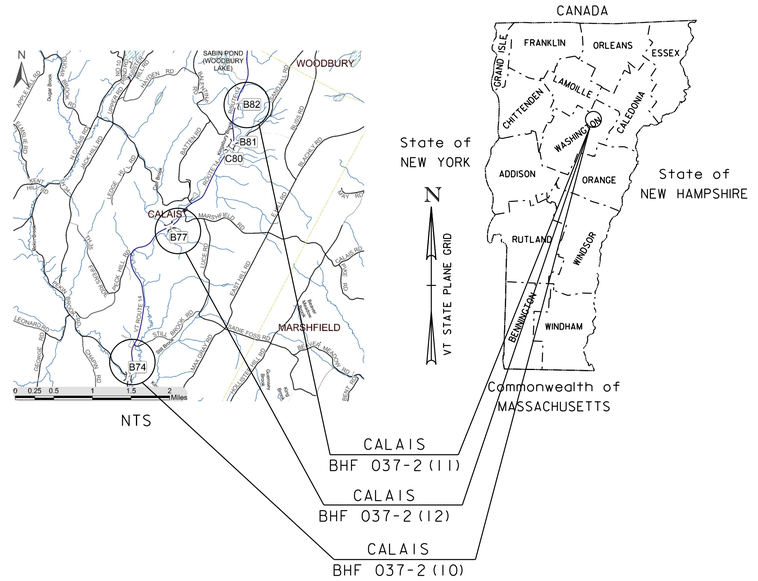
STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF CALAIS
COUNTY OF WASHINGTON



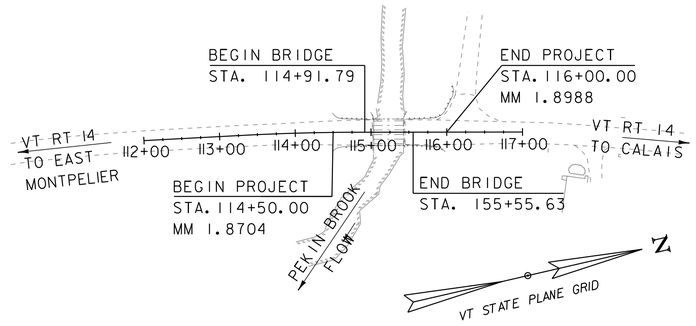
CALAIS BHF 037-2(10)

ROUTE NO : VT RTE 14, (RURAL MINOR ARTERIAL)
BRIDGE NO : 74

PROJECT LOCATION: 5.2 MILES NORTH OF JUNCTION WITH US ROUTE 2

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF BRIDGE #74 WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE: 63.84 FEET
LENGTH OF ROADWAY: 86.16 FEET
LENGTH OF PROJECT: 150.00 FEET



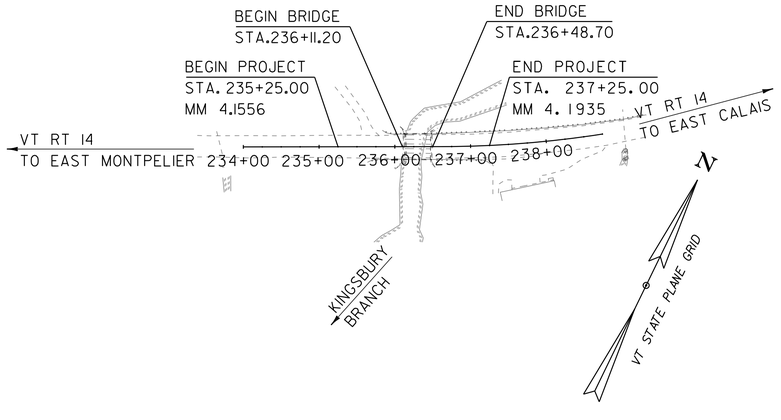
CALAIS BHF 037-2(12)

ROUTE NO : VT RTE 14, (RURAL MINOR ARTERIAL)
BRIDGE NO : 77

PROJECT LOCATION: 7.6 MILES NORTH OF JUNCTION WITH US ROUTE 2

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF BRIDGE #77 SUPERSTRUCTURE WITH RELATED APPROACH ROADWAY WORK.

LENGTH OF STRUCTURE: 37.50 FEET
LENGTH OF ROADWAY: 162.50 FEET
LENGTH OF PROJECT: 200.00 FEET



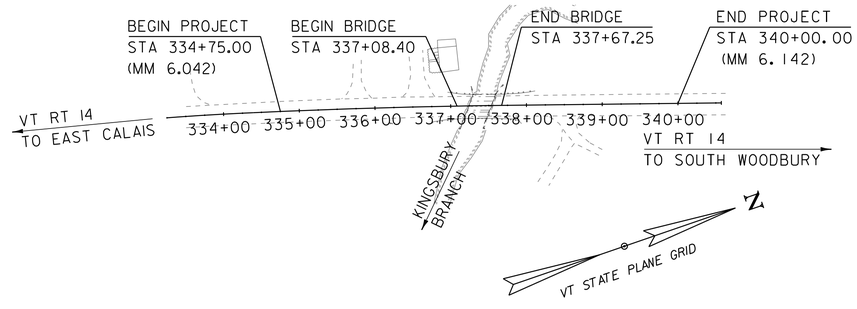
CALAIS BHF 037-2(11)

ROUTE NO: VT RTE 14, (RURAL MINOR ARTERIAL)
BRIDGE NO: BRIDGE 82

PROJECT LOCATION: 9.40 MILES NORTH OF JUNCTION WITH US ROUTE 2

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF BRIDGE #82 WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE: 58.85 FEET
LENGTH OF ROADWAY: 466.15 FEET
LENGTH OF PROJECT: 525.00 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	05-30-2012
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (2007)

SCALE 1" = 100'-0"
100 0 100

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE _____

HIGHWAY DIVISION, CHIEF ENGINEER
APPROVED _____ DATE _____

PROJECT MANAGER : G. LAROCHE P.E.

PROJECT NAME : CALAIS
PROJECT NUMBER : BHF 037-2(10)

SHEET 1 OF 134 SHEETS

COMPOSITE DETAILS

BHF 037-2(10) BRIDGE 74

BHF 037-2(11) BRIDGE 82

STANDARDS LIST

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-1994
D-4	VARIOUS DRAINAGE DETAILS	08-13-2007
D-30	UNDERDRAIN CONSTRUCTION DETAILS	08-13-2007
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-136B	STATE ROUTE MARKER SIGN DETAILS	08-08-1995
E-193	PAVEMENT MARKING DETAILS	08-18-1995
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
S-364A	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	02-02-2017
S-364B	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-02-2017
S-364C	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-02-2017
S-364D	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-02-2017
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-25-2016
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-29	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-31	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
T-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013
T-70	VERMONT REGULATORY SIGN DETAILS	04-25-2016

BHF 037-2(12) BRIDGE 77

COMPOSITE DETAILS

DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	2/9/2012
SD-502.00	CONCRETE DETAILS AND NOTES	10/10/2012
SD-516.10	BRIDGE JOINT ASHPALTIC PLUG	8/29/2011
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES	6/4/2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	5/2/2011
HSD-400.01	SAFETY EDGE DETAILS	1/5/2018
HSD-621.06	GUARDRAIL TERMINAL LABEL DETAIL	2/27/2017

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10) & (12) & (11)

FILE NAME: sl2bl44compIndex
PROJECT LEADER: G. LAROCHE
DESIGNED BY: F.BARROWS
INDEX OF SHEETS

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: F.BARROWS
SHEET 2 OF 134

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2018 STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8th EDITION, AND THEIR LATEST REVISIONS.
2. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
3. THE CONTRACTOR SHALL PROVIDE A SITE-SPECIFIC EROSION PREVENTION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH SECTION 653 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. ESTIMATED QUANTITIES FOR EPSC WORK HAVE BEEN INCLUDED IN THE CONTRACT FOR BIDDING PURPOSES. IF THE CONTRACTOR'S EPSC PLAN REQUIRES ITEMS OF WORK THAT ARE NOT INCLUDED IN THE PLANS, THE EXTRA WORK WILL BE PAID FOR AS PART OF ITEM 653.03 MAINTENANCE OF EPSC PLAN.

CONCRETE AND REINFORCING STEEL

4. WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE BOTTOM FACES OF THE SUPERSTRUCTURE BETWEEN DRIP NOTCHES. PAYMENT FOR SILANE WILL BE MADE UNDER ITEM 514.10 "WATER REPELLENT, SILANE".
5. PROVIDE REINFORCING AND MECHANICAL COUPLERS FOR TESTING IN ACCORDANCE WITH THE "VERMONT AGENCY OF TRANSPORTATION MATERIALS SAMPLING MANUAL".

TEMPORARY ROADWAY AND TRAFFIC CONTROL

6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, SUBMITTAL, AND IMPLEMENTATION OF SITE-SPECIFIC TRAFFIC CONTROL PLAN. THE SITE-SPECIFIC TRAFFIC CONTROL PLAN SHALL BE DESIGNED IN ACCORDANCE WITH SECTION 641.
7. THE CONTRACTOR'S SITE-SPECIFIC TRAFFIC CONTROL PLAN SHALL MEET THE SPECIFIED DIMENSIONS HEREIN. REFERENCE PHASE 1 LAYOUT, PHASE 2 LAYOUT, AND PHASING TYPICAL SECTIONS FOR ADDITIONAL DETAILS AND REQUIREMENTS.
8. ANY REMOVAL, COVERING AND/OR RESETTING OF EXISTING TRAFFIC SIGNS, AS DEEMED NECESSARY BY THE RESIDENT ENGINEER, WILL BE INCIDENTAL TO THE ITEM 641.11 -- TRAFFIC CONTROL, ALL-INCLUSIVE.
9. ANY TEMPORARY MEANS OF SUPPORTING EXCAVATION NECESSARY TO MAINTAIN TRAFFIC WILL BE INCLUDED IN THE PAYMENT OF ITEM 641.11 TRAFFIC CONTROL, ALL-INCLUSIVE. CONSTRUCTION DRAWINGS SHALL BE REQUIRED AS PER SUBSECTION 105.03.

TEMPORARY TRAFFIC SIGNALS

10. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S (VTrans) "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2018, WITH CURRENT MODIFICATIONS.SIGNAL TIMING/TIMING ADJUSTMENTS SHALL BE ACCOMPLISHED WITHIN A 48 HOUR PERIOD AND PAYMENT WILL BE INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".
11. TEMPORARY TRAFFIC SIGNAL SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM" AND IN COMPLIANCE WITH THE LATEST EDITION OF THE MUTCD.
12. SIGNAL FACES SHALL BE LED AND CONSIST OF 12 INCH LENSES (RED, YELLOW AND GREEN).
13. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 16.5 FEET NOR MORE THAN 19.0 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. 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 REQUIREMENT IN THE EVENT THE NEW APPROACH GRADE DIFFER SIGNIFICANTLY FROM THE FULL ROADWAY GRADE.
14. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 8 FEET APART MEASURED HORIZONTALLY BETWEEN CENTER FACES.
15. THE CONTRACTOR SHALL HAVE THE OPTION OF INSTALLING SPAN WIRE OR CANTILEVER MAST ARM TRAFFIC SIGNALS IN PLACE OF A PORTABLE SIGNAL SYSTEM. DESIGN OF SUCH SYSTEM, INCLUDING REQUIRED POLE LOCATIONS, ANY REQUIRED GUYING, AND POWER CONNECTION SHALL BE THE RESPONSIBLITY OF THE CONTRACTOR. PAYMENT WILL BE CONSIDERED INCIDENTAL TO 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".
16. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES AS REQUIRED.
17. POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL BE PLACED SO AS NOT TO CREATE A HAZARD TO THE TRAVELLING PUBLIC.
18. LUMINAIRES SHALL BE INSTALLED AT EACH OF THE APPROACHES TO ADEQUATELY LIGHT THE STOP BAR AREAS. HIGH PRESSURE SODIUM OR LED LUMINAIRES ARE ACCEPTABLE FORMS OF LAMPS. THE MOUNTING HEIGHT FOR LUMINAIRES SHALL BE DETERMINED BY THE CONTRACTOR. ILLUMINANCE SHALL BE MEASURED AT NIGHTTIME AFTER INSTALLATION AT EACH STOP BAR. ILLUMINANCE SHALL BE NO LESS THAN 1.0 FOOT-CANDLES AND NOT TO EXCEED 2.0 FOOT-CANDLES. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".
19. 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 UTILITY POLES, WIRES, ETC. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".
20. STOP BARS SHALL BE LOCATED A MINIMUM OF 40' AND A MAXIMUM OF 120' FROM THE NEAREST SIGNAL HEAD.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SIGNAL PHASING AND TIMING. THE CONTRACTOR SHALL SUBMIT A PHASING DIAGRAM AND TIMING SCHEDULE TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL MAKE THE SIGNALS OPERATIONAL ONLY AFTER RECEIVING APPROVAL OF BOTH THE PHASING DIAGRAM AND TIMING SCHEDULE BY THE ENGINEER. DEVELOPMENT OF THE PHASING DIAGRAM AND TIMING SCHEDULE WILL BE CONSIDERED INCIDENTAL TO ITEM 678.40 "TEMPORARY TRAFFIC SIGNAL SYSTEM".

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10) & (12) & (11)

FILE NAME: sl2bl44complndex
PROJECT LEADER: G. LAROCHE
DESIGNED BY: S. COLEY
COMBINED PROJECT NOTES

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: F.BARROWS
SHEET 3 OF 134

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
	BF	BARRIER FENCE
	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
	PDF	PROJECT DEMARCATION FENCE
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	R.T.& I.	RIGHT, TITLE, AND INTEREST
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
◎	IPNF	IRON PIN FOUND
●	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	BENCHMARK
	BND	BOUND
	CB	CATCH BASIN
	COMB	COMBINATION POLE
	DITHR	DROP INLET THROATED DNC
	EL	ELECTRIC POWER POLE
	FPOLE	FLAGPOLE
	GASFIL	GAS FILLER
	GP	GUIDE POST
	GSO	GAS SHUT OFF
	GUY	GUY POLE
	GUYW	GUY WIRE
	GV	GATE VALVE
	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
CB	CHORD BEARING

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

- UGU — UTILITY (GENERIC-UNKNOWN)
- UT — TELEPHONE
- UE — ELECTRIC
- UC — CABLE (TV)
- UEC — ELECTRIC+CABLE
- UET — ELECTRIC+TELEPHONE
- UCT — CABLE+TELEPHONE
- UECT — ELECTRIC+CABLE+TELEPHONE
- G — GAS LINE
- W — WATER LINE
- S — SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- AGU — UTILITY (GENERIC-UNKNOWN)
- T — TELEPHONE
- E — ELECTRIC
- C — CABLE (TV)
- EC — ELECTRIC+CABLE
- ET — ELECTRIC+TELEPHONE
- AER E&T — ELECTRIC+TELEPHONE
- CT — CABLE+TELEPHONE
- ECT — ELECTRIC+CABLE+TELEPHONE
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- 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
- PROJECT DEMARCATION FENCE
- BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

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

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

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

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

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

ARCHEOLOGICAL & HISTORIC

- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- (H) HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

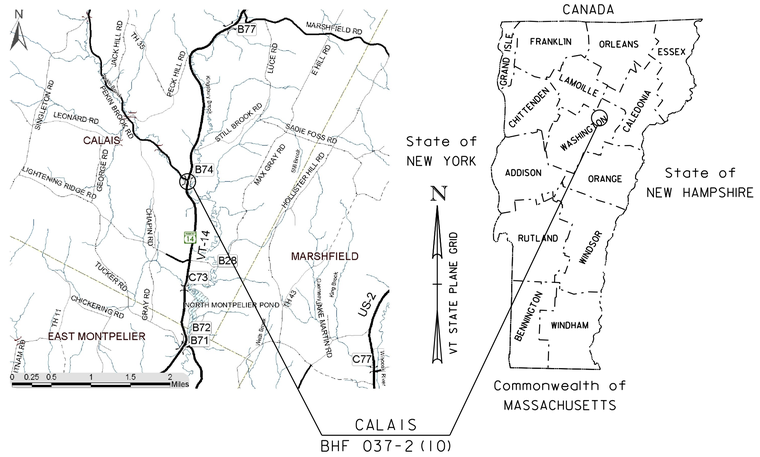
- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

PROJECT NAME: CALAS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: sl2bl46lgnd.dgn
PROJECT LEADER: W.PELLETIER
DESIGNED BY: F.BARROWS
LEGEND SHEET

PLOT DATE: 02-JUN-2020
DRAWN BY: G.LAROCHE
CHECKED BY: F.BARROWS
SHEET 4 OF 134

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

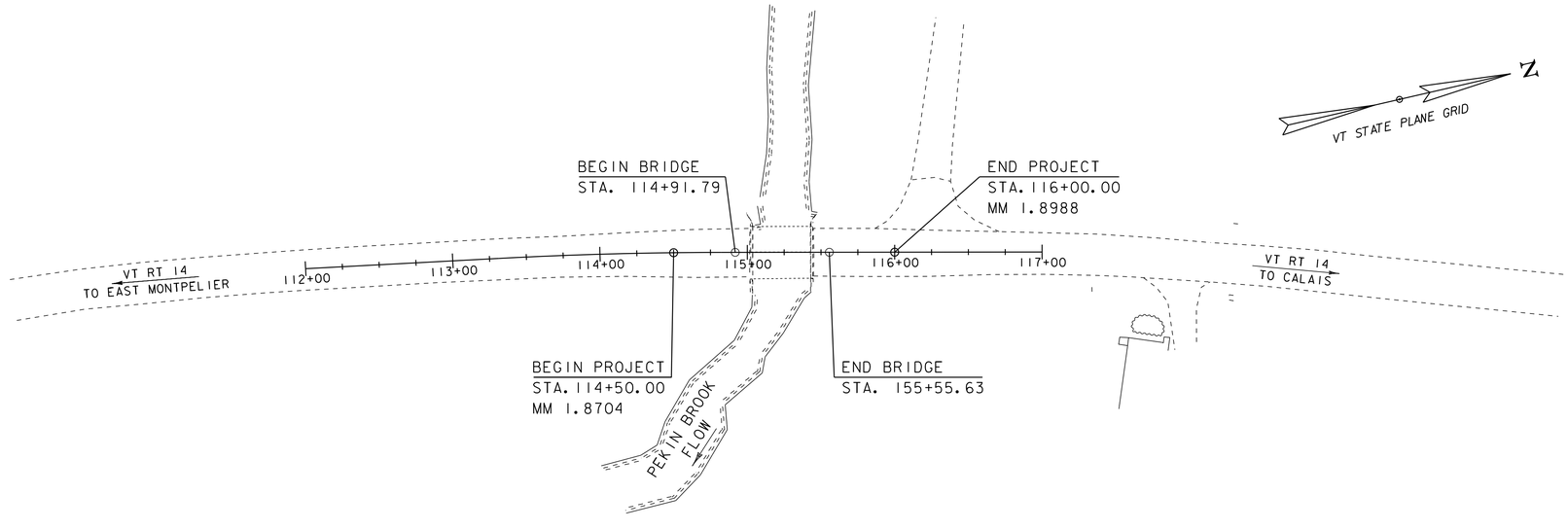
TOWN OF CALAIS
COUNTY OF WASHINGTON

ROUTE NO : VT RTE 14, RURAL MINOR ARTERIAL BRIDGE NO : 74

PROJECT LOCATION: 5.20 MILES NORTH OF JUNCTION WITH US ROUTE 2

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF BRIDGE #74 WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE: 63.84 FEET
LENGTH OF ROADWAY: 86.16 FEET
LENGTH OF PROJECT: 150.00 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	05-30-2012
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (2007)

SCALE 1" = 50'-0"
50 0 50

HIGHWAY DIVISION, CHIEF ENGINEER

APPROVED _____ DATE _____

PROJECT MANAGER : G. LAROCHE P.E.

PROJECT NAME : CALAIS
PROJECT NUMBER : BHF 037-2(10)

SHEET 5 OF 134 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

SEE COMBINED PRELIMINARY INFORMAYION SHEET FOR CALAIS IO INDEX

STANDARDS LIST

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: April 2014

DRAINAGE AREA : 22.6 sq. mi.
CHARACTER OF TERRAIN : Mostly hilly and forested
STREAM CHARACTERISTICS : Incised and alluvial
NATURE OF STREAMBED : Silt and very fine sand

PEAK FLOW DATA

Q 2.33 =	525 cfs	Q 50 =	2010 cfs
Q 10 =	1200 cfs	Q 100 =	2400 cfs
Q 25 =	1620 cfs	Q 500 =	3360 cfs

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q50 = 10.8 fps
ICE CONDITIONS : Moderate
DEBRIS: Slight to moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 3%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span concrete t-beam
YEAR BUILT: 1928
CLEAR SPAN(NORMAL TO STREAM): 40'
VERTICAL CLEARANCE ABOVE STREAMBED: ~7'
WATERWAY OF FULL OPENING: 208 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs

WATER SURFACE ELEVATIONS AT:

Q2.33 =	711.6'	VELOCITY =	5.9 fps
Q10 =	714.0'	"	8.8 fps
Q25 =	716.1'	"	10.2 fps
Q50 =	717.4'	"	11.0 fps
Q100 =	718.1'	"	11.6 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Just above Q50
RELIEF ELEVATION: 717.5'
DISCHARGE OVER ROAD @Q100: 115 cfs

UPSTREAM STRUCTURE

TOWN: Calais — DISTANCE: 3730'
HIGHWAY # : TH 3 — STRUCTURE #: 13
CLEAR SPAN: 18' — CLEAR HEIGHT: 10'
YEAR BUILT: 1954 — FULL WATERWAY:
STRUCTURE TYPE: CGMPPA

DOWNSTRUCTURE STRUCTURE

TOWN: Calais — DISTANCE: 250'
HIGHWAY # : — STRUCTURE #:
CLEAR SPAN: — CLEAR HEIGHT:
YEAR BUILT: — FULL WATERWAY:
STRUCTURE TYPE: Confluence with Kingsbury Branch

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	**20**	**36**	**36**	**66**	**30**	**34.5**	**38**
INVENTORY	2.57	1.36					
POSTING							
OPERATING	3.33	1.76	2.86	1.84	2.37	2.13	2.39
COMMENTS:							

DESIGN CRITERIA

1 SEE GENERAL NOTES

PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Steel Bridge

CLEAR SPAN(NORMAL TO STREAM): 58'
VERTICAL CLEARANCE ABOVE STREAMBED: ~7'
WATERWAY OF FULL OPENING: 240 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	711.6'	VELOCITY=	5.9 fps
Q10 =	714.0'	"	8.8 fps
Q25 =	715.7'	"	10.2 fps
Q50 =	716.7'	"	10.8 fps
Q100 =	717.8'	"	10.7 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Just below Q100
RELIEF ELEVATION: 717.7'
DISCHARGE OVER ROAD @Q100: 15 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 714.8'
VERTICAL CLEARANCE: @ Q50 = -1.9'

SCOUR: Contraction scour at Q200 = 11'

REQUIRED CHANNEL PROTECTION: Stone Fill Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	45 cfs	
ORDINARY LOW WATER:	20 cfs	DEPTH OR ELEVATION: ~1.5'
ORDINARY HIGH WATER:	225 cfs	~3.0'

TEMPORARY BRIDGE REQUIREMENTS

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

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. PHASE 1: MAINTAIN ONE WAY TRAFFIC ON THE EXISTING STRUCTURE
2. PHASE 2: MAINTIAN ONE WAY TRAFFIC ON PROPOSED STRUCTURE
3. MAINTENANCE OF PEDESTRIAN FACILITIES IS NOT REQUIRED.

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	0.0 INCH
3. DESIGN SPAN	L:	61.83 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	- - -
5. PRESTRESSING STRAND	f_y:	- - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
8. SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A)	f'_c:	4.0 KSI
9. SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS B)	f'_c:	3.5 KSI
10. CONCRETE HIGH PERFORMANCE, CLASS PSS	f'_c:	4.0 KSI
11. CONCRETE, CLASS C	f'_c:	3.0 KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270 (GALVANIZED)	f_y:	50 KSI
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	- - -
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	- - -
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
18. PILE RESISTANCE FACTOR	ϕ:	0.65
19. LATERAL PILE DEFLECTION	Δ:	- - -
20. BASIC WIND SPEED	V_{3s}:	- - -
21. MINIMUM GROUND SNOW LOAD	p_g:	- - -
22. SEISMIC DATA — PGA: - - -	S_s:	- - -
	S_1:	- - -
23. NOMINAL AXIAL PILE RESISTANCE		480 KIPS
24. PILE YIELD STRENGTH		50 KSI
25. PILE SIZE		HP 12x84
26. ESTIMATED PILE LENGTH		112 FT

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2015	3300	390	76	2.4	190
2035	3500	410	76	3.2	270

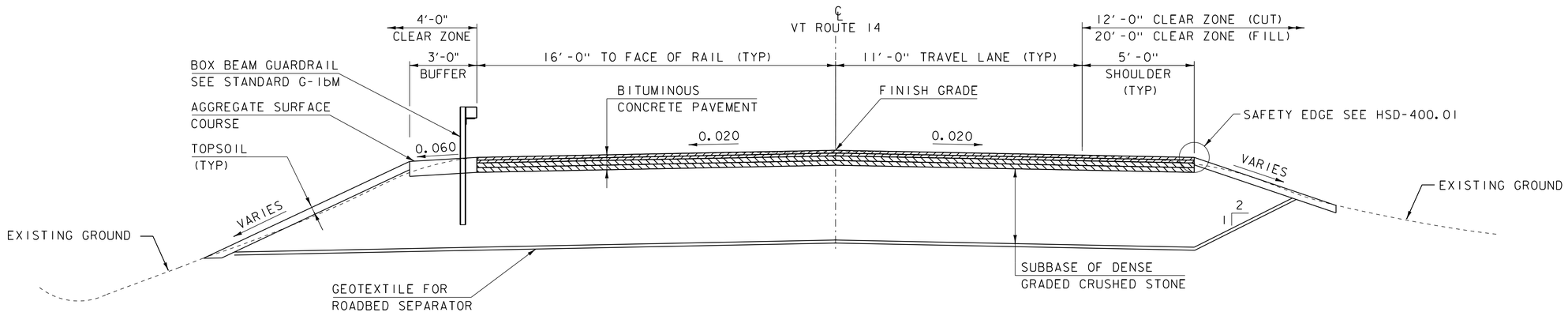
20 year ESAL for flexible pavement from 2015 to 2035 : 2411000
40 year ESAL for flexible pavement from 2015 to 2055 : 568600
Design Speed : 50 mph

AS BUILT "REBAR" DETAIL

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

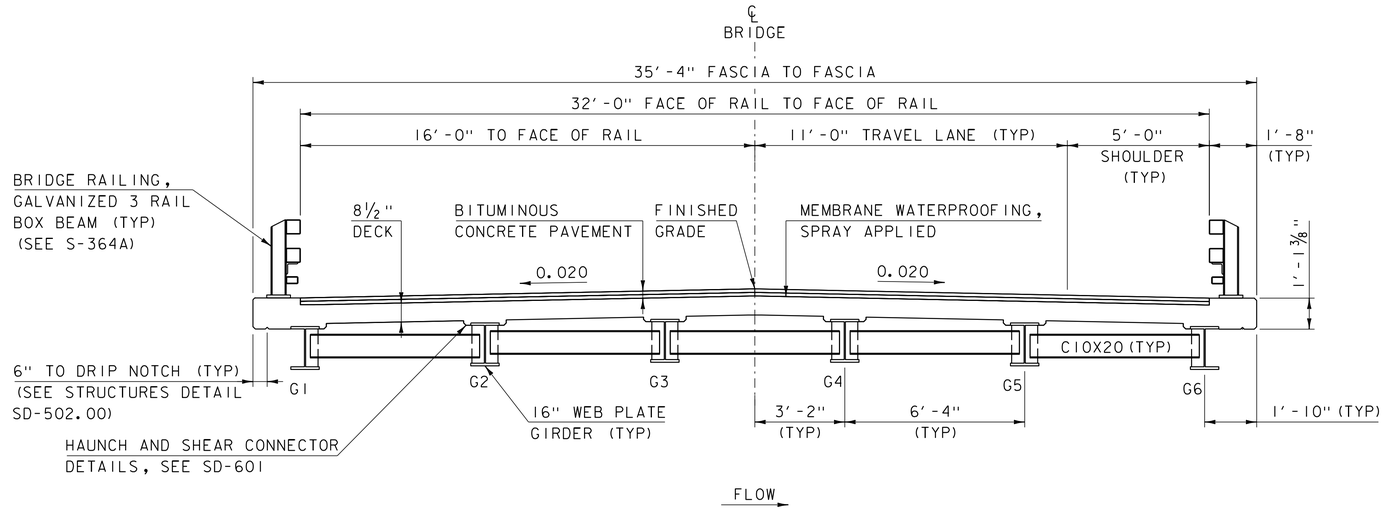
PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: PI Sheet Builder BR74.xls — PLOT DATE: 02-JUN-2020
PROJECT LEADER: G. LAROCHE — DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY — CHECKED BY: G. LAROCHE
PRELIMINARY INFORMATION SHEET — SHEET 6 OF 134



VT 14 TYPICAL SECTION

(NOT TO SCALE)



PROPOSED BRIDGE TYPICAL SECTION

(NOT TO SCALE)

ROADWAY MATERIAL REQUIREMENTS

	THICKNESS	DESCRIPTION
BINDER	70-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	65	DESIGN NUMBER OF GYRATIONS
WEARING COURSE	1½"	406.36 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE IVB)
INTERMEDIATE COURSE	1½"	406.36 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE IVB)
BASE COURSE #2	2½"	406.35 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE IIS)
BASE COURSE #1	2½"	406.35 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE IIS)
EMULSIFIED ASPHALT	---	STANDARD SPECIFICATIONS TABLE 406.12A
BUFFER	8"	AGGREGATE SURFACE COURSE (MATCH PAVE THICK)
SUBBASE	40"	SUBBASE OF DENSE GRADED CRUSHED STONE
TOPSOIL	4"	TOPSOIL

MATERIAL TOLERANCES

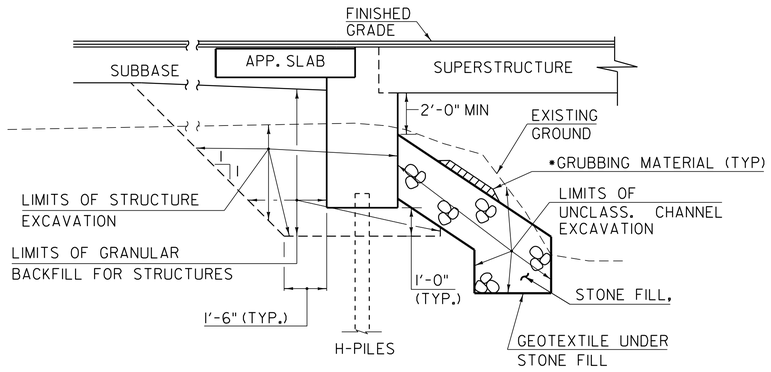
(IF USED ON PROJECT)

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

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: s12b144typ.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: G. LAROCHE
TYPICAL SECTIONS 1

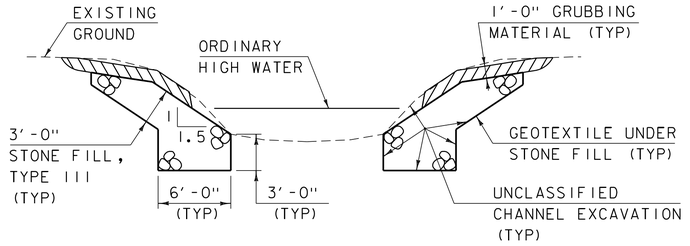
PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: G. LAROCHE
SHEET 7 OF 134



TYPICAL ABUTMENT SECTION

(NOT TO SCALE)

*STONE FILL/GRUBBING SLOPE VARIES, SEE CHANNEL CROSS SECTIONS.



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

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

2) GRUBBING MATERIAL SHALL BE PLACED UNDERNEATH STRUCTURES WHERE THERE IS MORE THAN 6 FEET VERTICALLY FROM ORDINARY HIGH WATER (OHW) TO THE BOTTOM OF SUPERSTRUCTURE AND MORE THAN 6 FEET HORIZONTALLY FROM OHW LINE TO FRONT FACE OF ABUTMENT. THIS MATERIAL SHALL START JUST ABOVE THE OHW ELEVATION AND TERMINATE 3 FEET HORIZONTALLY FROM THE FRONT FACE OF THE ABUTMENT. THIS MATERIAL SHALL NOT BE PLACED IN AREAS THAT WILL SEE CONCENTRATED FLOWS RESULTING FROM SURFACE WATER RUNOFF. GRUBBING MATERIAL MAY BE OMITTED IF LESS THAN 3 FEET IN WIDTH BENEATH A STRUCTURE. SEE THE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44typ.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G. LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
TYPICAL SECTIONS 2	SHEET 8 OF 134

EARTHWORK

1. ITEM 529.15 “REMOVAL OF STRUCTURE” WILL BE USED FOR THE COMPLETE REMOVAL AND DISPOSAL OF THE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE, INCLUDING ANY PORTION OF THE ABUTMENTS AND WINGWALLS OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION.

H-PILES

2. TO ENSURE THAT THE NOMINAL CAPACITY HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILES DURING DRIVING OPERATIONS, A DYNAMIC PILE TEST SHALL BE CONDUCTED ON THE FIRST PILE DRIVEN AT EACH ABUTMENT. MORE TESTS MAY BE ORDERED BY THE ENGINEER. ADDITIONAL TEST(S) ORDERED BY THE ENGINEER WILL BE PAID FOR AT THE UNIT PRICE BID FOR CONTRACT ITEM 505.45, “DYNAMIC PILE LOADING TEST”.

3. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN-PLACE LENGTHS MAY VARY BASED ON BEDROCK LOCATION.

STRUCTURAL STEEL

4. ALL NEW STRUCTURAL STEEL SHALL BE GALVANIZED OR METALIZED. GALVANIZING OR METALIZING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 506 OF THE STANDARD SPECIFICATIONS.

5. GIRDER WEBS AND CROSS FRAMES SHALL BE PLUMB IN FINAL POSITION.

6. CHARPY V-NOTCH TEST: TEST STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS IN ACCORDANCE WITH SUBSECTION 714.01.

7. BOLTS FOR ALL BOLTED FIELD CONNECTIONS SHALL BE 7/8 INCH DIAMETER HIGH STRENGTH BOLTS IN 15/16 INCH DIAMETER HOLES UNLESS OTHERWISE NOTED.

8. CONNECTIONS NOT SHOWN IN THE PLANS SHALL BE DETAILED BY THE FABRICATOR IN THE FABRICATION DRAWINGS AND SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.

9. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF GIRDERS SHALL BE TAKEN UNDER DIRECTION OF THE RESIDENT ENGINEER FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS.

10. FLEMING BRACKETS OR SIMILAR FALSE WORK: SPACE FLEMING BRACKETS OR SIMILAR FALSEWORK AS REQUIRED BY DESIGN WITH A MAXIMUM SPACING OF 4'-0” AND SHALL EXTEND AT LEAST 75% OF THE DEPTH OF THE WEB. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

11. HOLES IN WEB: FILL ANY BOLT HOLES IN THE WEBS OF THE BEAMS NOT OTHERWISE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS MEETING ASTM A 325 TYPE 1, AND SHALL MEET THE REQUIREMENTS OF SUBSECTION 714.05 FOR PAINTED STRUCTURAL COMPONENTS. TIGHTEN THE BOLTS IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

12. THE CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE EQUIVALENT TO THE BACKFILL HEIGHT BETWEEN THE ABUTMENT AND THE CRANE MATS DURING ERECTION OF THE SUPERSTRUCTURE. IF THE CONTRACTOR PROPOSES A CLOSER DISTANCE BETWEEN THE ABUTMENT AND THE CRANE MATS THEN THEY SHALL SUBMIT CALCULATIONS STAMPED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF VERMONT TO THE PROJECT MANAGER FOR APPROVAL. THE CALCULATIONS SHALL SUBSTANTIATE THAT THE PROPOSED CONFIGURATION WILL NOT OVERSTRESS THE PILES OR ROTATE THE ABUTMENT BEYOND 0.01 RADIANS. ALL COSTS ASSOCIATED WITH THIS WORK WILL BE INCLUDED IN THE PAYMENT OF ITEM 506.55, “STRUCTURAL STEEL, PLATE GIRDER”.

CONCRETE

13. ALL CONCRETE FOR THE BRIDGE DECK, BACKWALLS, AND WINGWALLS ABOVE THE BRIDGE SEAT SHALL BE SPECIAL PROVISION “HIGH PERFORMANCE CONCRETE, CLASS A” AND SHALL BE PAID FOR UNDER ITEM 900.608 SPECIAL PROVISION “HIGH PERFORMANCE CONCRETE, CLASS A”.

14. ALL CONCRETE FOR THE SUBSTRUCTURE BELOW THE BRIDGE SEAT AND APPROACH SLABS SHALL BE SPECIAL PROVISION “HIGH PERFORMANCE CONCRETE, CLASS B” AND SHALL BE PAID FOR UNDER ITEM 900.608 SPECIAL PROVISION “HIGH PERFORMANCE CONCRETE, CLASS B”.

15. ITEM 520.10, ‘MEMBRANE WATERPROOFING, SPRAY APPLIED” SHALL BE APPLIED TO THE BRIDGE DECK AS PER THE MANUFACTURER’S INSTRUCTIONS AND EXTEND ONTO THE APPROACH SLABS 2 FEET BEYOND THE BEING/END BRIDGE

16. ALL MECHANICAL CONNECTORS IN THE DECK AND ABOVE THE BRIDGE SEAT IN THE SUBSTRUCTURE SHALL BE LEVEL 2, BELOW THE BRIDGE SEAT IN THE SUBSTRUCTURE AND IN THE APPRAOCH SLABS SHALL BE LEVEL 1 (EPOXY COATED). ALL MECHANICAL BAR CONNECTORS SHALL BE PAID FOR UNDER ITEM 507.19 MECHANICAL BAR CONNECTORS.

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: s12bl44gennotes.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: G. ROKES
PROJECT NOTES (10)

PLOT DATE: 02-JUN-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 9 OF 134

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS (CALAIS (10))	201.10	
1275					1275		CY	COMMON EXCAVATION	203.15	
			490		490		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
			350		350		CY	STRUCTURE EXCAVATION	204.25	
			220		220		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
390					390		SY	COARSE-MILLING, BITUMINOUS PAVEMENT	210.10	
850					850		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
49					49		CY	AGGREGATE SURFACE COURSE	401.10	
18					18		CWT	EMULSIFIED ASPHALT	404.65	
0.33					0.33		LU	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	406.29	
170					170		TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	406.35	
250					250		TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT, TYPE IVB	406.36	
0.33					0.33		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
			1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING (CALAIS (10))	504.10	
			1235		1235		LF	STEEL PILING, HP 12 X 84	505.165	
			2		2		EACH	DYNAMIC PILE LOADING TEST	505.45	
			64465		64465		LB	STRUCTURAL STEEL, PLATE GIRDER (GALVANIZED (FPQ))	506.55	
			12015		12015		LB	REINFORCING STEEL, LEVEL I (EPOXY COATED)	507.11	
			28810		28810		LB	REINFORCING STEEL, LEVEL II	507.12	
			26		26		EACH	MECHANICAL BAR CONNECTOR (EPOXY COATED (#7))	507.19	
			66		66		EACH	MECHANICAL BAR CONNECTOR (EPOXY COATED(#5))	507.19	
			232		232		EACH	MECHANICAL BAR CONNECTOR (LEVEL II (#5))	507.19	
			16		16		EACH	MECHANICAL BAR CONNECTOR (LEVEL II (#7))	507.19	
			1		1		LS	SHEAR CONNECTORS (1488 - 7/8" x 7") (CALAIS (10))	508.15	
			10		10		GAL	WATER REPELLENT, SILANE	514.10	
			64		64		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
			242		242		SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	519.10	
			64		64		LF	JOINT SEALER, HOT POURED	524.11	
			135		135		LF	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	525.335	
			1		1		EACH	REMOVAL OF STRUCTURE (CALAIS (10))	529.15	
			5		5		CY	STONE FILL, TYPE I	613.10	
			250		250		CY	STONE FILL, TYPE III	613.12	
157					157		LF	BOX BEAM GUARDRAIL	621.30	
3					3		EACH	MANUFACTURED TERMINAL SECTION, TANGENT (BOX BEAM)	621.51	
4					4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	621.725	
257					257		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
120					120		HR	UNIFORMED TRAFFIC OFFICERS	630.10	
960					960		HR	FLAGGERS	630.15	
				0.33	0.33		LS	FIELD OFFICE, ENGINEERS	631.10	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
		FILL AVAILABLE
765	CY	COMMON EXCAVATION (1275 x 0.6)
147	CY	UNCLASSIFIED CHANNEL EXCAVATION (490 x 0.3)
105	CY	STRUCTURE EXCAVATION (350 x 0.3)
3	CY	ROUNDING
1020	**CY**	**TOTAL FILL AVAILABLE**
		FILL REQUIRED
0	CY	FACTORED FILL (220 x 1.15)
0	CY	ROUNDING
0	**CY**	**TOTAL FILL REQUIRED**
		SUPERPAVE BITUMINOUS CONCRETE PAVEMENT
170	TON	BASE COURSE
		SUPERPAVE BITUMINOUS CONCRETE PAVEMENET, TYPE IVB
118.6	TON	INTERMEDIATE COURSE
131.4	TON	WEARING COURSE

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: sl2bl44qty.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: C. FRENCH
QUANTITY SHEET 1

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: G. LAROCHE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
				0.33	0.33		LS	TESTING EQUIPMENT, CONCRETE	631.16				
				0.33	0.33		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
				1000	1000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26				
4					4		EACH	CPM SCHEDULE	633.10				
	174				174		HR	EMPLOYEE TRAINEESHIP	634.10				
0.33					0.33		LS	MOBILIZATION/DEMOBILIZATION	635.11				
1					1		LS	TRAFFIC CONTROL, ALL-INCLUSIVE (CALAIS (10))	641.11				
911					911		LF	4 INCH WHITE LINE, WATERBORNE PAINT	646.201				
755					755		LF	4 INCH YELLOW LINE, WATERBORNE PAINT	646.2111				
15.7					15.7		LF	24 INCH STOP BAR, WATERBORNE PAINT	646.261				
1290					1290		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
			340		340		SY	GEOTEXTILE UNDER STONE FILL	649.31				
		125			125		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
		15			15		LB	SEED	651.15				
		120			120		LB	FERTILIZER	651.18				
		0.5			0.5		TON	AGRICULTURAL LIMESTONE	651.20				
		60			60		CY	TOPSOIL	651.35				
		65			65		SY	GRUBBING MATERIAL	651.40				
		1			1		LS	EPSC PLAN (CALAIS (10))	653.01				
		40			40		HR	MONITORING EPSC PLAN	653.02				
		1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.) (CALAIS (10))	653.03				
		0.5			0.5		TON	HAY MULCH	653.10				
		330			330		SY	ROLLED EROSION CONTROL PRODUCT, TYPE I	653.20				
		36			36		CY	STABILIZED CONSTRUCTION ENTRANCE	653.35				
		630			630		LF	SILT FENCE, TYPE II	653.476				
		685			685		LF	BARRIER FENCE	653.50				
		50			50		LF	PROJECT DEMARCATION FENCE	653.55				
1.26					1.26		SF	TRAFFIC SIGN, TYPE A	675.20				
125					125		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
10					10		EACH	REMOVING SIGNS	675.50				
8					8		EACH	RESETTING SIGNS	675.60				
4					4		EACH	DELINEATOR WITH STEEL POST	676.10				
1					1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM (CALAIS (10))	678.40				
0.33					0.33		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
			103		103		CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A)	900.608				
			143		143		CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS B)	900.608				

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: s12b144qty.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: C. FRENCH
QUANTITY SHEET 2

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: G. LAROCHE
SHEET 11 OF 134

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES							TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
CHANNEL	DECK	APP SLAB 1	APP SLAB 2	ABUT 1	ABUT 2		BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
490							490	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
				163	187		350	CY	STRUCTURE EXCAVATION	204.25			
				100	120		220	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
				1			1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING (CALAIS (10))	504.10			
				564	671		1235	LF	STEEL PILING, HP 12 X 84	505.165			
				1	1		2	EACH	DYNAMIC PILE LOADING TEST	505.45			
	64465						64465	LB	STRUCTURAL STEEL, PLATE GIRDER (GALVANIZED (FPQ))	506.55			
		2474	2571	3529	3441		12015	LB	REINFORCING STEEL, LEVEL I (EPOXY COATED)	507.11			
	18488			4942	5380		28810	LB	REINFORCING STEEL, LEVEL II	507.12			
				13	13		26	EACH	MECHANICAL BAR CONNECTOR (EPOXY COATED (#7))	507.19			
		12	12	21	21		66	EACH	MECHANICAL BAR CONNECTOR (EPOXY COATED(#5))	507.19			
	216			8	8		232	EACH	MECHANICAL BAR CONNECTOR (LEVEL II (#5))	507.19			
				8	8		16	EACH	MECHANICAL BAR CONNECTOR (LEVEL II (#7))	507.19			
	1						1	LS	SHEAR CONNECTORS (1488 - 7/8" x 7") (CALAIS (10))	508.15			
	4			3	3		10	GAL	WATER REPELLENT, SILANE	514.10			
				32	32		64	LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
	242						242	SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	519.10			
				32	32		64	LF	JOINT SEALER, HOT POURED	524.11			
				67.5	67.5		135	LF	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	525.335			
				1			1	EACH	REMOVAL OF STRUCTURE (CALAIS (10))	529.15			
				2.5	2.5		5	CY	STONE FILL, TYPE I	613.10			
				125	125		250	CY	STONE FILL, TYPE III	613.12			
				170	170		340	SY	GEOTEXTILE UNDER STONE FILL	649.31			
	91			5	7		103	CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A)	900.608			
		30	30	40	43		143	CY	SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS B)	900.608			

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: s12b144qty.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: K. LIHIC
BRIDGE QUANTITY SHEET

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: G. LAROCHE
SHEET 12 OF 134

GPS CONTROL POINTS

HVCTRL #1

C772
NORTH = 678423.820
EAST = 1656887.650
ELEV. = 758.090

GENERAL LOCATION: CALAIS
FROM THE JUNCTION OF VT 14 AND VT 214 IN N. MONTPELIER PROCEED NORTHERLY ALONG VT 14 FOR APPROXIMATELY 4.3 MI. TO THE MARK ON THE LEFT, OPPOSITE POLE #196/148. THE MARK IS A 3/4" REBAR SET FLUSH WITH ALUMINUM CAP MARKED "CONTROL POINT".

HVCTRL #2

C771
NORTH = 677337.090
EAST = 1655841.470
ELEV. = 753.390

GENERAL LOCATION: CALAIS
FROM THE JUNCTION OF VT 14 AND VT 214 IN N. MONTPELIER PROCEED NORTHERLY ALONG VT 14 FOR APPROXIMATELY 4.1 MI. TO THE MARK ON THE RIGHT, 37' SOUTHERLY OF MILE MARKER 0140/1205/0380. THE MARK IS A 3/4" REBAR SET FLUSH WITH ALUMINUM CAP MARKED "CONTROL POINT".

GPS CONTROL POINTS

HVCTRL #10

CA74
NORTH = 668262.570
EAST = 1654558.010
ELEV. = 717.570

GENERAL LOCATION: CALAIS
FROM THE JUNCTION OF VT 14 AND VT 214 IN N. MONTPELIER PROCEED NORTHERLY ALONG VT 14 FOR APPROXIMATELY 2.1 MI. TO THE MARK ON THE LEFT, OPPOSITE POLE #118/68. THE MARK IS A 3/4" REBAR SET FLUSH WITH ALUMINUM CAP MARKED "CONTROL POINT".

TRAVERSE TIES

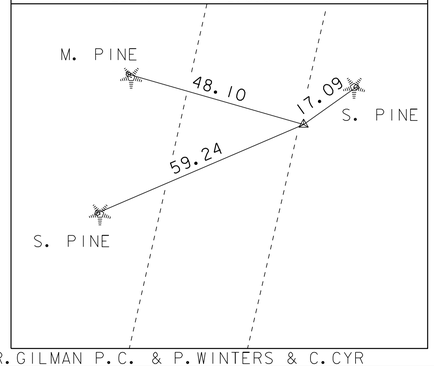
HVCTRL #8

NORTH = 669609.832
EAST = 1654869.281
ELEV. = 751.698

NOT TIED

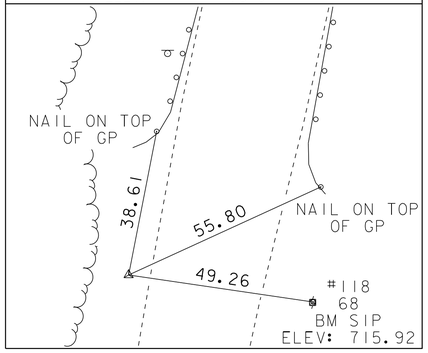
HVCTRL #9

NORTH = 669218.004
EAST = 1654874.978
ELEV. = 742.696



HVCTRL #10

NORTH = 668262.570
EAST = 1654558.010
ELEV. = 717.570



* MAIN TRAVERSE COMPLETED 5/30/2012 BY R.GILMAN P.C. & P.WINTERS & C.CYR

ALIGNMENT TIES

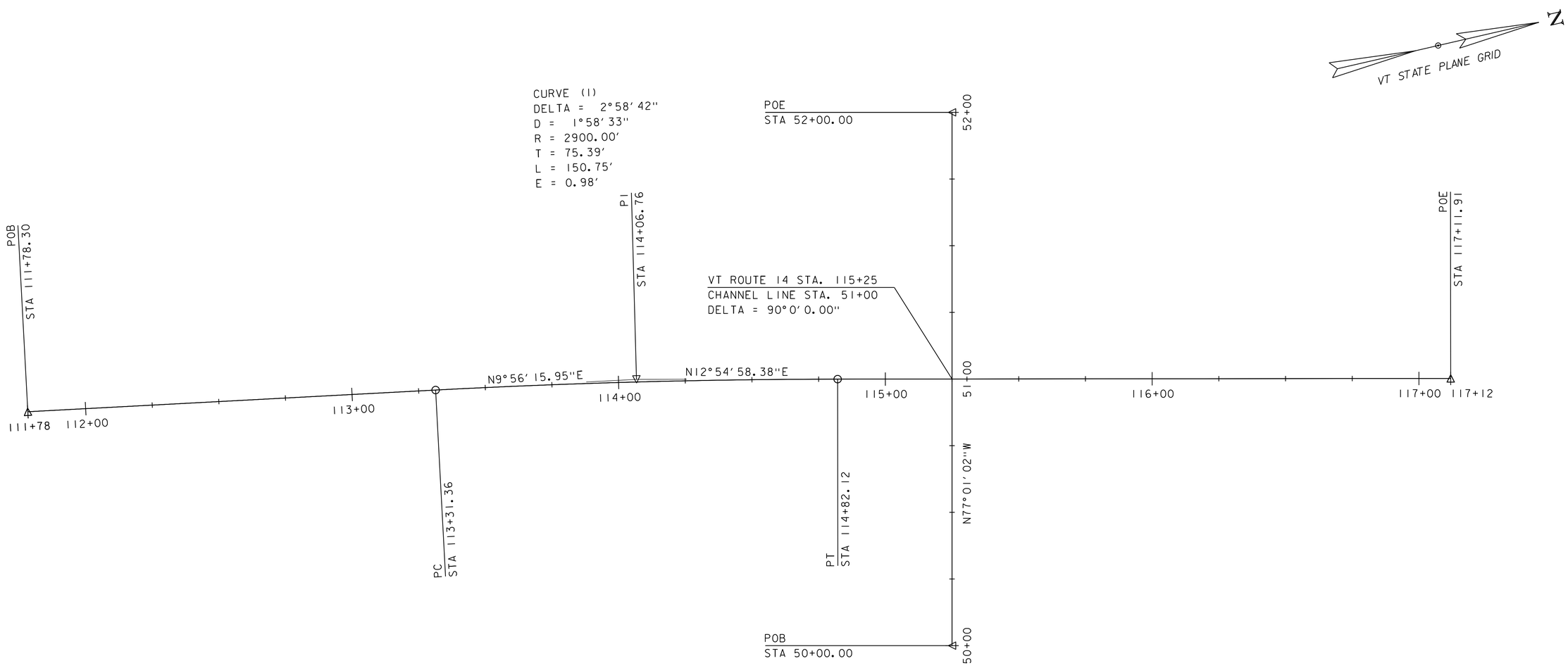
NORTH =	NORTH =	NORTH =	NORTH =	NORTH =
EAST =	EAST =	EAST =	EAST =	EAST =
ELEV. =	ELEV. =	ELEV. =	ELEV. =	ELEV. =

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

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: 12b144ti.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: G. LAROCHE
TIE SHEET

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: G. LAROCHE
SHEET 13 OF 134



CURVE DATA					
NO.	RADIUS	DELTA	LENGTH	TANGENT	ALIGNMENT
C1	2900	2°58'42.43"	150.75	75.39	VT14PropOn

MAINLINE STATIONING											
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
1	N 9°56'15.95" E	153.06 '	668023.9613	1654535.068		111+78.30					
	N 12°54'58.38" E	305.18 '	668248.989	1654574.494	113+31.36		114+82.12	2°58'42.43"	2900.00 '	150.75 '	75.39 '
3			668546.4508	1654642.711		117+11.91					
CHANNEL STATIONING											
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
6	N 77°01'02.40" W	200.00 '	668341.8092	1654698.376		50+00.00					
7			668386.7404	1654503.489		52+00.00					

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

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44alignbdr.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
ALIGNMENT SHEET	SHEET 14 OF 134

SALMON VERY FINE SANDY LOAM
25-50% SLOPE
TYPE C SOIL
K VALUE = 0.49
HIGHLY ERODIBLE

SUNNY SILT LOAM
0-2% SLOPE
TYPE C SOIL
K VALUE = 0.32
NOT HIGHLY ERODIBLE

NICHOLVILLE SILT LOAM
3-8% SLOPE
TYPE C SOIL
K = 0.49
POTENTIALLY HIGHLY ERODIBLE

N
VT STATE PLANE GRID

RIPARIAN BUFFER

TH 3
PEKIN BROOK ROAD

SIGN R2-1

SIGN R2-1
MM
D14Q
1205
D180

PIPE FLOW

SIGN VR-017 24K

SIGN
Pekin Brook Rd

EXISTING ROW

VT RT 14
TO EAST MONTPELIER

VT RT 14
TO CALAIS

ECT

COMB
70
34
120
SIGN
D1-1A
D1-1A
HYCTRL
102

720

710 OHW

710 OHW

52+00

51+00

50+00

113+00

114+00

115+00

116+00

117+00

117+12

COMB
118
68
SIGN
VD-701
SIGN
D1-1A
D1-1A

GUY

BENCHMARK
SPIKE IN POLE
ELEV.=714.16

COMB
67
117

710 OHW

PEKIN BROOK
FLOW

OHW

SIGN
M1-5
M3-1

18" RCP
FLOW

24" RCP
FLOW

GRAVEL
DRIVE

5/8 REBAR
UP 8" W/ CAP

5/8 REBAR
UP 8" W/ CAP

ARTESIAN
WELL

5/8 REBAR
UP 8" W/ CAP

RIPARIAN BUFFER

EXISTING BRIDGE DATA
CONCRETE T-BEAM
SPAN 44'
WIDTH 34.8'
CONSTRUCTION YEAR 1928
RECONSTRUCTION YEAR 1981

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

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: s12b144exist.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: G. LAROCHE
EXISTING CONDITIONS

PLOT DATE: 02-JUN-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 15 OF 134

COARSE MILLING, BITUMINOUS PAVEMENT
STA. 112+75.0 - 113+75.0
STA. 116+50.0 - 116+75.0

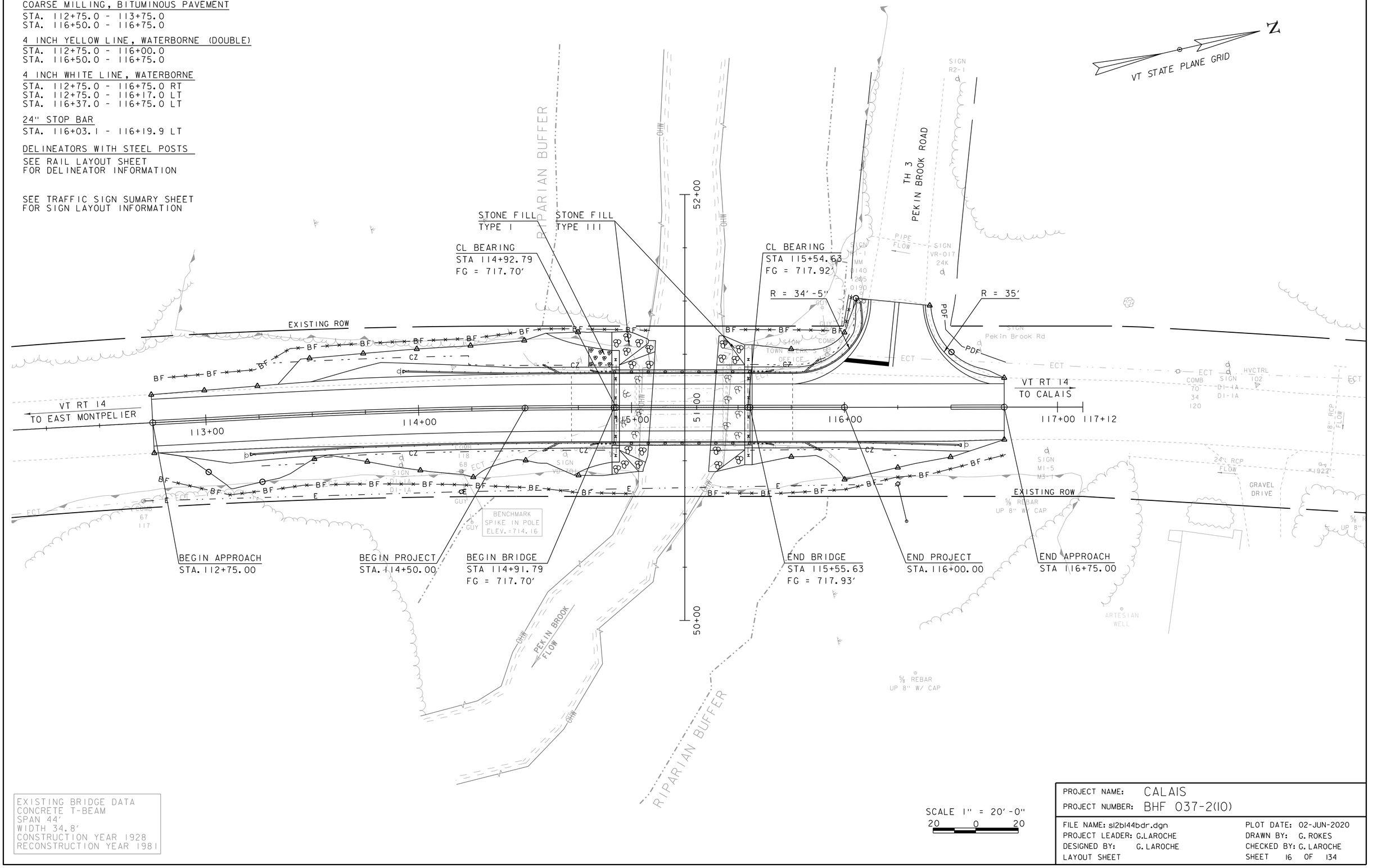
4 INCH YELLOW LINE, WATERBORNE (DOUBLE)
STA. 112+75.0 - 116+00.0
STA. 116+50.0 - 116+75.0

4 INCH WHITE LINE, WATERBORNE
STA. 112+75.0 - 116+75.0 RT
STA. 112+75.0 - 116+17.0 LT
STA. 116+37.0 - 116+75.0 LT

24" STOP BAR
STA. 116+03.1 - 116+19.9 LT

DELINEATORS WITH STEEL POSTS
SEE RAIL LAYOUT SHEET
FOR DELINEATOR INFORMATION

SEE TRAFFIC SIGN SUMARY SHEET
FOR SIGN LAYOUT INFORMATION



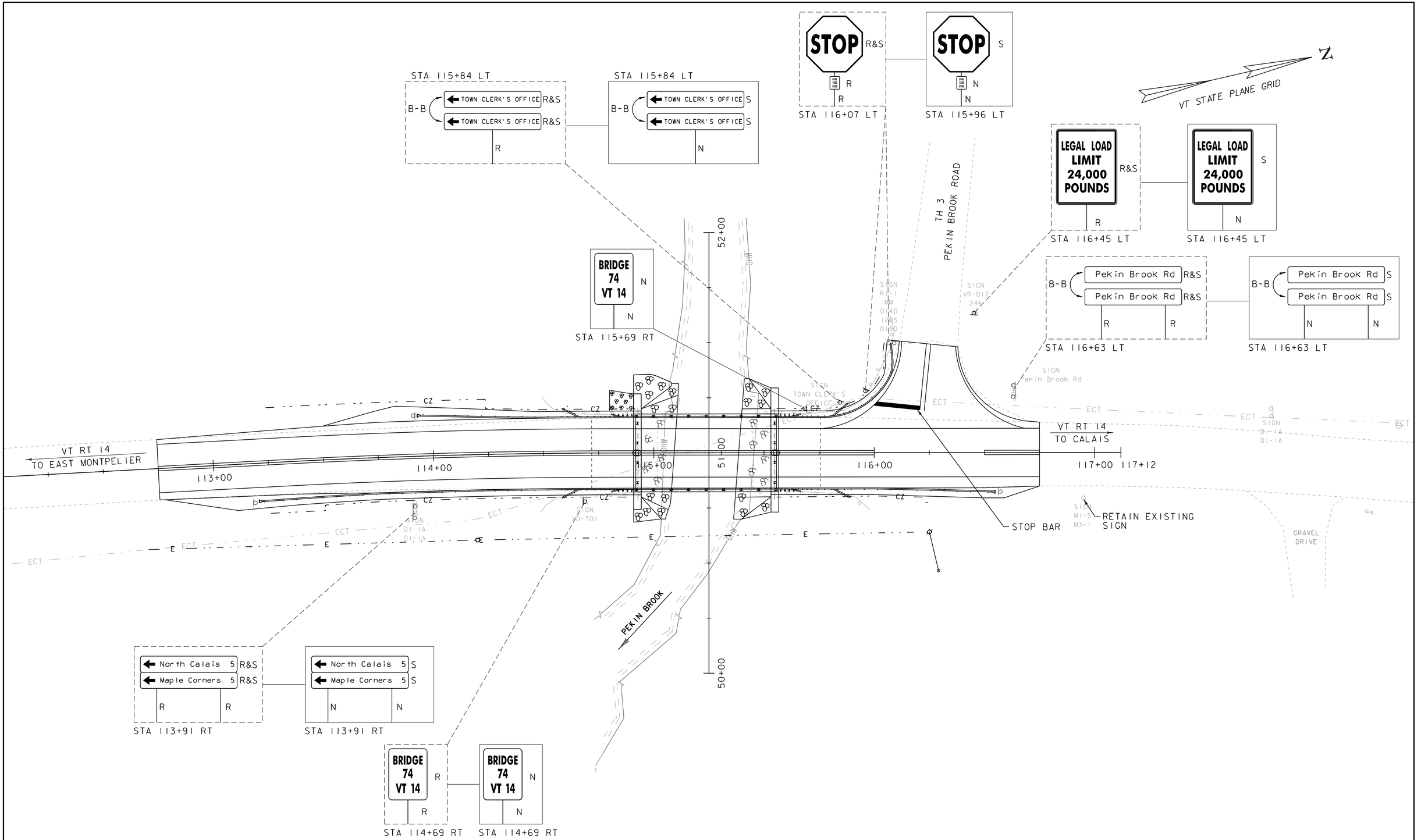
EXISTING BRIDGE DATA
CONCRETE T-BEAM
SPAN 44'
WIDTH 34.8'
CONSTRUCTION YEAR 1928
RECONSTRUCTION YEAR 1981

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

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: s12bl44bdr.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: G. LAROCHE
LAYOUT SHEET

PLOT DATE: 02-JUN-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 16 OF 134



SIGNING LEGEND

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

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

PROJECT NAME: CALAIS	
PROJECT NUMBER: BHF 037-2(10)	
FILE NAME: sl2b144tsl.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
TRAFFIC SIGN LAYOUT	SHEET 17 OF 134

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

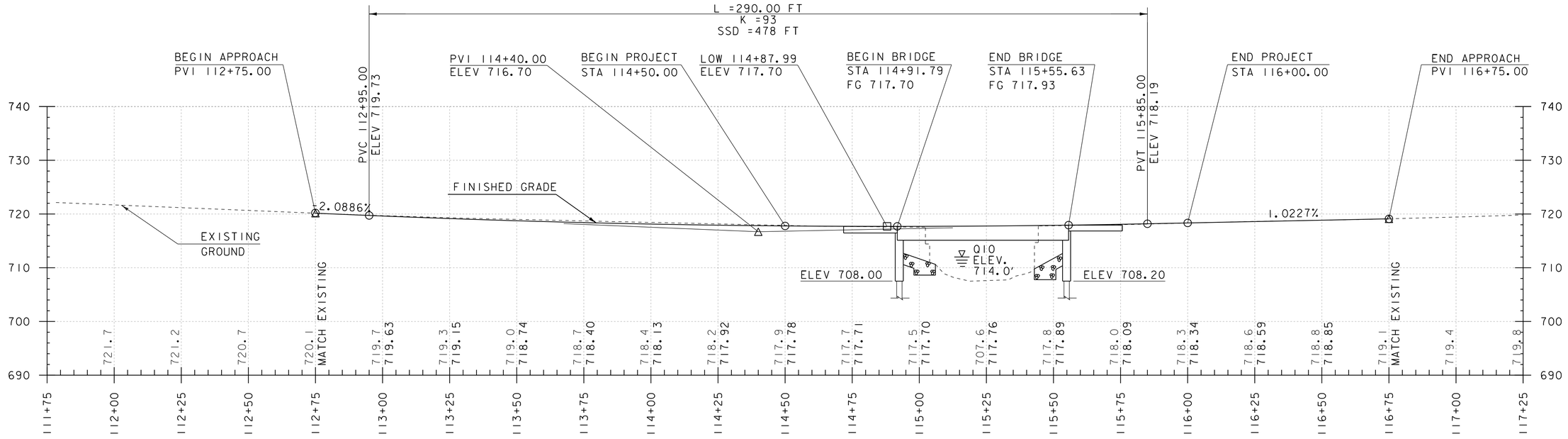
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																	REMARKS	SIGN DETAIL		
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	SQUARE STEEL (in)			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in)			FOUND-ATION	TUBULAR STEEL Ø (in)				W-SHAPE STEEL				SIGN REQUIRED		STD. SHEET NUMBER	DETAIL ON SHEET NUMBER	MUTCD/ SHSM
												1.75	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	FTG. SIZE		WEIGHT	POST SIZE				
												lb/ft					lb/ft				lb/ft				24"	30"						
												1.88	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6								
STA 113+91 RT	← North Calais 5	1	72	12			X				2		15																	VDI-1	T-93		
	← Maple Corners 5	1	72	12			X																							VDI-1	T-93		
STA 114+69 RT	BRIDGE 74 VT 14	1	6	10	0.42						1	10																		VD-701	T-42		
STA 115+69 LT	BRIDGE 74 VT 14	1	6	10	0.42						1	10																		VD-701	T-42		
STA 115+84 LT	← TOWN CLERK'S OFFICE	2					X				1		15																	BACK TO BACK SIGN			
STA 115+96 LT	STOP	1	30	30			X				1		15																	RI-1			RI-1
	0140 1205 0190	1	6	10	0.42																									VD-700	T-45		
STA 116+45 LT	LEGAL LOAD LIMIT 24,000 POUNDS	1	24	30			X				1		15																	VR-017	T-70		
STA 116+63 LT	Pekin Brook Rd	2					X				2		15																	BACK TO BACK SIGN		22	DI-1a(R)
												FT 20	FT 105	FT		EA	LB	LB	LB		LB	LB	LB	LB								
TOTALS					SF 1.26	SF	EA. 8	SF				FT 125					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 THE VTRANS "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: sl2bl44tsl.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: S. COLEY
TRAFFIC SIGN SUMMARY SHEET

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: G. LAROCHE
SHEET 18 OF 134



PROFILE ALONG CENTERLINE VT ROUTE 14

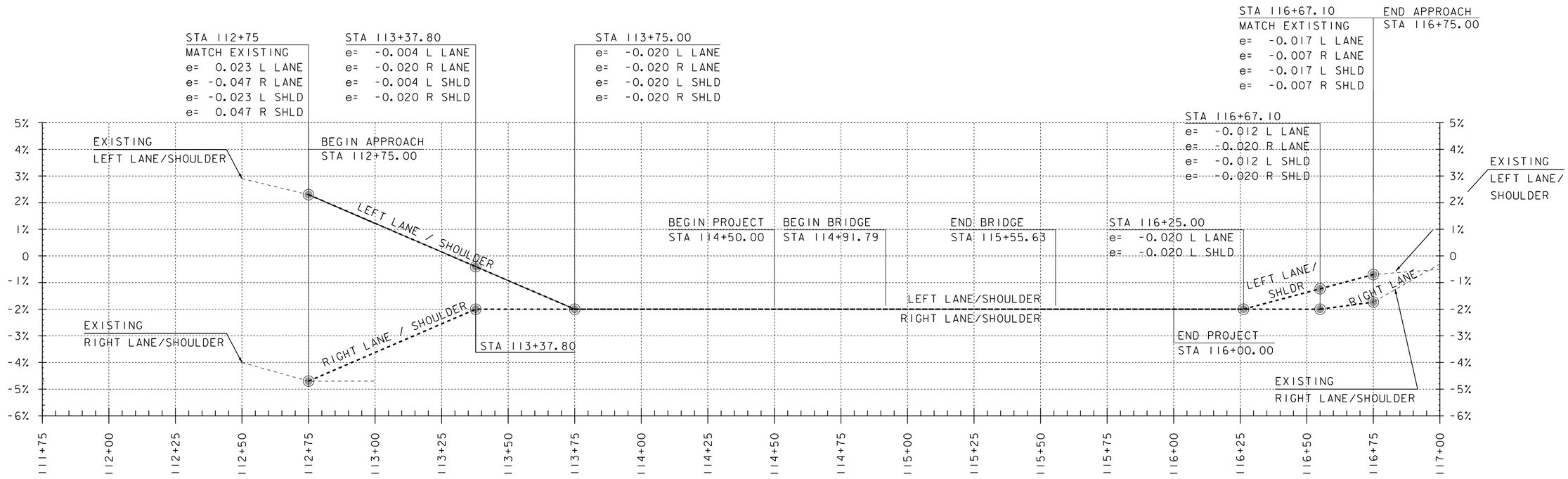
HOR. SCALE 1" = 20'-0"
VER. SCALE 1" = 10'-0"

NOTE:

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄

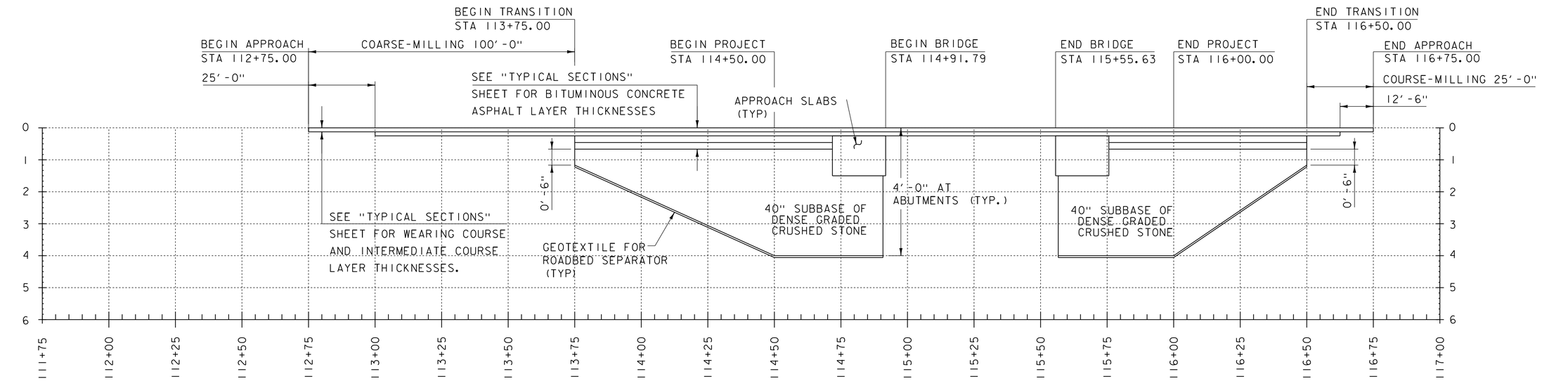
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℄

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: s12b144pro.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
PROFILE SHEET	SHEET 19 OF 134



BANKING DIAGRAM

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



VT-14 MATERIAL TRANSITION DETAIL

(NOT TO SCALE)

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44xs.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
BANKING DIAGRAM & MATERIAL TRANSITION	SHEET 20 OF 134

NOTES

1. PHASE 1 AND 2 REFLECTS ONE-WAY, ALTERNATING TRAFFIC CONTROLLED BY TEMPORARY TRAFFIC SIGNALS.

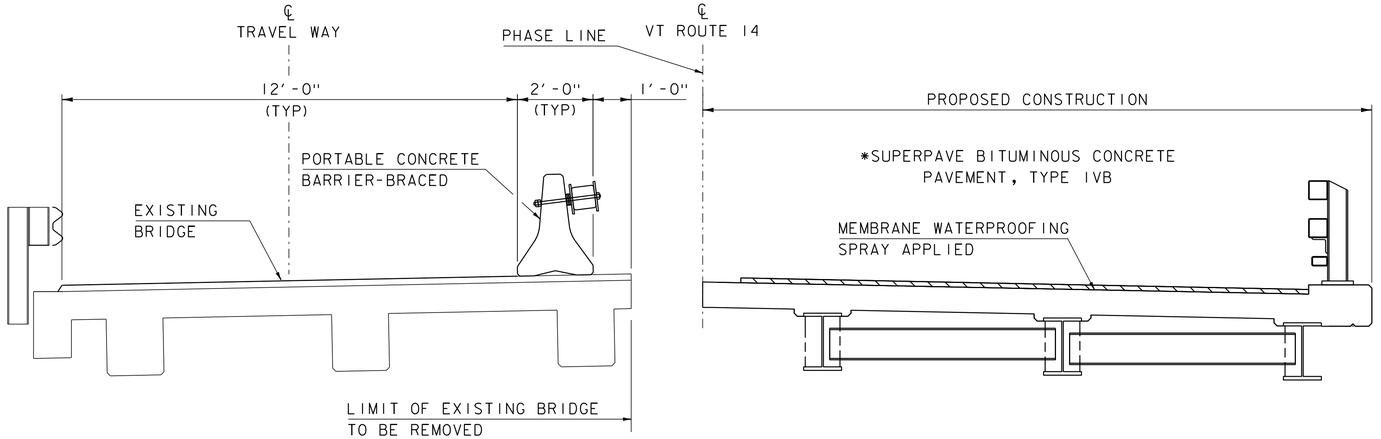
2. PHASING TYPICAL SECTIONS ARE CONCEPTUAL ONLY. PHASING TYPICAL SECTIONS ARE INTENDED TO COMMUNICATE BASIC SITE CONDITIONS THAT INCLUDE LANE WIDTHS AND SHOULDER WIDTHS.

3. TEMPORARY BARRIER IN THE PLAN SHALL BE IN ACCORDANCE WITH SECTION 621.

4. SUPPORT OF EXCAVATION LOCATED WITHIN THE DEFLECTION DISTANCE OF THE TRAFFIC BARRIER SHALL BE DESIGNED TO WITHSTAND A TRAFFIC BARRIER COLLISION LOAD. THE SUPPORT OF EXCAVATION SHALL EXTEND UP TO A HEIGHT THAT IS EQUAL TO OR HIGHER THAN THE TOP OF THE ADJACENT BARRIER.

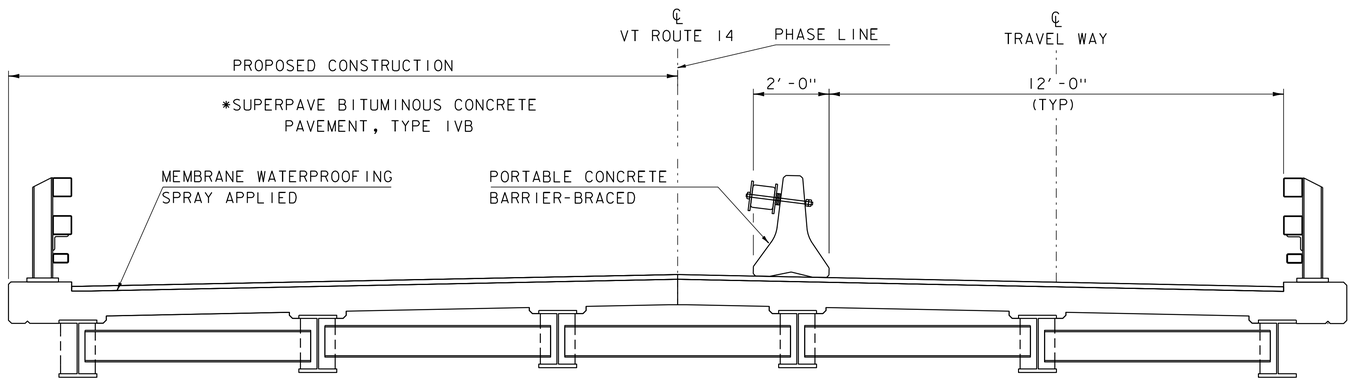
5. CONCRETE BARRIER EXPOSED TO TRAFFIC SHALL BE DELINEATED TO MATCH THE CORRESPONDING TEMPORARY PAVEMENT MARKING. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER EXPOSED TO TRAFFIC.

6. THE CONTRACTOR MAY FASTEN THE TEMPORARY TRAFFIC BARRIER TO THE EXISTING BRIDGE DECK DURING PHASE 1.



PHASE #1 BRIDGE TYPICAL SECTION

(NOT TO SCALE)
FLOW

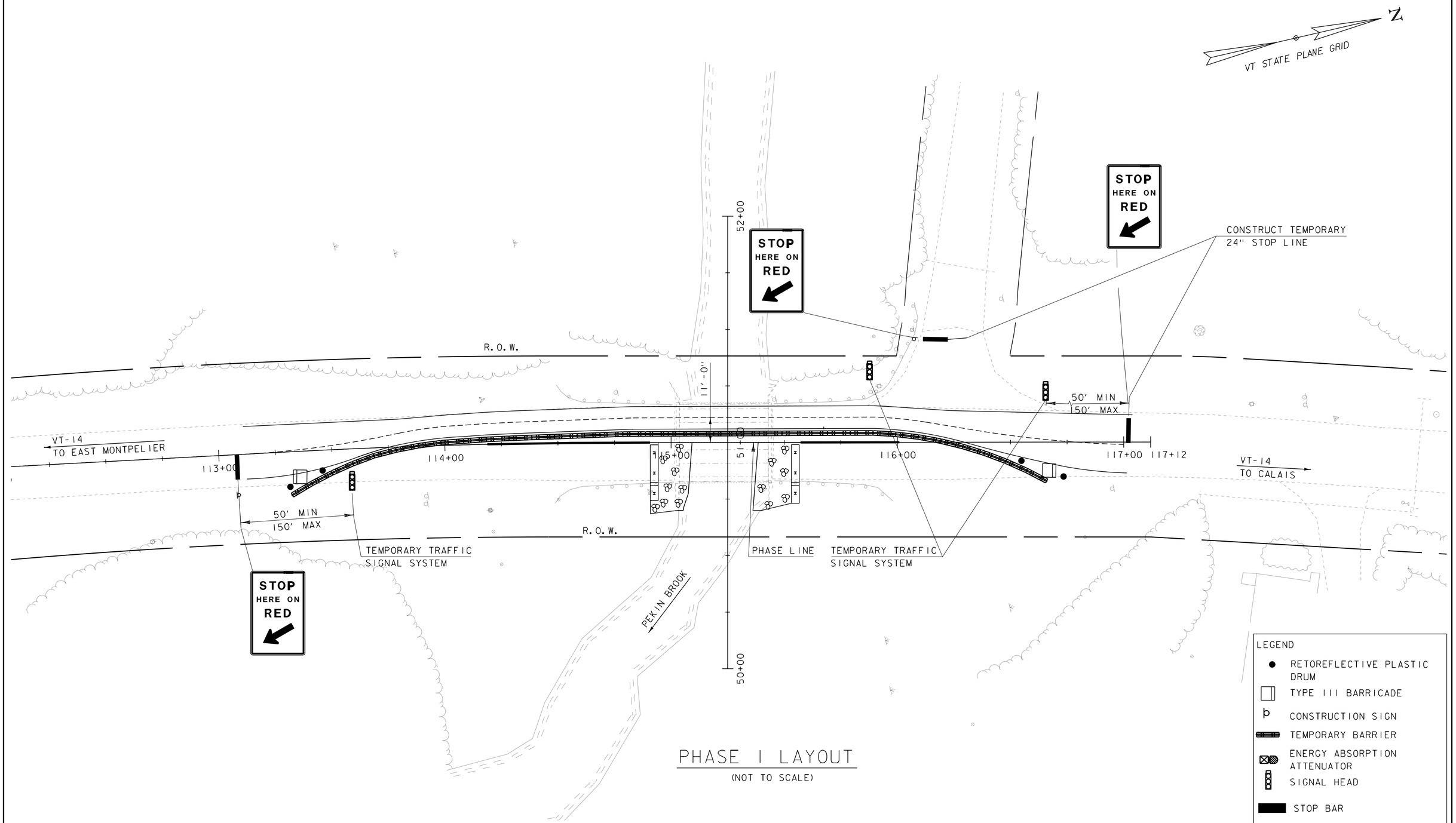


PHASE #2 BRIDGE TYPICAL SECTION

(NOT TO SCALE)
FLOW

*THE TRAVEL WAY SURFACE OVER THE PROPOSED STRUCTURE CONSTRUCTED DURING PHASE 1 WILL BE 1½" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT, TYPE IVB OVER WATERPROOFING MEMBRANE UNTIL FINAL PAVING OPERATIONS ARE COMPLETED DURING PHASE 2.

PROJECT NAME: CALAIS	
PROJECT NUMBER: BHF 037-2(10)	
FILE NAME: sl2bl44typ.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G. LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
PHASE TYPICAL SECTIONS	SHEET 21 OF 134



PHASE I LAYOUT

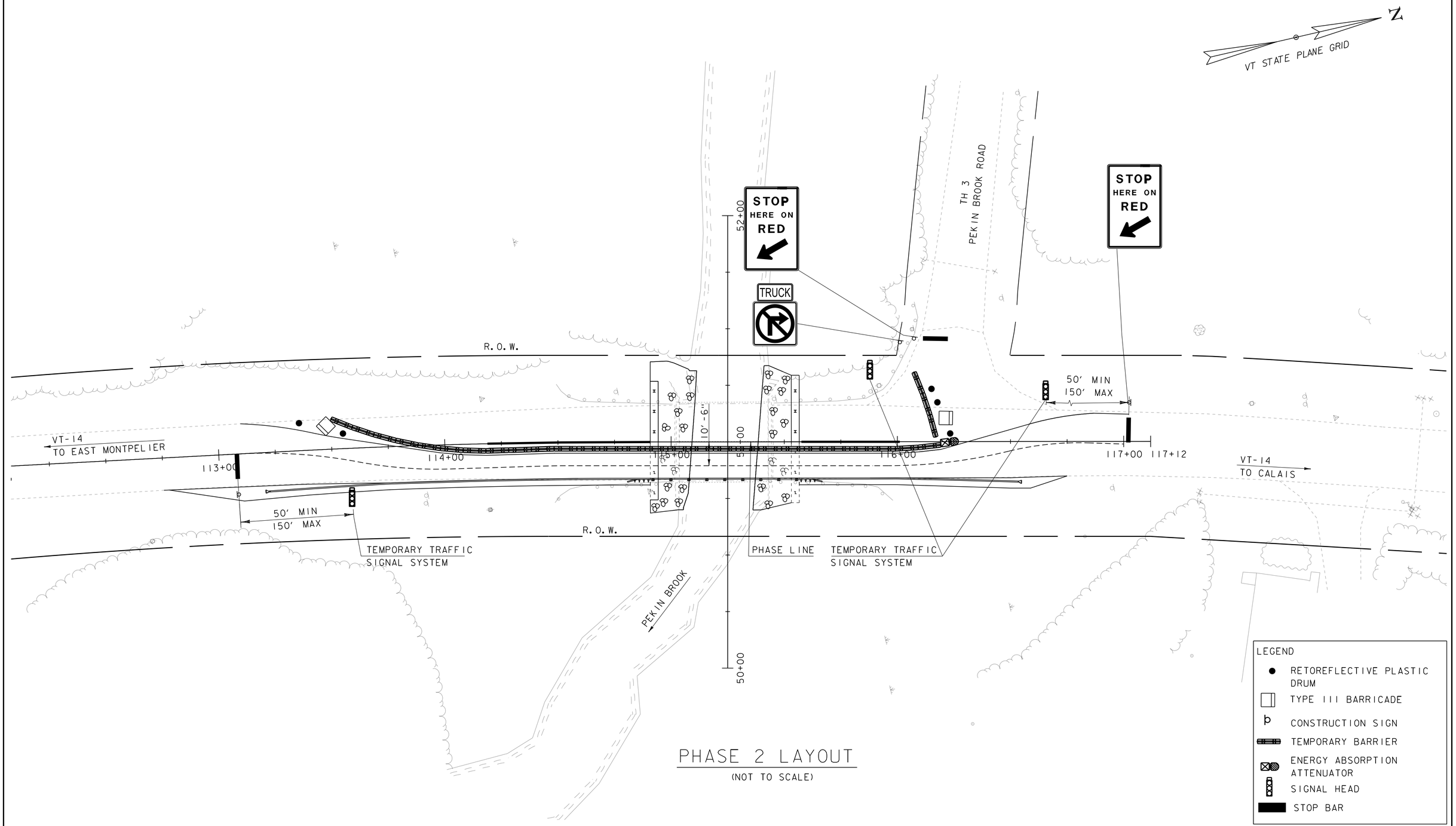
(NOT TO SCALE)

TRAFFIC CONTROL NOTES:

1. PHASING LAYOUTS ARE CONCEPTUAL ONLY.

2. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AND TOWN HIGHWAYS THAT ACCESS VT-14 WITHIN THE PROJECT LIMITS AT ALL TIMES, FOR ALL PHASES OF CONSTRUCTION. IF ACCESS CANNOT BE MAINTAINED, THE CONTRACTOR SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER AND OBTAIN APPROVAL OF THE ENGINEER.

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: s12b144bdr.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
PHASE I LAYOUT SHEET	SHEET 22 OF 134



PHASE 2 LAYOUT

(NOT TO SCALE)

TRAFFIC CONTROL NOTES:

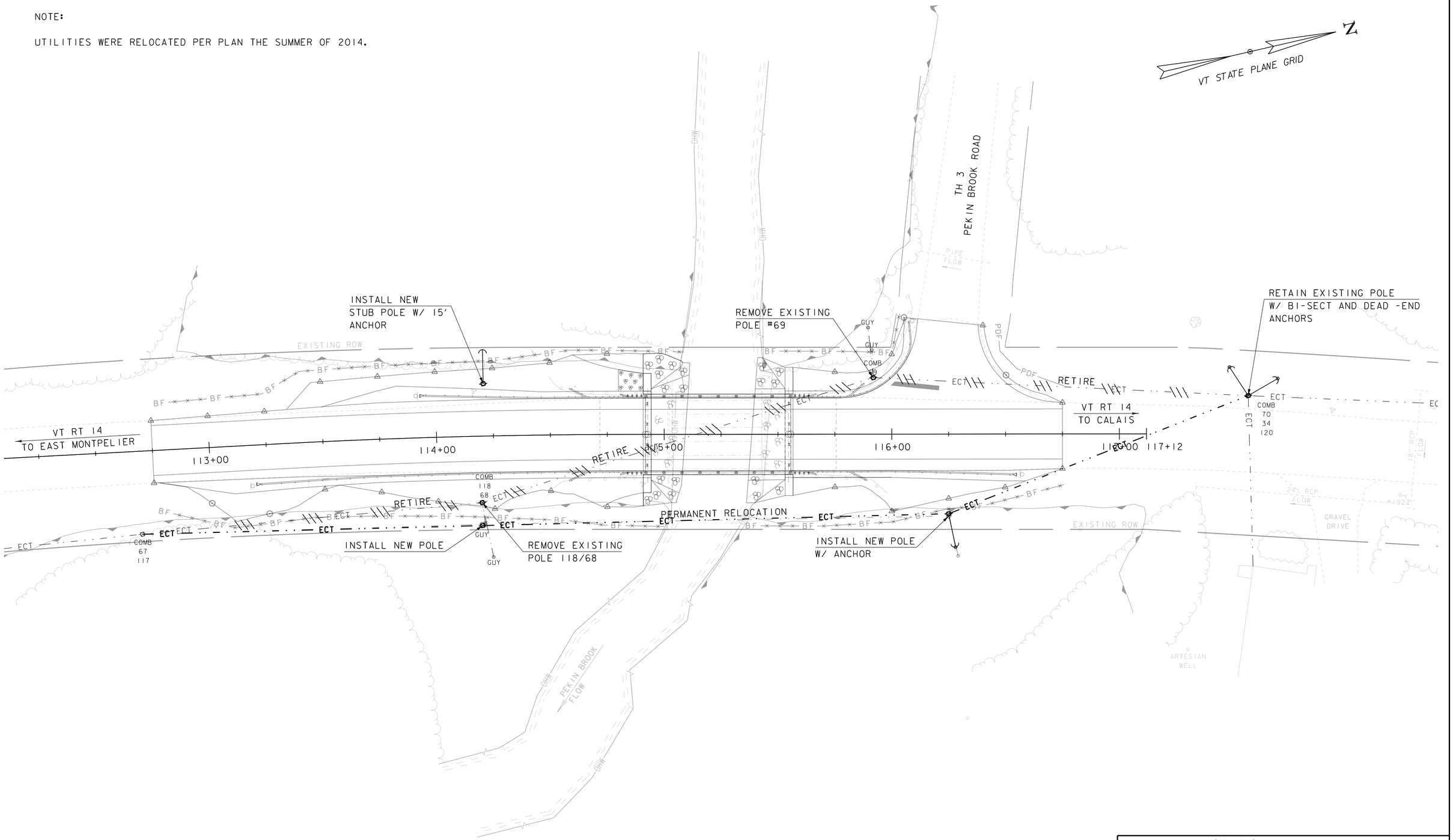
1. PHASING LAYOUTS ARE CONCEPTUAL ONLY.

2. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AND TOWN HIGHWAYS THAT ACCESS VT-14 WITHIN THE PROJECT LIMITS AT ALL TIMES, FOR ALL PHASES OF CONSTRUCTION. IF ACCESS CANNOT BE MAINTAINED, THE CONTRACTOR SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER AND OBTAIN APPROVAL OF THE ENGINEER.

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44bdr.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
PHASE 2 LAYOUT SHEET	SHEET 23 OF 134

NOTE:

UTILITIES WERE RELOCATED PER PLAN THE SUMMER OF 2014.



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

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44ut.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
UTILITY LAYOUT SHEET	SHEET 24 OF 134

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

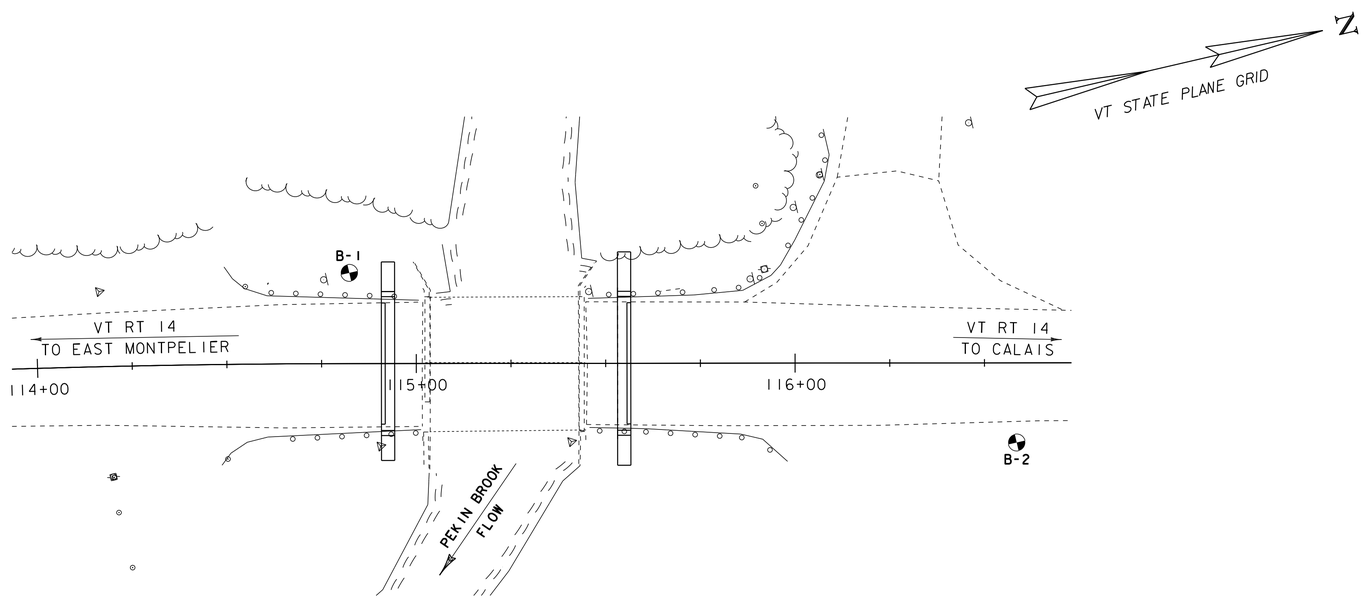
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 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
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

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



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

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 March 10 and April 10, 2014 by Terracon Consultants Inc.
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	NORTHING	EASTING
B-1	114+82.3	24.0' LT	668328.04	1654568.04
B-2	116+58.8	20.8' RT	668489.68	1654651.26

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: sl2bl44bor.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: G. LAROCHE
BORING INFORMATION SHEET

PLOT DATE: 02-JUN-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 25 OF 134

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

BORING LOG

VT Route 14, Bridge 74 Over Pekin Brook
Calais, Vermont
BHF 037-2(10)

Boring No.: B-1
Page No.: 1 of 3
Pin No.: s12b144
Checked By: ASP

Boring Crew: Drilex, JDF
Date Started: 3/10/14 Date Finished: 3/11/14
VTSPG NAD83: N 668328.04 ft E 1654568.04 ft
Station: 114+82.3 Offset: 24.00 LT
Ground Elevation: 721.0 ft

	Casing	Sampler
Type:	Steel	SS
I.D.:	4 in	1.38 in
Hammer Wt:	300 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:		Auto/N
Rig:	CME 85 Truck	CE = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
03/10/14	16.0	While sampling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, GrSa, dark brown, Rec. = 1.58 ft, (FILL)	11-28-33-22 (61)	14.1	28.0	53.3	18.7
		A-1-b, GrSa, brown, Rec. = 0.92 ft, (FILL)	15-18-9-3 (27)	8.8	30.5	52.6	16.9
5		A-2-4, SiSa, gray-brown, Rec. = 0.25 ft, (FILL)	2-1-1-2 (2)	23.3	14.4	60.2	25.4
		A-4, SiSa, dark brown, Rec. = 0.17 ft	1-1-1-1 (2)	29.5	5.0	56.6	38.4
		A-4, GrSiSa, brown/dark brown, Rec. = 0.5 ft	1-1-1-1 (2)	26.7	22.1	40.2	37.7
10		A-4, SiSa, brown/dark brown, Rec. = 1.33 ft	3-5-4-4 (9)	25.0	15.5	43.5	41.0
		A-4, SaSi, gray-brown, Rec. = 1.0 ft	3-4-2-2 (6)	35.3	3.8	47.9	48.3
15		A-4, SiSa, gray-brown, Rec. = 0.0 ft	8-8-9-9 (17)				
		A-4, Si, gray, Rec. = 1.17 ft	3-3-3-3 (6)	30.8	4.7	11.9	83.4
		A-4, Si, gray, Rec. = 1.58 ft	1-1-1-2 (2)	36.1	0.3	1.6	98.1
20		A-4, Si, gray, Rec. = 0.83 ft	12-6-2-2 (8)	28.5	1.2	5.4	93.4
		A-4, Si, gray, Rec. = 0.83 ft	3-2-2-3 (4)	31.8	1.1	5.6	93.3
25		A-4, Si, gray, Rec. = 1.17 ft	8-7-5-4 (12)	29.8		1.7	98.3
30		A-4, Si, gray, Rec. = 1.58 ft	4-2-2-2 (4)	34.1		1.0	99.0
35		A-4, Si, gray, Rec. = 1.58 ft	5-4-3-3 (7)	34.6		0.7	99.3
40		A-4, Si, gray, Rec. = 1.67 ft	5-4-2-2 (6)	31.7		0.8	99.2
45		A-4, Si, gray, Rec. = 1.83 ft	3-2-2-4 (4)	39.1		0.6	99.4
		Shelby tube sample, Rec. = 0.0 ft					

ABUT 1BTM.
EL 708.00

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.
4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.

Terracon

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

BORING LOG

VT Route 14, Bridge 74 Over Pekin Brook
Calais, Vermont
BHF 037-2(10)

Boring No.: B-1
Page No.: 2 of 3
Pin No.: s12b144
Checked By: ASP

Boring Crew: Drilex, JDF
Date Started: 3/10/14 Date Finished: 3/11/14
VTSPG NAD83: N 668328.04 ft E 1654568.04 ft
Station: 114+82.3 Offset: 24.00 LT
Ground Elevation: 721.0 ft

	Casing	Sampler
Type:	Steel	SS
I.D.:	4 in	1.38 in
Hammer Wt:	300 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:		Auto/N
Rig:	CME 85 Truck	CE = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
03/10/14	16.0	While sampling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-4, Si, gray, Rec. = 1.17 ft	4-2-2-2 (4)	34.3		1.0	99.0
55		A-4, Si, gray, Rec. = 1.5 ft	4-4-2-3 (6)	30.8		6.1	93.9
60		A-4, Si, gray, Rec. = 1.83 ft	1-1-2-2 (3)	29.9		1.6	98.4
65		A-4, Si, gray, Rec. = 2.0 ft	4-5-5-4 (10)	34.4		1.0	99.0
70		A-4, Si, gray, Rec. = 0.75 ft	3-3-3-4 (6)	34.9		0.2	99.8
75							
80							
85		A-4, Si, gray, Rec. = 1.5 ft	5-6-6-5 (12)	30.9		1.2	98.8
90							
95		A-4, Si, gray, Rec. = 1.58 ft	3-3-3-5 (6)	33.5		3.1	96.9
		A-4, Si, gray, Rec. = 1.75 ft	5-6-6-7	28.1		7.8	92.2

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.
4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.

Terracon

2010 COPY J1145111.GPJ VERMONT AOT.GDT 8/13/14

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME:	s12b144bor.dgn
PROJECT LEADER:	G.LAROCHE
DESIGNED BY:	G. LAROCHE
BORING LOG SHEET	1
PLOT DATE:	02-JUN-2020
DRAWN BY:	S. COLEY
CHECKED BY:	G. LAROCHE
SHEET	26 OF 134

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

BORING LOG

VT Route 14, Bridge 74 Over Pekin Brook
Calais, Vermont

BHF 037-2(10)

Boring No.: B-1
Page No.: 3 of 3
Pin No.: s12b144
Checked By: ASP

Boring Crew: Drilex, JDF
Date Started: 3/10/14 Date Finished: 3/11/14
VTSPG NAD83: N 668328.04 ft E 1654568.04 ft
Station: 114+82.3 Offset: 24.00 LT
Ground Elevation: 721.0 ft

	Casing	Sampler
Type:	Steel	SS
I.D.:	4 in	1.38 in
Hammer Wt:	300 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:		Auto/N
Rig:	CME 85 Truck	CE = 1.33

Groundwater Observations		
Date	Depth (ft)	Notes
03/10/14	16.0	While sampling

EST. PILE TIP
EL 616.00

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
			(12)				
105		A-4, SaSi, gray, Rec. = 0.83 ft	14-16-60/2" (76+)	25.0	0.7	31.0	68.3
		105.0 ft – 109.0 ft, Weathered bedrock encountered. Difficult drilling from 105' to 109'. Attempted SPT at 109'. SPT refusal encountered at 109'.					
		Hole stopped @ 109.0 ft					
110							
115							
120							
125							
130							
135							
140							
145							

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.
3. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.
4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.

Terracon

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ABUT 2 BTM.
EL 708.20

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

BORING LOG

VT Route 14, Bridge 74 Over Pekin Brook
Calais, Vermont

BHF 037-2(10)

Boring No.: B-2
Page No.: 1 of 3
Pin No.: s12b144
Checked By: ASP

Boring Crew: Drilex, JDF
Date Started: 3/17/14 Date Finished: 4/10/14
VTSPG NAD83: N 668489.68 ft E 1654651.26 ft
Station: 116+58.8 Offset: 20.80 RT
Ground Elevation: 720.0 ft

	Casing	Sampler
Type:	Steel	SS
I.D.:	4 in	1.38 in
Hammer Wt:	300 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:		Auto/N
Rig:	CME 85 Truck	CE = 1.33

Groundwater Observations		
Date	Depth (ft)	Notes
03/17/14	9.0	While sampling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-2-4, SiSa, Dark brown, Rec. = 0.17 ft, (FILL)				4-2-3-4 (5)	17.3	14.7	52.8	32.5
10		A-4, SaSi Sample stuck in casing. (Casing pulled up and collected sample from casing), brown, Rec. = 0.0 ft				0-0-0-0	25.4	0.7	22.0	77.3
15		Rec. = 0.0 ft				6-5-4-2 (9)				
20		A-4, Si, brown/gray, Rec. = 0.58 ft				2-1-1-1 (2)	36.7	3.1	1.1	95.8
25		Rec. = 0.0 ft				2-2-2-2 (4)				
30		A-4, Si, brown/gray, Rec. = 0.25 ft				3-2-2-3 (4)	35.8	3.6	3.4	93.0
35		A-4, Si, gray, Rec. = 1.42 ft				2-1-2-2 (3)	35.5		3.2	96.8
40		A-4, Si, gray, Rec. = 1.42 ft				2-1-1-2 (2)	26.5	0.2	4.4	95.4
45		A-4, Si, gray, Rec. = 1.5 ft				3-2-2-2 (4)	38.6		1.1	98.9
		A-4, Si, gray, Rec. = 1.0 ft				3-2-2-3	35.7		1.9	98.1

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.
3. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.
4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.

Terracon

2010 COPY J1145111.GPJ VERMONT AOT.GDT 8/13/14

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: s12b144bor.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: G. LAROCHE
BORING LOG SHEET 2

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: G. LAROCHE
SHEET 27 OF 134

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

BORING LOG

VT Route 14, Bridge 74 Over Pekin Brook
Calais, Vermont

BHF 037-2(10)

Boring No.: B-2
Page No.: 2 of 3
Pin No.: s12b144
Checked By: ASP

Boring Crew: Drilex, JDF
Date Started: 3/17/14 Date Finished: 4/10/14
VTSPG NAD83: N 668489.68 ft E 1654651.26 ft
Station: 116+58.8 Offset: 20.80 RT
Ground Elevation: 720.0 ft

	Casing	Sampler
Type:	Steel	SS
I.D.:	4 in	1.38 in
Hammer Wt:	300 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/N	
Rig:	CME 85 Truck	CE = 1.33

Groundwater Observations		
Date	Depth (ft)	Notes
03/17/14	9.0	While sampling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
						(4)				
60		A-4, Si, gray, Rec. = 0.83 ft				3-2-2-2 (4)	33.0		3.4	96.6
70		A-4, Si, gray, Rec. = 0.83 ft				3-3-2-2 (5)	29.9		3.0	97.0
80		A-4, Si, gray, Rec. = 1.08 ft				8-5-5-8 (10)	32.3		2.8	97.2
90		A-4, Si, gray, Rec. = 1.08 ft				8-5-6-10 (11)	31.9	5.0	3.2	91.8

EST. PILE TIP
EL 598.50

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. CE is an estimated value.
3. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.
4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.

Terracon

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

BORING LOG

VT Route 14, Bridge 74 Over Pekin Brook
Calais, Vermont

BHF 037-2(10)

Boring No.: B-2
Page No.: 3 of 3
Pin No.: s12b144
Checked By: ASP

Boring Crew: Drilex, JDF
Date Started: 3/17/14 Date Finished: 4/10/14
VTSPG NAD83: N 668489.68 ft E 1654651.26 ft
Station: 116+58.8 Offset: 20.80 RT
Ground Elevation: 720.0 ft

	Casing	Sampler
Type:	Steel	SS
I.D.:	4 in	1.38 in
Hammer Wt:	300 lb.	140 lb.
Hammer Fall:	30 in.	30 in.
Hammer/Rod Type:	Auto/N	
Rig:	CME 85 Truck	CE = 1.33

Groundwater Observations		
Date	Depth (ft)	Notes
03/17/14	9.0	While sampling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
105		A-4, Si, gray, Rec. = 0.83 ft				6-6-11-13 (17)	29.7	0.7	2.9	96.4
115		SiSa, gray, 115.0 ft – 119.0 ft				14-18-21-30 (39)	22.8	0.1	52.3	47.6
120		Possible gravel from 119 to 121.5 feet indicated by grinding drilling noise								
125		121.5 ft – 126.0 ft, Gray, whitish MUSCOVITE-BIOTITE-QUARTZ PHYLLITE, moderately hard to hard, tight joints (typically fresh to slightly weathered with rust color) dipping from 0° to 55° (typically from 25° to 55° with one horizontal joint).	1	93.5 (79.6)	2.33 1.42 1.42 1.5 0.83					
130		On 4/9/2014, relocated boring 5 feet towards the bridge and redrilled from 115 ft. to 126 ft. using Crawford Drilling Services. Hole stopped @ 126.0 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. CE is the hammer energy correction factor. CE is an estimated value.
3. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.
4. Ground surface elevations indicated on the boring logs were estimated based on the grading plan provided by VAOT.

Terracon

2010 COPY J1145111.GPJ VERMONT AOT.GDT 8/13/14

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: s12b144bor.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
BORING LOG SHEET 3	SHEET 28 OF 134

REMOVAL AND DISPOSAL OF GUARDRAIL

STA. 114+49.5 - 115+00.7 LT
STA. 114+48.4 - 115+00.7 RT
STA. 115+45.4 - 116+09.1 LT
STA. 115+45.4 - 115+98.0 RT

MANUFACTURED TERMINAL SECTION, TANGENT

STA. 113+20.0 - 113+70.3 RT
STA. 113+93.1 - 114+43.2 LT
STA. 116+04.5 - 116+54.9 RT

BOX BEAM GUARDRAIL

STA. 113+70.3 - 114+57.8 RT
STA. 114+43.2 - 114+58.1 LT
STA. 115+89.5 - 116+04.5 RT
STA. 115+89.2 - 116+08.6 LT

GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM

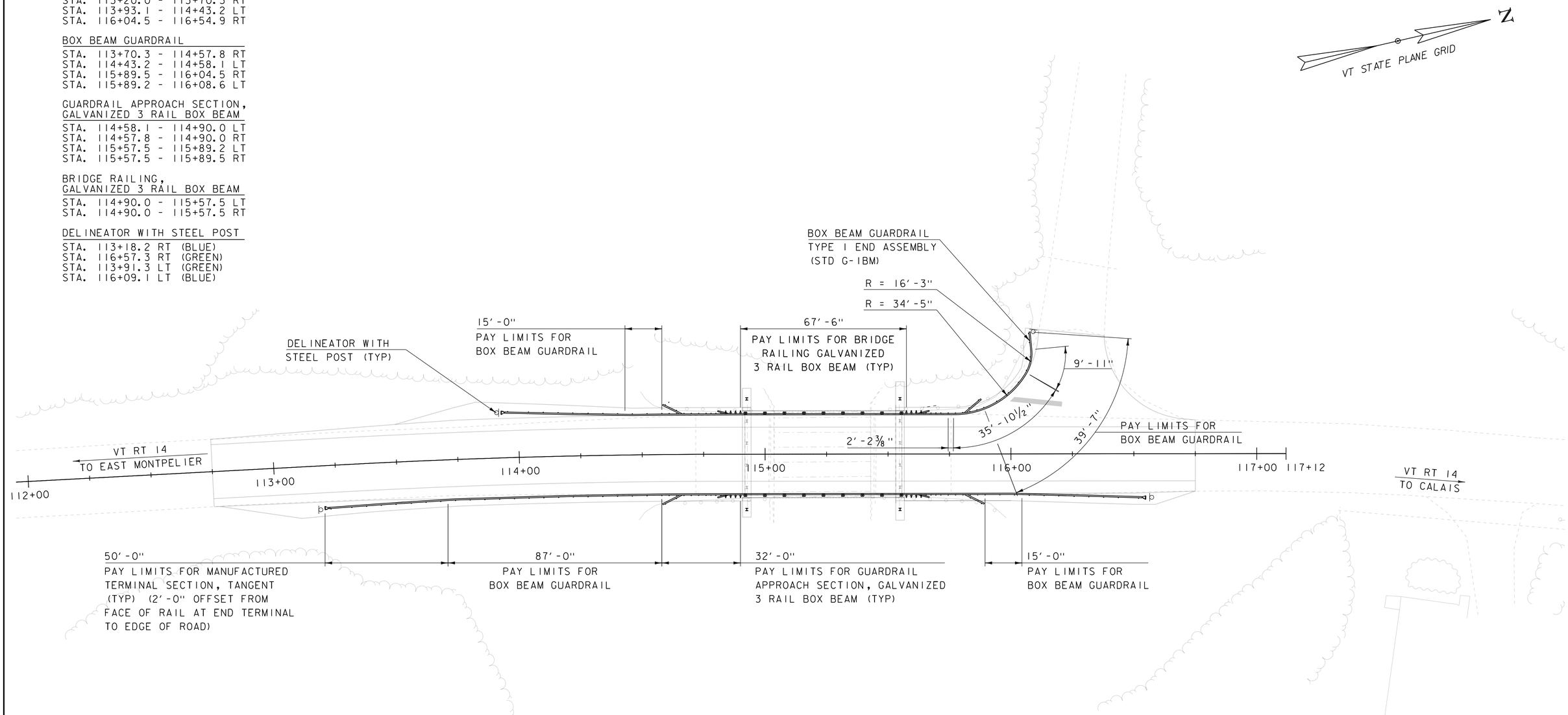
STA. 114+58.1 - 114+90.0 LT
STA. 114+57.8 - 114+90.0 RT
STA. 115+57.5 - 115+89.2 LT
STA. 115+57.5 - 115+89.5 RT

BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM

STA. 114+90.0 - 115+57.5 LT
STA. 114+90.0 - 115+57.5 RT

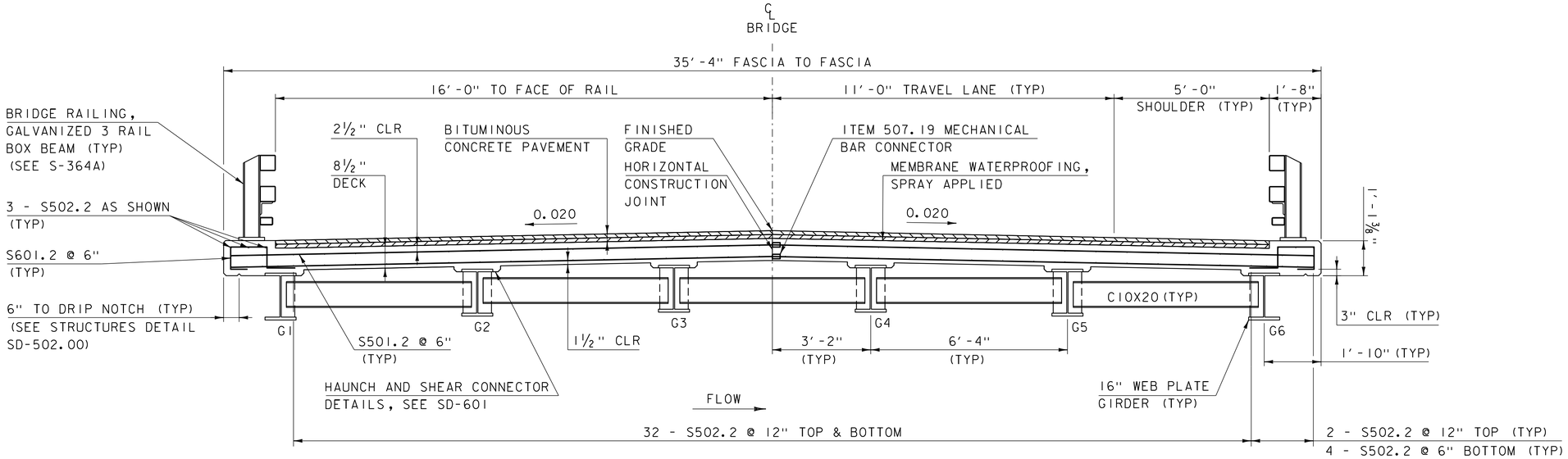
DELINEATOR WITH STEEL POST

STA. 113+18.2 RT (BLUE)
STA. 116+57.3 RT (GREEN)
STA. 113+91.3 LT (GREEN)
STA. 116+09.1 LT (BLUE)



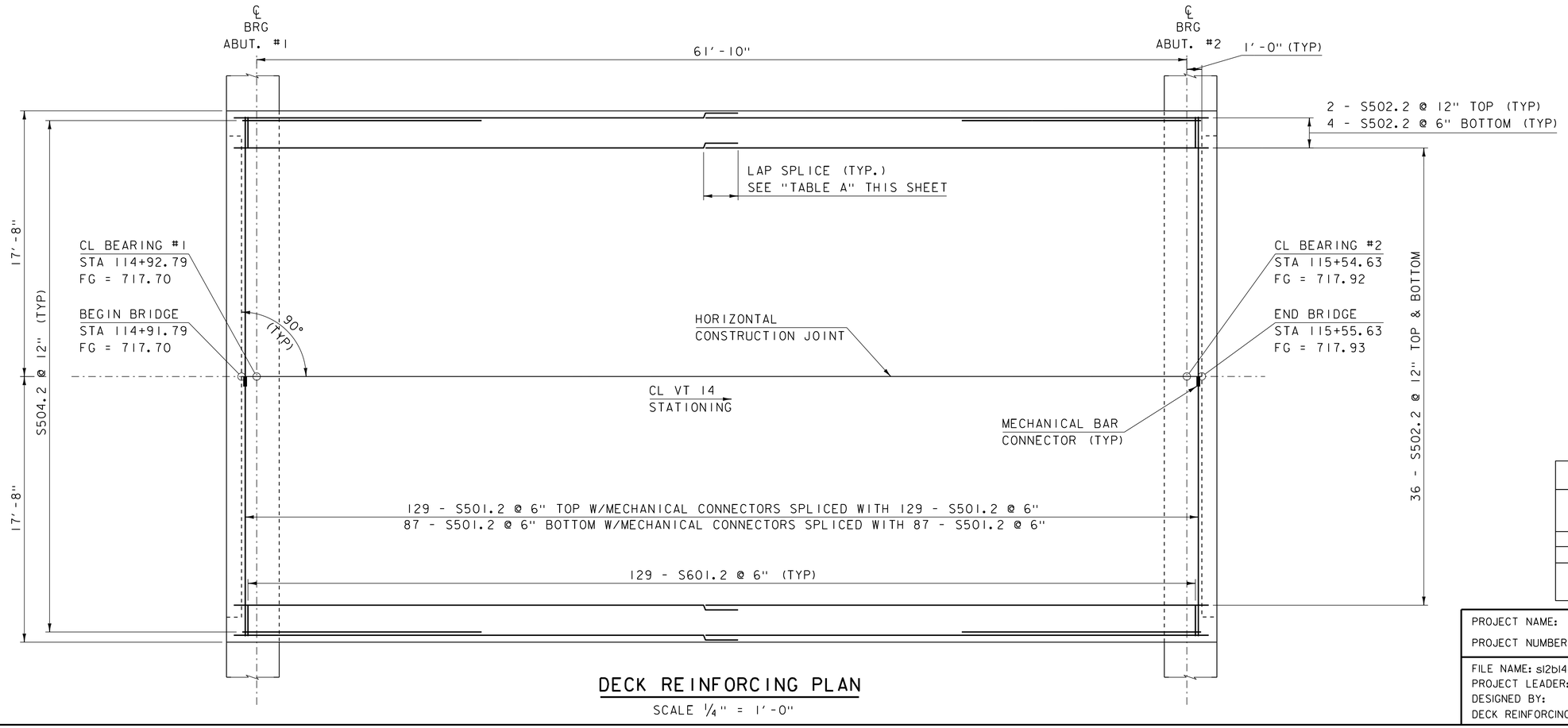
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44rail.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: G. LAROCHE
RAIL LAYOUT	SHEET 29 OF 134



PROPOSED BRIDGE TYPICAL SECTION

SCALE: ½" = 1'-0"



DECK REINFORCING PLAN

SCALE ¼" = 1'-0"

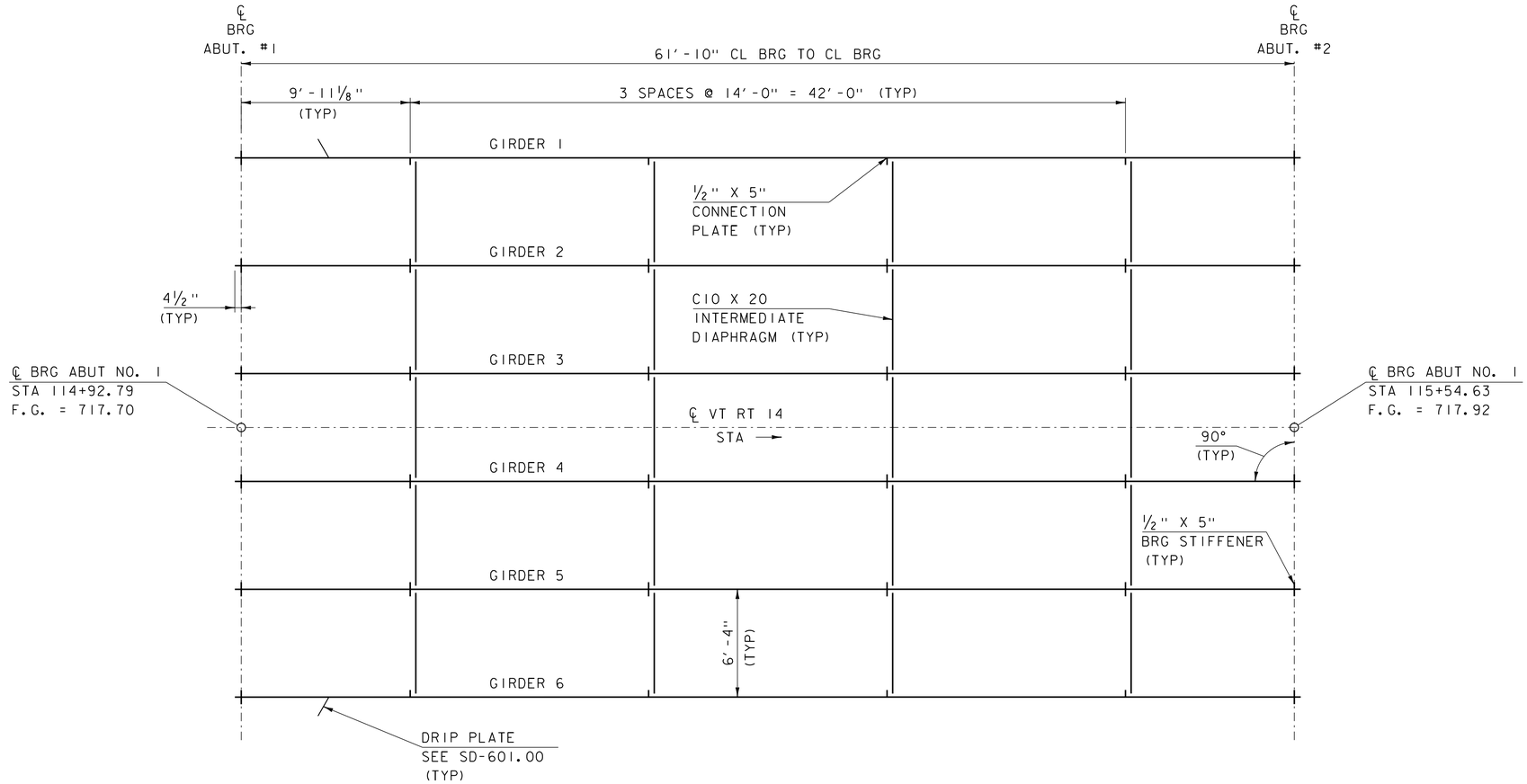
NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS

TABLE A	
LAP SPLICE LENGTHS: (REINFORCING, LEVEL 2)	
#5 BARS	2'-0"
#6 BARS	2'-4"
ITEM 507.19 MECHANICAL BAR CONNECTOR (#5) FOR S501.2	

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

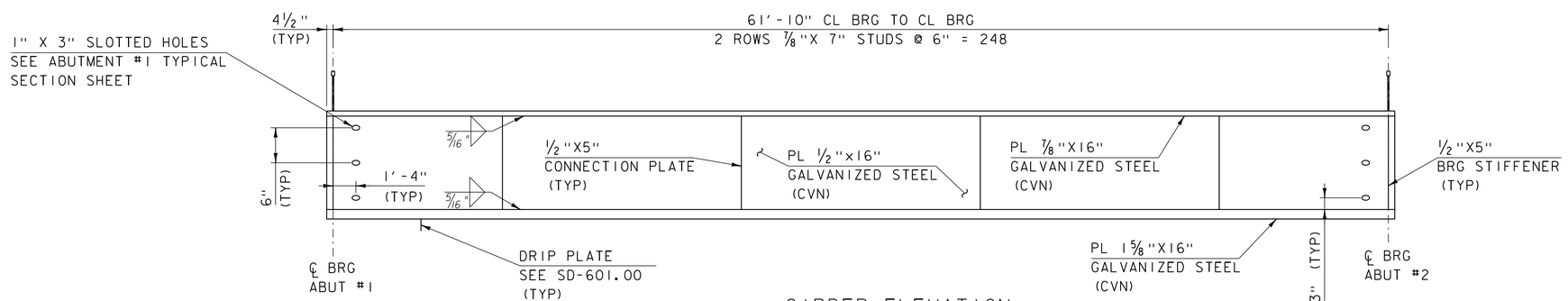
FILE NAME: sl2bl44sup2.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: F. BARROWS
DECK REINFORCING

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: F. BARROWS
SHEET 30 OF 134



FRAMING PLAN

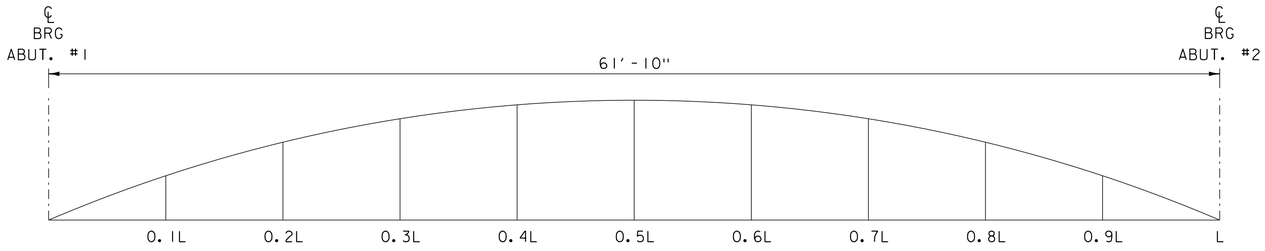
SCALE: ¼" = 1'-0"



GIRDER ELEVATION

HORIZONTAL SCALE: ¼" = 1'-0"
VERTICAL SCALE: NTS

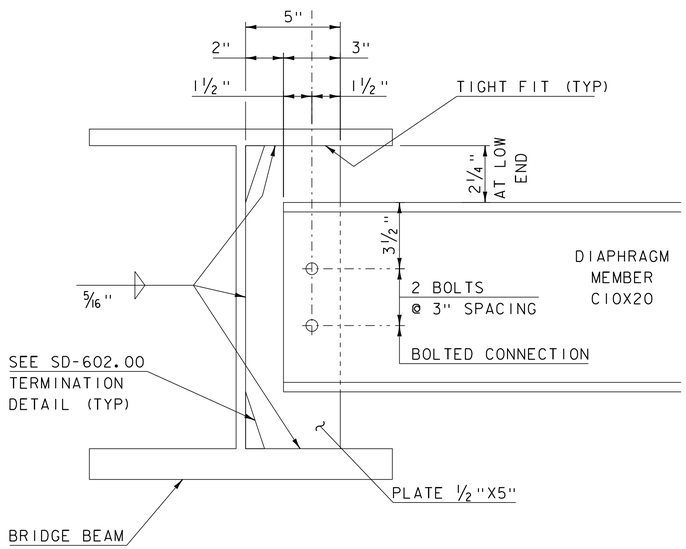
PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44sup2.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
FRAMING PLAN	SHEET 31 OF 134



CAMBER DIAGRAM

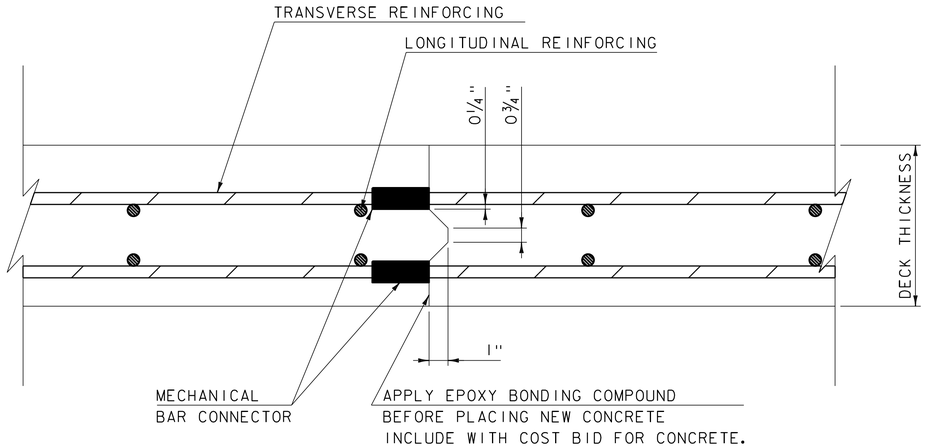
NOT TO SCALE

POINT ON GIRDER	CAMBER TABLE AT 10TH POINTS (INCHES)								
	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L
STEEL DL	3/16	3/8	9/16	5/8	11/16	5/8	9/16	3/8	3/16
CONCRETE SLAB DL	1 9/16	1 5/8	2 3/16	2 9/16	2 11/16	2 9/16	2 3/16	1 5/8	1 9/16
SUPERIMPOSED DL	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8
TOTAL CAMBER	1 3/16	2 3/16	3 1/16	3 9/16	3 3/4	3 9/16	3 1/16	2 3/16	1 3/16



DIAPHRAGM DETAIL

SCALE 3"=1'-0"



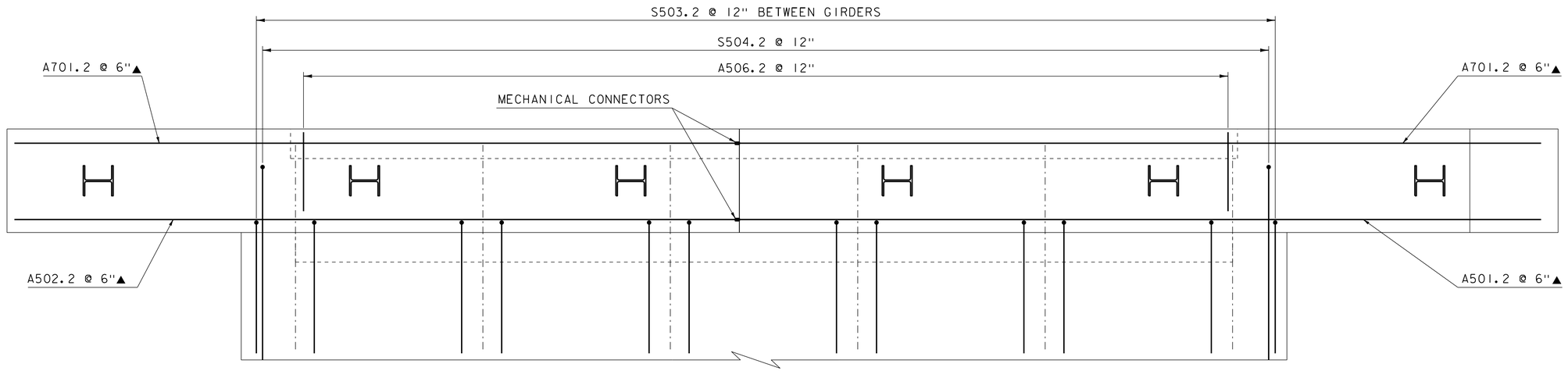
LONGITUDINAL BRIDGE SLAB CONSTRUCTION JOINT DETAILS

SCALE 3"=1'-0"

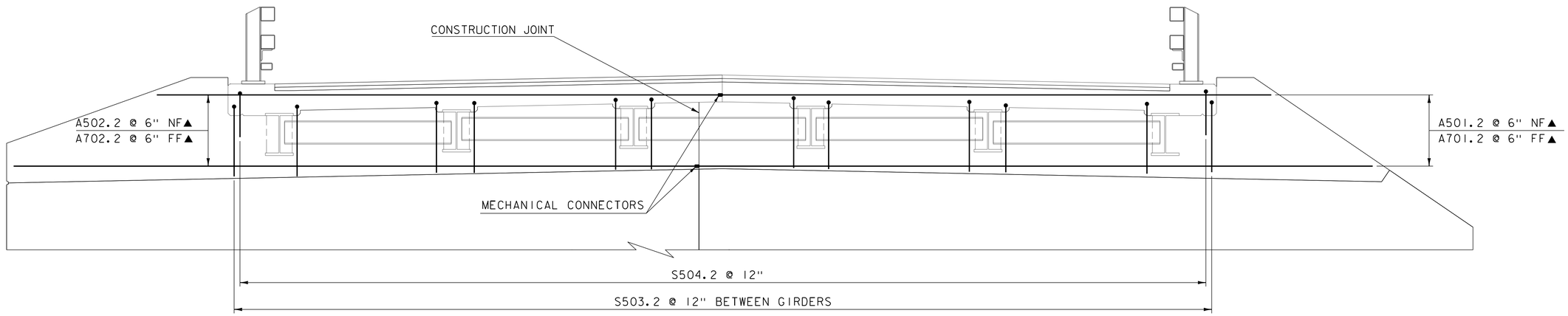
PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: sl2b144sup2.dgn
PROJECT LEADER: G.LAROCHE
DESIGNED BY: F.BARROWS
SUPERSTRUCTURE DETAILS

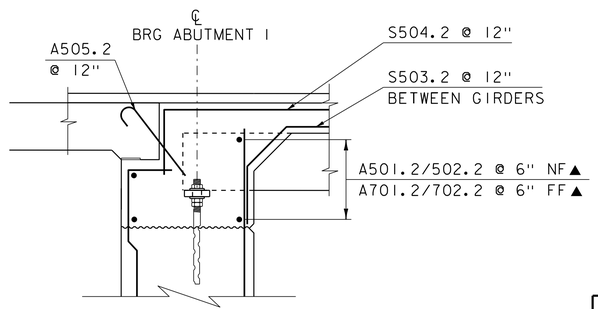
PLOT DATE: 02-JUN-2020
DRAWN BY: S.COLEY
CHECKED BY: F.BARROWS



DECK END BRIDGE
REINFORCING PLAN
SCALE ½"= 1'-0"



DECK END BRIDGE
REINFORCING ELEVATION
SCALE ½"= 1'-0"



END BRIDGE
REINFORCING TYPICAL
SCALE ½"= 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS
▲ = CUT TO FIT
SPLICE LENGTH 2'-0" UNLESS OTHERWISE SPECIFIED
ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR
BARS IN THE DECK AND THE ABUTMENT OMMITTED FOR CLARITY
ITEM 507.19 MECHANICAL BAR CONNECTOR
#5 FOR 502.2

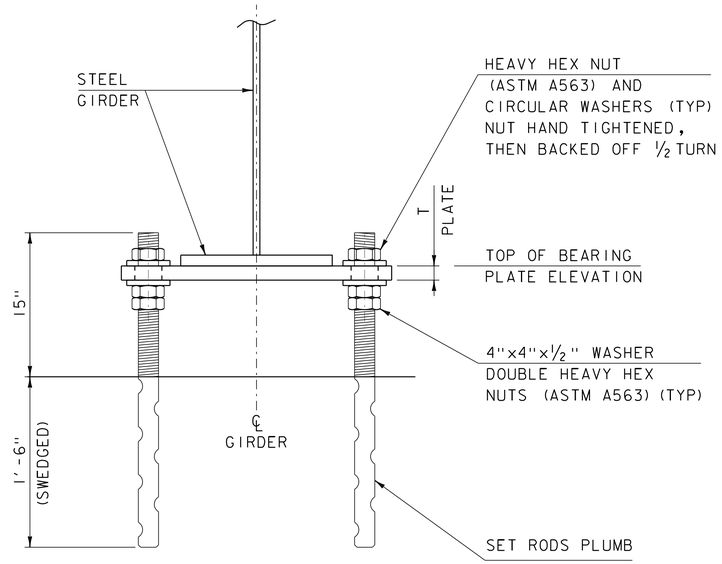
PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: s12bl44sub.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: F. BARROWS
BRIDGE SEAT REINFORCEMENT

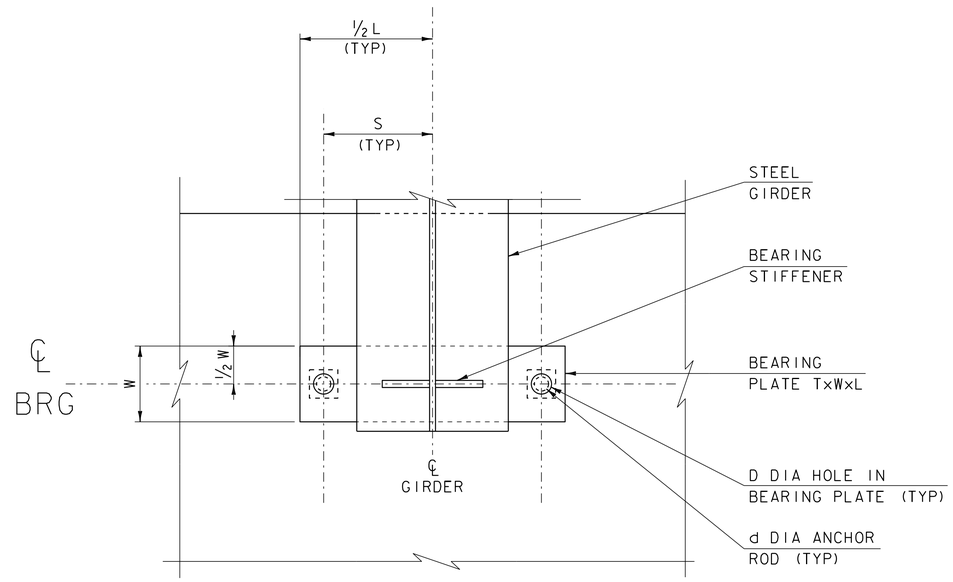
PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: F. BARROWS
SHEET 33 OF 134

TEMPORARY BEARING NOTES

1. PAYMENT FOR BEARING PLATES, ANCHOR BOLTS, WASHERS, NUTS AND MORTAR TYPE IV SHALL BE INCIDENTAL TO ITEMS 506.55 STRUCTURAL STEEL, PLATE GIRDER.
2. BEARING PLATES SHALL BE LEVEL PRIOR TO SETTING GIRDERS.
3. STEEL IN THE BEARING PLATE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270 GR 50. ASSEMBLY DOES NOT NEED TO BE GALVANIZED.
4. STEEL IN THE ANCHOR BOLTS SHALL CONFORM TO THE THE REQUIREMENTS OF ASTM F 1554, GRADE 36.



TEMPORARY BEARING
ASSEMBLY ELEVATION
N. T. S.



TEMPORARY BEARING
ASSEMBLY PLAN
N. T. S.

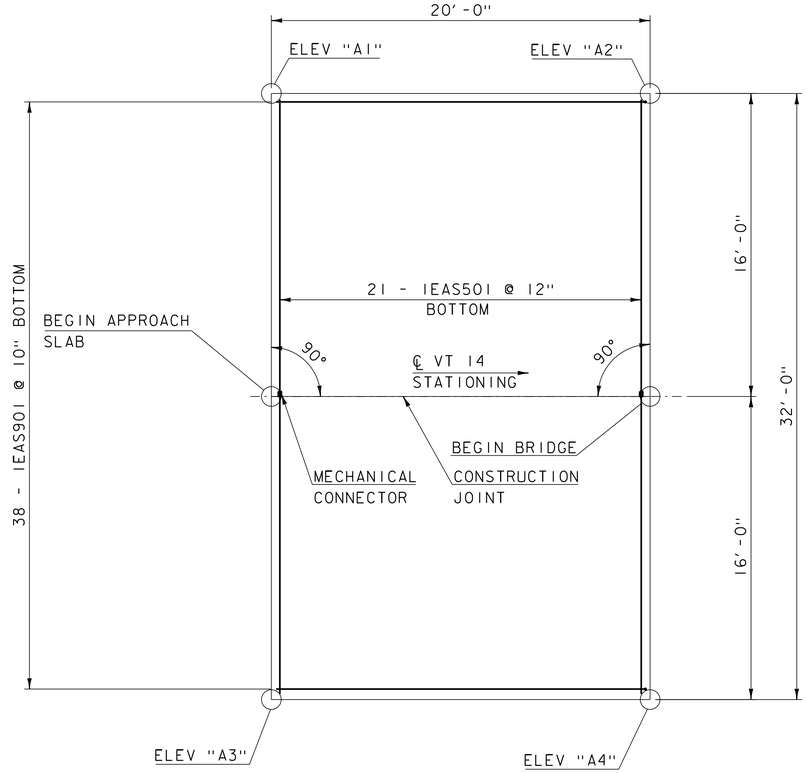
THEORETICAL TOP OF BEARING PLATE ELEVATION		
	ABT 1	ABT 2
GIRDER 1	714.75	714.97
GIRDER 2	714.87	715.10
GIRDER 3	715.00	715.23
GIRDER 4	715.00	715.23
GIRDER 5	714.87	715.10
GIRDER 6	714.75	714.97

T	2"
W	8"
L	2'-8"
S	1'-1"
d	2"
D	2½"

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

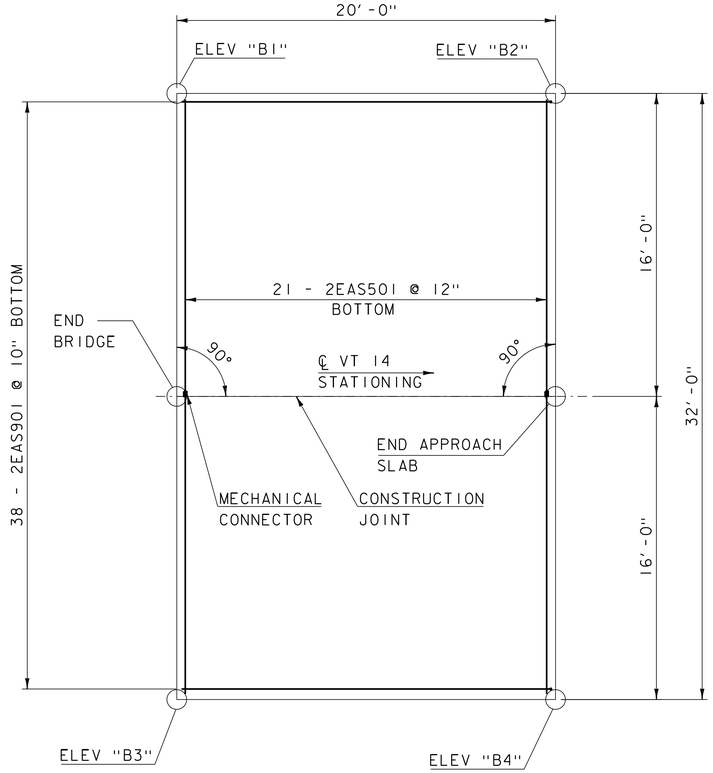
FILE NAME: sl2bl44brg.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: F. BARROWS
BEARING DETAILS

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: A. LEMIEUX
SHEET 34 OF 134



APPROACH SLAB NO 1

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

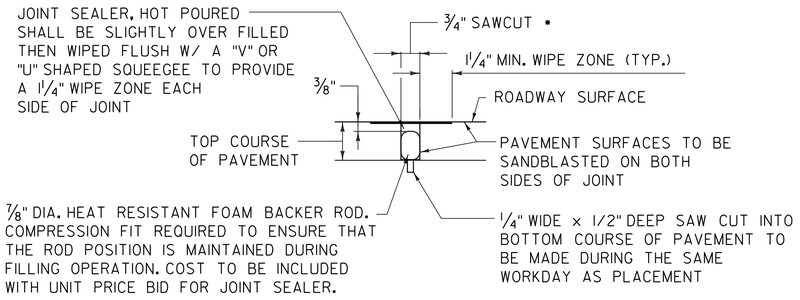


APPROACH SLAB NO 2

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

	STATION	OFFSET	ELEVATION
A1	114+71.79	16.00' LT	717.15
A2	114+91.79	16.00' LT	717.13
BEGIN AS 1	114+71.79	0.00'	717.47
BEGIN BRIDGE	114+91.79	0.00'	717.45
A3	114+71.79	16.00' RT	717.15
A4	114+91.79	16.00' RT	717.13
B1	115+55.63	16.00' LT	717.36
B2	115+75.63	16.00' LT	717.52
END BRIDGE	115+55.63	0.00'	717.68
END AS 2	115+75.63	0.00'	717.84
B3	115+55.63	16.00' RT	717.36
B4	115+75.63	16.00' RT	717.52

NOTES:
1. COMPACT THE SUBBASE IN THE AREA UNDER THE APPRAOCH SLAB TO A SMOOTH SURFACE.
2. MATERIAL FOR THE POLYETHELENE SHEETING SHALL MEET THE REQUIREMENTS OF SUBSECTION (725.01C) OF THE STANDARD SPECIFICATIONS. PLACE THE SHEETING ON TOP OF THE FINISHED SUBBASE FOR THE FULL LENGTH AND WIDTH OF THE SPPROACH SLAB, AS SHOWN IN THE APPROACH SLAB DETAIL. LAP SHEETING AT LEAST 24 INCHES. PAYMENT INCIDENTAL TO ITEM 900.608 "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS B)".
3. PAYMENT FOR BOND BREAKER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PAY ITEM 900.608 "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS B)".
4. ITEM 507.19 MECHANICAL BAR CONNECTOR #5 EPOXY FOR 1EA501 AND 2EA501

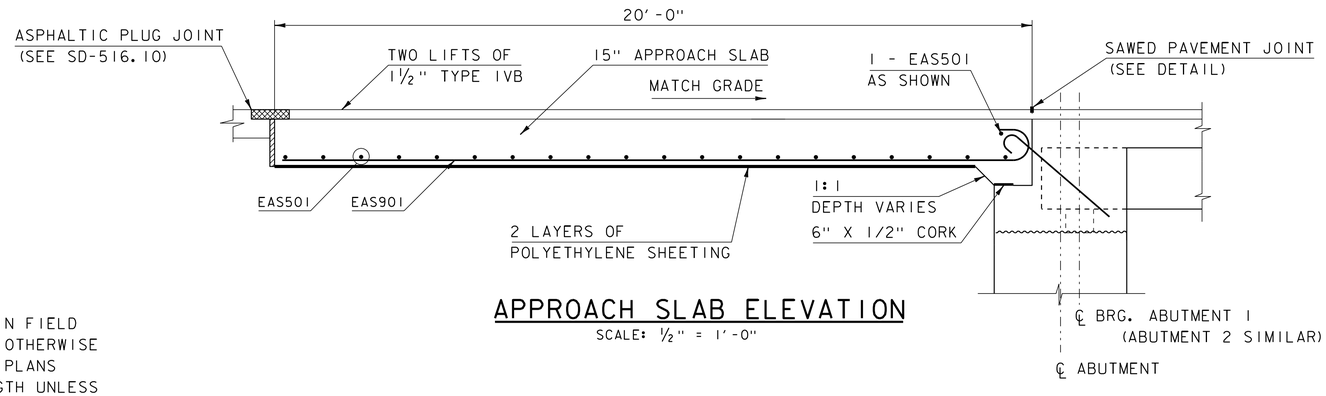


SAWED PAVEMENT JOINT DETAIL

NOT TO SCALE

1) JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF THE CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER.
2) SAWED PAVEMENT JOINTS SHALL BE LOCATED BETWEEN THE APPROACH SLABS AND EACH END OF BRIDGE AND BETWEEN THE APPROACH SLABS AND ANY PAVED APRONS FOR DRIVES.

• SAWED PAVEMENT JOINT AT APRON SALL BE CUT TO FULL PAVEMENT DEPTH.



APPROACH SLAB ELEVATION

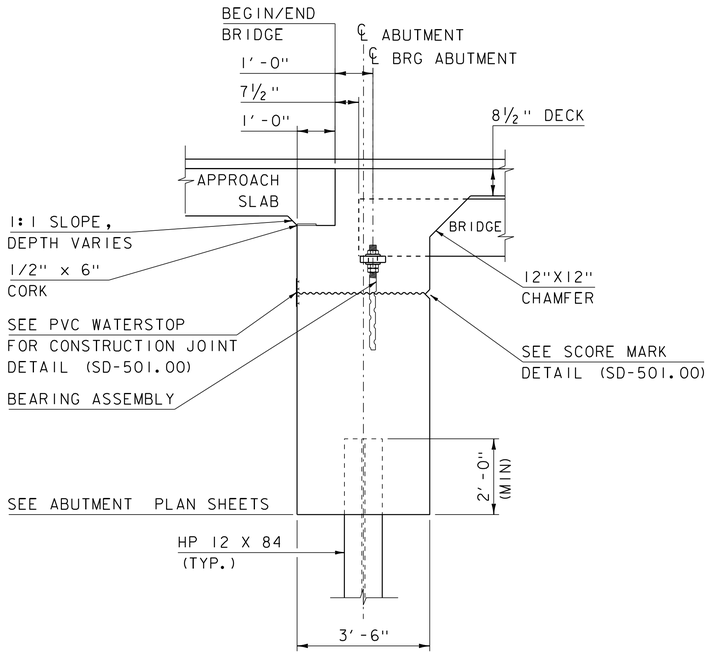
SCALE: 1/2" = 1'-0"

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS
2'-6" SPLICE LENGTH UNLESS OTHERWISE SPECIFIED

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

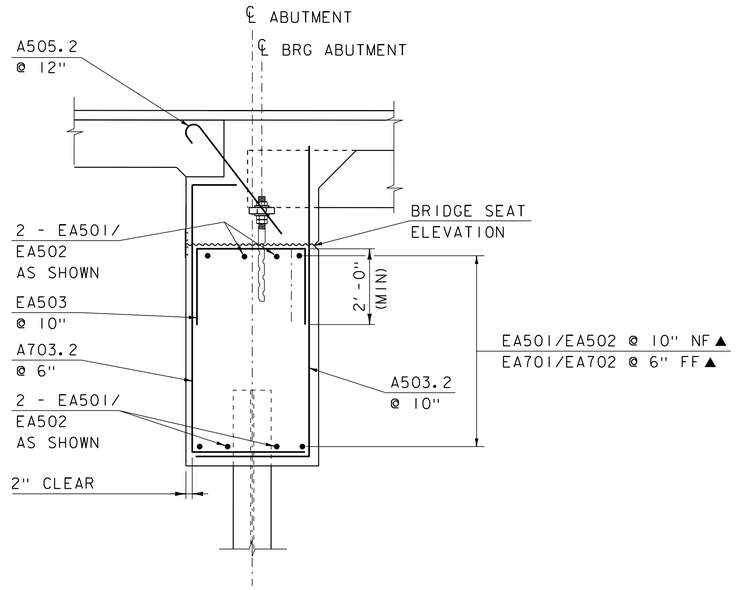
FILE NAME: sl2bl44appslab.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: F. BARROWS
APPROACH SLAB DETAILS

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: A. MANN
SHEET 35 OF 134



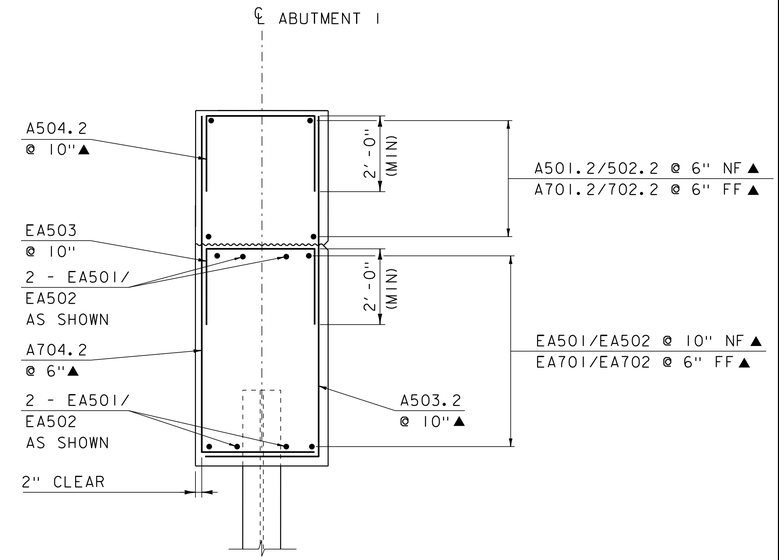
ABUTMENT TYPICAL SECTION

SCALE ½"= 1'-0"



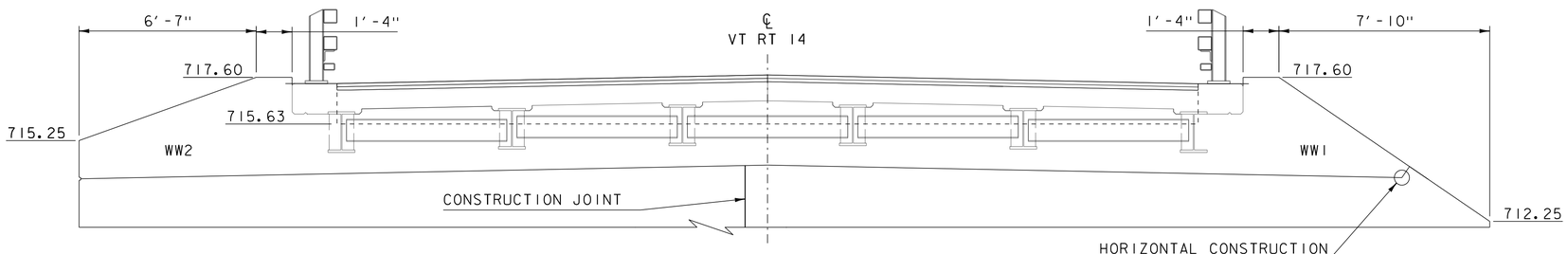
ABUTMENT REINFORCING
AT BRIDGE SEAT

SCALE ½"= 1'-0"



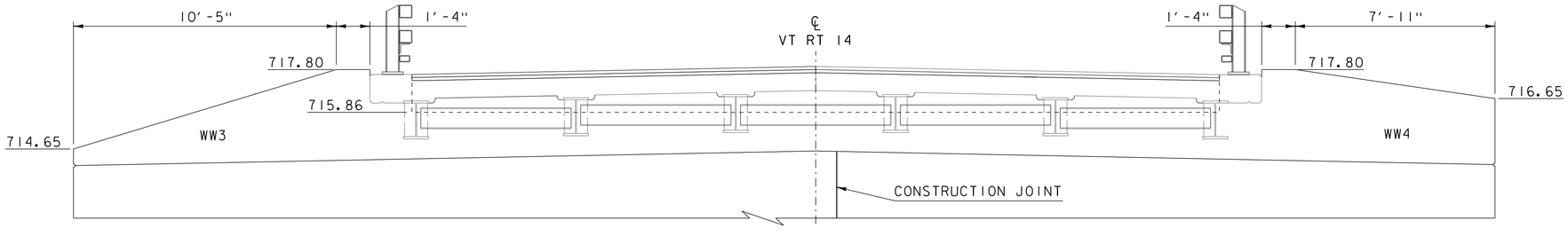
ABUTMENT REINFORING
AT WINGWALL

SCALE ½"= 1'-0"



ABUTMENT 1

SCALE ⅜" = 1'-0"



ABUTMENT 2

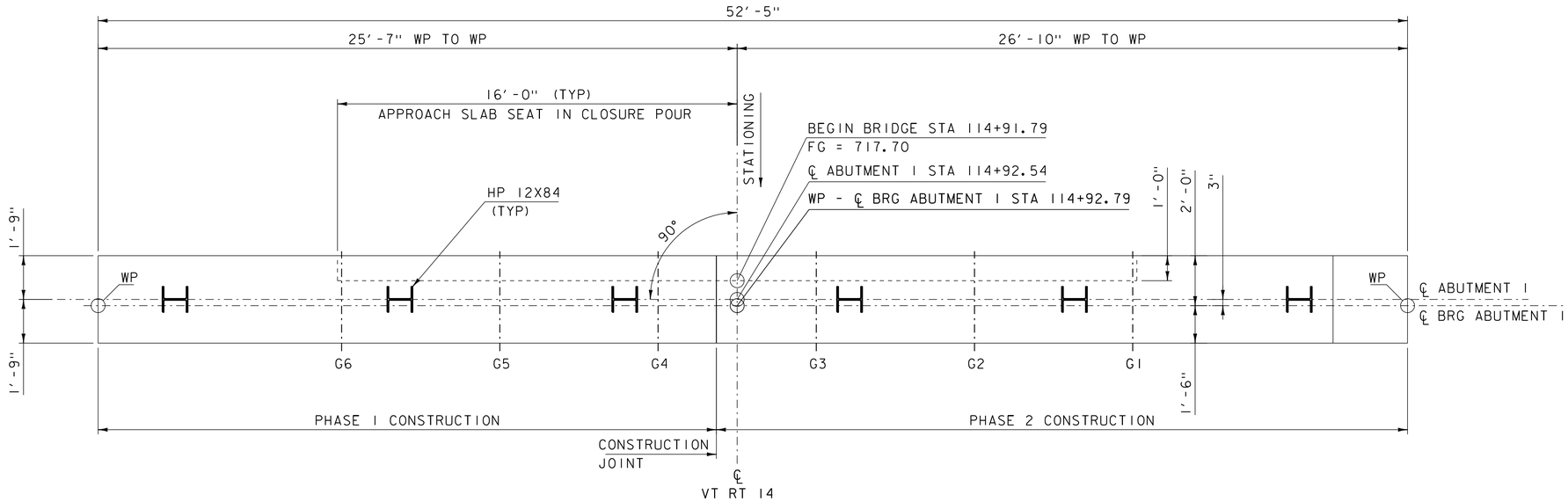
SCALE ⅜" = 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS
▲ = CUT TO FIT

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

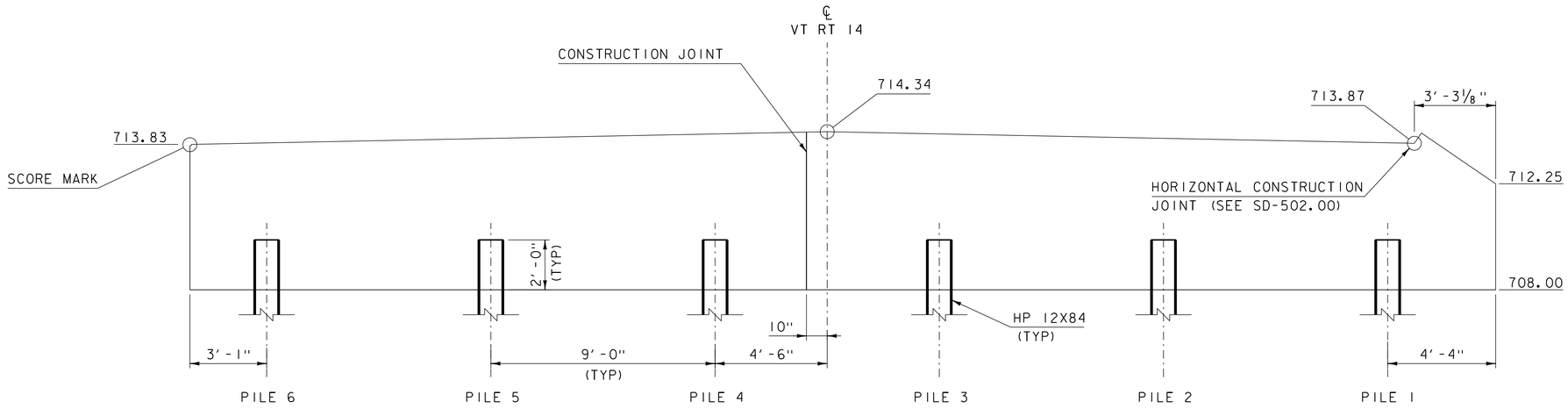
FILE NAME: sl2bl44sub.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: F. BARROWS
ABUTMENT TYPICALS

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: F. BARROWS
SHEET 36 OF 134



ABUTMENT 1 PLAN

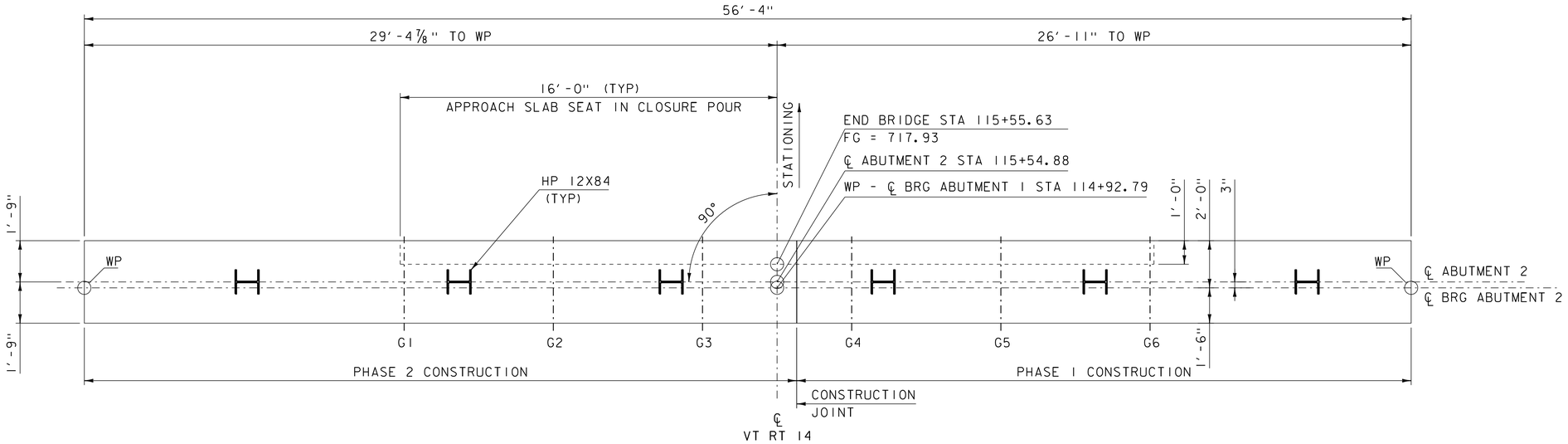
SCALE 3/8" = 1'-0"



ABUTMENT 1 ELEVATION

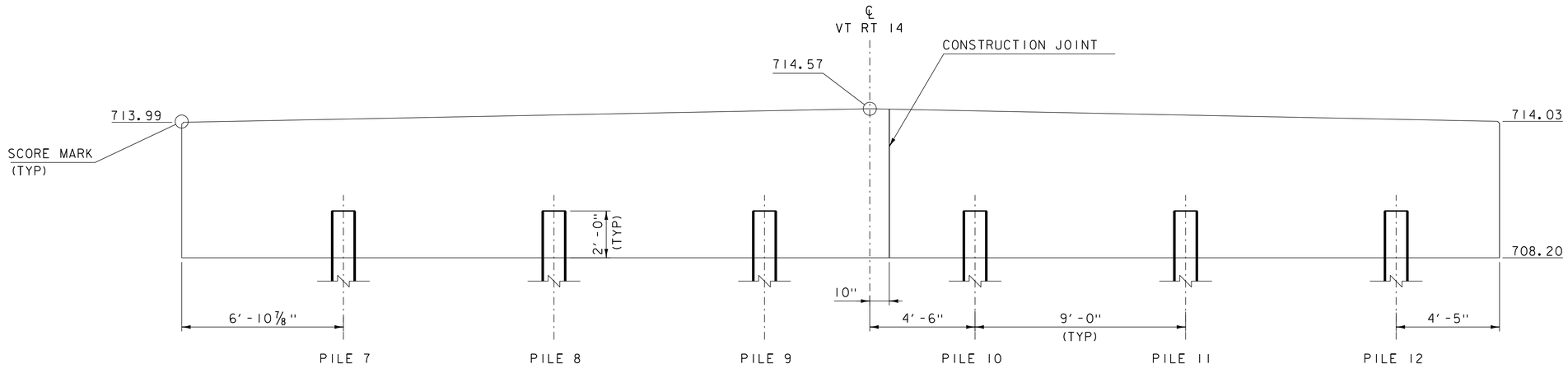
SCALE 3/8" = 1'-0"

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44sub.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G. LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: F. BARROWS	CHECKED BY: F. BARROWS
ABUTMENT 1 PLAN	SHEET 37 OF 134



ABUTMENT 2 PLAN

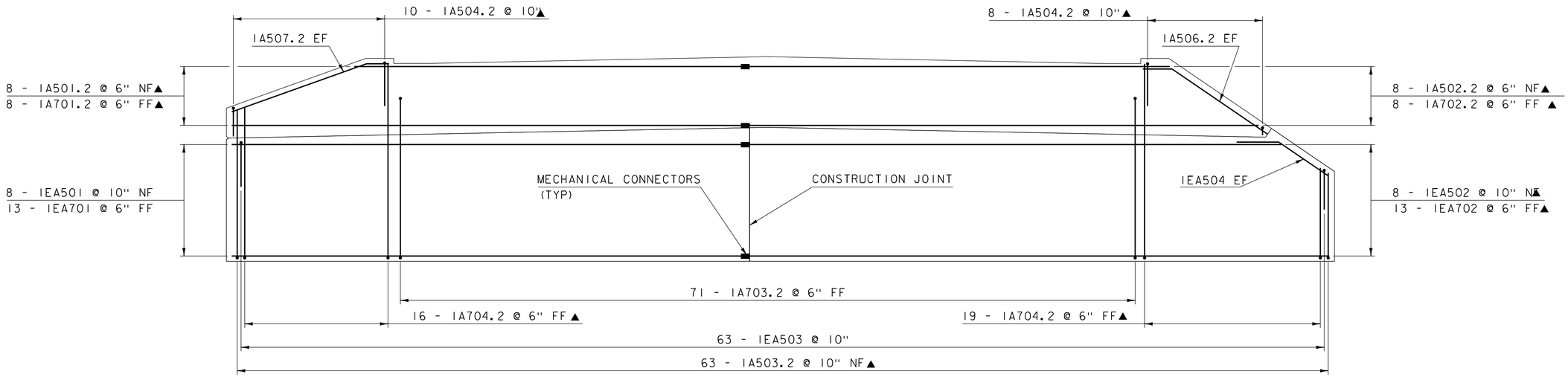
SCALE 3/8" = 1'-0"



ABUTMENT 2 ELEVATION

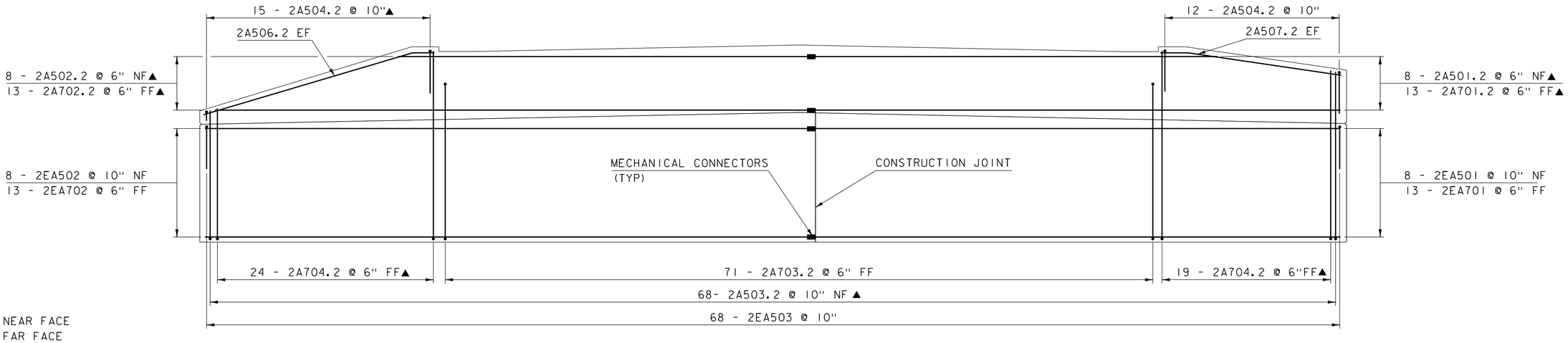
SCALE 3/8" = 1'-0"

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44sub.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G. LAROCHE	DRAWN BY: S. COLEY
DESIGNED BY: F. BARROWS	CHECKED BY: G. LAROCHE
ABUTMENT 2 PLAN	SHEET 38 OF 134



ABUTMENT 1 REINFORCING

SCALE 3/8" = 1'-0"



ABUTMENT 2 REINFORCING

SCALE 3/8" = 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS
▲ = CUT TO FIT
#5 = 2'-0" SPLICE LENGTH
#6 = 2'-4" SPLICE LENGTH
#7 = 2'-9" SPLICE LENGTH
ITEM 507.19 MECHANICAL BAR CONNECTOR
#5 EPOXY FOR E501 AND #5 FOR 501.2
#7 EPOXY FOR E701 AND #7 FOR 701.2

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

FILE NAME: sl2bl44sub.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: F. BARROWS
ABUTMENT REINFORCING

PLOT DATE: 02-JUN-2020
DRAWN BY: S. COLEY
CHECKED BY: F. BARROWS
SHEET 39 OF 134

STATE OF VERMONT
AGENCY OF TRANSPORTATION

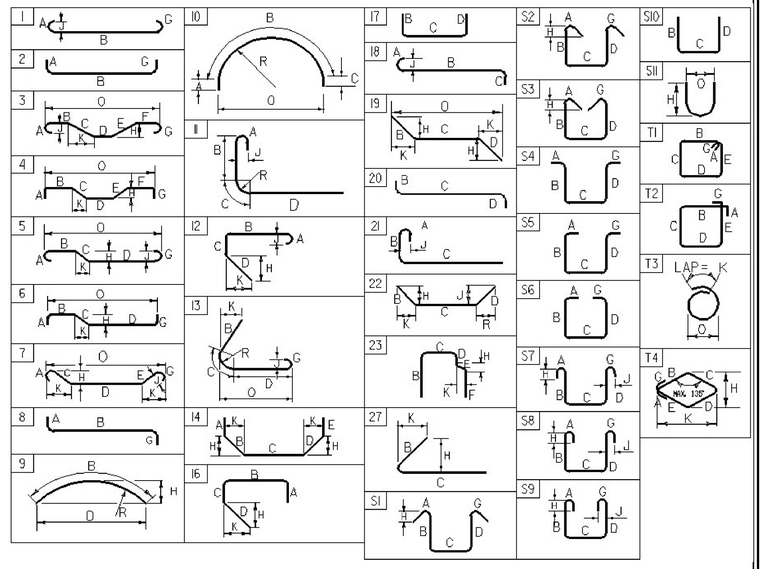
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	APPROACH SLAB 1																
✳	43	5	15'- 9"	1EAS501	STR	15'- 9"											
✳	40	9	20'- 9"	1EAS901	1	1'- 3"	19'- 6"							1'- 0"			
	APPROACH SLAB 2																
	42	5	15'- 9"	2EAS501	STR	15'- 9"											
	39	9	20'- 9"	2EAS901	1	1'- 3"	19'- 6"							1'- 0"			
	DECK																
✳	513	5	17'- 5"	S501.2	STR	17'- 5"											
	164	5	33'- 8"	S502.2	STR	33'- 8"											
	60	5	6'- 7"	S503.2	22		2'- 7"	1'- 5"	2'- 7"				1'- 10"	1'- 10"	1'- 10"	1'- 10"	
	72	5	18'- 0"	S504.2	17		2'- 0"	16'- 0"									
△	258	6	4'- 3"	S601.2	S5	1'- 0"	7"	1'- 2"	6"			1'- 0"					
	ABUTMENT 1																
✳	13	5	24'- 6"	1EA501	STR	24'- 6"											
▲	12	5	27'- 5"	1EA502	STR	27'- 5"											
	63	5	7'- 1"	1EA503	S10		2'- 0"	3'- 1"	2'- 0"								
	2	5	4'- 9"	1EA504	22		2'- 0"	2'- 9"					1'- 1"		1'- 8"		
✳	13	7	24'- 6"	1EA701	STR	24'- 6"											
▲	12	7	27'- 5"	1EA702	STR	27'- 5"											
✳ ▲	9	5	22'- 3"	1A501.2	STR	22'- 3"											
▲	8	5	27'- 5"	1A502.2	STR	27'- 5"											
▲	63	5	12'- 2"	1A503.2	17		3'- 1"	9'- 1"									
▲	18	5	7'- 1"	1A504.2	S10		2'- 0"	3'- 1"	2'- 0"								
	33	5	3'- 6"	1A505.2	1	0'- 7"	2'- 11"							0'- 5"			
	2	5	6'- 11"	1A506.2	22		1'- 1"	5'- 10"					0'- 7"		0'- 11"		
	2	5	7'- 10"	1A507.2	22		1'- 1"	6'- 9"					0'- 4"		1'- 0"		
✳ ▲	9	7	22'- 3"	1A701.2	STR	22'- 3"											
▲	8	7	27'- 5"	1A702.2	STR	27'- 5"											
	71	7	11'- 8"	1A703.2	17		1'- 2"	7'- 5"	3'- 1"								
▲	35	7	12'- 2"	1A704.2	17		3'- 1"	9'- 1"									
	ABUTMENT 2																
	12	5	25'- 10"	2EA501	STR	25'- 10"											
	12	5	30'- 0"	2EA502	STR	30'- 0"											
	68	5	7'- 1"	2EA503	S10		2'- 0"	3'- 1"	2'- 0"								
	12	7	25'- 10"	2EA701	STR	25'- 10"											
	12	7	30'- 0"	2EA702	STR	30'- 0"											
▲	8	5	25'- 10"	2A501.2	STR	25'- 10"											
▲	8	5	30'- 0"	2A502.2	STR	30'- 0"											
▲	68	5	12'- 2"	2A503.2	17		3'- 1"	9'- 1"									
	27	5	7'- 1"	2A504.2	S10		2'- 0"	3'- 1"	2'- 0"								
	33	5	3'- 6"	2A505.2	1	0'- 7"	2'- 11"							0'- 5"			
	2	5	11'- 8"	2A506.2	22		1'- 1"	10'- 7"					0'- 4"		1'- 0"		
	2	5	8'- 10"	2A507.2	22		1'- 1"	7'- 9"					0'- 2"		1'- 1"		
▲	8	7	25'- 10"	2A701.2	STR	25'- 10"											
▲	8	7	30'- 0"	2A702.2	STR	30'- 0"											
	71	7	11'- 9"	2A703.2	17		1'- 2"	7'- 6"	3'- 1"								
▲	43	7	12'- 2"	2A704.2	17		3'- 1"	9'- 1"									

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS - ROUND SECTION		
		DIAMETER INCHES	AREA SQUARE INCHES	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.04	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.14
#9	3.400	1.13	1.00	3.54
#10	4.3	1.270	1.27	3.990
#11	5.31	1.410	1.56	4.430
#14	7.65	1.69	2.25	5.32
#18	13.60	2.26	4.00	7.09

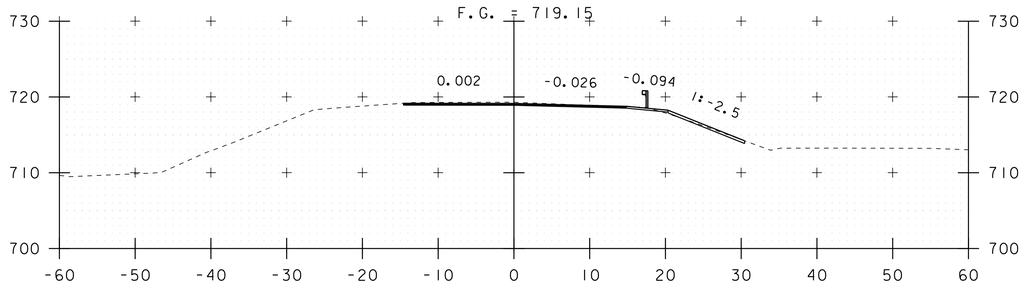
~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

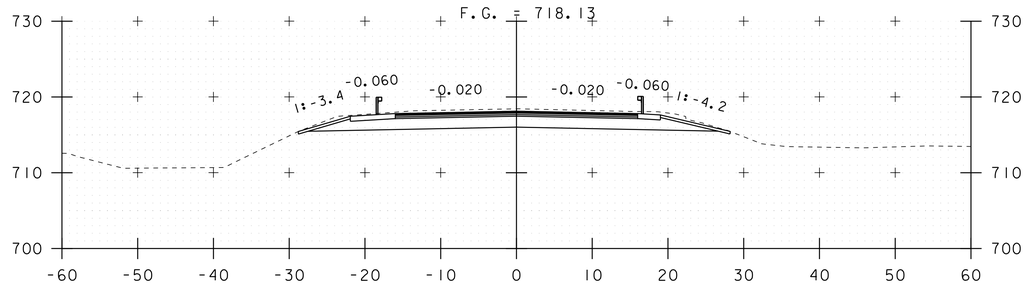
THE REINFORCING STEEL MARKS IN THIS SCHEDULE INDICATE THE REQUIRED BAR CORROSION RESISTANCE LEVEL. CORROSION RESISTANCE LEVEL IS DENOTED WITH A .2 FOR LEVEL TWO SUFFIX OR .3 FOR LEVEL THREE SUFFIX .1 FOR LEVEL ONE IS TO BE OMITTED. THE BAR MATERIAL TYPE AND BAR STEEL GRADE PROVIDED FOR EACH CORROSION LEVEL WILL BE RECORDED ON THE PLAN SET PI SHEET FOR AS-BUILT RECORD PLAN ARCHIVES.

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(10)

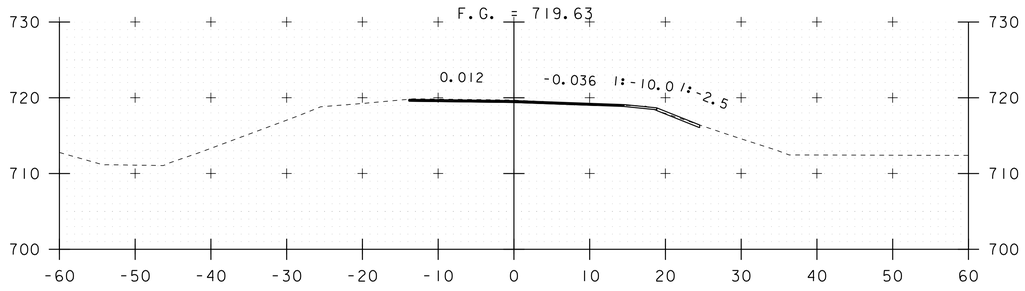
FILE NAME: sl2bl44rss.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: C. FRENCH
REINFORCING STEEL SCHEDULE

PLOT DATE: 02-JUN-2020
DRAWN BY: C. FRENCH
CHECKED BY: S. COLEY
SHEET 40 OF 134

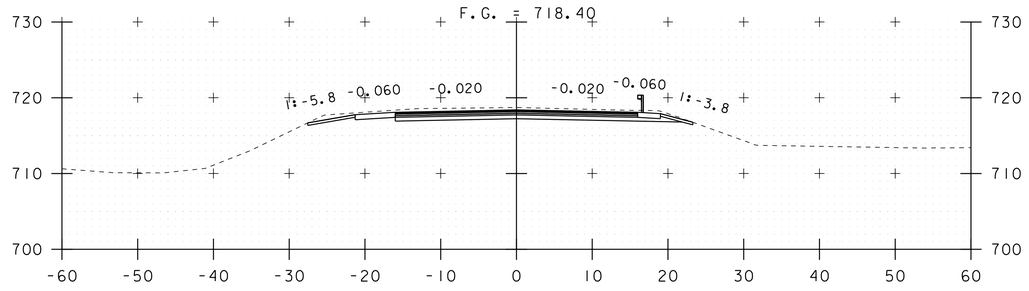




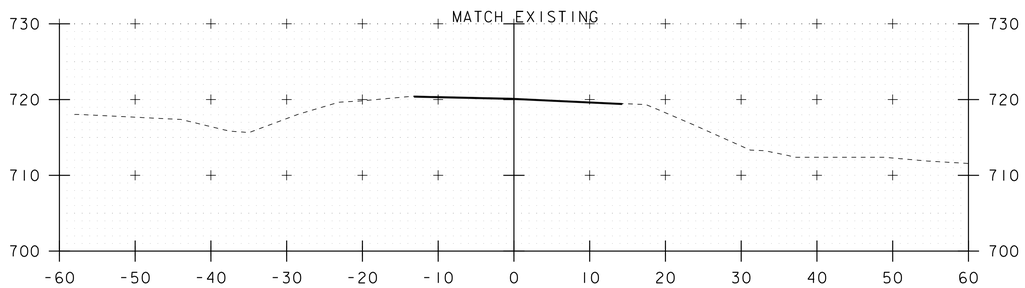
113+25



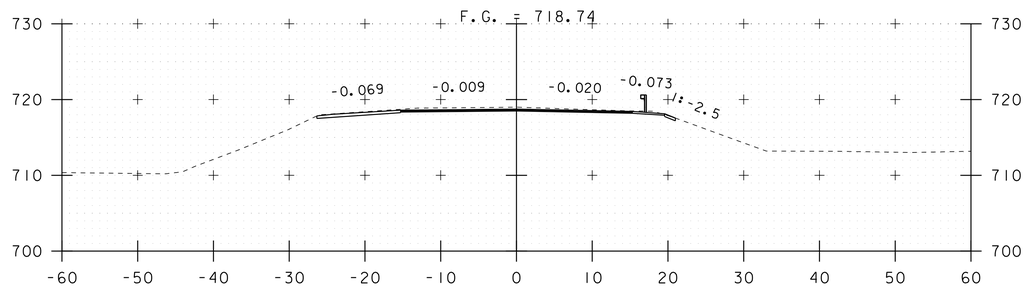
114+00



113+00



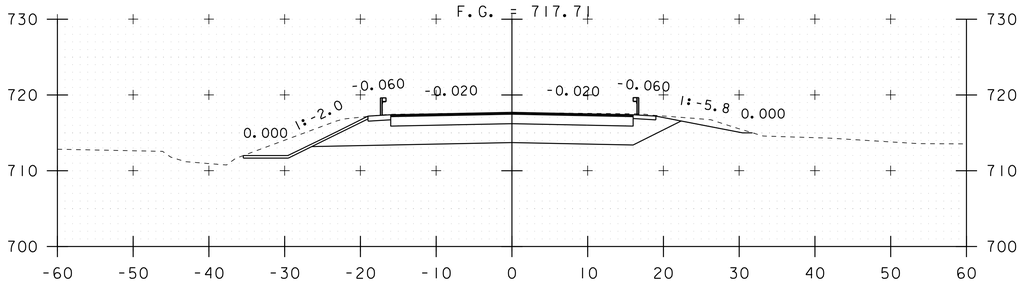
113+75

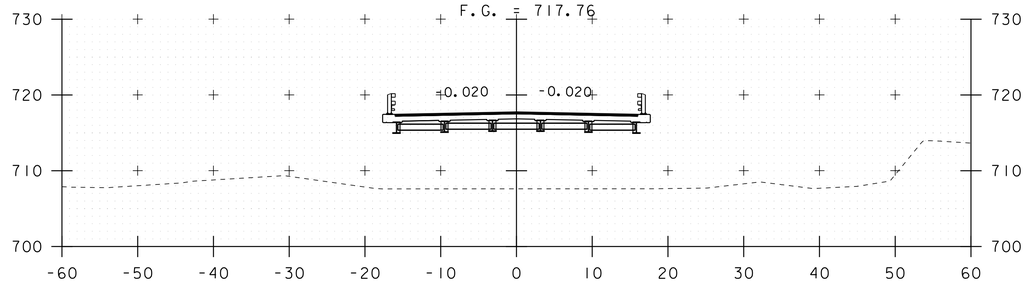


112+75
BEGIN APPROACH

113+50

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: s12b144xs.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
MAINLINE CROSS SECTIONS 1	SHEET 41 OF 134





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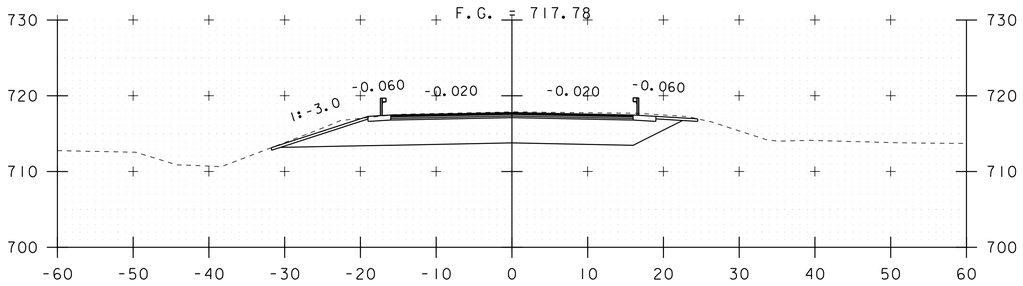

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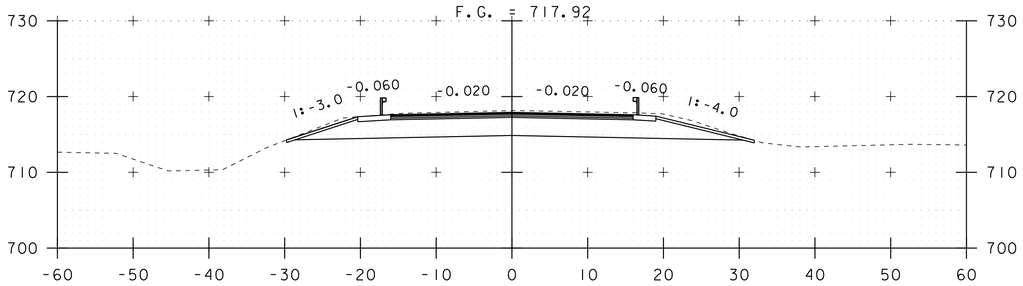
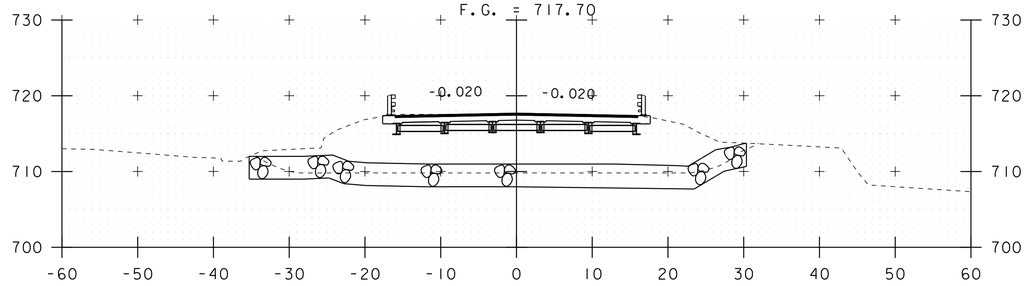
BEGIN PROJECT

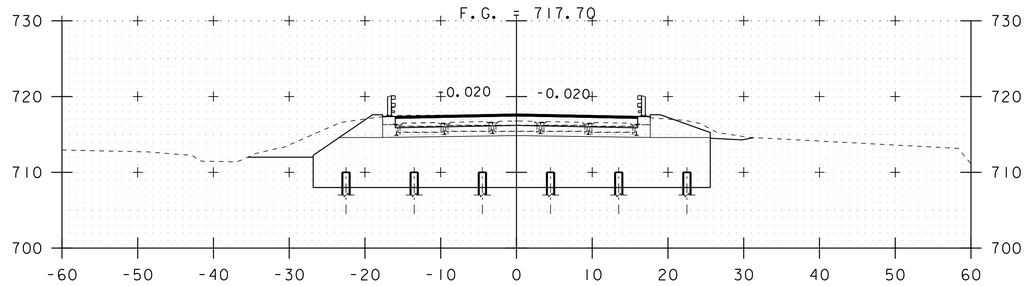


114+25

115+25

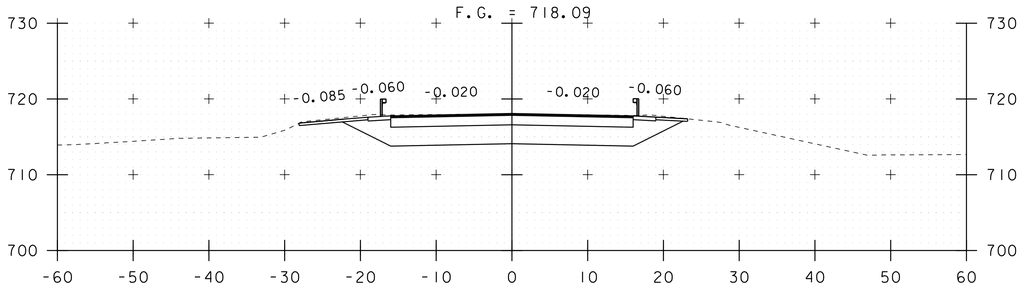


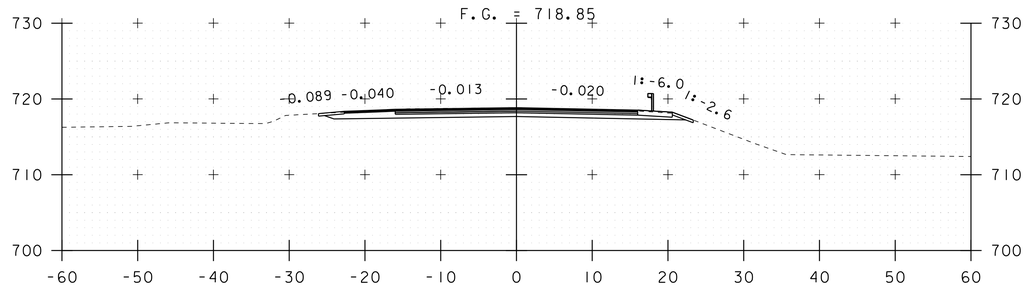
115+00



114+92
BEGIN BRIDGE

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: s12b144xs.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
MAINLINE CROSS SECTIONS 2	SHEET 42 OF 134





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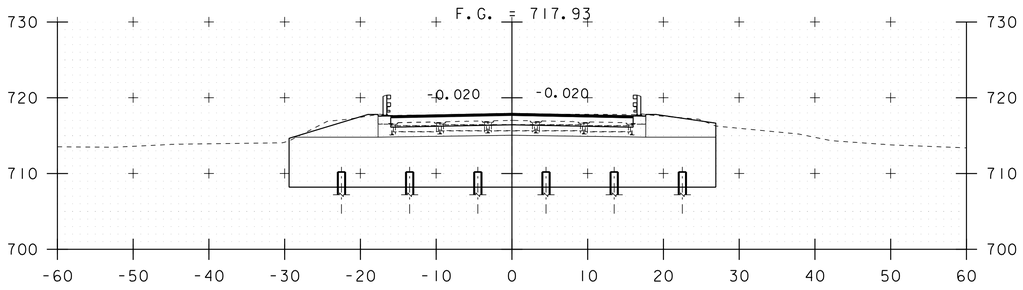

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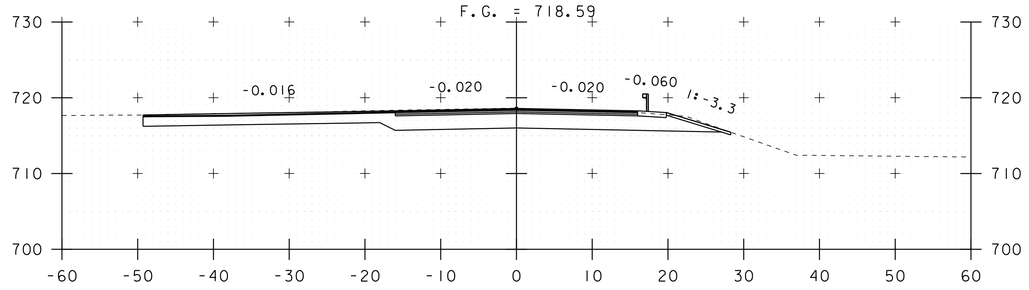

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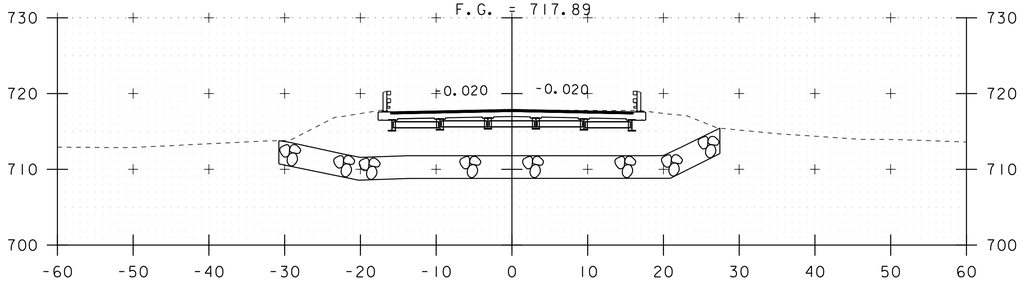
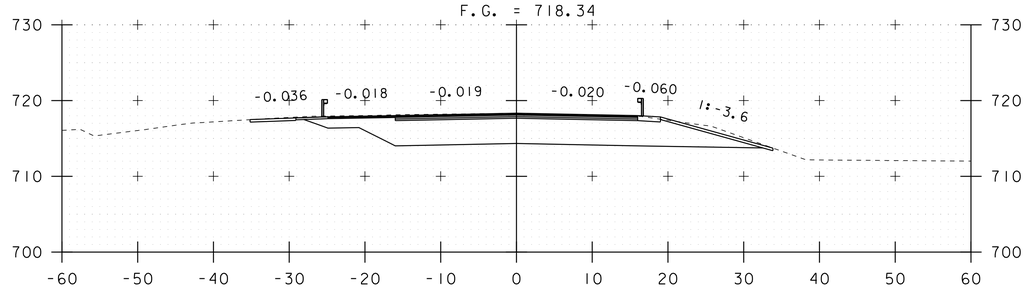
END BRIDGE



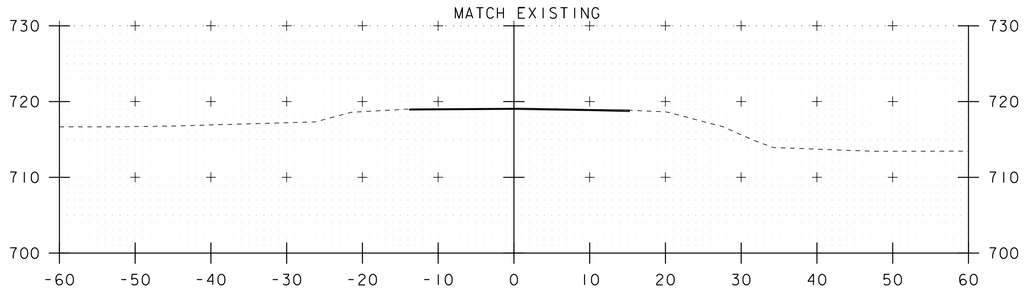
116+25
TH 3



115+50

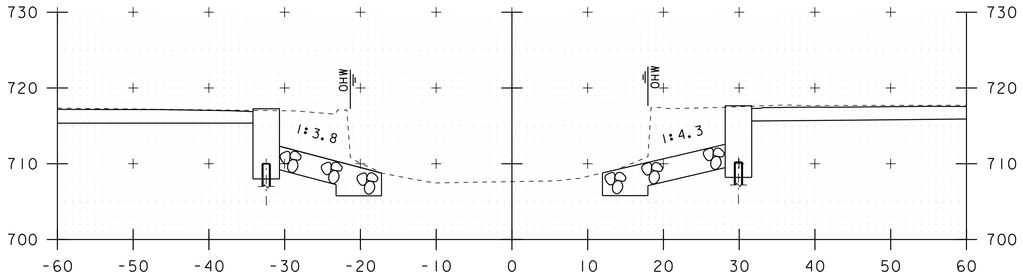
116+00
END PROJECT

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: s12b144xs.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
MAINLINE CROSS SECTIONS 3	SHEET 43 OF 134



116+75
END APPROACH

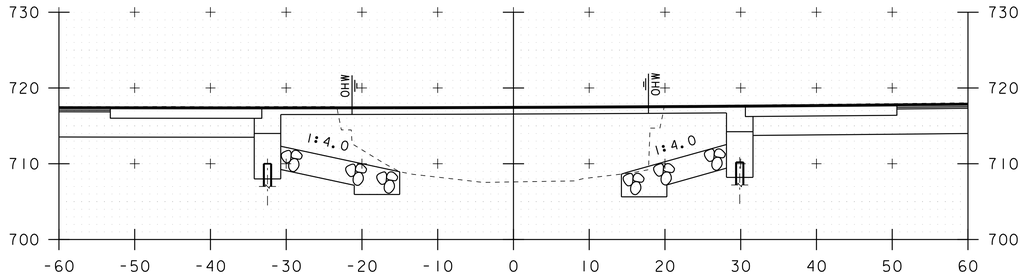
PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44xs.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
MAINLINE CROSS SECTIONS 4	SHEET 44 OF 134



STA 50+82.33 LT
END GRUBBING MATERIAL

STA 50+82.33 RT
END GRUBBING MATERIAL

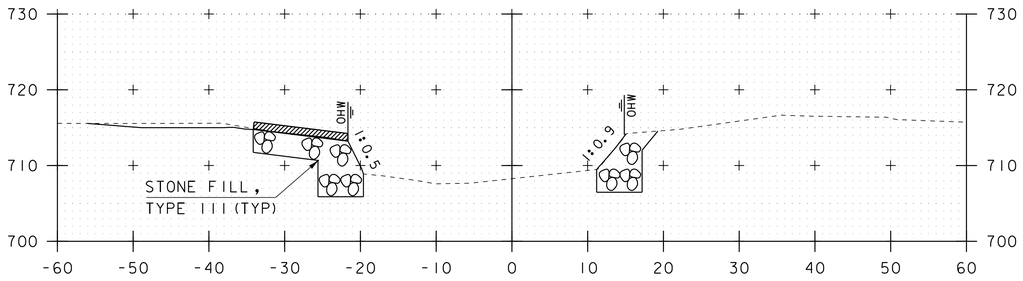
50+80



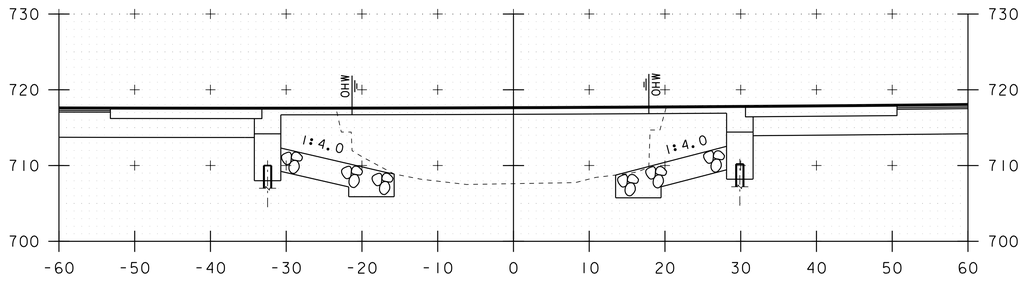
STA 51+17.67 LT
BEGIN GRUBBING MATERIAL

STA 51+17.67 RT
BEGIN GRUBBING MATERIAL

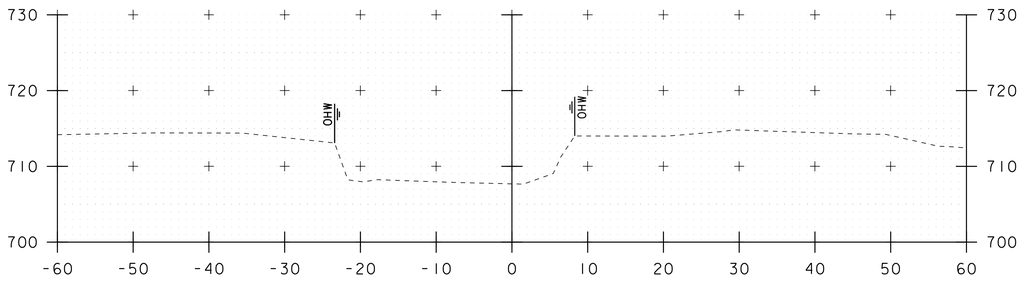
51+10



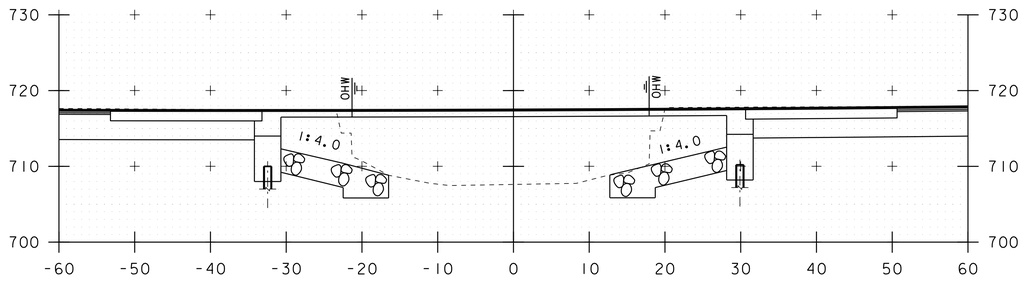
50+70



51+00



50+60

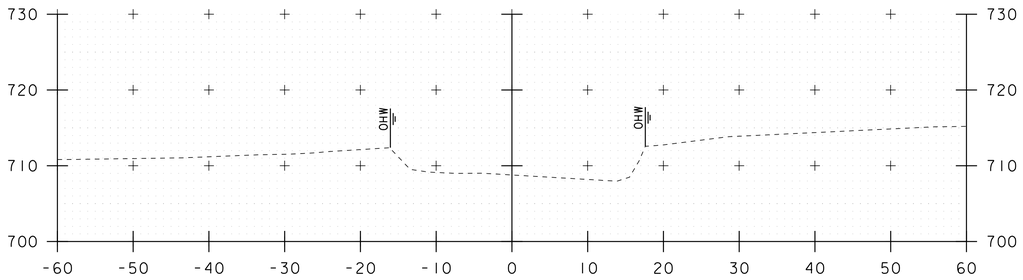


50+90

STA 50+68.54 LT
BEGIN STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GRUBBING MATERIAL

STA 50+70.00 RT
BEGIN STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GRUBBING MATERIAL

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44xs.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
CHANNEL CROSS SECTIONS 1	SHEET 45 OF 134



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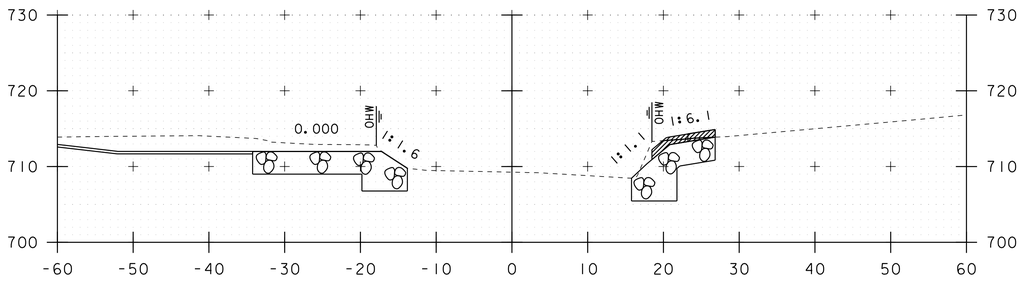

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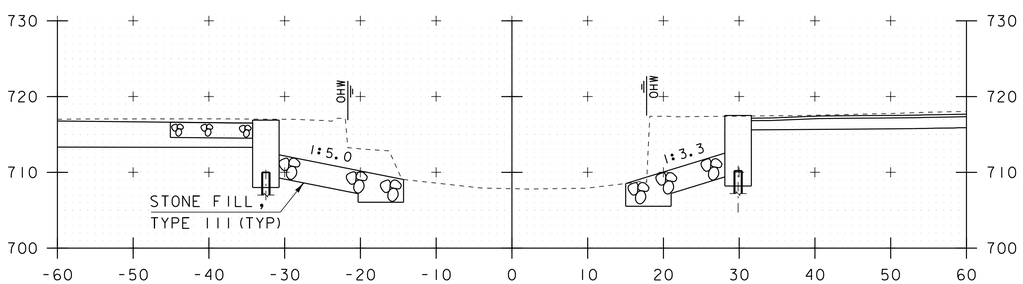
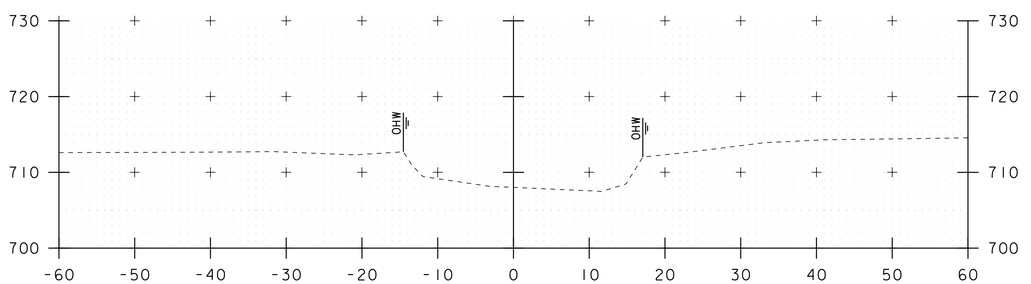


51+20

STA 51+35.69 LT
END STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION
END GRUBBING MATERIAL

STA 51+33.68 RT
END STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION
END GRUBBING MATERIAL



51+50

PROJECT NAME:	CALAIS
PROJECT NUMBER:	BHF 037-2(10)
FILE NAME: sl2bl44xs.dgn	PLOT DATE: 02-JUN-2020
PROJECT LEADER: G.LAROCHE	DRAWN BY: G. ROKES
DESIGNED BY: G. LAROCHE	CHECKED BY: G. LAROCHE
CHANNEL CROSS SECTIONS 2	SHEET 46 OF 134

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

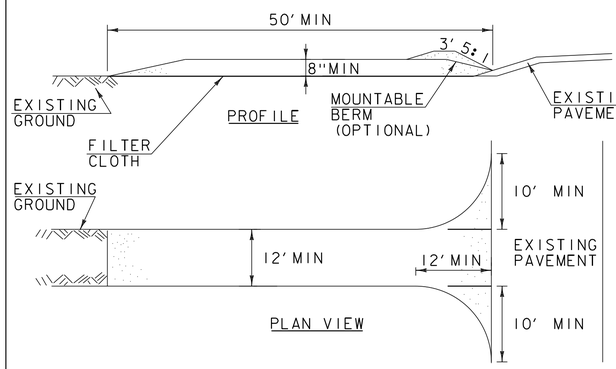
1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT 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 651FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 12, 2015	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

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

STABILIZED CONSTRUCTION ENTRANCE

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

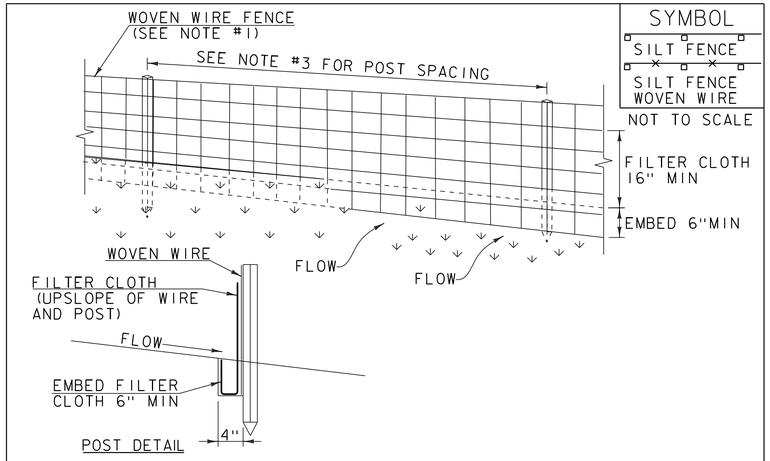
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR STABILIZED CONSTRUCTION ENTRANCE (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(12)

FILE NAME: sl2bl48ero_details.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: G. LAROCHE
EROSION CONTROL DETAILS 1

PLOT DATE: 02-JUN-2020
DRAWN BY: G. ROY
CHECKED BY: G. LAROCHE
SHEET 47 OF 134



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.

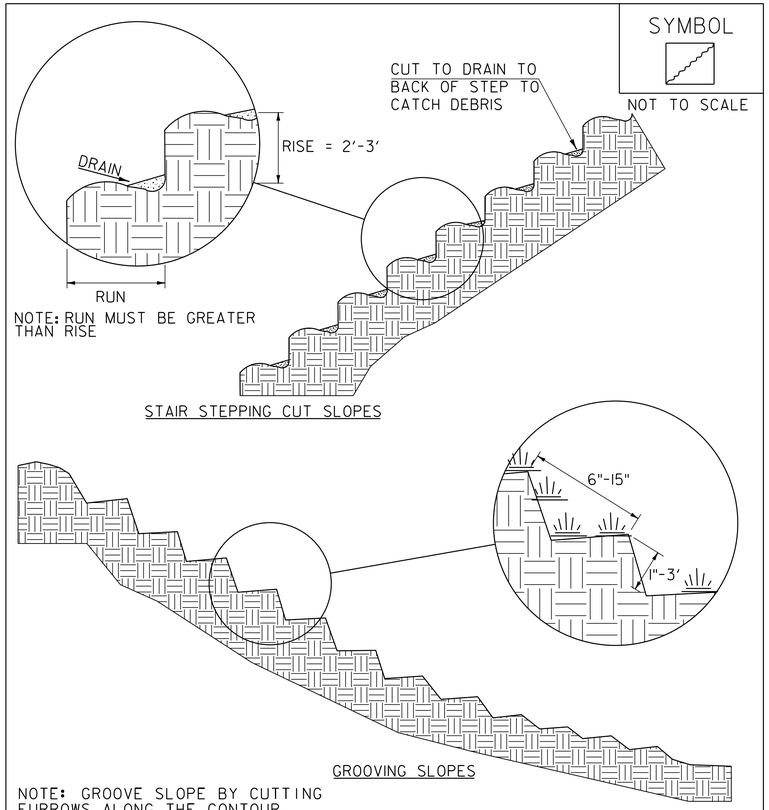
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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 653 AND AS SHOWN IN THE PLANS FOR SILT FENCE, TYPE I (PAY ITEM 653.475) OR SILT FENCE, TYPE II (PAY ITEM 653.476).

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



SYMBOL

NOT TO SCALE

NOTE: RUN MUST BE GREATER THAN RISE

STAIR STEPPING CUT SLOPES

GROOVING SLOPES

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

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

SURFACE ROUGHENING

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

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: CALAIS
PROJECT NUMBER: BHF 037-2(12)

FILE NAME: s12b148ero_details.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: G. LAROCHE
EROSION CONTROL DETAILS 2

PLOT DATE: 02-JUN-2020
DRAWN BY: G. ROY
CHECKED BY: G. LAROCHE
SHEET 48 OF 134