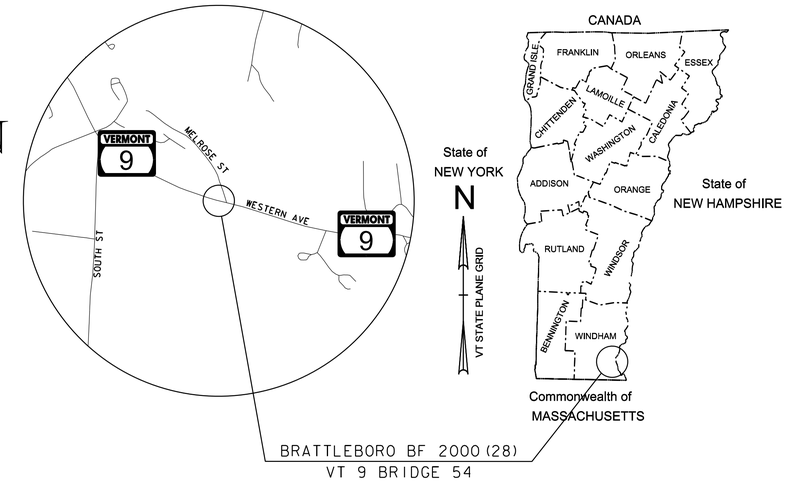
STATE OF VERMONT
AGENCY OF TRANSPORTATION

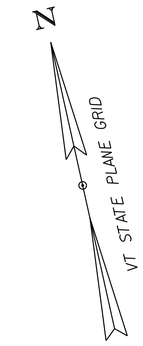


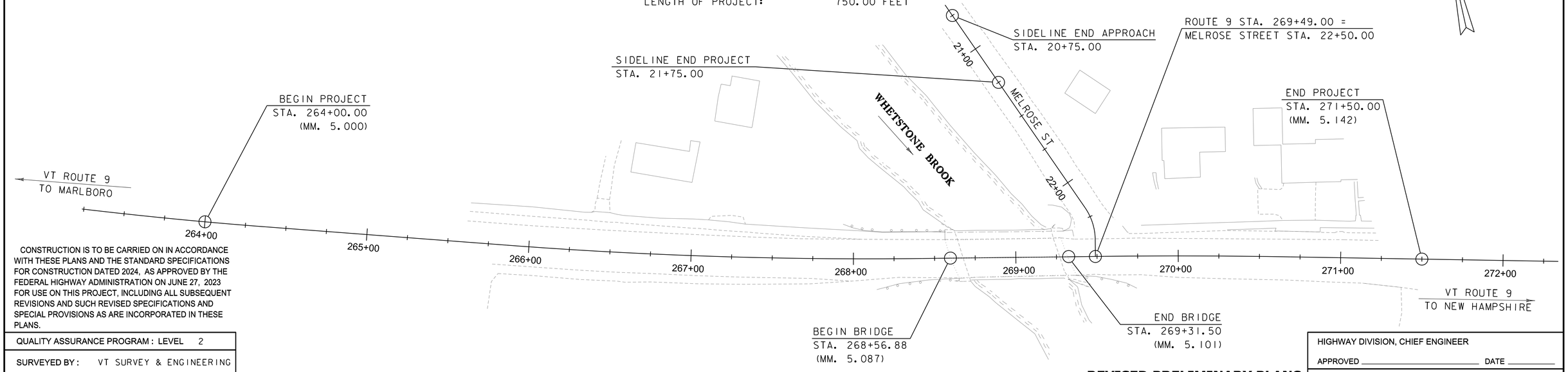
PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF BRATTLEBORO
COUNTY OF WINDHAM
VT ROUTE 9 BRIDGE 54 (PRINCIPAL ARTERIAL)

PROJECT LOCATION: THE BRIDGE IS LOCATED ON TH-2 (VT ROUTE 9/WESTERN AVE) APPROXIMATELY 0.85 MILES WEST OF THE I-91 EXIT 2 INTERCHANGE, AND JUST WEST OF THE INTERSECTION WITH (TH-716) MELROSE STREET WITHIN THE TOWN OF BRATTLEBORO URBAN COMPACT.

PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE 54 OVER WHETSTONE BROOK WITH RELATED APPROACH AND CHANNEL WORK.

LENGTH OF STRUCTURE:	74.62 FEET
LENGTH OF ROADWAY:	675.38 FEET
LENGTH OF PROJECT:	750.00 FEET





CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2024, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 27, 2023 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2

SURVEYED BY : VT SURVEY & ENGINEERING
SURVEYED DATE : 9/8/2022

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83 (2011)

0 30 60
SCALE IN FEET

REVISED PRELIMINARY PLANS
JANUARY 24, 2024

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

HIGHWAY DIVISION, CHIEF ENGINEER

APPROVED _____ DATE _____

PROJECT MANAGER : GARY M. LAROCHE, PE

PROJECT NAME : BRATTLEBORO
PROJECT NUMBER : BF 2000(28)

SHEET 1 OF 69 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 2020.09.23.12

LRFD

INDEX OF SHEETS

PLAN SHEETS

1	TITLE SHEET
2	PRELIMINARY INFORMATION SHEET
3-6	TYPICAL SECTIONS SHEETS
7-10	QUANTITY SHEETS
11	BRIDGE QUANTITY SHEET
12-13	ITEM DETAIL SHEETS
14	EARTHWORK SHEET
15	CONVENTIONAL SYMBOLOGY AND LEGEND SHEET
16-18	TIE SHEETS
19	ALIGNMENT SHEET
20	PLAN SHEET
21-22	PROFILE SHEETS
23	DRAINAGE SHEET
24-26	DRAINAGE DETAIL SHEETS
27	WATER AND SEWER UTILITY PLAN SHEET
28	OVERHEAD UTILITY PLAN SHEET
29	PAVEMENT MARKINGS AND SIGN SHEET
30	TRAFFIC SIGN SUMMARY SHEET
31-35	TEMPORARY TRAFFIC CONTROL SHEETS
36	TEMPORARY BRIDGE PLAN SHEET
37-38	TEMPORARY ROADWAY PROFILE SHEETS
39	TEMPORARY BRIDGE DRAINAGE PLAN SHEET
40	MELROSE STREET PROFILE SHEET
41	LANDSCAPE LAYOUT PLAN SHEET
42	BORING PLAN SHEET
43-49	BORING LOG SHEETS
50	PLAN AND ELEVATION SHEET
51-54	WESTERN AVE CROSS SECTIONS SHEETS
55-58	TEMPORARY BRIDGE CROSS SETIONS SHEETS
59	MELROSE STREET CROSS SECTIONS SHEET
60-62	CHANNEL CROSS SECTIONS SHEETS
63-64	EPSC NARRATIVE PLAN SHEETS
65	EPSC EXISTING CONDITIONS PLAN SHEET
66	EPSC CONSTRUCTION PLAN SHEET
67	EPSC TEMPORARY CONSTRUCTION PLAN SHEET
68	EPSC FINAL CONDITIONS PLAN SHEET
69	EPSC DETAIL SHEETS

DETAIL SHEETS

HSD-400.01	SAFETY EDGE DETAILS	1/5/2018
HSD-621.07A	MGS	1/4/2021
HSD-621.07B	MGS COMPONENTS	4/17/2019
HSD-621.07C	MGS ANCHOR	4/17/2019
HSD-621.07D	MGS ANCHOR COMPONENTS 1	4/17/2019
HSD-621.07E	MGS ANCHOR COMPONENTS 2	4/17/2019
HSD-621.07F	MGS TRANSITION	1/4/2021

STANDARDS LIST

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-1994
C-2A	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	10-14-2005
C-2B	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK AND GREEN STRIP	10-14-2005
C-3A	SIDEWALK RAMPS	02-17-2022
C-10	VARIOUS CURB DETAILS	02-17-2022
E-10	ROLLED EROSION CONTROL PRODUCT, TYPE I	04-07-2020
E-12	STABILIZED CONSTRUCTION ENTRANCE	04-07-2020
E-15	SILT FENCE	04-07-2020
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-163	TUBULAR STEEL SIGN POST	04-07-2020
E-191	PAVEMENT MARKING DETAILS	02-01-1999
E-192	PAVEMENT MARKING DETAILS	10-12-2000
E-193	PAVEMENT MARKING DETAILS	08-18-1995
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	03-10-2017
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	03-10-2017
G-16	STEEL BEAM GUARDRAIL ATTACHMENTS TO EXISTING BRIDGE, TERMINAL	10-02-2018
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	10-02-2018
J-1	PROJECT AND BOUNDARY MARKERS	06-01-1994
S-352A	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	02-15-2023
S-352B	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	02-15-2023
S-352C	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	02-17-2022
S-352D	GUARDRAIL APPROACH SECTION TO CONCRETE COMINATION BRIDGE RAILING, TL-3	02-17-2022
S-500	CONCRETE DETAILS AND NOTES	02-15-2023
S-501	CONCRETE DETAILS AND NOTES	02-15-2023
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-07-2020
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	08-06-2012
T-24	TRAFFIC CONTROL FOR MAINTENANCE PAVEMENT MARKING OPERATION	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-29	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	02-17-2022
T-31	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	08-06-2012
T-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-44	MILEMARKER DETAILS STATE AND TOWN HIGHWAYS	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013
T-56	STANDARD SIGN PLACEMENT	10-26-2015

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date:

DRAINAGE AREA : -
CHARACTER OF TERRAIN : -
STREAM CHARACTERISTICS : -
NATURE OF STREAMBED : -

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	-	2% =	-
10% =	-	1% =	-
4% =	-	0.2% =	-

DATE OF FLOOD OF RECORD : -
ESTIMATED DISCHARGE: -
WATER SURFACE ELEV.: -
NATURAL STREAM VELOCITY : -
ICE CONDITIONS : -
DEBRIS: -
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? -
IS ORDINARY RISE RAPID? -
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? -
IF YES, DESCRIBE:

WATERSHED STORAGE: -
HEADWATERS:
UNIFORM: -
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single Span Cast-in-Place Concrete Arch
YEAR BUILT: 1914
CLEAR SPAN(NORMAL TO STREAM): 47 feet
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY OF FULL OPENING: 587 +/- square feet
DISPOSITION OF STRUCTURE: -
TYPE OF MATERIAL UNDER SUBSTRUCTURE: -

WATER SURFACE ELEVATIONS AT:

43% AEP =	*	VELOCITY =	*
10% AEP =	*	"	*
4% AEP =	*	"	*
2% AEP =	425.5'	"	*
1% AEP =	426.3'	"	*

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: *
FREQUENCY: *
RELIEF ELEVATION: *
DISCHARGE OVER ROAD @ 1% AEP: *

UPSTREAM STRUCTURE

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

DOWNSTREAM STRUCTURE

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

LRFR LOAD RATING FACTORS

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

PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Multi-Beams on Integral Abutments

CLEAR SPAN(NORMAL TO STREAM): 66 feet
VERTICAL CLEARANCE ABOVE STREAMBED: -
WATERWAY OF FULL OPENING: -

WATER SURFACE ELEVATIONS AT:

43% AEP =	-	VELOCITY=	-
10% AEP =	-	"	-
4% AEP =	-	"	-
2% AEP =	-	"	-
1% AEP =	-	"	-

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: -
FREQUENCY: -
RELIEF ELEVATION: -
DISCHARGE OVER ROAD @ 1% AEP: -

BRIDGE LOW CHORD ELEVATION: -
FREEBOARD: -

SCOUR: -

REQUIRED CHANNEL PROTECTION: -

PERMIT INFORMATION

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

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single Span Prefabricated Truss
CLEAR SPAN (NORMAL TO STREAM): 100 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 426.3' Low Chord Elevation
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

Minimum travelway of 22 feet with 5 foot wide sidewalk provided.

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TWO-WAY TRAFFIC ON TEMPORARY BRIDGE
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. PEDESTRIAN ACCOMODATION REQUIRED ALONG TEMPORARY DETOUR.

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	0"
3. DESIGN SPAN	L:	70 feet
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. HIGH PERFORMANCE CONCRETE, CLASS PCD	f'_c:	- - -
9. HIGH PERFORMANCE CONCRETE, CLASS PCS	f'_c:	- - -
10. CONCRETE HIGH PERFORMANCE, CLASS SCC	f'_c:	- - -
11. CONCRETE, CLASS C	f'_c:	- - -
12. REINFORCING STEEL	f_y:	
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f_y:	
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	- - -
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	- - -
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	- - -
18. PILE RESISTANCE FACTOR	ϕ:	- - -
19. LATERAL PILE DEFLECTION	Δ:	- - -
20. BASIC WIND SPEED	V_{3s}:	- - -
21. MINIMUM GROUND SNOW LOAD	p_g:	- - -
22. SEISMIC DATA PGA: - - -	S_s:	- - -
	S_1:	- - -
23.		

TRAFFIC DATA

YEAR	AADT	DHV	%D	%T	ADTT
2023	16,000	1,700	54	6.1	1,000
2043	17,500	1,700	54	8.5	1,600

20 year ESAL for flexible pavement from 20XX to 20XX : XXX

40 year ESAL for flexible pavement from 20XX to 20XX : XXX

Design Speed: 30 MPH

SUPERPAVE BITUMINOUS CONCRETE PAVEMENT MIXTURE DESIGN CRITERIA

DESIGN LIFE ESAL (DESIGN LANE)	6,611,000
DESIGN NUMBER OF GYRATIONS	80
PERFORMANCE GRADED ASPHALT BINDER - PAVER PLACED	58E-28
PERFORMANCE GRADED ASPHALT BINDER - NON-PAVER PLACED	58S-28

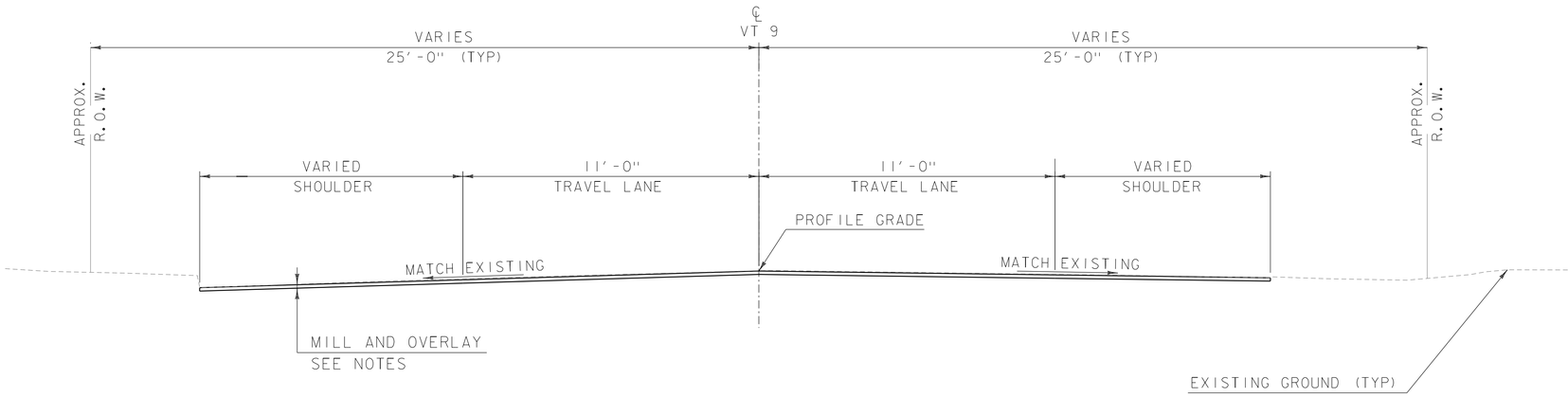
GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608forms.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
PRELIMINARY INFORMATION SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 2 OF 69

MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COURSE	+/- ½"
SUBBASE	+/- 1"
SAND BORROWS	+/- 1"



VT ROUTE 9 MILL AND OVERLAY TYPICAL SECTION

STA. 263+50.00 - 264+00.00

STA. 271+50.00 - 272+25.00

SCALE ⅜" = 1'-0"

VT ROUTE 9: STA. 264+00.00 - STA. 268+31.88 AND STA. 269+56.88 - STA. 271+50.00
MELROSE STREET: STA. 21+75.00 - STA. 22+50.00
1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IVSB) - WEARING COURSE OVER
3 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IIIS) - INTERMEDIATE COURSE OVER
3 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IIIS) - BASE COURSE OVER
24" (DEPTH VARIES) DENSE GRADED CRUSHED STONE
12" SAND BORROW (CUSHION)

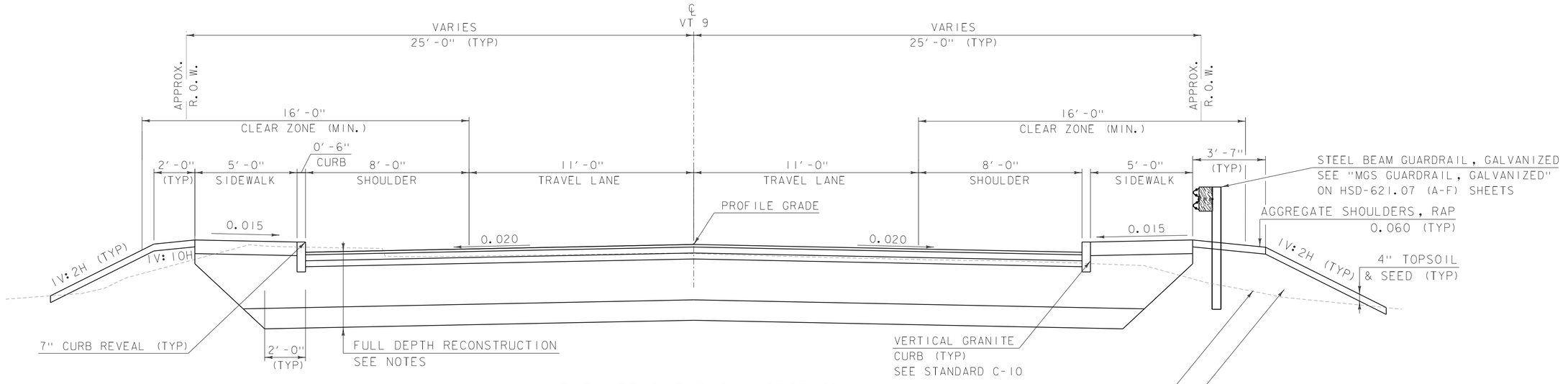
VT ROUTE 9: STA. 268+31.88 - STA. 268+56.88 AND STA. 269+31.50 - STA. 269+56.88
1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IVSB) - WEARING COURSE OVER
1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IVSB) - BASE COURSE OVER
15" CONCRETE APPROACH SLAB OVER
6" MIN (DEPTH VARIES) DENSE GRADED CRUSHED STONE

VT ROUTE 9: STA. 268+56.88 - STA. 269+31.50
1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IVSB) - BRIDGE WEARING COURSE OVER
1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IVSB) - BRIDGE BASE COURSE OVER
CONCRETE DECK

VT ROUTE 9 DETOUR: STA. 100+00.00 - STA. 105+44.98
AND STA. 106+07.13 - STA. 108+74.98
1 3/4" BITUMINOUS CONCRETE PAVEMENT (TYPE IIIS) - WEARING COURSE OVER
1 3/4" BITUMINOUS CONCRETE PAVEMENT (TYPE IIIS) - INTERMEDIATE COURSE OVER
6" MIN (DEPTH VARIES) DENSE GRADED CRUSHED STONE

VT ROUTE 9: STA. 263+50.00 - STA. 264+00.00 AND STA. 271+50.00 - STA. 272+25
MELROSE STREET: STA. 20+75 - STA. 21+75.00
1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IVSB) - WEARING COURSE OVER

TEMPORARY ASPHALT SIDEWALK:
2" BITUMINOUS CONCRETE SIDEWALK
6" SUBBASE OF DENSE GRADED CRUSHED STONE



VT ROUTE 9 TYPICAL SECTION

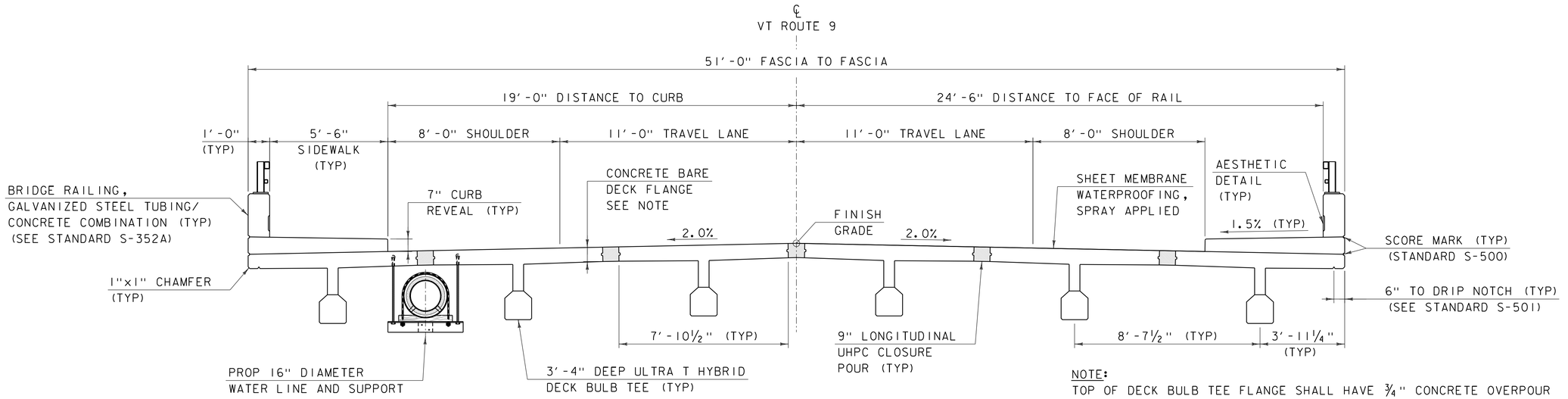
STA. 264+00.00 - 268+31.88

STA. 269+56.50 - 271+50.00

SCALE ⅜" = 1'-0"

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

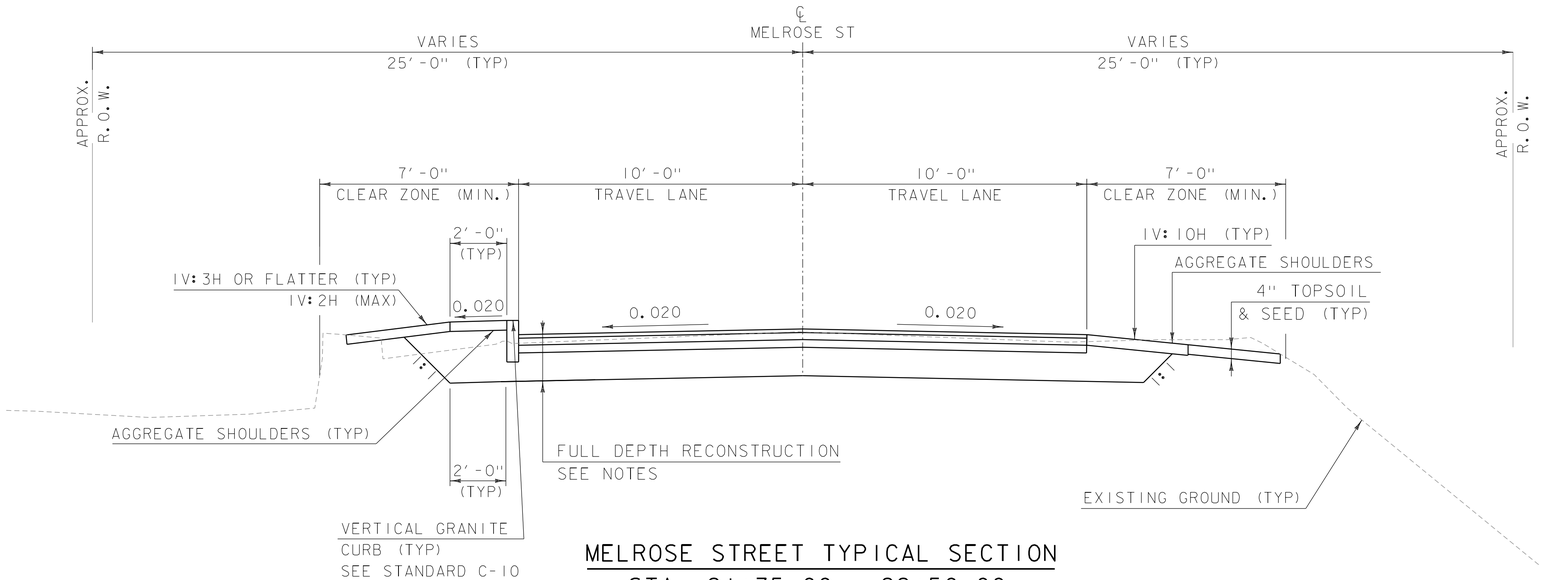
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: zl2j608typ.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
TYPICAL SECTION SHEET 1	SHEET 3 OF 69



NOTE:
TOP OF DECK BULB TEE FLANGE SHALL HAVE ¾" CONCRETE OVERPOUR TO BE GROUND TO FINAL GRADE IN THE FIELD. BEAM TOP FLANGE ADJUSTED TO MEET CROSS SLOPE AND PROVIDE MINIMUM 8" THICKNESS.

VT ROUTE 9 - TYPICAL BRIDGE SECTION

SCALE ⅜" = 1'-0"

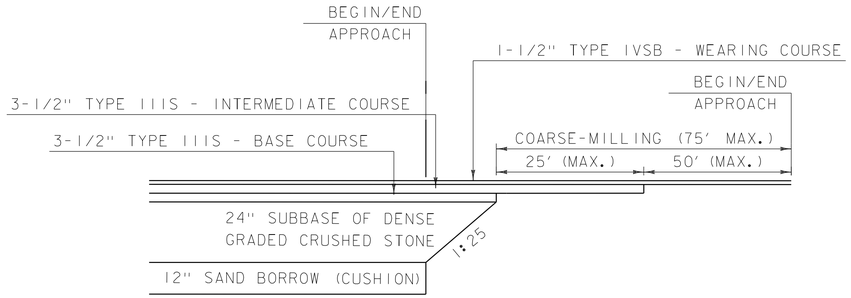


MELROSE STREET TYPICAL SECTION
STA. 21+75.00 - 22+50.00

SCALE ⅜" = 1'-0"

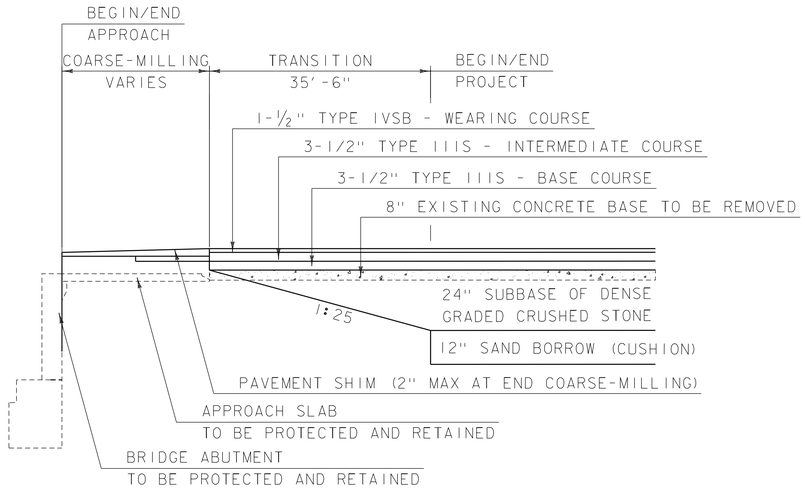
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608typ.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
TYPICAL SECTION SHEET 2	SHEET 4 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



VT ROUTE 9 FULL DEPTH RECONSTRUCTION
MATERIAL TRANSITION DETAIL

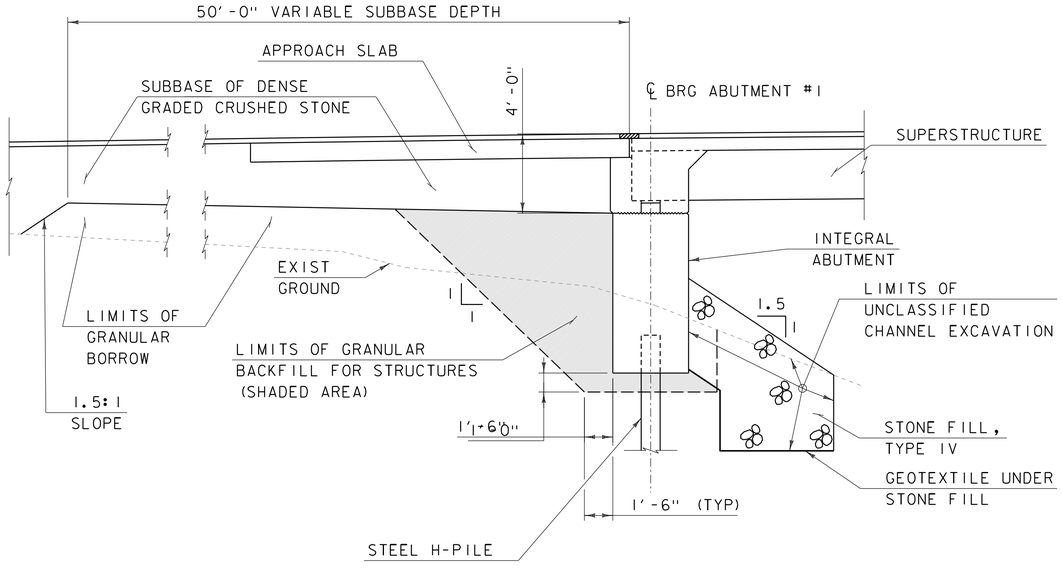
NOT TO SCALE



NOTES:
1. EXISTING BRIDGE DETAILS ARE UNKNOWN.
2. EXISTING APPROACH SLAB LENGTH IS APPROXIMATE.
3. EXISTING CONCRETE BASE LOCATION AND DEPTH IS APPROXIMATE.
4. CONTRACTOR TO VERIFY LOCATION OF APPROACH SLAB.

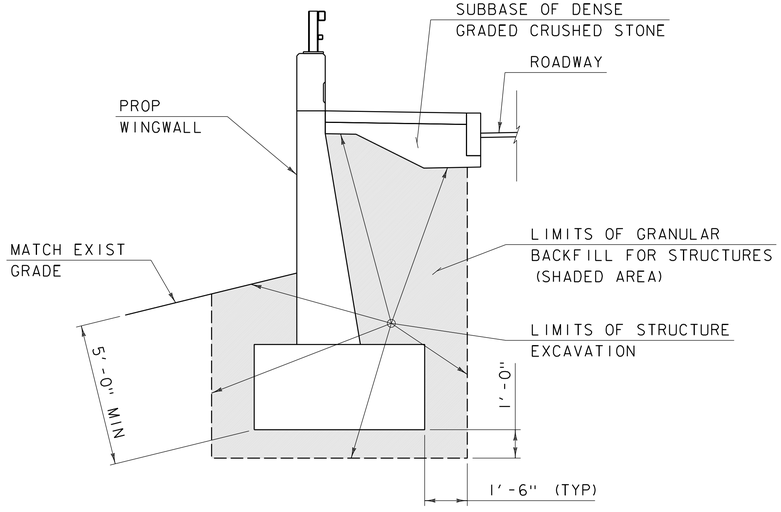
VT ROUTE 9 FULL DEPTH RECONSTRUCTION
MATERIAL TRANSITION AT BRIDGE DETAIL

NOT TO SCALE



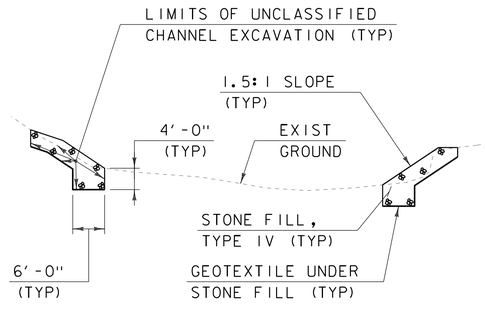
TYPICAL EARTHWORK SECTION - ABUTMENT

SCALE 1/4" = 1'-0"



TYPICAL EARTHWORK SECTION - WINGWALL

SCALE 3/8" = 1'-0"

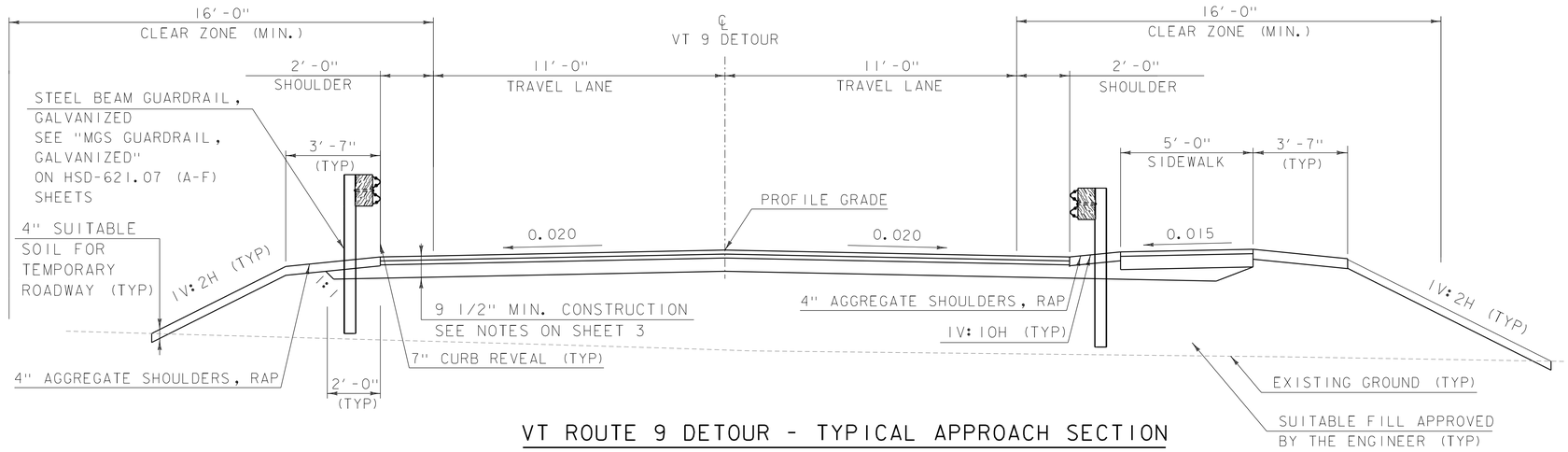


TYPICAL CHANNEL SECTION

NOT TO SCALE

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608typ.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
TYPICAL SECTION SHEET 3	SHEET 5 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



VT ROUTE 9 DETOUR - TYPICAL APPROACH SECTION

STA. 100+00.00 - 105+44.98

STA. 106+50.98 - 108+74.98

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO	
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FILE NAME: z12j608typ.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
TYPICAL SECTION SHEET 4	SHEET 6 OF 69

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

1011 - ROADWAY	1041 - LANDSCAPING	1051 - EROSION CONTROL	1211 - BRIDGE NO. 1	1221 - BRIDGE NO. 2	1999 - FULL C.E. ITEMS
1					
1870					
450					
			150		
225					
1140					
			620		
1200					
150					
1					
			1300		
			950		
810					
1					
3000					
24					
36					
1320					
350					
225					
1					
225					
1					
1					
			170		
			470		
			1		
			700		
			2		
			1000		
			200000		
			3690		
			25		
			325		
			120		
			391		
			1		
			14		
150					
500					
90					
2					

TOTALS

GRAND TOTAL	FINAL
1	
1700	
450	
150	
225	
1140	
620	
1200	
150	
1	
1300	
950	
810	
1	
3000	
24	
36	
1320	
350	
225	
1	
225	
1	
1	
170	
470	
1	
700	
2	
1000	
200000	
3690	
25	
325	
120	
391	
1	
14	
150	
500	
90	
2	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.1000	-
CY	COMMON EXCAVATION	203.1500	EST.
CY	SOLID ROCK EXCAVATION	203.1600	EST.
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.2700	EST.
CY	EARTH BORROW	203.3000	EST.
CY	SAND BORROW	203.3100	EST.
CY	GRANULAR BORROW	203.3200	EST.
CY	TRENCH EXCAVATION OF EARTH	204.2000	-
CY	TRENCH EXCAVATION OF ROCK	204.2100	50
CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.2200	-
CY	STRUCTURE EXCAVATION	204.2500	50
CY	GRANULAR BACKFILL FOR STRUCTURES	204.3000	50
SY	COARSE-MILLING, BITUMINOUS PAVEMENT	210.1000	22
LS	RETAINING WALL, MECHANICALLY STABILIZED EARTH	227.0100	-
CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.3500	37
TON	AGGREGATE SHOULDERS, RAP	402.1300	2
CWT	TACK COAT, EMULSIFIED ASPHALT	404.1100	2
TON	BITUMINOUS CONCRETE PAVEMENT, TYPE IVS, QA TIER III	406.0430	45
TON	BITUMINOUS CONCRETE PAVEMENT, TYPE IVSB, QA TIER III	406.1430	25
SY	BITUMINOUS CONCRETE PAVEMENT, NON-PAVER PLACED, TYPE IVS	406.3400	6
DL	PAY ADJUSTMENT, BCP, MIXTURE PROPERTIES (N.A.B.I.)	406.9100	-
DL	PAY ADJUSTMENT, BCP, MAT DENSITY (N.A.B.I.)	406.9200	-
CY	PERFORMANCE-BASED CONCRETE, CLASS PCD	501.3700	6
CY	PERFORMANCE-BASED CONCRETE, CLASS PCS	501.3800	6
LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.1000	-
LF	STEEL PILING, HP 12 × 84	505.1650	-
EACH	DYNAMIC PILE LOADING TEST	505.4500	EST.
LB	STRUCTURAL STEEL	506.6000	-
LB	REINFORCING STEEL, LEVEL III	507.1300	9226
SF	CONCRETE BRIDGE DECK SURFACE PREPARATION	509.1500	2
GAL	WATER REPELLENT, SILANE	514.1000	1.6
SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	519.1000	10
LF	JOINT SEALER, HOT POURED	524.1100	2
LF	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	525.5000	-
EACH	REMOVAL OF STRUCTURE	529.1500	EST.
EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.1700	EST.
LF	12 INCH CPEP(SL)	601.2605	24
LF	18 INCH CPEP(SL)	601.2615	38
LF	24 INCH CPEP(SL)	601.2620	8
EACH	18 INCH CPEPES	601.7015	EST.

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		COMMON EXCAVATION
861	CY	WESTERN AVE
7	CY	MELROSE ST
768	CY	BRIDGE ABUTMENTS
64		ROUNDING
1700	CY	TOTAL
		COARSE-MILLING, BITUMINOUS PAVEMENT
543	SY	WESTERN AVE
245	SY	MELROSE ST
22	SY	ROUNDING
810	SY	TOTAL
		SUBBASE OF DENSE GRADED CRUSHED STONE
1999	CY	FULL DEPTH RECONSTRUCTION
368	CY	SIDEWALK
19	CY	CONCRETE DRIVEWAY
578	CY	BRIDGE ABUTMENTS
37	CY	ROUNDING
640	CY	TOTAL

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608qty.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
QUANTITY SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 7 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
1011 - ROADWAY	1041 - LANDSCAPING	1051 - EROSION CONTROL	1211 - BRIDGE NO. 1	1221 - BRIDGE NO. 2	1999 - FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1						1		EACH	24 INCH CPEPES	601.7020	EST.			
3						3		EACH	PRECAST REINFORCED CONCRETE DI WITH CAST IRON GRATE	604.1800	EST.			
5						5		EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.2000	EST.			
7						7		EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	604.2100	EST.			
2						2		EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER (5-FOOT DIAMETER)	604.2100	EST.			
2						2		EACH	SANITARY SEWER MANHOLE	604.2200	EST.			
4						4		EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.4200	EST.			
2						2		EACH	CAST IRON COVER WITH FRAME, SEWER	604.5600	EST.			
115						115		MGAL	DUST CONTROL WITH WATER	609.1000	4			
0.3						0.3		TON	DUST CONTROL WITH CALCIUM CHLORIDE	609.1500	-			
20						20		CY	STONE FILL, TYPE I	613.1001	7			
			440			440		CY	STONE FILL, TYPE IV	613.1004	11			
1040						1040		LF	VERTICAL GRANITE CURB	616.2100	51			
550						550		LF	REMOVAL OF EXISTING CURB	616.4100	18			
490						490		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.1005	20			
115						115		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH	618.1008	4			
21						21		SF	DETECTABLE WARNING SURFACE	618.3000	1			
75						75		LF	REMOVING AND RESETTING FENCE	620.5000	2			
187						187		LF	REMOVAL OF GUARDRAIL	621.0100	8			
220						220		LF	STEEL BEAM GUARDRAIL	621.1060	7			
120						120		LF	STEEL BEAM GUARDRAIL WITH 8 FOOT POSTS	621.1080	7			
2						2		EACH	ANCHOR FOR STEEL BEAM GUARDRAIL	621.1520	EST.			
2						2		EACH	MTS, MGS, FLARED, TL-3	621.3130	EST.			
4						4		EACH	GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAIL, TL-3	621.8330	EST.			
1						1		MFBM	INSULATION BOARD	622.1000	1			
25						25		LF	SLEEVES FOR UTILITIES, HDPE	625.1000	-			
10						10		LF	PVC SEWER PIPE, 4 INCH	628.1416	1			
5						5		LF	PVC SEWER PIPE, 6 INCH	628.1424	1			
160						160		LF	PVC SEWER PIPE, 8 INCH	628.1432	16			
48						48		CY	CRUSHED STONE BEDDING	629.0500	24			
16						16		LF	SEAMLESS COPPER WATER TUBE, 0.75 INCH	629.1003	1			
40						40		LF	SEAMLESS COPPER WATER TUBE, 1 INCH	629.1004	2			
10						10		LF	SEAMLESS COPPER WATER TUBE, 1.25 INCH	629.1005	-			
10						10		LF	SEAMLESS COPPER WATER TUBE, 1.5 INCH	629.1006	-			
10						10		LF	SEAMLESS COPPER WATER TUBE, 2 INCH	629.1008	-			
1000						1000		LF	DUCTILE IRON WATER PIPE, CEMENT-LINED	629.1600	74			
140						140		LF	DUCTILE IRON WATER PIPE, CEMENT-LINED, 6 INCH	629.1624	23			
4						4		EACH	CORPORATION STOP, 0.75 INCH	629.2003	EST.			
1						1		EACH	CORPORATION STOP, ALL-INCLUSIVE, 0.75 INCH	629.2103	EST.			
8						8		EACH	CORPORATION STOP, ALL-INCLUSIVE, 1 INCH	629.2104	EST.			

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608qty.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
QUANTITY SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 8 OF 69

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
1011 - ROADWAY	1041 - LANDSCAPING	1051 - EROSION CONTROL	1211 - BRIDGE NO. 1	1221 - BRIDGE NO. 2	1999 - FULL C.E. ITEMS		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1							1		EACH	CORPORATION STOP, ALL-INCLUSIVE, 1.25 INCH	629.2105	EST.			
1							1		EACH	CORPORATION STOP, ALL-INCLUSIVE, 1.5 INCH	629.2106	EST.			
1							1		EACH	CORPORATION STOP, ALL-INCLUSIVE, 2 INCH	629.2108	EST.			
2							2		EACH	EXTENSION SERVICE BOX AND CURB STOP	629.2200	EST.			
1							1		EACH	EXTENSION SERVICE BOX AND CURB STOP, ALL-INCLUSIVE, 0.75 IN.	629.2303	EST.			
8							8		EACH	EXTENSION SERVICE BOX AND CURB STOP, ALL-INCLUSIVE, 1 IN.	629.2304	EST.			
1							1		EACH	EXTENSION SERVICE BOX AND CURB STOP, ALL-INCLUSIVE, 1.25 IN.	629.2305	EST.			
1							1		EACH	EXTENSION SERVICE BOX AND CURB STOP, ALL-INCLUSIVE, 1.5 IN.	629.2306	EST.			
1							1		EACH	EXTENSION SERVICE BOX AND CURB STOP, ALL-INCLUSIVE, 2 IN.	629.2308	EST.			
5							5		EACH	GATE VALVE WITH VALVE BOX	629.2400	EST.			
16							16		EACH	ADJUST ELEVATION OF VALVE BOX	629.2800	EST.			
2							2		EACH	BLOW-OFF ASSEMBLY	629.3000	EST.			
1							1		EACH	HYDRANT	629.3400	EST.			
1							1		EACH	REMOVE HYDRANT	629.3800	EST.			
4000							4000		HR	UNIFORMED TRAFFIC OFFICERS	630.1000	EST.			
8000							8000		HR	FLAGGERS	630.1500	EST.			
						1	1		LS	FIELD OFFICE, ENGINEER'S	631.1000	-			
						1	1		LS	TESTING EQUIPMENT, CONCRETE	631.1600	-			
						1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.1700	-			
						1	1		LS	TESTING EQUIPMENT, GROUT	631.1900	-			
						6000	6000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.2600	-			
25							25		EACH	CPM SCHEDULE	633.1000	EST.			
1							1		LS	MOBILIZATION/DEMOBILIZATION	635.1100	-			
1							1		LS	TRAFFIC CONTROL, ALL-INCLUSIVE	641.1100	-			
6							6		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.1500	EST.			
1805							1805		LF	DURABLE 4 INCH WHITE LINE, POLYUREA	646.4040	55			
2125							2125		LF	DURABLE 4 INCH YELLOW LINE, POLYUREA	646.4140	83			
13							13		LF	DURABLE 24 INCH STOP BAR, POLYUREA	646.4840	1			
10							10		EACH	DURABLE LETTER OR SYMBOL, POLYUREA	646.4940	EST.			
30							30		LF	DURABLE CROSSWALK MARKING, POLYUREA	646.5040	2			
3625							3625		LF	TEMPORARY 4 INCH WHITE LINE, PAINT	646.6020	125			
4250							4250		LF	TEMPORARY 4 INCH YELLOW LINE, PAINT	646.6120	168			
25							25		LF	TEMPORARY 24 INCH STOP BAR, PAINT	646.6820	1			
20							20		EACH	TEMPORARY LETTER OR SYMBOL, PAINT	646.6920	EST.			
60							60		LF	TEMPORARY CROSSWALK MARKING	646.7000	4			
396							396		EACH	LINE STRIPING TARGETS	646.7600	EST.			
10							10		SY	GEOTEXTILE UNDER STONE FILL	649.3100	1			
		9300					9300		SY	TURF ESTABLISHMENT, GENERAL SEED	651.1500	281			
		520					520		CY	TOPSOIL	651.3500	19			
		1					1		LS	EPSC PLAN	653.0100	-			

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608qty.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
QUANTITY SHEET 3

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 9 OF 69

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 4

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
				1011 - ROADWAY	1041 - LANDSCAPING	1051 - EROSION CONTROL	1211 - BRIDGE NO. 1	1221 - BRIDGE NO. 2	1999 - FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						220				220		HR	MONITORING EPSC PLAN	653.0200	EST.			
						1				1		DL	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	653.0300	-			
						2				2		TON	HAY MULCH	653.1000	0.1			
						4650				4650		SY	ROLLED EROSION CONTROL PRODUCT, TYPE I	653.2001	140			
						32				32		CY	STABILIZED CONSTRUCTION ENTRANCE	653.3500	2			
						12				12		EACH	INLET PROTECTION DEVICE, TYPE II	653.4002	EST.			
						1200				1200		LF	SILT FENCE, TYPE II	653.4702	50			
						255				255		LF	BARRIER FENCE	653.5000	15			
						760				760		LF	PROJECT DEMARCATION FENCE	653.5500	32			
					78					78		LF	EROSION LOG	653.6000	3			
					13					13		EACH	EVERGREEN TREES, MEDIUM	656.2002	EST.			
					4					4		EACH	EVERGREEN TREES, LARGE	656.2003	EST.			
					10					10		EACH	EVERGREEN SHRUBS	656.2500	EST.			
					4					4		EACH	DECIDUOUS TREES, MEDIUM	656.3002	EST.			
					6					6		EACH	DECIDUOUS TREES, LARGE	656.3003	EST.			
					61					61		EACH	DECIDUOUS SHRUBS	656.3500	EST.			
					1					1		LS	TREE PROTECTION	656.8500	-			
				39						39		SF	TRAFFIC SIGN, FLAT SHEET ALUMINUM	675.2000	2			
				130						130		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.3410	5			
				16						16		EACH	SIGN REMOVAL, FLAT SHEET ALUMINUM	675.5000	EST.			
				4						4		EACH	DELINEATOR WITH STEEL POST	676.1000	EST.			
				1						1		DL	PRICE ADJUSTMENT, ASPHALT (N.A.B.I.)	690.0300	-			
							10			10		CY	SS-PLACEHOLDER-CY (UHPC CLOSURE POURS)	SS004	2			
				200						200		CY	SS-PLACEHOLDER-CY (REINFORCED CONCRETE THRUST BLOCKS)	SS004	-			
				4						4		EACH	SS-PLACEHOLDER-EA (CATCH BASIN-DOUBLE CAST IRON GRATES)	SS007	EST.			
				4						4		EACH	SS-PLACEHOLDER-EA (16 IN INSERTION VALVE)	SS007	EST.			
				2						2		EACH	SS-PLACEHOLDER-EA (BLOWOFF MANHOLE(WATER))	SS007	EST.			
				1						1		EACH	SS-PLACEHOLDER-EA (AIR RELEASE VALVE)	SS007	EST.			
				1						1		EACH	SS-PLACEHOLDER-EA (AIR RELEASE VALVE MANHOLE)	SS007	EST.			
				1						1		EACH	SS-PLACEHOLDER-EA (16 IN EXPANSION JOINT FITTING(WATER))	SS007	EST.			
				4						4		EACH	SS-PLACEHOLDER-EA (16 IN MECHANICAL COUPLING(WATER))	SS007	EST.			
				25						25		EACH	SS-PLACEHOLDER-EA (16 IN DUCTILE IRON PIPE FITTINGS (TEES/BENDS))	SS007	EST.			
							434			434		LF	SS-PLACEHOLDER-LF (ULTRA T HYBRID DECK BULB TEE)	SS012	-			
				100						100		LF	SS-PLACEHOLDER-LF (16 IN WATER MAIN INSULATION)	SS012	-			
				1				1		2		LS	SS-PLACEHOLDER-LS (TEMPORARY DETOUR AND BRIDGE)	SS013	-			
				1						1		LS	SS-PLACEHOLDER-LS (WATERLINE INSTALLATION AT THE BRIDGE)	SS013	-			
				1						1		LS	SS-PLACEHOLDER-LS (TEMPORARY WATER BYPASS)	SS013	-			
				1						1		LS	SS-PLACEHOLDER-LS (PRESSURE TESTING AND DISINFECTION)	SS013	-			

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608qty.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
QUANTITY SHEET 4

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 10 OF 69

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET

SUMMARY OF BRIDGE QUANTITIES			TOTALS	DESCRIPTIONS		
ABUTMENT #1	ABUTMENT #2	SUPER-STRUCTURE	OPTION	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER
92	58			150	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.2700
310	310			620	CY	GRANULAR BORROW	203.3200
550	750			1300	CY	STRUCTURE EXCAVATION	204.2500
400	550			950	CY	GRANULAR BACKFILL FOR STRUCTURES	204.3000
	1			1	LS	RETAINING WALL, MECHANICALLY STABILIZED EARTH	227.0100
67	68	35		170	CY	HIGH PERFORMANCE CONCRETE, CLASS PCD	501.3700
203	267			470	CY	HIGH PERFORMANCE CONCRETE, CLASS PCS	501.3800
1				1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.1000
350	350			700	LF	STEEL PILING, HP 12X84	505.1650
1	1			2	EA	DYNAMIC PILE LOAD TESTING	505.4500
		1000		1000	LB	STRUCTURAL STEEL	506.6000
98858	98858	2284		200000	LB	REINFORCING STEEL, LEVEL III	507.1300
		3690		3690	SF	CONCRETE BRIDGE DECK SURFACE PREPARATION	509.1500
8	13	4		25	GAL	WATER REPELLENT, SILANE	514.1000
		325		325	SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	519.1000
60	60			120	LF	JOINT SEALER, HOT POURED	524.1100
		391		391	LF	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	525.5000
		1		1	EA	REMOVAL OF STRUCTURE	529.1500
		14		14	EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.1700
220	220			440	CY	STONE FILL, TYPE IV	613.1004
		10		10	CY	SS-PLACEHOLDER-CY (UHPC CLOSURE POURS)	SS004
		434		434	LF	SS-PLACEHOLDER-LF (ULTRA T HYBRID DECK BULB TEE)	SS012
		1		1	LS	SS-PLACEHOLDER-LS (TEMPORARY DETOUR AND BRIDGE)	SS013

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608qty.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BRIDGE QUANTITY SHEET

PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET II OF 69

ITEM DETAIL SHEET

LOCATION			GUARDRAIL							REMARKS
			621.0100	621.1060	621.1080	621.1520	621.3130	621.8330	676.1000	
STA.	STA.	POSITION	REMOVAL OF GUARDRAIL	STEEL BEAM GUARDRAIL	STEEL BEAM GUARDRAIL, WITH 8 FEET POSTS	ANCHOR FOR STEEL BEAM RAIL	MTS, MGS, FLARED, TL-3	GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAIL TL-3	DELINEATOR WITH STEEL POST	
			LF	LF	LF	EACH	EACH	EACH	EACH	
265+83	266+18.5	RT					1		1	INSTALL IN ACCORDANCE WITH STD. G-19
266+18.5	268+07	RT		188.5						AS DIRECTED BY THE ENGINEER
267+46.5	267+82	LT					1		1	INSTALL IN ACCORDANCE WITH STD. G-19
267+82	268+00	LT						1		INSTALL IN ACCORDANCE WITH STD. S-352D
268+07	268+25	RT						1		INSTALL IN ACCORDANCE WITH STD. S-352D
267+94	268+57	LT	63							AS DIRECTED BY THE ENGINEER
268+15	268+65	RT	50							AS DIRECTED BY THE ENGINEER
269+20	269+35	LT	28							AS DIRECTED BY THE ENGINEER
269+37	269+75	RT	38							AS DIRECTED BY THE ENGINEER
271+00	271+18	RT						1		INSTALL IN ACCORDANCE WITH STD. S-352D
271+18	271+29.5	RT		12.5		1			1	INSTALL IN ACCORDANCE WITH STD. G-1D
20+75	20+86.5	RT		12.5		1			1	INSTALL IN ACCORDANCE WITH STD. G-1D
20+86.5	22+00	RT			113.0					INSTALL IN ACCORDANCE WITH HSD-621.07A
22+00	22+08	RT						1		INSTALL IN ACCORDANCE WITH STD. S-352D
ROUNDING			8	7	7	0	0	0	0	
PROJECT TOTAL			**187**	**220**	**120**	**2**	**2**	**4**	**4**	

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608item.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
ITEM DETAIL SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 12 OF 69

STATE OF VERMONT
AGENCY OF TRANSPORTATION

ITEM DETAIL AND DRAINAGE DETAIL SHEET 1

PIPE ID	UPSTREAM STRUCTURE					DOWNSTREAM STATION					POS.	PIPE		ALLOWABLE OPTIONS			ES	CB	DI	DMH DIA.	GRATE	CONC CLASS B	REINF STEEL	CRM	TRENCH EXCAVATION		GRAN BKFILL STRUCT	EROS MATT	STONE FILL		MARKER POSTS		REMARKS
	ID	STATION	OFFSET	RIM	INVERT	ID	STATION	OFFSET	RIM	INVERT		D IN	L FT	RCP CLASS	CPEP SL	DIP TH	EA	EA	EA	FT	TYPE	CY	LBS	CY	EARTH CY	ROCK CY	CY	SY	CY	TYPE	LT EA	RT EA	
EXIST. DRAINAGE																																	
VT ROUTE 9																																	
1.1	CB	265+01				CB	266+39					12	138																				REMOVE AND DISPOSE PIPE AND CB
1.2	CB	266+40				CB	266+58					12	37																				REMOVE AND DISPOSE PIPE AND CB
1.3	CB	266+59				FREE EXT	268+73					20	215																				RETAIN PARTIAL PIPE AND CUT AND PLUG REMAINING PIPE
1.5	CB	272+77				CB	271+00					-	177																				RETAIN PIPE AND CB
1.6	CB	264+87																															REMOVE AND DISPOSE CB
MELROSE ST.																																	
1.4	CB	22+11				FREE EXT	22+14					10	26																				
PROP. DRAINAGE																																	
VT ROUTE 9																																	
1.1	IN1.1	264+86		428.78	425.00	MH1.1	265+01		428.93	424.75	RT-LT	12	25		X	X		1			E				8.72		0.44						IN1.1 FLAT TOP AND MH1.1 (4'DIA.)
1.2	IN1.2	264+99		428.69	425.15	MH1.1	265+01		428.93	425.06	LT-LT	12	9		X	X		1			E				2.77		0.14						IN1.2 FLAT TOP AND MH1.1 (4'DIA.)
1.3	MH1.1	265+01		428.93	424.65	MH1.10	266+24		427.95	424.30	LT-LT	18	119		X	X				4					46.41		2.32						MH1.1 (4'DIA) AND MH1.2 (5'DIA.)
1.4	IN1.3	266+25		428.16	424.60	MH1.3	266+40		428.14	424.50	LT-LT	12	11		X	X		1			E				3.22		0.16						IN1.3 FLAT TOP AND MH1.3 (4'DIA.)
1.5	MH1.3	266+40		428.14	424.50	MH1.2	266+46		427.99	424.40	LT-LT	12	8		X	X				4					2.36		0.12						MH1.3 (4'DIA) AND MH1.2 (5'DIA.)
1.6	MH1.2	266+46		427.99	423.00	CIT1.4	266+58		427.84	422.80	LT-RT	18	19		X	X				5					10.74		0.54						MH1.2 (5'DIA) AND MH1.4 (CIT)
1.7	DGIN1.4	266+24		427.71	424.00	MH1.10	266+24		427.95	422.00	RT-LT	18	18		X	X		1			E				9.61		0.48						ECCENTRIC DGIN1.4 FLAT TOP
1.11	DGIN1.7	270+99		430.42	427.20	MH1.6	271+01		430.39	427.00	LT-RT	12	15		X	X		1			E				3.73		0.19						DGIN1.7 FLAT TOP AND MH1.6 (4'DIA.)
1.12	DGIN1.8	271+01		430.35	426.70	MH1.6	271+01		430.39	426.60	RT-RT	12	8		X	X		1			E				2.48		0.12						DGIN1.8 FLAT TOP AND MH1.6 (4'DIA.)
1.13	MH1.6	271+01		430.39	426.50	MH1.5	269+68		431.39	425.20	RT-RT	18	128		X	X				4					72.85		3.64						MH1.6 (4'DIA.) AND MH1.5 (4' DIA.)
1.14	DI1.2	269+80		431.48	426.48	MH1.5	269+68		431.39	426.06	LT-RT	12	21		X	X			1						11.01		0.55						DI1.2 AND MH1.5 (4'DIA.)
1.15	MH1.5	269+68		431.39	424.00	18"CPEPES	269+51		422.5	421.00	RT-RT	18	32		X	X									15.04		0.75			I			MH1.5 (4'DIA.)
1.16	IN1.6	266+50		428.18	424.68	MH1.3	266+40		428.14	424.30	LT-LT	12	5		X	X		1			E				1.51		0.08						IN1.6 FLAT TOP AND MH1.3 (4'DIA.)
1.17	MH1.8	268+04		430.13	420.00	MH1.9	268+15		429.71	419.70	RT-RT	24	13		X	X				4	E				20.33		1.02			I			MH1.8 (4' DIA.)
1.18	MH1.9	268+15		429.71	419.60	24"CPEPES	268+90		419.10	419.10	RT-RT	24	72		X	X				4	E				45.73		2.29			I			MH1.9 (4' DIA.)
1.19	EX. PIPE	267+53		429.35	420.94	MH1.8	268+04		430.13	420.89	RT-RT	24	49		X	X				4	E				65.33		3.27			I			MH1.8 (4' DIA.)
1.21	MH1.10	266+24		427.95	424.20	MH1.2	266+46		427.99	424.00	LT-LT	18	17		X	X				4	E				6.36		0.32			I			MH1.10 (4' DIA.)
MELROSE ST.																																	
1.8	DI1.1	21+89		430.67	428.47	MH1.7	21+79		430.53	427.00	LT-RT	12	15		X	X			1						2.76		0.14						DI1.1 AND MH1.7 (5'DIA)
1.9	IN1.5	21+88		430.44	427.00	MH1.7	21+79		430.53	426.90	RT-RT	12	4		X	X		1			E				1.13		0.06						IN1.5 FLAT TOP AND MH1.7 (5'DIA.)
1.10	MH1.7	21+79		430.53	425.65	18"CPEPES	21+83		426.5	425.30	RT-RT	18	16		X	X				5					3.77		0.19			I			MH1.7 (5'DIA.)
1.20	DI1.3	21+67		430.83	427.83	MH1.7	21+79		430.53	427.00	LT-RT	12	13		X	X			1		E				3.16		0.16			I			DI1.3 AND MH1.7 (5' DIA.)
TOTALS												12" 18" 24"	CPEP:134' CPEP: 365' CPEP: 250				8	3	4': 7 5': 2					339		17						

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608item.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
ITEM DETAIL SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: M WOLENSKI
CHECKED BY: H GONSALVES
SHEET 13 OF 69

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS SHEET

ROUTE 9 (WESTERN AVE)

STATION	DIST FT.	COMMON EXCAVATION AREA S.F.	COMMON EXCAVATION VOLUME C.Y.	SOLID ROCK EXCAVATION AREA S.F.	SOLID ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.
263+50		0.0		0		0.0			
	50		46.1		0		0.0		
264+00		49.8		0		0.0			
	50		85.5		0		0.0		
264+50		42.6		0		0.0			
	50		79.5		0		0.0		
265+00		43.3		0		0.0			
	50		86.6		0		0.0		
265+50		50.3		0		0.0			
	50		98.8		0		3.6		
266+00		56.4		0		3.9			
	50		102.5		0		6.1		
266+50		54.3		0		2.7		CUT	1117
	50		94.8		0		18.9	ROCK	0
267+00		48.1		0		17.7		R.FAC	0.495
	50		78.4		0		43.4	FILL	150
267+50		36.6		0		29.2		F.FAC	1.15
	50		61.5		0		27.0	EX. C	944
268+00		29.8		0		0.0			
	57		91.1		0		0.0		
268+50		56.4		0		0.0			
269+50		47.2		0		0.0			
	67		87.5		0		29.3		
270+00		23.4		0		23.6			
	50		58.0		0		21.9		
270+50		39.3		0		0.0			
	50		79.4		0		0.0		
271+00		46.5		0		0.0			
	50		55.0		0		0.0		
271+50		12.9		0		0.0			
	50		11.9		0		0.0		
272+00		0.0		0		0.0			
	50		0.0		0		0.0		
272+50		0.0		0		0.0			
	50		0.0		0		0.0		

MELROSE ST

STATION	DIST FT.	COMMON EXCAVATION AREA S.F.	COMMON EXCAVATION VOLUME C.Y.	SOLID ROCK EXCAVATION AREA S.F.	SOLID ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.
20+50		0.0		0.0		0.0			
	50		1.2		0.0		0.0		
21+00		1.3		0.0		0.0		CUT	44
	50		7.8		0.0		0.3	ROCK	0
21+50		7.1		0.3		0.3		R.FAC	0.495
	50		24.3		0.0		2.1	FILL	4
22+00		19.1		0.0		2.0		F.FAC	1.15
	31		11.0		0.0		1.1	EX. C	40
22+31				0.0					

TEMPORARY BRIDGE

STATION	DIST FT.	COMMON EXCAVATION AREA S.F.	COMMON EXCAVATION VOLUME C.Y.	SOLID ROCK EXCAVATION AREA S.F.	SOLID ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.
100+00		29.2				0.0			
	50		68.9				0.0		
100+50		45.2				0.0			
	50		106.7				0.0		
101+00		70.0				0.0		CUT	622
	50		168.8				0.0	ROCK	0
101+50		112.3				0.0		R.FAC	0
	50		247.1				0.0	FILL	899
102+00		154.6				0.0		F.FAC	1.15
	50		239.9				0.0	EX. C	-412
102+50		104.5				0.0			
	50		132.1				0.3		
103+00		38.2				0.3			
	50		38.7				9.0		
103+50		3.6				9.7			
	50		3.6				87.8		
104+00		0.3				79.4			
	50		0.6				433.7		
104+50		0.3				181.0			
	50		0.6				1255.1		
105+00		0.3				293.4			
	45		0.3				0.0		
105+45									
	106		0.0				0.0		
106+51									
	49		0.3				217.0		
107+00		0.3				239.1			
	50		5.4				510.7		
107+50		5.5				95.4			
	50		32.1				1.9		
108+00		29.2				0.7			
	50		29.1				0.7		
108+50		28.5				0.0			

SUMMARY AND BALANCES

BRATTLEBORO BF 2000(28)

STATION TO STATION		TOT EXC. EARTH & ROCK C.Y.	ROCK EXCAV C.Y.	EMBANK C.Y.	EXCESSES CUT	EXCESSES FILL	ACUMULATIVE EXCESSES CUT	ACUMULATIVE EXCESSES FILL
265+00	272+50	1117	0	173		-944		-944
20+50	22+50	44	0	4		-40		-984
	TOTAL	1161	0	177		-984		

REMARKS

EARTH AND ROCK EXCAVATION	1161	
SOLID ROCK EXCAVATION	0	
EARTH EXCAVATION	1161	
BACKFILL FOR TRENCH EXCAVATION (CB AND PIPES)	1,099	
PLANIMETERED FILL	154	
LESS FACTORED SOLID ROCK	0	
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	-	
NET PLANIMETERED FILL	1253	
FACTOR	1.15	
PLANIMETERED FILL INCLUDING FACTOR	1441	
MATERIALS AVAILABLE FOR FILLS	-	
EARTH EXCAVATION	1161	
CHANNEL EXCAVATION	105	
UNDERDRAIN EXCAVATION	-	
STRUCTURE EXCAVATION	752	
TRENCH EXCAVATION FOR DRAINAGE	1,099	
TRENCH EXCAVATION OF ROCK	110	
TOTAL MATERIAL AVAILABLE FOR FILL	3227	
TOTAL FILL INCLUDING FACTOR	1441	
TOTAL MATERIAL FOR FILL	3227	
BORROW	154	
EXCESS EXCAVATION	1786	

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608ewqty.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
EARTHWORKS SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 14 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

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

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

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

COMMON TOPOGRAPHIC POINT SYMBOLS

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

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

PROPOSED GEOMETRY CODES

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

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

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

ABOVE GROUND UTILITIES (AERIAL)

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

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CZ — CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

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

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

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

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- SEDIMENT ISOLATION
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

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

ARCHEOLOGICAL & HISTORIC

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

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

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

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608legend.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
CONVENTIONAL SYMBOLOGY LEGEND SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 15 OF 69

NETWORK CONTROL

HVCTRL #1
NORTH = 128325.4200
EAST = 1614245.4680
ELEV. = 441.402

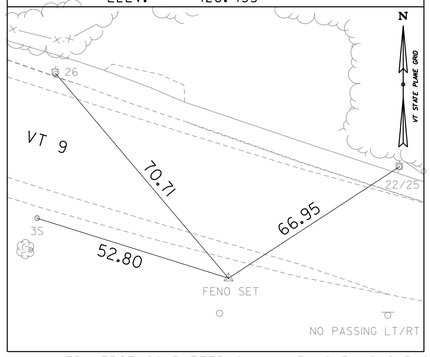
GENERAL LOCATION, WEST BRATTLEBORO. TO REACH FROM THE INTERSECTION OF U.S. ROUTE 91 AND VT. ROUTE 9 IN BRATTLEBORO (EXIT 2) GO WEST ALONG ROUTE 9 FOR 1.1 MI (1.8 KM) TO THE FIRST CONGREGATIONAL CHURCH. THE FENO IS SET IN THE LAWN OUTSIDE OF HOUSE 850 JUST EAST OF THE CHURCH.

*POINTS 1-5 ARE FROM JOB 12J608 BRATTLEBORO BF 2000(28) [12J608]

LOCAL CONTROL

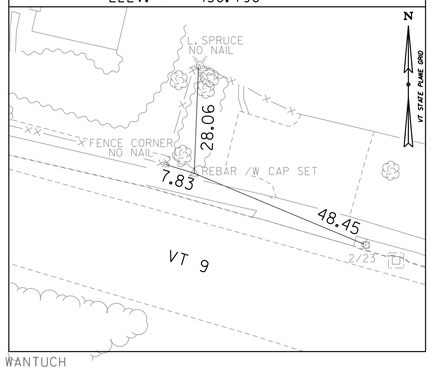
HVCTRL #2

NORTH = 128073.5700
EAST = 1614932.5210
ELEV. = 428.435



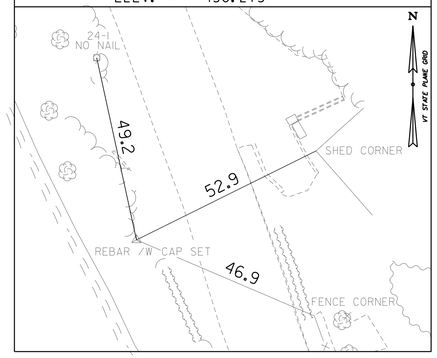
HVCTRL #3

NORTH = 128042.8750
EAST = 1615219.4720
ELEV. = 430.790



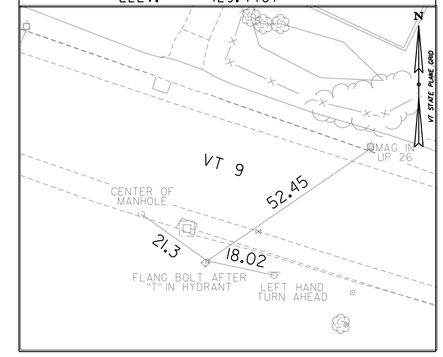
HVCTRL #4

NORTH = 128123.3460
EAST = 1615084.4230
ELEV. = 430.275



BM

NORTH = 128097.9015
EAST = 1614843.6654
ELEV. = 429.7187



NORTH =
EAST =
ELEV. =

*MAIN TRAVERSE COMPLETED ON 11/13/19 BY C.CYR & J.WANTUCH

ALIGNMENT TIES

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

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83(2011)
ADJUSTMENT LSQ

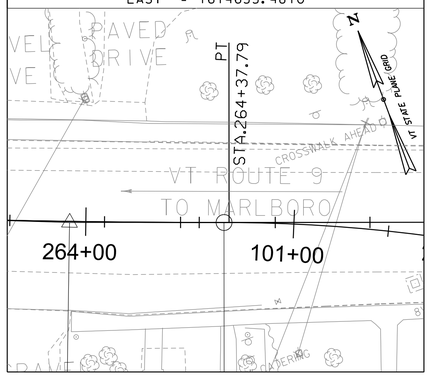
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608ti.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: VTRANS
TIE SHEET

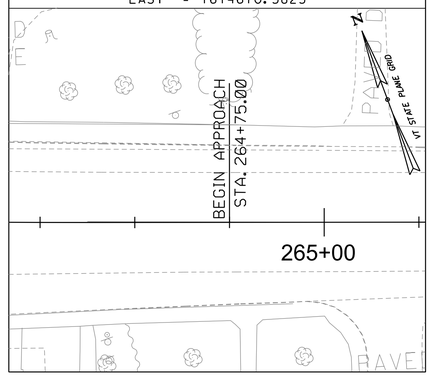
PLOT DATE: 2-6-2020
DRAWN BY: J. WANTUCH
CHECKED BY: G. HITCHCOCK
SHEET 16 OF 69

ALIGNMENT TIES

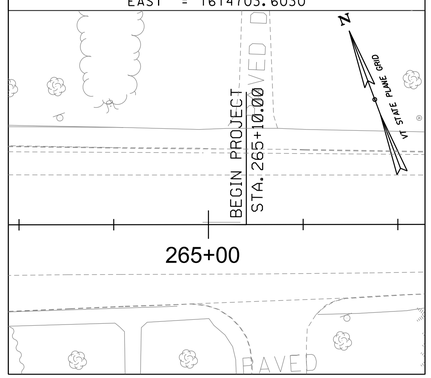
VT RTE 9 PT STA. 264+37.79
NORTH = 128194.9373
EAST = 1614635.4810



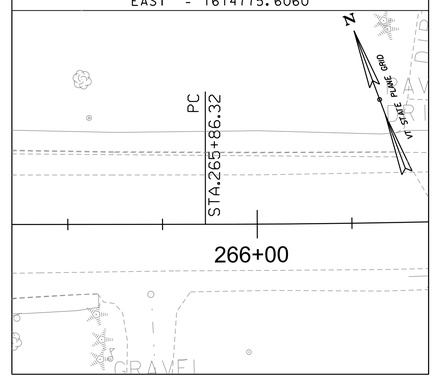
VT RTE 9 BEGIN APPROACH STA. 264+75.00
NORTH = 128182.6031
EAST = 1614670.5823



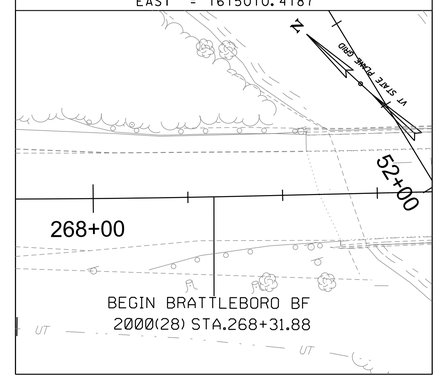
VT RTE 9 BEGIN PROJECT STA. 265+10.00
NORTH = 128171.0000
EAST = 1614703.6030



VT RTE 9 PC STA. 265+86.32
NORTH = 128145.6990
EAST = 1614775.6060

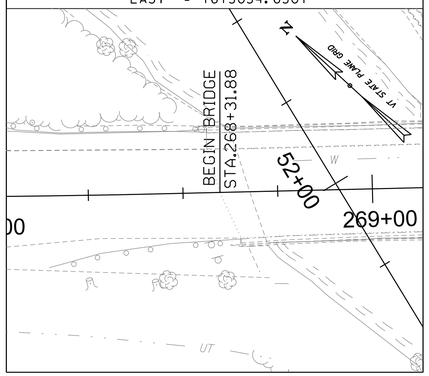


VT RTE 9 BEGIN BRATTLEBORO BF 2000(28) STA. 268+31.88
NORTH = 128074.0892
EAST = 1615010.4187

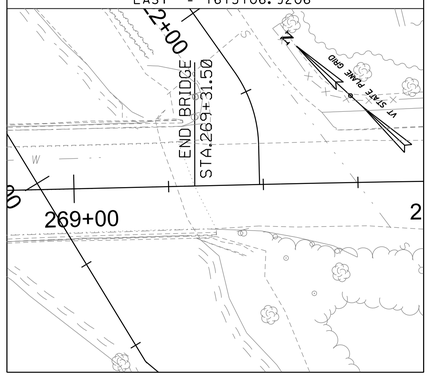


ALIGNMENT TIES

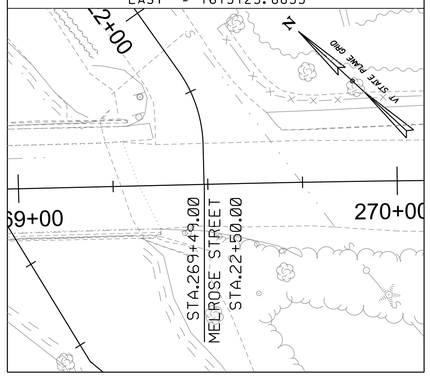
VT RTE 9 BEGIN BRIDGE STA. 268+56.88
NORTH = 128067.8740
EAST = 1615034.6301



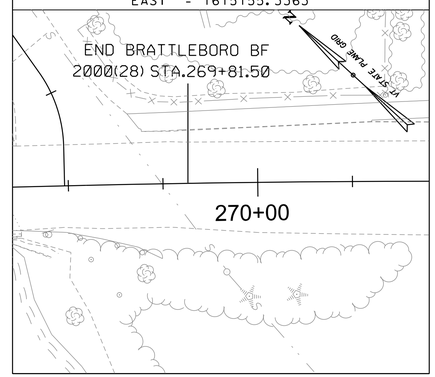
VT RTE 9 END BRIDGE STA. 269+31.50
NORTH = 128049.3737
EAST = 1615106.9206



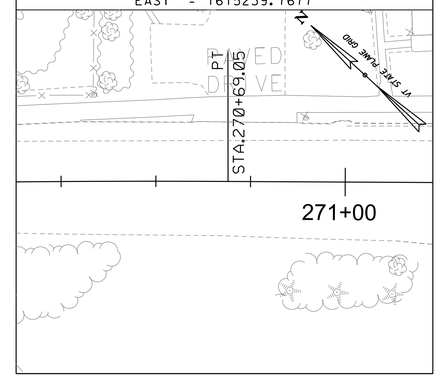
VT RTE 9 STA. 269+49.00 MELROSE STREET STA. 22+50.00
NORTH = 128045.0326
EAST = 1615123.8835



VT RTE 9 END BRATTLEBORO BF 2000(28) STA. 269+81.50
NORTH = 128036.8746
EAST = 1615155.3363

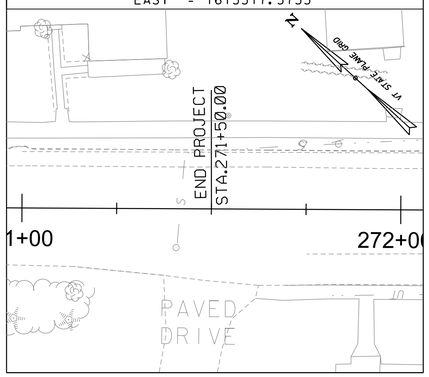


VT RTE 9 PT STA. 270+69.05
NORTH = 128013.6875
EAST = 1615239.7677

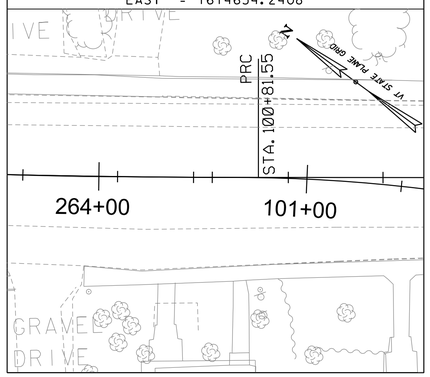


ALIGNMENT TIES

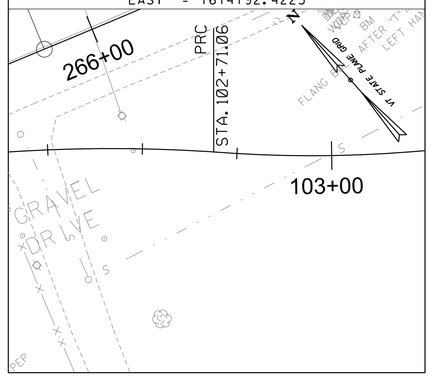
VT RTE 9 END PROJECT STA. 271+50.00
NORTH = 127991.3862
EAST = 1615317.5755



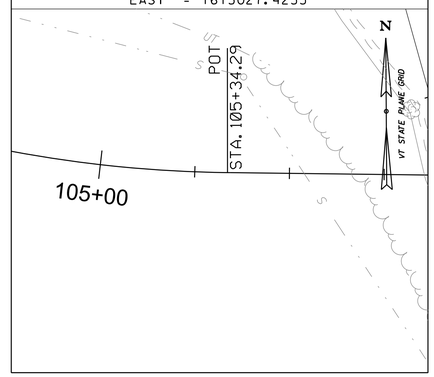
VT RTE 9 PRC STA. 100+81.55
NORTH = 128195.3734
EAST = 1614634.2408



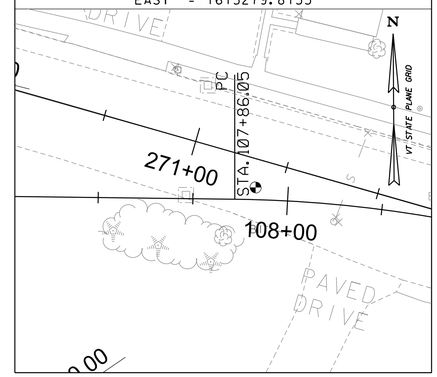
VT RTE 9 PRC STA. 102+71.06
NORTH = 128094.0942
EAST = 1614792.4223



VT RTE 9 POT STA. 105+34.29
NORTH = 127992.9749
EAST = 1615027.4253



VT RTE 9 PC STA. 107+86.05
NORTH = 127989.9284
EAST = 1615279.8153



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD83 (96)
ADJUSTMENT	COMPASS

0 20 40
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

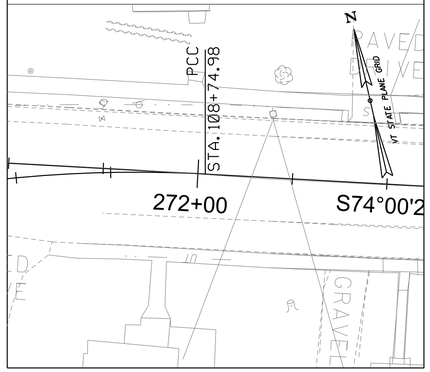
FILE NAME: z12j608ti.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
TIE SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 17 OF 69

ALIGNMENT TIES

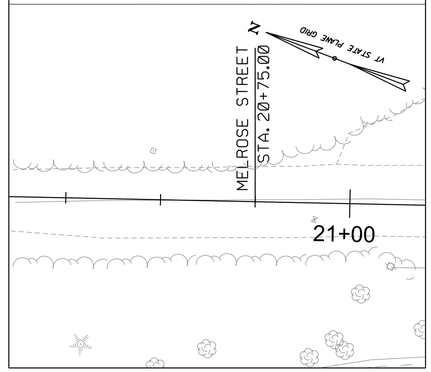
VT RTE 9 PCC STA. 108+74.98

NORTH = 127977.0633
EAST = 1615367.5468



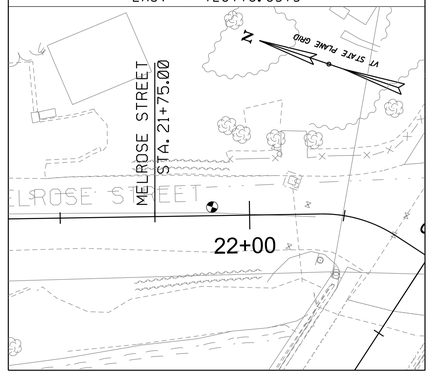
END APPROACH MELROSE STREET STA. 20+75.00

NORTH = 128211.0308
EAST = 1615077.2337



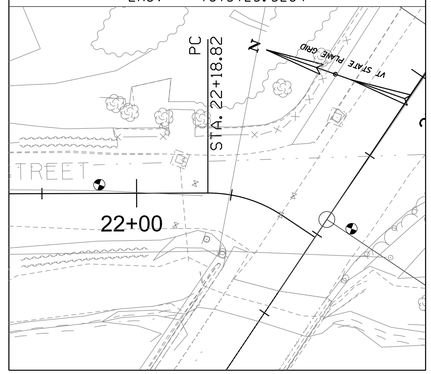
SIDELINE END PROJECT MELROSE STREET STA. 21+75.00

NORTH = 1615110.8137
EAST = 128116.8375



PC STA. 22+18.82 MELROSE STREET

NORTH = 128075.5622
EAST = 1615125.5284



ALIGNMENT TIES

ALIGNMENT TIES

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD83 (96)

ADJUSTMENT COMPASS

0 20 40
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608ti.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
TIE SHEET 3

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 18 OF 69

N

VT STATE PLANE GRID

BEGIN APPROACH
STA. 263+50.00

POB 100+00.00

PT 264+37.79

PI 101+78.03

PC 265+86.32

TEMP BRIDGE CURVE (2)
DELTA = 26°28'59"
D = 13°58'28"
R = 410.00'
T = 96.48'
L = 189.51'
e = 11.20'

MELROSE ST CURVE (1)
DELTA = 33°58'34"
D = 163°42'08"
R = 35.00'
T = 10.69'
L = 20.75'
e = 1.60'

SIDELINE END APPROACH
STA. 20+75.00

SIDELINE END BRATTLEBORO BF 2000(28)
STA. 21+75.00

ROUTE 9 STA. 269+49.00 =
MELROSE STREET STA. 22+50.00

END BRIDGE
STA. 269+56.50

TEMP BRIDGE CURVE (4)
DELTA = 15°18'07"
D = 17°12'21"
R = 333.00'
T = 44.73'
L = 88.93'
e = 2.99'

CURVE (2)
DELTA = 01°38'19"
D = 01°25'57"
R = 4000.00'
T = 57.20'
L = 114.40'
e = 0.41'

END BRATTLEBORO BF 2000(28)
STA. 271+50.00

POB 50+00.00

PT 268+42.32

PI 270+11.86

PT 270+69.06

POE 108+74.98

WHETSTONE BROOK FLOW

VT ROUTE 9
TO MARLBORO

VT ROUTE 9
TO NEW HAMPSHIRE

PAVED DRIVE

GRAVEL DRIVE

DIRT

GRASS

100+00 | 264+00 | 101+00 | 265+00 | 266+00 | 267+00 | 268+00 | 269+00 | 270+00 | 271+00 | 272+00

20+00 | 21+00 | 22+00

50+00 | 51+00 | 52+00 | 53+00 | 54+00

102+00 | 103+00 | 104+00 | 105+00 | 106+00 | 107+00 | 108+00

S70°38'20.92"E

S19°37'16"E

S26°52'29"E

S15°38'43"E

S75°38'42.73"E

S14°21'17"W

S89°18'30"E

S34°30'52"E

S74°00'23.57"E

POT 51+45.00

PC 22+18.82

PI 22+29.51

PT 22+39.57

POE 22+50.00

PI 267+14.40

PI 104+09.60

POT 105+34.29

POT 52+55.00

PC 269+54.66

POE 54+00.00

PC 107+86.05

PI 108+30.78

PCC 108+74.98

BEGIN BRIDGE
STA. 268+31.88

BEGIN BRATTLEBORO BF 2000(28)
STA. 264+00.00

PI 100+40.78

PRC 100+81.55

PRC 102+71.06

TEMP BRIDGE CURVE (1)
DELTA = 01°43'50"
D = 02°07'19"
R = 2700.00'
T = 40.78'
L = 81.55'
e = 0.31'

TEMP BRIDGE CURVE (3)
DELTA = 45°10'49"
D = 17°12'21"
R = 333.00'
T = 138.55'
L = 262.59'
e = 27.67'

CURVE (1)
DELTA = 05°00'22"
D = 01°57'20"
R = 2930.00'
T = 128.08'
L = 256.00'
e = 2.80'

END APPROACH
STA. 272+25.00

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: zl2j608alignbdr.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
ALIGNMENT SHEET	SHEET 19 OF 69

CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS
STA. 264+91 - STA. 265+08 RT
STA. 265+26 - STA. 265+66 RT
STA. 266+50 - STA. 267+05 LT
STA. 267+02 - STA. 267+12 RT
STA. 267+75 - STA. 268+50 LT
STA. 269+50 - STA. 270+40 RT
STA. 269+61 - STA. 270+50 LT
STA. 270+75 - STA. 271+25 RT

COARSE-MILLING, BITUMINOUS PAVEMENT
STA. 20+75 - STA. 21+75
STA. 263+50 - STA. 264+00
STA. 271+00 - STA. 272+25

AGGREGATE SHOULDERS
STA. 20+75 - STA. 20+98 LT
STA. 21+47 - STA. 22+29 LT
STA. 20+75 - STA. 22+18 RT

VERTICAL GRANITE CURB
STA. 21+75 - STA. 22+29 LT
STA. 265+28 - STA. 265+65 RT
STA. 265+60 - STA. 266+37 LT
STA. 265+79 - STA. 268+68 RT
STA. 266+49 - STA. 267+10 LT
STA. 267+33 - STA. 268+51 LT
STA. 269+16 - STA. 269+31 LT
STA. 269+38 - STA. 271+38 RT
STA. 269+65 - STA. 270+95 LT

REMOVAL OF EXISTING CURB
STA. 265+44 - STA. 265+65 RT
STA. 265+60 - STA. 269+34 LT
STA. 269+58 - STA. 270+95 LT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA. 265+28 - STA. 265+64 RT
STA. 265+79 - STA. 271+38 RT
STA. 265+60 - STA. 269+34 LT
STA. 269+58 - STA. 270+95 LT

PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH
STA. 265+58 - STA. 265+87 RT
STA. 270+52 - STA. 270+90 LT
STA. 271+30 - STA. 271+63 RT
STA. 20+90 - STA. 21+47 LT

DETECTABLE WARNING SURFACE
STA. 269+30 LT
STA. 269+66 LT

REMOVING AND RESETTING FENCE
STA. 269+65 - STA. 270+38 LT

REMOVAL OF GUARDRAIL
STA. 267+94 - STA. 268+57 LT
STA. 268+15 - STA. 268+65 RT
STA. 269+20 - STA. 269+35 LT
STA. 269+37 - STA. 269+75 RT

STEEL BEAM GUARDRAIL
STA. 266+18.5 - STA. 268+07 RT
STA. 271+18 - STA. 271+29.5 RT
STA. 20+75 - STA. 20+86.5 RT

STEEL BEAM GUARDRAIL WITH 8 FOOT POSTS
STA. 20+86.5 - STA. 22+00 RT

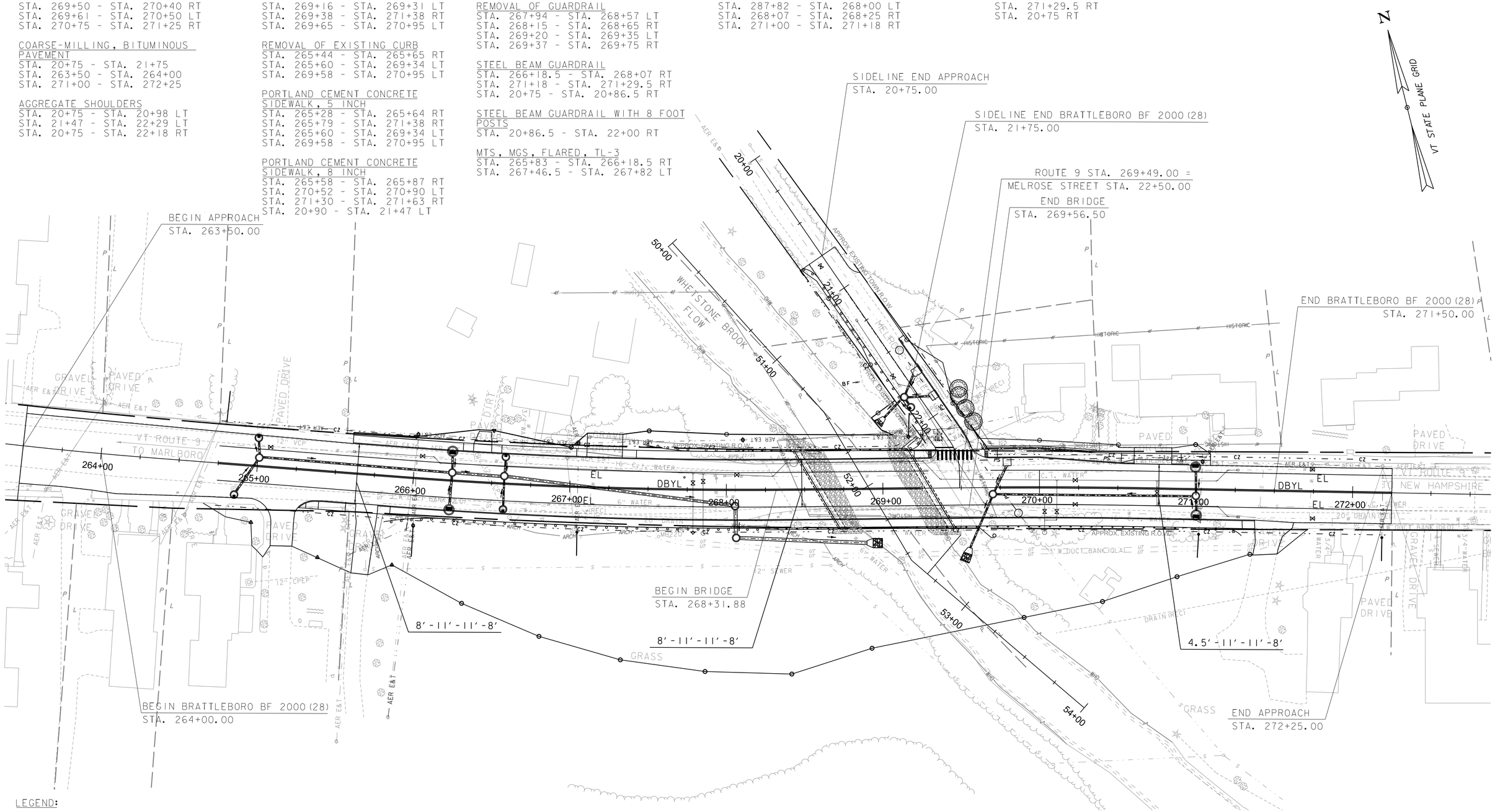
MTS, MGS, FLARED, TL-3
STA. 265+83 - STA. 266+18.5 RT
STA. 267+46.5 - STA. 267+82 LT

ANCHOR FOR STEEL BEAM RAIL
STA. 20+81 RT
STA. 271+24 RT

GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING TL-3
STA. 22+00 - STA. 22+08 RT
STA. 287+82 - STA. 268+00 LT
STA. 268+07 - STA. 268+25 RT
STA. 271+00 - STA. 271+18 RT

TREE PROTECTION
STA. 21+98 LT, 21' STA. 22+07 LT, 20'
STA. 22+17 LT, 20' STA. 21+95 LT, 24'

DELINEATOR WITH STEEL POST
STA. 265+83 RT
STA. 267+46.5 LT
STA. 271+29.5 RT
STA. 20+75 RT



LEGEND:

SINGLE TREE PROTECTION

EXISTING BRIDGE INFORMATION
SINGLE SPAN CONCRETE ARCH
BUILT 1914
60' MAX SPAN, 70' LENGTH

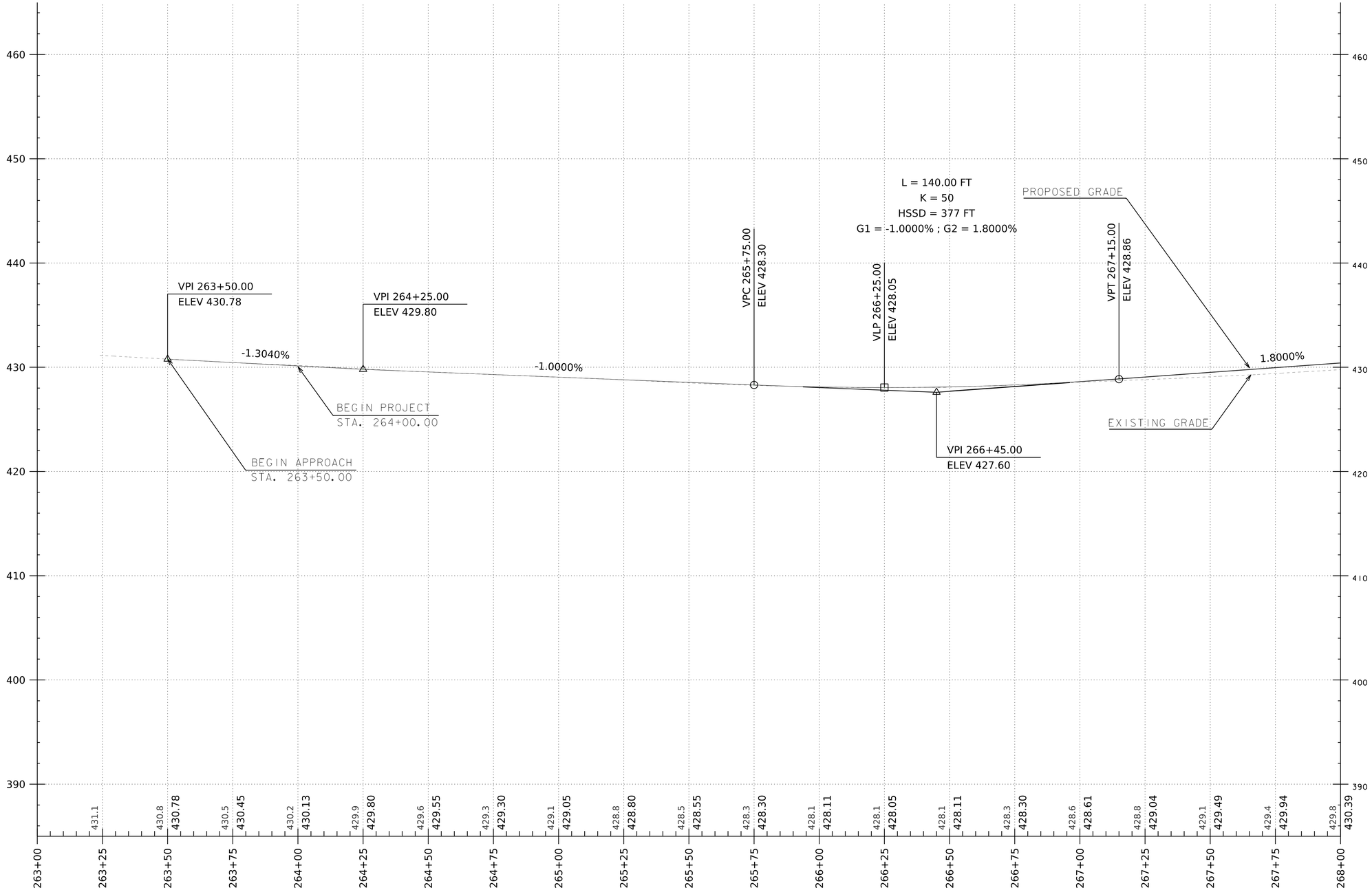
0 30 60
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608bdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
PLAN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 20 OF 69



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND APPROXIMATE ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED PROFILE GRADES FOR THE NEW ALIGNMENT.

HORIZONTAL SCALE: 20 SCALE
VERTICAL SCALE: 10 SCALE

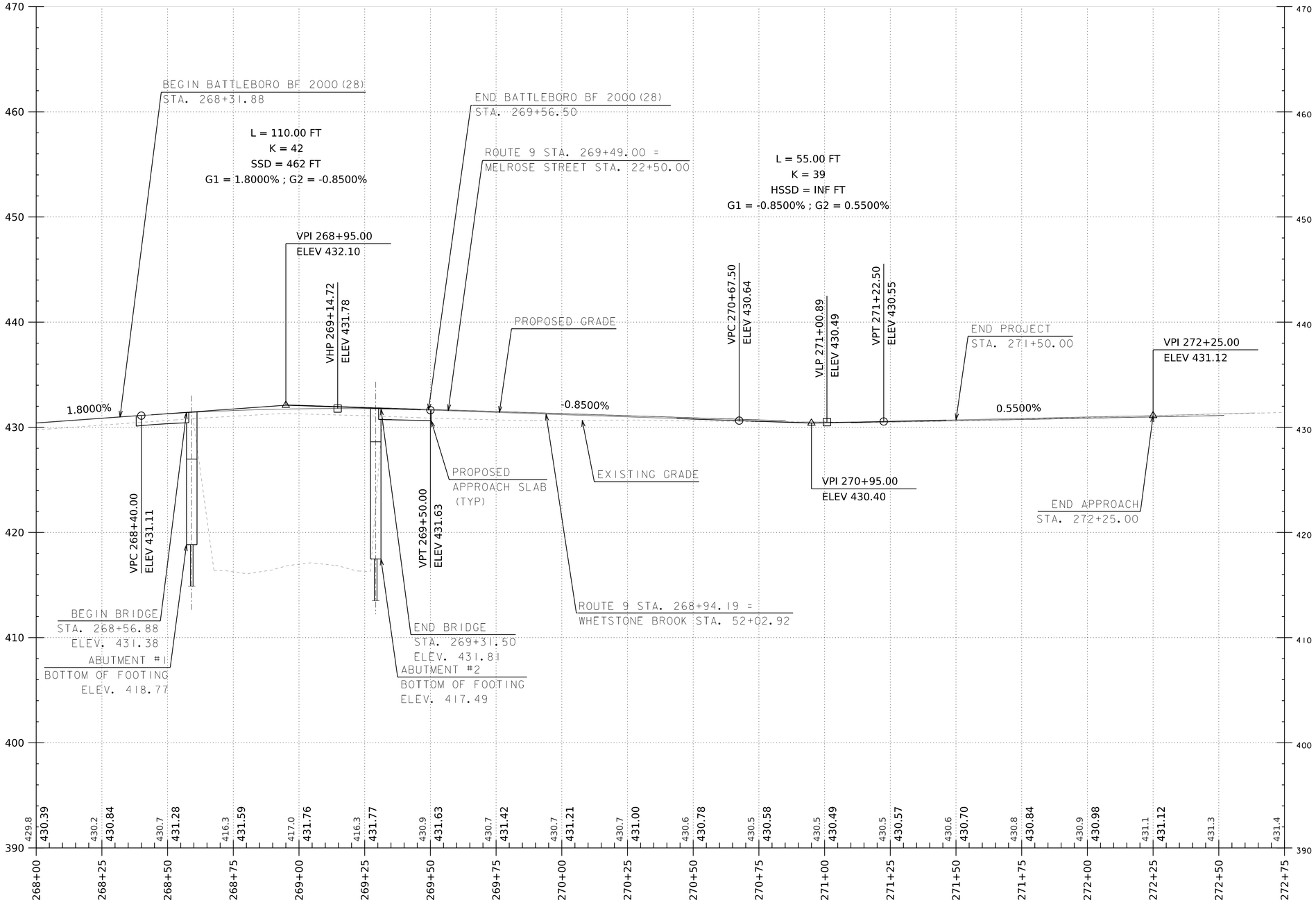
NOTE:
1. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608profile.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
PROFILE SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 21 OF 69



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND APPROXIMATE ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED PROFILE GRADES FOR THE NEW ALIGNMENT.

HORIZONTAL SCALE: 20 SCALE
VERTICAL SCALE: 10 SCALE

NOTE:
1. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608profile.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
PROFILE SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 22 OF 69

PROPOSED DRAINAGE:

P1.1 STA 264+86, RT TO 265+01, LT
NEW 12"X25', CPEP INV IN 422.80 INV OUT 422.55
NEW IN1.1 RIM=428.78 TO NEW 4' DIA. MH1.1 RIM=428.93

P1.2 STA 264+99, LT TO 265+01, LT
NEW 12"X9', CPEP INV IN 425.15 INV OUT 425.06
NEW IN1.2 RIM=428.69 TO NEW 4' DIA. MH1.1 RIM=428.93

P1.3 STA 265+01, LT TO 266+24, LT
NEW 18"X119', CPEP INV IN 422.45 INV OUT 421.26
NEW 4' DIA. MH1.1 RIM=428.93 TO NEW 5' DIA. MH1.3 RIM=427.95

P1.4 STA 266+60, LT TO 269+04, RT
NEW 18"X145', CPEP INV IN 420.89 INV OUT 419.45
NEW 4' DIA MH1.2 RIM=428.06 TO NEW 4' DIA. MH1.8 RIM=430.28

P1.5 STA 266+58, LT TO 266+58, LT
NEW 12"X8', CPEP INV IN 422.50 INV OUT 422.40
NEW IN1.6 RIM=428.26 TO NEW 5' DIA. MH1.2 RIM=428.06

P1.6 STA 266+58, RT TO 266+58, LT
NEW 18"X19', CPEP INV IN 422.50 INV OUT 422.32
NEW IN1.4 RIM=427.84 TO 5' DIA MH1.2 RIM=428.06

P1.7 STA 266+24, RT TO 266+24, LT
NEW 18"X18', CPEP INV IN 422.50 INV OUT 422.32
NEW ECC. DGIN1.4 RIM=427.71 TO 5' DIA MH1.3 RIM=427.95

P1.8 STA 21+89, LT TO 21+79, RT
NEW 12"X15', CPEP INV IN 425.90 INV OUT 425.75
NEW DI1.1 RIM=430.67 TO NEW 5' DIA. MH1.7 RIM=430.53

P1.9 STA 21+88, RT TO 21+79, RT
NEW 12"X4', CPEP INV IN 425.90 INV OUT 425.75
NEW IN1.5 RIM=430.44 TO NEW 5' DIA. MH1.7 RIM=430.53

P1.10 STA 21+79, RT TO 21+83, RT
NEW 18"X16', CPEP INV IN 425.65 INV OUT 425.30
NEW 5' DIA. MH1.7 RIM=430.53 TO NEW 18"CPEPES

P1.11 STA 270+99, LT TO 271+01, RT
NEW 12"X15', CPEP INV IN 426.75 INV OUT 426.60
NEW DGIN1.7 RIM=430.42 TO NEW 4' DIA. MH1.6 RIM=430.39

P1.12 STA 271+01, RT TO 271+01, RT
NEW 12"X8', CPEP INV IN 426.70 INV OUT 426.60
NEW DGIN1.8 RIM=430.35 TO NEW 4' DIA. MH1.6 RIM=430.39

P1.13 STA 271+01, RT TO 269+68, RT
NEW 18"X128', CPEP INV IN 426.50 INV OUT 425.20
NEW 4' DIA. MH1.6 RIM=430.39 TO NEW 4' DIA. MH1.5 RIM=431.39

P1.14 STA 269+80, LT TO 269+68, RT
NEW 12"X21', CPEP INV IN 426.31 INV OUT 426.10
NEW DI1.2 RIM=431.48 TO NEW 4' DIA. MH1.5 RIM=431.39

P1.15 STA 269+68, RT TO 269+51, RT
NEW 18"X32', CPEP INV IN 424.00 INV OUT 421.00
NEW 4' DIA. MH1.5 RIM=431.39 TO NEW 18"CPEPES

P1.16 STA 266+24, LT TO 266+24, LT
NEW 12"X8', CPEP INV IN 424.00 INV OUT 423.80
NEW DGIN1.3 RIM=428.16 TO NEW 5' DIA. MH1.3 RIM=427.95

P1.17 STA 268+04, RT TO 268+04, RT
NEW 18"X16', CPEP INV IN 419.35 INV OUT 419.27
NEW 4' DIA MH1.8 RIM=430.28 TO NEW 5' DIA MH1.9 RIM=427.28

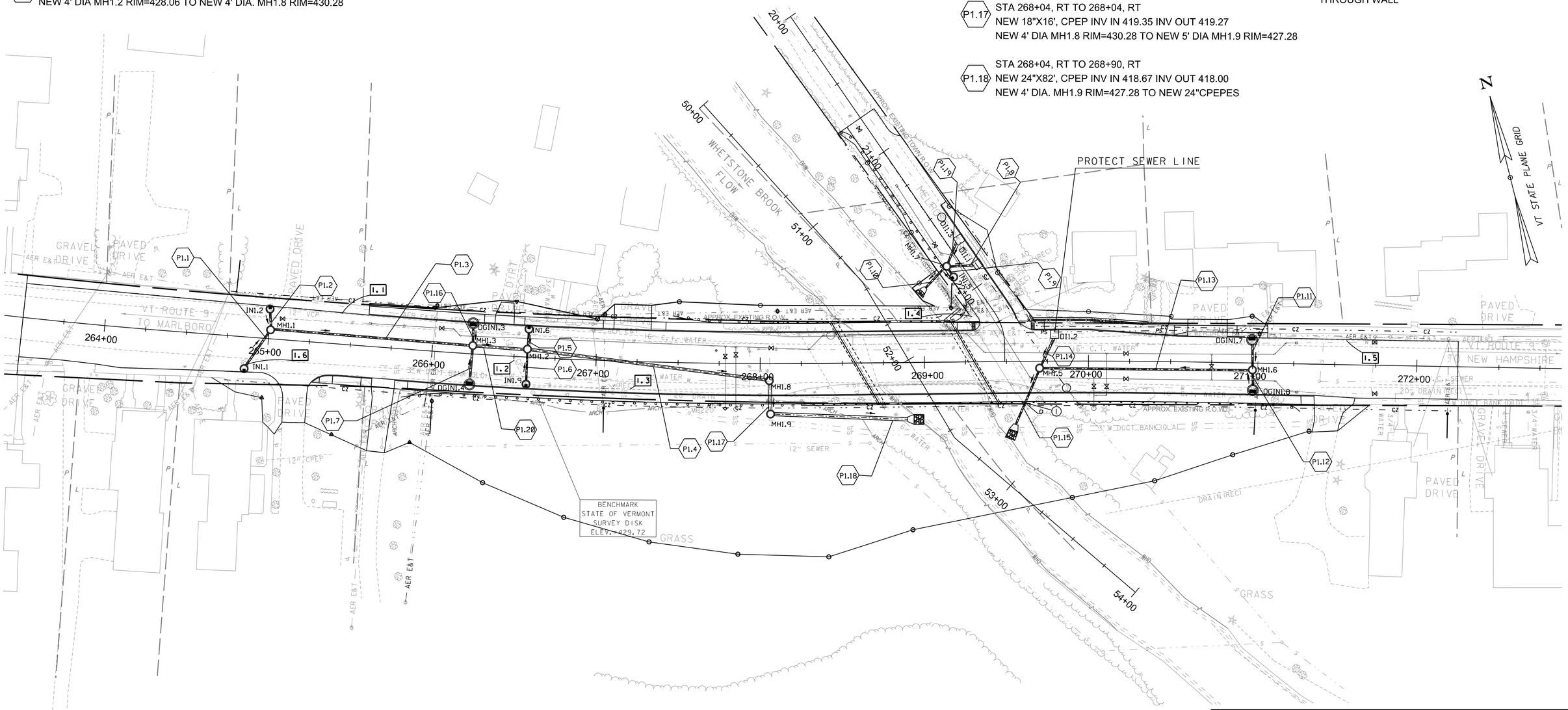
P1.18 STA 268+04, RT TO 268+90, RT
NEW 24"X82', CPEP INV IN 418.67 INV OUT 418.00
NEW 4' DIA. MH1.9 RIM=427.28 TO NEW 24"CPEPES

P1.19 STA 21+67, LT TO 21+79, RT
NEW 12"X13', CPEP INV IN 425.88 INV OUT 425.75
NEW DI1.3 RIM=430.83 TO NEW 5' DIA. MH1.7
RIM=430.53

P1.20 STA 266+24, LT TO 266+58, LT
NEW 18"X17', CPEP INV IN 421.16 INV OUT 420.99
NEW MH1.3 RIM=427.95 TO NEW 5' DIA. MH1.2
RIM=428.06

DRAINAGE NOTES:

① PROP. 24" DI SLEEVE WITH LINK SEAL THROUGH WALL



EXISTING BRIDGE INFORMATION
SINGLE SPAN CONCRETE ARCH
BUILT 1914
60' MAX SPAN, 70' LENGTH

NOTE: REFER TO ITEM DETAIL SHEET 2 FOR DISPOSITION OF EXISTING DRAINAGE (TYPICAL)

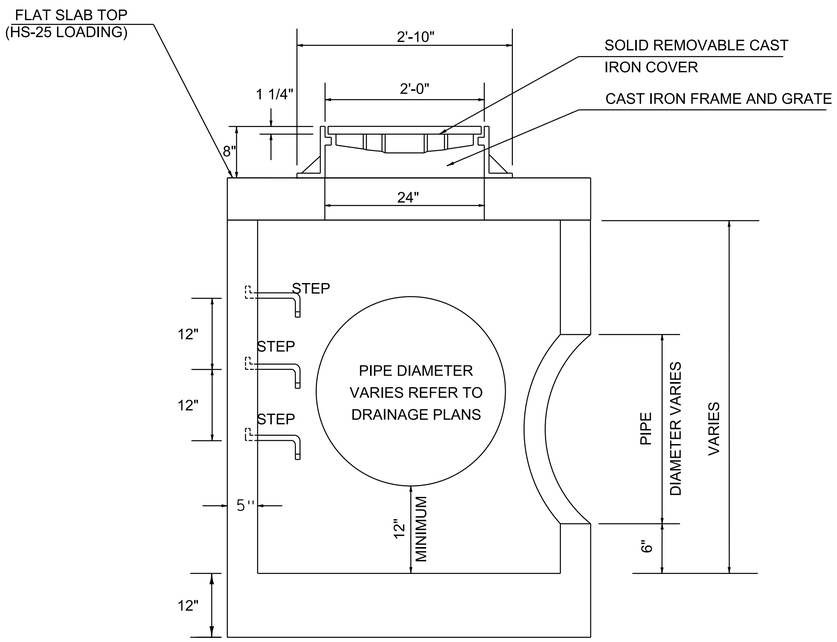
0 30 60
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

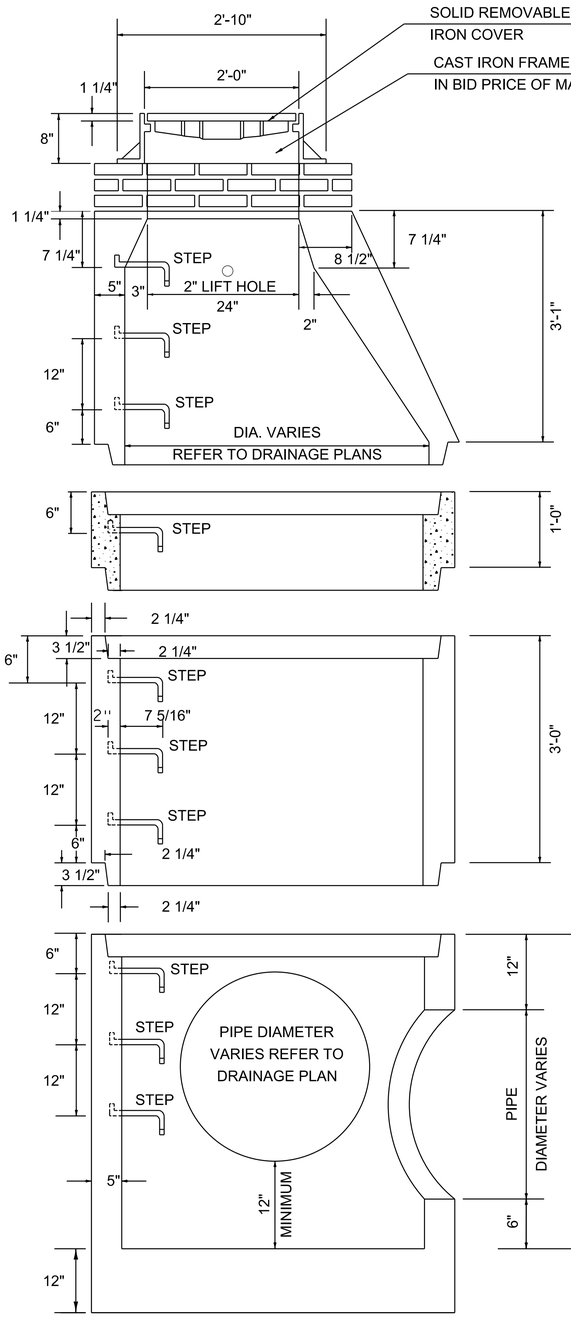
FILE NAME: z12j608drnbdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: H. GONSALVES
DRAINAGE PLAN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: V. PALMA
CHECKED BY: H. GONSALVES
SHEET 23 OF 69



PRECAST REINFORCED CONCRETE FLAT TOP MANHOLE WITH CAST IRON COVER

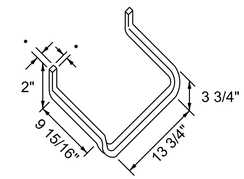
NOT TO SCALE



PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER

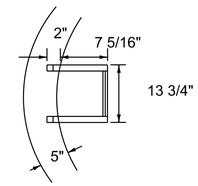
NOT TO SCALE

NOTE: THREE COURSES OF BUILDING BRICK TO BE PLACED ON TOP OF CONCRETE STRUCTURE PRIOR TO PLACING FRAME TO FACILITATE CHANGING ELEVATION OF CATCH BASIN OR MANHOLE WHEN REQUIRED. BRICK TO BE INCLUDED IN THE BID PRICE FOR MANHOLE.

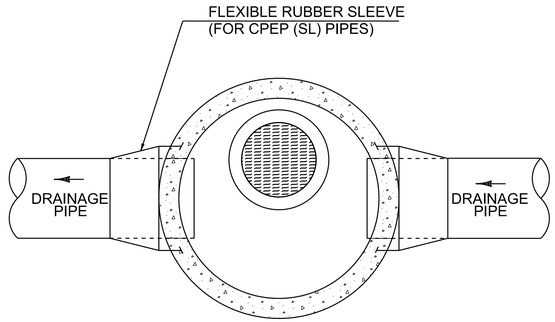


ALUMINUM STEP
(DROP FRONT)

*INDIVIDUAL METAL RUNGS SHALL HAVE A MINIMUM DIMENSION OF 1" OR SHALL BE PAINTED OR OTHERWISE TREATED TO RESIST CORROSION AND RUSTING.



STEP DETAIL
TOP VIEW

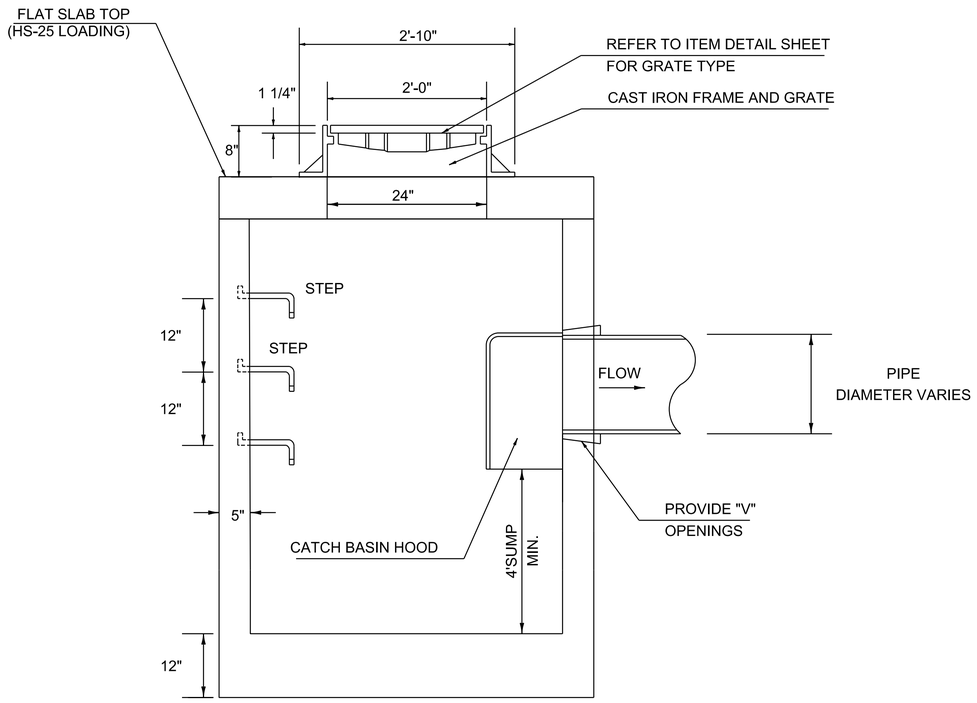


PLAN VIEW

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)

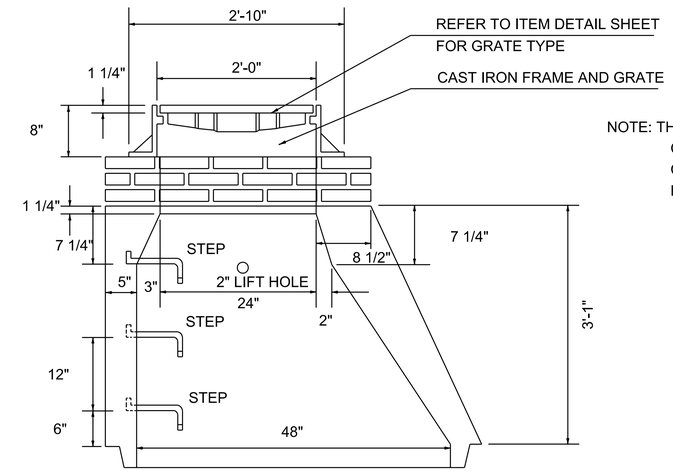
FILE NAME: z12j608det.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: V. PALMA
DESIGNED BY: E. NOONAN	CHECKED BY: H. GONSALVES
DRAINAGE DETAIL SHEET 1	SHEET 24 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

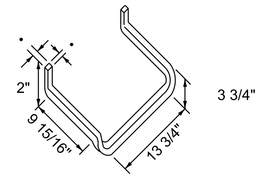


PRECAST REINFORCED CONCRETE FLAT TOP CATCH BASIN WITH CAST IRON GRATE

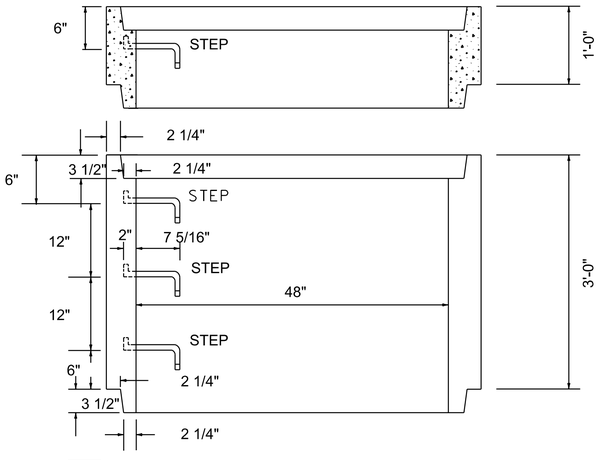
NOT TO SCALE



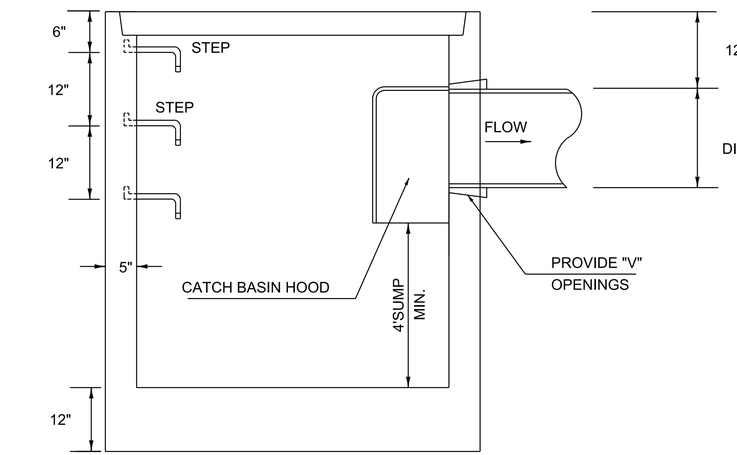
NOTE: THREE COURSES OF BUILDING BRICK TO BE PLACED ON TOP OF CONCRETE STRUCTURE PRIOR TO PLACING FRAME TO FACILITATE CHANGING ELEVATION OF CATCH BASIN OR MANHOLE WHEN REQUIRED. BRICK TO BE INCLUDED IN THE BID PRICE FOR MANHOLE.

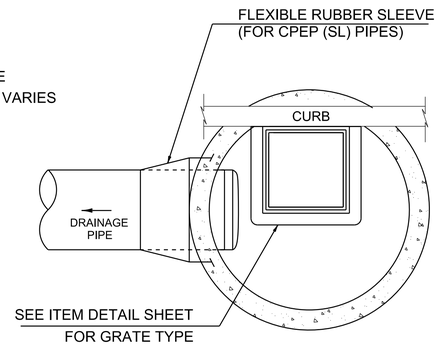


ALUMINUM STEP
(DROP FRONT)



*INDIVIDUAL METAL RUNGS SHALL HAVE A MINIMUM DIMENSION OF 1" OR SHALL BE PAINTED OR OTHERWISE TREATED TO RESIST CORROSION AND RUSTING.





PLAN VIEW

PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE

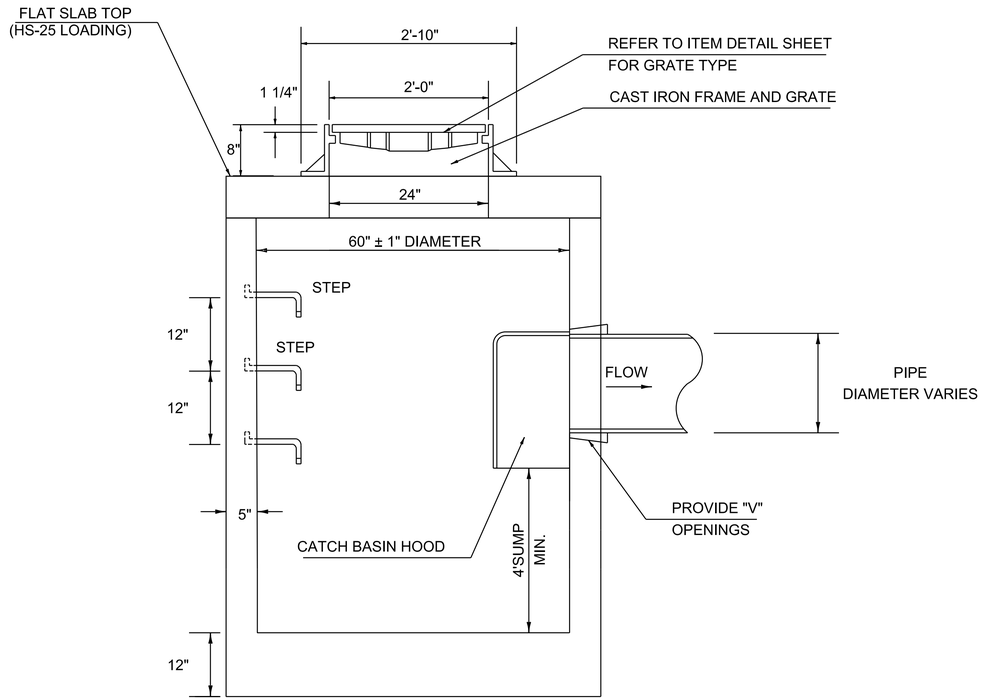
NOT TO SCALE

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

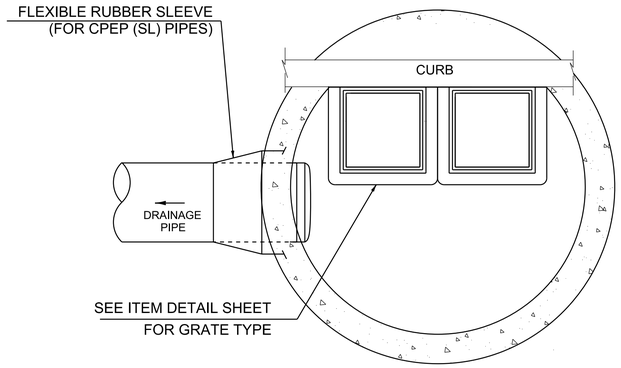
FILE NAME: zl2j608det.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
DRAINAGE DETAIL SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: V. PALMA
CHECKED BY: H. GONSALVES
SHEET 25 OF 69



PRECAST REINFORCED CONCRETE FLAT TOP DOUBLE GRATE CATCH BASIN WITH CAST IRON GRATE

NOT TO SCALE



PLAN VIEW

NOTE: THE DOUBLE GRATE CATCH BASIN STRUCTURE SHALL MEET THE REUIREMENTS OF THE PRECAST REINFORCED CONCRETE CATCH BASIN, EXCEPT AS FOLLOWS:
A.) DOUBLE CAST IRON GRATES
B.) 60" INNER DIAMETER
COST ASSOCIATED WITH THE GRATES SHALL BE CONSIDERED INCIDENTAL TO ITEM 604.1000002 DOUBLE GRATE CATCH BASIN

DOUBLE GRATE CATCH BASIN

NOT TO SCALE

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO	
PROJECT NUMBER: BF 2000(28)	
FILE NAME: zl2j608det.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: V. PALMA
DESIGNED BY: E. NOONAN	CHECKED BY: H. GONSALVES
DRAINAGE DETAIL SHEET 3	SHEET 26 OF 69

HYDRANT
267+76 RT

BLOWOFF MANHOLE
267+88 RT
270+04 RT

INSERTION VALVE WITH VALVE BOX
265+09 LT
271+74 LT
271+74 RT
20+79 RT

EXPANSION COUPLING
269+11 LT

AIR RELEASE VALVE
268+43 LT

SANITARY SEWER MANHOLE
269+84 RT
21+53 LT

GATE VALVE WITH VALVE BOX
266+06 LT (16")
268+07 LT (16")
270+23 LT (16")
270+23 RT (16")
270+75 RT (16")
21+65 RT (16")

GATE VALVE
267+76 LT (6")
267+88 LT (6")
270+03 RT (6")
270+11 RT (6")

DUCTILE IRON WATER PIPE, CEMENT LINED
265+62 LT - 271+27 LT (16")
267+76 LT - 267+76 RT (6")
267+88 LT - 267+88 RT (6")
270+00 RT - 270+00 RT (6")
270+08 LT - 270+08 RT (6")
270+75 RT - 270+75 RT (6")
21+22 RT - 271+27 RT (16")

PVC SDR 21 SEWER PIPE
21+53 LT - 269+84 RT (8")

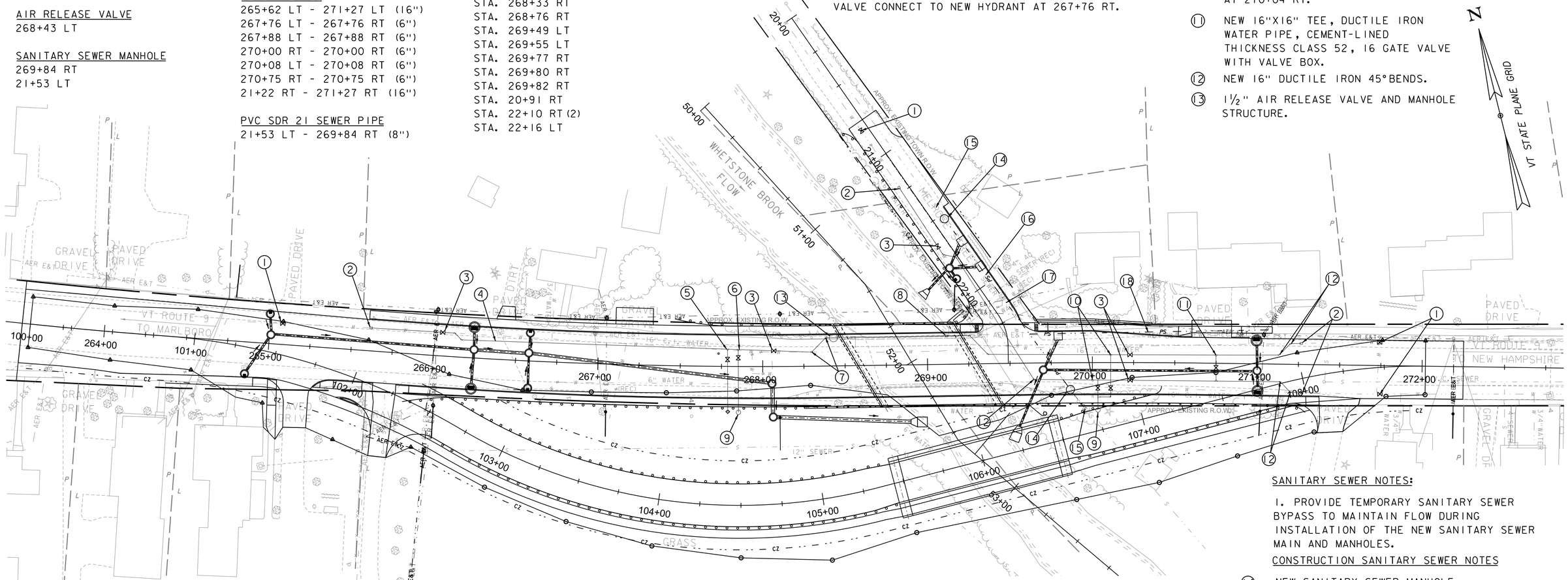
CHANGING ELEVATIONS OF DIS, CATCH BASINS, OR MANHOLES
STA. 266+46 RT

CHANGING ELEVATION OF SEWER MANHOLES
STA. 265+72 RT (2)
STA. 269+92 RT
STA. 271+41 RT

ADJUST ELEVATION OF VALVE BOX
STA. 266+76 RT
STA. 267+12 RT
STA. 267+94 LT
STA. 267+99 LT
STA. 268+00 RT
STA. 268+33 RT
STA. 268+76 RT
STA. 269+49 LT
STA. 269+55 LT
STA. 269+77 RT
STA. 269+80 RT
STA. 269+82 RT
STA. 20+91 RT
STA. 22+10 RT (2)
STA. 22+16 LT

WATER NOTES

① NEW 16" INSERTION VALVE WITH VALVE BOX ON EXISTING 16" WATER WATER MAIN.
② NEW 16" DUTILE IRON WATER PIPE, CEMENT-LINED THICKNESS CLASS 52, CONNECT TO EXISTING 16" WATER WATER MAIN WITH 16" RESTRAINED MECHANICAL COUPLING, MINIMUM 40' B/W INSERTION VALVE AND 16" RESTRAINED MECHANICAL COUPLING.
③ 16" GATE VALVE WITH VALVE BOX.
④ NEW 16" DUCTILE IRON WATER PIPE, CEMENT LINED THICKNESS CLASS 52.
⑤ NEW 16"X6" TEE, 6" DUCTILE IRON WATER PIPE, CEMENT-LINED THICKNESS CLASS 52, 6" GATE VALVE CONNECT TO NEW HYDRANT AT 267+76 RT.
⑥ NEW 16"X6" TEE, 6" DUCTILE IRON WATER PIPE, CEMENT-LINED THICKNESS CLASS 52, 6" GATE VALVE CONNECT TO NEW BLOW-OFF MANHOLE AT 267+88 RT.
⑦ NEW 16" DUCTILE IRON TWISTED 45° BENDS AND THRUST BLOCK.
⑧ NEW 16" EXPOSED EXPANSION JOINT FITTING.
⑨ NEW BLOW-OFF MANHOLE STRUCTURE.
⑩ NEW 16"X6" TEE, 6" DUCTILE IRON WATER PIPE, CEMENT-LINED THICKNESS CLASS 52, 6" GATE VALVE CONNECT TO NEW BLOW-OFF MANHOLE AT 270+04 RT.
⑪ NEW 16"X16" TEE, DUCTILE IRON WATER PIPE, CEMENT-LINED THICKNESS CLASS 52, 16 GATE VALVE WITH VALVE BOX.
⑫ NEW 16" DUCTILE IRON 45°BENDS.
⑬ 1½" AIR RELEASE VALVE AND MANHOLE STRUCTURE.



LEGEND
EXISTING ROW
EXISTING OVERHEAD WIRES — AER E&T —
PROPOSED OVERHEAD WIRES — AER E&T —
EXISTING UNDERGROUND TELEPHONE LINES — UT —
EXISTING WATER LINES — W —
EXISTING SEWER LINES — S —
EXISTING DRAINAGE
PROPOSED WATER LINES

CONSTRUCTION WATER NOTES

1. PROVIDE TEMPORARY WATER BYPASS FOR THE 16" WATER MAIN ON VT ROUTE 9 FROM APPROX. STATION 265+00 TO STATION APPROX. 272+00.
2. USE OF EXISTING 6" WATER MAIN, LOCATED ON SOUTH OF BRIDGE, CAN BE USED AS A TEMPORARY WATER BYPASS DEPENDING ON CONSTRUCTION SEQUENCE.
3. EXPOSED TEMPORARY WATER BYPASS SYSTEM WILL NOT BE ALLOWED BETWEEN OCTOBER 15, TO APRIL 15.
4. CONTRACTOR SHALL MAINTAIN AND PROVIDE TEMPORARY WATER BYPASS TO ENSURE ALL HOUSES/BUILDINGS HAVE WATER SERVICE.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR TEMPORARY WATER BYPASS FOR STATE, TOWN, AND ENGINEER REVIEW.
6. ALL NEW DUCTILE IRON WATER MAIN AND FITTING SHALL BE RESTRAINED JOINT TYPE.
7. INSTALL THRUST BLOCKS AT ALL BENDS AND TEE FITTINGS.

SANITARY SEWER NOTES:

1. PROVIDE TEMPORARY SANITARY SEWER BYPASS TO MAINTAIN FLOW DURING INSTALLATION OF THE NEW SANITARY SEWER MAIN AND MANHOLES.

CONSTRUCTION SANITARY SEWER NOTES

⑭ NEW SANITARY SEWER MANHOLE.
⑮ CONNECT TO EXISTING 8" SEWER MAIN WITH 8" FLEXIBLE COUPLING.
⑯ NEW 8" PVC SANITARY SEWER MAIN, SDR 21.
⑰ CONNECT SANITARY SEWER SERVICE LINES TO NEW SANITARY SEWER MAIN.
⑱ NEW 6" PVC SANITARY SEWER MAIN, SDR 21.

0 30 60
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608utll-water-bdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: S. SHAHIN
WATER AND SEWER UTILITY PLAN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: K. MOHIUDDIN
CHECKED BY: S. SHAHIN
SHEET 27 OF 69

NEW 15' ANCHOR - BY OTHERS

R&R UP - BY OTHERS

R&R UP - BY OTHERS

NEW 15 FOOT ANCHOR - BY OTHERS

R&R STUB POLE - BY OTHERS

R&R UP - BY OTHERS

R&R UP - BY OTHERS

R&R STUB POLE - BY OTHERS

NEW 20 FOOT ANCHOR - BY OTHERS

TEMP. STUB POLE WITH ANCHOR - BY OTHERS

NEW STUB POLE WITH ANCHOR - BY OTHERS

REMOVE STUB POLE AND ANCHOR - BY OTHERS

NEW STUB POLE WITH 20 FOOT ANCHOR - BY OTHERS

N

VT STATE PLANE GRID

LEGEND

EXISTING ROW	—— ——
EXISTING OVERHEAD WIRES	— AER E&T —
PROPOSED OVERHEAD WIRES	— AER E&T —
EXISTING UNDERGROUND TELEPHONE LINES	— UT — · ·
EXISTING WATER LINES	— W — · ·
EXISTING SEWER LINES	— S — · ·
EXISTING DRAINAGE	- - - - - - - -
PROPOSED WATER LINES	—— ——

0 30 60

SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608util-bdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
OVERHEAD UTILITY PLAN

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: D. VERTIYEV
SHEET 28 OF 69

TEMPORARY 4 INCH WHITE LINE, PAINT
DURABLE 4 INCH WHITE LINE, (SEE OPTION ITEMS)
(ALL LINES WILL INCLUDE EDGE LINE BEAKS AND RADII FOR SIDE ROADS)
STA. 263+50.00 - STA. 272+25.00 (SOLID LT & RT) (VT9)

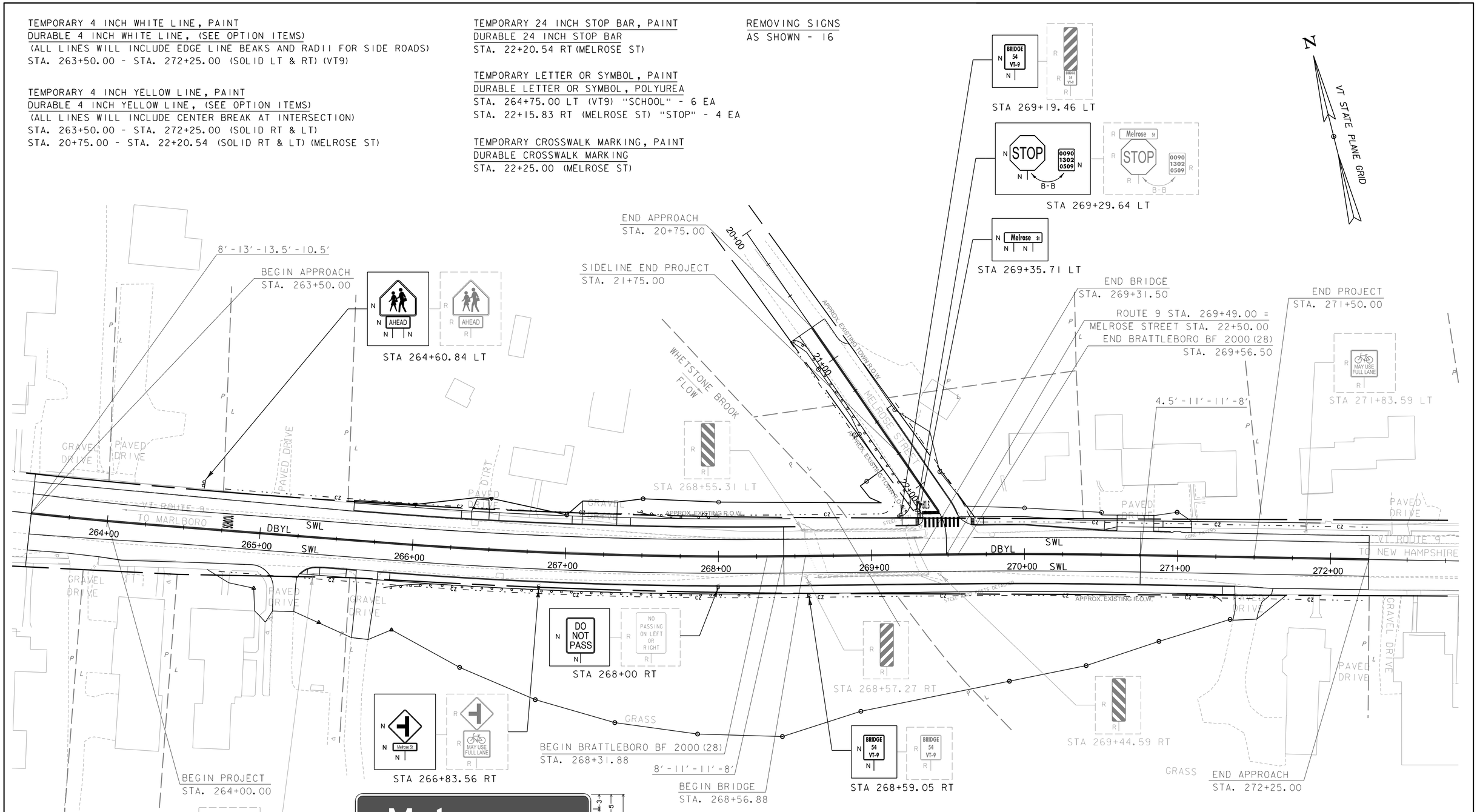
TEMPORARY 4 INCH YELLOW LINE, PAINT
DURABLE 4 INCH YELLOW LINE, (SEE OPTION ITEMS)
(ALL LINES WILL INCLUDE CENTER BREAK AT INTERSECTION)
STA. 263+50.00 - STA. 272+25.00 (SOLID RT & LT)
STA. 20+75.00 - STA. 22+20.54 (SOLID RT & LT) (MELROSE ST)

TEMPORARY 24 INCH STOP BAR, PAINT
DURABLE 24 INCH STOP BAR
STA. 22+20.54 RT (MELROSE ST)

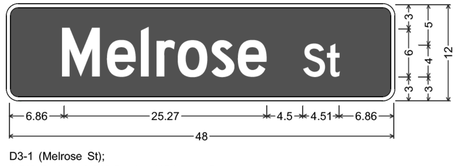
TEMPORARY LETTER OR SYMBOL, PAINT
DURABLE LETTER OR SYMBOL, POLYUREA
STA. 264+75.00 LT (VT9) "SCHOOL" - 6 EA
STA. 22+15.83 RT (MELROSE ST) "STOP" - 4 EA

TEMPORARY CROSSWALK MARKING, PAINT
DURABLE CROSSWALK MARKING
STA. 22+25.00 (MELROSE ST)

REMOVING SIGNS
AS SHOWN - 16



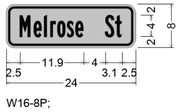
LEGEND
R REMOVE
N NEW
B-B BACK TO BACK
— — EXISTING
—— PROPOSED
⊖ SIGN
DBYL DOUBLE YELLOW CENTER LINE
SWL SINGLE WHITE LINE



D3-1 (Melrose St);
1.50" Radius, 0.50" Border, White on Green;
"Melrose", D 2K 80% spacing; "St", D 2K 80% spacing;
Table of distances between letter and object lefts

6.86	M	e	l	r	o	s	e	S	t	1.60	6.86
	5.54	4.21	1.92	2.67	4.14	3.25	8.04	2.91			

D3-1 SIGN DETAIL
NOT TO SCALE



W16-8P;
1.5" Radius, 0.38" Border, 0.38" Indent, Black on Yellow;
"Melrose St", 4B 2K;
Table of distances between letter and object lefts

2.5	M	e	l	r	o	s	e	S	t	1.2	2.5
	2.6	1.9	1.2	1.3	1.8	1.6	5.5	1.9			

W16-8P SIGN DETAIL
NOT TO SCALE

0 30 60
SCALE IN FEET

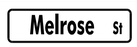
GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608sgnbdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. VAZQUEZ
PAVEMENT MARKING & SIGN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: C. WEBSTER
CHECKED BY: A. VAZQUEZ
SHEET 29 OF 69

TRAFFIC SIGN SUMMARY SHEET 1

MILE MARKER, STATION OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																			REMARKS	SIGN DETAIL		
											NO.	FLANGED CHANNEL			SQUARE STEEL (in)					TUBULAR ALUMINUM Ø (IN)				TUBULAR STEEL Ø (IN)				W-SHAPE STEEL								
															1.75	2.00	2.50			3.00	4.00	4.0 MOD						FTG. SIZE						S.H.S.M.*	DETAIL ON SHEET	STANDARD SHEET NUMBER
		EACH	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	POST	(LB / FT)			(LB / FT)			ANCHOR	SLEEVE	(LB / FT)			FOUNDATION	(LB / FT)				24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED				
												1.12	2.00	3.00	1.88	2.42	3.35			1.30	1.70	1.70		7.60	9.00	10.80	14.60									
												OPTION ITEMS																								
BRATTLEBORO BRIDGE																																				
STA 264+60.84 LT		1	36.0	36.0	9.00						2					2		X															INSTALL NEW SIGN ON NEW POSTS	S1-1		
		1	24.0	12.0	2.00																												INSTALL NEW SIGN (SUB-MOUNT WITH PREVIOUS SIGN)	W16-9P		
STA 266+83.56 RT		1	30.0	30.0	6.25						1					1		X															INSTALL NEW SIGN ON NEW POST	W2-2		
		1	24.0	8.0	1.33																												INSTALL NEW SIGN (SUB-MOUNT WITH PREVIOUS SIGN)	W16-8P	25	
STA 268+00 RT		1	24.0	30.0	5.00						1					1		X															INSTALL NEW SIGN ON NEW POST	R4-1		
STA 268+59.05 RT		1	6.0	10.0	0.42						1				1			X															INSTALL NEW SIGN ON NEW POST VD-701			T-42
STA 269+19.46 LT		1	6.0	10.0	0.42						1				1			X															INSTALL NEW SIGN (SUB-MOUNT WITH PREVIOUS SIGN) VD-701			T-42
STA 269+29.64 LT		1	30.0	30.0	6.25						1					1		X															INSTALL NEW SIGN ON NEW POST	R1-1		
		1	6.0	10.0	0.42																												INSTALL NEW SIGN (SUB-MOUNT WITH PREVIOUS SIGN) VD-700			T-44
STA 269+35.71 LT		1	48.0	12.0	6.00						2					2		X															INSTALL NEW SIGN ON NEW POSTS	D3-1	25	
THE TOTAL LENGTH OF EACH POST HAS BEEN ASSUMED TO BE 15 FEET, WITH THE EXCEPTION OF POSTS FOR OBJECT MARKERS AND POSTS FOR BRIDGE PLAQUES AND MILE MARKERS WHICH HAVE BEEN ASSUMED TO BE 8 FEET AND 10 FEET PER POST, RESPECTIVELY. 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." * STANDARD HIGHWAY SIGNS AND MARKINGS											FT	FT	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB								
											.	.	.	20.	105.	.		.	.	.	.	.		.	.	.								
	TOTALS	SF	SF	EA.	SF		FT				FT							LB			EA.	LB				EA.	EA.	LB						
		37.08	.	.	.		.				125.							.				.				.	.	.						

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608tss.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. VAZQUEZ
TRAFFIC SIGN SUMMARY SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: C. WEBSTER
CHECKED BY: A. VAZQUEZ
SHEET 30 OF 69

1 ROAD WORK AHEAD — W20-1, 48" X 48"

2 ROAD WORK 1000 FT — W20-1, 48" X 48"

3 — W24-1R, 48" X 48"

4 — W24-1L, 48" X 48"

5 ROAD CLOSED / DETOUR — R11-2, 48" X 30"; M4-10R, 48" X 18"

6 ROAD CLOSED / DETOUR — R11-2, 48" X 30"; M4-10L, 48" X 18"

7 — OM3-L, 12" X 36"

8 — OM3-R, 12" X 36"

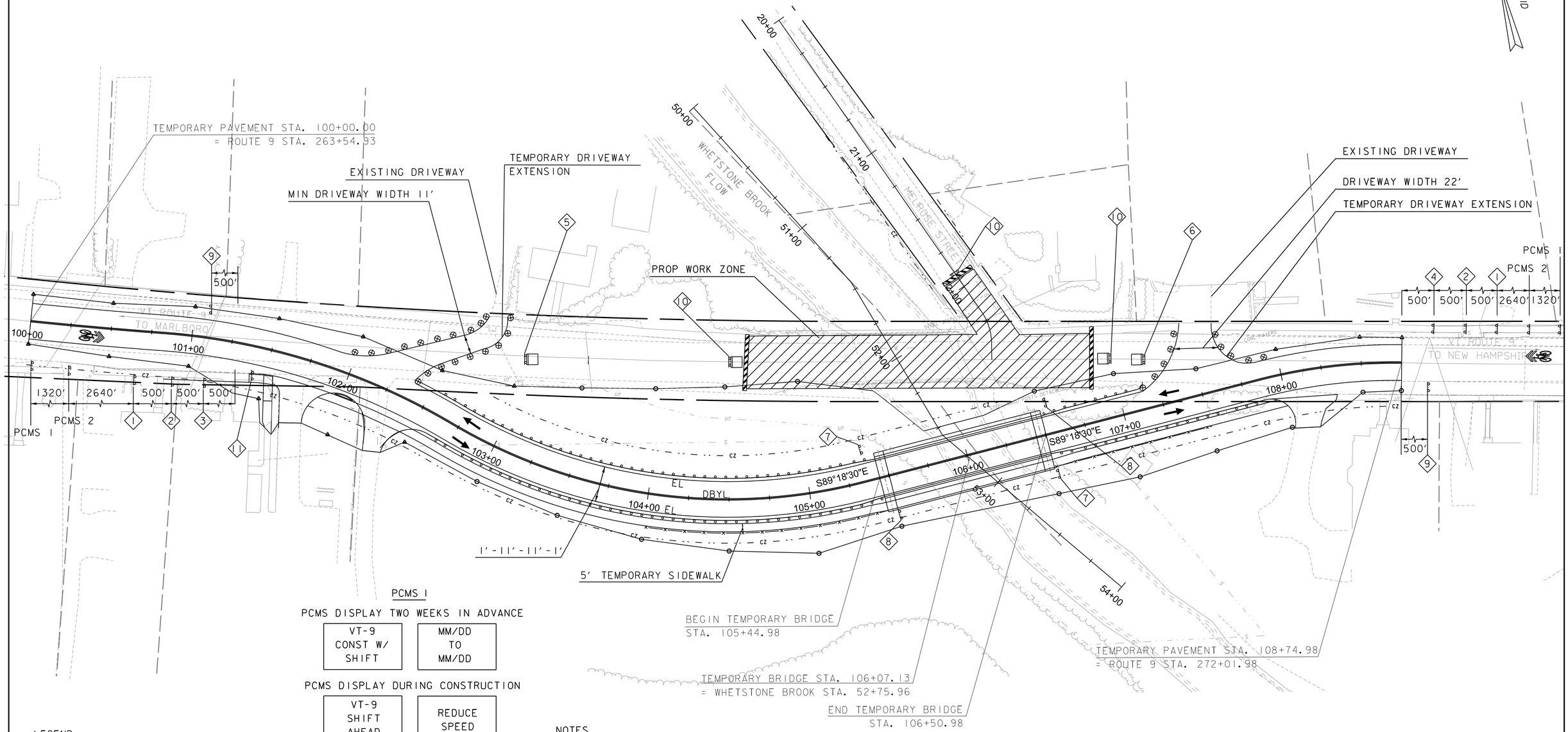
9 END ROAD WORK — G20-2, 36" X 18"

10 ROAD CLOSED — R11-2, 48" X 30"

11 SHOULDER NARROWS — VW-619, 48" X 48"

N

VT STATE PLANE GRID



PCMS 1

PCMS DISPLAY TWO WEEKS IN ADVANCE

VT-9 CONST W/ SHIFT	MM/DD TO MM/DD

PCMS DISPLAY DURING CONSTRUCTION

VT-9 SHIFT AHEAD	REDUCE SPEED

PCMS 2

PCMS DISPLAY DURING CONSTRUCTION

VT-9 SHIFT AHEAD	TRUCKS 25 MPH

LEGEND

- WORK ZONE
- SIGN
- CONCRETE BARRIER
- CONSTRUCTION SIGN ASSEMBLY I.D.
- FLOW OF TRAFFIC
- DBYL TEMP DOUBLE YELLOW CENTER LINE
- EL TEMP EDGE LINE
- TYPE III BARRICADE

NOTES

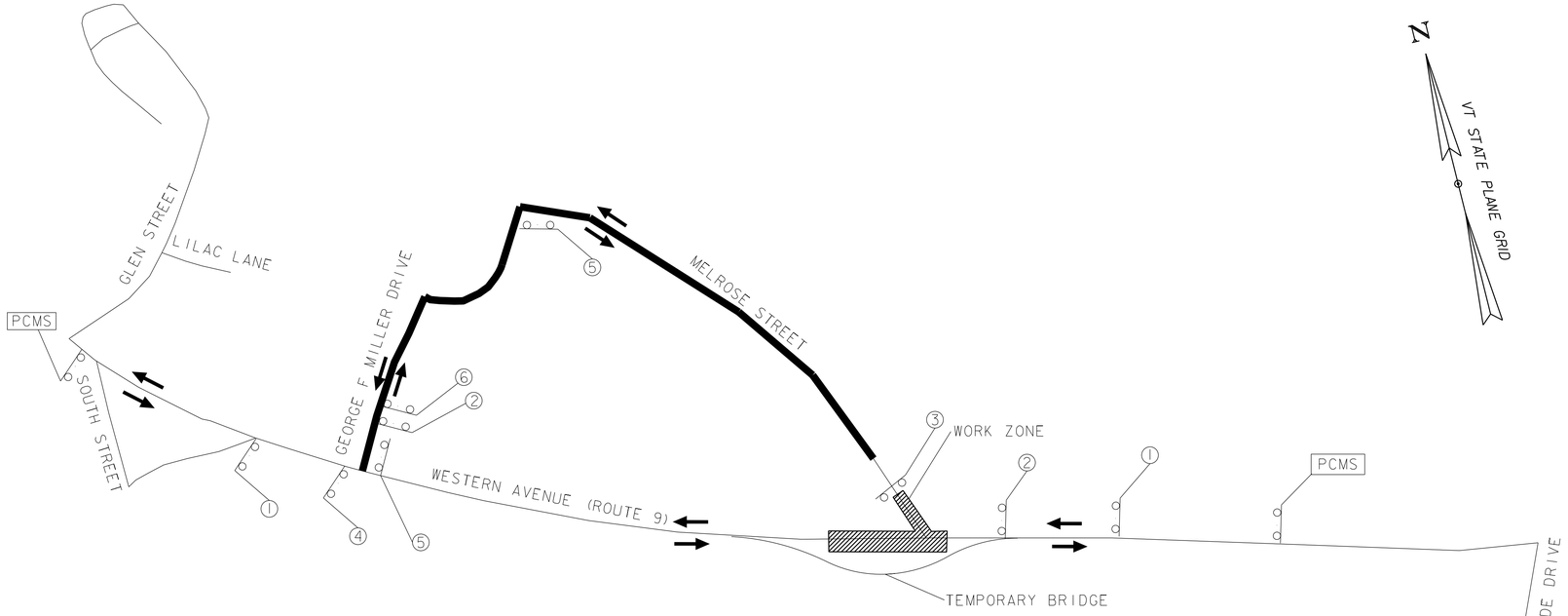
1. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG GUARDRAIL OF TEMPORARY BRIDGE. DELINEATION SHALL MATCH TEMPORARY PAVEMENT MARKING COLORS.
2. ACCESS TO THE 755 WESTERN AVE PROPERTY SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
3. SEE SHEET 32 FOR PEDESTRIAN DETOUR ROUTE.

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608tmpbdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. VAZQUEZ
TEMPORARY TRAFFIC CONTROL SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: C. WEBSTER
CHECKED BY: A. VAZQUEZ



OVERALL DETOUR PLAN
NOT TO SCALE

SIGN ASSEMBLIES

① DETOUR AHEAD — W20-2, 48" X 48"

② MELROSE STREET CLOSED TO THRU TRAFFIC — R11-4, 60" X 30"

③ ROAD CLOSED — R11-2, 48" X 30"

④ W16-8P, 24" X 8" (Melrose St) / M4-9L, 30" X 24" (DETOUR ←)

⑤ W16-8P, 24" X 8" (Melrose St) / M4-9R, 30" X 24" (DETOUR →)

⑥ NO OUTLET — W14-2, 30" X 30"

NOTES:

1. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE FULLY OPERATIONAL FOR A MINIMUM OF TWO WEEKS PRIOR TO THE CLOSURE OF MELROSE STREET.
2. DETOUR SIGNS SHALL BE PLACED ADJACENT TO THE EXISTING ROUTE MARKER ASSEMBLIES, WHERE APPLICABLE.
3. ALL CONFLICTING SIGNAGE SHALL BE COVERED FOR THE DURATION OF THE MELROSE STREET CLOSURE, OR AS DIRECTED BY THE ENGINEER. SIGN COVERING SHALL NOT DAMAGE THE RETRO-REFLECTIVITY OF THE SIGN FACE. THE SIGN COVER SHALL NOT DETERIORATE FOR THE DURATION THAT THE SIGN IS COVERED.
4. LOCATIONS OF SIGNS AND PCMS ARE APPROXIMATE AND MAY BE ADJUSTED BASED ON THE FIELD CONDITIONS WITH THE DIRECTION AND APPROVAL OF THE ENGINEER. PCMS SHALL BE INSTALLED IN THE MOST VISIBLE LOCATIONS POSSIBLE SO THAT APPROACHING DRIVERS CAN READ MESSAGES A MINIMUM OF TWO TIMES BEFORE PASSING.
5. THE CONTRACTOR SHALL COORDINATE ALL WORK AND IMPLEMENTATION OF THE DETOUR AND DIVERSION WITH THE ENGINEER AND ALL OTHER CONSTRUCTION PROJECTS ALONG THE DETOUR AND DIVERSION ROUTE.
6. PEDESTRIAN ACCESS ALONG MELROSE STREET SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL DETERMINE THE MOST APPROPRIATE WAY TO MAINTAIN AN ADA ACCESSIBLE ROUTE DURING ALL STAGES OF CONSTRUCTION. THE CONTRACTOR SHALL INCLUDE A PEDESTRIAN ACCESS PLAN AS PART OF THE DETOUR AND DIVERSION SUBMITTAL FOR REVIEW AND APPROVAL.
7. ACCESS TO ALL RESIDENCES AND BUSINESSES ON MELROSE STREET SHALL BE MAINTAINED AT ALL TIMES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTION OF SIGNS ON ACCEPTABLE POSTS OR BREAKAWAY MOUNTING DEVICES. ALL BREAKAWAY MOUNTING DEVICES SHALL BE COMPLIANT WITH THE LATEST EDITION OF MUTCD.
9. PCMS SHALL BE PROVIDED FOR USE ALONG THIS PROJECT. THE PLACEMENT OF THESE UNITS AS WELL AS THE MESSAGE SHALL BE APPROVED BY THE ENGINEER. THESE SIGNS WILL BE PAID FOR UNDER ITEM 641.1500 - PORTABLE CHANGEABLE MESSAGE SIGNS.

LEGEND

- WORK ZONE
- SIGN
- (#) CONSTRUCTION SIGN ASSEMBLY I.D.
- DETOUR ROUTE
- → FLOW OF TRAFFIC
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- Ⓟ POLICE DETAIL

CONSTRUCTION SEQUENCE NOTES:

1. CONSTRUCTION OF TEMPORARY BRIDGE TO BEGIN PRIOR TO OTHER WORK.
2. EXISTING BRIDGE TO BE CLOSED AFTER COMPLETION OF THE TEMPORARY BRIDGE.
3. DETOUR ROUTES WILL BE SET UP PRIOR TO CLOSURE AND STAGING ON MELROSE STREET.
4. TEMPORARY BRIDGE SHALL BE REMOVED AFTER COMPLETION OF THE NEW BRIDGE.
5. STAGING AND DETOUR PLAN TO BE REMOVED. MELROSE STREET ACCESS FROM ROUTE 9 TO BE OPENED.
6. CONSTRUCTION OF RETAINING WALL SHALL BEGIN ONLY AFTER THE REMOVAL OF THE TEMPORARY BRIDGE. SEE TRAFFIC CONTROL SHEET 5 FOR RETAINING WALL TRAFFIC MANAGEMENT PLAN.

PCMS DISPLAYS

PCMS DISPLAY ADVANCE NOTIFICATION

MELROSE STREET CLOSED	MM/DD TO MM/DD

PCMS DISPLAY DURING CONSTRUCTION

MELROSE STREET CLOSED	VEHICLES FOLLOW DETOUR

PCMS DISPLAY POST CONSTRUCTION

MELROSE STREET OPEN	TO ALL TRAFFIC

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608tmpbdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. VAZQUEZ
TEMPORARY TRAFFIC CONTROL SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: C. WEBSTER
CHECKED BY: A. VAZQUEZ
SHEET 32 OF 69

SIGN ASSEMBLIES

⑦

R9-11R
24" X 18"

⑧

R9-11L
24" X 18"

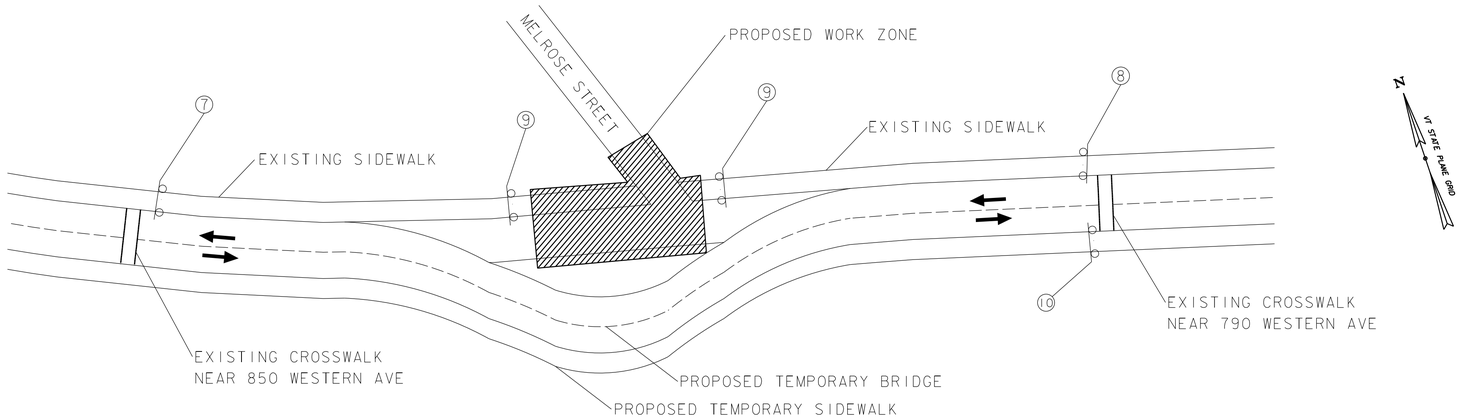
⑨

R9-9
24" X 12"
INSTALLED ON TYPE 3 BARRICADE

⑩

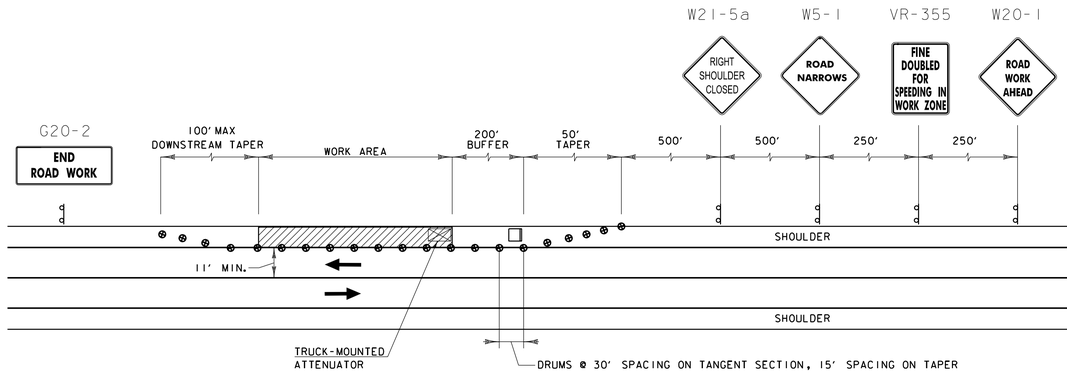
W11-2
30" X 30"

W16-7P
24" X 12"



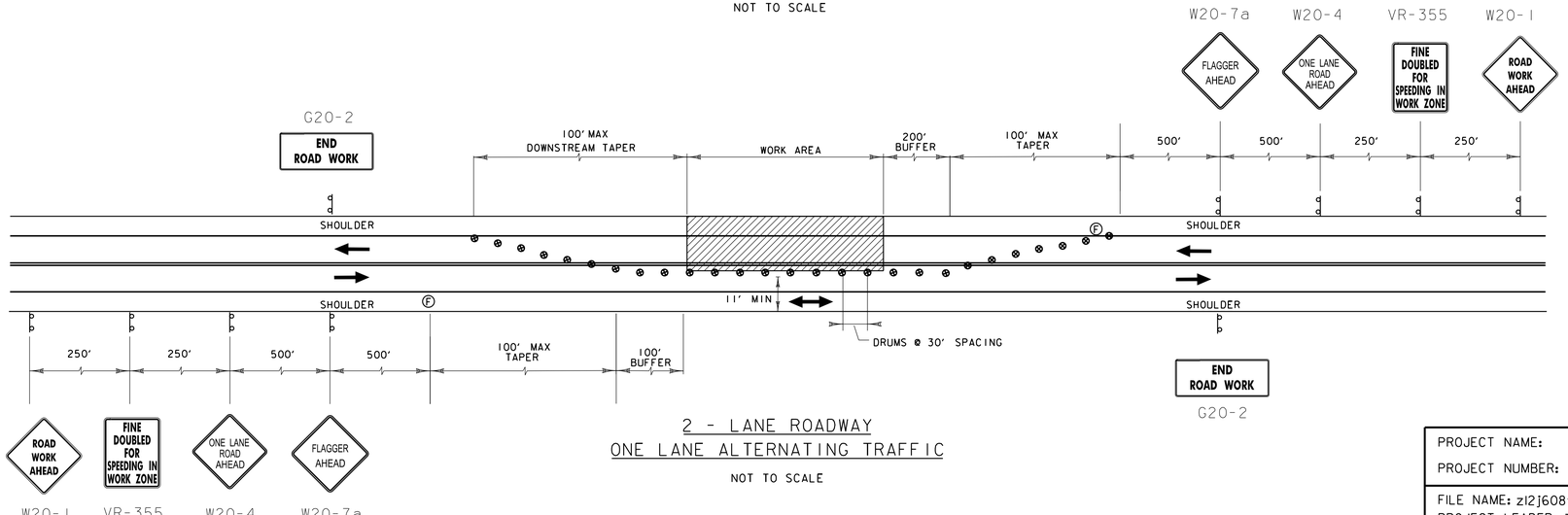
PEDESTRIAN DETOUR PLAN

NOT TO SCALE



2 - LANE ROADWAY
SHOULDER WORK AREA

NOT TO SCALE



2 - LANE ROADWAY
ONE LANE ALTERNATING TRAFFIC

NOT TO SCALE

LEGEND

- WORK ZONE
- SIGN
- REFLECTORIZED PLASTIC DRUM
- FLOW OF TRAFFIC
- TYPE III BARRICADE
- Ⓕ FLAGGER

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608tmpbdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. VAZQUEZ
TEMPORARY TRAFFIC CONTROL SHEET 3

PLOT DATE: 1/24/2024
DRAWN BY: C. WEBSTER
CHECKED BY: A. VAZQUEZ
SHEET 33 OF 69

TEMPORARY TRAFFIC CONTROL GENERAL NOTES

1. THE TRAFFIC CONTROL PLAN SHALL BE IN COMPLIANCE WITH VTRANS STANDARDS AND THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ITS LATEST REVISIONS. WHERE CONFLICTS EXIST, THE CURRENT EDITION OF THE MUTCD SHALL GOVERN.

2. THE TRAFFIC CONTROL NARRATIVE SHALL DESCRIBE THE CONTRACTOR'S INTENTIONS FOR EACH CONSTRUCTION PHASE. IT SHALL LIST FOR CONSIDERATION AT A MINIMUM THE FOLLOWING: WORK SCHEDULE; ANY NEARBY SPECIAL EVENTS; EXPECTED LANE WIDTHS; DETOURS AND SPEED REDUCTIONS; PARKING SITUATIONS; EMERGENCY VEHICLE ACCOMODATIONS; PEDESTRIAN AND BICYCLE TRAFFIC; NEARBY SCHOOLS; ANTICIPATED LANE CLOSURES; SIDE ROAD AND DRIVE ACCESS PLANNING; ANTICIPATED ROADWAY SURFACE CONDITIONS; APPLICABLE TEMPORARY PAVEMENT MARKINGS; FLAGGER AND UNIFORMED TRAFFIC OFFICER INFORMATION; AND ANY CONCURRENT AND ADJACENT CONSTRUCTION ACTIVITIES FROM OTHER PROJECTS.

3. TRAFFIC PATTERNS SHALL NOT CHANGE UNTIL ALL TEMPORARY MARKINGS AND SIGNING ARE COMPLETED FOR THE NEXT PATTERN. ANY CONFLICTING MARKINGS FROM THE PREVIOUS PATTERN(S) SHALL BE REMOVED.

4. REFER TO THE T- AND E-SERIES VERMONT STATE CONSTRUCTION STANDARD DRAWINGS AND THE LATEST EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR DETAILED INFORMATION REGARDING CHANNELIZATION DEVICES, TAPER LENGTHS, BARRICADES, DETOURS, LONGITUDINAL DROP-OFFS AND MISCELLANEOUS TRAFFIC CONTROL DETAILS, IF APPLICABLE.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING CONSTRUCTION SIGNAGE SO AS NOT TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE AND CORNER SIGHT DISTANCE. EXISTING SIGNS SHALL BE COVERED OR REMOVED WHEN THEY CONFLICT WITH CONSTRUCTION TRAFFIC OPERATIONS.

6. SIGN COVERING SHALL NOT DAMAGE THE RETRO-REFLECTIVITY OF THE SIGN FACE. THE SIGN COVER SHALL NOT DETERIORATE FOR THE DURATION THAT THE SIGN IS COVERED.

7. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL RESIDENTIAL DRIVEWAYS AND BUSINESS ACCESSES DURING CONSTRUCTION 24 HOURS A DAY. IF AN ACCESS REQUIRES CLOSURE FOR ANY PERIOD OF TIME, THE CONTRACTOR SHALL CONTACT THE RESIDENCE OR BUSINESS 48 HOURS PRIOR TO THE SCHEDULED CLOSURE AND PROVIDE AN ALTERNATIVE ACCESS FOR THE ENTIRE LENGTH OF THE CLOSURE PERIOD.

8. THE BID PRICE FOR ITEM 641.1100 – TRAFFIC CONTROL, ALL-INCLUSIVE SHALL INCLUDE ALL APPROACH AND CONSTRUCTION SIGNING, BARRIERS, CHAIN-LINK PROTECTION FENCE, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS AND POST AS DETAILED IN THE VTRANS STANDARDS.

9. FURNISHING AND PERFORMING ORIGINAL INSTALLATION AND FINAL REMOVAL FROM THE PROJECT OF TEMPORARY TRAFFIC BARRIER SHALL BE PAID FOR UNDER CONTRACT ITEM 528.1100 – TWO LANE TEMPORARY BRIDGE.

10. TEMPORARY TRAFFIC BARRIERS SHALL BE DELINEATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE CURRENT EDITION OF THE MUTCD AND ITS LATEST REVISIONS. DELINEATION OF TRAFFIC BARRIERS SHALL BE PAID FOR UNDER CONTRACT ITEM 641.1100 – TRAFFIC CONTROL, ALL-INCLUSIVE. CONCRETE BARRIER ENDS EXPOSED TO TRAFFIC SHALL BE PROTECTED (ATTENUATED) OR EXTENDED OUTSIDE THE CLEAR ZONE.

11. WHERE TEMPORARY TRAFFIC BARRIER IS USED, ELEVATION DIFFERENCES BETWEEN A PORTION OF ROADWAY OPENED FOR TRAFFIC AND A PORTION OF ROADWAY CONSTRUCTED SHALL NOT EXCEED 18 INCHES DURING NON-WORKING HOURS. FOR LONGITUDINAL DROP-OFFS WITH OTHER TYPES OF TEMPORARY CHANNELIZING DEVICES, REFER TO STANDARDS T-35 AND T-36.

12. ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED. PAVEMENT MARKING OBLITERATION SHALL REMOVE THE NON-APPLICABLE PAVEMENT MARKING MATERIAL, AND THE OBLITERATION METHOD SHALL MINIMIZE PAVEMENT SCARRING. PAINTING OVER EXISTING PAVEMENT MARKINGS WITH BLACK PAINT OR SPRAYING WITH ASPHALT SHALL NOT BE ACCEPTED AS A SUBSTITUTE FOR REMOVAL OR OBLITERATION. PAVEMENT MARKINGS SHALL BE PAID FOR UNDER CONTRACT ITEM 641.1100 – TRAFFIC CONTROL, ALL-INCLUSIVE.

13. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY. THE CONTRACTOR SHALL PROVIDE AT LEAST TWO PORTABLE CHANGEABLE MESSAGE SIGNS FOR THE DURATION OF THE PROJECT. THE INITIAL LOCATION AND MESSAGE CONTENT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. MESSAGES SHALL CONSIST OF A MAXIMUM OF TWO PHASES OF THREE LINES WITH EIGHT CHARACTERS AND SHALL ONLY BE VISIBLE TO MOTORISTS AT TIMES WHEN THE MESSAGE IS PERTINENT. THE RELOCATION OF THE SIGNS MAY BE NECESSARY TO CONVEY WORK ZONE TRAVEL INFORMATION THAT IS OTHERWISE DIFFICULT TO CONVEY WITH STATIC SIGNS. THESE RELOCATIONS SHALL BE PAID FOR UNDER CONTRACT ITEM 641.1100 – TRAFFIC CONTROL, ALL-INCLUSIVE.

14. FLAGGERS AND/OR TRAFFIC CONTROL PERSONNEL SHALL DIRECT BICYCLISTS THROUGH THE CONSTRUCTION AREA IN THE SAME MANNER AS VEHICULAR TRAFFIC. BICYCLES MUST SHARE THE ROADWAY WITH VEHICLES. TRAFFIC CONTROL PERSONNEL MAY ASK BICYCLE RIDERS TO GO LAST TO ENSURE THEIR SAFETY. BICYCLISTS MUST FOLLOW THE SAME RULES OF THE ROAD AS VEHICLES IN A TWO-LANE DIVERSION. BY STATE LAW 23VSA1033, MOTOR VEHICLES MUST PROVIDE A MINIMUM CLEARANCE OF THREE FEET FROM THE BICYCLIST.

15. SPECIAL CARE SHALL BE TAKEN TO PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES. THE CONTRACTOR SHALL COORDINATE WITH BOTH BRATTLEBORO POLICE AND FIRE DEPARTMENTS TO DETERMINE THEIR MINIMUM ACCESS REQUIREMENTS BEFORE PROCEEDING TO THE NEXT PHASE OF CONSTRUCTION. THE CONTRACTOR SHALL ENSURE THAT ACCESS IS AVAILABLE TO ALL PROPERTIES AT ALL TIMES FOR EMERGENCY VEHICLES.

16. CONSTRUCTION SIGNS SHALL BE IN NEW OR LIKE NEW CONDITION PER VTRANS STANDARDS.

17. DIAMOND SHAPED CONSTRUCTION SIGNS SHALL BE 48 INCHES BY 48 INCHES WITH BLACK TEXT AND BORDER ON A RETROREFLECTIVE FLORESCENT ORANGE BACKGROUND.

18. WHERE TEMPORARY SIGNS ARE PLACED BEHIND GUARDRAIL, THEY SHALL BE ADJUSTED SUCH THAT THE BOTTOM OF THE SIGNS ARE ABOVE THE TOP OF THE GUARDRAIL.

19. A TRAVEL WIDTH OF 12-FEET MINIMUM (11' – 0" TRAVEL LANES, 1' – 0" SHOULDERS) SHALL BE PROVIDED IN EACH DIRECTION. A TOTAL TRAVEL WIDTH OF 24'-0" SHALL BE MAINTAINED. TRAFFIC SHALL BE MAINTAINED ON THE TEMPORARY BRIDGE ONLY DURING SUMMER MONTHS.

20. ALL REASONABLE EFFORTS SHALL BE MADE TO ACCOMMODATE BICYCLE TRAVEL. THIS CAN INCLUDE BUT NOT LIMITED TO HAVING BICYCLE FOLLOW THE RULES OF THE ROAD JUST LIKE MOTORISTS. ALSO, TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIAL, TRAFFIC CONTROL DEVICES, ETC. DO NOT ENCROACH INTO THE BICYCLE PATH OF TRAVEL AND THAT THESE ROUTES ARE FREE OF RUTS, SAND, MUD AND DEBRIS TO PREVENT CYCLIST CRASHES. PER THE VTRANS BICYCLE PRIORITY MAP, VT 9 IN BRATTLEBORO NORTH OF EXIT 2 IS CONSIDERED HIGH PRIORITY.

21. CONTRACTOR SHALL COMMUNICATE WITH BICYCLE EVENT COORDINATORS AND EVENT PLANNERS AS NEEDED DUE TO THE HIGH USE OF BICYCLES WITHIN THE PROJECT AREA.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

22. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PART 6.

23. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES, COMMERCIAL PROPERTIES, AND TRANSIT STOPS. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.

24. IF THERE IS WORK OCCURRING OVER AN OPEN SIDEWALK, PROTECTIVE OVERHEAD COVERING MUST BE PROVIDED AS NECESSARY TO ENSURE PROTECTION FROM FALLING OBJECTS AND DRIPPING FROM OVERHEAD STRUCTURES. COVERED WALKWAYS SHOULD BE STURDILY CONSTRUCTED AND ADEQUATELY LIGHTED FOR NIGHTTIME USE.

25. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.

26. THE CONTRACTOR SHALL REVIEW AND USE THE "VERMONT WORK ZONE SAFETY AND MOBILITY POLICY AND GUIDANCE" AVAILABLE ON VTRANS WEBSITE TO DESIGN AND IMPLEMENT TRAFFIC CONTROL FOR BICYCLE AND PEDESTRIAN INTO THEIR SITE-SPECIFIC TRAFFIC CONTROL PLAN FOR ALL STAGES OF CONSTRUCTION.

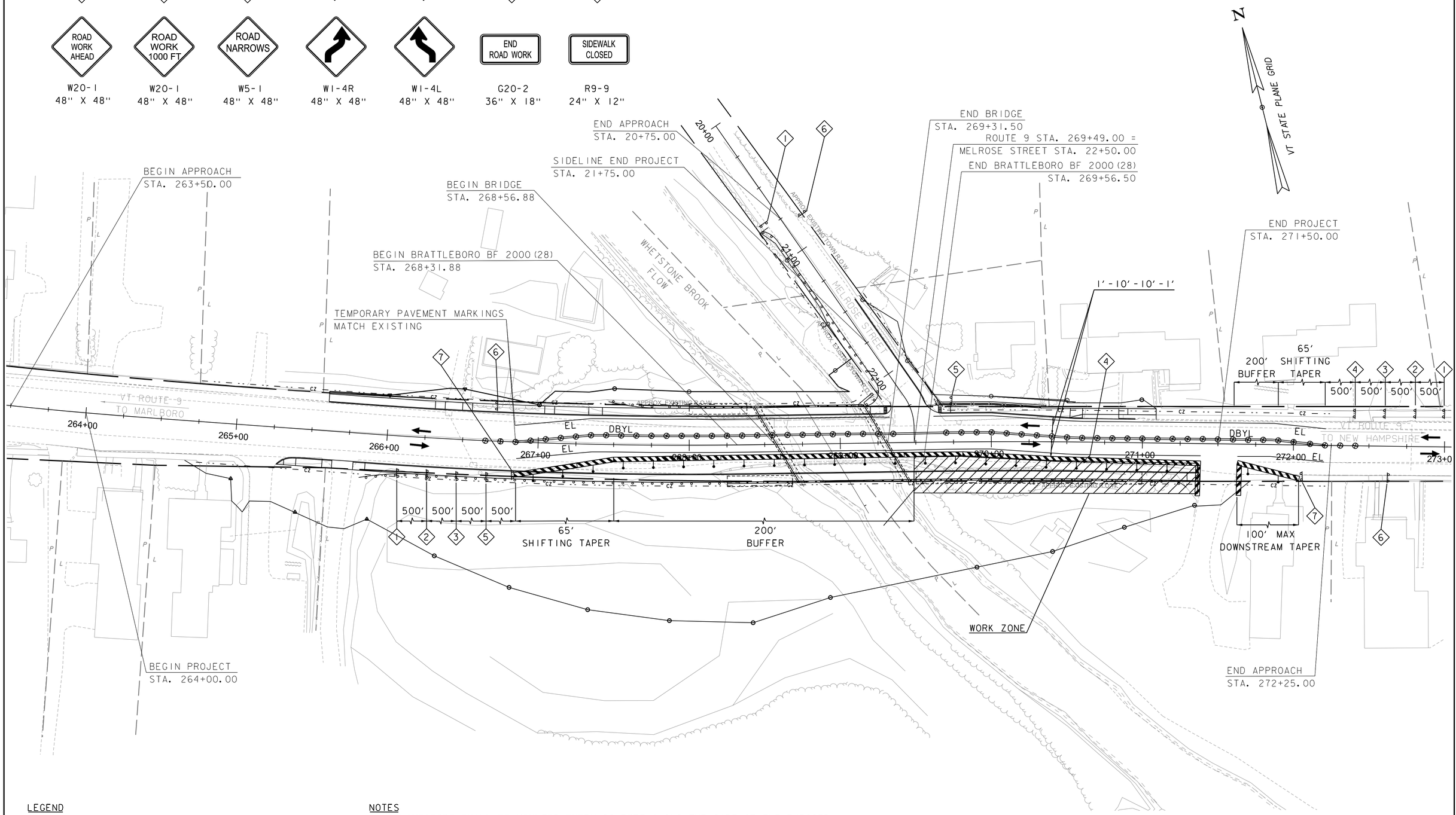
GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: zl2j608tmpbdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. VAZQUEZ
TEMPORARY TRAFFIC CONTROL SHEET 4

PLOT DATE: 1/24/2024
DRAWN BY: C. WEBSTER
CHECKED BY: A. VAZQUEZ
SHEET 34 OF 69

1	2	3	4	5	6	7
ROAD WORK AHEAD	ROAD WORK 1000 FT	ROAD NARROWS			END ROAD WORK	SIDEWALK CLOSED
W20-1 48" X 48"	W20-1 48" X 48"	W5-1 48" X 48"	W1-4R 48" X 48"	W1-4L 48" X 48"	G20-2 36" X 18"	R9-9 24" X 12"



LEGEND

- WORK ZONE
- SIGN
- CONCRETE BARRIER
- REFLECTORIZED PLASTIC DRUM
- CONSTRUCTION SIGN ASSEMBLY I.D.
- FLOW OF TRAFFIC
- WHITE DELINEATOR

NOTES

1. DELINEATORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE EXPOSED CONCRETE BARRIER. DELINEATION SHALL MATCH TEMPORARY PAVEMENT MARKING COLORS.

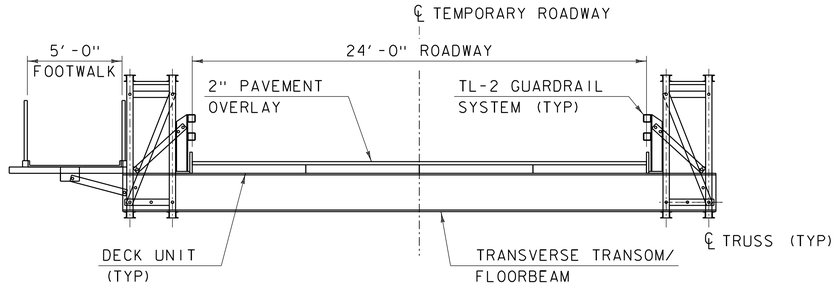
0 30 60
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: zl2j608tmpbdr_retwall.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. VAZQUEZ
TEMPORARY TRAFFIC CONTROL SHEET 5

PLOT DATE: 1/24/2024
DRAWN BY: C. WEBSTER
CHECKED BY: A. VAZQUEZ
SHEET 35 OF 69



TEMPORARY BRIDGE TYPICAL SECTION

SCALE 1/4" = 1'-0"

N

VT STATE PLANE GRID

TEMPORARY BRIDGE STA. 100+00.00
= ROUTE 9 STA. 263+54.93

TEMPORARY BRIDGE STA. 108+74.98
= ROUTE 9 STA. 272+01.98

VT ROUTE 9
TO MARLBORO

VT ROUTE 9
TO NEW HAMPSHIRE

WHETSTONE BROOK
FLOW

MELROSE STREET

GRAVEL DRIVE
PAVED DRIVE
DIRT PAVED DRIVE
GRASS

BEGIN TEMPORARY BRIDGE
STA. 105+44.98

TEMPORARY BRIDGE STA. 106+07.13
= WHETSTONE BROOK STA. 52+75.96

END TEMPORARY BRIDGE
STA. 106+50.98

0 30 60
SCALE IN FEET

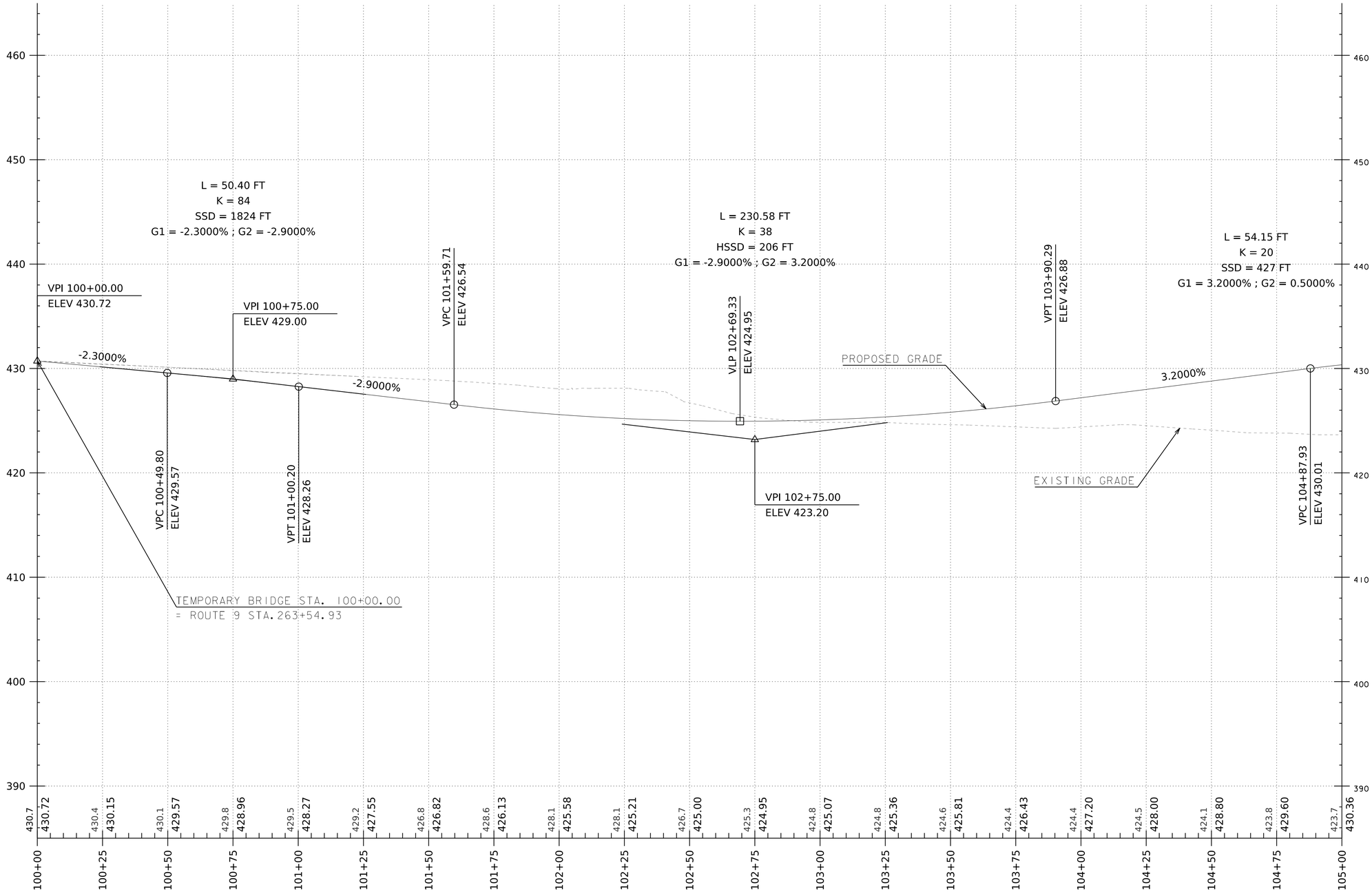
NOTE:
ALL ITEMS FOR THE TEMPORARY DETOUR SHALL BE PAID FOR UNDER ITEM SS013, SS-PLACEHOLDER-LS(TEMPORARY DETOUR AND BRIDGE).

LEGEND:

SINGLE TREE PROTECTION

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608bdrtempbrg.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: A. RUSSELL	CHECKED BY: E. NOONAN
TEMPORARY BRIDGE PLAN SHEET	SHEET 36 OF 69



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND APPROXIMATE ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED PROFILE GRADES FOR THE NEW ALIGNMENT.

HORIZONTAL SCALE: 20 SCALE
VERTICAL SCALE: 10 SCALE

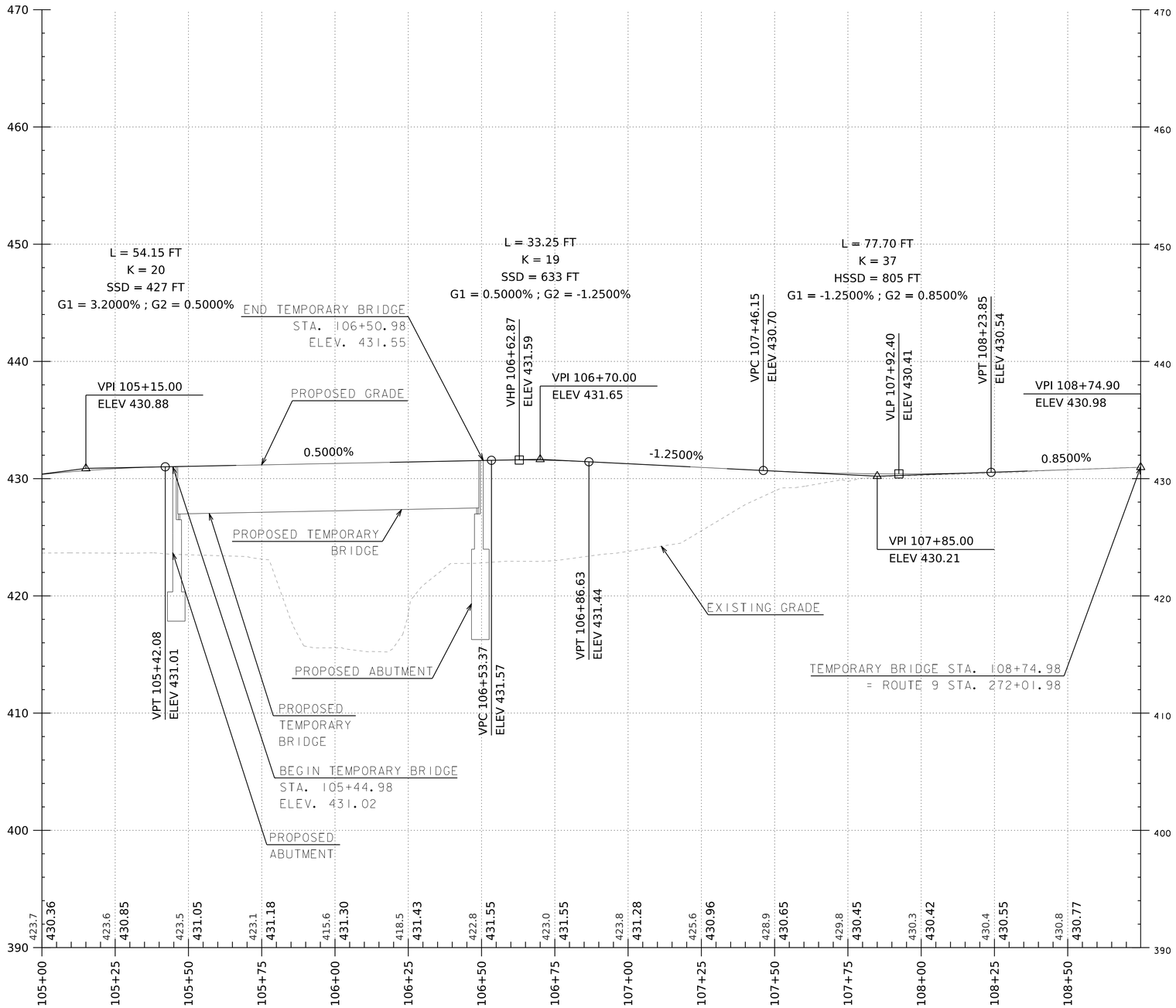
NOTE:
1. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608profile.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
TEMP ROADWAY PROFILE SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 37 OF 69



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND APPROXIMATE ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED PROFILE GRADES FOR THE NEW ALIGNMENT.

HORIZONTAL SCALE: 20 SCALE
VERTICAL SCALE: 10 SCALE

NOTE:
1. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608profile.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
TEMP ROADWAY PROFILE SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 38 OF 69

PROPOSED TEMPORARY DRAINAGE

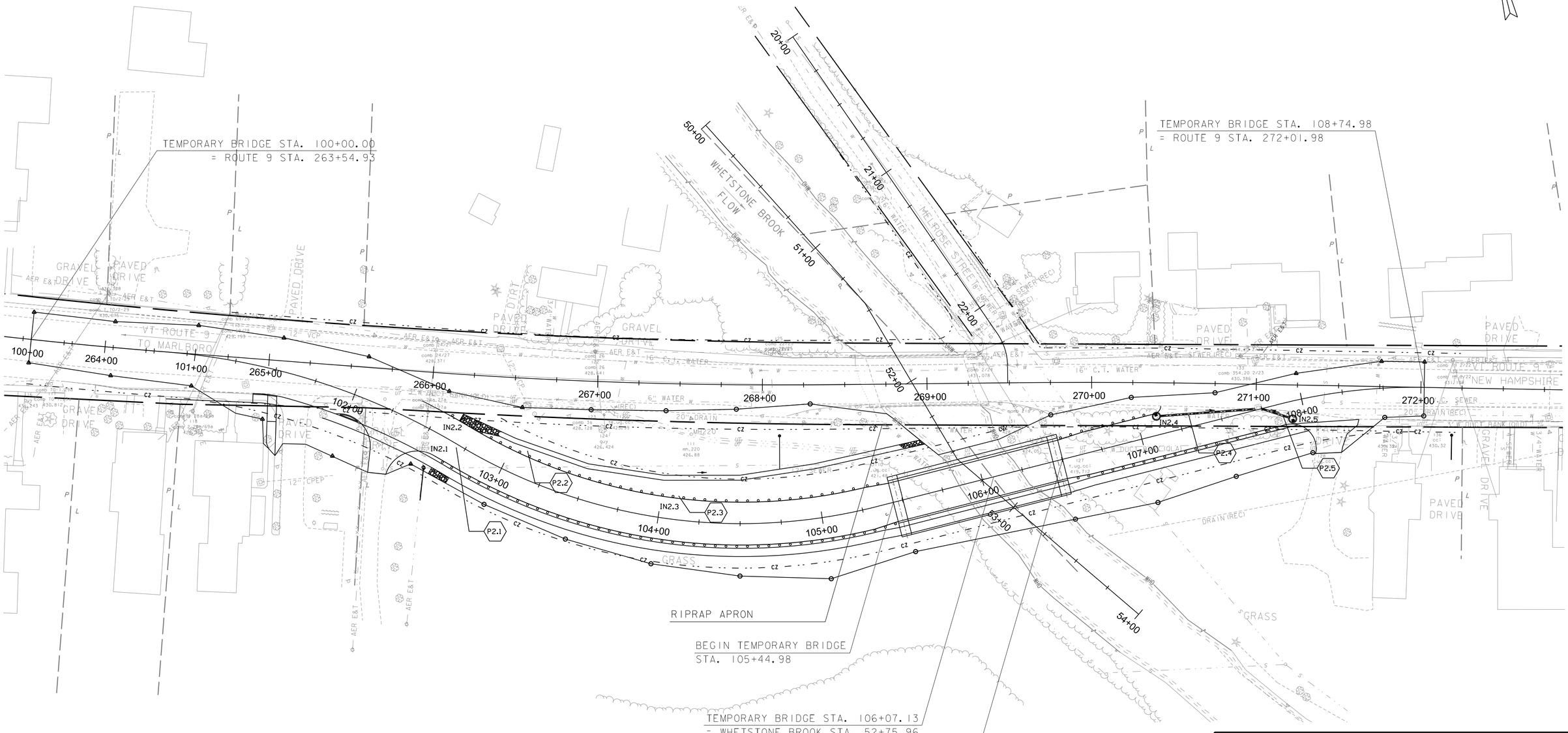
P2.1 — STA 107+11, LT TO 107+73, LT
NEW 12"X59', CPEP INV IN 427.39 INV OUT 426.21
NEW IN2.4 RIM=430.89 TO EXIST. CB RIM=429.67

P2.2 — STA 107+93, RT TO 107+73, LT
NEW 12"X19', CPEP INV IN 426.57 INV OUT 426.19
NEW IN2.5 RIM=430.07 TO EXIST. CB RIM=429.67

PROTECT SEWER MANHOLE
105+63 LT

ADJUST SEWER MANHOLE TO GRADE
106+65 LT

N
VT STATE PLANE GRID



0 30 60
SCALE IN FEET

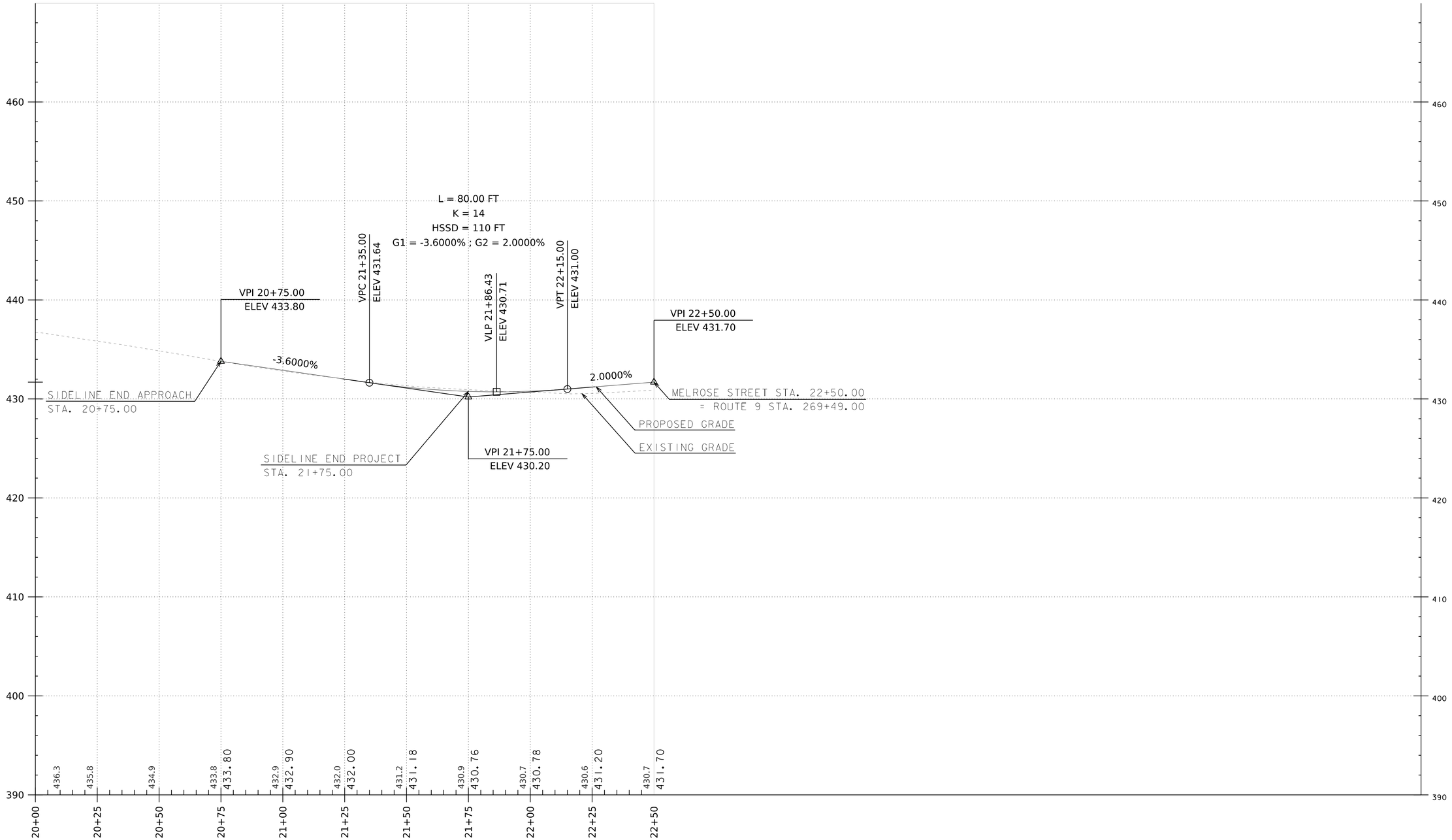
GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608drnbdrtempbrg.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
TEMPORARY BRIDGE DRAINAGE PLAN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 39 OF 69

MELROSE STREET PROFILE



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND APPROXIMATE ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED PROFILE GRADES FOR THE NEW ALIGNMENT.

HORIZONTAL SCALE: 20 SCALE
VERTICAL SCALE: 10 SCALE

NOTE:
1. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608profile.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
MELROSE STREET PROFILE SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 40 OF 69

NOTES:
1. UPDATE: TREE PLANTINGS AND SCHEMATIC LIGHTING CONDUIT LOCATIONS WILL BE COORDINATED POST PRELIMINARY PLAN SUBMISSION. IF POSSIBLE, UTILITIES AND LIGHTING CONDUIT WILL BE LOCATED TO AVOID PLANTINGS.
2. JAPANESE KNOTWEED IS PRESENT ALONG BROOK. RECOMMEND PLAN TO MANAGE INVASIVE PLANT SPECIES IN FINAL DESIGN.

PLANT LIST

QTY	COMMON NAME	BOTANICAL NAME	SIZE	SPACING/COMMENT	ROOT
	EVERGREEN TREES, MEDIUM - ITEM NUMBER 656.2002				
7	BLACK HILLS SPRUCE	PICEA GLAUCA 'DENSITA'	5-6 FT HT	9 FEET O.C.	B&B
6	TECHNY ARBORVITEA	THUJU OCCIDENTALIS 'TECHNY'	5-6 FT HT	6 FEET O.C.	B&B
	EVERGREEN TREES, MEDIUM - ITEM NUMBER 656.2002				
4	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	7-8 FT HT	11 FEET O.C.	B&B
	EVERGREEN SHRUBS - ITEM NUMBER 656.2500				
5	MOUNTAIN LAUREL	KALMIA LATIFOLIA	2-3 FT HT	3 FT O.C.	#3 CONTAINER
5	CATAWBA RHODODENDRON	RHODODENDRON CATAWBIENSE	2-3 FT HT	3 FT O.C.	#3 CONTAINER
	DECIDUOUS TREES, MEDIUM - ITEM NUMBER 656.3002				
4	GRAY BIRCH	BETULA POPULIFOLIA	4-6 FEET	AS SHOWN	#5 CONTAINER
	DECIDUOUS TREES, LARGE - ITEM NUMBER 656.3003				
3	FRINGE TREE	CHIONATHUS VIRGINICUS	6-8 FEET	AS SHOWN	B&B
3	HERITAGE RIVER BIRCH	BETULA NIGRA HERITAGE	2" - 2 1/2" CALIPER	20 FT O.C.	B&B
	DECIDUOUS SHRUBS - ITEM NUMBER 656.3500				
18	SILKY DOGWOOD	CORNUS AMOMUM	18-24 INCH HT	2 FT O.C.	#1 CONTAINER
7	SUMMERSWEET	CLETHRA ALNIFOLIA	2-3 FT HT	3 FT O.C.	#3 CONTAINER
6	NORTHERN BAYBERRY	MYRCIA PENSYLVANICA	2-3 FT HT	3 FT O.C.	#3 CONTAINER
18	PUSSY WILLOW	SALIX DECIDUA	18-24 INCH HT	2 FT O.C.	#1 CONTAINER
12	ARROWWOOD	VIBURNUM DENTATUM	2-3 FT HT	3 FT O.C.	#3 CONTAINER

N
VT STATE PLANE GRID

4 - GRAY BIRCH
4 - DOUGLAS FIR
1 - FRINGE TREE
7 - BLACK HILLS SPRUCE
6 - TECHNY ARBORVITEA

1 - FRINGE TREE
6 - SUMMERSWEET
5 - CATAWBA RHODODENDRON

1 - FRINGE TREE
5 - MOUNTAIN LAUREL
6 - NORTHERN BAYBERRY
3 - HERITAGE RIVER BIRCH

COIR LOG

12 - ARROWWOOD

ALTERNATING GROUPS OF THREE
18 - PUSSY WILLOW
18 - SILKY DOGWOOD

LEGEND-SLOPE RESTORATION
- SHRUB
- LARGE DECIDUOUS TREE
- MEDIUM DECIDUOUS TREE
- LARGE EVERGREEN TREE
- MEDIUM EVERGREEN TREE
- COIR LOGS
- SINGLE TREE PROTECTION

0 30 60
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z84d030landbdr.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: J. RIEMENSCHNEIDER
LANDSCAPE PLAN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 41 OF 69

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 kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

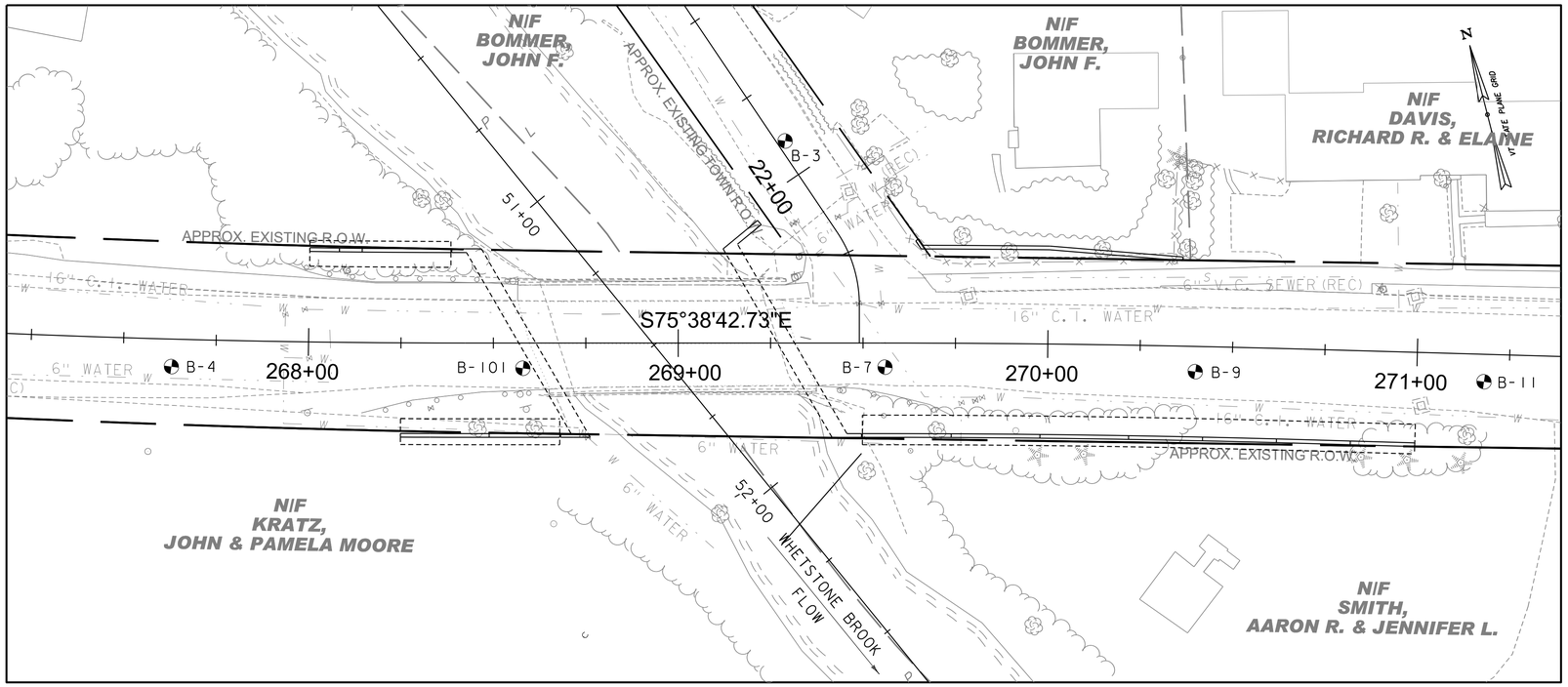
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
◐	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler 35.0 mm I.D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm
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 30.1mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
OW	Indicates a temporary observation well installed

COLOR

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



BORING LAYOUT

SCALE 1" = 20'-0"

BORING CHART

HOLE NO.	STATION	OFFSET (FT)	NORTHING (FT)	EASTING (FT)	APPROX. GROUND SURFACE ELEV. (FT)
B-101	268+57.97	6.82 RT	128061.00	1615034.00	430.7
B-3	269+28.93	54.70 LT	128103.00	1615118.00	430.7
B-4	267+63.08	7.45 RT	128085.00	1614942.00	429.0
B-7	269+55.95	6.51 RT	128037.00	1615129.00	430.6
B-9	270+59.97	6.84 RT	128015.00	1615210.00	430.3
B-11	271+18.24	7.42 RT	127993.00	1615285.00	430.2

DEFINITIONS (AASHTO)

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

BOULDER - A rock fragment with an average dimension > 304.8 mm.

COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.

GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

SILT - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

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

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 3/23/2023 and 4/6/2023 by GZA GeoEnvironmental, Inc.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
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. Borings indicated on the plans have been made for design purposes only.

0 20 40
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: zl2j608boring.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BORING PLAN

PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET 42 OF 69

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-101
Page No.: 1 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/24/23 Date Finished: 3/24/23
VTSPG NAD83: N 128061.00 ft E 1615034.00 ft
Station: 268+57.97 Offset: 6.82 RT
Ground Elevation: 430.7 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Auto/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
03/24/23	14.0	Stab. time =0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Visual Description:, 7 in of asphalt pavement, ASPHALT								
		Visual Description:, 5 in of concrete, CONCRETE				6-8				
		Visual Description:, (Modified Burmister), S-1 (1.0 ft – 2.0 ft): Top 2 in: Loose, gray, fine to coarse SAND, trace fine Gravel, trace Silt (A-1-a). Bottom 4 in: Brown, SILT, some fine to coarse Sand, little Gravel (A-4). Moist, Rec. = 0.5 ft, FILL				4-3-4-4 (7)	11.9	20.2	58.5	21.3
5		Visual Description:, (Modified Burmister), S-2 (2.0 ft – 4.0 ft): Loose, brown, fine to coarse SAND, some Silt, little Gravel (A-2-4). Moist, Rec. = 0.58 ft, FILL				3-3-2-3 (5)				
		Visual Description:, (Modified Burmister), S-3 (4.0 ft –6.0 ft): Loose, brown, fine to coarse SAND, some Silt, little Gravel (A-2-4). Moist, Rec. = 0.42 ft, FILL								
		6.0 ft – 9.0 ft, FILL								
10		Visual Description:, (Modified Burmister), S-4 (9.0 ft – 11.0 ft): Medium dense, gray, GRAVEL, some medium to coarse Sand (A-2-4). Moist, Rec. = 0.25 ft, FILL				10-9-8-10 (17)				
		11.0 ft – 13.0 ft, FILL								
		13.0 ft – 14.0 ft, GLACIAL TILL								
15		Visual Description:, (Modified Burmister), S-5 (14.0 ft – 16.0 ft): Very dense, reddish gray, fine to coarse SAND and Gravel, little Silt (A-1-b). Wet, Rec. = 0.92 ft, GLACIAL TILL				22-27-24-22 (51)				
		16.0 ft – 19.0 ft, GLACIAL TILL								
20		Visual Description:, (Modified Burmister), S-6 (19.0 ft – 21.0 ft): Very dense, reddish gray, fine to coarse SAND and Gravel, some Silt (A-2-4). Wet, Rec. = 0.67 ft, GLACIAL TILL				25-32-18-15 (50)				
		21.0 ft – 24.0 ft, GLACIAL TILL								
25		Visual Description:, (Modified Burmister), S-7 (24.0 ft – 26.0 ft): Medium dense, gray/brown, fine to coarse SAND and Gravel, little Silt (A-1-b). Wet, Rec. = 0.58 ft, GLACIAL TILL				11-17-10-49 (27)				
		26.0 ft – 29.0 ft, GLACIAL TILL								
30		Visual Description:, (Modified Burmister), S-8 (29.0 ft – 31.0 ft): Dense, brown, fine to medium SAND, some Silt, trace Gravel, (A-2-4). Wet, Rec. = 1.33 ft, GLACIAL TILL				12-17-27-32 (44)				
		31.0 ft – 34.0 ft, GLACIAL TILL								
		Visual Description:, (Modified Burmister), S-9 (34.0 ft – 36.0 ft):				20-22-25-28				

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

BOTTOM OF PILE CAP

BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-101
Page No.: 2 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/24/23 Date Finished: 3/24/23
VTSPG NAD83: N 128061.00 ft E 1615034.00 ft
Station: 268+57.97 Offset: 6.82 RT
Ground Elevation: 430.7 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Auto/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
03/24/23	14.0	Stab. time =0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Medium dense, brown GRAVEL, some Silt, little fine to coarse Sand (A-2-4). Wet, Rec. = 1.33 ft, GLACIAL TILL				(47)				
		36.0 ft – 39.0 ft, GLACIAL TILL								
40		Visual Description:, (Modified Burmister), S-10 (39.0 ft – 41.0 ft): Top 7 in: Hard, brown, Silty CLAY, PP= 0.75 tsf, (A-6). Bottom 11 in: Very dense, grayish brown, fine to coarse SAND, little Gravel, little Silt (A-1-b). Wet, Rec. = 1.5 ft, GLACIAL TILL				12-26-51-45 (77)				
		41.0 ft – 43.7 ft, GLACIAL TILL								
45		Visual Classification, S-11 (43.7 ft to 44.0 ft): No recovery., Rec. = 0.0 ft, POSSIBLE BEDROCK				50/0"				
		44.0 ft – 46.0 ft, C-1: Hard, fresh, fine grained, dark gray, PHYLLITE with quartz inclusions with thin bed of fine grained, tan Quartzite and thin bed of amorphous, dark gray, Phyllite. Severely fractured, fractures are rough, very closely spaced, moderately dipping.	C-1	88 (0)	5.5 6.25					
		46.0 ft – 47.0 ft	C-2	52 (7)	2.25					
		47.0 ft – 52.0 ft, C-2: Hard, fresh, fine grained, dark gray, PHYLLITE with quartz inclusions with thin bed of amorphous, dark gray, Phyllite and thin bed of medium grained Biotite. Severely fractured, fracture are rough, very closely spaced, moderately dipping.			7.5 7 4 8.75					
50		52.0 ft – 54.0 ft, C-3: Hard, fresh, fine grained, dark gray, PHYLLITE with quartz inclusions. Severely fractured, fracture are rough, very closely spaced, moderately dipping.	C-3	58 (0)	9.1 11.8					
55		Hole stopped @ 54.0 ft								
60										
65										

Remarks:
1. GRAVEL in tip of sample S-4.
2. Weathered GRAVEL in sample S-6.
3. Possible BOULDER encountered 23.0 ft bgs.
4. Pulverized ROCK in sample S-10.
5. Reduced rate of penetration at 43.5 ft bgs.
6. Start NX core at 44.0 ft bgs but difficulty cutting and recovering sample.
7. Stop NX core 46.0 ft bgs, advance tri-cone roller bit to 47.0 ft bgs, restart NX core 47.0 ft bgs.
8. Very fine lustery gray cuttings floating on wash water surface.

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

BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608borlog.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BORING LOG SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET 43 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-3
Page No.: 1 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 4/03/23 Date Finished: 4/04/23
VTSPG NAD83: N 128103.00 ft E 1615118.00 ft
Station: 269+28.93 Offset: 54.70 LT
Ground Elevation: 430.7 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Manual/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.15

Groundwater Observations

Date	Depth (ft)	Notes
04/04/23	13.0	Stab. time = 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Visual Description:, 3 in of asphalt pavement., ASPHALT								
		Visual Description:, (Modified Burmister), S-1 (0.3 ft – 2.3 ft): Very dense, brown, fine to coarse SAND, little Gravel, little Silt (A-1-b). Moist, Rec. = 1.1 ft, FILL				69-47-41-61 (88)				
		Classification:, (Modified Burmister), S-2 (2.3 ft – 4.3 ft): Very dense, brown, fine to coarse SAND, some Gravel, little Silt (A-1-b). Moist, Rec. = 1.0 ft, FILL				43-27-39-32 (66)	7.3	39.3	42.2	18.5
5		Visual Description:, (Modified Burmister), S-3 (4.3 ft – 6.3 ft): Very dense, brown, fine to coarse SAND, little Gravel, little Silt (A-1-b). Moist, Rec. = 0.5 ft, FILL				14-36-30-16 (66)				
		6.3 ft – 7.0 ft, FILL								
		7.0 ft – 9.0 ft, SAND								
10		Visual Description:, (Modified Burmister), S-4 (9.0 ft – 11.0 ft): Medium dense, brown, fine SAND, some Silt (A-2-4). Moist, Rec. = 0.8 ft, SAND				15-13-11-9 (24)				
		11.0 ft – 12.0 ft, SAND								
		12.0 ft – 14.0 ft, GLACIAL TILL								
15		Visual Description:, (Modified Burmister), S-5 (14.0 ft – 16.0 ft): Very dense, brown, GRAVEL, some fine to coarse Sand, trace Silt (A-1-b). Wet, Rec. = 0.5 ft, GLACIAL TILL				27-33-30-41 (63)				
		16.0 ft – 19.0 ft, GLACIAL TILL								
20		Visual Description:, (Modified Burmister), S-6 (19.0 ft – 21.0 ft): Dense, brown, fine to coarse SAND, some Silt, little Gravel (A-2-4). Wet, Rec. = 0.8 ft, GLACIAL TILL				28-23-21-11 (44)				
		21.0 ft – 24.0 ft, GLACIAL TILL								
25		Visual Description:, (Modified Burmister), S-7 (24.0 ft – 26.0 ft): Very dense, reddish brown, fine to coarse SAND and Gravel, some Silt (A-2-4). Wet, Rec. = 0.8 ft, GLACIAL TILL				25-33-30-47 (63)				
		26.0 ft – 29.0 ft, POSSIBLE BOULDERS								
30		Visual Description:, (Modified Burmister), S-8 (29.0 ft – 31.0 ft): Very dense, brown, GRAVEL, little fine to coarse Sand, little Silt (A-1-b). Wet, Rec. = 0.7 ft, GLACIAL TILL				19-21-32-30 (53)				
		31.0 ft – 34.0 ft, GLACIAL TILL								
		Classification:, (Modified Burmister), S-9 (34.0 ft – 36.0 ft): Very				36-31-40-45	28.4	1.8	26.8	71.4

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

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-3
Page No.: 2 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 4/03/23 Date Finished: 4/04/23
VTSPG NAD83: N 128103.00 ft E 1615118.00 ft
Station: 269+28.93 Offset: 54.70 LT
Ground Elevation: 430.7 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Manual/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.15

Groundwater Observations

Date	Depth (ft)	Notes
04/04/23	13.0	Stab. time = 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		dense, brown, SILT, some fine Sand, trace Gravel (A-4). Wet, Rec. = 1.2 ft, GLACIAL TILL				(71)				
		36.0 ft – 39.0 ft, GLACIAL TILL								
40		Visual Description:, S-10 (39.0 ft – 41.0 ft): No recovery., Rec. = 0.0 ft, GLACIAL TILL				60/4"				
		41.0 ft – 44.0 ft, GLACIAL TILL								
45		Visual Description:, (Modified Burmister), S-11 (44.0 ft – 44.4 ft): Very dense, reddish brown, fine to coarse SAND, some Gravel, little Silt (A-1-a). Wet, Rec. = 0.4 ft, GLACIAL TILL				90/5"				
		44.4 ft – 49.0 ft, GLACIAL TILL								
50		49.0 ft – 53.0 ft, C-1: Hard, slighly weathered, fine grained, gray, very thinly foliated PHYLLITE. Severely fractured, fractures are rough, very closely spaced, sub-vertical dipping, iron-oxide stained fractures.	C-1	42 (0)	21 23 35 32					
		Hole stopped @ 53.0 ft								
55		Remarks: 1. Weathered GRAVEL in sample S-6. 2. Possible BOULDERS 26.0 ft to 29.0 ft bgs. 3. Start NX core at 49.0 ft bgs but difficulty cutting and recovering sample. After coring, advanced roller bit through core run from 49.0 to 53.0 ft bgs. 4. Very fine lustery gray cuttings floating on wash water surface.								
60										
65										

Notes:
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3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608borlog.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BORING LOG SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET 44 OF 69

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-4
Page No.: 1 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/23/23 Date Finished: 3/27/23
VTSPG NAD83: N 128085.00 ft E 1614942.00 ft
Station: 267+63.08 Offset: 7.45 RT
Ground Elevation: 429.0 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Auto/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
03/23/23	13.0	Stab. time = 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Visual Description:, 3 in of asphalt pavement, ASPHALT					
		Visual Description:, 7 in of concrete, CONCRETE Rec. = 0.92 ft	13-14-15-15 (29)				
		Visual Description:, (Modified Burmister), S-1 (0.8 ft – 2.8 ft): Medium dense, brown/gray, fine to coarse SAND, some Silt, little Gravel (A-2-4). Moist, FILL	15-15-20-12 (35)				
		Visual Description:, (Modified Burmister), S-2 (2.8 ft – 4.8 ft): Dense, brown/gray, fine to coarse SAND, some Gravel, little Silt (A-1-a). Moist, Rec. = 1.08 ft, FILL					
5		Visual Description:, (Modified Burmister), S-3 (4.8 ft – 6.8 ft): Medium dense, grayish brown, fine to medium SAND, some Silt, trace Gravel (A-2-4). Moist, Rec. = 1.08 ft, SAND	15-13-12-9 (25)				
		6.8 ft – 9.0 ft, SAND					
		Visual Description:, (Modified Burmister), S-4 (9.0 ft -9.5 ft): Medium dense, brown, fine to coarse SAND, trace Silt (A-1-a)., Rec. = 0.83 ft, SAND	2-3-15-24 (18)				
10		Visual Description:, (Modified Burmister), S-4 (9.5 ft -11 ft): Medium dense, gray, GRAVEL, little fine to coarse Sand, trace Silt (A-1-a). Moist, GLACIAL TILL					
		11.0 ft – 14.0 ft, GLACIAL TILL					
		Classification:, (Modified Burmister), S-5 (14.0 ft -16.0 ft): Very dense, reddish gray, fine to coarse SAND, some Silt, little Gravel (A-2-4). Wet, Rec. = 0.92 ft, GLACIAL TILL	17-55-35-19 (90)	16.2	20.5	56.6	22.9
15		16.0 ft – 19.0 ft, GLACIAL TILL					
		Visual Description:, (Modified Burmister), S-6 (19.0 ft – 21.0 ft): Medium dense, brown, fine to coarse SAND, trace Gravel, trace Silt (A-1-a). Wet, Rec. = 0.92 ft, GLACIAL TILL	6-7-8-8 (15)				
20		21.0 ft – 24.0 ft, GLACIAL TILL					
		Visual Description:, (Modified Burmister), S-7 (24.0 ft – 26.0 ft): Medium dense, gray/brown, GRAVEL, little fine to coarse Sand, little Silt (A-1-b). Wet, Rec. = 0.92 ft, GLACIAL TILL	6-7-14-16 (21)				
25		26.0 ft – 29.0 ft, GLACIAL TILL					
		Classification:, (Modified Burmister), S-8 (29.0 ft – 31.0 ft): Top 15 in: Dense, brown/gray, fine SAND and Silt (A-4). Bottom 5 in: Hard, gray, Silty CLAY (A-6), Wet, Rec. = 1.67 ft, GLACIAL TILL	16-23-25-27 (48)				
30		31.0 ft – 34.0 ft, GLACIAL TILL					
		Visual Description:, (Modified Burmister), S-9 (34.0 ft – 36.0 ft): Very dense, gray, SILT,	15-20-32-38	28.5		17.6	82.4

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

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-4
Page No.: 2 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/23/23 Date Finished: 3/27/23
VTSPG NAD83: N 128085.00 ft E 1614942.00 ft
Station: 267+63.08 Offset: 7.45 RT
Ground Elevation: 429.0 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Auto/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
03/23/23	13.0	Stab. time = 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		little fine Sand (A-4). Wet, Rec. = 2.0 ft, GLACIAL TILL	(52)				
		36.0 ft – 39.0 ft, GLACIAL TILL					
40		Visual Description:, (Modified Burmister), S-10 (39.0 ft – 41.0 ft): Top 10 in: Very dense, gray, fine to coarse SAND, some Gravel, trace Silt (A-1-b). Bottom 9 in: Reddish gray, fine to coarse SAND and Gravel, trace Silt (A-1-b). Wet, Rec. = 1.58 ft, GLACIAL TILL	8-32-41-65 (73)				
		Hole stopped @ 41.0 ft					
45		Remarks: 1. Soil mottling at approximately 1.5 ft bgs. 2. Weathered GRAVEL in sample S-5. 3. Suspected bent casing at approximately 20 ft bgs.					
50							
55							
60							
65							

Notes:
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3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608borlog.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BORING LOG SHEET 3

PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET 45 OF 69

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-7
Page No.: 1 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/28/23 Date Finished: 3/29/23
VTSPG NAD83: N 128037.00 ft E 1615129.00 ft
Station: 269+55.95 Offset: 6.51 RT
Ground Elevation: 430.6 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Auto/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
03/29/23	12.0	Stab. time = 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Visual Description:, 8 in of asphalt pavement, ASPHALT								
		Visual Description:, 5 in of concrete, CONCRETE								
		Visual Description:, (Modified Burmister), S-1 (1.1 ft – 3.1 ft): Medium dense, brown, fine to coarse SAND, some Silt, little Gravel (A-2-4). Moist, Rec. = 0.92 ft, FILL				7-9-8-7 (17)				
		Visual Description:, (Modified Burmister), S-2 (3.1 ft – 4.1 ft): Brown, fine to coarse SAND, some Silt (A-2-4). Moist, Rec. = 0.17 ft, FILL				5-7				
5		Visual Description:, (Modified Burmister), S-3 (4.1 ft – 6.1 ft): Very dense, brown, GRAVEL, some fine to coarse Sand, little Silt (A-1-b). Moist, Rec. = 0.25 ft, GRAVEL				8-5-55-62 (60)				
		6.1 ft – 9.0 ft, GRAVEL								
10		Visual Description:, (Modified Burmister), S-4 (9.0 ft – 11.0 ft): Medium dense, brown, GRAVEL, some fine to coarse Sand, little Silt (A-1-b). Moist, Rec. = 0.17 ft, GRAVEL				11-12-17-13 (29)				
		11.0 ft – 14.0 ft, GLACIAL TILL								
15		Visual Description:, (Modified Burmister), S-5 (14.0 ft – 15.8 ft): Very dense, gray, GRAVEL, some fine to coarse Sand, trace Silt (A-1-a). Wet, Rec. = 0.58 ft, GLACIAL TILL				9-26-55-50/4" (81)				
		15.8 ft – 19.0 ft, GLACIAL TILL								
20		Visual Description:, (Modified Burmister), S-6 (19.0 ft – 21.0 ft): Dense, brown/gray, GRAVEL, some fine to coarse Sand, trace Silt (A-1-a). Wet, Rec. = 0.42 ft, GLACIAL TILL				24-16-21-17 (37)				
		21.0 ft – 24.0 ft, GLACIAL TILL								
25		Visual Description:, (Modified Burmister), S-7 (24.0 ft – 25.3 ft): Very dense, reddish gray, fine to coarse SAND and Gravel, little Silt (A-1-b). Wet, Rec. = 0.42 ft, GLACIAL TILL				16-19-50/3" (>50)				
		25.3 ft – 30.0 ft, POSSIBLE BOULDERS								
30		Classification:, (Modified Burmister), S-8 (30.0 ft – 32.0 ft): Dense, brown, fine to coarse SAND and Silt, trace Gravel (A-4). Wet, Rec. = 0.75 ft, GLACIAL TILL				19-16-17-20 (33)	12.4	16.8	43.1	40.1
		32.0 ft – 34.0 ft, GLACIAL TILL								
		Visual Description:, (Modified Burmister), S-9 (34.0 ft –36.0 ft):				8-9-12-27 (21)				

BOTTOM OF PILE CAP

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

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-7
Page No.: 2 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/28/23 Date Finished: 3/29/23
VTSPG NAD83: N 128037.00 ft E 1615129.00 ft
Station: 269+55.95 Offset: 6.51 RT
Ground Elevation: 430.6 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Auto/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.3

Groundwater Observations

Date	Depth (ft)	Notes
03/29/23	12.0	Stab. time = 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Medium dense, brown, GRAVEL, some Silt, little fine to coarse Sand (A-2-4). Wet, Rec. = 0.33 ft, GLACIAL TILL								
		36.0 ft – 39.0 ft, GLACIAL TILL								
40		Visual Description:, (Modified Burmister), S-10 (39.0 ft – 39.9 ft): Very dense, gray, GRAVEL, some fine to coarse SAND, little Silt (A-1-b). Wet, Rec. = 0.58 ft, GLACIAL TILL				73-89/5"				
		39.9 ft – 44.0 ft, GLACIAL TILL								
45		Visual Description:, (Modified Burmister), S-11 (44.0 ft – 45.3 ft): Very dense, brown/gray, fine to coarse SAND and Gravel, some Silt (A-2-4). Wet, Rec. = 0.75 ft, GLACIAL TILL	C-1	49 (7)	11	49-93-50/3"				
		45.5 ft – 50.1 ft, C-1: Hard, fresh, fine grained, dark gray PHYLLITE with quartz inclusions. Severely fractured, fractures are rough, very closely spaced, moderately dipping.			4					
50					9					
					7					
					4					
		Hole stopped @ 50.1 ft								

Remarks:
1. Casing refusal at approximately 26 ft bgs.
2. Weathered ROCK in sample S-11.
3. Casing refusal at approximately 45.5 ft bgs.

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

BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608borlog.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BORING LOG SHEET 4

PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET 46 OF 69

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-9
Page No.: 1 of 3
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/30/23 Date Finished: 3/31/23
VTSPG NAD83: N 128015.00 ft E 1615210.00 ft
Station: 270+59.97 Offset: 6.84 RT
Ground Elevation: 430.3 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Manual/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.15

Groundwater Observations

Date	Depth (ft)	Notes
03/31/23	13.5	Stab time= 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Visual Description:, 7 in of asphalt pavement, ASPHALT					
		Visual Description:, 5 in of concrete, CONCRETE	13-14				
		Visual Description:, (Modified Burmister), S-1 (1.0 ft – 2.0 ft): Brown, fine to coarse SAND, some Silt, little Gravel (A-2-4). Moist, Rec. = 0.58 ft, FILL	10-8-7-11 (15)				
		Visual Description:, (Modified Burmister), S-2 (2.0 ft – 4.0 ft): Medium dense, brown, SILT, some fine to coarse Sand (A-4). Moist, Rec. = 0.92 ft, FILL					
5		Visual Description:, (Modified Burmister), S-3 (4.0 ft – 6.0 ft): Medium dense, brown, SILT, some fine to coarse Sand (A-4). Moist, Rec. = 0.42 ft, SILT	22-17-12-9 (29)				
		6.0 ft – 9.0 ft, SILT					
10		Visual Description:, (Modified Burmister), S-4 (9.0 ft – 11.0 ft): Medium dense, brown, fine to medium SAND, some Silt (A-2-4). Moist, Rec. = 0.92 ft, SAND	5-4-11-16 (15)				
		11.0 ft – 14.0 ft, GLACIAL TILL					
15		Visual Description:, (Modified Burmister), S-5 (14.0 ft – 16.0 ft): Very dense, brown/gray, GRAVEL, some fine to coarse Sand, trace Silt (A-1-b). Wet, Rec. = 0.33 ft, GLACIAL TILL	41-43-40-41 (83)				
		16.0 ft – 19.0 ft, GLACIAL TILL					
20		Visual Description:, (Modified Burmister), S-6 (19.0 ft – 20.7 ft): Very dense, brown/gray, GRAVEL, little fine to coarse Sand, trace Silt (A-1-b). Wet, Rec. = 0.33 ft, GLACIAL TILL	69-59-60-50/2" (119)				
		20.7 ft – 24.0 ft, GLACIAL TILL					
25		Visual Description:, (Modified Burmister), S-7 (24.0 ft – 26.0 ft): Very dense, brown/gray, fine to coarse SAND, some Silt, little Gravel (A-1-b). Wet, Rec. = 0.67 ft, GLACIAL TILL	38-28-31-23 (59)				
		26.0 ft – 29.0 ft, GLACIAL TILL					
30		Visual Description:, (Modified Burmister), S-8 (29.0 ft – 31.0 ft): Hard, brownish gray, CLAY & SILT, little Gravel, trace fine to coarse Sand (A-4). Wet, Rec. = 0.67 ft, GLACIAL TILL	15-19-18-35 (37)				
		31.0 ft – 34.0 ft, GLACIAL TILL					
		Visual Description:, (Modified Burmister), S-9 (34.0 ft – 36.0 ft): Very dense, brown, fine to	38-55-77-95				

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

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-9
Page No.: 2 of 3
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/30/23 Date Finished: 3/31/23
VTSPG NAD83: N 128015.00 ft E 1615210.00 ft
Station: 270+59.97 Offset: 6.84 RT
Ground Elevation: 430.3 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Manual/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.15

Groundwater Observations

Date	Depth (ft)	Notes
03/31/23	13.5	Stab time= 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		medium SAND, little Silt (A-1-a). Wet, Rec. = 1.33 ft, GLACIAL TILL	(132)				
		36.0 ft – 39.0 ft, GLACIAL TILL					
40		Visual Description:, (Modified Burmister), S-10 (39.0 ft – 41.0 ft): Top 16 in: Very dense, brown, fine SAND, some Silt (A-2-4). Bottom 6 in: Hard, gray, SILT & CLAY little fine Sand, PP: 3.3 tsf (A-6), Rec. = 1.83 ft, GLACIAL TILL	45-66-112-130 (178)				
		41.0 ft – 44.0 ft, GLACIAL TILL					
45		S-11 (44.0 ft – 44.3 ft): No recovery, Rec. = 0.0 ft, 44.0 ft – 44.3 ft, GLACIAL TILL	50/3"				
		44.3 ft – 49.0 ft, GLACIAL TILL					
50		Visual Description:, (Modified Burmister), S-12 (49.0 ft – 51.0 ft): Very dense, brown/gray, fine to medium SAND, trace Silt (A-1-a). Wet, Rec. = 1.25 ft, GLACIAL TILL	51-40-47-47 (87)				
		51.0 ft – 54.0 ft, GLACIAL TILL					
55		Visual Description:, (Modified Burmister), S-13 (54.0 ft – 56.0 ft): Very dense, brown/gray, fine to medium SAND, trace Silt (A-1-a). Wet, Rec. = 1.58 ft, GLACIAL TILL	34-47-61-55 (108)				
		56.0 ft – 59.0 ft, GLACIAL TILL					
60		Visual Description:, (Modified Burmister), S-14 (59.0 ft – 61.0 ft): Very dense, brown/gray, fine to coarse SAND, little Gravel, trace Silt (A-1-a). Wet, Rec. = 1.16 ft, GLACIAL TILL	32-41-54-60 (95)				
		61.0 ft – 64.0 ft, GLACIAL TILL					
65		S-15 (64.0 ft – 64.8 ft): No recovery, Rec. = 0.0 ft, 64.0 ft – 64.8 ft, GLACIAL TILL	95-75/3"				
		64.8 ft – 69.0 ft, GLACIAL TILL					
		Visual Description:, (Modified Burmister), S-16 (69.0 ft – ft 70.9 ft): Very dense,	29-56-84-100/5"				

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

BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608borlog.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BORING LOG SHEET 5

PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET 47 OF 69

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-9
Page No.: 3 of 3
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 3/30/23 Date Finished: 3/31/23
VTSPG NAD83: N 128015.00 ft E 1615210.00 ft
Station: 270+59.97 Offset: 6.84 RT
Ground Elevation: 430.3 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Manual/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.15

Groundwater Observations

Date	Depth (ft)	Notes
03/31/23	13.5	Stab time= 0.25 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		brown/gray, fine SAND, some Silt (A-2-4). Wet, Rec. = 0.75 ft, GLACIAL TILL	(140)				
		Hole stopped @ 71.0 ft					
75							
80							
85							
90							
95							
100							

Remarks:
1. Autohammer malfunction 10 ft bgs. Switched to safety hammer.
2. Spoon tip replaced after sample S-6.
3. Possible BOULDER at approximately 20.7 ft bgs.
4. Weathered GRAVEL in sample S-7.

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

BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608borlog.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BORING LOG SHEET 6

PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET 48 OF 69

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-11
Page No.: 1 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 4/05/23 Date Finished: 4/06/23
VTSPG NAD83: N 127993.00 ft E 1615285.00 ft
Station: 271+18.24 Offset: 7.42 RT
Ground Elevation: 430.2 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Manual/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.15

Groundwater Observations

Date	Depth (ft)	Notes
04/06/23	12.0	Stab. time= 16 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Visual Description, 5 in of asphalt pavement, ASPHALT					
		0.42 ft – 1.0 ft, FILL	35-34				
		Visual Description, (Modified Burmister), S-1 (1.0 ft – 2.0 ft): Brown, fine to coarse SAND, some Silt, trace Gravel (A-2-4). Moist, Rec. = 0.67 ft, FILL	23-18-13-20 (31)				
		Visual Description, (Modified Burmister), S-2 (2.0 ft – 4.0 ft): Dense, brown, fine to coarse SAND, some Silt, trace Gravel (A-2-4). Moist, Rec. = 0.92 ft, FILL	11-10-13-9 (23)				
5		Visual Description, (Modified Burmister), S-3 (4.0 ft – 6.0 ft): Medium dense, brown, fine to coarse SAND, some Silt, little Gravel (A-2-4). Moist, Rec. = 0.5 ft, FILL					
		6.0 ft – 9.0 ft, SAND					
10		Visual Description:, S-4 (9.0 ft – 11.0 ft): Loose, no recovery, Rec. = 0.0 ft, SAND	3-2-5-8 (7)				
		11.0 ft – 14.0 ft, GLACIAL TILL					
15		Visual Description, (Modified Burmister), S-5 (14.0 ft – 16.0 ft): Medium dense, gray/brown, fine to coarse SAND and Silt, some Gravel (A-4). Wet, Rec. = 0.83 ft, GLACIAL TILL	11-6-7-16 (13)				
		16.0 ft – 19.0 ft, GLACIAL TILL					
20		Visual Description, (Modified Burmister), S-6 (19.0 ft – 19.7 ft): Very dense, gray, fine to coarse SAND and Silt, little Gravel (A-4). Wet, Rec. = 0.67 ft, GLACIAL TILL	98-50/2"				
		19.7 ft – 24.0 ft, GLACIAL TILL					
25		Visual Description, (Modified Burmister), S-7 (24.0 ft – 24.4 ft): Very dense, gray, fine to coarse SAND and Gravel, little Silt (A-1-b). Wet, Rec. = 0.33 ft, GLACIAL TILL	100/5"				
		24.4 ft – 29.0 ft, GLACIAL TILL					
30		Visual Description, (Modified Burmister), S-8 (29.0 ft – 29.8 ft): Very dense, gray, fine to coarse SAND, some Silt, little Gravel (A-1-b). Wet, Rec. = 0.67 ft, GLACIAL TILL	95-50/3"				
		29.8 ft – 34.0 ft, GLACIAL TILL					
		Classification:, (Modified Burmister), S-9 (34.0 ft – 35.8 ft): Very dense, gray, SILT and	48-76-95-77/4"	25.2		49.8	50.2

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

BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

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

BORING LOG

VT Route 9 Bridge No. 54
Brattleboro BF 2000(18)
Brattleboro, Vermont

Boring No.: B-11
Page No.: 2 of 2
Pin No.: 12J608
Checked By: A. Smart

Boring Crew: G. Peacock (NEBC), J. Hyslip (GZA)
Date Started: 4/05/23 Date Finished: 4/06/23
VTSPG NAD83: N 127993.00 ft E 1615285.00 ft
Station: 271+18.24 Offset: 7.42 RT
Ground Elevation: 430.2 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	3 in	2 in
Hammer Wt:	300 lb	140 lb
Hammer Fall:	24 in	30 in
Hammer/Rod Type:	Manual/AWJ	
Rig:	MOBILE B53 TRUCK	CE = 1.15

Groundwater Observations

Date	Depth (ft)	Notes
04/06/23	12.0	Stab. time= 16 hrs.

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		fine Sand (A-4). Wet, Rec. = 1.42 ft, GLACIAL TILL	(171)				
		35.8 ft – 39.0 ft, GLACIAL TILL					
40		Visual Description, (Modified Burmister), S-10 (39.0 ft – 40.8 ft): Very dense, gray, fine SAND, some Silt (A-1-a). Wet, Rec. = 1.42 ft, GLACIAL TILL	40-73-112-60/4" (185)				
		40.8 ft – 44.0 ft, GLACIAL TILL					
45		Visual Description:, (Modified Burmister), S-11 (44.0 ft – 46.0 ft): Very dense, brown, fine to medium SAND, little Gravel, little Silt (A-1-b). Wet, Rec. = 1.42 ft, GLACIAL TILL	51-65-72-71 (137)	17.8	24.6	60.3	15.1
		46.0 ft – 51.0 ft, GLACIAL TILL					
50		Visual Description, (Modified Burmister), S-12 (51.0 ft – 51.2 ft): Very dense, dark brown/gray, GRAVEL, little fine to coarse Sand, little Silt (A-1-b). Wet, Rec. = 0.17 ft, GLACIAL TILL	50/2"				
		Hole stopped @ 51.2 ft					

Remarks:
1. Reduced penetration rate 19.0 to 29.0 ft bgs.
2. Possible BOULDER at approximately 48.0 ft bgs.

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

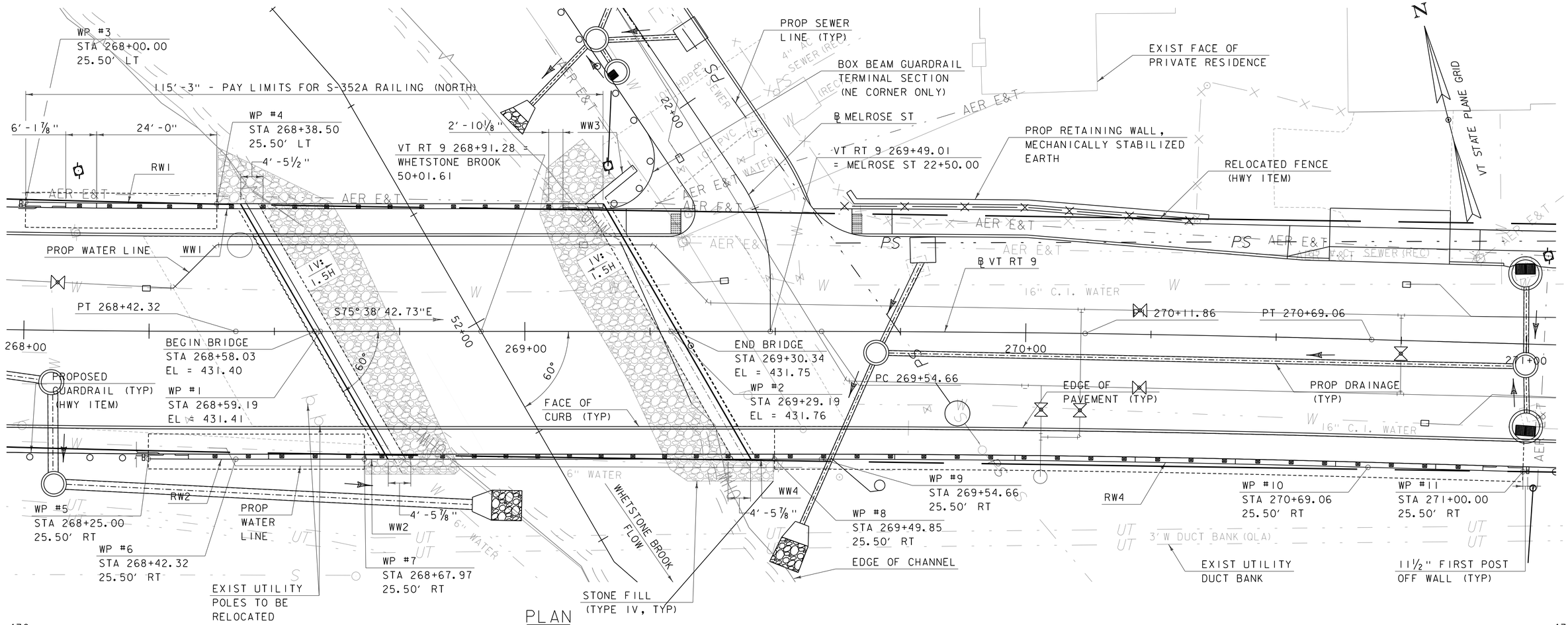
BORING LOG 04.0191154.18 VTRANS BRATTLEBORO BF 2000(18) BRIDGE 54.GPJ VERMONT AOT.GDT 8/31/23

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608borlog.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. BARBOSA
BORING LOG SHEET 7

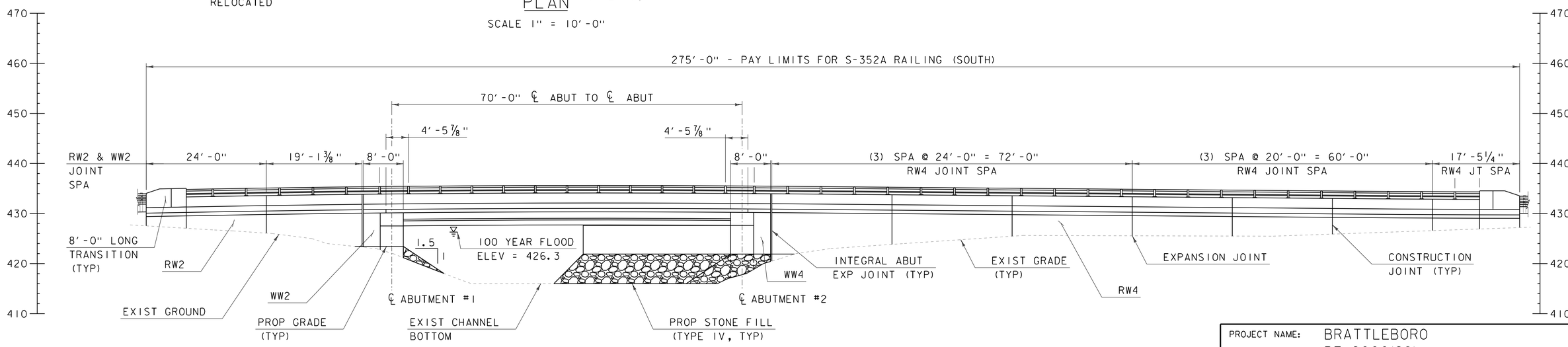
PLOT DATE: 1/24/2024
DRAWN BY: A. BARBOSA
CHECKED BY: T. CARD
SHEET 49 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



PLAN

SCALE 1" = 10'-0"

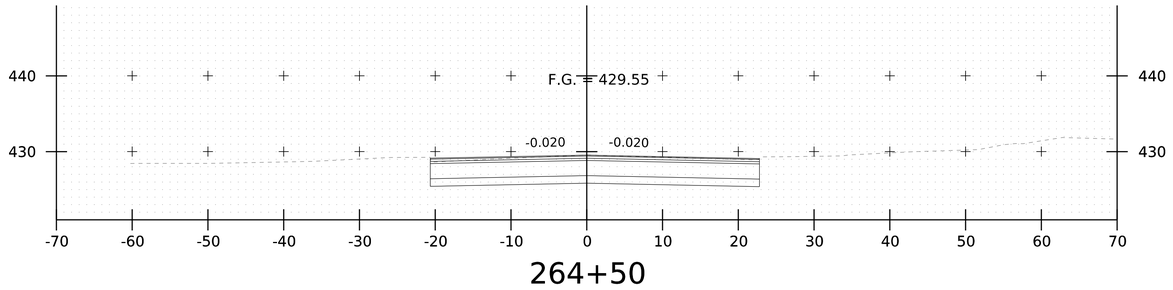


ELEVATION SOUTH FASCIA

SCALE 1" = 10'-0"

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608pe.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: A. BARBOSA
DESIGNED BY: A. BARBOSA	CHECKED BY: T. CARD
PLAN AND ELEVATION SHEET	SHEET 50 OF 69



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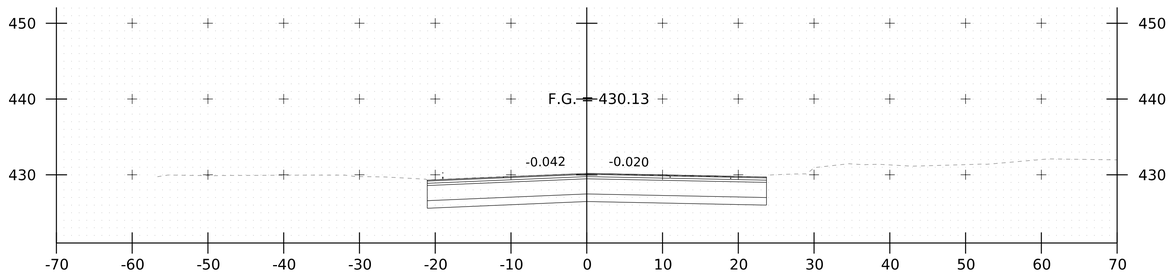

264+00

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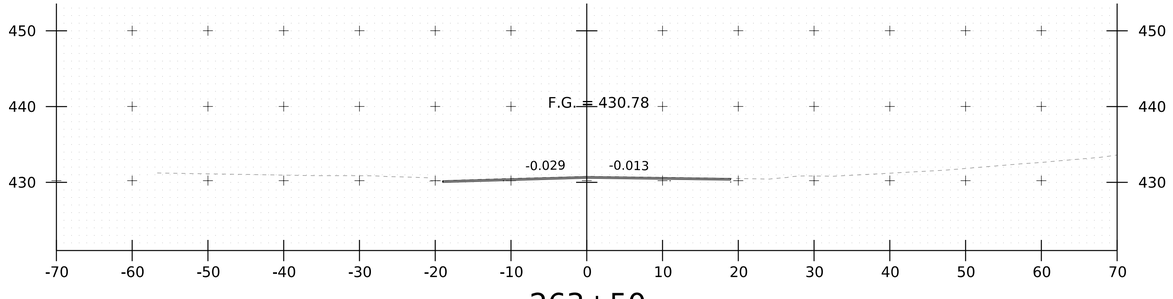

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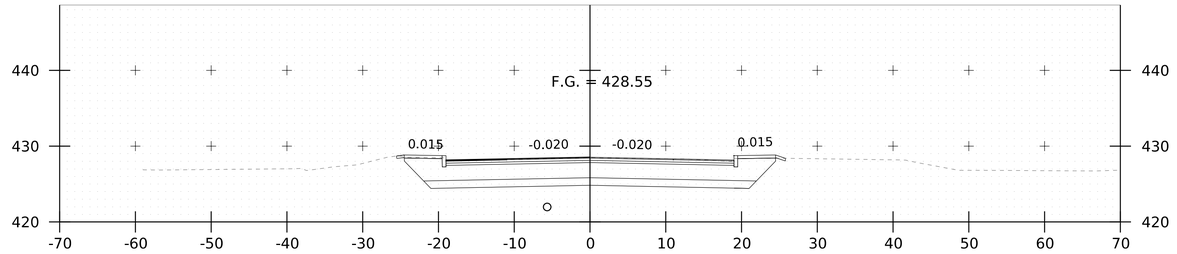

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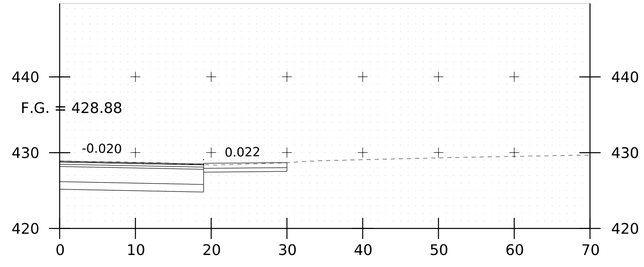

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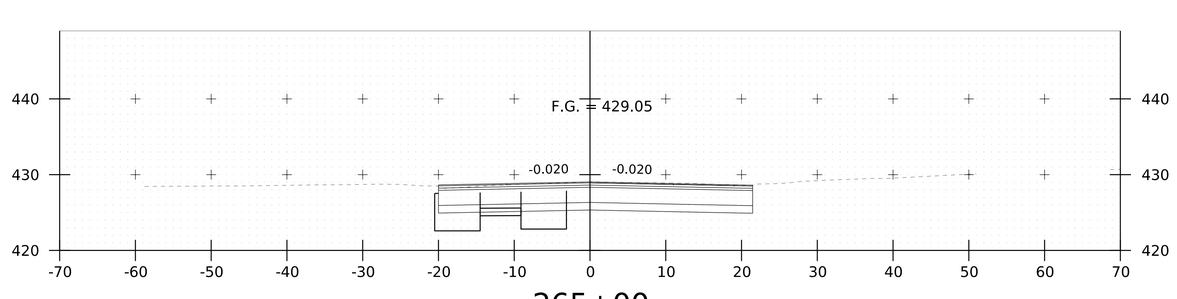


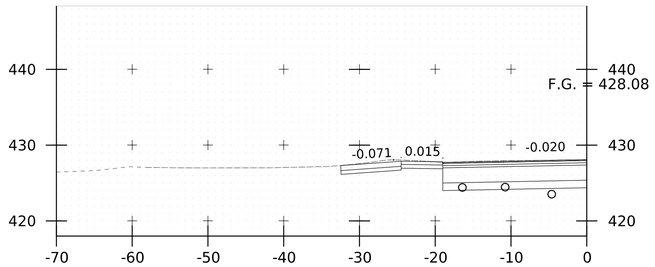
265+00

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608xs.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
WESTERN AVE CROSS SECTIONS SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 51 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



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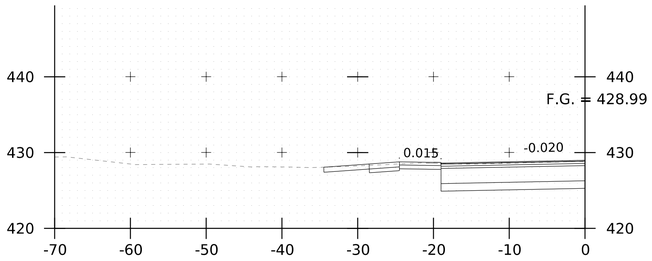

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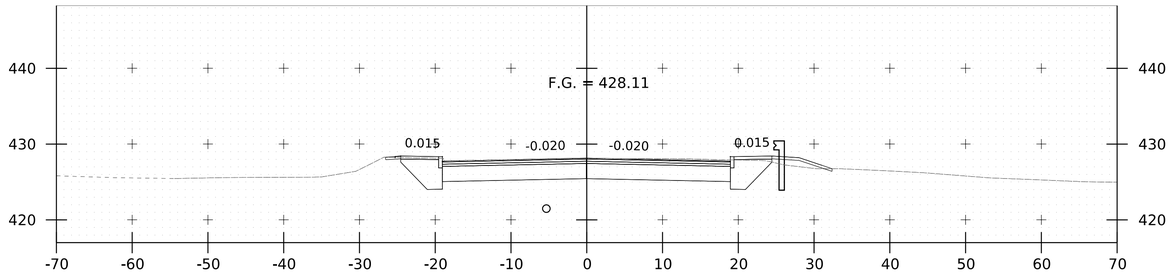

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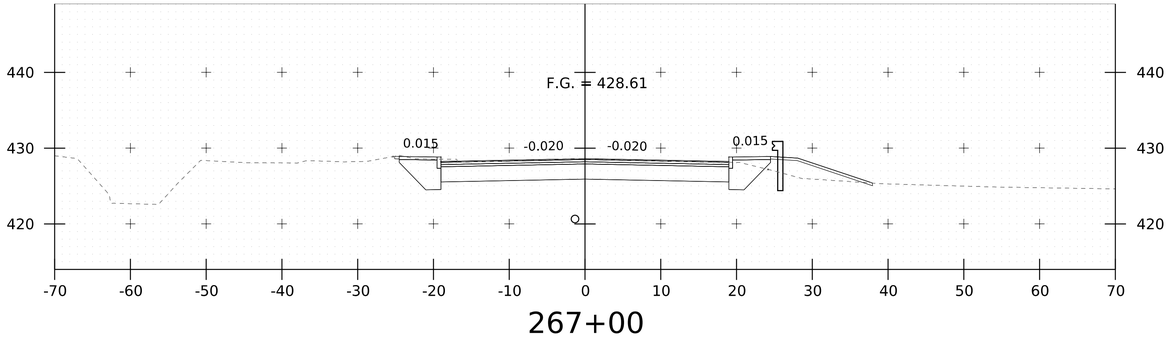

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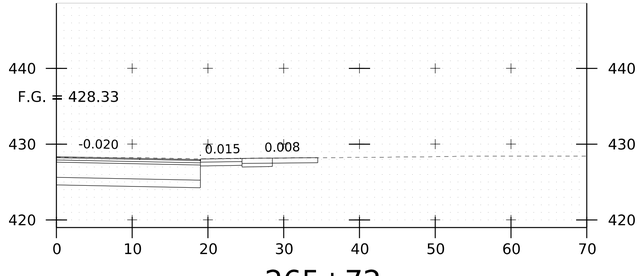

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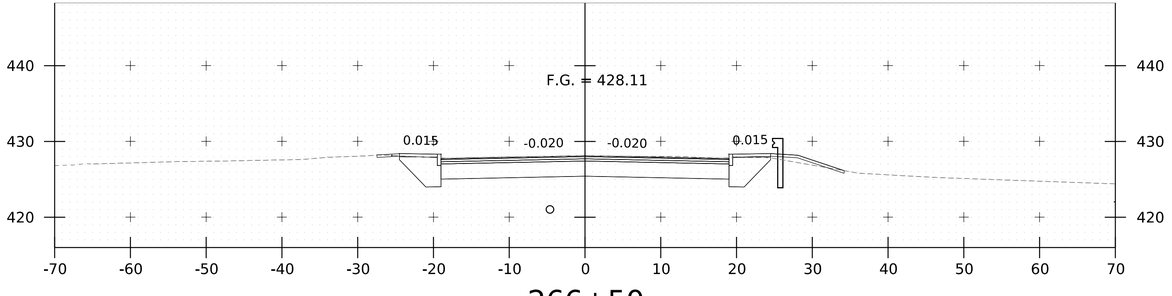
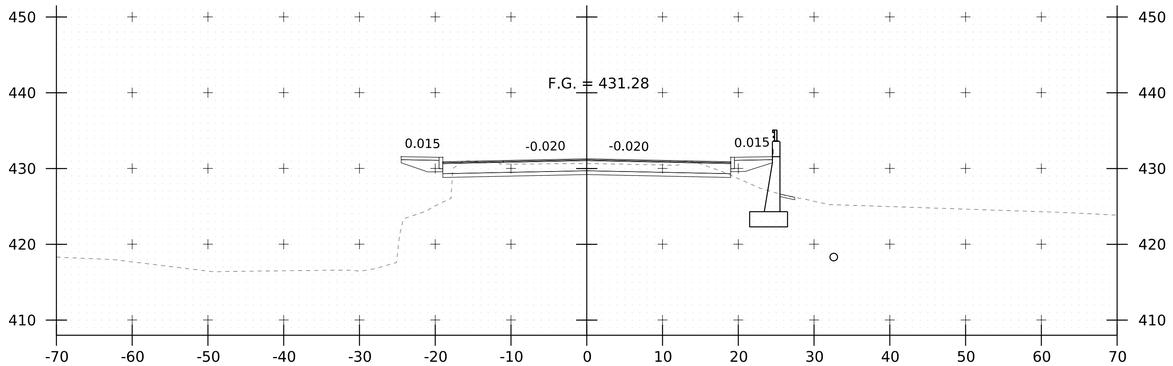


266+50

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608xs.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
WESTERN AVE CROSS SECTIONS SHEET 2	SHEET 52 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

268+56.88 BEGIN BRIDGE



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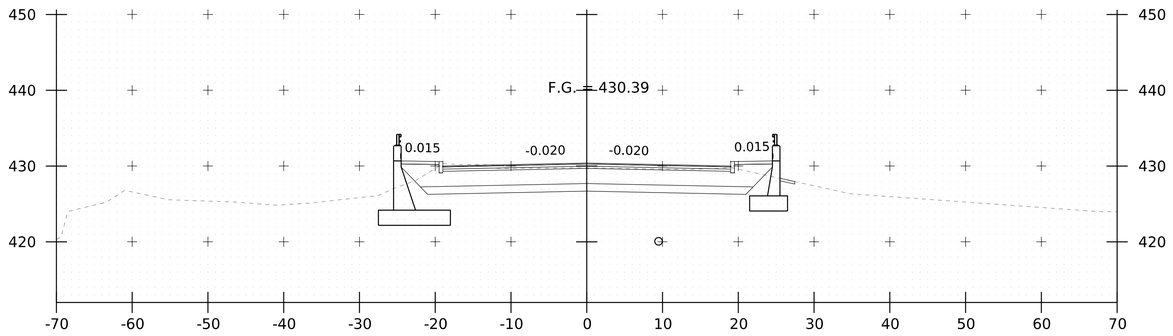

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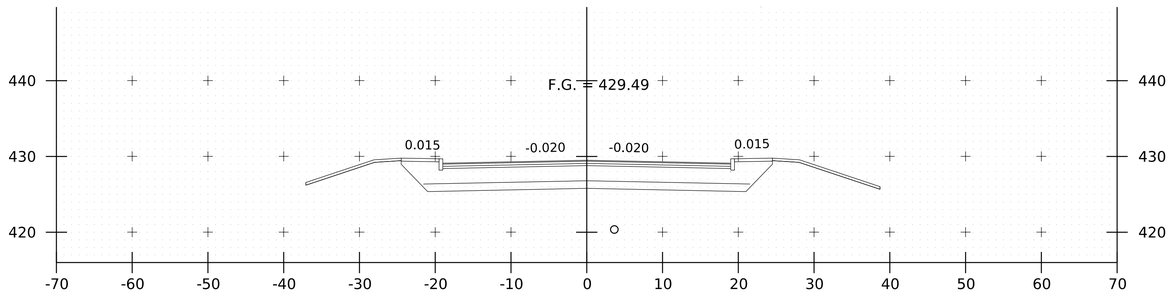

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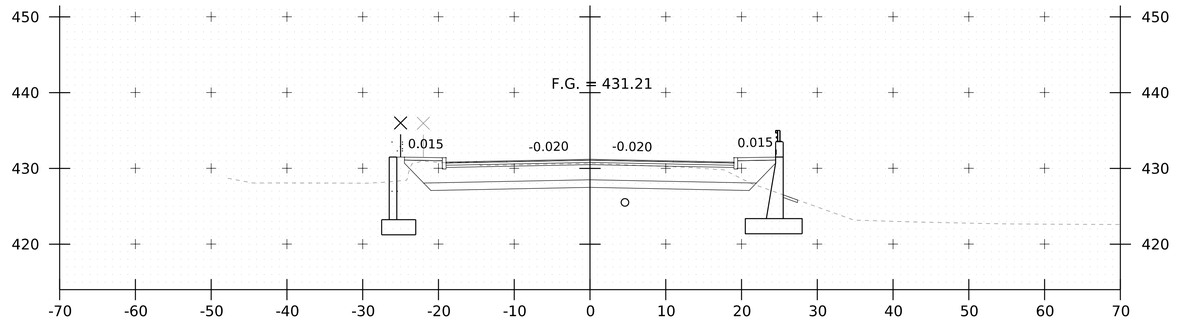

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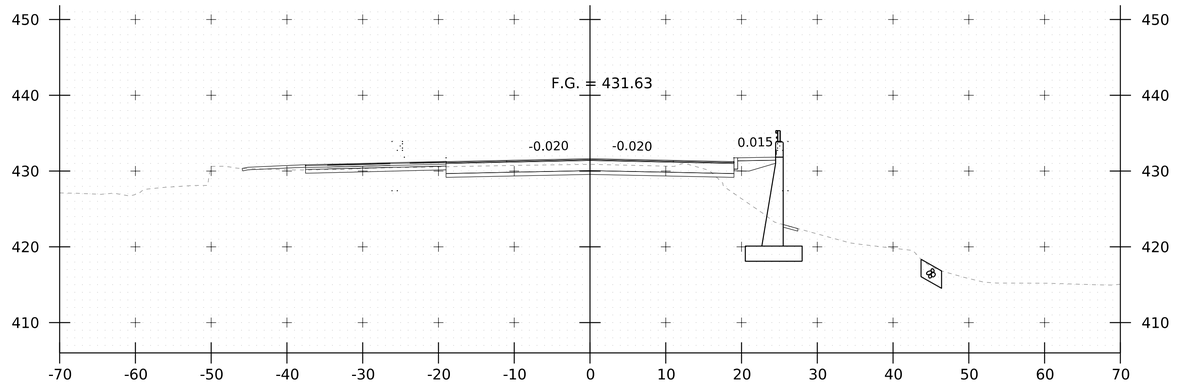
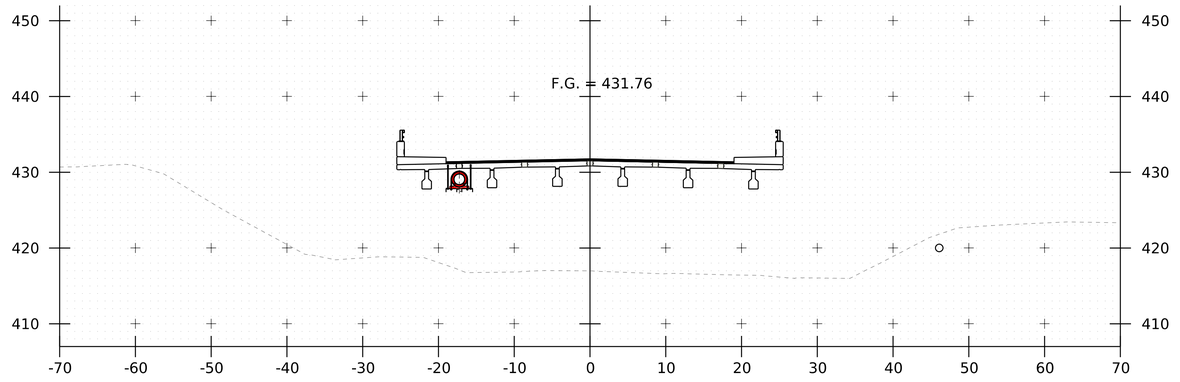


269+50

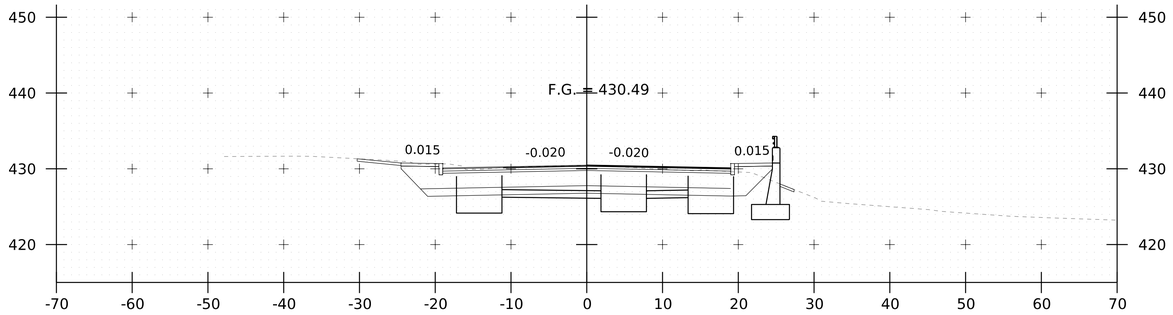
269+31.50 END BRIDGE



269+00

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608xs.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
WESTERN AVE CROSS SECTIONS SHEET 3	SHEET 53 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



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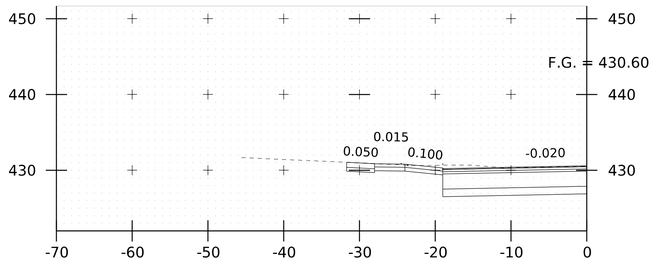

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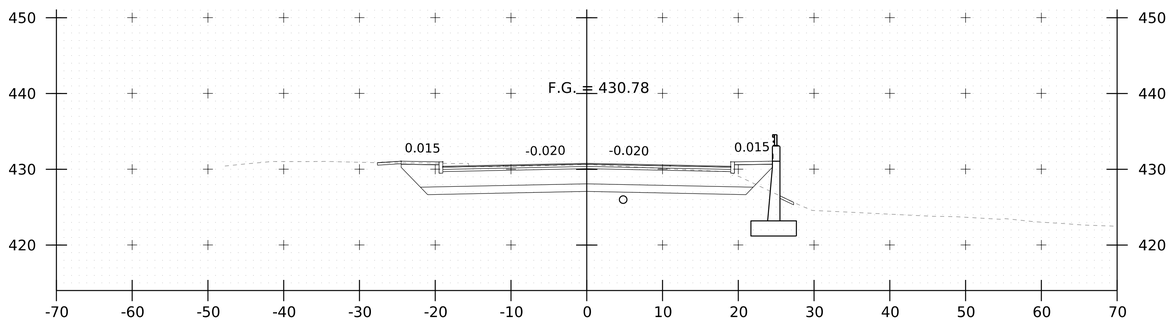

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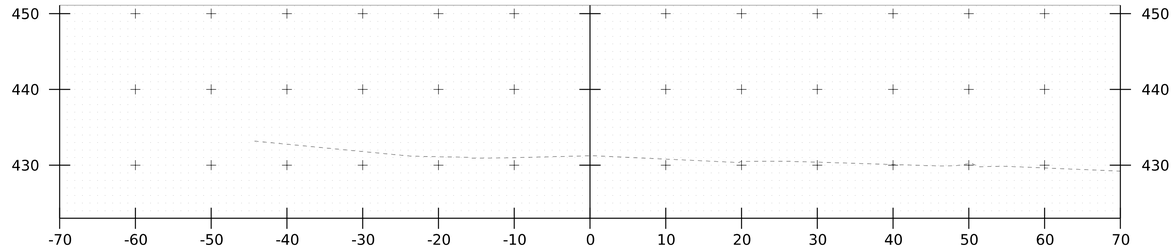
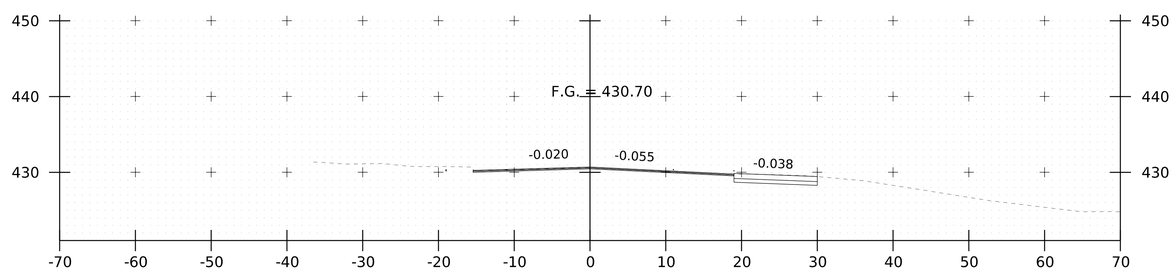


272+50

272+25.00 END APPROACH

272+00



271+50

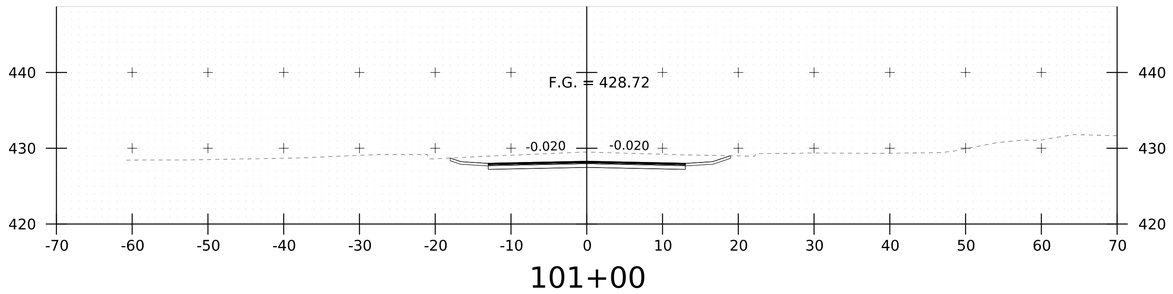
271+50.00 END PROJECT

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: zl2j608xs.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
WESTERN AVE CROSS SECTIONS SHEET 4

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 54 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



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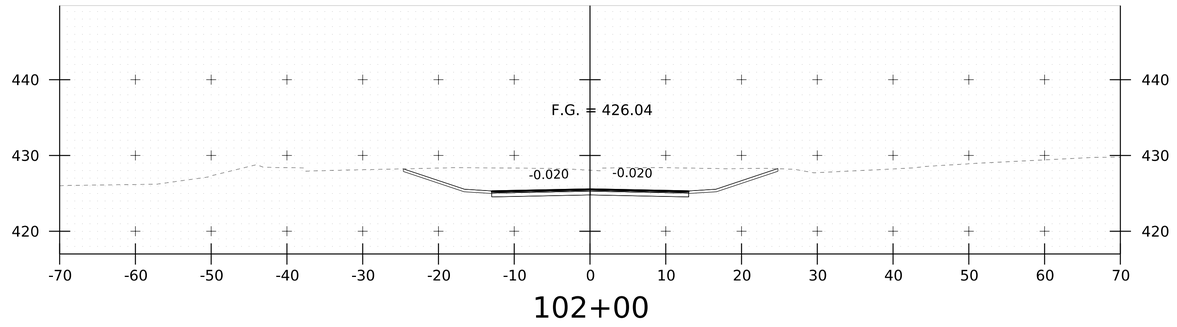

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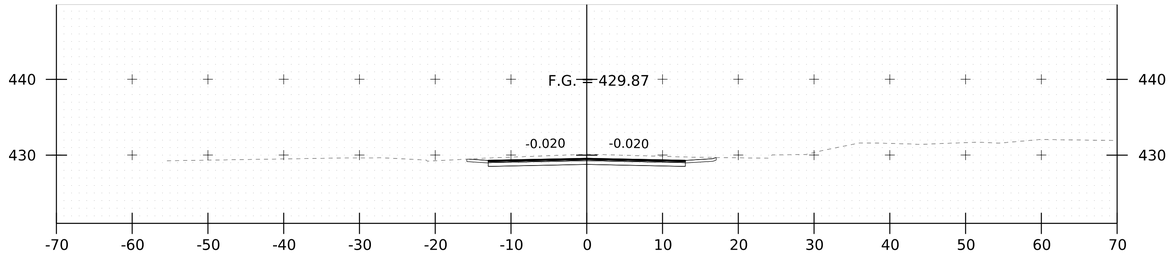

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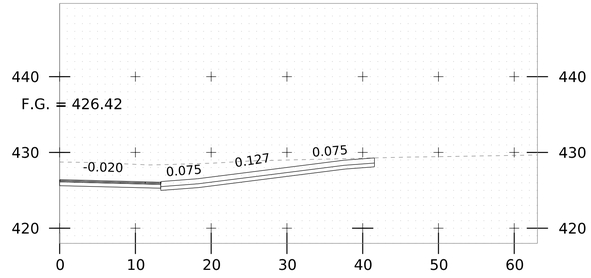

101+64

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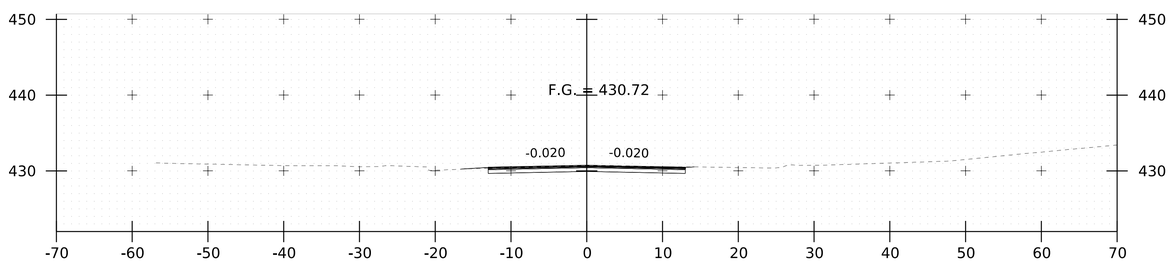

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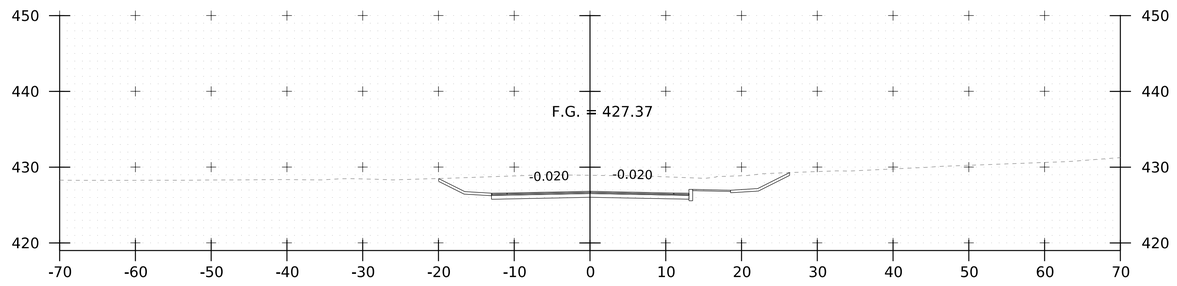


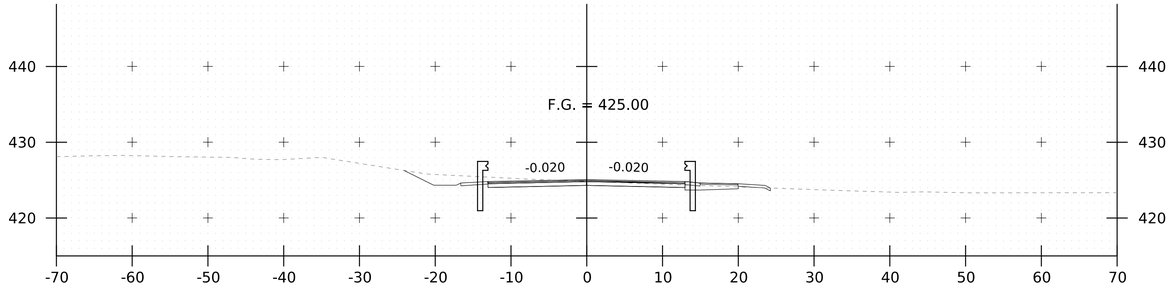
101+50

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608xs-TB.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
TEMP BRIDGE CROSS SECTIONS SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 55 OF 69



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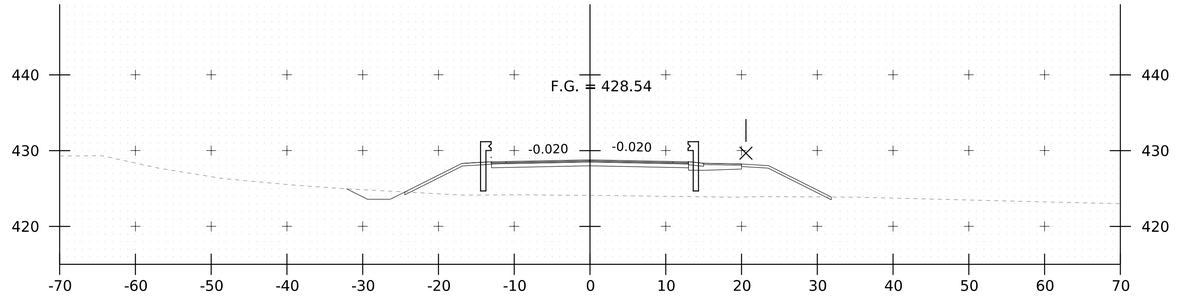

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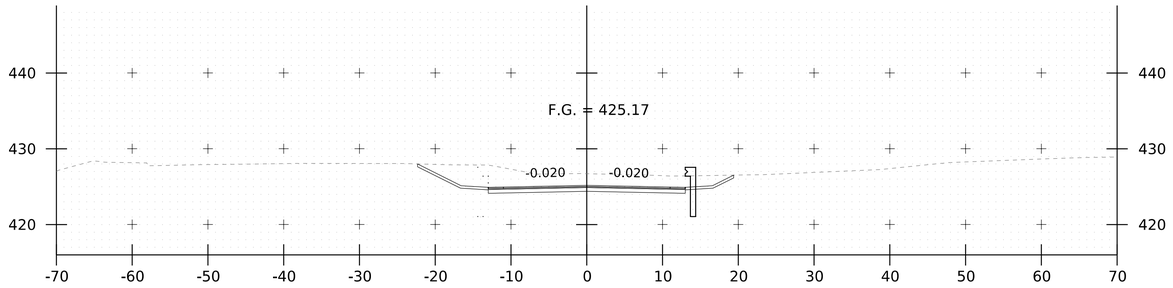

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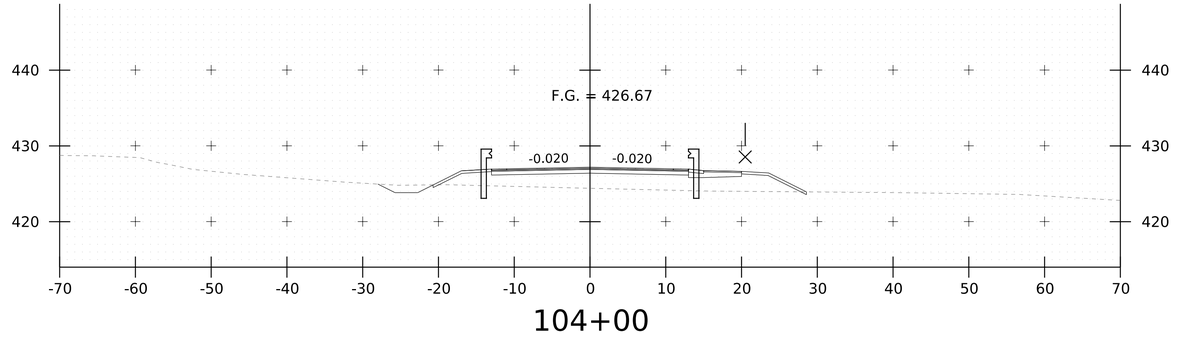

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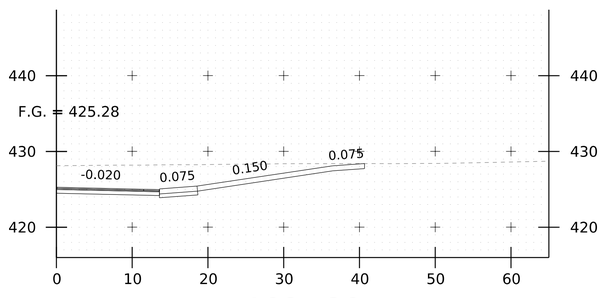

102+20

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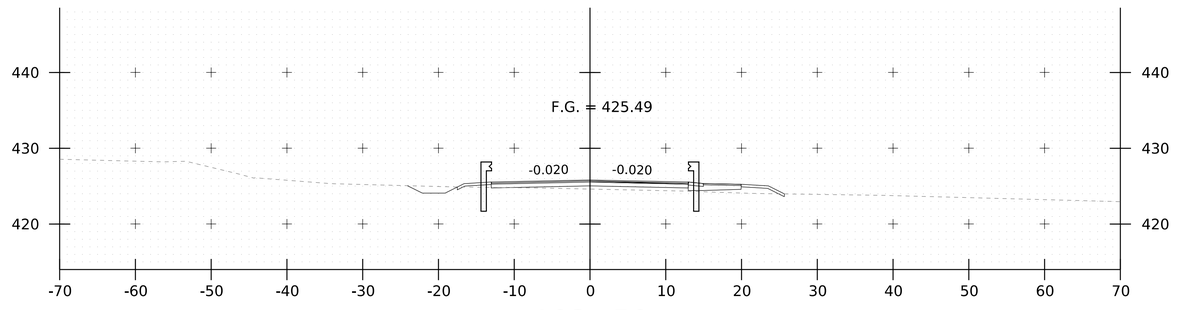


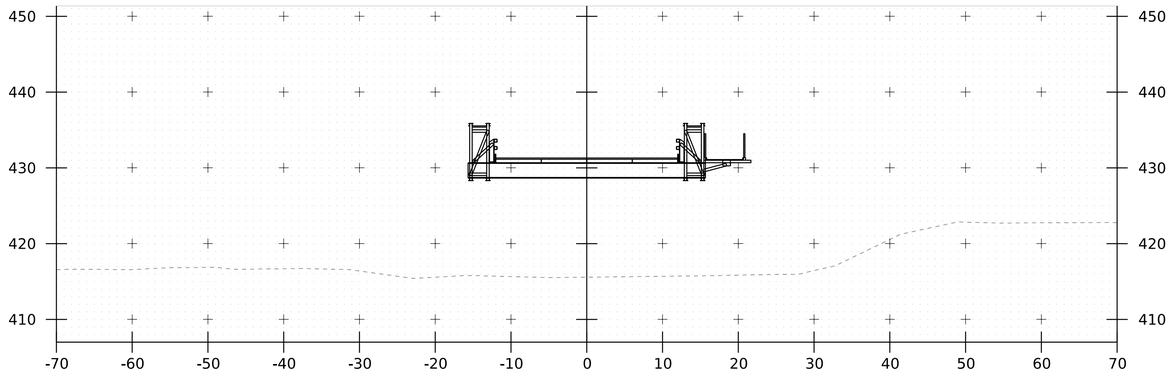
103+50

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

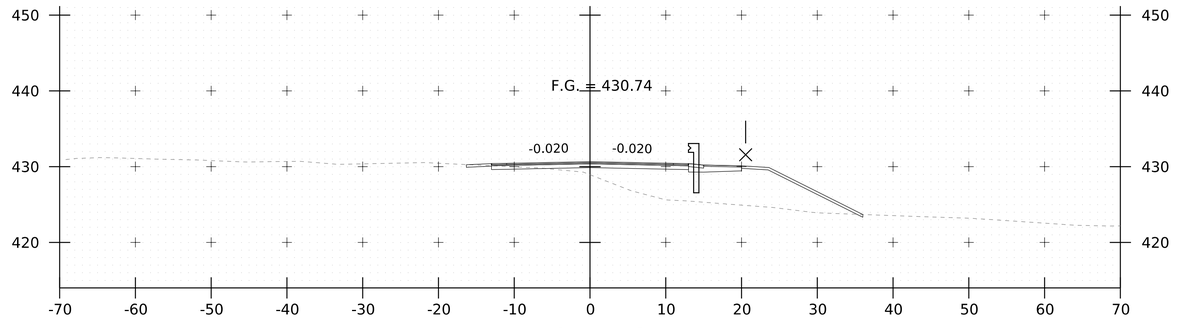
FILE NAME: z12j608xs-TB.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
TEMP BRIDGE CROSS SECTIONS SHEET 2

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 56 OF 69

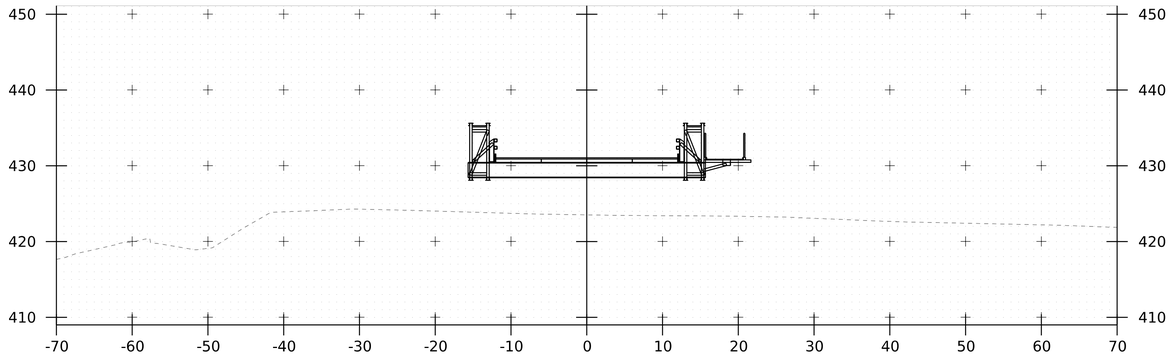
GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



106+00

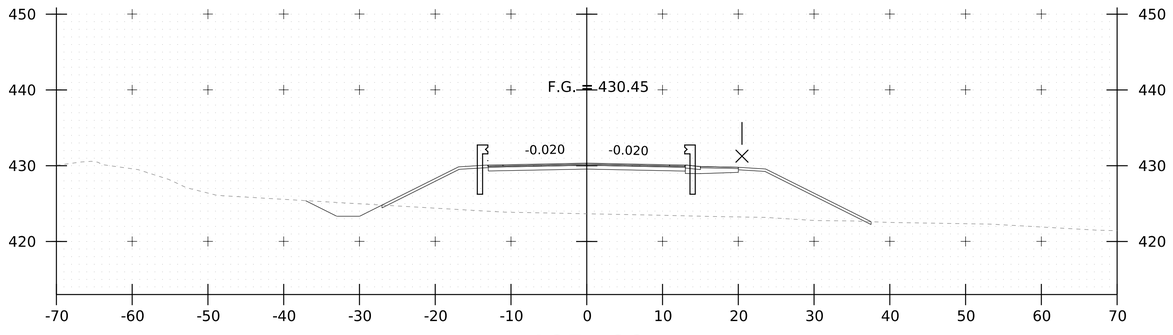


107+50



105+50

I05+44.98 BEGIN TEMPORARY BRIDGE



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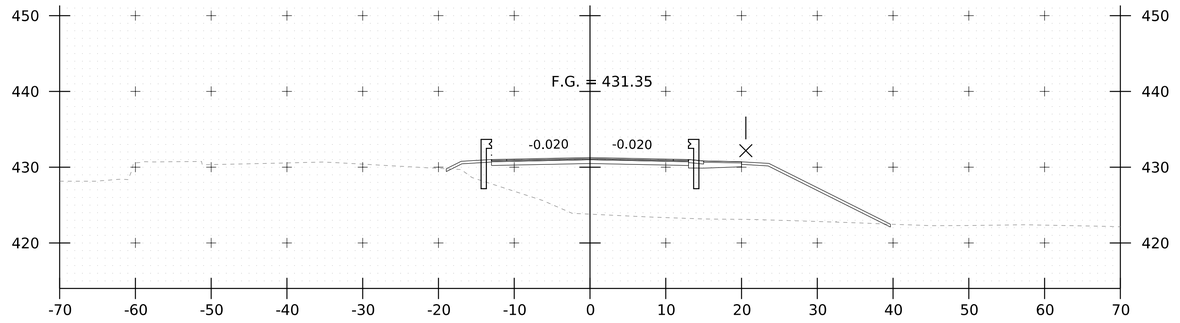
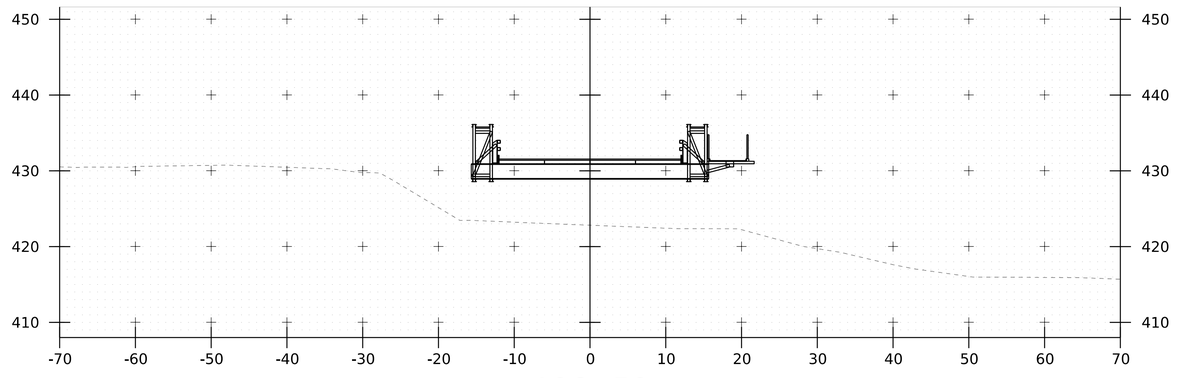


107+00

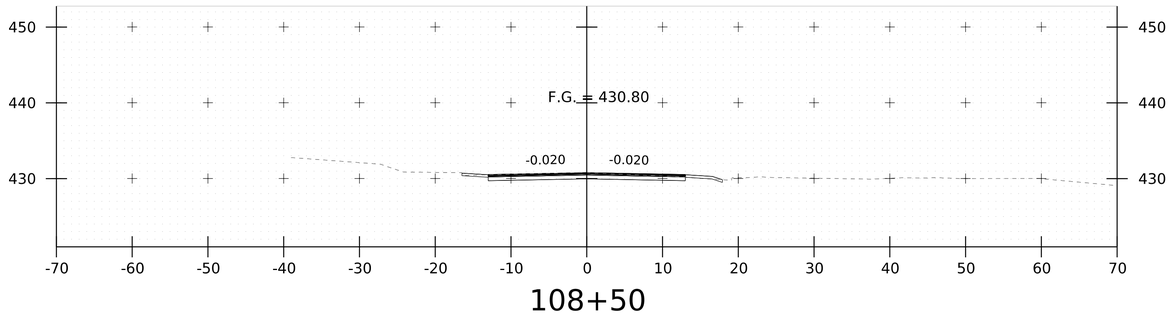
I06+50.98 END TEMPORARY BRIDGE



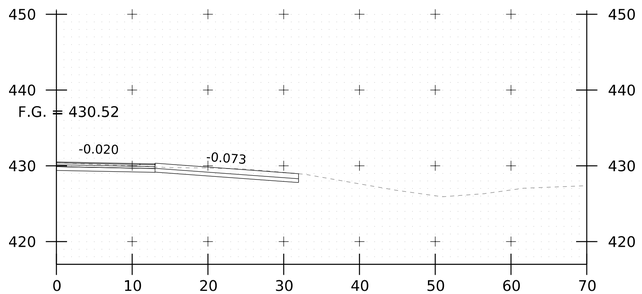
106+50

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608xs-TB.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
TEMP BRIDGE CROSS SECTIONS SHEET 3	SHEET 57 OF 69

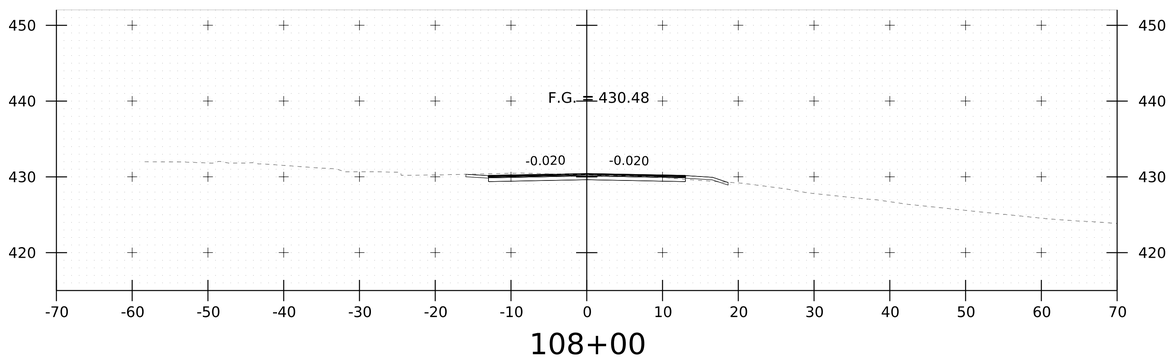
GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



108+50



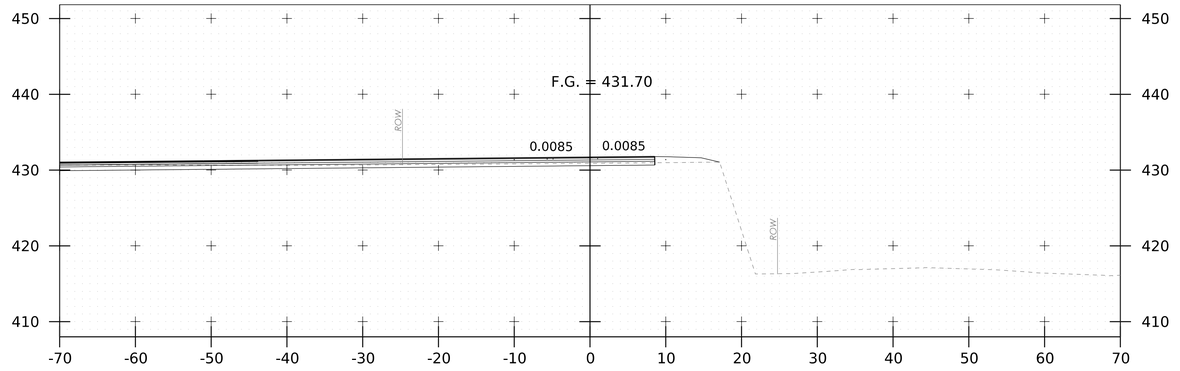
108+21



108+00

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO	
PROJECT NUMBER: BF 2000(28)	
FILE NAME: z12j608xs-TB.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
TEMP BRIDGE CROSS SECTIONS SHEET 4	SHEET 58 OF 69



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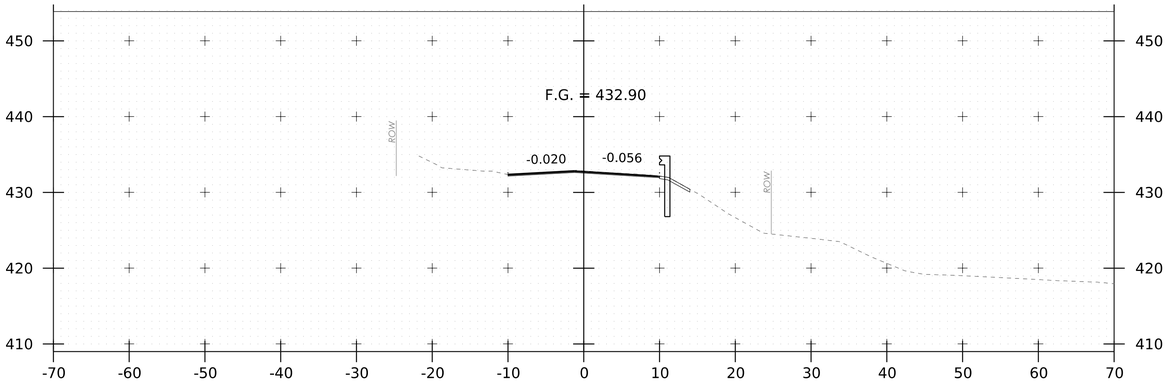
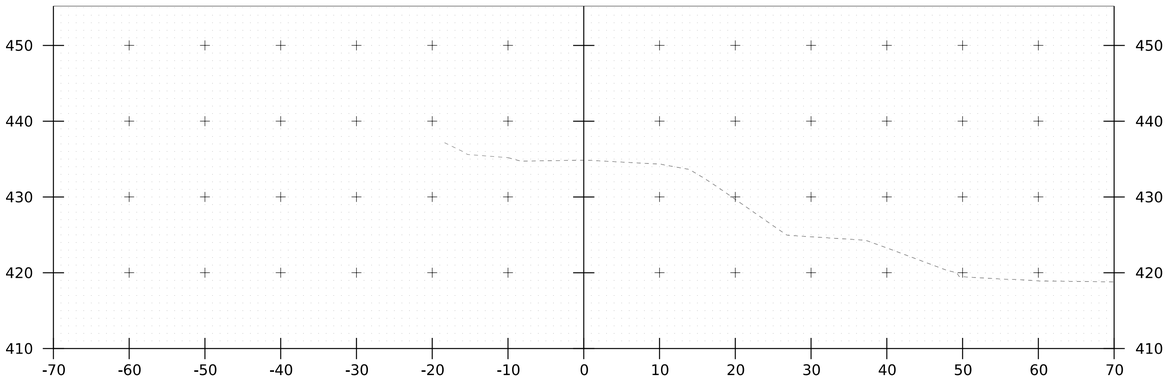


21+00

20+75.00 END APPROACH



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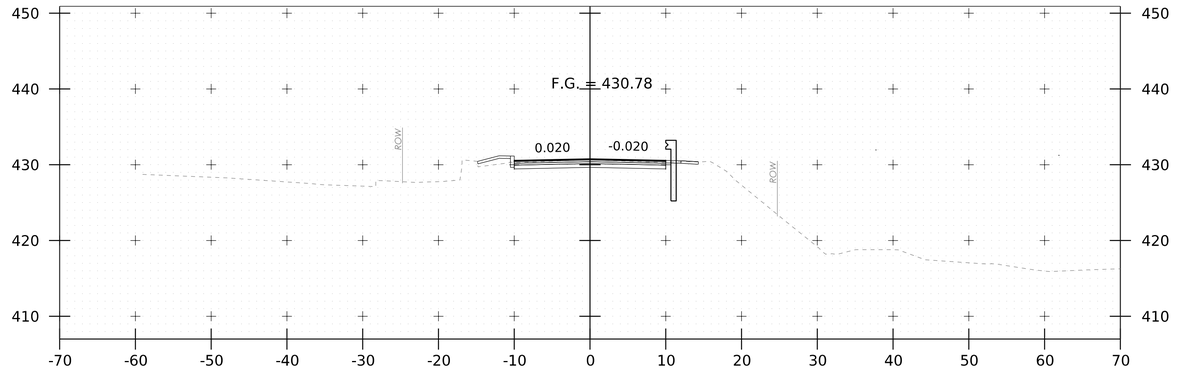
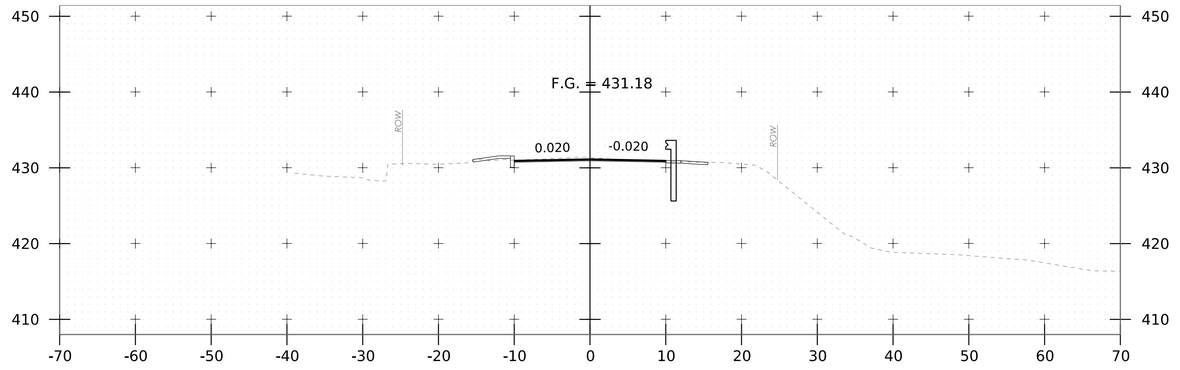


22+00

21+75.00 SIDELINE END PROJECT



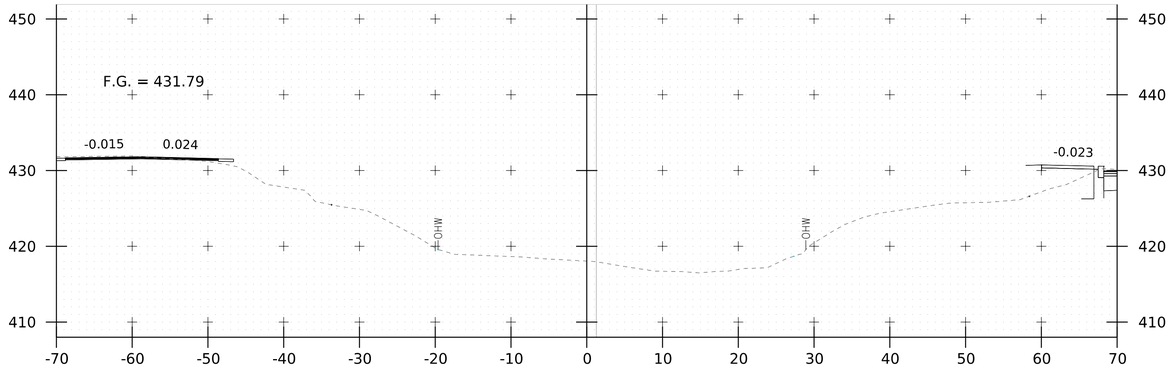
21+50

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

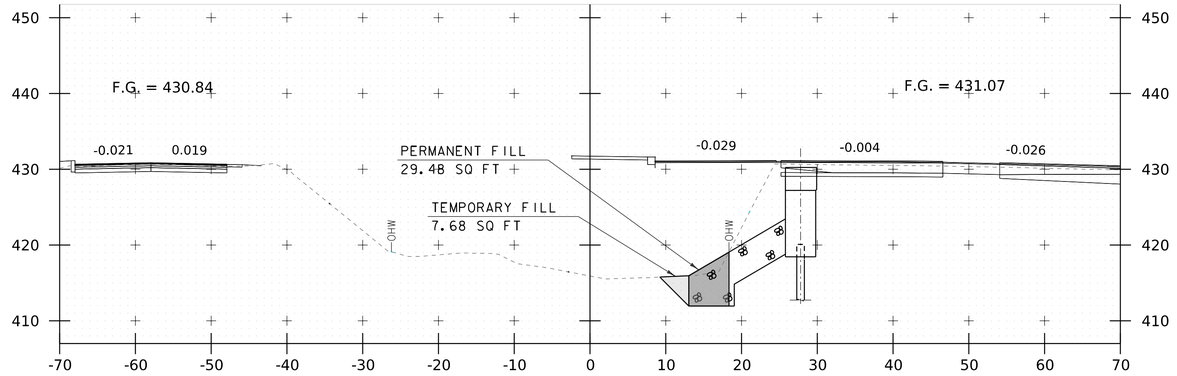
FILE NAME: zl2j608xs-Melrose.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
MELROSE STREET CROSS SECTIONS SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 59 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



51+25



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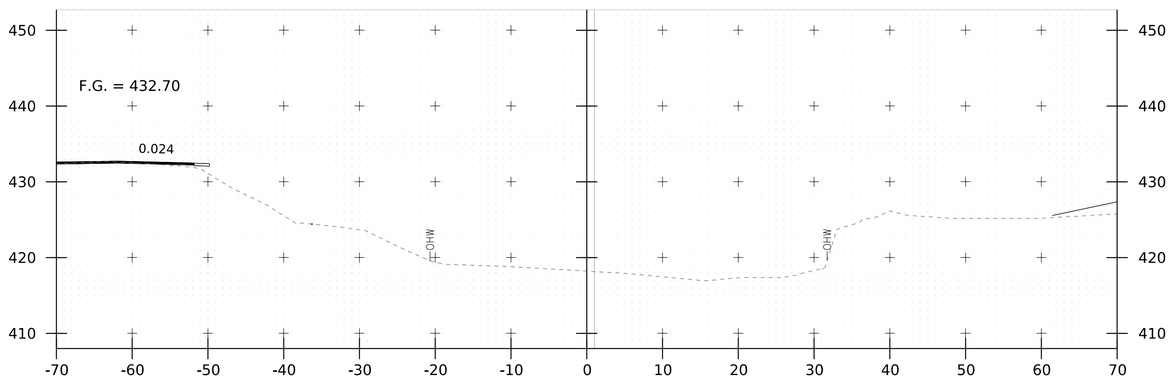
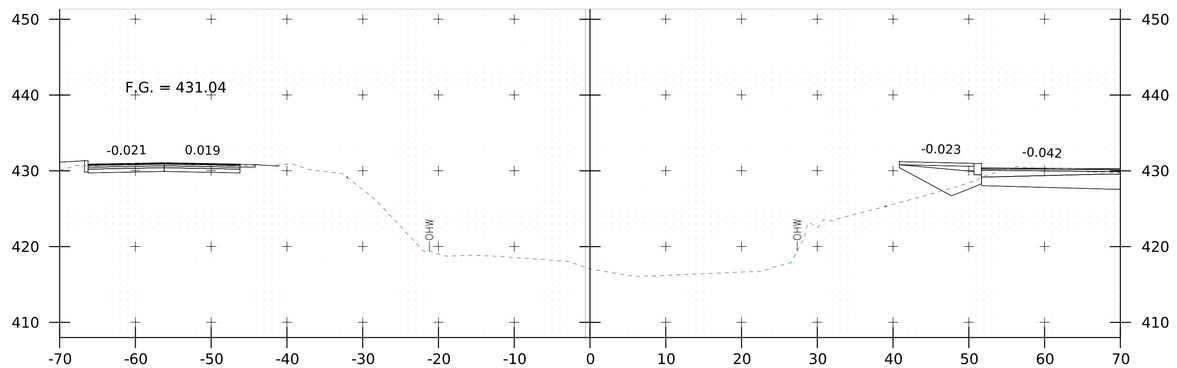


51+00



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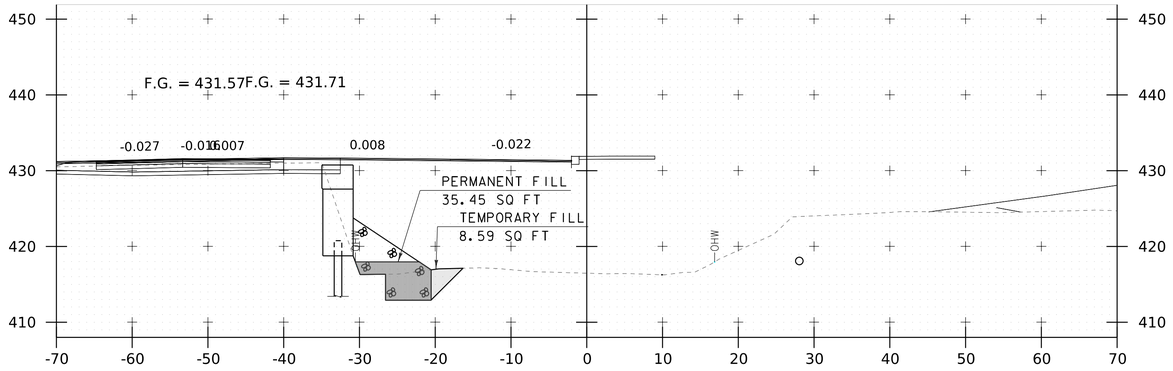
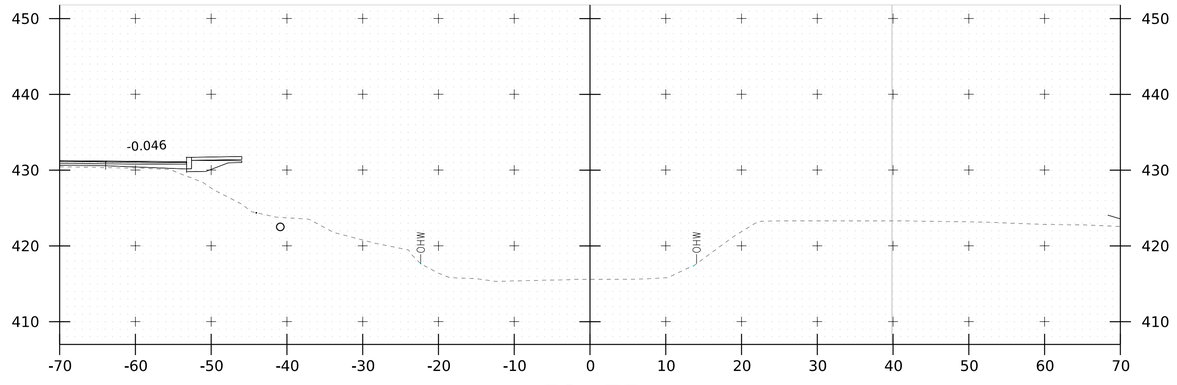
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608xs-Brook.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
CHANNEL CROSS SECTIONS SHEET 1	SHEET 60 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



52+25



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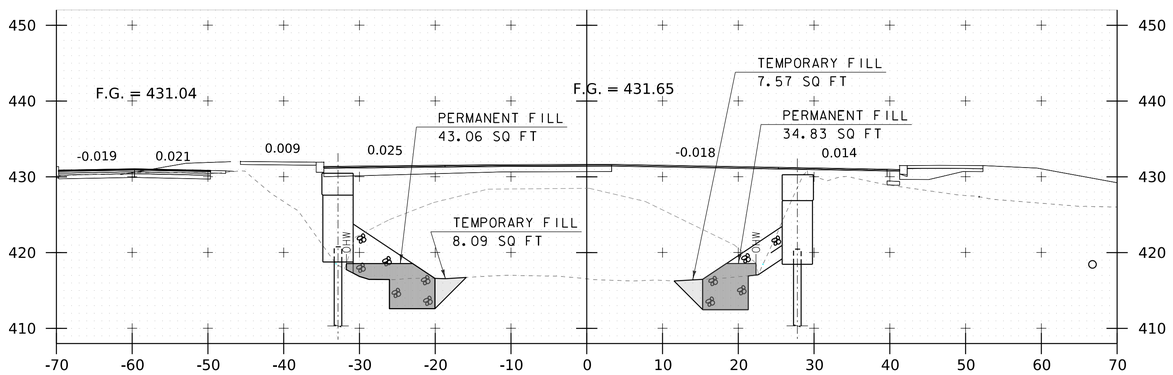

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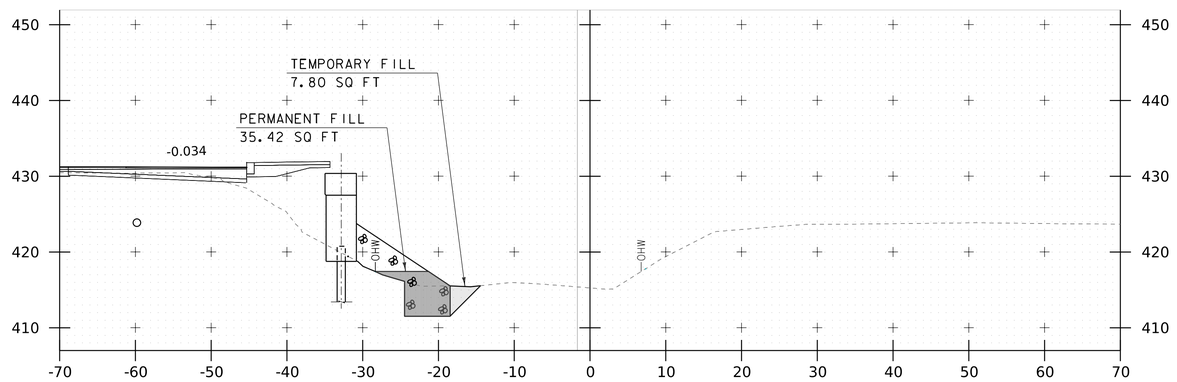
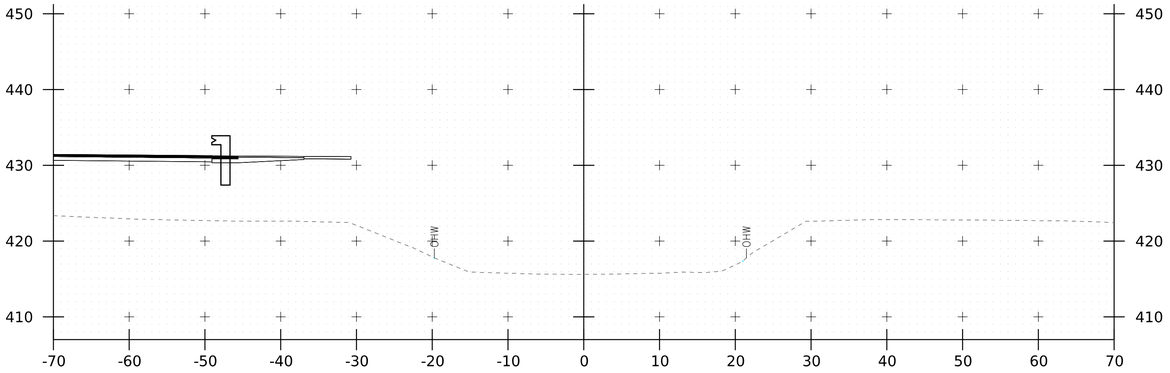


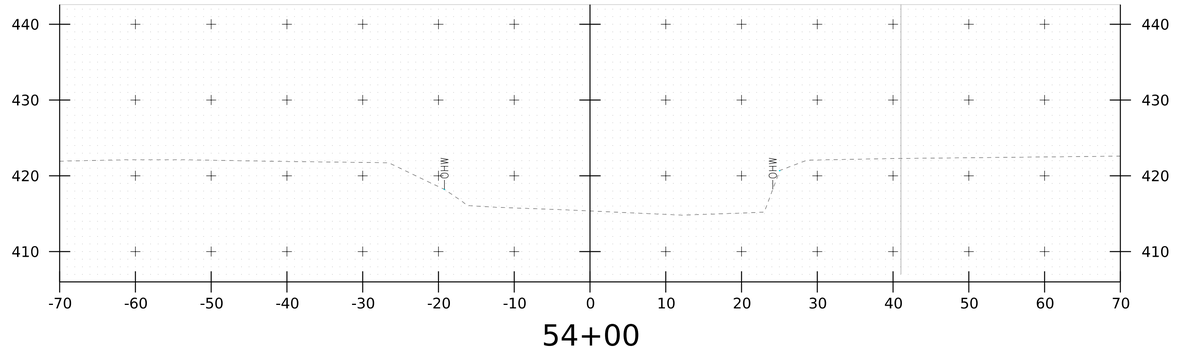
52+50

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(28)
FILE NAME: z12j608xs-Brook.dgn	PLOT DATE: 1/24/2024
PROJECT LEADER: T. CARD	DRAWN BY: M. NOLAN
DESIGNED BY: E. NOONAN	CHECKED BY: E. NOONAN
CHANNEL CROSS SECTIONS SHEET 2	SHEET 61 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS



53+25



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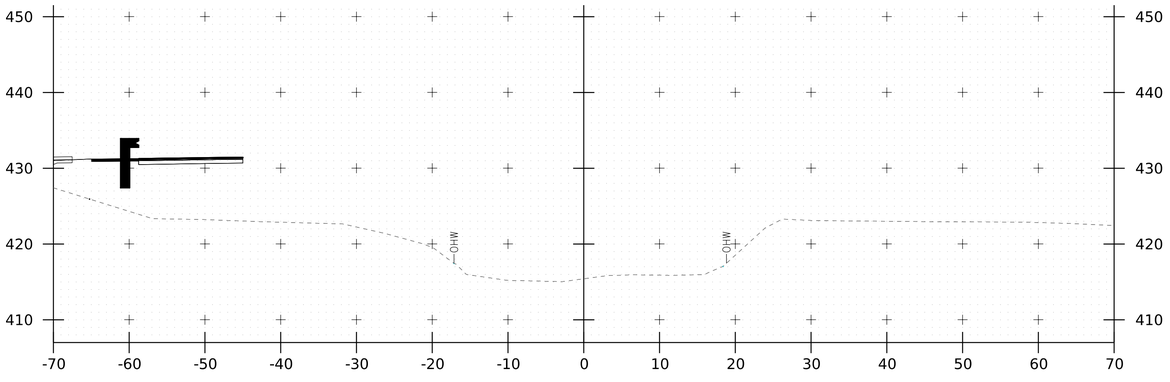
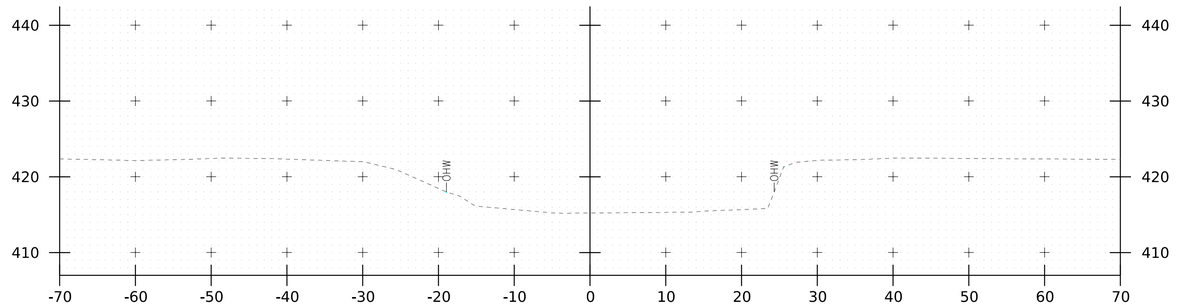
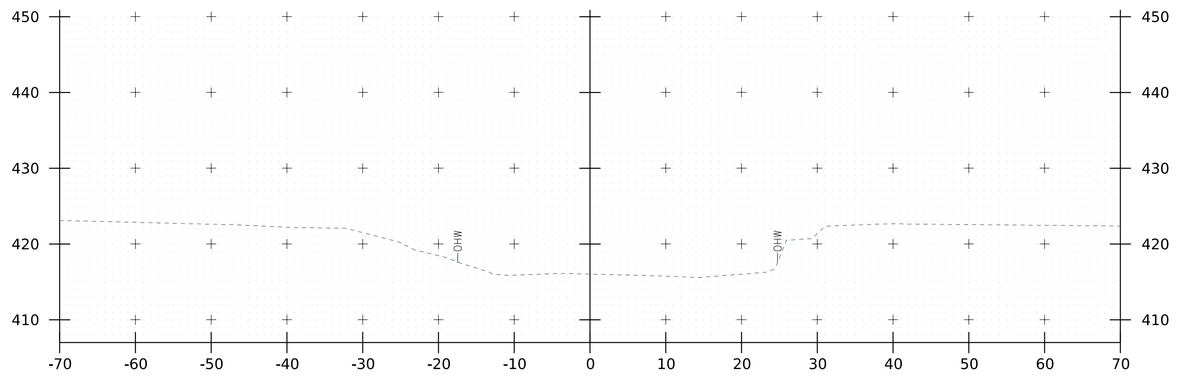


53+00



53+75



53+50

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608xs-Brook.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
CHANNEL CROSS SECTIONS SHEET 3

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 62 OF 69

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

EPSC PLAN NARRATIVE

1. PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE 54 OVER WHETSTONE BROOK WITH RELATED APPROACH AND CHANNEL WORK.

IT IS ANTICIPATED THAT CONSTRUCTION WILL LAST 9 MONTHS.

2. AMOUNT OF DISTURBANCE & RISK EVALUATION

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 1.31 ACRES.

THE MAXIMUM CONCURRENT EARTH DISTURBANCE USED TO SCORE THIS PROJECT IN APPENDIX A RISK ASSESSMENT IS 2 ACRES.

THIS PROJECT REQUIRES COVERAGE UNDER GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES FOR LOW RISK PROJECTS.

ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

3. MAJOR COMPONENTS & SEQUENCING

THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME.

THE MAJOR COMPONENTS OF THE PROJECT AND A PROPOSED GENERAL SEQUENCE IS AS FOLLOWS:

CONSTRUCTION OF THE PROJECT WILL BE BROKEN INTO FOUR MAIN PHASES THAT CONSIST OF BUILDING THE TEMPORARY BRIDGE AND ROADWAY APPROACHES, EXCAVATING AND REMOVING THE EXISTING BRIDGE, BUILDING THE NEW BRIDGE, NEW RETAINING WALLS, AND THE NEW ROADWAY APPROACHES, AND DEMOLSHING THE TEMPORARY BRIDGE AND FINAL SITE GRADING AND CLEANUP TASKS.

PHASE 1

1. ESTABLISH PERIMETER CONTROLS AND MARK PROJECT BOUNDARIES
2. INSTALL SEDIMENT CONTROL MEASURES
3. CLEARING
4. CONSTRUCT TEMPORARY ACCESS ROADS AND CRANE PAD
5. CONSTRUCT TEMPORARY BRIDGE
6. BUILD TEMPORARY BRIDGE EMBANKMENTS
7. INSTALL TEMPORARY DRAINAGE STRUCTURES
8. PLACE ROADWAY SUBBASE
9. PAVE ROADWAY AND BRIDGE DECK
10. SWITCH TRAFFIC TO TEMPORARY ROADWAY AND BRIDGE

PHASE 2

11. ADJUST PERIMETER CONTROLS AND PROJECT DEMARCATION, AS NECESSARY
12. INSTALL OR ADJUST SEDIMENT CONTROL MEASURES
13. REMOVE EXISTING SUPERSTRUCTURE
14. REMOVE EXISTING PIER AND ABUTMENTS TO ELEVATIONS SHOWN ON PLANS

PHASE 3

15. ADJUST PERIMETER CONTROLS AND PROJECT DEMARCATION, AS NECESSARY
16. INSTALL OR ADJUST SEDIMENT CONTROL MEASURES
17. CONSTRUCT ROADWAY EMBANKMENTS AND STABILIZE SIDE SLOPES
18. INSTALL NEW DRAINAGE STRUCTURES
19. PLACE ROADWAY SUBBASE
20. PAVE ROADWAY AND BRIDGE DECK
21. SWITCH TRAFFIC TO NEW ROADWAY AND BRIDGE

PHASE 4

22. ADJUST PERIMETER CONTROLS AND PROJECT DEMARCATION, AS NECESSARY
23. INSTALL OR ADJUST SEDIMENT CONTROL MEASURES
24. REMOVE TEMPORARY BRIDGE AND TEMPOARY DRAINAGE STRUCUTRES
25. REMOVE TEMPORARY ROAD AND SHAPE FINAL SLOPES
26. INSTALL PERMANENT STABILIZATION MEASURES

4. SITE DESCRIPTION
4.1 VEGETATED BUFFERS

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

THIS PROJECT DOES NOT RELY ON VEGETATED BUFFERS AS A MITIGATING RISK FACTOR.

4.2 STREAM CROSSINGS

THIS PROJECT INCLUDES 1 STREAM CROSSINGS, AS DESCRIBED IN SECTION 5.1 BELOW. WORK WITHIN THE WATER IS BEING AUTHORIZED THROUGH THE VANR DEC RIVER MANAGEMENT PROGRAM AND THE US ARMY CORPS OF ENGINEERS.

4.3 WETLANDS

THERE ARE NO WETLANDS OR WETLAND BUFFERS BEING IMPACTED WITHIN THE PROJECT LIMITS.

4.4 TOPOGRAPHY

THE TOPOGRAPHY OF THE PROJECT AREA CONSISTS OF A VARYING TERRAIN. WESTERN AVENUE IS RELATIVELY FLAT. MELROSE STREET IS ON A DOWNWARD SLOPE OF APPROXIMATELY 40:1. THERE ARE STEEPER SLOPES (APPROXIMATELY 2 TO 3:1) SURROUNDING WHETSTONE BROOK. THE PROJECT SITE IS GENERALLY SURROUNDING RESIDENTIAL PROPERTIES WITH PAVED OR GRAVEL DRIVEWAYS.

4.5 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF SCATTERED TREES, BRUSH, AND SHRUBS NORTH OF WESTERN AVENUE ON THE WESTERN SIDE OF WHETSTONE BROOK AND SOUTH OF WESTERN AVENUE ON THE EASTERN SIDE OF WHETSTONE BROOK. THERE IS A 350-FOOT LONG GRASS FIELD SOUTH OF WESTERN AVENUE ON THE WESTERN SIDE OF WHETSTONE BROOK.

THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE PROJECT. UPON COMPLETION, THE DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES AS DESCRIBED IN THE TURF ESTABLISHMENT DETAIL, UNLESS NOTED OTHERWISE.

4.6 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. SOILS ON THE PROJECT SITE INCLUDE:

27. QUONSET AND WARWICK SOIL, 2% TO 8% SLOPES, “K FACTOR” = 0.24
28. ONDAWA FINE SANDY LOAM, 0% TO 3% SLOPES, “K FACTOR” = 0.32
29. MONADNOCK AND BERKSHIRE SOILS, 3% TO 8% SLOPES, “K FACTOR” = 0.32
30. MONADNOCK AND BERKSHIRE SOILS, 25% TO 60% SLOPES, “K FACTOR” = NOT SPECIFIED

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

4.7 OTHER SENSITIVE RESOURCES

THE ARCHEOLOGICALLY SENSITIVE AREA IN THE SOUTHWEST QUADRANT OF THE PROJECT AND SHOWN ON THESE PLANS SHALL BE PROTECTED WITH ORANGE BARRIER FENCE. THE HISTORICALLY SENSITIVE AREA IN THE NORTHEAST QUADRANT OF THE PROJECT AND SHOWN ON THESE PLANS SHALL BE PROTECTED WITH ORANGE BARRIER FENCE.

THE PLANS ALSO SHOW ONE DOGWOOD SHRUB ON THE SOUTHWEST QUADRANT, TWO LARGE SYCAMORE TREES NEAR THE NORTHEAST SIDE OF THE BRIDGE, AND FOUR LARGE SHRUBS EAST OF MELROSE STREET THAT SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 656.1100 TREE PROTECTION.

5. DRAINAGE
5.1 RECEIVING WATERS

WHETSTONE BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS RELATIVELY FLAT AND NARROW, WITH A CONFINED CHANNEL AT THE SITE. RESIDENCES WATER SUPPLIES ARE FROM MUNICIPAL WATER. THE STREAM BED CONSISTS OF GRAVEL, COBBLES, AND BOULDERS.

5.2 DISCHARGE POINTS

IN THE EXISTING CONDITION THE OUTFALLS ARE DISCHARGING DIRECTLY TO THE BROOK. THE EXISTING DISCHARGE POINTS CONSISTS OF RUNOFF FROM THE WEST SIDE OF THE BRIDGE, RUNOFF FROM THE EAST SIDE OF THE BRIDGE AND RUNOFF FROM MELROSE STREET.

DURING CONSTRUCTION, THE EXISTING OUTFALLS MAY REMAIN IN OPERATION WITH SEDIMENT CONTROL PRACTICES IN PLACE, AS SHOWN ON THE ATTACHED EPSC PLANS.

IN THE PROPOSED CONDITION THERE ARE THREE OUTFALLS AND ALL OUTFALLS WILL DISCHARGE DIRECTLY TO THE BROOK. THE RUNOFF FLOW FOR VT ROUTE 9 AND MELROSE STREET WILL STAY THE SAME AS EXISTING CONDITIONS.

IN THE PROPOSED CONDITIONS, TEMPORARY DRAINAGE WILL BE IN OPERATION FOR TEMPORARY BRIDGE CONDITIONS AND WILL DISCHARGE DIRECTLY TO THE BROOK VIA THE DRAINAGE DITCH.

5.3 CONVEYANCE/FLOW PATH FROM PROJECT TO WATERS

THE MAJORITY OF THE PROJECT IS CURBED AND ROADWAY RUNOFF FLOWS VIA THE CLOSED DRAINAGE SYSTEM. THE CLOSED DRAINAGE SYSTEM DISCHARGES THE BROOK WITH ARMORED STREAMBANK.

6. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

THE MEASURES INCLUDED IN THIS PLAN ARE PROVIDED AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. IT IS EXPECTED THAT THE CONTRACTOR MAY USE THIS PLAN, WITH ADJUSTMENTS AS NECESSARY, BASED ON THEIR SPECIFIC MEANS AND METHODS OF CONSTRUCTION.

APPLYING THESE MEASURES THROUGHOUT CONSTRUCTION IS CRITICAL TO THEIR SUCCESS IN MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. REFER TO THE DETAILS INCLUDED IN THESE PLANS AND THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION’S VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR SPECIFIC GUIDANCE.

6.1 IDENTIFY LIMITS OF DISTURBANCE

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

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

6.2 LIMIT CONCURRENT DISTURBANCE

LIMITING THE AMOUNT OF SOIL EXPOSED AT ONE TIME REDUCES THE POTENTIAL EROSION ON SITE. CONCURRENT EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY AND EMPLOYING STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE.

6.3 STABILIZE DISTURBED AREAS
6.3.1 ACCESS POINTS/ENTRANCE/EXITS

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 ARE ANTICIPATED ON THIS PROJECT AND SHALL BE LOCATED AS SHOWN ON THIS EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

6.3.2 TEMPORARY MEASURES FOR EXPOSED AREAS DURING CONSTRUCTION

ALL AREAS OF EARTH DISTURBANCE MUST HAVE STABILIZATION IN PLACE WITHIN 14 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, DISTURBED AREAS MUST BE STABILIZED IN ADVANCE OF ANY RUNOFF PRODUCING EVENT.

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.

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. IF AN EXTENDED RAIN PERIOD IS PREDICTED, EXPOSED SOIL AREAS SHALL BE MULCHED PRIOR TO AND DAILY DURING THE RAIN EVENT.

AT MINIMUM, ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY OR FINAL STABILIZATION IN PLACE WITHIN 14 DAYS OF INITIAL DISTURBANCE, OR IN ACCORDANCE WITH THE GENERAL CONSTRUCTION PERMIT. AFTER THIS TIME ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORKDAY. THE FOLLOWING EXCEPTIONS APPLY:

1. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THE NEXT 24 HOURS.
2. STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF 2 FEET OR GREATER.

6.3.3 PERMANENT STABILIZATION 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, ROLLED EROSION CONTROL PRODUCT, TYPE I SHALL BE USED INSTEAD OF MULCH.

STONE FILL FROM RIPRAP APRONS SHALL BE USED FOR SLOPE STABILIZATION NORTH AND SOUTH OF THE BRIDGE AS DETAILED IN THE PLANS.

AS A PHASE IS COMPLETED, THE CONTRACTOR SHALL SEED AND PERMANENTLY STABILIZE ALL AREAS OF EARTH DISTURBANCE WITHIN THAT PHASE PRIOR TO DECOMMISSIONING THE ASSOCIATED EPSC MEASURES AND BEFORE STARTING WORKS IN THE NEXT PHASE. THE CONTRACTOR SHALL APPLY DUST CONTROL MEASURES OVER EXPOSED SURFACES NOT INTENDED TO BE VEGETATED.

ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE REMOVED WITHIN 30 DAYS OF ACHIEVING FINAL STABILIZATION.

THE POST-CONSTRUCTION SOIL DEPTH AND QUALITY (PCSDQ) STANDARD SHALL BE ESTABLISHED TOWARDS THE END OF THE CONSTRUCTION, AND ONCE ESTABLISHED, BE PROTECTED FROM COMPACTION.

6.4 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; HOWEVER MELROSE STREET DRAINS TOWARD THE PROJECT AREA. RUNOFF FROM THIS AREA MAY NEED TO BE DIVERTED AWAY FROM THE PROJECT AREA. THE CONTRACTOR SHALL REFER TO THE LOW RISK HANDBOOK FOR GUIDANCE.

6.5 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED ON THE DOWNHILL SIDE OF CONSTRUCTION ACTIVITIES, PRIOR TO ANY UP-SLOPE WORK.

FILTER CURTAINS AND INLET PROTECTION DEVICE, TYPE II SHALL BE IN ACCORDANCE WITH THE PLANS.

6.6 SLOW DOWN CHANNELIZED RUNOFF

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

TEMPORARY STONE CHECK DAMS WILL BE INSTALLED AS SHOWN ON THE EPSC PLANS AND AS DIRECTED BY THE ENGINEER.

THE FLOW CHARTS SHOWN IN FIGURES 3.1, 3.2, AND 3.3 FOR EPSC SELECTIONS FOR RUNOFF CONTROL, SOIL STABILIZATION AND SEDIMENT CONTROL LOCATED IN THE VT STANDARDS AND SPECIFICATIONS FOR EPSC SHALL BE USED AS NEEDED.

7. CONSTRUCT PERMANENT CONTROLS

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

THERE ARE THREE PROPOSED OUTFALLS THAT DISCHARGE INTO THE PROPOSED SEDIMENT FOREBAYS. IF THESE OUTFALLS ARE USED DURING CONSTRUCTION, THE LAST 200 FT (MIN.) OF PIPE SHALL BE FLUSHED, THEN THE FOREBAYS MUST BE CLEANED OUT AND FULLY RESTORED TO THE PROPOSED LEVELS SO THAT THEY FUNCTION AS DESIGNED. THIS SHALL BE DONE POST CONSTRUCTION AND AFTER STABILIZATION OF THE CONTRIBUTING CATCHMENT.

8. DEWATERING

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. DEWATERED STORMWATER OR GROUNDWATER MUST BE FILTERED AND ROUTED IN A MANNER THAT DOES NOT RESULT IN VISIBLY TURBID DISCHARGES TO WATERS.

DEWATERING OF SURFACE WATER WITHIN THE COFFERDAM IS ANTICIPATED. THE FILTER BAG DETAIL AND PAY ITEM HAVE BEEN INCLUDED AS A POTENTIAL TREATMENT MEASURE FOR THIS PURPOSE, HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

9. OFF-SITE AREAS

OFF-SITE WASTE AND BORROW AREAS HAVE NOT BEEN IDENTIFIED FOR THIS PROJECT. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PERMIT, AS NECESSARY, ANY OFF-SITE AREAS THAT ARE NEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 105.25 - 105.28. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES NECESSARY FOR WASTE, BORROW, AND STAGING AREAS OUTSIDE THE PROJECT LIMITS SHALL BE PAID FOR PER 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

VEHICLE AND EQUIPMENT STORAGE AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILERS OR OTHER HIGH TRAFFIC AREAS SHALL BE COVERED WITH GEOTEXTILE FABRIC AND 12" OF GRAVEL. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS SHALL BE REMOVED FROM THE STAGING AREA. COMPACTED, RUTTED, OR OTHERWISE DISTURBED SOILS SHALL BE TILLED, RAKED, SEEDED AND MULCHED.

ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS SHALL BE ISOLATED WITH SILT FENCE OR OTHER ACCEPTABLE SEDIMENT BARRIER. SOIL STOCKPILED ON THE SITE SHALL BE SEEDED AND MULCHED.

10. WINTER CONSTRUCTION

CONSTRUCTION ACTIVITIES ARE NOT ANTICIPATED TO CONTINUE INTO THE WINTER MONTHS. IN CASE UNFORESEEN CIRCUMSTANCES CAUSE CONSUTRCTION TO TAKE PLACE BETWEEN OCTOBER 15 AND APRIL 15, THE CONTRACTOR SHALL FOLLOW REQUIREMENTS FOR WINTER CONSTRUCTION, AS DEFINED IN SPECIFIC PERMIT CONDITIONS AND AS FOLLOWS:

1. ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
2. LIMITS OF DISTURBANCE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.
3. DEVELOPMENT OF A SNOW MANAGEMENT PLAN THAT INCLUDES:
    - I. ADEQUATE STORAGE AND CONTROL OF MELT-WATER
    - II. STORAGE OF CLEARED SNOW TO BE PLACED DOWN SLOPE OF DISTURBED AREAS AND OUT OF STORMWATER TREATMENT STRUCTURES

B. AREAS OF DISTURBANCE WITHIN 100 FT OF A WATERBODY MUST HAVE REINFORCED (WOVEN WIRE) SILT FENCE INSTALLED ACROSS THE SLOPE, DOWNGRADIENT OF THE EARTH DISTURBANCE. ALTERNATIVELY, REGULAR, NON-WOVEN WIRE SILT FENCE MAY BE USED IF COMBINED WITH EROSION CONTROL BERM, EROSION LOG, OR STRAW WATTLE.

C. DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.

D. SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROZEN GROUND.

E. MULCH TO BE APPLIED AT A MINIMUM OF 2 INCHES DEPTH WITH 80-90% COVERAGE.

F. AREAS OF DISTURBED SOILS MUST BE STABILIZED PRIOR TO ANY RUNOFF-PRODUCING EVENT, WITH THE FOLLOWING EXCEPTION:
    - I. STABILIZATION IS NOT REQUIRED OF 2 FT OR GREATER (OPEN UTILITY TRENCHES), PROVIDED THAT ANY DEWATERING, IF NECESSARY, IS CONDUCTED AS REQUIRED.

G. PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1" THICKNESS.

H. USE STONE TO STABILIZE AREAS WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED.

11. INSPECTION & MAINTENANCE

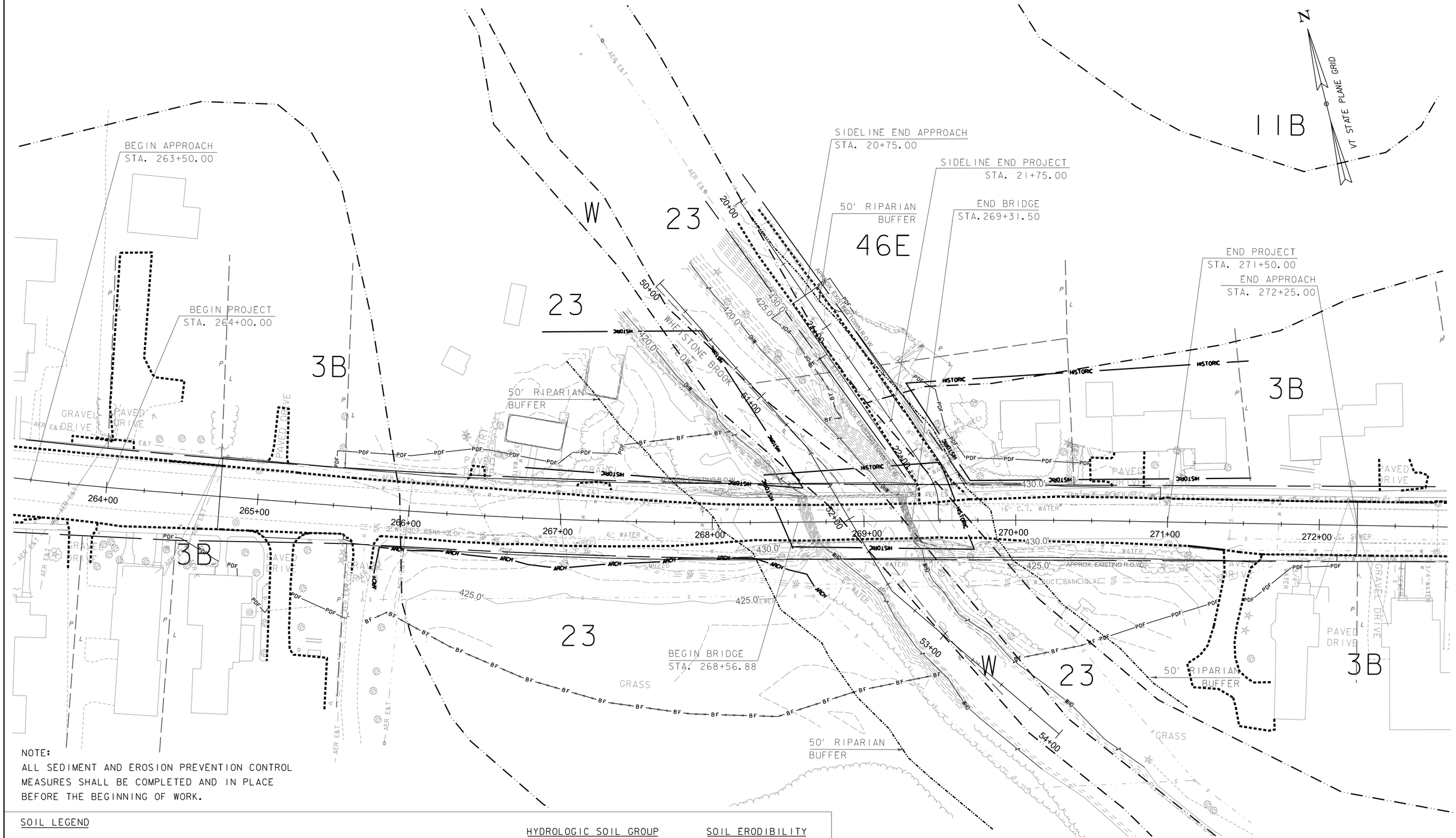
ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES MUST BE REMOVED WITHIN 30 DAYS OF ACHIEVING FINAL STABILIZATION.

INSPECTION FREQUENCY AND MONITORING OF THE PROJECT'S EPSC AND OSPC MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH STANDARD SPECIFICATION 653.04 MONITORING EROSION PREVENTION AND SEDIMENT CONTROL PLAN, ALONG WITH PERMIT SPECIFIC INSPECTION REQUIREMENTS.

THE CONTRACTOR SHALL PROVIDE A COPY OF THEIR INSPECTION FORM AS PART OF THEIR EPSC PLAN.

ALL EPSC 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.

AREA OF DISTURBANCE = 1.31 ACRES



NOTE:
ALL SEDIMENT AND EROSION PREVENTION CONTROL MEASURES SHALL BE COMPLETED AND IN PLACE BEFORE THE BEGINNING OF WORK.

SOIL LEGEND

SOIL DESIGNATION		HYDROLOGIC SOIL GROUP CLASSIFICATION	SOIL ERODIBILITY COEFFICIENTS (K)
3B	= QUONSET AND WARWICK SOILS, 2 TO 8 PERCENT SLOPES	A	0.24
11B	= MONADNOCK AND BERKSHIRE SOILS, 3 TO 8 PERCENT SLOPES	B	0.32
23	= ONDAWA FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	B	0.32
46E	= MONADNOCK AND BERKSHIRE SOILS, 25 TO 60 PERCENT SLOPES, VERY STONY	B	N/A
W	= WATER		

0 30 60
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608eroex.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: A. RUSSELL
EPSC EXISTING CONDTIONS PLAN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 65 OF 69

TURF ESTABLISHMENT, GENERAL SEED
STA. 265+60 - STA. 268+50 LT
STA. 265+25 - STA. 271+38 RT
STA. 20+75 - STA. 22+25 RT
STA. 21+47 - STA. 22+75 LT
STA. 269+58 - STA. 271+09 LT

STABILIZED CONSTRUCTION ENTRANCE
STA. 266+01 LT
STA. 270+68 LT

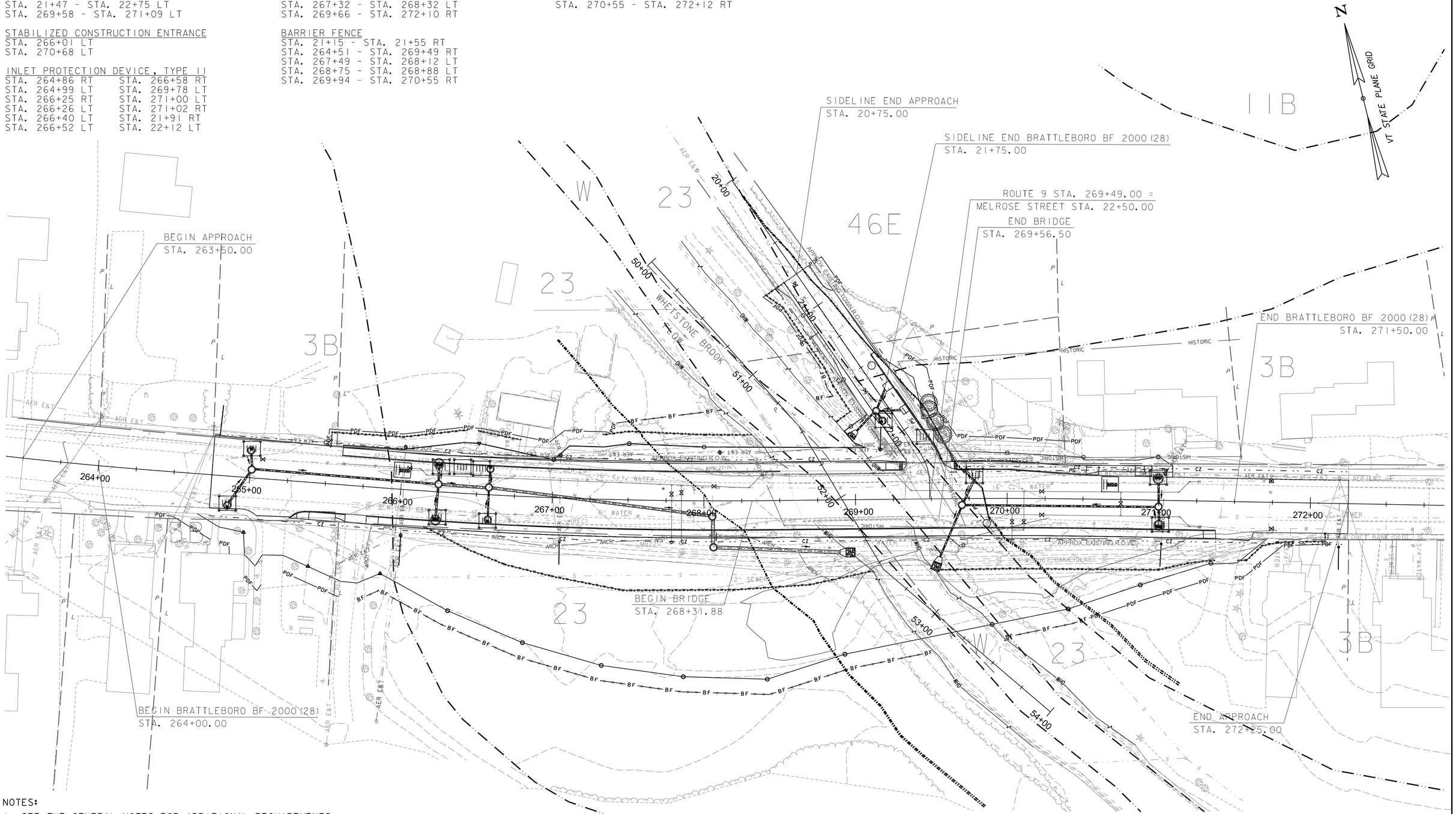
INLET PROTECTION DEVICE, TYPE II

STA. 264+86 RT	STA. 266+58 RT
STA. 264+99 LT	STA. 269+78 LT
STA. 266+25 RT	STA. 271+00 LT
STA. 266+26 LT	STA. 271+02 RT
STA. 266+40 LT	STA. 21+91 RT
STA. 266+52 LT	STA. 22+12 LT

SILT FENCE, TYPE II
STA. 20+67 - STA. 21+74 RT
STA. 265+52 - STA. 266+77 LT
STA. 265+77 - STA. 269+27 RT
STA. 267+32 - STA. 268+32 LT
STA. 269+66 - STA. 272+10 RT

BARRIER FENCE
STA. 21+15 - STA. 21+55 RT
STA. 264+51 - STA. 269+49 RT
STA. 267+49 - STA. 268+12 LT
STA. 268+75 - STA. 268+88 LT
STA. 269+94 - STA. 270+55 RT

PROJECT DEMARCATION FENCE
STA. 20+75 - STA. 22+21 LT/RT
STA. 265+50 - STA. 267+49 LT
STA. 269+67 - STA. 270+49 LT
STA. 270+55 - STA. 272+12 RT



NOTES:
1. SEE THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
2. SEE THE EPSC NARRATIVE FOR ADDITIONAL REQUIREMENTS.
3. SEE THE EPSC DETAIL SHEETS FOR CONSTRUCTION DETAILS.
4. INLET PROTECTION IS SHOWN FOR PROPOSEDD AND EXISTING DRAINAGE STRUCTURES FOR ALL CONSTRUCTION PHASES WITH THE INTENT THAT THE PROPOSED ROADWAY DRAINAGE WILL BE INSTALLED PRIOR TO ANY ROADWAY WORK.

0 30 60
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608erocons.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
EPSC CONSTRUCTION PLAN SHEET

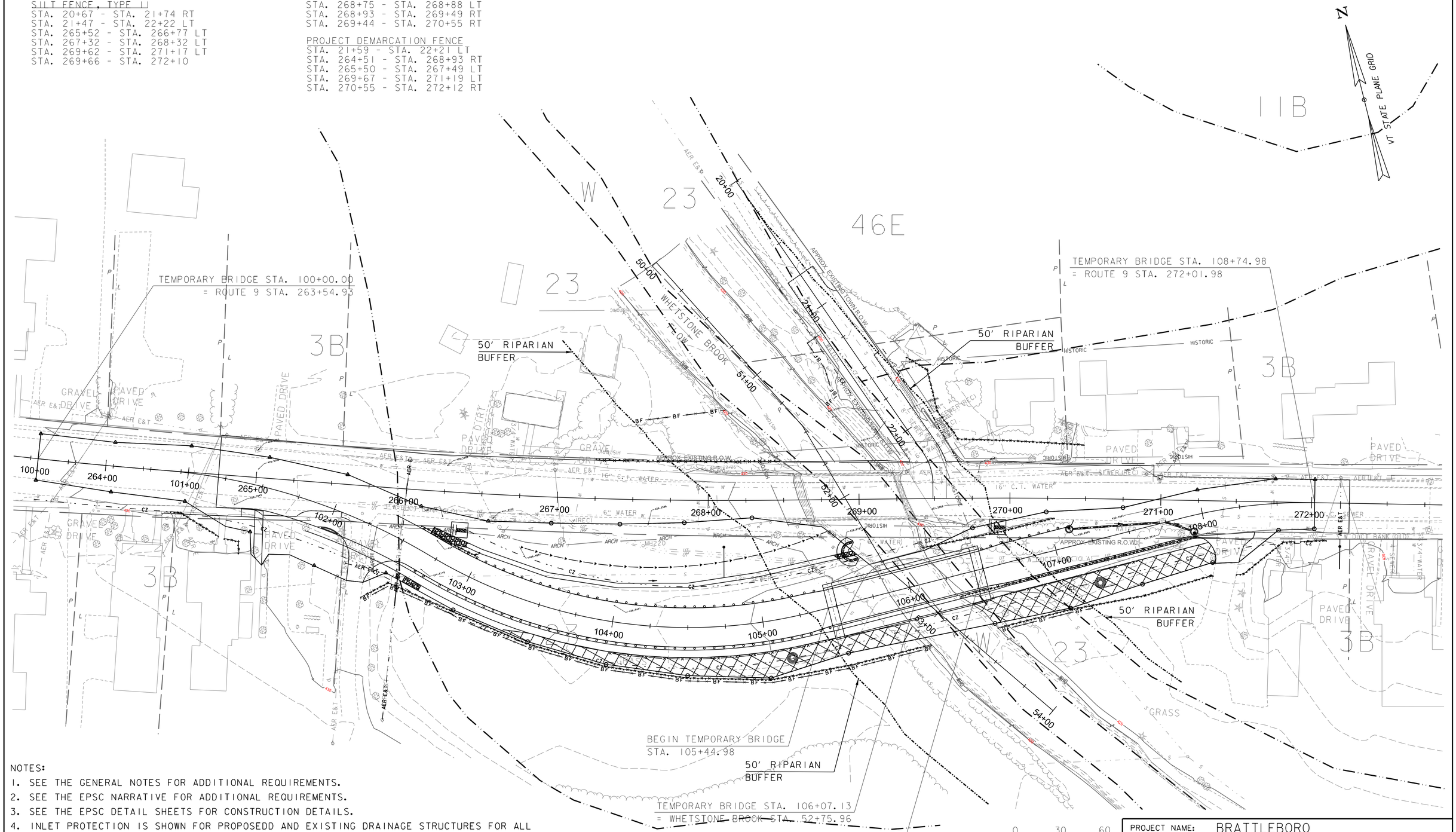
PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 66 OF 69

INLET PROTECTION DEVICE, TYPE III
STA. 105+71 LT

SILT FENCE, TYPE II
STA. 20+67 - STA. 21+74 RT
STA. 21+47 - STA. 22+22 LT
STA. 265+52 - STA. 266+77 LT
STA. 267+32 - STA. 268+32 LT
STA. 269+62 - STA. 271+17 LT
STA. 269+66 - STA. 272+10

BARRIER FENCE
STA. 21+15 - STA. 21+55 RT
STA. 267+49 - STA. 268+12 LT
STA. 268+75 - STA. 268+88 LT
STA. 268+93 - STA. 269+49 RT
STA. 269+44 - STA. 270+55 RT

PROJECT DEMARCATION FENCE
STA. 21+59 - STA. 22+21 LT
STA. 264+51 - STA. 268+93 RT
STA. 265+50 - STA. 267+49 LT
STA. 269+67 - STA. 271+19 LT
STA. 270+55 - STA. 272+12 RT



NOTES:
1. SEE THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
2. SEE THE EPSC NARRATIVE FOR ADDITIONAL REQUIREMENTS.
3. SEE THE EPSC DETAIL SHEETS FOR CONSTRUCTION DETAILS.
4. INLET PROTECTION IS SHOWN FOR PROPOSEDD AND EXISTING DRAINAGE STRUCTURES FOR ALL CONSTRUCTION PHASES WITH THE INTENT THAT THE PROPOSED ROADWAY DRAINAGE WILL BE INSTALLED PRIOR TO ANY ROADWAY WORK.
5. ALL ITEMS FOR THE TEMPORARY DETOUR SHALL BE PAID FOR UNDER ITEM 528.1100100, TWO LANE TEMPORARY BRIDGE (TEMPORARY DETOUR AND BRIDGE).

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608eroconstemp.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
EPSC TEMPORARY CONSTRUCTION PLAN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN

LEGEND

POST CONSTRUCTION SOIL QUALITY AREAS
TOTAL AREA PROJECT WIDE 36,071 SF

BEGIN APPROACH
STA. 263+50.00

BEGIN PROJECT
STA. 264+00.00

SIDELINE END APPROACH
STA. 20+75.00

SIDELINE END PROJECT
STA. 21+75.00

END BRIDGE
STA. 269+31.50

END PROJECT
STA. 271+50.00

END APPROACH
STA. 272+25.00

BEGIN BRIDGE
STA. 268+56.88

50' RIPARIAN BUFFER

WHETSTONE BROOK

APPROX EXISTING TOWN ROW

11B

3B

23

46E

W

N

VT STATE PLANE GRID

0 30 60
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

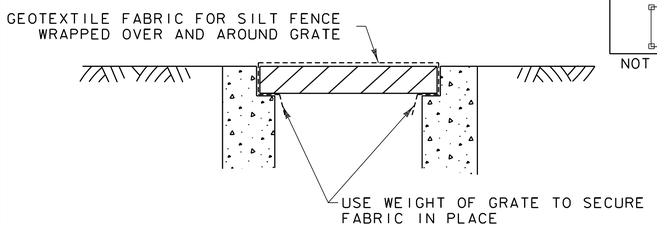
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608erofinal.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
EPSC FINAL CONDITIONS PLAN SHEET

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 68 OF 69

SYMBOL

NOT TO SCALE



TYPICAL FILTER FABRIC INSTALLATION FOR
INLET PROTECTION WITHIN THE ROADWAY

APPLICATION NOTES:

THE PRIMARY PURPOSE OF INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE STRUCTURE, WHILE STILL ALLOWING THE WATER TO DRAIN. THIS WORKS BY PONDING THE WATER, WHICH WILL ALLOW THE SEDIMENT TO FALL OUT OF SUSPENSION, BEFORE THE WATER ENTERS THE STRUCTURE.

THESE EXAMPLES OF INLET PROTECTION ARE NOT INTENDED TO CAUSE STORMWATER TO BYPASS THE STRUCTURE AND CREATE ADDITIONAL EROSION OR FLOODING. IN THE CASE WERE THE INLET PROTECTION STRUCTURE HAS CAUSED WATER TO BYPASS THE DRAINAGE STRUCTURE, ADDITIONAL PROTECTION DEVICES WILL BE REQUIRED. POSSIBLE MODIFICATIONS MAY INCLUDE ADDING CHECK DAMS UPSTREAM OF THE INLET TO CREATE MORE PONDING AND TO SLOW VELOCITIES. A BERM DOWNSTREAM OF THE INLET TO CREATE ADDITIONAL PONDING MAY ALSO BE UTILIZED.

DETAILS SHOWN SHALL BE USED FOR TEMPORARY INSTALLATION ONLY.

USE OF PREFABRICATED INLET PROTECTION SHALL BE AS APPROVED IN THE EPSCP.

GENERAL NOTES:

SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO MINIMIZE UNNECESSARY JOINTS.

INLET PROTECTION SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE STORMWATER TO LEAVE THE CONSTRUCTION SITE, UNLESS OTHERWISE INDICATED ON THIS SHEET.

INLET PROTECTION SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE HEIGHT OR AS RECOMMENDED BY THE MANUFACTURER. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED WASTE SITE. NO DEBRIS SHALL BE DISPOSED OF INTO INLETS.

PREFABRICATED INLET PROTECTION SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE II (PAY ITEM 653.41)

INLET PROTECTION, TYPE II

NOT TO SCALE

VAOT NATURALIZED AREA TYPE I				
WEIGHT	NAME	LATIN NAME	GERM	PURITY
38%	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	INERTS			
100%				

VAOT NATURALIZED AREA TYPE II				
WEIGHT	NAME	LATIN NAME	GERM	PURITY
37.5%	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%				

SEED RATE: BROADCAST: 75 LBS/ACRE
HYDROSEED: PER MANUFACTURER'S RECOMMENDATIONS

APPLY AMENDMENTS PER SOIL TEST RESULTS

FERTILIZER (755.06):
IF NO SOIL TEST IS PERFORMED, A SLOW OR CONTROLLED RELEASE FERTILIZER SHALL BE APPLIED AT A RATIO OF 1:1:1 (N:P:K). NITROGEN AND PHOSPHORUS SHALL BE APPLIED AT NO MORE THAN 1 LB. PER 1,000 SQ.FT.

LIMESTONE (755.08 & 755.09):
IF NO SOIL TEST IS PERFORMED, APPLY LIMESTONE PER MANUFACTURER'S RECOMMENDATIONS.

COMPOST (755.05):
COMPOST MAY BE APPLIED PER SOIL TEST RESULTS.

CONSTRUCTION GUIDANCE

1. THESE SEED MIXES SHALL BE USED IN AREAS THAT WILL NATURALIZE, RECEIVING LIMITED ANNUAL MOWING THROUGH THE GROWING SEASON.
2. USE SEED MIX AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON-WETLAND) AREAS DISTURBED BY THE CONTRACTOR. IF THE PLANS DO NOT SPECIFY A SEED TYPE, NATURALIZED AREA TYPE I OR TYPE II SHALL BE USED.
3. SEED MIXES SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. 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.
5. FERTILIZER SHOULD NOT BE APPLIED WITHIN 2 WEEKS OF APPLYING LIMESTONE.
6. FOR BEST ESTABLISHMENT, REAPPLY FERTILIZER 2-3 WEEKS AFTER GERMINATION.

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.1500 TURF ESTABLISHMENT, GENERAL SEED)

REVISIONS	
JANUARY 12, 2015	WHF
JUNE 15, 2023	BKD

VAOT LAWN				
WEIGHT	NAME	LATIN NAME	GERM	PURITY
42.5%	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
20.0%	PERENNIAL RYE GRASS	LOLIUM PERENNE	90%	95%
32.5%	KENTUCKY BLUE GRASS	POA PRATENSIS	85%	85%
5.0%	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%				

SEED RATE: BROADCAST: 75 LBS/ACRE
HYDROSEED: PER MANUFACTURER'S RECOMMENDATIONS

APPLY AMENDMENTS PER SOIL TEST RESULTS

FERTILIZER (755.06):
IF NO SOIL TEST IS PERFORMED, A SLOW OR CONTROLLED RELEASE FERTILIZER SHALL BE APPLIED AT A RATIO OF 1:1:1 (N:P:K). NITROGEN AND PHOSPHORUS SHALL BE APPLIED AT NO MORE THAN 1 LB. PER 1,000 SQ.FT.

LIMESTONE (755.08 & 755.09):
IF NO SOIL TEST IS PERFORMED, APPLY LIMESTONE PER MANUFACTURER'S RECOMMENDATIONS.

COMPOST (755.05):
COMPOST MAY BE APPLIED PER SOIL TEST RESULTS.

CONSTRUCTION GUIDANCE

1. THIS SEED MIX SHALL BE USED IN AREAS THAT WILL BE MANAGED AS TRADITIONAL LAWNS, RECEIVING FREQUENT MOWING.
2. THIS SEED MIX SHALL NOT BE USED IN WETLANDS OR ANY WATERS OF THE STATE OF VERMONT.
3. USE SEED MIX ONLY AS INDICATED IN THE PLANS. IF THE PLANS DO NOT SPECIFY A SEED TYPE, NATURALIZED AREA TYPE I OR TYPE II SHALL BE USED.
4. SEED MIX SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
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. FERTILIZER SHOULD NOT BE APPLIED WITHIN 2 WEEKS OF APPLYING LIMESTONE.
7. FOR BEST ESTABLISHMENT, REAPPLY FERTILIZER 2-3 WEEKS AFTER GERMINATION.

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.1500 TURF ESTABLISHMENT, GENERAL SEED)

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JANUARY 12, 2015	WHF
JUNE 15, 2023	BKD

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(28)

FILE NAME: z12j608erodet.dgn
PROJECT LEADER: T. CARD
DESIGNED BY: E. NOONAN
EPSC DETAIL SHEET 1

PLOT DATE: 1/24/2024
DRAWN BY: M. NOLAN
CHECKED BY: E. NOONAN
SHEET 69 OF 69