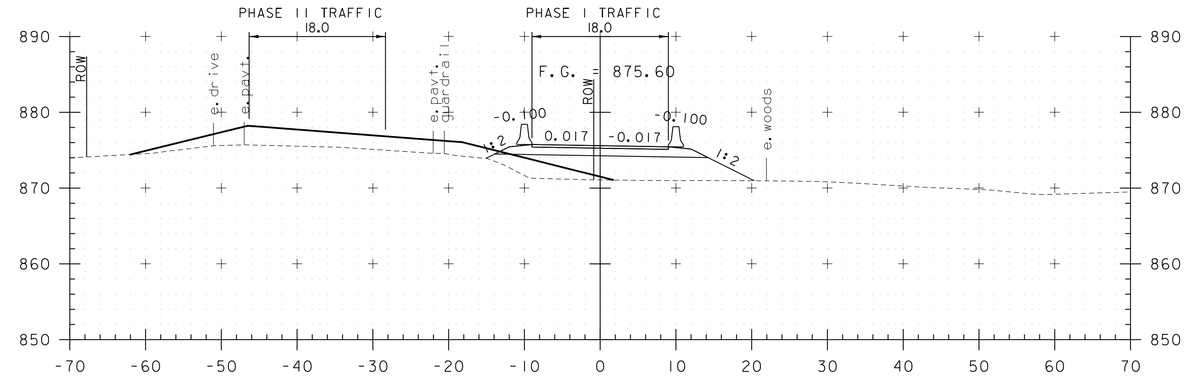
0 10 20
(SCALE 1" = 10')

STA. 43+00 TO STA. 44+00

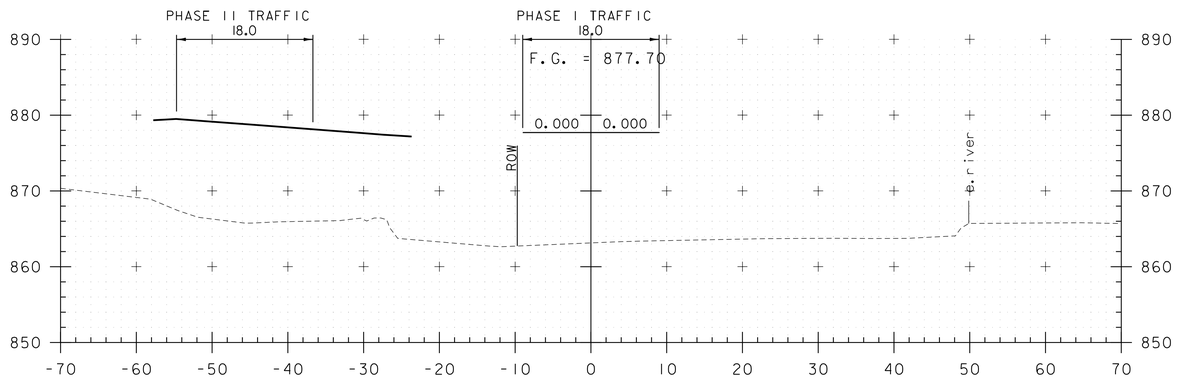
CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056tcpxs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TEMP DETOUR CROSS SECTIONS 4	SHEET 41 OF 57

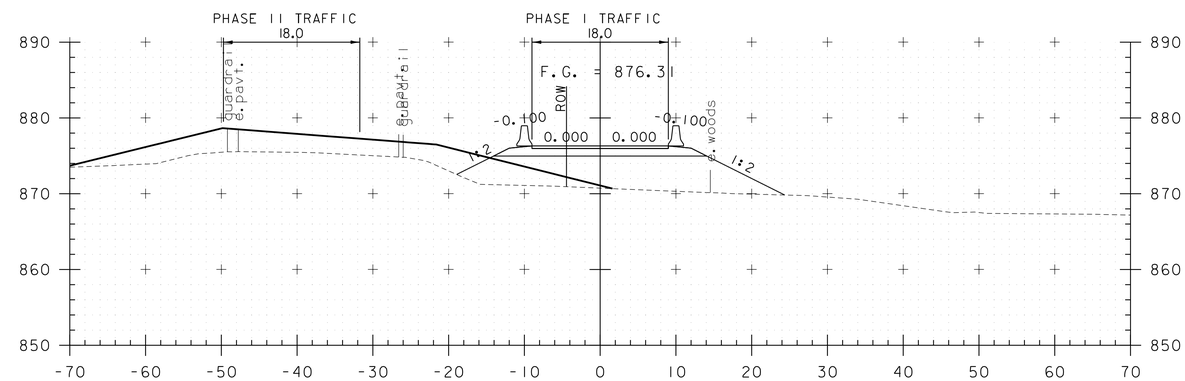
CLD 14-0149 MODEL: XS 4



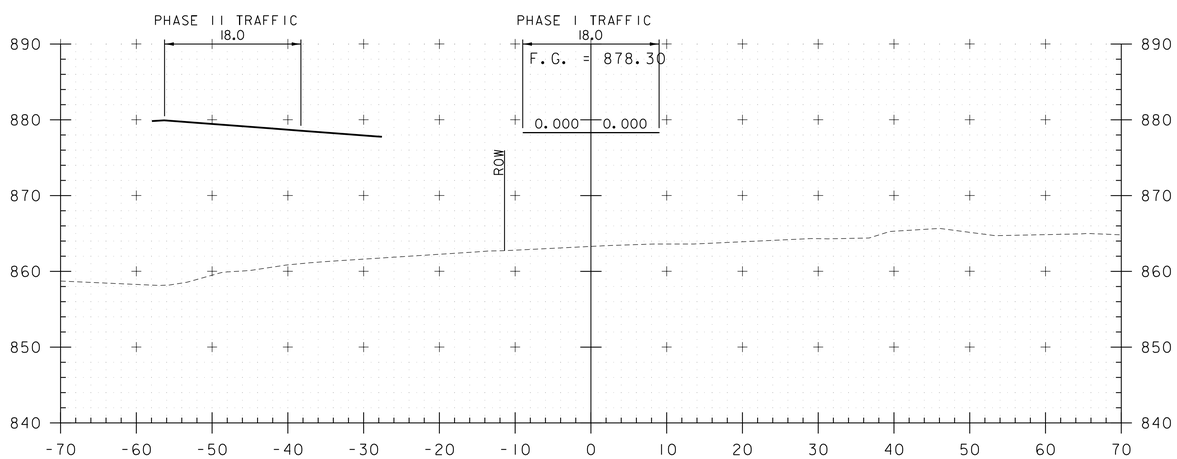
45+25



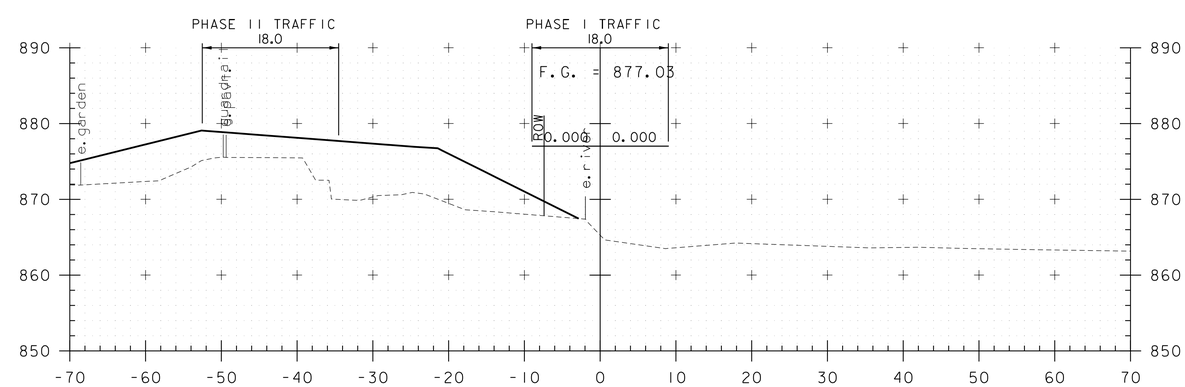
44+50



45+00



44+25



44+75

0 10 20
(SCALE 1" = 10')

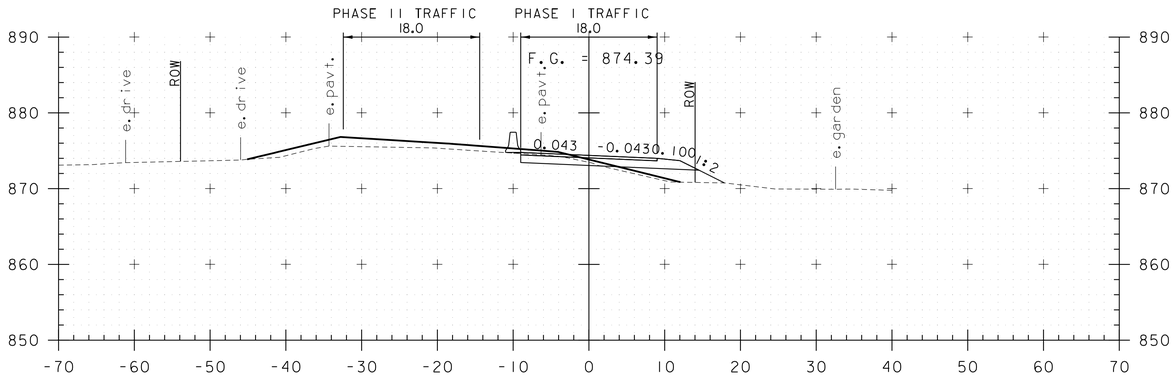
STA. 44+25 TO STA. 45+25

CONSULTING ENGINEERS

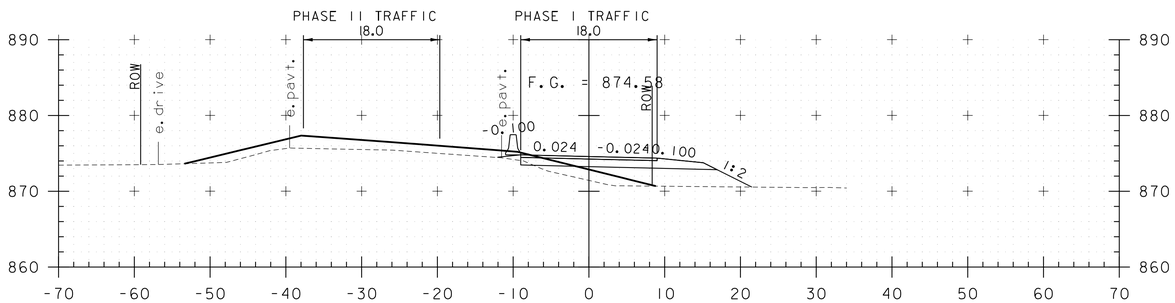
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056tcpxs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TEMP DETOUR CROSS SECTIONS 5	SHEET 42 OF 57

MODEL: XS 5

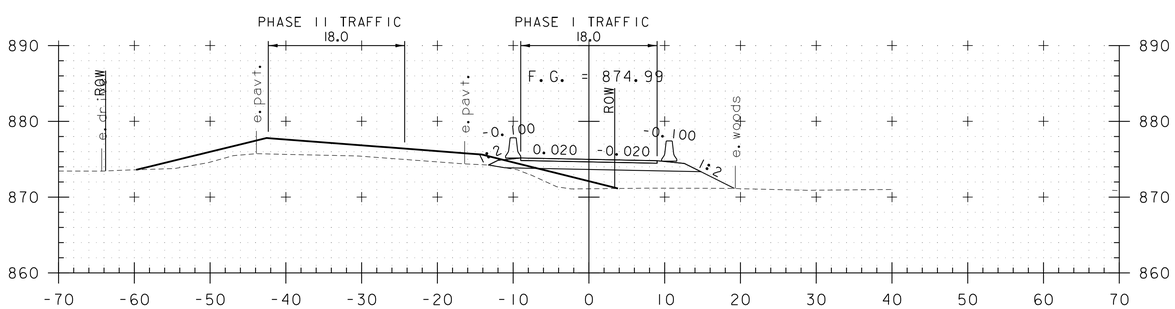
CLD 14-0149



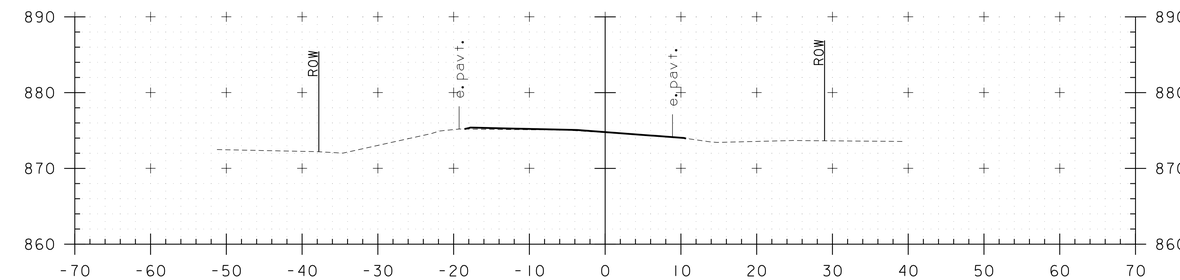
46+00



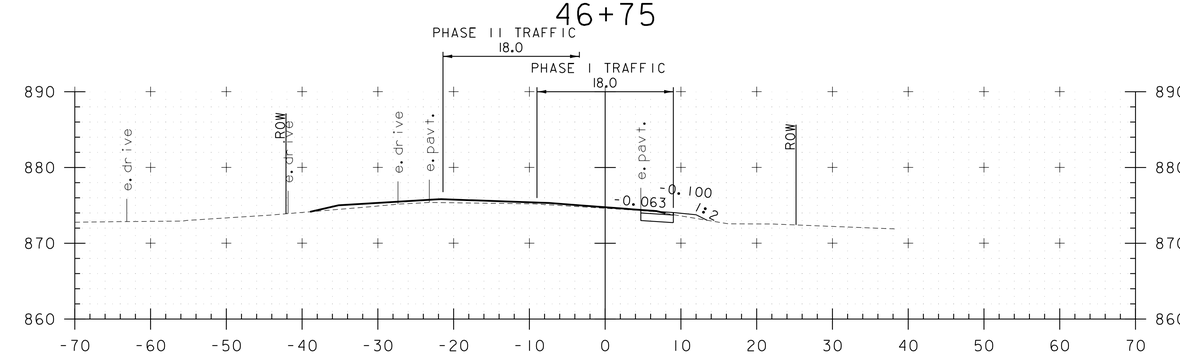
45+75



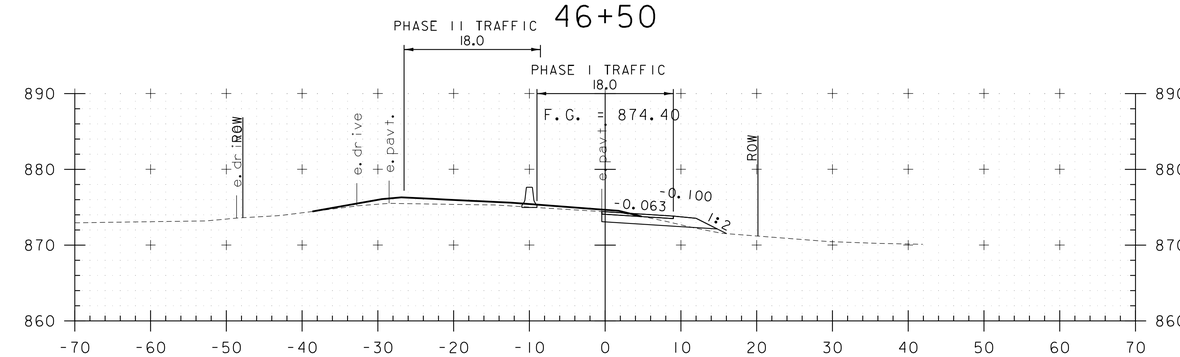
45+50



46+75



46+50



46+25

0 10 20
(SCALE 1" = 10')

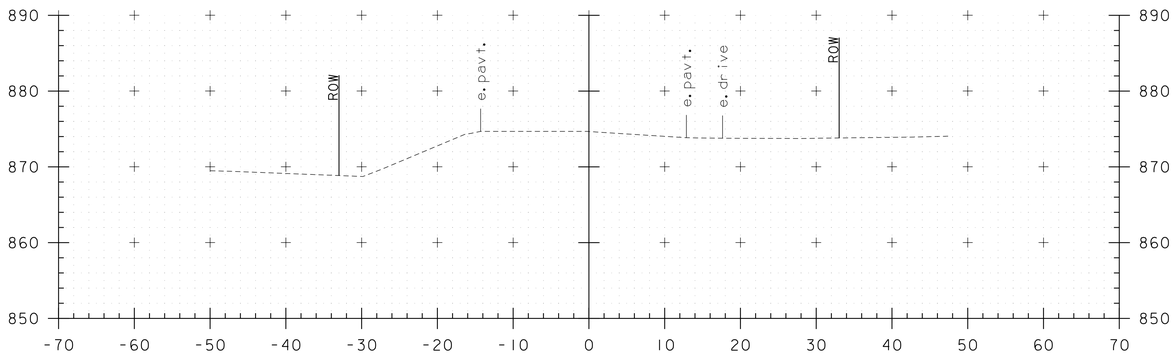
STA. 45+50 TO STA. 46+75

CONSULTING ENGINEERS

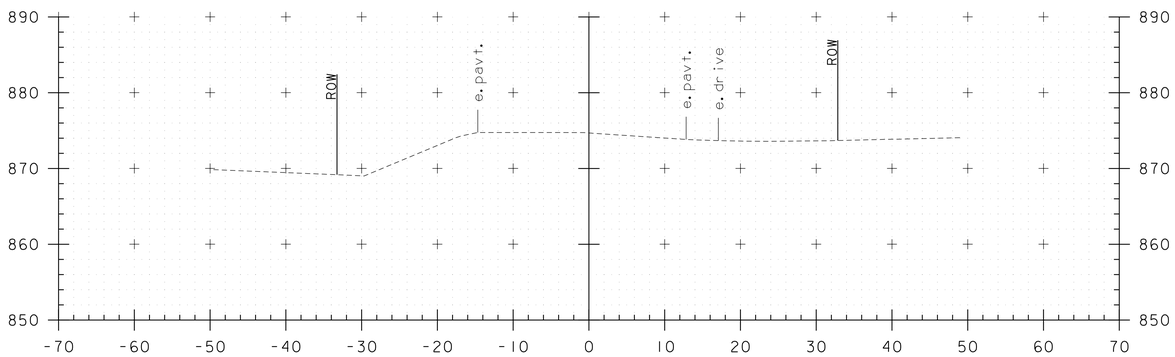
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056tcpxs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TEMP DETOUR CROSS SECTIONS 6	SHEET 43 OF 57

MODEL: XS 6

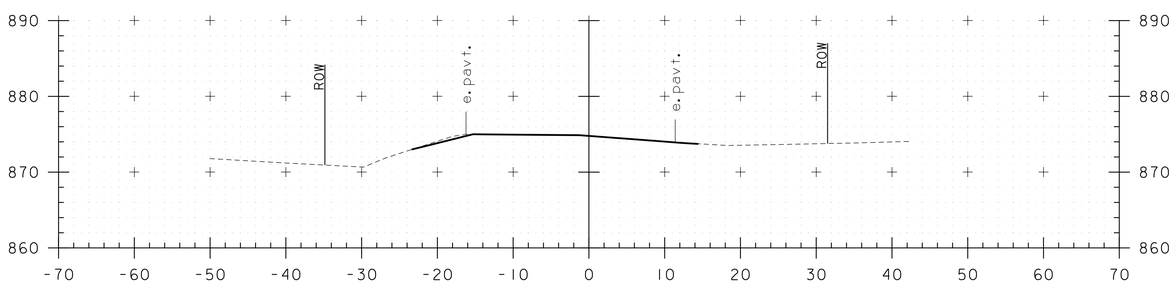
CLD 14-0149



47+35



47+25



47+00

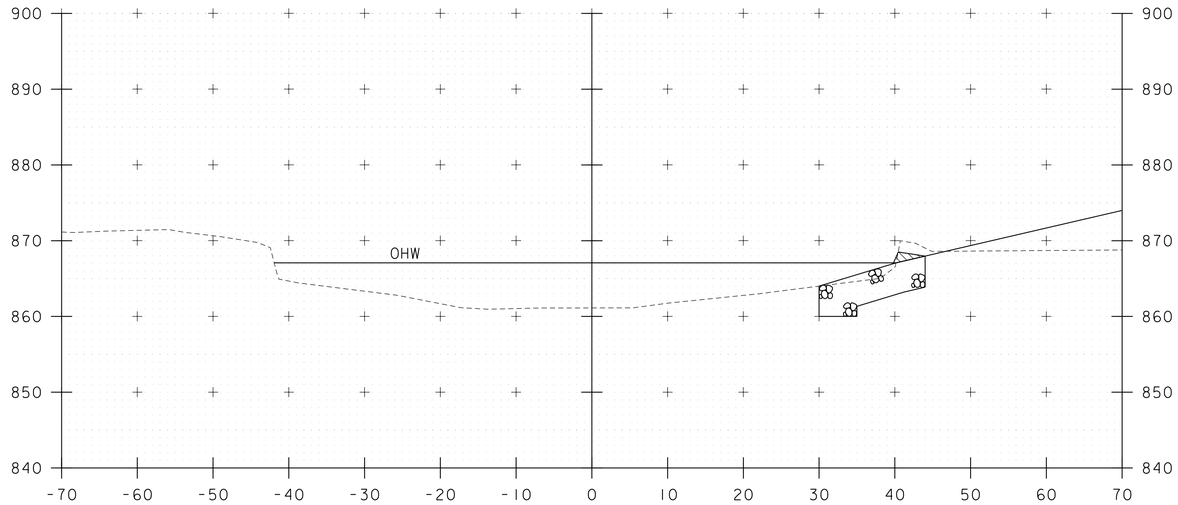
0 10 20
(SCALE 1" = 10')

STA. 47+00 TO STA. 47+35

CONSULTING ENGINEERS

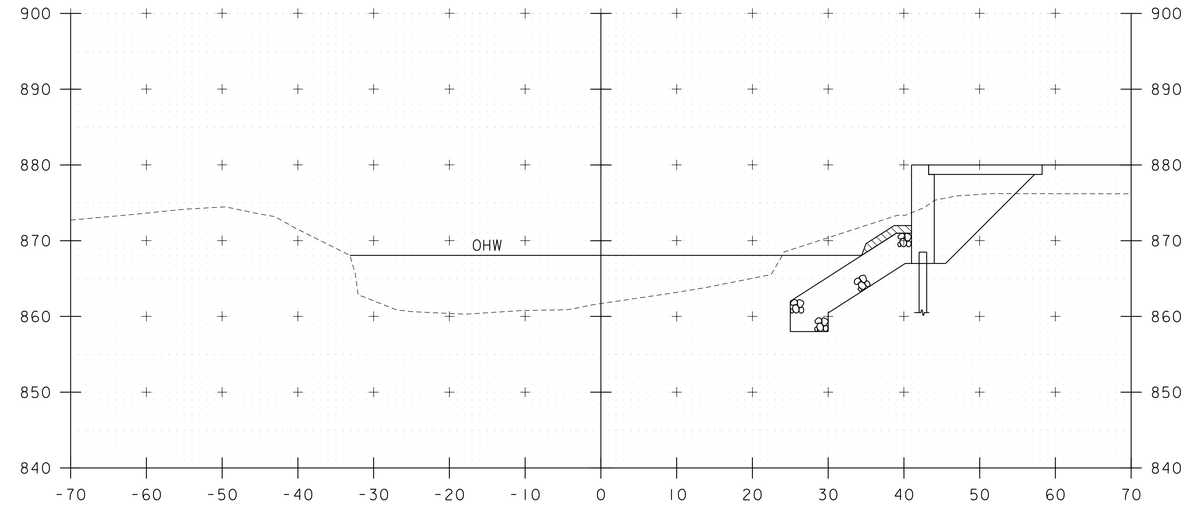
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056tcpxs.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
TEMP DETOUR CROSS SECTIONS 7	SHEET 44 OF 57

CLD 14-0149 MODEL: XS 7

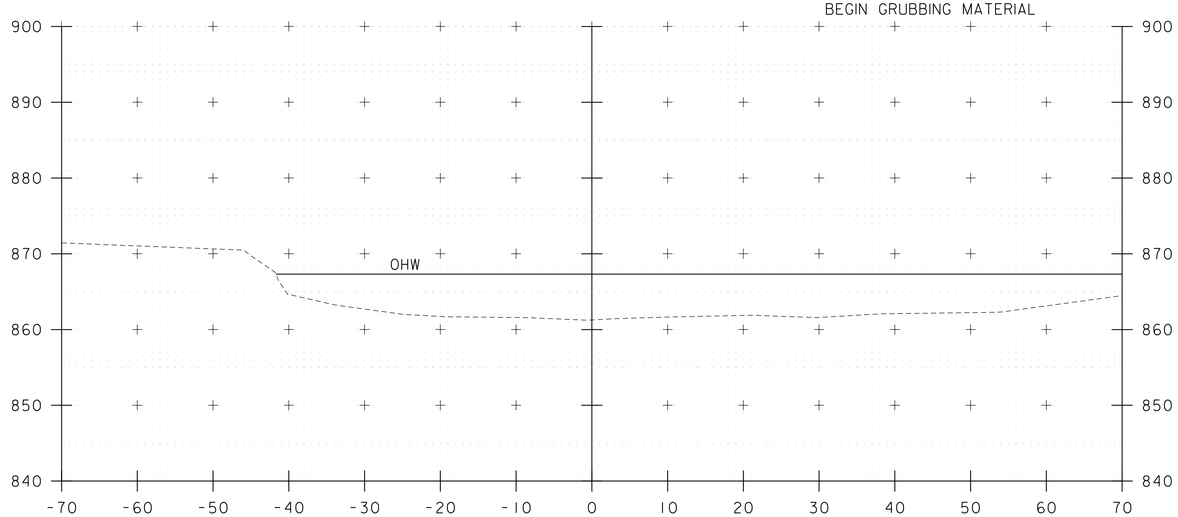


50+25

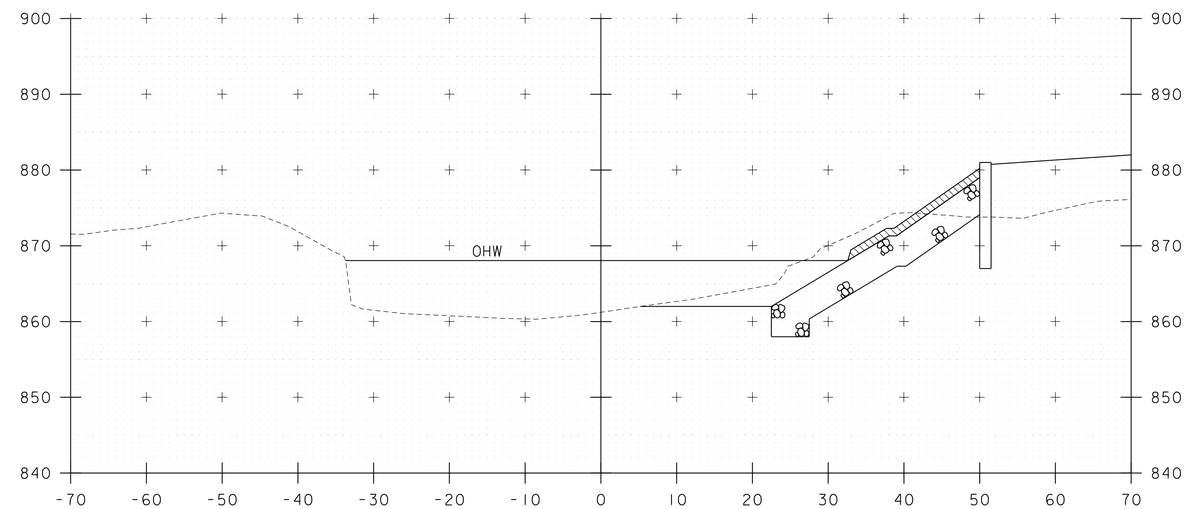
STA. 50+15 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL, TYPE IV
BEGIN GRUBBING MATERIAL



50+60



50+00

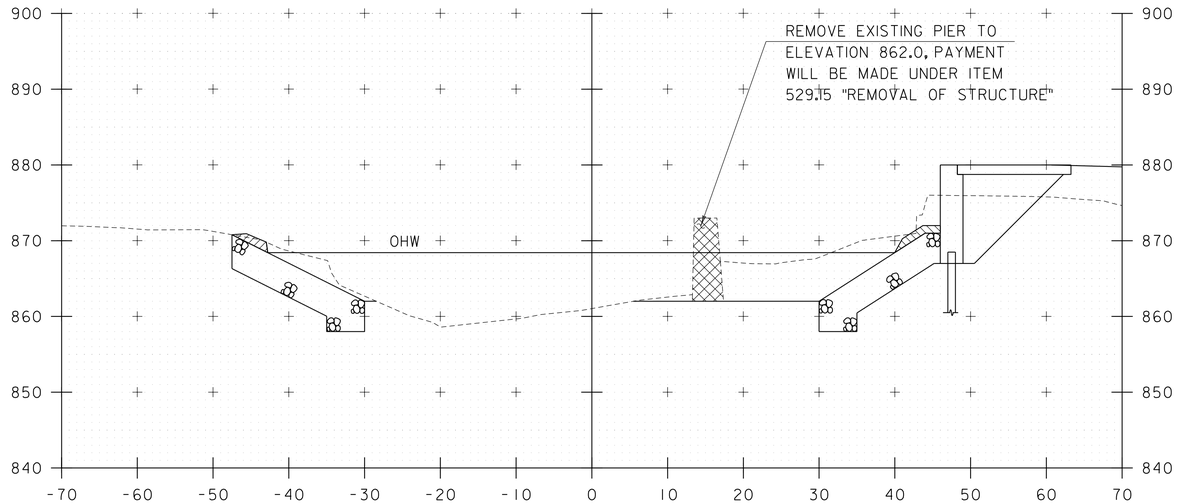


50+50

STA. 50+00 TO STA. 50+60

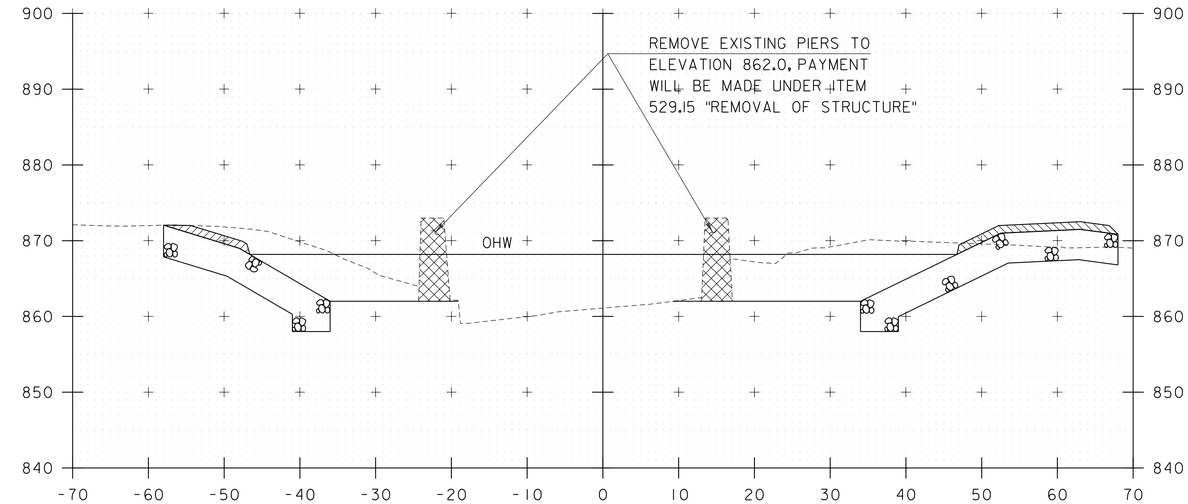
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 027I(23)	
FILE NAME: zI3c056xs_channel.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: M. SMITH
DESIGNED BY: J. FRENCH	CHECKED BY: J. BYATT
CHANNEL CROSS SECTIONS I	SHEET 45 OF 57

CLD 14-0149 MODEL: Default

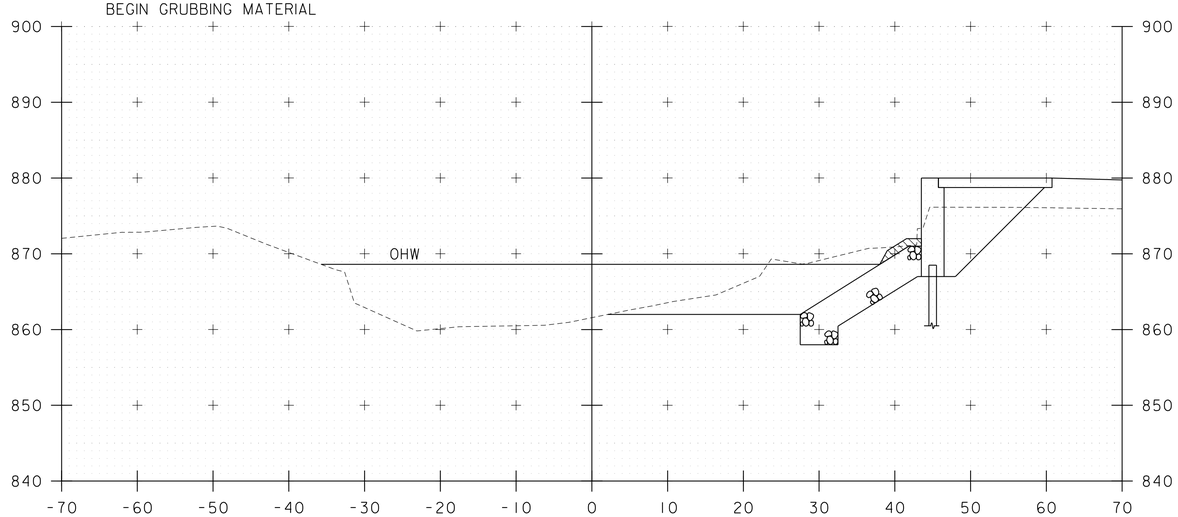


STA. 50+71 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL, TYPE IV
BEGIN GRUBBING MATERIAL

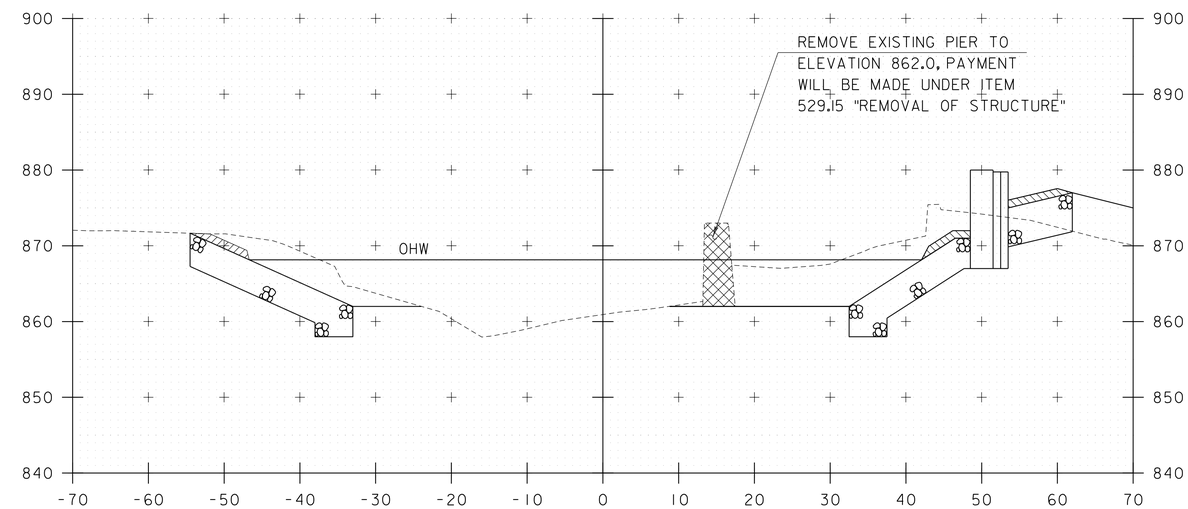
50+80



51+00



50+70

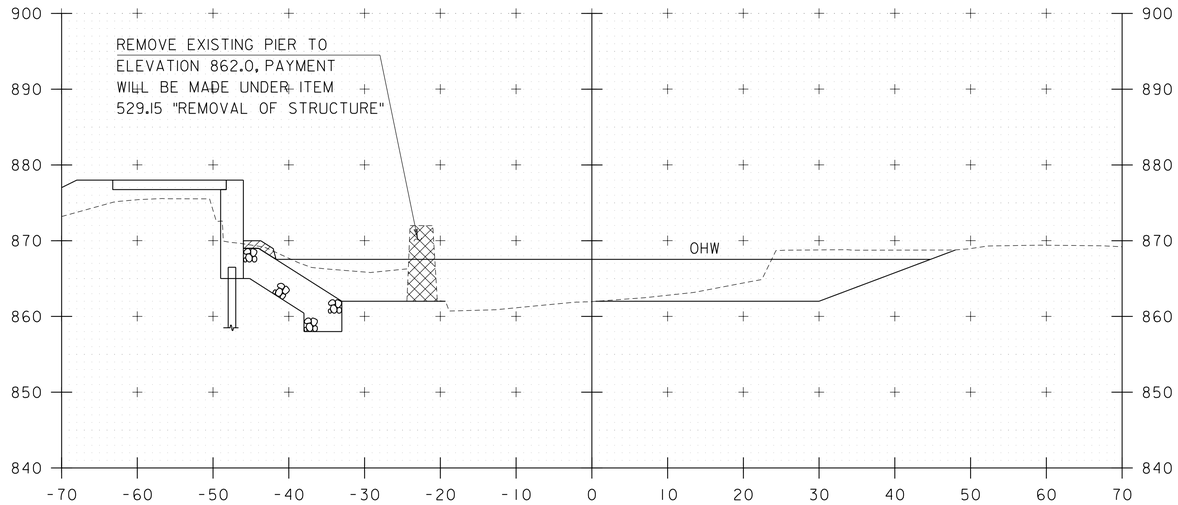


50+90

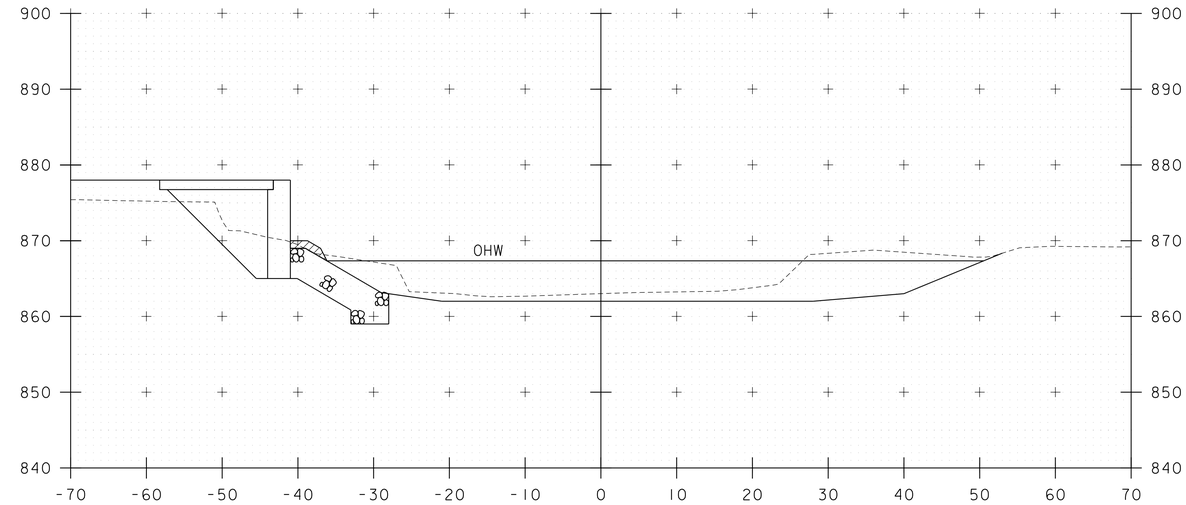
STA. 50+70 TO STA. 51+00

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs_channel.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: M. SMITH
DESIGNED BY: J. FRENCH	CHECKED BY: J. BYATT
CHANNEL CROSS SECTIONS 2	SHEET 46 OF 57

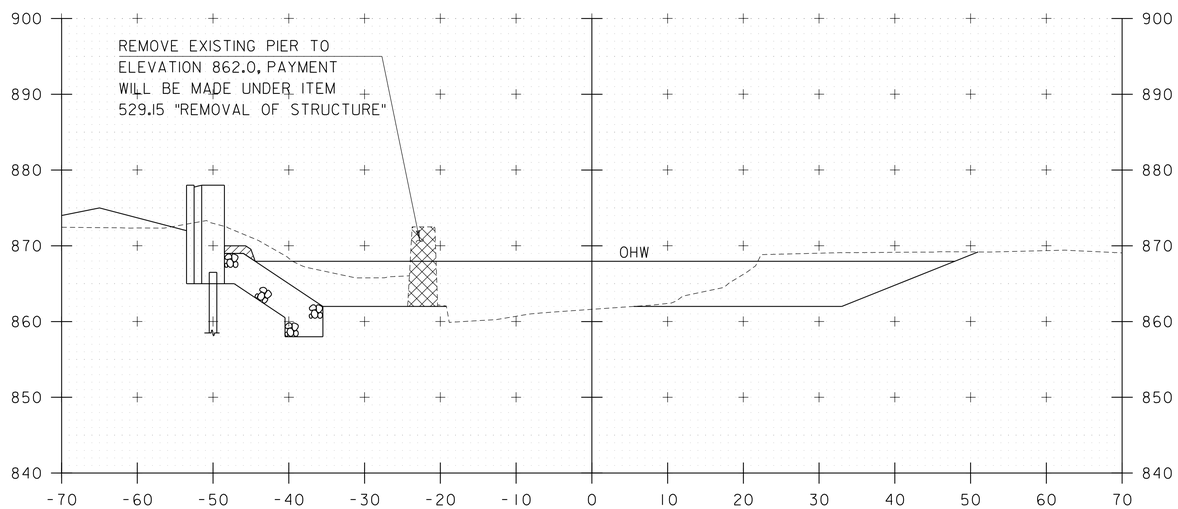
CLD 14-0149 MODEL: Default



51+20

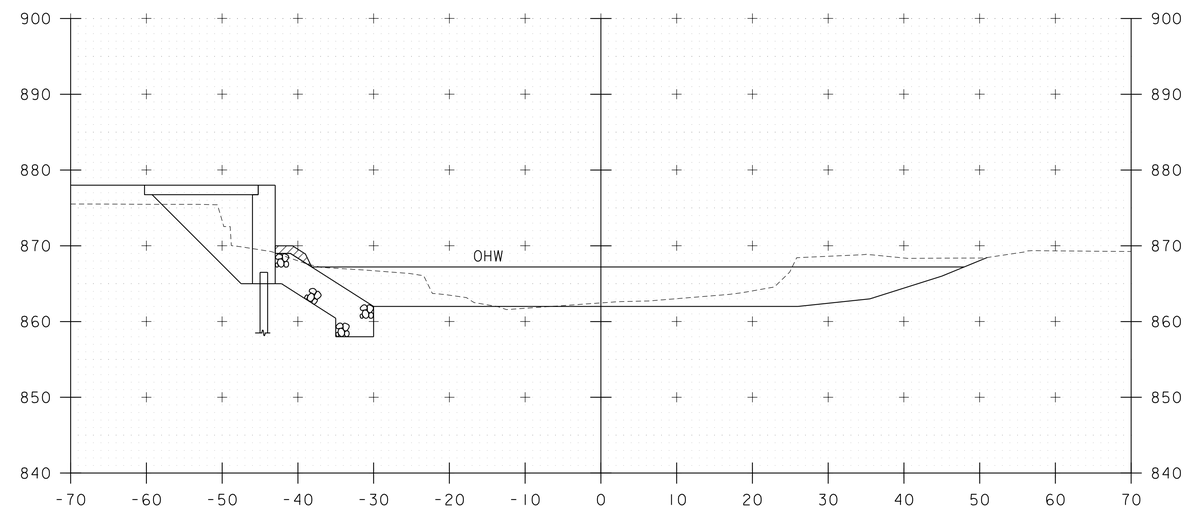


51+40



51+10

STA. 51+09 RT
END GEOTEXTILE UNDER STONE FILL
END STONE FILL, TYPE IV
END GRUBBING MATERIAL

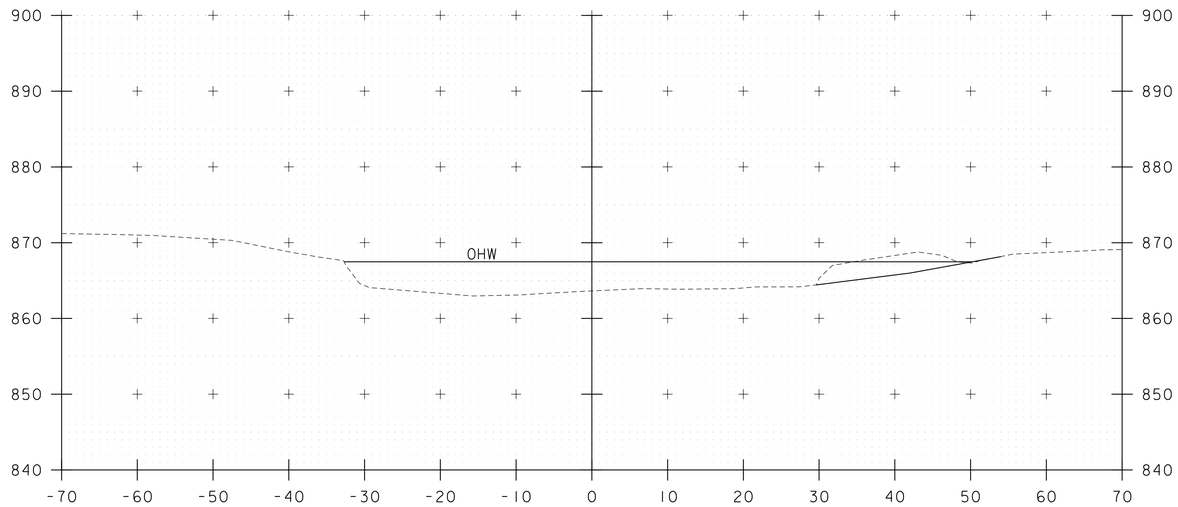


51+30

STA. 51+10 TO STA. 51+40

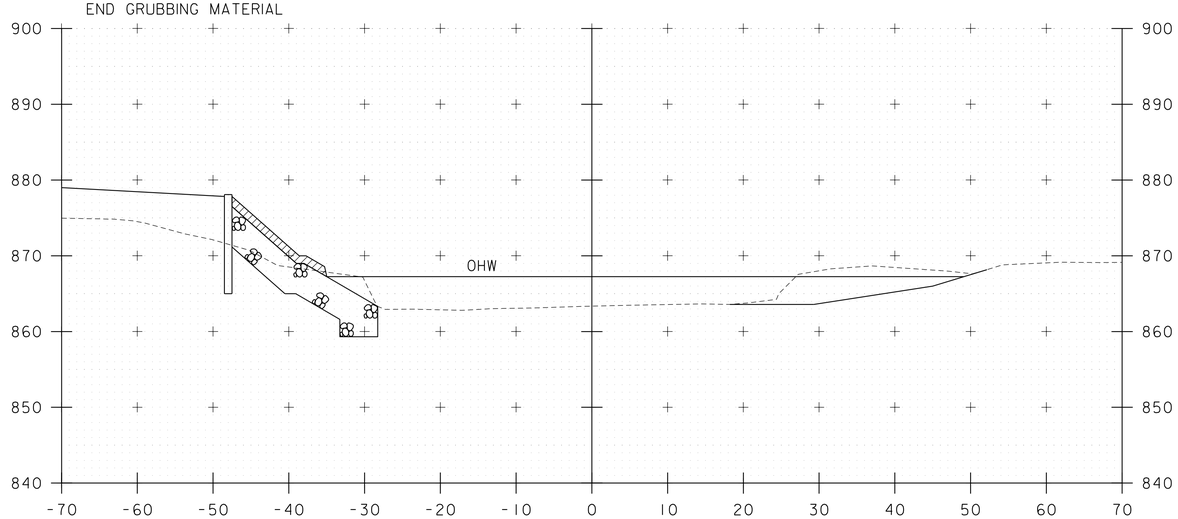
PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs_channel.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: M. SMITH
DESIGNED BY: J. FRENCH	CHECKED BY: J. BYATT
CHANNEL CROSS SECTIONS 3	SHEET 47 OF 57

CLD 14-0149 MODEL: Default

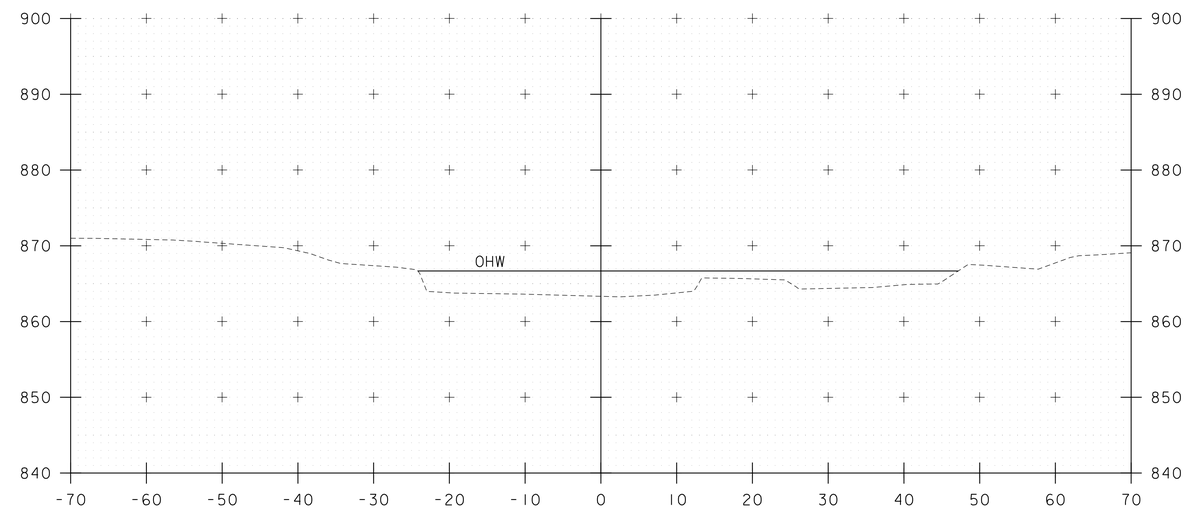


STA. 51+66 LT
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL, TYPE IV
END GRUBBING MATERIAL

51+75



51+50



STA. 51+95 RT
END UNCLASSIFIED CHANNEL EXCAVATION

52+00

STA. 51+50 TO STA. 52+00

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056xs_channel.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: M. SMITH
DESIGNED BY: J. FRENCH	CHECKED BY: J. BYATT
CHANNEL CROSS SECTIONS 4	SHEET 48 OF 57

CLD 14-0149 MODEL: Default

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF VT ROUTE 102 BRIDGE 6 OVER PAUL STREAM. VT ROUTE 102 BRIDGE 6 IS LOCATED IN THE TOWN OF BRUNSWICK, APPROXIMATELY 4.8 MILES SOUTH OF THE INTERSECTION OF VT ROUTE 105 AND 102. A TEMPORARY DETOUR WILL BE REQUIRED AND A TEMPORARY BRIDGE WILL BE BUILT TO ACCOMMODATE THE DETOUR. THE TEMPORARY BRIDGE WILL BE LOCATED EAST OF THE BRIDGE REPLACEMENT.

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

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 1.15 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS CHARACTERIZED AS LEVEL. TO THE NORTHWEST CORNER OF THE PROJECT IS A RESIDENCE WITH A GRAVEL DRIVEWAY. TO THE NORTHEAST CORNER OF THE PROJECT IS A RESIDENCE OUTSIDE OF THE PROJECT'S LIMITS. THE SOUTHEAST CORNER HOLDS A LARGE FIELD WHILE THE SOUTHWEST CONTAINS A LINE OF THICK TREES

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

PAUL STREAM IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE STREAM IS CHARACTERIZED AS SINUOUS, ALLUVIAL, LOCALLY BRAIDED, AND ANABRANCHED. THE STREAM BED CONSISTS OF SILT, SAND, GRAVEL AND COBBLES. THE DRAINAGE AREA IS 53.3 SQUARE MILES.

1.2.3 VEGETATION

THE VEGETATION ON THE PROJECT IS PRIMARILY BASED AROUND THE STREAM. THE AREA AROUND THE STREAM BED CONSISTS OF TALL GRASS AS WELL AS SOME SHRUBS AND TREES. THE REST OF THE PROJECT IS WELL COATED WITH GRASS WITH SOME SINGULAR TREES ON THE EAST SIDE OF THE PROJECT. THE TREES ON THE SOUTHWEST CORNER WILL HAVE TO BE REMOVED AS WELL AS THE TREE LINE ON THE SOUTHEAST SIDE FOR ACCESS TO THE TEMPORARY DETOUR.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF ESSEX, VERMONT. SOILS ON THE PROJECT SITE ARE: PODUNK FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, "K FACTOR"=0.24, ADAMS LOAMY FINE SAND, 0-3 PERCENT SLOPES, "K FACTOR"=0.17, ONDAWA-SUNDAY COMPLEX, 0 TO 2 PERCENT SLOPES, "K FACTOR"=0.24-0.15.

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

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: PAUL STREAM
WETLANDS: NO

1.3 RISK EVALUATION

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

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

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

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

1.4.1 MARK SITE BOUNDARIES

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

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

1.4.2 LIMIT DISTURBANCE AREA

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

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

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

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

STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

STABILIZED CONSTRUCTION ENTRANCES ARE NOT ANTICIPATED ON THIS PROJECT. THE EXISTING ROADWAY WILL BE USED TO ACCESS THE BRIDGE.

1.4.4 INSTALL SEDIMENT BARRIERS

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

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN. BECAUSE THIS PROJECT FALLS UNDER THE CGP 3-9020, WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS.
FILTER CURTAINS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF

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

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

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

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

STONE CHECK DAMS ARE NOT ANTICIPATED TO BE NEEDED AS DESIGNED.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

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

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

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

TEMPORARY EROSION CONTROL MATTING WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

1.4.9 WINTER STABILIZATION

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

1.4.10 STABILIZE SOIL AT FINAL GRADE

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

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

1.4.11 DE-WATERING ACTIVITIES

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

1.4.12 INSPECT YOUR SITE

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

1.5 SEQUENCE AND STAGING

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

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

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

1.5.3 UPDATES

SOIL INFORMATION: ONDAWA-SUNDAY COMPLEX
K = 0.24/0.15, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION:
ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

VT STATE PLANE GRID

N

PAUL STREAM
FLOW

SOIL INFORMATION: ONDAWA-SUNDAY COMPLEX
K = 0.24/0.15, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

50' RIPARIAN BUFFER (TYP.)

MATCH LINE SEE NEXT SHEET

HVCTRL
120

APPROX. EXISTING ROW

IRON PIPE
1" DIA.
5" LD.

M. OAK

STUMP
LARGE

M. PINE

M. SPRUCE

3/4" STEEL PIPE SET IN CONCRETE

VT/1963/S/0271/(A)
VT/1958/ST

HVCTRL
127

GUY

COMBO

HVCTRL
130

ARCH

VT 102
TO MAIDSTONE

8+00

9+00

10+00

11+00

12+00

13

880

870

SOIL INFORMATION: ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

0 20 40
(SCALE 1" = 20')

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056bdreroex.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J.FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
EPSC EXISTING PLAN SHEET 1	SHEET 50 OF 57

CLD 14-0149 MODEL: Existing Conditions 01

SOIL INFORMATION:
ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

VT STATE PLANE GRID

N

BENCH MARK
RAILROAD SPIKE
IN POLE
ELEV. =873.40

PAUL STREAM
FLOW

GRANITE BLOCK RETAINING

M. APPLE

HYDRANT

INLET TO
DRY HYDRANT

GRANITE BLOCK RETAINING OLD

GUY

COMB
107
130
126

SIGN
OM3-L
16
127

HVCTRL
112
111
102
110
100

MM
1020
0505
0260

SIGN
OM3-R
SIGN
VD-701
VT 102
BR 6

2 STORY

GRAVEL
DRIVE

6 S. MAPLE

GUY
COMB
16E
107
130
126

COMB
26

HVCTRL
8

FIELD
DRIVE

APPROX. EXISTING ROW

MATCH LINE SEE NEXT SHEET

14+00

15+00

16+00

17+00

18+00

VT 102
TO BLOOMFIELD

#4540

S. APPLE

ARCH

EDGE OF BRANCHES

M. SPRUCE

M. CHERRY

M. MAPLE

M. POP

50' RIPARIAN BUFFER (TYP.)

WOOD
FENCE

3 S.Y BIRCH

4495

WAYNE GRAHAM

MEDIUM

870

SOIL INFORMATION: ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION:
PODUNK FINE SANDY LOAM
K = 0.24, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: B/D

SOIL INFORMATION:
PODUNK FINE SANDY LOAM
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: B/D

0 20 40
(SCALE 1" = 20')

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056bdreroex.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
EPSC EXISTING PLAN SHEET 2	SHEET 51 OF 57

CLD 14-0149 MODEL: Existing Conditions 02

SOIL INFORMATION: ONDAWA-SUNDAY COMPLEX
K = 0.24/0.15, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION:
ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

VT STATE PLANE GRID

N

PAUL STREAM
FLOW

SOIL INFORMATION: ONDAWA-SUNDAY COMPLEX
K = 0.24/0.15, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

BEGIN APPROACH
STA 9+00.00

BEGIN DETOUR
VT 102 STA 9+00.00 =
DETOUR STA 39+00.00

BEGIN PROJECT
STA 10+75.00

PI
39+25.32

PI
41+72.41

30' RIPARIAN BUFFER (TYP.)

MATCH LINE SEE NEXT SHEET

VT-102

DETOUR ℄

APPROX. EXISTING ROW

M. OAK

STUMP
LARGE

M. PINE

M. SPRUCE

"3/4" STEEL PIPE SET IN CONCRETE

VT/1963/S/027I/(A)
VT/1958/ST

VT 102
TO MAIDSTONE

8+00

9+00
39+00

10+00

11+00

12+00

13+00

40+00

41+00

42+00

PT
39+50.54

PC
41+38.20

PT
42+06.38

880

PDF

BF

SOIL INFORMATION: ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

0 20 40
(SCALE 1" = 20')

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 027I(23)	
FILE NAME: zl3c056bdrerocn.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J.FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
EPSC CONSTRUCTION PLAN SHEET 1	SHEET 52 OF 57

CLD 14-0149 MODEL: EPSC CONSTRUCTION 01

SOIL INFORMATION:
ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

VT STATE PLANE GRID

N

ANCHOR LOCATION TO
BE DETERMINED
BY UTILITY COMPANY

PAUL STREAM
FLOW

870

50+00

GRANITE BLOCK RETAINING

M. APPLE

2 STORY

GRANITE BLOCK RETAINING OLD

6 S. MAPLE

TIE DIST=6.73

PI
46+76.73

MATCH LINE SEE NEXT SHEET

14+00

15+00

16+00

VT-102

51+00

DETOUR ℄

CHANNEL LINE

44+00

45+00

46+00

47+00

17+00

47+35

18+00

VT 102
TO BLOOMFIELD

APPROX. EXISTING ROW

#4540

S. APPLE

EDGE OF BRA

M. SPRUCE

M. CHERRY

MAPLE

M. POP

52+00

3 S. Y BIRCH

WAYNE GRAHAM

MEDIUM

COMB
#8A/10

PC
46+17.26

PT
47+34.96

50' RIPARIAN BUFFER (TYP.)

50' RIPARIAN BUFFER (TYP.)

END DETOUR
DETOUR STA 47+34.96 =
VT 102 STA 17+48.15

END APPROACH
STA 17+75.00

SOIL INFORMATION: ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION:
PODUNK FINE SANDY LOAM
K = 0.24, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: B/D

SOIL INFORMATION:
PODUNK FINE SANDY LOAM
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: B/D

0 20 40
(SCALE 1" = 20')

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 027I(23)	
FILE NAME: zl3c056bdrerocn.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
EPSC CONSTRUCTION PLAN SHEET 2	SHEET 53 OF 57

CLD 14-0149 MODEL: EPSC CONSTRUCTION 02

SOIL INFORMATION: ONDAWA-SUNDAY COMPLEX
K = 0.24/0.15, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

SOIL INFORMATION:
ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

VT STATE PLANE GRID

N

PAUL STREAM
FLOW

SOIL INFORMATION: ONDAWA-SUNDAY COMPLEX
K = 0.24/0.15, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

BEGIN PROJECT
STA 10+75.00

BEGIN APPROACH
STA 9+00.00

RIPARIAN BUFFER (TYP.)

MATCH LINE SEE NEXT SHEET

088

CZ

APPROX. EXISTING ROW

IRON PIPE
1" DIA.
5" UP

VT-102

12+00

13

HVCTRL
120

11+00

10+00

10'

10'

M. OAK

STUMP
LARGE

M. PINE

"3/4" STEEL PIPE SET IN CONCRETE

VT-1963/S/0271(A)
VT/1958/ST

M. SPRUCE

DETOUR

42+00

41+00

40+00

COMBO

9+00
39+00

HVCTRL
130

8+00

880

SOIL INFORMATION: ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

0 20 40
(SCALE 1" = 20')

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: zl3c056bdrerofl.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J.FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
EPSC FINAL PLAN SHEET 1	SHEET 54 OF 57

CLD 14-0149 MODEL: EPSC FINAL 01

SOIL INFORMATION:
ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

VT STATE PLANE GRID

BEGIN BRIDGE
STA 13+71.20

END BRIDGE
STA 14+78.84

BENCH MARK
RAILROAD SPIKE
IN POLE
ELEV. =873.40

END PROJECT
STA 16+75.00

END APPROACH
STA 17+75.00

MATCH LINE SEE NEXT SHEET

VT-102

DETOUR ℄

CHANNEL LINE

50' RIPARIAN BUFFER (TYP.)

50' RIPARIAN BUFFER (TYP.)

PAUL STREAM
FLOW

GRANITE BLOCK RETAINING

M. APPLE

HYDRANT

GRAVEL
DRIVE

6 S. MAPLE

2 STORY

FIELD
DRIVE

APPROX. EXISTING ROW

3 S. Y BIRCH

WAYNE GRAHAM

MEDIUM

M. SPRUCE

M. CHERRY

MAPLE

M. POP

EDGE OF BRANCHES

SOIL INFORMATION:
PODUNK FINE SANDY LOAM
K = 0.24, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: B/D

SOIL INFORMATION:
PODUNK FINE SANDY LOAM
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: B/D

SOIL INFORMATION: ADAMS LOAMY FINE SAND
K = 0.17, NOT HIGHLY ERODIBLE
HYDROLOGIC SOIL GROUP: A

0 20 40
(SCALE 1" = 20')

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK	
PROJECT NUMBER: BF 0271(23)	
FILE NAME: z13c056bdrerofl.dgn	PLOT DATE: 9/17/2015
PROJECT LEADER: J. FRENCH	DRAWN BY: J. FOWLER
DESIGNED BY: S. FORTIER	CHECKED BY: K. RUTTER
EPSC FINAL PLAN SHEET 2	SHEET 55 OF 57

CLD 14-0149 MODEL: EPSC FINAL 02

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

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

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

CONSTRUCTION GUIDANCE

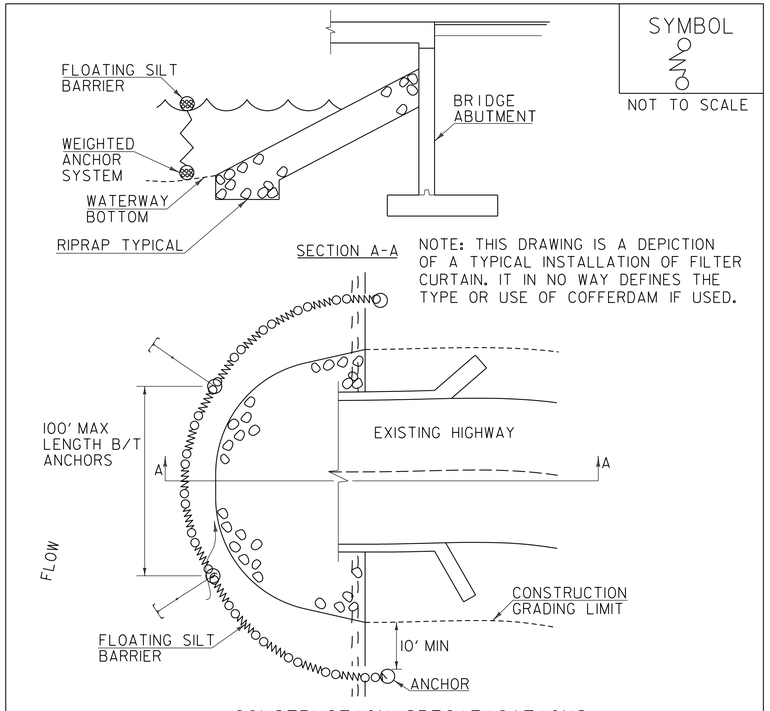
1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

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

REVISIONS	
JANUARY 12, 2015	WHF



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

CONSTRUCTION SPECIFICATIONS

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

FILTER CURTAIN

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

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

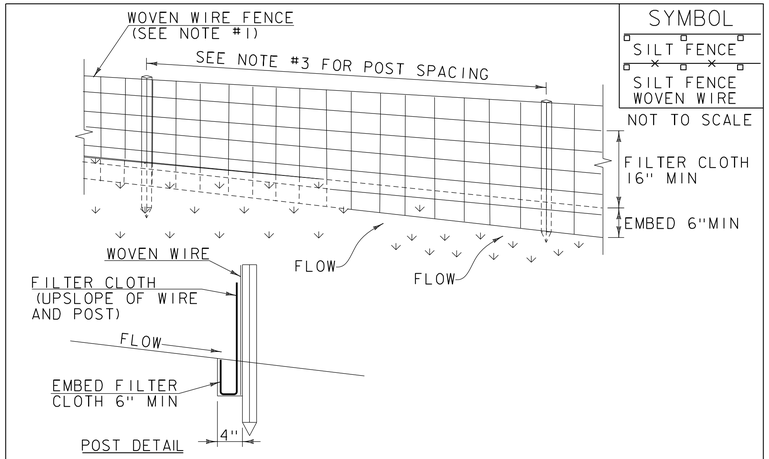
CLD 14-0149 MODEL: Typ01

CONSULTING ENGINEERS

PROJECT NAME: BRUNSWICK
PROJECT NUMBER: BF 0271(23)

FILE NAME: z13c056erodet.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
EPSC DETAILS 1

PLOT DATE: 9/17/2015
DRAWN BY: J. FOWLER
CHECKED BY: K. RUTTER
SHEET 56 OF 57



SYMBOL

SILT FENCE

SILT FENCE
WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.

2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.

3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.

4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.

5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.

6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

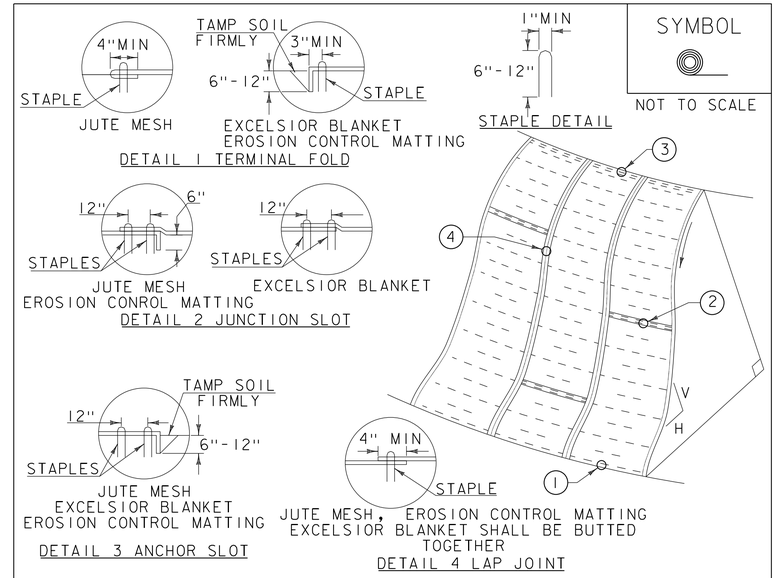
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

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

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

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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.

2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.

3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.

4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.

5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

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

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

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

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

CONSULTING ENGINEERS

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PROJECT NUMBER: BF 0271(23)

FILE NAME: z13c056erodet.dgn
PROJECT LEADER: J. FRENCH
DESIGNED BY: S. FORTIER
EPSC DETAILS 2

PLOT DATE: 9/17/2015
DRAWN BY: J. FOWLER
CHECKED BY: K. RUTTER
SHEET 57 OF 57

CLD 14-0149 MODEL: Typ02