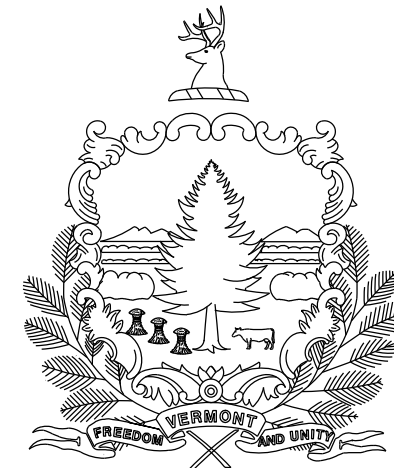


REVIEWER NOTES:

1. ROW SLOPE IMPACTS ARE ANTICIPATED.
2. CONCEPTUAL SUBSTRUCTURE NOT SHOWN IN PROFILE VIEW AS SUBSURFACE EXPLORATION PROGRAM HAS NOT BEEN COMPLETED. SUBSTRUCTURE LOCATIONS AND SPAN LENGTH ARE DEPENDENT ON BEDROCK SURVEY TO DETERMINE OPTIMAL STRUCTURE CONFIGURATION.
3. BRIDGE APPROACH RAIL IS NOT CURRENTLY SHOWN ON LAYOUT SHEET AS APPROACH RAIL CONFIGURATION IS STILL BEING DISCUSSED.
4. DEPTH OF ROADWAY SAND LAYER TO BE CONFIRMED ONCE SUBSURFACE EXPLORATION PROGRAM IS COMPLETED.
5. UTILITY POLE RELOCATIONS WILL BE REQUIRED.

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

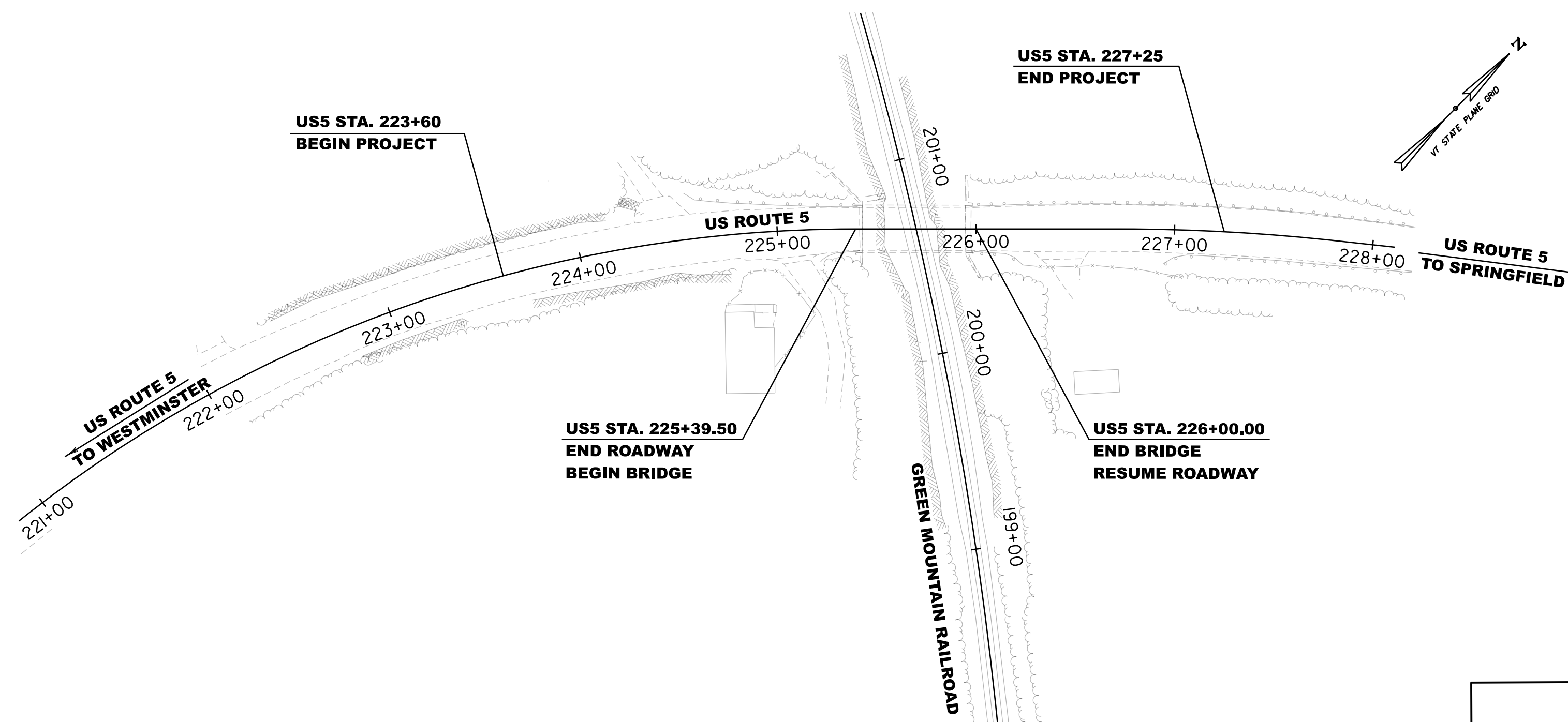
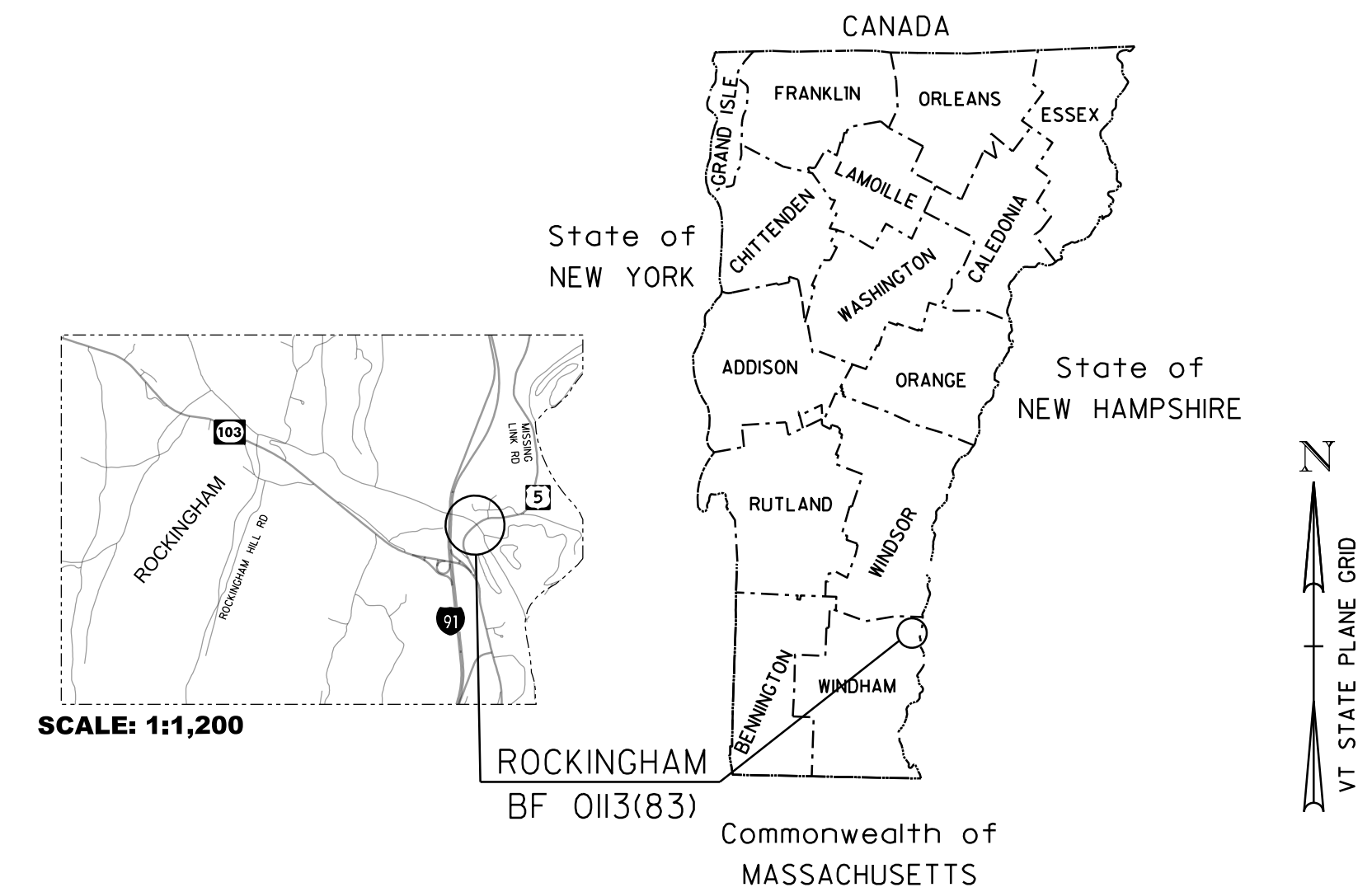
TOWN OF ROCKINGHAM
COUNTY OF WINDHAM

US ROUTE 5 - BRIDGE #38 OVER THE GREEN MOUNTAIN RAILROAD

PROJECT LOCATION: STATE-OWNED BRIDGE LOCATED ON US ROUTE 5 APPROXIMATELY 0.3 MILES NORTH OF THE JUNCTION WITH VT ROUTE 103 IN THE TOWN OF ROCKINGHAM

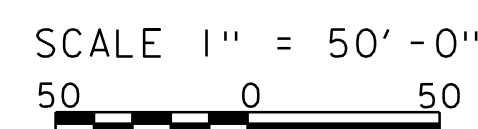
PROJECT DESCRIPTION: COMPLETE BRIDGE REPLACEMENT OF US ROUTE 5 BRIDGE OVER THE GREEN MOUNTAIN RAILROAD

PROJECT LENGTH: LENGTH OF ROADWAY: 304.50 FT
LENGTH OF STRUCTURE: 60.50 FT
LENGTH OF PROJECT: 365.00 FT



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

QUALITY ASSURANCE PROGRAM : LEVEL 2
SURVEYED BY : VTrans
SURVEYED DATE : 03/16/2020
DATUM
VERTICAL NAVD 88 FT
HORIZONTAL NAD 83 (2011)



 WSP USA 9 EXECUTIVE PARK DRIVE SUITE 101 MERRIMACK, NH 03054 PHONE: (603) 647-2012 FAX: (603) 647-2032 www.wsp.com	DIRECTOR OF PROJECT DELIVERY
	APPROVED _____ DATE _____
	PROJECT MANAGER : ROB YOUNG
	PROJECT NAME : ROCKINGHAM PROJECT NUMBER : BF 0113(83)
SHEET 1 OF 9 SHEETS	

PRELIMINARY INFORMATION SHEET (BRIDGE)

INDEX OF SHEETS					
PLAN SHEETS			STANDARDS LIST		
1	✓	TITLE SHEET			
2	✓	PRELIMINARY INFORMATION SHEET			
3	✓	CONVENTIONAL SYMBOLOGY SHEET			
4	✓	TYPICAL SECTIONS			
5	✓	LAYOUT PLAN			
6	✓	PROFILE SHEET			
7	✓	ROADWAY CROSS SECTIONS			
8	✓	GMRR CROSS SECTION			
9	✓	RESOURCE SITE PLAN			
DETAIL SHEETS					

FINAL HYDRAULIC REPORT	
TRAFFIC MAINTENANCE NOTES	
1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR. 2. TRAFFIC SIGNALS ARE NOT NECESSARY. 3. SIDEWALKS ARE NOT NECESSARY	
DESIGN VALUES	
1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	d_p : 0.0 INCH
3. DESIGN SPAN	L : 57.50 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ : ---
5. PRESTRESSING STRAND	f_y : ---
6. PRESTRESSED CONCRETE STRENGTH	$f'c$: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	$f'c_i$: ---
8. CONCRETE, PRECAST	$f'c$: 5.0 KSI
9. POLYMER CONCRETE REPAIR MATERIAL	$f'c$: 4.0 KSI
10. ULTRA-HIGH PERFORMANCE CONCRETE (UHPC)	$f'c$: 14.5 KSI
11. CONCRETE, CLASS C	$f'c$: ---
12. REINFORCING STEEL	f_y : 60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f_y : 50 KSI
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n : ---
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 : ---
23.	---
24.	---
25.	---
26.	---
PROJECT NAME: ROCKINGHAM PROJECT NUMBER: BF 0113(83)	
FILE NAME: PROJECT LEADER: A. STOCKIN DESIGNED BY: T. POLSON PRELIMINARY INFORMATION SHEET 1	PLOT DATE: 4/22/2021 DRAWN BY: T. POLSON CHECKED BY: A. STOCKIN SHEET 2 OF 9

TRAFFIC DATA						AS BUILT "REBAR" DETAIL		
YEAR	ADT	DHV	% D	% T	ADTT	LEVEL I	LEVEL II	LEVEL III
2024	1900	210	57	3	210	TYPE:	TYPE:	TYPE:
2044	2000	230	57	4.4	330	GRADE:	GRADE:	GRADE:
20 year ESAL for flexible pavement from 2024 to 2044 : 1556000 40 year ESAL for flexible pavement from 2024 to 2064 : 3700000 Design Speed : 40 mph								



GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

THE SYMBOLGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLGY. THE SYMBOLGY 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. SYMBOLGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

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

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

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊕	APL BOUND APPARENT LOCATION
□	BM BENCHMARK
▣	BND BOUND
⊠	CB CATCH BASIN
⊕	COMB COMBINATION POLE
⊠	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
○	FPOLE FLAGPOLE
○	GASFIL GAS FILLER
○	GP GUIDE POST
×	GSO GAS SHUT OFF
○	GUY GUY POLE
○	GUYW GUY WIRE
×	GV GATE 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 RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

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

ABOVE GROUND UTILITIES (AERIAL)

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

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

— — — CZ — — —	CLEAR ZONE
—————	PLAN LAYOUT MATCH LINE

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 — x — x — BF — x — x —	BARRIER FENCE
XXXXXXXXXXXXXXXXXXXX	TREE PROTECTION ZONE (TPZ)
//// //// //// ////	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLGY**

**BOUNDARY LINES**

—————	TOWN BOUNDARY LINE
—————	COUNTY BOUNDARY LINE
—————	STATE BOUNDARY LINE
———	PROPOSED STATE R.O.W. (LIMITED ACCESS)
———	PROPOSED STATE R.O.W.
———	STATE ROW (LIMITED ACCESS)
———	STATE ROW
———	TOWN ROW
-----	PERMANENT EASEMENT LINE (P)
-----	TEMPORARY EASEMENT LINE (T)
-----	SURVEY LINE
— P — P —	PROPERTY LINE (P/L)
— L — 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 SYMBOLGY**

**EPSC MEASURES**

ONNOONNOONNO	FILTER CURTAIN
— — — — —	SILT FENCE
— x — x — x — x —	SILT FENCE WOVEN WIRE
— — — — —	CHECK DAM
■	DISTURBED AREAS REQUIRING RE-VEGETATION
⊠	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLGY

**ENVIRONMENTAL RESOURCES**

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

**ARCHEOLOGICAL & HISTORIC**

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
Ⓜ	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLGY**

**EXISTING FEATURES**

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

PROJECT NAME: ROCKINGHAM

PROJECT NUMBER: BF 0113(83)

FILE NAME: z19b208legend.dgn

PROJECT LEADER: A. STOCKIN

DESIGNED BY: E. WILLIAMS

CONVENTIONAL SYMBOLGY SHEET

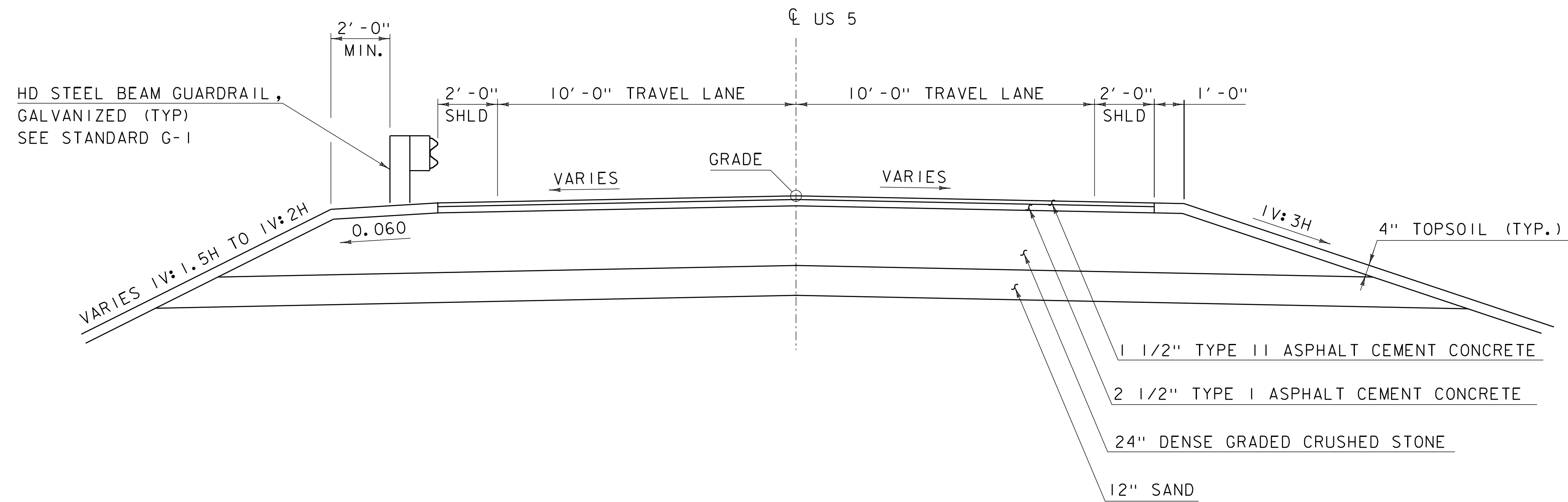
PLOT DATE: 4/22/2021

DRAWN BY: M. HERMIS

CHECKED BY: L. SFINTESCU

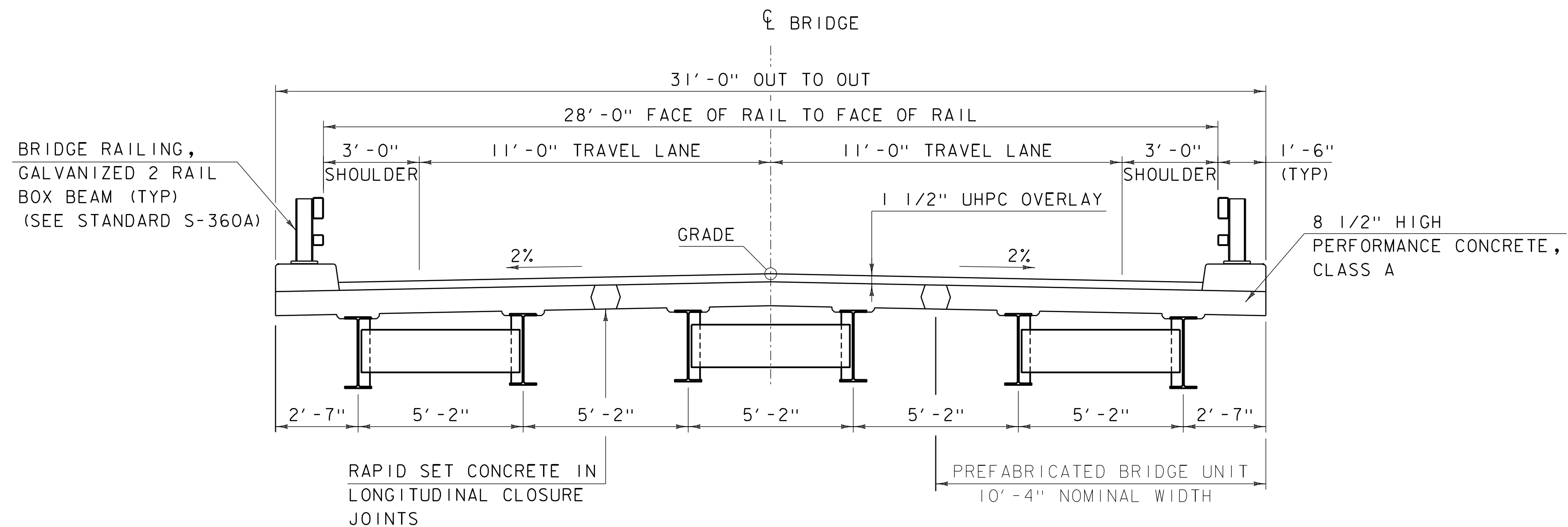
SHEET 3 OF 9





**US ROUTE 5 TYPICAL SECTION**

SCALE  $\frac{3}{8}$ " = 1'-0"  
 STA. 224+10 TO 225+20  
 STA. 226+20 TO 226+75



**BRIDGE TYPICAL SECTION**

SCALE  $\frac{3}{8}$ " = 1'-0"

**MATERIAL TOLERANCES**  
 (IF USED ON PROJECT)

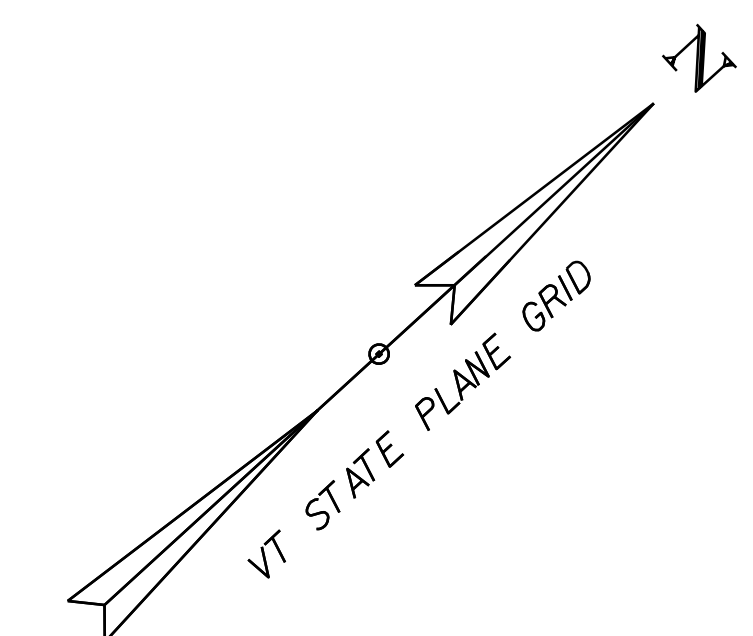
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: ROCKINGHAM  
 PROJECT NUMBER: BF 0113(83)

FILE NAME: z19b208typ.dgn  
 PROJECT LEADER: A. STOCKIN  
 DESIGNED BY: E. WILLIAMS  
 TYPICAL SECTIONS

PLOT DATE: 4/22/2021  
 DRAWN BY: M. HERMIS  
 CHECKED BY: L. SFINTESCU  
 SHEET 4 OF 9





**N/F WESTNEY, ARTHUR L.**

US 5 CURVE 1  
 DELTA = 39°25'33"  
 D = 08°29'18"  
 R = 675.00'  
 T = 241.86'  
 L = 464.47'  
 e = 42.02'

**N/F CRAWFORD, MARILYN**

US 5 STA. 223+60  
 BEGIN PROJECT

US 5 STA. 224+10  
 BEGIN BIT. CONCRETE  
 FULL DEPTH PAVEMENT

STA. 225+39.50  
 END ROADWAY  
 BEGIN BRIDGE

**N/F TRANSCANADA HYDRO NORTHEAST INC.  
 ATTN. MARK CLEVERDON**

US 5 STA. 225+69.95 =  
 GMRR STA. 200+64.01

US 5 STA. 227+25  
 END PROJECT

US 5 CURVE 2  
 DELTA = 06°21'56"  
 D = 05°43'46"  
 R = 1000.00'  
 T = 55.61'  
 L = 111.10'  
 e = 1.54'

APPROX. EXISTING STATE R.O.W.

US ROUTE 5  
 TO WESTMINSTER

APPROX. EXISTING STATE R.O.W.

BOTTOM OF DITCH

BENCHMARK  
 MAGNAIL IN LEDGE  
 ELEV. = 356.84

**N/F NAUCEDER,  
 MICHAEL AND JULIE**

**N/F CHASE, RONALD L.  
 AND ETHELYN**

APPROX. EXISTING RAILROAD R.O.W.

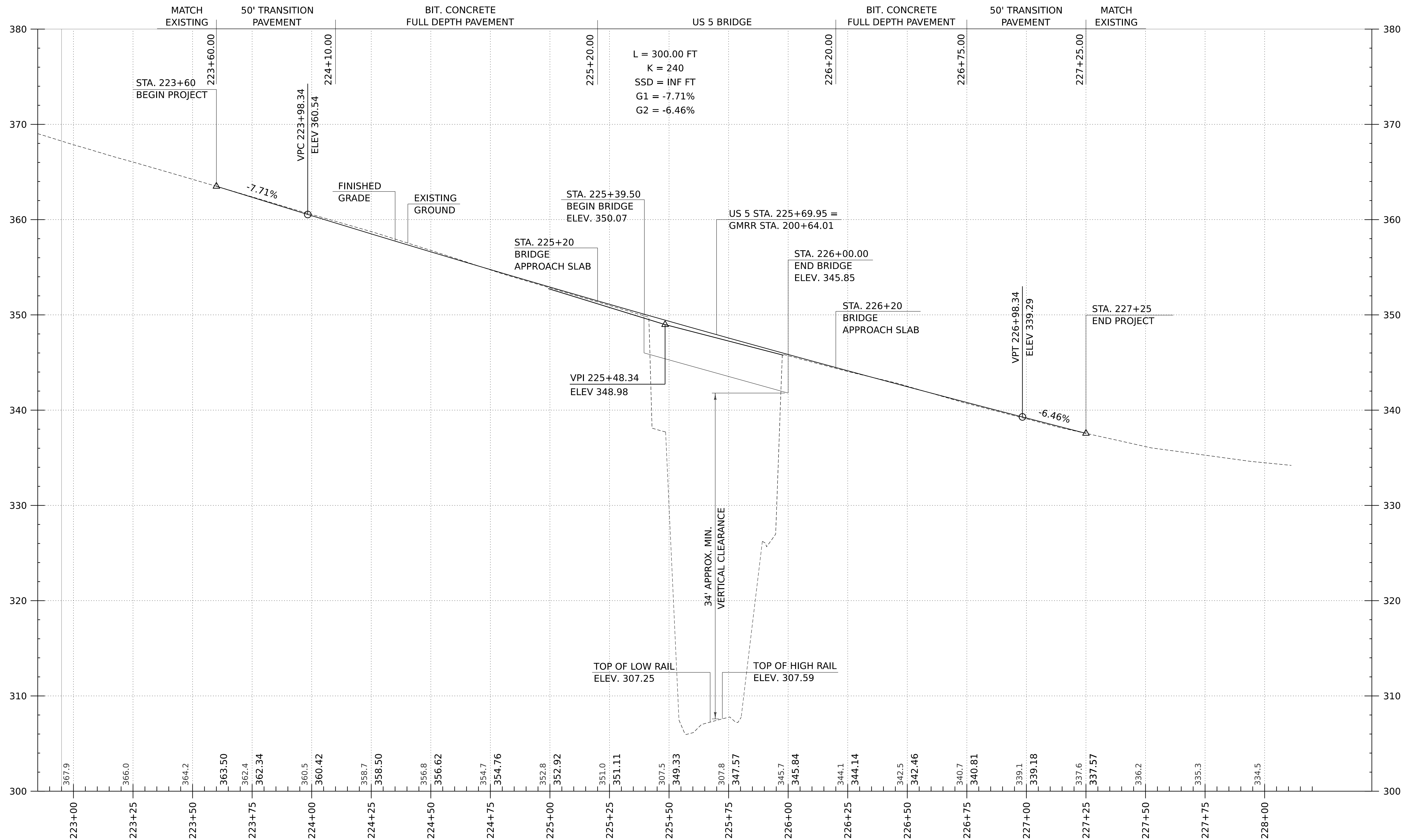
GREEN MOUNTAIN RAILROAD

**N/F GREEN MOUNTAIN  
 RAILROAD CORPORATION (LESSEE)  
 STATE OF VERMONT (LESSOR)**

**N/F HAGBERG, DAVID J. AND NANCY M.**

PROJECT NAME:	ROCKINGHAM	PLOT DATE:	4/22/2021
PROJECT NUMBER:	BF 0113(83)	DRAWN BY:	M. HERMIS
FILE NAME:	z19b208bdr.dgn	CHECKED BY:	L. SFINTESCU
PROJECT LEADER:	A. STOCKIN	SHEET	5 OF 9
DESIGNED BY:	E. WILLIAMS		
LAYOUT PLAN			



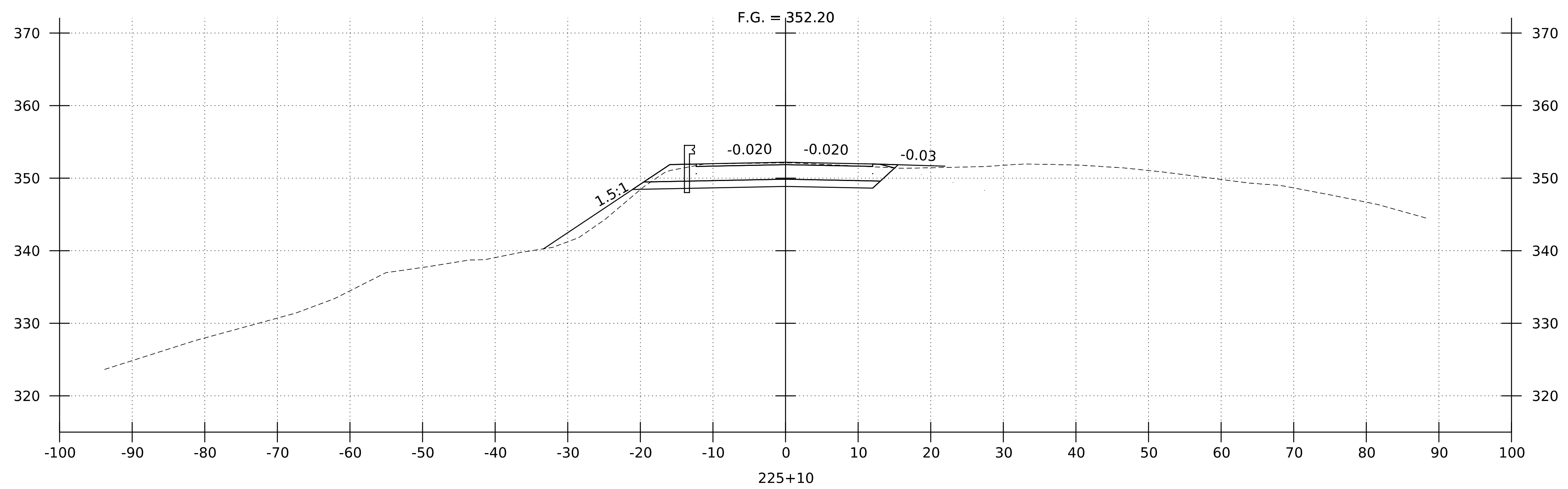
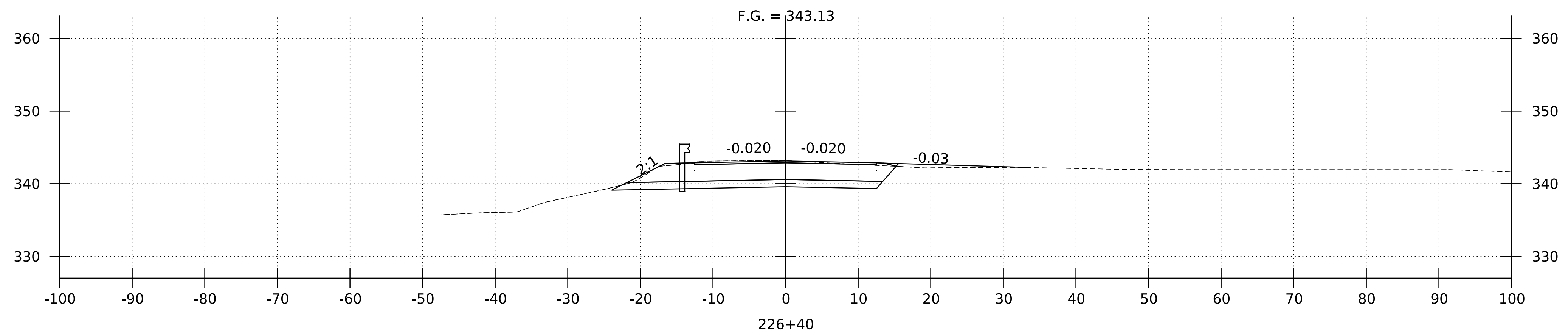


US ROUTE 5 PROFILE  
 HORIZONTAL SCALE: 1" = 20'-0"  
 VERTICAL SCALE: 1" = 10'-0"

- NOTES:
- ELEVATIONS SHOWN TO THE NEAREST TENTH DEPICT THE EXISTING GROUND ELEVATION.
  - ELEVATIONS SHOWN TO THE NEAREST HUNDRETH DEPICT THE PROPOSED PROFILE GRADE ELEVATION.

PROJECT NAME:	ROCKINGHAM	FILE NAME:	z19b208pr01.dgn	PLOT DATE:	4/22/2021
PROJECT NUMBER:	BF 0113(83)	PROJECT LEADER:	A. STOCKIN	DRAWN BY:	M. HERMIS
		DESIGNED BY:	E. WILLIAMS	CHECKED BY:	L. SFINTESCU
		PROFILE SHEET		SHEET	6 OF 9



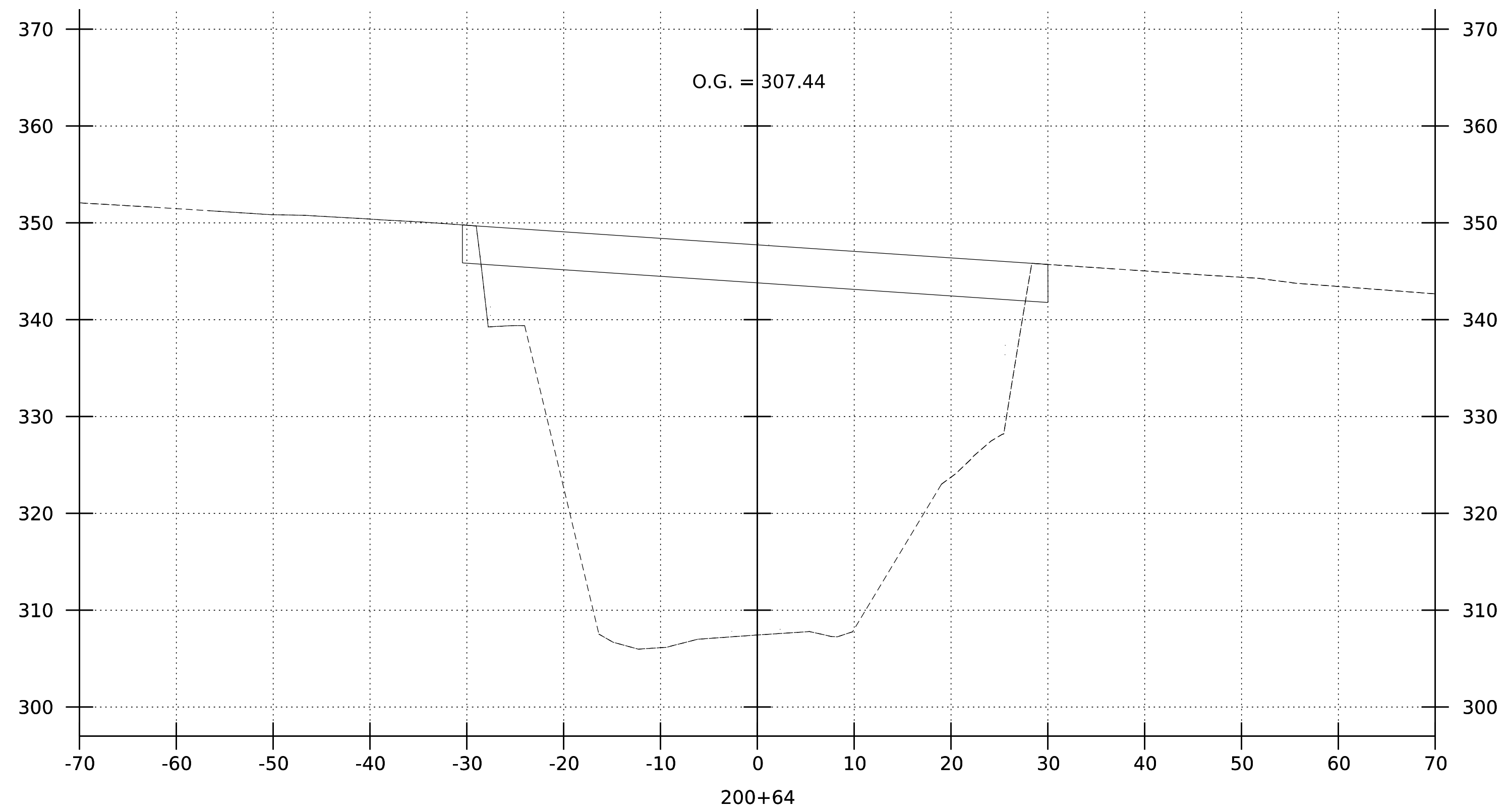


PROJECT NAME: ROCKINGHAM  
 PROJECT NUMBER: BF 0113(83)

FILE NAME: z19b208xsl.dgn  
 PROJECT LEADER: A. STOCKIN  
 DESIGNED BY: E. WILLIAMS  
 ROADWAY CROSS SECTIONS

PLOT DATE: 4/22/2021  
 DRAWN BY: M. HERMIS  
 CHECKED BY: L. SFINTESCU  
 SHEET 7 OF 9





PROJECT NAME: ROCKINGHAM	PLOT DATE: 4/22/2021
PROJECT NUMBER: BF 0113(83)	DRAWN BY: M. HERMIS
FILE NAME: z19b208xs2.dgn	CHECKED BY: L. SFINTESCU
PROJECT LEADER: A. STOCKIN	SHEET 8 OF 9
DESIGNED BY: E. WILLIAMS	
GMRR CROSS SECTION	





N/F  
WESTNEY, ARTHUR L.

SOIL INFORMATION:  
3C - QUONSET AND WARWICK SOILS  
K = 0.24, 8% - 15% SLOPES  
HYDROLOGIC SOIL GROUP: A

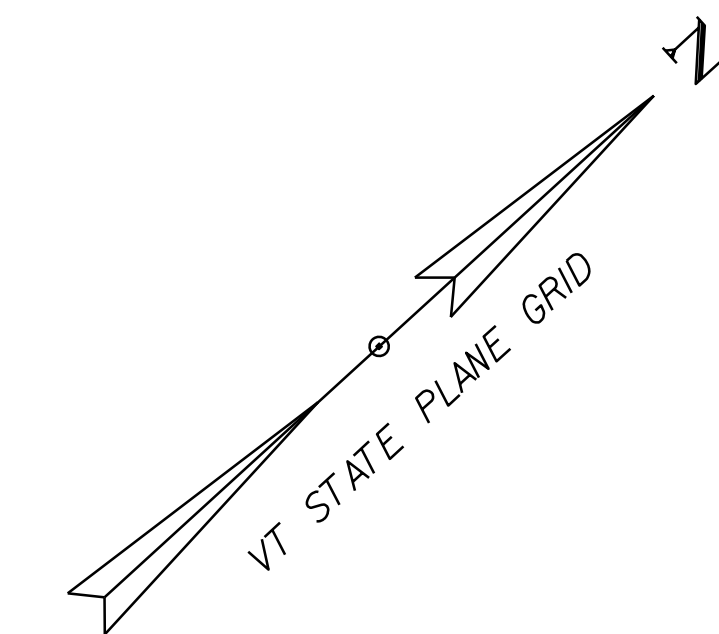
N/F  
CRAWFORD, MARILYN

US 5 STA. 223+60  
BEGIN PROJECT

N/F  
TRANSCANADA HYDRO NORTHEAST INC.  
ATTN. MARK CLEVERDON

SOIL INFORMATION:  
3E - QUONSET AND WARWICK SOILS  
K = 0.24, 25% - 70% SLOPES  
HYDROLOGIC SOIL GROUP: A

US 5 STA. 227+25  
END PROJECT



APPROX. EXISTING STATE R.O.W.

US ROUTE 5  
TO WESTMINSTER

APPROX. EXISTING STATE R.O.W.

EXISTING  
DITCH CENTERLINE

N/F  
NAUCEDER,  
MICHAEL AND JULIE

SOIL INFORMATION:  
3C - QUONSET AND WARWICK SOILS  
K = 0.24, 8% - 15% SLOPES  
HYDROLOGIC SOIL GROUP: A

BENCHMARK  
MAGNAIL IN LEDGE  
ELEV. = 356.84

N/F  
CHASE, RONALD L.  
AND ETHELYN

EXISTING  
15" CGMP  
(PLUGGED)  
EXISTING OM3-R &  
VD-701 SIGNS

APPROX. EXISTING RAILROAD R.O.W.

APPROX. EXISTING RAILROAD R.O.W.

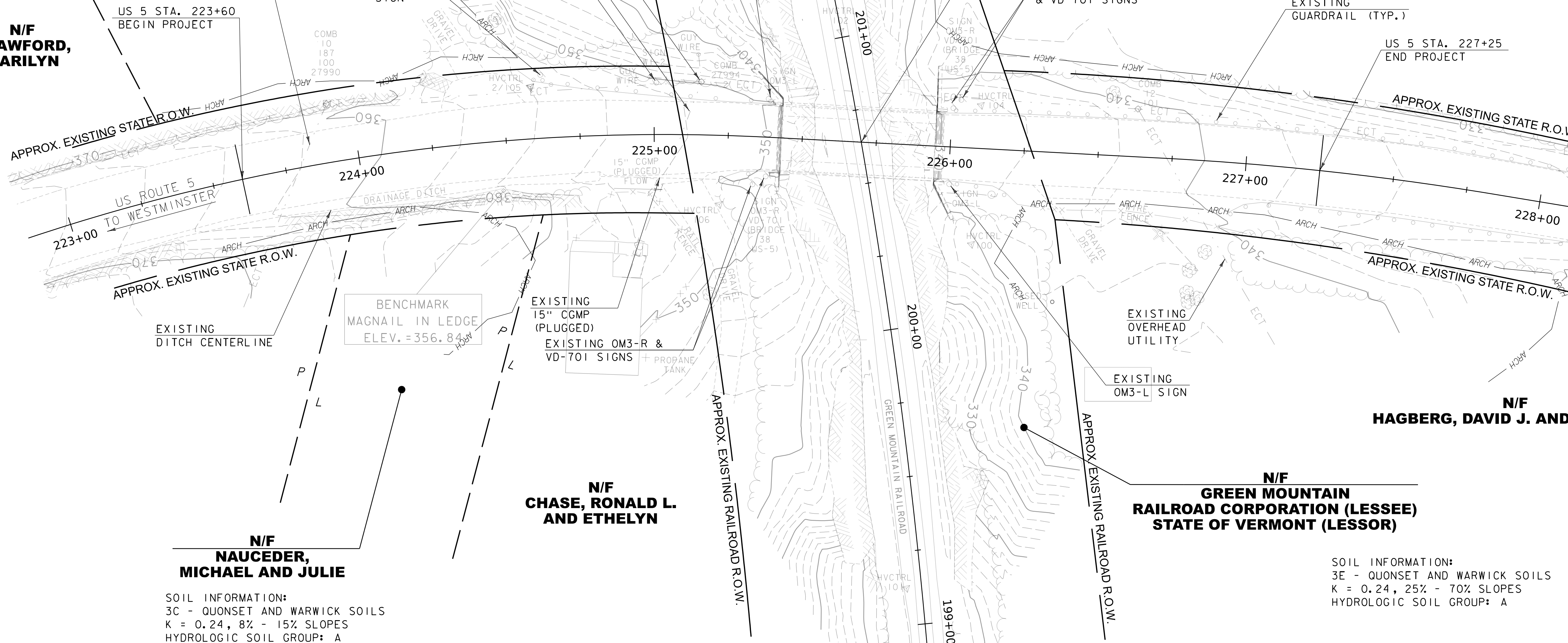
APPROX. EXISTING RAILROAD R.O.W.

APPROX. EXISTING RAILROAD R.O.W.

N/F  
GREEN MOUNTAIN  
RAILROAD CORPORATION (LESSEE)  
STATE OF VERMONT (LESSOR)

SOIL INFORMATION:  
3E - QUONSET AND WARWICK SOILS  
K = 0.24, 25% - 70% SLOPES  
HYDROLOGIC SOIL GROUP: A

N/F  
HAGBERG, DAVID J. AND NANCY M.



SCALE: 1" = 20'-0"

PROJECT NAME: ROCKINGHAM	
PROJECT NUMBER: BF 0113(83)	
FILE NAME: z19b208r.s.dgn	PLOT DATE: 4/22/2021
PROJECT LEADER: A. STOCKIN	DRAWN BY: M. HERMIS
DESIGNED BY: E. WILLIAMS	CHECKED BY: L. SFINTESCU
RESOURCE SITE PLAN	SHEET 9 OF 9

