



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**Pottawattamie COUNTY**  
Bridge Replacement  
Stream 0.9 mi S of Co Rd G30

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



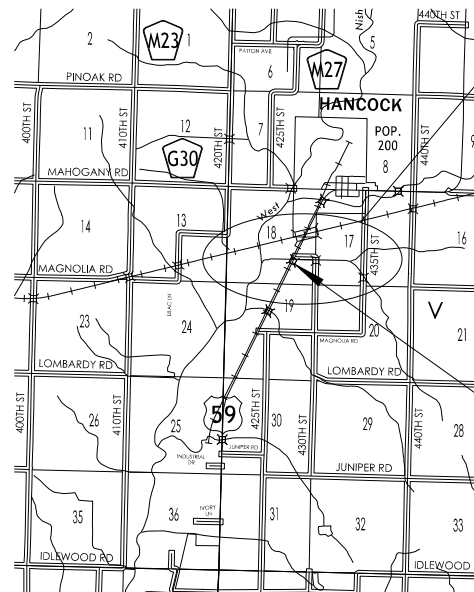
REVISIONS

TOTAL

PROJECT IDENTIFICATION NUMBER	21-78-059-030
PROJECT NUMBER	BRF-059-3(52)--38-78
R.O.W. PROJECT NUMBER	NHSN-059-3(53)--2R-78

INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
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* D.2	US 59
<b>G Sheets</b>	<b>Survey Sheets</b>
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G.	Horizontal Control Tab. & Super for all Alignments
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
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* J.1	Staging Notes Stage
* J.2	Traffic Control & Staging Legend & Symbol Info. Sheet
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* W.1 - 13	US 59
	* Color Plan Sheets

PROJECT LOCATION



FHWA 43390

DESIGN DATA RURAL			
2026	AADT	1,800	V.P.D.
2046	AADT	1,900	V.P.D.
20 -	DHV	-	V.P.H.
	TRUCKS	21	%
	Total Design ESALs	-	

INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	X	Primary Signature Block	X
X	X	X	X

**PRELIMINARY PLANS**

Subject to change by final design.

**D3 PLAN - Date: 12-20-23**

**Paved Shoulder at Guardrail**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at mainline spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P_Guard_04-21-20		
STATION TO STATION	(P)	Feet
234+10.13	235+00.67	Vari.
237+80.13	238+85.07	Vari.

**Paved Shoulder**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at mainline spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P Modified		
STATION TO STATION	(P)	Feet
232+75.00	234+10.13	8
238+85.07	240+10.00	8

**Paved Shoulder at Guardrail**

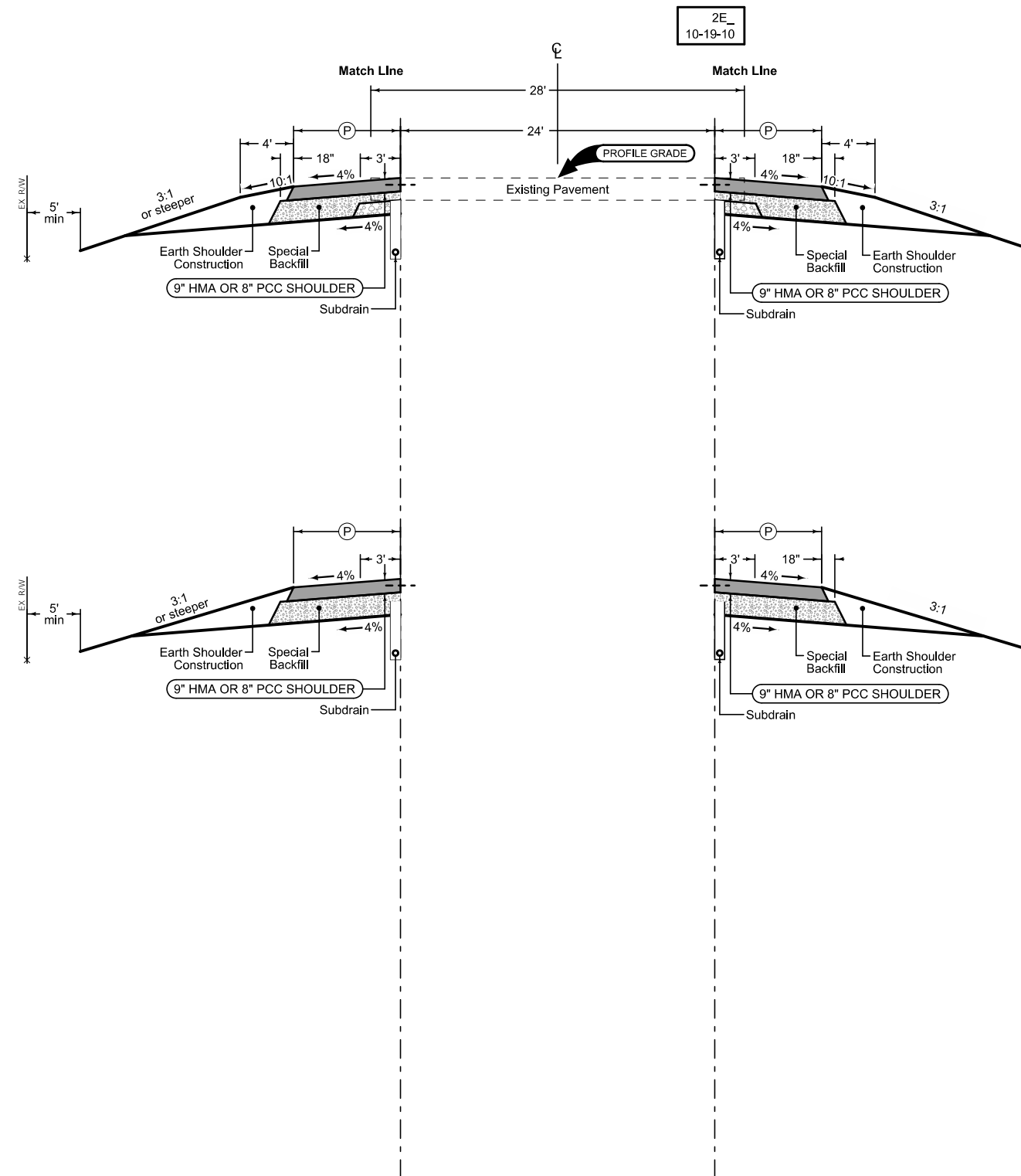
PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at mainline spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P_Guard_04-21-20		
STATION TO STATION	(P)	Feet
233+95.73	235+00.67	Vari.

**Paved Shoulder**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at mainline spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P Modified		
STATION TO STATION	(P)	Feet
232+75.00	233+95.73	8
237+80.13	240+10.00	8



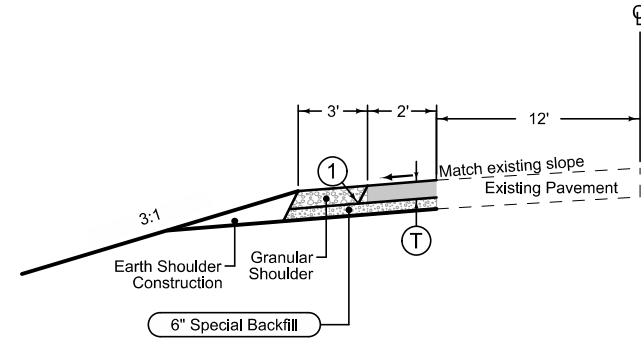
See Tab 100-24 or 100-25 for pavement quantities.  
 See Tab 112-9 for shoulder quantities.

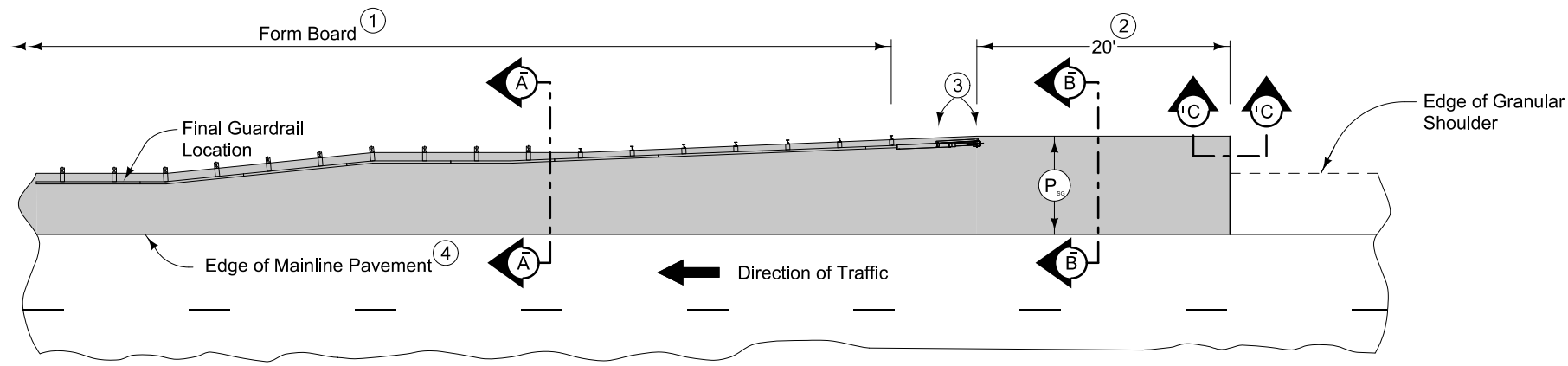
**US 59**

LOCATION		DIMENSIONS				6" Special Backfill	Earth Shoulder Construction
ROAD IDENTIFICATION	STATION TO STATION	HMA		PCC			
		Ⓟ Inches	Ⓞ Feet	Ⓟ Inches	Ⓞ Feet	Tons/Station	Station
		9		8			

Quantity calculations based on vertical pavement edges.  
Normal section shown may be modified appropriately in areas of super-elevated curves or other locations specifically designated by the Engineer.

① Possible HMA 1:1 slope





PLAN VIEW

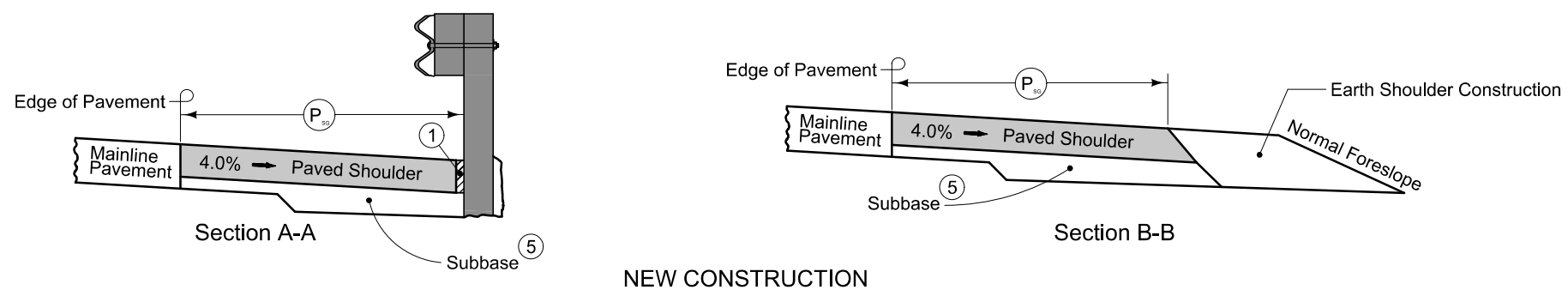
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

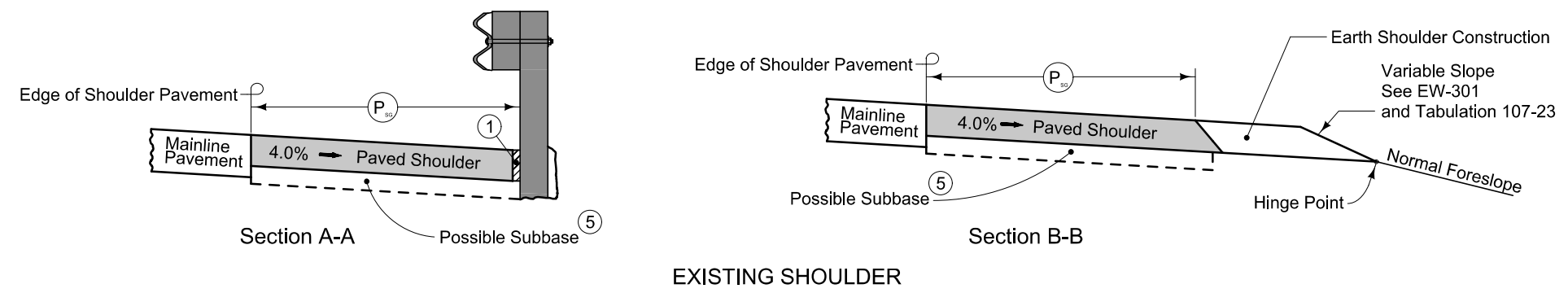
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

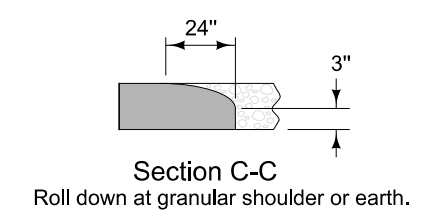
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT' joint (per PV-101) for PCC shoulder. 'B' joint (per PV-101) for HMA shoulder.
- ⑤ Refer to other details in the plan.



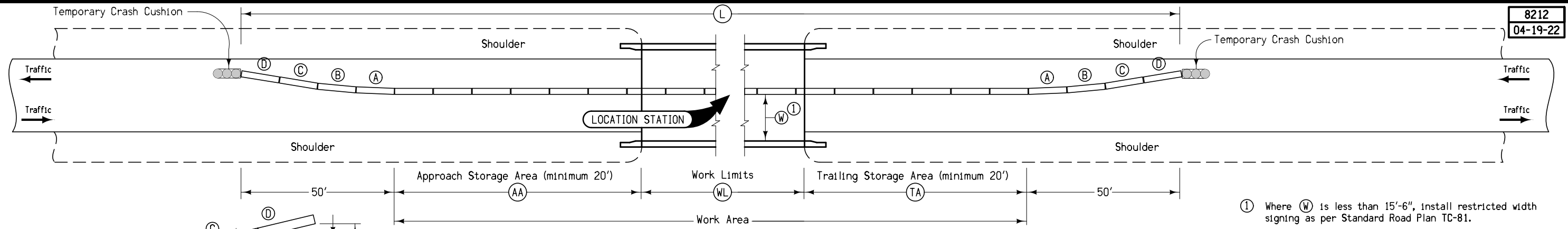
NEW CONSTRUCTION



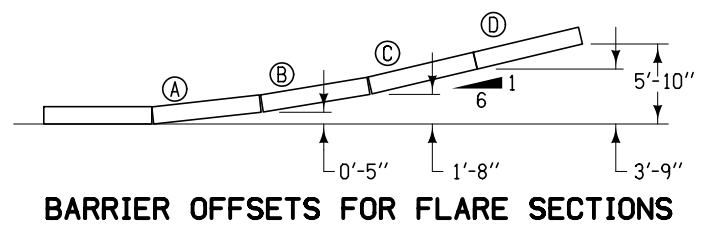
EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL  
(GRANULAR SHOULDER ADJACENT TO MAINLINE)



① Where (W) is less than 15'-6", install restricted width signing as per Standard Road Plan TC-81.



Station	Side	AA	WL	TA	L	Anchored	W <sup>①</sup>	Remarks
		Feet	Feet	Feet	Feet	X	Ft-Inches	
236+40.40								

**TEMPORARY CONCRETE BARRIER LAYOUT  
for Two-Way Traffic**

### SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- Water Hydrant (Rural)
- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- Sign
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- Electric Box

### UTILITY LEGEND

- FO F01D, Fiber Optic CenturyLink- Quality D
- T1 TL1D, Telephone Line Farmers Mutual Telephone- Quality D
- Lumen

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING		Design Color No.
Gray	(48)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Gray	(80)	Proposed Shoulder Paved Full Depth Shading
Gray	(64)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Gray	(90)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading

### PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.
Green	(2)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

- Reference Point
- Station
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

### RIGHT-OF-WAY LEGEND

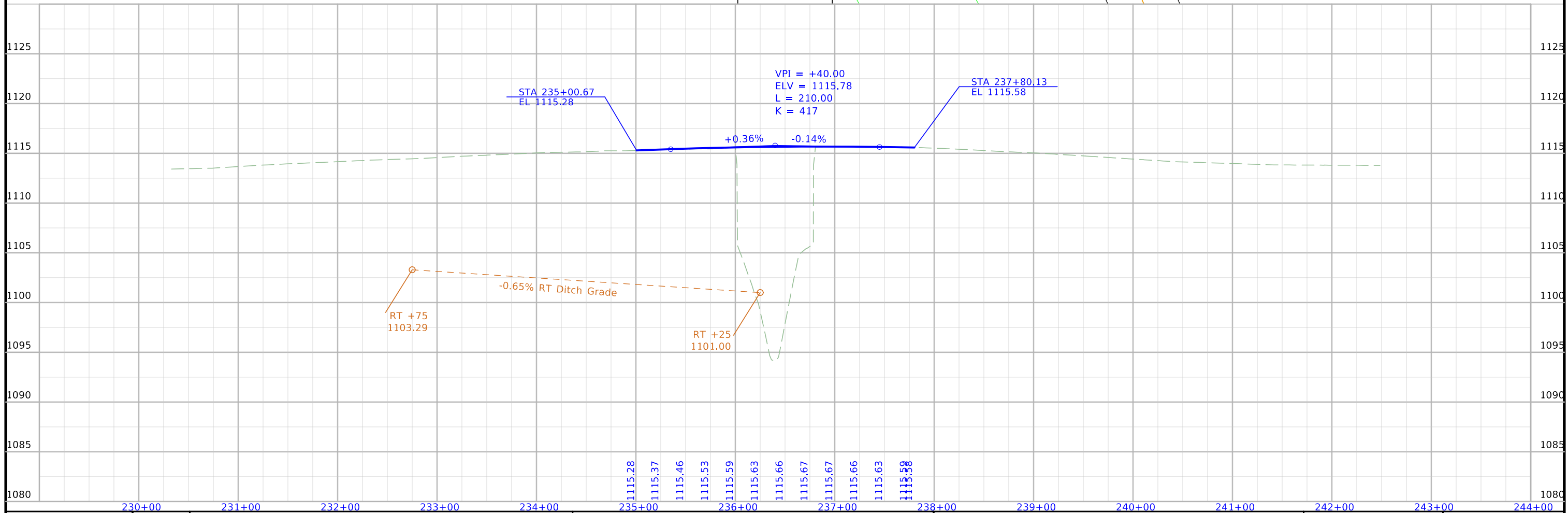
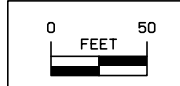
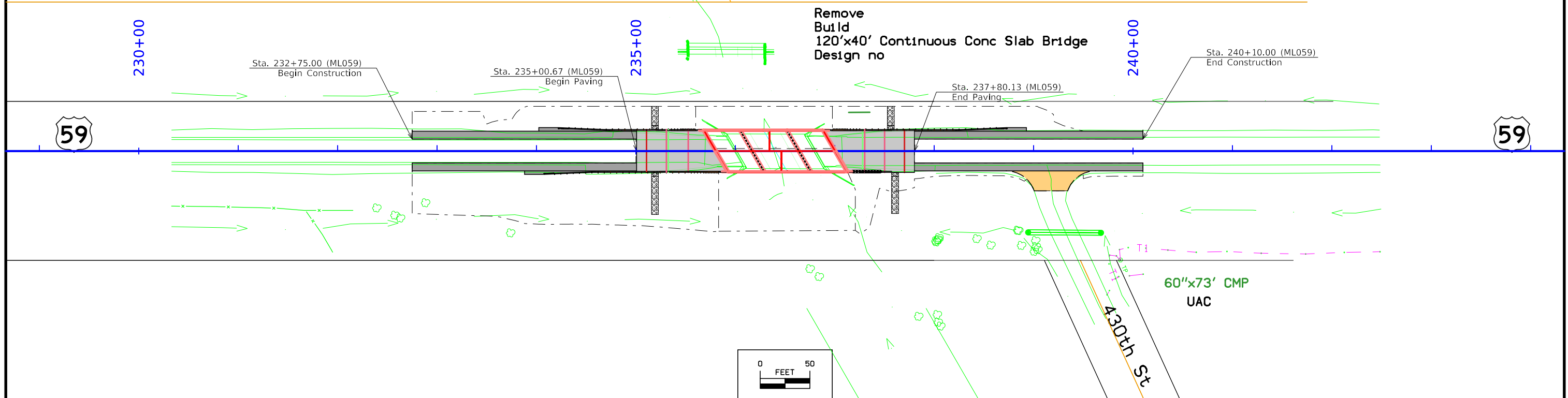
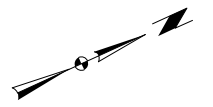
- Proposed Right-of-Way
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary)
- Easement
- Access Control
- Property Line

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)

Valley TWP.  
T-76N R-39W  
SEC. 18

Sta. 236+40.4  
80'x30' Continuous Conc Slab Bridge  
D.A.=2040ac R-F (As-Built)



FILE NO. 0726	ENGLISH	DESIGN TEAM Strum/Janus	Pottawattamie COUNTY	PROJECT NUMBER BRF-059-3(52)--38-78	SHEET NUMBER D.2
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Survey Information

**SURVEY INDEX**

**County: Pottawattamie**  
**PIN: 21-78-059-030**  
**Project Number: BRF-059-3(52)--38-78**  
**Location: Stream 0.9mi S of Co Rd G30**  
**Type of Work: Bridge Unspecified**  
**Project Directory: 7805903021**

**Survey Personnel**

Paul Harry – Survey Party Chief  
Daniel Duncan – Assistant Survey Party Chief

**Date(s) of Survey**

Begin Date 01/31/2023  
End Date 03/30/2023

**General Information**

This survey is for US Hwy 59 bridge over drainage ditch 0.9mi south of county road G30 in Pottawattamie County. This project is a Full Field DTM survey.

**Utility Information**

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

**Project Control**

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. Three five-minute observations were taken with a minimum two-hour time span between and used in a weighted average to obtain final coordinate values. For additional details of the control survey, contact the Preliminary Survey department.

**PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)**  
**COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 06**  
**(U.S. SURVEY FOOT)**  
**VERTICAL DATUM: NAVD88**  
**GEOID MODEL: 2018u2**

**Alignment Information**

District 4 ROW office provided the horizontal alignment for U.S. Hwy 59.



## CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 06 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u2

Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)  
 Ia. Regional Coordinate System Zone 06 (U.S. Survey Foot)

VERT. DATUM: NAVD88  
 Geoid Model: 2018u2

78059551	7007624.69	16597808.11	1104.8	FENO SET FENO MONUMENT 3IN DEEP NEAR THE INTERSECTION OF HWY 59 AND MAGNOLIA RD IN POTTAWATTAMIE COUNTY MONUMENT IS 90FT E OF CL HWY 59 52FT S OF CL MAGNOLIA RD 36FT SW OF A COR POST AND 57FT N OF WOOD FENCE POST
78430001	7010352.17	16600740.35	1113.85	FENO SET FENO MONUMENT 3IN DEEP 0.5MILES N OF THE INTERSECTION OF MAGNOILA RD AND 430TH ST IN POTTAWATTAMIE COUNTY MONUMENT IS 34FT W OF CL 430TH ST 47FT N OF BRACE POST AND 38FT N OF CL FIELD ENTRANCE
J147	7012760.78	16600173.46	1108.54	CP FD NGS MONUMENT 2IN ABOVE GROUND 0.2MILES N ALONG HWY 59 FROM THE INTERSECTION OF HWY 59 AND 430TH ST IN POTTAWATTAMIE COUNTY MONUMENT IS 109FT E OF CL HWY 59 19FT SE OF CL ROCK DRIVE 2.3FT SW OF A WOOD POST AND 2FT N OF A WOOD POST
T149	7015616.6	16602462.64	1123.89	CP FD NGS MONUMENT 1IN DEEP NEAR THE INTERSECTION OF HWY 59 AND JOSEPH ST IN THE TOWN OF HANCOCK MONUMENT IS 33FT N OF CL HWY 59 24FT E OF CL JOSEPH ST AND 21FT NW OF TELE PED
HANCOCK	7013949.54	16606015.36	1251.25	CP FD NGS MONUMENT 3IN DEEP 0.3MILES S ALONG 440TH ST FROM THE INTERSECTION OF 440TH ST AND HWY 59 IN POTTAWATTAMIE COUNTY MONUMENT IS 29FT W OF CL 440TH ST 19FT N OF CL FIELD ENT AND 9.5FT S OF WOOD FENCE POST









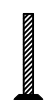
511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
US59		Pottawattamie	0.9 mi S of Co Rd G30		Barrier	N/A	Horizontal	15'	13.62'	12.62'	15'	

**CROSS SECTION VIEW COLOR LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

**CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**





















	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

**PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS**

LINWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

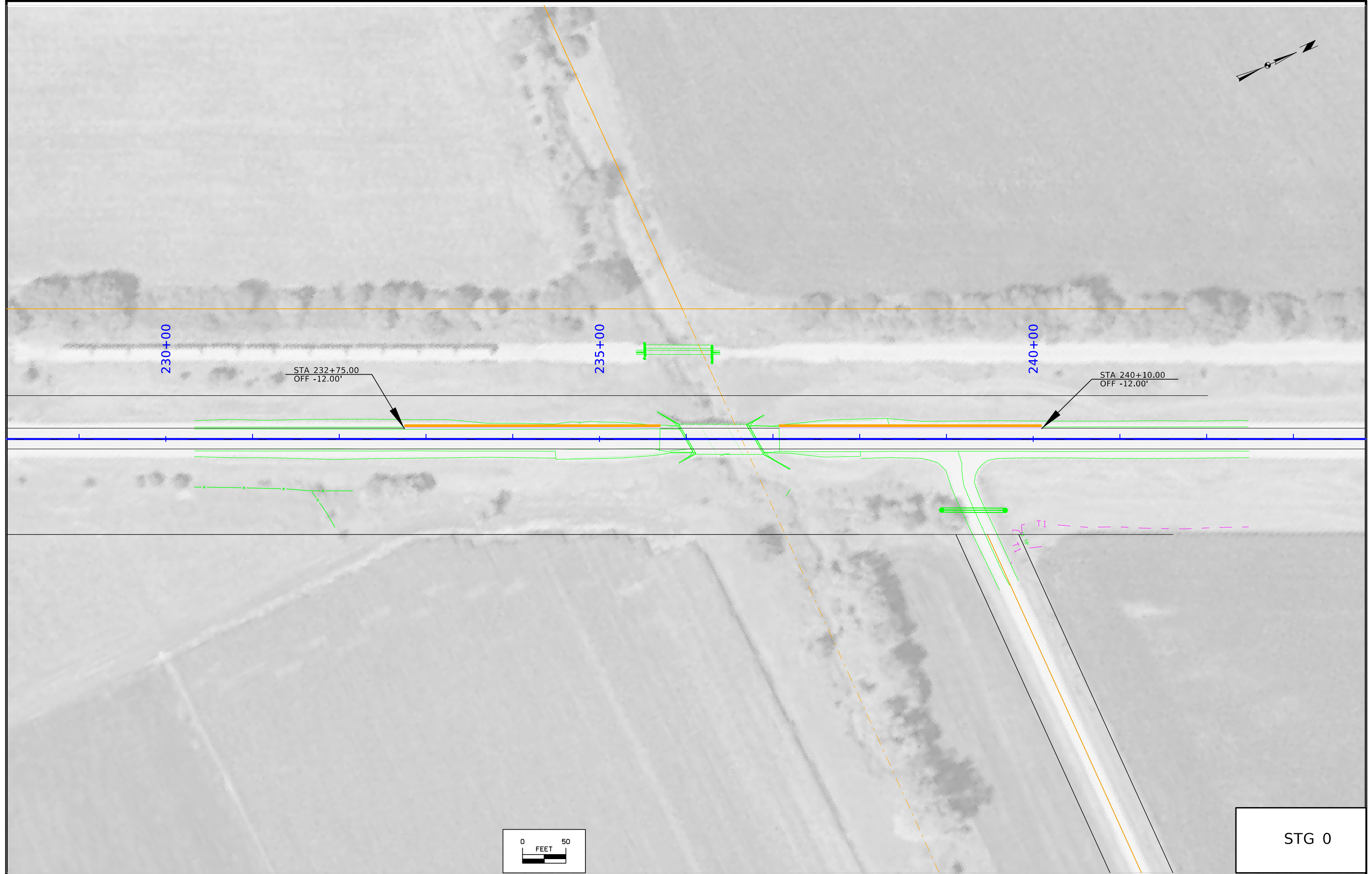
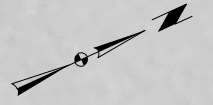
**PLAN VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

	Channelizing Device		Crash Cushion (Temp or Perm)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification

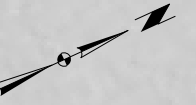
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

**TRAFFIC CONTROL  
AND  
STAGING  
LEGEND AND SYMBOL  
INFORMATION SHEET**

(COVERS SHEET SERIES J)



STG 0



R10-6  
24" x 36"

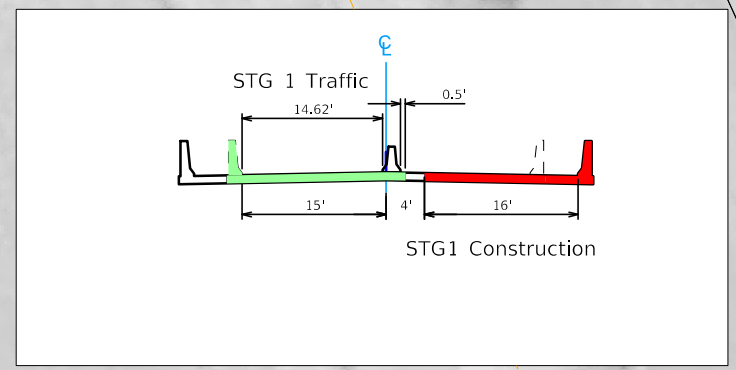


R10-6  
24" x 36"

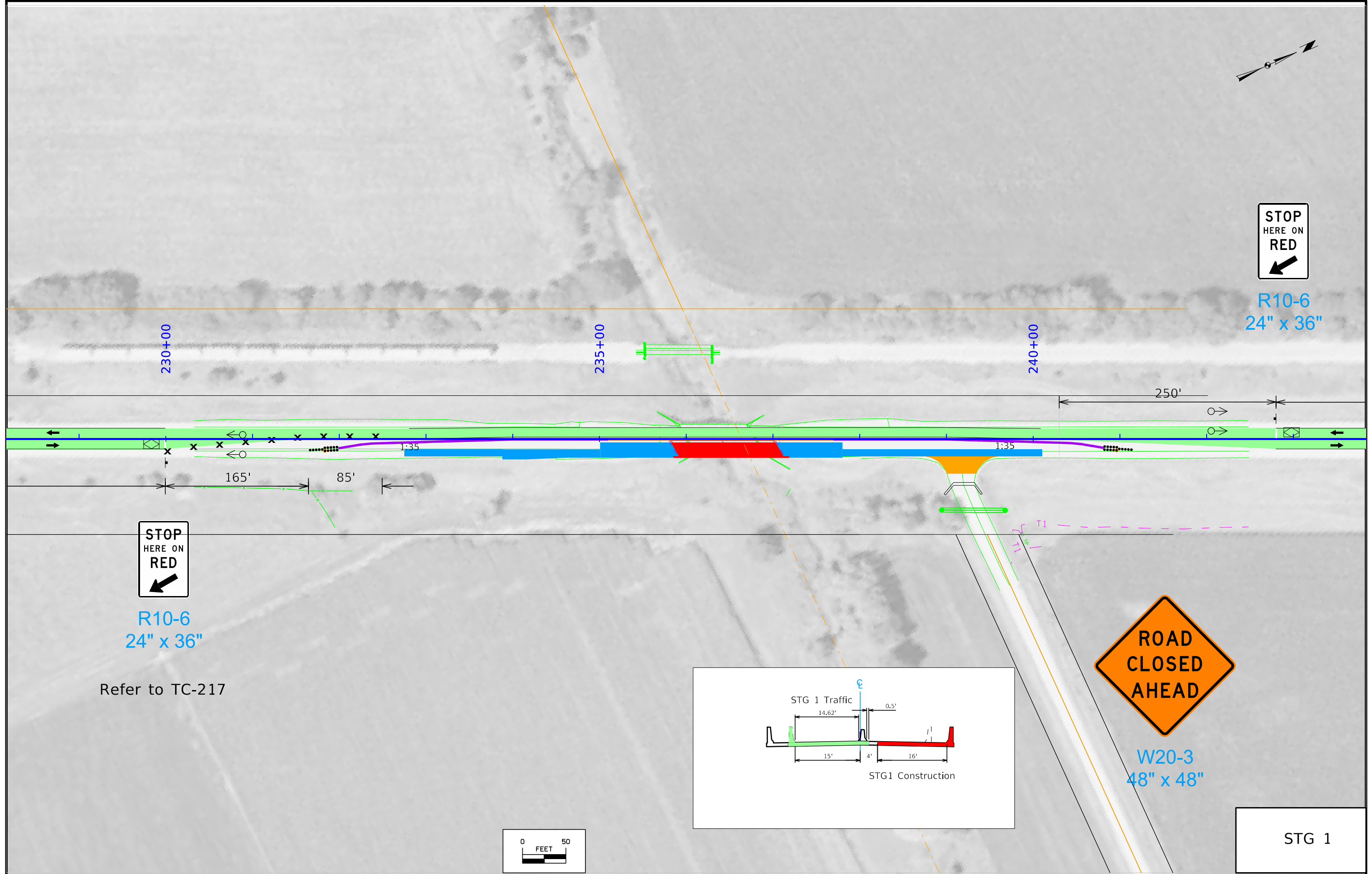
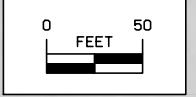
Refer to TC-217

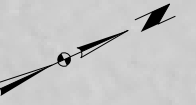


W20-3  
48" x 48"



STG 1





R10-6  
24" x 36"

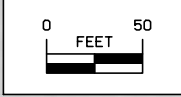
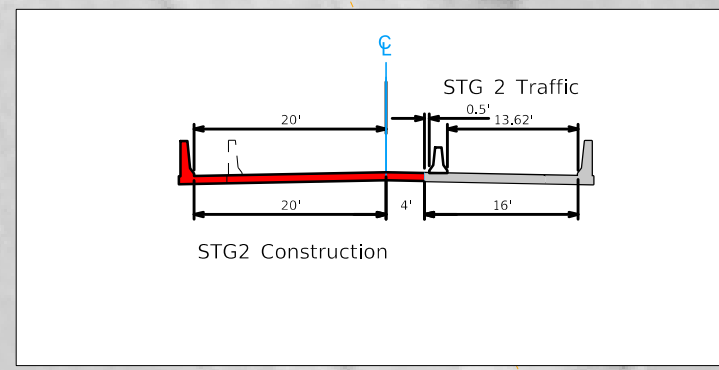


R10-6  
24" x 36"

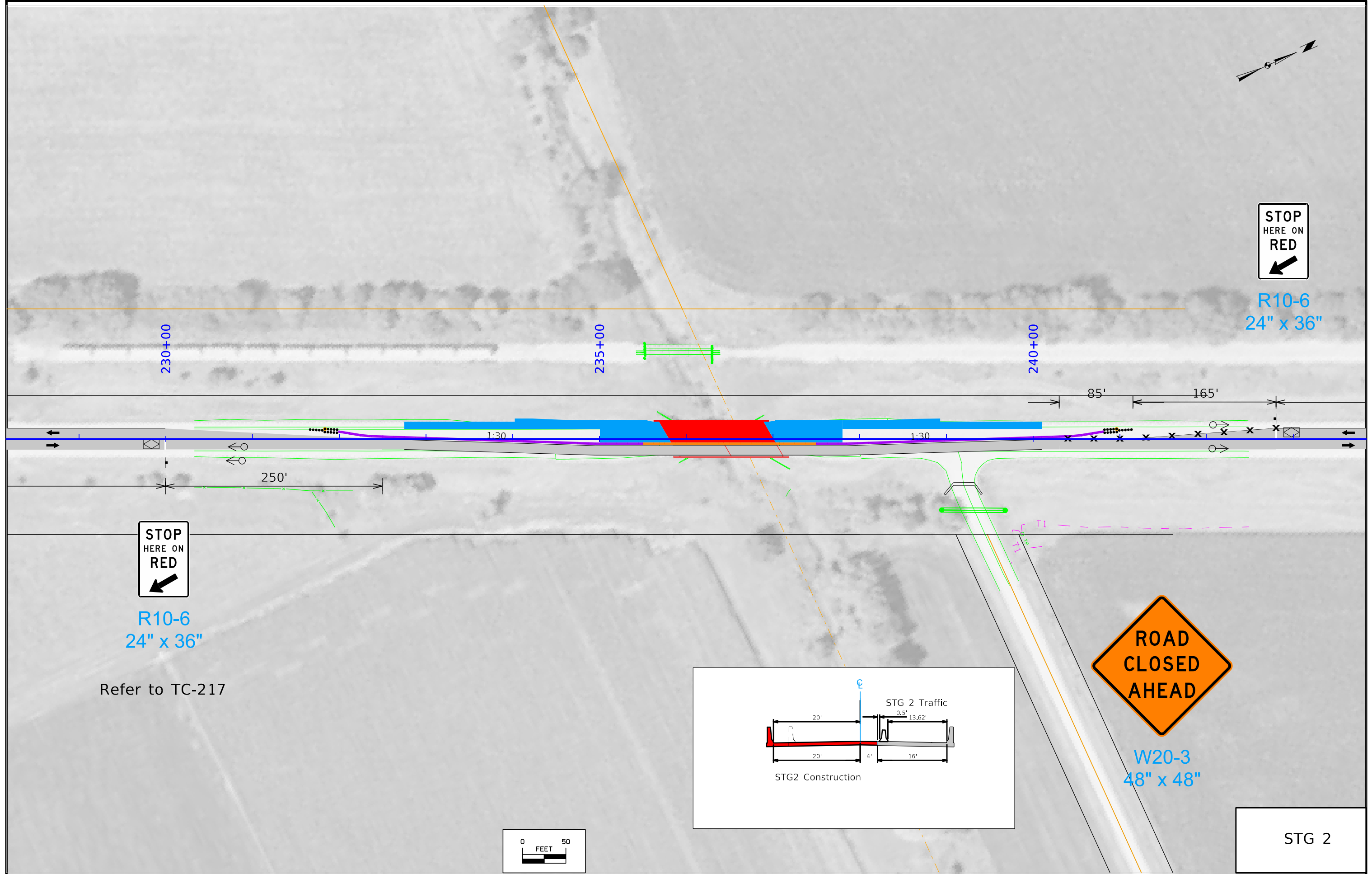
Refer to TC-217



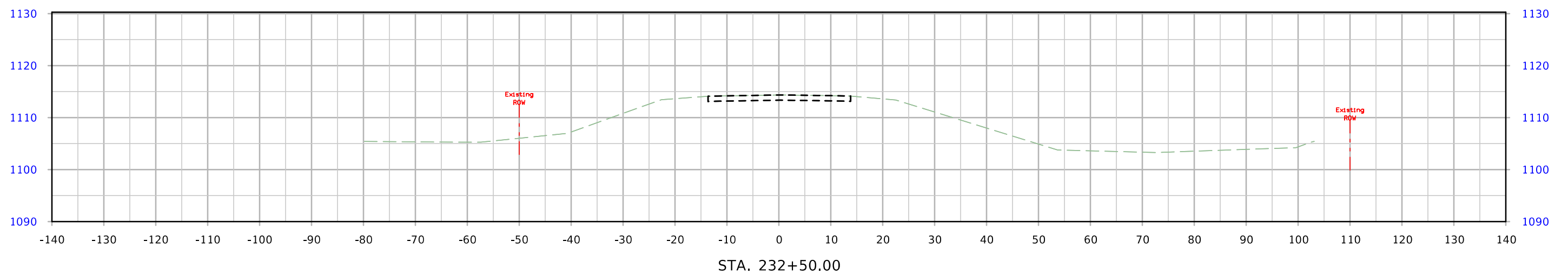
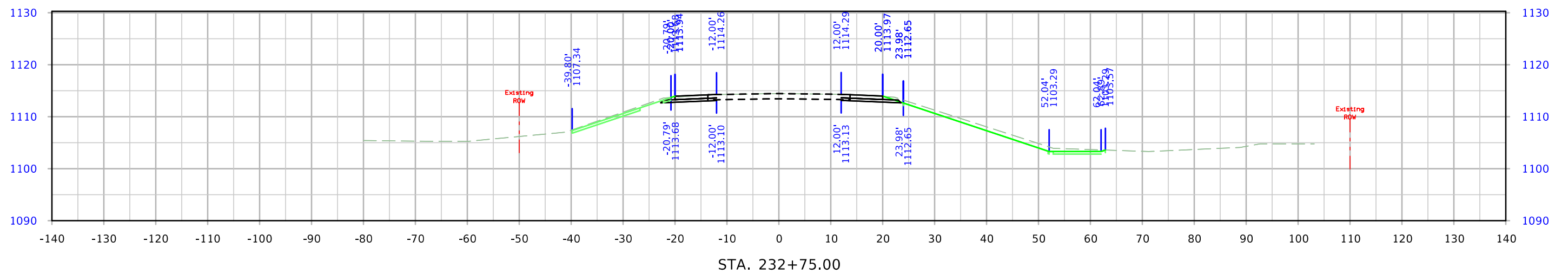
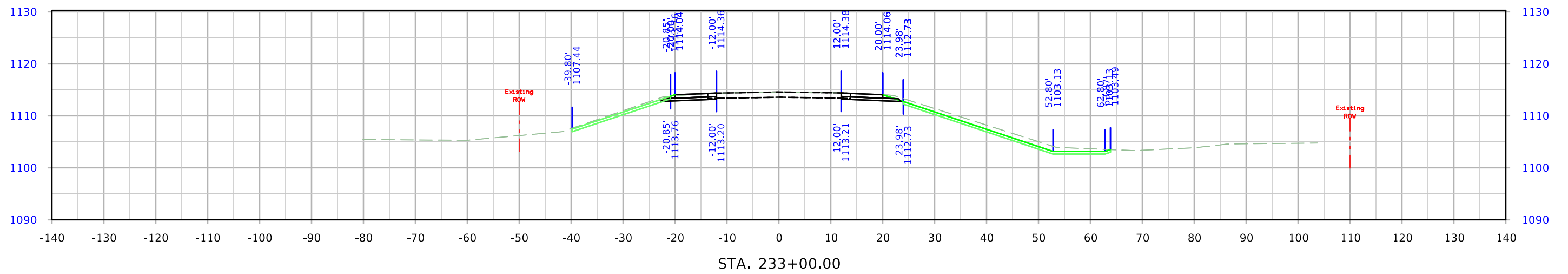
W20-3  
48" x 48"



STG 2

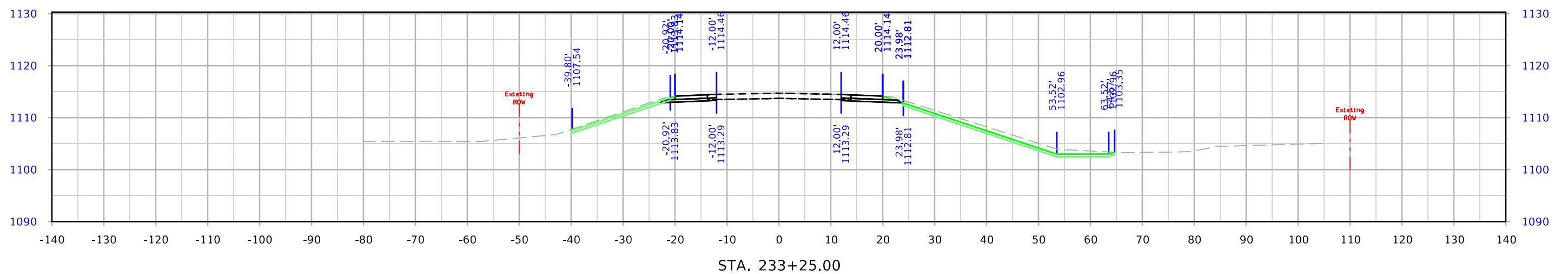
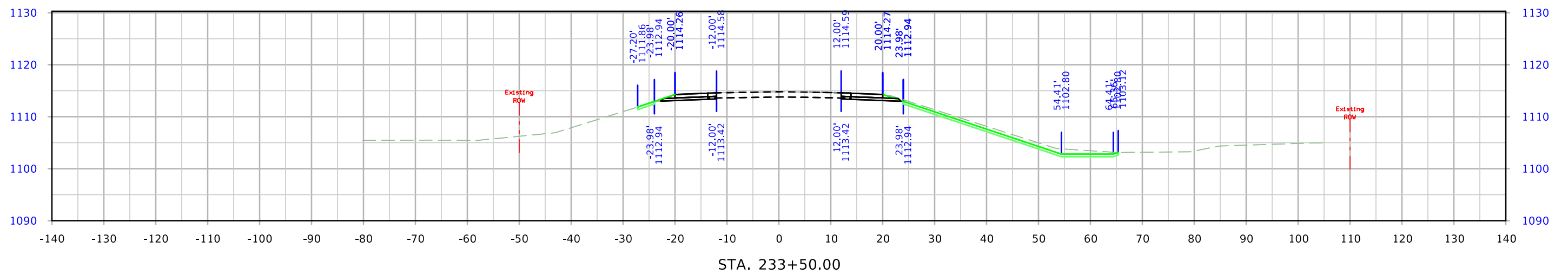
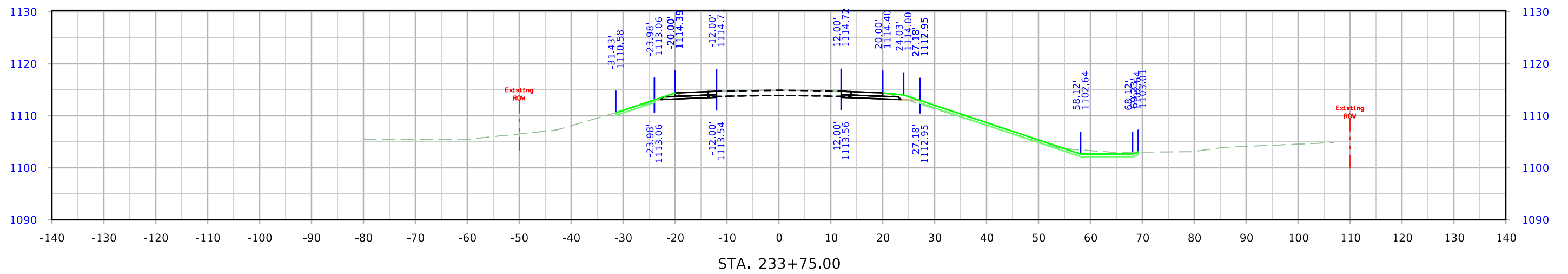


# US 59

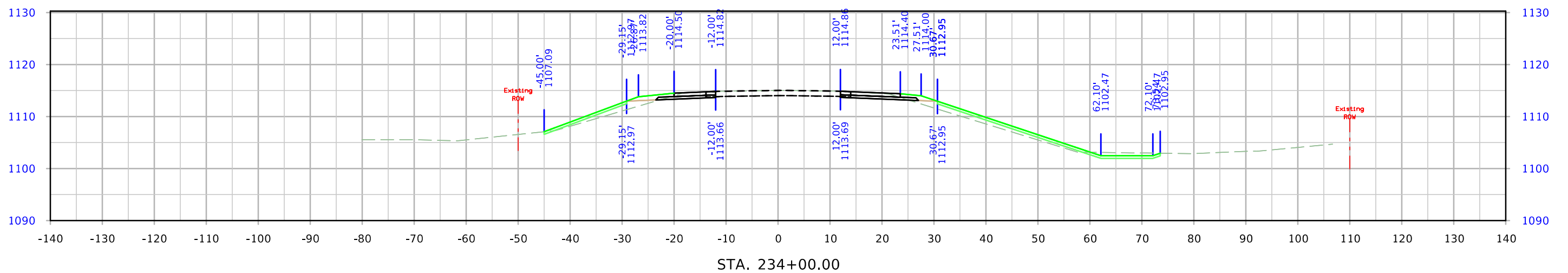
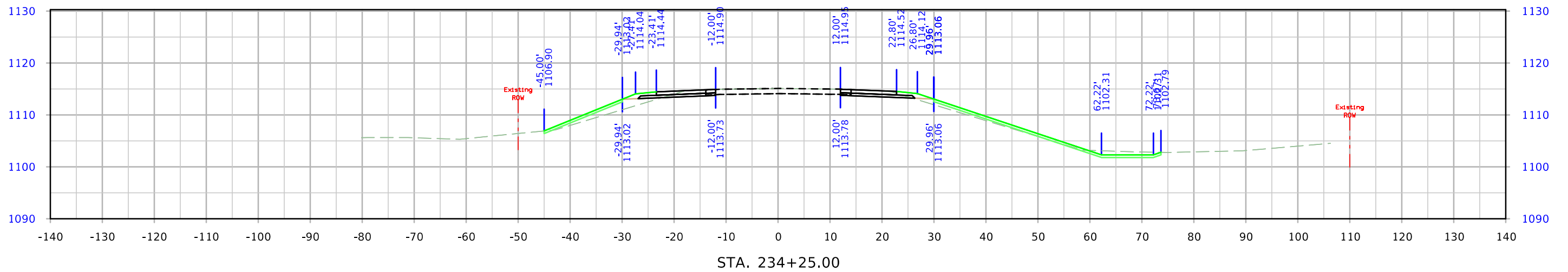
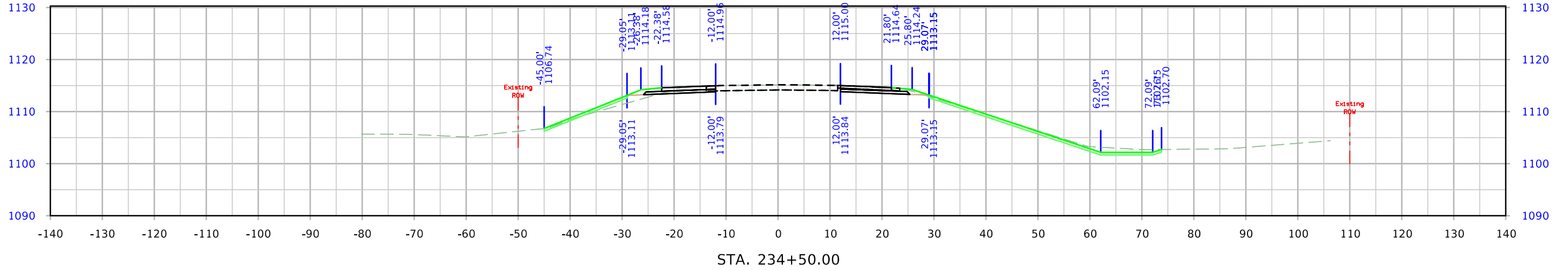




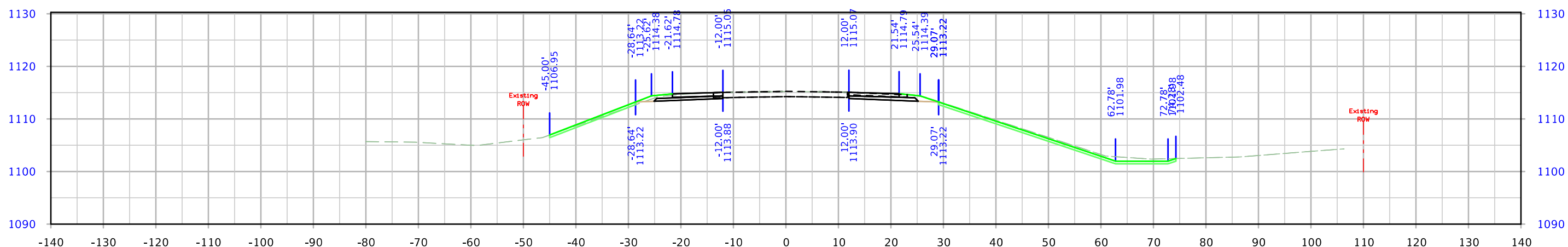
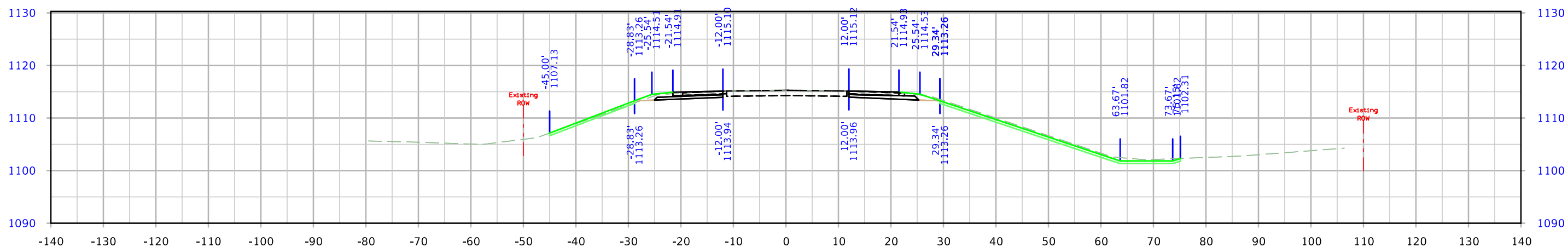
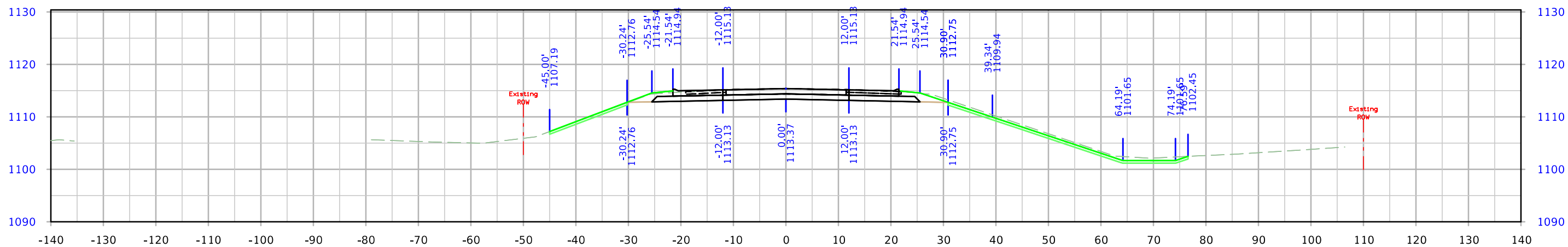
# US 59



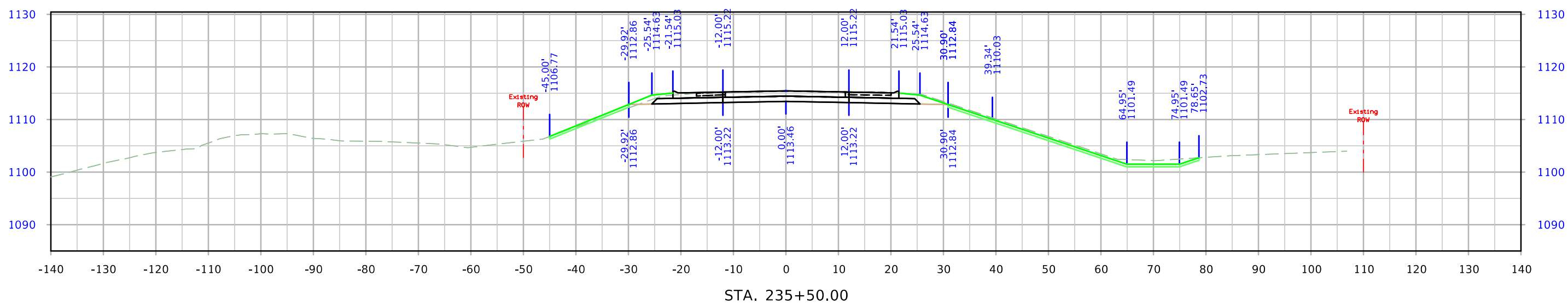
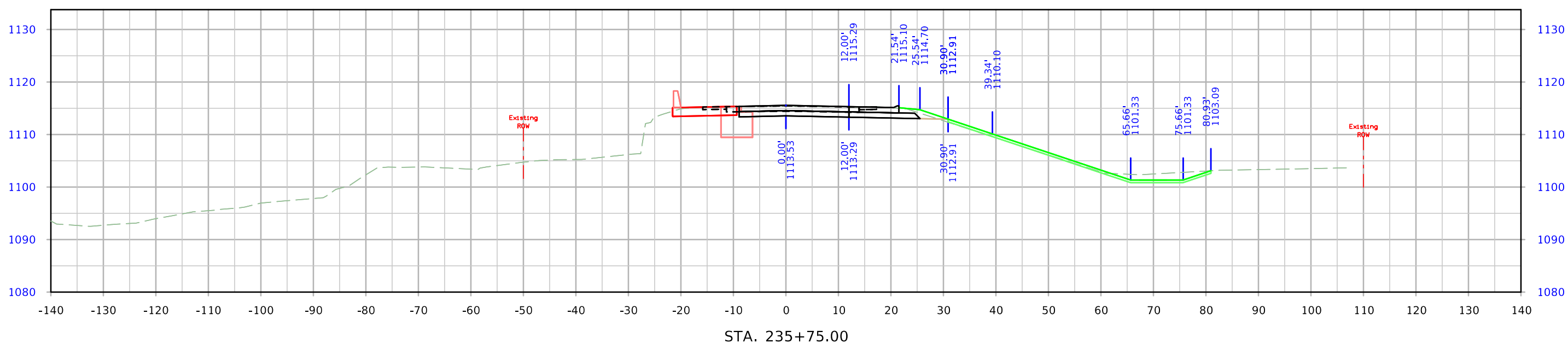
# US 59



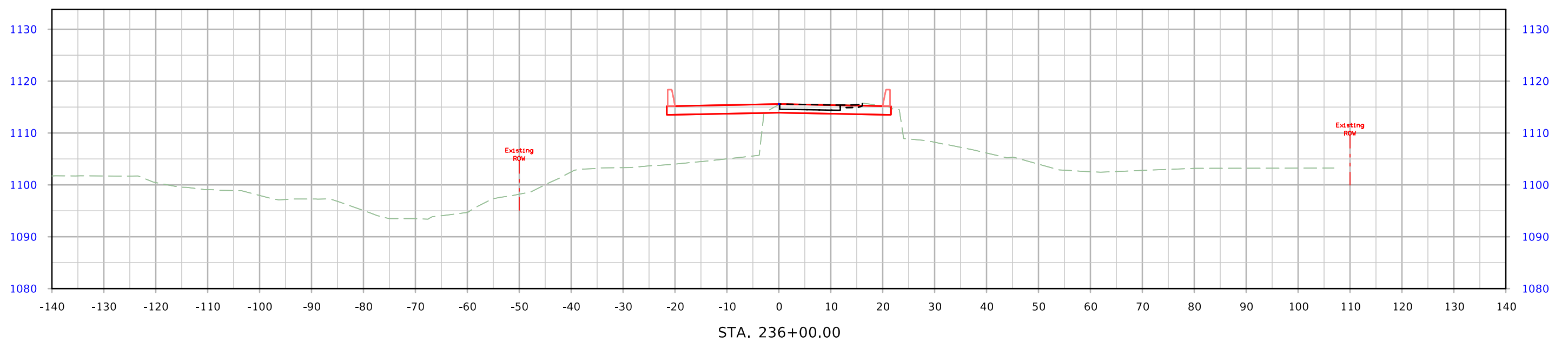
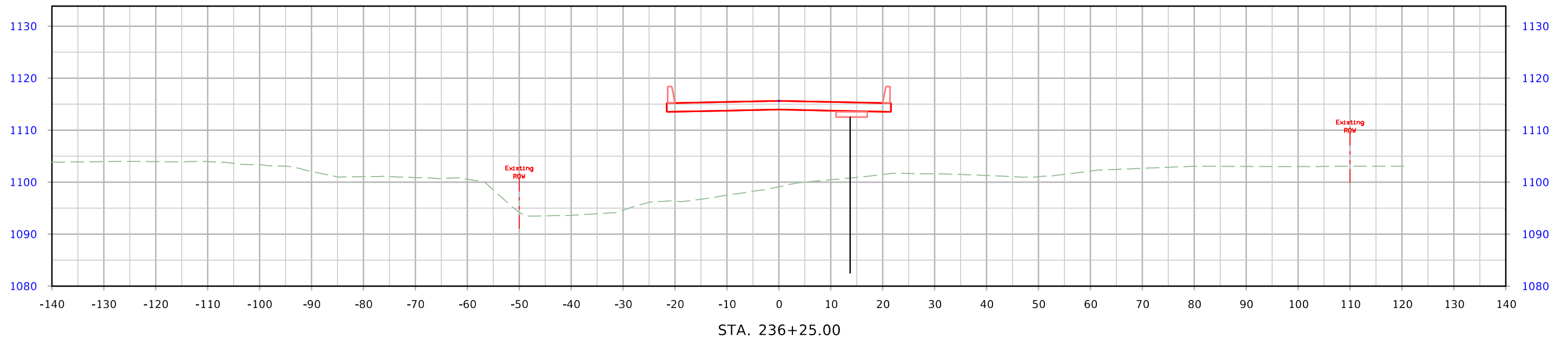
# US 59



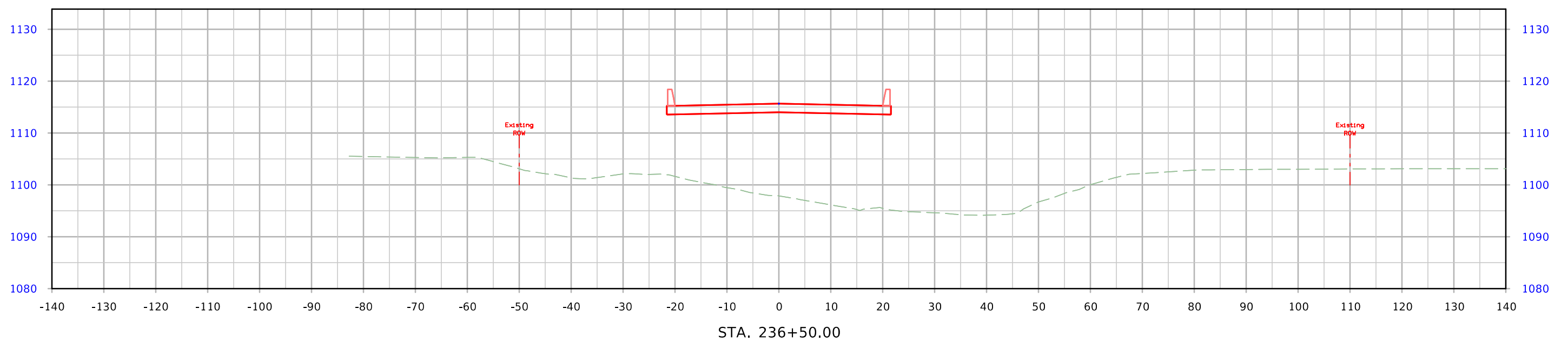
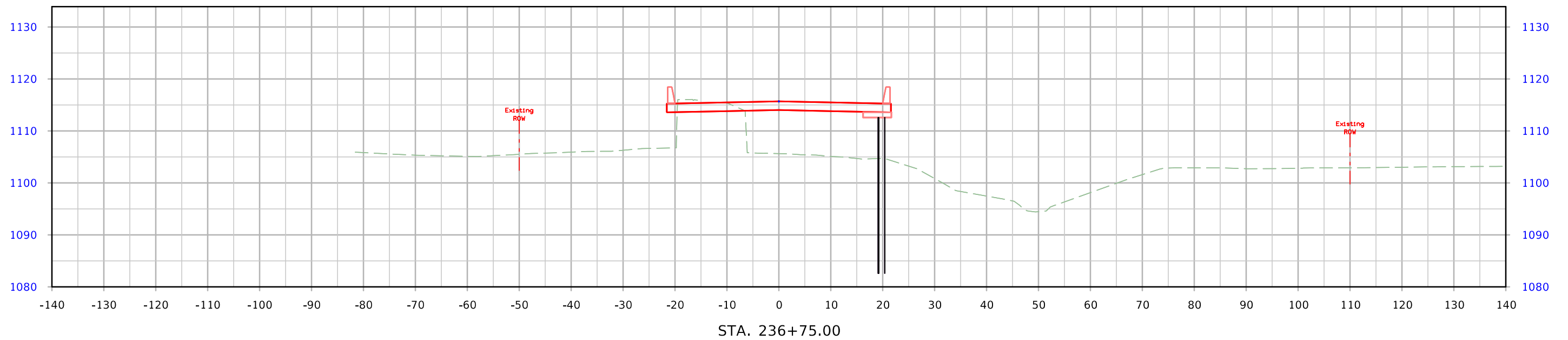
# US 59



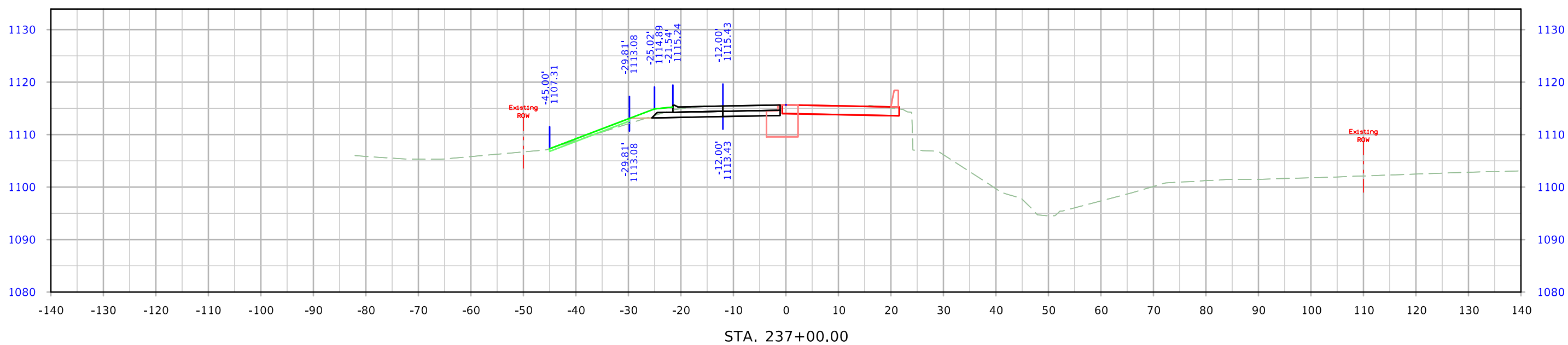
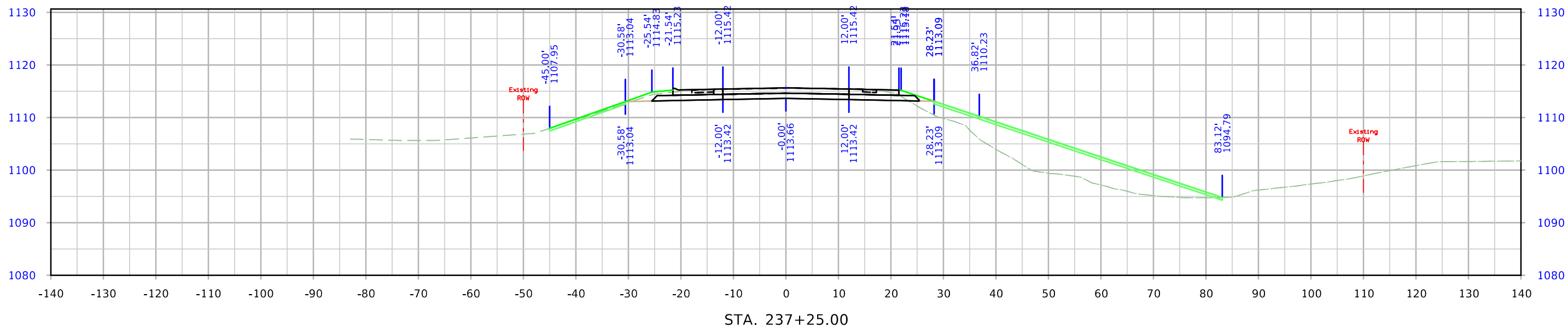
# US 59



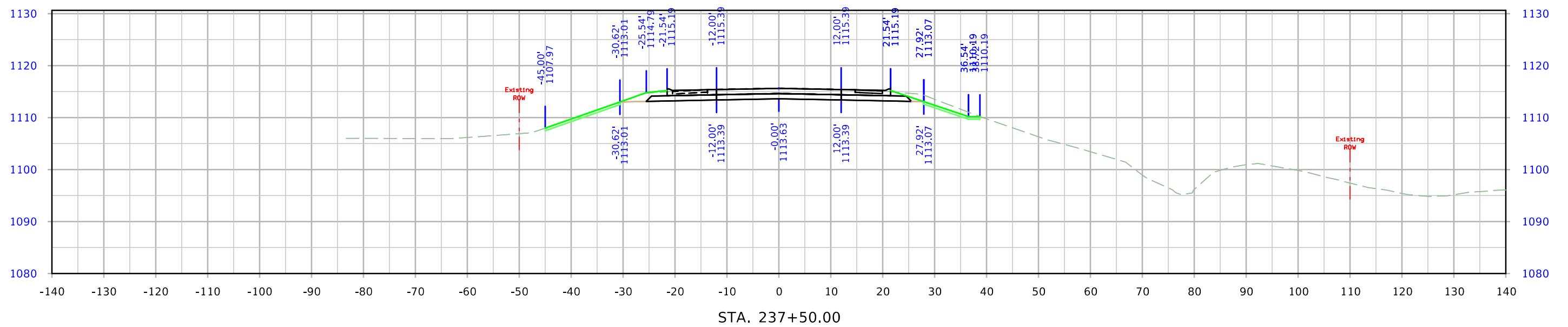
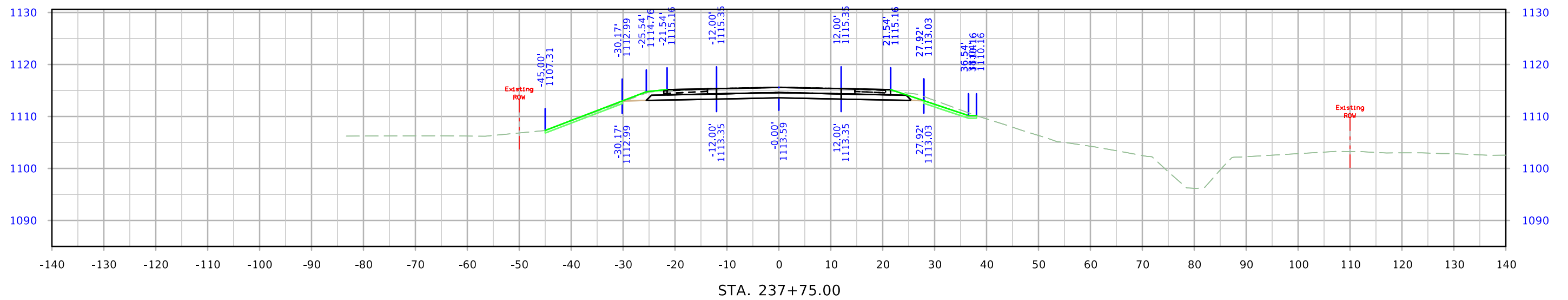
# US 59



# US 59

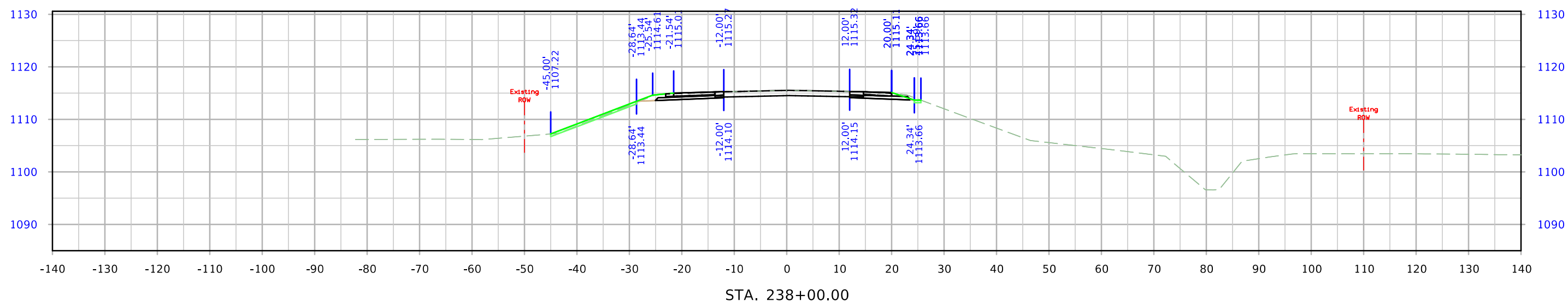
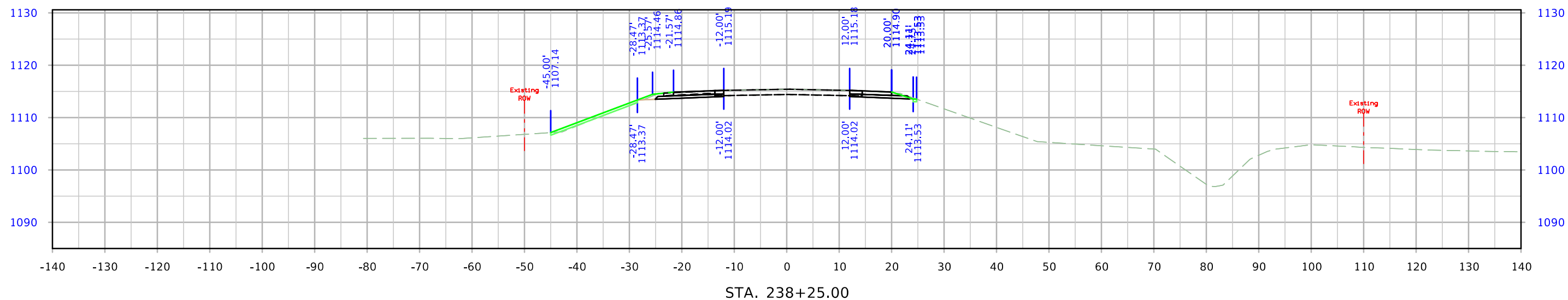


# US 59

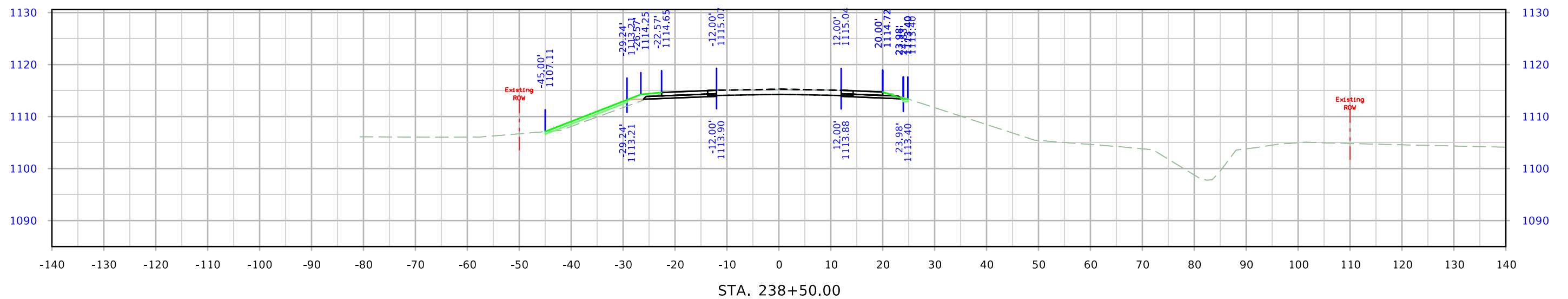
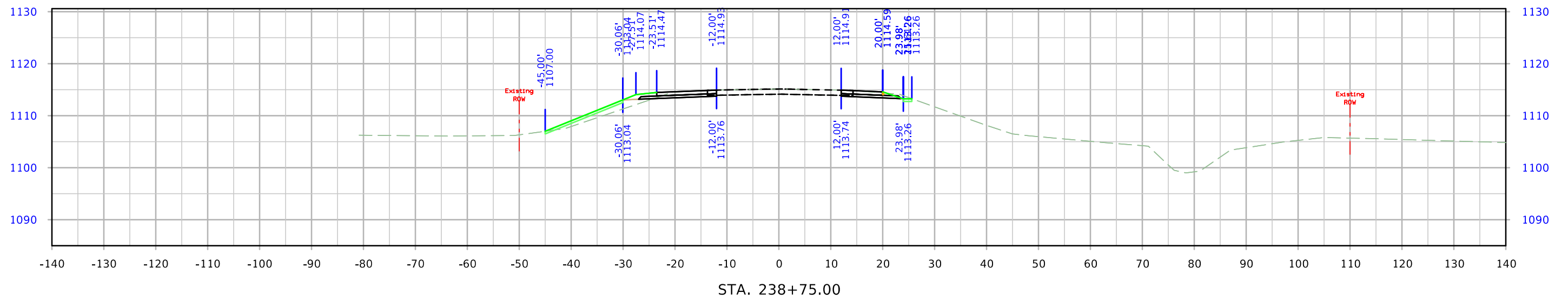
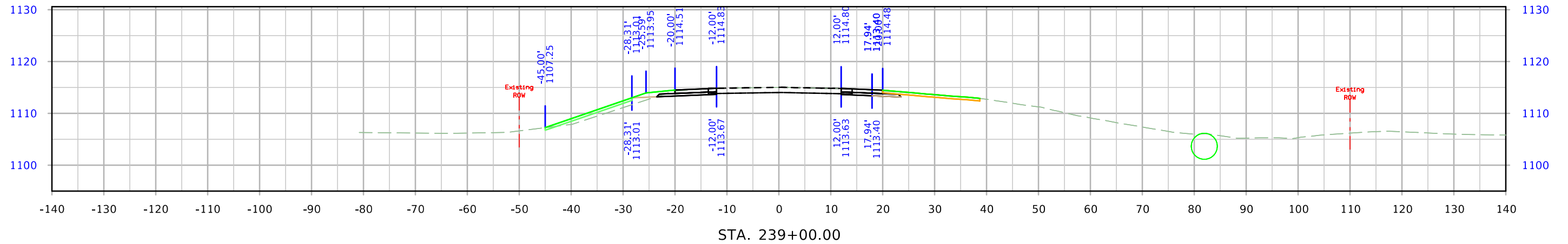




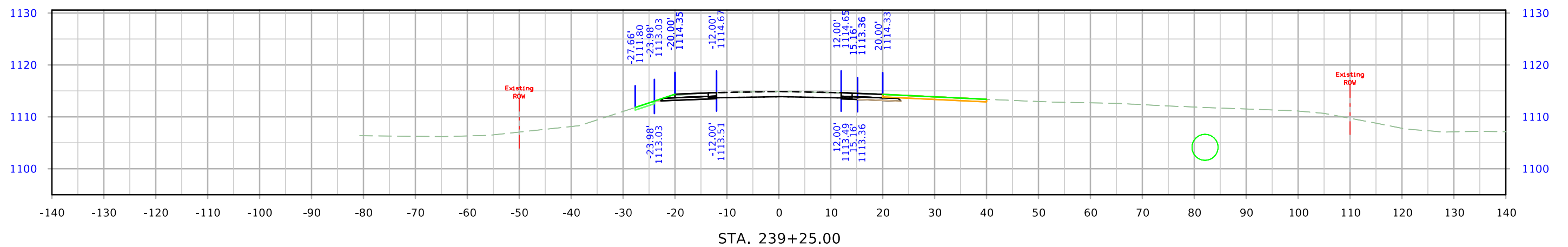
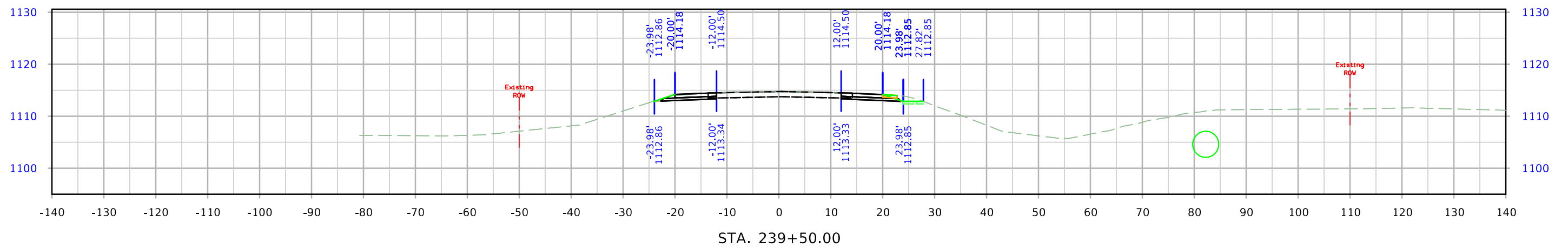
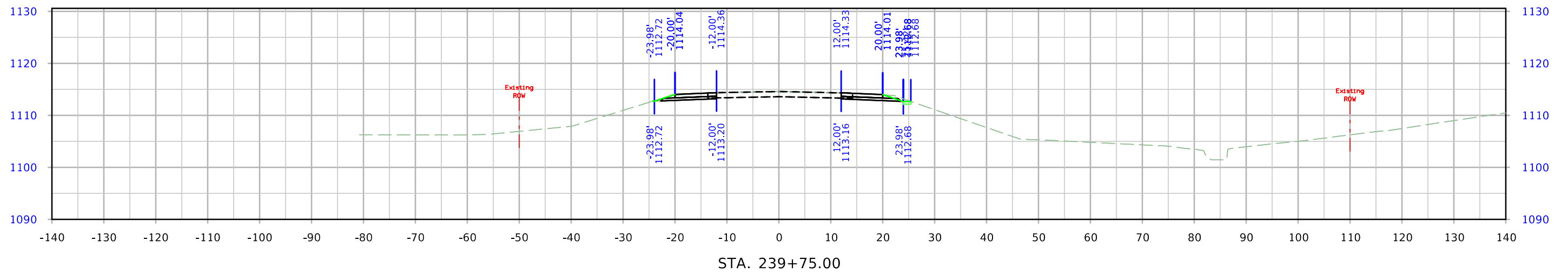
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