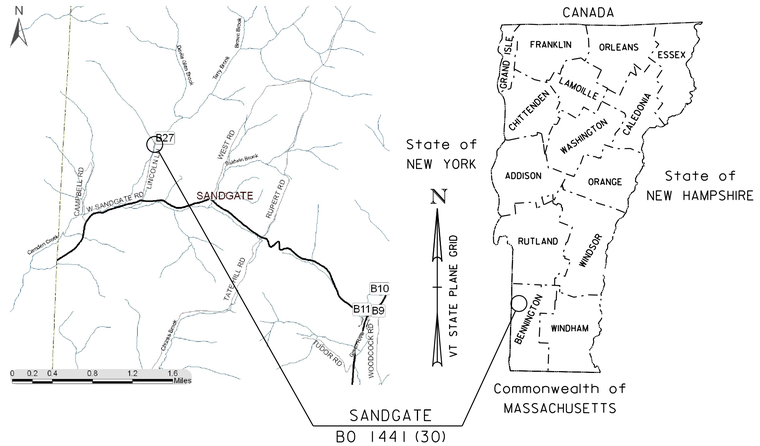
STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

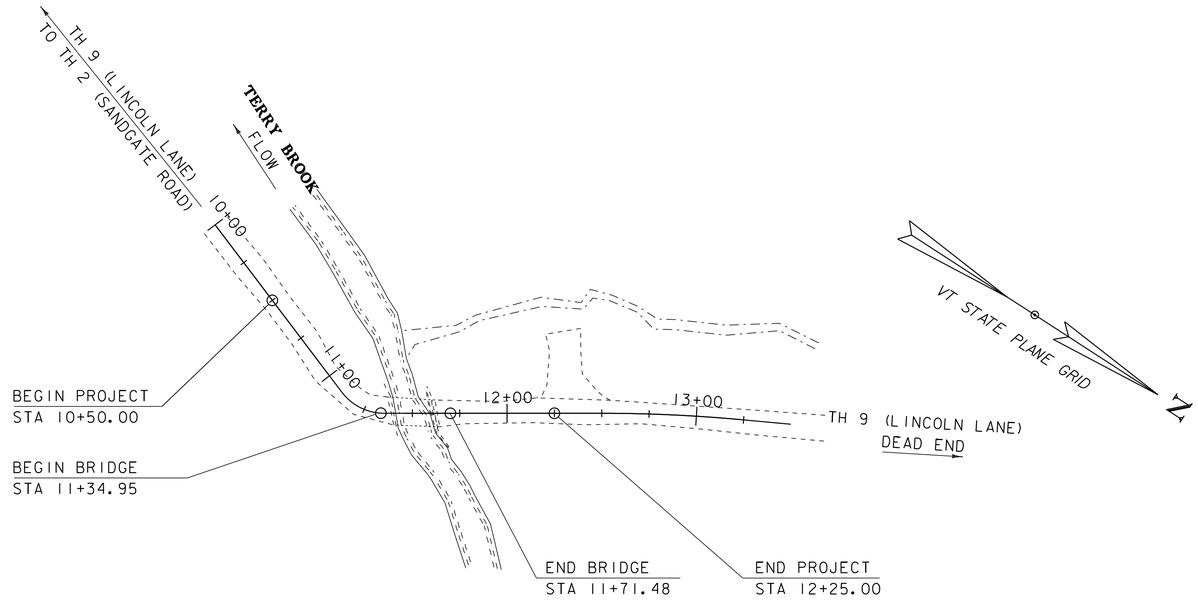
TOWN OF SANDGATE
COUNTY OF BENNINGTON

ROUTE NO : TOWN HIGHWAY 9 (LINCOLN LANE), CLASS 3 TH BRIDGE NO : 27

PROJECT LOCATION: LOCATED IN THE COUNTY OF BENNINGTON, TOWN OF SANDGATE, ON TH 9, BRIDGE 27 OVER TERRY BROOK APPROXIMATELY 0.6 MILES FROM ITS JUNCTION WITH TH 2.

PROJECT DESCRIPTION: REHABILITATION OF EXISTING BRIDGE (BRIDGE No. 27) INCLUDING MINOR APPROACH WORK.

LENGTH OF STRUCTURE:	36.53 FEET
LENGTH OF ROADWAY:	138.47 FEET
LENGTH OF PROJECT:	175.00 FEET



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

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	L. ORVIS
SURVEYED DATE :	06-06-2013
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83 (2011)

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

DIRECTOR OF PROJECT DELIVERY

APPROVED _____ DATE _____

PROJECT MANAGER : DOUGLAS BONNEAU, P.E.

PROJECT NAME : SANDGATE
PROJECT NUMBER : BO 1441(30)

SHEET 1 OF 36 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

STANDARDS LIST

G-1	STEEL BEAM GUARDRAIL WITH STEEL POSTS	11-10-2015
	STEEL BEAM GUARDRAIL WITH WOOD POSTS	
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	02-10-2014
S-367A	BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING	05-24-2012
S-367B	GUARDRAIL APPROACH SECTION, GALVANIZED HD STEEL BEAM	05-24-2012
T-1	TRAFFIC CONTROL GENERAL NOTES	08-06-2012
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

STRUCTURES DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-502.00	CONCRETE DETAILS AND NOTES	5/7/2010

HIGHWAY SAFETY & DESIGN DETAILS

HSD-621.06	GUARDRAIL TERMINAL LABEL DETAIL	11/3/2015

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: April 2015

DRAINAGE AREA : 5.8 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested with some clearings
STREAM CHARACTERISTICS : Small, perennial, alluvial, sinuous, high sediment transport
NATURE OF STREAMBED : Mostly cobbles and gravel

PEAK FLOW DATA

Q 2.33 =	275 cfs	Q 50 =	1000 cfs
Q 10 =	600 cfs	Q 100 =	1200 cfs
Q 25 =	800 cfs	Q 500 =	1600 cfs

DATE OF FLOOD OF RECORD: Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 10.4 fps
ICE CONDITIONS : Moderate
DEBRIS: Moderate to high
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel beam bridge with timber deck
YEAR BUILT: 1960
CLEAR SPAN(NORMAL TO STREAM): 19' effective hydraulic clear span
VERTICAL CLEARANCE ABOVE STREAMBED: 5'
WATERWAY OF FULL OPENING: 90 sq. ft.
DISPOSITION OF STRUCTURE: Remove superstructure and abutment tops
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs

WATER SURFACE ELEVATIONS AT:

Q2.33 =	887.1'	VELOCITY =	7.3 fps
Q10 =	889.9'	"	9.8 fps
Q25 =	890.5'	"	10.4 fps
Q50 =	890.9'	"	10.8 fps
Q100 =	891.3'	"	10.0 fps

LONG TERM STREAMBED CHANGES: No record of any changes.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Below Q10
RELIEF ELEVATION: 889.4'
DISCHARGE OVER ROAD @Q100: 380 cfs

UPSTREAM STRUCTURE

TOWN: Not Applicable - on small tributaries
DISTANCE:
HIGHWAY # :
STRUCTURE #:
CLEAR SPAN:
CLEAR HEIGHT:
YEAR BUILT:
FULL WATERWAY:
STRUCTURE TYPE:

DOWNSTREAM STRUCTURE

TOWN: Sandgate
DISTANCE: 5100'
HIGHWAY # : TH 8
STRUCTURE #: 26
CLEAR SPAN: 26'+-
CLEAR HEIGHT: 10'+-
YEAR BUILT:
FULL WATERWAY:
STRUCTURE TYPE: Open bottom metal arch

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	**20**	**36**	**36**	**66**	**30**	**34.5**	**38**
INVENTORY	1.81	1.15					
POSTING							
OPERATING	2.34	1.49	2.6	1.29	1.78	1.63	2.31
COMMENTS:							

PROPOSED STRUCTURE

STRUCTURE TYPE: Precast Concrete Non-Voided Slab Bridge

CLEAR SPAN(NORMAL TO STREAM): 42' effective hydraulic clear span
VERTICAL CLEARANCE ABOVE STREAMBED: 7'
WATERWAY OF FULL OPENING: 210 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	887.0'	VELOCITY=	7.3 fps
Q10 =	888.7'	"	9.8 fps
Q25 =	889.7'	"	10.4 fps
Q50 =	890.5'	"	10.8 fps
Q100 =	891.7'	"	10.0 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Between Q25 and Q50
RELIEF ELEVATION: 890.0'
DISCHARGE OVER ROAD @Q100: 110 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 890.7'
VERTICAL CLEARANCE: @ Q25 = 1.0'

SCOUR: Total long term and contraction scour is 1' up to Q100.
Abutment foundations/sheet piling should be designed to be freestanding to elev. 877.5'.
REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	10 cfs	
ORDINARY LOW WATER:	5 cfs	DEPTH OR ELEVATION: Depth = 0.5'
ORDINARY HIGH WATER:	120 cfs	Depth = 2.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporary bridge required
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

BRIDGE WILL BE CLOSED FOR 3 DAYS WITH NO DETOUR.

DESIGN VALUES

1.	DESIGN LIVE LOAD		HL-93
2.	FUTURE PAVEMENT	d_p:	2.5 INCH
3.	DESIGN SPAN	L:	35.00 FT
4.	MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	1.63 INCH
5.	PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX)	f_y:	270 KSI
6.	PRESTRESSED CONCRETE STRENGTH	f'_{ci}:	7.5 KSI
7.	PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	5.5 KSI
8.	CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	---
9.	CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	---
10.	CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	---
11.	CONCRETE, CLASS C	f'_c:	---
12.	REINFORCING STEEL	f_y:	60 KSI
13.	STRUCTURAL STEEL AASHTO M270	f_y:	---
14.	NOMINAL BEARING RESISTANCE OF SOIL	q_n:	4.0 KSF
15.	SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	0.45
16.	NOMINAL BEARING RESISTANCE OF ROCK	q_n:	10.0 KSF
17.	ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	0.45
18.	PILE RESISTANCE FACTOR	ϕ:	---
19.	LATERAL PILE DEFLECTION	Δ:	---
20.	BASIC WIND SPEED	V_{3s}:	---
21.	MINIMUM GROUND SNOW LOAD	p_g:	---
22.	SEISMIC DATA — PGA: 0	S_s:	---
		S_1:	---
23.			
24.			---
25.			---
26.			---

AS BUILT "REBAR" DETAIL

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

TRAFFIC DATA

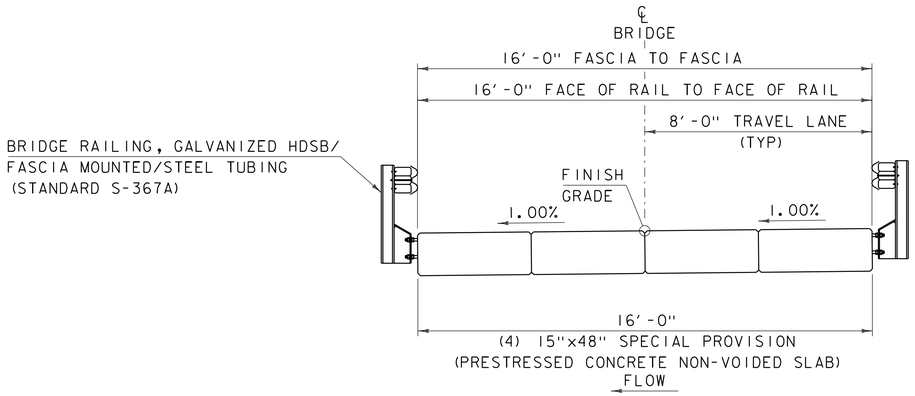
YEAR	ADT	DHV	% D	% T	ADTT
2016	15	10	89	1.1	2
2036	15	10	89	1.4	3

20 year ESAL for flexible pavement from 2016 to 2036 : 5000
40 year ESAL for flexible pavement from 2016 to 2056 : 10000
Design Speed : 35 mph

PROJECT NAME: **SANDGATE**
PROJECT NUMBER: **BO 1441(30)**

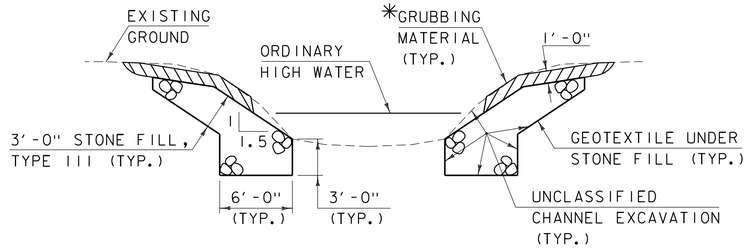
FILE NAME: **s13j086pi.dgn**
PROJECT LEADER: **D. BONNEAU**
DESIGNED BY: **D.PETERSON**
PRELIMINARY INFORMATION SHEET

PLOT DATE: 1/5/2016
DRAWN BY: **C.BURRALL**
CHECKED BY: **D.PETERSON**



BRIDGE TYPICAL SECTION

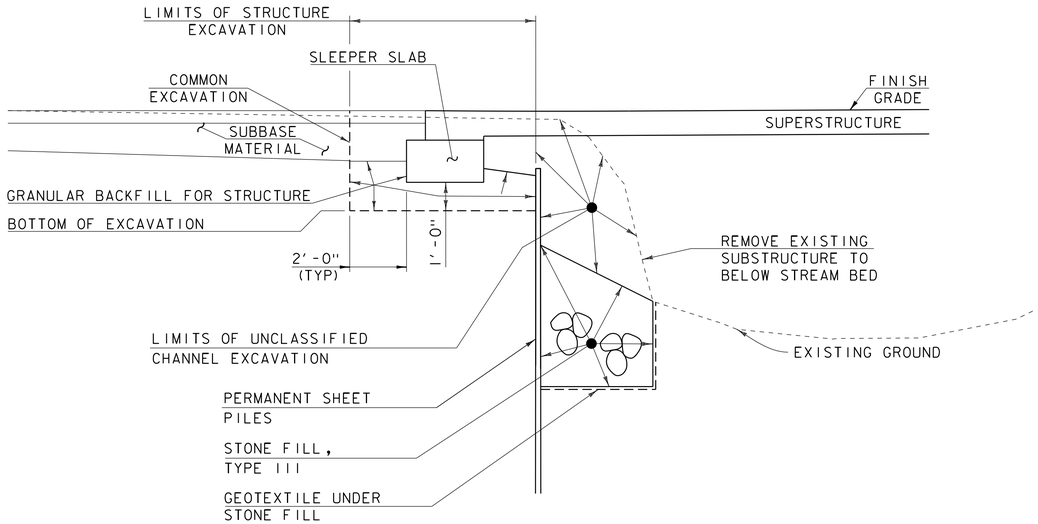
SCALE 3/8" = 1'-0"



TYPICAL CHANNEL SECTION

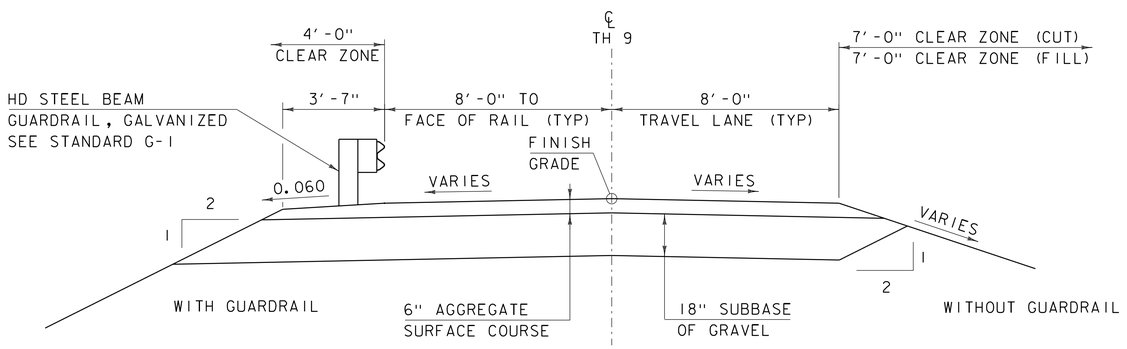
(NOT TO SCALE)

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



SLEEPER SLAB EARTHWORK TYPICAL SECTION

NOT TO SCALE



TH 9 TYPICAL SECTION

SCALE 3/8" = 1'-0"

MATERIAL TOLERANCES

(IF USED ON PROJECT)

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

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086typ.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
TYPICAL SECTIONS

PLOT DATE: 05-JAN-2016
DRAWN BY: C.BURRALL
CHECKED BY: J. LACROIX
SHEET 3 OF 36

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE 2012 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION, AND THEIR LATEST REVISIONS.

2. DURING THIS PROJECT, THE CONTRACTOR WILL BE ALLOWED TO CLOSE THE BRIDGE FOR 72 CONSECUTIVE HOURS. SEE SPECIAL PROVISIONS FOR WORK REQUIREMENTS DURING THIS CLOSURE PERIOD.

3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

EARTHWORK AND RELATED ITEMS

4. ITEM 529.15, "REMOVAL OF STRUCTURE (355 SF-EST)" WILL INCLUDE THE COMPLETE REMOVAL AND DISPOSAL OF: EXISTING WOOD DECK, STEEL BEAMS, BRIDGE RAILING AND THE ABUTMENTS AND WINGWALLS TO STREAM BED ELEVATION.

CONCRETE

5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH.

6. ITEM 514.10 "WATER REPELLENT, SILANE" SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE PRESTRESS UNITS BETWEEN DRIP NOTCHES.

7. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL I REINFORCING, EPOXY COATED. PAYMENT WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 900.640 "SPECIAL PROVISION (PRESTRESSED CONCRETE NON-VOIDED SLAB) (15" X 48")". SUBSTRUCTURE REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL I REINFORCING EPOXY COATED. PAYMENT WILL BE INCLUDED IN THE UNIT BID PRICE FOR CONTRACT ITEMS, 540.10 "PRECAST CONCRETE STRUCTURE (SLEEPER SLAB #1)" AND (SLEEPER SLAB #2) AS APPLICABLE.

TRAFFIC CONTROL

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING THE LOCAL TRAFFIC CONTROL PACKAGE IDENTIFYING THE PROJECT BEFORE, DURING AND AFTER THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED TRAFFIC CONTROL PLAN TO THE ENGINEER FOR ALL STAGES OF CONSTRUCTION. NO WORK SHALL BEGIN UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. SEE SPECIAL PROVISIONS FOR DETAILS. ALL COST WILL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION, (TRAFFIC CONTROL, ALL-INCLUSIVE)".

9. THE COST FOR ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN; INCLUDING BUT NOT LIMITED TO TEMPORARY TRAFFIC BARRIER AND CONSTRUCTION SIGNS WILL BE INCLUDED UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

10. ALL SIGNS, BARRICADE AND OTHER TRAFFIC CONTROL DEVICES SHALL BE CLEANED WEEKLY OR AS DIRECTED BY THE ENGINEER. EXISTING PERMANENT SIGNS THAT CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE REMOVED AND REPLACED OR COVERED FOR THE PERIOD OF TIME THAT THE TRAFFIC CONTROL PLAN IS IMPLEMENTED. COST FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

11. PRIOR TO AND AFTER THE MAXIMUM 72 HOUR BRIDGE CLOSURE, THE CONTRACTOR MAY MAINTAIN ONE WAY ALTERNATING TRAFFIC USING STOP AND YIELD SIGNS WHEN THE CONTRACTOR IS NOT WORKING. DURING THE CONTRACTOR'S WORKING HOURS, THE CONTRACTOR MAY MAINTAIN TRAFFIC IN ONE-LANE WITH THE USE OF FLAGGERS, DRUMS, BARRICADES, TEMPORARY TRAFFIC BARRIER AND/OR OTHER TRAFFIC CONTROL DEVICES. THIS WORK WILL BE PAID FOR UNDER ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

PRESTRESSED CONCRETE

12. ITEM 900.640 "SPECIAL PROVISION (PRESTRESSED CONCRETE NON-VOIDED SLAB) (15" X 48")". PRESTRESSED PRECAST MEMBERS SHALL:

    A. CONFORM TO SECTION 510 "PRESTRESSED CONCRETE."
    B. BE 4 FOOT WIDE SLABS (15" DEPTH).
    C. USE CONCRETE WITH f'c = 7.5 KSI AND f'ci = 5.5 KSI.
    D. BE DESIGNED FOR AN AASHTO HL 93 LIVE LOAD.
    E. CONTAIN PRESTRESSING STRANDS WHICH ARE 0.6 IN. DIAMETER, 270 KSI, LOW-RELAXATION STRANDS PULLED TO 75% OF THEIR YIELD.
    F. HAVE THE ENDS OF THE STRANDS RECESSED AND GROUTED ACCORDING TO STANDARD PRACTICE.
    G. INCLUDE COLD POURED JOINT FILLER, AND TRANSVERSE TENDONS.

13. THE FABRICATOR MAY, WITH THE APPROVAL OF THE STRUCTURES ENGINEER, ALTER THE DESIGN AS DETAILED TO MEET THE FABRICATOR'S PRESTRESSING OPERATION AND MATERIAL REQUIREMENTS. AN ALTERNATE STRAND CONFIGURATION MAY BE SUBMITTED FOR APPROVAL, PROVIDED THE DESIGN IS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT, AND THAT THE DESIGN MEETS ALL OF THE APPLICABLE DESIGN CRITERIA, LOADINGS AND CODES.

14. ITEM 900.640 "SPECIAL PROVISION (PRESTRESSED CONCRETE NON-VOIDED SLAB) (15" X 48")" TRANSVERSE TENDONS:

    A. POST-TENSIONING STRANDS: 0.5" DIAMETER, 270 KSI, LOW-RELAXATION 7-WIRE STRANDS. THE ASSUMED MODULUS OF ELASTICITY FOR THE STRAND IS 28,500 KSI.
    B. COVER TENDONS WITH A SEAMLESS POLYPROPYLENE SHEATH WITH CORROSION INHIBITOR GREASE BETWEEN SHEATH AND TENDON.
    C. THE ½" TENDON PLATES SHALL CONFORM TO AASHTO M270M/M270 GR50.
    D. GALVANIZE PLATES AND CHUCKS AFTER FABRICATION ACCORDING TO AASHTO M232M/M232.
    E. THERE SHALL BE THREE (3) STRANDS PER POST-TENSION DUCT.
    F. TIES SHALL BE TENSIONED TO 33 KIPS FOR EACH 0.5" DIAMETER STRAND.

15. ITEM 510.24 "GROUTING SHEAR KEYS": FILL THE JOINTS BETWEEN THE NON-VOIDED SLABS WITH MORTAR, TYPE IV, AS DESCRIBED IN SUBSECTION 510.13.

16. SERVICE LOADS

MEMBER MOMENT	114.8 K-FT
SUPERIMPOSED DEAD LOAD MOMENT	22.3K-FT
LIVE LOAD & IMPACT MOMENT	331.2 K-FT
DEAD LOAD REACTION	15.6 K
LIVE LOAD & IMPACT REACTION	44.0 K
TOTAL REACTION	59.6 K
FINAL CAMBER	1.632 IN

CONSTRUCTION NOTES PRESTRESSED SLABS:

GROUT SHEAR KEYS:

17. THE REQUIREMENTS OF SUBSECTION 510.13 (d) SHALL BE WAIVED. THE CONTRACTOR SHALL NOT LOAD THE BRIDGE UNTIL THE GROUT HAS REACHED A COMPRESSIVE STRENGTH OF 1,000PSI.

POST-TENSION TRANSVERSE TENDONS:

18. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1.5 KSI PRIOR TO STRESSING.

19. PROVIDE APPROPRIATE CUBE MOLDS AS DESCRIBED IN AASHTO T106M/T106 FOR 3 SETS OF 3 DAY CUBES, 3 SETS OF 28 DAY CUBES AND A MINIMUM OF 3 MORE CUBES TO TEST FOR THE 1.5 KSI MINIMUM COMPRESSIVE STRENGTH.

TRANSVERSE TENDONS:

20. THE 24 HOUR WAITING PERIOD PRIOR TO THE INITIAL POST-TENSIONING PER THE REQUIREMENTS OF SUBSECTION 510.12 (a) (2) SHALL BE WAIVED.

21. POST-TENSION TENDONS USING A CALIBRATED JACK TO APPROXIMATELY 3.0 KIPS TO REMOVE SAG IN THE TENDON AND TO SEAT THE CHUCK.

SHEET PILES

22. INSTALLATION OF THE PERMANENT SHEET PILES CAN OCCUR PRIOR TO CLOSURE OF THE BRIDGE. FOR THE PILE INSTALLATION DURING THE CONTRACTOR'S WORKING HOURS, THE CONTRACTOR MAY REDUCE TRAFFIC TO ONE-LANE ALTERNATING WITH THE USE OF FLAGGERS, DRUMS, BARRICADES, TEMPORARY TRAFFIC BARRIER AND/OR OTHER TRAFFIC CONTROL DEVICES. PILES DRIVEN IN THE EXISTING ROADWAY SHALL BE COVERED BY A MINIMUM OF 6" AGGREGATE MATERIAL PRIOR TO OPENING UP TO TRAFFIC AT THE END OF THE DAY.

23. SHEET PILES SHALL BE PZ-35 OR HAVE A MINIMUM SECTION MODULUS OF 57.1 IN^3/FT.

24. SHEET PILES SHALL BE DRIVEN TO BEDROCK OR REFUSAL ON WEATHERED BEDROCK AS DETERMINED BY THE ENGINEER.

25. PAYMENT FOR ITEM 505.35 PERMANENT SHEET PILING SHALL INCLUDE FURNISHING AND MOBILIZING THE REQUIRED SHEET PILE DRIVING EQUIPMENT TO THE PROJECT AND DEMOBILIZING THE EQUIPMENT FROM THE PROJECT, INCLUDING THE ERECTING, DISMANTLING, AND ALL INCIDENTALS NECESSARY TO COMPLETE THE WORK.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS
1			
200			
		90	
1			
		50	
		31	
330			
100			
		3625	
		110	
		10	
		88	
1			
		16	
		1	
		1	
		80	
41			
67			
3			
4			
59			
			1
			1500
1			
		140	
	70		
	56		
	10		
	20		
	0.25		
	0.25		
	30		
		50	
	1		
	10		
	1		
	70		
	500		
7			

TOTALS

GRAND TOTAL	FINAL
1	
200	
90	
1	
50	
31	
330	
100	
3625	
110	
10	
88	
1	
16	
1	
1	
80	
41	
67	
3	
4	
59	
1	
1500	
1	
140	
70	
56	
10	
20	
0.25	
0.25	
30	
50	
1	
10	
1	
70	
500	
7	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CY	COMMON EXCAVATION	203.15	
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
CY	STRUCTURE EXCAVATION	204.25	
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
CY	SUBBASE OF GRAVEL	301.15	
CY	AGGREGATE SURFACE COURSE	401.10	
SF	PERMANENT STEEL SHEET PILING (Z MIN. = 57.1 IN^3)	505.35	
LF	GROUTING SHEAR KEYS	510.24	
GAL	WATER REPELLENT, SILANE	514.10	
LF	BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING	525.44	
EACH	REMOVAL OF STRUCTURE (355 SF - EST.)	529.15	
EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17	
LS	PRECAST CONCRETE STRUCTURE (SLEEPER SLAB #1)	540.10	
LS	PRECAST CONCRETE STRUCTURE (SLEEPER SLAB #2)	540.10	
CY	STONE FILL, TYPE III	613.12	
LF	REMOVING AND RESETTING FENCE	620.50	
LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21	
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	
EACH	GUARDRAIL APPROACH SECTION, GALV HD STEEL BEAM	621.737	
LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
LS	FIELD OFFICE, ENGINEERS	631.10	
DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	
LS	MOBILIZATION/DEMOBILIZATION	635.11	
SY	GEOTEXTILE UNDER STONE FILL	649.31	
SY	GEOTEXTILE FOR SILT FENCE	649.51	
SY	GEOTEXTILE FOR FILTER CURTAIN	649.61	
LB	SEED	651.15	
LB	FERTILIZER	651.18	
TON	AGRICULTURAL LIMESTONE	651.20	
TON	HAY MULCH	651.25	
CY	TOPSOIL	651.35	
SY	GRUBBING MATERIAL	651.40	
LS	EPSC PLAN	652.10	
HR	MONITORING EPSC PLAN	652.20	
LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	
SY	TEMPORARY EROSION MATTING	653.20	
LF	PROJECT DEMARCATION FENCE	653.55	
SF	TRAFFIC SIGNS, TYPE A	675.20	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
		FILL AVAILABLE
140	CY	COMMON EXCAVATION (0.7*200 CY)
27	CY	UNCLASSIFIED CHANNEL EXCAVATION (0.3*90 CY)
15	CY	STRUCTURE EXCAVATION (0.3*50)
182	CY	TOTAL FILL AVAILABLE
		FILL REQUIRED
0	CY	FACTORED FILL (1.15*0)
0.5	CY	ROUNDING
0	CY	TOTAL FILL REQUIRED
182	CY	TOTAL WASTE

(N.A.B.I) = NOT A BID ITEM

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086forms.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
QUANTITY SHEET 1

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON
SHEET 5 OF 36

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						36				36		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
						1				1		EACH	REMOVING SIGNS	675.50				
								146		146		LF	SPECIAL PROVISION (PRESTRESSED CONCRETE NON-VOIDED SLAB)(15" X 48")	900.640				
						1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086forms.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
QUANTITY SHEET 2

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON
SHEET 6 OF 36

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES

CHANNEL	SUPERSTRUCTURE	ABUTMENT 1	ABUTMENT 2	TOTALS: BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER
90				90	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27
		25	25	50	CY	STRUCTURE EXCAVATION	204.25
		15	16	31	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
		1500	2125	3625	SF	PERMANENT STEEL SHEET PILING (Z MIN. = 57.1 IN^3)	505.35
	110			110	LF	GROUTING SHEAR KEYS	510.24
	8	1	1	10	GAL	WATER REPELLENT, SILANE	514.10
	88			88	LF	BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING	525.44
		8	8	16	EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17
		1		1	LS	PRECAST CONCRETE STRUCTURE (SLEEPER SLAB #1)	540.10
			1	1	LS	PRECAST CONCRETE STRUCTURE (SLEEPER SLAB #2)	540.10
80				80	CY	STONE FILL, TYPE III	613.12
140				140	SY	GEOTEXTILE UNDER STONE FILL	649.31
50				50	SY	GRUBBING MATERIAL	651.40
	146			146	LF	SPECIAL PROVISION (PRESTRESSED CONCRETE NON-VOIDED SLAB)(15" X 48")	900.640

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086forms.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
BRIDGE QUANTITY SHEET

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON
SHEET 7 OF 36

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

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

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

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

COMMON TOPOGRAPHIC POINT SYMBOLS

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

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

PROPOSED GEOMETRY CODES

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

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

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

ABOVE GROUND UTILITIES (AERIAL)

- 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+TELEP.
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CZ — CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

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

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

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

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

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

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 — HAZ — HAZARDOUS WASTE AREA
- AG — AGRICULTURAL LAND
- HABITAT — FISH & WILDLIFE HABITAT
- FLOOD PLAIN — FLOOD PLAIN
- OHW — ORDINARY HIGH WATER (OHW)
- STORM WATER
- USDA FOREST SERVICE LANDS
- WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

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

CONVENTIONAL TOPOGRAPHIC 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: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086pi.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
SYMBOLOGY LEGEND SHEET

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: J. LACROIX
SHEET 8 OF 36

GPS CONTROL POINTS

SCIANNA = HVCTRL #1
NORTH = 245471.514
EAST = 1442031.374
ELEV. = 891.101

GENERAL LOCATION, SANDGATE, VT.
TO REACH FROM THE INTERSECTION OF HISTORIC VT ROUTE 7A AND VT ROUTE 313 IN ARLINGTON, GO WEST ALONG VT ROUTE 313 FOR 3.8 MI (6.1 KM) TO INTERSECTION OF SANDGATE ROAD RIGHT. TURN RIGHT AND GO NORTH ALONG SANDGATE ROAD FOR 3.1 MI (5.0 KM) TO THE Y-INTERSECTION OF WEST SANDGATE ROAD LEFT AND SANDGATE ROAD RIGHT. BEAR LEFT AND AND GO NORTHWEST ALONG WEST SANDGATE ROAD FOR 2.9 MI (4.7 KM) TO THE INTERSECTION OF LINCOLN LANE RIGHT. TURN RIGHT AND GO NORTH ALONG LINCOLN LANE FOR 0.6 MI (1.0 KM) TO THE SITE OF THE MARK ON THE RIGHT.
THE MARK IS SET 10 CM (4 INCHES) BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 4.3 M (14.1 FT) EAST OF AND 0.2 M (0.7 FT) LOWER THAN THE CENTERLINE OF LINCOLN LANE, 1.9 M (6.2 FT) NORTHWEST OF THE SOUTH SIDE OF A GATE, 2.8 M (9.2 FT) SOUTHWEST OF THE NORTH SIDE OF THE GATE, 14.8 M (48.6 FT) EAST OF POLE NO 12/12, 18.8 M (61.7 FT) NORTH OF THE NORTHEAST CORNER OF THE WOODEN DECK OF THE LINCOLN LANE BRIDGE OVER TERRY BROOK AND 18.4 M (60.4 FT) SOUTH OF THE SOUTH END OF A STONE WALL.

LINCOLN LANE
NORTH = 243802.902
EAST = 1441656.098
ELEV. = 862.852

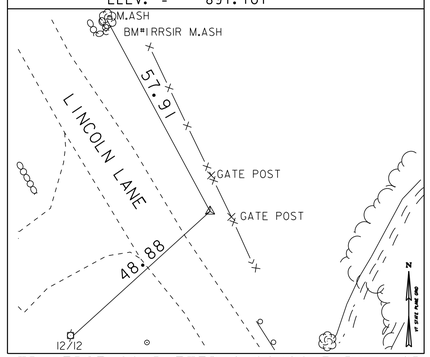
GENERAL LOCATION, SANDGATE, VT.
TO REACH FROM THE INTERSECTION OF HISTORIC VT ROUTE 7A AND VT ROUTE 313 IN ARLINGTON, GO WEST ALONG VT ROUTE 313 FOR 3.8 MI (6.1 KM) TO INTERSECTION OF SANDGATE ROAD RIGHT. TURN RIGHT AND GO NORTH ALONG SANDGATE ROAD FOR 3.1 MI (5.0 KM) TO THE Y-INTERSECTION OF WEST SANDGATE ROAD LEFT AND SANDGATE ROAD RIGHT. BEAR LEFT AND AND GO NORTHWEST ALONG WEST SANDGATE ROAD FOR 2.9 MI (4.7 KM) TO THE INTERSECTION OF LINCOLN LANE RIGHT. TURN RIGHT AND GO NORTH ALONG LINCOLN LANE FOR 0.25 MI (0.4 KM) TO THE SITE OF THE MARK ON THE LEFT IN THE SOUTHWEST CORNER OF A LAWN.
THE MARK IS A REBAR WITH RED PLASTIC CAP SET FLUSH WITH THE GROUND. IT IS 2.6 M (8.5 FT) NORTHWEST OF AND LEVEL WITH THE CENTERLINE OF LINCOLN LANE, 16.3 M (53.5 FT) NORTHEAST OF A CONCRETE BOUND THAT IS JUST SOUTHWEST OF A LILAC BUSH, 35.0 M (114.8 FT) SOUTHWEST OF THE CENTERLINE OF THE GRAVEL DRIVE LEADING TO THE STEMPEL HOUSE NO 289 AND 3.0 M (9.8 FT) SOUTHEAST OF A STEEL PIPE WITH ROCK BASE.

GPS CONTROL SET BY VTrans GSU 5/27/2013

TRAVERSE TIES

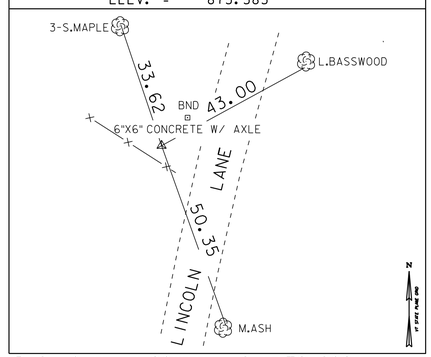
HVCTRL #1

NORTH =	245471.514
EAST =	1442031.374
ELEV. =	891.101



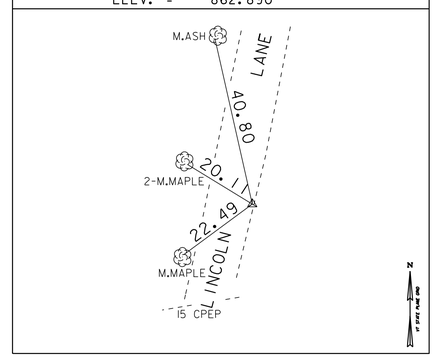
HVCTRL #3

NORTH =	244598.752
EAST =	1441805.089
ELEV. =	873.585



HVCRTL #4

NORTH =	243802.837
EAST =	1441656.083
ELEV. =	862.890



NORTH =	
EAST =	
ELEV. =	

NORTH =	
EAST =	
ELEV. =	

*TRAVERSE COMPLETED 6/06/2013 BY L.ORVIS P.C. & H. McGOWAN , G.HITCHCOCK

Point Type	Station	Northing	Easting	Radius	Length	Tangent
Aligment Name:		TH9prop				
Description:		Proposed TH9 Mainline				
POB	10+00.00	245266.90	1442028.67			
PC	11+10.87	245371.14	1442066.44			
PI	11+24.79	245384.22	1442071.18	28.00	25.83	13.92
PT	11+36.70	245395.90	1442063.62			
PC	12+51.71	245492.43	1442001.09			
PI	12+88.40	245523.22	1441981.14	800.00	73.33	36.69
PT	13+25.04	245555.72	1441964.10			
POE	13+51.57	245579.21	1441951.77			

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086tie.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
TIE SHEET

PLOT DATE: 18-DEC-2015
DRAWN BY: G.HITCHCOCK
CHECKED BY: J. LACROIX
SHEET 9 OF 36

REMOVAL AND DISPOSAL OF GUARDRAIL
TH9 STA 11+23.26 LT - STA 11+38.30 LT
TH9 STA 11+63.45 LT - STA 11+77.74 LT
TH9 STA 11+31.80 RT - STA 11+41.76 RT
TH9 STA 11+66.52 RT - STA 11+86.76 RT

HD STEEL BEAM GUARDRAIL, GALVANIZED
TH9 STA 10+74.31 LT - STA 10+98.07 LT
TH9 STA 11+99.20 LT - STA 12+16.72 LT
TH9 STA 12+01.06 RT - STA 12+18.58 RT

GUARDRAIL APPROACH SECTION, GALVANIZED HD STEEL BEAM
TH9 STA 10+98.07 LT - STA 11+27.95 LT
TH9 STA 11+74.20 LT - STA 11+99.20 LT
TH9 STA 11+24.40 RT - STA 11+33.30 RT*
TH9 STA 11+76.20 RT - STA 12+01.06 RT
* MODIFIED LENGTH TO 12'-6"

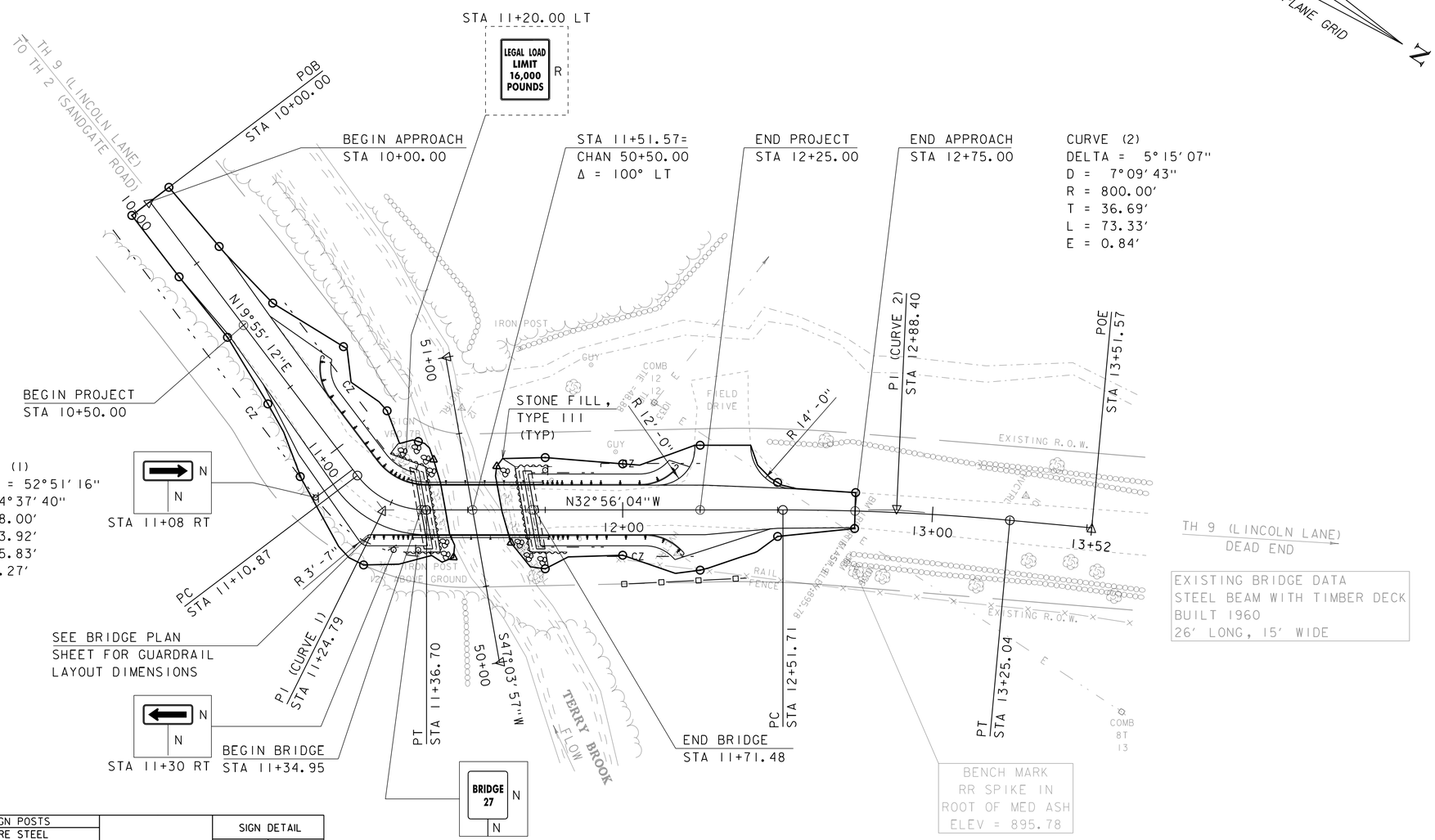
BRIDGE RAILING, GALVANIZED HDSB/FASCIA MOUNTED/STEEL TUBING
TH9 STA 11+27.95 LT - STA 11+74.20 LT
TH9 STA 11+33.30 RT - STA 11+76.06 RT

CONSTRUCT DRIVE (UNPAVED, FIELD DRIVE)
TH9 STA 12+25.00 (18' WIDEx14' LONGx6"DEEP AGGREGATE SURFACE COURSE)

REMOVING AND RESETING FENCE *
TH9 STA 11+99.00, 24.0' RT TO
TH9 STA 12+40.00, 22.0' RT
* FENCE TO BE RELOCATED TO ROW BOUNDARY

REMOVING SIGNS
TH9 STA 11+20.00 LT (ON TREE)

ANCHOR FOR STEEL BEAM RAIL
TH9 STA 10+74.31 LT
TH9 STA 12+16.72 LT
TH9 STA 12+18.58 RT



TRAFFIC SIGNS, TYPE A

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW SIGN "A"	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	SQUARE STEEL (in) 1.75 lb/ft 1.88	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SFTMVE	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
11+35 RT	BRIDGE 27	6	8	0.33			1	8			X		VD-701		T-42
11+75 LT	BRIDGE 27	6	8	0.33			1	8			X		VD-701		T-42
11+08 RT	→	18	24	3.00			1		10		X		WI-6R		MUTCD
11+30 RT	←	18	24	3.00			1		10		X		WI-6L		MUTCD
								FT 16	FT 20	FT		EA			
TOTALS				SF 6.66						FT 36					

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."

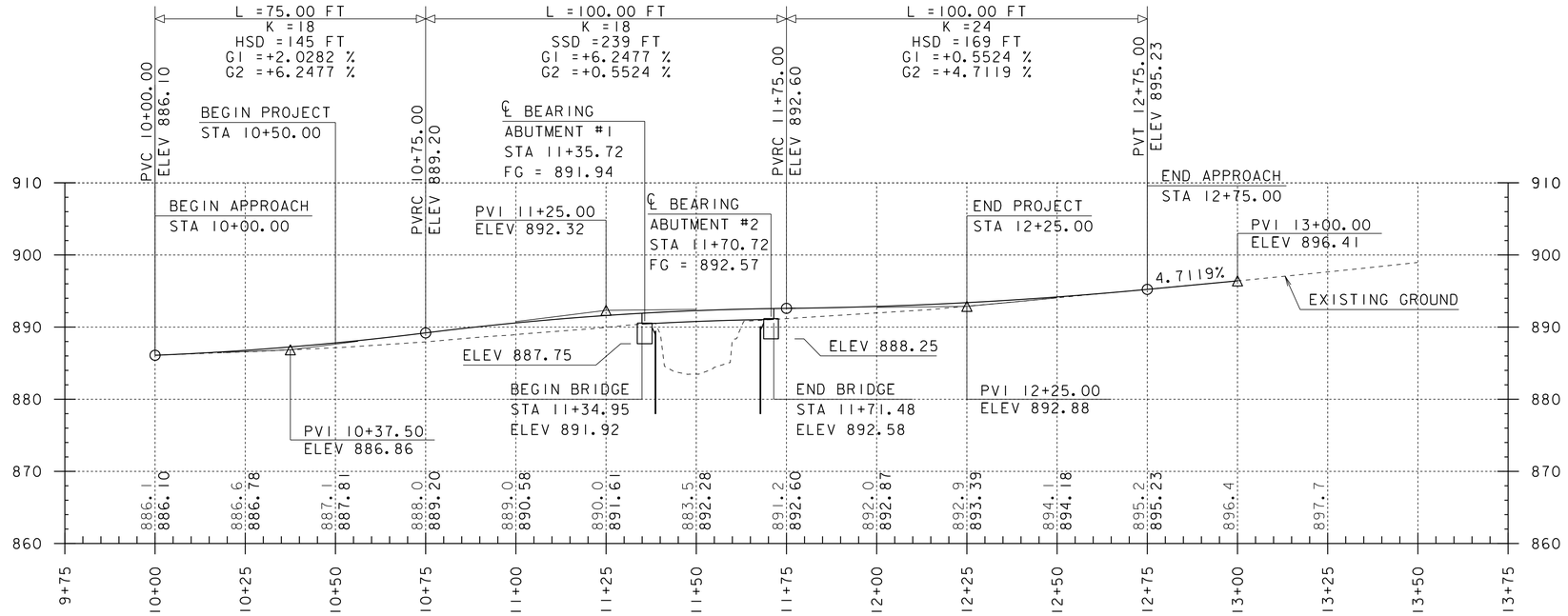
EXISTING SIGNS
NEW SIGNS
N = NEW
R = REMOVE
RET = RETAIN
R&S = REMOVE AND SALVAGE
SHS = STANDARD HIGHWAY SIGNS (MUTCD)

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

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

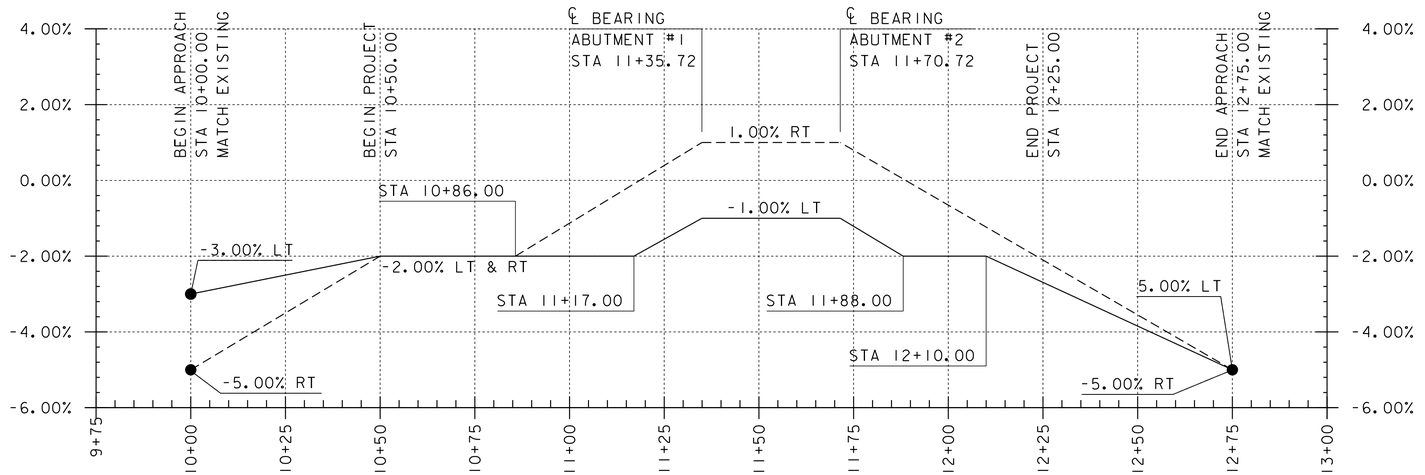
FILE NAME: sl3j086bdr.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
LAYOUT SHEET

PLOT DATE: 18-DEC-2015
DRAWN BY: C.BURRALL
CHECKED BY: J. LACROIX
SHEET 10 OF 36



TH 9 PROFILE

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



TH 9 BANKING DIAGRAM

SCALE: HORIZONTAL 1" = 20'-0"
VERTICAL 1" = 2.00%

NOTE:

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℄

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086pro.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
PROFILE AND BANKING DIAGRAM

PLOT DATE: 18-DEC-2015
DRAWN BY: D. KARABEGOVIC
CHECKED BY: D.PETERSON
SHEET 11 OF 36

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

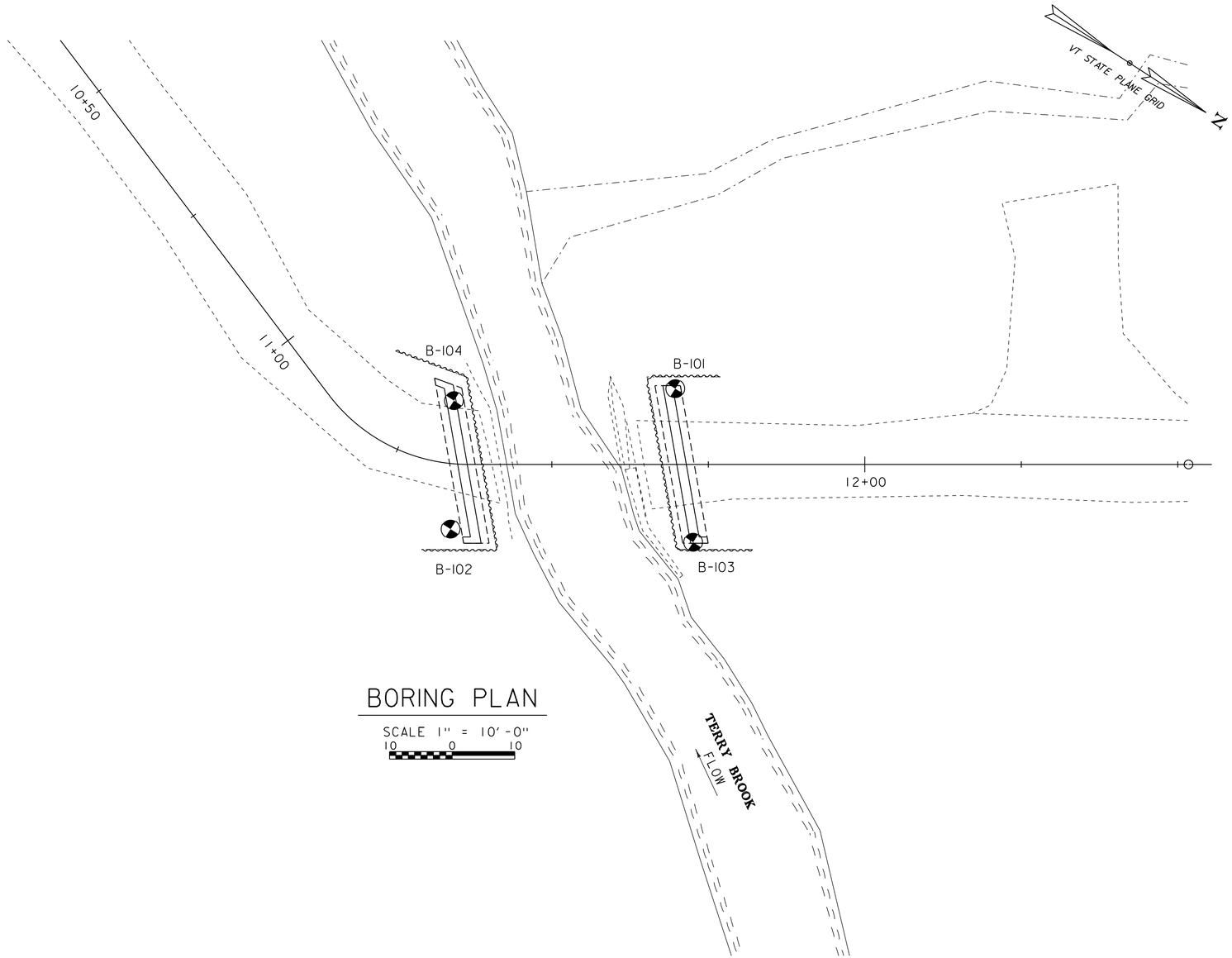
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

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
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

COLOR

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



BORING PLAN

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

DEFINITIONS (AASHTO)

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

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

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

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

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

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

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 5/20/15 and 5/29/15 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

BORING POINT	STATION	OFFSET	NORTH	EAST	ELEVATION	TLOB
B-101	11+69.72	12.1 LT	245417.03	1442035.51	889.70	850.20
B-102	11+34.60	10.43 RT	245399.09	1442073.85	888.80	861.70
B-103	11+72.57	12.42 RT	245432.76	1442054.54	890.50	853.10
B-104	11+33.04	10.04 LT	245388.40	1442056.34	889.80	861.30

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086bor.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D. PETERSON
BORING INFORMATION SHEET

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON
SHEET 12 OF 36

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SANDGATE
BO 1441(30)
TH-9 BR-27

Boring No.: **B-101**
Page No.: 1 of 1
Pin No.: 13J086
Checked By: CEE

Boring Crew: JUDKINS, HOOK
Date Started: 5/21/15 Date Finished: 5/21/15
VTSPG NAD83: N 245417.04 ft E 1442035.54 ft
Ground Elevation: 889.7 ft

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

Groundwater Observations		
Date	Depth (ft)	Notes
05/21/15	13.5	While drilling.
05/27/15	12.5	Prior pulling casing.

BOTTOM OF SLEEPER SLAB 2
EL 888.25

APPROXIMATE PILE TIP
EL 850.00

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-b, SaGr, brn-grn, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample.				1-1-2-4 (3)	16.5	48.7	32.5	18.8
		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, brn-grn, MTW, Rec. = 1.1 ft, Lab Note: Broken Rock was within sample.				9-20-12-28 (32)	10.7	58.9	29.3	11.8
10		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, brn-grn, MTW, Rec. = 1.3 ft, Lab Note: Broken Rock was within sample.				19-15-14-13 (29)	11.3	58.6	29.7	11.7
		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, brn-grn, Moist, Rec. = 1.4 ft, Lab Note: Broken Rock was within sample.				14-10-11-16 (21)	10.4	60.6	24.8	14.6
20		A-1-a, SaGr, Lt/brn-grn, MTW, Rec. = 1.3 ft, Lab Note: Broken Rock was within sample.				12-11-9-17 (20)	11.3	61.6	26.7	11.7
		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, Lt/brn-grn, MTW, Rec. = 1.3 ft, Lab Note: Broken Rock was within sample.				15-17-14-15 (31)	10.7	61.1	27.1	11.8
30		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, Lt/brn-grn, MTW, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample.				7-9-9-22 (18)	13.0	59.2	31.5	9.3
		Field Note:, NXDC, Cleaned out casing								
		Visual Description:, Severely Weathered Rock, Lt/brn, Moist, Rec. = 0.1 ft				R@1.0" (R)				
		Field Note:, NXDC, Cleaned out casing								
40		39.5 ft - 44.5 ft, Light green & gray, PHYLLITE, with rare quartz veins. Medium hard, Slightly weathered, Poor rock, NXMDC, Rust staining on joints. RMR = 27	1 (20)	90 (8)	2 3 3 2 2	Top of Bedrock @ 39.5 ft				
		44.5 ft - 49.5 ft, Light green & gray, PHYLLITE, Medium hard, Slightly weathered, Poor rock, NXMDC, Rust and purple staining on joints. RMR = 27	2 (20)	100 (8)	2 2 2 2 2					
50		Hole stopped @ 49.5 ft								

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

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SANDGATE
BO 1441(30)
TH-9 BR-27

Boring No.: **B-102**
Page No.: 1 of 1
Pin No.: 13J086
Checked By: CEE

Boring Crew: JUDKINS, HOOK
Date Started: 5/20/15 Date Finished: 5/20/15
VTSPG NAD83: N 245399.09 ft E 1442073.85 ft
Ground Elevation: 888.8 ft

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

Groundwater Observations		
Date	Depth (ft)	Notes
05/20/15	7.5	After drilling.

BOTTOM OF SLEEPER SLAB 1
EL 887.75

APPROXIMATE PILE TIP
EL 861.00

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-a, SaGr, Dk/brn, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample.				3-2-2-2 (4)	13.3	59.9	28.8	11.3
5		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, brn-gry, Moist, Rec. = 1.4 ft, Lab Note: Broken Rock was within sample.				17-12-13-18 (25)	10.4	59.4	26.4	14.2
10		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, Lt/brn, Moist, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample.				13-18-16-16 (34)	10.4	62.0	25.8	12.2
		Field Note:, NXDC, Dense material. Possible Boulders								
15		A-1-b, SiSaGr, Lt/brn, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample.				14-10-10-9 (20)	11.3	51.1	27.0	21.9
20		Field Note:, NXDC, Cleaned out casing								
		Visual Description:, Severely Weathered Rock, Lt/brn, Moist, Rec. = 0.3 ft				R@3.5" (R)	11.2			
		Field Note:, NXDC, Cleaned out casing								
25		Visual Description:, Severely Weathered Rock, Lt/brn, Moist, Rec. = 0.1 ft				R@1.0" (R)	10.8			
		27.1 ft - 28.8 ft, Tan, Clay-coated PHYLLITE, Soft, Moderately weathered, NXMDC, Rust and purple staining on joint surfaces throughout.	1 (20)	94 (0)	3 2 3 3 3	Top of Bedrock @ 27.1 ft				
30		28.8 ft - 29.1 ft, Tan, Disintergrated PHYLLITE, Very soft, Severely weathered								
		29.1 ft - 32.1 ft, Light green & gray, PHYLLITE, Medium hard, Slightly weathered, Very poor rock, RMR = 19	2 (20)	100 (34)	3 4 4 4 5					
35		32.1 ft - 37.1 ft, Light green & gray, PHYLLITE, Medium hard, Slightly weathered, Poor rock, NXMDC, Rust staining on joints. RMR = 32								
		Hole stopped @ 37.1 ft								
40		Remarks: Hole collapsed at 14.7 ft.								
45										

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

BORING LOG 2 SANDGATE BO 1441(30).GPJ VERMONT AOT.GDT 6/23/15

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086bor.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D. PETERSON
BORING LOG SHEET 1

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON
SHEET 13 OF 36

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SANDGATE
BO 1441(30)
TH-9 BR-27

Boring No.: **B-103**
Page No.: 1 of 1
Pin No.: 13J086
Checked By: CEE

Boring Crew: HOOK, JUDKINS, HULBERT
Date Started: 5/27/15 Date Finished: 5/28/15
VTSPG NAD83: N 245432.76 ft E 1442054.54 ft
Ground Elevation: 890.5 ft

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

Groundwater Observations

Date	Depth (ft)	Notes
05/28/15	7.1	Before drilling.

BOTTOM OF SLEEPER SLAB 2
EL 888.25

APPROXIMATE PILE TIP
EL 850.00

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-a, SaGr, brn, Moist, Rec. = 1.2 ft				3-3-6-6 (9)	8.2	62.2	26.7	11.1
		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, gry-brn, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample.				6-13-7-11 (20)	10.7	69.1	23.2	7.7
10		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, brn, Moist, Rec. = 1.4 ft, Lab Note: Broken Rock was within sample.				29-17-9-8 (26)	10.1	61.3	27.7	11.0
		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, brn, Moist, Rec. = 1.4 ft, Lab Note: Broken Rock was within sample.				15-18-18-17 (36)	10.6	56.0	31.0	13.0
20		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, brn, Moist, Rec. = 1.3 ft, Lab Note: Broken Rock was within sample.				13-12-10-10 (22)	11.8	59.7	28.8	11.5
		Field Note:, NXDC, Cleaned out casing								
		A-1-b, SaGr, brn, Moist, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample.				16-15-12-8 (27)	12.6	47.3	37.4	15.3
30		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, brn, Moist, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample.				11-9-12-15 (21)	9.9	64.4	24.9	10.7
		Field Note:, NXDC, Cleaned out casing								
		Visual Description:, Broken Rock & some Weathered Rock, gry, Moist, Rec. = 0.2 ft				R@2.5" (R)	8.3			
		Field Note:, NXDC, Cleaned out casing. Very hard drilling								
40		37.4 ft - 42.4 ft, Light green & gray, PHYLLITE, with rare quartz veins. Medium hard, Slightly weathered, Poor rock, NXMDC, Rust and purple staining on joint surfaces. Recrysallized calcite on vertical joint at 41.2'-41.5', RMR = 35	1 (20)	100 (26)	3 3 3 3 3	Top of Bedrock @ 37.4 ft				
		42.4 ft - 47.4 ft, Light green & gray, PHYLLITE, Medium hard, Slightly weathered, Poor rock, NXMDC, Rust and brown staining on joint surfaces. RMR = 36	2 (20)	100 (34)	2 2 2 2 2					
50		Hole stopped @ 47.4 ft								

Remarks:
Hole collapsed at 5.6 ft.

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

BORING LOG 2 SANDGATE BO 1441(30).GPJ VERMONT AOT.GDT 6/23/15

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SANDGATE
BO 1441(30)
TH-9 BR-27

Boring No.: **B-104**
Page No.: 1 of 1
Pin No.: 13J086
Checked By: CEE

Boring Crew: HOOK, JUDKINS, HULBERT
Date Started: 5/28/15 Date Finished: 5/29/15
VTSPG NAD83: N 245388.40 ft E 1442056.34 ft
Ground Elevation: 889.8 ft

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

Groundwater Observations

Date	Depth (ft)	Notes
05/29/15	6.2	Before drilling.

BOTTOM OF SLEEPER SLAB 1
EL 887.75

APPROXIMATE PILE TIP
EL 861.00

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-1-a, SaGr, brn, Moist, Rec. = 1.1 ft				1-3-5-4 (8)	8.7	54.3	33.8	11.9
		Field Note:, NXDC, Cleaned out casing								
5		A-1-a, SaGr, gry-brn, Moist, Rec. = 1.3 ft, Lab Note: Broken Rock was within sample.				10-30-16-13 (46)	10.2	67.3	23.6	9.1
		Field Note:, Cobbles, NXDC, Cleaned out casing								
10		A-1-a, SaGr, gry-brn, Moist, Rec. = 1.1 ft, Lab Note: Broken Rock was within sample.				17-15-15-15 (30)	10.1	60.0	26.3	13.7
		Field Note:, NXDC, Cleaned out casing								
15		A-1-a, SaGr, gry-brn, MTW, Rec. = 1.1 ft, Very hard drilling. Lab Note: Broken Rock was within sample.				9-7-9-7 (16)	12.1	62.0	26.5	11.5
		Field Note:, NXDC, Cleaned out casing. Very hard drilling.								
20		Visual Description:, Severely Weathered Rock, Lt/brn, Moist, Rec. = 0.4 ft				R@5.0" (R)	14.0			
		Field Note:, NXDC, Cleaned out casing. Very hard drilling.								
25		Visual Description:, Severely Weathered Rock, Lt/brn, Moist, Rec. = 0.2 ft				R@2.5" (R)	12.5			
		Field Note:, NXDC, Cleaned out casing								
30		28.5 ft - 28.8 ft, Light tan, PHYLLITE, Soft, Moderately weathered, NXMDC 28.8 ft - 33.5 ft, Light green & gray, PHYLLITE, Medium hard, Slightly weathered, Poor rock, Rust and brown staining on joint surfaces. RMR = 29	1 (20)	96 (0)	1 2 2 2 2	Top of Bedrock @ 28.5 ft				
35		33.5 ft - 35.6 ft, Light green & gray, PHYLLITE, Medium hard, Slightly weathered, NXMDC 35.6 ft - 37.3 ft, Light tan, PHYLLITE, Soft, Moderately weathered, Rust and purple staining on joints throughout core. 37.3 ft - 38.5 ft, Light green & gray, PHYLLITE, Medium hard, Slightly weathered, Poor rock, RMR = 30	2 (20)	98 (0)	1 1 2 2 2					
40		Hole stopped @ 38.5 ft								
45										

Remarks:
Hole collapsed at 9.8 ft.

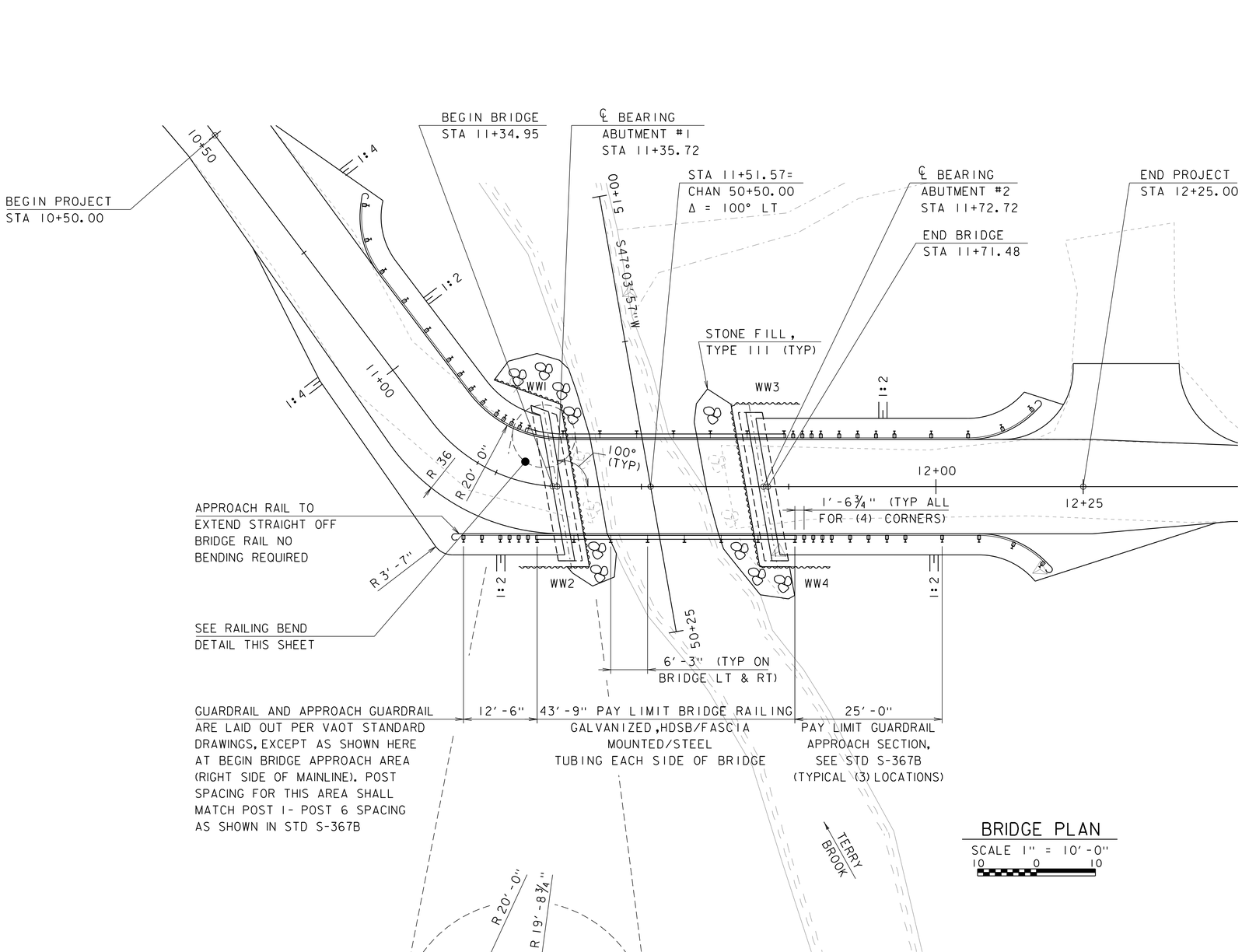
Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. C is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may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

BORING LOG 2 SANDGATE BO 1441(30).GPJ VERMONT AOT.GDT 6/23/15

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086bor.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D. PETERSON
BORING LOG SHEET 2

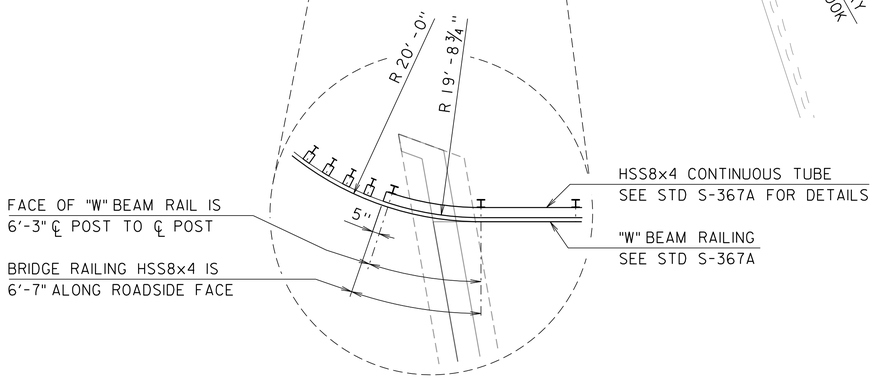
PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON
SHEET 14 OF 36



BRIDGE PLAN

SCALE 1" = 10'-0"

10 0 10



RAILING BEND DETAIL

SCALE: 1"=5'-0"

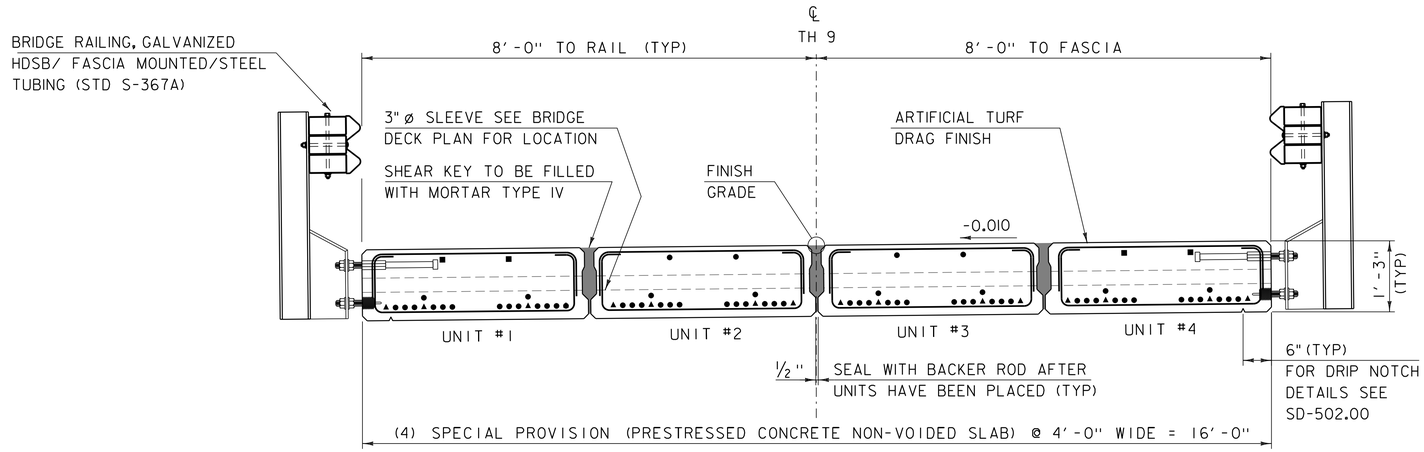
PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)
FILE NAME: s13j086pe.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: M. LONGSTREET
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
BRIDGE PLAN SHEET	SHEET 15 OF 36

BRIDGE DECK NOTES:

1) SEE "NON-VOIDED SLAB UNIT DETAILS" SHEET FOR UNIT #1 -#4 SLAB DETAILS.

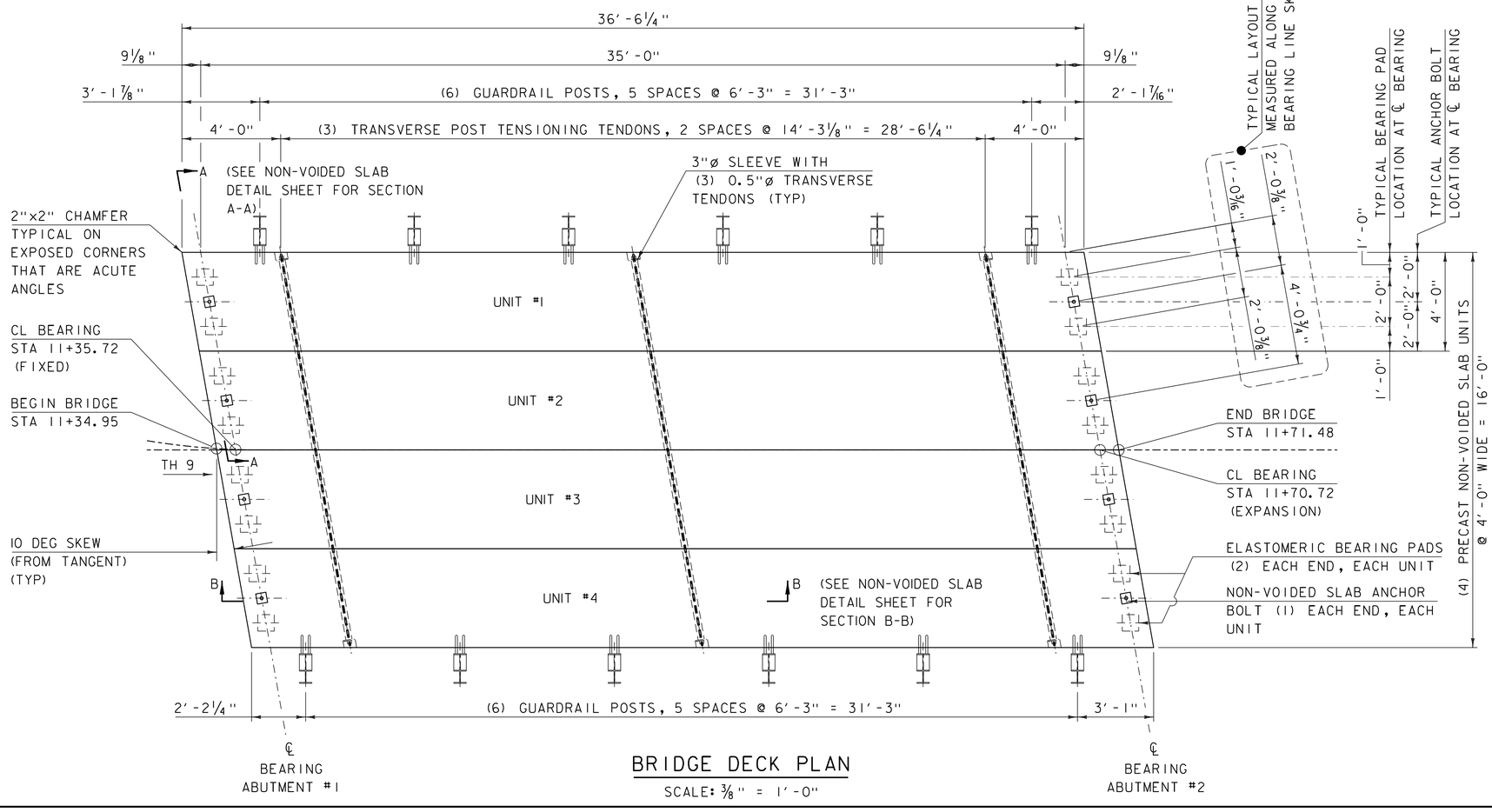
2) ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE LEVEL 1 EPOXY COATED.

3) THE FABRICATOR SHALL DESIGN AND LOCATE LIFTING ANCHORS FOR EACH NON-VOIDED SLAB UNIT. THE LIFTING ANCHORS SHALL BE REMOVED AFTER ERECTION. THE ANCHORS SHALL BE COVERED WITH A MINIMUM OF 2" OF MORTAR TYPE IV. THE ANCHORS SHALL BE GALVANIZED OR STAINLESS STEEL; ANY DAMAGE TO ANY COATINGS SHALL BE REPAIRED AS PER MANUFACTURER'S SPECIFICATION PRIOR TO COVERING.



BRIDGE DECK TYPICAL SECTION

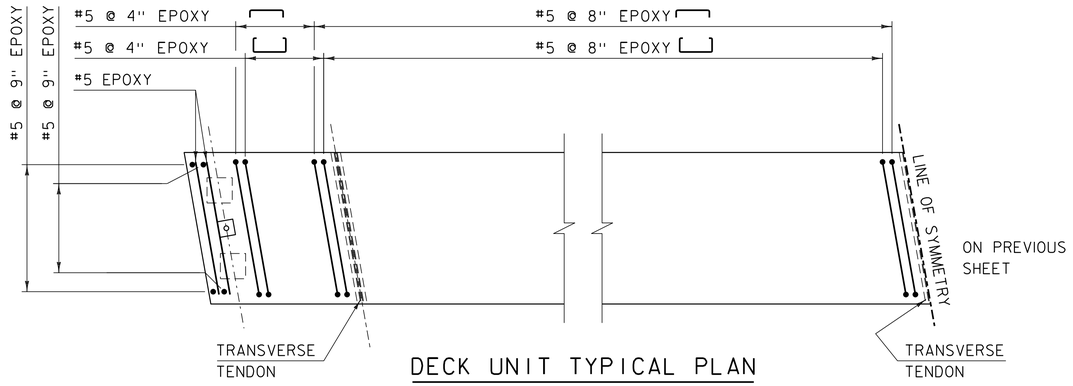
SCALE: 3/4" = 1'-0"



BRIDGE DECK PLAN

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

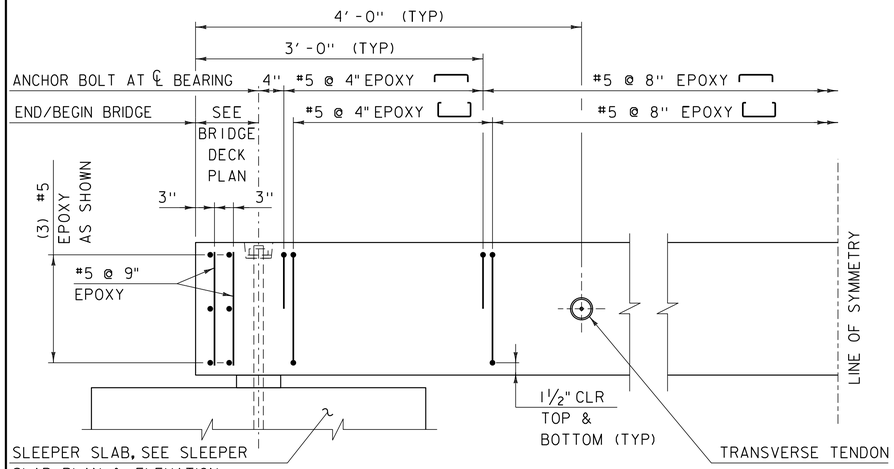
PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)
FILE NAME: 13J086sup.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: D. PETERSON
DECK TYPICAL & PLAN	SHEET 16 OF 36



DECK UNIT TYPICAL PLAN

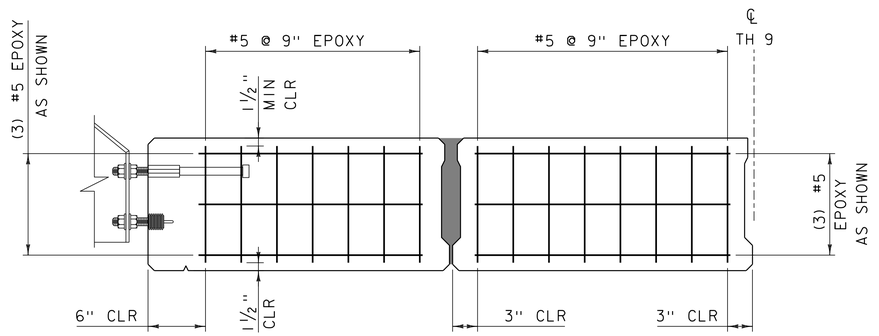
NOT TO SCALE

1. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE LEVEL I EPOXY COATED.
2. REINFORCING STEEL SHOWN IN THIS PLAN IS TYPICAL FOR UNITS 1-4.



DECK SECTION B-B

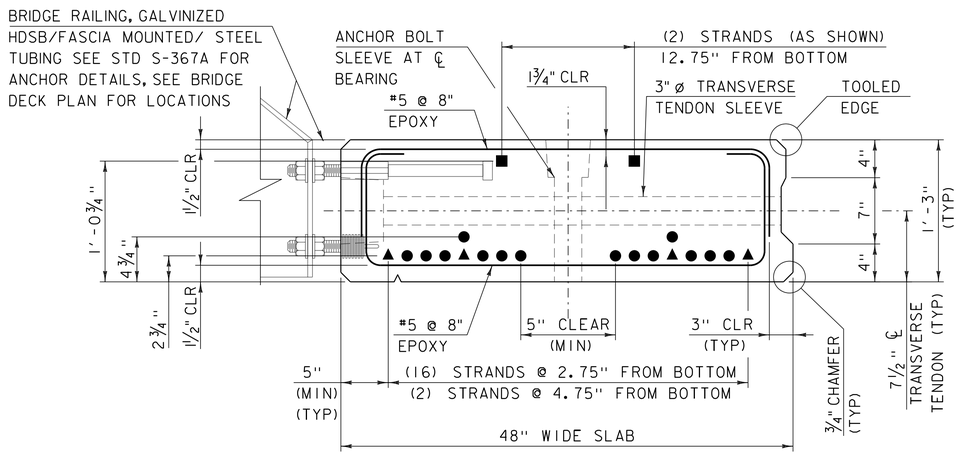
NOT TO SCALE



DECK SECTION A-A

NOT TO SCALE

1. UNIT #1 & #2 DRAWN ABOVE, UNIT #3 & #4 ARE A MIRROR IMAGE.
2. SECTION DRAWN NORMAL TO DECK, NOT AT SKEW, FOR CLARITY.
3.) REINFORCING STEEL SHOWN IN THIS SECTION IS REQUIRED AT EACH END OF THE BEAM



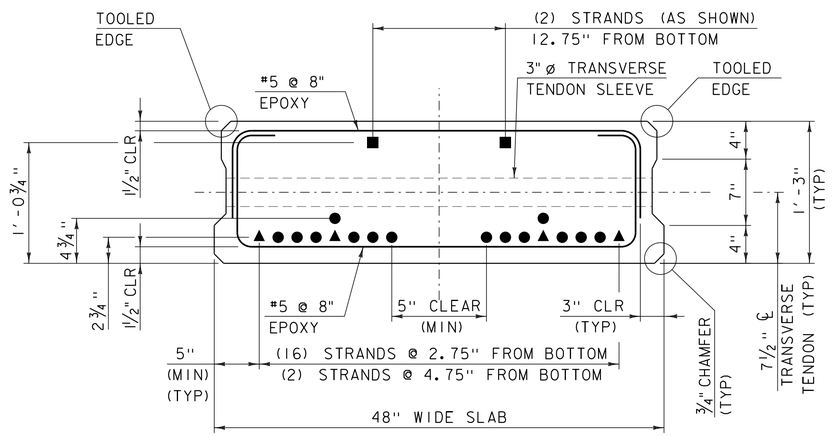
UNIT #1 & #4 SLAB DETAIL

SCALE: 1½" = 1'-0"

NOTES

UNIT #4 IS A MIRROR IMAGE OF UNIT #1 (SHOWN)

- ● STRAIGHT STRAND
- ▲ DEBOND 4' OF STRAND AT EACH END OF THE BEAM
- ■ DEBOND 10' OF STRAND AT MIDSPAN



UNIT #2 & #3 SLAB DETAIL

SCALE: 1½" = 1'-0"

NOTES

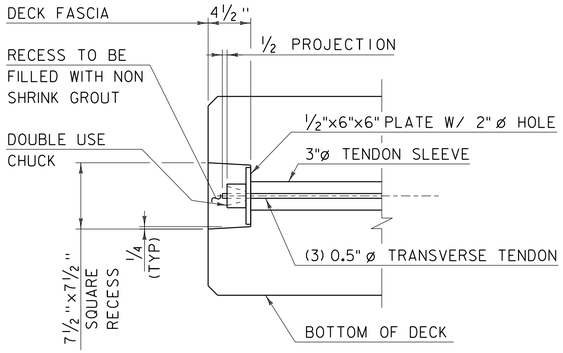
UNIT #3 IS A MIRROR IMAGE OF UNIT #2 (SHOWN)

- ● STRAIGHT STRAND
- ▲ DEBOND 4' OF STRAND AT EACH END OF THE BEAM
- ■ DEBOND 10' OF STRAND AT MIDSPAN

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

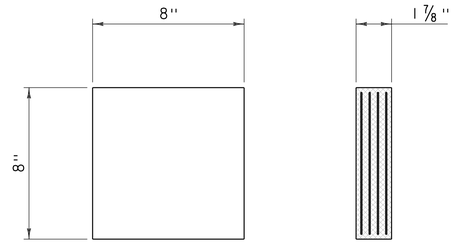
FILE NAME: 13j086sup.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: C. MOONEY
NON-VOIDED SLAB UNIT DETAILS

PLOT DATE: 18-DEC-2015
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 17 OF 36



TRANSVERSE TENDON CHUCK DETAIL

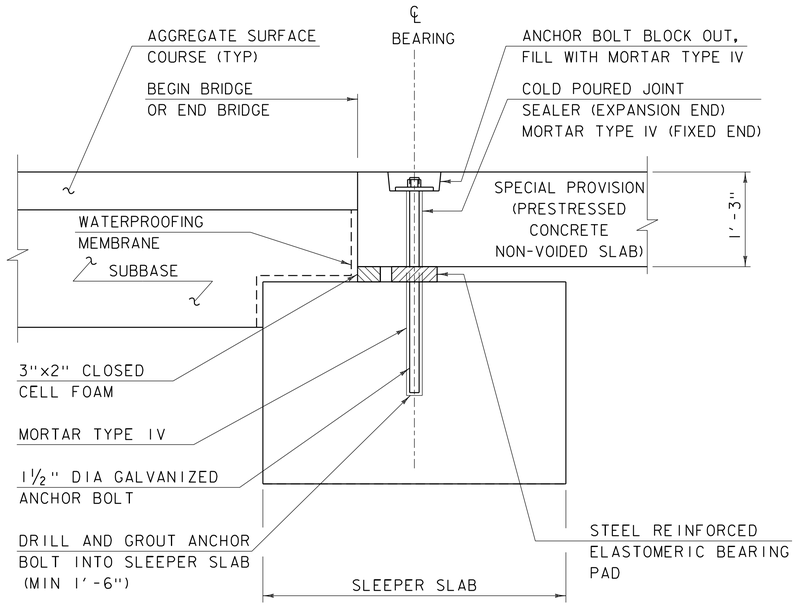
NOT TO SCALE



ELASTOMERIC BEARING DETAIL

NOT TO SCALE

1/4" ELASTOMERIC OUTER LAYER (TOP, BOTTOM, AND SIDES)
(3) 3/8" LAYERS OF INTERIOR ELASTOMERIC ALTERNATING W/
(4) 1/16" STEEL REINFORCING PLATES



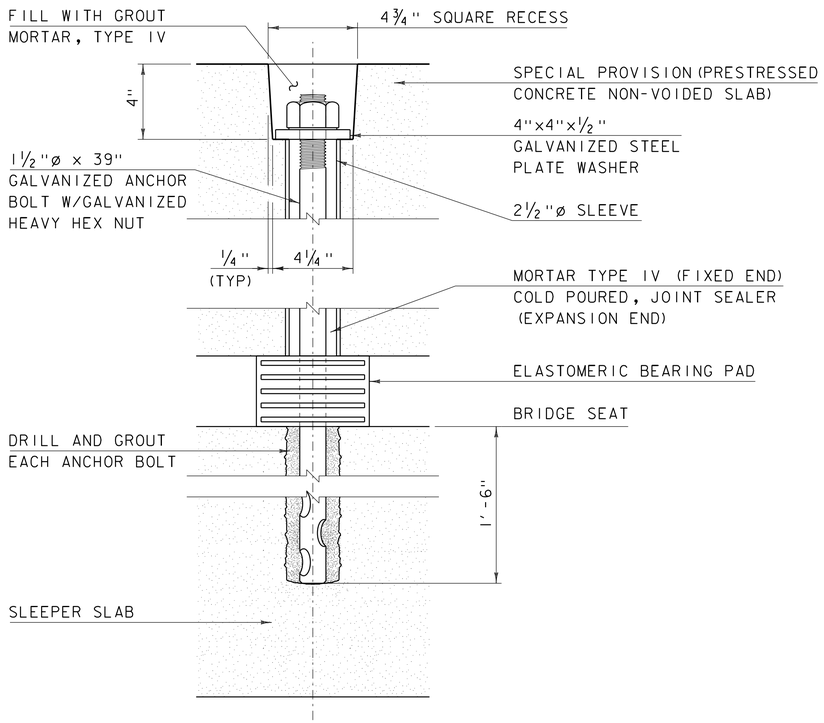
BEGIN / END BRIDGE DETAIL

NOT TO SCALE

NOTE:

1. WATERPROOFING MEMBRANE AND CLOSED CELL FOAM WILL BE CONSIDERED INCIDENTAL TO ITEM 540.10 PRECAST CONCRETE STRUCTURE (SLEEPER SLAB #1) AND (SLEEPER SLAB #2)

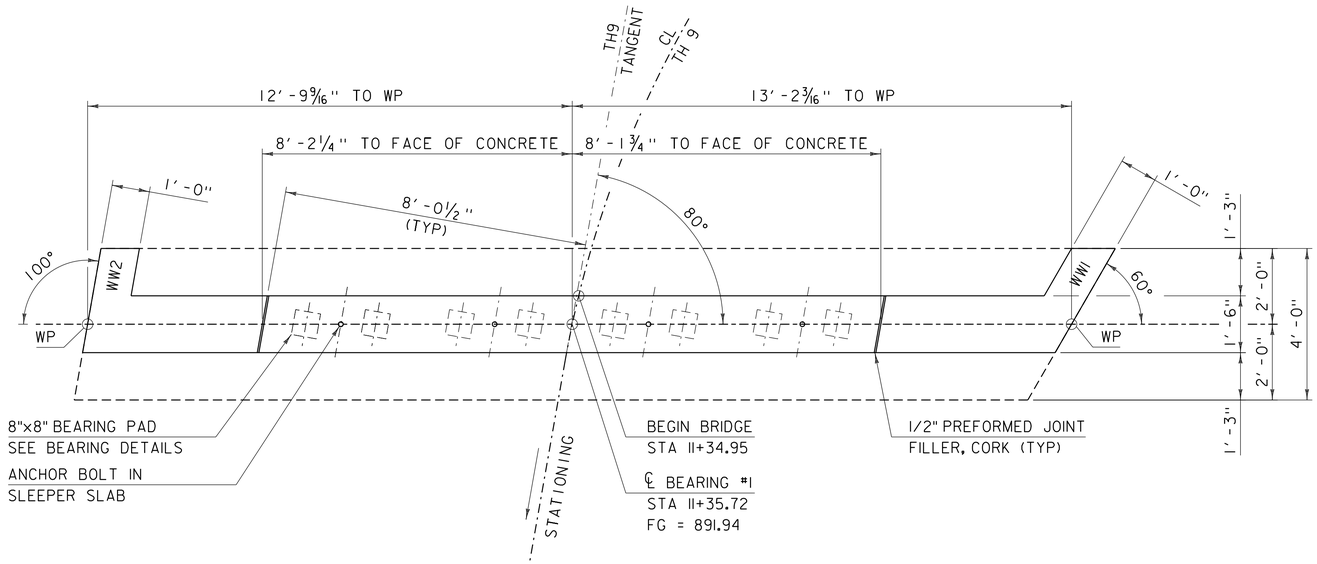
2. PAYMENT FOR ANCHOR BOLT ASSEMBLY, DRILLING AND GROUTING, AND MORTAR TYPE IV FOR ANCHOR BOLTS WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (PRESTRESSES CONCRETE NON-VOIDED SLAB) (15"x48")



ANCHOR BOLT DETAIL

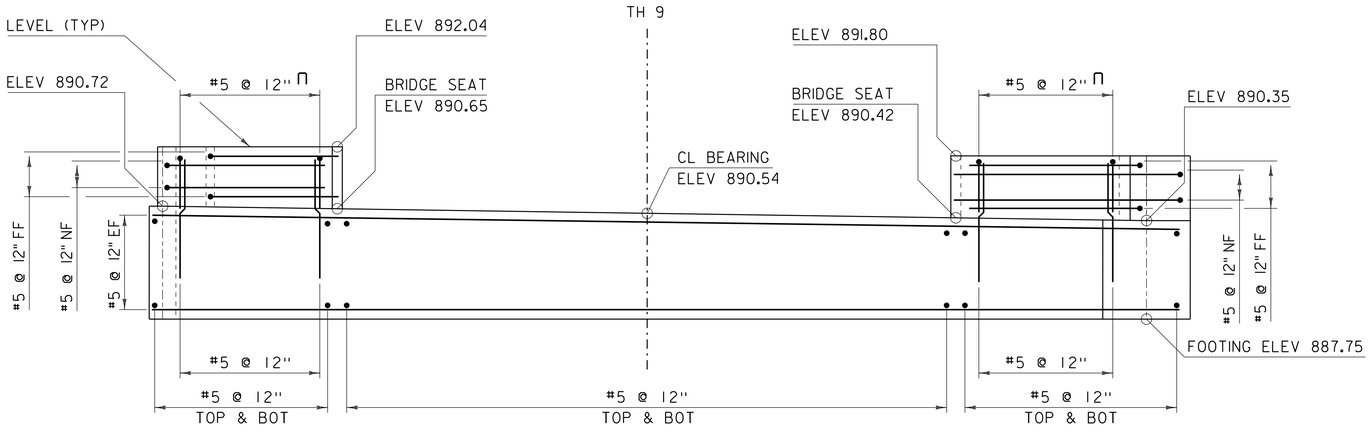
NOT TO SCALE

PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)
FILE NAME: 13j086sup.dgn	PLOT DATE: 05-JAN-2016
PROJECT LEADER: D. BONNEAU	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: D. PETERSON
BEARING & MISCELLANEOUS DETAILS	SHEET 18 OF 36



SLEEPER SLAB 1 PLAN

SCALE: 1/2" = 1′-0"



SLEEPER SLAB 1 ELEVATION

SCALE: 1/2" = 1′-0"

SLEEPER SLAB AND WINGWALL NOTES:

1. THE SLEEPER SLAB SHALL BE PRECAST CONCRETE UNITS. THE FABRICATOR SHALL DESIGN AND LOCATE LIFTING ANCHOR AS NEEDED.

2. THE WINGWALL (EAR WALLS) SHALL BE PRECAST WITH THE ABUTMENTS OR CAST IN PLACE AFTER THE ABUTMENT HAS BE SET IN ITS FINAL LOCATION. LIFTING ANCHORS SHALL BE DESIGNED AND LOCATED BY THE FABRICATOR IF REQUIRED. PAYMENT FOR THE WINGWALL (EAR WALLS) WILL BE CONSIDERED INCIDENTAL TO ITEM 540.10 PRECAST CONCRETE STRUCTURE (SLEEPER SLAB #1 OR #2).

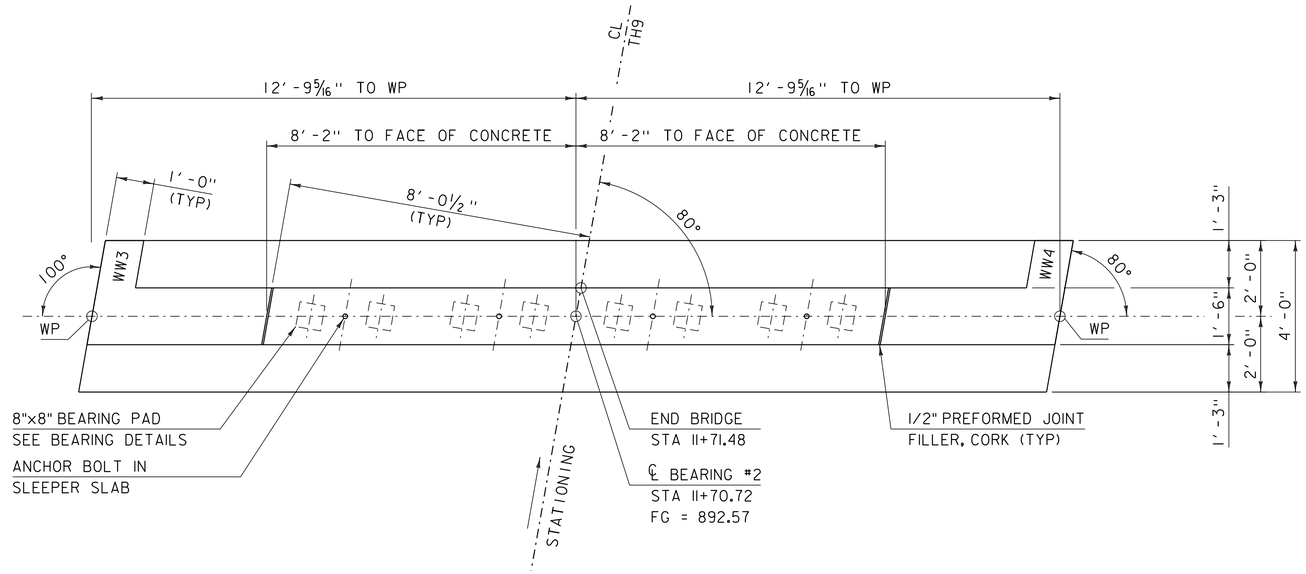
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2′-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

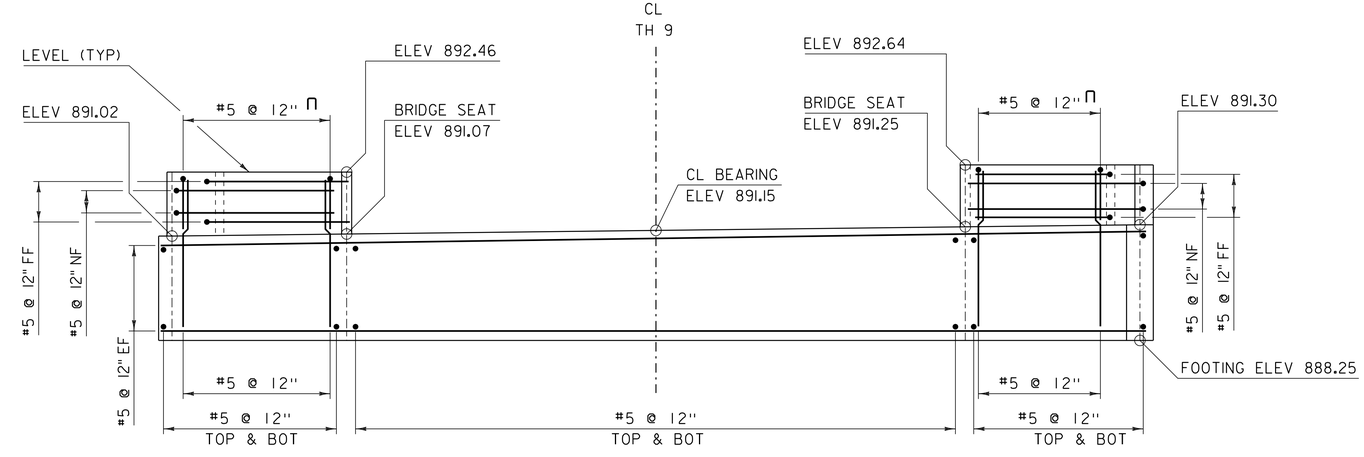
FILE NAME: sl3j086sub.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: C. MOONEY
SLEEPER SLAB 1 PLAN & ELEVATION

PLOT DATE: 05-JAN-2016
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 19 OF 36



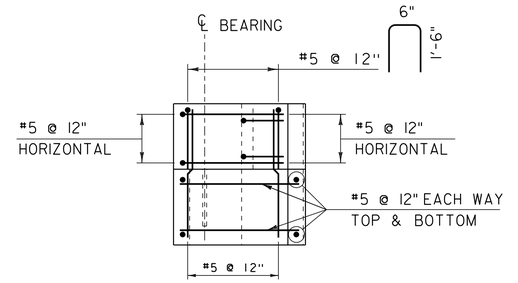
SLEEPER SLAB 2 PLAN

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



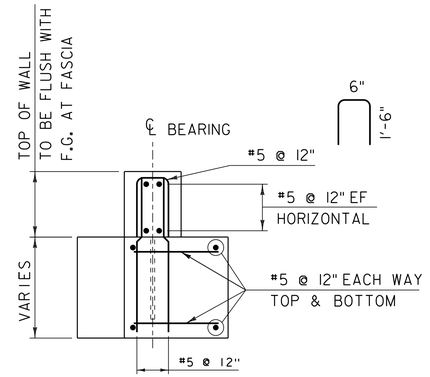
SLEEPER SLAB 2 ELEVATION

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



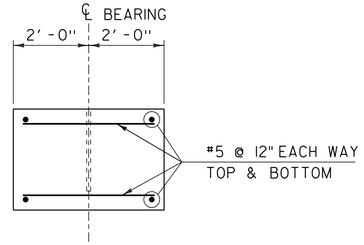
TYPICAL SECTION @ EAR WALLS

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



TYPICAL SECTION SLEEPER SLAB

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



TYPICAL SECTION @ BRIDGE SEAT

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

SEE SLEEPER SLAB 1PLAN & ELEVATION SHEET FOR SLEEPER SLAB AND WINGWALL NOTES.

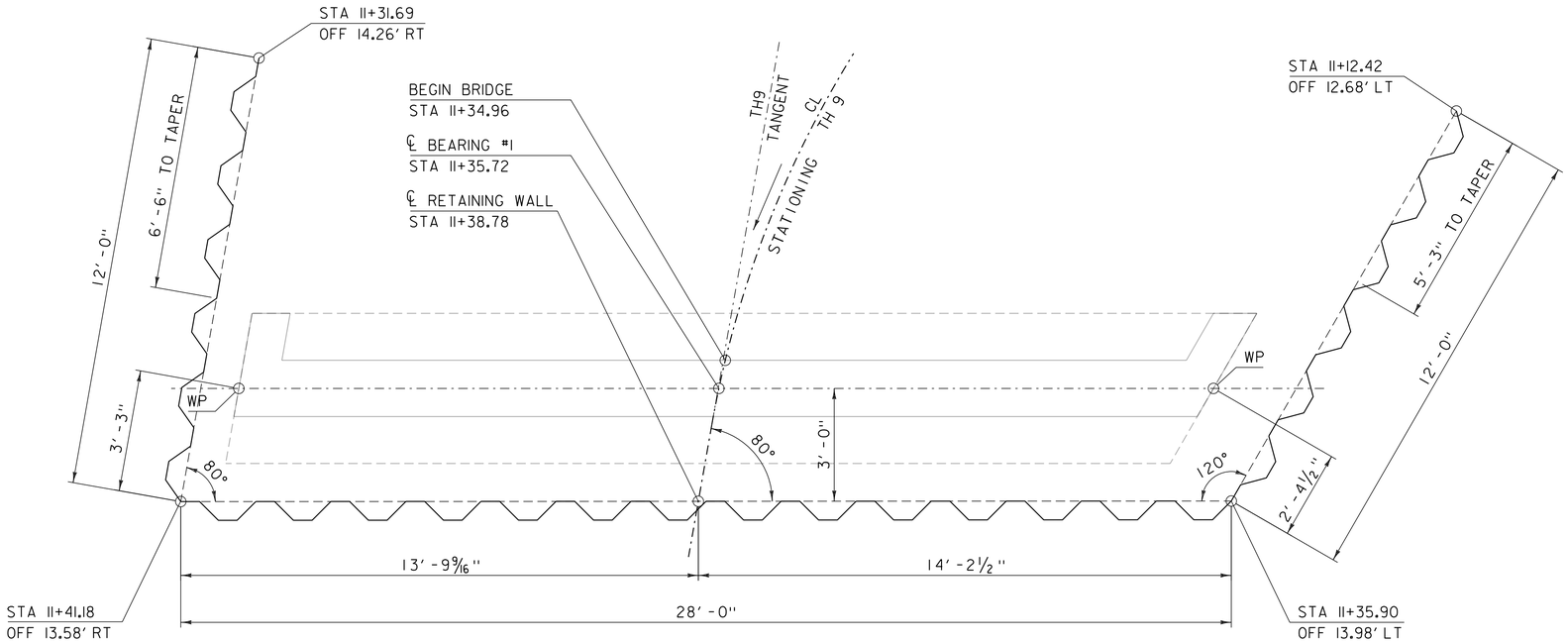
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

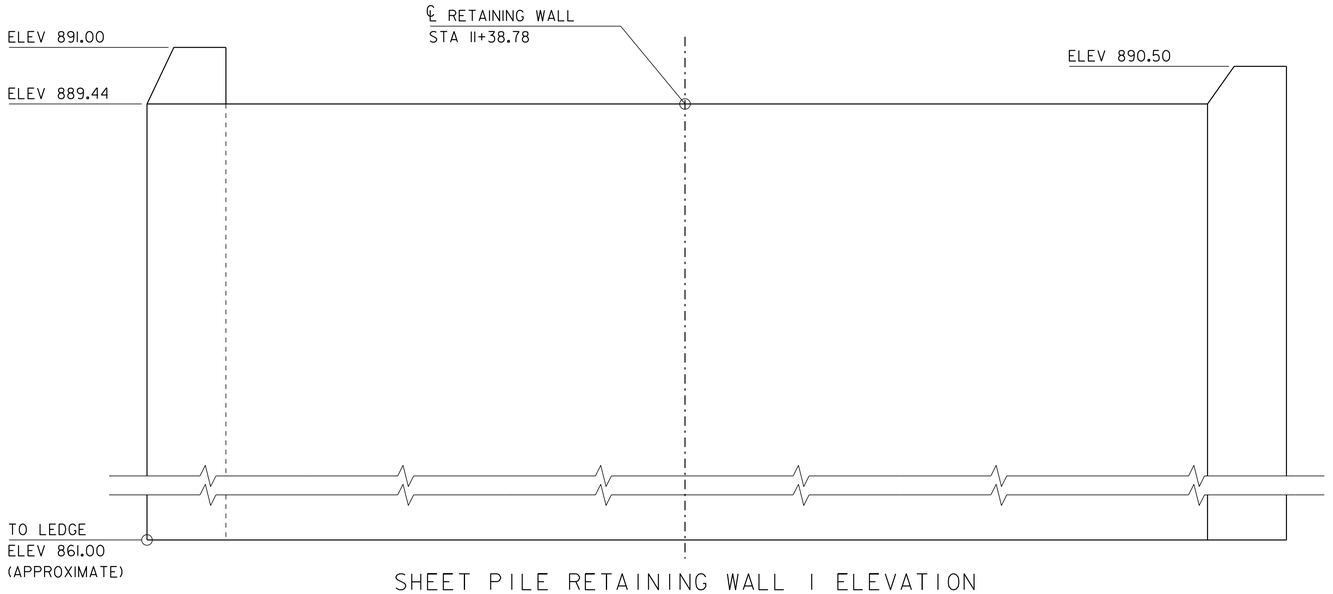
FILE NAME: sl3j086sub.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: C. MOONEY
SLEEPER SLAB 2 PLAN & ELEVATION

PLOT DATE: 18-DEC-2015
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 20 OF 36



SHEET PILE RETAINING WALL 1 PLAN

SCALE: ½" = 1'-0"



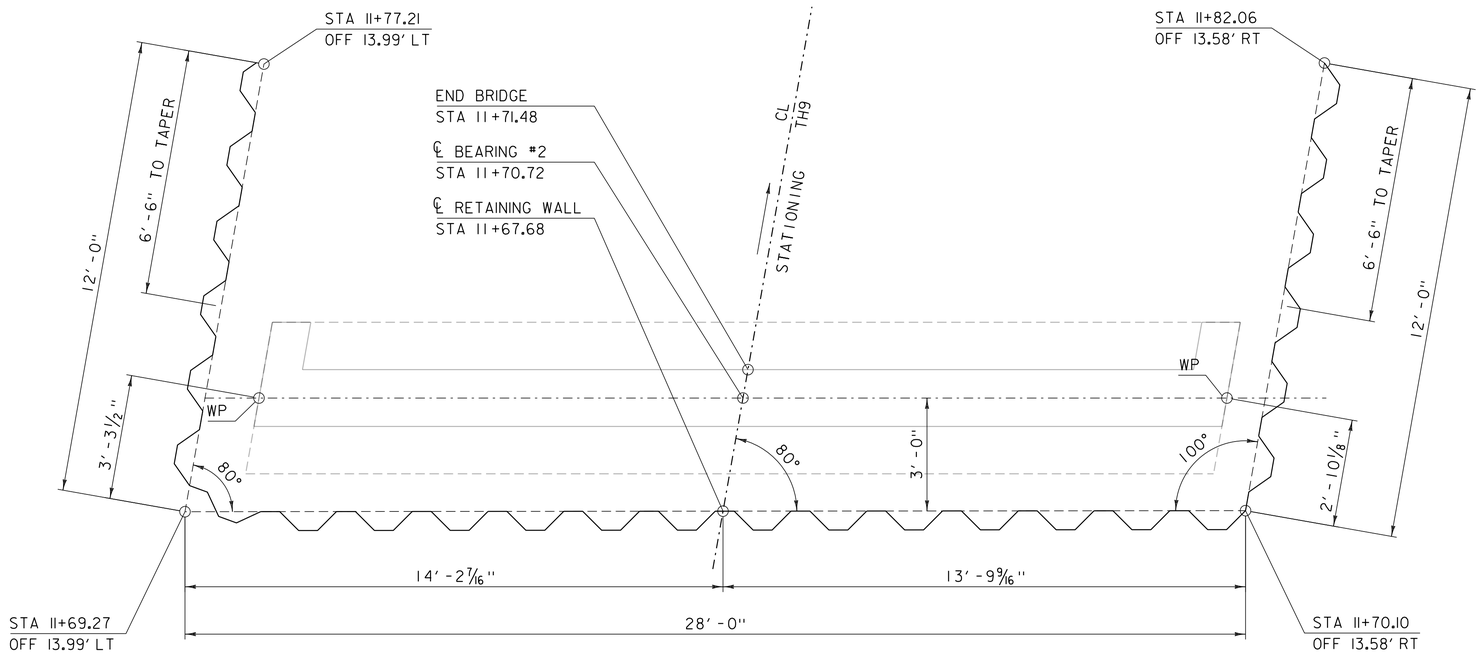
SHEET PILE RETAINING WALL 1 ELEVATION

SCALE: ½" = 1'-0"

NOTE:
THE TOP OF THE SHEET PILE SHALL BE CUT IN THE FIELD TO THE ELEVATION SPECIFIED IN THE PLANS, AND GROUND SMOOTH AS TO BE FREE FROM BURRS. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 505.35 PERMANENT STEEL SHEET PILING (Z MIN.=57.11N^3)

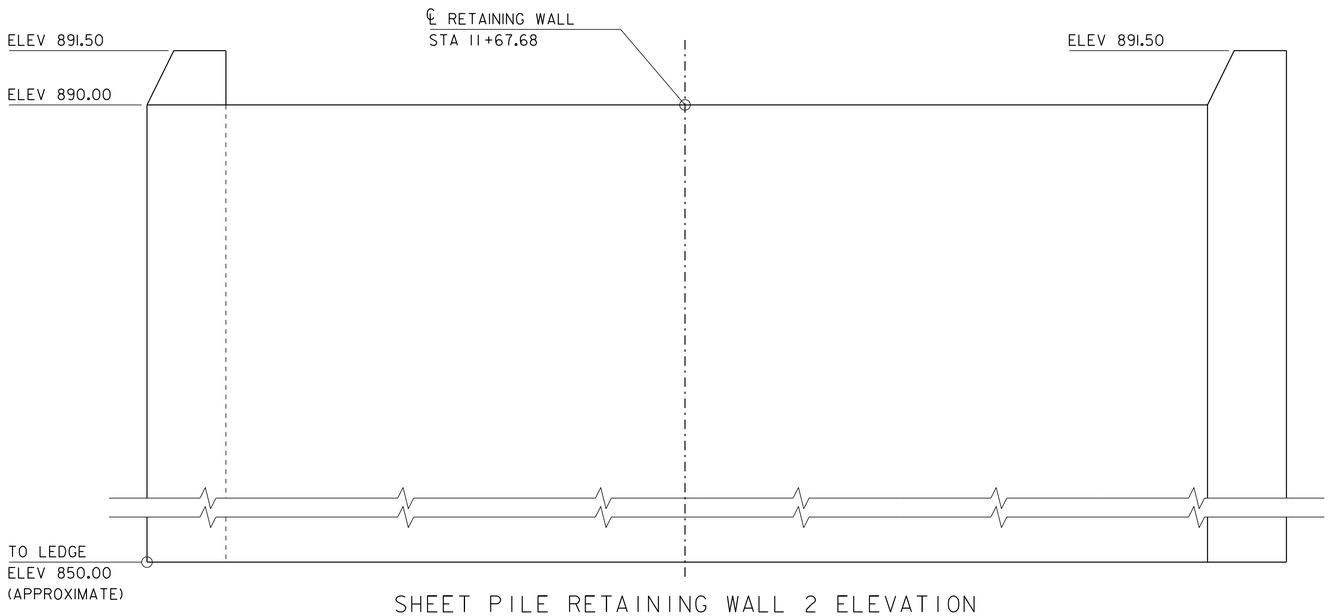
PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)

FILE NAME: sl3j086sub.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: D. PETERSON
RETAINING WALL 1 PLAN & ELEVATION	SHEET 21 OF 36



SHEET PILE RETAINING WALL 2 PLAN

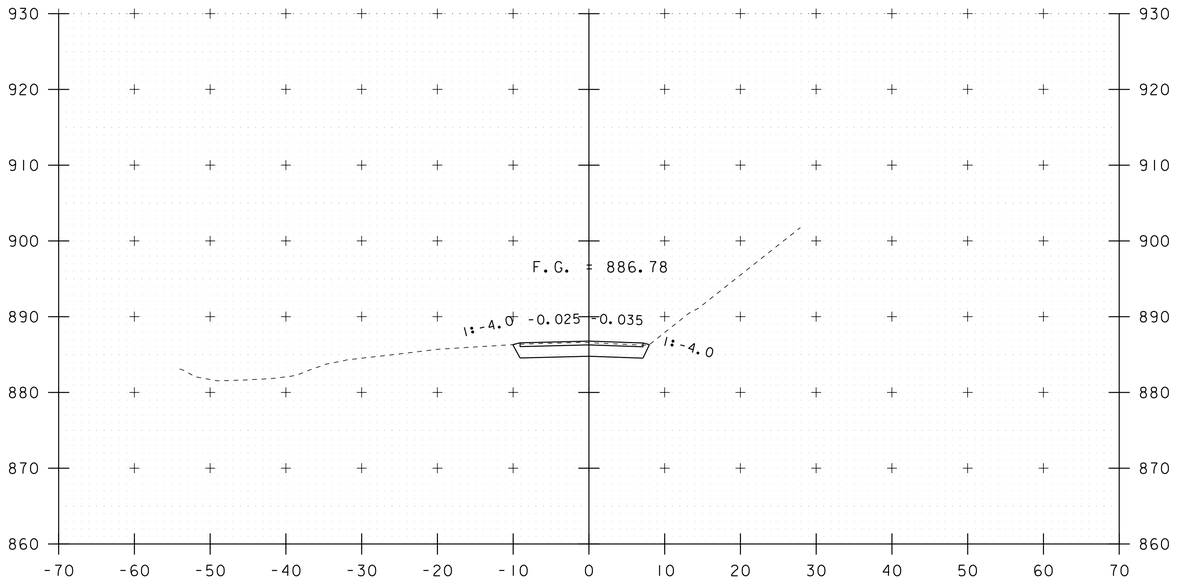
SCALE: ½" = 1'-0"



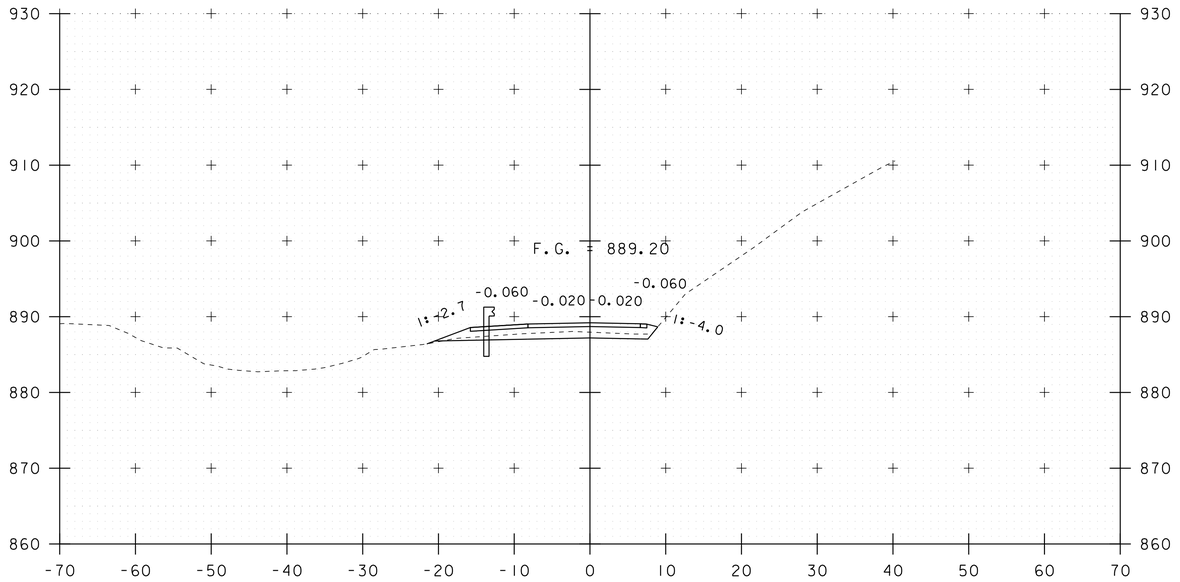
SHEET PILE RETAINING WALL 2 ELEVATION

SCALE: ½" = 1'-0"

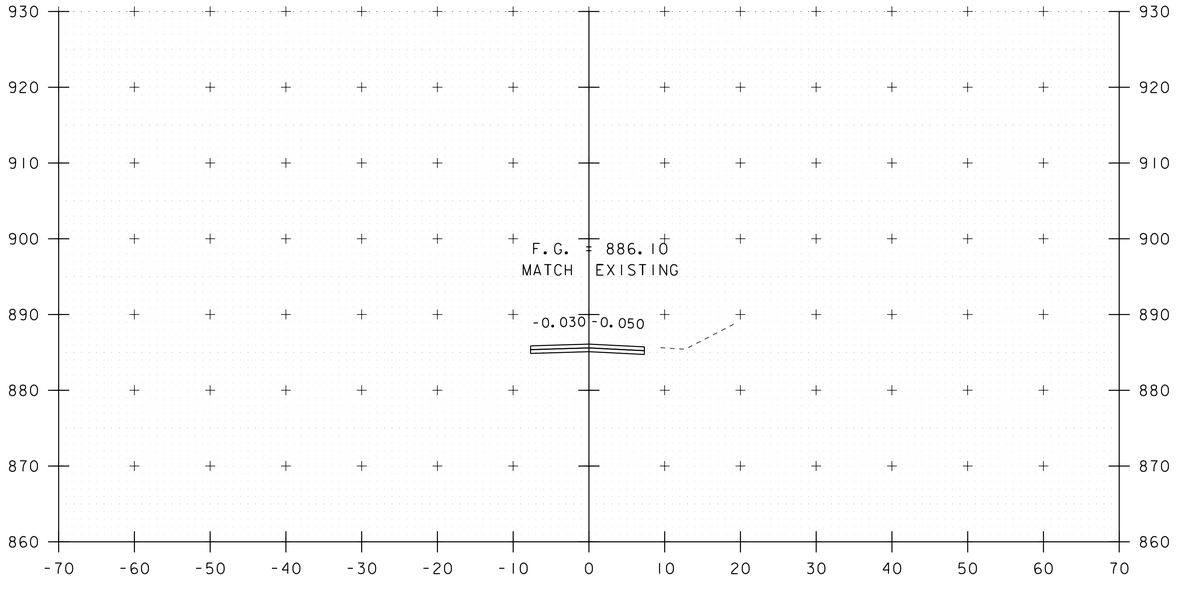
PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)
FILE NAME: sl3j086sub.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: D. PETERSON
RETAINING WALL 2 PLAN & ELEVATION	SHEET 22 OF 36



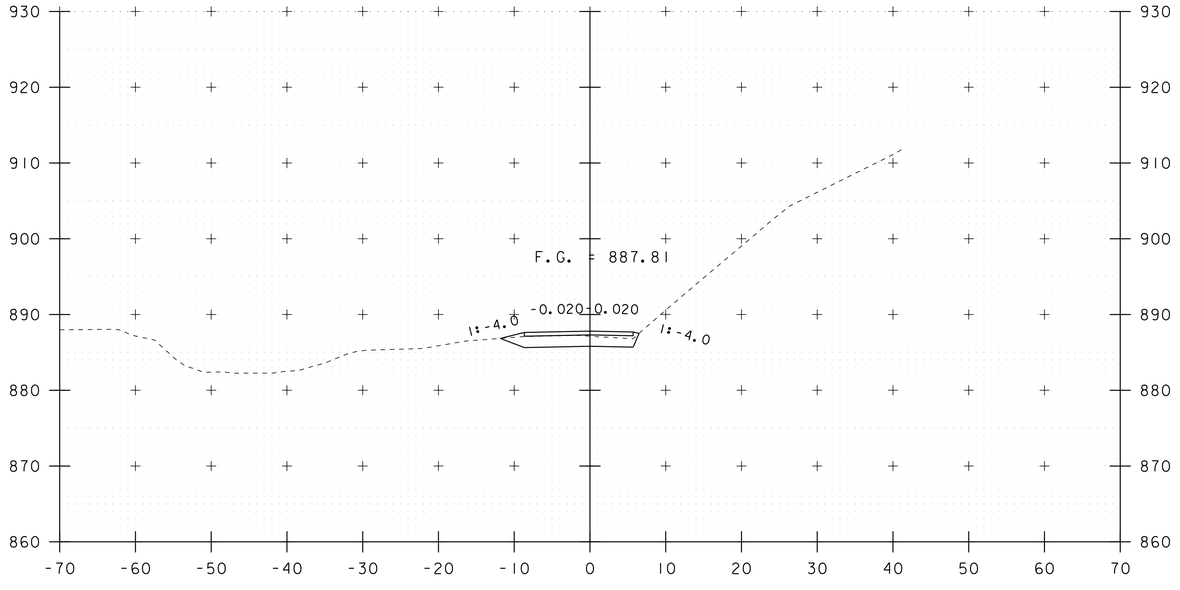
10+25



10+75



10+00

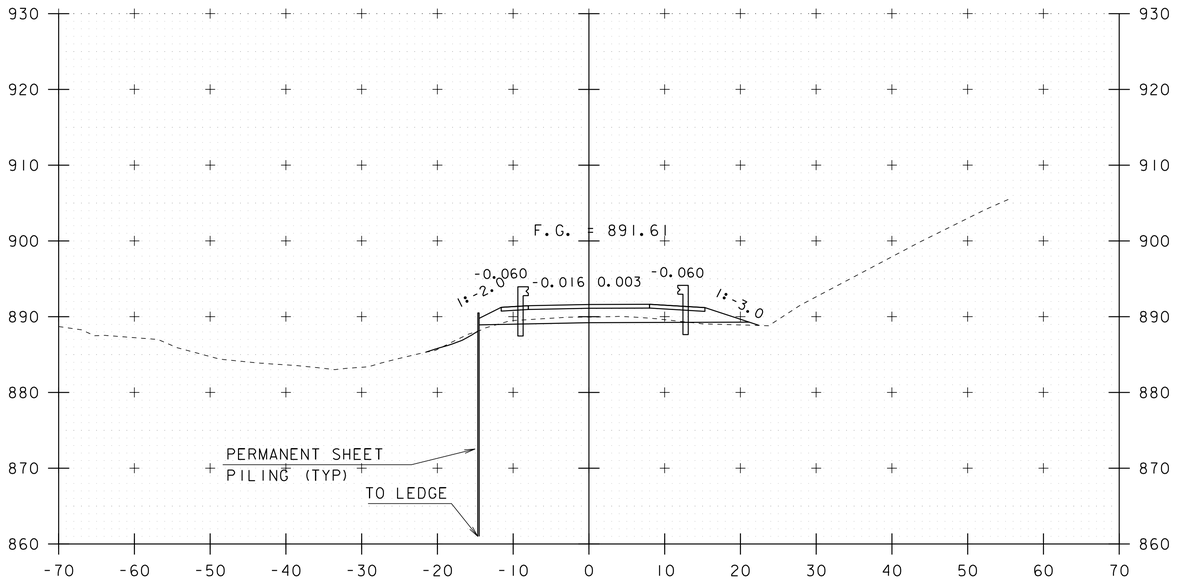


10+50

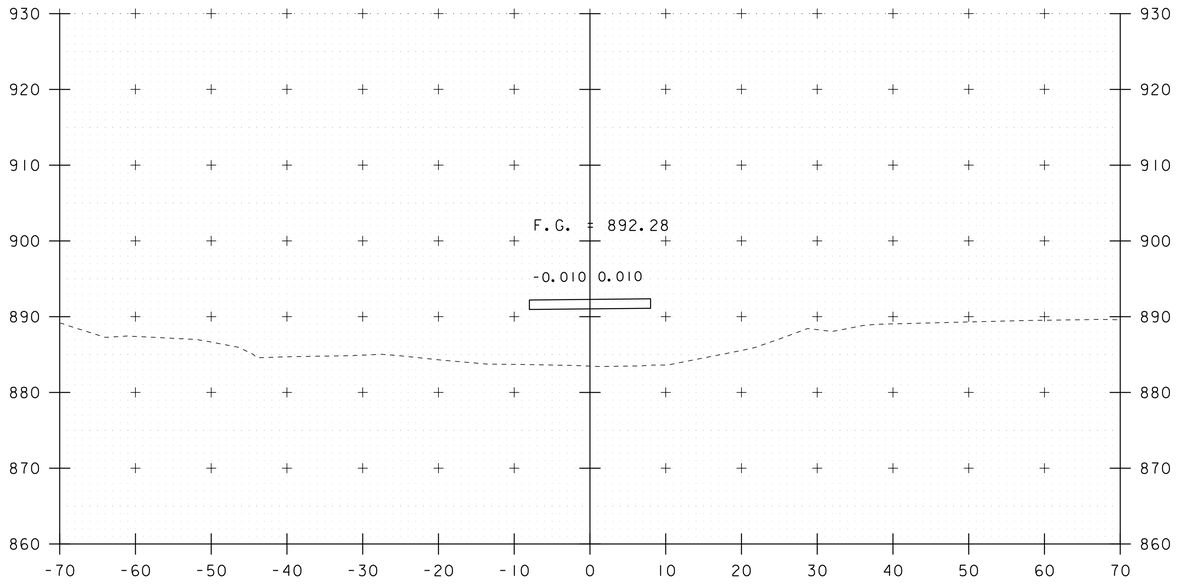
PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)

FILE NAME: sl3j086xs.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: M. LONGSTREET
DESIGNED BY: D.PETERSON	CHECKED BY: D.PETERSON
TH9 CROSS SECTION SHEET 1	SHEET 23 OF 36

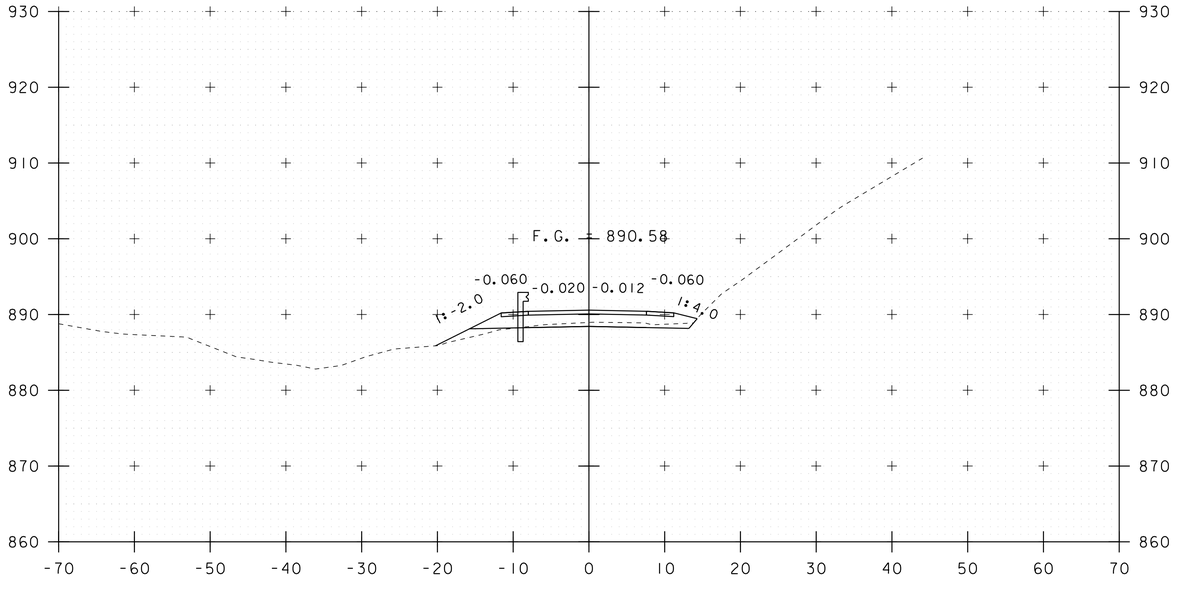
STA. 10+00 TO STA. 10+75



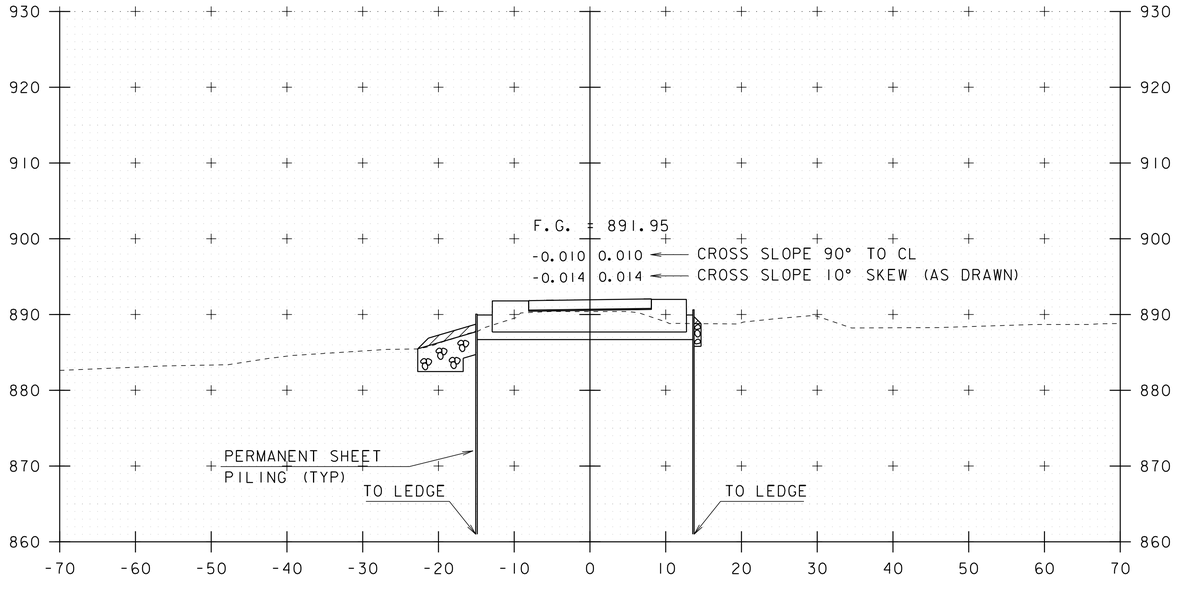
11+25



11+50



11+00



BEGIN BRIDGE
STA 11+34.95

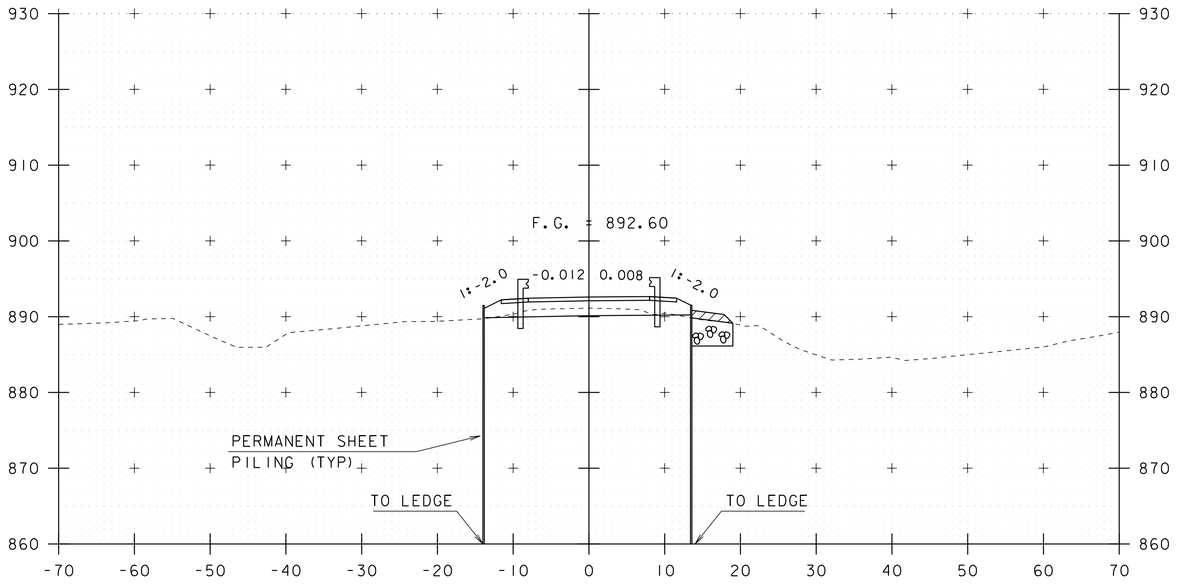
11+36 SECTION CUT ON 10° SKEW ANGLE TO SHOW ABUTMENT #1

STA. 11+00 TO STA. 11+50

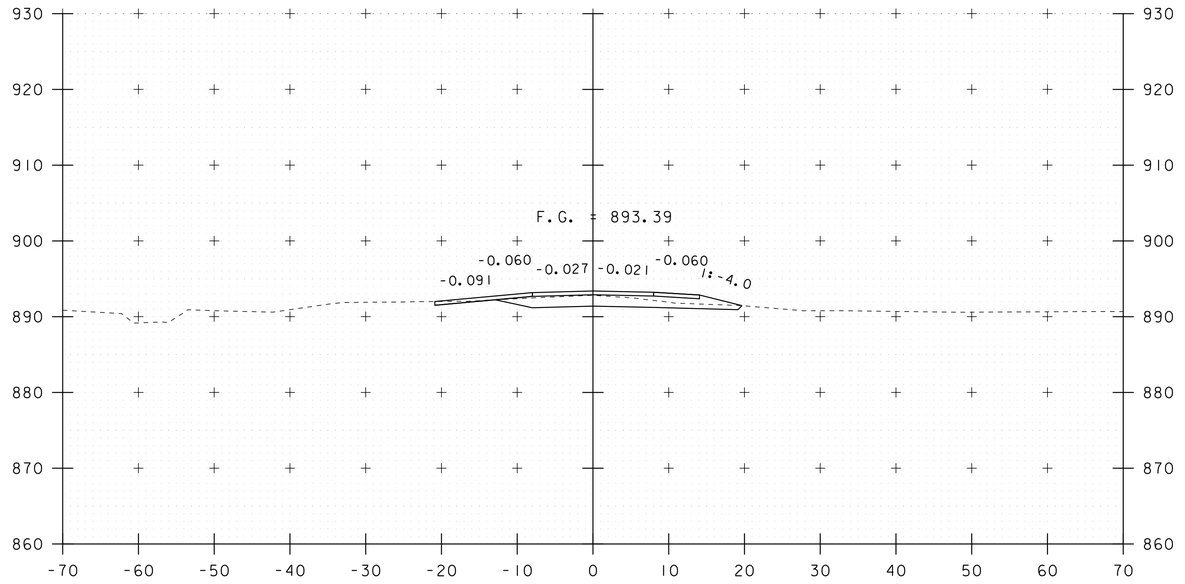
PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086xs.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
TH9 CROSS SECTION SHEET 2

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D.PETERSON
SHEET 24 OF 36

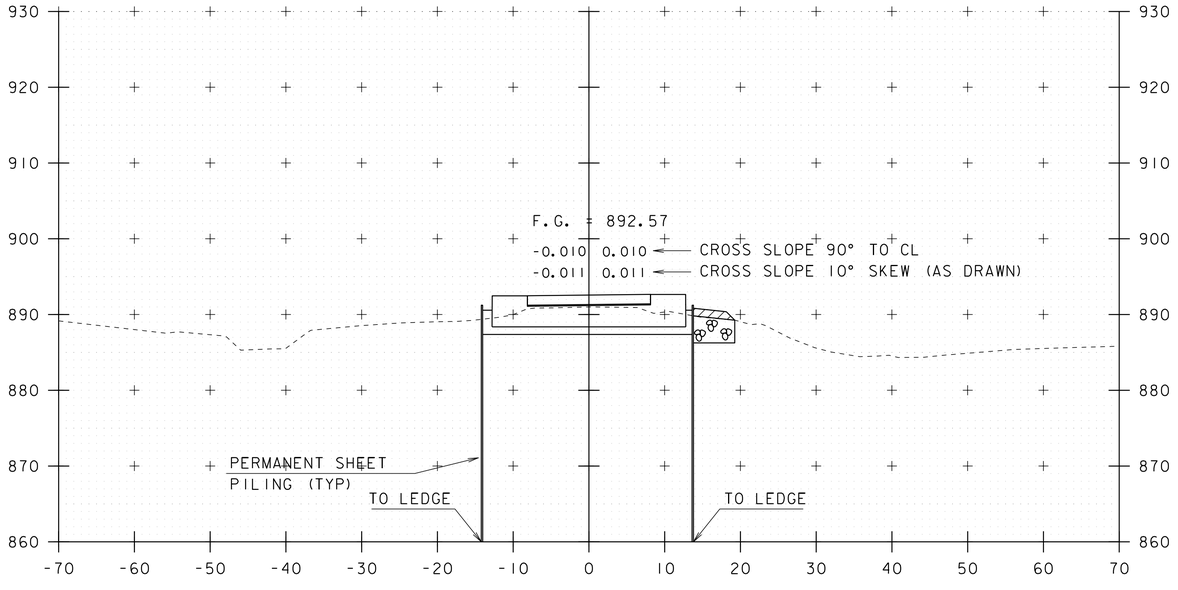


11+75



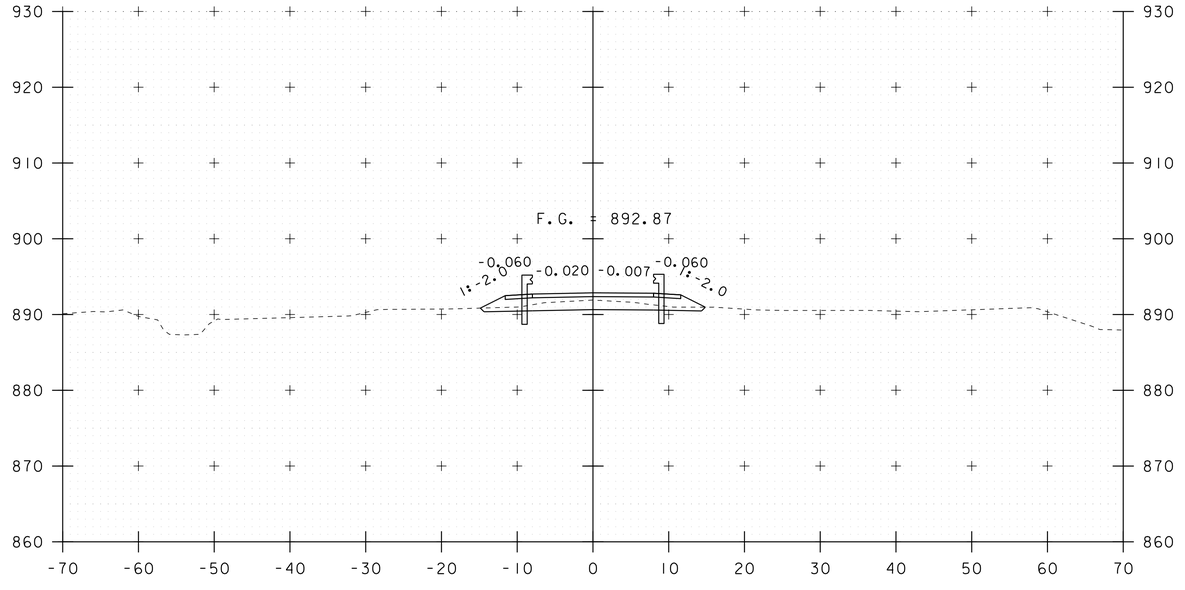
END PROJECT
STA 12+25.00

12+25



END BRIDGE
STA 11+71.48

11+71 SECTION CUT ON 10° SKEW ANGLE
TO SHOW ABUTMENT #2



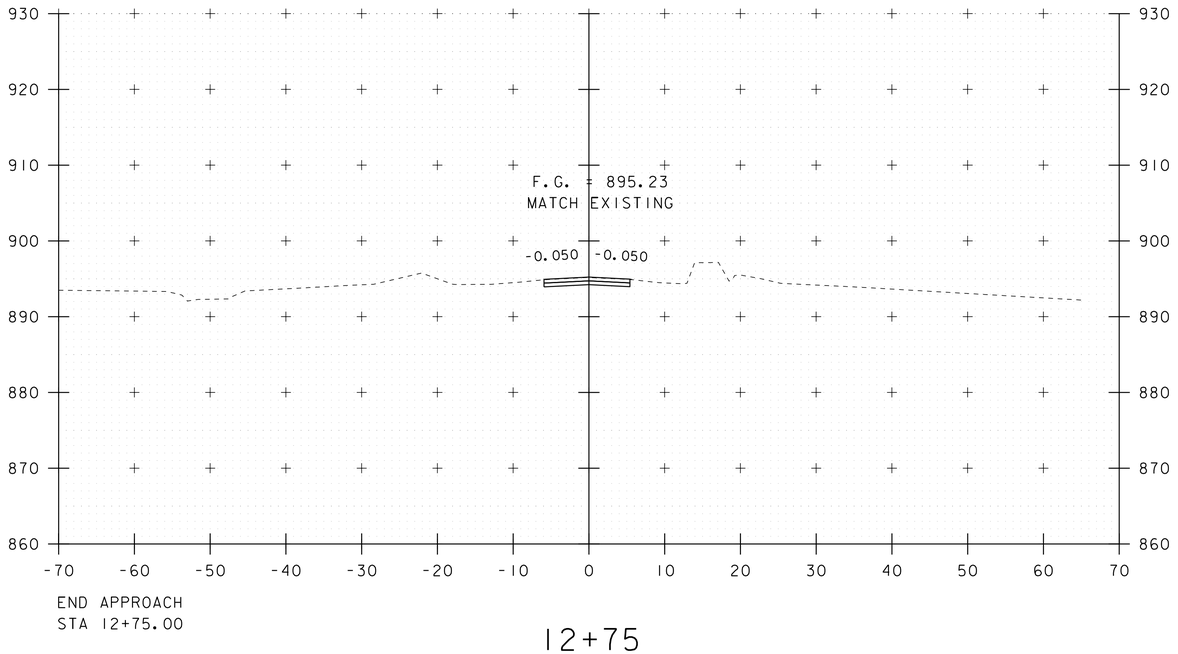
12+00

STA. 11+71 TO STA. 12+25

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

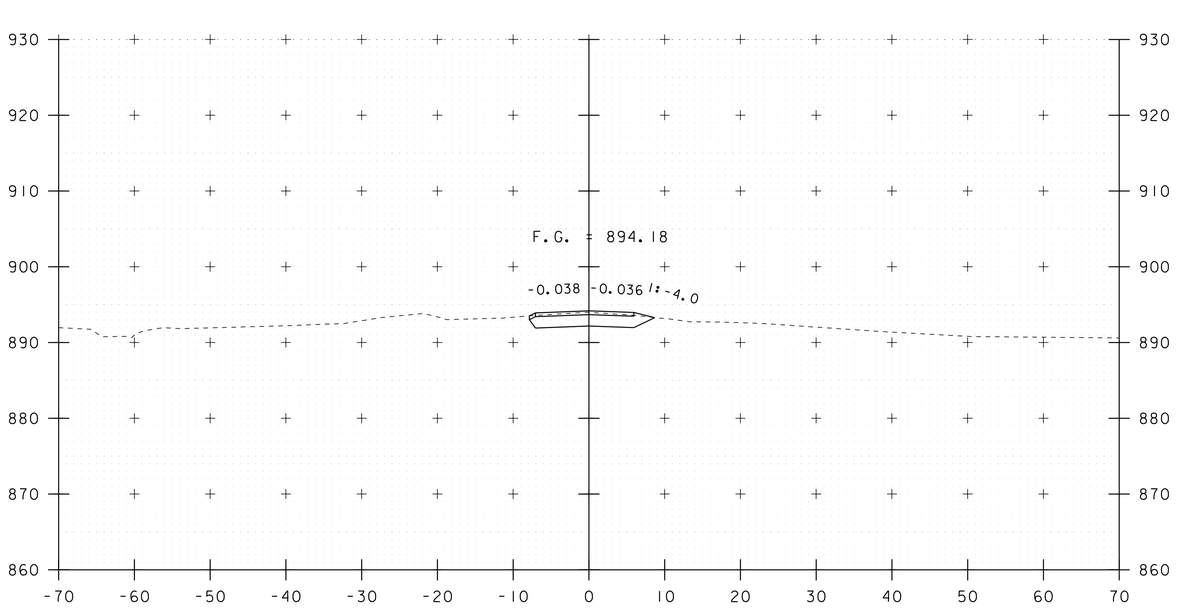
FILE NAME: sl3j086xs.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
TH9 CROSS SECTION SHEET 3

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D.PETERSON
SHEET 25 OF 36



END APPROACH
STA 12+75.00

12+75



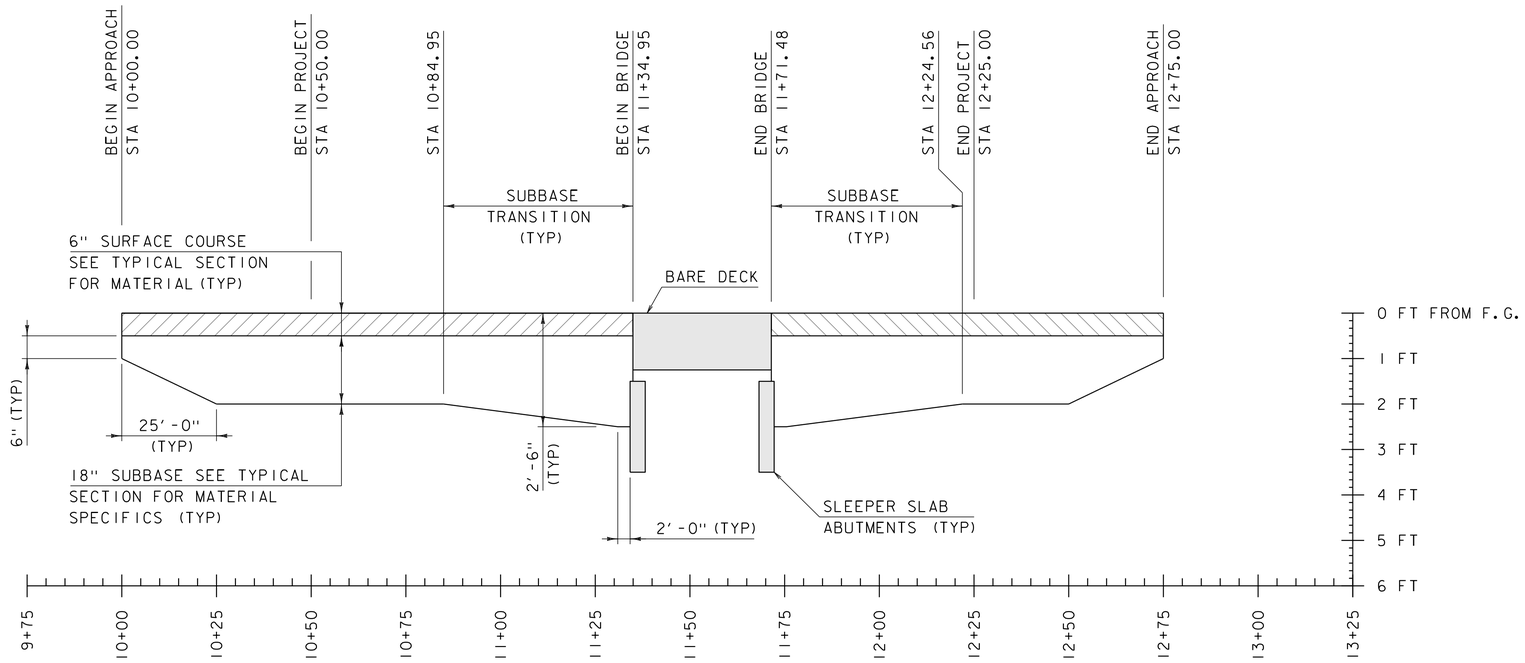
12+50

STA. 12+50 TO STA. 12+75

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086xs.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
TH9 CROSS SECTION SHEET 4

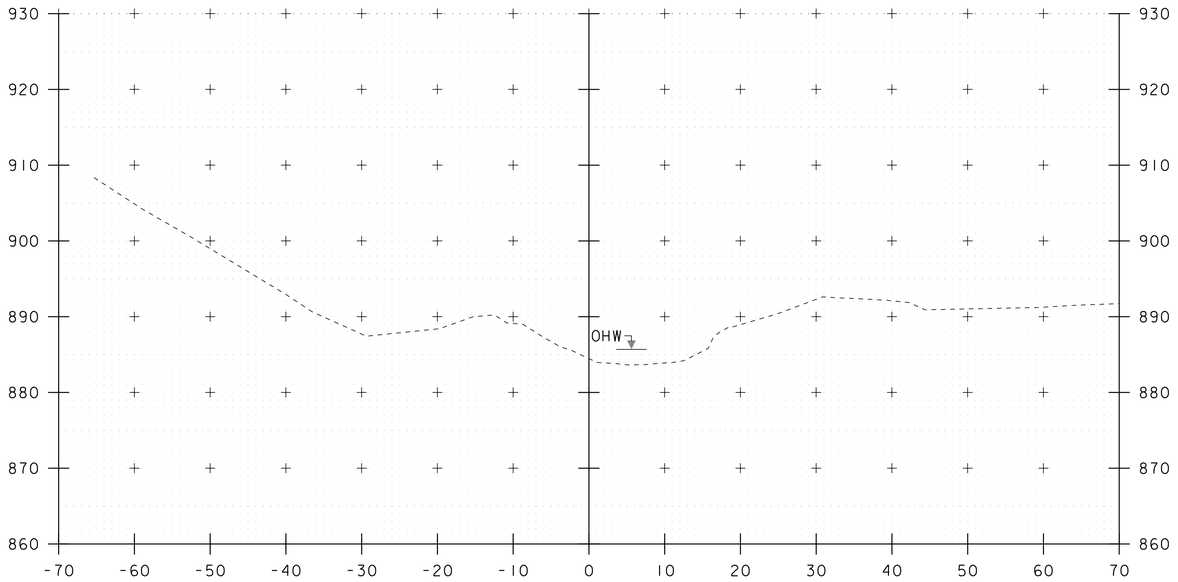
PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D.PETERSON
SHEET 26 OF 36



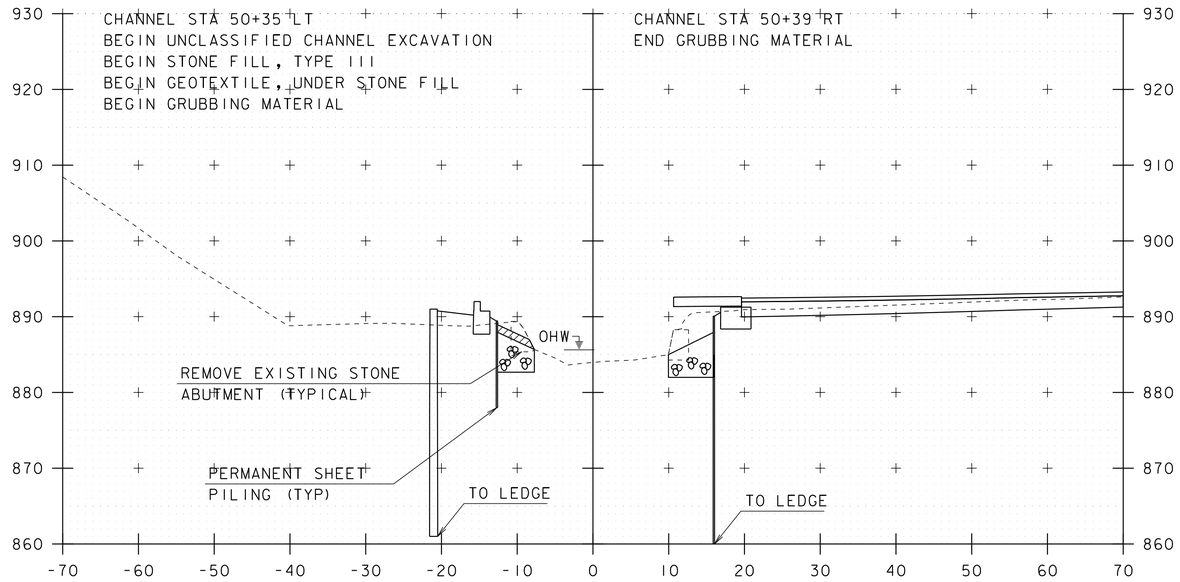
MATERIAL TRANSITION DIAGRAM

SCALE: HORIZONTAL 1" = 20'-0"
VERTICAL 12 (TIMES EXAGGERATED)

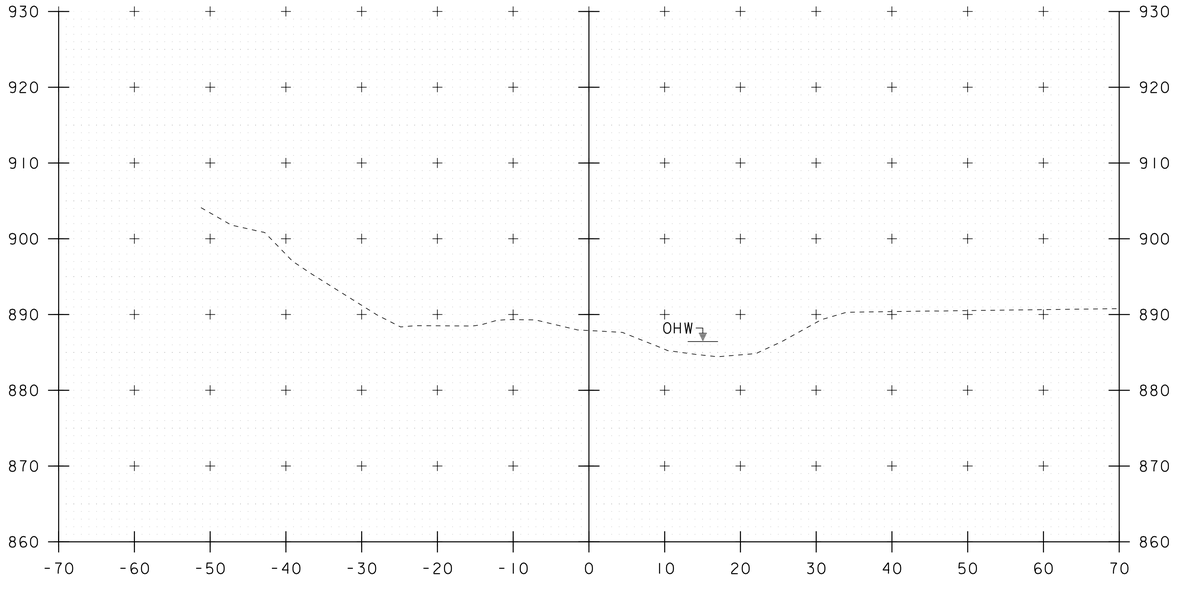
PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)
FILE NAME: sl3j086pro.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: D. KARABEGOVIC
DESIGNED BY: D.PETERSON	CHECKED BY: D.PETERSON
MATERIAL TRANSITION DIAGRAM	SHEET 27 OF 36



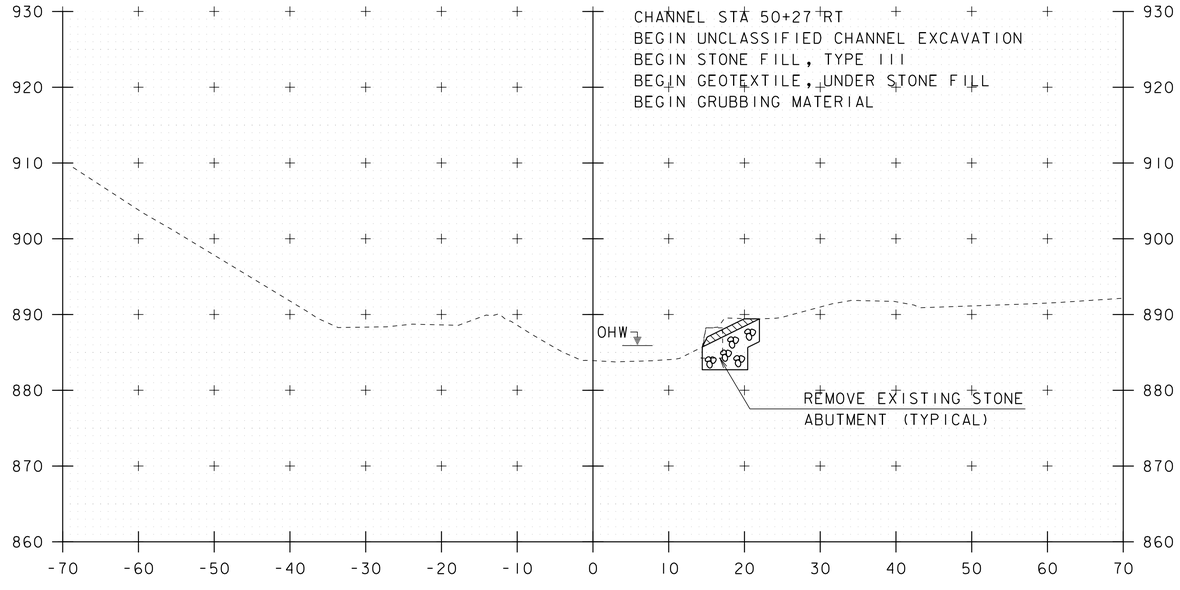
50+25



50+40



50+00



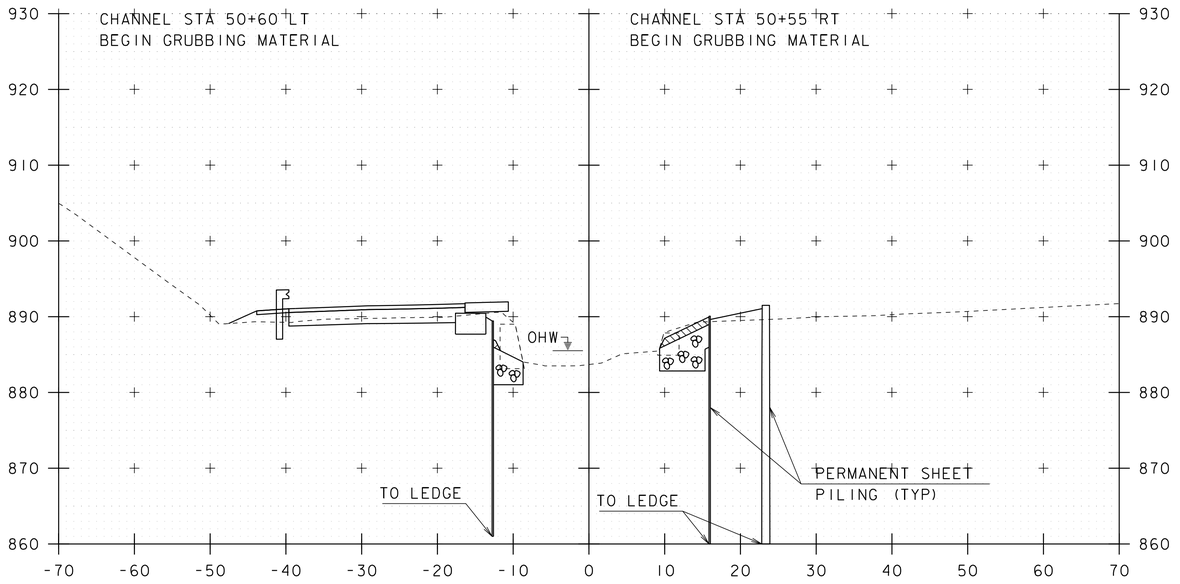
50+30

STA. 50+00 TO STA. 50+40

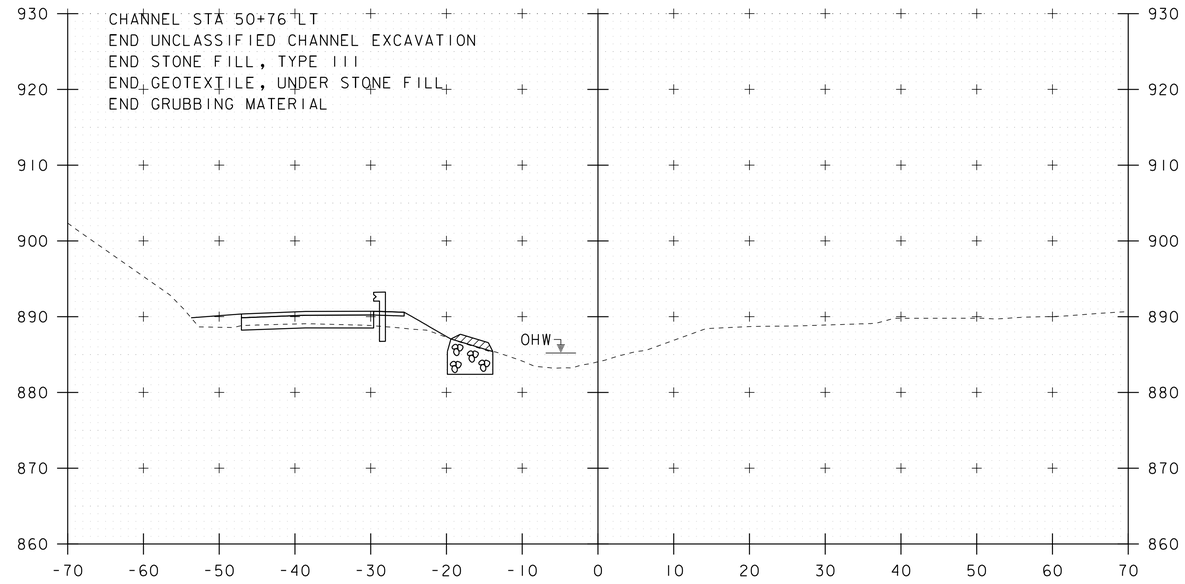
PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086xs.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
CHANNEL CROSS SECTION SHEET 1

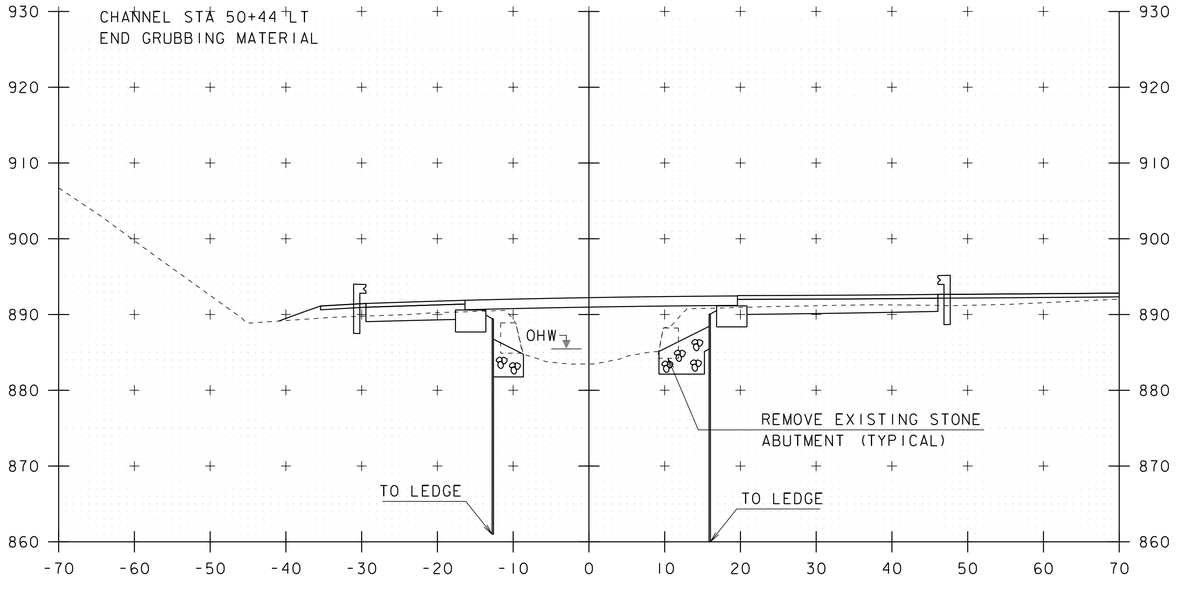
PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D.PETERSON
SHEET 28 OF 36



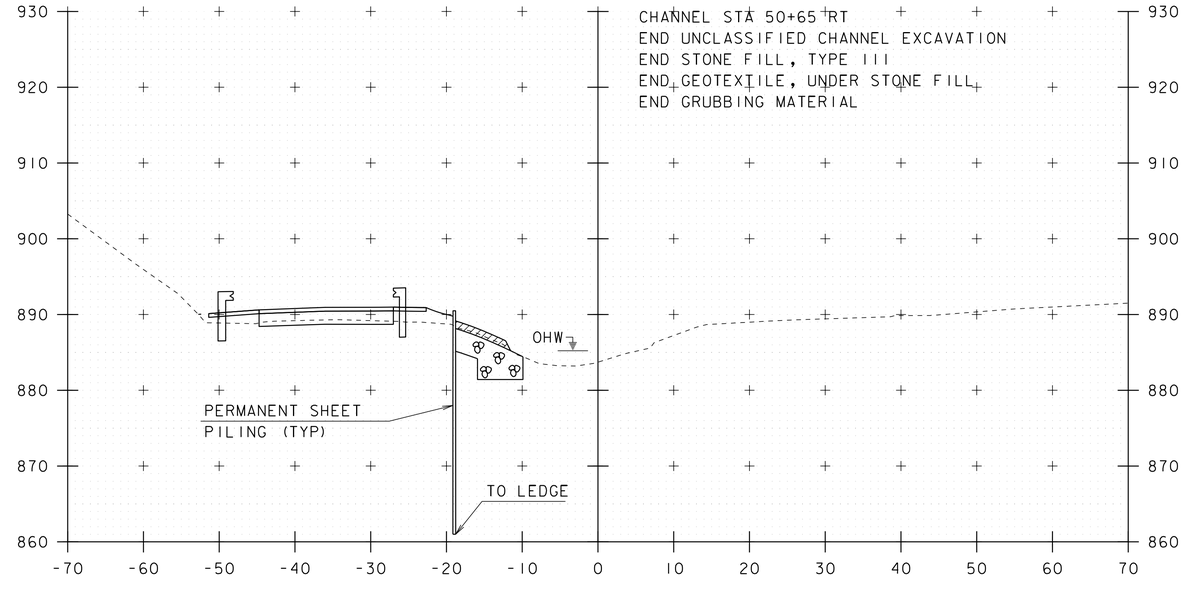
50+60



50+75



50+50



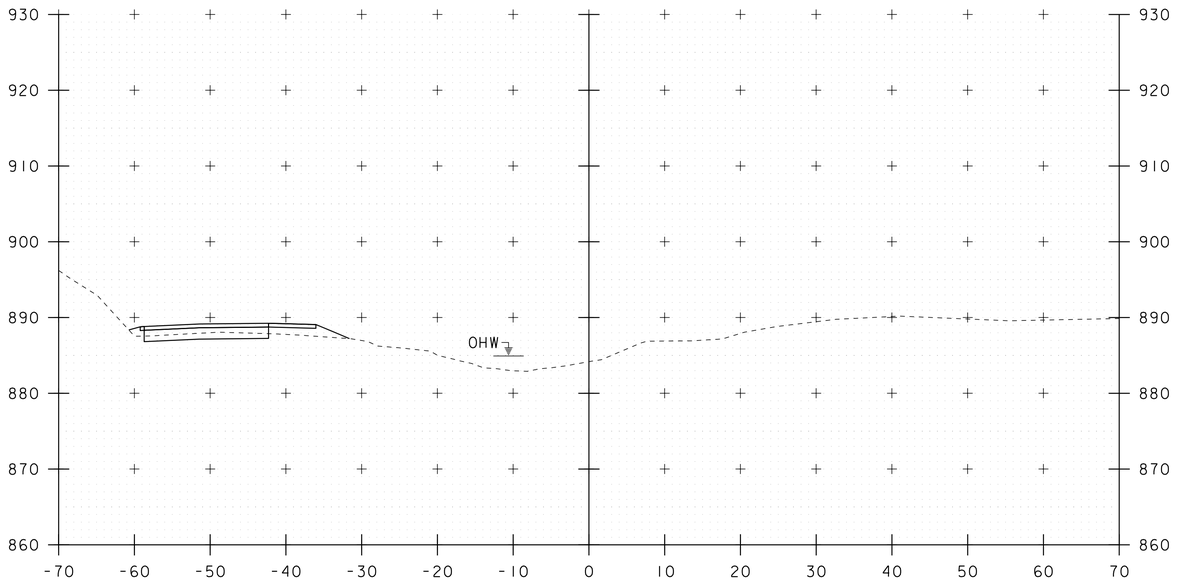
50+70

STA. 50+50 TO STA. 50+75

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086xs.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D.PETERSON
CHANNEL CROSS SECTION SHEET 2

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D.PETERSON
SHEET 29 OF 36



51+00

STA. 51+00 TO STA. 51+00

PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)
FILE NAME: sl3j086xs.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: M. LONGSTREET
DESIGNED BY: D.PETERSON	CHECKED BY: D.PETERSON
CHANNEL CROSS SECTION SHEET 3	SHEET 30 OF 36

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT IS LOCATED ON LINCOLN LANE (TH 9), APPROXIMATELY 0.6 MILES FROM THE INTERSECTION OF TH 9 AND TH 2 OVER THE TERRY BROOK. IT INVOLVES THE REPLACEMENT OF THE EXISTING SUPERSTRUCTURE WITH MINIMAL APPROACH ROADWAY AND CHANNEL WORK. THE BRIDGE IS BEING REPLACED WITH A 37 FOOT PRECAST NON-VOIDED SLAB BRIDGE. ROAD WILL BE CLOSED TO TRAFFIC FOR 3 DAYS. THE TOTAL LENGTH OF PROJECT IS 175 FEET.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.17 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY
THE TOPOGRAPHY OF THE AREA IS A SADDLE THAT IS WOODED AREA AND SOME RESIDENTIAL AREAS. LINCOLN LANE (TH 9) IS WITHIN THE PROJECT SITE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES
TERRY BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS SHALLOW. THE STREAM BED CONSISTS OF COBBLES, GRAVEL AND LEDGE.

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

1.2.4 SOILS
ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF BENNINGTON, VERMONT. SOILS ON THE PROJECT SITE ARE:
POOTATUCK FINE SANDY LOAM, 0% TO 3% SLOPES, “K FACTOR” = 0.20
COPAKE GRAVELLY FINE SANDY LOAM, 3% TO 8% SLOPES, “K FACTOR” = 0.32.

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

1.2.5 SENSITIVE RESOURCE AREAS
CRITICAL HABITATS: NO
HISTORICAL OR ARCHAELOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: TERRY BROOK
WETLANDS: NO

1.3 RISK EVALUATION

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

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

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

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

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

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

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

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

1.4.3 SITE ENTRANCE/EXIT STABILIZATION
TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR’S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES ARE NOT NEEDED FOR THIS GRAVEL ROAD.

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

SILT FENCE AND TURBIDITY CURTAIN SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

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

NO DIVERSIONARY MEASURES ANTICIPATED ON THIS PROJECT.

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

NO CHECK STRUCTURES ARE ANTICIPATED ON THIS PROJECT.

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

NO PERMANENT STORMWATER CONTROLS ANTICIPATED FOR THIS PROJECT.

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

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

TEMPORARY EROSION CONTROL MATTING IS ANTICIPATED FOR THIS PROJECT.

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

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

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

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

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

NO DEWATERING IS ANTICPATED FOR THIS PROJECT.

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

1.5 SEQUENCE AND STAGING

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

1.5.1 CONSTRUCTION SEQUENCE
NO CONSTRUCTION SEQUENCE ANTICIPATED FOR THIS PROJECT.

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

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086bdr_ero.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D. PETERSON
EPSC NARRATIVE

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON

POOTATUCK FINE SANDY LOAM
0% - 3% SLOPES
NOT HIGHLY ERODIBLE
K = 0.20

DUTCHESS CHANNERY LOAM
25% - 60% SLOPES
HIGHLY ERODIBLE
K = 0.32

VT STATE PLANE GRID

N

TH 9 (LINCOLN LANE)
TO TH 2 (SANDGATE ROAD)

RIPARIAN BUFFER

BEGIN APPROACH
STA 10+00.00

STA 11+51.57=
CHAN 50+50.00
Δ = 100° LT

END PROJECT
STA 12+25.00

END APPROACH
STA 12+75.00

EXISTING R.O.W.

BEGIN PROJECT
STA 10+50.00

10+00

11+00

12+00

13+00

13+52

51+00

50+00

IRON POST

WOODS

GUY

COMB TIE 48.68

FIELD DRIVE

HVCTRL

RAIL FENCE

¾" IRON POST 12" ABOVE GROUND

MHO

WOODS

TERRY BROOK FLOW

P L

TH 9 (LINCOLN LANE)
DEAD END

EXISTING BRIDGE DATA
STEEL BEAM WITH TIMBER DECK
BUILT 1960
26' LONG, 15' WIDE

COMB 8T 13

BENCH MARK
RR SPIKE IN
ROOT OF MED ASH
ELEV = 895.78

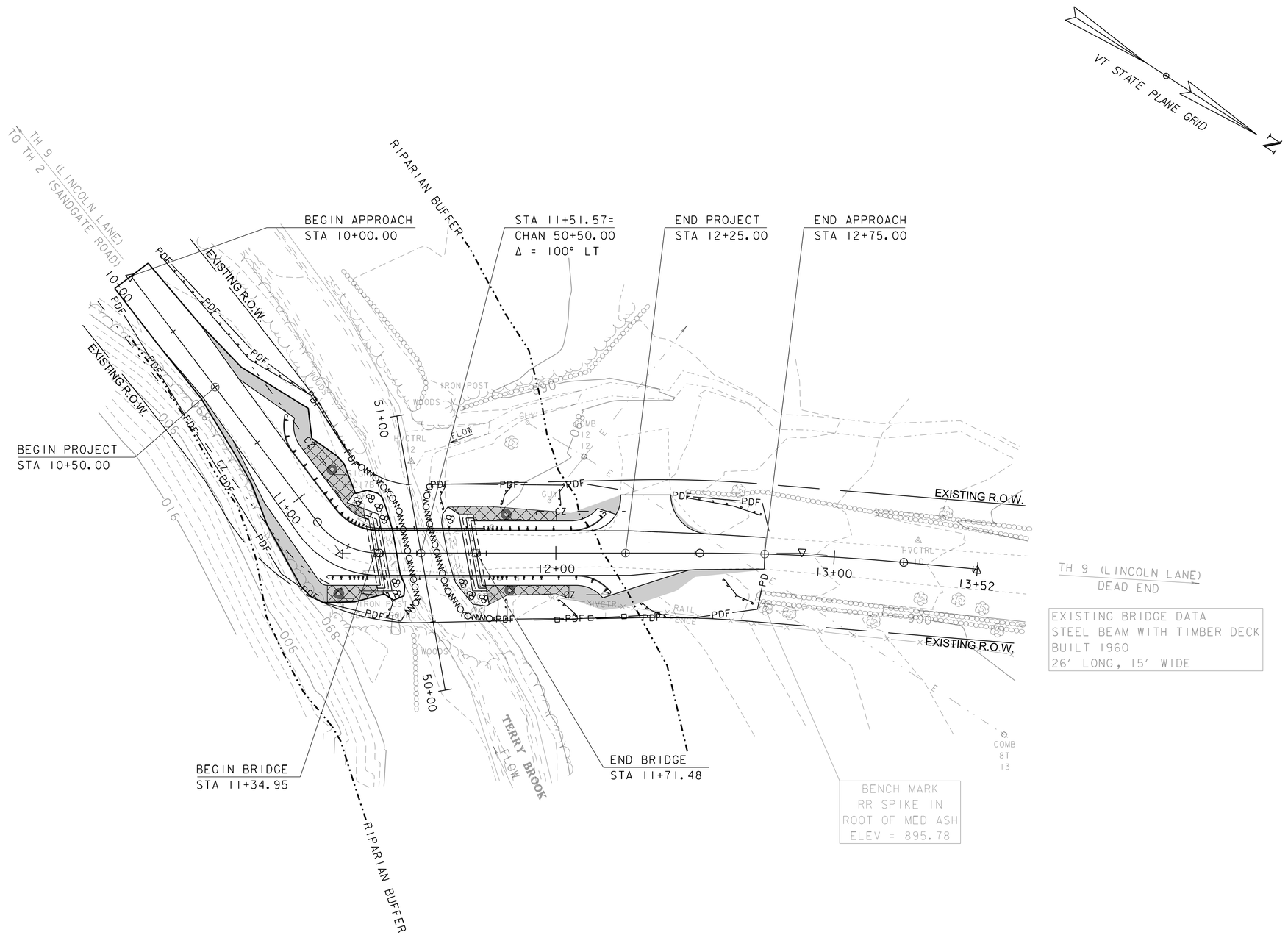
BEGIN BRIDGE
STA 11+34.95

END BRIDGE
STA 11+71.48

COPAKE GRAVELLY FINE SANDY LOAM
3% - 8% SLOPES
POTENTIALLY HIGHLY ERODIBLE
K = 0.32

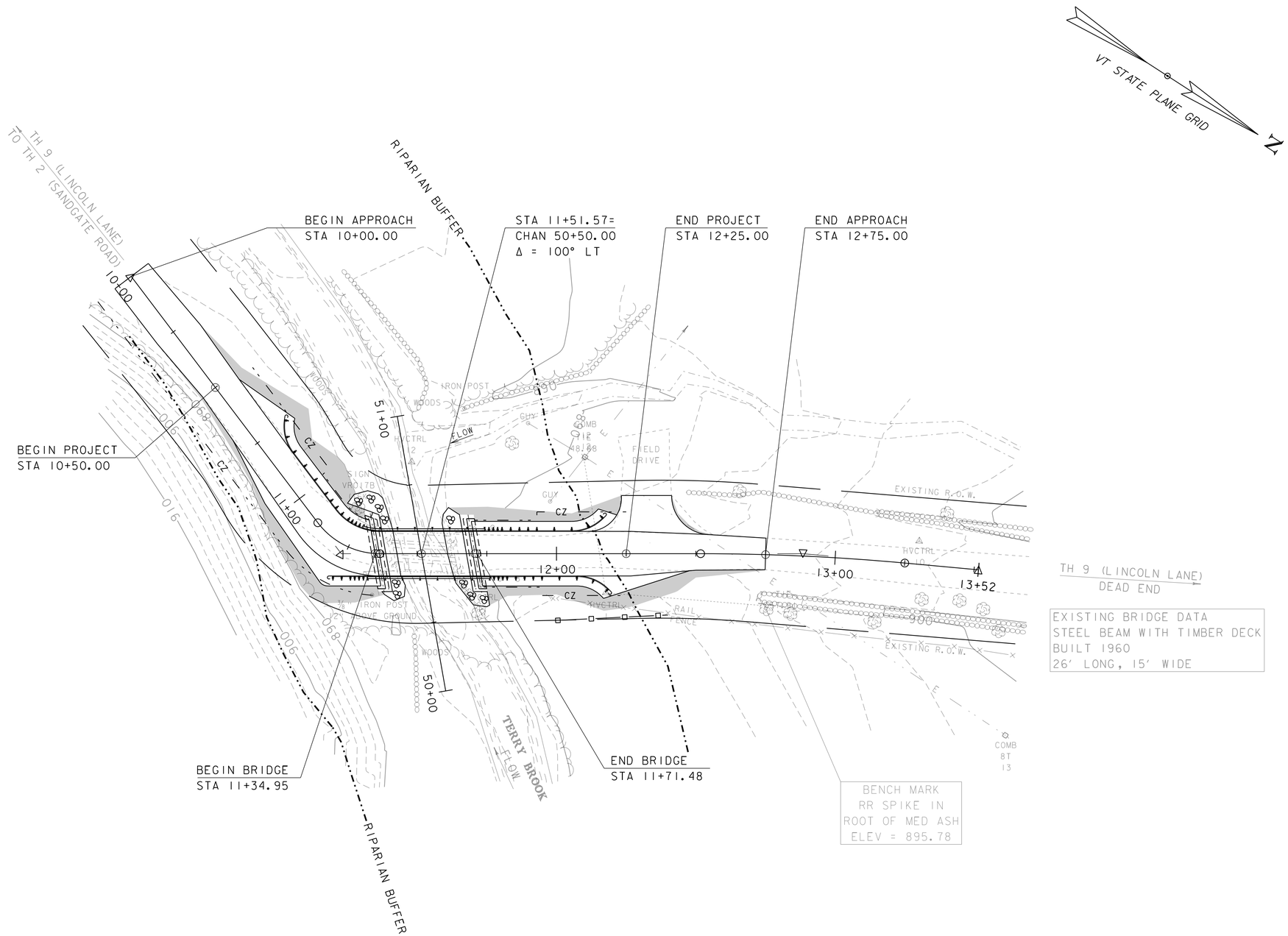
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: SANDGATE	
PROJECT NUMBER: BO 1441(30)	
FILE NAME: sl3j086bdr_ero.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: M. LONGSTREET
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
EPSC EXISTING LAYOUT	SHEET 32 OF 36



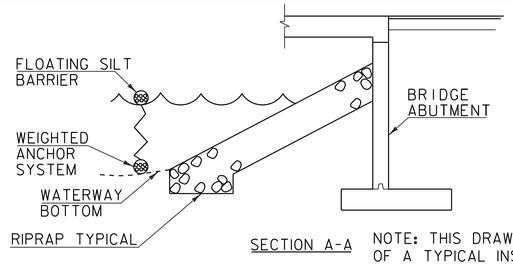
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: SANDGATE	
PROJECT NUMBER: BO 1441(30)	
FILE NAME: sl3j086bdr_ero.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: M. LONGSTREET
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
EPSC CONSTRUCTION LAYOUT	SHEET 33 OF 36



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

PROJECT NAME:	SANDGATE
PROJECT NUMBER:	BO 1441(30)
FILE NAME: sl3j086bdr_ero.dgn	PLOT DATE: 18-DEC-2015
PROJECT LEADER: D. BONNEAU	DRAWN BY: M. LONGSTREET
DESIGNED BY: D. PETERSON	CHECKED BY: D. PETERSON
EPSC FINAL LAYOUT	SHEET 34 OF 36

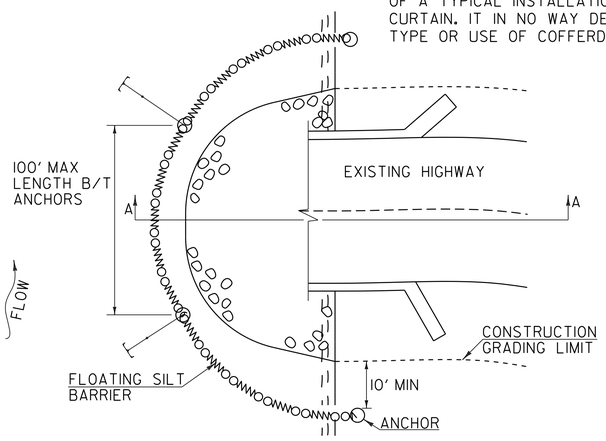


SYMBOL

NOT TO SCALE

SECTION A-A

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



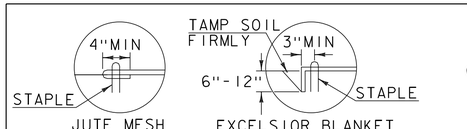
CONSTRUCTION SPECIFICATIONS

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

FILTER CURTAIN

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

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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

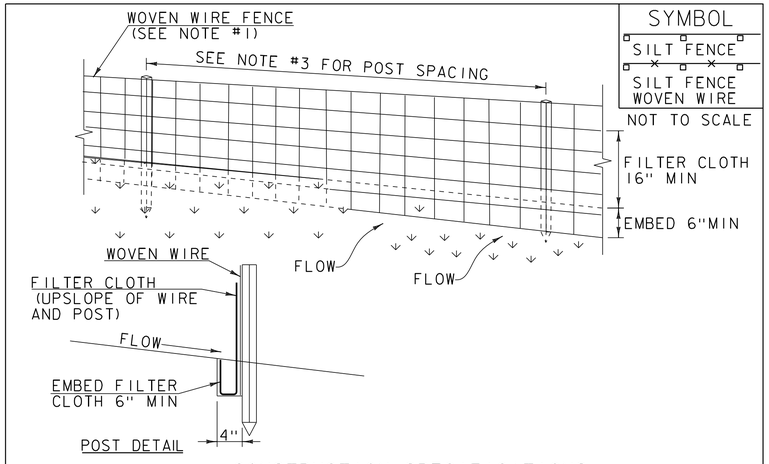
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER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

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

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

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

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

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

SILT FENCE

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

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

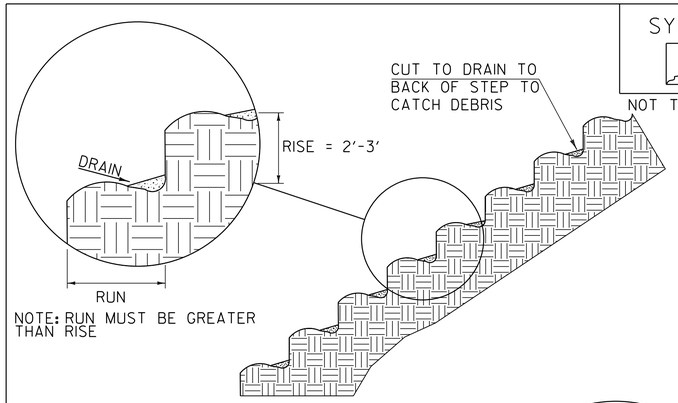
REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086bdr_ero.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D. PETERSON
EPSC DETAILS 1

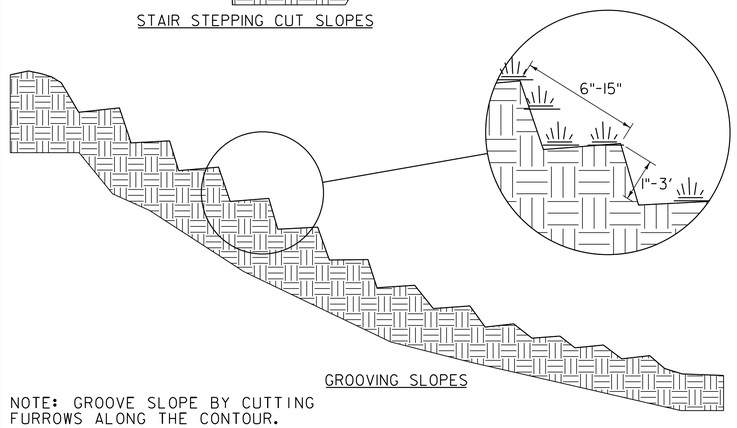
PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON
SHEET 35 OF 36

SYMBOL



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

VAOT LOW GROW/FINE FESCUE MIX

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

VAOT RURAL AREA MIX

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

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

CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

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

REVISIONS	
JANUARY 12, 2015	WHF

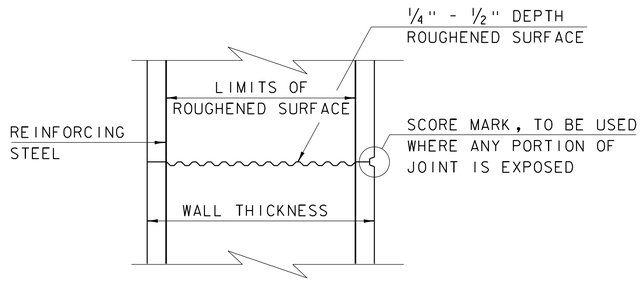
PROJECT NAME: SANDGATE
PROJECT NUMBER: BO 1441(30)

FILE NAME: sl3j086bdr_ero.dgn
PROJECT LEADER: D. BONNEAU
DESIGNED BY: D. PETERSON
EPSC DETAILS 2

PLOT DATE: 18-DEC-2015
DRAWN BY: M. LONGSTREET
CHECKED BY: D. PETERSON
SHEET 36 OF 36

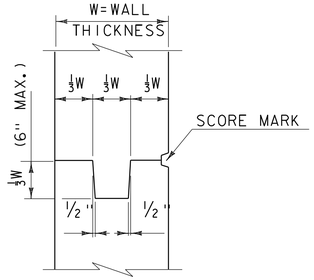
CONCRETE GENERAL NOTES

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

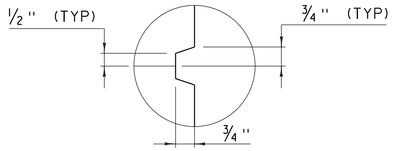


TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

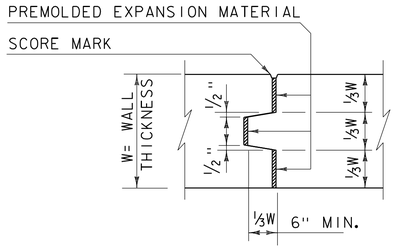
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



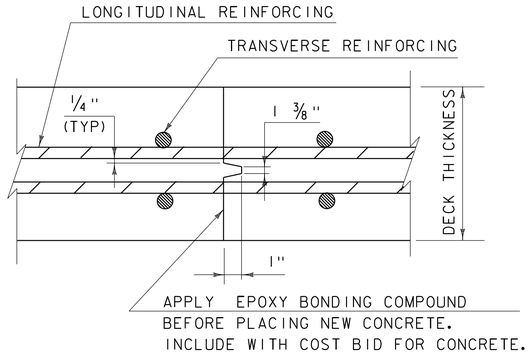
TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



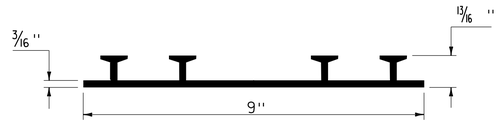
SCORE MARK DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)



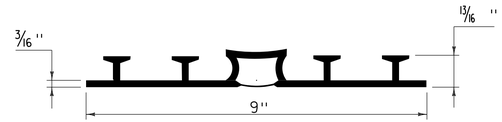
TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



P.V.C. WATERSTOP FOR EXPANSION JOINTS
(NOT TO SCALE)

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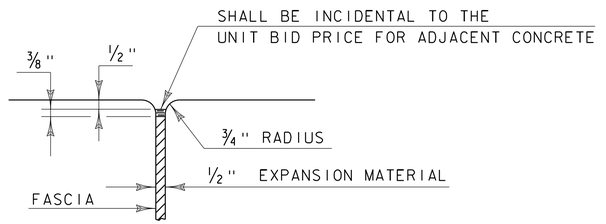


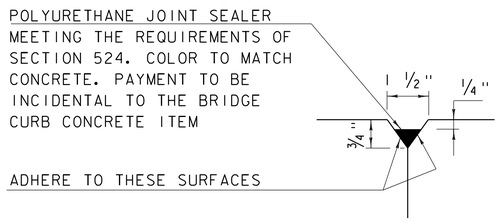
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

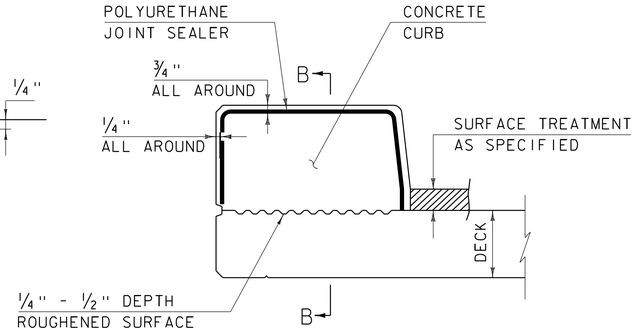
CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

STRUCTURES DETAIL
SD-501.00

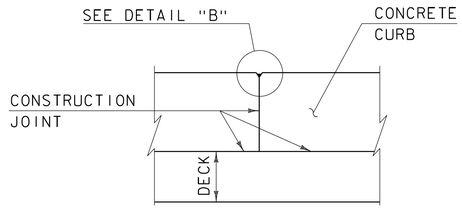


DETAIL "B"
(NOT TO SCALE)

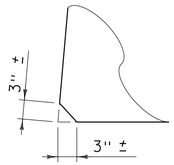


CONCRETE CURB JOINT SECTION
(NOT TO SCALE)

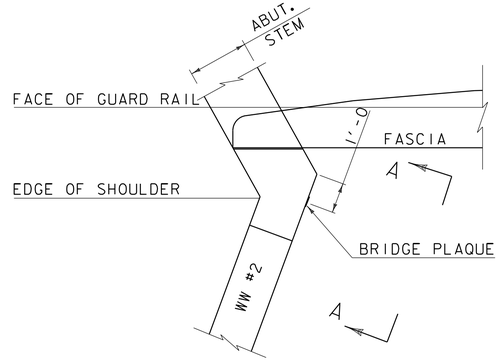
1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



SECTION B - B
(NOT TO SCALE)



ACUTE ANGLE CLIP DETAIL
(NOT TO SCALE)



PLAN

CONCRETE CURB JOINT NOTES

1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.

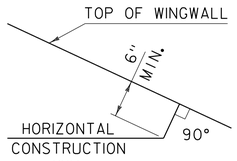
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.

3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.

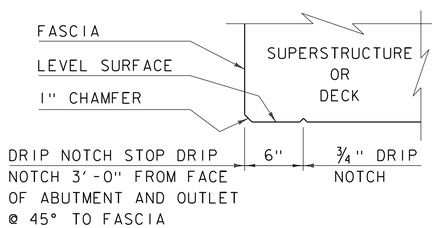
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.

5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.

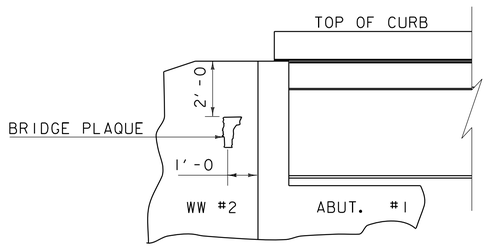
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



HORIZONTAL WINGWALL CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



VIEW "A - A"

BRIDGE PLAQUE
(NOT TO SCALE)

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

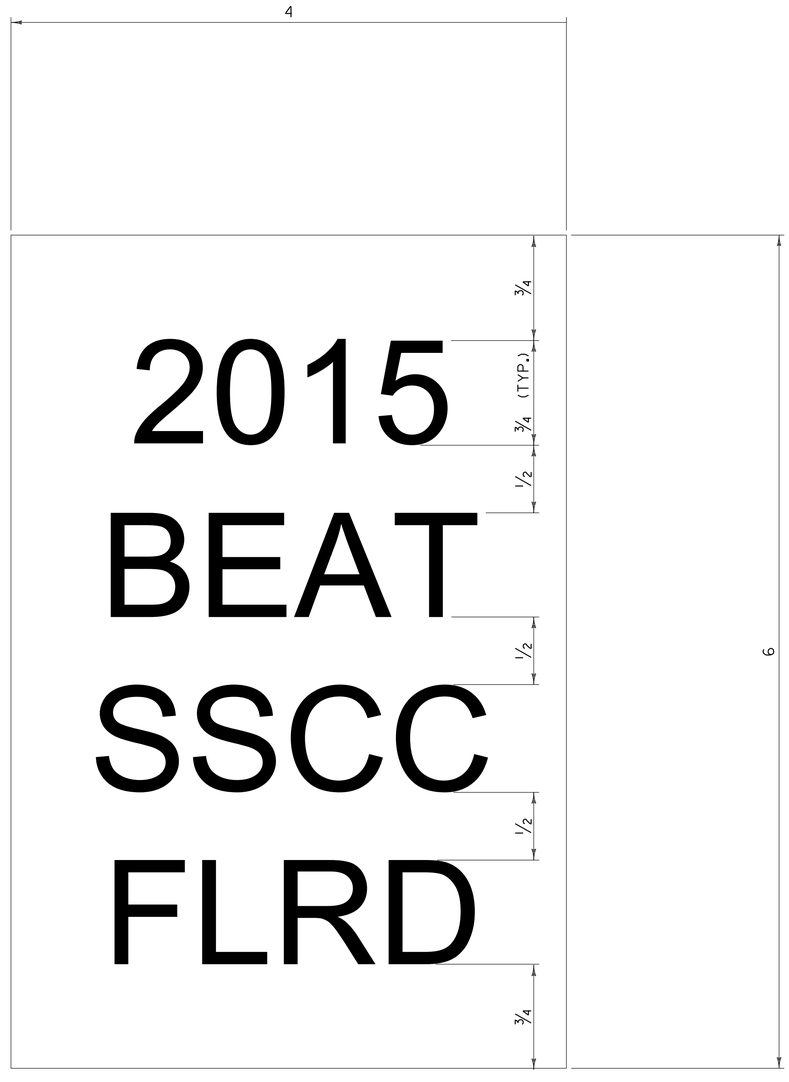
PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE DETAILS AND NOTES

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

STRUCTURES DETAIL SD-502.00



GENERAL NOTES:

1. LINE ONE SHALL INDICATE THE INSTALLATION YEAR (YYYY).
2. LINE TWO SHALL INDICATE THE MODEL AS IDENTIFIED ON THE APPROVED PRODUCTS LIST. FOR GENERIC INSTALLATIONS THE STANDARD DRAWING DESIGNATION OR NAME AS IDENTIFIED IN THE FHWA ELIGIBILITY LETTER SHALL BE USED.
3. LINE THREE SHALL SHALL INDICATE ADDITIONIAL MODEL INFORMATION IF NECESSARY.
4. LINE FOUR SHALL INDICATE FLARED (FLRD) OR TANGENT (TANG).
5. LEGEND SHALL BE ONE ARIEL FONT.
6. LEGEND SHALL BE BLACK ON A WHITE BACKGROUND, LENGEND AND BACKGROUND SHALL NOT BE REFLECTIVE.
7. SUITABLE MATERIAL SHALL BE USED SO AS TO NOT DETERIORATE DURING EXPOSURE TO WEATHER.
8. LABELS SHALL BE APPLIED IN SUCH A WAY THAT THEY REMAIN INTACT DURING THE LIFE OF THE TERMINAL.
9. FOR W-BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE TOP OF POST ONE FACING AWAY FROM TRAFFIC.
10. FOR BOX BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE BOX BEAM ADJACENT TO POST ONE FACING AWAY FROM TRAFFIC.
11. PAYMENT SHALL BE INCIDENTAL TO OTHER TRAFFIC BARRIER ITEMS.
12. ALL DIMENSIONS IN INCHES.

REV.	DATE	DESCRIPTION
0	NOV. 3, 2015	ORIGINAL APPROVAL

OTHER DETAILS REQUIRED: NONE

DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN

GUARDRAIL TERMINAL LABEL DETAIL

VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

HIGHWAY SAFETY & DESIGN DETAIL

HSD-621.06