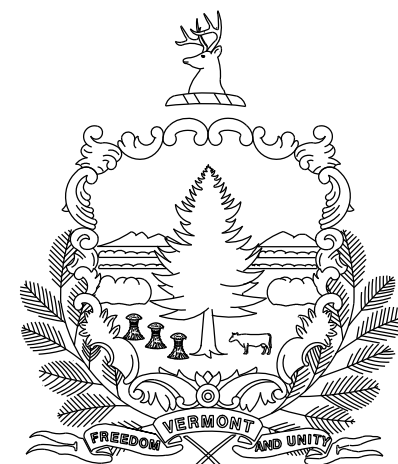


STATE OF VERMONT
AGENCY OF TRANSPORTATION

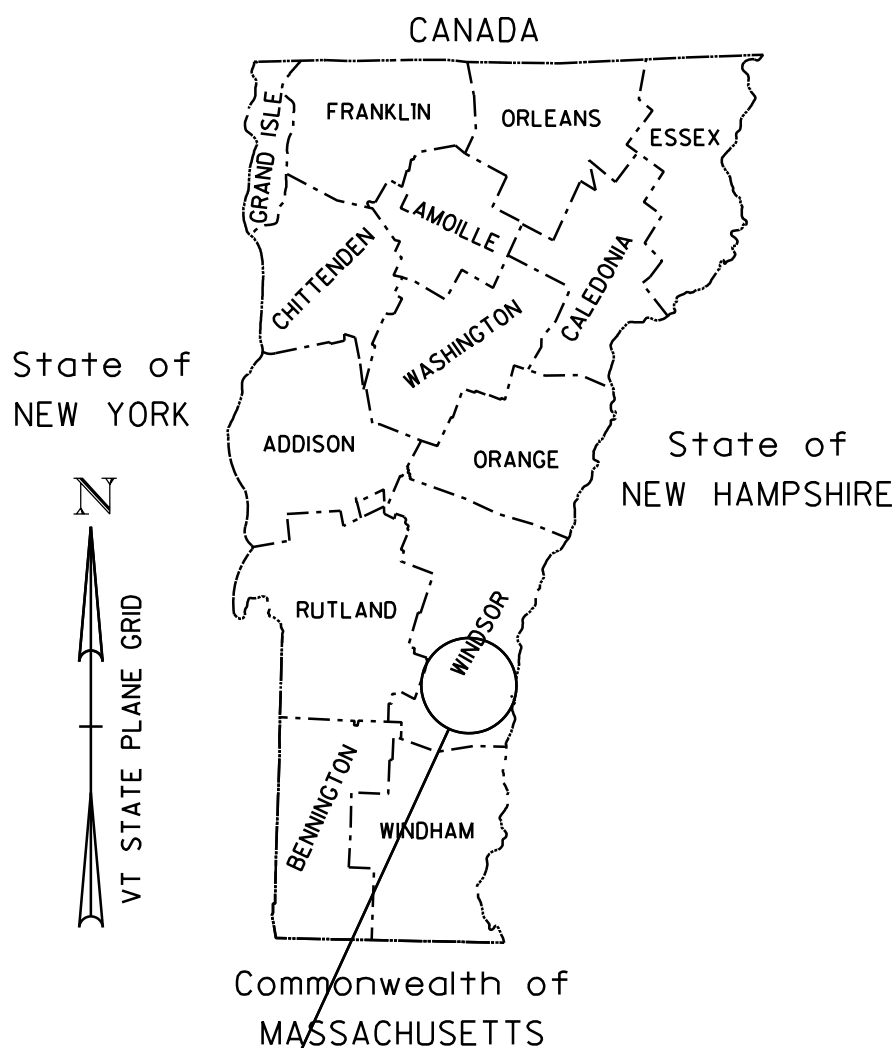
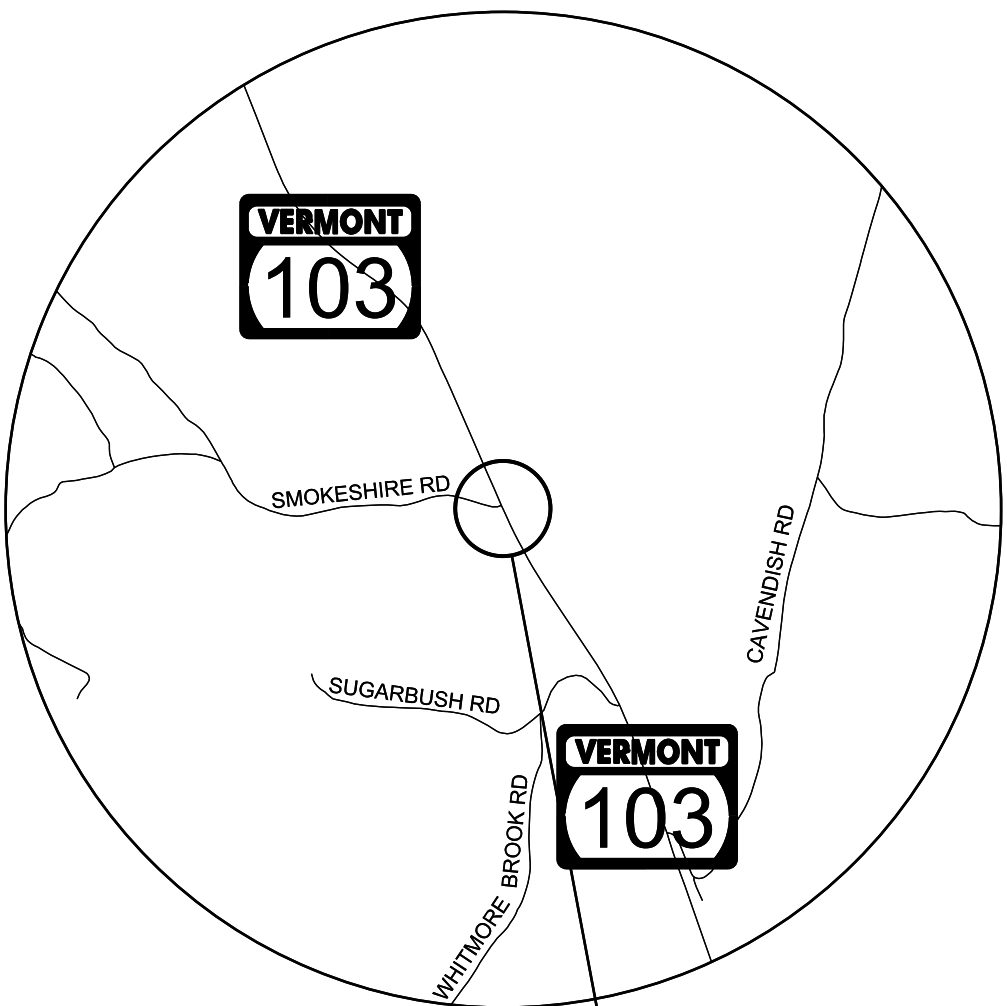


PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF CHESTER
COUNTY OF WINDSOR
VT ROUTE 103 BRIDGE 16

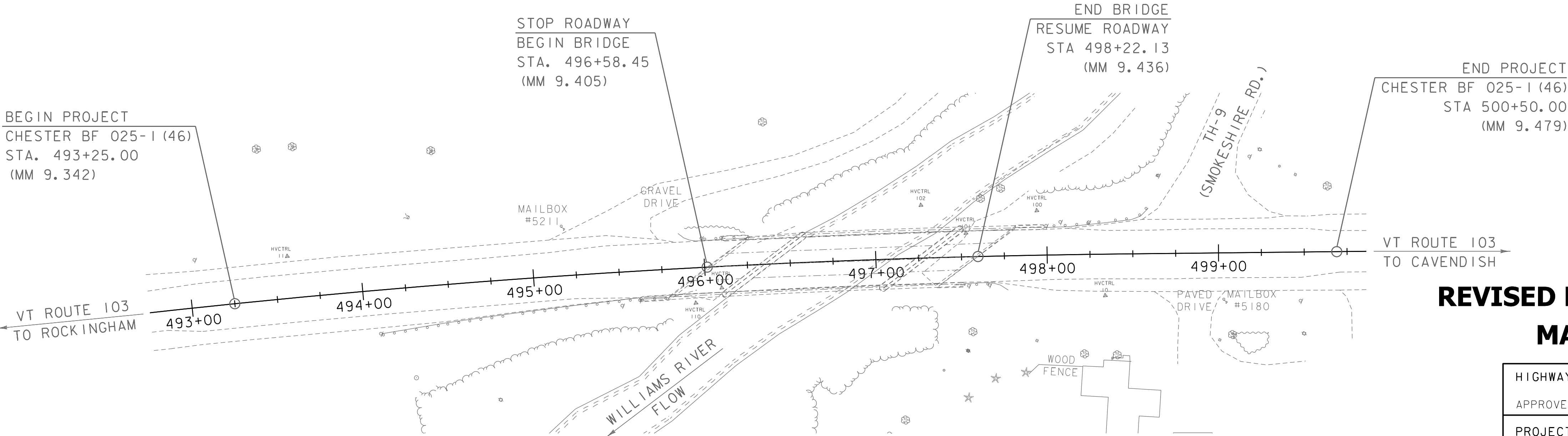
PROJECT LOCATION: BEGINNING AT A POINT IN THE TOWN OF CHESTER ON VT ROUTE 103 AT APPROXIMATELY 1.700 MILES NORTH OF THE INTERSECTION OF VT ROUTE 103 AND VT ROUTE 10 AND EXTENDING NORTH APPROXIMATELY 0.137 MILES TO MILE MARKER 9.479.

PROJECT DESCRIPTION: REMOVAL AND REPLACEMENT OF THE EXISTING BRIDGE DECK, ASSOCIATED MINOR REPAIRS, AND ASSOCIATED ROADWAY WORK.

LENGTH OF STRUCTURE: 163.68 FEET
LENGTH OF ROADWAY: 561.32 FEET
LENGTH OF PROJECT: 725.00 FEET



CHESTER BF 025-1 (46)
VT 103 BRIDGE 16



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

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	9/28/2018
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (2011)

0 40 80
SCALE IN FEET

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

REVISED PRELIMINARY PLANS
MARCH 18, 2020

HIGHWAY DIVISION, CHIEF ENGINEER	
APPROVED _____	DATE _____
PROJECT MANAGER : M. THILLIYAR	
PROJECT NAME : CHESTER	
PROJECT NUMBER : BF 025-1 (46)	
SHEET 1 OF 32 SHEETS	

INDEX OF SHEETS

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B-5	SLOPE GRADING, EMBANKMENTS, MUCK	8/1/1994
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1996
E-173	PULL BOXES AND JUNCTION BOXES	8/9/1996
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G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	3/10/2017
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J-1	PROJECT AND BOUNDARY MARKERS	8/1/1994
S-352A	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	8/22/2012
S-352B	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	8/22/2012
T-1	TRAFFIC CONTROL GENERAL NOTES	4/25/2016
T-2	TRAFFIC SIGN GENERAL NOTES	4/25/2016
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	8/8/2012
T-13	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	8/8/2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	8/8/2012
T-24	TRAFFIC CONTROL FOR MAINTENANCE PAVEMENT MARKING OPERATION	8/8/2012
T-28	CONSTRUCTION SIGN DETAILS	8/8/2012
T-29	CONSTRUCTION SIGN DETAILS	8/8/2012
T-30	CONSTRUCTION SIGN DETAILS	8/8/2012
T-31	CONSTRUCTION SIGN DETAILS	8/8/2012
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T-40	DELINEATORS AND MILEPOSTS	1/2/2013
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T-44	MILEMARKER DETAILS STATE AND TOWN HIGHWAYS	4/9/2014
T-46	SQUARE TUBE SIGN POST AND ANCHOR	1/2/2013
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DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	2/9/2012
SD-502.00	CONCRETE DETAILS AND NOTES	10/10/2012
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	8/29/2011
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES	6/4/2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	5/2/2011

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: January 2017

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: Three Simple Span, Composite Deck, and Steel Beam Bridge
YEAR BUILT: 1962
CLEAR SPAN(NORMAL TO STREAM): Multi-span (max clear span = 84.86)
VERTICAL CLEARANCE ABOVE STREAMBED: 8.55' (Span 3)
WATERWAY OF FULL OPENING: -
DISPOSITION OF STRUCTURE: -
TYPE OF MATERIAL UNDER SUBSTRUCTURE: -

WATER SURFACE ELEVATIONS AT:

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

LONG TERM STREAMBED CHANGES: None noted

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

UP STREAM 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: -

LRFD LOAD RATING FACTORS

LOADING LEVELS	TRUCK					
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.
TONNAGE	20	36	36	66	30	34.5
INVENTORY						
POSTING						
OPERATING						
COMMENTS:						

PROPOSED STRUCTURE

STRUCTURE TYPE: Composite Concrete Deck on Steel Beams

CLEAR SPAN(NORMAL TO STREAM): Multi-span (max clear span = 114')
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: - 817.51
ORDINARY HIGH WATER: - 823.10

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single Span
CLEAR SPAN (NORMAL TO STREAM): -
VERTICAL CLEARANCE ABOVE STREAMBED: -
WATERWAY AREA OF FULL OPENING: -

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN ONE LANE ALTERNATING TRAFFIC DURING CONSTRUCTION.
2. TEMPORARY TRAFFIC SIGNALS INSTALLED AT EACH END OF THE BRIDGE.

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp: ---
3. ABUTMENT BEARING TO BEARING LENGTH (THREE SPANS)	L: 160.1875 FT
(SPAN 1 - 32.07', SPAN 2 - 87.76', SPAN 3 - 32.17')	
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND (--- DIAMETER - LOW RELAX)	fy: ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'ci: ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'c: ---
9. CONCRETE, HIGH PERFORMANCE CLASS PCD	f'c: 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS PCS	f'c: 3.5 KSI
11. CONCRETE, CLASS C	f'c: ---
12. REINFORCING STEEL	fy: 60 KSI
13. STRUCTURAL STEEL AASHTO M270	fy: 50 KSI
14. SOIL UNIT WEIGHT	γ: ---
15. NOMINAL BEARING RESISTANCE OF SOIL	qn: ---
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
17. NOMINAL BEARING RESISTANCE OF ROCK	qn: ---
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: ---
19. NOMINAL AXIAL PILE RESISTANCE	qp: ---
20. PILE YIELD STRENGTH ASTM A572	fy: ---
21. PILE SIZE	---
22. EST. PILE LENGTH	Lp: ---
23. PILE RESISTANCE FACTOR	φ: ---
24. LATERAL PILE DEFLECTION	Δ: ---
25. BASIC WIND SPEED	Vs: ---
26. MINIMUM GROUND SNOW LOAD	Pg: ---
27. SEISMIC DATA	PGA: --- S: --- S1: ---

PROJECT NAME: CHESTER

PROJECT NUMBER: BF 025-1(46)

FILE NAME: z16b002pi.dgn PLOT DATE: 3/18/2020
PROJECT LEADER: M. CRUZ DRAWN BY: A. RUSSELL
DESIGNED BY: D. VERTIEV CHECKED BY: G. BOYLE
PRELIMINARY INFORMATION SHEET SHEET 2 OF 32

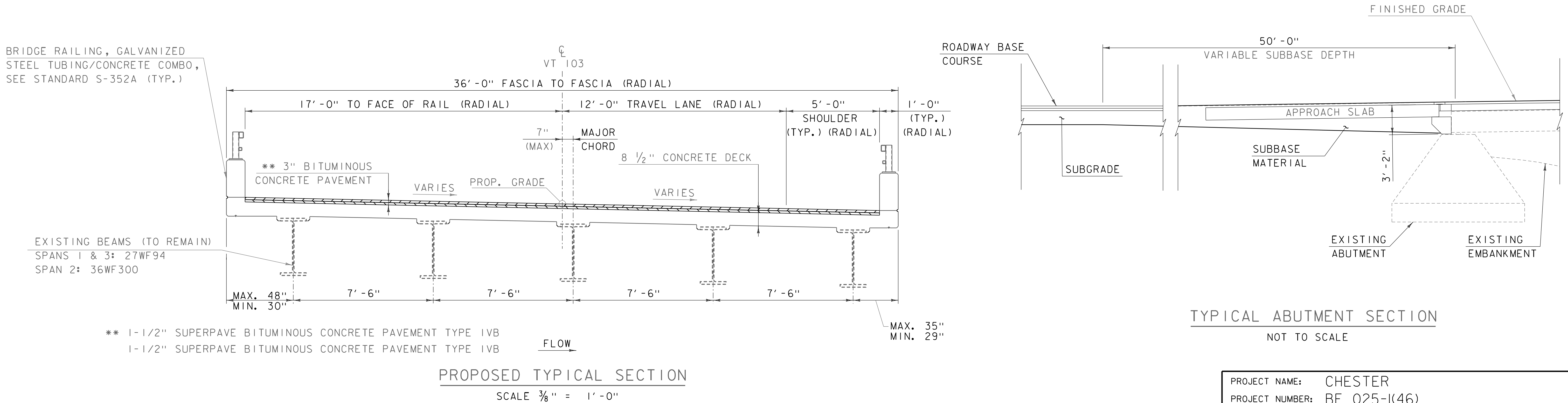
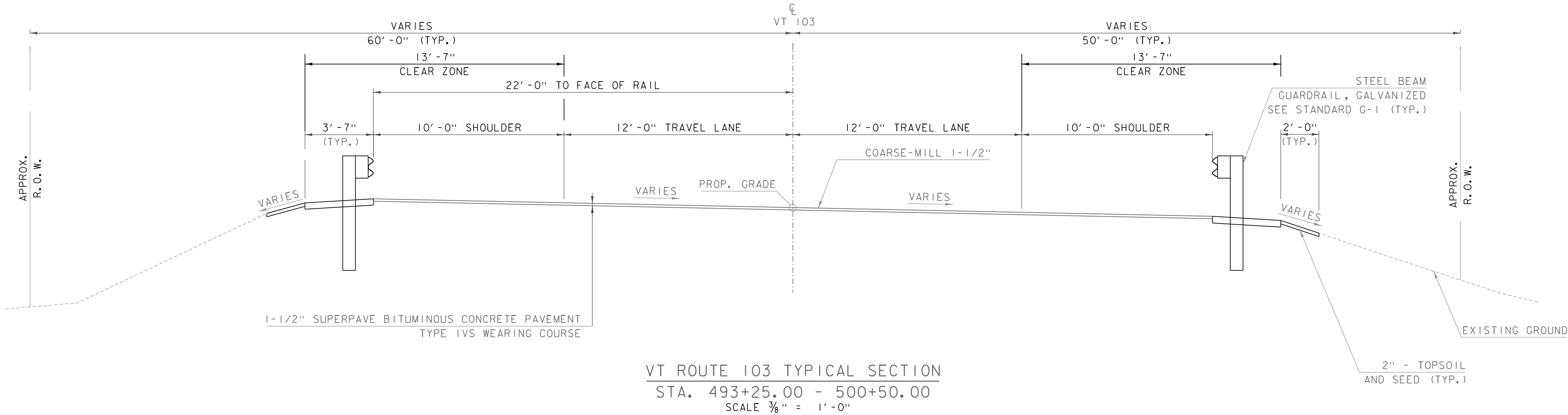
TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2023 to 2043 : 5087000
2023	6000	920	51	9.4	700	40 year ESAL for flexible pavement from 2023 to 2043 : 10912000
2043	6500	990	51	12.9	1000	Design Speed : 30 mph

MATERIAL TOLERANCES

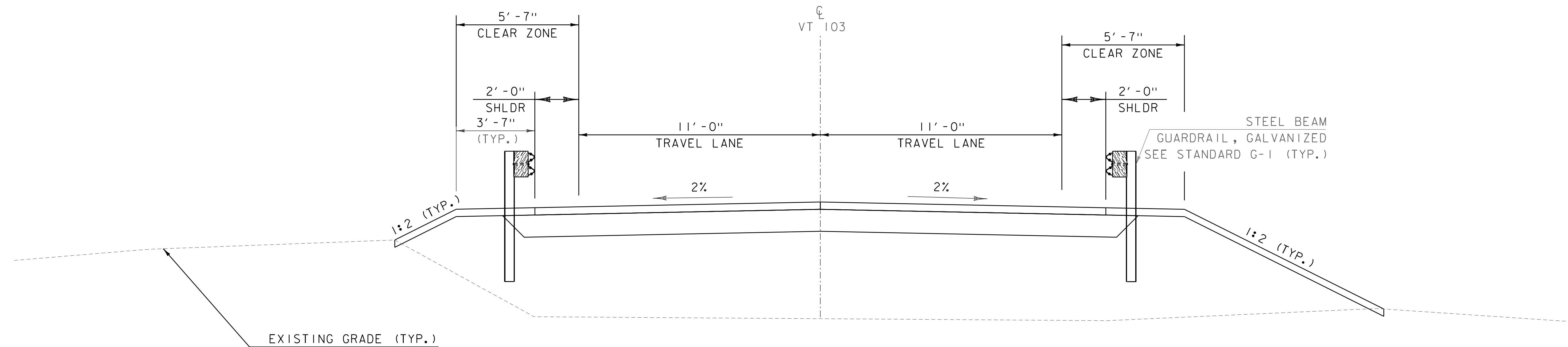
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH ALL LAYERS)	$\pm \frac{1}{4}"$
SUBBASE (TOTAL DEPTH ALL LAYERS)	$\pm 1"$
SAND BORROW (TOTAL DEPTH ALL LAYERS)	$\pm 1"$

TYPICAL SECTIONS



TYPICAL SECTIONS

NOTE: 4" BITUMINOUS CONCRETE PAVEMENT TYPE III IN TWO 2" LIFTS
12" SUBBASE OF DENSE GRADED CRUSHED STONE

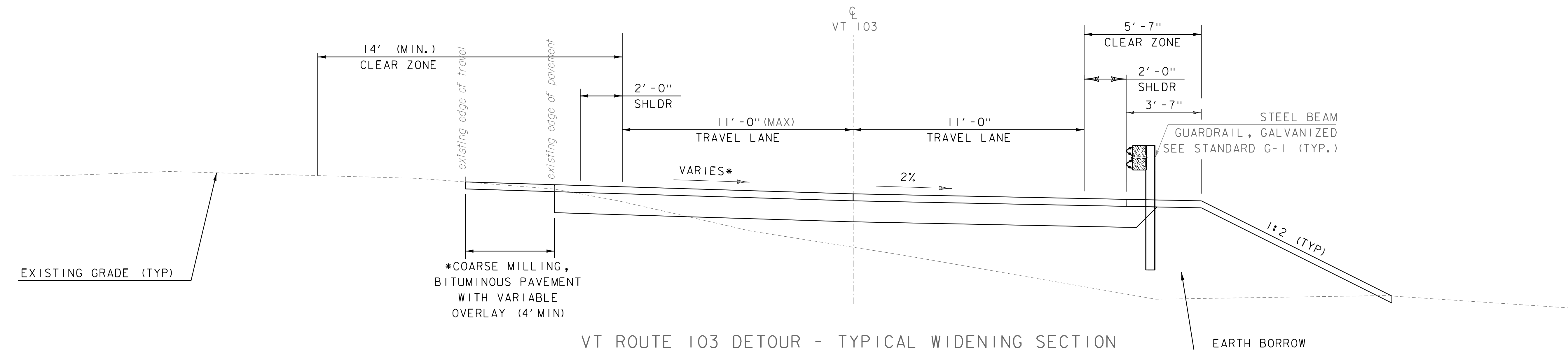


VT ROUTE 103 DETOUR - TYPICAL APPROACH SECTION

STA. 12+65.24 - 12+93.33

STA. 14+46.33 - 15+27.80

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



VT ROUTE 103 DETOUR - TYPICAL WIDENING SECTION

STA. 11+43.20 - 12+65.24

STA. 15+27.80 - 16+01.07

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

* LT EOP TO TIE INTO EXISTING EDGE OF TRAVELWAY.
CONTRACTOR TO ENSURE ROADWAY RUNOFF FLOWS TO RT EOP.
STA. 11+85 - STA. 12+65
STA. 15+28 - STA. 15+62

PROJECT NAME: CHESTER
PROJECT NUMBER: BF 025-1(46)

FILE NAME: z16b002+typ.dgn
PROJECT LEADER: M. CRUZ
DESIGNED BY: D. VERTIYEV
TYPICAL SECTIONS SHEET 2

PLOT DATE: 3/17/2020
DRAWN BY: A. RUSSELL
CHECKED BY: G. BOYLE
SHEET 4 OF 32

GENERAL:

1.
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION, AND ITS LATEST REVISIONS.
2.
- ALL PAVEMENT MARKING PLACEMENTS SHALL MATCH INTO EXISTING AT THE LIMITS OF THE ROADWAY APPROACHES.
3.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F.
4.
- BORINGS INDICATED ON THE PLANS HAVE BEEN MADE FOR DESIGN PURPOSES ONLY.
5.
- ALL EDGES OF PAVEMENT WITHOUT ADJACENT GUARDRAIL SHALL CONFORM TO THE SAFETY EDGE DETAIL (HSD 400.01). ALL EDGES OF PAVEMENT SHALL BE BACKED UP FULL HEIGHT AND PAID UNDER AGGREGATE SHOULDERS.
6.
- STEEL BEAM GUARDRAIL WITH STEEL POSTS SHALL BE USED ON THIS PROJECT. WOOD OR SYNTHETIC OFFSET BLOCKS SHALL BE USED. ALL EXISTING GUARDRAIL SHALL BE RETAINED UNLESS OTHERWISE NOTED.
7.
- A 3'-7" OF BACKING IS REQUIRED BEHIND THE FACE OF THE GUARDRAIL WITH SIX FOOT POSTS.
8.
- ITEM 646.76 LINE STRIPING TARGETS SHALL BE PLACED AS SPECIFIED IN THE SPECIFICATIONS FOR THE PLACEMENT OF THE WHITE EDGE LINES, YELLOW CENTER LINES, AND STOP BARS.
9.
- AREAS GIVEN FOR DOUBLE-SIDED SIGNS HAVE BEEN MULTIPLIED BY A PAY FACTOR OF 1.5 AS REQUIRED BY SUBSECTION 675.10. THE ACTUAL PHYSICAL DIMENSIONS ARE GIVEN ON THE SIGN DETAIL SHEETS. THE QUANTITY SHEET TOTALS FOR ITEM 675.20 ALSO INCORPORATE THE PAY FACTOR OF 1.5 FOR DOUBLE-SIDED SIGNS.
10.
- THE CONTRACTOR SHALL PROVIDE A SITE-SPECIFIC EROSION PREVENTION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH SECTION 653 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. ESTIMATED QUANTITIES FOR EPSC WORK HAVE BEEN INCLUDED IN THE CONTRACT FOR BIDDING PURPOSES. IF THE CONTRACTOR'S EPSC PLAN REQUIRES ITEMS OF WORK THAT ARE NOT INCLUDED IN THE PLANS IT SHALL BE PAID FOR AS PART OF ITEM 653.03 MAINTENANCE OF EPSC PLAN.
11.
- THE CONTRACTOR SHALL MAINTAIN FLOW FOR PROPOSED PIPE AT STA 11+35 RT THROUGHOUT CONSTRUCTION.

UTILITIES:

12.
- THERE ARE EXISTING ABOVE GRADE, PRIVATELY OWNED, UTILITIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS WHEN WORKING IN THE VICINITY OF THESE UTILITIES.
13.
- ALL EXISITING UTILITIES NOTED ON THE PLANS TO BE RETAINED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
14.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT THE CONTRACTOR'S OPERATIONS SHALL IN NO WAY WEAKEN OR DAMAGE PROPERTY OF THE UTILITY. ANY DAMAGE TO THE PROPERTY OF THE UTILITY AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR TO THE FULL SATISFACTION OF THE OWNER OF THE UTILITY. SEE THE UTILITY SPECIAL PROVISIONS FOR ADDITONAL INFORMATION AND REQUIREMENTS.

PROJECT NAME: CHESTER	
PROJECT NUMBER: BF 025-I(46)	
FILE NAME: z16b002notes.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: A. RUSSELL
DESIGNED BY: D. VERTIYEV	CHECKED BY: G. BOYLE
GENERAL NOTES SHEET	SHEET 5 OF 32

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES											TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE NO. 1 (STA. 497+40.29)	TEMP. BRIDGE (STA. 13+09.83)	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					28						28		CY	COMMON EXCAVATION	203.15	2	COMMON EXCAVATION		
					20						20		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-	26	CY	VT ROUTE 103
																	2	CY	ROUNDING
								60			60		CY	STRUCTURE EXCAVATION	204.25	4	28	CY	TOTAL
								20			20		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	2	STRUCTURE EXCAVATION		
					2625						2625		SY	COARSE-MILLING, BITUMINOUS PAVEMENT	210.10	79	56	CY	BRIDGE
					35						35		TON	AGGREGATE SHOULDERS	402.12	1	4	CY	ROUNDING
					20						20		CWT	EMULSIFIED ASPHALT	404.65	2	60	CY	TOTAL
					1						1		LU	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	406.29	-	GRANULAR BACKFILL FOR STRUCTURES		
					102						102		TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT, TYPE I/B	406.36	3	18	CY	BRIDGE
					1						1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-	2	CY	ROUNDING
								52425			52425		LB	REINFORCING STEEL, LEVEL II	507.12	6	20	CY	TOTAL
								250			250		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	2			
								730			730		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	1			
								316			316		LF	REMOVAL OF EXISTING BRIDGE RAILING	525.10	-			
								316			316		LF	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	525.45	-			
									1		1		LS	TWO-WAY TEMPORARY BRIDGE	528.11	-			
											750		SY	REMOVAL OF CONCRETE OR MASONRY	529.26	20			
								50			50		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13	4			
								5			5		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14	-			
														BEGIN OPTION AA					
					35						35		LF	15" PCCSP .064 (2-2/3 X 1/2)	601.0410	1			
					35						35		LF	15" RCP CLASS III	601.0810	1			
					35						35		LF	15" CPEP	601.0910	1			
					35						35		LF	15" CPEP(SL)	601.2610	1			
														END OPTION AA					
					45						45		LF	PRECAST REINFORCED CONCRETE CURB, TYPE B	616.26	1			
					260						260		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	8			
					2						2		EACH	MANUFACTURED TERMINAL SECTION, FLARED	621.50	-			
					5						5		EACH	ENERGY ABSORPTION ATTENUATOR, TEMPORARY	621.56	-			
					2						2		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			
					4						4		EACH	GUARDRAIL APPROACH SECTION TO CONC COMB BRIDGE RAILING TL-3	621.748	-			
					310						310		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	17			
					95						95		HR	UNIFORMED TRAFFIC OFFICERS	630.10	4			
					700						700		HR	FLAGGERS	630.15	32			
										1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
										1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
										3000	3000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26	-			
					9						9		EACH	CPM SCHEDULE	633.10	-			
						520					520		HR	EMPLOYEE TRAINEESHIP	634.10	-			

PROJECT NAME: CHESTER
PROJECT NUMBER: BF 025-I(46)

FILE NAME: z16b002qty.dgn
PROJECT LEADER: M. CRUZ
DESIGNED BY: D. VERTIYEV
QUANTITY SHEET 1

PLOT DATE: 3/17/2020
DRAWN BY: A. RUSSELL
CHECKED BY: G. BOYLE
SHEET 6 OF 32

QUANTITY SHEET 2

[illegible]

PROJECT NAME:	CHESTER
PROJECT NUMBER:	BF 025-1(46)

FILE NAME: z16b002qty.dgn
PROJECT LEADER: M. CRUZ
DESIGNED BY: D. VERTIYEV
QUANTITY SHEET 2

PLOT DATE: 3/17/2020
DRAWN BY: A. RUSSELL
CHECKED BY: G. BOYLE
SHEET 7 OF 32

[illegible]

PLOT DATE: 3/17/2020
DRAWN BY: A. RUSSELL
CHECKED BY: G. BOYLE
SHEET 8 OF 32

SYMBOLGY LEGEND NOTE

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

■	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

POINT	CODE	DESCRIPTION
-------	------	-------------

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

CODE	DESCRIPTION
------	-------------

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	

UNDERGROUND UTILITIES

ABOVE GROUND UTILITIES (AERIAL)

PROJECT CONSTRUCTION SYMBOLOLOGY

— -- —CZ— -- — CLEAR ZONE
 _____ PLAN LAYOUT MATCHLINE

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

BOUNDARY LINES

SLOPE RIGHTS
 6F PROPERTY BOUNDARY
 4F PROPERTY BOUNDARY
 HAZARDOUS WASTE

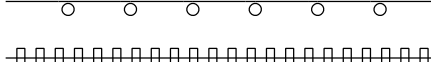
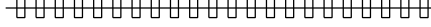
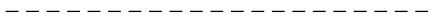
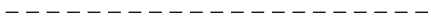
EPSC MEASURES

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

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

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

EXISTING FEATURES

	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 NUMBER: BF 025-1(46)

PROJECT LEADER: M. CRUZ DRAWN BY: A. RUSSELL

CONVENTIONAL SYMBOLOGY LEGEND SHEET SHEET 9 OF 32

PRIMARY CONTROL

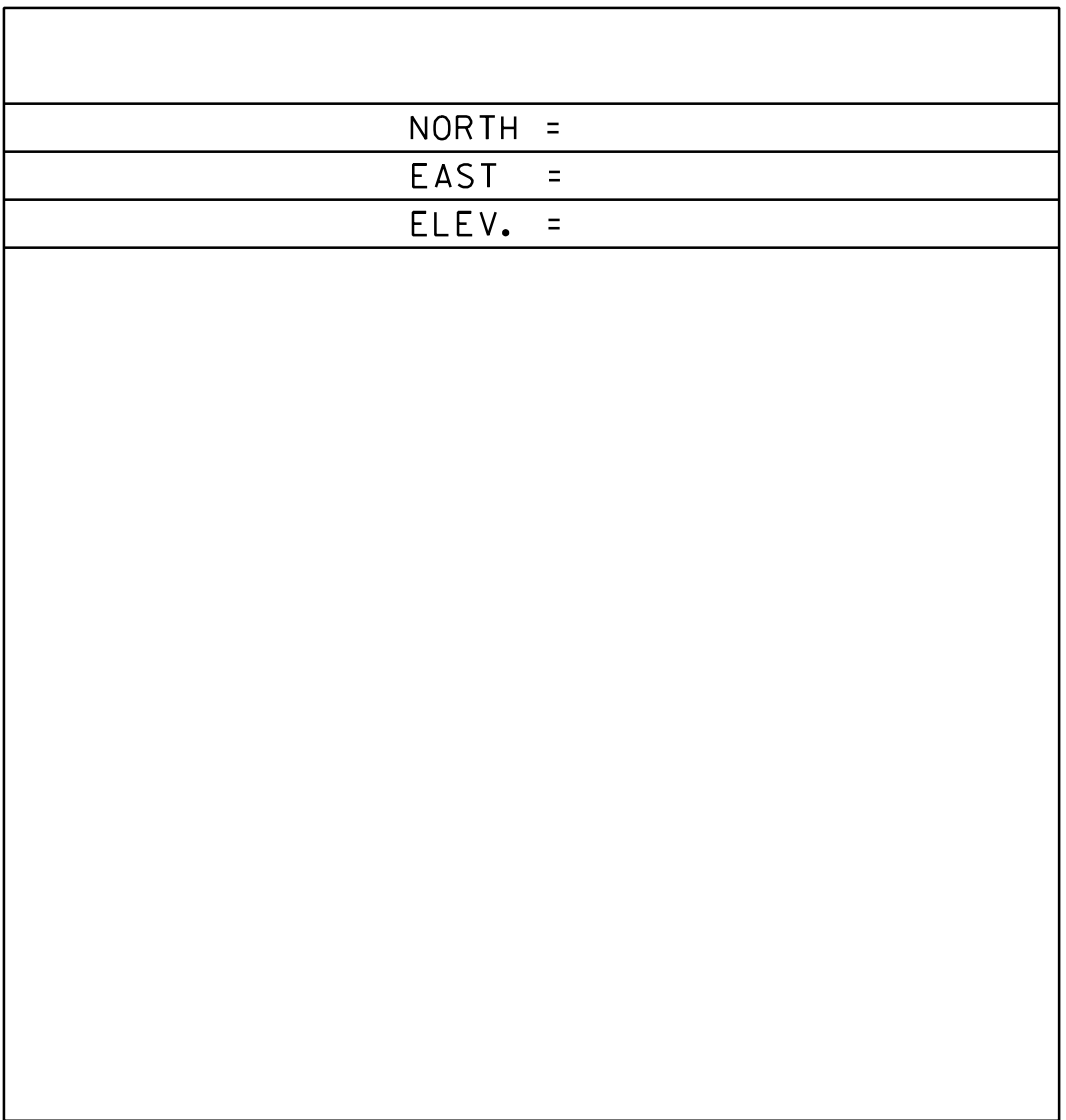
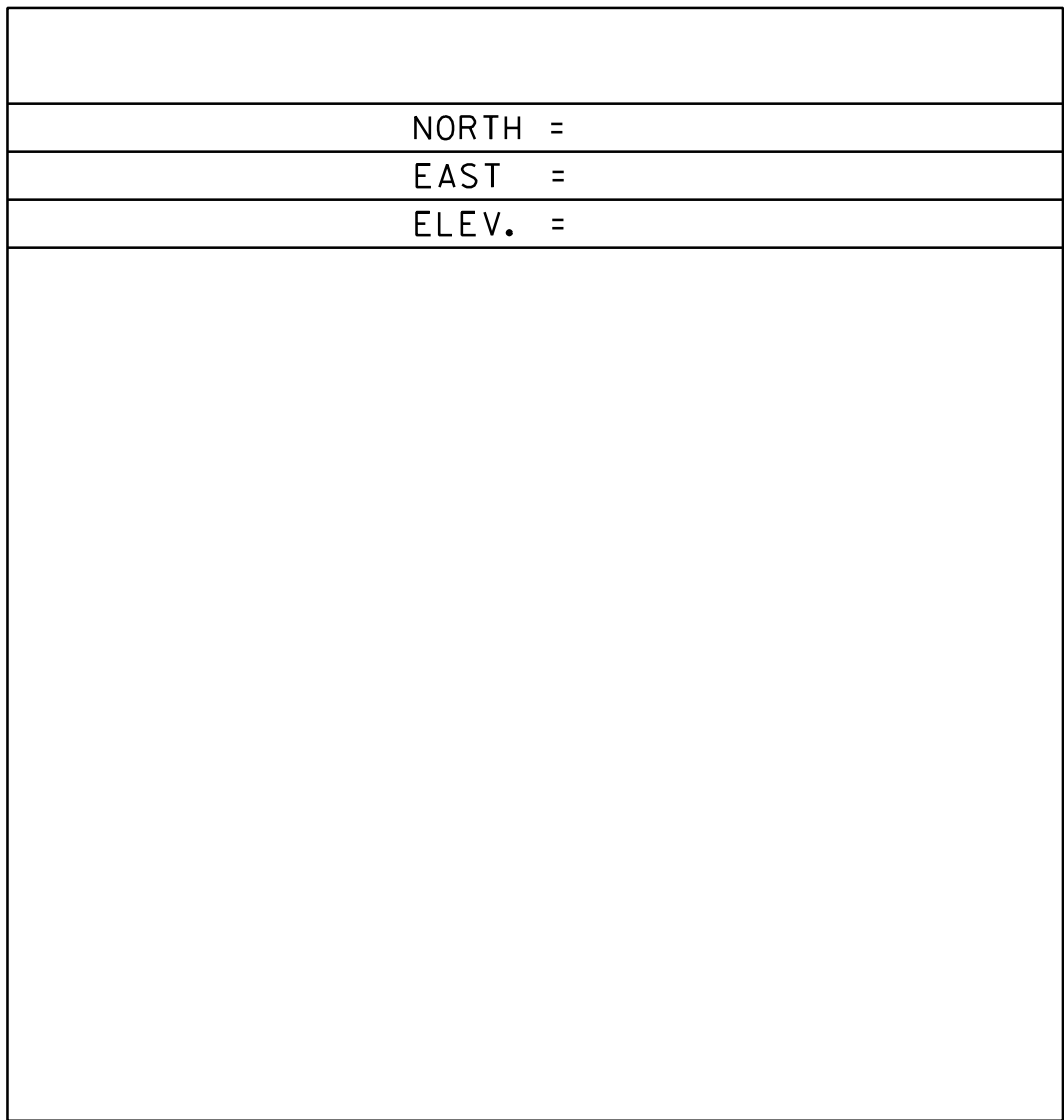
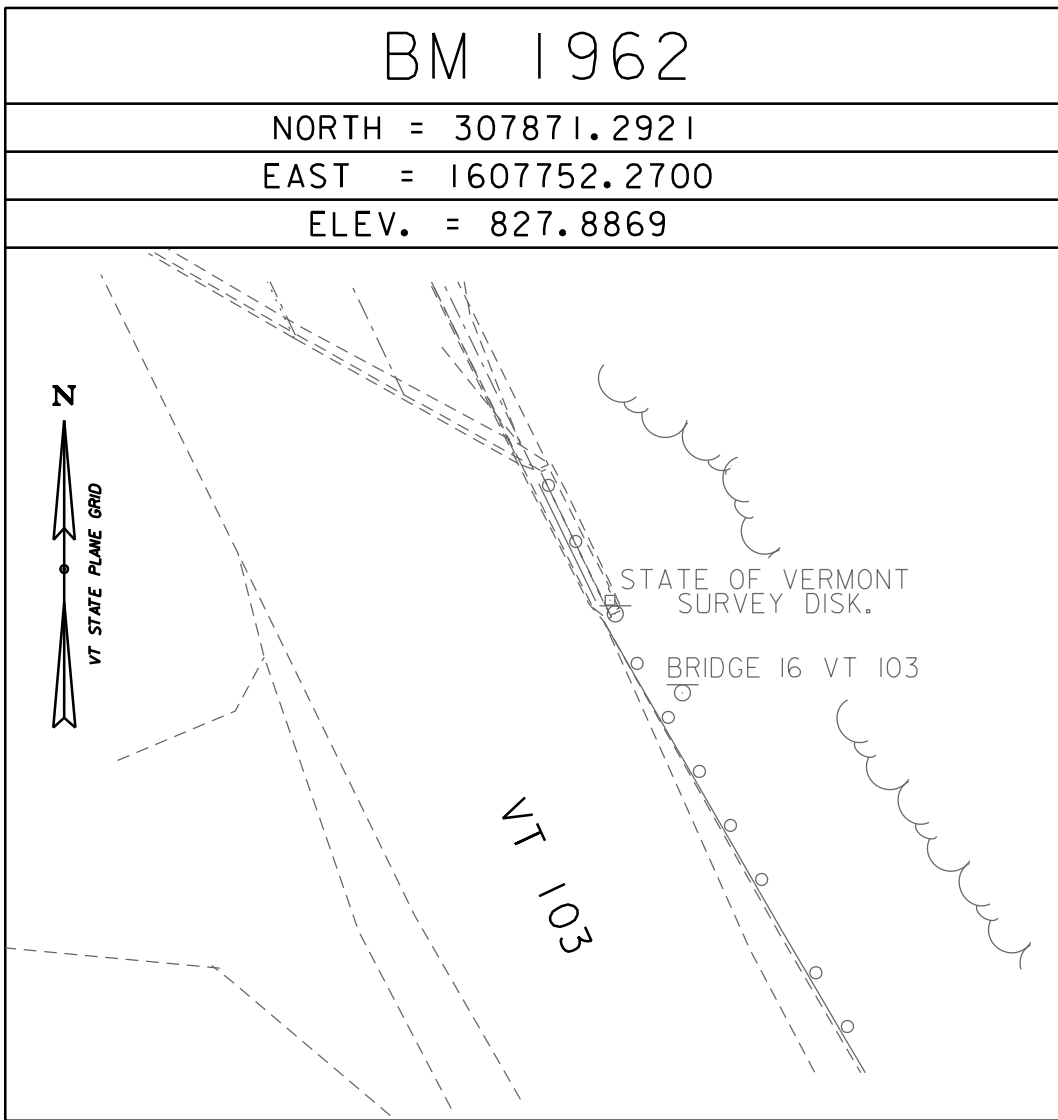
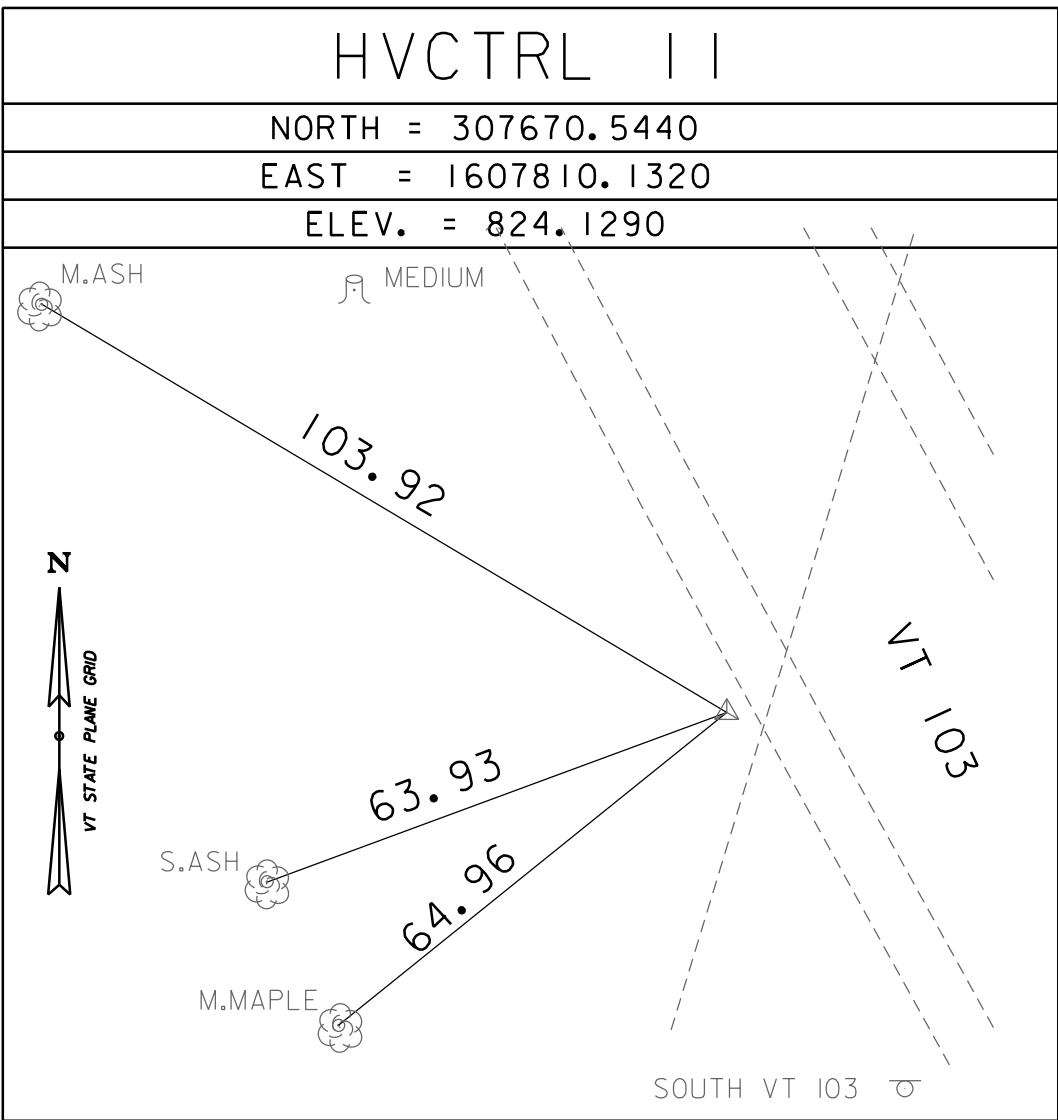
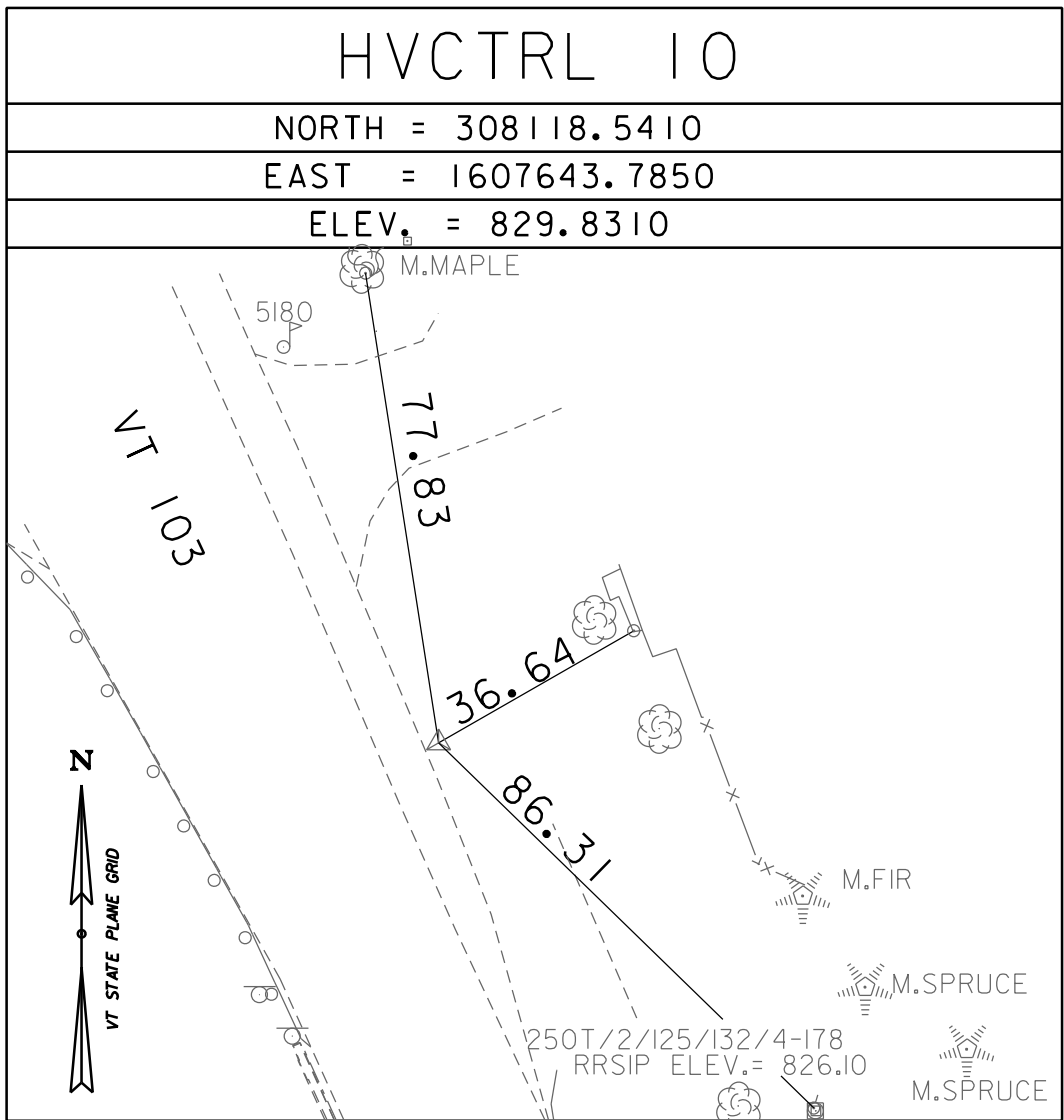
HVCTRL #1 = N 61
NORTH = 298983.2950
EAST = 1611801.9500
ELEV = 725.0200

HVCTRL #12 = SHELMART
NORTH = 306923.0400
EAST = 1608355.8500
ELEV = 805.5800

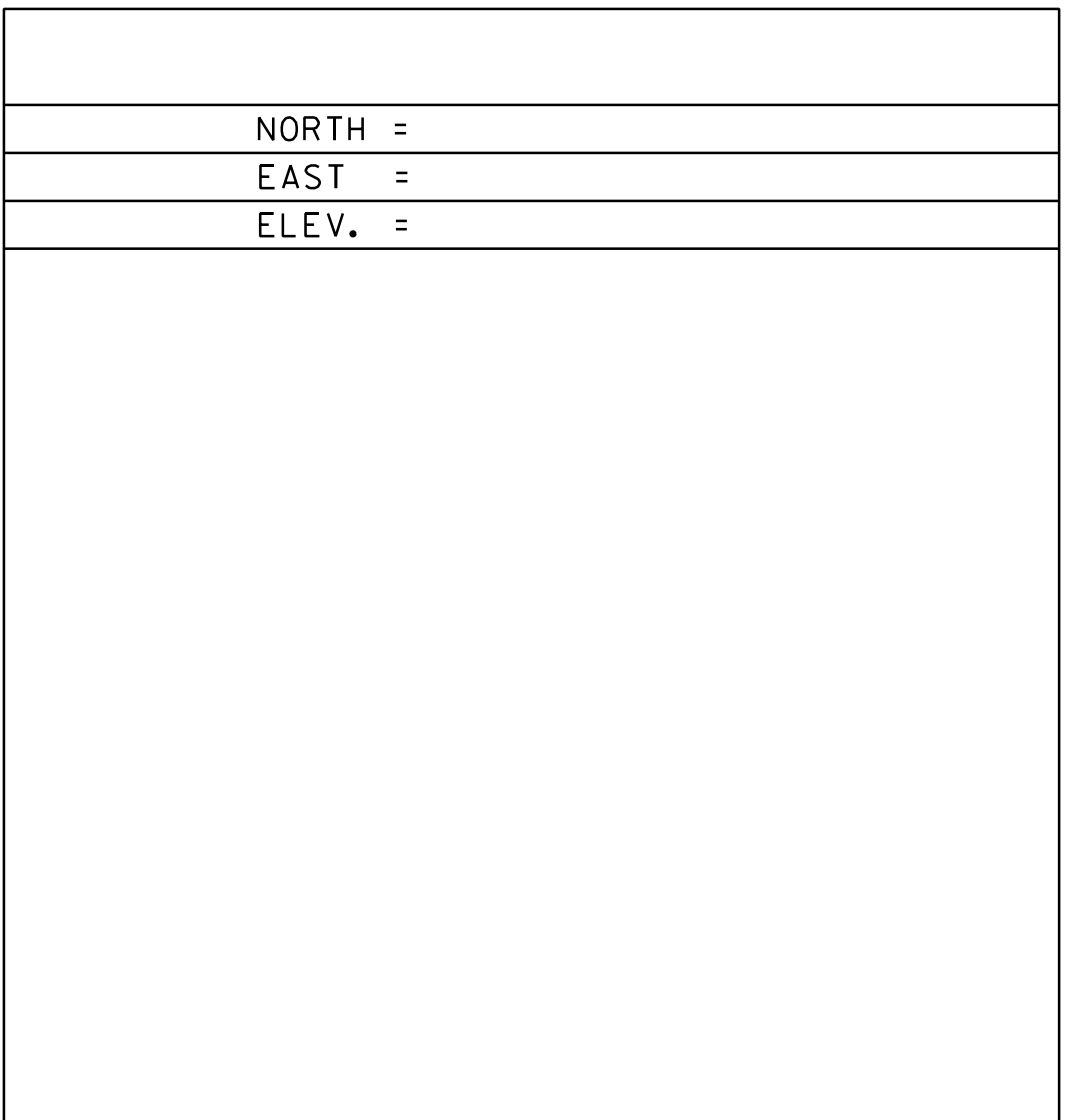
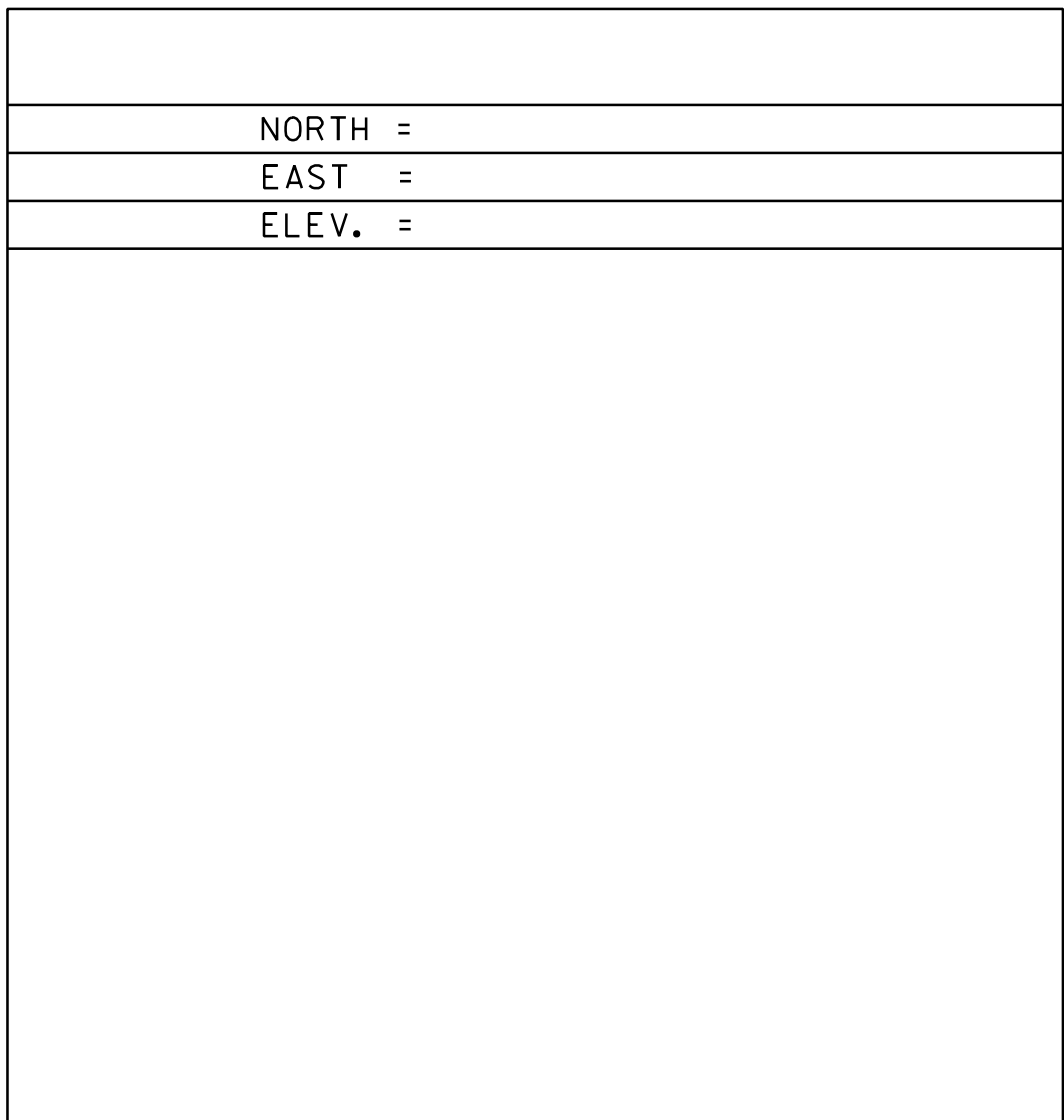
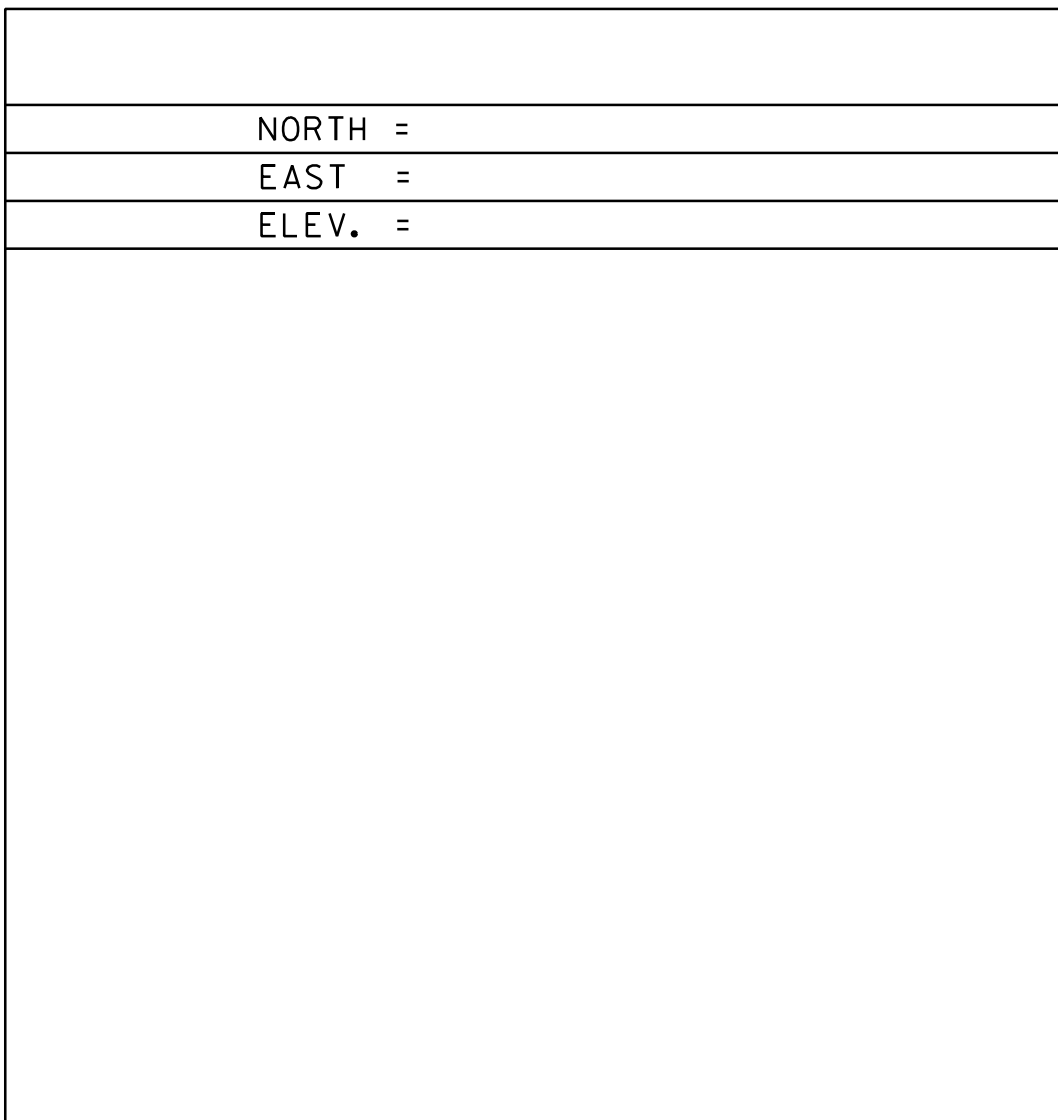
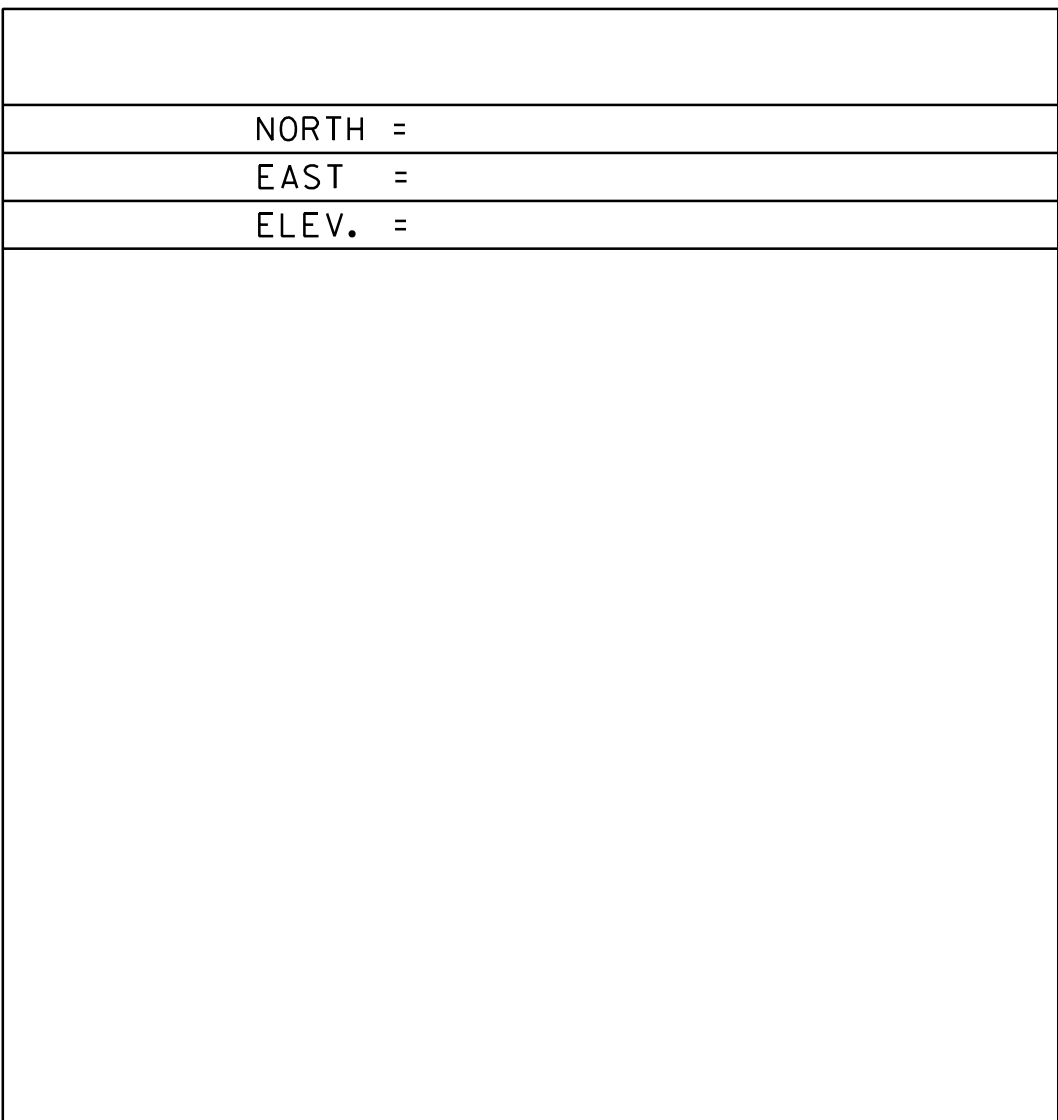
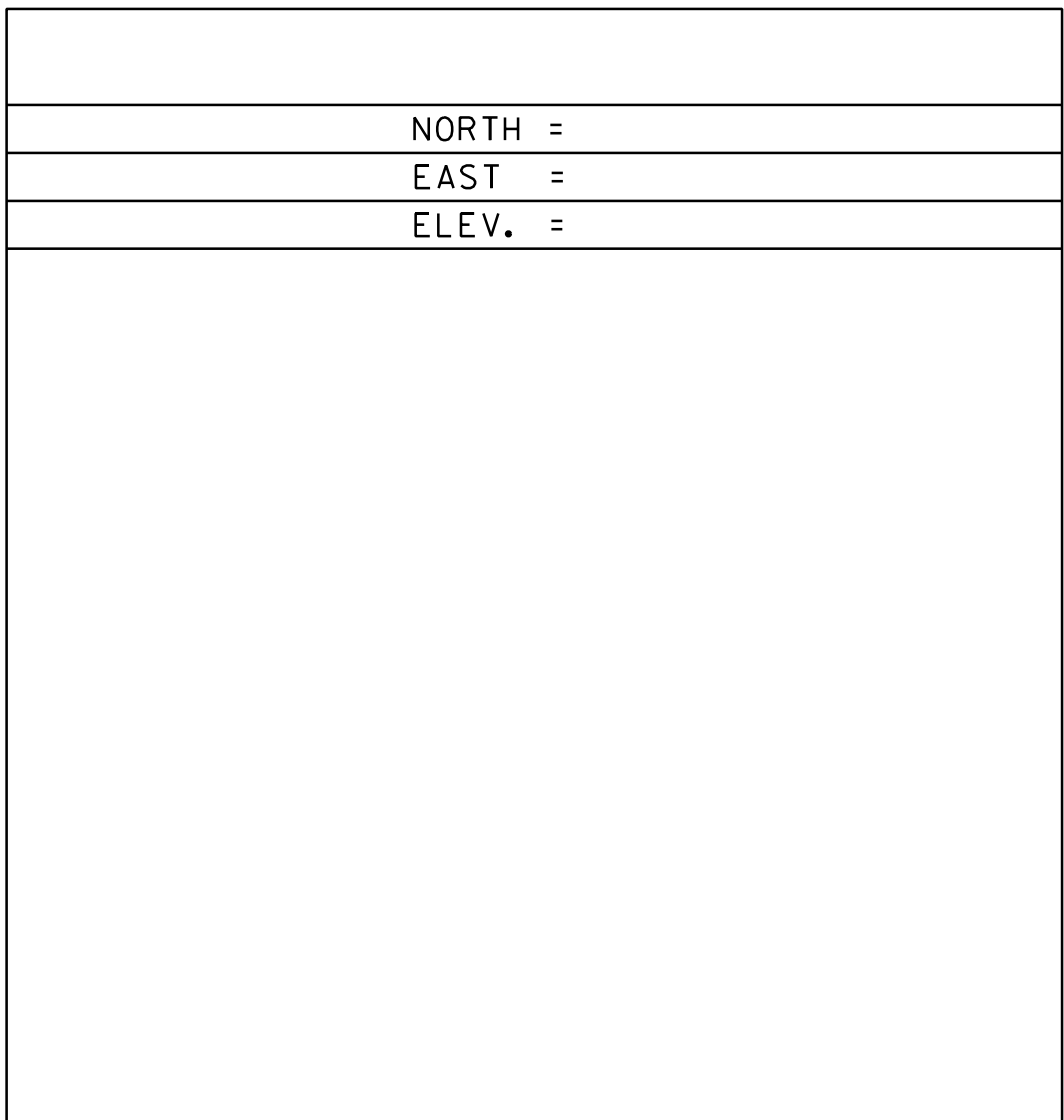
TO REACH FROM THE INTERSECTION OF VT ROUTES 103 AND 10 GO SOUTH ALONG VT ROUTE 103 FOR 0.3 MI (0.5 KM) TO THE INTERSECTION OF BROOKS ROAD LEFT AND THE MARK ON THE LEFT, BETWEEN BROOKS ROAD AND VT ROUTE 103. IT IS ABOUT 30 M (98.4 FT) NORTHEAST OF THE INTERSECTION. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A 1.0 M (3.3 FT) X 1.0 M (3.3 FT) ROCK OUTCROP. IT IS 7.4 M (24.3 FT) SOUTHEAST OF AND ABOUT LEVEL WITH THE SOUTHEAST EDGE OF PAVEMENT OF VT ROUTE 103, 11.7 M (38.4 FT) NORTH OF THE CENTERLINE OF BROOKS ROAD, 12.2 M (40.0 FT) EAST NORTHEAST OF THE CENTER OF A STEEL DRAINAGE INLET, 29.2 M (95.8 FT) SOUTH OF POLE NO.74/121, AND 4.2 M (13.8 FT) NORTHWEST OF A FIBERGLASS WITNESS POST.

TO REACH FROM THE INTERSECTION OF VT ROUTES 103 AND 10 GO NORTHWEST ALONG VT ROUTE 103 FOR 1.5 MI (2.4 KM) TO THE SITE OF THE MARK ON THE RIGHT IN A LAWN. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A 1.8 M X 0.4 M SLOPING ROCK OUTCROP. IT IS 11.2 M EAST OF AND ABOUT 1 M LOWER THAN THE CENTERLINE OF VT ROUTE 103, 19.5 M SOUTH OF THE CENTERLINE OF THE DRIVE LEADING TO KIM'S CAR CARE (SHELMART DRIVE), 1.3 M SOUTHWEST OF THE NORTHEAST EDGE OF THE OUTCROP, 24.4 M NORTH-NORTHWEST OF POLE NO 2/120/1/127, 44.2 M SOUTH-SOUTHEAST OF POLE NO 120X/1/1275 AND 8.3 M NORTH OF THE NORTH END OF THE GUARDRAIL.

SECONDARY CONTROL



ALIGNMENT TIES



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD83 (96)
ADJUSTMENT	COMPASS

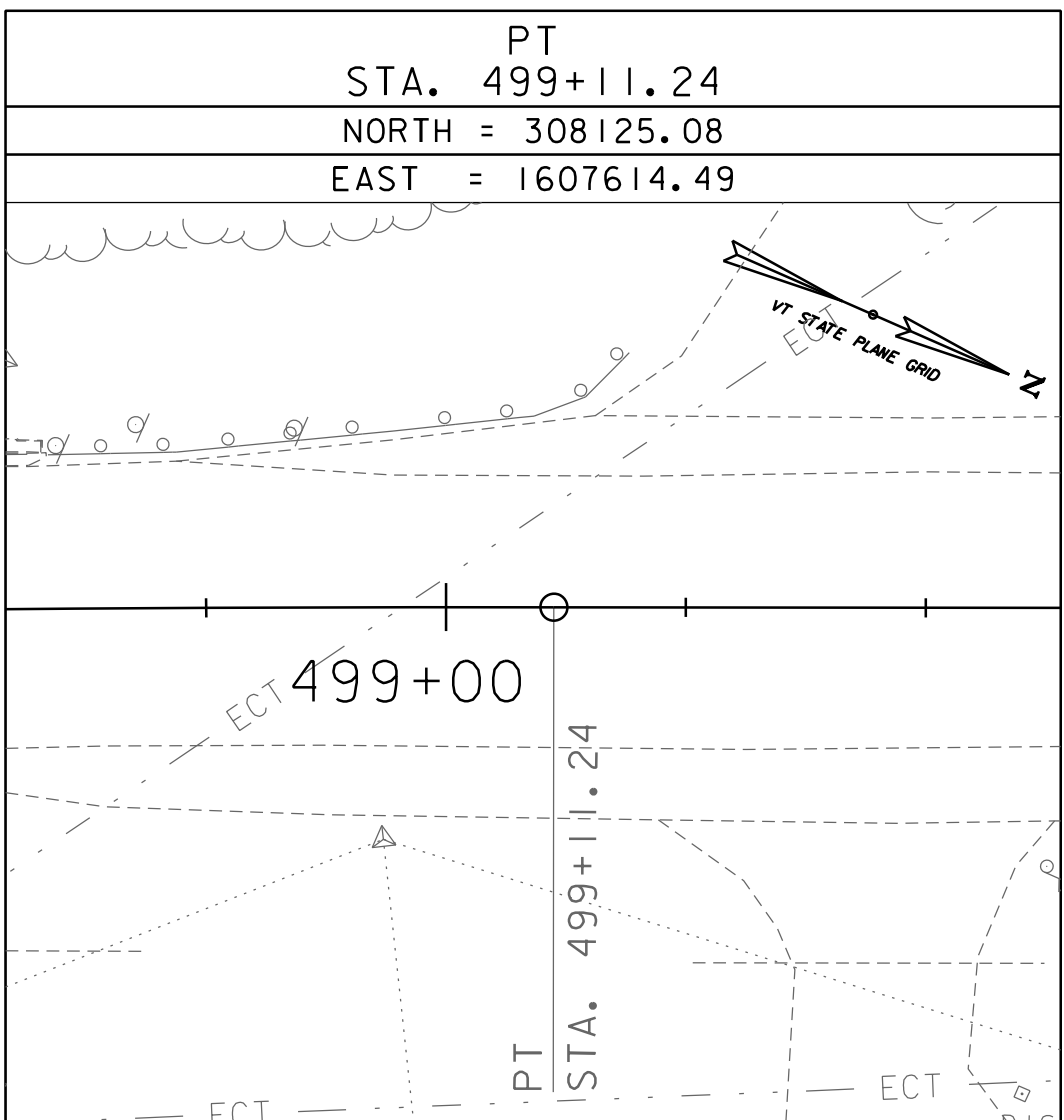
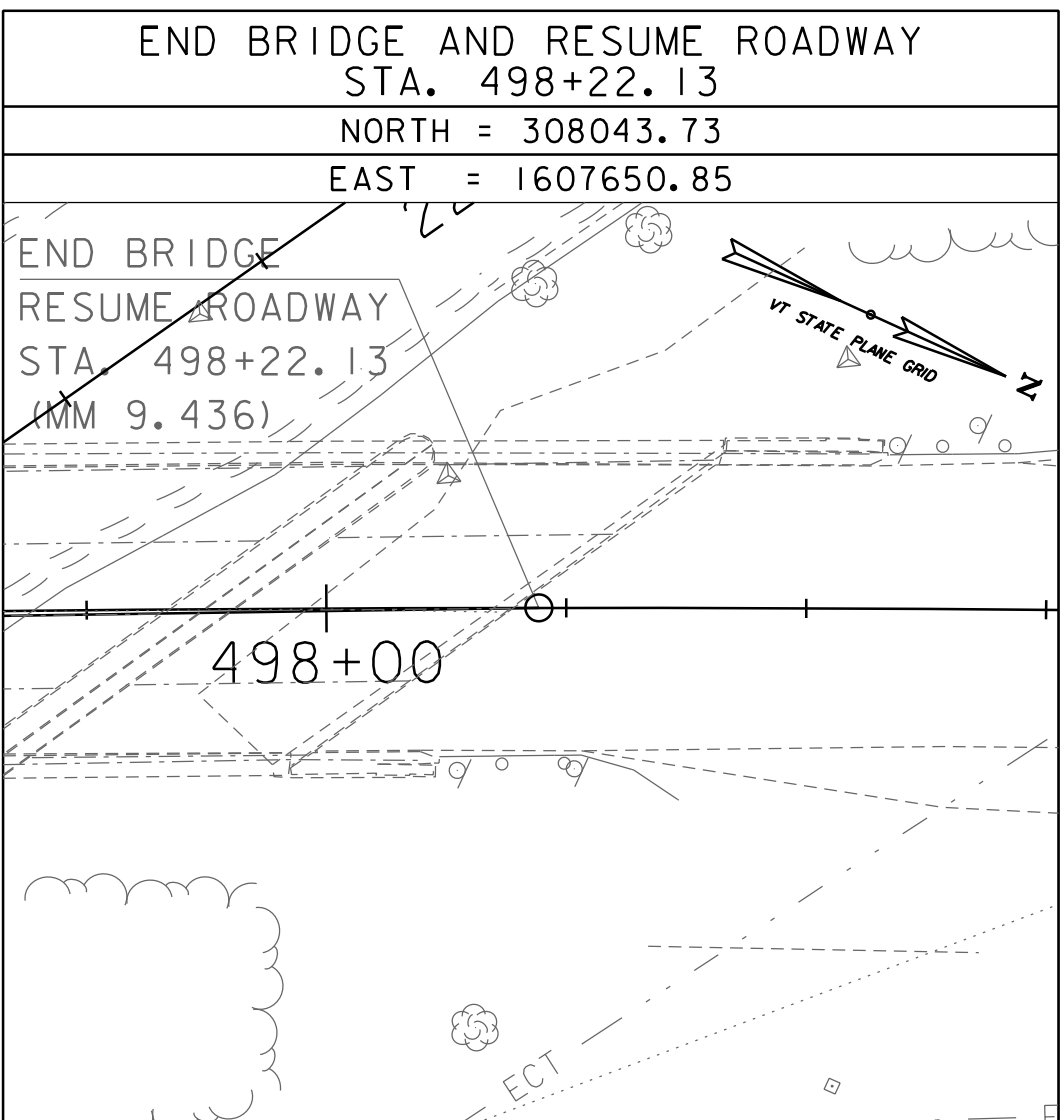
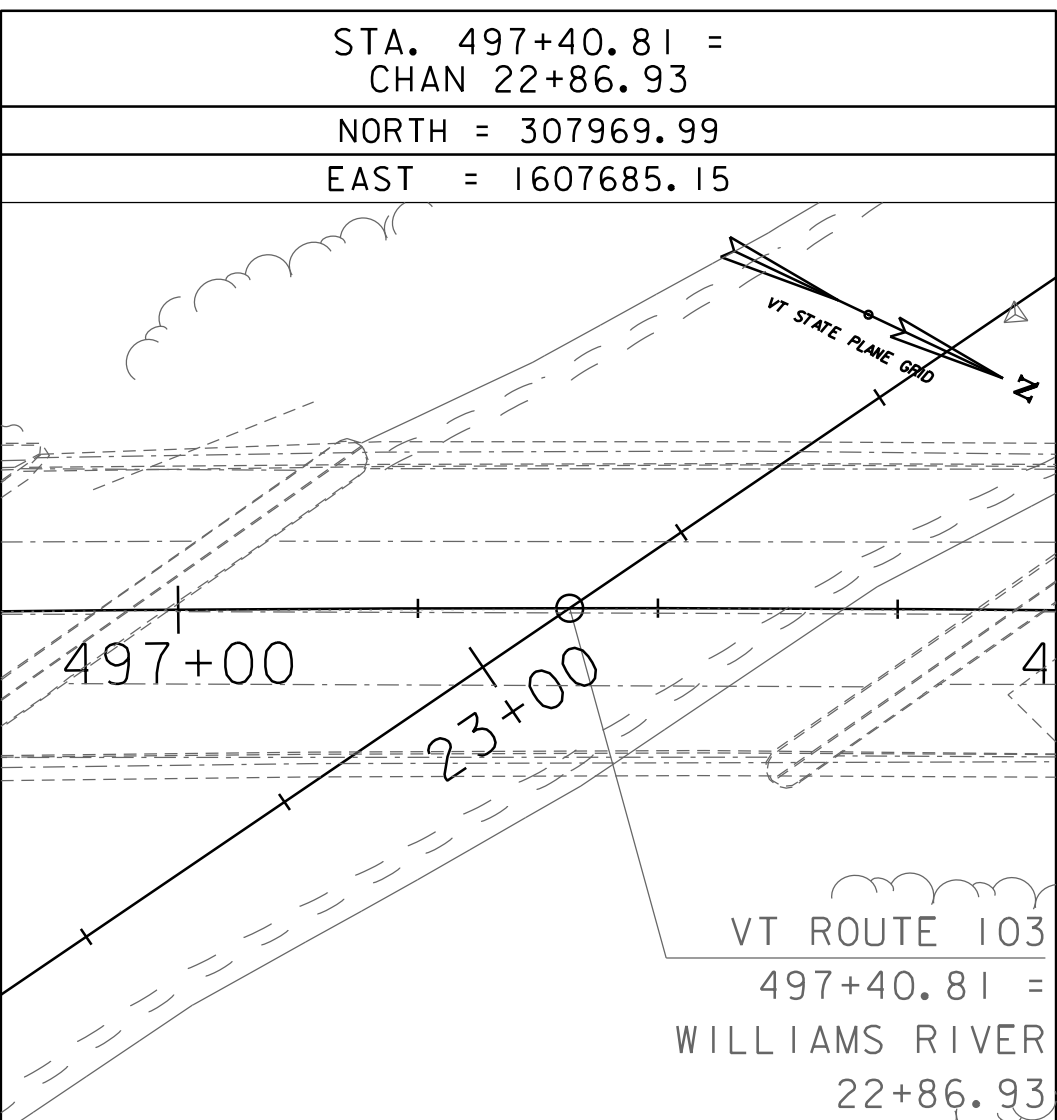
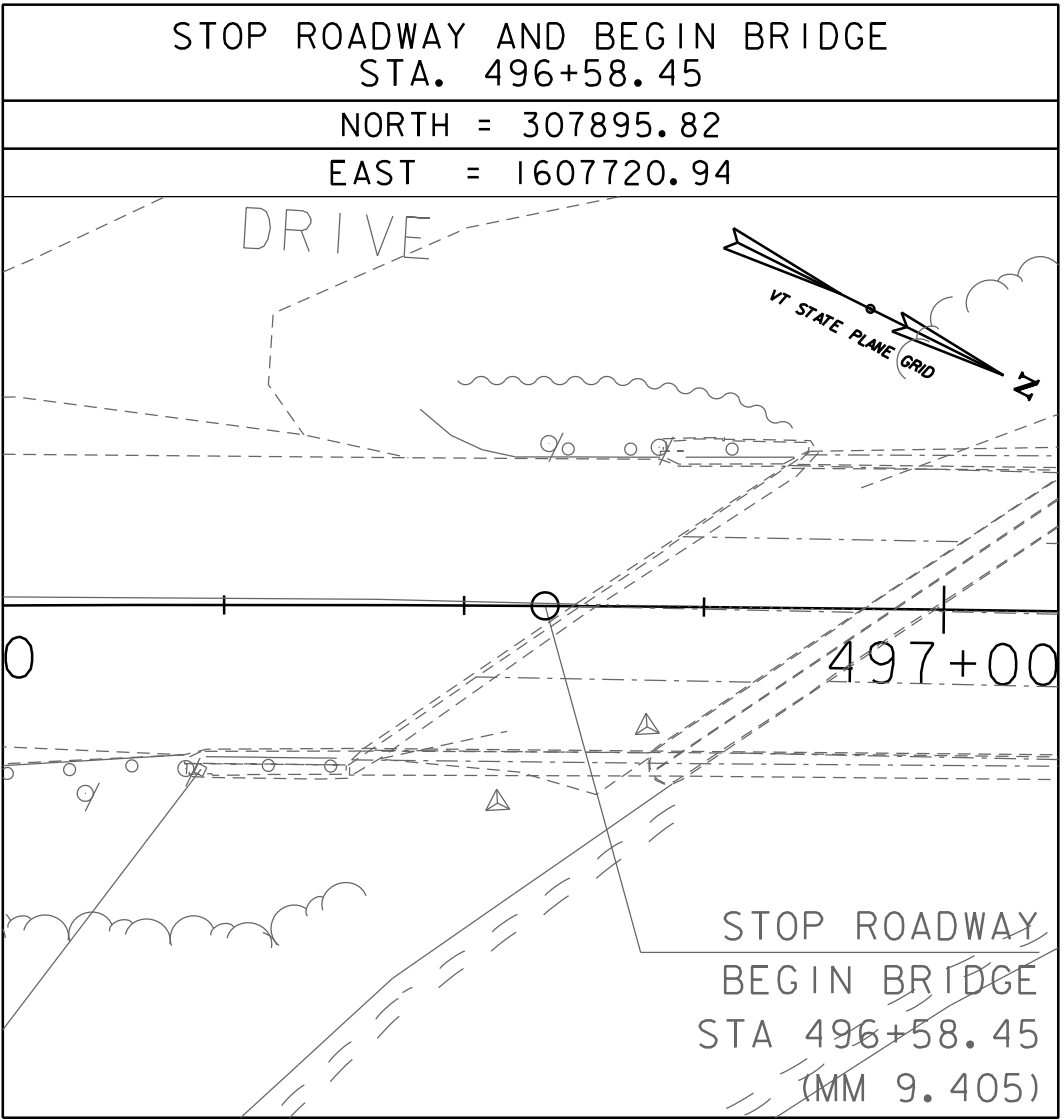
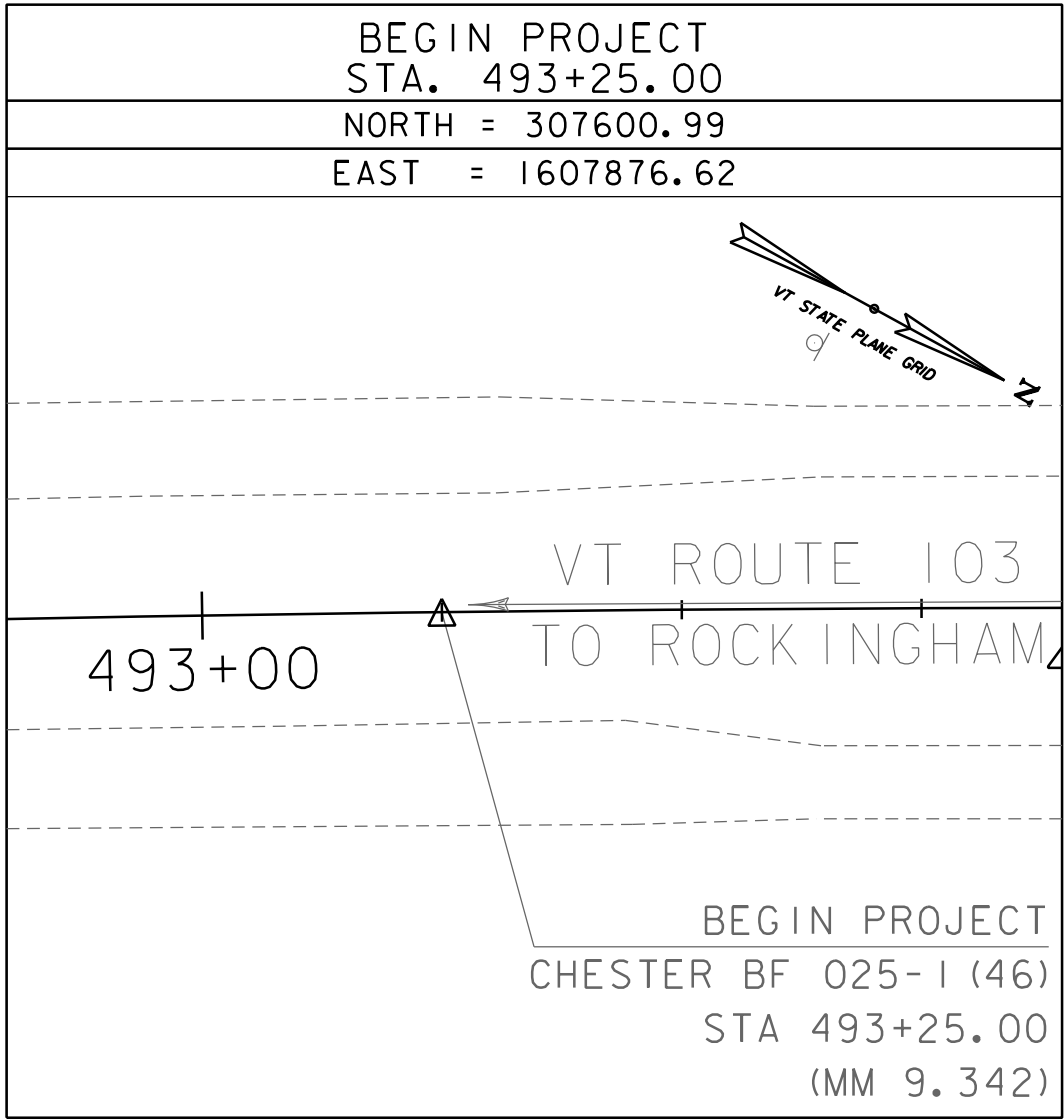
TRAVERSE COMPLETED BY R.GILMAN, B.HERRING AND H.MCGOWAN ON 9/12/2018



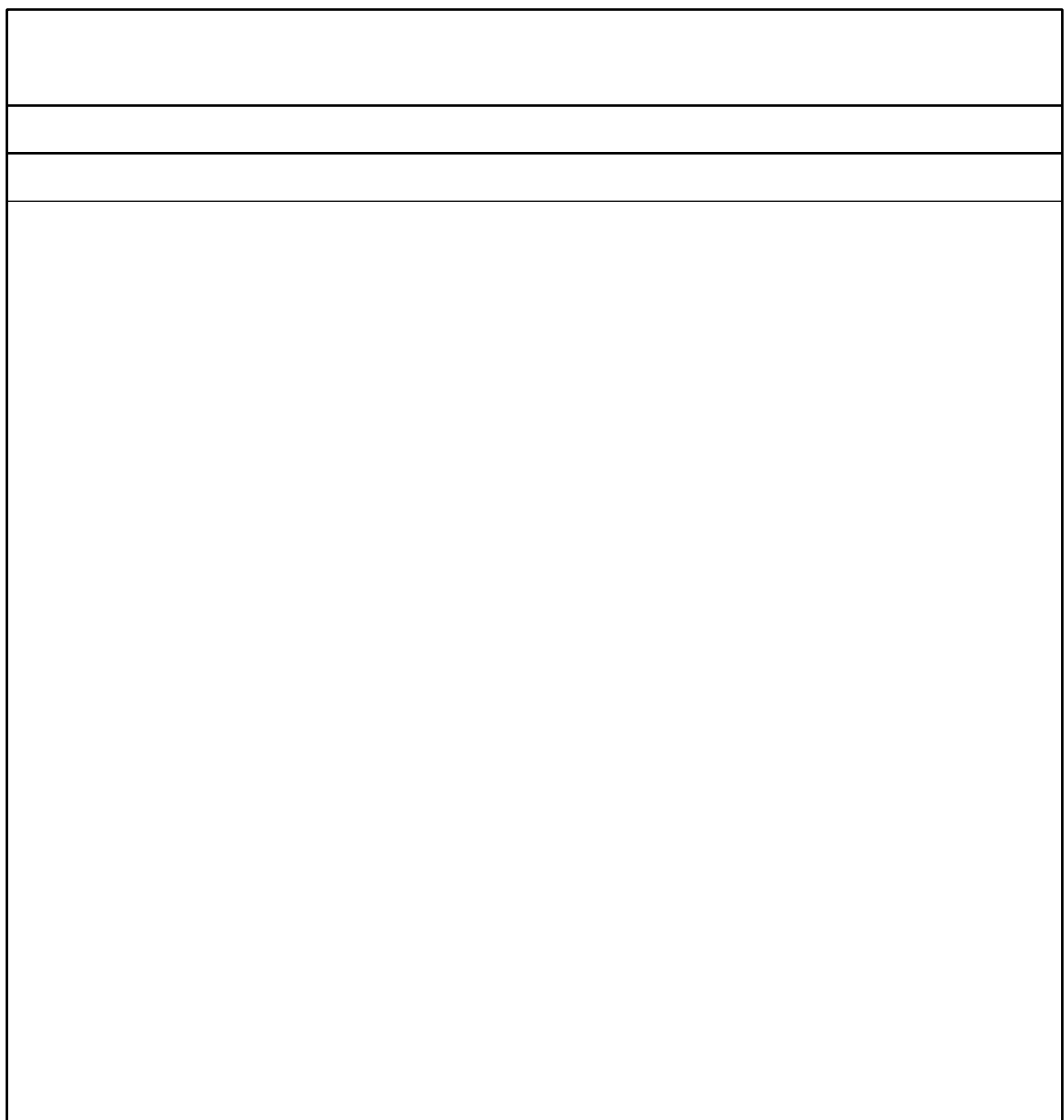
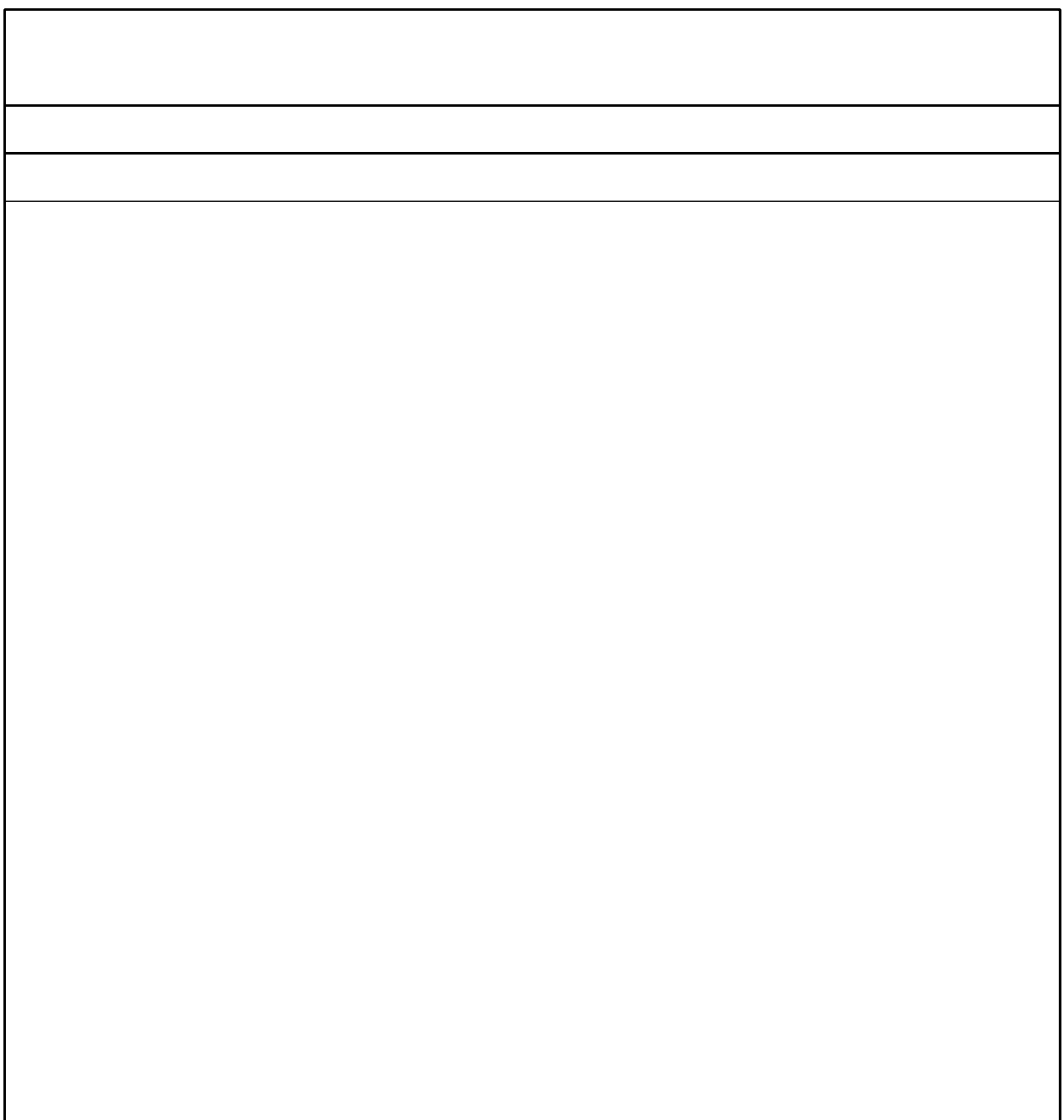
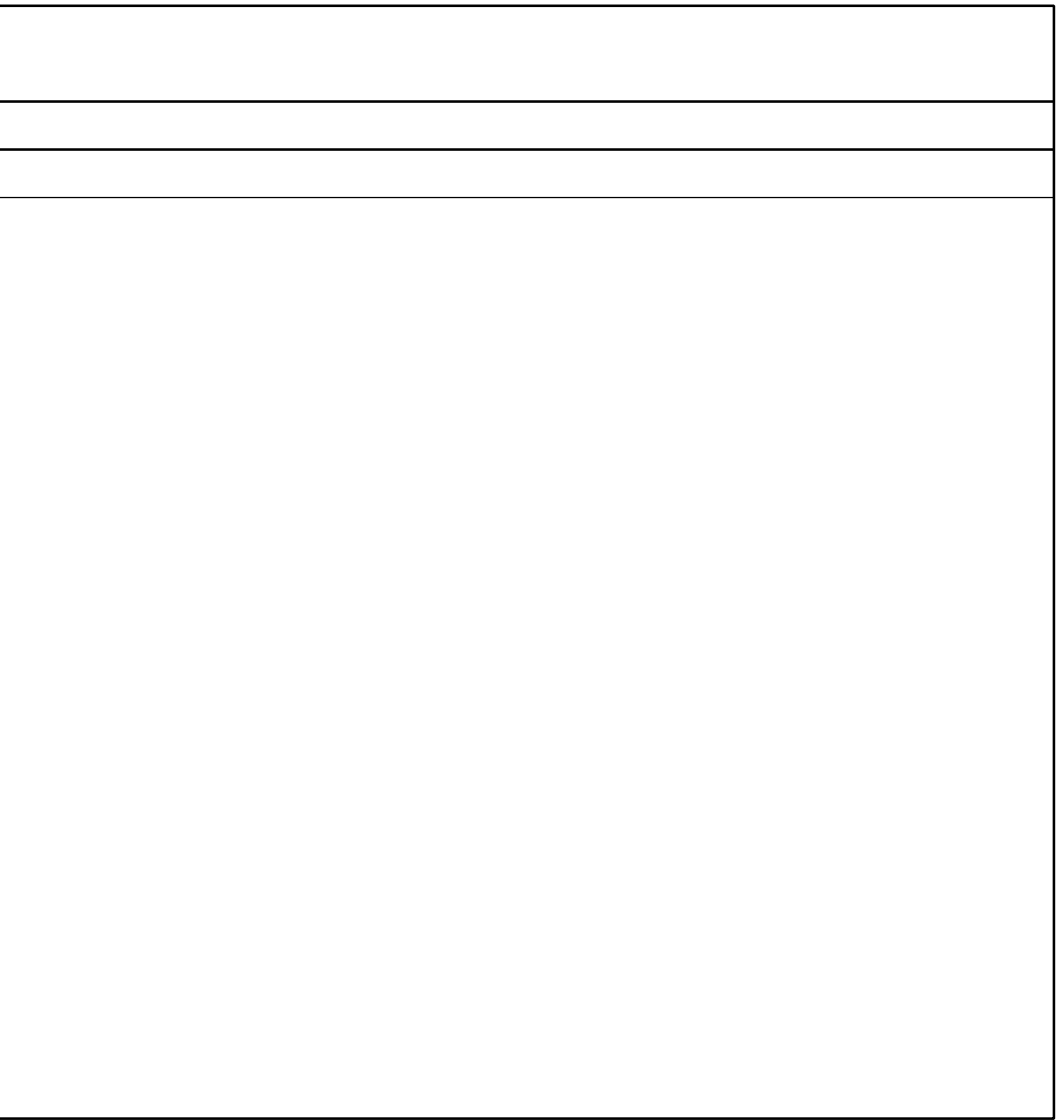
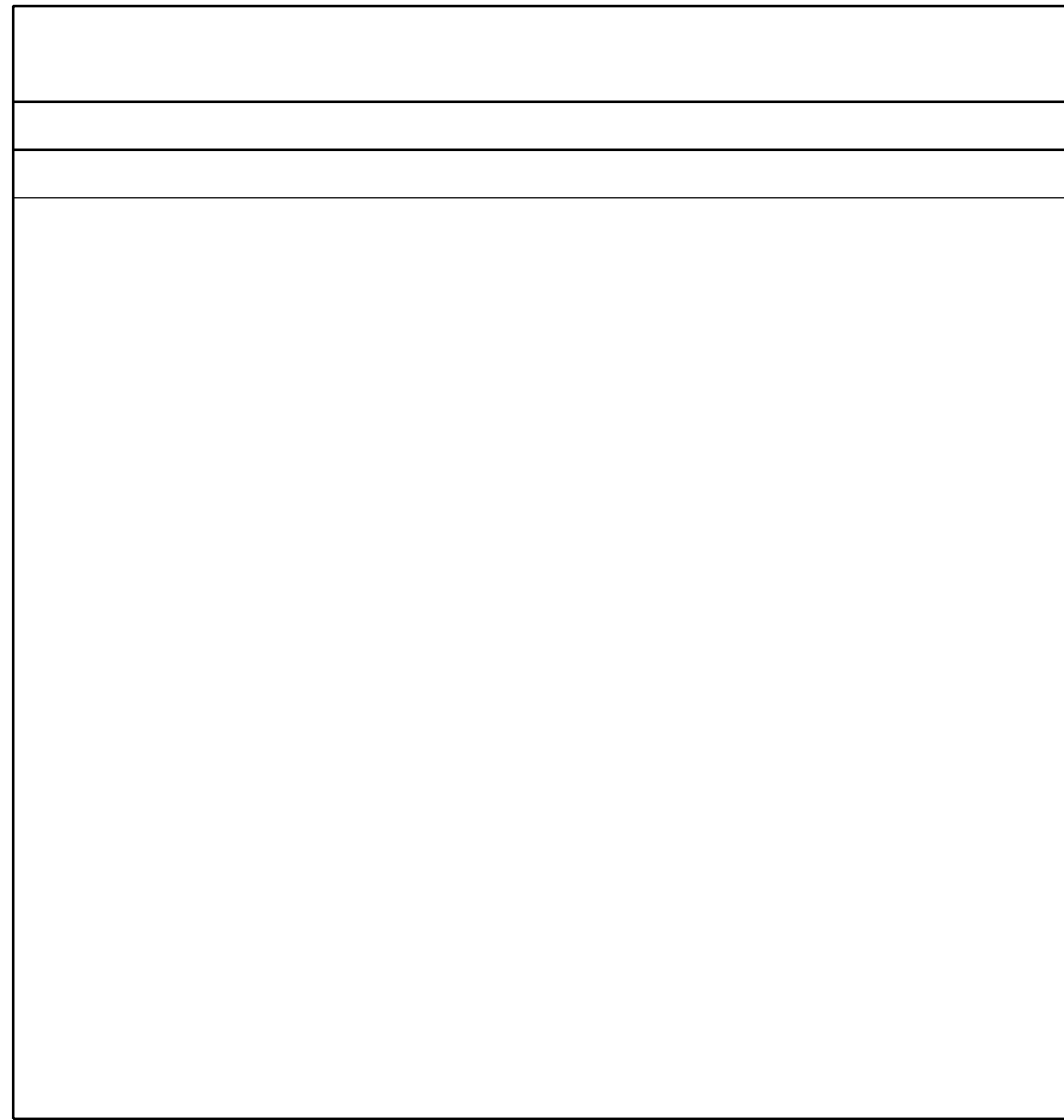
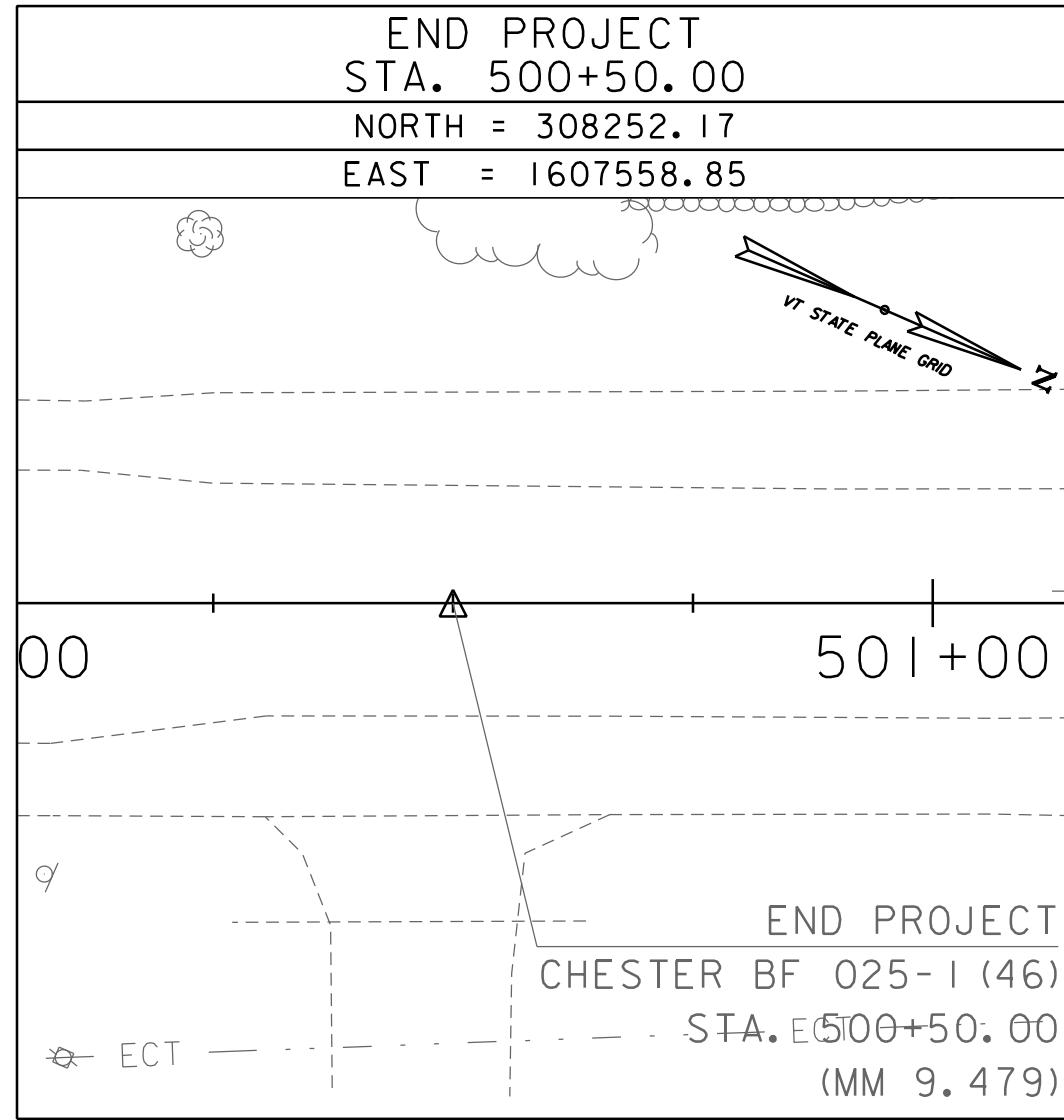
GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME:	CHESTER	PLOT DATE:	3/17/2020
PROJECT NUMBER:	BF 025-1(46)	DRAWN BY:	A. RUSSELL
FILE NAME:	z16b002ti.dgn	CHECKED BY:	G. BOYLE
PROJECT LEADER:	M. CRUZ	SHEET	10 OF 32
DESIGNED BY:	D. VERTIYEV		
TIE SHEET	1		

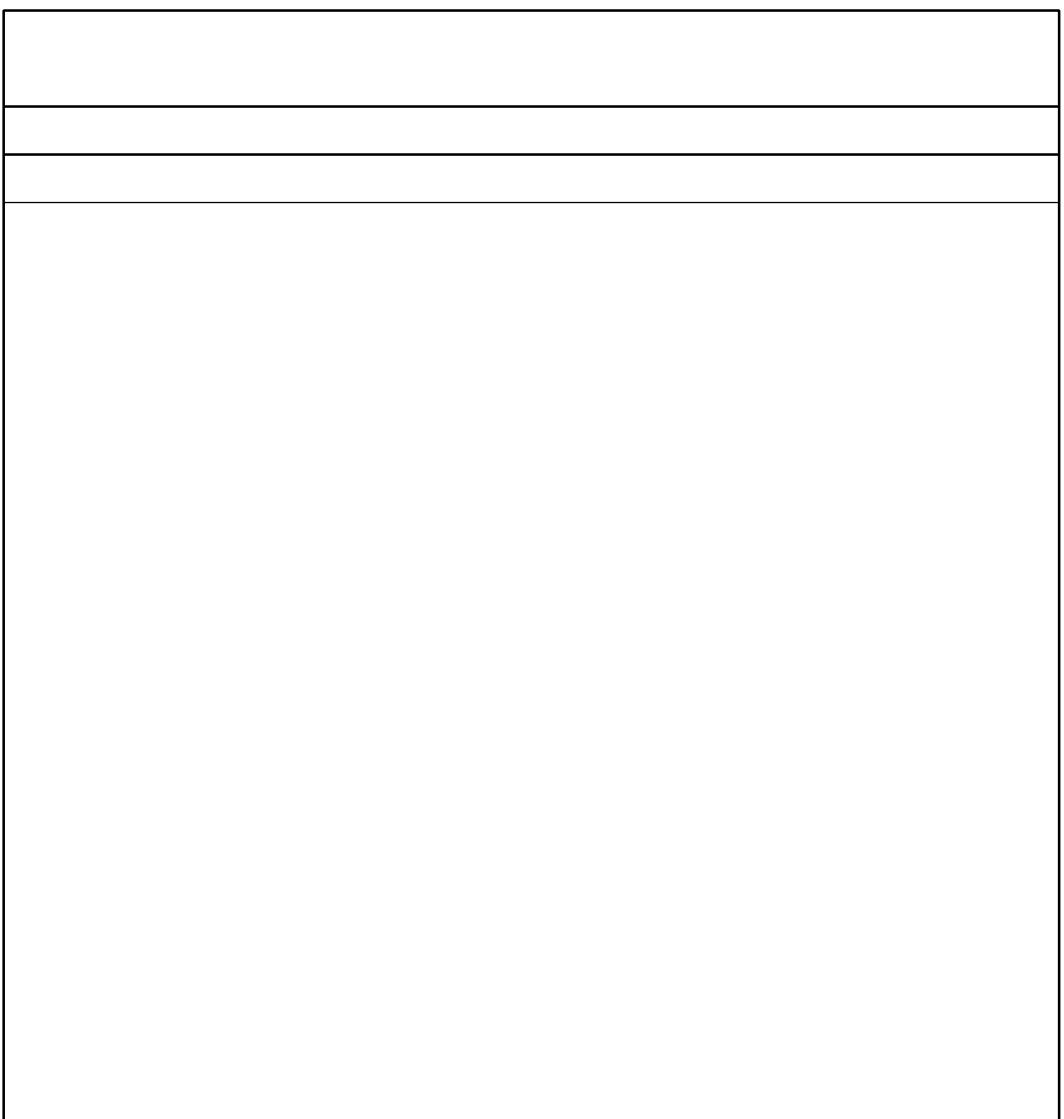
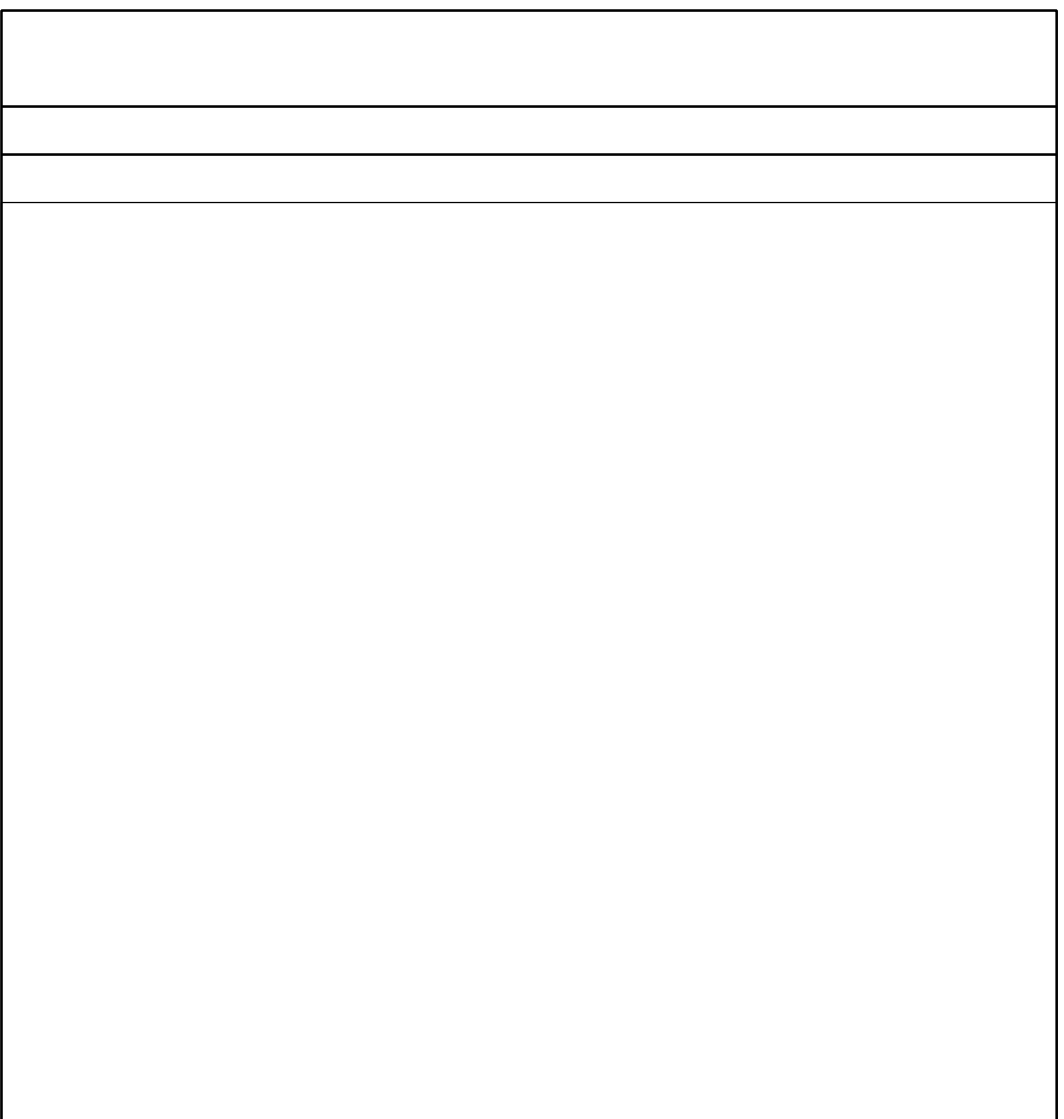
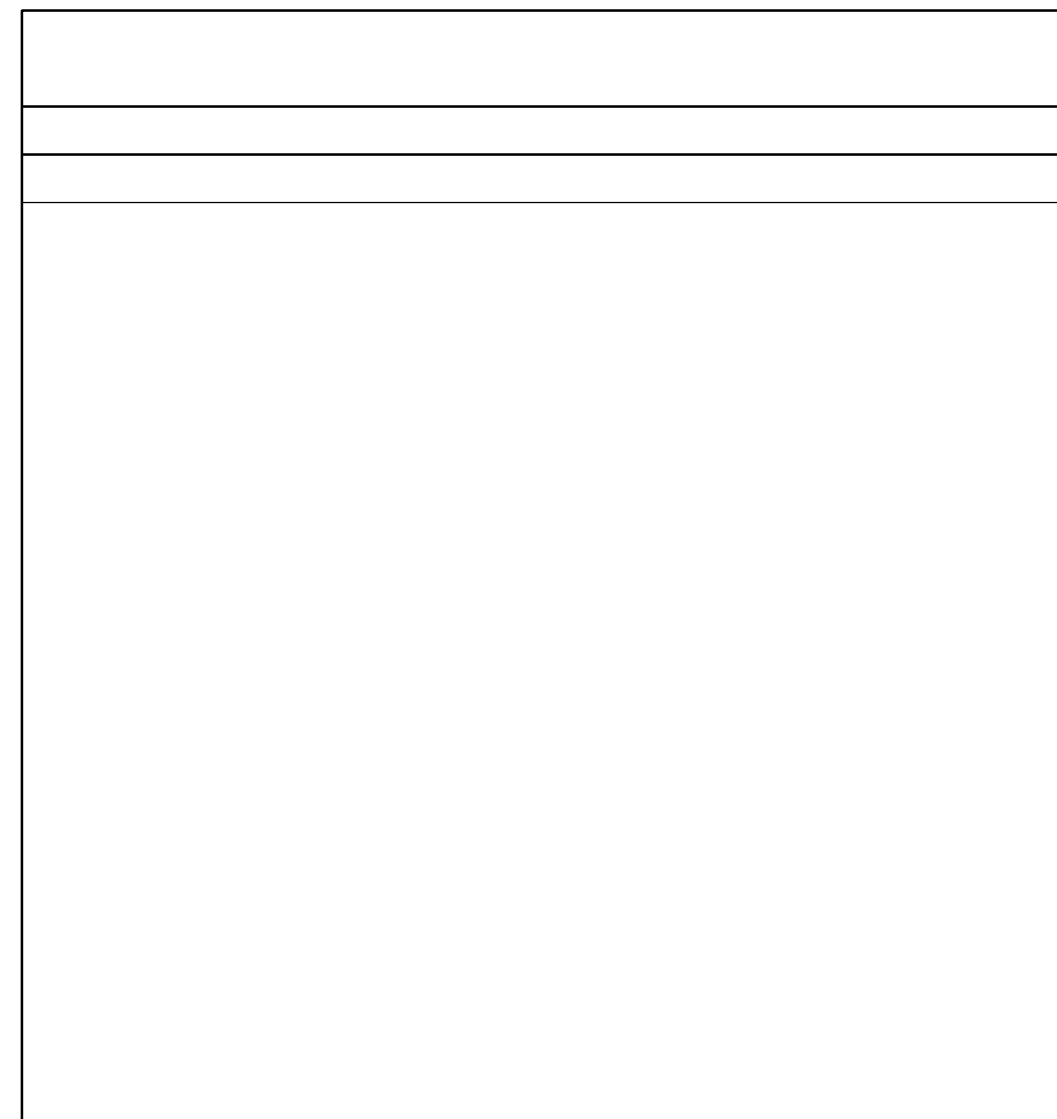
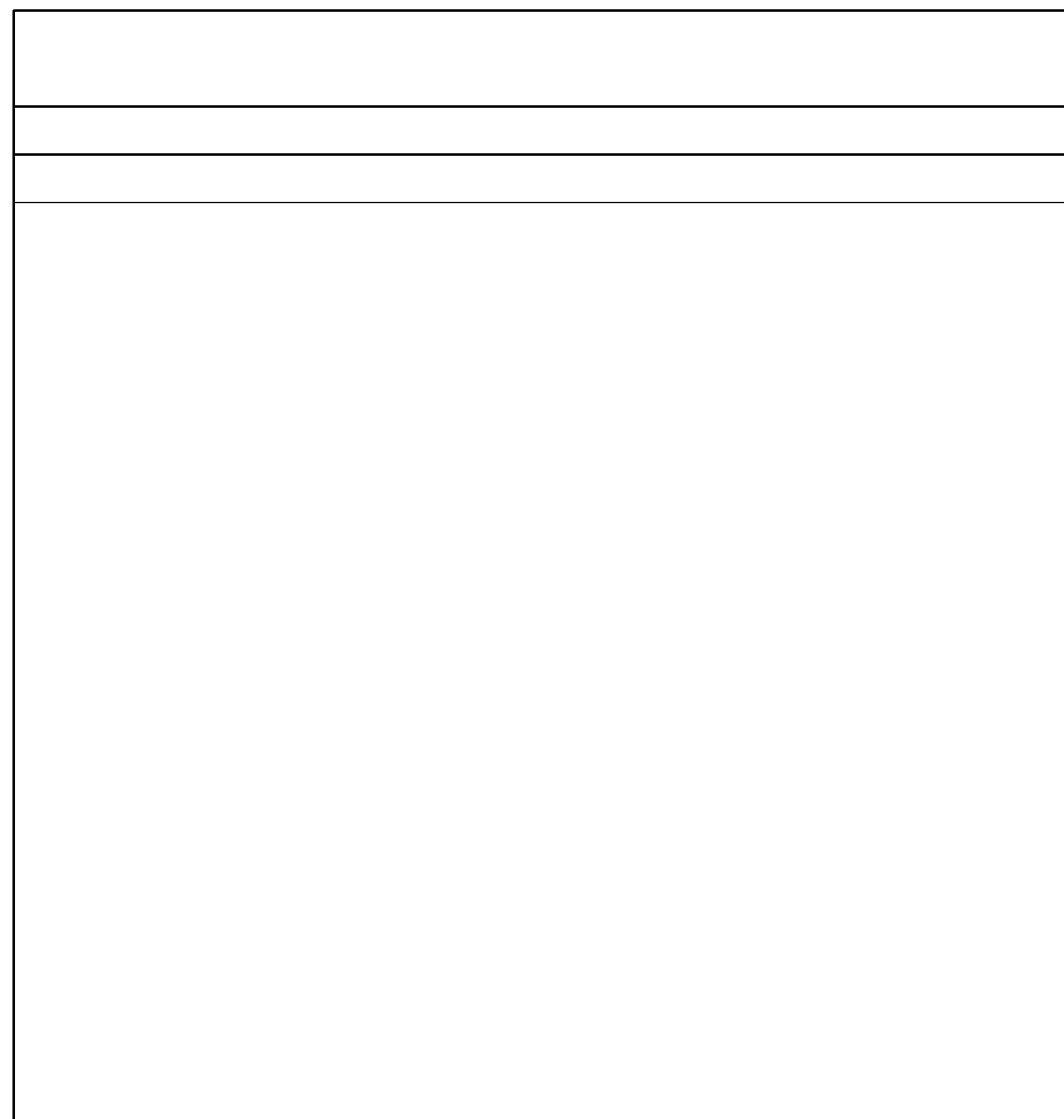
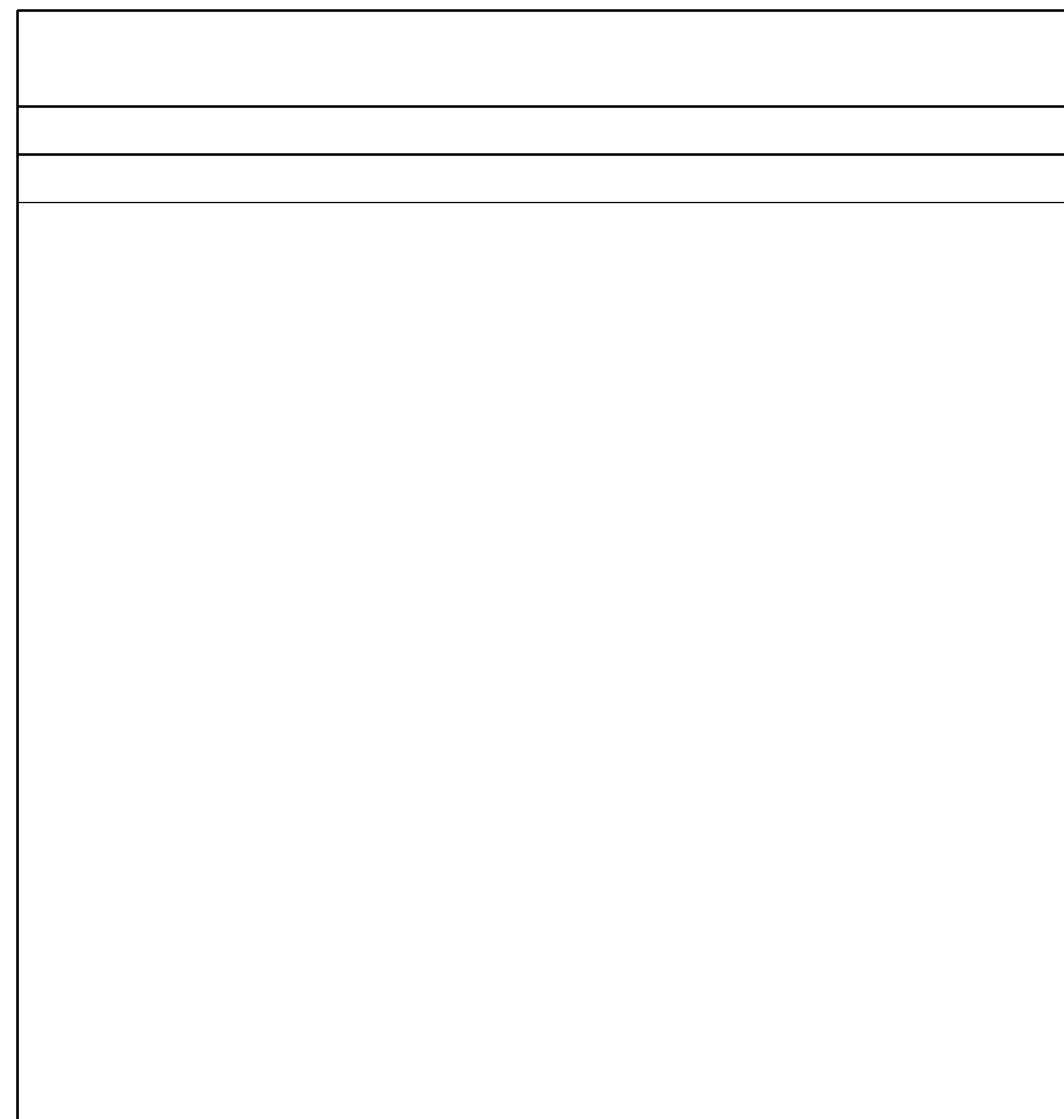
ALIGNMENT TIES



ALIGNMENT TIES



ALIGNMENT TIES

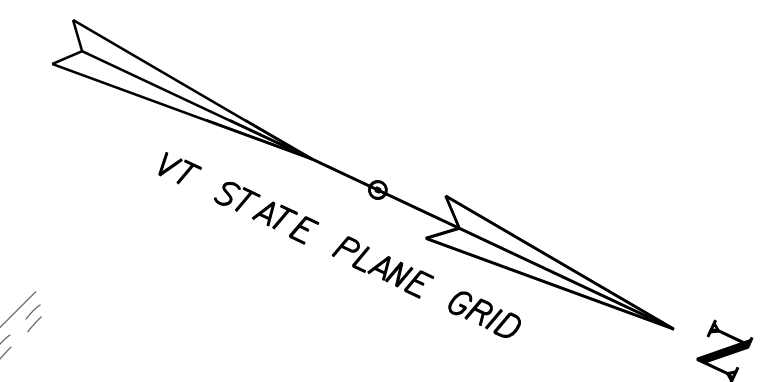


DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD83 (96)
ADJUSTMENT	COMPASS



GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME:	CHESTER	FILE NAME:	z16b002ti.dgn	PLOT DATE:	3/17/2020
PROJECT NUMBER:	BF 025-1(46)	PROJECT LEADER:	M. CRUZ	DRAWN BY:	A. RUSSELL
		DESIGNED BY:	D. VERTIYEV	CHECKED BY:	G. BOYLE
		TIE SHEET 2		SHEET	11 OF 32



CURVE (1)
DELTA = 10° 17' 00"
D = 1° 00' 00"
R = 5729.58'
T = 515.55'
L = 1028.33'
E = 23.15'

STA 493+98.46
P1

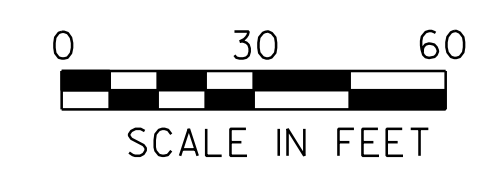
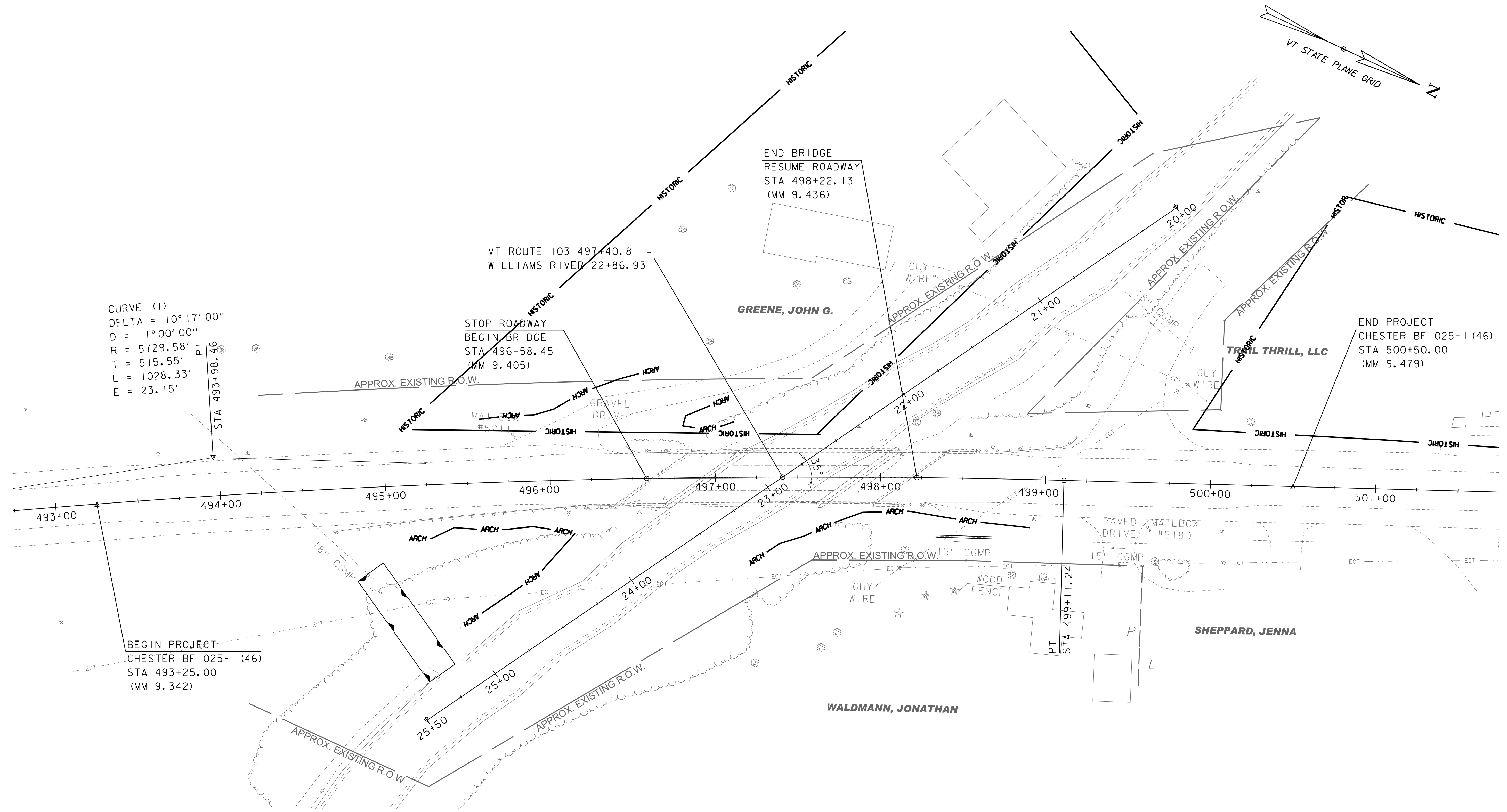
VT ROUTE 103 497+40.81 =
WILLIAMS RIVER 22+86.93

STOP ROADWAY
BEGIN BRIDGE
STA 496+58.45
(MM 9.405)

END BRIDGE
RESUME ROADWAY
STA 498+22.13
(MM 9.436)

END PROJECT
CHESTER BF 025-1 (46)
STA 500+50.00
(MM 9.479)

BEGIN PROJECT
CHESTER BF 025-1 (46)
STA 493+25.00
(MM 9.342)



GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: CHESTER	
PROJECT NUMBER: BF 025-1(46)	
FILE NAME: z16b002alignbdr.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: A. RUSSELL
DESIGNED BY: D. VERTIYEV	CHECKED BY: G. BOYLE
ALIGNMENT SHEET	SHEET 12 OF 32

NEW DRAINAGE

498+34 RT - 498+68 RT
NEW 15" X 34' PIPE OPTION @ 3.5% SLOPE
INLET ELEV. = 826.02
OUTLET ELEV. = 824.84

COLD PLANNING, BITUMINOUS PAVEMENT

STA. 493+25 - STA. 496+84
STA. 497+98 - STA. 500+50

AGGREGATE SHOULDERS

STA. 494+33 - STA. 496+21 RT
STA. 496+30 - STA. 496+71 LT
STA. 498+11 - STA. 499+00 RT
STA. 498+58 - STA. 499+22 LT

BITUMINOUS CONCRETE CURB, TYPE B

STA. 496+21 RT - STA. 496+32 RT
STA. 496+71 LT - STA. 496+82 LT
STA. 498+11 RT - STA. 498+22 RT
STA. 498+58 LT - STA. 498+69 LT

STEEL BEAM GUARDRAIL, GALVANIZED

STA. 494+70 RT - STA. 496+03 RT
STA. 496+42 LT - STA. 496+53 LT
STA. 498+29 RT - STA. 498+75 RT
STA. 498+76 LT - STA. 499+12 LT
STA. 496+31 LT - STA. 496+36 LT
STA. 499+17 LT - STA. 499+21 LT

MANUFACTURED TERMINAL SECTION, FLARED

STA. 494+33 RT - STA. 494+70 RT
STA. 498+75 RT - STA. 499+13 RT

ANCHOR FOR STEEL BEAM RAIL

STA. 496+33 LT
STA. 499+20 LT

GUARDRAIL APPROACH SECTION, CONC

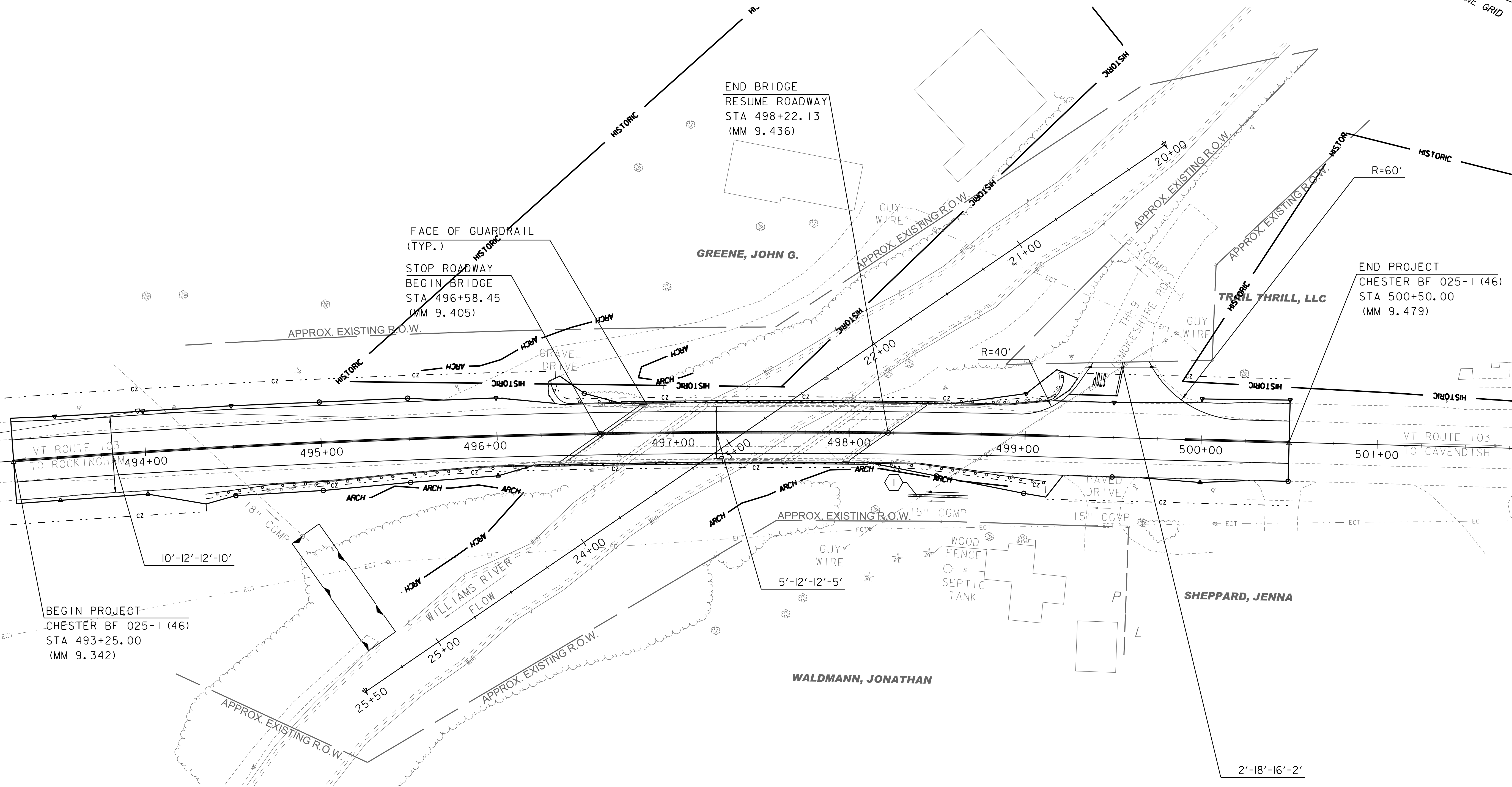
COMB BRIDGE RAILING TL-3
STA. 496+03 RT - STA. 496+21 RT
STA. 496+53 LT - STA. 496+71 LT
STA. 498+11 RT - STA. 498+29 RT
STA. 498+58 LT - STA. 496+76 LT

REMOVAL AND DISPOSAL OF GUARDRAIL

STA. 494+65 RT - STA. 496+34 RT
STA. 496+43 LT - STA. 496+81 LT
STA. 498+09 RT - STA. 498+34 RT
STA. 498+56 LT - STA. 499+17 LT

STEEL BEAM GUARDRAIL GALVANIZED/

8 FOOT RADIUS
STA. 496+36 LT - STA. 496+42 LT
STA. 499+12 LT - STA. 499+17 LT



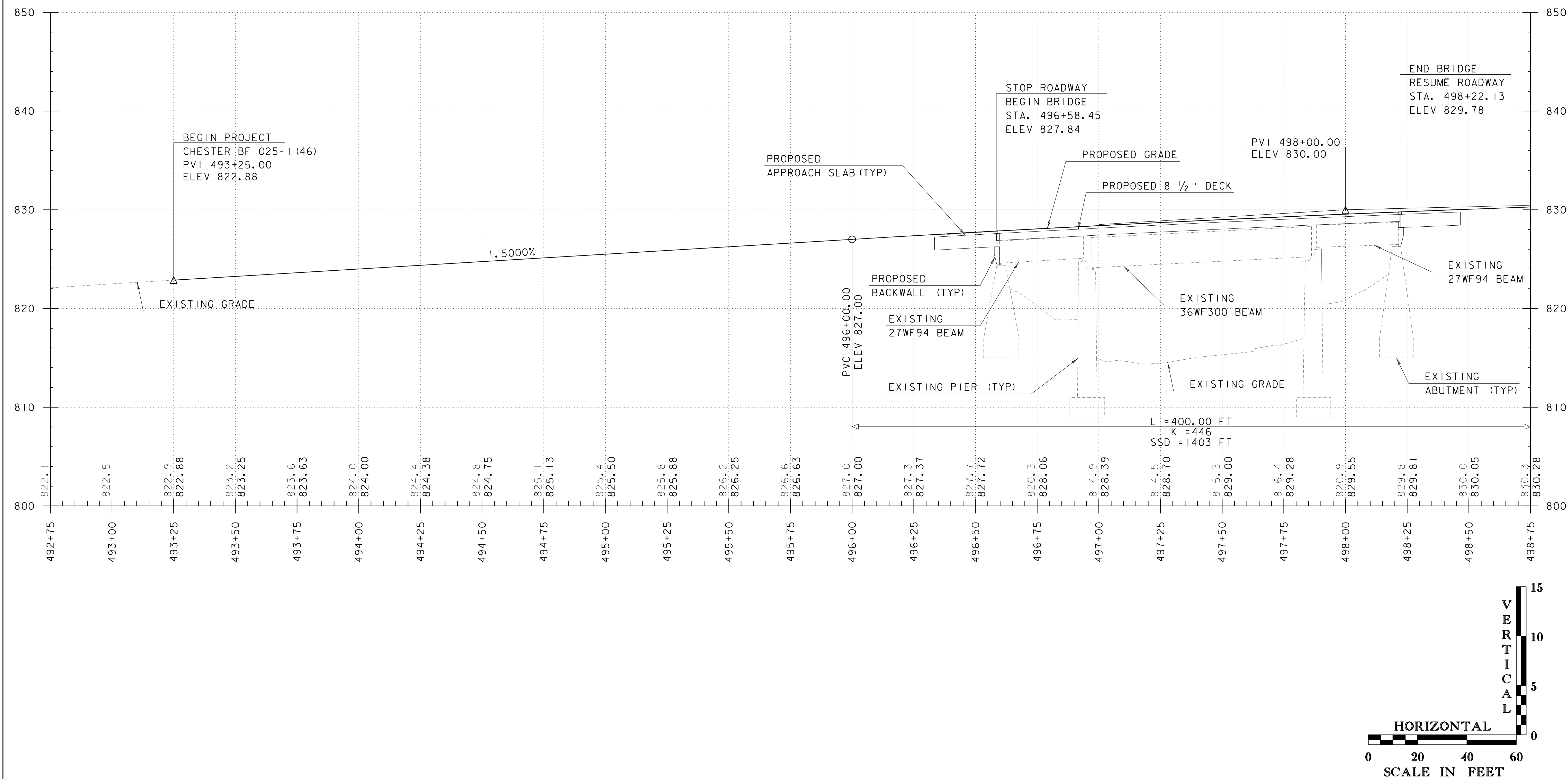
GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: CHESTER
PROJECT NUMBER: BF 025-I(46)

FILE NAME: z16b002bdr.dgn
PROJECT LEADER: M. CRUZ
DESIGNED BY: D. VERTIYEV
LAYOUT PLAN SHEET

PLOT DATE: 3/18/2020
DRAWN BY: A. RUSSELL
CHECKED BY: G. BOYLE
SHEET 13 OF 32

VT ROUTE 103 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.

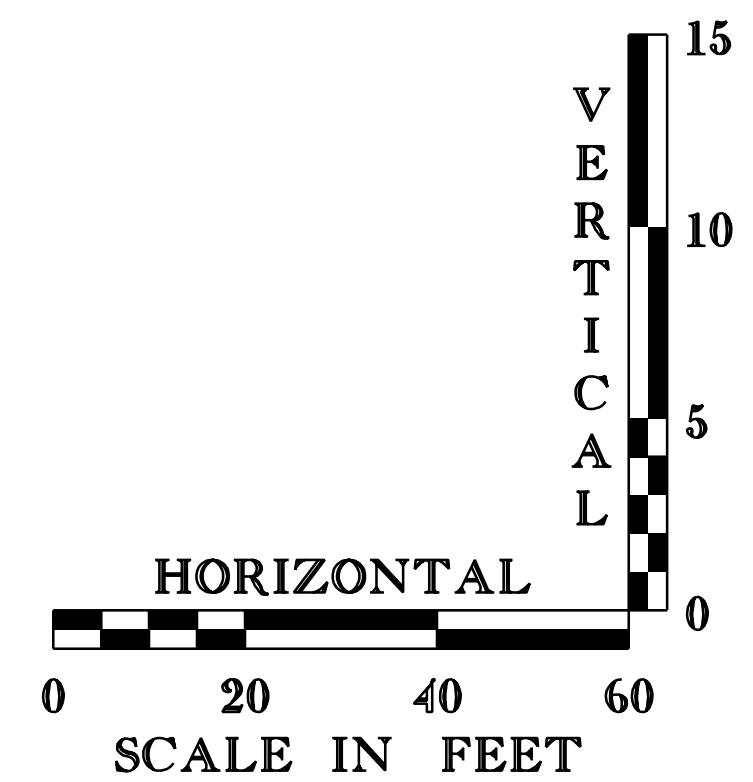
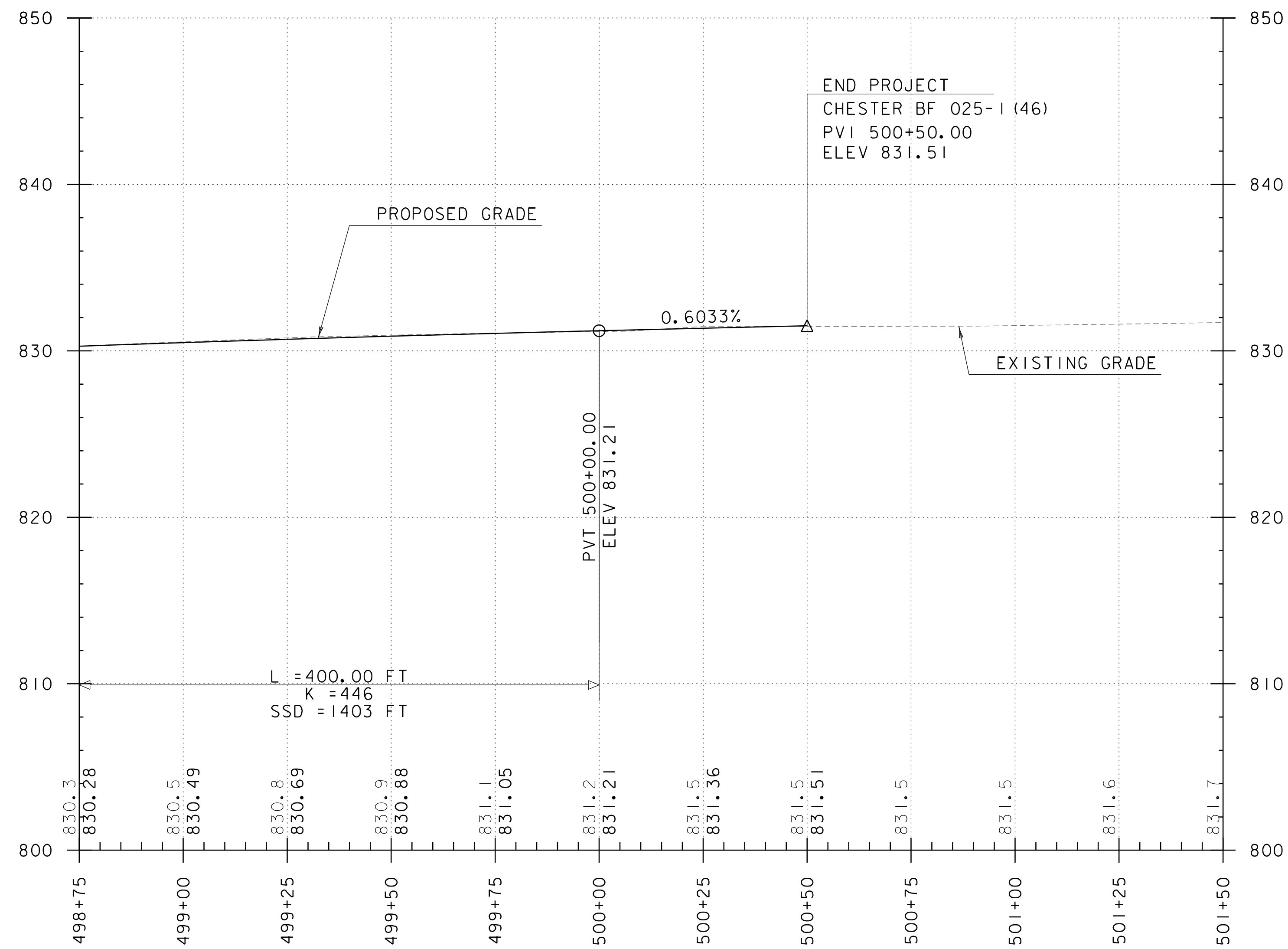
NOTE:
1. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: CHESTER
PROJECT NUMBER: BF 025-1(46)
FILE NAME: z16b002profile.dgn
PROJECT LEADER: M. CRUZ
DESIGNED BY: D. VERTIYEV
PROFILE SHEET 1

PLOT DATE: 3/17/2020
DRAWN BY: A. RUSSELL
CHECKED BY: G. BOYLE
SHEET 14 OF 32

VT ROUTE 103 PROFILE (CONTINUED)

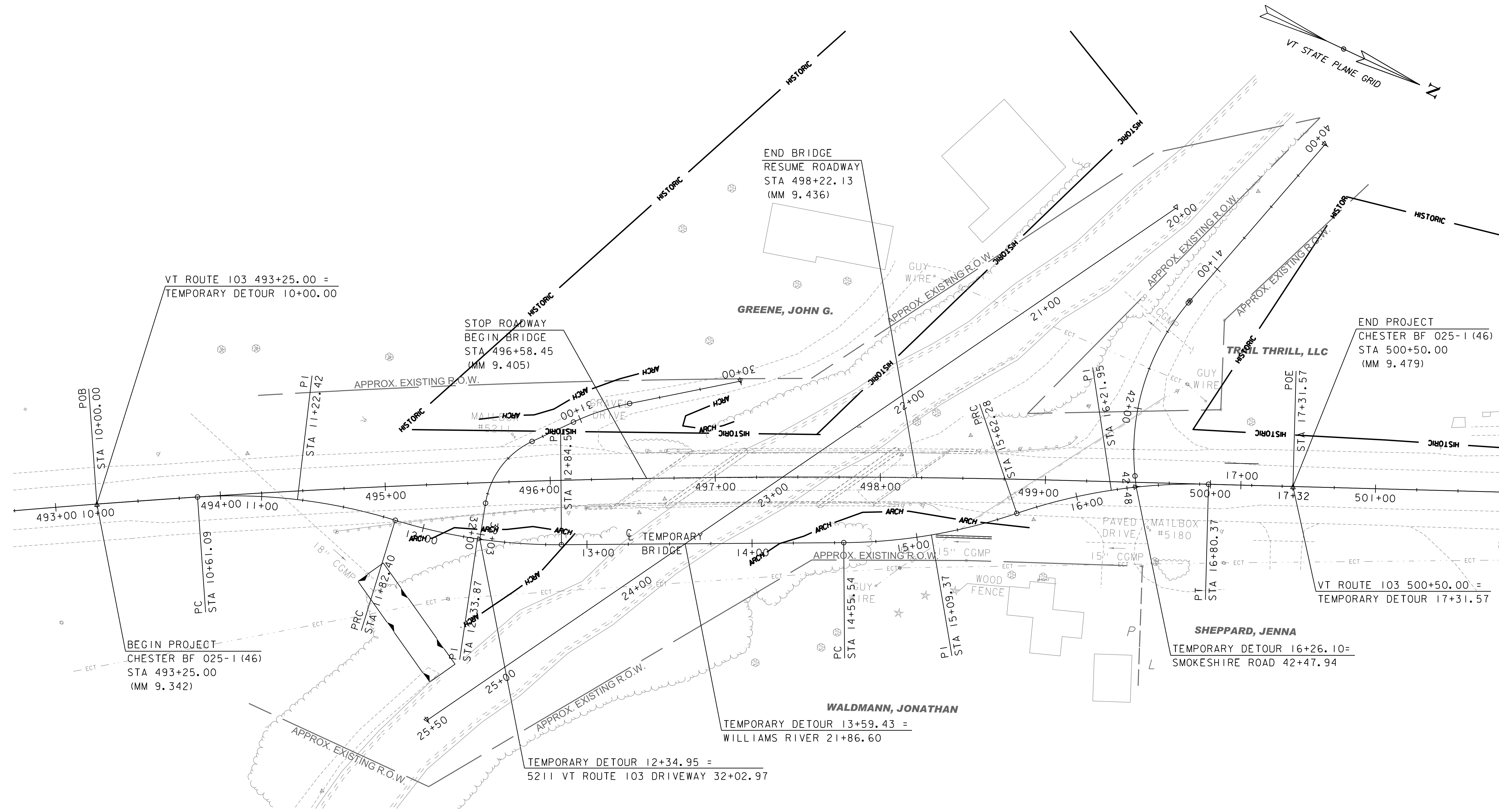
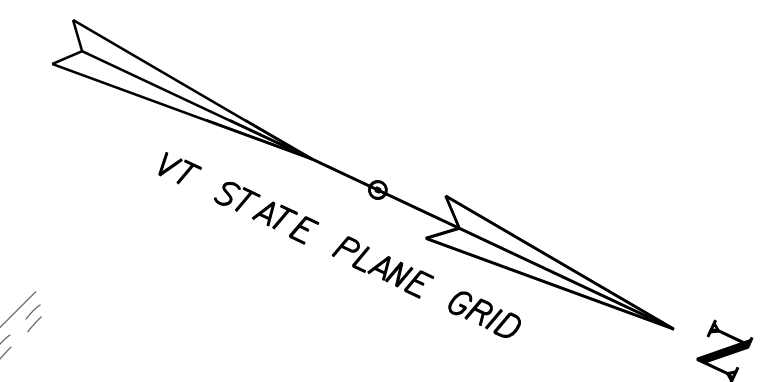


THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND APPROXIMATE ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED PROFILE GRADES FOR THE NEW ALIGNMENT.

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

GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: CHESTER	
PROJECT NUMBER: BF 025-I(46)	
FILE NAME: z16b002profile.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: A. RUSSELL
DESIGNED BY: D. VERTIYEV	CHECKED BY: G. BOYLE
PROFILE SHEET 2	SHEET 15 OF 32



GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME:	CHESTER	FILE NAME:	z16b002alignbdr_de.tour.dgn	PLOT DATE:	3/17/2020
PROJECT NUMBER:	BF 025-1(46)	PROJECT LEADER:	M. CRUZ	DRAWN BY:	A. RUSSELL
		DESIGNED BY:	D. VERTIYEV	CHECKED BY:	G. BOYLE
		TEMPORARY BRIDGE ALIGNMENT SHEET		SHEET	16 OF 32

NEW DRAINAGE

11+35 RT - 12+07 RT
NEW 18" X 80' PIPE OPTION @ 0.8% SLOPE
INLET ELEV. = 815.6 (ME)
OUTLET ELEV. = 815.18

NOTES:

1. PROPOSED 18" PIPE TO BE COUPLED TO EXISTING 18" CGMP
2. NEW PIPE SHALL BE CONSIDERED INCIDENTAL TO 528.11 TWO WAY TEMPORARY BRIDGE

CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS

STA. 11+35 - STA. 13+50
STA. 13+60 - STA. 15+25

COLD PLANNING, BITUMINOUS PAVEMENT

STA. 11+83 - STA. 12+65
STA. 15+28 - STA. 15+63

SUBBASE OF DENSE GRADED CRUSHED STONE

STA. 11+43 - STA. 12+93
STA. 11+61 - STA. 12+91
STA. 14+46 - STA. 16+01

AGGREGATE SHOULDERS

STA. 11+39 RT - STA. 12+93 RT
STA. 14+46 RT - STA. 16+05 RT

STONE FILL, TYPE 1

STA. 12+52 LT - STA. 12+92 LT
STA. 14+75 LT - STA. 15+28 LT

STEEL BEAM GUARDRAIL, GALVANIZED

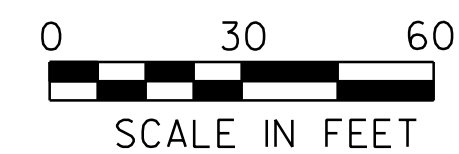
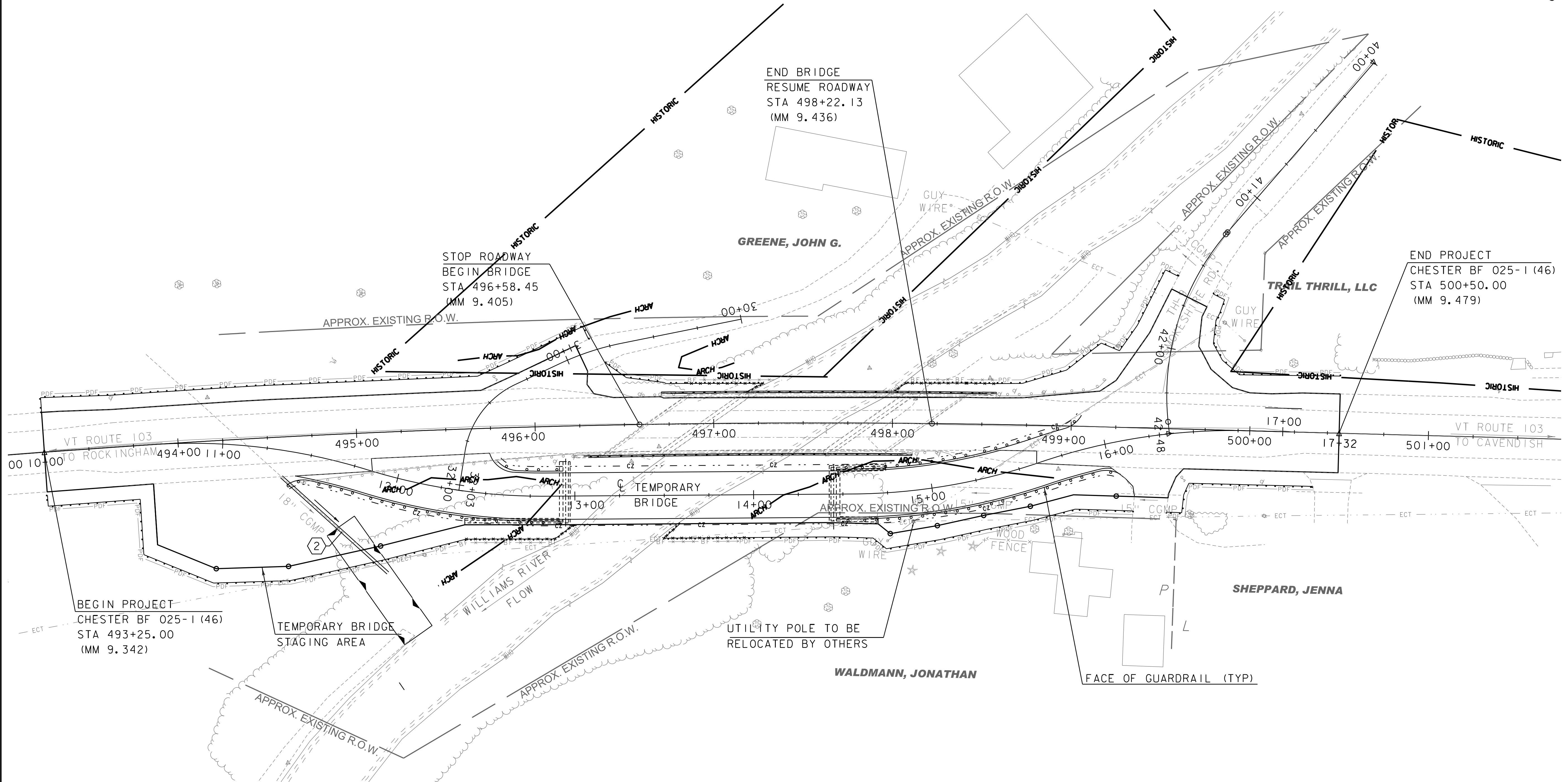
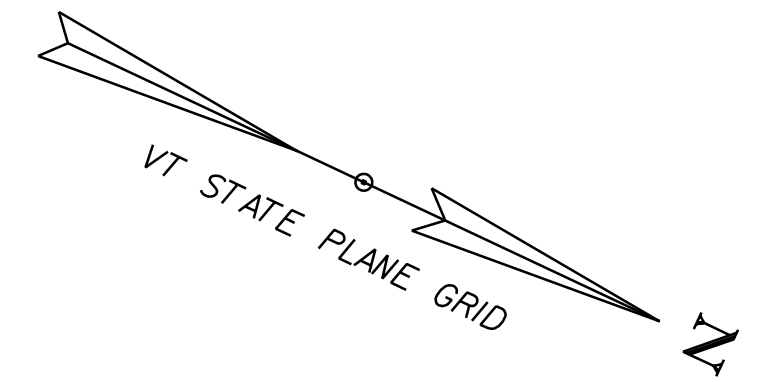
STA. 11+39 RT - STA. 12+93 RT
STA. 12+55 LT - STA. 12+93 LT
STA. 14+46 RT - STA. 16+05 RT
STA. 14+47 LT - STA. 15+91 LT

ANCHOR FOR STEEL BEAM RAIL

STA. 11+44 RT
STA. 12+60 LT
STA. 15+87 LT
STA. 16+00 RT

REMOVAL AND DISPOSAL OF GUARDRAIL

STA. 11+39 RT - STA. 12+93 RT
STA. 12+55 LT - STA. 12+93 LT
STA. 14+46 RT - STA. 16+05 RT
STA. 14+47 LT - STA. 15+91 LT



GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: CHESTER

PROJECT NUMBER: BF 025-1(46)

FILE NAME: z16b002detourbdr.dgn

PROJECT LEADER: M. CRUZ

DESIGNED BY: D. VERTIYEV

TEMPORARY LAYOUT PLAN SHEET

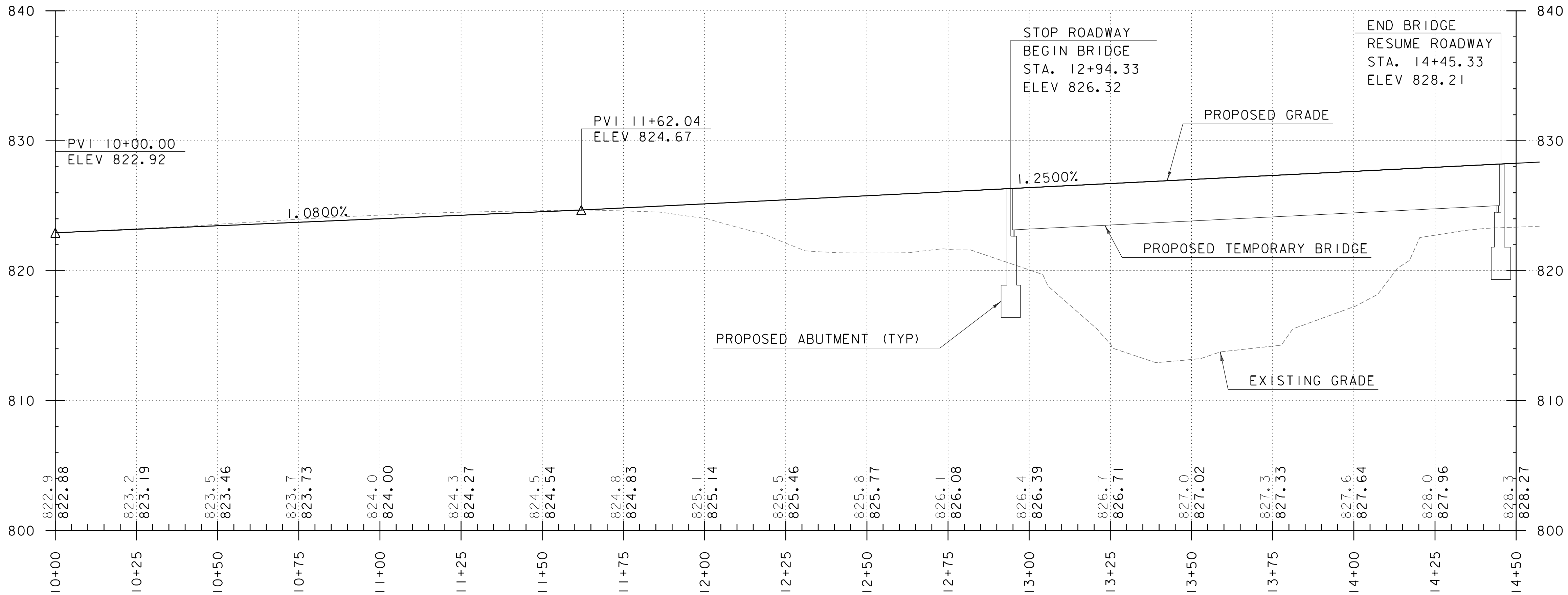
PLOT DATE: 3/18/2020

DRAWN BY: A. RUSSELL

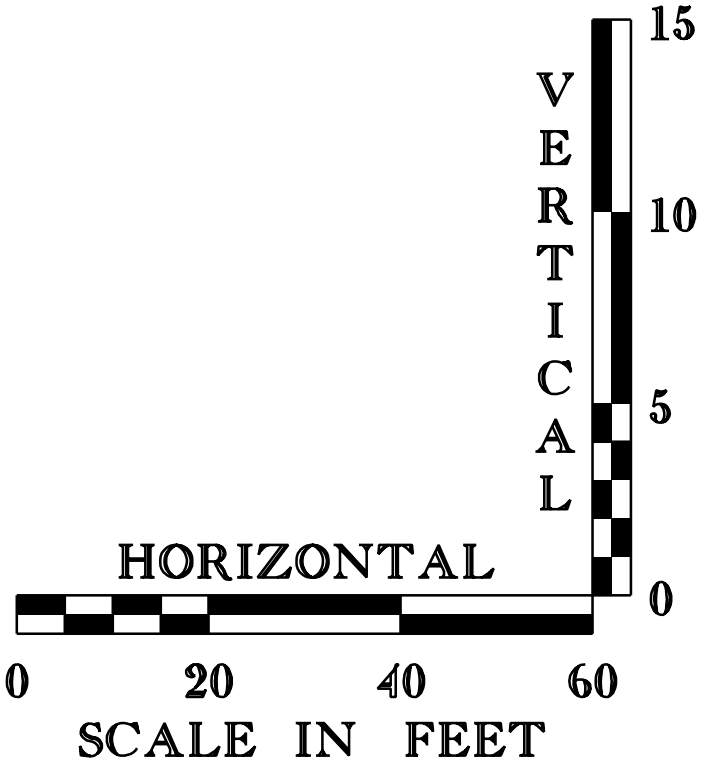
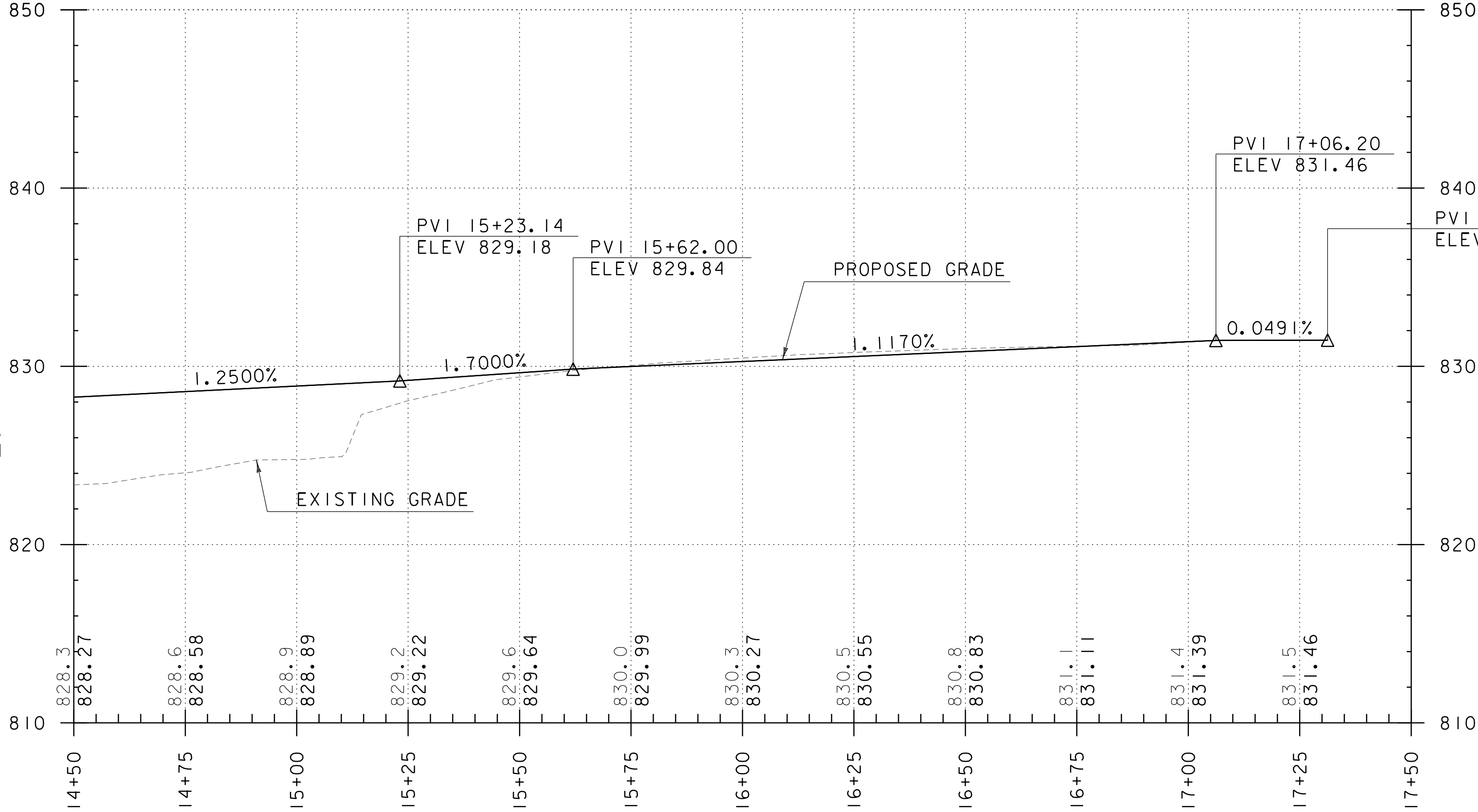
CHECKED BY: G. BOYLE

SHEET 17 OF 32

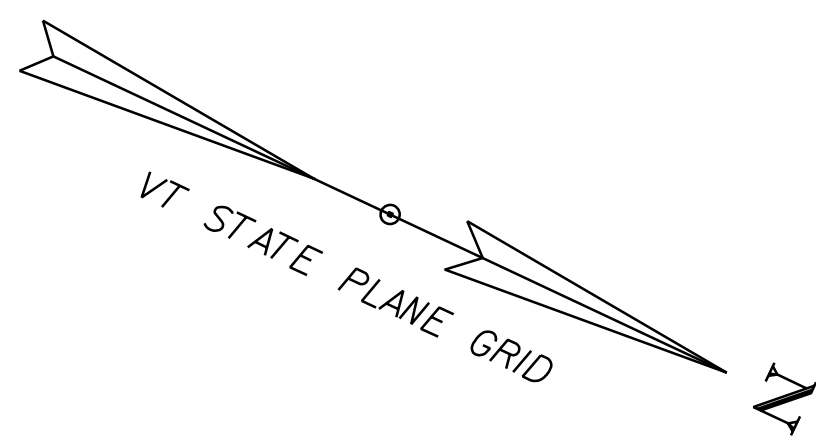
TEMPORARY BRIDGE PROFILE



- NOTE:
- 1. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.
 - 2. THE PROPOSED PROFILE UPSTATION OF 11+85 AND DOWNSTATION OF 15+62 ARE FOR GRAPHICAL PURPOSES ONLY. THE EXISTING ROADWAY SHALL BE RETAINED IN THESE SECTIONS.



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.



W20-1 48" X 48"	W20-1 48" X 48"	W13-1P 24" X 24"	W13-1P 24" X 24"	W1-6R 48" X 24"	W1-6L 48" X 24"	OM3-L 12" X 36"	OM3-R 12" X 36"	G20-2 36" X 18"

TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINES BREAKS
AND RADII FOR SIDE ROADS)
STA. 10+00.00 - STA. 17+32.00 (SOLID RT & LT)
STA. 42+02.00 - STA. 42+25.00 (TH-9) (SOLID RT & LT)

TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE LINES BREAKS
AND RADII FOR SIDE ROADS)
STA. 10+00.00 - STA. 17+32.00 (SOLID RT & LT)
STA. 42+03.00 - STA. 42+31.00 (TH-9) (SOLID RT & LT)

TEMPORARY 24 INCH STOP BAR, PAINT
STA. 42+31.00 (TH-9)

REMOVE EXISTING
STOP SIGN (R1-1)
REMOVE EXISTING PAVEMENT
MARKINGS AT INTERSECTION

EXISTING DRIVEWAY
DRIVEWAY WIDTH 15'
TEMPORARY DRIVEWAY
EXTENSION

GREENE, JOHN G.

TRAIL THRILL, LLC

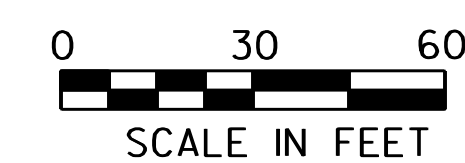
VT ROUTE 103
TO CAVDENISH

SHEPPARD, JENNA

WALDMANN, JONATHAN

LEGEND

- TYPE III BARRICADE
- REFLECTORIZED PLASTIC DRUM
- CONSTRUCTION SIGN ASSEMBLY I.D.
- DBYL TEMP DOUBLE YELLOW CENTER LINE
- EL TEMP EDGE LINE
- SL TEMP STOP LINE
- FLOW OF TRAFFIC
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN



GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

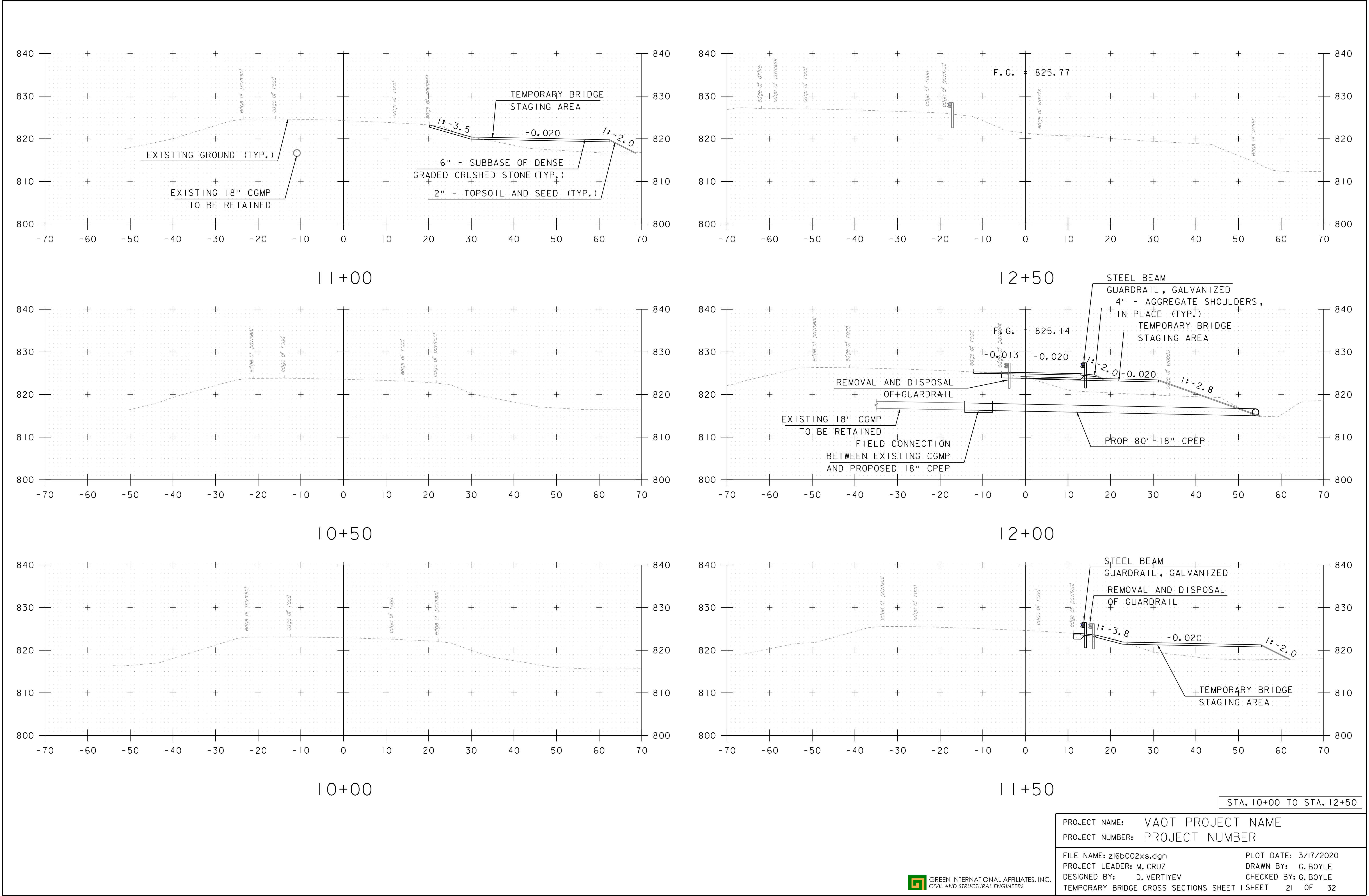
PROJECT NAME: CHESTER	
PROJECT NUMBER: BF 025-1(46)	
FILE NAME: z16b0021mpbdr.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: A. VAZQUEZ
DESIGNED BY: A. VAZQUEZ	CHECKED BY: C. TOBIAS
TRAFFIC CONTROL SHEET	SHEET 19 OF 32

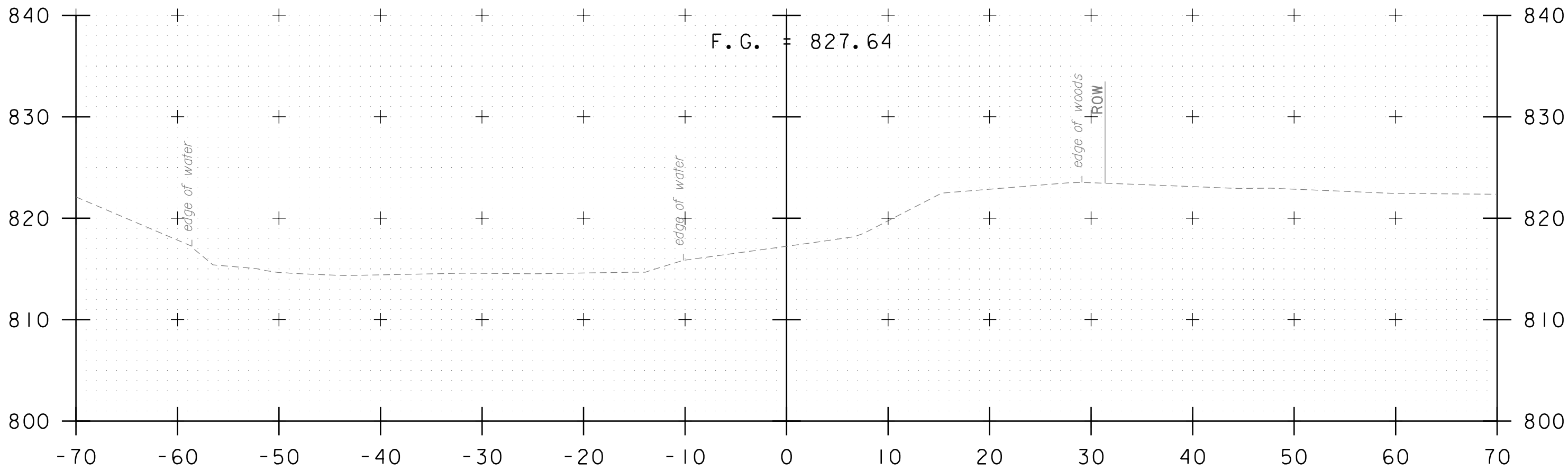
GENERAL TRAFFIC CONTROL NOTES:

1.
- THE 2009 MUTCD AND ITS LATEST REVISIONS SHALL BE THE STANDARD FOR ALL TRAFFIC CONTROL DEVICES. THE 2009 MUTCD AND ITS LATEST REVISIONS SHALL BE VALID UNTIL SUCH TIME AS THE TRAFFIC CONTROL DEVICES ARE REPLACED OR RECONSTRUCTED. WHEN NEW TRAFFIC CONTROL DEVICES ARE ERECTED OR PLACED, OR EXISTING TRAFFIC CONTROL DEVICES ARE REPLACED OR REPAIRED, THE EQUIPMENT, DESIGN, METHOD OF INSTALLATION, PLACEMENT OR REPAIR SHALL CONFORM WITH SUCH STANDARDS.
2.
- THE BID PRICE FOR ITEM 641.11 TRAFFIC CONTROL - ALL INCLUSIVE SHALL INCLUDE ALL APPROACH AND CONSTRUCTION SIGNING, BARRIERS, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS AND POST AS DETAILED IN THE VTRANS STANDARDS. ALL ADJUSTING, RELOCATING AND REMOVING OF THESE DEVICES AS DIRECTED BY THE ENGINEER SHALL ALSO BE INCLUDED. THE FOLLOWING ITEMS SHALL BE PAID FOR SEPARATELY: 630 - UNIFORMED TRAFFIC OFFICERS, 630.15 - FLAGGERS, 646.76 - LINE STRIPING TARGETS, 646.602 - TEMPORARY 4 INCH WHITE LINE, PAINT, 646.612 - TEMPORARY 4 INCH YELLOW LINE, PAINT, 646.682 - TEMPORARY 24 INCH STOP BAR, PAINT, 646.692 - TEMPORARY LETTER OR SYMBOL, PAINT.
3.
- BARRELS AND/OR CONES SHALL BE USED TO CLEARLY DEFINE THE TRAVEL SPACE AND PROVIDE SEPARATION FROM THE WORK. CONTRACTORS SHALL INSTALL ALL BARRELS AND/OR CONES WITH A MINIMUM SPACING OF 20- FEET.
4.
- NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCES FROM DRIVES AND TOWN HIGHWAYS.
5.
- CONSTRUCTION SIGNS SHALL BE IN NEW OR LIKE NEW CONDITION PER VTRANS STANDARDS.
6.
- DIAMOND SHAPED CONSTRUCTION SIGNS SHALL BE 48 INCHES BY 48 INCHES WITH BLACK TEXT AND BORDER ON A RETROREFLECTIVE FLORESCENT ORANGE BACKGROUND.
7.
- CONSTRUCTION ZONES SHALL BE INSTALLED AS SPECIFIED IN THE SPECIAL PROVISIONS.
8.
- WHERE TEMPORARY SIGNS ARE PLACED BEHIND GUARDRAIL, THEY SHALL BE ADJUSTED SUCH THAT THE BOTTOM OF THE SIGNS ARE ABOVE THE TOP OF GUARDRAIL.
9.
- REFER TO VERMONT STANDARDS AND THE LATEST EDITION OF MUTCD FOR TEMPORARY TRAFFIC CONTROL SIGN COLORS.
10.
- THE BID PRICE FOR ITEM 528.11 TWO-WAY TEMPORARY BRIDGE SHALL INCLUDE ALL TEMPORARY PAVEMENT MARKINGS AND REMOVAL OF ALL CONFLICTING EXISTING PAVEMENT MARKINGS AS DETAILED IN THE VTRANS STANDARDS.
11.
- PAVEMENT MARKING OBLITERATION SHALL REMOVE THE NON-APPLICABLE PAVEMENT MARKING MATERIAL, AND THE OBLITERATION METHOD SHALL MINIMIZE PAVEMENT SCARRING. PAINTING OVER EXISTING PAVEMENT MARKING WITH BLACK PAINT OR SPRAYING WITH ASPHALT SHALL NOT BE ACCEPTED AS A SUBSTITUTE FOR REMOVAL OR OBLITERATION. PAYMENT WILL BE INCIDENTAL TO ITEM 528.11 - TWO-WAY TEMPORARY BRIDGE.
12.
- THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES AT ALL TIMES AND COORDINATE EMERGENCY ROUTES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN EMERGENCY VEHICLE ACCESS TO ALL PROPERTIES AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN GENERAL ACCESS TO ALL COMMERCIAL AND MUNICIPAL PROPERTIES DURING BUSINESS HOURS. ACCESS TO RESIDENTIAL PROPERTIES MAY BE RESTRICTED FOR A SHORT DURATION (AS APPROVED BY THE ENGINEER). THIS WORK SHALL BE COORDINATED WITH THE OWNER. THE CONTRACTOR SHALL COORDINATE MAJOR WORK ON COMMERCIAL OR MUNICIPAL ACCESS WITH THE OWNER AT LEAST ONE WEEK PRIOR TO STARTING THE WORK. ALL ACCESS SHALL BE KEPT FREE OF WORK AND TRAFFIC CONTROLLED BY UNIFORMED TRAFFIC OFFICERS OR FLAGGERS, AS REQUIRED BY THE ENGINEER.
13.
- A TRAVEL WIDTH OF 11- FEET MINIMUM (2' - 0" SHOULDERS) SHALL BE MAINTAINED.
14.
- TRAFFIC CONTROL SET-UP FOR PROPOSED WORK DURING CONSTRUCTION SHALL FOLLOW FIGURE 6H-7 ROAD CLOSURE WITH A DIVERSION (TA-7) IN CHAPTER 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION.
15.
- THE CONTRACTOR SHALL RELOCATE OR COVER ALL EXISTING SIGNS WHERE THEY CONFLICT WITH CONSTRUCTION SIGNAGE. EXISTING SPEED LIMIT SIGNS SHALL BE COVERED WHEN REDUCE SPEED SIGNS ARE POSTED. THE CONTRACTOR SHALL KEEP RECORDS WHEN POSTING THE WORK ZONE SPEED LIMIT FOR LEGAL PURPOSES; DOCUMENTING DATES, TIMES AND LOCATIONS OF SIGNS. THE CONTRACTOR SHALL ACQUIRE A SIGNED AND APPROVED TEMPORARY SPEED CERTIFICATE FROM VTRANS FOR THE WORK ZONE LIMIT. WHEN THE WORK ZONE SPEED LIMIT IS NOT IN USE, ALL ASSOCIATED SIGNS SHALL BE COVERED, TURNED AND/OR LAID FLAT SUCH THAT THE MOTORING PUBLIC CANNOT READ THESE SIGNS. PAYMENT WILL BE INCIDENTAL TO ITEM 900.645 - TEMPORARY DETOUR.
16.
- THE CONTRACTOR SHALL ENSURE THAT ALL OBSTACLES, INCLUDING BUT NOT LIMITED TO CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIALS AND TRAFFIC CONTROL DEVICES, DO NOT ENCR OACH INTO THE BICYCLE PATH OF TRAVEL. BICYCLE ROUTES SHALL BE KEPT FREE OF RUTS, SAND, MUD AND OTHER DEBRIS THAT MAY IMPEDE BICYCLE TRAVEL IN THE OPINION OF THE ENGINEER.
17.
- ALL REASONABLE EFFORTS SHALL BE MADE TO ACCOMMODATE PEDESTRIAN AND BICYCLE TRAVEL. TRAFFIC CONTROL PLANS SHOULD REPLICATE THE EXISTING PEDESTRIAN

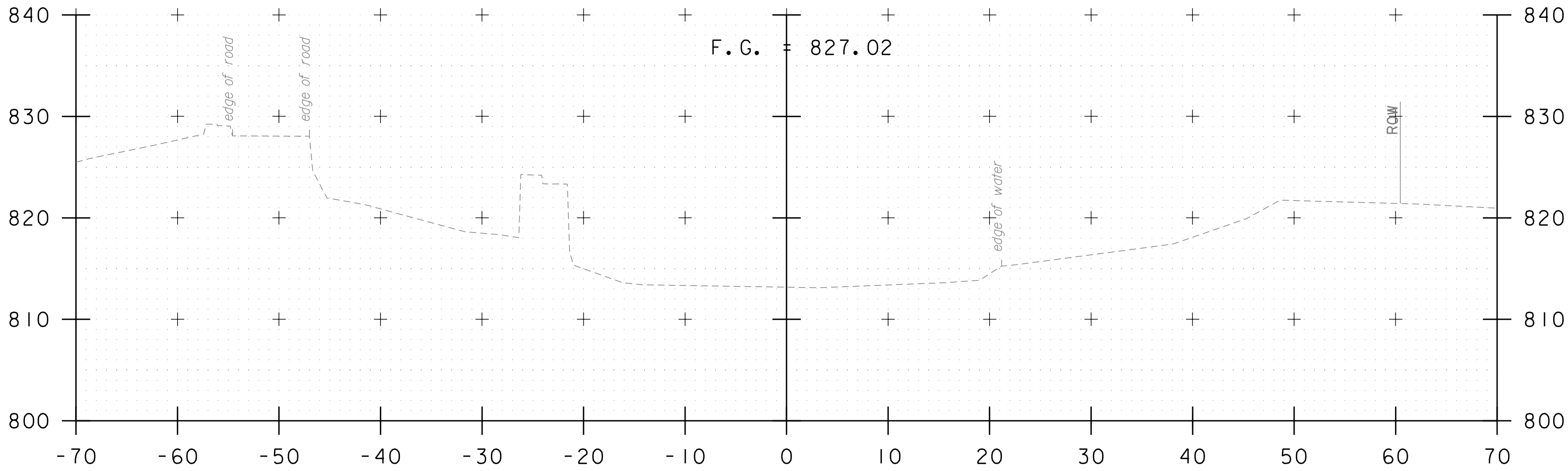
PATHWAY AS NEARLY AS PRACTICE. THIS CAN INCLUDE BUT NOT LIMITED TO A DEDICATED PEDESTRIAN ESCORT (NOT A FLAGGER ON DUTY), SIGNAGE, AND PEDESTRIAN CHANNELIZING DEVICE WALKWAYS THAT MEET ADA REQUIREMENTS OR HAVE BICYCLIST FOLLOW THE RULES OF THE ROAD JUST LIKE MOTORIST. ALSO, TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIAL, TRAFFIC CONTROL DEVICES, ETC. DO NOT ENCR OACH INTO THE BICYCLE PATH OF TRAVEL AND THAT THESE ROUTES ARE FREE OF RUTS, SAND AND MUD TO PREVENT CYCLIST CRASHES. PER THE VTRANS BICYCLE PRIORITY MAP, VT 103 IN CHESTER NORTH OF BAILEY MILLS IS CONSIDERED MODERATE PRIORITY AND SOUTH OF BAILEY MILLS AS HIGH USE/PRIORITY ROUTE.

PROJECT NAME: CHESTER	
PROJECT NUMBER: BF 025-I(46)	
FILE NAME: z16b002tmpnotes.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: A. VAZQUEZ
DESIGNED BY: A. VAZQUEZ	CHECKED BY: C. TOBIAS
TRAFFIC CONTROL NOTES	SHEET 20 OF 32

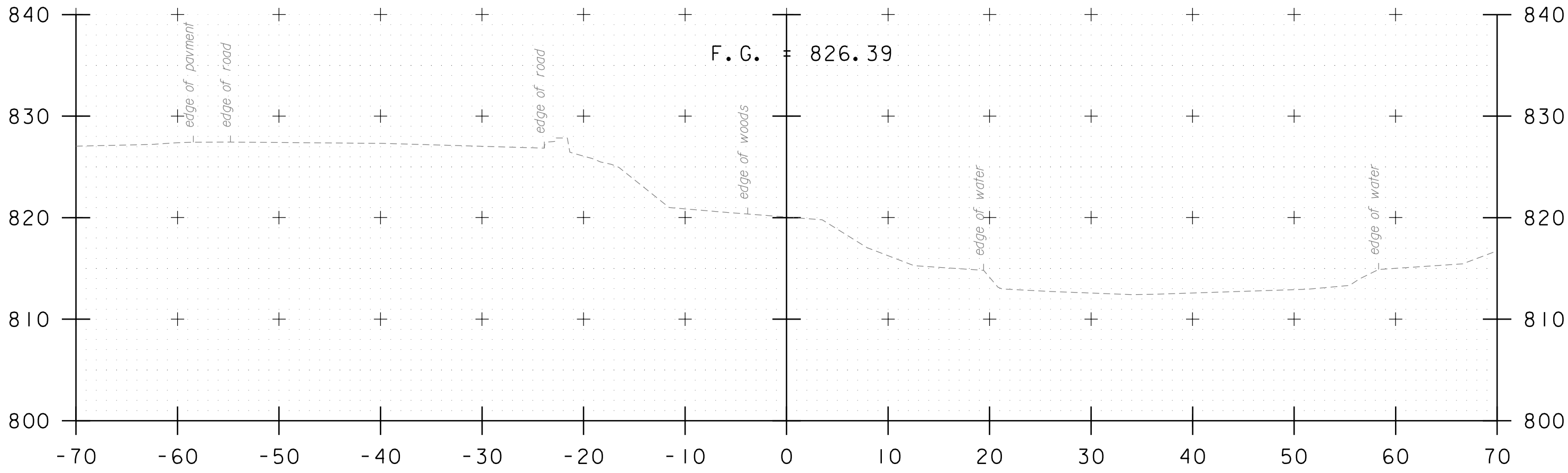




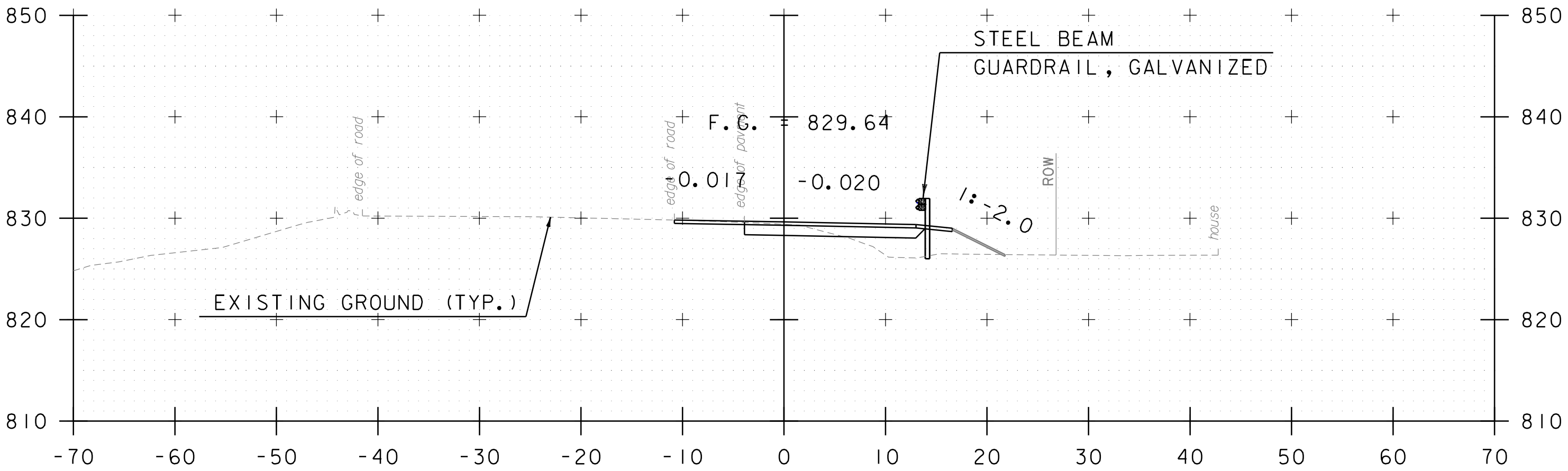
14+00



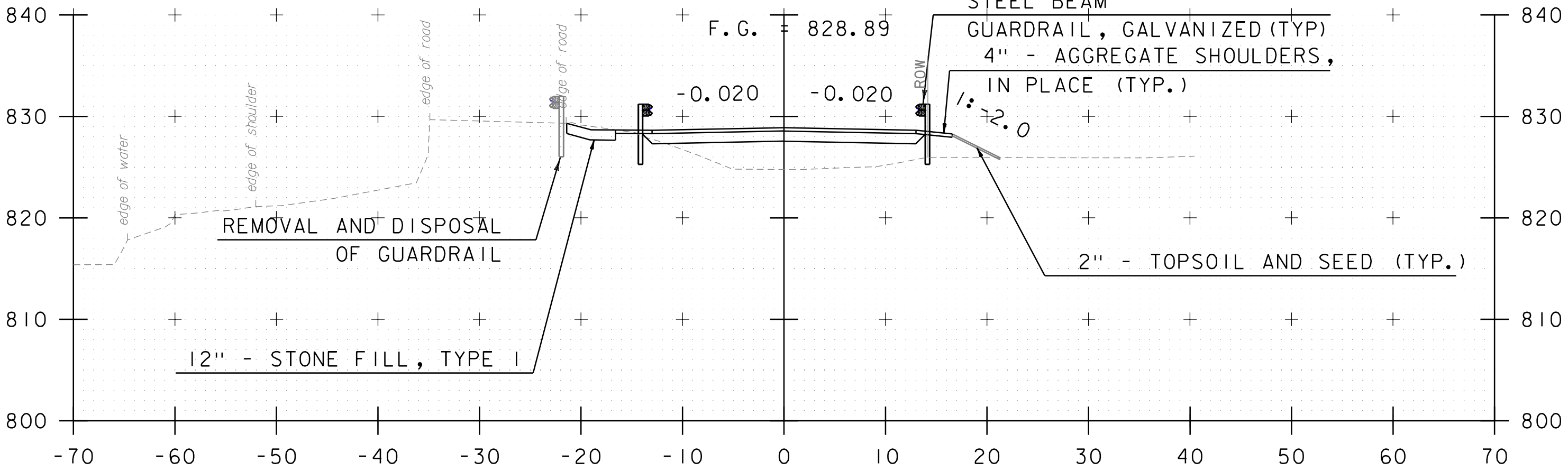
13+50



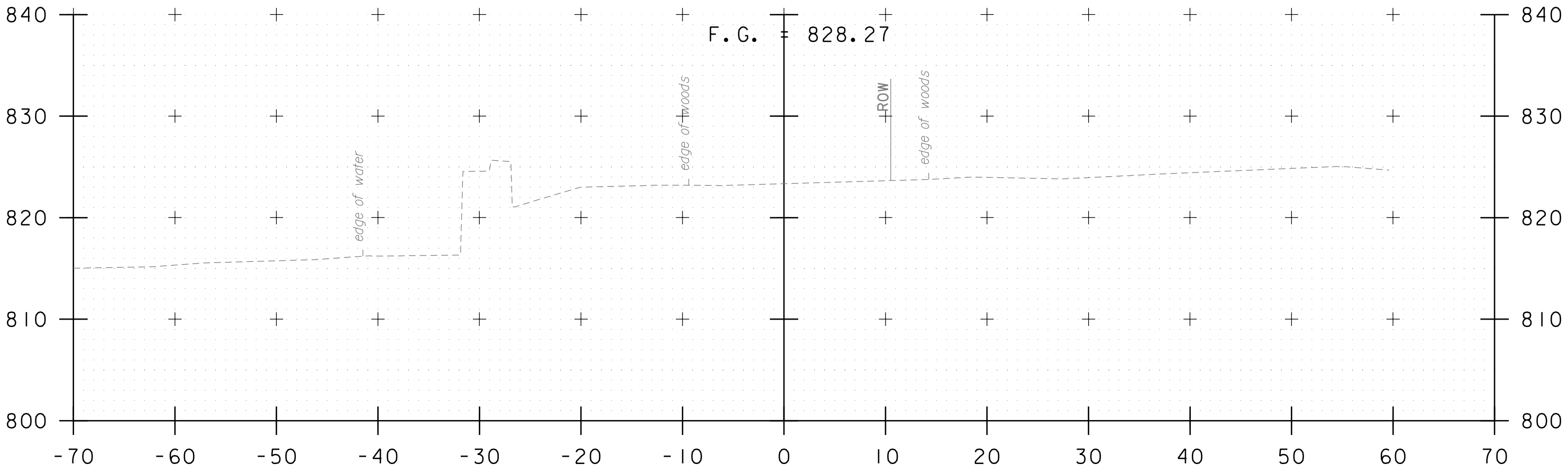
13+00



15+50



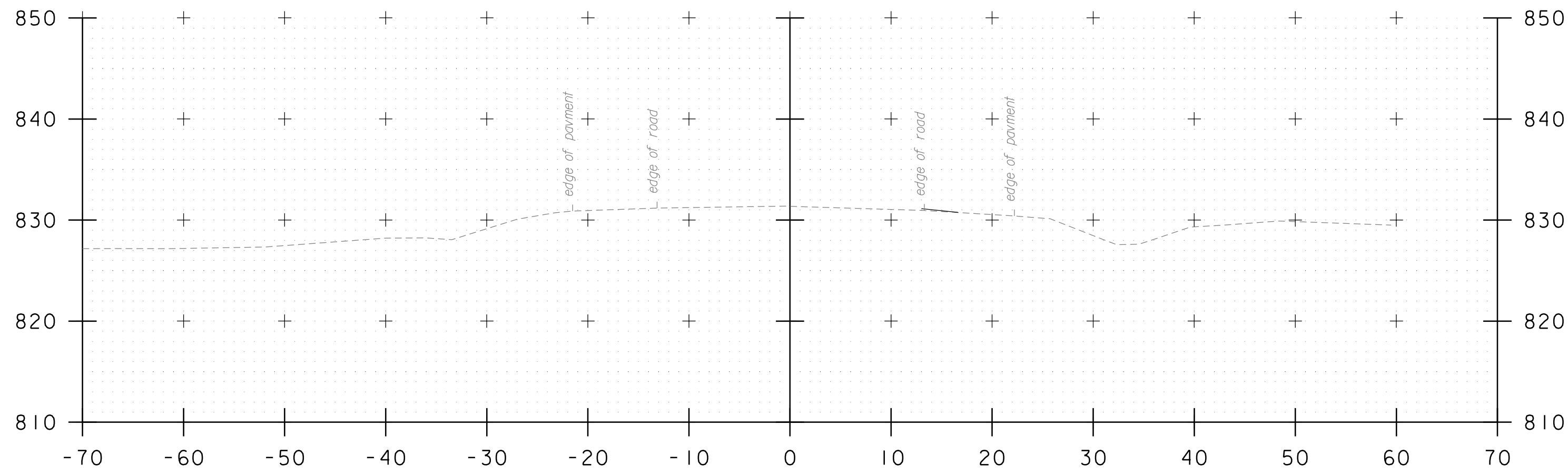
15+00



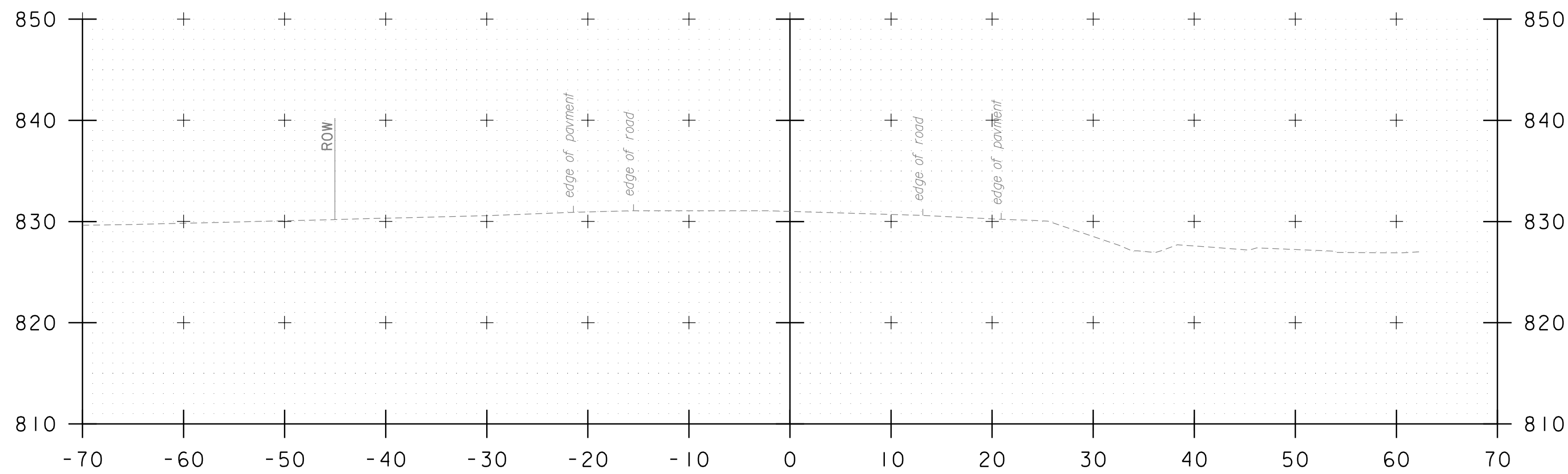
14+50

STA. 13+00 TO STA. 15+50

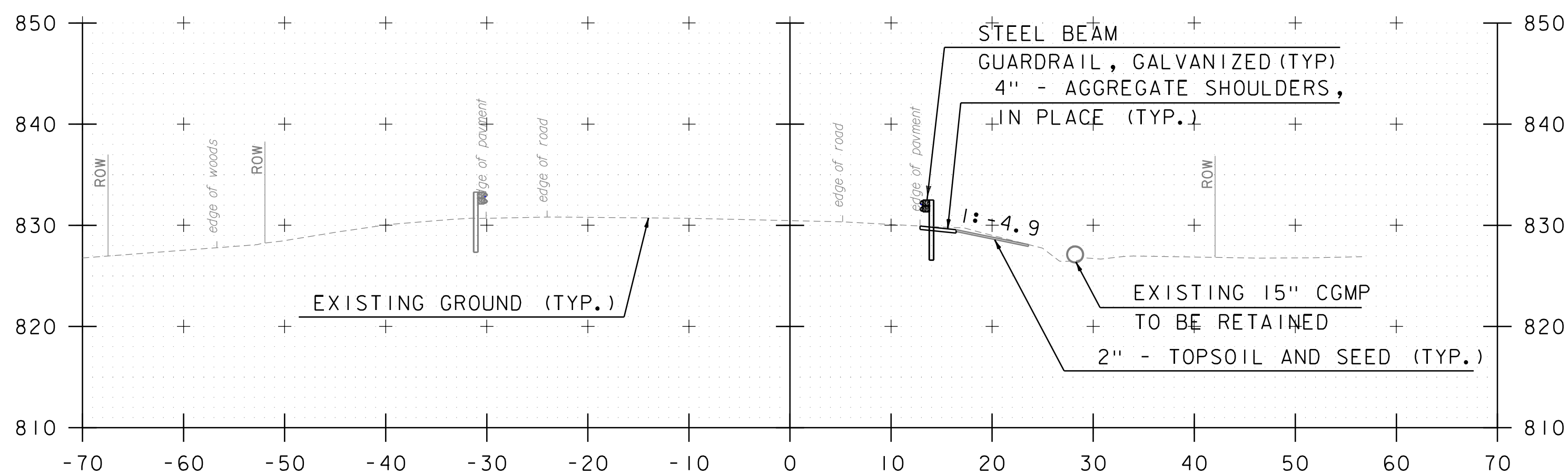
PROJECT NAME: VAO T PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z16b002xs.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: G. BOYLE
DESIGNED BY: D. VERTIYEV	CHECKED BY: G. BOYLE
TEMPORARY BRIDGE CROSS SECTIONS SHEET 2SHEET 22 OF 32	



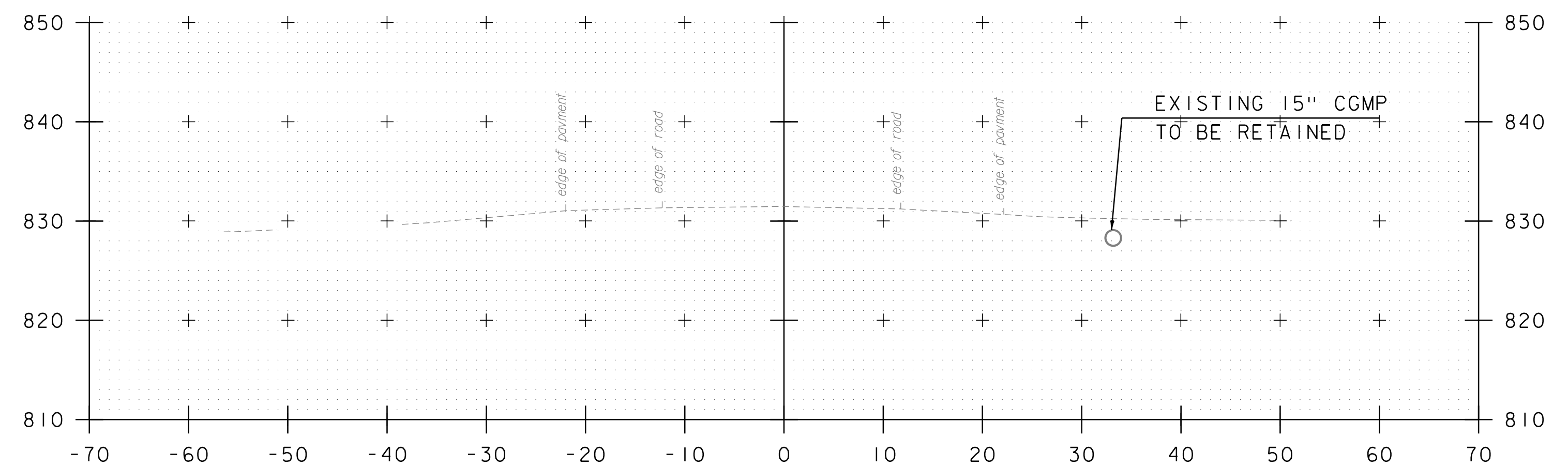
17+00



16+50



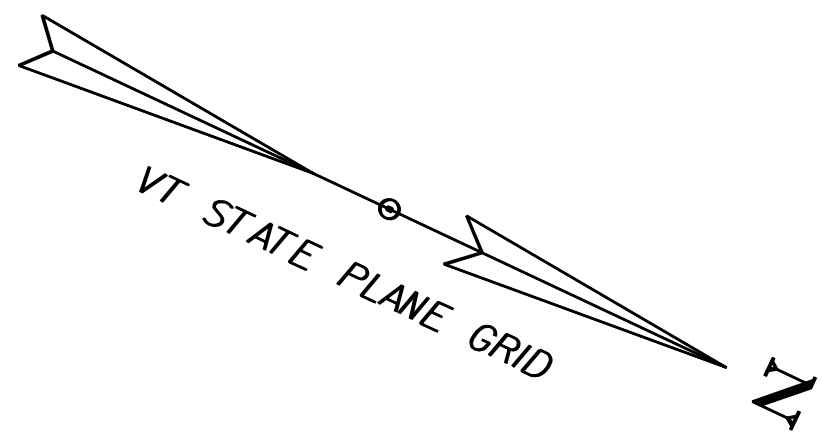
16+00



17+32

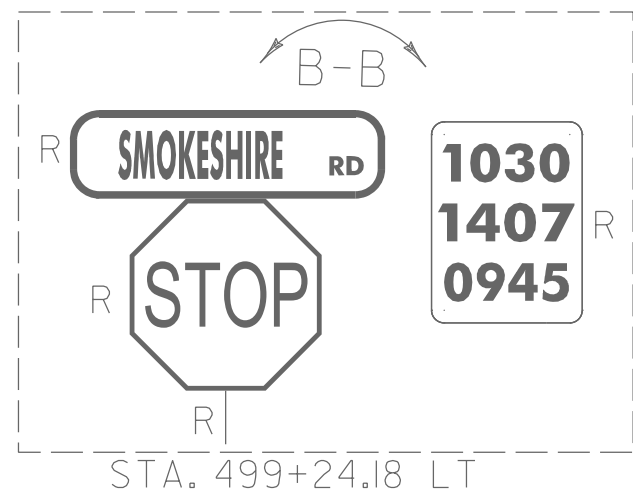
STA. 16+00 TO STA. 17+32

PROJECT NAME: VAOOT PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z16b002xs.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: G. BOYLE
DESIGNED BY: D. VERTIYEV	CHECKED BY: G. BOYLE
TEMPORARY BRIDGE CROSS SECTIONS SHEET 3SHEET 23 OF 32	



DURABLE 4 INCH WHITE LINE, (SEE OPTION ITEMS)
(ALL LINES WILL INCLUDE EDGE LINES BREAKS
AND RADIIFOR SIDE ROADS)
STA. 493+25.00 - STA. 500+50.00 (SOLID RT & LT)

DURABLE 4 INCH YELLOW LINE, (SEE OPTION ITEMS)
(ALL LINES WILL INCLUDE LINES BREAKS
AND RADIIFOR SIDE ROADS)
STA. 493+25.00 - STA. 500+50.00 (SOLID RT & LT)
STA. 499+50.00 LT (TH-9)



DURABLE 24 INCH STOP BAR, (SEE OPTION ITEMS)
STA. 499+38.11LT (TH-9)

DURABLE LETTER OR SYMBOL, (SEE OPTION ITEMS)
STA. 499+38.11LT (TH-9) "STOP" (4 EA)

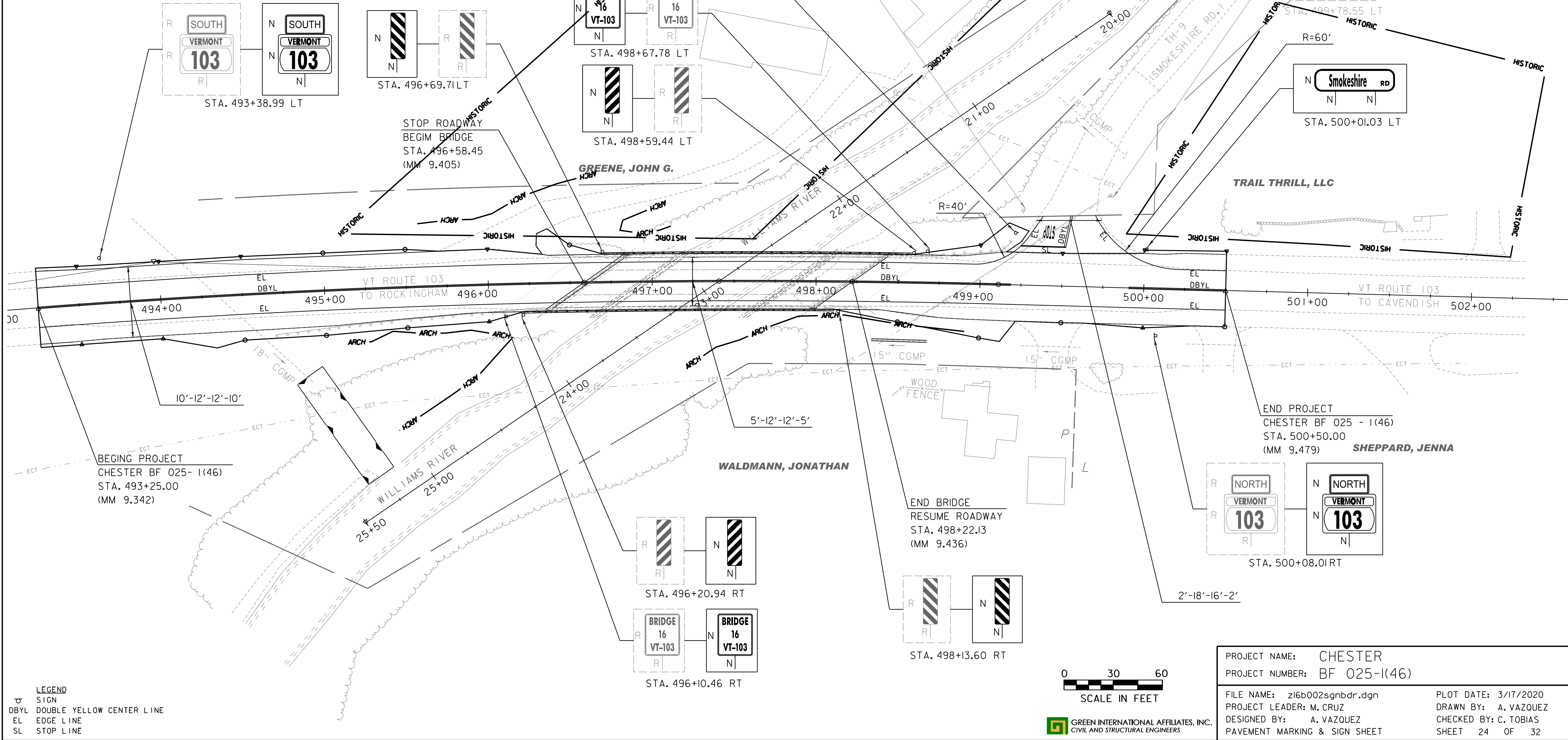
REMOVING SIGNS
AS SHOWN - 13

SIGN DETAIL

1.50" Radius, 0.50" Border, White on, Green;
"Smokehouse", C; "Rd", C;
Table of distances between letter and object lefts

S	m	o	k	e	s	h	i	r	e	R	d	
4.36	4.87	6.44	4.57	4.01	3.98	4.45	4.83	2.73	2.96	7.44	3.04	1.96

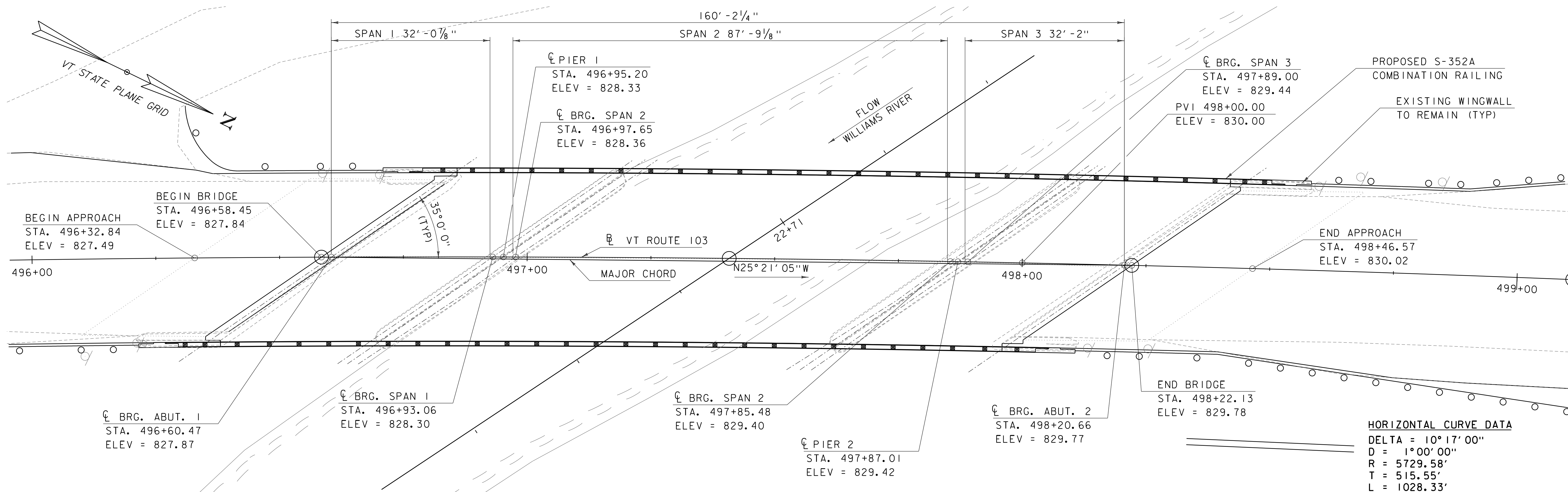
STA. 500+01.03 LT



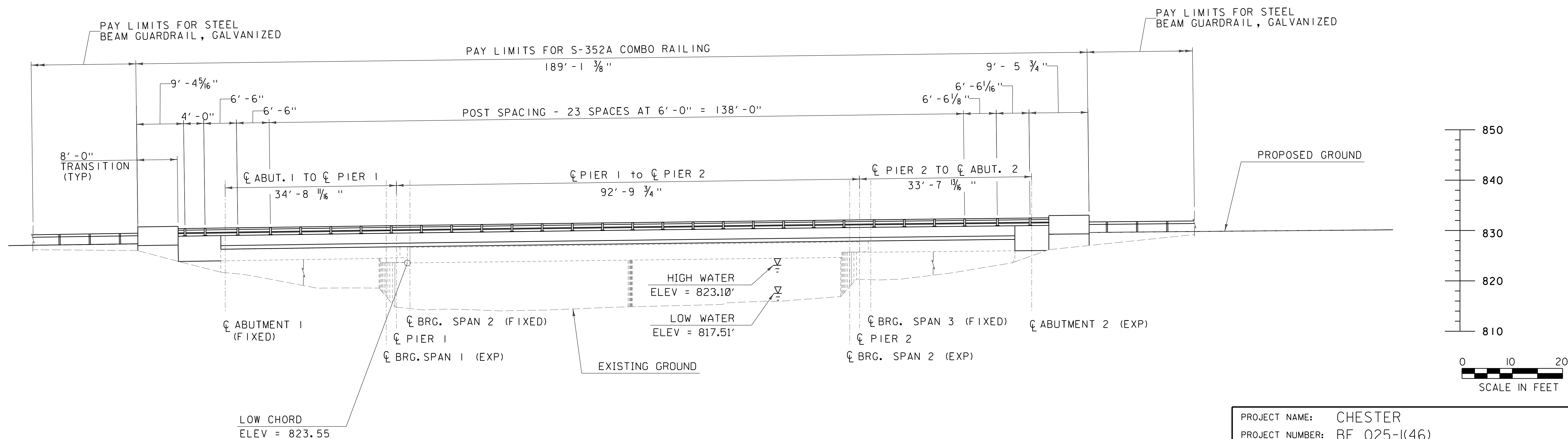
TRAFFIC SIGN SUMMARY SHEET 1

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 VTRANS STANDARD SHEETS AND THE "SIGN POST DESIGN GUIDELINE". *STANDARD HIGHWAY SIGNS AND MARKINGS BOOK		PROJECT NAME: CHESTER PROJECT NUMBER: BF 025-1(46)	
FILE NAME: z16b002+ss.dgn PROJECT LEADER: M. CRUZ DESIGNED BY: A. VAZQUEZ TRAFFIC SIGN SUMMARY SHEET		PLOT DATE: 3/17/2020 DRAWN BY: A. VAZQUEZ CHECKED BY: C. TOBIAS SHEET 25 OF 32	

PLOT DATE: 3/17/2020
DRAWN BY: A. VAZQUEZ
CHECKED BY: C. TOBIAS
SHEET 25 OF 32

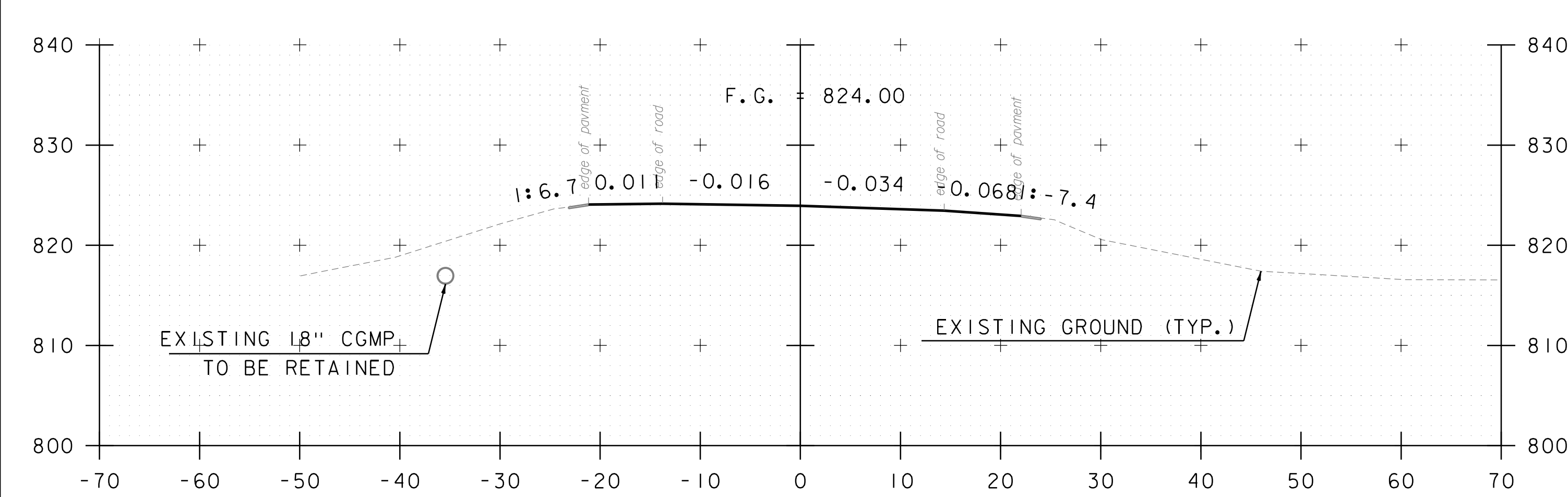


PLAN
SCALE 1" = 10'-0"

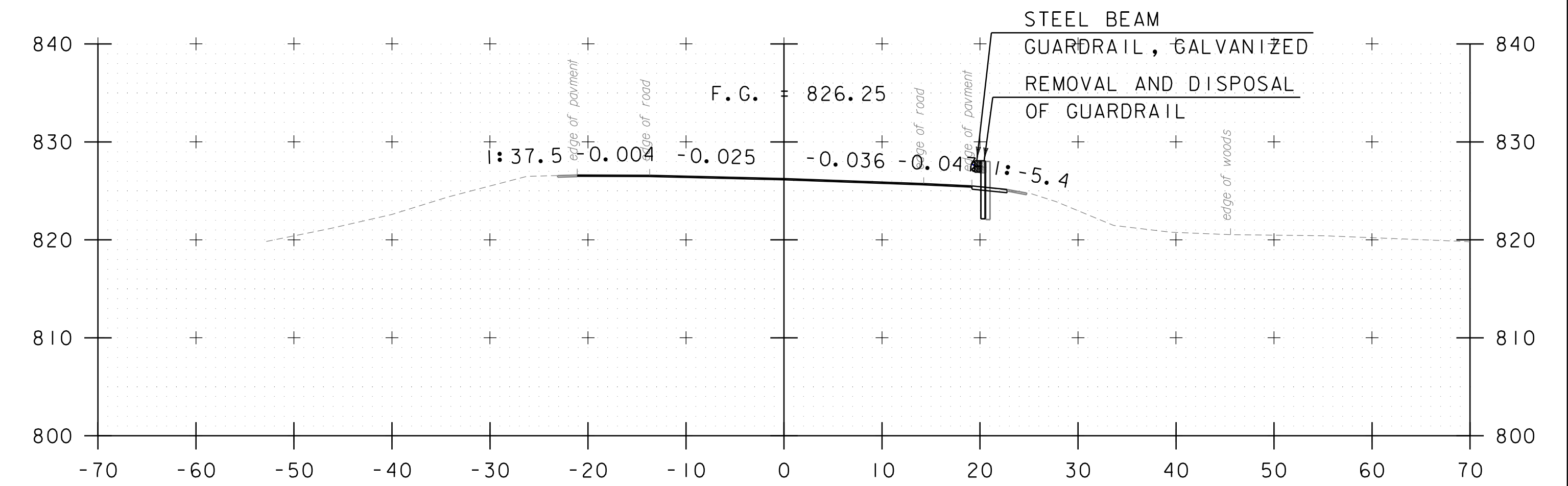


ELEVATION EAST FASCIA

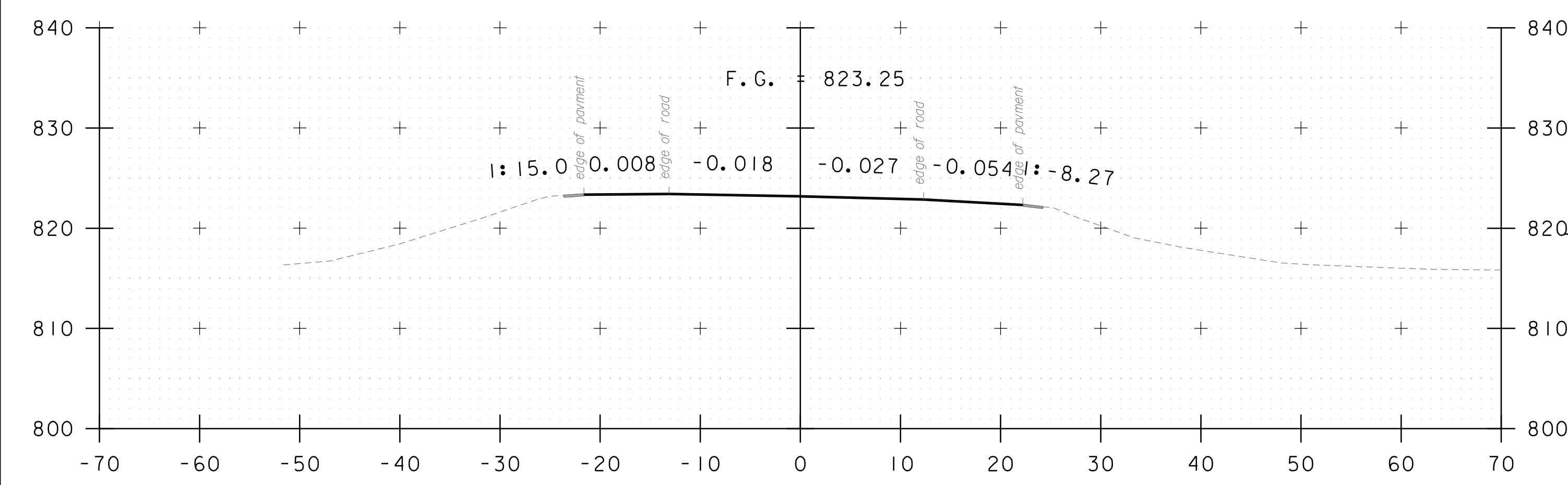
SCALE 1" = 10'-0"



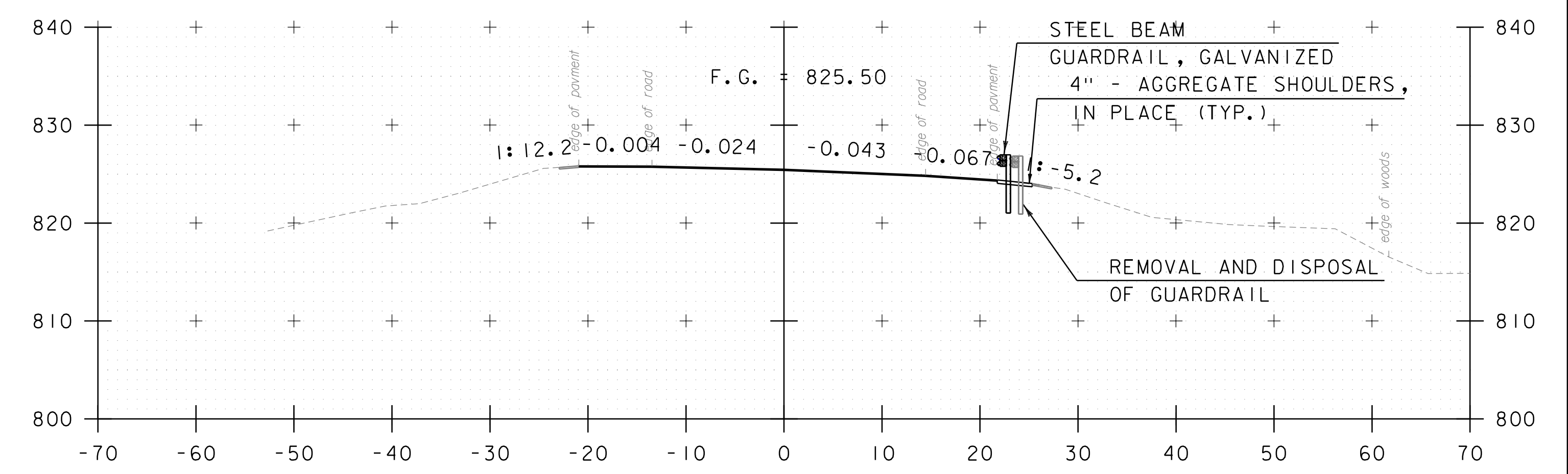
494+00



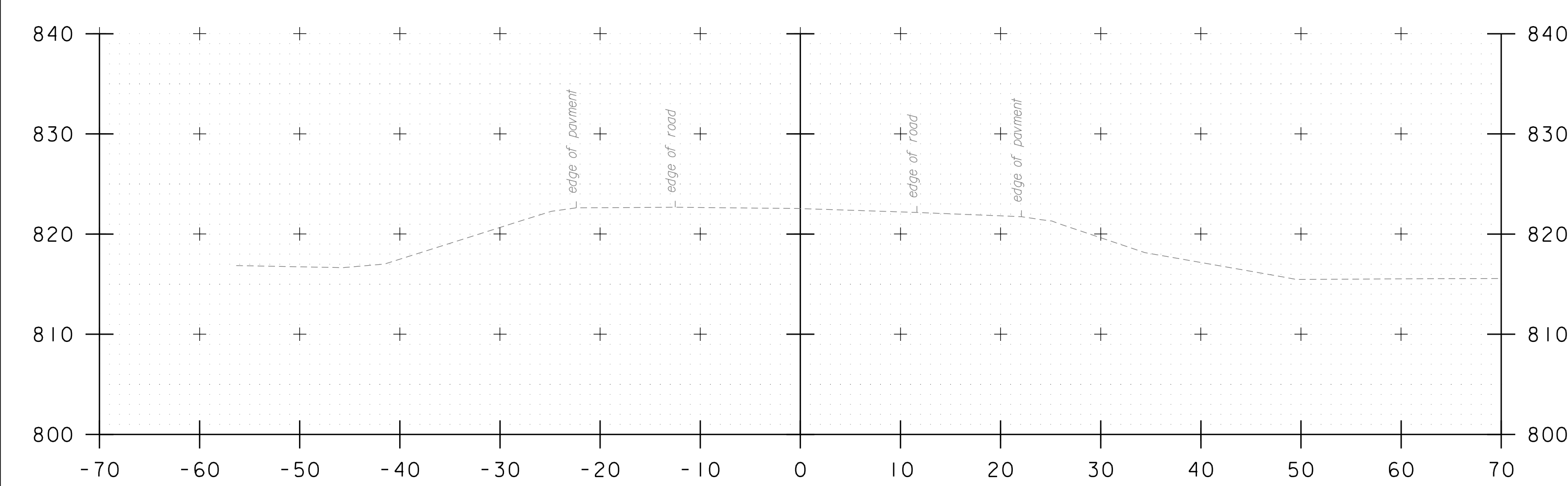
495+50



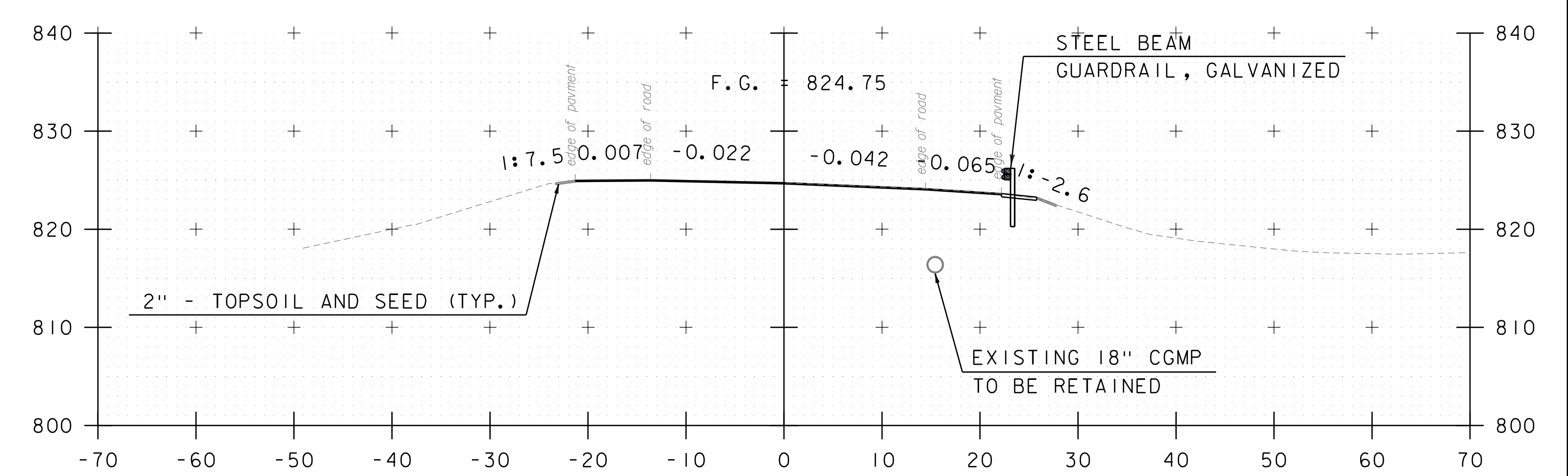
493+50



495+00



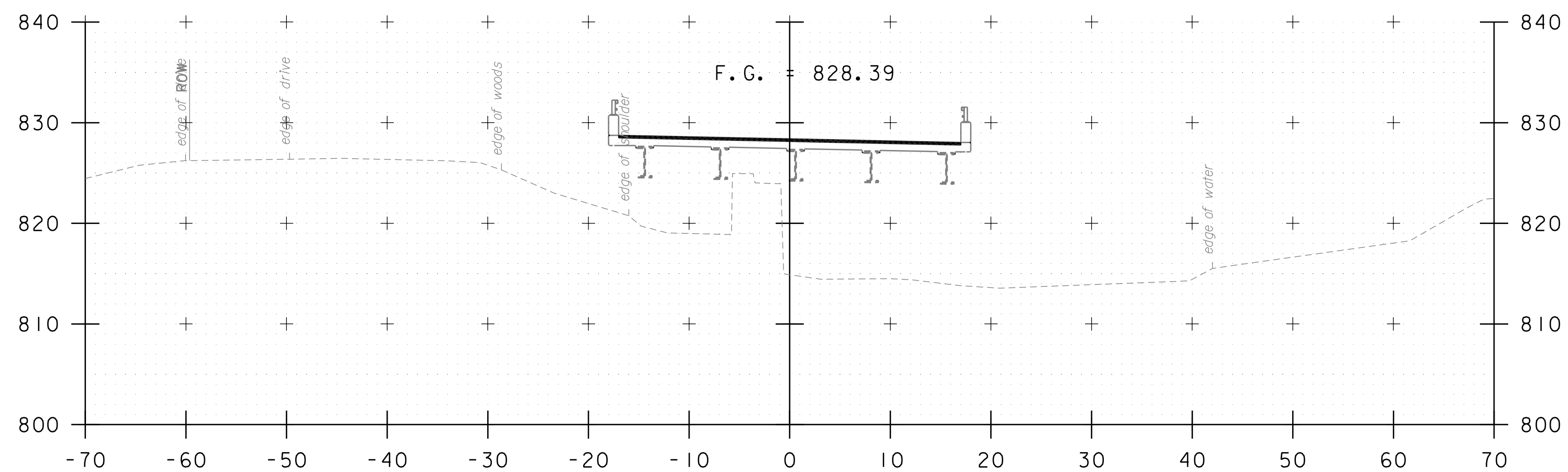
493+00



494+50

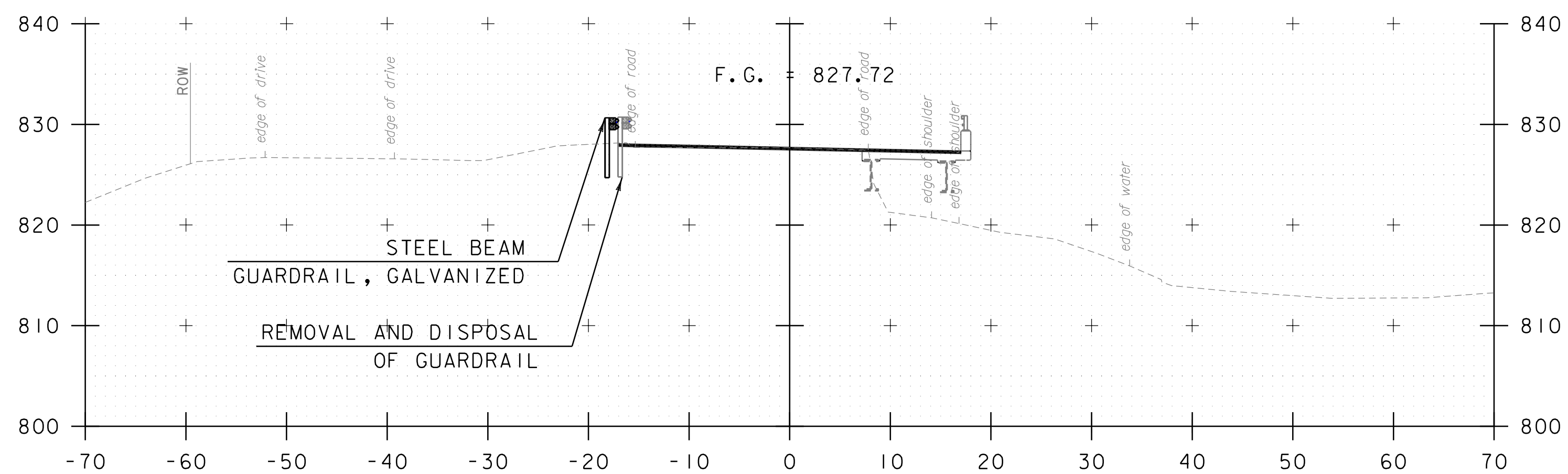
493+25 BEGIN CHESTER BF 025-1 (46)

STA. 493+00 TO STA. 495+50

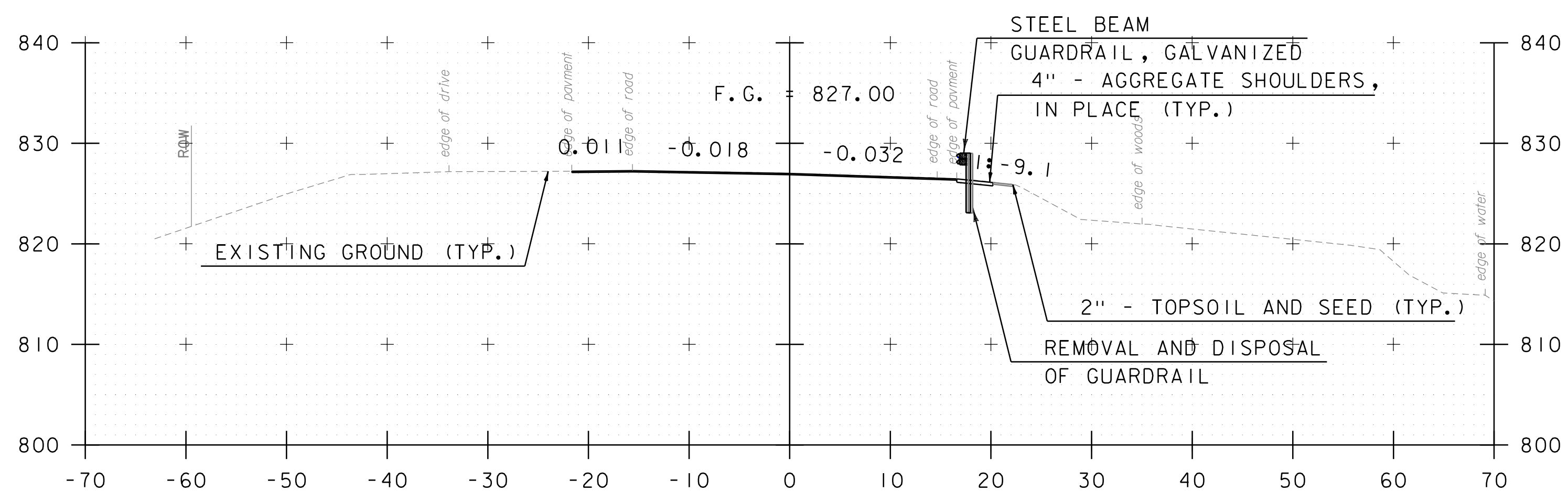


497+00

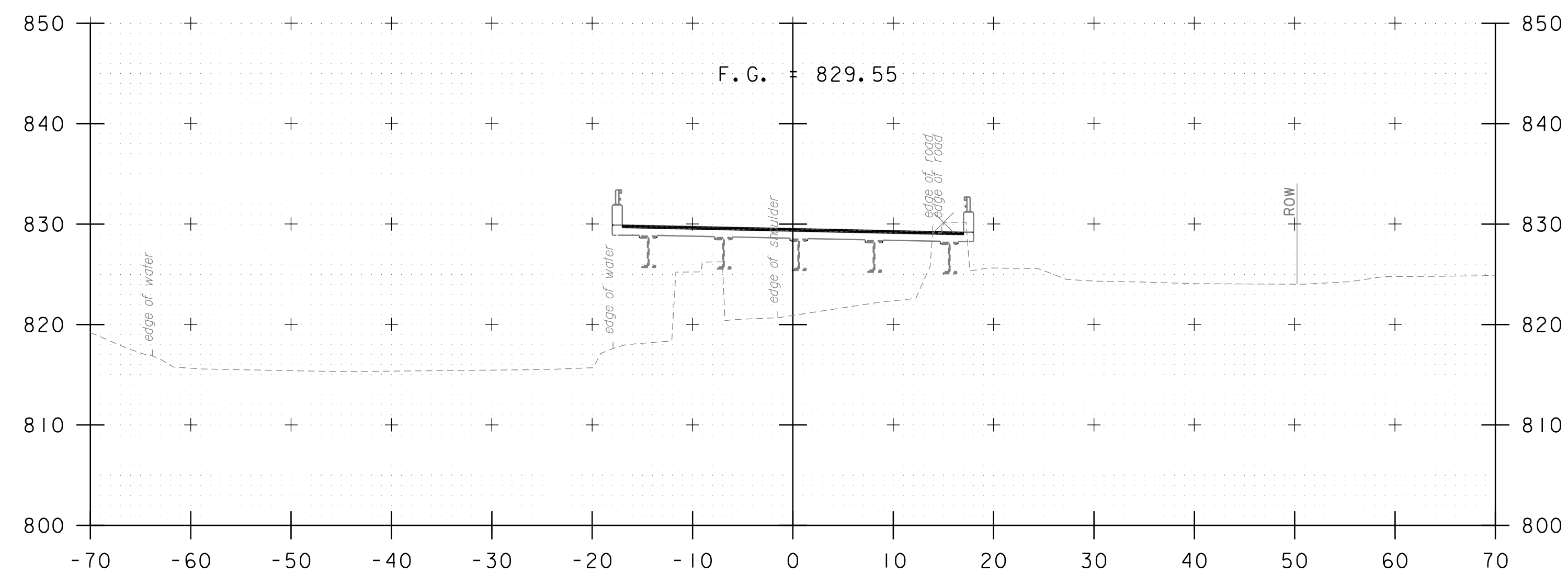
496+58.45 STOP ROADWAY - BEGIN BRIDGE



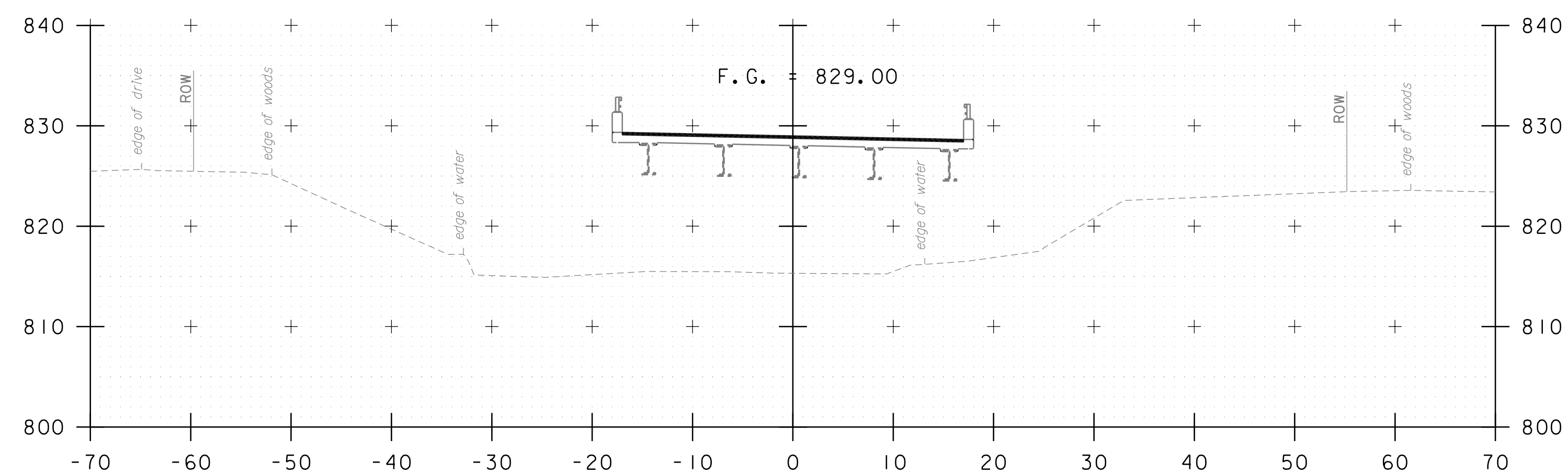
496+50



496+00



498+00



497+50

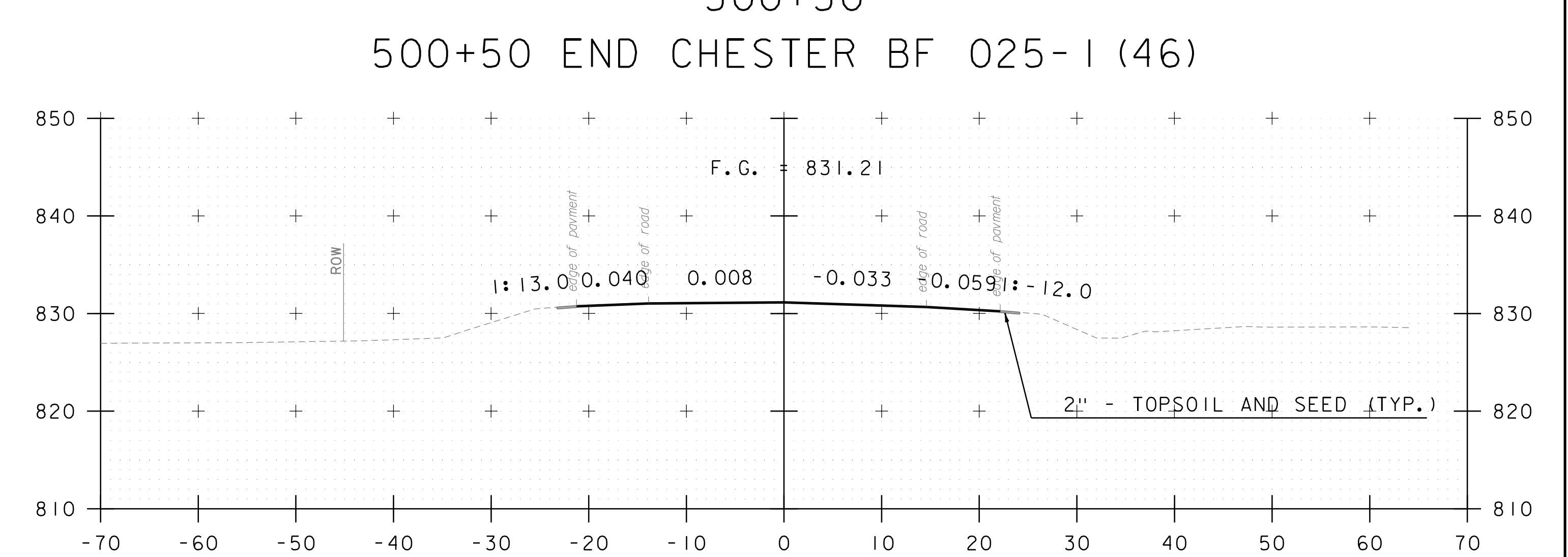
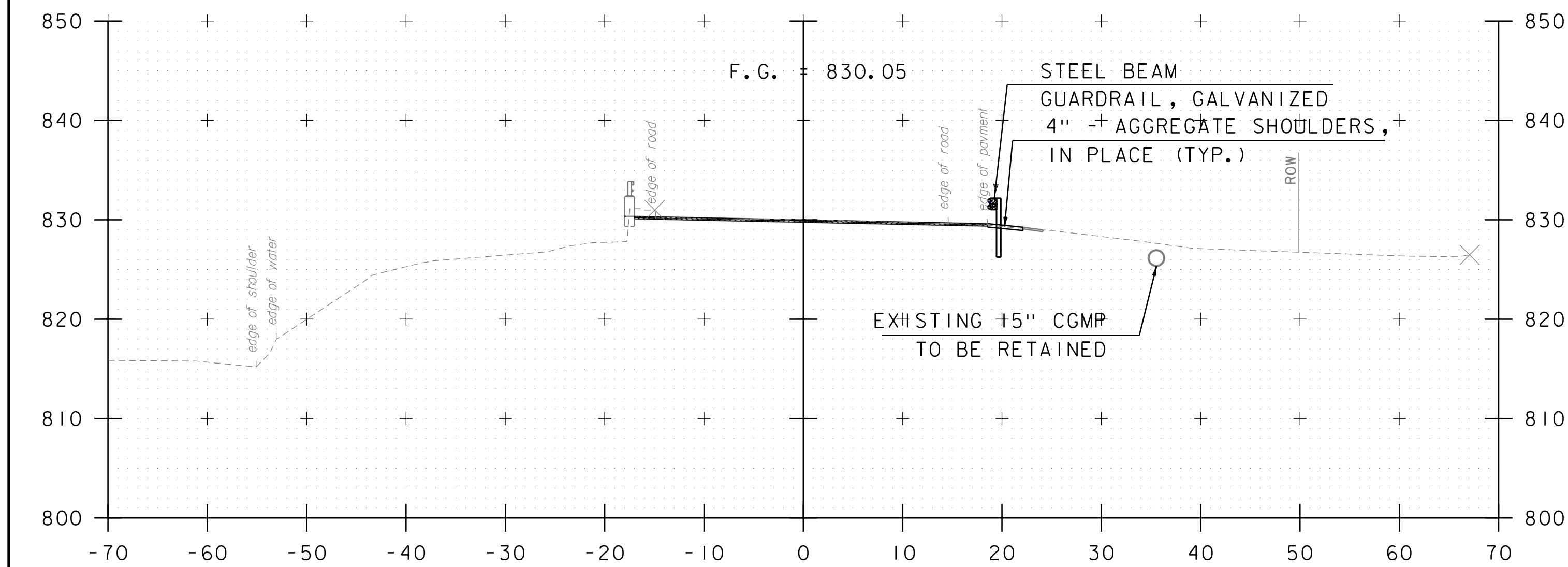
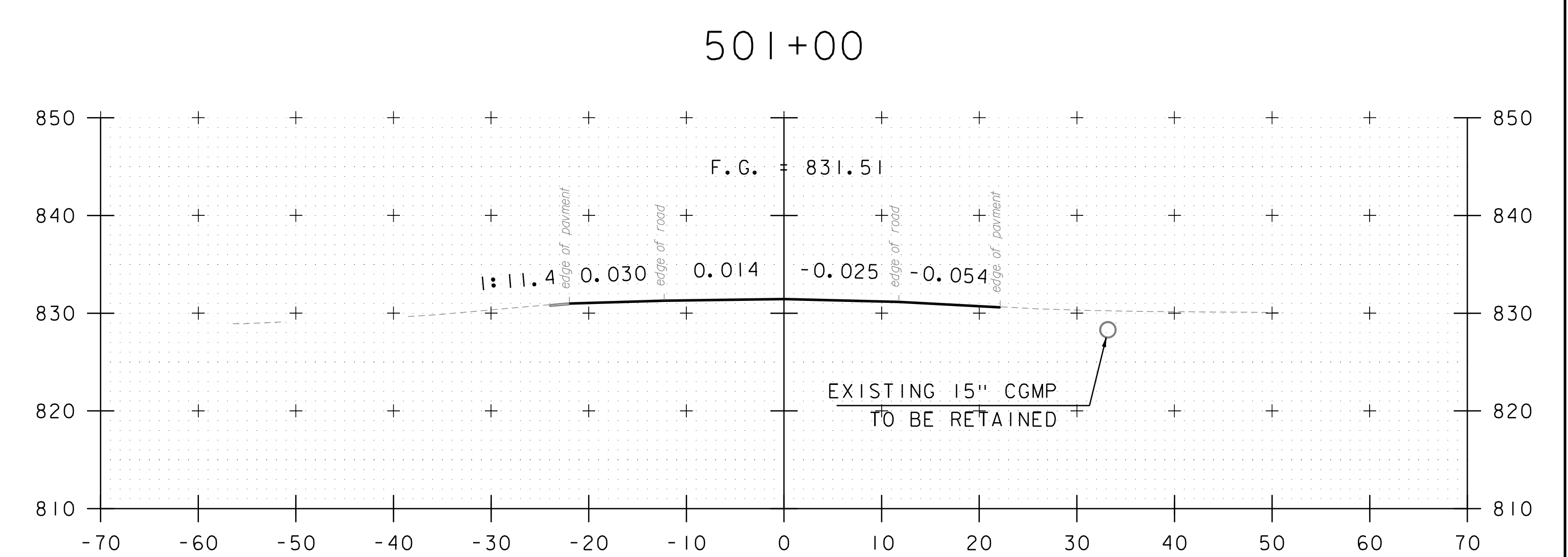
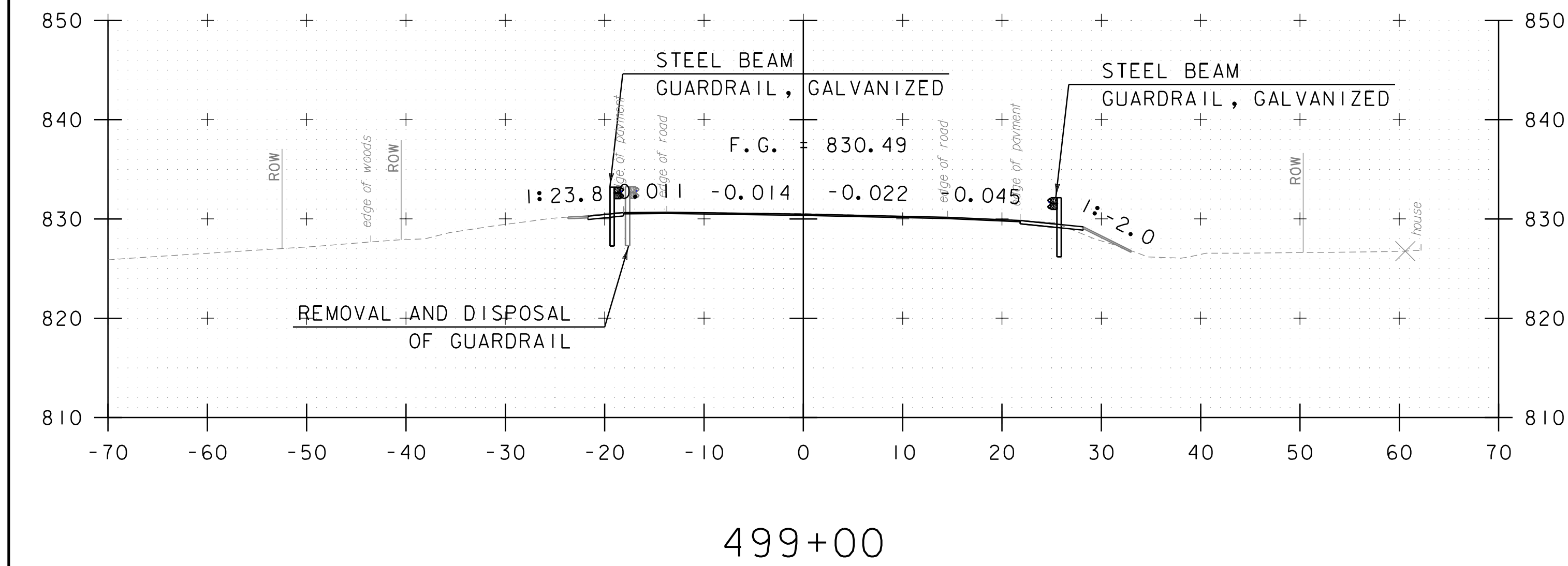
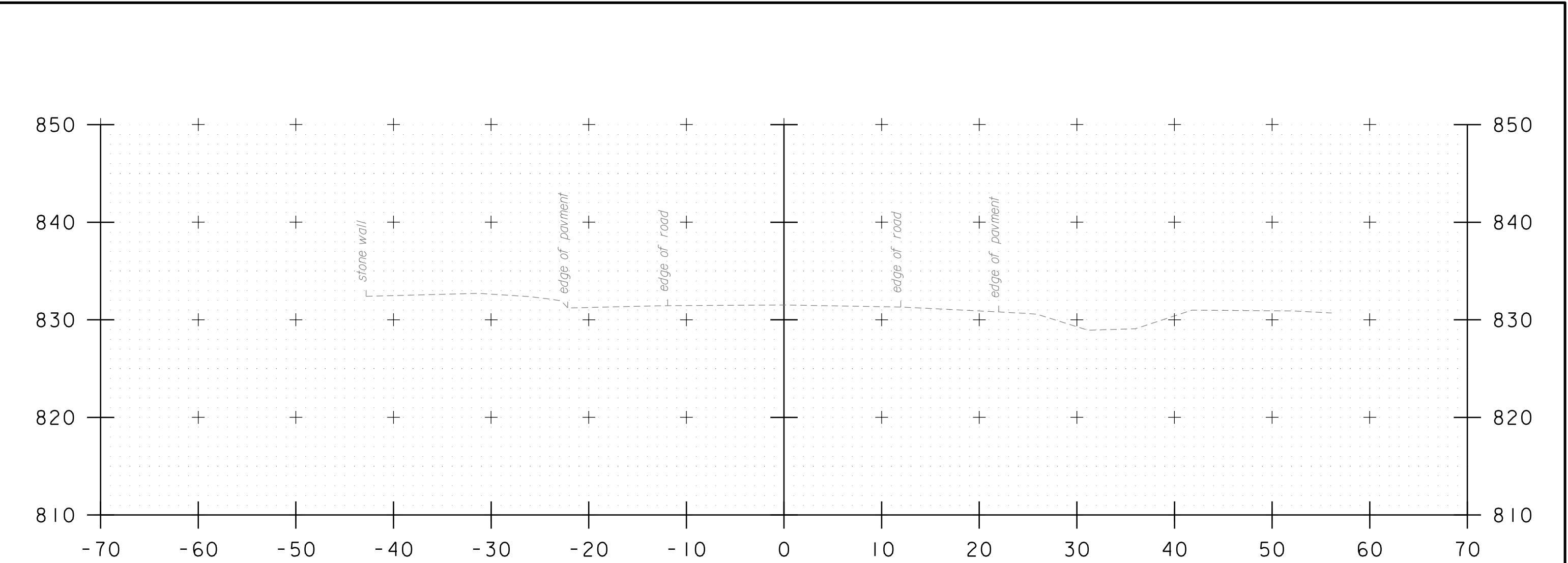
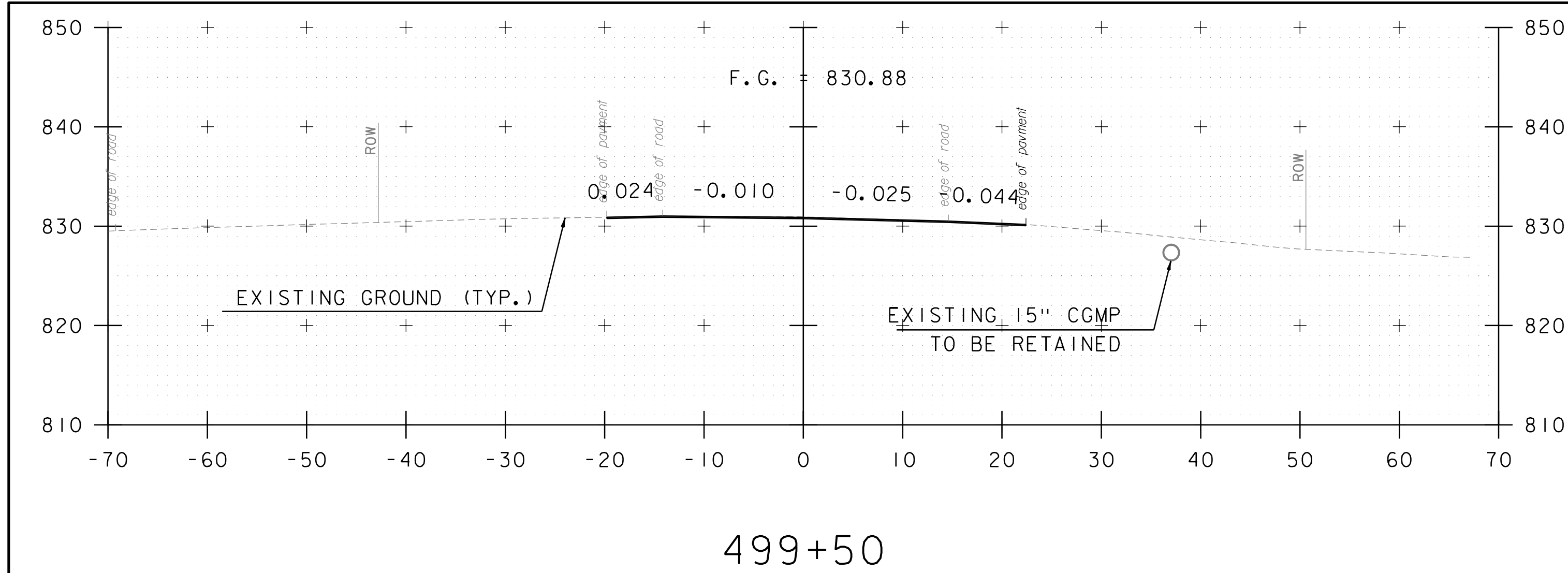
STA. 496+00 TO STA. 498+00

PROJECT NAME: VAOI PROJECT NAME

PROJECT NUMBER: PROJECT NUMBER

FILE NAME: z16b002xs.dgn
PROJECT LEADER: M. CRUZ
DESIGNED BY: D. VERTIYEV
CROSS SECTIONS SHEET 2

PLOT DATE: 3/17/2020
DRAWN BY: G. BOYLE
CHECKED BY: G. BOYLE
SHEET 28 OF 32



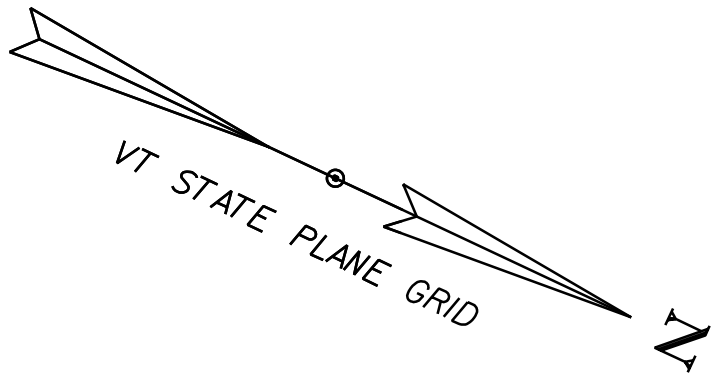
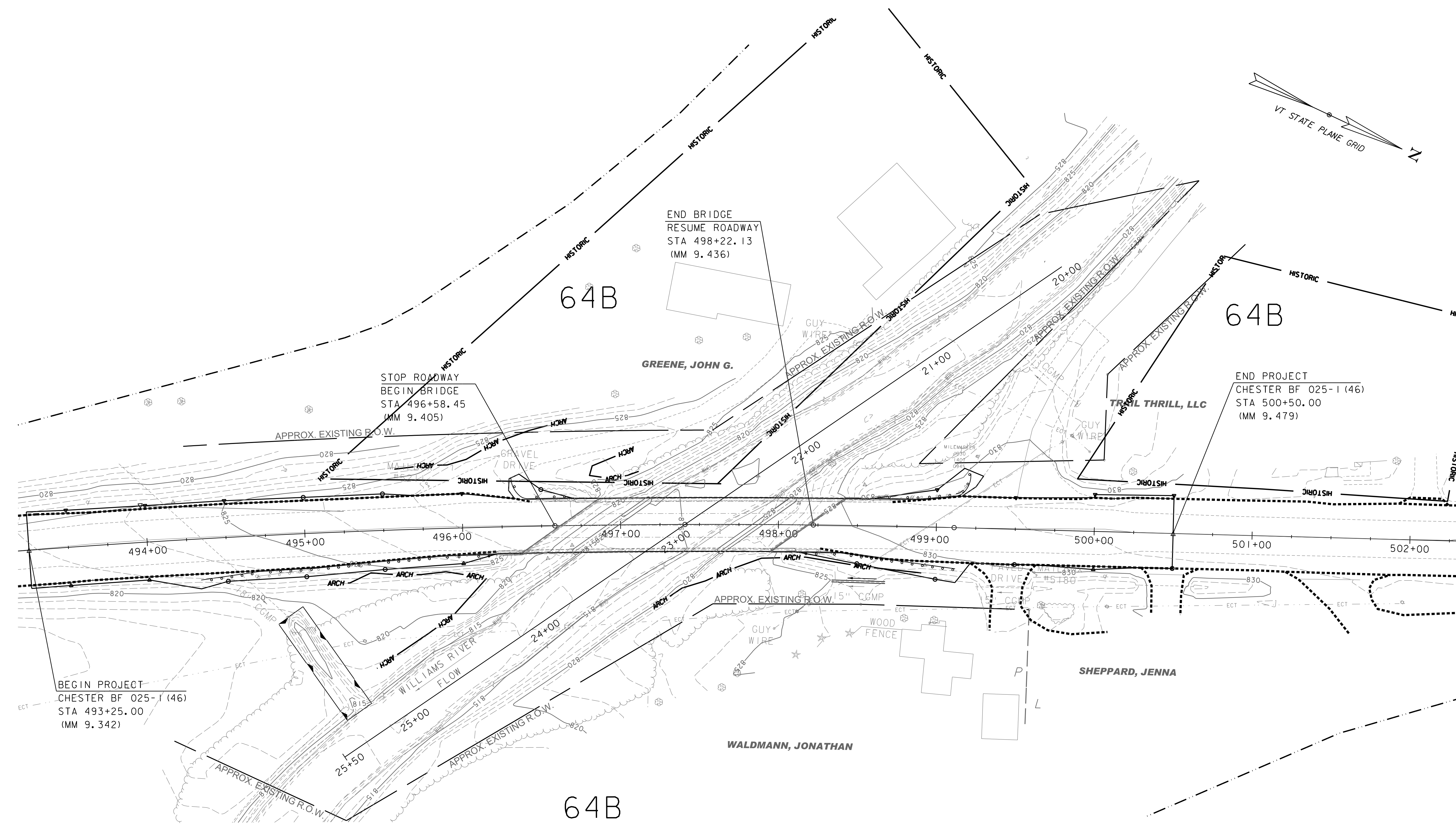
498+50
498+22.13 STOP BRIDGE
BEGIN ROADWAY

500+00

STA. 498+50 TO STA. 501+00

PROJECT NAME: VAO T PROJECT NAME	
PROJECT NUMBER: PROJECT NUMBER	
FILE NAME: z16b002xs.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: G. BOYLE
DESIGNED BY: D. VERTIYEV	CHECKED BY: G. BOYLE
CROSS SECTIONS SHEET 3	SHEET 29 OF 32

AREA OF DISTURBANCE = 0.5 ACRES



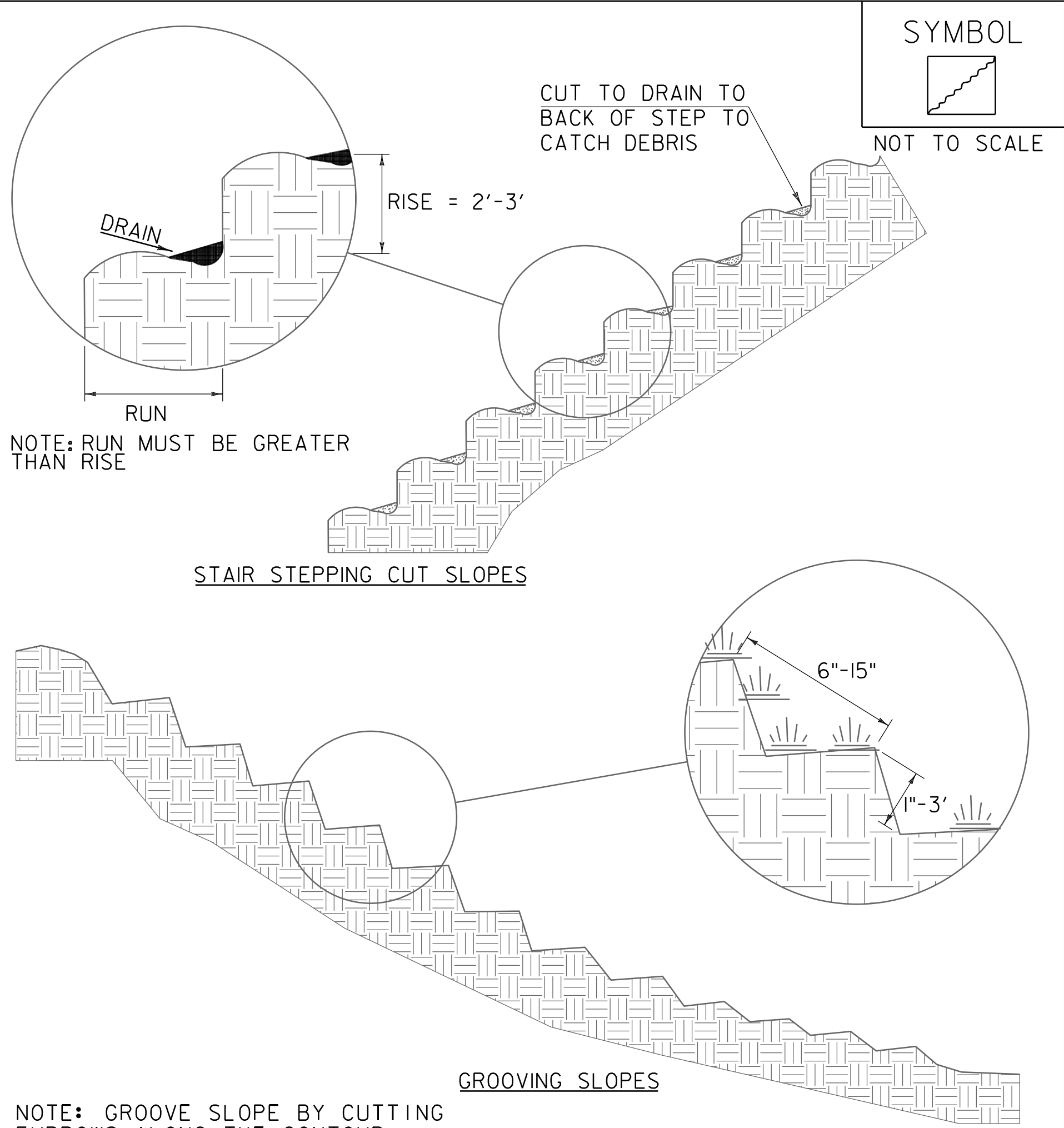
NOTE:
ALL SEDIMENT AND EROSION PREVENTION CONTROL MEASURES
SHALL BE COMPLETED AND IN PLACE BEFORE THE BEGINNING OF
WORK.

SOIL LEGEND		
SOIL DESIGNATION	HYDROLOGIC SOIL GROUP CLASSIFICATION	SOIL ERODIBILITY COEFFICIENTS (K)
64B = COLTON GRAVELLY SANDY LOAM, 3 TO 8 PERCENT SLOPES	A	0.10



GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

PROJECT NAME: CHESTER	
PROJECT NUMBER: BF 025-I(46)	
FILE NAME: z16b002eroex.dgn	PLOT DATE: 3/17/2020
PROJECT LEADER: M. CRUZ	DRAWN BY: G. BOYLE
DESIGNED BY: D. VERTIYEV	CHECKED BY: G. BOYLE
EPSC EXISTING CONDITIONS PLAN SHEET	SHEET 30 OF 32



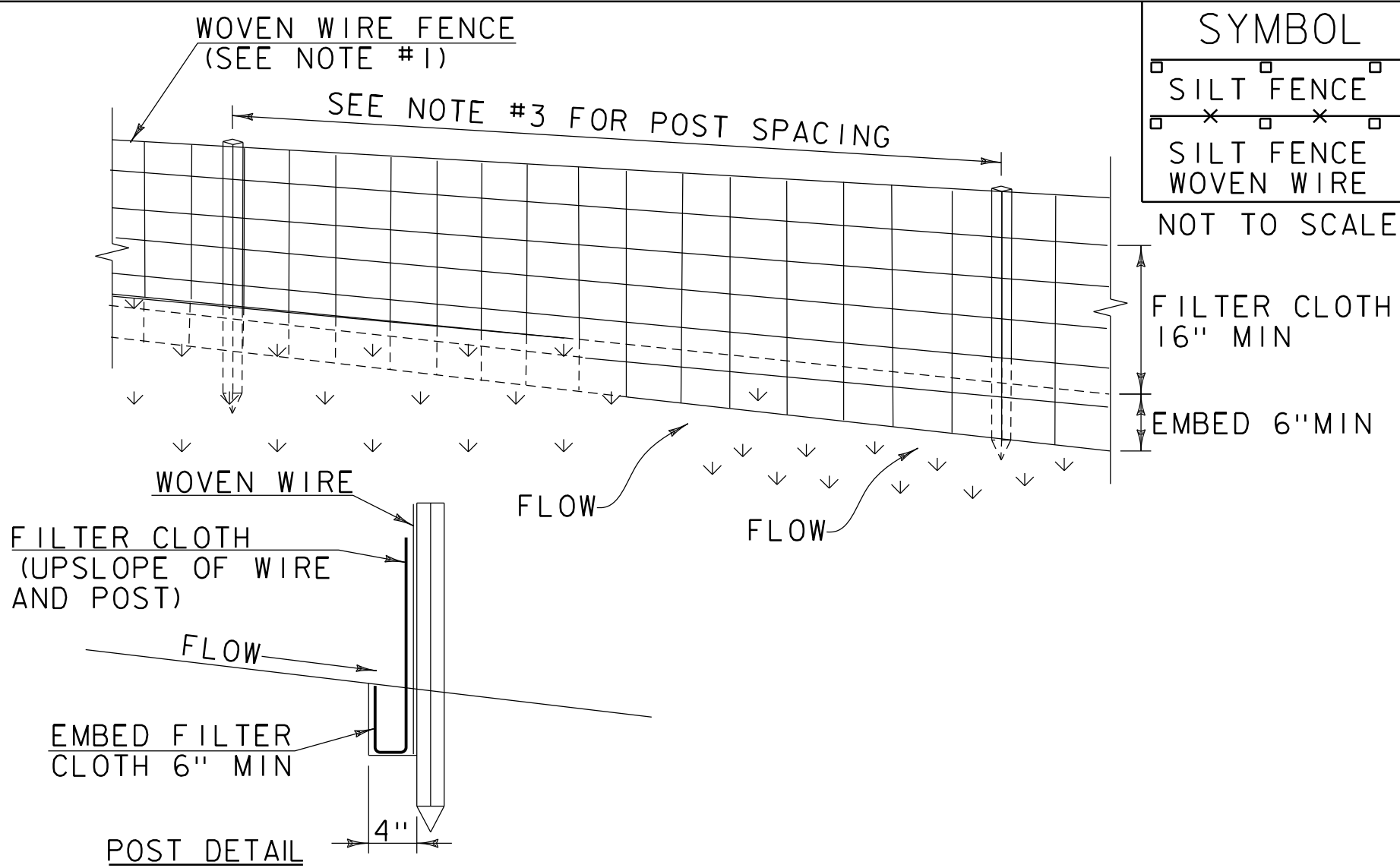
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SURFACE ROUGHENING

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR
EROSION PREVENTION & SEDIMENT CONTROL -2020- "FROM
THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL
GUIDANCE.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE
CONTRACT.

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

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

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR
EROSION PREVENTION & SEDIMENT CONTROL -2020- "FROM
THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL
GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH
SECTION 653 AND AS SHOWN IN THE PLANS FOR SILT FENCE,
TYPE I (PAY ITEM 653.475) OR SILT FENCE, TYPE II
(PAY ITEM 653.476).

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

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

VAOT RURAL AREA MIX

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

GENERAL AMENDMENT GUIDANCE

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

CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR
ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

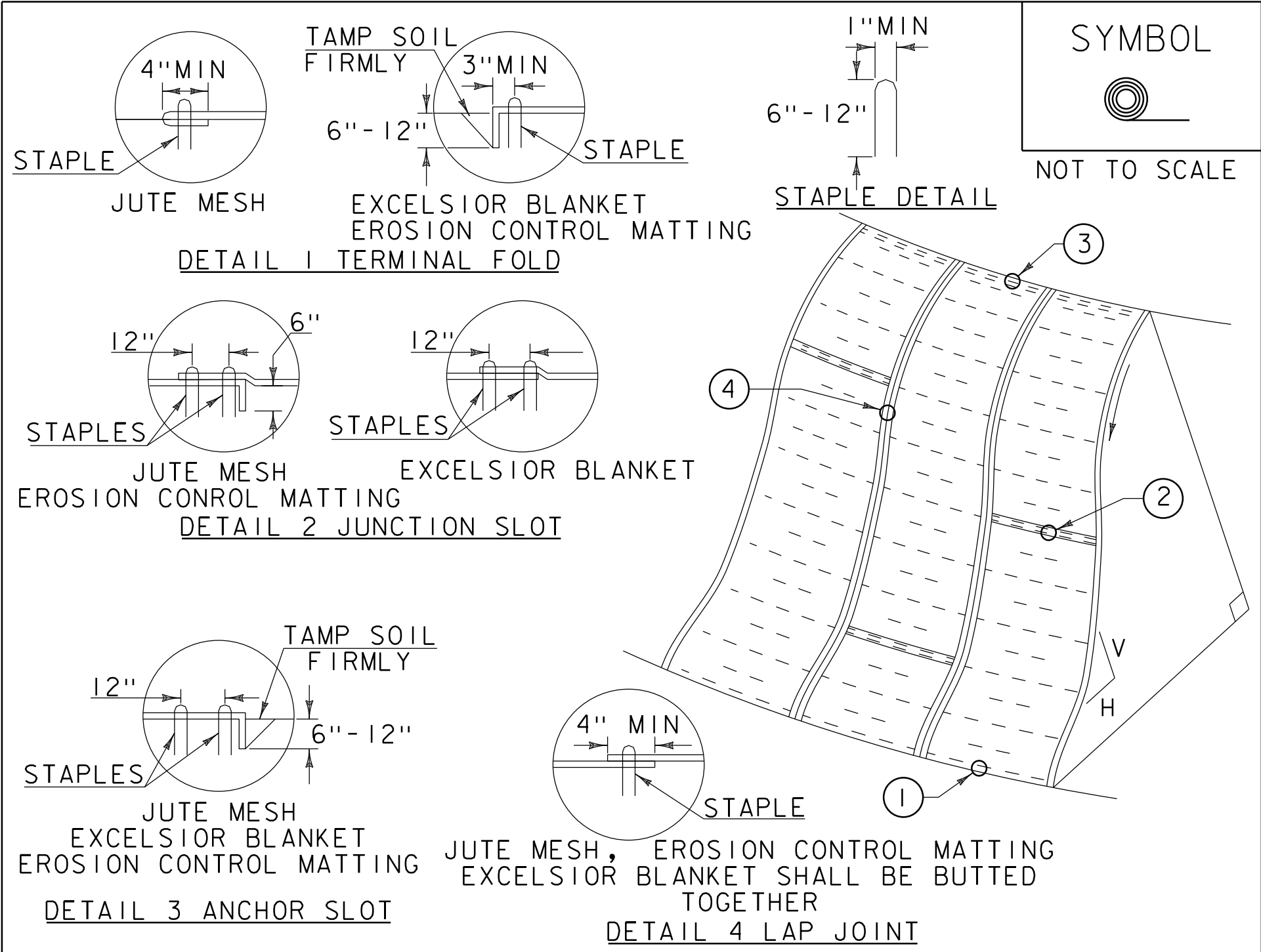
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH
SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 12, 2015	WHF

PROJECT NAME: CHESTER
PROJECT NUMBER: BF 025-1(46)

FILE NAME: z16b002erodet.dgn
PROJECT LEADER: M. CRUZ
DESIGNED BY: D. VERTIYEV
EPSC DETAIL SHEET 1

PLOT DATE: 3/17/2020
DRAWN BY: A. RUSSELL
CHECKED BY: G. BOYLE
SHEET 31 OF 32



CONSTRUCTION SPECIFICATIONS

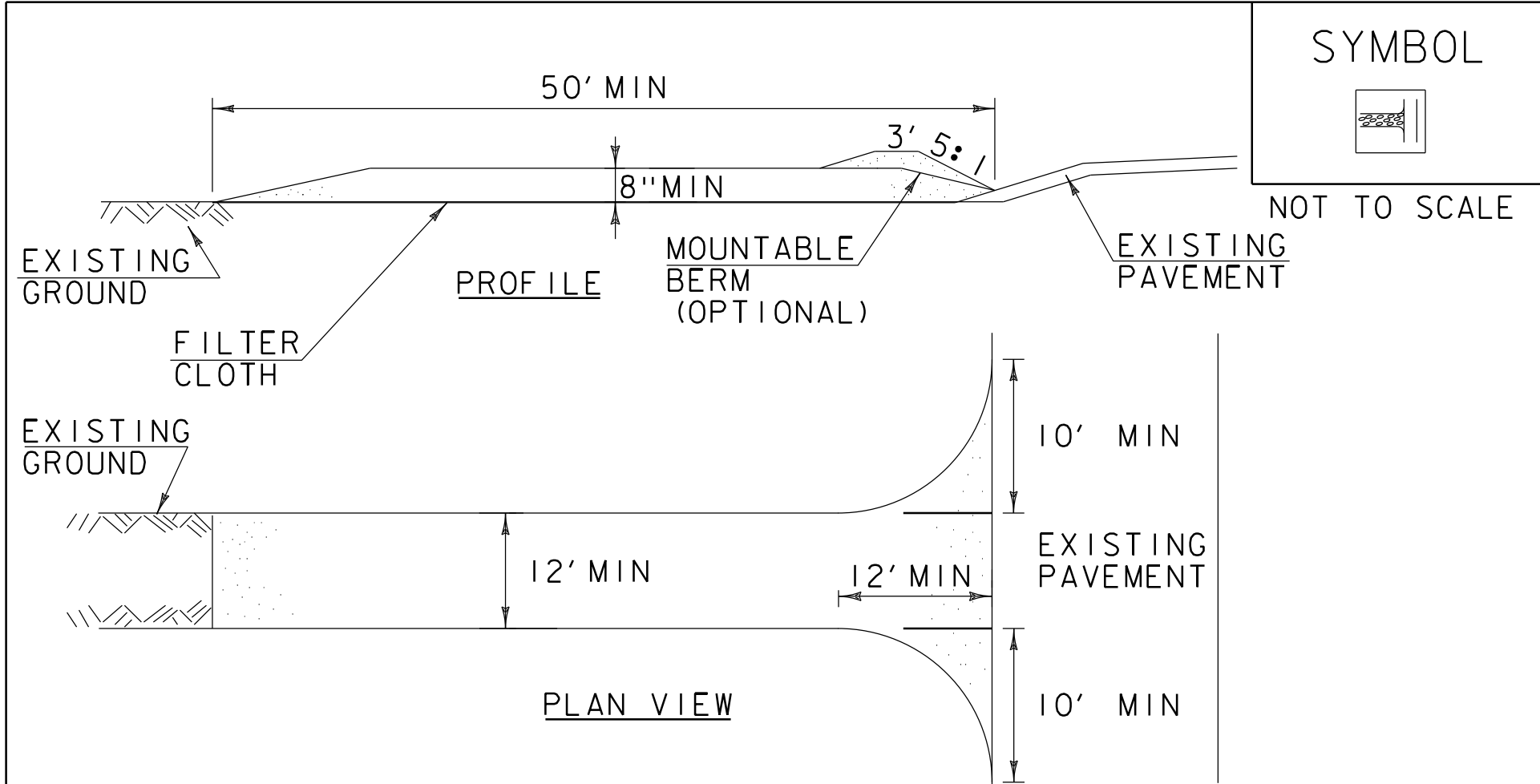
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER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

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

ROLLED EROSION
CONTROL PRODUCT
(RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR
EROSION PREVENTION & SEDIMENT CONTROL -2020- "FROM
THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL
GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION
653 AND AS SHOWN IN THE PLANS FOR ROLLED EROSION
CONTROL PRODUCT, TYPE I (PAY ITEM 653.20) OR ROLLED
EROSION CONTROL PRODUCT, TYPE II (PAY ITEM 653.21).

REVISIONS		
APRIL 16, 2007	JMF	
JANUARY 13, 2009	WHF	



CONSTRUCTION SPECIFICATIONS

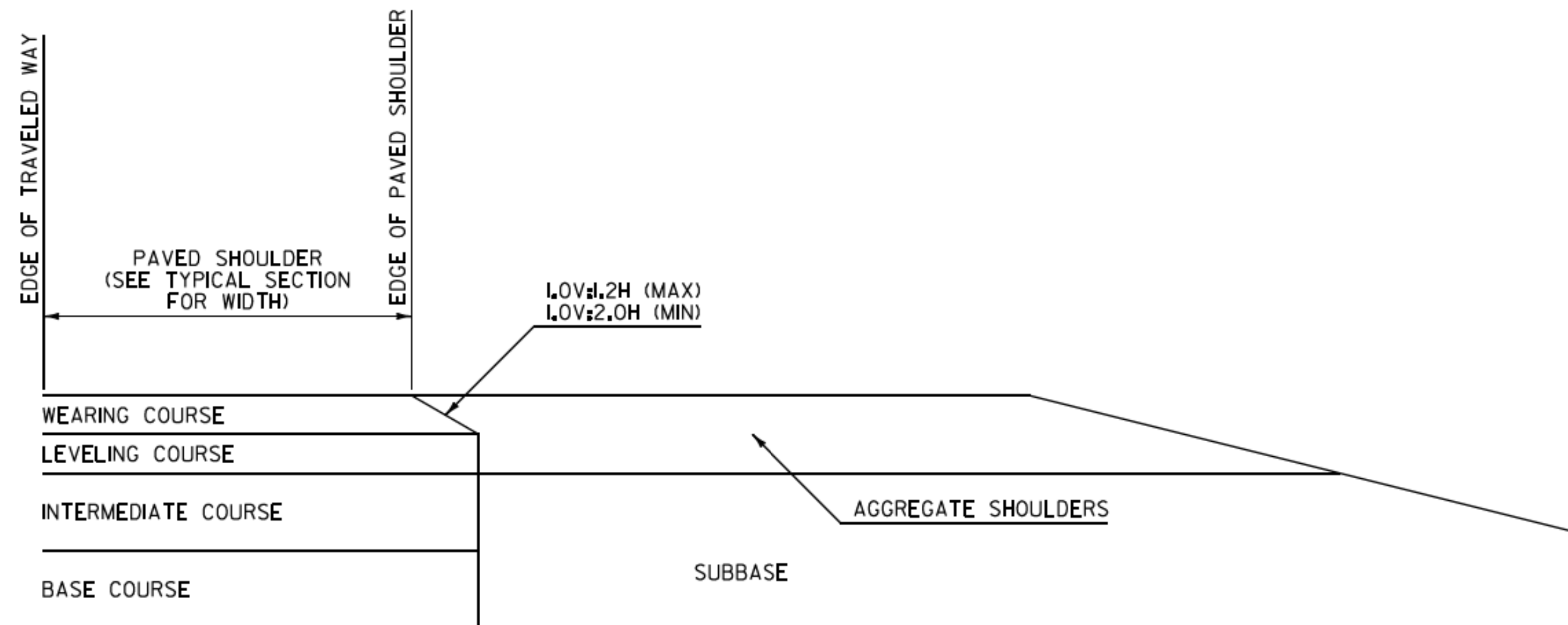
1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.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

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

STABILIZED
CONSTRUCTION
ENTRANCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR
EROSION PREVENTION & SEDIMENT CONTROL -2020- "FROM
THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL
GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH
SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35)
OR AS SPECIFIED IN THE CONTRACT.

REVISIONS		
MARCH 24, 2008	WHF	
JANUARY 13, 2009	WHF	

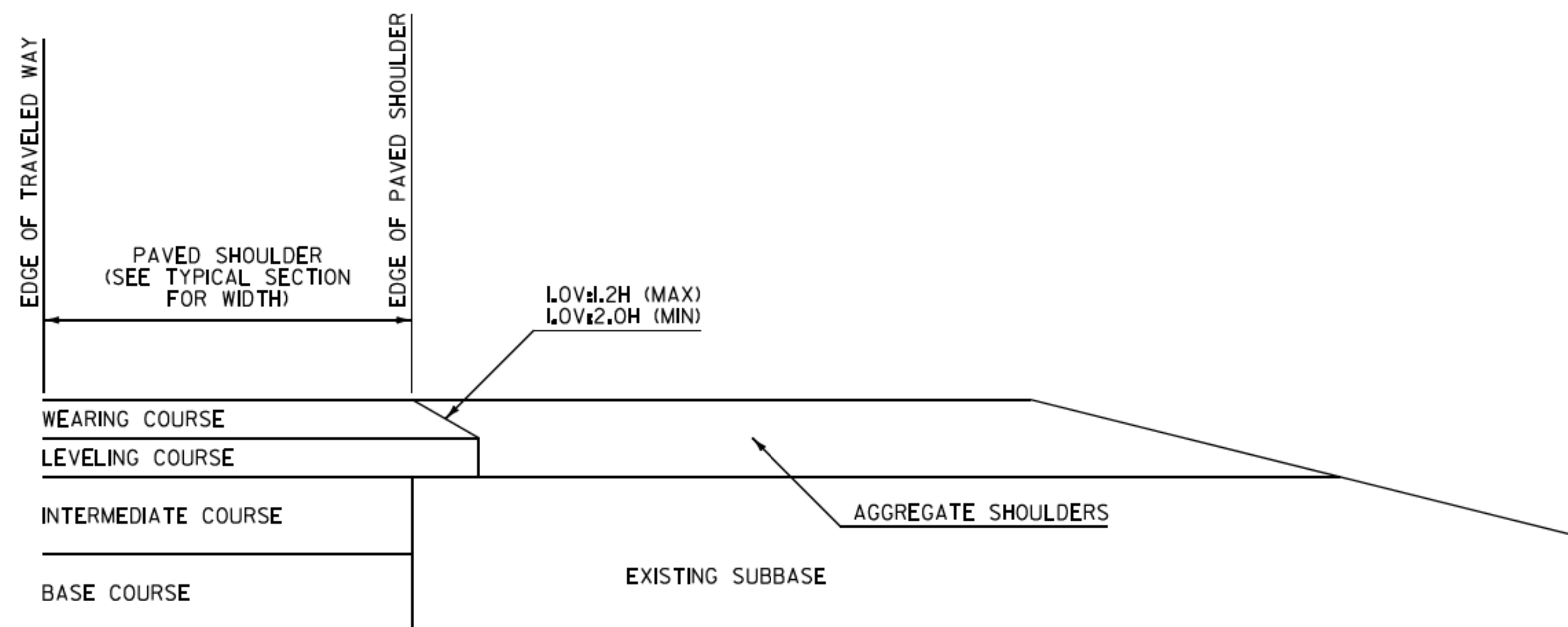


NOTES:

SAFETY EDGE DETAIL
FOR PAVING BELOW WEARING COURSE

1. THIS DETAIL IS INTENDED FOR WHEN PAVING EXTENDS BELOW THE WEARING COURSE.
2. PRIOR TO PLACEMENT OF THE LEVELING AND/OR WEARING COURSE, THE SUBBASE LOCATED BENEATH THE AGGREGATE SHOULDERS SHALL BE PREPARED FLUSH WITH THE BOTTOM OF THE LEVELING COURSE.
3. BASE COURSE LIMITS MAY VARY, SEE TYPICAL SECTIONS FOR WIDTH.

SAFETY EDGE WIDTH BASED ON WEARING COURSE THICKNESS AND A 1V:1.6H SLOPE	
WEARING COURSE THICKNESS (INCHES)	NOMINAL SAFETY EDGE WIDTH (INCHES)
1.25	2.000
1.50	2.375
1.75	2.750
2.00	3.125
2.25	3.500
2.50	4.000



SAFETY EDGE DETAIL
FOR PAVING WEARING COURSE ONLY

NOTES:

1. THIS DETAIL IS INTENDED FOR WHEN ONLY THE LEVELING AND/OR WEARING COURSE IS TO BE PLACED.
2. PAVEMENT COURSES MAY VARY, SEE TYPICAL SECTIONS FOR ACTUAL PAVEMENT COURSES REQUIRED.

GENERAL NOTES:

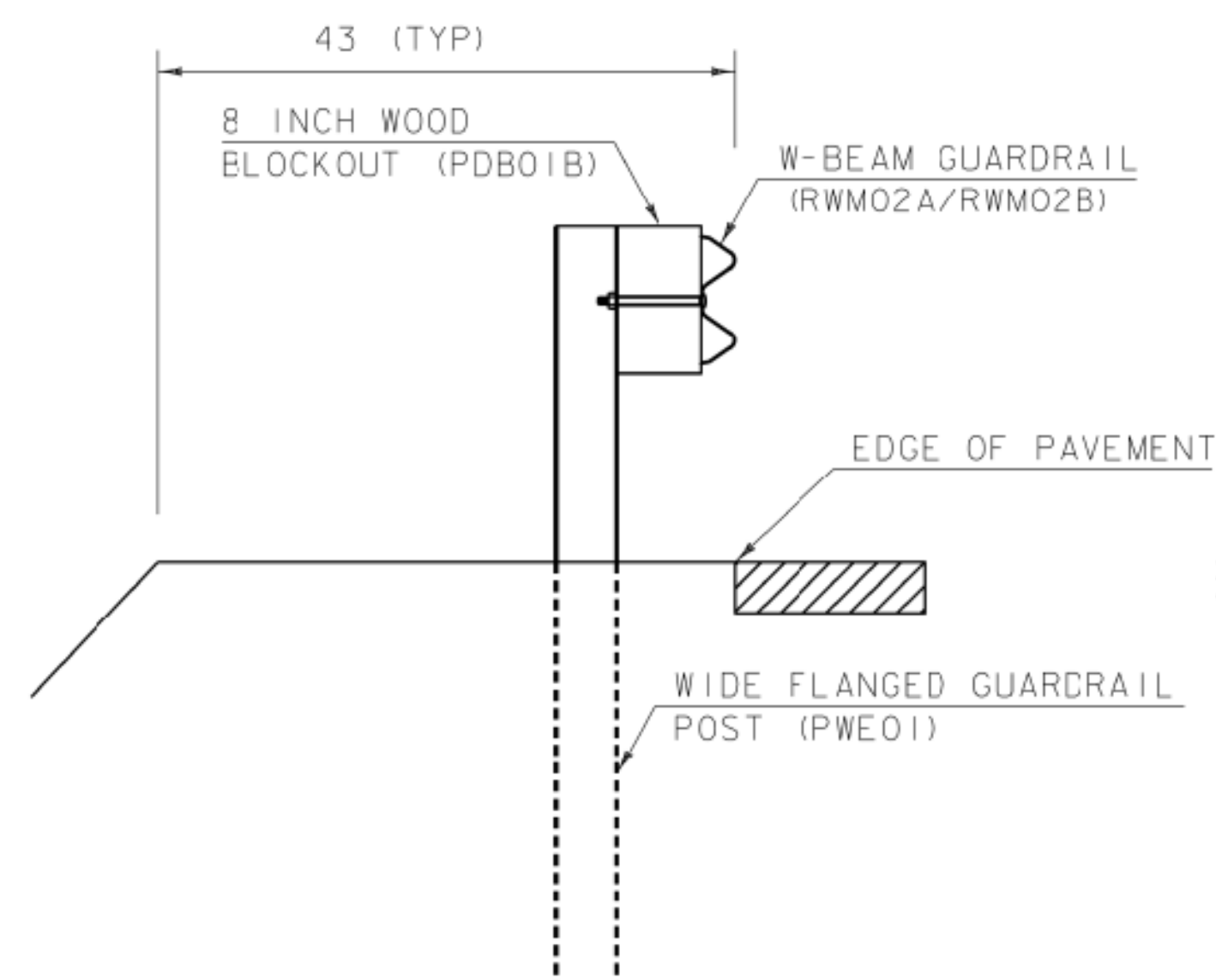
1. PLACEMENT OF THE WEARING COURSE SHALL INCLUDE THE SAFETY EDGE, UNLESS THE FOLLOWING APPLIES:
 - A. THE ADJACENT SLOPE IS STEEPER THAN THE SAFETY EDGE.
 - B. THE EDGE OF PAVEMENT BEING PLACED ABUTS BOUND MATERIAL.
 - C. VEHICLES ARE RESTRICTED FROM LEAVING THE PAVED SURFACE (EXAMPLE: GUARDRAIL).
2. THE SAFETY EDGE SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE SLOPE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
3. THE SAFETY EDGE SHALL NOT BE CONSIDERED PART OF THE PAVED SHOULDER.
4. THIS WORK SHALL BE INCIDENTAL TO THE RESPECTIVE BITUMINOUS CONCRETE PAVEMENT ITEM.

SAFETY EDGE DETAILS

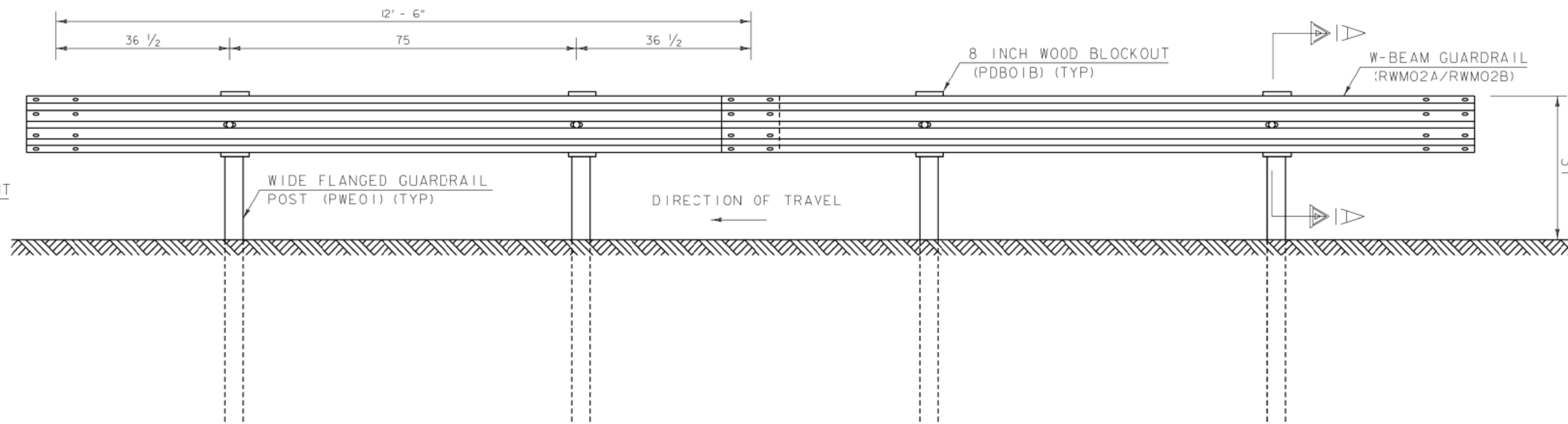
REV.	DATE	DESCRIPTION
0	MAR. 29, 2016	ORIGINAL APPROVAL
1	JAN. 5, 2018	ANNOTATION CORRECTIONS
OTHER DETAILS REQUIRED: NONE		
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN		



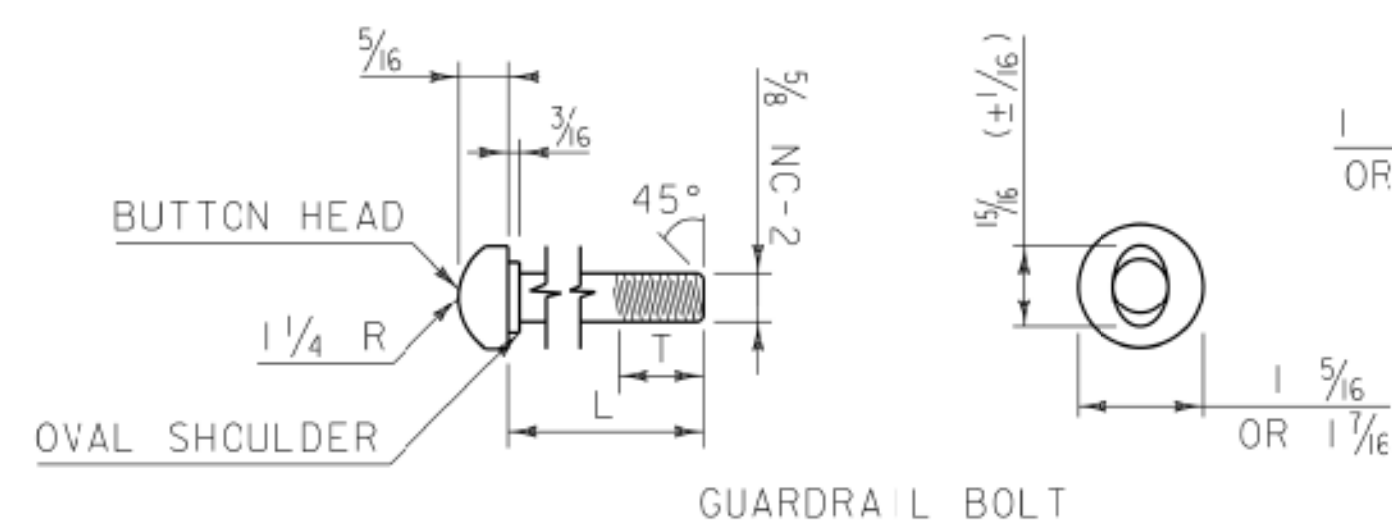
HIGHWAY SAFETY
& DESIGN DETAIL
HSD-400.01



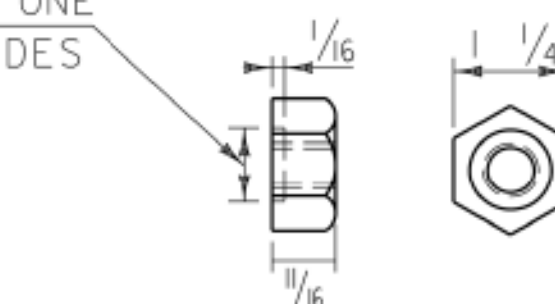
TYPICAL GUARDRAIL DETAIL
SECTION A-A



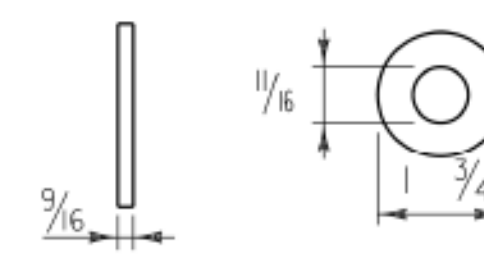
GUARDRAIL ELEVATION



1 IN. DIA. ONE
OR BOTH SIDES

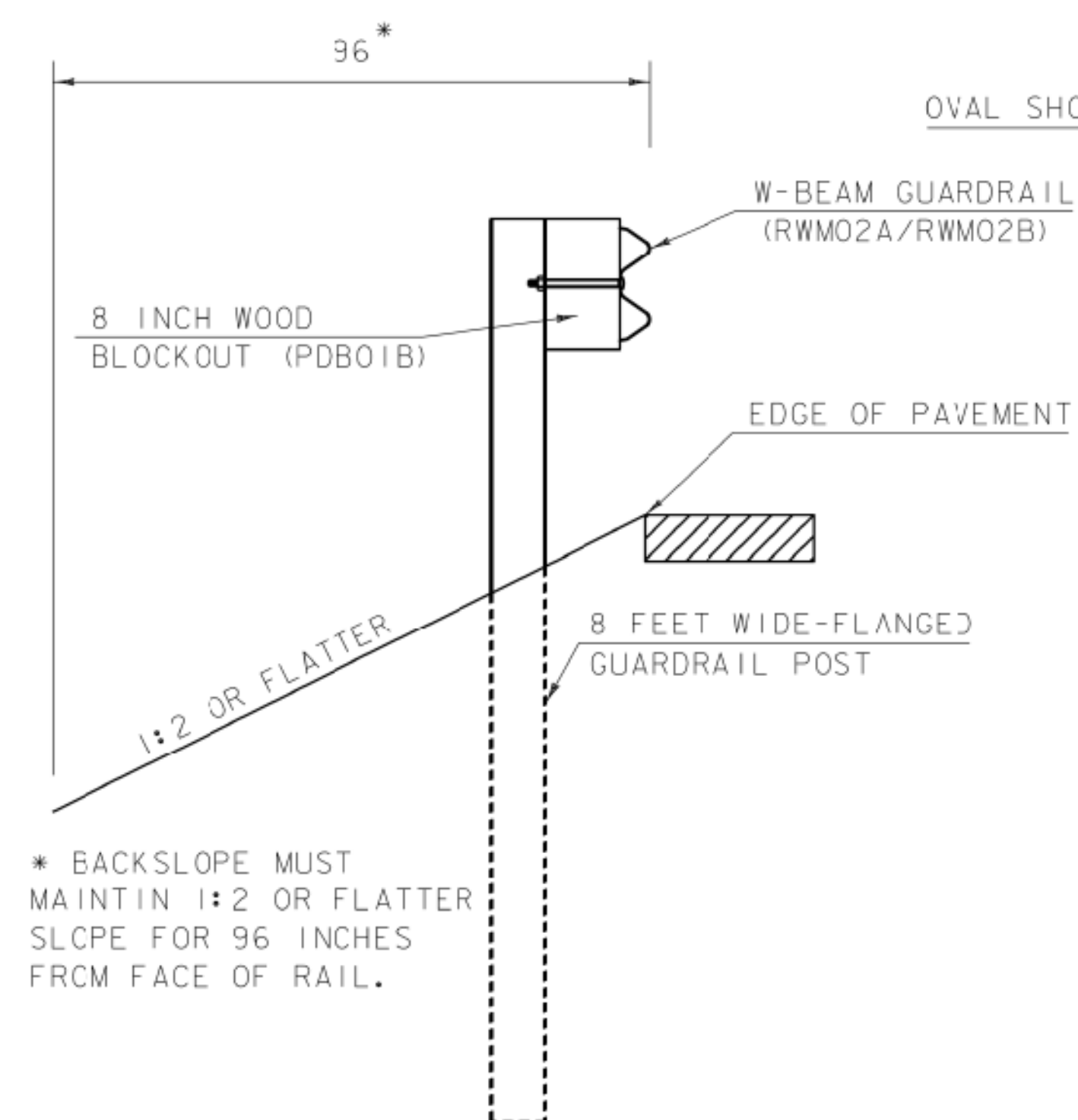


NOTE: WASHER IS USED UNDER RECESSED
NUT WHERE GUARDRAIL BOLT IS USED
WITH WOOD POSTS.

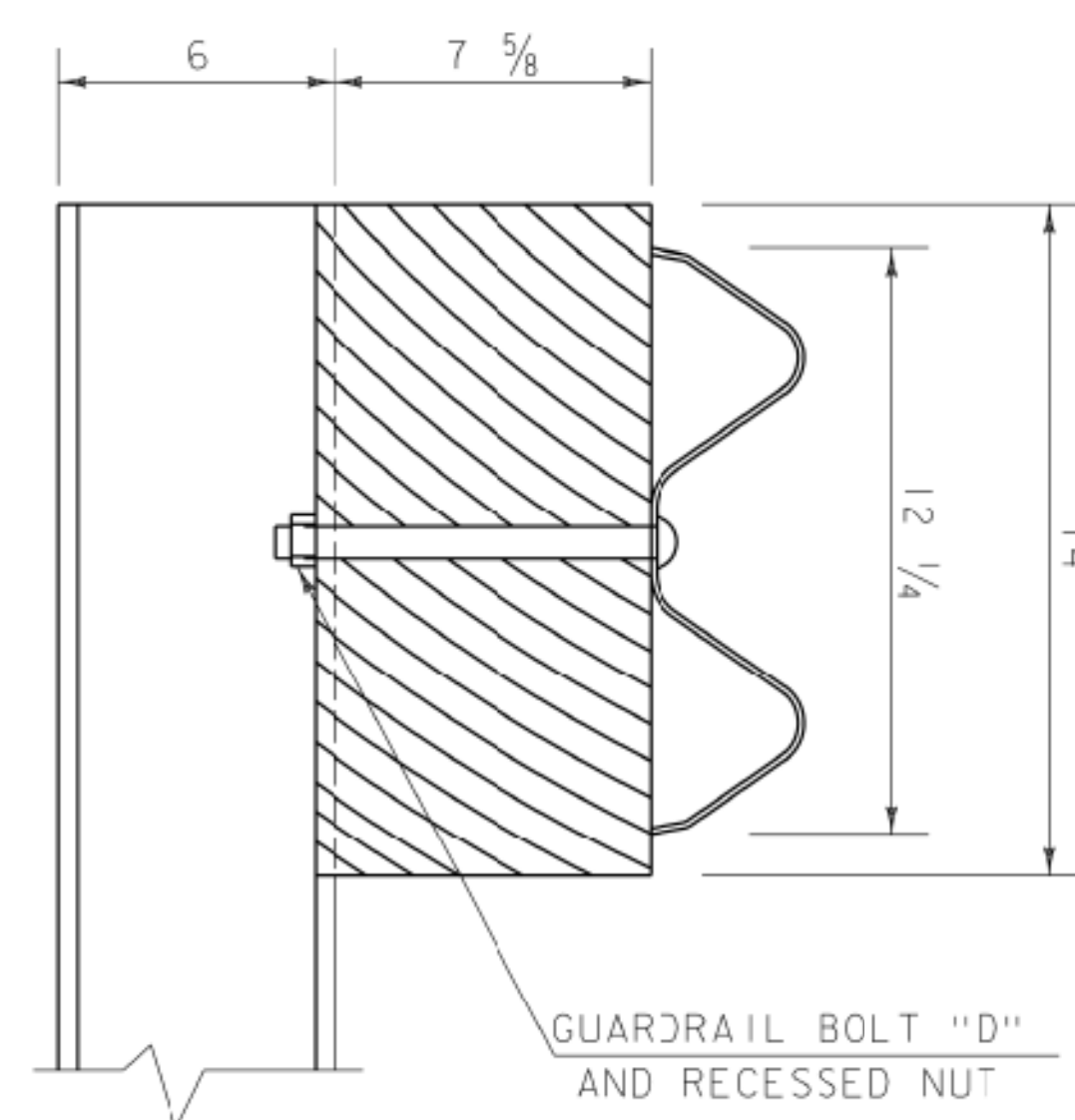


WASHER FOR 5/8" BOLTS
ARTBA F-13-73

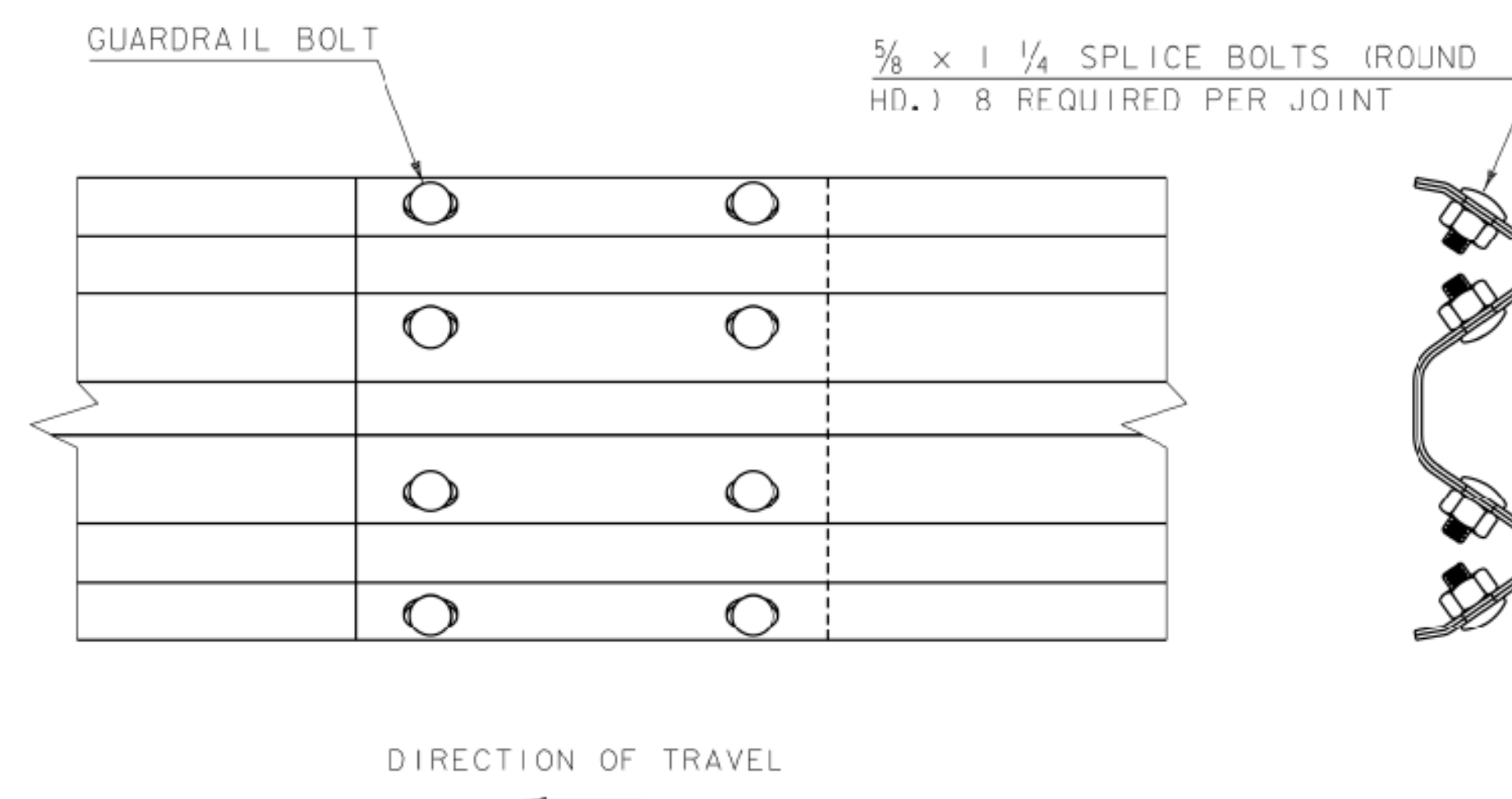
GUARDRAIL BOLTS				FASTENER USED IN	
BOLT DES.	ARTBA REF. NO.	L	T (MIN.)	STEEL POSTS	WOOD POSTS
"A"	F-3[1 1/4]-76	1 1/4"	1"	X	X
"C"	F-3[9 1/2]-76	9 1/2"	1 3/4"	X	
"D"	F-3[18]-76	18"	2 1/2"		X
"F"	F-3[25]-76	25"	2"		X



8 FEET POSTS GUARDRAIL DETAIL
SECTION A-A



POST ATTACHMENT DETAIL



SPLICE DETAIL

GENERAL NOTES

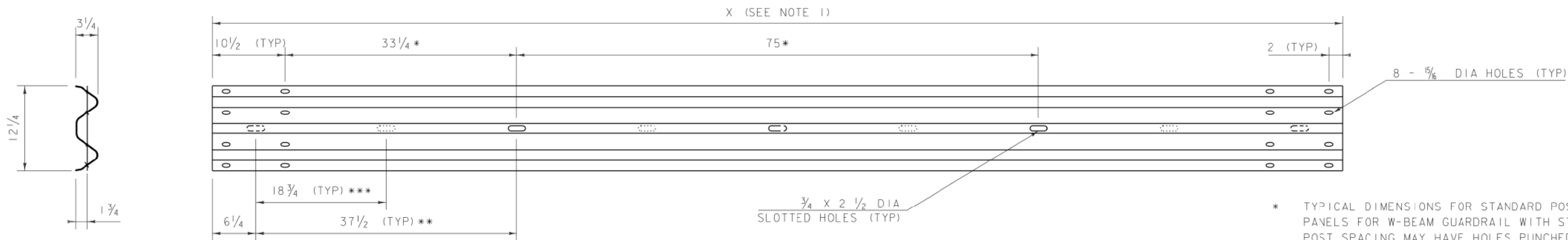
- DESIGNATIONS ARE AS IDENTIFIED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE" AS PUBLISHED BY THE "AMERICAN ASSOCIATION OF STATE AND HIGHWAY TRANSPORTATION OFFICIALS" (AASHTO), "ASSOCIATED GENERAL CONTRACTORS OF AMERICA" (AGC) AND THE "AMERICAN ROAD AND TRANSPORTATION BUILDERS ASSOCIATION" (ARTBA).
- MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 728 OF THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AS APPLICABLE.
- WHEN W-BEAM GUARDRAIL, 8 FEET POSTS IS SPECIFIED ON THE PLANS, WIDE FLANGED GUARDRAIL POST (PWE01) SHALL BE INCREASED FROM 72 INCHES TO 96 INCHES, SEE DETAIL HSD-621.03B.
- THE DYNAMIC DEFLECTION DISTANCE OF 57 INCHES FOR W BEAM GUARDRAIL SHALL BE MAINTAINED CLEAR OF OBSTACLES, TO BE MEASURED FROM THE BACK OF POST.
- FOR TEST LEVEL 3 APPLICATIONS, AS APPROVED IN THE FEDERAL HIGHWAY ADMINISTRATION'S ELIGIBILITY LETTER, HSST/B-240, DATED NOVEMBER 8, 2012.
- ALL DIMENSION IN INCHES, UNLESS OTHERWISE NOTED.

REV.	DATE	DESCRIPTION
--	APR. 17, 2019	ORIGINAL APPROVAL
OTHER DETAILS REQUIRED: 621.07B		
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN		

MIDWEST GUARDRAIL SYSTEM (MGS)



HIGHWAY SAFETY
& DESIGN DETAIL
HSD-621.07A



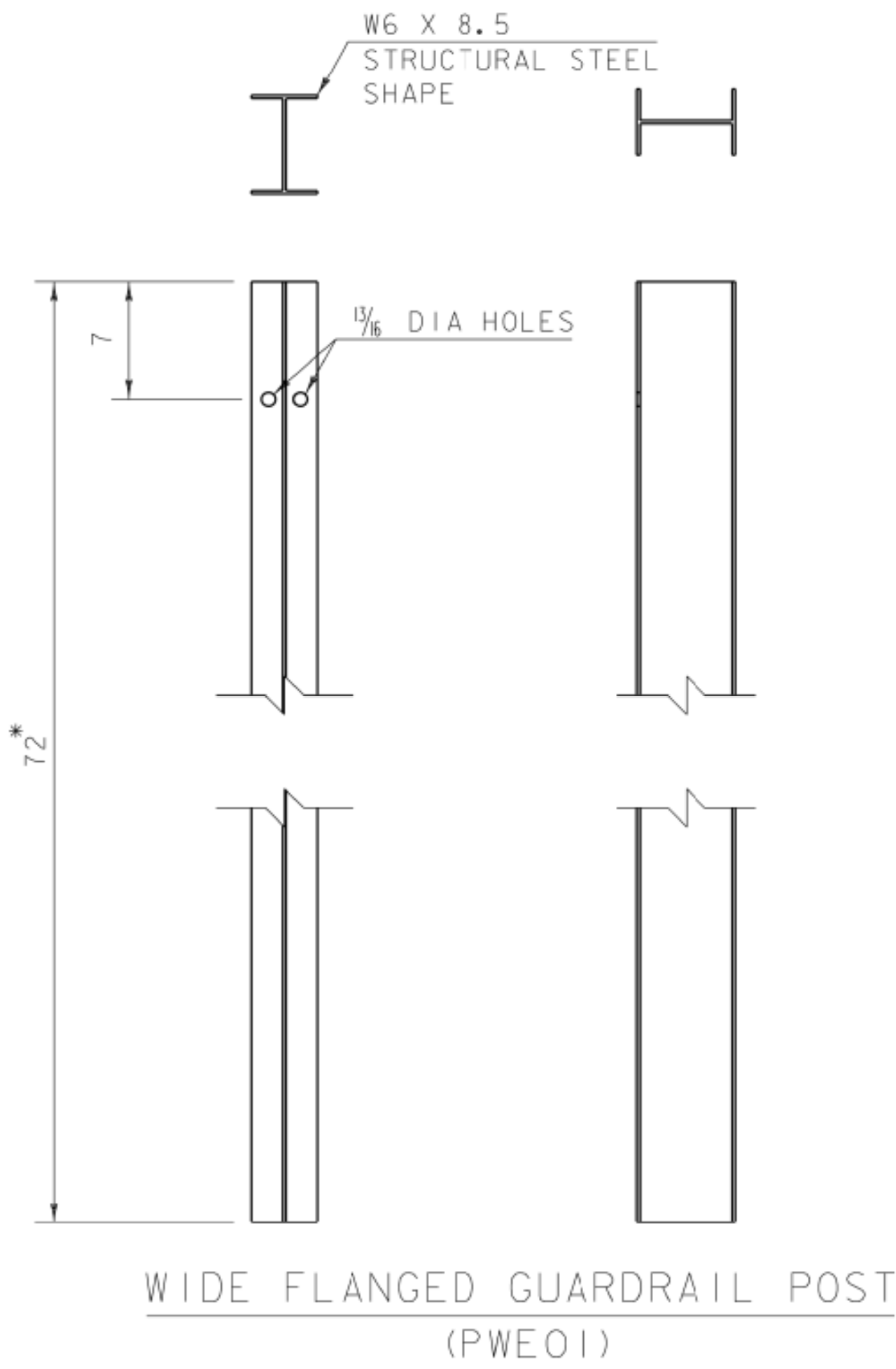
W-BEAM GUARDRAIL
(RWM02A/ RWM02B)

- * TYPICAL DIMENSIONS FOR STANDARD POST SPACING. PANELS FOR W-BEAM GUARDRAIL WITH STANDARD POST SPACING MAY HAVE HOLES PUNCHED AT ONE-HALF POST SPACING FOR INVENTORY PURPOSES.
- ** TYPICAL DIMENSION FOR ONE-HALF POST SPACING.
- *** TYPICAL DIMENSION FOR ONE-QUARTER POST SPACING.

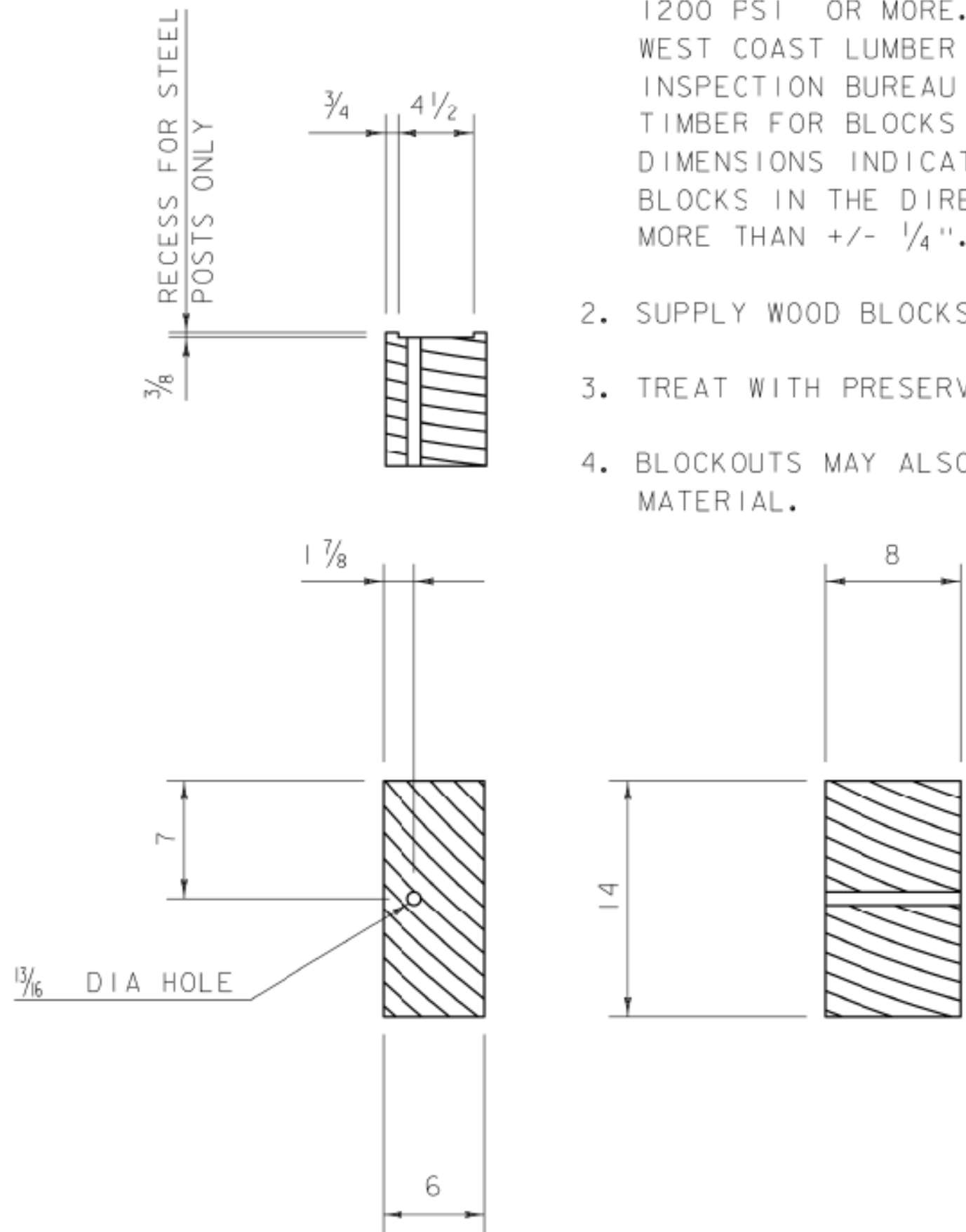
1. TANGENT W-BEAM RAIL LENGTHS SHALL BE 13'-6 1/2" OR 26'-1/2", UNLESS OTHERWISE SPECIFIED.
2. W-BEAM THICKNESS SHALL BE 1/8" FOR STANDARD W-BEAM GUARDRAIL (RWM02A) AND 3/4" FOR HEAVY DUTY GUARDRAIL (RWM02B).

NOTES:

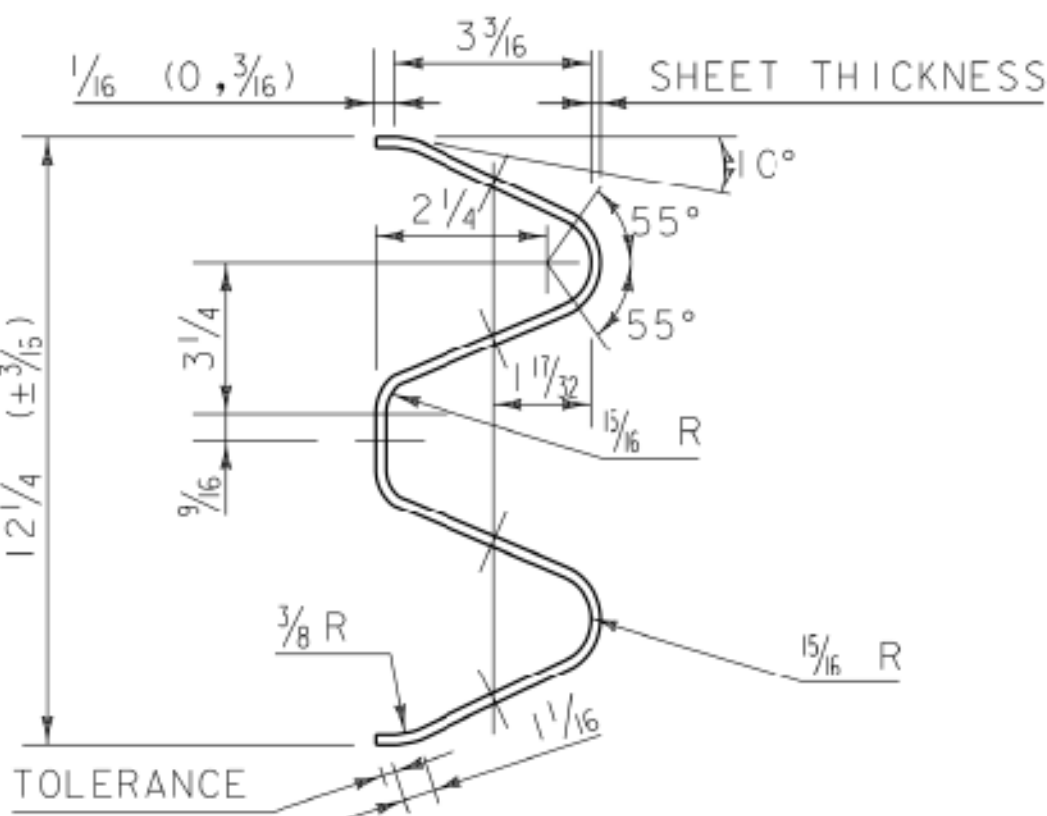
1. BLOCKS SHALL BE MADE OF TIMBER WITH A STRESS GRADE OF 1200 PSI OR MORE. TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU OR OTHER APPROPRIATE ASSOCIATION. TIMBER FOR BLOCKS SHALL BE ROUGH SAWN (UNPLANED) WITH DIMENSIONS INDICATED. THE SIZE TOLERANCE OF ROUGH SAWN BLOCKS IN THE DIRECTION OF THE BOLT HOLES SHALL BE NOT MORE THAN +/- 1/4".
2. SUPPLY WOOD BLOCKS PER AASHTO M 168.
3. TREAT WITH PRESERVATIVE PER AASHTO M 133.
4. BLOCKOUTS MAY ALSO BE MADE OF APPROVED ALTERNATIVE MATERIAL.



WIDE FLANGED GUARDRAIL POST
(PWE01)



8 INCH WOOD BLOCKOUT
(PDB01B)



ARTBA RE-3 (205'-3"=12'-6" CLASS A, TYPE 1)-73
TYPICAL GUARDRAIL SECTION

GENERAL NOTES

1. DESIGNATIONS ARE AS IDENTIFIED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE" AS PUBLISHED BY THE "AMERICAN ASSOCIATION OF STATE AND HIGHWAY TRANSPORTATION OFFICIALS" (AASHTO), "ASSOCIATED GENERAL CONTRACTORS OF AMERICA" (AGC) AND THE "AMERICAN ROAD AND TRANSPORTATION BUILDERS ASSOCIATION" (ARTBA).
2. MATERIALS SHALL BE IN ACCORDANCE WITH SECT ON 728 OF THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AS APPLICABLE.
3. ALL DIMENSION IN INCHES, UNLESS OTHERWISE NOTED.

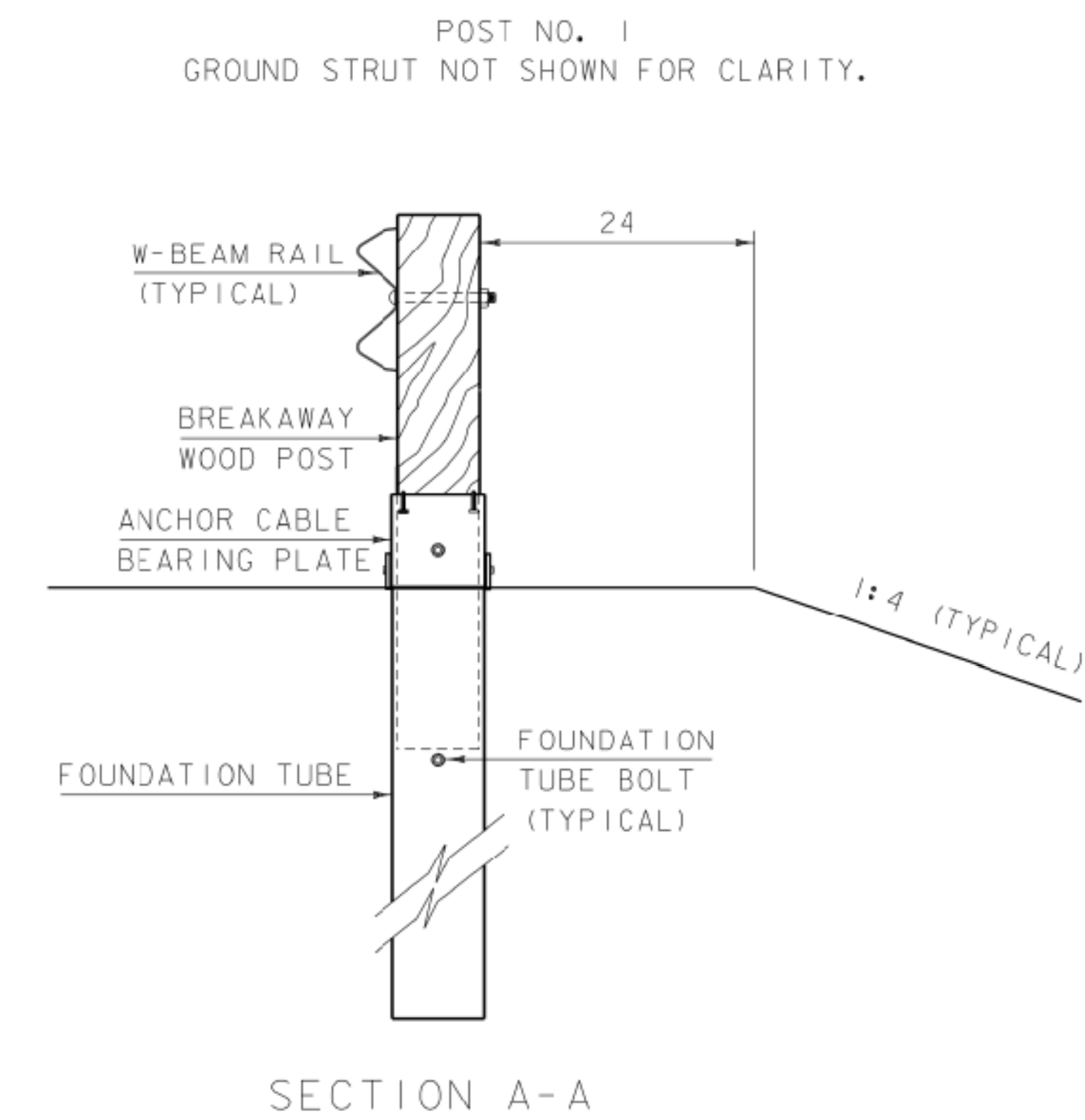
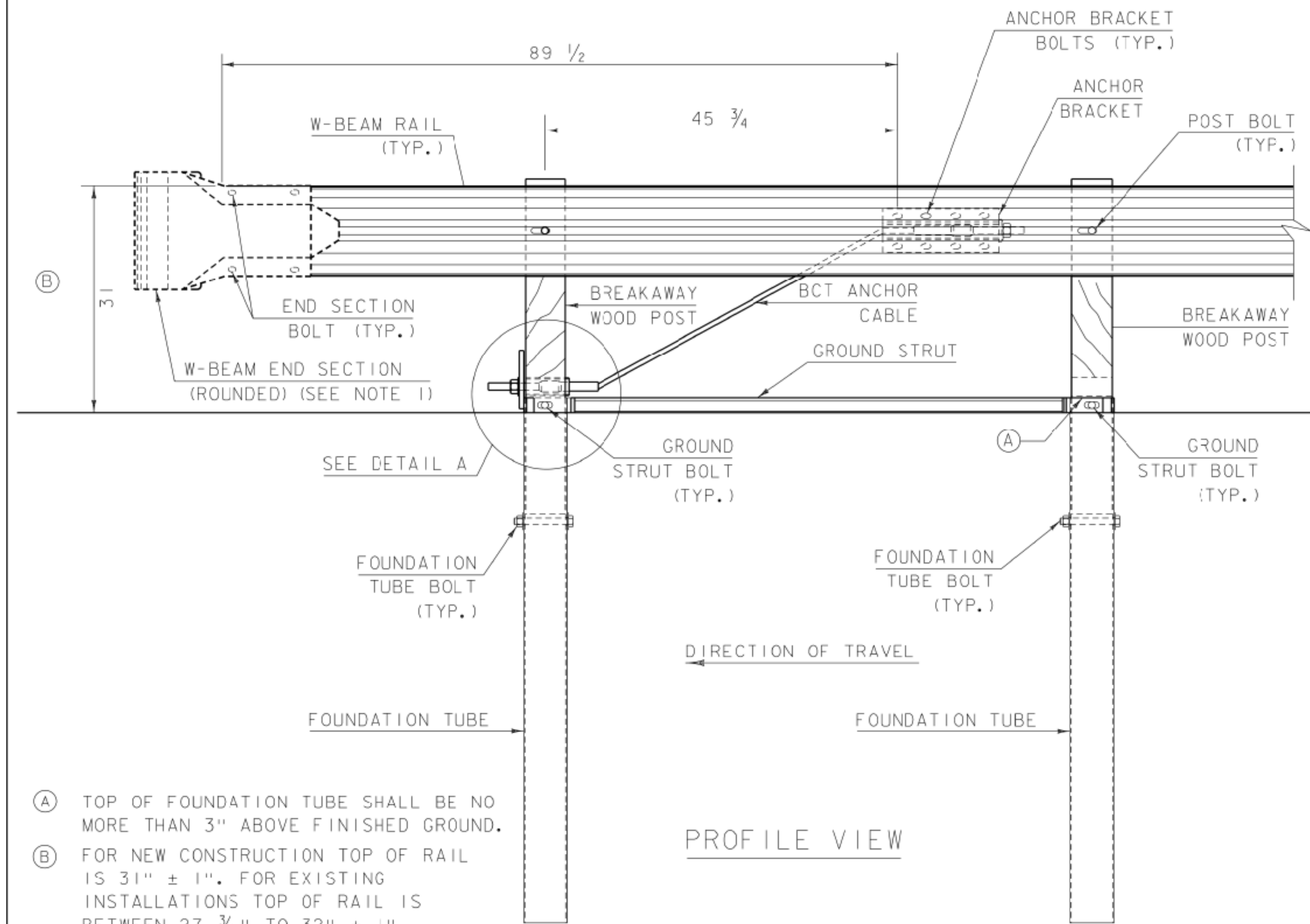
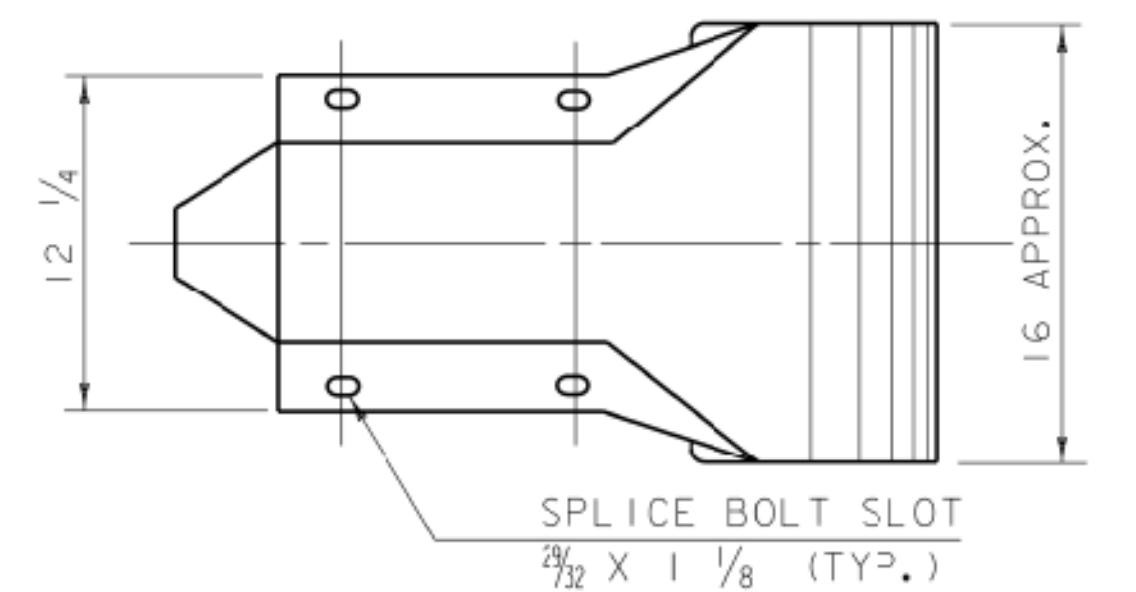
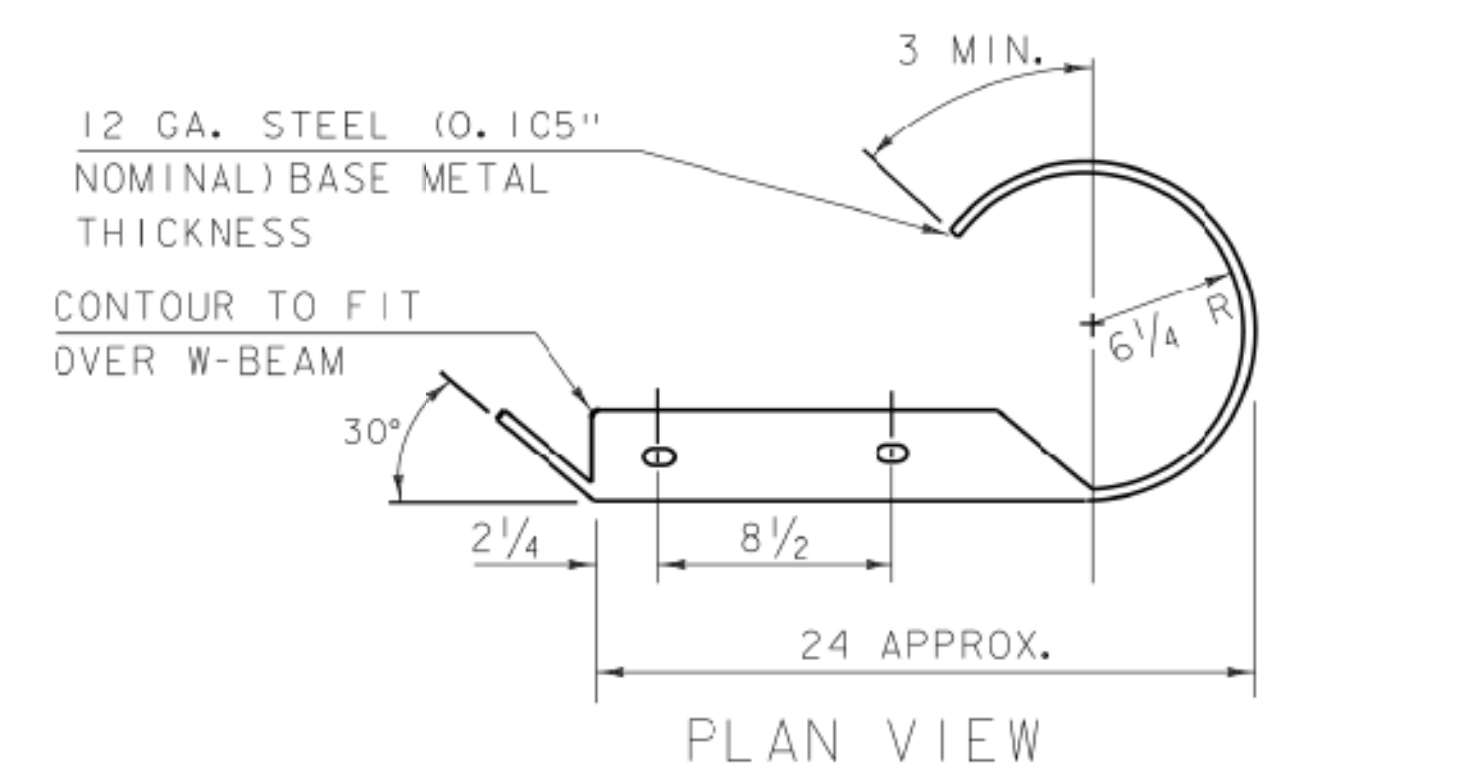
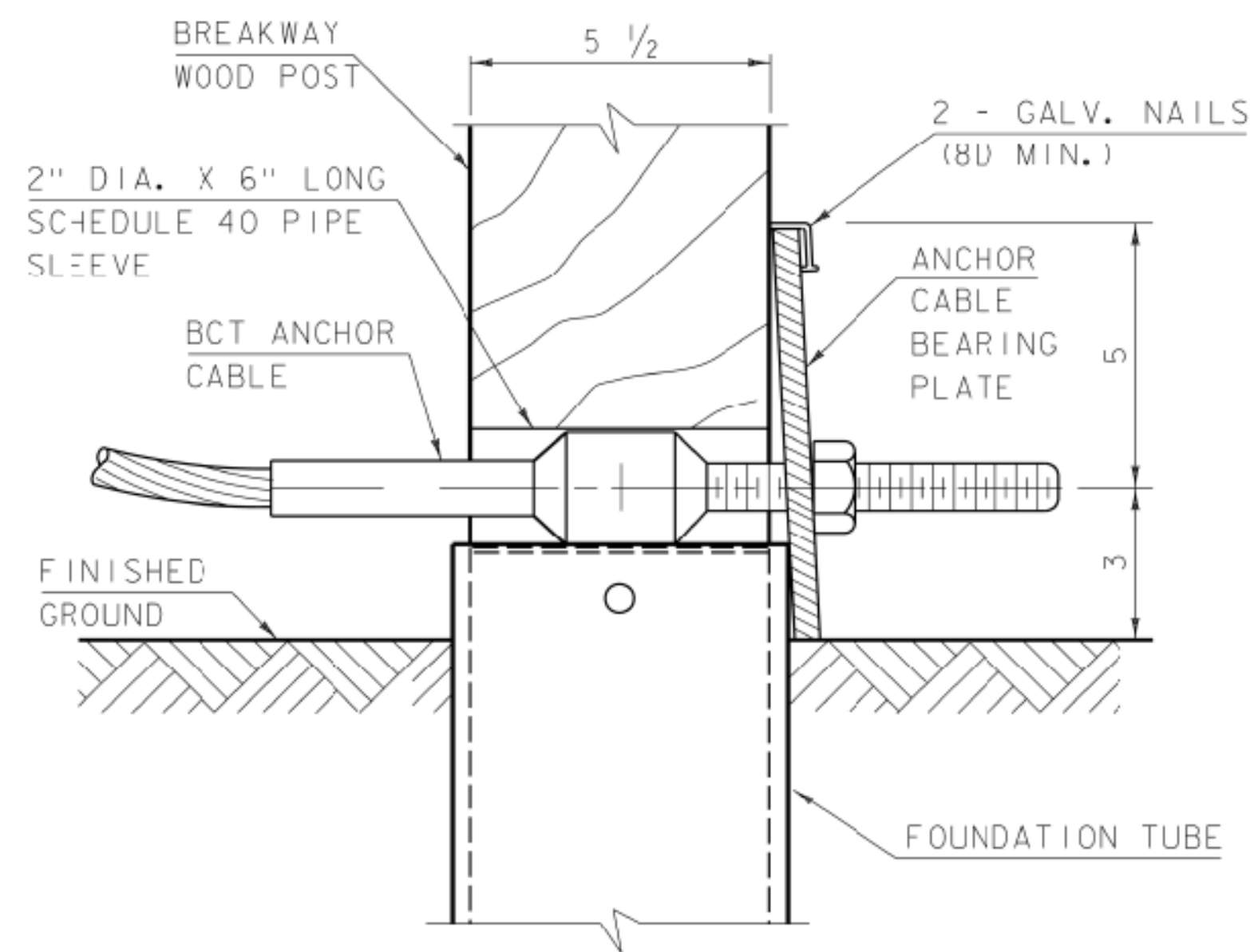
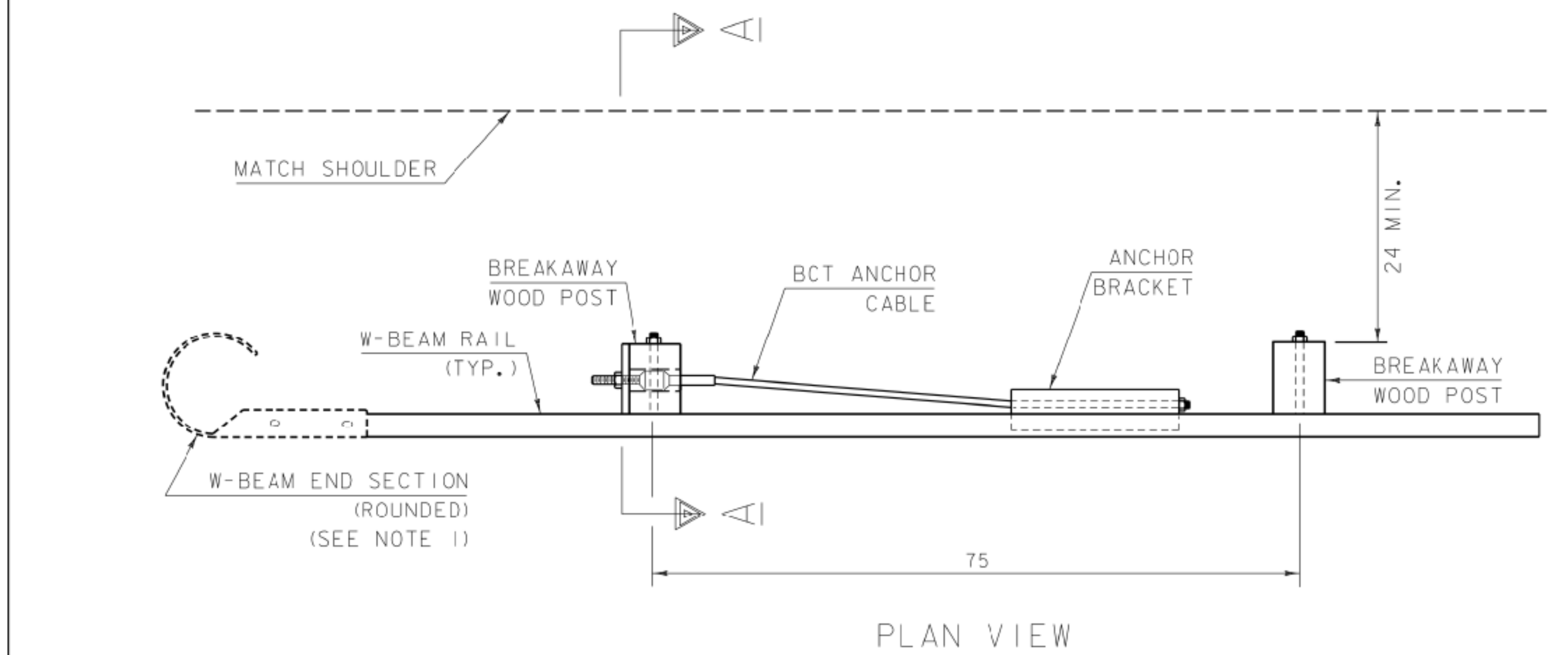
* POST LENGTH SHALL BE INCREASED TO 96 INCHES WHEN W BEAM GUARDRAIL, 8 FEET POSTS IS SPECIFIED.

REV.	DATE	DESCRIPTION
--	APR. 17, 2019	ORIGINAL APPROVAL
OTHER DETAILS REQUIRED:		NONE
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN		

W-BEAM GUARDRAIL COMPONENTS



HIGHWAY SAFETY
& DESIGN DETAIL
HSD-621.07B



DETAIL A

POST NO. 1
GROUND STRUT NOT SHOWN FOR CLARITY.

SECTION A-A

PROFILE VIEW

W-BEAM END SECTION (ROUNDED)

GENERAL NOTES

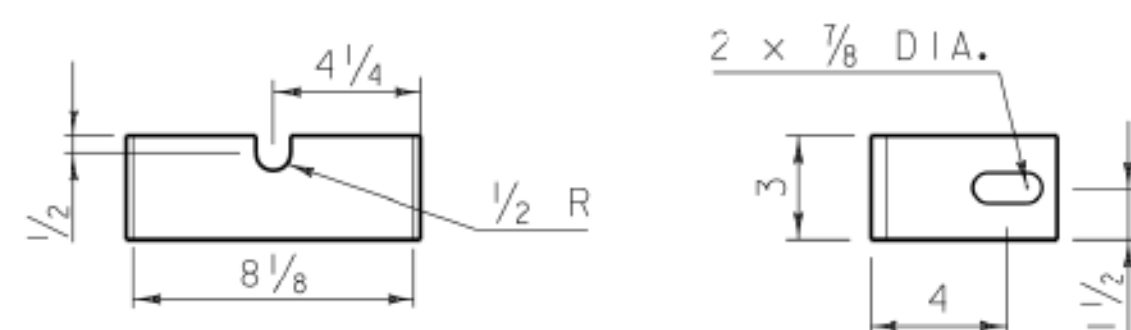
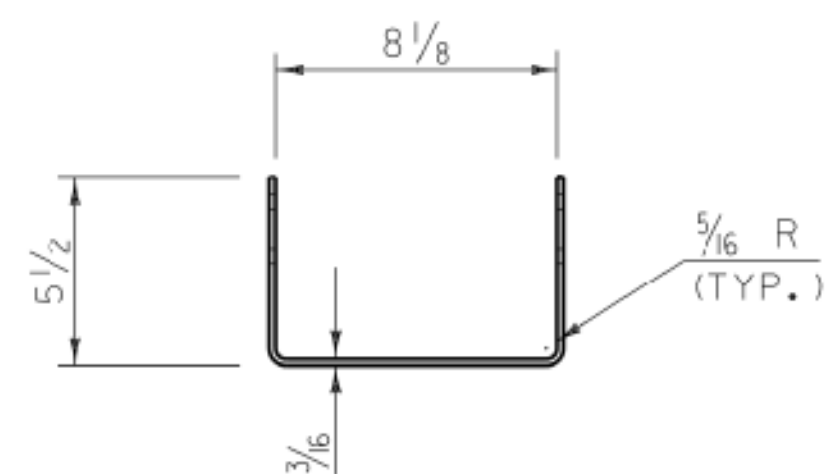
1. WHEN AN ANCHOR IS USED IN THE MIDDLE OF A GUARDRAIL RUN A STANDARD W-BEAM MID-SPLICE CONNECTION SHALL BE UTILIZED.
2. END SECTION SHALL ONLY BE INSTALLED AS TRAILING END ON ONE-WAY TRAFFIC ROADS.
3. W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.
4. END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.
5. FOUNDATION TUBE BOLTS ARE 7/8" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 7/8" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.
6. ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A 5/8" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 5/8" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.
7. W-BEAM END SECTION (ROUNDED) AND W-BEAM RAIL SHALL BE PAID FOR UNDER ITEM 621.20 STEEL BEAM GUARDRAIL GALVANIZED. ALL OTHER COMPONENTS SHALL BE PAID FOR UNDER ITEM 621.60 ANCHOR FOR STEEL BEAM RAIL.
8. ALL MEASUREMENTS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

REV.	DATE	DESCRIPTION
--	APR. 17, 2019	ORIGINAL APPROVAL
OTHER DETAILS REQUIRED: HSD-621.07D, HSD-621.07E		
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN		

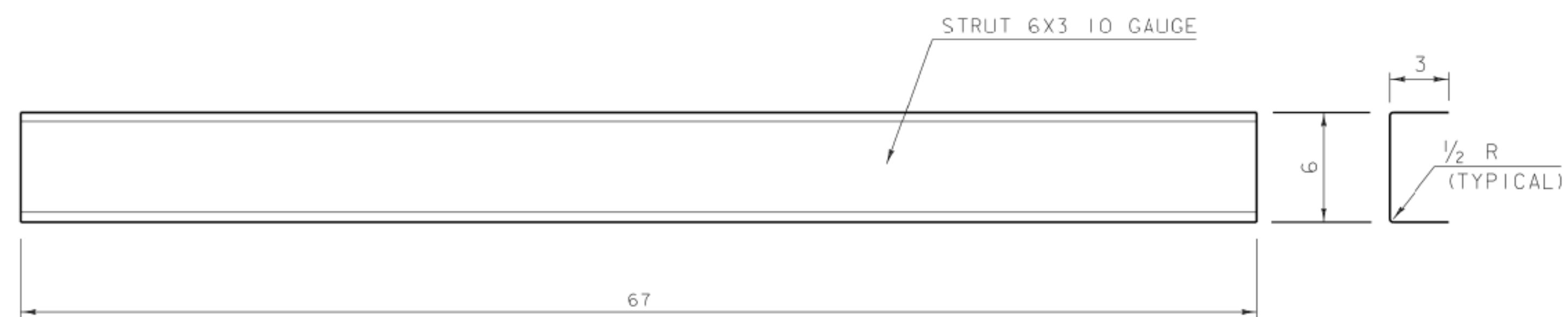
MIDWEST GUARDRAIL SYSTEM (MGS) ANCHOR



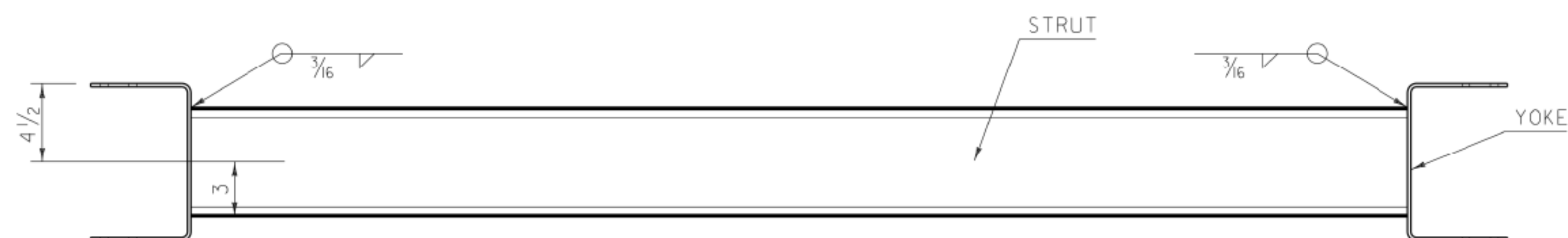
HIGHWAY SAFETY
& DESIGN DETAIL
HSD-621.07C



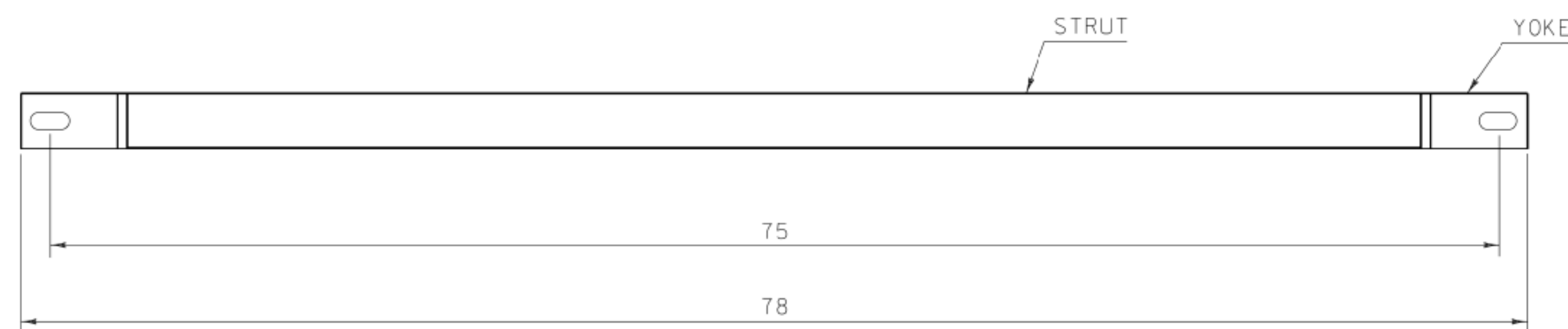
YOKE DETAIL



STRUT DETAIL

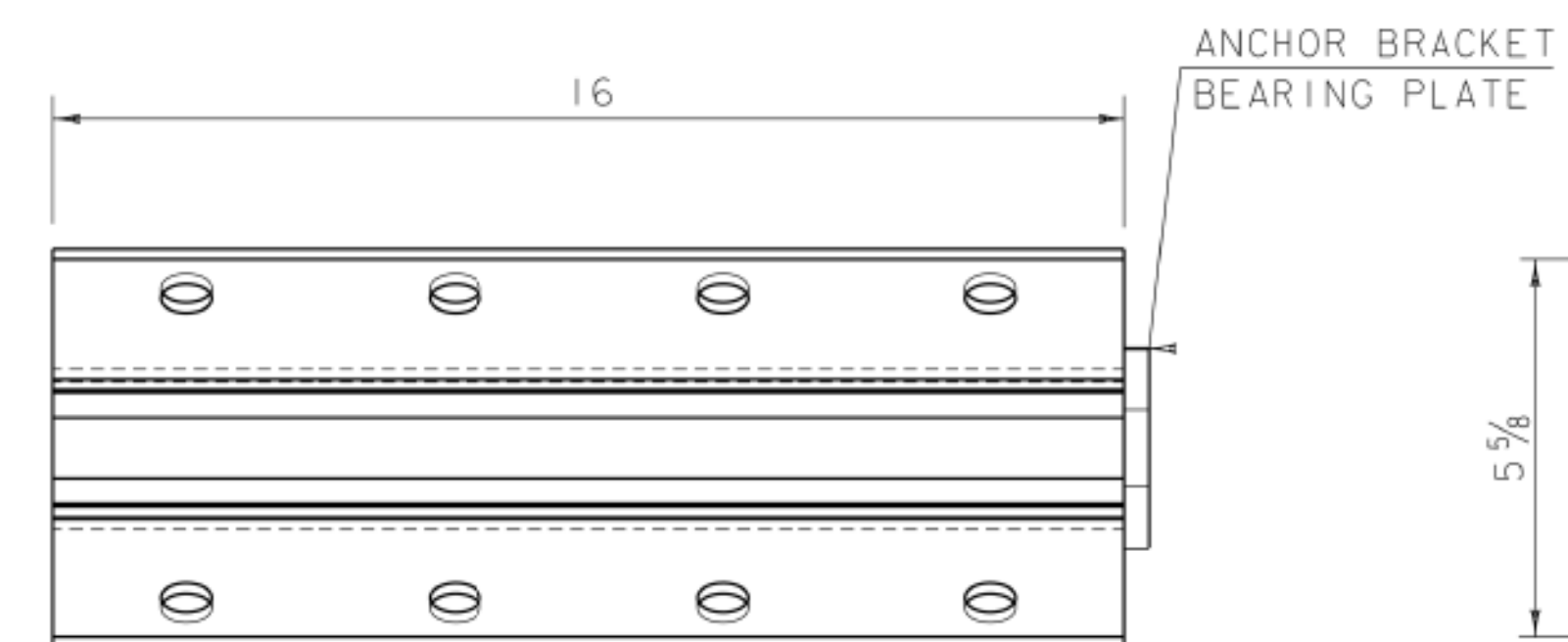
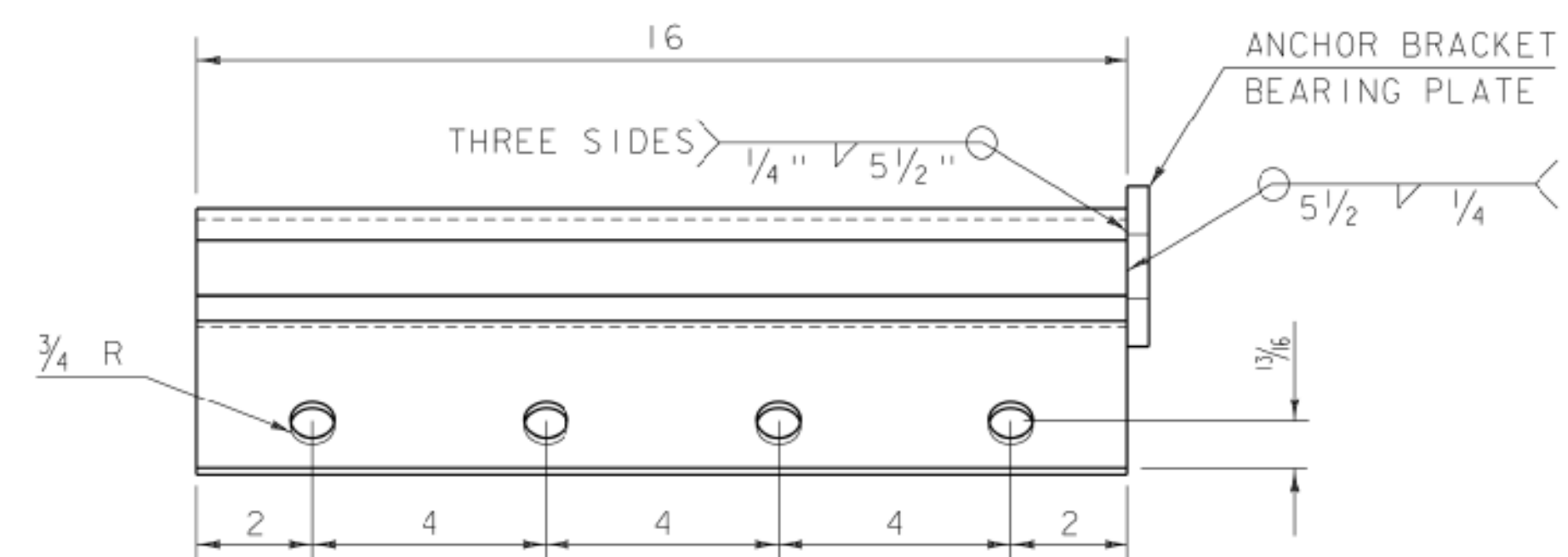


PLAN VIEW

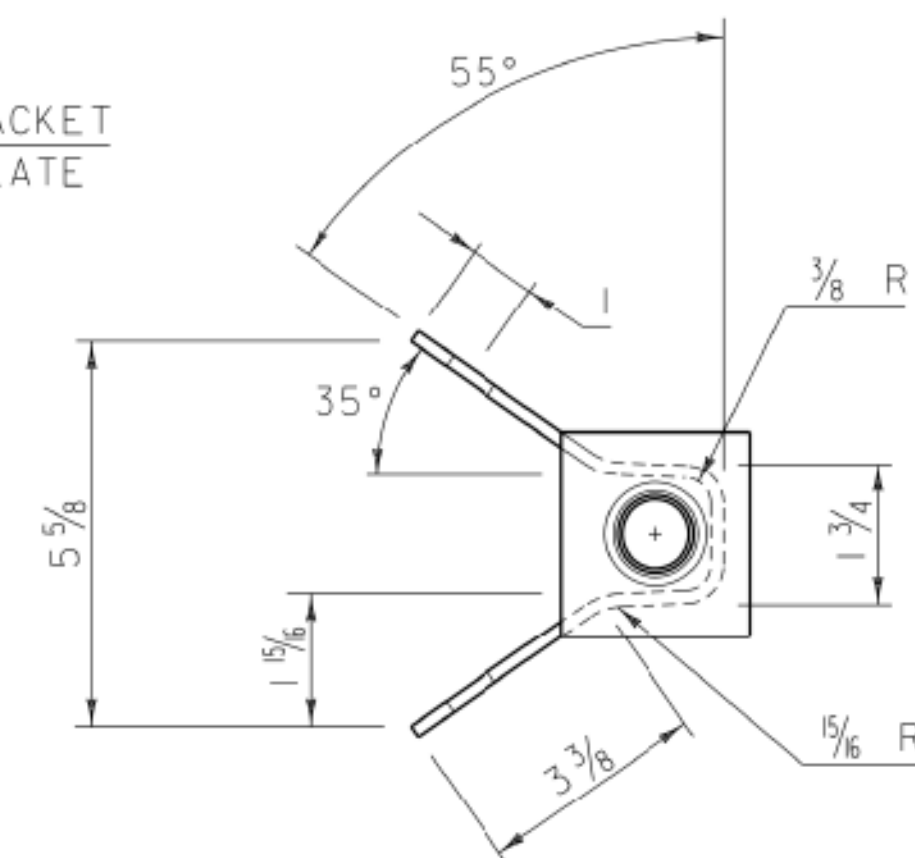


PROFILE VIEW

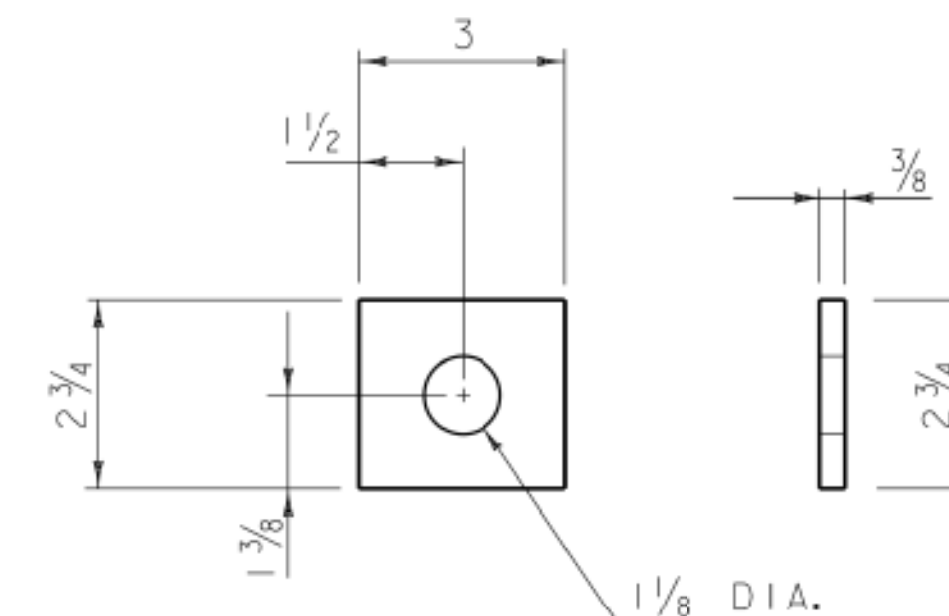
GROUND STRUT DETAIL



ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE



GENERAL NOTES

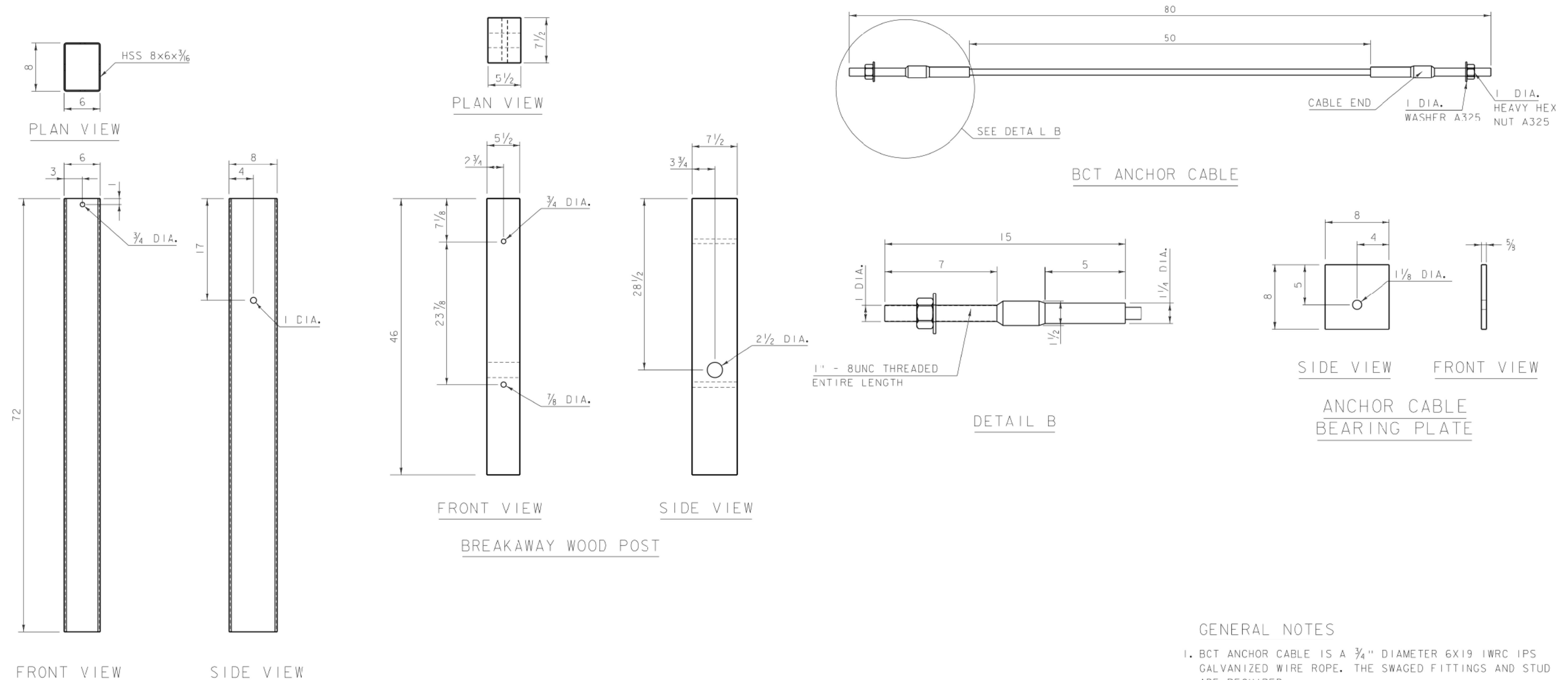
1. ALL MEASUREMENTS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

REV.	DATE	DESCRIPTION
--	APR. 17, 2019	ORIGINAL APPROVAL
OTHER DETAILS REQUIRED: HSD-621.07C, HSD-621.07E		
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN		

MIDWEST GUARDRAIL SYSTEM (MGS) ANCHOR COMPONENTS



HIGHWAY SAFETY
& DESIGN DETAIL
HSD-621.07D



GENERAL NOTES

1. BCT ANCHOR CABLE IS A 3/4" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED.
2. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123.
3. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5.
4. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB.
5. WIRE ROPE IS TO BE TIGHT.
6. ALL MEASUREMENTS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

REV.	DATE	DESCRIPTION
--	APR. 17, 2019	ORIGINAL APPROVAL
OTHER DETAILS REQUIRED: HSD-621.07C, HSD-621.07D		
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN		

MIDWEST GUARDRAIL SYSTEM (MGS)
ANCHOR COMPONENTS



HIGHWAY SAFETY
& DESIGN DETAIL
HSD-621.07E