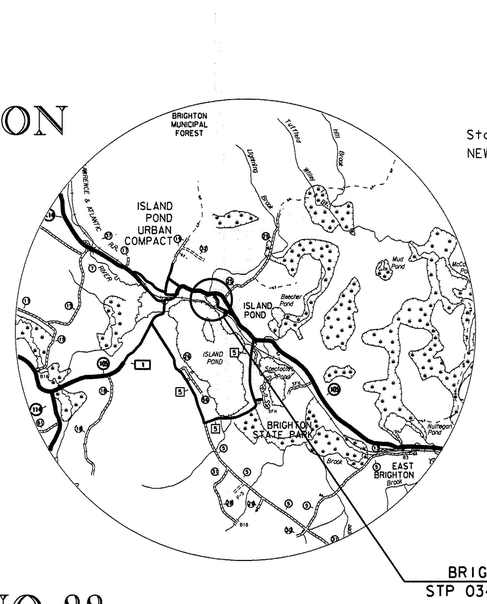
STATE OF VERMONT
AGENCY OF TRANSPORTATION

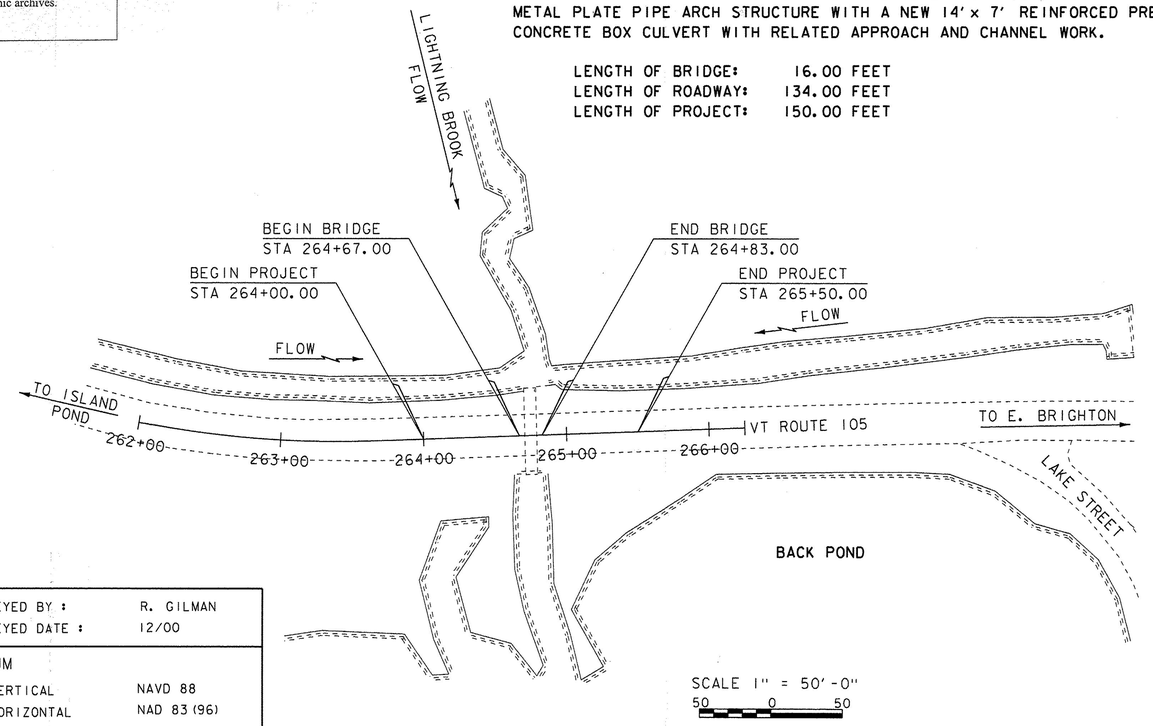


PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF BRIGHTON
COUNTY OF ESSEX
ROUTE NO.: VT 105 BRIDGE NO. 88

PROJECT LOCATION: BEGINNING AT A POINT ON VT ROUTE 105 APPROXIMATELY 0.5 MILES EAST OF THE INTERSECTION WITH VT ROUTE 114 TO MM 5.00 (STA 264+00) AND EXTENDING EASTERLY 0.03 MILES TO MM 5.03 (STA 265+50).

PROJECT DESCRIPTION: THIS PROJECT SHALL CONSIST OF THE REPLACEMENT OF THE EXISTING CORRUGATED METAL PLATE PIPE ARCH STRUCTURE WITH A NEW 14' x 7' REINFORCED PRECAST CONCRETE BOX CULVERT WITH RELATED APPROACH AND CHANNEL WORK.

LENGTH OF BRIDGE: 16.00 FEET
LENGTH OF ROADWAY: 134.00 FEET
LENGTH OF PROJECT: 150.00 FEET



RECORD PLANS

CONTRACTOR: MORRILL CONSTRUCTION INC.- NORTH HAVERHILL, NH

RESIDENT ENGINEER: DOUG BUMPS

CONSTRUCTION BEGAN: AUGUST 28, 2012

CONSTRUCTION COMPLETE: NOVEMBER 7, 2012

RECORD PLANS BY: DOUG BUMPS

I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER

DATE 6/18/13

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

QUALITY ASSURANCE PROGRAM: LEVEL 2

CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R. GILMAN
SURVEYED DATE : 12/00

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

BUILT AS DESIGNED

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2014, 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.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 6-12-12

PROJECT MANAGER: KRISTIN HIGGINS

PROJECT NAME : BRIGHTON
PROJECT NUMBER : STP 034-3(21)

SHEET 1 OF 30 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (CULVERT)

Version 11.06.15

LRFD

INDEX OF SHEETS

PLAN SHEETS

STANDARDS LIST

E-100	CONSTRUCTION APPROACH SIGNS	01-02-2004
E-101	CONSTRUCTION SIGN DETAILS	05-30-2003
E-102	CONSTRUCTION SIGN DETAILS	06-30-2003
E-102A	CONSTRUCTION SIGN DETAILS	05-01-2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-2003
E-134	BRIDGE NUMBER PLAQUE	08-08-1995
E-164	SQUARE STEEL SIGN POST	06-08-2009
E-192	PAVEMENT MARKING DETAILS	10-12-2000
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	01-03-2000
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11-15-2002

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2012	1700	230	55	9.5	240
2032	1900	250	55	12.2	350

20 year ESAL for flexible pavement from 2012 to 2032 : 3045000

40 year ESAL for flexible pavement from 2012 to 2052 : 7372000

Design Speed : 50 mph

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: Sept. 2011

DRAINAGE AREA : 3.7 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous uplands to nearly flat at the site
STREAM CHARACTERISTICS : Wetlands and ponded water at the site
NATURE OF STREAMBED : Silt and sand

PEAK FLOW DATA

Q 2.33 =	190 cfs	Q 50 =	580 cfs
Q 10 =	360 cfs	Q 100 =	680 cfs
Q 25 =	475 cfs	Q 500 =	950 cfs

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV : Unknown
NATURAL STREAM VELOCITY : @ Q50 = 5.9 fps
ICE CONDITIONS : slight to moderate
DEBRIS: slight to moderate except history of beaver dams
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: Water levels are controlled by Island Pond, Back Pond and the downstream railroad structure.

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Corrugated metal plate pipe arch
YEAR BUILT: 1959
CLEAR SPAN(NORMAL TO STREAM): 7'-8"
VERTICAL CLEARANCE ABOVE STREAMBED: 5'-5"
WATERWAY OF FULL OPENING: 33 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Silt and sand

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1177.4'	VELOCITY =	9.5 fps
Q10 =	1180.2'	"	11.6 fps
Q25 =	1180.6'	"	11.8 fps
Q50 =	1180.8'	"	12.0 fps
Q100 =	1181.0'	"	12.1 fps

LONG TERM STREAMBED CHANGES: None noted.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Below Q10
RELIEF ELEVATION: 1179.9'
DISCHARGE OVER ROAD @Q100: 350 cfs

UPSTREAM STRUCTURE

TOWN: Not applicable - stream divides DISTANCE:
HIGHWAY # : STRUCTURE #:
CLEAR SPAN: CLEAR HEIGHT:
YEAR BUILT: FULL WATERWAY:
STRUCTURE TYPE:

DOWNSTREAM STRUCTURE

TOWN: Brighton DISTANCE: 1200'
HIGHWAY # : R.R. STRUCTURE #:
CLEAR SPAN: 6' CLEAR HEIGHT: 6'
YEAR BUILT: Unknown FULL WATERWAY: 28 sq. ft.
STRUCTURE TYPE: Reinforced Concrete Pipe. Note: There may be other structures.

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:	TABLE TO BE COMPLETED BY CONTRACTOR'S DESIGNER						

1. PROPOSED CULVERT IS A PRESTRESS CONCRETE STRUCTURE (14'-0" X 7'-0" X 40'-0" BOX).
2. CULVERT ENDS ARE SKEWED BY AN ANGLE OF SEE PLANS°
3. CULVERT WILL BE SET AT A SLOPE OF 6.00 IN. ON 40 FT.
4. CULVERT WILL REQUIRE FISH PASSAGE ACCOMODATIONS
5. CULVERT CONSTRUCTION WILL REQUIRE A TEMPORARY PIPE

PROPOSED STRUCTURE

STRUCTURE TYPE: Precast concrete box culvert

CLEAR SPAN(NORMAL TO STREAM): 14'
VERTICAL CLEARANCE ABOVE STREAMBED: 6'
WATERWAY OF FULL OPENING: 84 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1174.6'	VELOCITY =	3.7 fps
Q10 =	1176.4'	"	4.9 fps
Q25 =	1177.4'	"	5.7 fps
Q50 =	1178.4'	"	6.9 fps
Q100 =	1179.5'	"	8.1 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 1179.9'
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1177.0' at inlet, 1176.5' at outlet
VERTICAL CLEARANCE: @ Q50 = -1.4' at inlet (Inlet is submerged below Q25)

SCOUR: Not applicable for a box structure

REQUIRED CHANNEL PROTECTION: Stone Fill, Type II

PERMIT INFORMATION

AVERAGE DAILY FLOW:	7 cfs	DEPTH OR ELEVATION:	
ORDINARY LOW WATER:	4 cfs	Depth = 0.5'	
ORDINARY HIGH WATER:	80 cfs	Depth = 2.0'	

TEMPORARY BRIDGE REQUIREMENTS

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

ADDITIONAL INFORMATION

We do not have good information on water levels in Back Pond, at the structure's outlet. Reported hydraulics is based on no tailwater from that pond. Velocities may be lower than reported and water surface elevations may be higher than reported, depending on the downstream water levels.

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	3.0 INCH
3. CULVERT OPENING	D:	14.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5. PRESTRESSING STRAND	f_y:	---
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	3.0 KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	---
14. SOIL UNIT WEIGHT	γ:	---
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	---
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	---
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
19. NOMINAL AXIAL PILE RESISTANCE	q_n:	---
20. PILE YIELD STRENGTH ASTM A572	f_y:	---
21. PILE SIZE		---
22. EST. PILE LENGTH	L_p:	
23. PILE RESISTANCE FACTOR	ϕ:	---
24. LATERAL PILE DEFLECTION	Δ:	---
25. BASIC WIND SPEED	V_{3s}	---
26. MINIMUM GROUND SNOW LOAD	p_g	---
27. SEISMIC DATA PGA: ---	S_{a1}:	---
	S_1:	---

PROJECT NAME: **BRIGHTON**
PROJECT NUMBER: **STP 034-3(21)**

FILE NAME: **s00b246pl.xls**
PROJECT LEADER: **K. HIGGINS**
DESIGNED BY: **J. SALVATORI**
PRELIMINARY INFORMATION SHEET 1

PLOT DATE: 8/11/2012
DRAWN BY: **J. SALVATORI**
CHECKED BY: **W. LAMMER**

GENERAL

1. THE CONTRACTOR WILL BE ALLOWED TO CLOSE THE BRIDGE FOR ONE WEEKEND (TWO CONSECUTIVE DAYS) BEGINNING ON A FRIDAY AT 6PM AND REOPENING THE FOLLOWING MONDAY AT 6AM, TO A MINIMUM OF ONE-WAY TRAFFIC. DURING THAT TIME THE CONTRACTOR SHALL BE ALLOWED TO WORK 24 HOURS PER DAY. THE CONTRACTOR SHALL SCHEDULE THEIR WORK SUCH THAT THE BRIDGE IS NOT CLOSED DURING HOLIDAY PERIODS. APPROVED CLOSURE DATES ARE SEPTEMBER 14TH-16TH OR SEPTEMBER 21ST-23RD OR SEPTEMBER 28TH-30TH. SEE SPECIAL PROVISIONS FOR FURTHER DETAILS.

2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR HIGHWAY BRIDGES, FIFTH EDITION, AND ITS LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, THIRD EDITION, AND ITS LATEST REVISIONS.

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

4. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR THE REMOVAL OF THE EXISTING PIPE UNDER VT ROUTE 105.

5. THERE ARE WATER LINES AND POWER LINES THAT RUN PARALLEL WITH VT 105. NO PROVISIONS HAVE BEEN MADE TO RELOCATE THESE LINES. THE CONTRACTOR SHALL WORK AROUND AND PROTECT THESE LINES. THERE IS INFORMATION AVAILIBLE ON THE WATERLINE FROM THE TOWN. IT WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF THE WATERLINE. . ALL WORK REQUIRED TO ENSURE THAT THESE LINES ARE PROTECTED DURING CONSTRUCTION OF THIS PROJECT WILL BE INCLUDED FOR PAYMENT UNDER CONTRACT ITEM 204.22. ANY DAMAGE DONE TO EXISTING UTILITIES AS A RESULT OF THE CONTRACTOR'S OPERATIONS, AS DETERMINED BY THE ENGINEER, WILL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR. SEE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

6. EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.025 GAL/SY TO ALL COLD PLANED SURFACES AND BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING THE LOCAL TRAFFIC CONTROL PACKAGE IDENTIFYING THE CONSTRUCTION PROJECT BEFORE, DURING, AND AFTER THE BRIDGE CLOSURE PERIOD. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC CONTROL PLAN TO THE RESIDENT ENGINEER FOR ALL STAGES OF CONSTRUCTION, FOR APPROVAL PER SUBSECTION 105.03. ALL COSTS SHALL BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). SEE SPECIAL PROVISIONS.

8. ALL SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN. FOR ADDITIONAL SIGNING INSTRUCTIONS SEE THE E SERIES OF THE STANDARDS.

9. ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN, EXCEPT FOR ITEM 630.15 FLAGGERS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

CONCRETE

10. ITEM 514.10 "WATER REPELLENT, SILANE" SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE WINGWALLS AND HEADWALLS. WATER REPELLENT, SILANE SHALL BE APPLIED TO THE EXPOSED INSIDE SURFACE OF THE BOX STARTING AT THE OPENING AT EACH END AND EXTENDING 3 FEET INTO THE BOX, INCLUDING THE TOP SURFACE OF THE BOTTOM SLAB AND THE BOTTOM SURFACE OF THE TOP SLAB.

11. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

    SPACING +/- 1"
    CLEARANCE +/- ½"

12. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".

PRECAST CONCRETE NOTES

13. DESIGN CRITERIA:
    A. SOIL UNIT WEIGHT = 140 PCF
    B. DESIGN LIVE LOAD = HL-93
    C. NOMINAL BEARING RESISTANCE = 6.7 KSF
    D. BEARING RESISTANCE FACTOR = 0.45
    E. DESIGN FILL OVER BOX = 3 FEET
    F. CONCRETE COMPRESSIVE STRENGTH - SEE SUBSECTION 540.05(e)
    G. AT A MINIMUM ALL REINFORCING STEEL SHALL BE GRADE 60 BLACK REBAR.

14. ALL CONCRETE SHALL BE PRECAST. ITEM 540.10 "PRECAST CONCRETE STRUCTURE" INCLUDES ALL BOX SEGMENTS, HEADWALLS, CUTOFF WALLS AND WINGWALLS. ALL CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR AND SHALL BE CONSIDERED INCIDENTAL TO ITEM 540.10.

15. THE PRECAST BOX SECTIONS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND SHAPE WILL BE DEPENDENT ON THE FABRICATOR. THE MINIMUM INSIDE DIMENSIONS SHALL BE 7'-0" IN HEIGHT AND 14'-0" IN WIDTH. THE OVERALL LENGTH OF THE BOX SHALL BE 60'-0'' ALONG THE STREAMBED GRADE. THE EXPOSED ENDS OF THE FIRST AND LAST UNITS SHALL BE VERTICAL.

16. THE EXTERIOR (TOP AND SIDES) OF ALL CONCRETE BOX JOINTS ALONG WITH ALL LIFTING HOLES SHALL BE FILLED WITH MORTAR TYPE IV AFTER BEING SET IN THEIR FINAL POSITION. THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 540.10.

17. MEMBRANE WATERPROOFING SHALL BE APPLIED TO THE ENTIRE TOP OF THE CONCRETE BOX. A TWO (2) FOOT WIDE STRIP OF MEMBRANE SHALL BE PLACED AT EACH VERTICAL JOINT (SIDES). MEMBRANE SHALL BE CENTERED ON THE JOINT AND COVER THE FULL HEIGHT. THE SIDES SHALL BE COVERED FIRST AND THE TOP WILL FOLLOW. ANY OVERLAPPING OF MEMBRANE SHALL BE DONE IN A SHINGLE TYPE STYLE TO SHED WATER AND SHALL OVERLAP A MINIMUM OF ONE FOOT. PAYMENT FOR MEMBRANE WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 540.10.

18. THE CONTRACTOR SHALL CONSIDER THE PLACEMENT OF THE BOX CULVERT SECTIONS AT THE OUTLET SO AS TO AVOID CONFLICT WITH THE UTILITY LINES. ANY ACCESS ROAD CONSTRUCTED TO THE OUTLET LOCATION MUST STAY WITHIN THE RIGHT OF WAY SHOWN ON THE PLANS.

PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: s00b246gen.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
GENERAL NOTES

PLOT DATE: 12-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: W. LAMMER
SHEET 3 OF 30

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

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
						1										1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				**EARTHWORK SUMMARY**
						450										450		CY	COMMON EXCAVATION	203.15		450	CY	COMMON EXCAVATION (450 * 1.0)
																						243.75	CY	UNCLASSIFIED CHANNEL EXCAVATION (325 * 0.75)
										325						325		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27		412.5	CY	STRUCTURE EXCAVATION (550 * 0.75)
						1										1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		1106.75	CY	SUB TOTAL
										550						550		CY	STRUCTURE EXCAVATION	204.25		3.25	CY	ROUNDING
										175						175		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30		1110	CY	TOTAL FILL AVAILABLE
						330										330		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10		0	CY	TOTAL FILL REQUIRED
																			BEGIN OPTION AA			1110	CY	TOTAL WASTE
						400										400		CY	SUBBASE OF GRAVEL	301.15				
						400										400		CY	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	301.25				**SUPERPAVE BITUMINOUS CONCRETE PAVEMENT**
						400										400		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35		165	TON	TYPE IS
																						85	TON	TYPE IVS
																			END OPTION AA			250	TON	TOTAL SUPERPAVE
						25										25		CY	AGGREGATE SURFACE COURSE	401.10				
						1										1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
										10						10		GAL	WATER REPELLENT, SILANE	514.10				
										1						1		EACH	REMOVAL OF STRUCTURE (7'-8" x 5'-5" x 60'-0" CGMPPA)	529.15				
										1						1		LS	PRECAST CONCRETE STRUCTURE (14' -0" x 7' -0" x 60' -0" BOX)	540.10				
										250						250		CY	STONE FILL, TYPE II	613.11				
						225										225		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
						200										200		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED/NESTED W/8 FEET POSTS	621.217				
						500										500		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
										100						100		TON	CRUSHED STONE BEDDING	629.54				
						400										400		HR	FLAGGERS	630.15				
												1				1		LS	FIELD OFFICE, ENGINEERS	631.10				
												1				1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
												2000				2000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
						1										1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
						500										500		LF	4 INCH WHITE LINE	646.20				
						500										500		LF	4 INCH YELLOW LINE	646.21				
										300						300		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
										400						400		SY	GEOTEXTILE UNDER STONE FILL	649.31				
								120								120		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
								120								120		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
								5								5		LB	SEED	651.15				
								5								5		LB	SEED, WINTER RYE	651.17				
								40								40		LB	FERTILIZER	651.18				
								0.1								0.1		TON	AGRICULTURAL LIMESTONE	651.20				
								0.1								0.1		TON	HAY MULCH	651.25				
								30								30		CY	TOPSOIL	651.35				
								1								1		LS	EPSC PLAN	652.10				

PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: s00b246excel.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
QUANTITY SHEET 1

PLOT DATE: 25-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: W. LAMMER
SHEET 4 OF 30

STATE OF VERMONT
AGENCY OF TRANSPORTATION

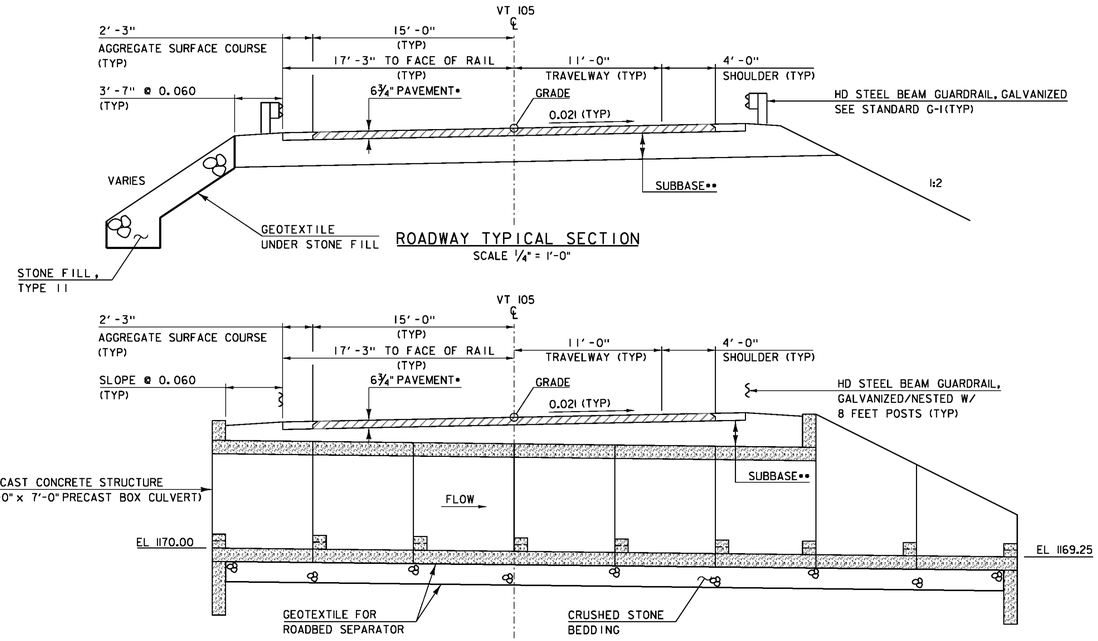
QUANTITY SHEET 2

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
							50				50		HR	MONITORING EPSC PLAN	652.20				
							1				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							170				170		SY	TEMPORARY EROSION MATTING	653.20				
							60				60		CY	VEHICLE TRACKING PAD	653.35				
							1				1		EACH	FILTER BAG	653.45				
							260				260		LF	BARRIER FENCE	653.50				
						0.66					0.66		SF	TRAFFIC SIGNS, TYPE A	675.20				
						20					20		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
						2					2		EACH	REMOVING SIGNS	675.50				
						1					1		LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)	900.645				
						1					1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				
						1					1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)	900.650				
						1					1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I)	900.650				
						1					1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
						250					250		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

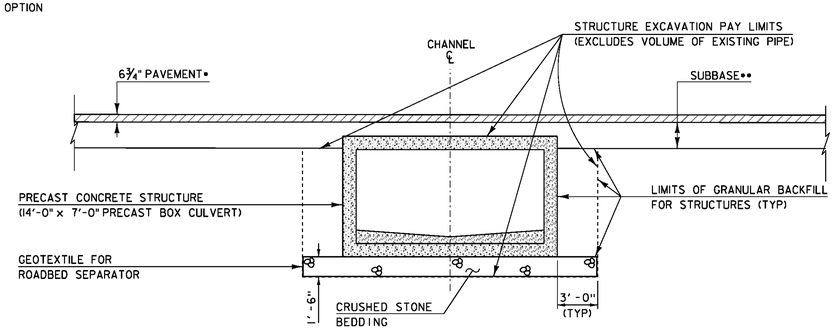
FILE NAME: s00b246excel.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
QUANTITY SHEET 2

PLOT DATE: 25-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: W. LAMMER
SHEET 5 OF 30



• 1¾" TYPE IVS SUPERPAVE BCP WEARING COURSE, OVER
2 ½" TYPE IIS SUPERPAVE BCP INTERMEDIATE BINDER COURSE
2 ½" TYPE IIS SUPERPAVE BCP BASE COURSE

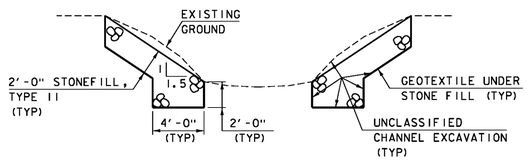
•• 24" SUBBASE OPTION



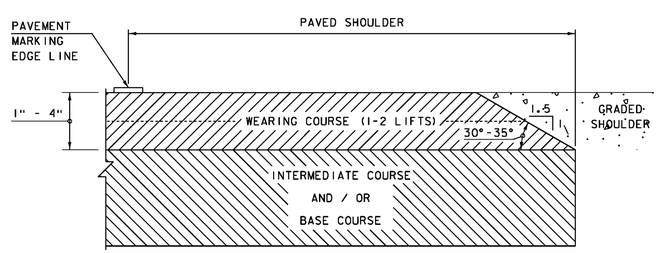
EARTHWORKS TYPICAL SECTION
SCALE 1/4" = 1'-0"

MATERIAL TOLERANCES
(IF USED ON PROJECT)

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



CHANNEL TYPICAL SECTION
(NOT TO SCALE)



SAFETY EDGE DETAIL
NOT TO SCALE

NOTE: LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)
FILE NAME: s00b246typ.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
TYPICAL SECTIONS	SHEET 6 OF 30

GPS CONTROL POINTS

HVCTRL #1

ISLE AZ MK 2000
NORTH = 845551.229
EAST = 182332.465
ELEV. = 1182.940

GENERAL LOCATION - ISLAND POND, VT
TO REACH FROM THE INTERSECTION OF VT ROUTES 114 AND 105 IN ISLAND POND GO EAST ALONG VT ROUTE 105 FOR 0.3 MI (0.5 KM) TO THE MARK ON THE LEFT. THE MARK IS LOCATED 2.0 M (6.6 FT) NORTHEAST OF AND ABOUT 0.3 M (1.0 FT) LOWER THAN THE NORTHEAST EDGE OF PAVEMENT OF ROUTE 105, 5.4 M (17.7 FT) SOUTHEAST OF POLE NUMBER 85, 17.2 M (56.4 FT) NORTH NORTHEAST OF POLE NUMBER 8, AND 2.0 M (6.6 FT) SOUTHWEST OF A FIBERGLASS WITNESS POST.

HVCTRL #2

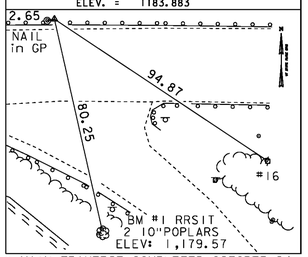
ISLE 2000
NORTH = 844839.754
EAST = 183869.506
ELEV. = 1179.460

GENERAL LOCATION - ISLAND POND, VT
TO REACH FROM THE INTERSECTION OF VT ROUTES 114 AND 105 IN ISLAND POND GO EAST ALONG VT ROUTE 105 FOR 0.6 MI (1.0 KM) TO THE MARK ON THE RIGHT. THE MARK IS LOCATED 2.0 M (6.6 FT) SOUTH SOUTHWEST OF AND ABOUT 0.4 M (1.3 FT) LOWER THAN THE SOUTHWEST EDGE OF PAVEMENT OF ROUTE 105, 12.5 M (41.0 FT) EAST OF POLE NUMBER 14, 89.3 M (293.0 FT) WEST OF POLE NUMBER 3-1/15, AND 2.0 M (6.6 FT) NORTH NORTHEAST OF A FIBERGLASS WITNESS POST.

TRAVERSE TIES

HVCTRL #3

NORTH = 844881.995
EAST = 1804472.384
ELEV. = 1183.883



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

* MAIN TRAVERSE COMPLETED OCTOBER 24, 2000 BY R.GILMAN P.C. & R.BULLOCK

ALIGNMENT TIES

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

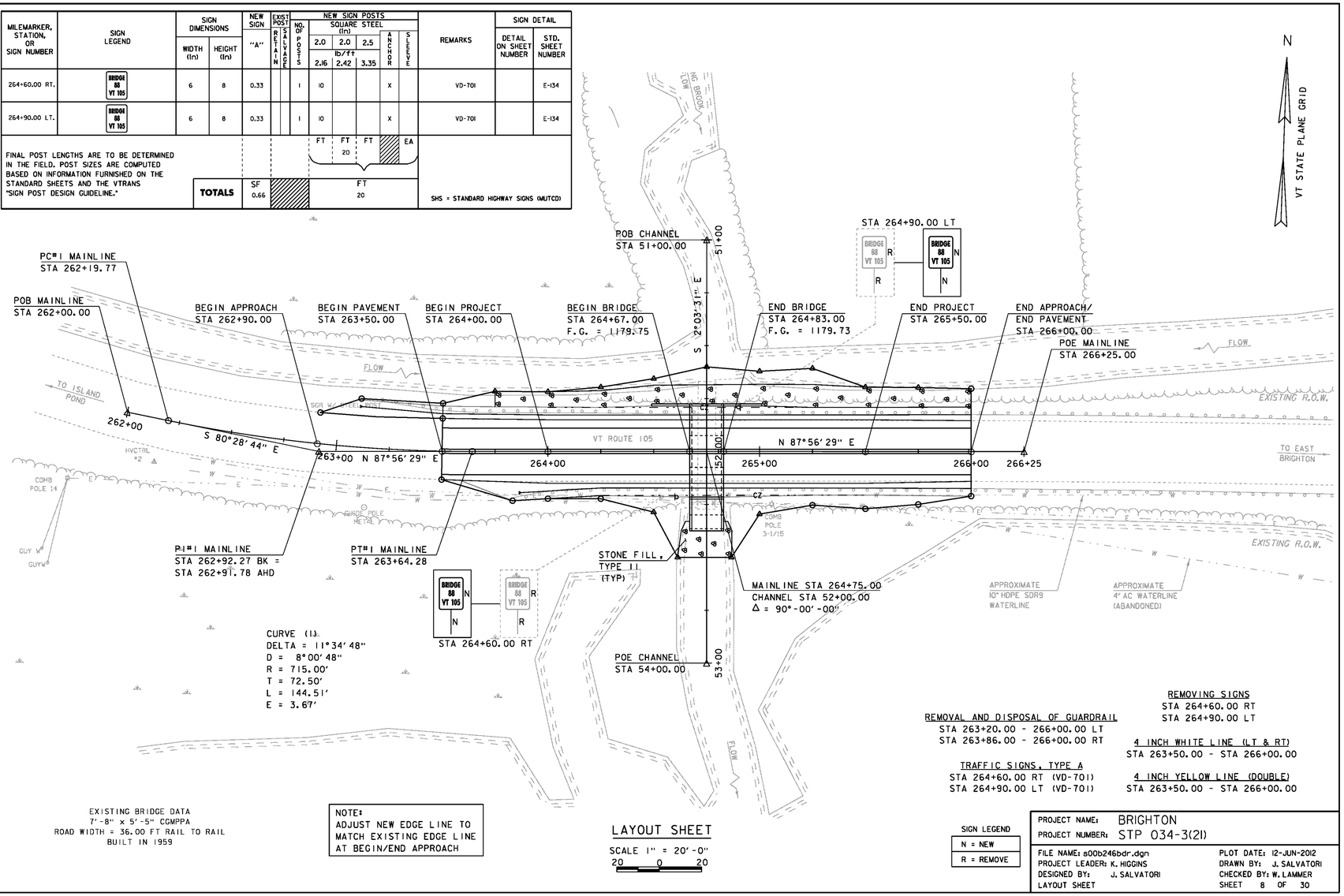
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)
ADJUSTMENT NONE

PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: survey\x00b2461t.dgn
PROJECT LEADER: K. Higgins
DESIGNED BY:
TIE SHEET

PLOT DATE: 12-JUN-2012
DRAWN BY: R. Bullock
CHECKED BY:
SHEET 7 OF 30

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW SIGN "A"	EXIST POST TO REMAIN	EXIST POST TO REMOVE	NEW SIGN POSTS NO. OF POSTS	NEW SIGN POSTS SQUARE STEEL (in) 2.0 2.16 lb/ft	2.0 2.42 lb/ft	2.5 3.35 lb/ft	ANCHOR	SLIPBASE	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
264+60.00 RT.	BRIDGE 88 VT 105	6	8	0.33			1	10			X		VD-701		E-134
264+90.00 LT.	BRIDGE 88 VT 105	6	8	0.33			1	10			X		VD-701		E-134
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."								FT	FT 20	FT		EA			
	TOTALS			SF 0.66					FT 20				SHS = STANDARD HIGHWAY SIGNS (MUTCD)		



REMOVAL AND DISPOSAL OF GUARDRAIL
STA 263+20.00 - 266+00.00 LT
STA 263+86.00 - 266+00.00 RT

TRAFFIC SIGNS, TYPE A
STA 264+60.00 RT (VD-701)
STA 264+90.00 LT (VD-701)

REMOVING SIGNS
STA 264+60.00 RT
STA 264+90.00 LT

4 INCH WHITE LINE (LT & RT)
STA 263+50.00 - STA 266+00.00

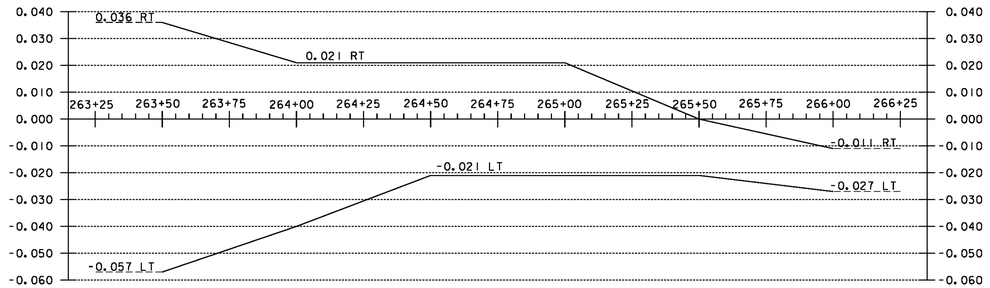
4 INCH YELLOW LINE (DOUBLE)
STA 263+50.00 - STA 266+00.00

SIGN LEGEND
N = NEW
R = REMOVE

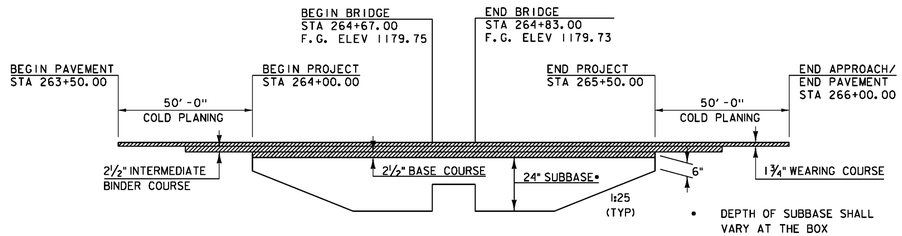
PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: s00b246bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
LAYOUT SHEET

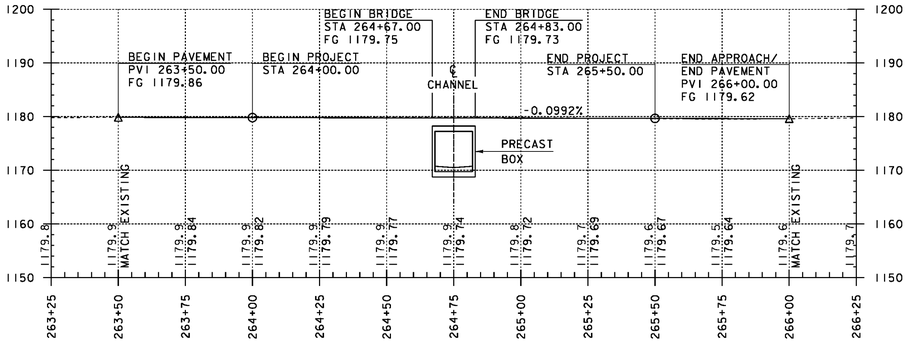
PLOT DATE: 12-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: W. LAMMER
SHEET 8 OF 30



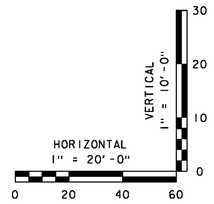
BANKING DIAGRAM
HOR. SCALE 1" = 20'-0"
NO VER. SCALE



MATERIAL TRANSITION
HOR. SCALE 1" = 20'-0"
NO VER. SCALE



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



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

PROJECT NAME: BRIGHTON	
PROJECT NUMBER: STP 034-3(21)	
FILE NAME: s00b246xs.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
MAINLINE PROFILE	SHEET 9 OF 30

SOIL CLASSIFICATION

AASHTO

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

▼	Water Elevation
⊠	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

COLOR

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

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.

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

BORING LOG
BRIGHTON
STP 034-3(21)
VT-105 BR-88

Boring No.: B-101
Page No.: 1 of 1
File No.: 008246
Checked By: TDC

Boring Crew: PORTER, HOLT, WELTZER
Date Started: 2/02/12 Date Finished: 2/03/12
VTSPG NAD83: N 846864.10 ft E 1804134.75 ft
Station: 264+80 Offset: -10.00
Ground Elev/Sur: 179.5 ft

	Casing	Sampler
Type:	HW	SS
I.D.:	3 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C 2WD	CC = 1.33

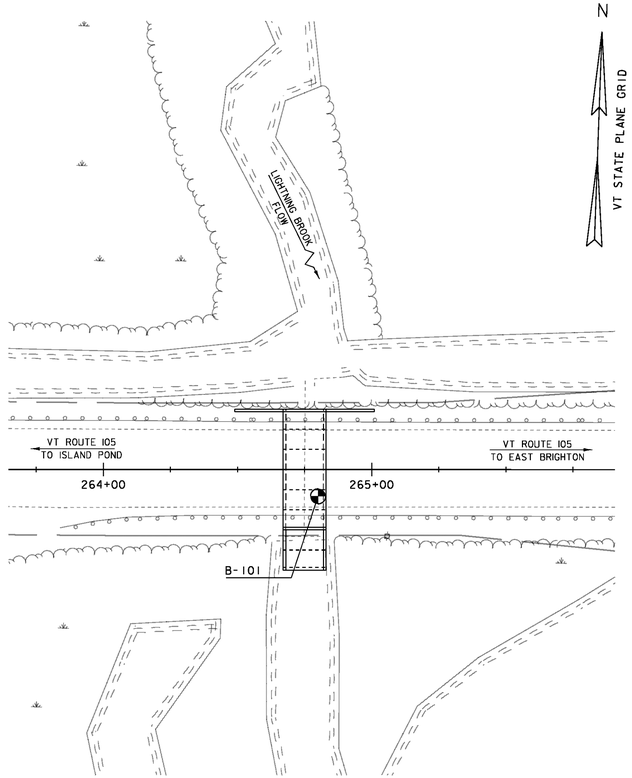
Groundwater Observations

Date	Depth (ft)	Notes
02/03/12	5.9	AM

Depth (ft)	Blows (/6")	CLASSIFICATION OF MATERIALS (Description)	Elevation (ft)	Moisture Content %	Gravel %	Sand %	Fines %
0		Asphalt Pavement, 0.0 ft - 0.1 ft					
1		Field Note, No Recovery, Appears to be Gravel with small stones.	885.0*	24.8	6.4	68.4	7.2
5		A-1-b, SG, Sample was taken from the weathed material.					
6		Field Note, Hard drilling. Attempted to core. No Recovery					
10		A-1-a, SaGr, gry, Wet, Rec. = 0.5 ft, Lab Note: Some broken Concrete was within sample.	866.0*	15.5	30.2	42.2	7.8
11		Field Note, No Recovery, Appears to be silty material.		2-2-2-1 (4)			
15		A-2-4, SG, gry, Wet, Rec. = 1.7 ft, A small layer of dark brown possible organic silt was encountered. Insufficient material for testing.		WH-5-8-8 (16)	25.8	4.8	76.3	19.1
		A-2-4, SG, gry, Wet, Rec. = 1.2 ft		8-10-9-6 (19)	20.2	2.8	85.7	11.5
20		A-3, Sa, gry, Wet, Rec. = 0.8 ft		4-3-2-4 (5)	21.8	5.5	85.0	8.5
25		A-4, SISa, gry, Wet, Rec. = 2.0 ft		WH-2-3-3 (5)	34.3	0.1	60.8	38.1
30		A-1-b, Sa, gry, Wet, Rec. = 0.7 ft		3-3-3-3 (6)	21.8	5.5	91.8	2.7
		Hole stopped @ 30.0 ft						

Remarks:
1. Ground Elevation was estimated from plan sections.
2. From 0.1 ft to 11.0 feet appears to be well compacted fill material.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values blows per foot recorded for standard sampler, CC is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



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

The subsurface explorations shown herein were made between 2/2/2012 and 2/3/2012 by the Agency.

Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.

Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.

GENERAL NOTES

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.

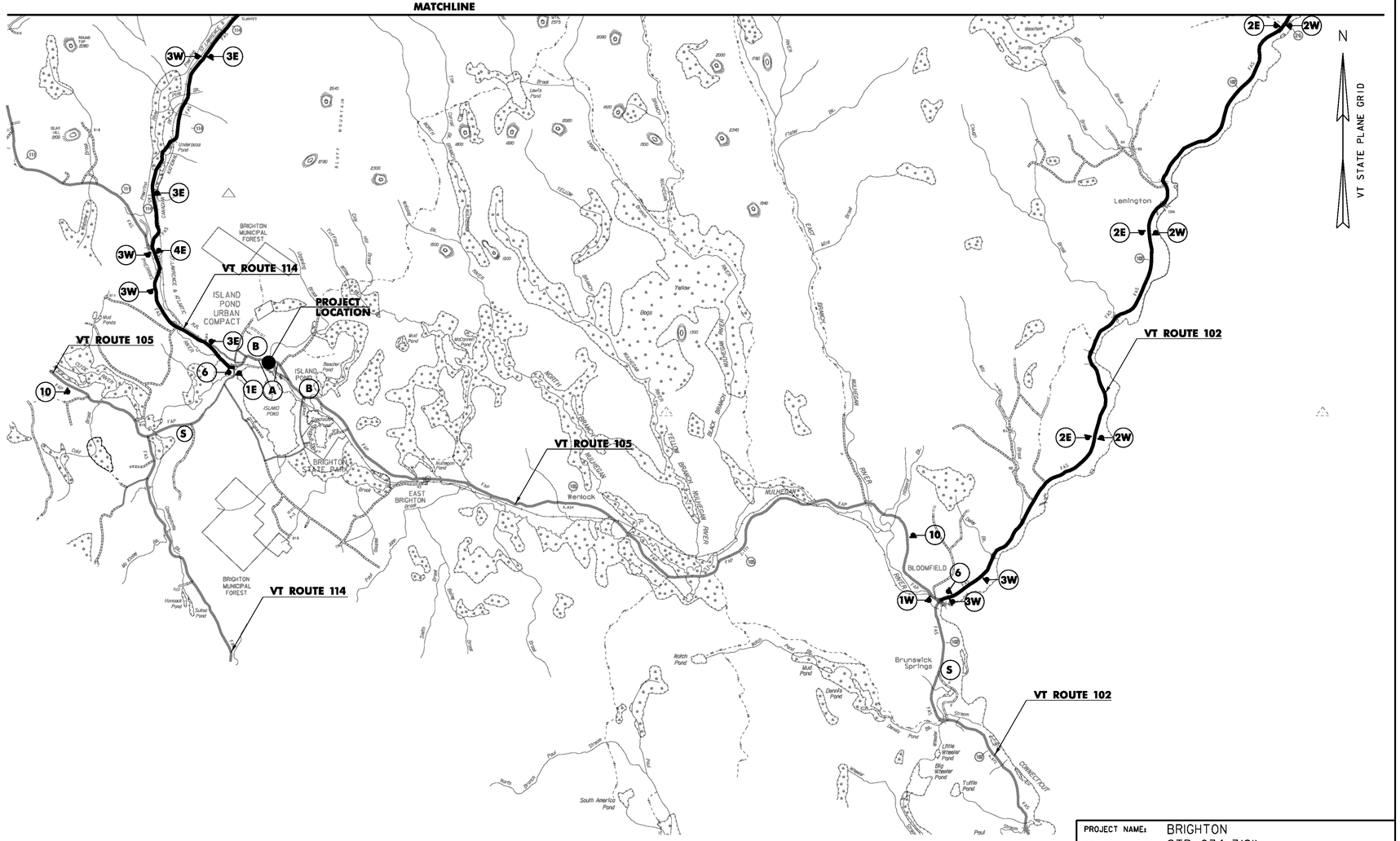
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: s008246bor.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
BORING LAYOUT SHEET

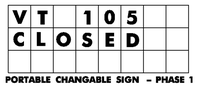
PLOT DATE: 12-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: B. LAMMER
SHEET 10 OF 30

MATCHLINE



DETOUR PLAN - 1
NOT TO SCALE

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)
FILE NAME: s00b246detour.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
DETOUR PLAN - 1	SHEET 11 OF 30



PORTABLE CHANGABLE SIGN - PHASE 1

PORTABLE CHANGABLE SIGN - PHASE 2

PORTABLE CHANGABLE SIGN - PHASE 3

* M=MONTH
D=DAY

(S)

(10)

NOTES:

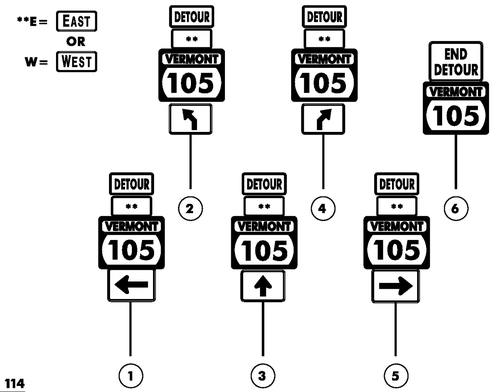
1. THE PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE FULLY OPERATIONAL A MINIMUM OF TWO WEEKS PRIOR TO THE CLOSURE OF VT 105.
2. DURING ACTUAL CLOSURE, ELIMINATED PHASE 3 ONLY.
3. DETOUR SIGNS SHALL BE LOCATED ADJACENT TO EXISTING INTERSECTION ROUTE MARKER.
4. SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.

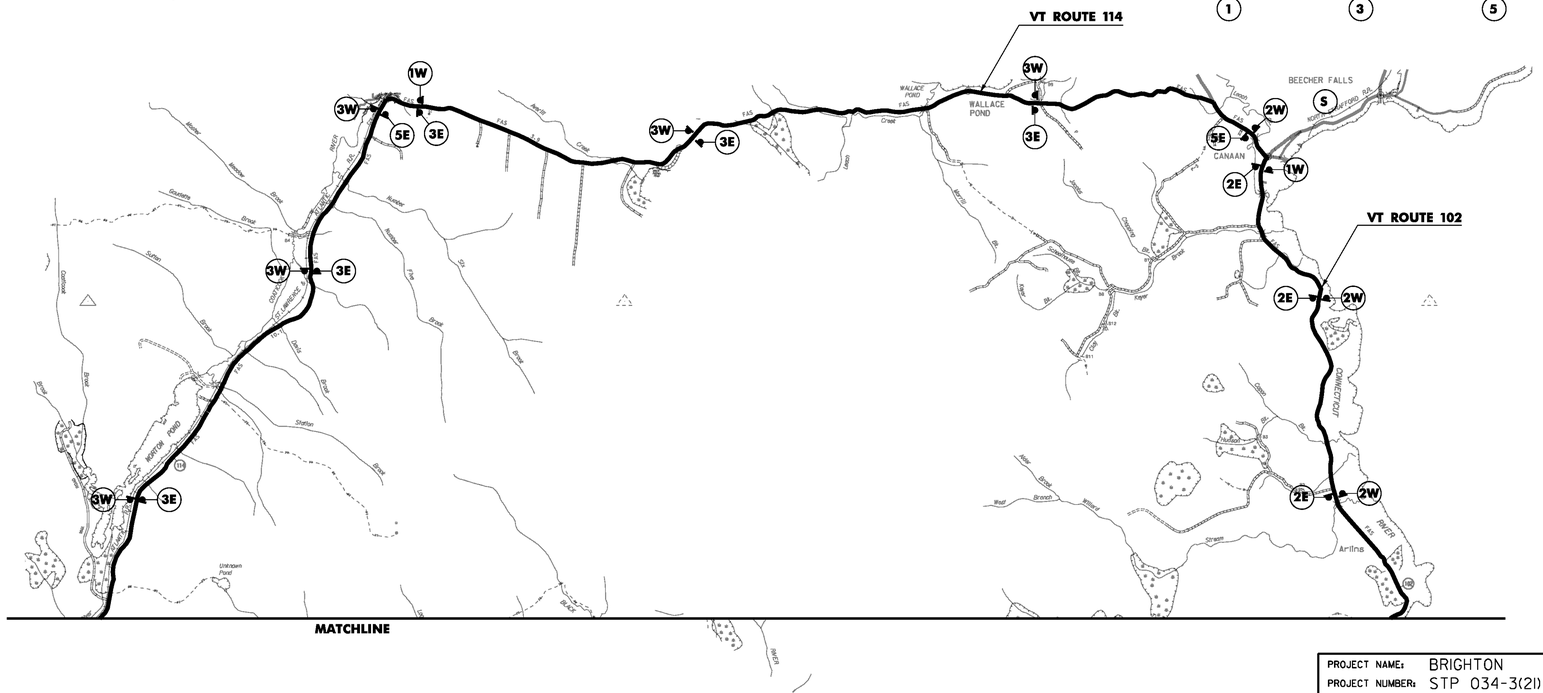
SIGN MOUNTING ON TYPE III BARRICADE (MODIFIED)

(A)

SIGN MOUNTING ON TYPE III BARRICADE (MODIFIED)

(B)





DETOUR PLAN - 2

NOT TO SCALE

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)

FILE NAME: s00b246detour.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
DETOUR PLAN - 2	SHEET 12 OF 30

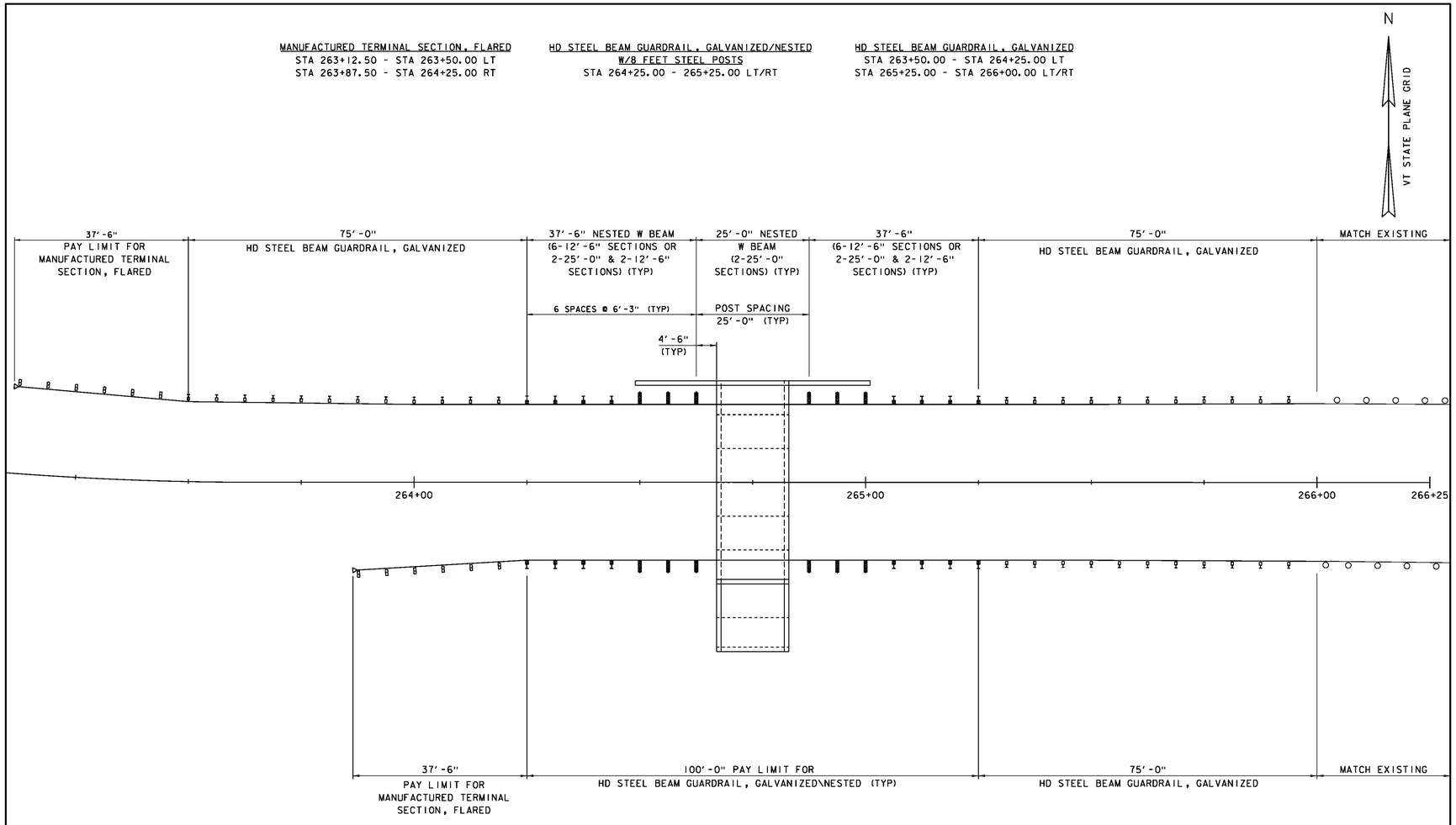
MANUFACTURED TERMINAL SECTION, FLARED
STA 263+12.50 - STA 263+50.00 LT
STA 263+87.50 - STA 264+25.00 RT

HD STEEL BEAM GUARDRAIL, GALVANIZED/NESTED
W/8 FEET STEEL POSTS
STA 264+25.00 - 265+25.00 LT/RT

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 263+50.00 - STA 264+25.00 LT
STA 265+25.00 - STA 266+00.00 LT/RT

N

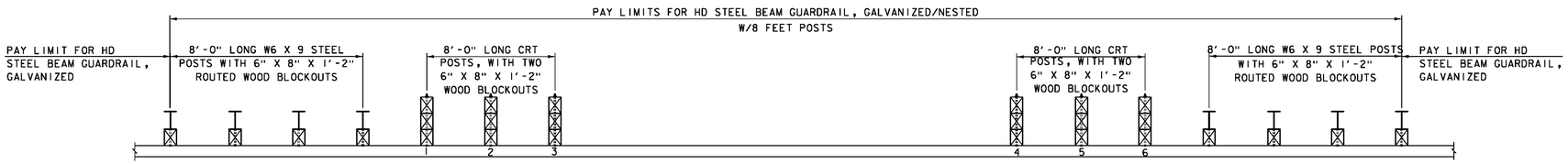
VT STATE PLANE GRID



RAIL LAYOUT SHEET

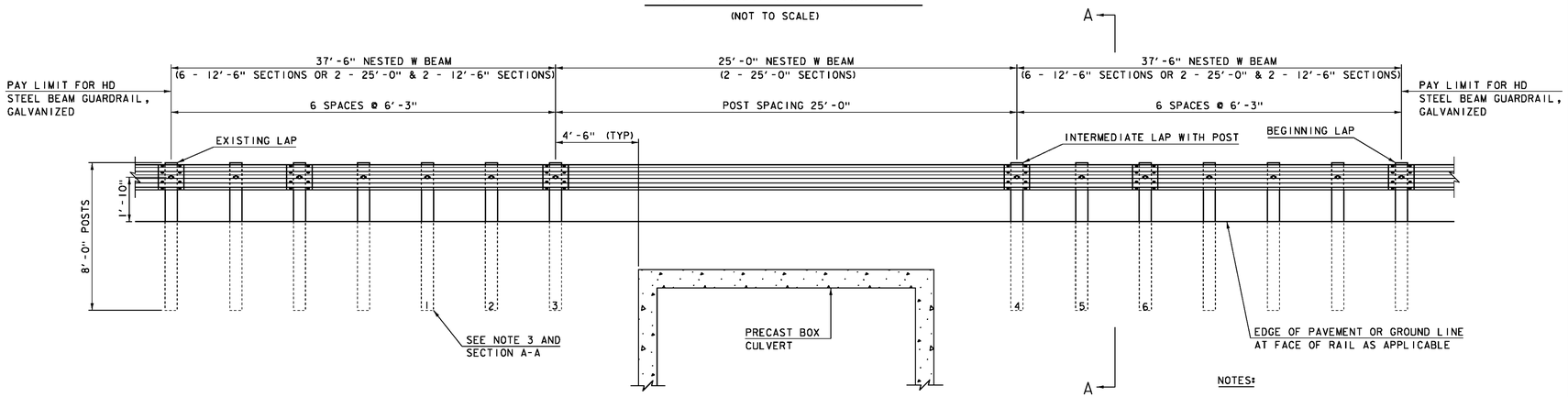
SCALE 1" = 10'-0"
10 0 10

PROJECT NAME: BRIGHTON	
PROJECT NUMBER: STP 034-3(21)	
FILE NAME: s00b246rail.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
RAIL LAYOUT SHEET	SHEET 13 OF 30



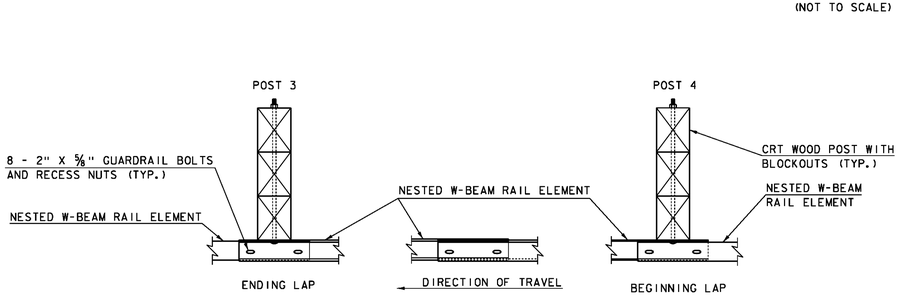
NESTED RAILING PLAN VIEW

(NOT TO SCALE)



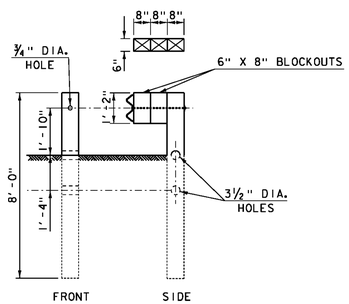
NESTED RAILING ELEVATION VIEW

(NOT TO SCALE)



INTERMEDIATE LAP WITHOUT POST

(NOT TO SCALE)



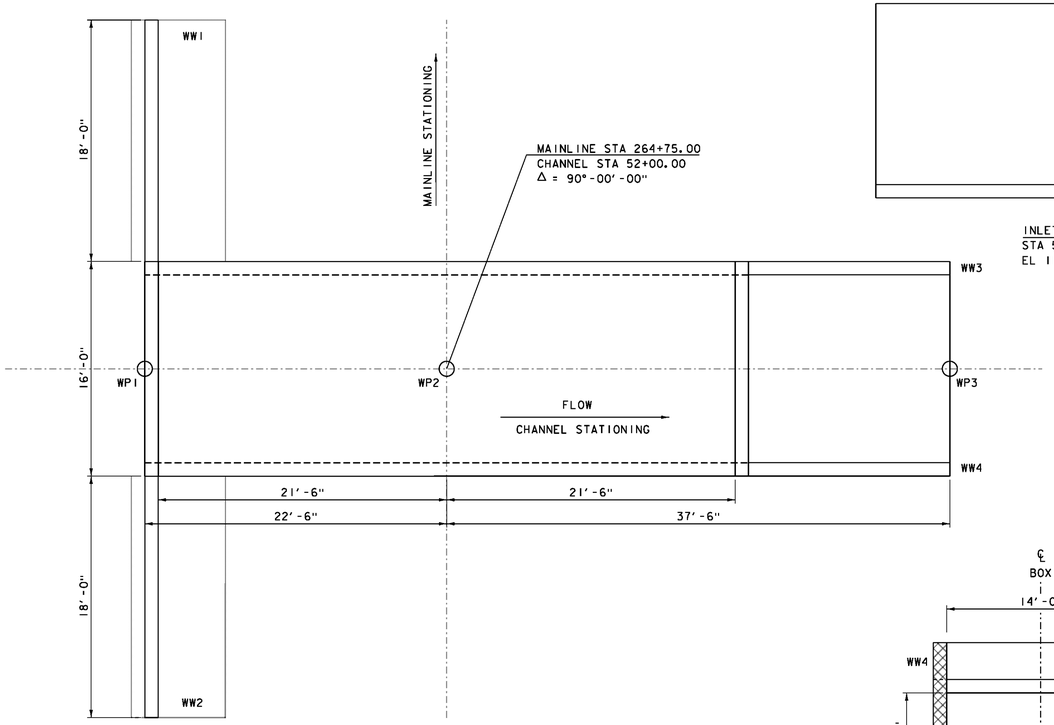
SECTION A-A (POSTS 1 THRU 6)

(SEE NOTES 3 & 4)

NOTES:

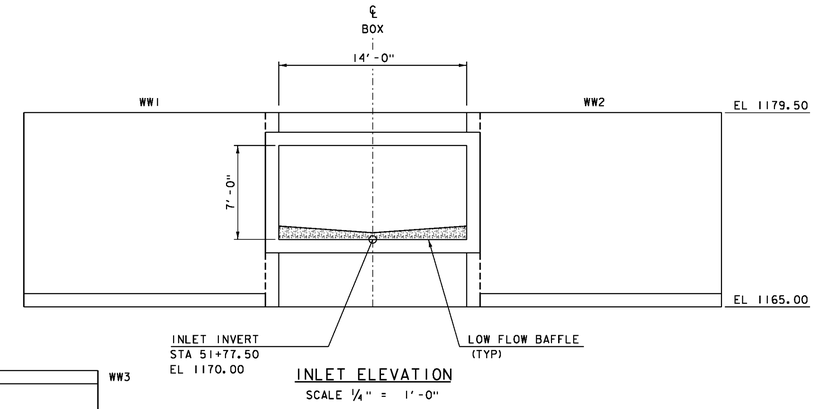
1. RAIL MEETS TEST LEVEL 3 REQUIREMENTS OF NCHRP REPORT 350.
2. 25'-0" RAIL LENGTH WILL BE USED TO ELIMINATE THE INTERMEDIATE LAP WITHOUT A POST.
3. POSTS 1 THRU 6 ARE BREAKAWAY CONTROLLED RELEASING TERMINAL (CRT) POSTS, SEE SECTION A-A FOR DETAILS.
4. POSTS 1 THRU 6 HAVE TWO, 6" X 8" BLOCKOUTS. SEE SECTION A-A FOR DETAILS.
5. ON POSTS 1 THRU 6, GUARDRAIL BOLT "D", AS SHOWN ON STD GI, SHALL BE 26" LONG.
6. ON ALL POSTS WHERE THE RAIL IS DOUBLE-NESTED GUARDRAIL BOLT "A", AS SHOWN ON STD GI, SHALL BE 2" LONG.
7. ALL POSTS WHERE THE RAIL IS DOUBLE-NESTED SHALL BE 8 FEET LONG TO PROVIDE FOR A 2'-8" SLOPE BREAKLINE.
8. SEE STD GI FOR ADDITIONAL GUARDRAIL DETAILS.

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)
FILE NAME: s00b246rail.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
NESTED HDSB GUARDRAIL DETAILS	SHEET 14 OF 30



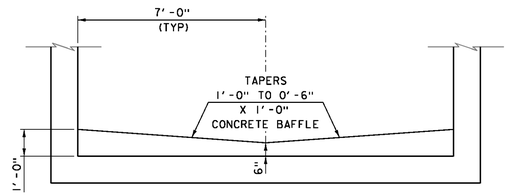
BOX LAYOUT

SCALE 1/4" = 1'-0"



INLET ELEVATION

SCALE 1/4" = 1'-0"

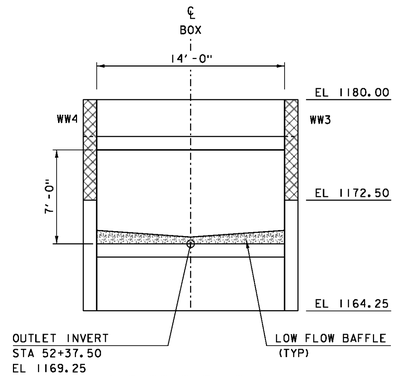


NOTES:

1. BAFFLES TO BE SPACED A MINIMUM OF EVERY 8'-0"
2. FABRACATOR TO DETAIL BAFFLE CONNECTION.

LOW FLOW BAFFLE DETAIL

SCALE 1/2" = 1'-0"



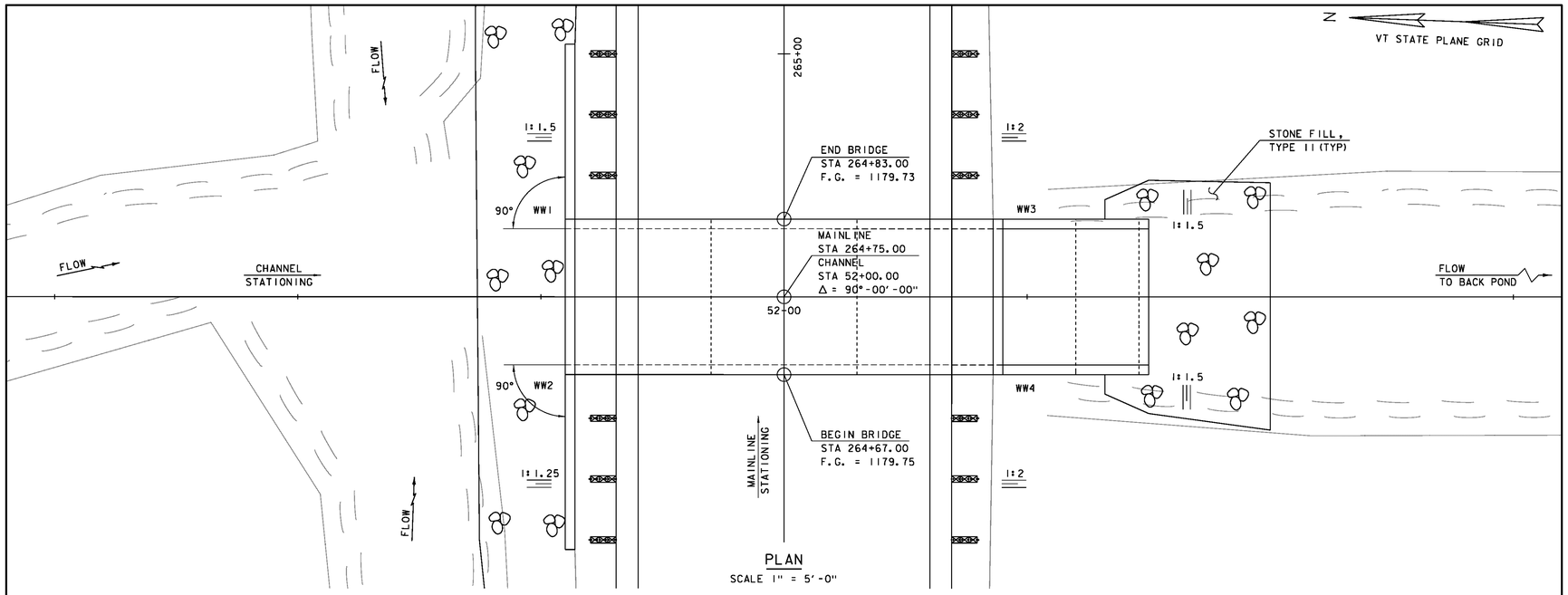
OUTLET ELEVATION

SCALE 1/4" = 1'-0"

NOTES:

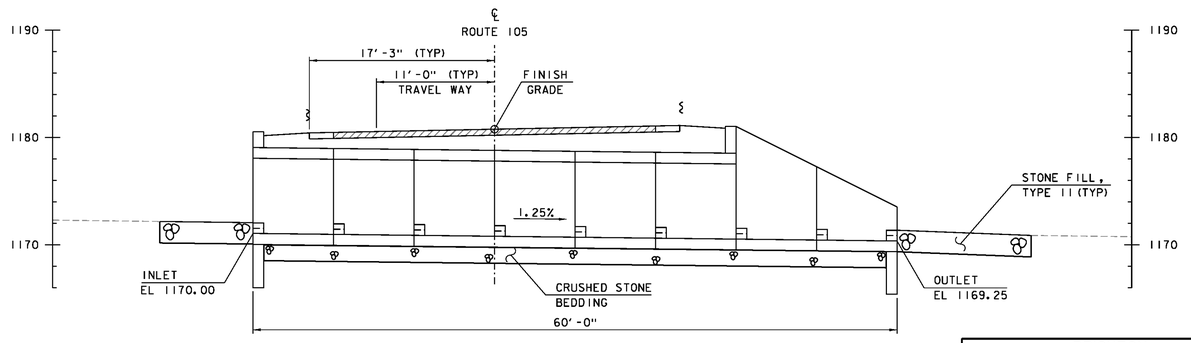
1. DIMENSIONS SHOWN ARE BASED ON AN ASSUMED WALL THICKNESS OF 1'-0"
2. THE PRECAST BOX SECTIONS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND SHAPE WILL BE DEPENDENT ON THE FABRICATOR.

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)
FILE NAME: s00b246sub.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
BOX LAYOUT	SHEET 15 OF 30



PLAN

SCALE 1" = 5'-0"



CHANNEL PROFILE ALONG ℄ BOX

SCALE 1" = 5'-0"

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)
FILE NAME: s00b246pe.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
PLAN & ELEVATION	SHEET 16 OF 30

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT SHALL CONSIST OF THE REPLACEMENT OF THE EXISTING CORRUGATED METAL PLATE PIPE ARCH STRUCTURE WITH A NEW 14' x 7' REINFORCED PRECAST CONCRETE BOX CULVERT WITH RELATED APPROACH AND CHANNEL WORK.

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

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.35 ACRES.

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

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE PROJECT AREA IS NEARLY FLAT WITH WELL ESTABLISHED WETLAND VEGETATION.

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

LIGHTNING BROOK AND TWO UN-NAMED BROOKS CONVERGE AND FLOW THROUGH THE STRUCTURE OUTLETS INTO BACK POND. THERE ARE CLASS II WETLANDS LOCATED WITHIN THE PROJECT AREA.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS MAINLY OF SHRUBS, PLANTS AND WETLAND VEGETATION.

THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING CULVERT. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL, TYPE II 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 ESSEX, VERMONT.

3A-CHARLES SILT LOAM, 0-2% SLOPES, K=0.32

SIE8-WONSQUEAK, PONDICHERRY AND BUCKSPORT MUCKS, 0+2% SLOPES, K=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 ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: BACK POND
WETLANDS: CLASS II ARE LOCATED THROUGHOUT THE PROJECT AREA.

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.

BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC). INSTALL BARRIER FENCE AS SHOWN ON THE PLANS.

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

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

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

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

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

INSTALL SILT FENCE AS SHOWN ON THE PLANS.

INSTALL FILTER CURTAIN AS SHOW ON THE PLANS.

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

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

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS. IT IS NOT ANTICIPATED THAT THESE MEASURES WILL BE NECESSARY.

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

INSTALL STONE FILL AS SHOWN ON THE PLANS.

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

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

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

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

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

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

1.4.11 DE-WATERING ACTIVITIES
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.

TREATMENT OF DEWATERING ACTIVITIES IS ANTICIPATED. A FILTER BAG LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

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

1.5 SEQUENCE AND STAGING

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

1.5.1 CONSTRUCTION SEQUENCE

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

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)
FILE NAME: s00b246epsc_narrative.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K.HIGGINS	DRAWN BY: J.SALVATORI
DESIGNED BY: J.SALVATORI	CHECKED BY: W. LAMMER
EPSC NARRATIVE	SHEET 17 OF 30

LEGEND

P/L	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOIL BOUNDARY
	CLASS II WETLANDS

N

VT STATE PLANE GRID

3A
CHARLES SILT LOAM
0-2% SLOPES
K FACTOR = 0.32

SIE8
WONSQUEAK, PONDICHERRY
AND BUCKSPORT MUCK
0-2% SLOPES
K FACTOR = 0.32

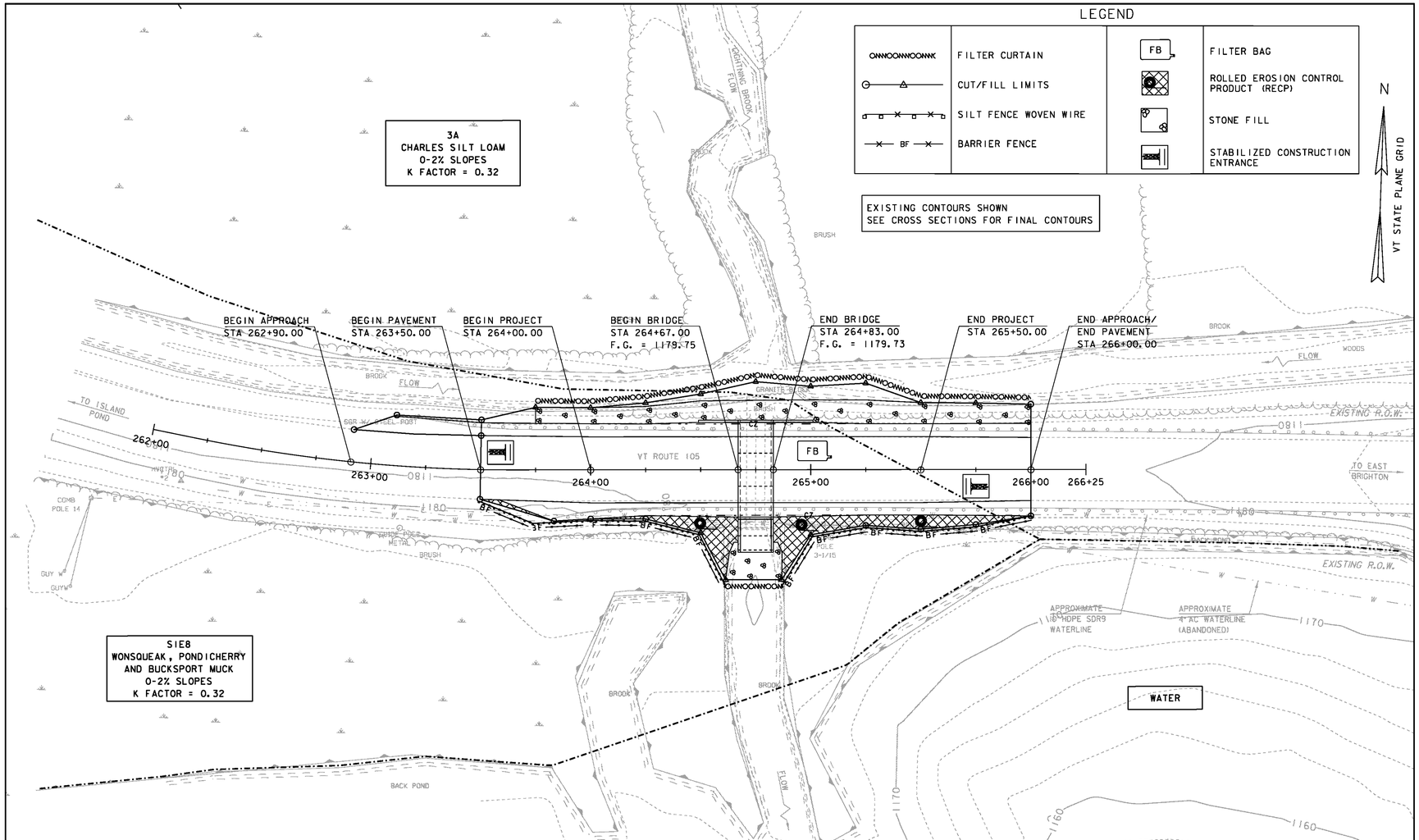
WATER

BRIGHTWG BROOK
FLOW
BRUSH
BROOK
FLOW
WOODS
GRANITE BLOCK
TO ISLAND POND
SGR W/ STEEL POST
EXISTING R.O.W.
VT ROUTE 105
262+00
263+00
264+00
265+00
266+00
266+25
TO EAST BRIGHTON
COMB POLE 14
GUY
GUYW
WATER
METAL
COMB POLE 3-1/15
APPROXIMATE 10" HDPE SDR9 WATERLINE
APPROXIMATE 4" AC WATERLINE (ABANDONED)
BACK POND
1180
1170
1160

EPSC - EXISTING CONDITIONS

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

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)
FILE NAME: s00b246epsc_bdr.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
EPSC - EXISTING CONDITIONS	SHEET 18 OF 30



EPSC - DURING CONSTRUCTION

SCALE 1" = 20'-0"

20 0 20

PROJECT NAME:	BRIGHTON
PROJECT NUMBER:	STP 034-3(21)
FILE NAME: s00b246epsc_bdr.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
EPSC - DURING CONSTRUCTION	SHEET 19 OF 30

AREAS OF EARTH DISTURBANCE
THAT WILL REQUIRE REVEGETATION.

N

VT STATE PLANE GRID

3A
CHARLES SILT LOAM
0-2% SLOPES
K FACTOR = 0.32

SIE8
WONSQUEAK, PONDICHERRY
AND BUCKSPORT MUCK
0-2% SLOPES
K FACTOR = 0.32

WATER

BEGIN APPROACH
STA 262+90.00

BEGIN PAVEMENT
STA 263+50.00

BEGIN PROJECT
STA 264+00.00

BEGIN BRIDGE
STA 264+67.00
F.G. = 1179.75

END BRIDGE
STA 264+83.00
F.G. = 1179.73

END PROJECT
STA 265+50.00

END APPROACH/
END PAVEMENT
STA 266+00.00

262+00
263+00
264+00
265+00
266+00
266+25

VT ROUTE 105

TO ISLAND POND

TO EAST BRIGHTON

EXISTING R.O.W.

EXISTING R.O.W.

BACK POND

BACK POND

BROOK

FLOW

BRUSH

WOODS

GRANITE BROOK

SGR W/ WIRE POST

HVCTRL #2

COMB POLE 14

WIRE POLE METAL

GUY W

GUYW

COMB POLE 3-1/15

APPROXIMATE 10" HDPE SDR9 WATERLINE

APPROXIMATE 4" AC WATERLINE (ABANDONED)

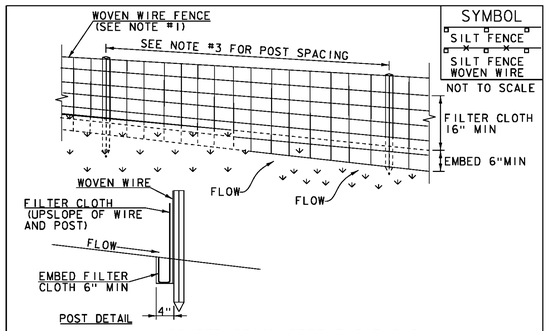
EPSC - FINAL CONDITIONS

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

PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: s00b246epsc_bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
EPSC - FINAL CONDITIONS

PLOT DATE: 12-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: W. LAMMER
SHEET 20 OF 30



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.

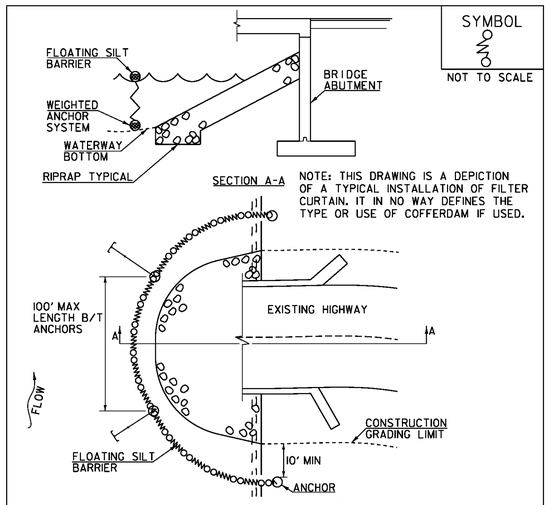
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



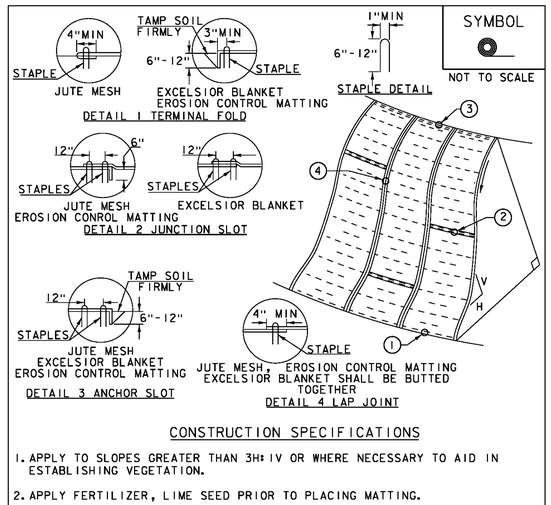
CONSTRUCTION SPECIFICATIONS

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



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

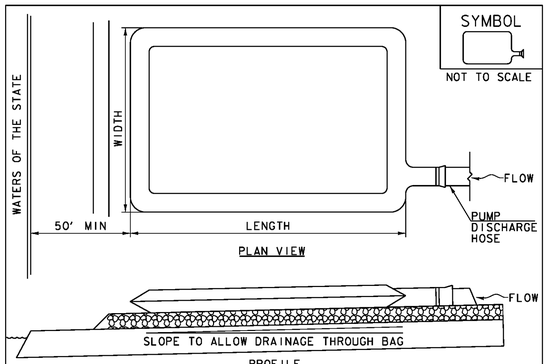
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) ~~OR PERMANENT EROSION MATTING (PAY ITEM 653.28).~~

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: s00b246epsc_details.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
EPSC DETAILS 1

PLOT DATE: 12-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: W. LAMMER
SHEET 21 OF 30



CONSTRUCTION SPECIFICATIONS

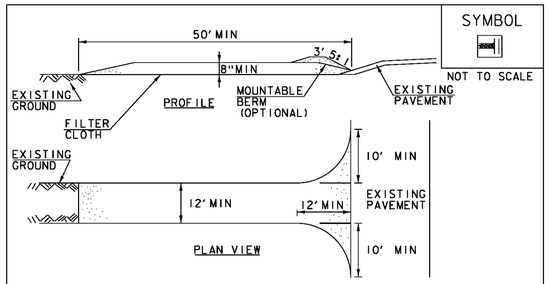
1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION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

FILTER BAG

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN TN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

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

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

STABILIZED CONSTRUCTION ENTRANCE

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

VAOT RURAL AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

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

SOIL AMENDMENT GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	*FOLLOW*	PELLETIZED	*FOLLOW*
500 LBS/AC	*MANUFACTURER*	2 TONS/AC	*MANUFACTURER*

CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

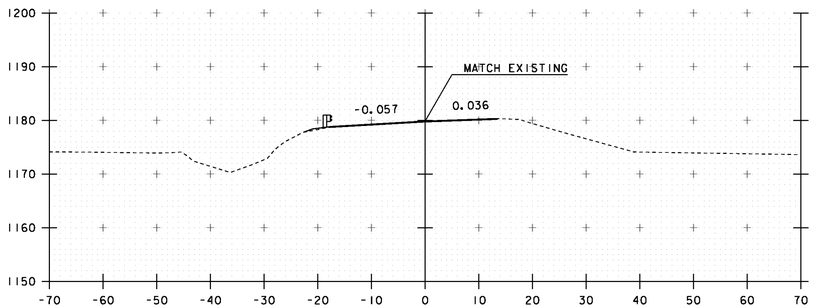
TURF ESTABLISHMENT

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF

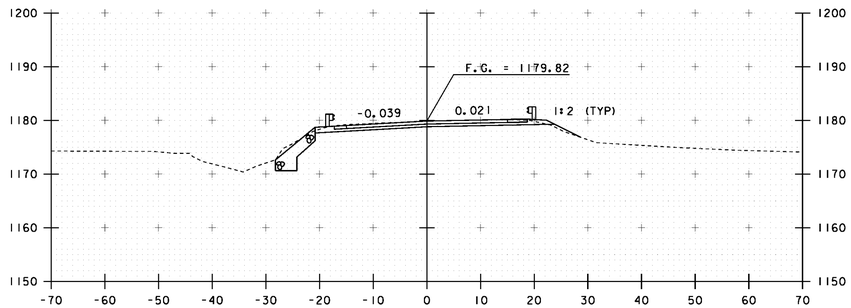
PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: s00b246epsc_details.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
EPSC DETAILS 2

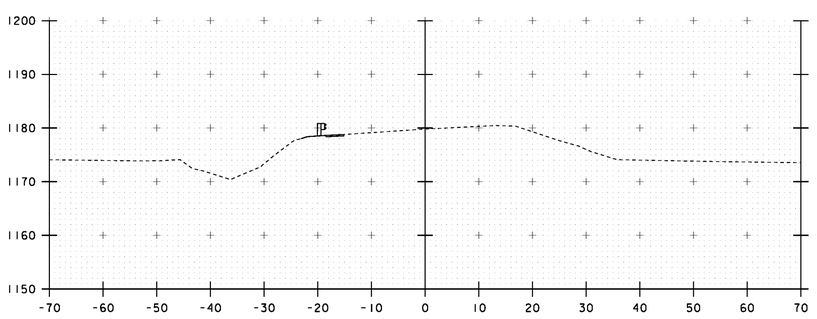
PLOT DATE: 12-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: W. LAMMER
SHEET 22 OF 30



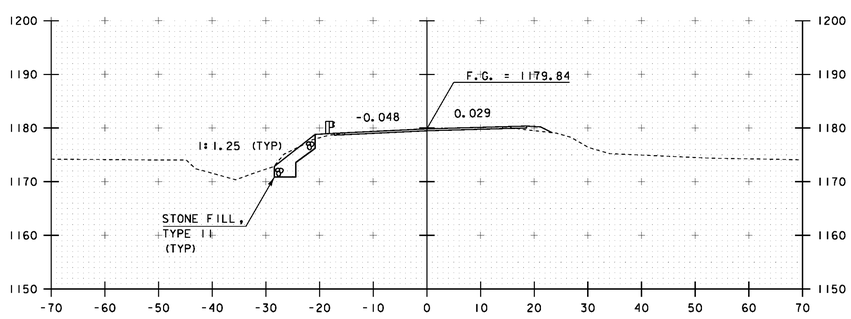
263+50
BEGIN PAVEMENT



264+00
BEGIN PROJECT



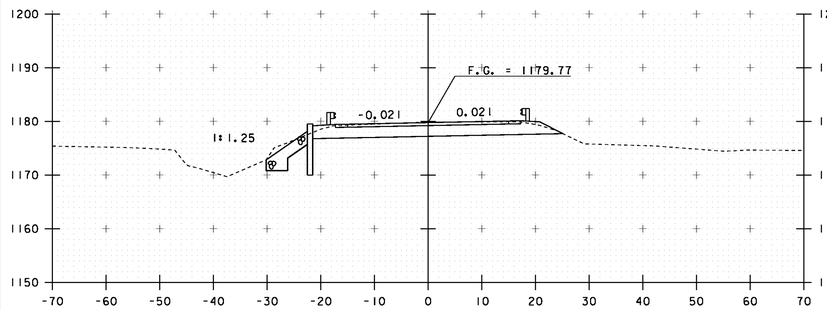
263+25
BEGIN APPROACH @ STA 262+90



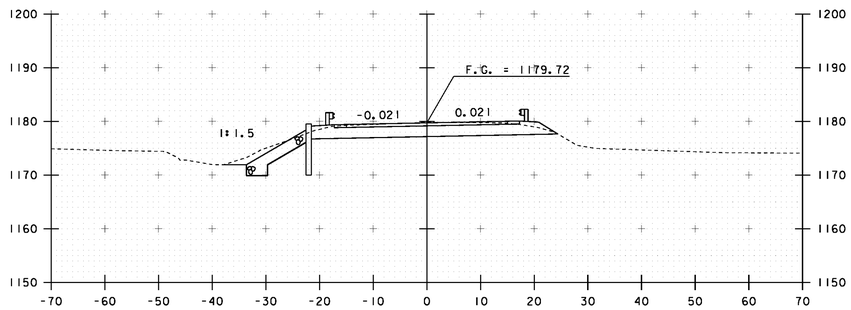
263+75

STA. 263+25 TO STA. 264+00

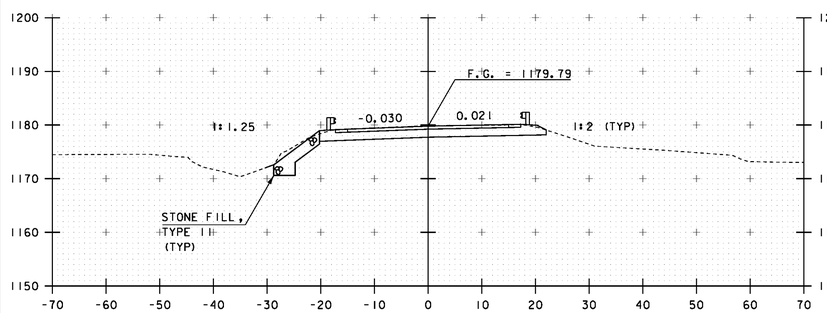
PROJECT NAME: BRIGHTON	
PROJECT NUMBER: STP 034-3(21)	
FILE NAME: s00b246xs.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
MAINLINE CROSS SECTIONS I	SHEET 23 OF 30



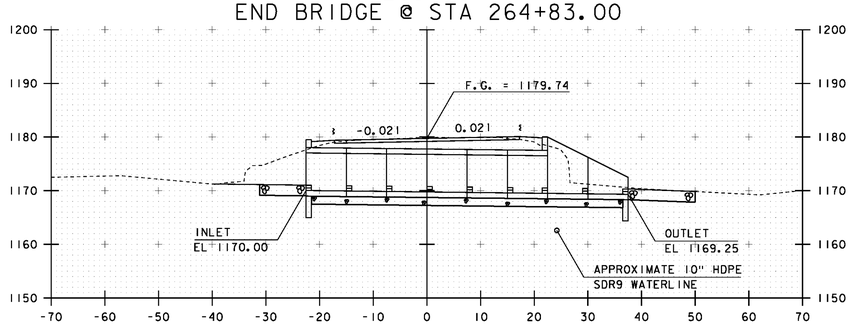
264+50



265+00
END BRIDGE @ STA 264+83.00



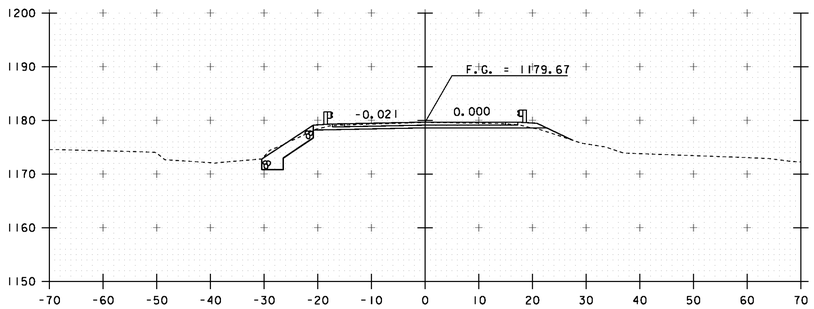
264+25



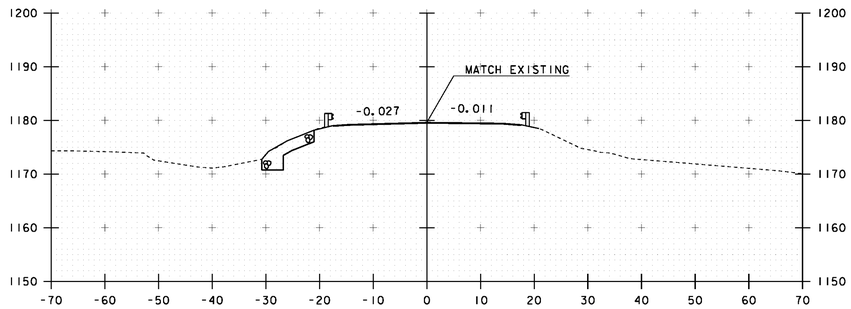
264+75
BEGIN BRIDGE @ STA 264+67.00

STA. 264+25 TO STA. 265+00

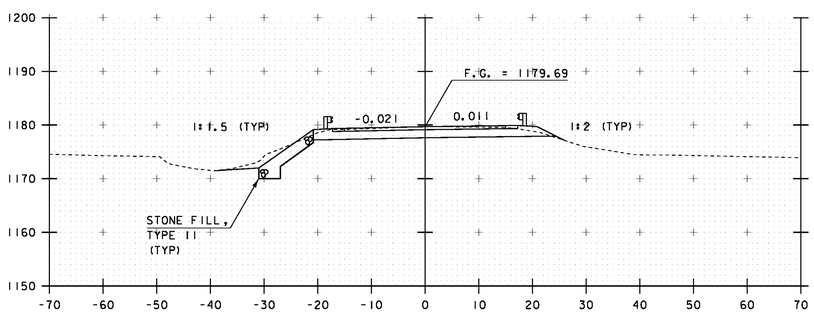
PROJECT NAME: BRIGHTON	
PROJECT NUMBER: STP 034-3(21)	
FILE NAME: s00b246xs.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
MAINLINE CROSS SECTIONS 2	SHEET 24 OF 30



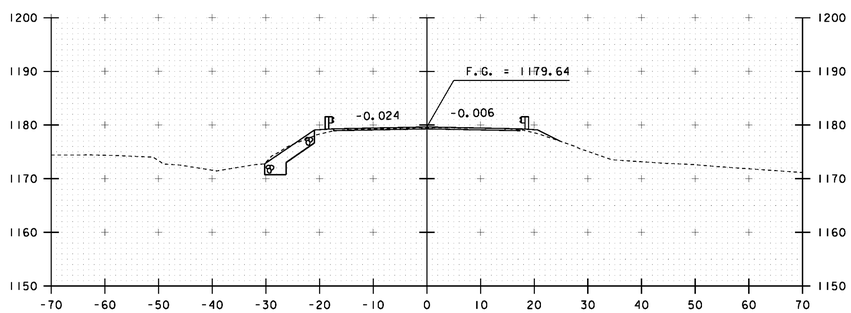
265+50
END PROJECT



266+00
END APPROACH / END PAVEMENT



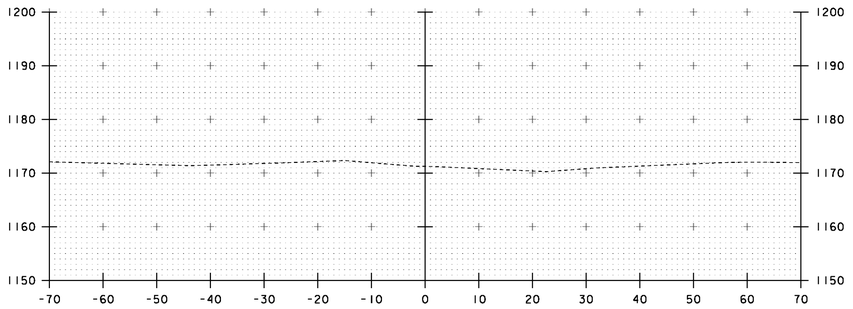
265+25



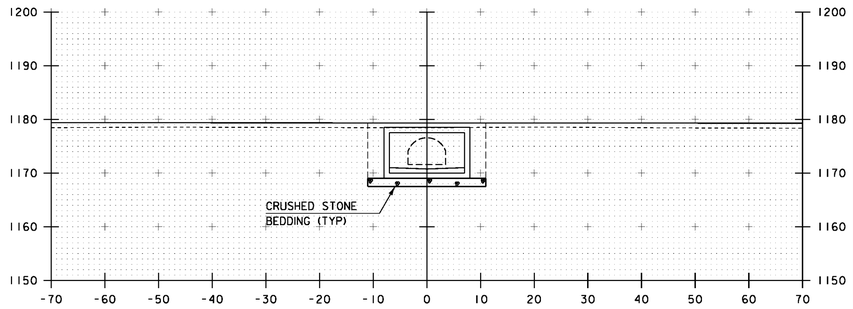
265+75

STA. 265+25 TO STA. 266+00

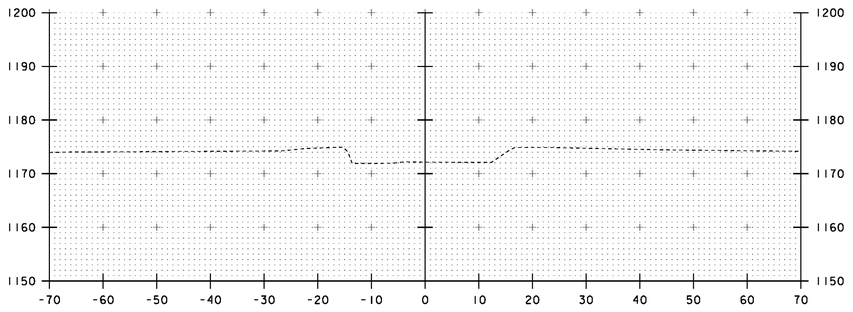
PROJECT NAME: BRIGHTON	
PROJECT NUMBER: STP 034-3(21)	
FILE NAME: s00b246xs.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
MAINLINE CROSS SECTIONS 3	SHEET 25 OF 30



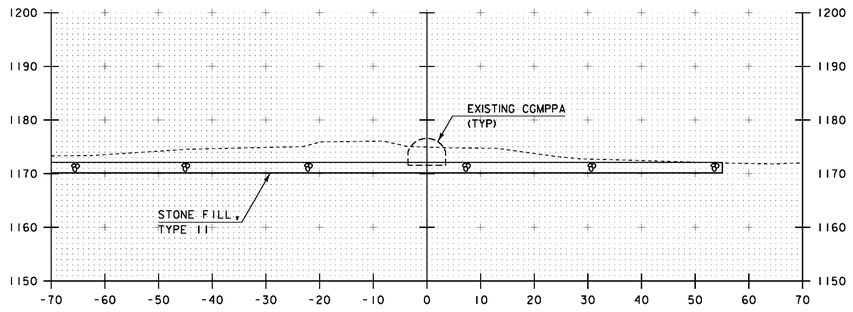
51+60



51+80



51+50



STA. 51+68.82
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL TYPE II

51+70

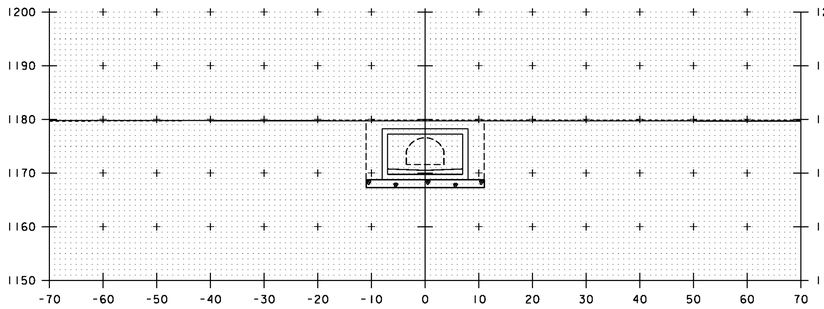
STA. 51+79.42
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL TYPE II

STA. 51+50 TO STA. 51+80

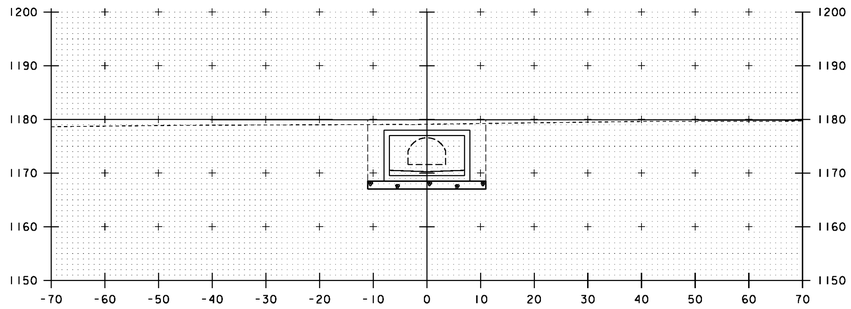
PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: s00b246xs.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
CHANNEL SECTIONS I

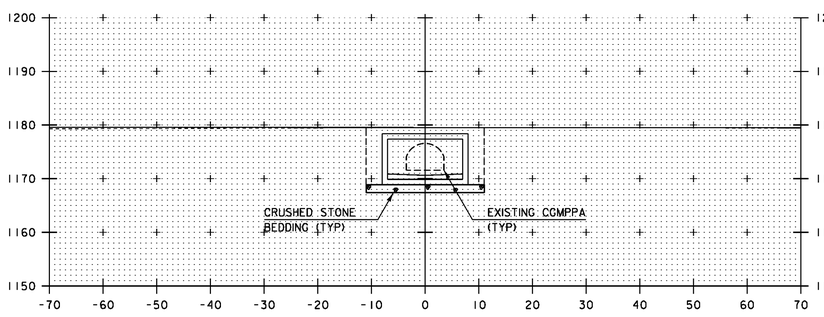
PLOT DATE: 12-JUN-2012
DRAWN BY: J. SALVATORI
CHECKED BY: W. LAMMER
SHEET 26 OF 30



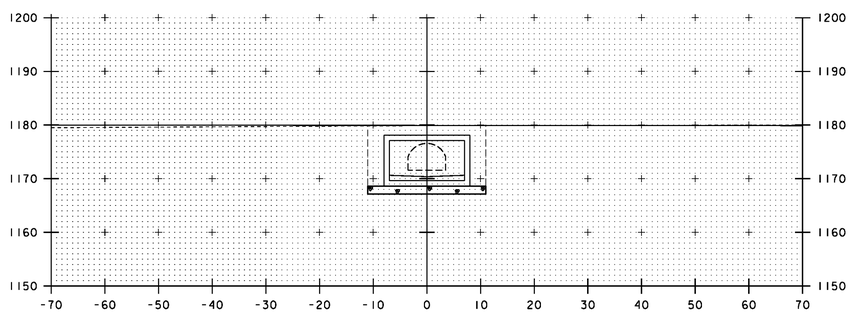
52+00



52+20



51+90

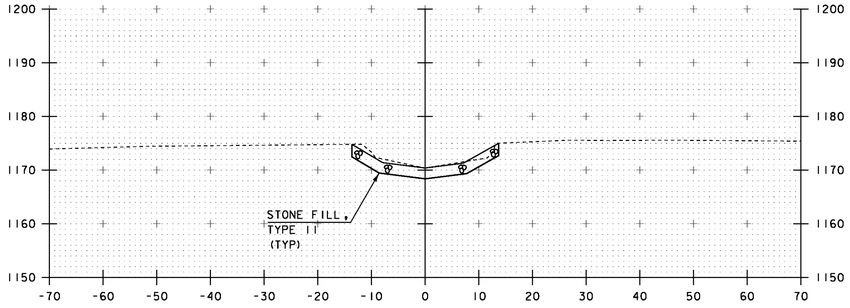


52+10

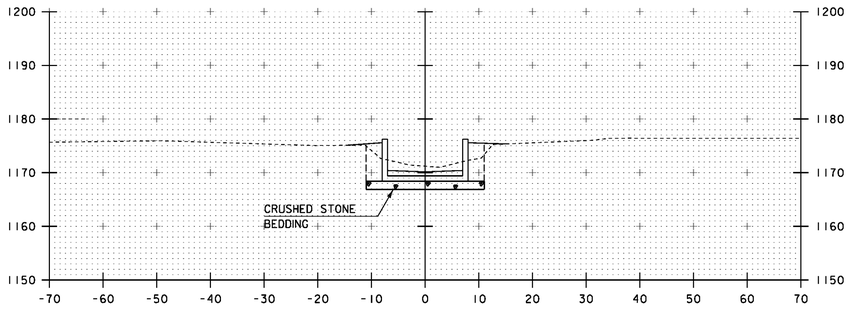
STA. 51+90 TO STA. 52+20

PROJECT NAME: BRIGHTON	
PROJECT NUMBER: STP 034-3(21)	
FILE NAME: s00b246xs.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
CHANNEL SECTIONS 2	SHEET 27 OF 30

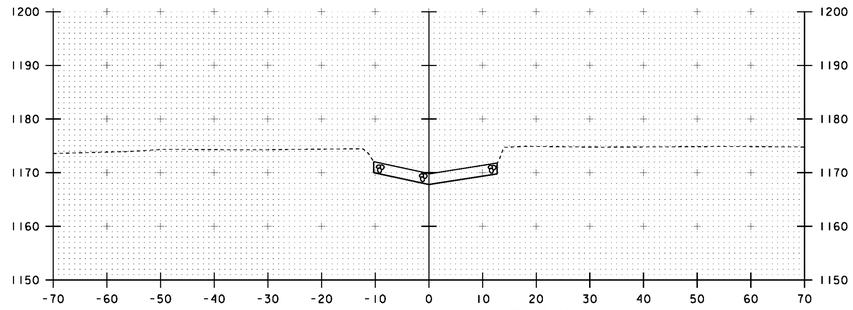
STA. 52+33.00
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL TYPE II



52+40



52+30

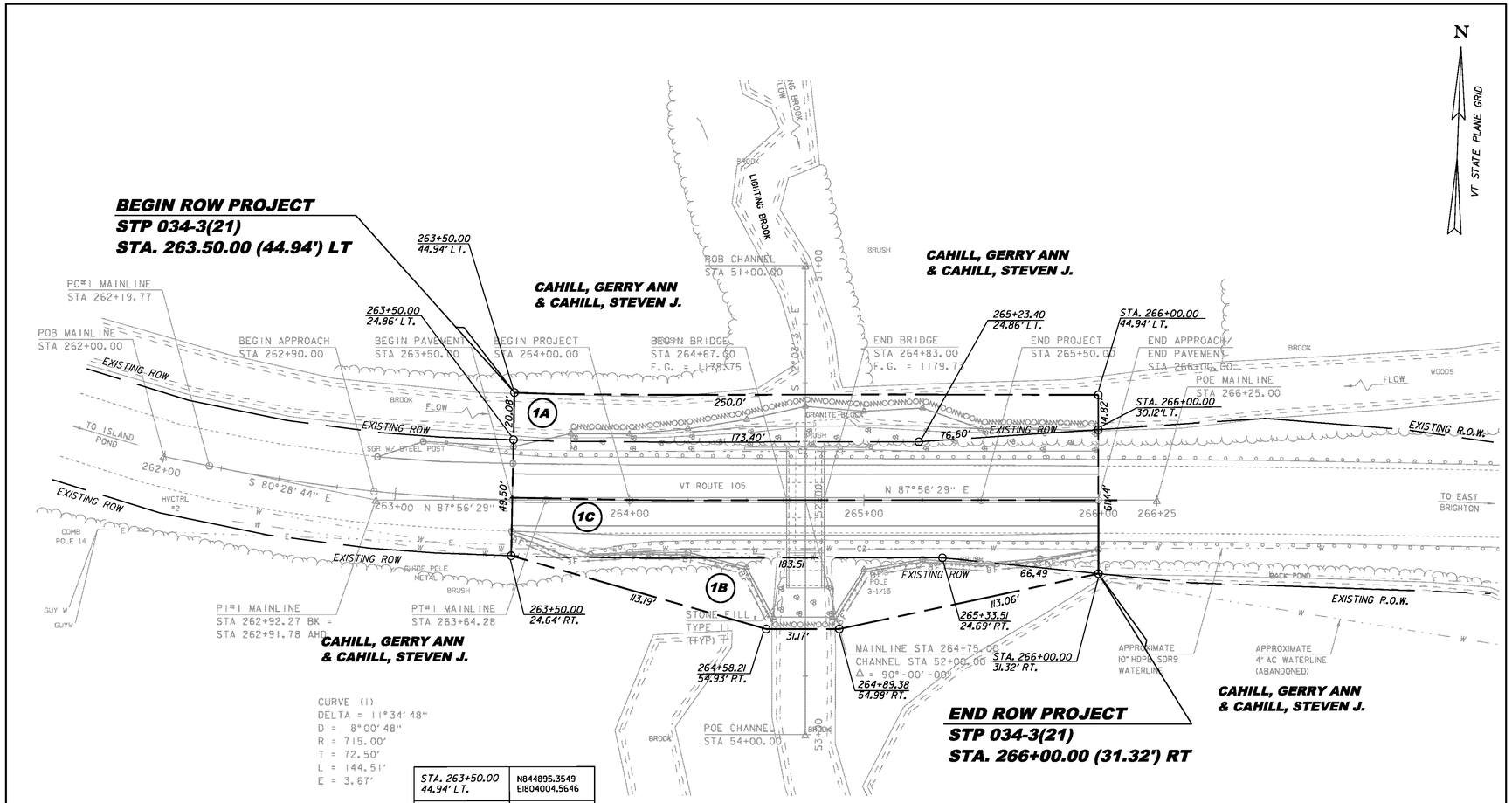


52+50

STA. 52+50.00
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL TYPE II

STA. 52+30 TO STA. 52+50

PROJECT NAME: BRIGHTON	
PROJECT NUMBER: STP 034-3(21)	
FILE NAME: s00b246xs.dgn	PLOT DATE: 12-JUN-2012
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
DESIGNED BY: J. SALVATORI	CHECKED BY: W. LAMMER
CHANNEL SECTIONS 3	SHEET 28 OF 30



STA. 263+50.00 44.94' LT.	N844895.3549 E1804004.5646
STA. 266+00.00 44.94' LT.	N844903.3115 E1804253.5372
STA. 266+00.00 31.32' RT.	N844827.1189 E1804256.3125
STA. 264+89.38 54.98' RT.	N844799.5578 E1804146.6637
STA. 264+58.21 54.93' RT.	N844798.4380 E1804115.5130
STA. 263+50.00 24.64' RT.	N844825.7581 E1804005.6735

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

IIII PERMIT # 33013 5/15/2008 TO TOWN OF BRIGHTON ACCESS WITHIN RT. 105 ROW WATER LINE

RIGHT OF WAY FROM PROJECT FE 139A OCT. 13 1932 DPR 00RI78 SHEET 3

END ROW PROJECT
STP 034-3(21)
STA. 266+00.00 (31.32') RT

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

PROJECT NAME: BRIGHTON
PROJECT NUMBER: STP 034-3(21)

FILE NAME: r00b246row.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
ROW LAYOUT SHEET

PLOT DATE: 12-JUN-2012
DRAWN BY: B. FERLAZZO
CHECKED BY: H. PETROVS
SHEET 29 OF 30

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1A	CAHILL, GERRY ANN & CAHILL, STEVEN J.	3	263+50.0 LT	266+00.0 LT	.11 A					WD	05/14/12	BRIGHTON	86	14-15	4,792 SF±
1B		3	263+50.0 RT	266+00.0 RT	.10 A										4,458 SF±
1C		3	263+50.0 LT	266+00.0 RT	0.29 A		A.L.R. T. & I.								VT RTE 105 HWY EASE.: 12,797 SF±

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (P / L)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST. (T))
- PROJECT DEMARCATION FENCE (PDF)

EC	-EROSION CONTROL
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: HARRY PETROVS DATE: 02-22-12
CHIEF, PLANS & TITLES

PROJECT NAME:	BRIGHTON		
PROJECT NUMBER:	STP 034-3(21)		
FILE NAME:	r00b246Detail.xls	PLOT DATE:	12-JUN-2012
PROJECT LEADER:	K. HIGGINS	DRAWN BY:	M. TROTTIER
DESIGNED BY:	J. SALVATORI	CHECKED BY:	B. FERLAZO
R.O.W. DETAIL SHEET #1		SHEET 30	OF 30

VERMONT

State of Vermont
PDD/Structures Design Section
National Life Building – Drawer 33
Montpelier, VT 05633-5001
www.aot.state.vt.us

Agency of Transportation

[phone] 802-828-2621
[fax] 802-828-3566
[tnt] 800-253-0191

DATE: August 21, 2012

Concrete Systems, Inc.
9 Commercial Street
Hudson, NH 03051

Project Name: Brighton Project #: STP 034-3(21)

Structure Identification: Box Culvert Details (CSI Job # C21314)

The following Box Culvert Layout and Fabrication details for item 540.10 Precast Concrete Structure (14'-7" x 7'-0" x 60'-0" Box) for the above project have been reviewed and are being returned herewith.

All Sheets are approved

The Calculations have been reviewed and accepted as noted. The depth of the footing is stated as 3.5' in the calculations but is actually 4'-2".

You must provide notice to Jim Wild, Structural Concrete Engineer, as to the date fabrication represented by these drawings will begin. That notice must be received and acknowledged at least seven days prior to that date, as per Specification 540. Jim may be contacted by phone at (802)828-6931 or email at jim.wild@state.vt.us. Any material fabricated prior to the notification date is subject to rejection without further cause.

If you have any questions you can contact me at 802-828-0053.

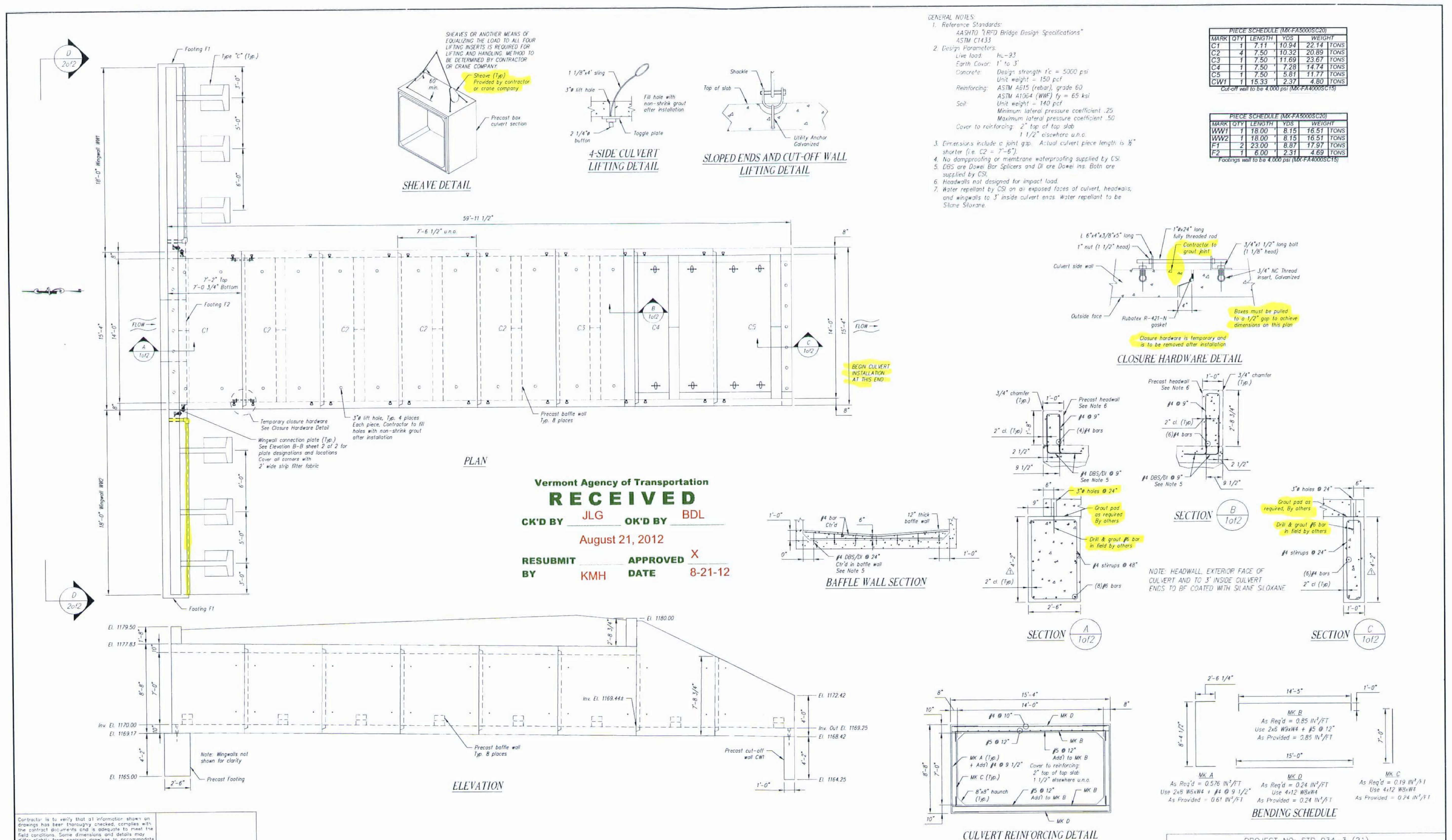
Sincerely,

Kristin M. Higgins

Kristin Higgins, PE
Project Engineer

Attachments
cc: [X] Resident Engineer w/prints Doug Bumps
[X] Concrete Engineer w/prints Jim Wild
[X] Contractor w/prints Morrill Construction
[X] Construction Divison – letter only
[X] Materials & Research Section (C&IA Unit) – letter only
[X] Files (Structures)

VERMONT



GENERAL NOTES:

1. Reference Standards:
   AASHTO "LRFD Bridge Design Specifications"
   ASTM C1433
2. Design Parameters:
   Live load: HL-93
   Earth Cover: 1' to 3'
   Concrete: Design strength f'c = 5000 psi; Unit weight = 150 pcf
   Reinforcing: ASTM A615 (rebar), grade 60; ASTM A1064 (WWF) fy = 65 ksi
   Soil: Unit weight = 140 pcf; Minimum lateral pressure coefficient .25; Maximum lateral pressure coefficient .50
   Cover to reinforcing: 2" top of top slab; 1 1/2" elsewhere u.n.o.
3. Dimensions include a joint gap. Actual culvert piece length is ½" shorter (i.e. C2 = 7'-6").
4. No dampproofing or membrane waterproofing supplied by CSI.
5. DBS are Dowel Bar Splicers and DI are Dowel Ins. Both are supplied by CSI.
6. Headwalls not designed for impact load.
7. Water repellant by CSI on all exposed faces of culvert, headwalls, and wingwalls to 3' inside culvert ends. Water repellant to be Silane Siloxane.

PIECE SCHEDULE (MX-FA5000SC20)

MARK	QTY	LENGTH	YDS	WEIGHT	
C1	1	7.11 '	10.94	22.14	TONS
C2	4	7.50 '	10.32	20.89	TONS
C3	1	7.50 '	11.69	23.67	TONS
C4	1	7.50 '	7.28	14.74	TONS
C5	1	7.50 '	5.81	11.77	TONS
CW1	1	15.33 '	2.37	4.80	TONS

Cut-off wall to be 4,000 psi (MX-FA4000SC15)

PIECE SCHEDULE (MX-FA5000SC20)

MARK	QTY	LENGTH	YDS	WEIGHT	
WW1	1	18.00 '	8.15	16.51	TONS
WW2	1	18.00 '	8.15	16.51	TONS
F1	2	23.00 '	8.87	17.97	TONS
F2	1	6.00 '	2.31	4.69	TONS

Footings wall to be 4,000 psi (MX-FA4000SC15)

NOTE: HEADWALL EXTERIOR FACE OF CULVERT AND TO 3' INSIDE CULVERT ENDS TO BE COATED WITH SILANE SILOXANE

Vermont Agency of Transportation
RECEIVED
CK'D BY JLG OK'D BY BDL
August 21, 2012
RESUBMIT BY KMH APPROVED X DATE 8-21-12

PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

MORRILL CONSTRUCTION
ROUTE NO. VT 105 – BRIDGE NO. 88
BRIGHTON, VT

Concrete Systems Inc.
Commercial St., Hudson, NH 03051
Phone 603-889-4163
Fax 603-889-2417

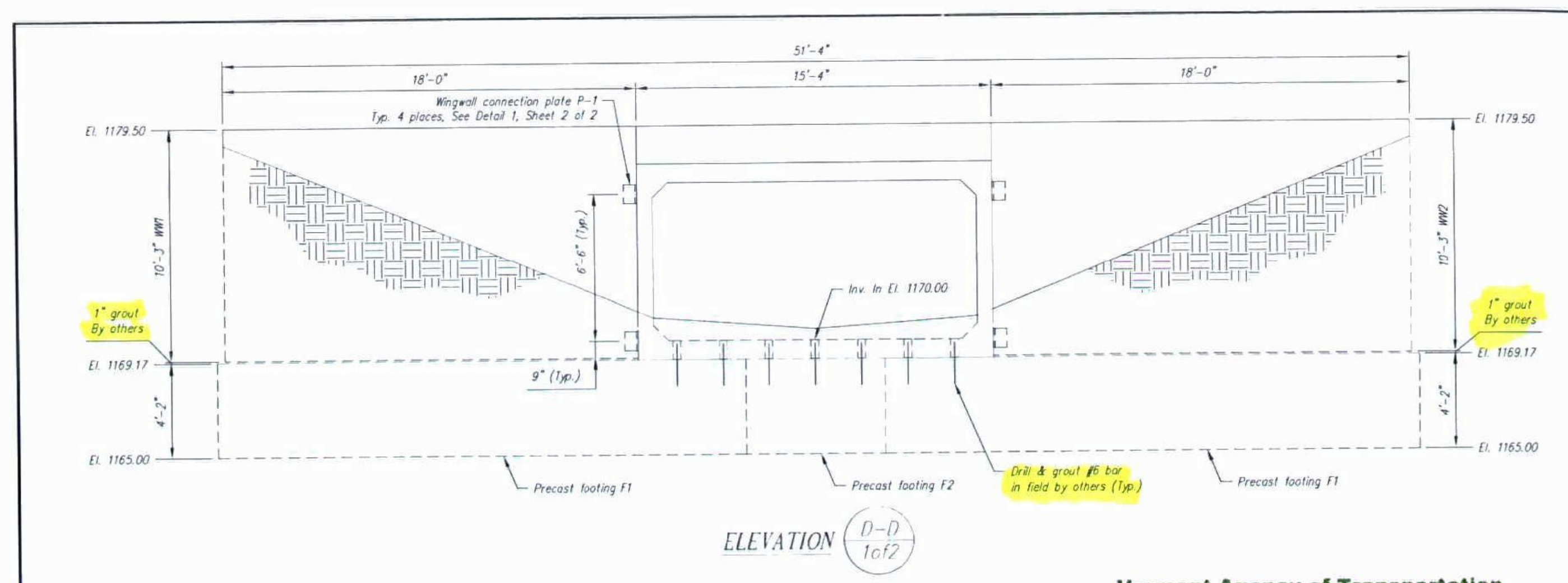
STATE AGENCY
VTrans

Drawn By	Date
M SCOTT	08/07/2012
Checked By B KOLAWOLE	08/08/2012
Approved By	

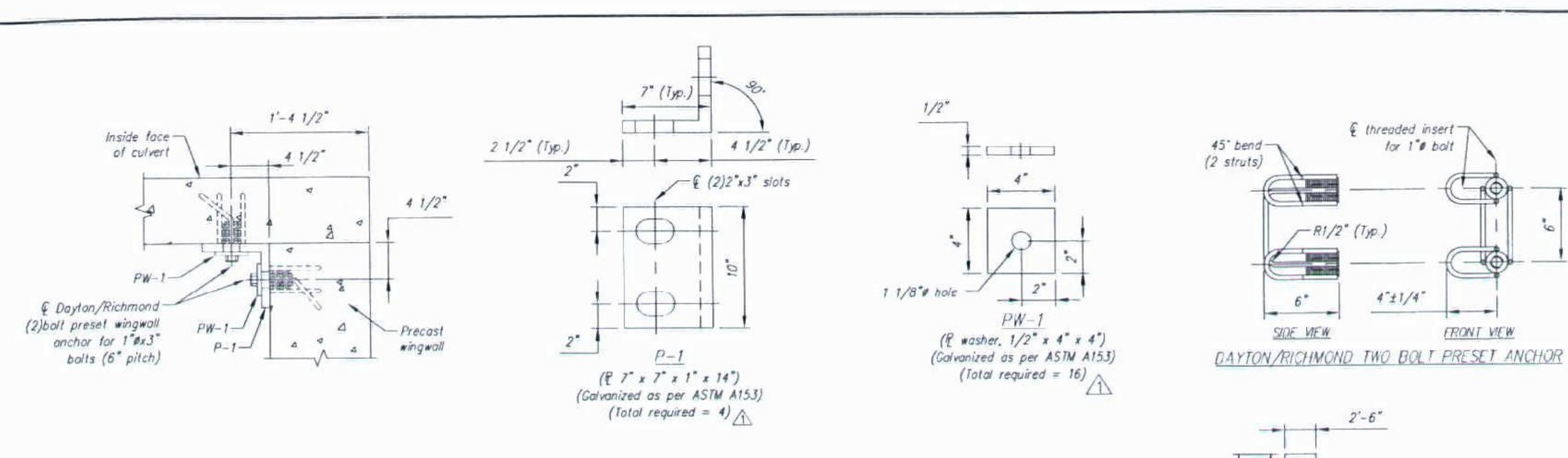
D — BOX CULVERT LAYOUT AND DETAILS — Drawing No C21314-L01-A — REV 1

Quantity: 1 — Project No: STP 034-3 (21) — SHEET 1 OF 2

REVISIONS: 1 — 08/20/2012 — Corrected cutoff wall/footing depth to 4'-3"



ELEVATION



DAYTON/RICHMOND TWO BOLT PRESET ANCHOR

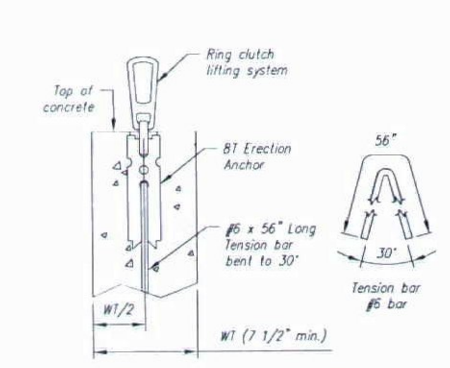
Vermont Agency of Transportation

RECEIVED

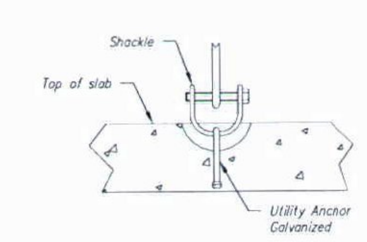
CK'D BY JLG **OK'D BY** WDL

August 21, 2012

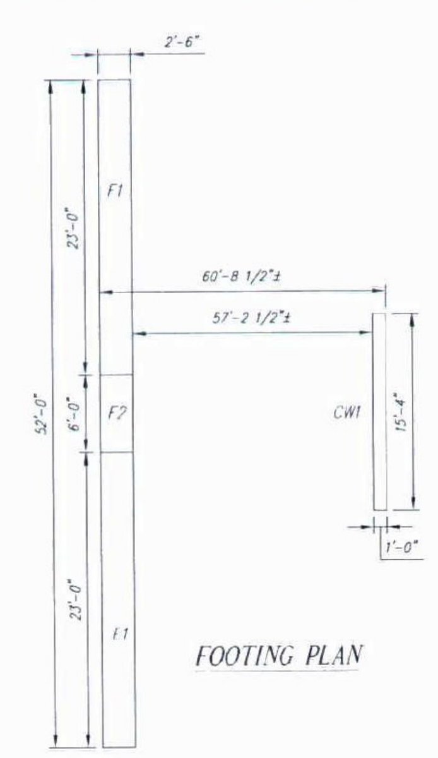
RESUBMIT BY KMH **APPROVED** X **DATE** 8-21-12



WINGWALL LIFTING DETAILS



FOOTING LIFTING DETAIL



FOOTING PLAN

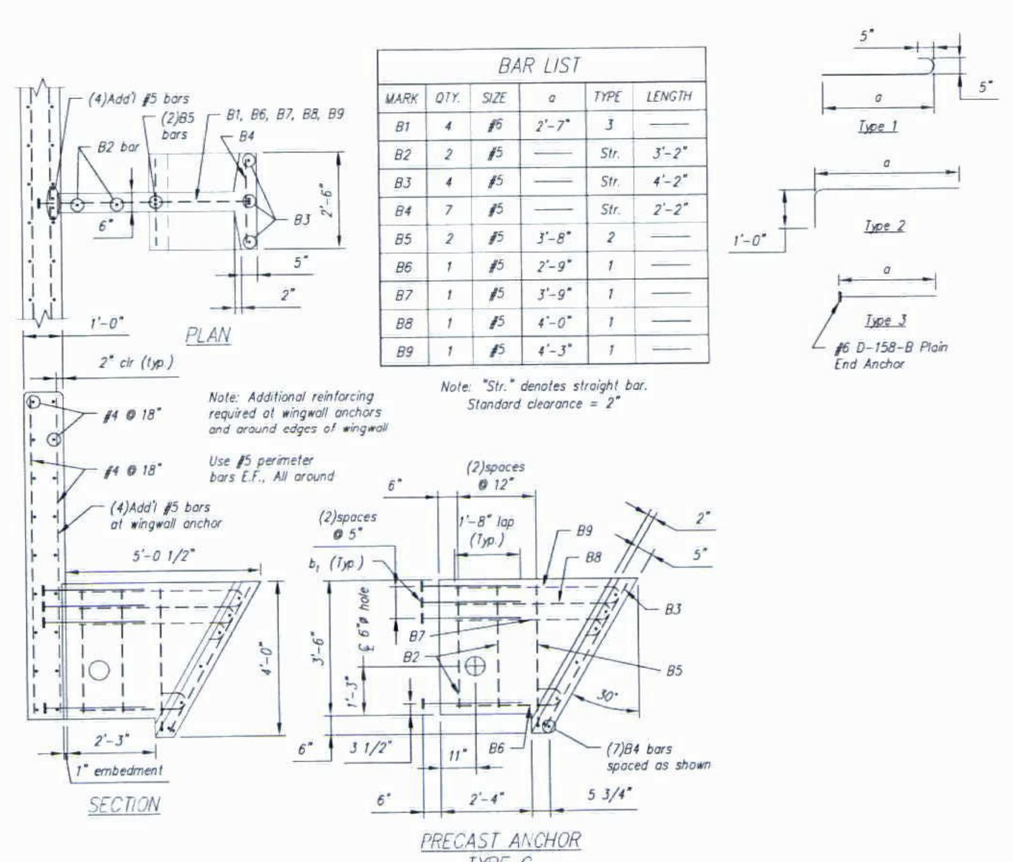
WINGWALL GENERAL NOTES:

1. The wingwalls have been designed for general site conditions. The project engineer shall be responsible for the structure's suitability to the existing site conditions and for the hydraulic evaluation -- including scour and confirmation of soil conditions.

2. Prior to construction, contractor must verify all elevations shown through the engineer.

DESIGN DATA

Design Method: AASHTO LRFD Specification
Assumed Allowable Soil Bearing: 3000 psf
Wingwalls designed for Earth Pressure



PLAN

SECTION

PRECAST ANCHOR TYPE C

BAR LIST

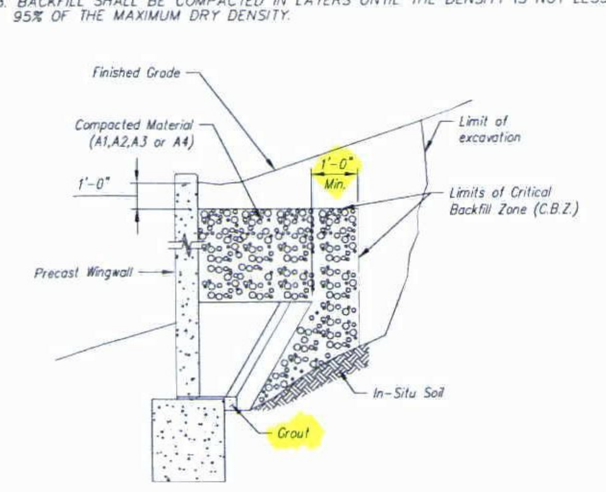
MARK	QTY.	SIZE	a	TYPE	LENGTH
B1	4	#6	2'-7"	3	——
B2	2	#5	——	Str.	3'-2"
B3	4	#5	——	Str.	4'-2"
B4	7	#5	——	Str.	2'-2"
B5	2	#5	3'-8"	2	——
B6	1	#5	2'-9"	1	——
B7	1	#5	3'-9"	1	——
B8	1	#5	4'-0"	1	——
B9	1	#5	4'-3"	1	——

Note: "Str." denotes straight bar.
Standard clearance = 2"

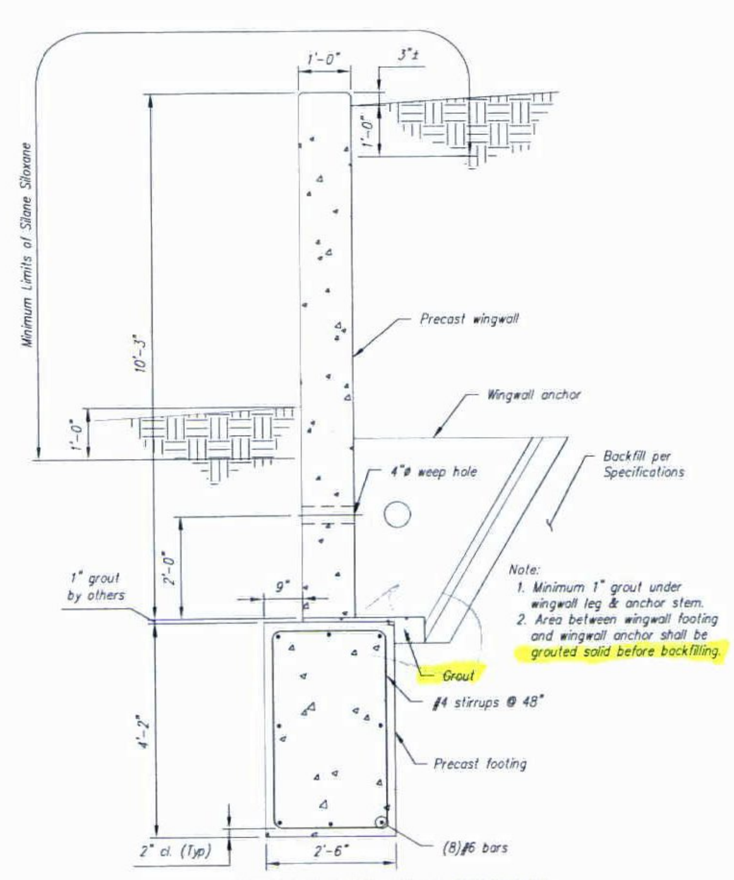
BACKFILL DESCRIPTION

Group Classification	A-1: A-1-a	A-1: A-1-b	A-3	A-2: A-2-4	A-2: A-2-5	A-2: A-2-6	A-2: A-2-7
Sieve Analysis, Percent Passing							
No. 10	50 max.						
No. 40	30 max.	50 max.	51 min.				
No. 200	15 max.	25 max.	10 max.	35 max.	35 max.	35 max.	35 max.
Characteristics of Fraction Passing							
No. 40							
Liquid Limit				40 max.	41 min.	40 max.	41 min.
Plasticity Index	6 max.		N.P.	10 max.	10 max.	11 min.	11 min.
Usual Types of Significant Constituent Materials	Stone Fragments, Gravel & Sand		Fine Sand	Silty or Clayey Gravel and Sand			
General Rating as Subgrade			Excellent to Good				

NOTES
1. BACKFILLING OPERATIONS WITHIN THE C.B.Z. SHALL BE PERFORMED IN LIFTS OF 8" OR LESS (LOOSE DEPTH).
2. MAXIMUM DRY DENSITY SHALL BE DETERMINED BY AASHTO T-99 OR OTHER APPROVED METHODS.
3. BACKFILL SHALL BE COMPACTED IN LAYERS UNTIL THE DENSITY IS NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY.



WINGWALL BACKFILL REQUIREMENTS



TYPICAL WINGWALL SECTION

Contractor is to verify that all information shown on drawings has been thoroughly checked, complies with the contract documents and is adequate to meet the field conditions. Some dimensions and details may differ slightly from contract drawings to accommodate the manufacturing or design process. Approval of this drawing indicates that any deviation from the contract documents has been reviewed and found to be acceptable. Production will not commence until receipt of signed, approved shop drawings.

Stamp for structural design only

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1	08/20/2012	Corrected plate P-1 quantity	AK

REVISIONS

This drawing is based upon information provided from the following documents and/or sources:
Engineer: VTrans
Project No: STP 034-3 (21)
Drawings: Proposed Improvement Route No VT 105 - Bridge No. 88, Sheets 1 through 30 of 30
Specifications: Proposed Improvement Route No VT 105 - Bridge No. 88
Other Sources:

Concrete Systems Inc.

STATE AGENCY

VTrans

Date 08/07/2012
Date 08/08/2012
Date

PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

D

BOX CULVERT WINGWALL DETAILS

Drawing No C21314-L01-B

REV 1

Quantity: 1 | Project No: STP 034-3 (21) | SHEET 2 OF 2

C1 CULVERT - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00005A	1"X6"X6" PRESET WING INSERT	4	EA	
EM-00010	DBSAE #4 X 18" BLACK	47	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	11	FT	
EM-00112	3/4 X 4"GALV LF INSERT	4	EA	
RM-00013	REBAR #4 BLACK- GR 60	262	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	384	LB	
RM-00098	WIRE MESH ALL SIZES	1183	LB	TOTAL WEIGHT
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	9.81	CY	
C1 HEADWALL - BILL OF MATERIALS / EMBEDS				
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE	1.1	GA	
EM-00018	DI #4 X 18" PLAIN	40	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	89	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	0.95	CY	
C1 BAFFLE - BILL OF MATERIALS / EMBEDS				
EM-00018	DI #4 X 18" PLAIN	7	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	18	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	0.38	CY	

PLAN

R. SIDE

Vermont Agency of Transportation

RECEIVED

CK'D BY JLG OK'D BY WDL

August 21,2012

RESUBMIT ____ APPROVED X

BY KMH DATE 8-21-12

Culvert Rebar Schedule			
MK	QTY	LENGTH	
401 #4	20	13 ' 5 "	
402 #4	18	6 ' 11 "	
501 #5	16	15 ' 0 "	
502 #5	15	7 ' 3 "	

Headwall Rebar Schedule			
MK	QTY	LENGTH	
404 #4	20	3 ' 8 "	
405 #4	4	15 ' 0 "	

Baffle Rebar Schedule			
MK	QTY	LENGTH	
403 #4	2	13 ' 9 "	

REINFORCING DETAIL

BENDING SCHEDULE

SECTION A

BAFFLE WALL SECTION

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

CSI Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY VTrans

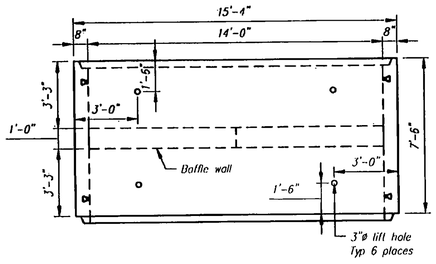
Drawn By A KOSTENKO | Date 08/20/2012
Concrete Co. Yd. 10.94 | Weight in Tons 22.14
Approved By | Date

PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

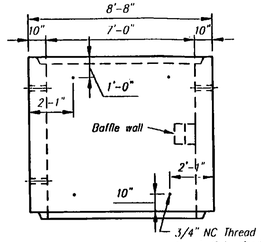
MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

B | SHOP DRAWING C1 | REV 0
Drawing No. C21314-C1

Quantity: 1 | Project No: STP 034-3 (21) | SHEET 1 OF 10



PLAN



R. SIDE

C2 CULVERT - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00010	DBSAE #4 X 18" BLACK	7	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	5	FT	
EM-00112	3/4 X 4"GALV LF INSERT	8	EA	
JS-00002	RUBATEX R421-N 1"X1"CLOSED NEOP GASKET	48	FT	AROUND BELL
RM-00013	REBAR #4 BLACK- GR 60	266	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	364	LB	
RM-00098	WIRE MESH ALL SIZES	1153	LB	TOTAL WEIGHT
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	9.94	CY	
C2 BAFFLE - BILL OF MATERIALS / EMBEDS				
EM-00018	DI #4 X 18" PLAIN	7	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	18	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	0.38	CY	

Culvert Rebar Schedule			
MK	QTY	LENGTH	
401 #4	20	13 '- 5 "	
402 #4	18	7 '- 3 "	
501 #5	16	15 '- 0 "	
502 #5	15	7 '- 3 "	

Baffle Rebar Schedule			
MK	QTY	LENGTH	
403 #4	2	13 '- 9 "	

Vermont Agency of Transportation

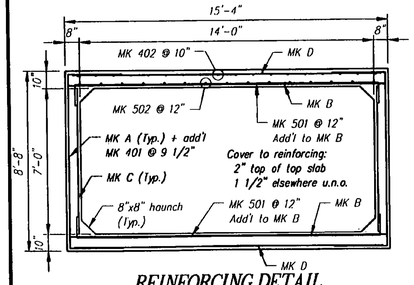
RECEIVED

CK'D BY JLG OK'D BY WDL

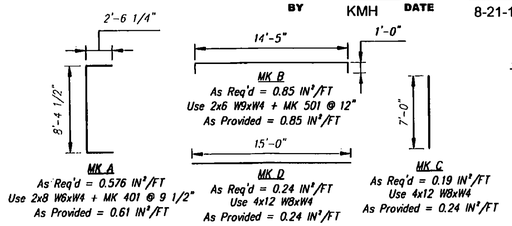
August 21,2012

RESUBMIT ____ APPROVED X

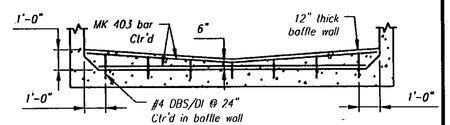
BY KMH DATE 8-21-12



REINFORCING DETAIL



BENDING SCHEDULE



BAFFLE WALL SECTION

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

VTrans

Drawn By	Date
A KOSTENKO	08/20/2012
Concrete Cu. Yd.	Weight in Tons
10.32	20.89
Approved By	Date

PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

B | SHOP DRAWING C2 | REV 0
Drawing No. C21314-C2

Quantity: 4 | Project No: STP 034-3 (21) | SHEET 2 OF 10

PLAN

R. SIDE

Vermont Agency of Transportation

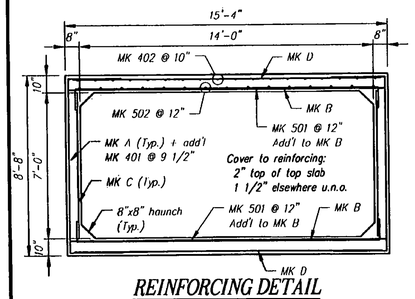
RECEIVED

CK'D BY JLG OK'D BY WDL

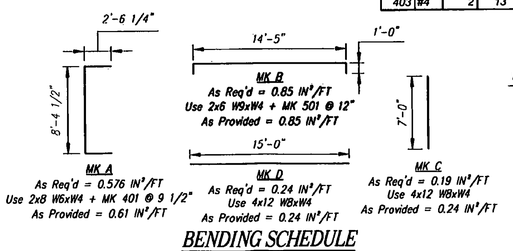
August 21,2012

RESUBMIT ____ APPROVED X

BY KMH DATE 8-21-12



REINFORCING DETAIL



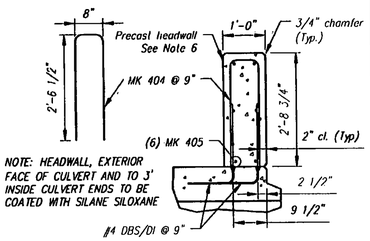
BENDING SCHEDULE

C3 CULVERT - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00010	DBSAE #4 X 18" BLACK	47	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	5	FT	
EM-00112	3/4 X 4"GALV LF INSERT	6	EA	
JS-00002	RUBATEX R421-N 1"X1"CLOSED NEOP GASKET	48	FT	AROUND BELL
RM-00013	REBAR #4 BLACK- GR 60	288	LB	
RM-00018	REBAR #5 BLACK-GR 60 40'	364	LB	
RM-00098	WIRE MESH ALL SIZES	1163	LB	TOTAL WEIGHT
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	9.94	CY	
C3 HEADWALL - BILL OF MATERIALS / EMBEDS				
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE	1.2	GA	
EM-00018	DI #4 X 18" PLAIN	40	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	137	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	1.55	CY	
C3 BAFFLE - BILL OF MATERIALS / EMBEDS				
EM-00018	DI #4 X 18" PLAIN	7	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	18	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	0.38	CY	

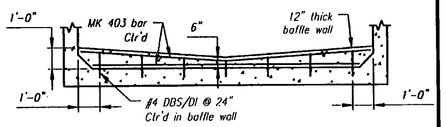
Culvert Rebar Schedule			
MK	QTY	LENGTH	
401	#4	20	13 ' 5 "
402	#4	18	6 ' 11 "
501	#5	16	15 ' 0 "
502	#5	15	7 ' 3 "

Headwall Rebar Schedule			
MK	QTY	LENGTH	
404	#4	20	5 ' 9 "
405	#4	6	15 ' 0 "

Baffle Rebar Schedule			
MK	QTY	LENGTH	
403	#4	2	13 ' 9 "



SECTION A



BAFFLE WALL SECTION

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

VTrans

Drawn By A KOSTENKO — Date 08/20/2012

Concrete Cu. Yd. 11.69 — Weight in Tons 23.67

Approved By — Date

PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

B — SHOP DRAWING C3 — REV 0

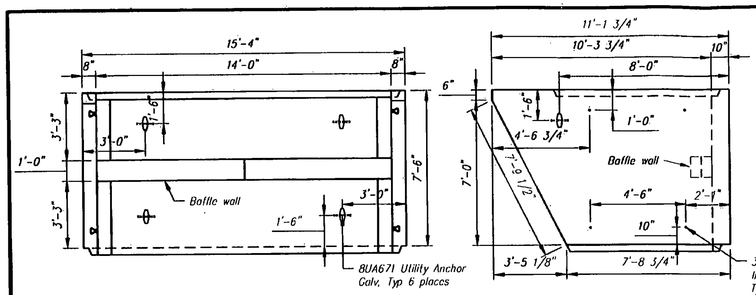
Drawing No. C21314-C3

Quantity: 1 — Project No: STP 034-3 (21) — SHEET 3 OF 10

C4 CULVERT - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00010	DBSAE #4 X 18" BLACK	7	EA	DOWEL BAR SPLICER
EM-00112	3/4 X 4"GALV LF INSERT	8	EA	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	6	EA	
JS-00002	RUBATEX R421-N 1"X1"CLOSED NEOP GASKET	33	FT	AROUND BELL
RM-00013	REBAR #4 BLACK- GR 60	179	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	125	LB	
RM-00098	WIRE MESH ALL SIZES	793	LB	TOTAL WEIGHT
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	6.9	CY	
C4 BAFFLE - BILL OF MATERIALS / EMBEDS				
EM-00018	DI #4 X 18" PLAIN	7	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	18	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	0.38	CY	

Culvert Rebar Schedule			
MK	QTY	LENGTH	
401 #4	20	13 ' - 5 "	MAX
501 #5	8	15 ' - 0 "	

Baffle Rebar Schedule		
MK	QTY	LENGTH
403 #4	2	13 ' - 9 "



PLAN

R. SIDE

Vermont Agency of Transportation

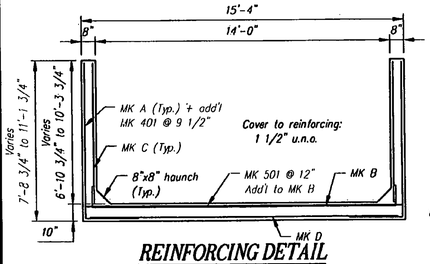
RECEIVED

CK'D BY JLG OK'D BY WDL

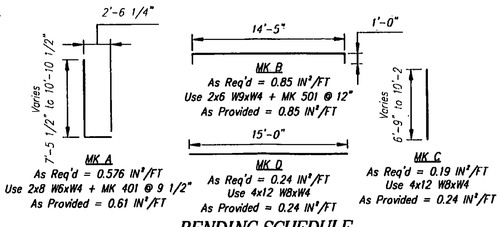
August 21,2012

RESUBMIT ____ APPROVED X

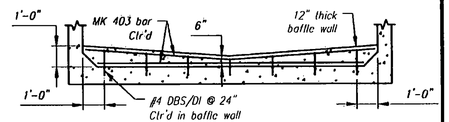
BY KMH DATE 8-21-12



REINFORCING DETAIL



BENDING SCHEDULE



BAFFLE WALL SECTION

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

VTrans

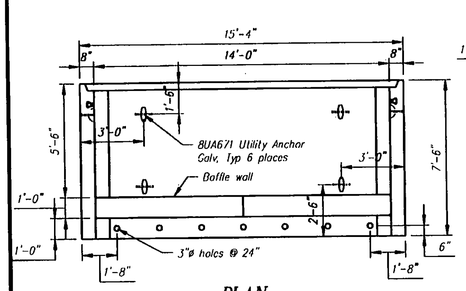
Drawn By: A KOSTENKO — Date: 08/20/2012
Concrete Cu. Yd.: 7.28 — Weight in Tons: 14.74
Approved By: — Date:

PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

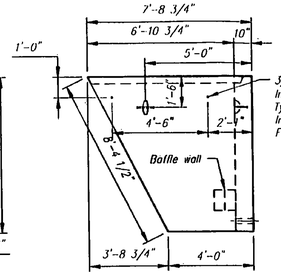
MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

B — SHOP DRAWING C4 — REV 0
Drawing No. C21314-C4

Quantity: 1 | Project No: STP 034-3 (21) | SHEET 4 OF 10



PLAN



R. SIDE

C5 CULVERT - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00010	DBSAE #4 X 18" BLACK	7	EA	DOWEL BAR SPLICER
EM-00033	3" FOAM CORE PVC	6	FT	
EM-00112	3/4 X 4"GALV LF INSERT	4	EA	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	6	EA	
JS-00002	RUBATEX R421-N 1"X1"CLOSED NEOP GASKET	33	FT	AROUND BELL
RM-00013	REBAR #4 BLACK- GR 60	134	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	125	LB	
RM-00098	WIRE MESH ALL SIZES	672	LB	TOTAL WEIGHT
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	5.43	CY	
C5 BAFFLE - BILL OF MATERIALS / EMBEDS				
EM-00018	DI #4 X 18" PLAIN	7	EA	DOWEL IN
RM-00013	REBAR #4 BLACK- GR 60	18	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	0.38	CY	

Culvert Rebar Schedule			
MK	QTY	LENGTH	
401 #4	20	10 ' 0 "	MAX
501 #5	8	15 ' 0 "	

Baffle Rebar Schedule		
MK	QTY	LENGTH
403 #4	2	13 ' 9 "

Vermont Agency of Transportation

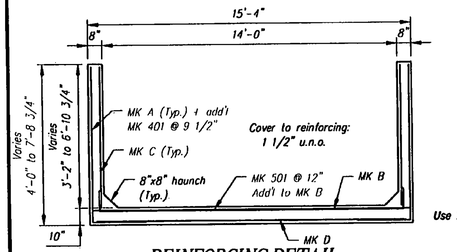
RECEIVED

CK'D BY JLG OK'D BY WDL

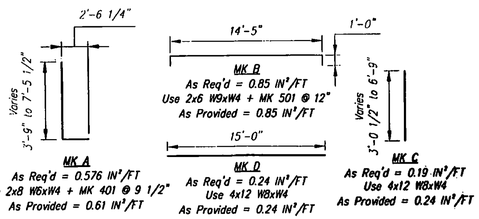
August 21,2012

RESUBMIT ____ APPROVED X

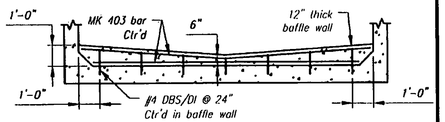
BY KMH DATE 8-21-12



REINFORCING DETAIL



BENDING SCHEDULE



BAFFLE WALL SECTION

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

CSI Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

VTrans

Drawn By	Date
A KOSTENKO	08/20/2012
Concrete Cy. Yd.	Weight in Tons
5.81	11.77
Approved By	Date

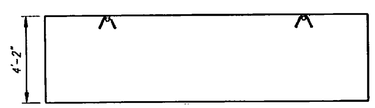
PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

B | SHOP DRAWING C5 | REV 0
Drawing No. C21314-C5

Quantity: 1 | Project No: STP 034-3 (21) | SHEET 5 OF 10

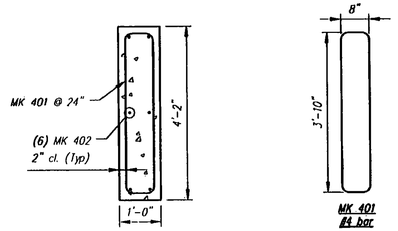
PLAN



ELEVATION

CW1 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	2	EA	
RM-00013	REBAR #4 BLACK- GR 60	120	LB	
MX-FA4000SC15	MIX DSGN 15% FLY ASH 4000 SELF COMPACT	2.37	CY	

Rebar Schedule			
MK		QTY	LENGTH
401	#4	9	10 ' 0 "
402	#4	6	15 ' 0 "



REINFORCING DETAIL

Vermont Agency of Transportation
RECEIVED
CK'D BY JLG OK'D BY WDL
August 21,2012
RESUBMIT ____ APPROVED X
BY KMH DATE 8-21-12

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

CSI Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

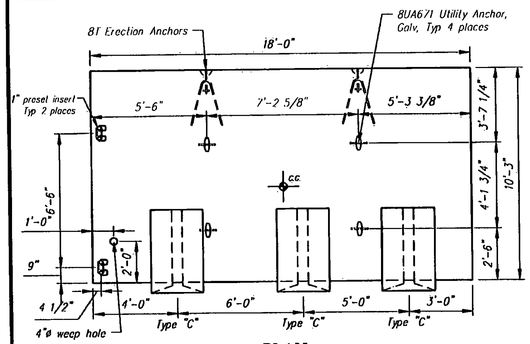
STATE AGENCY
VTrans

Drawn By A KOSTENKO	Date 08/20/2012
Concrete Co. Yd. 2.37	Weight in Tons 4.80
Approved By	Date

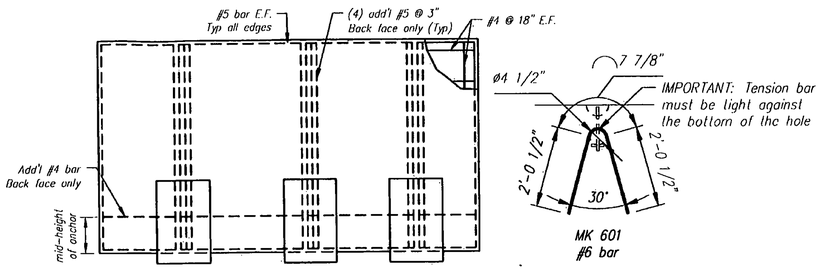
PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON
MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

B | Drawing No. SHOP DRAWING CW1 | REV 0
C21314-CW1

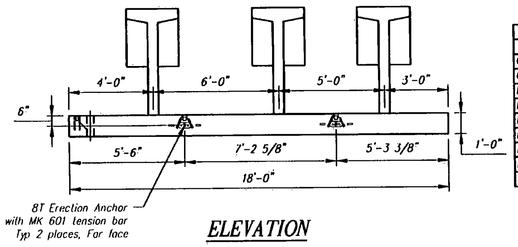
Quantity: 1 | Project No: STP 034-3 (21) | SHEET 6 OF 10



PLAN

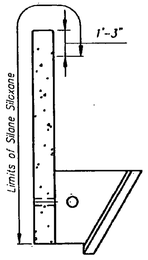


REINFORCING PLAN



ELEVATION

WW1 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE	1.15	GA	
CSANC-C	C/S WW ANCHOR "C"	3	EA	
EM-00005	1" X 8" PRESET WING INSERTS	2	EA	
EM-00034	4" FOAM CORE PVC	1	FT	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	4	EA	
EM-00122	8TON ERECTION ANCHOR GALV QL049G	2	EA	W/TENSION BAR
RM-00013	REBAR #4 BLACK- GR 60	336	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	239	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	6.83	CY	



SILANE-SILOXANE LIMITS

Vermont Agency of Transportation

RECEIVED

CK'D BY JLG OK'D BY WDL

August 21,2012

RESUBMIT ____ APPROVED X

BY KMH DATE 8-21-12

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

CSI Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

VTrans

Drawn By	Date
A KOSTENKO	08/20/2012
Concrete Cu. Yd.	Weight in Tons
8.15	16.51
Approved By	Date

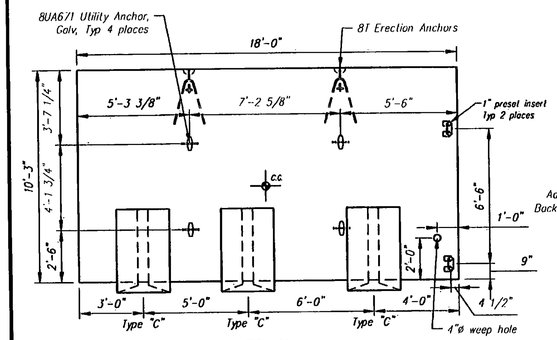
PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

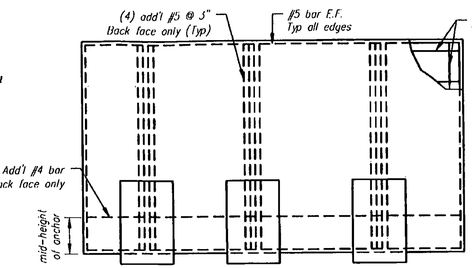
B | SHOP DRAWING WW1 | REV 0

Drawing No. C21314-WW1

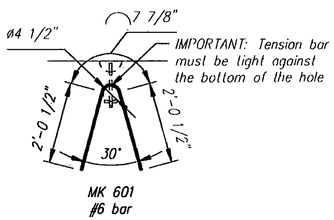
Quantity: 1 | Project No: STP 034-3 (21) | SHEET 7 OF 10



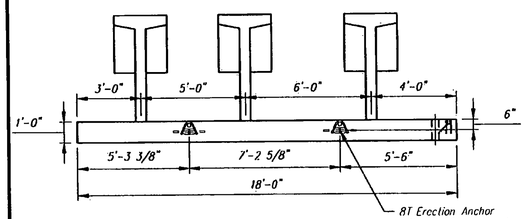
PLAN



REINFORCING PLAN

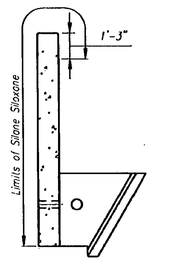


MK 601
#6 bar



ELEVATION

WW2 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
CT-00005	CONSOLIDECK SALTGUARD (SILANE SILOXANE	1.15	GA	
CSANC-C	C/S WW ANCHOR "C"	3	EA	
EM-00005	1" X 8" PRESET WING INSERTS	2	EA	
EM-00034	4" FOAM CORE PVC	1	FT	
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	4	EA	
EM-00122	8TON ERECTION ANCHOR GALV QL049G	2	EA	W/TENSION BAR
RM-00013	REBAR #4 BLACK- GR 60	336	LB	
RM-00015	REBAR #5 BLACK-GR 60 40'	239	LB	
MX-FA5000SC20	MIX DSGN 20% FLY ASH 5000 SELF COMPACT	6.83	CY	



SILANE-SILOXANE LIMITS

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

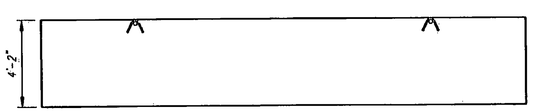
Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

Drawn By: A. KOSTENKO	Date: 09/20/2012		
Concrete Cu. Yd.: 8.15	Weight in Tons: 16.51		
Approved By	Date		

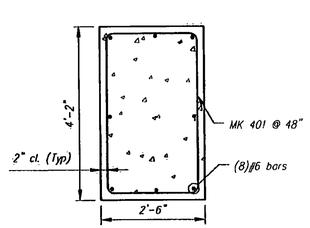
PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON
MORRILL CONSTRUCTION
ROUTE NO. VT 105 – BRIDGE NO. 88
BRIGHTON, VT

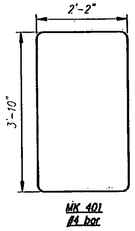
B	SHOP DRAWING WW2	REV 0
	Drawing No. C21314-WW2	
Quantity: 1	Project No: STP 034-3 (21)	SHEET 8 OF 10

PLAN



ELEVATION





REINFORCING DETAIL

F1 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	4	EA	
RM-00013	REBAR #4 BLACK- GR 60	61	LB	
RM-00017	REBAR #6 BLACK-GR 60 40'	272	LB	
MX-FA4000SC15	MIX DSGN 15% FLY ASH 4000 SELF COMPACT	8.87	CY	

Vermont Agency of Transportation

RECEIVED

CK'D BY JLG OK'D BY WDL

August 21,2012

RESUBMIT BY KMH APPROVED DATE X 8-21-12

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			

REVISIONS

CSI Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY

VTrans

Drawn By A KOSTENKO	Date 08/20/2012
Concrete Cu. Yd. 8.87	Weight in Tons 17.97
Approved By	Date

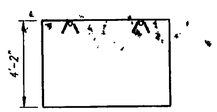
PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON

MORRILL CONSTRUCTION
ROUTE NO. VT 105 - BRIDGE NO. 88
BRIGHTON, VT

B | SHOP DRAWING F1 | REV 0
Drawing No. C21314-F1

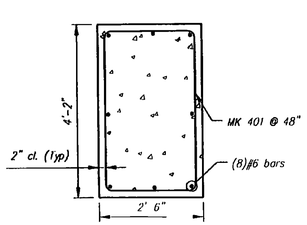
Quantity: 2 | Project No: STP 034-3 (21) | SHEET 9 OF 10

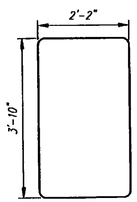
PLAN



ELEVATION

F2 - BILL OF MATERIALS / EMBEDS				
CSI ID#	DESCRIPTION	QTY	UM	COMMENTS
EM-00115	UTILITY ANCHOR #8UA671-GALVANIZED	2	EA	
RM-00013	REBAR #4 BLACK- GR 60	26	LB	
RM-00017	REBAR #6 BLACK-GR 60 40'	68	LB	
MX-FA4000SC15	MIX DSGN 15% FLY ASH 4000 SELF COMPACT	2.31	CY	





MK 401
#4 bar

REINFORCING DETAIL

Vermont Agency of Transportation
RECEIVED
CK'D BY JLG OK'D BY WDL
August 21,2012
RESUBMIT ____ APPROVED X
BY KMH DATE 8-21-12

Rev.	Date	DESCRIPTION	By
5			
4			
3			
2			
1			
REVISIONS			

CSI Concrete Systems Inc.
9 Commercial St., Hudson, NH,03051
Phone 603-889-4163
Fax 603-889-2417

STATE AGENCY
VTrans

Drawn By	Date
A. KOSTENKO	08/20/2012
Concrete Cu. Yd.	Weight in Tons
2.31	4.69
Approved By	Date

PROJECT NO: STP 034-3 (21)
PROJECT NAME: BRIGHTON
MORRILL CONSTRUCTION
ROUTE NO. VT 105 – BRIDGE NO. 88
BRIGHTON, VT

B | SHOP DRAWING F2 | REV 0
Drawing No. C21314-F2

Quantity: 1 | Project No: STP 034-3 (21) | SHEET 10 OF 10