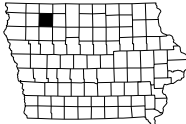


CLAY COUNTY

Bridge Unspecified
BRF-018-2(140)--38-21

LETTING DATE
Nov 16, 2027



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1 - 2	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 2	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US Highway 18
E Sheets	Side Road Plan and Profile Sheets
* E.1	200th Ave
G Sheets	Survey Sheets
G.1 - 2	Reference Ties and Bench Marks
G.3	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1 - 2	Traffic Control Plan
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 20	Mainline Cross Sections
X Sheets	Side Road Cross Sections
X.1 - 5	Side Road Cross Sections
* Color Plan Sheets	



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
CLAY COUNTY
Bridge Unspecified
Little Sioux River 2.1 mi W of W Jct US 71

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



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811
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Call before you dig.

REVISIONS

	TOTAL
PROJECT IDENTIFICATION NUMBER	..
23-21-018-010	
PROJECT NUMBER	
BRF-018-2(140)--38-21	
R.O.W. PROJECT NUMBER	
NHSN-018-2(141)--2R-21	

DESIGN DATA RURAL			
2023	AADT	2330	V.P.D.
2048	AADT	3000	V.P.D.
20 -	DHV	-	V.P.H.
TRUCKS		30.94	%
Total Design ESALs		-	

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

D5: September 12, 2025
D4: July 20, 2027

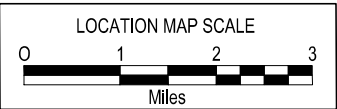
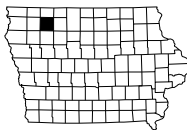
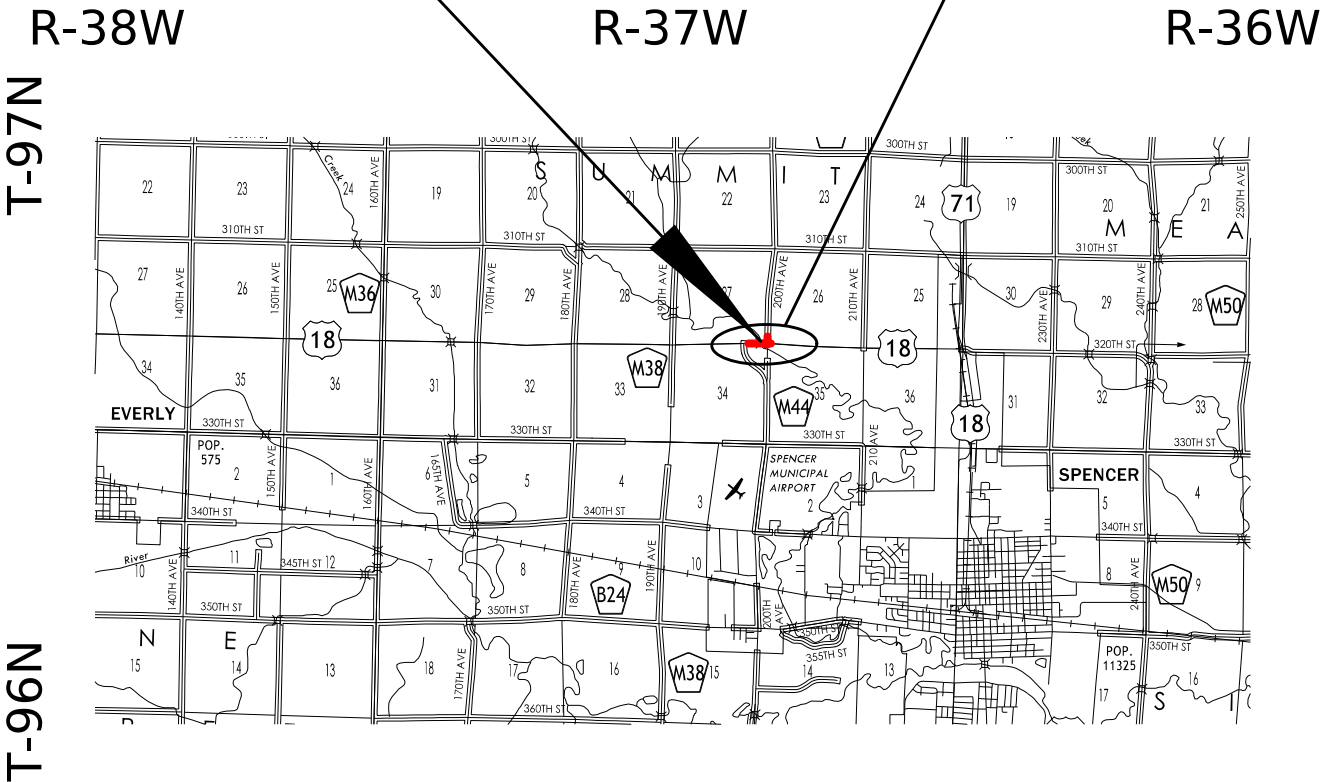
PRELIMINARY PLANS

Subject to change by final design.

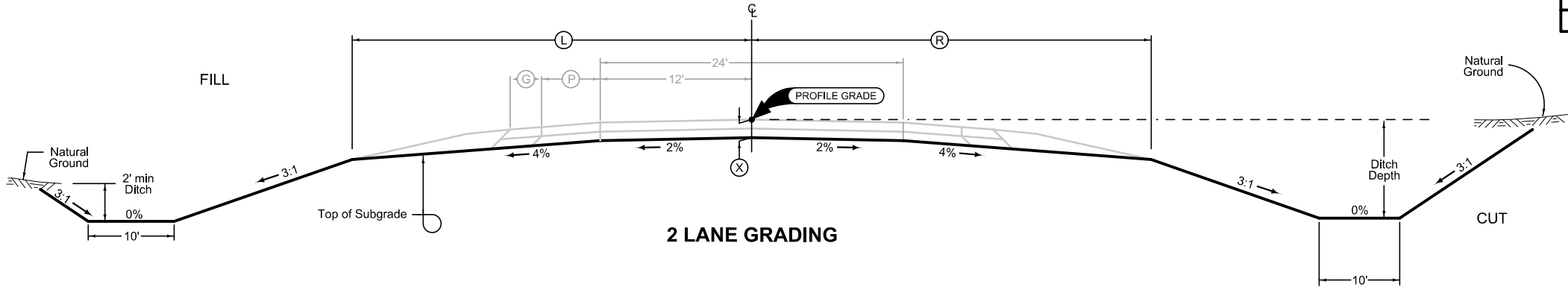
D3 PLAN - May 21, 2025

BRIDGE
US-18 at Little Sioux River
STA. 524+30.00
FHWA# 20320 (EXST)
FHWA# (NEW)

PROJECT LOCATION



LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	FS
US 18	518+50.00	522+59.00	26.1	26.1	21.5	3:1
	Bridge and Approach					
	526+30.50	530+00.00	26.1	26.1	21.5	3:1

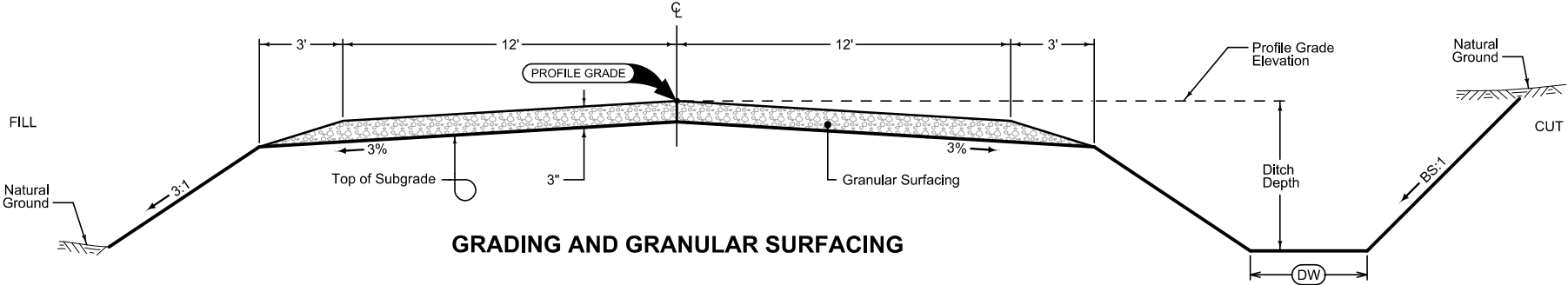


G_2_Grade
04-21-20

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See plan & profile sheets and cross sections for additional details of ditches and backslopes.

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		FS	BS	(DW) Feet	
200th Ave	1528+16.00	1529+50.00	3:1	---	XX	



G_2_GradeGran
10-17-17

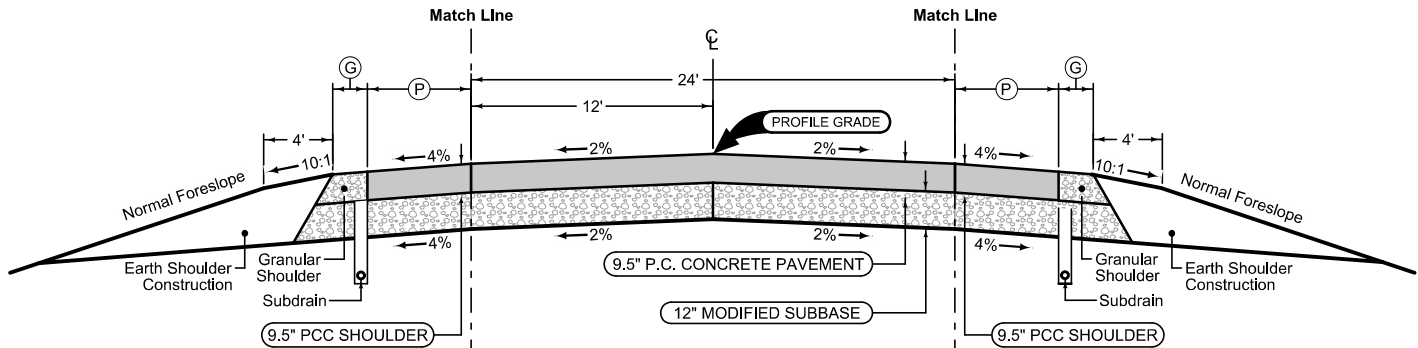
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See plan & profile sheets and cross sections for additional details of ditches and backslopes.

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2 or L-2
Transverse joints: C at 17' spacing

2_C_FullPCC_04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
518+50.00	522+59.00	4	2
Bridge and Approach			
526+30.50	530+00.00	4	2



Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2 or L-2
Transverse joints: C at 17' spacing

2_C_FullPCC_04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
518+50.00	522+59.00	4	2
Bridge and Approach			
526+30.50	530+00.00	4	2

2 Lane Full Depth PCC

Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

2P_04-21-20	
STATION TO STATION	
518+50.00	522+59.00
Bridge and Approach	
526+30.50	530+00.00

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

US HIGHWAY 18

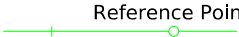
SURVEY SYMBOLS	
	Interstate Highway Symbol
	U.S. Highway Symbol
	Iowa Highway Symbol
	County Road Highway Symbol
	Evergreen Tree
	Deciduous Tree
	Fruit Tree
	Shrub (Bushes)
	Timber
	Hedge
	Stump
	Swamp
	Rock Outcrop
	Broken Concrete
	Revetment (Rip Rap)
	Cemetery
	Grave
	Cave
	Sink Hole
	Board Fence
	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		
SURVEYED UTILITY OWNER SYMBOLS		
Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.		
Remark Abbreviations		
QLA	Quality Level A Highest guideline quality level	
QLD	Quality Level D Lowest guideline quality level	
	E1	EL1D, Iowa Lakes Electric Coop (ILEC) - Quality D

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.			Transparency
Pink, Dark	(13)		Temporary Pavement Shading	50%
Yellow	(4)		Proposed Pavement Shading	50%
Orange	(6)		Proposed Granular Shading	50%
Orange	(70)		Proposed Shoulder Granular Shading	50%
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)		Grading Shading	50%
Orange, Light	(134)		Proposed Granular Entrance Shading	50%
Yellow	(220)		Proposed Paved Entrance Shading	50%
Tan	(8)		Proposed Sidewalk Shading	50%
Blue, Light	(230)		Proposed Sidewalk Landing Shading	50%
Pink	(11)		Proposed Sidewalk Ramp Shading	50%
Red	(3)		Proposed Structure Shading	50%
Red	(3)		Delineates Restricted Areas	0%

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS		
LINEWORK	Design Color No.	
Green	(10)	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		Survey Line
	Station		Section Corner
	Ground Line Intercept		Saw Cut
	Guardrail		Trench Drain
	HighTension Cable		Guardrail
	Sheet Pile		Pavement Removal
	Clearing & Grubbing Area		

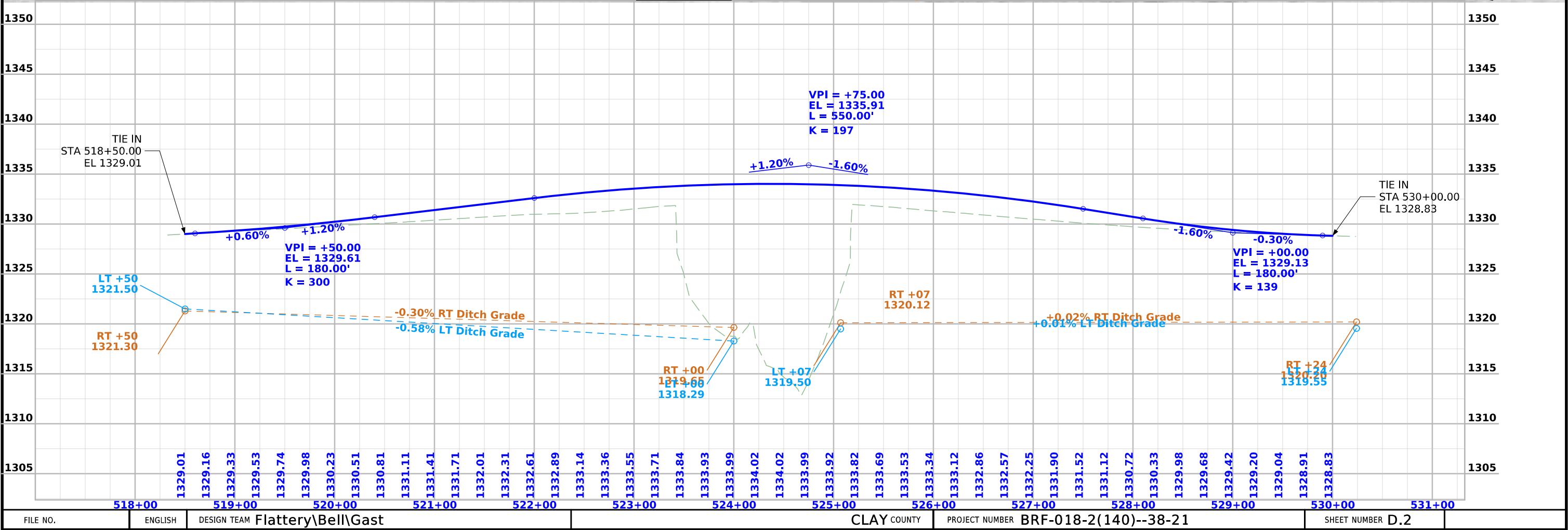
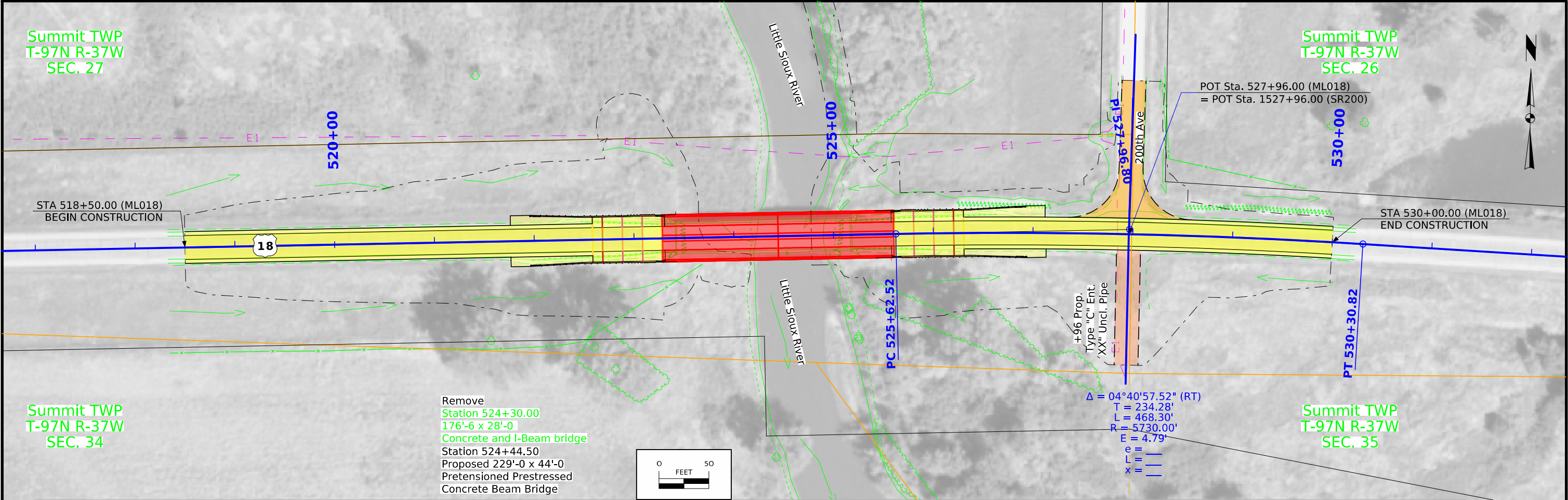
RIGHT-OF-WAY LEGEND

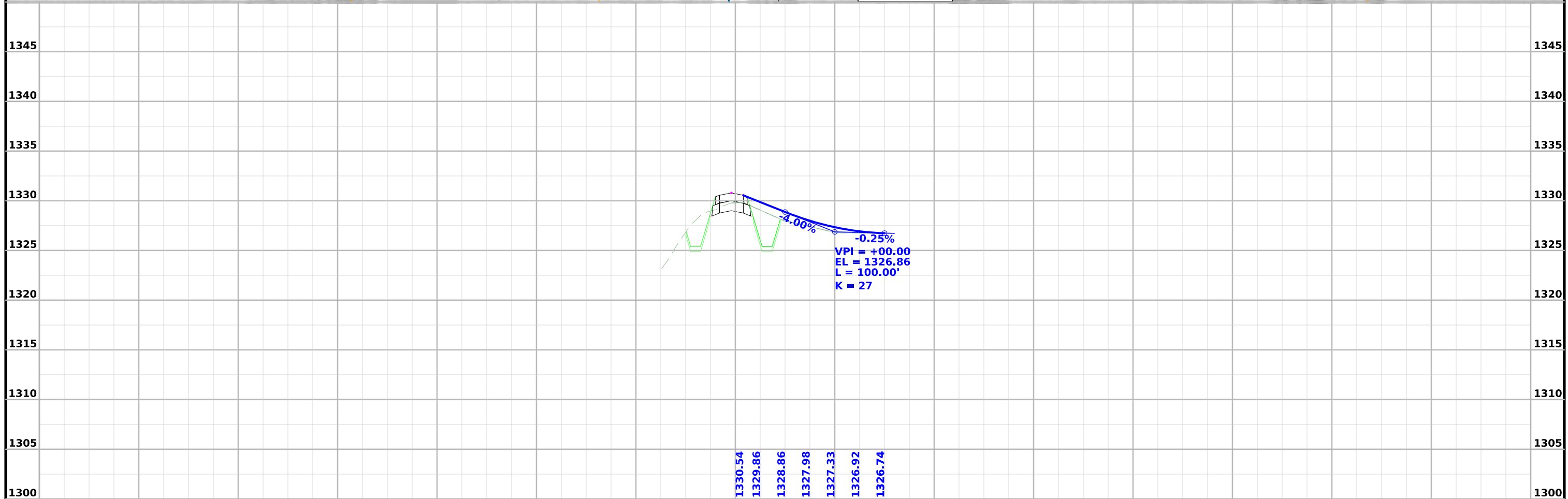
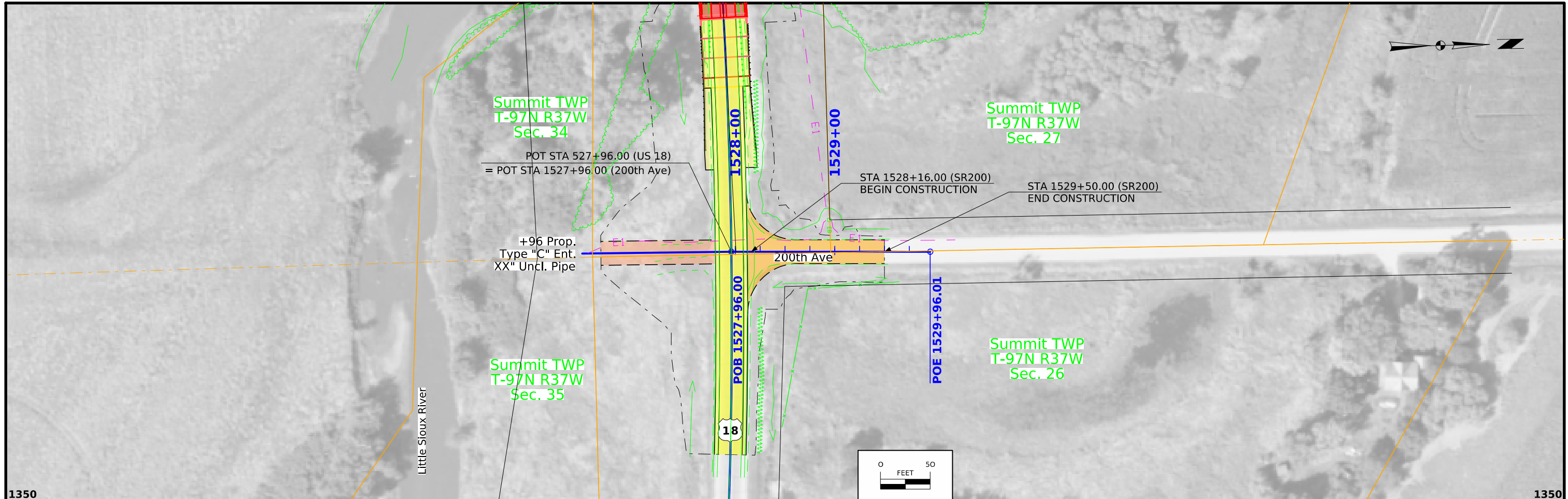
	Proposed Right-of-Way Symbol
	Proposed Right-of-Way Line
	Existing Right of Way
	Existing and Proposed Right-of-Way
	Easement and Existing Right-of-Way
	Easement (Temporary) Symbol
	Easement (Temporary) Line
	Easement
C/A	Access Control
	Property Line Symbol
	Property Line

**PLAN AND PROFILE
LEGEND AND SYMBOL
INFORMATION SHEET**

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

PROJECT NUMBER BRF-018-2(140)--38-21	SHEET NUMBER D.1	
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FILE NO.	ENGLISH	DESIGN TEAM	Flattery\Bell\Gast	CLAY COUNTY	PROJECT NUMBER	BRF-018-2(140)--38-21	SHEET NUMBER	E.1
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Survey Information

SURVEY INDEX

County: Clay
PIN: 23-21-018-010
Project Number: BRF-018-2(140)--38-21
Location: Little Sioux River 2.1 mi W of W Jct US 71
Type of Work: Bridge-Unspecified
Project Directory: 2101801023

Survey Personnel

Dan Duncan – Survey Party Chief

Date(s) of Survey

Begin Date 04/08/2024
End Date 04/17/2024

General Information

This survey is for the Little Sioux River Bridge on US 18 approximately 2.1miles west of the North Junction of US 18 and US 71 in Spencer Iowa. 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

Project No. HSIPX-018-2(142)--3L-21 primary control points 7034 and 210180726 were held fixed in a base-rover setup to obtain horizontal and vertical control on new 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 01
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

The horizontal alignment for U.S. Hwy 18 this survey is a retrace of As-built Plans No. FN-789 ACC HMA Paving. Survey stationing was equated to the plan PI at Sta. 527+96.8 and carried back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PI Sta. 475+88.2 As-built Plans Project No. FN-789
Survey PI Sta. 475+88.18

PI Sta. 501+46.1 As-built Plans Project No. FN-789
Survey PI Sta. 501+45.91

PI Sta. 527+96.8 As-built Plans Project No. FN-789
Survey PI Sta. 527+96.80

PI Sta. 554+16.4 As-built Plans Project No. FN-789
Survey PI Sta. 554+15.91

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 01 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u3

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 01 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u3

Point Name	Northing	Easting	Elevation	Code-Description
7034	9588735.20	11513395.58	1332.44	CP FND CLAY CO GPS CONTROL POINT AS DESCRIBED IN GOOD CONDITION
7089	9584230.48	11512621.90	1335.57	CP FND CLAY CO GPS CONTROL POINT AS DESCRIBED IN GOOD CONDITION
210180726	9594100.02	11500012.78	1350.18	CP FOUND 4X4 CM IN NW QUAD INTERSECTION US HWY 18 & 170TH AVE
210180753	9594298.68	11514641.07	1326.47	CP SET FENO MONUMENT 30FT North of the Centerline of US18 at the M44 Intersection in the DNR Field Entrance
210180774	9594248.27	11525527.43	1333.08	CP FOUND FENO MONUMENT 270ft West of the Iowa State Patrol Driveway on North Side of US18
2119001	9594032.01	11510710.43	1340.73	CP SET FENO MONUMENT 90FT South of US18 Centerline at the 190TH AVE Intersection on the West Side of 190TH AVE

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic on Iowa 18 shall be maintained via an offsite detour.
See J sheets for detour route.

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

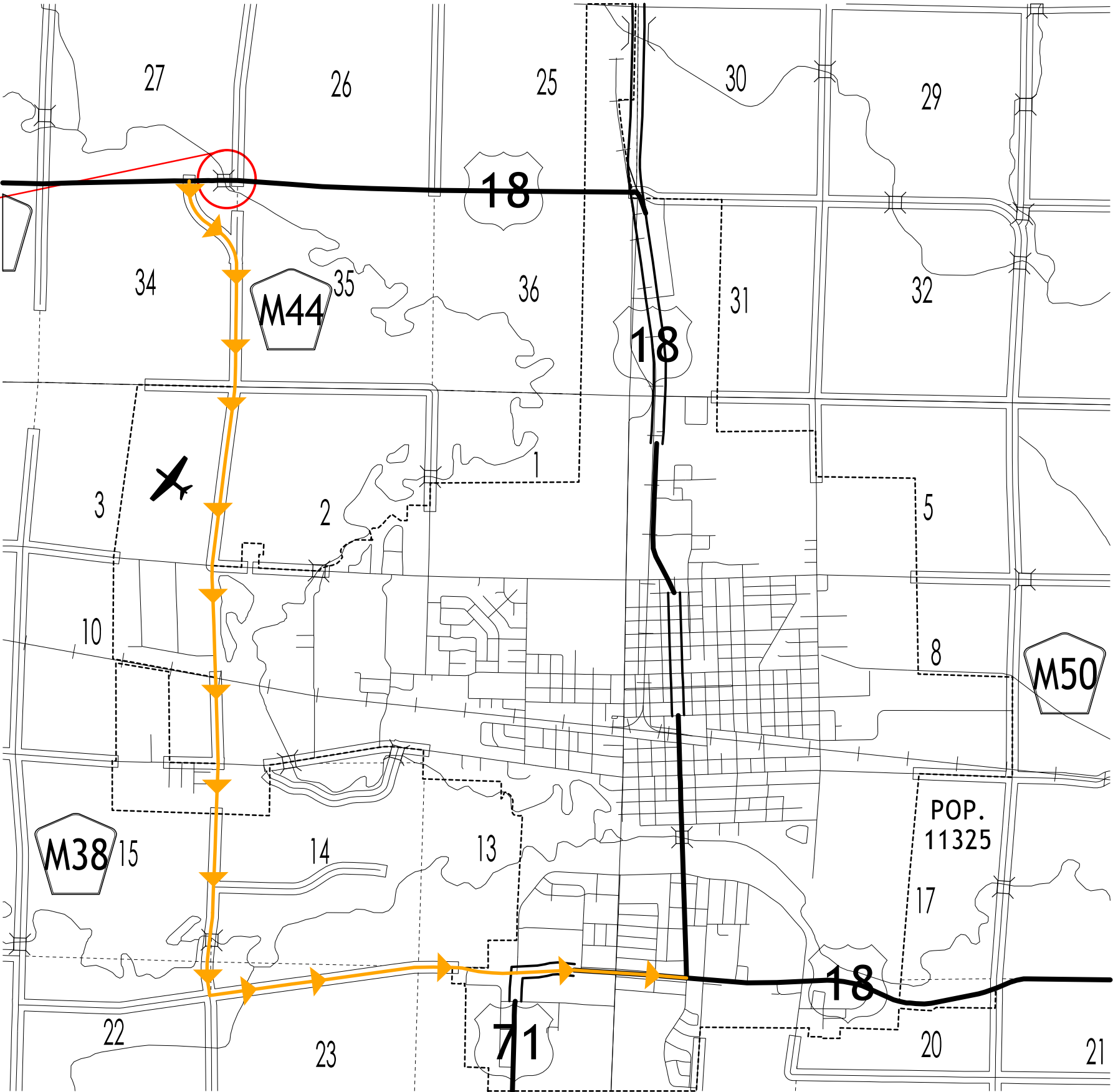
Project	Type of Work
None Provided	

511 TRAVEL RESTRICTIONS													108-25 10-21-14
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	
			No Travel Restrictions Expected										
					</								

NOT TO SCALE

PROJECT LOCATION

Detour Route



CROSS SECTION VIEW COLOR LEGEND			
Design Color No.	Feature	Design Color No.	Feature
Aggregate		Grading	
(64)	Choke Stone	(8)	Behind Curb Cut
(42)	Engineering Fabric	(6)	Granular
(8)	Flooded Backfill	(13)	Granular Back Fill
(92)	Macadam Stone	(48)	Rock Undercut
(20)	Modified	(8)	Shoulder Earth Fill
(12)	Plowing Shaping	(2)	Side Slopes
(14)	Porous Backfill	(226)	Side Slopes Dressing
(8)	Revetment Class A	Substrata	
(6)	Revetment Class B	(128)	Boulder
(62)	Revetment Class C	(209)	Boulder Removed
(188)	Revetment Class D	(48)	Broken Weathered
(28)	Revetment Class E	(210)	Broken Weathered Removed
(12)	Shoulder Special Backfill	(3)	Core Out
(12)	Special Backfill	(115)	Core Out Remove Only
(20)	Subbase	(195)	Core Out Remove and Replace
(20)	Subbase Lower	(203)	Existing Pavement
(20)	Subbase Upper	(184)	Existing Pavement Remove Only
(118)	Subgrade Treatment	(200)	Existing Pavement Remove and Replace
Asphalt		(6)	Loam
(207)	HMA Base Course	(211)	Loam Removed
(207)	HMA Interim Course	(80)	Rock
(207)	HMA Surface Course	(212)	Rock Removed
Bridge		(4)	Select Sand
(0)	Bridge	(214)	Select Sand Removed
Concrete		(3)	Shale
(0)	Barrier Concrete	(215)	Shale Removed
(0)	Barrier Concrete Footing	(10)	Topsoil
(0)	Curb Gutter	(2)	Topsoil Remove Only
(48)	Flowable Mortar	(4)	Topsoil Remove and Replace
(0)	Median Concrete	Unsuitable / Waste	
(0)	PCC Pavement	(3)	Unsuitable Type A
(0)	Sidewalk	(216)	Unsuitable Type A Removed
Existing		(13)	Unsuitable Type B
(0)	Existing Pavement	(217)	Unsuitable Type B Removed
Shoulder		(11)	Unsuitable Type C
(209)	Shoulder HMA	(218)	Unsuitable Type C Removed
(0)	Shoulder PCC	(3)	Waste
(6)	Shoulder Granular	(219)	Waste Removed
Structural			
(112)	Noise Wall		
(112)	Noise Wall Footing		
(112)	Retaining Wall Back		
(112)	Retaining Wall Back Excavate		
(112)	Retaining Wall Face		
(112)	Retaining Wall Front Excavate		
(112)	Retaining Wall Front Footing		
(112)	Retaining Wall MSE Gutter		
(112)	Retaining Wall Reinforced Earth		

NOTES:

Text

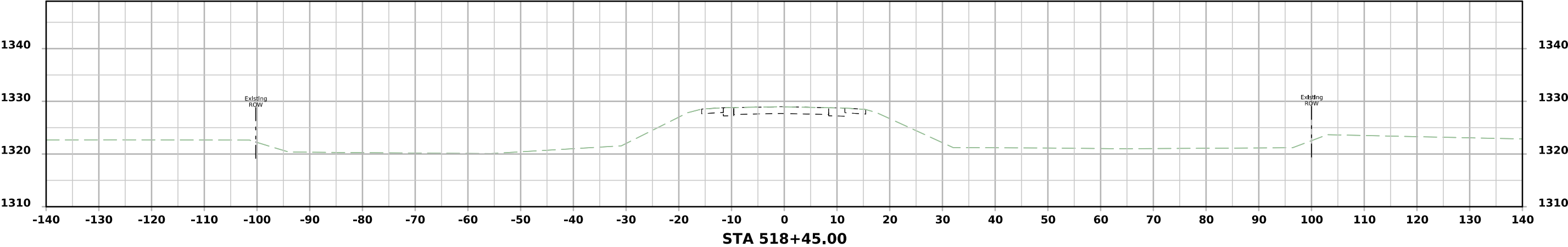
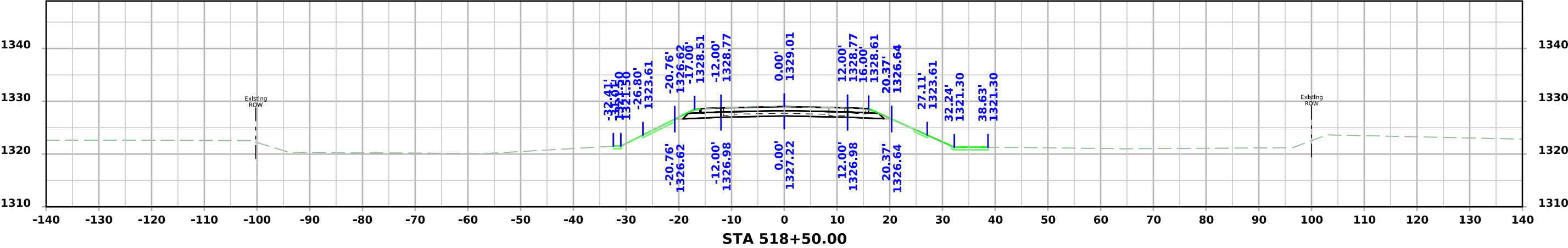
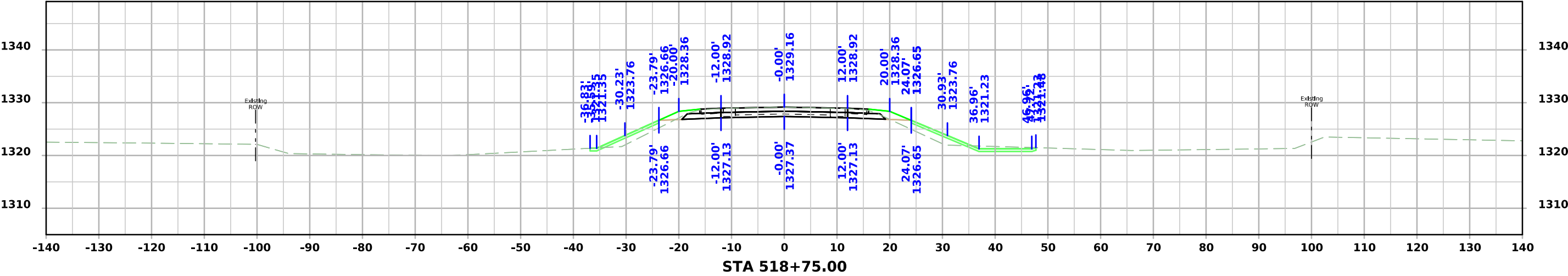
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Text

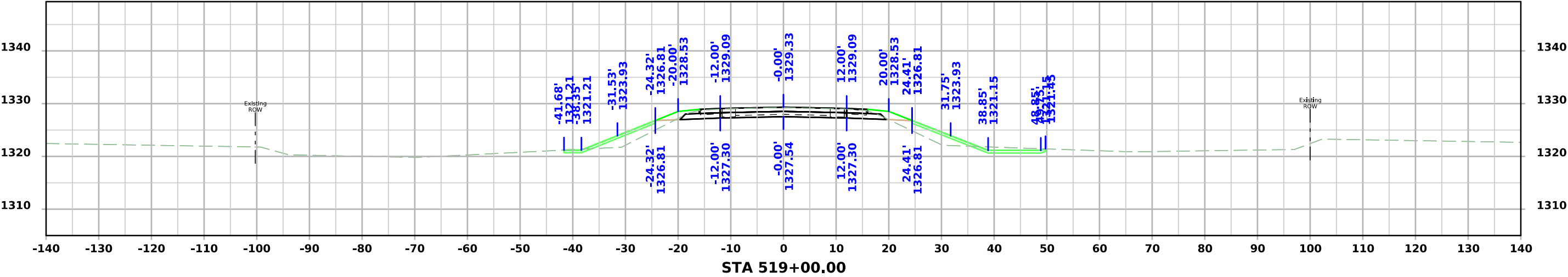
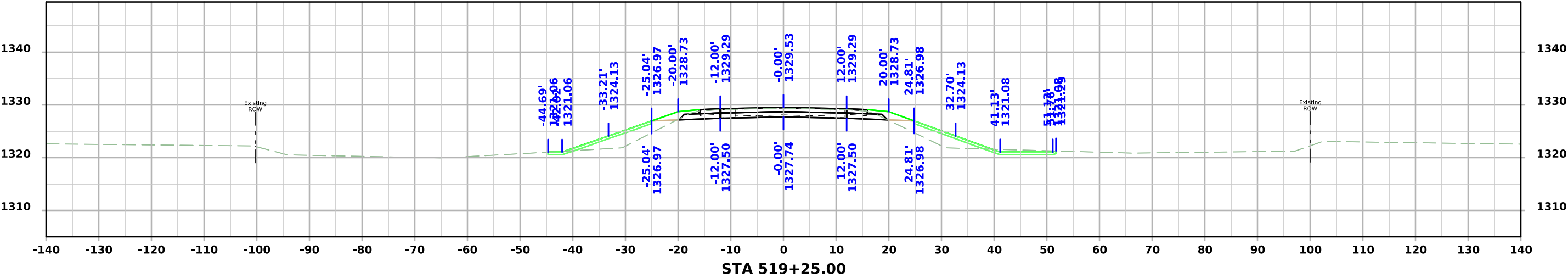
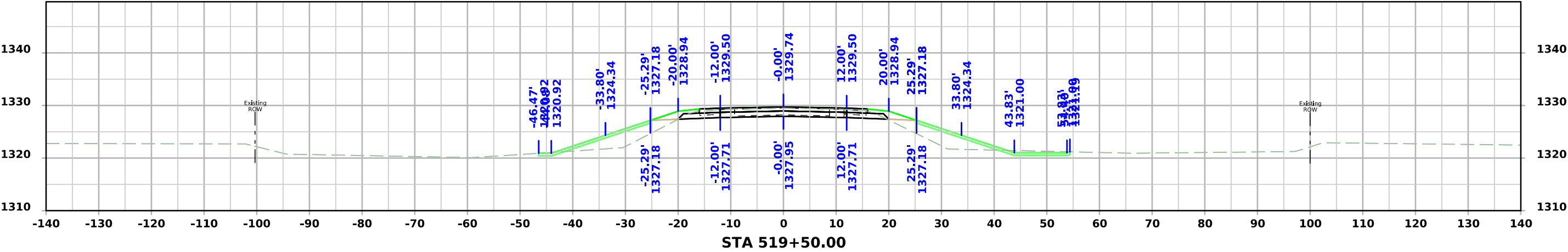
CROSS SECTIONS
LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

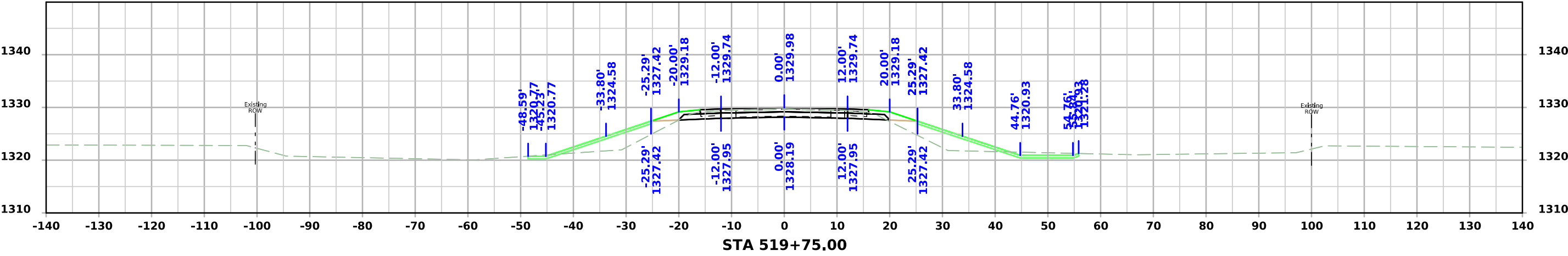
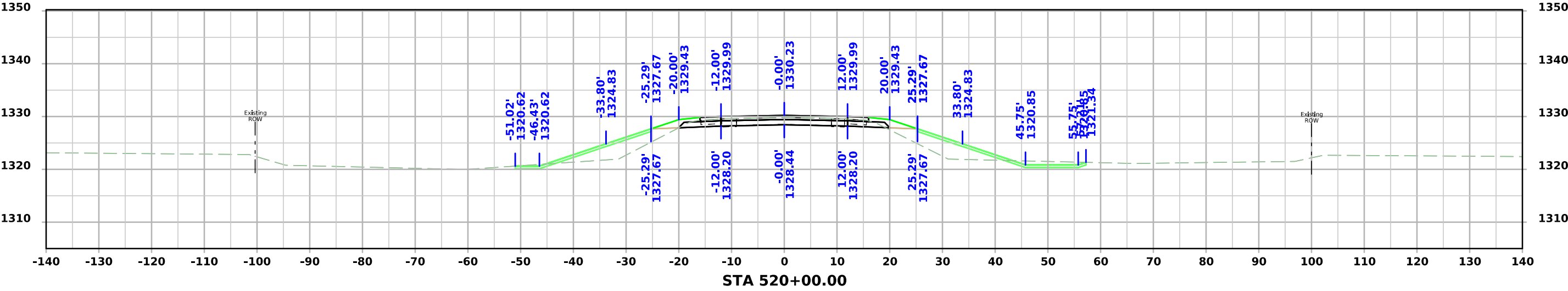
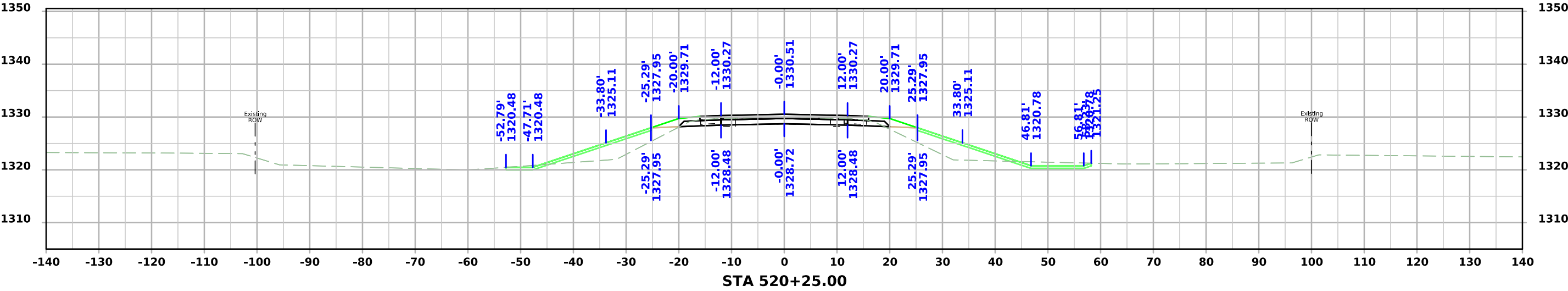
US 18

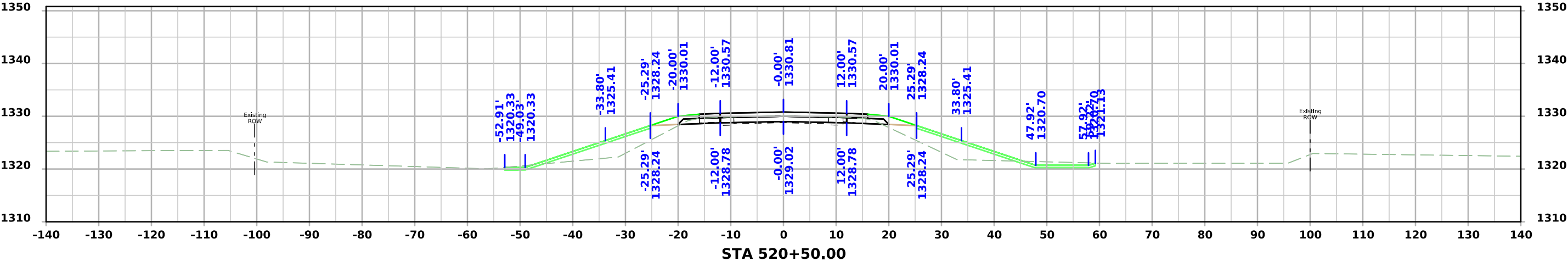
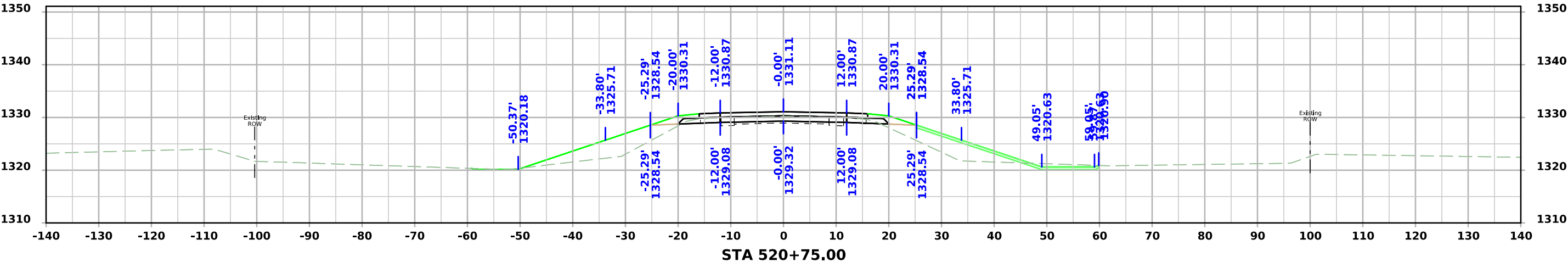
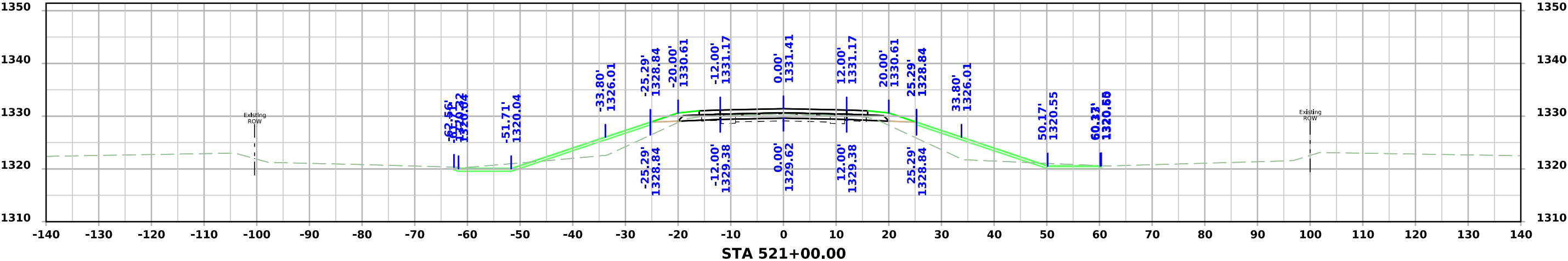


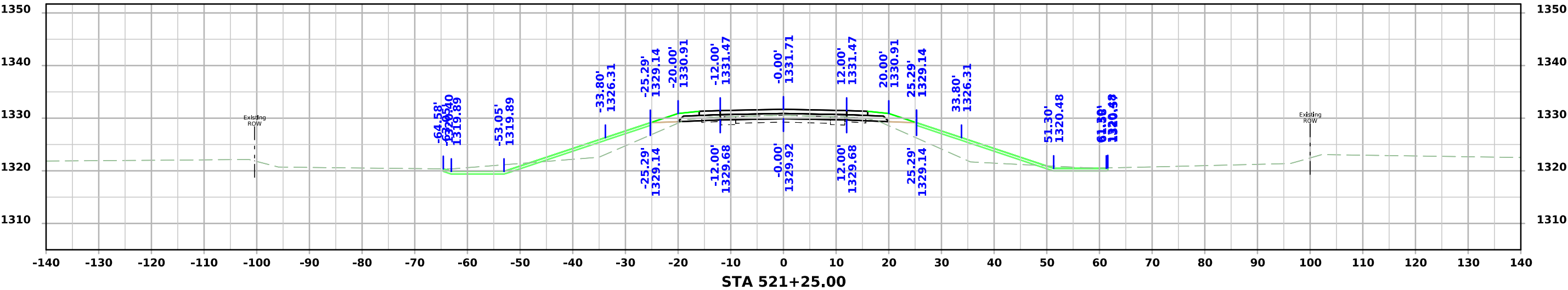
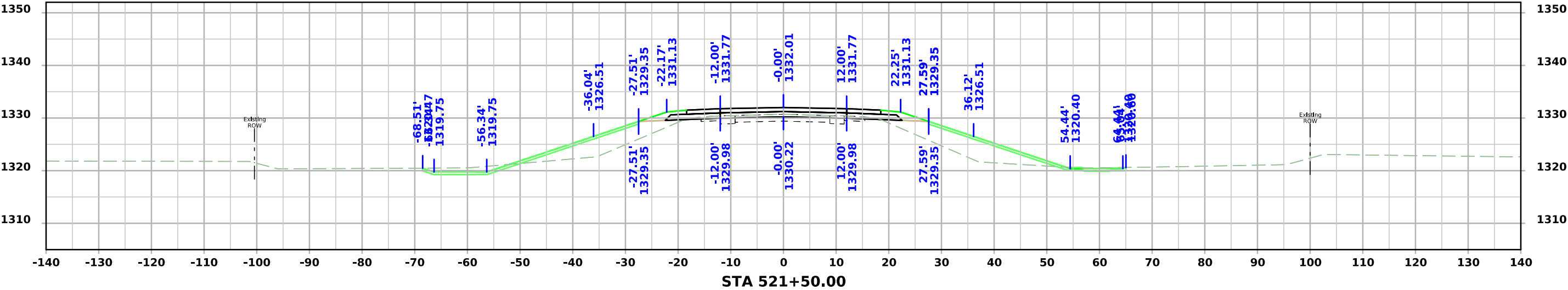
US 18

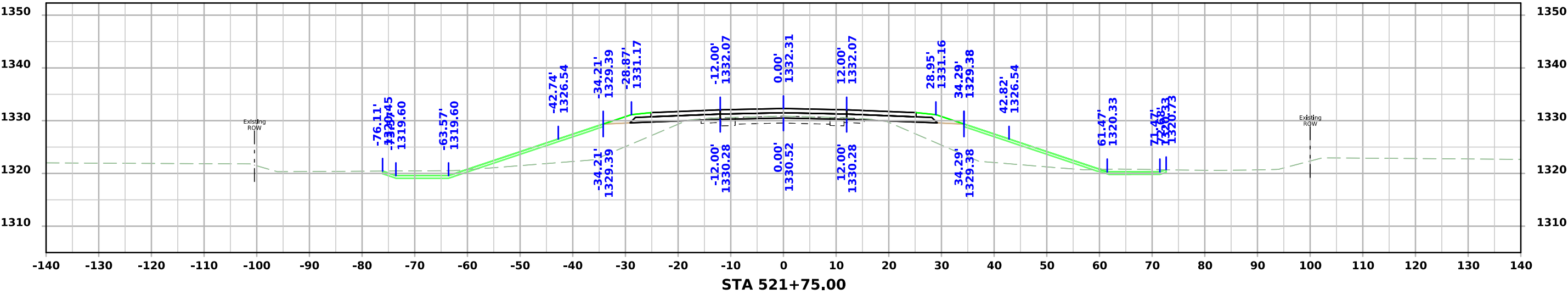
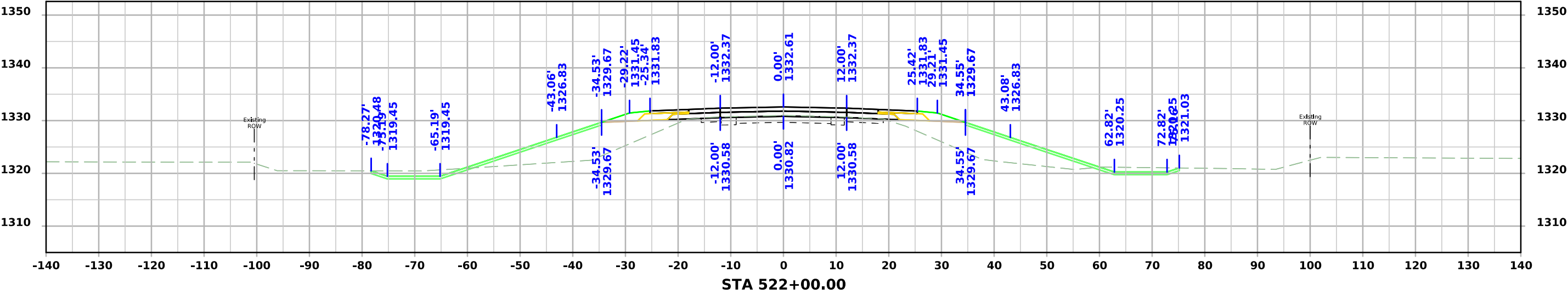


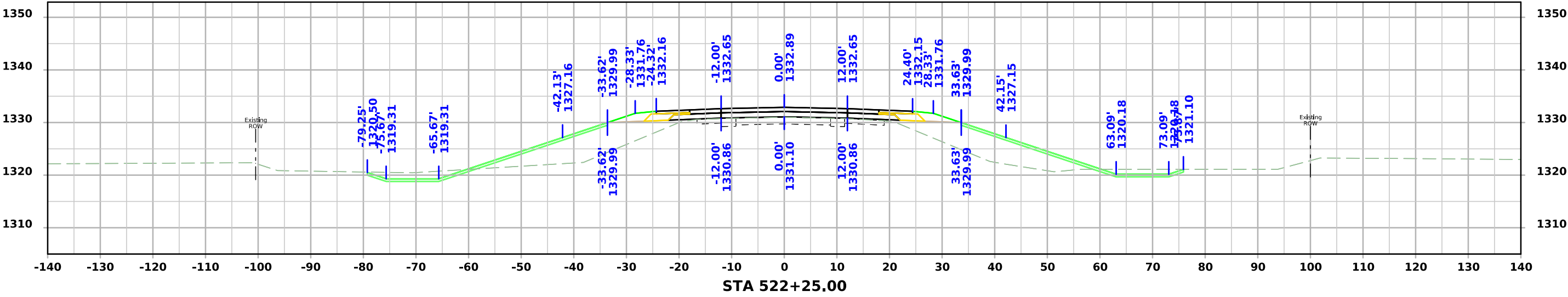
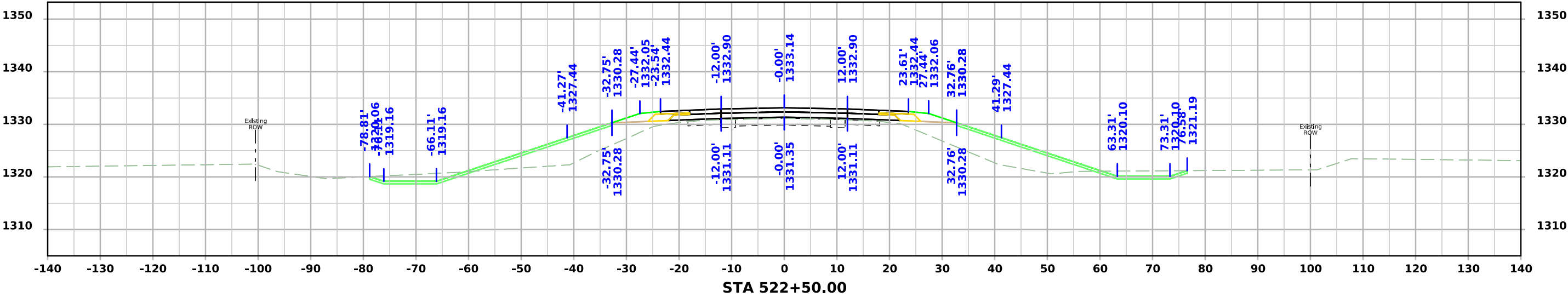
US 18

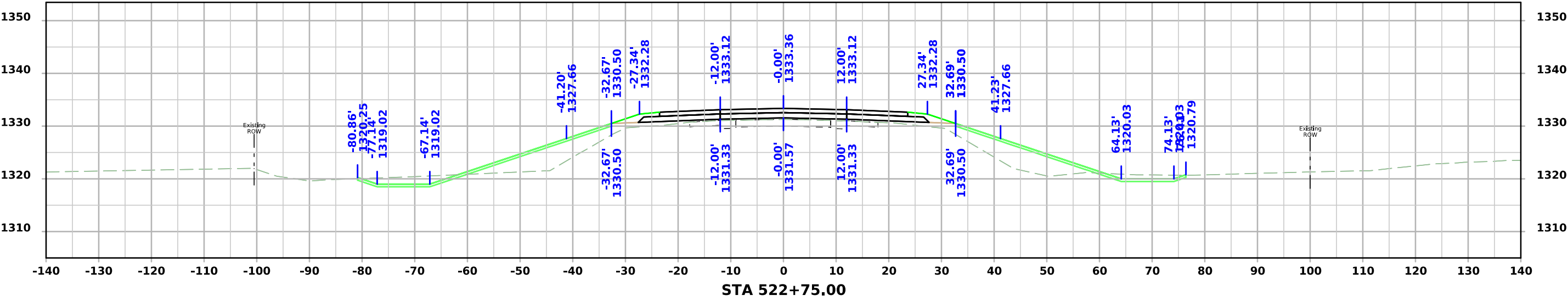
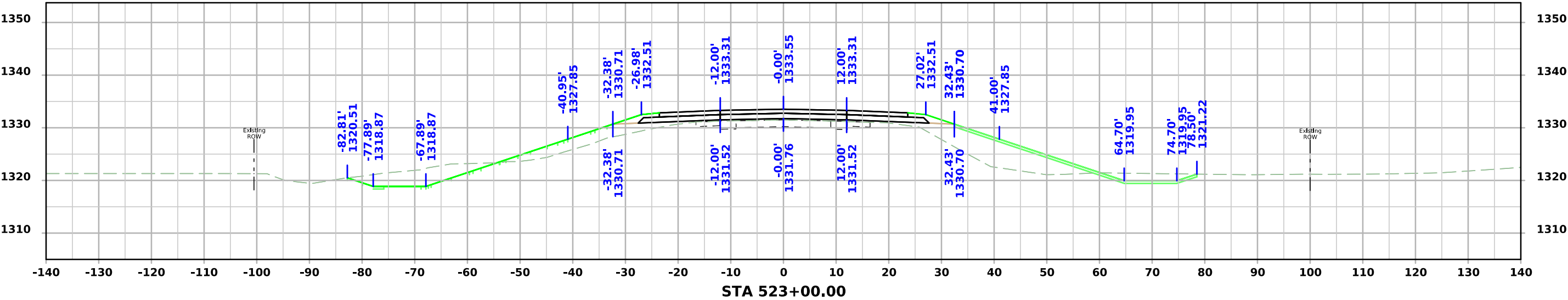


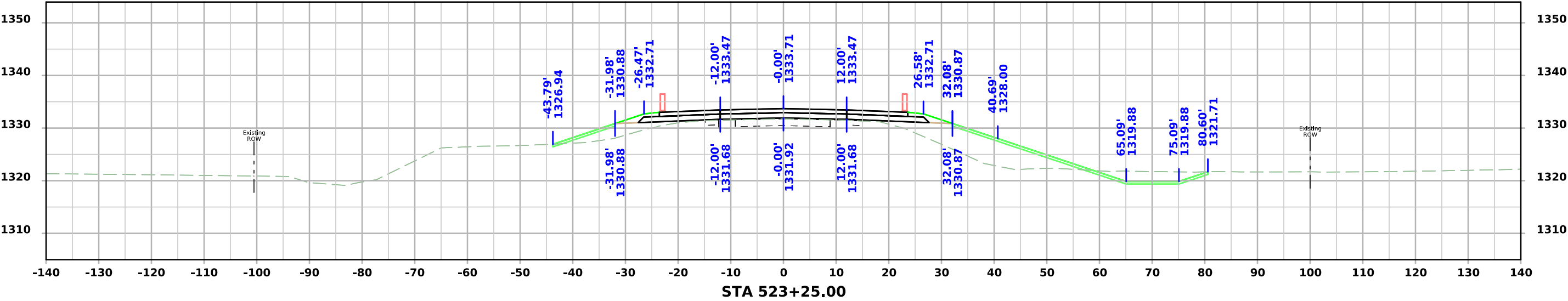
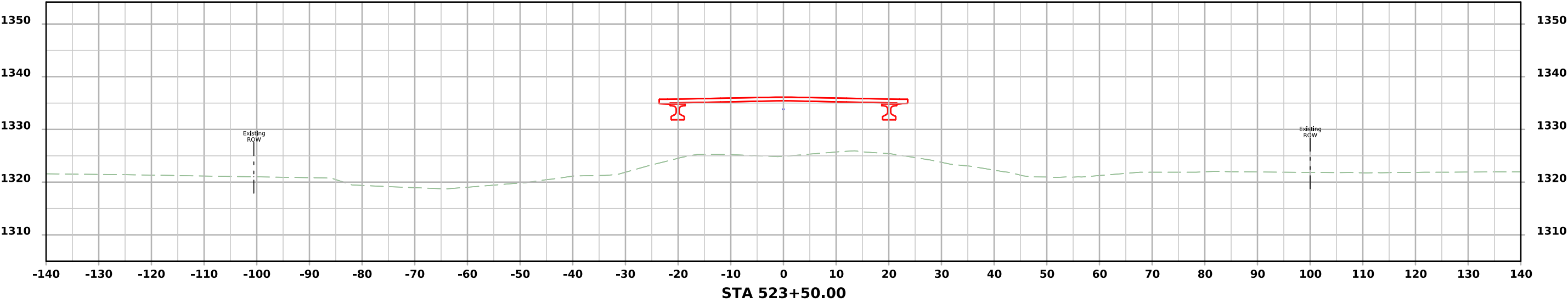


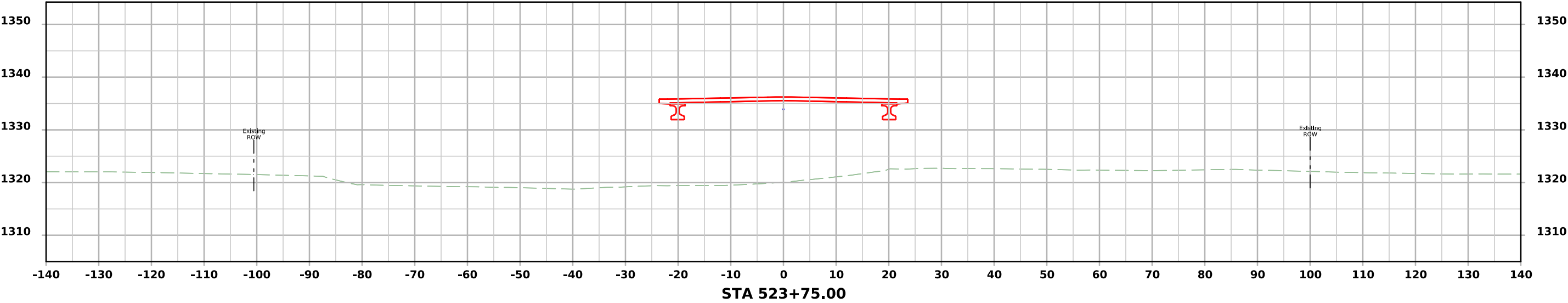
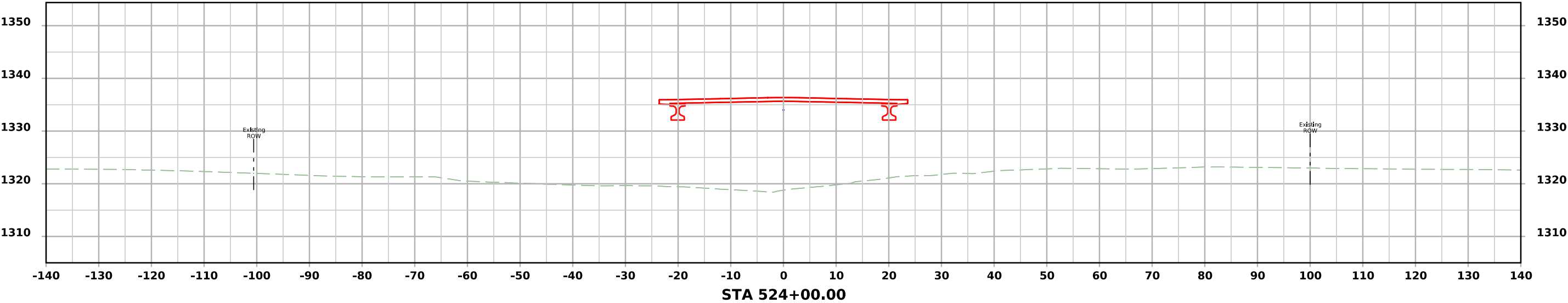


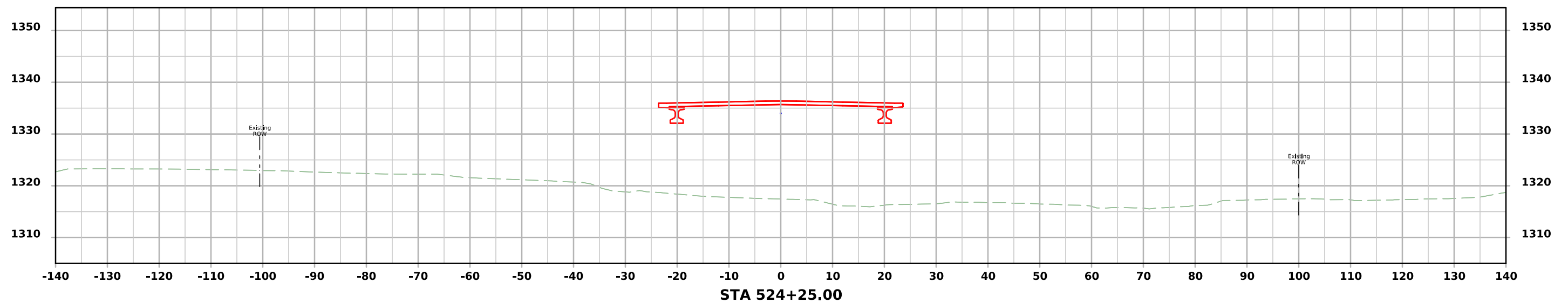
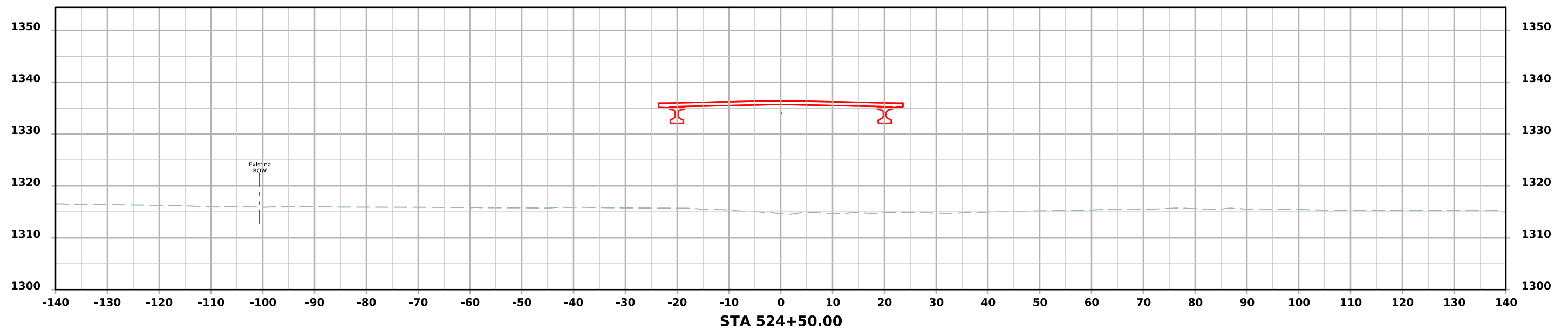


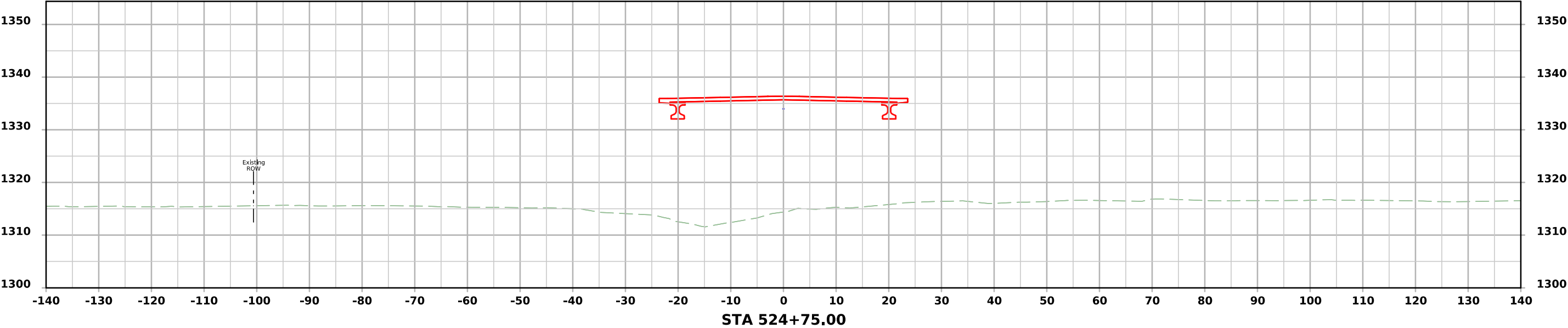
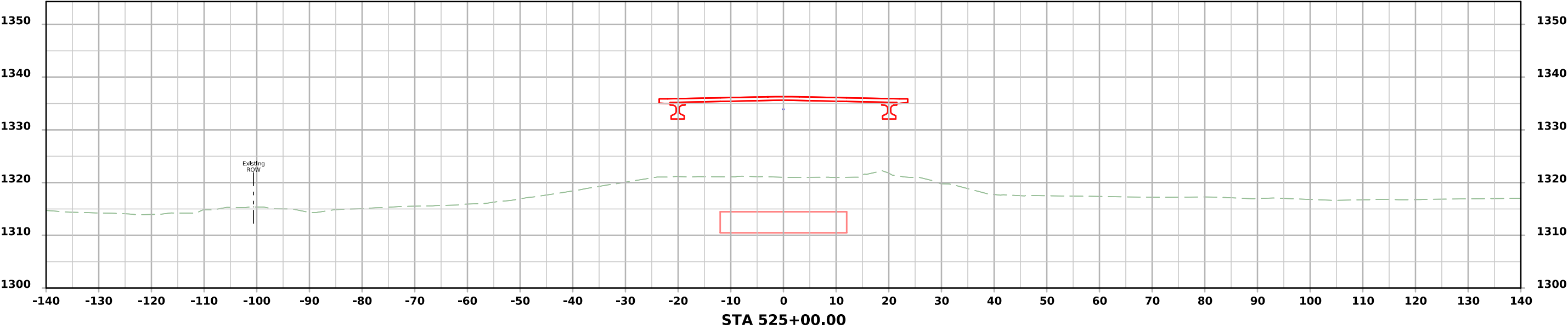




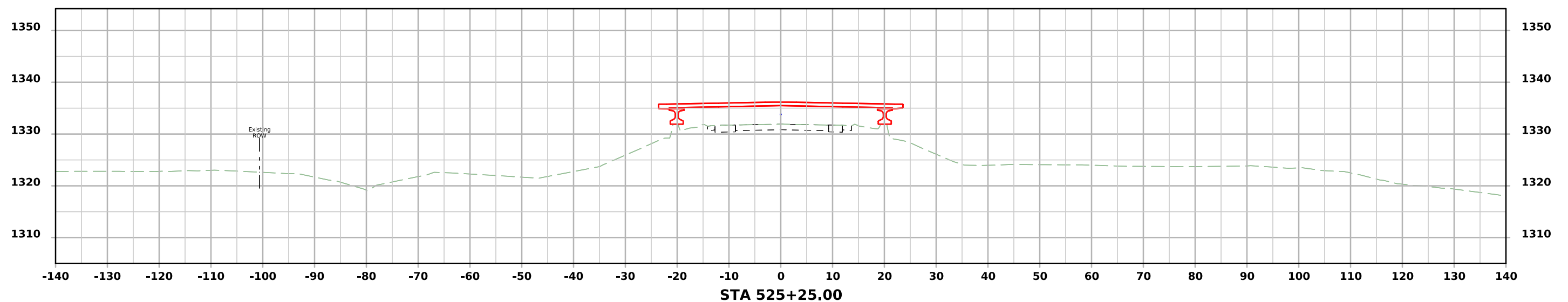
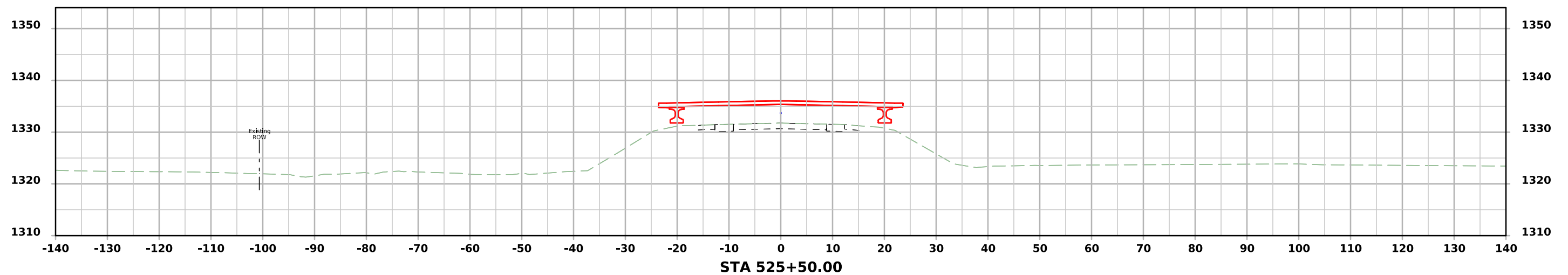
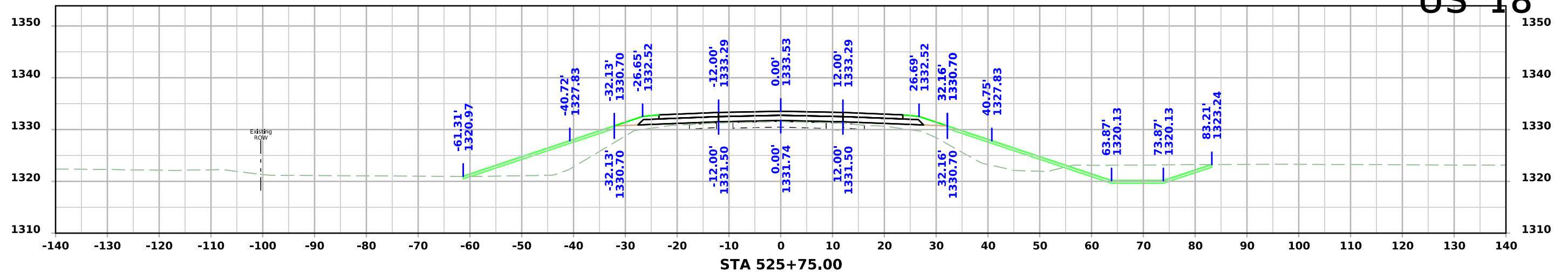




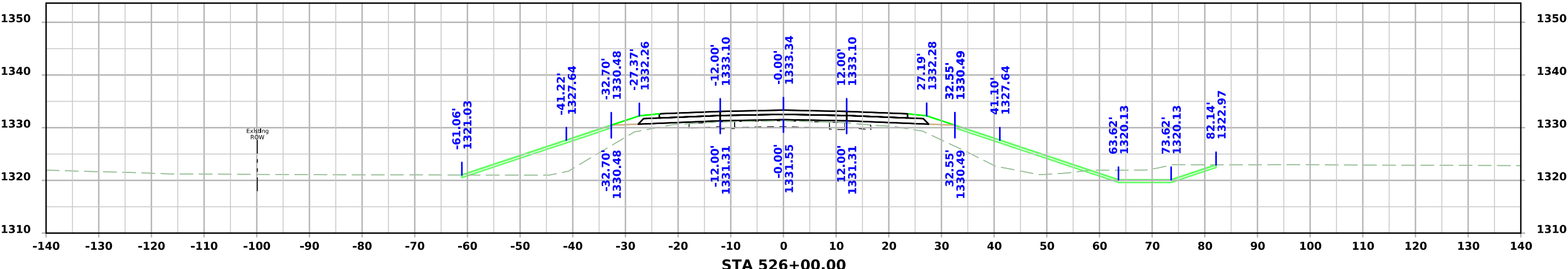
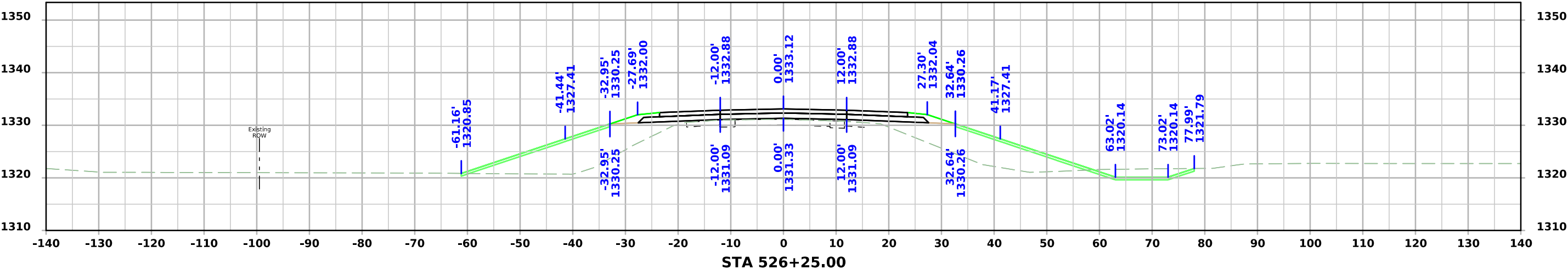
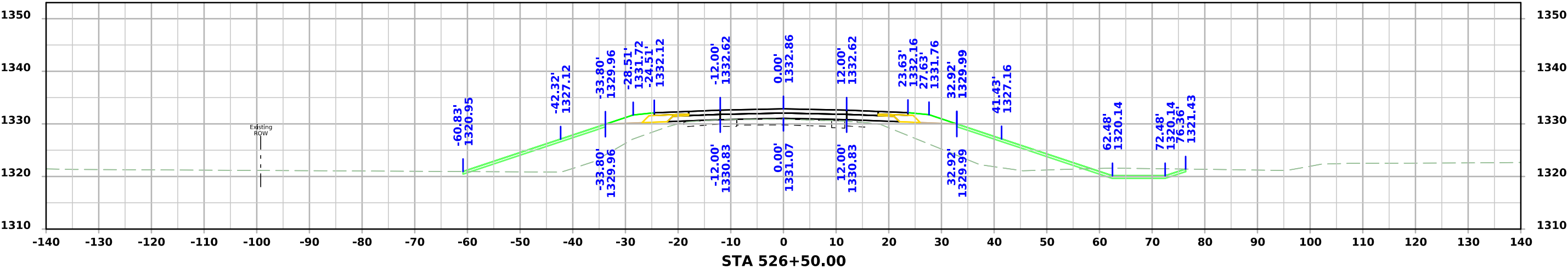




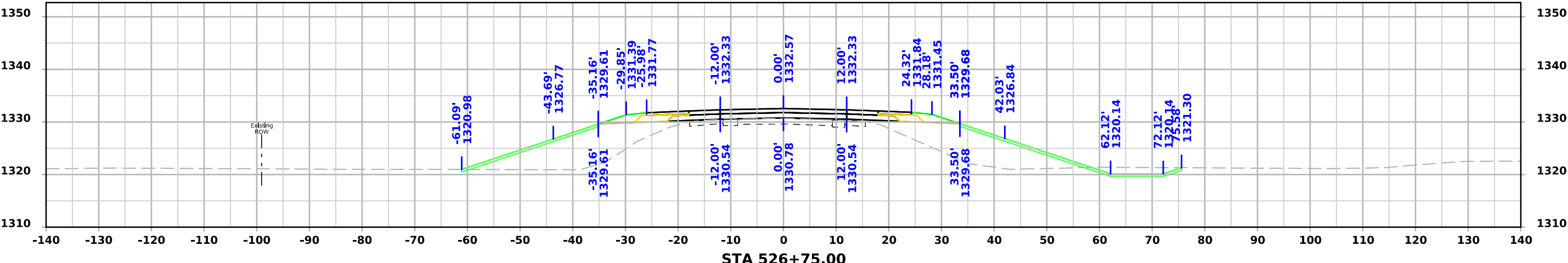
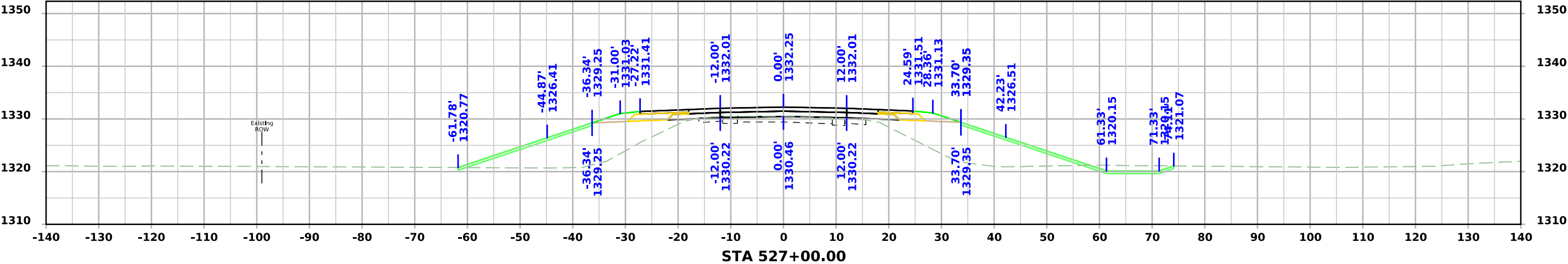
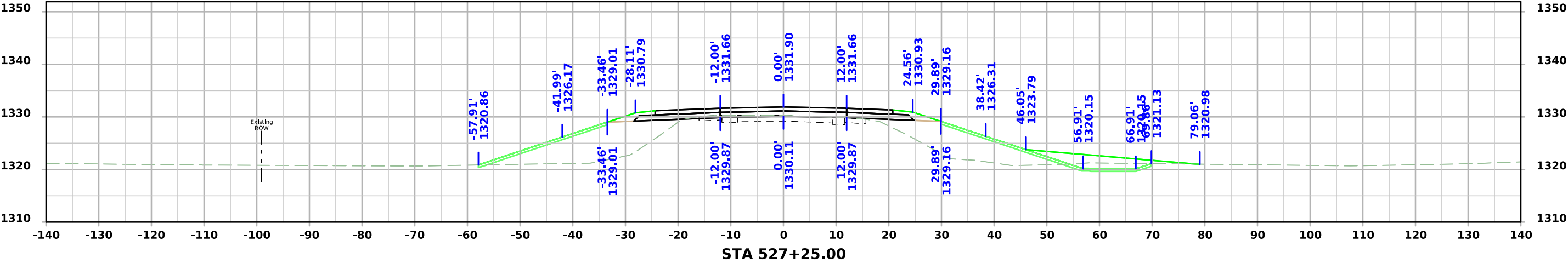
US 18



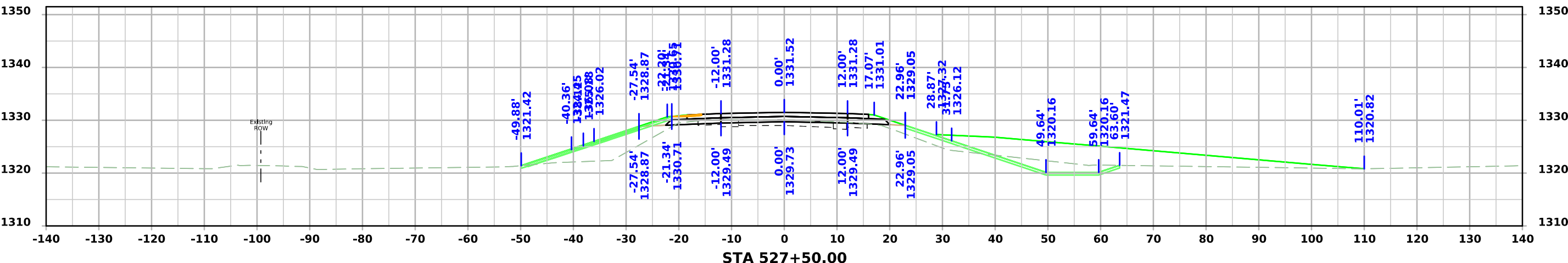
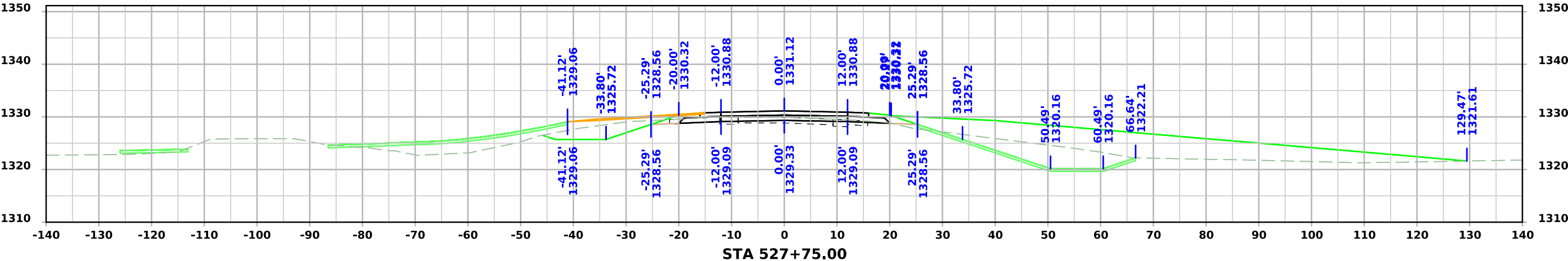
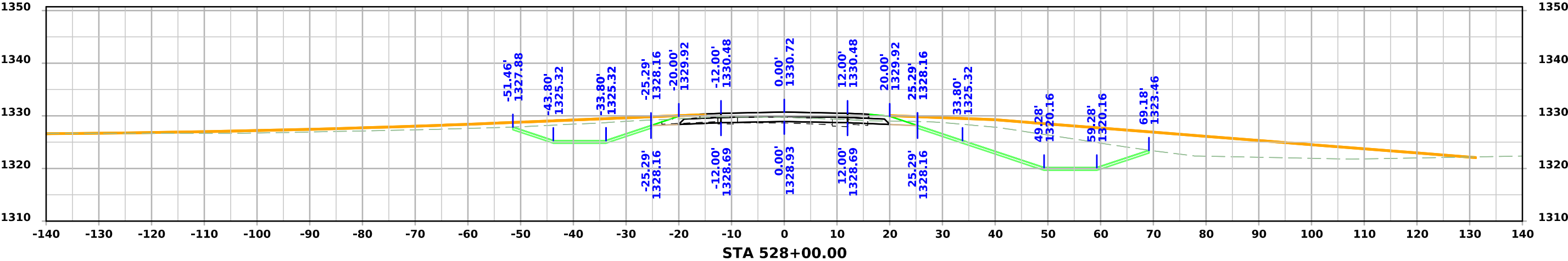
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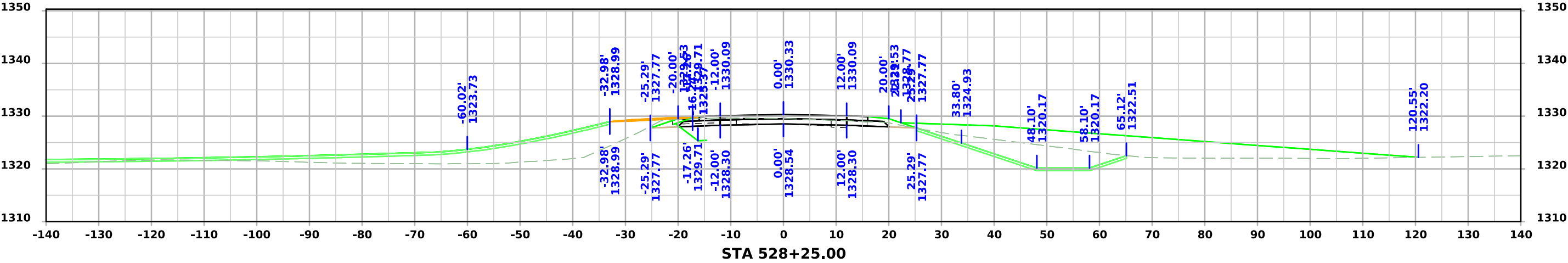
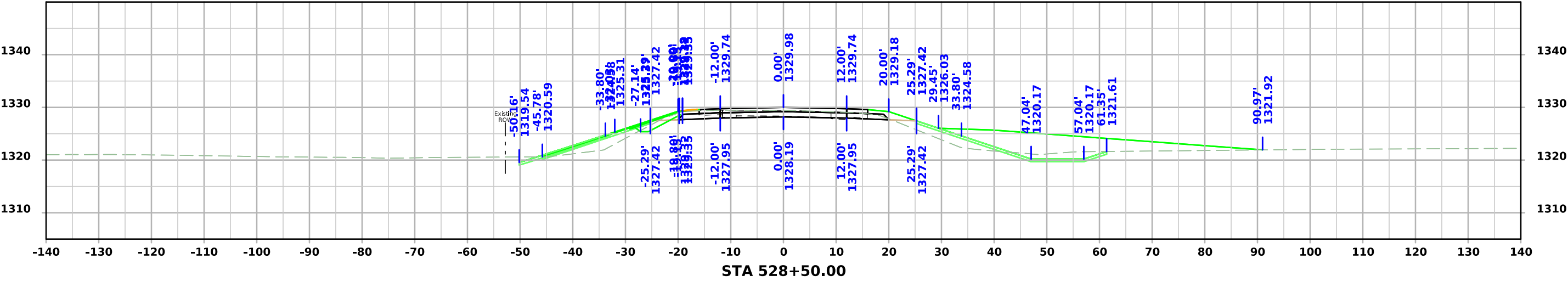
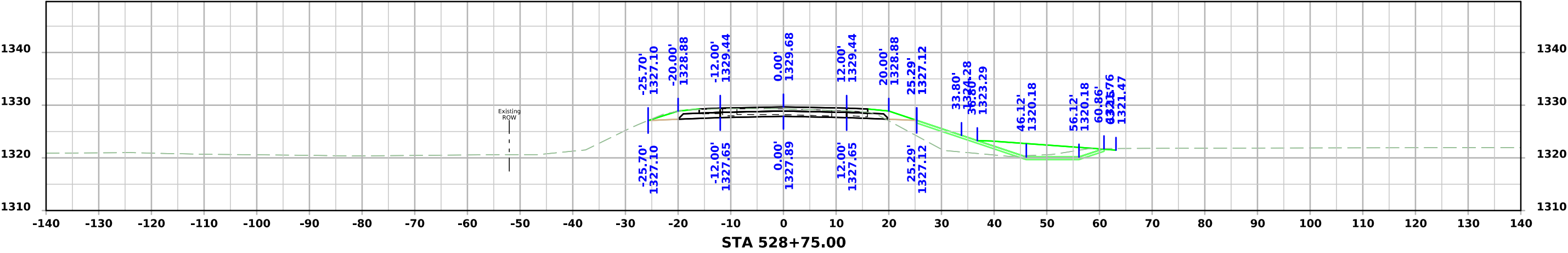


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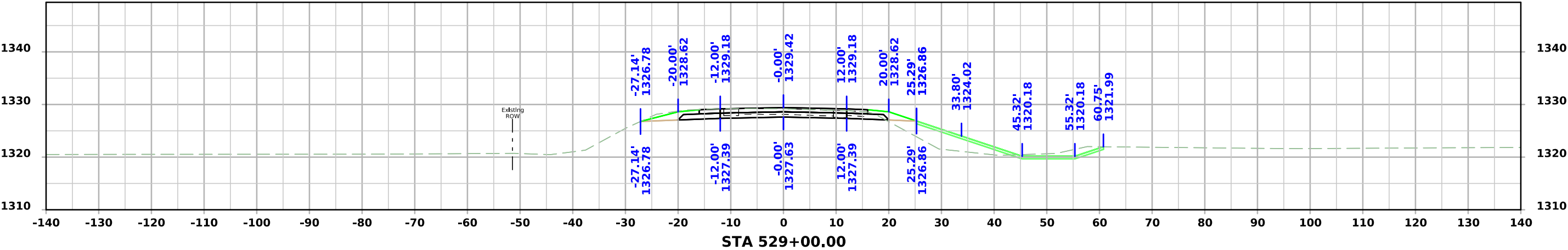
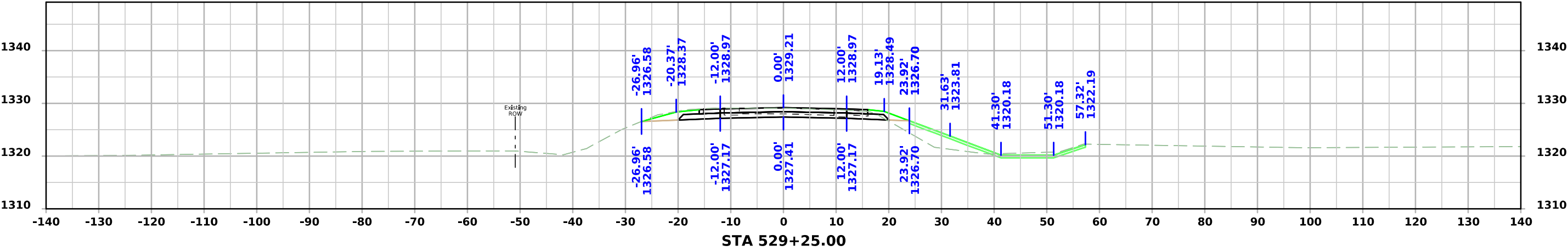
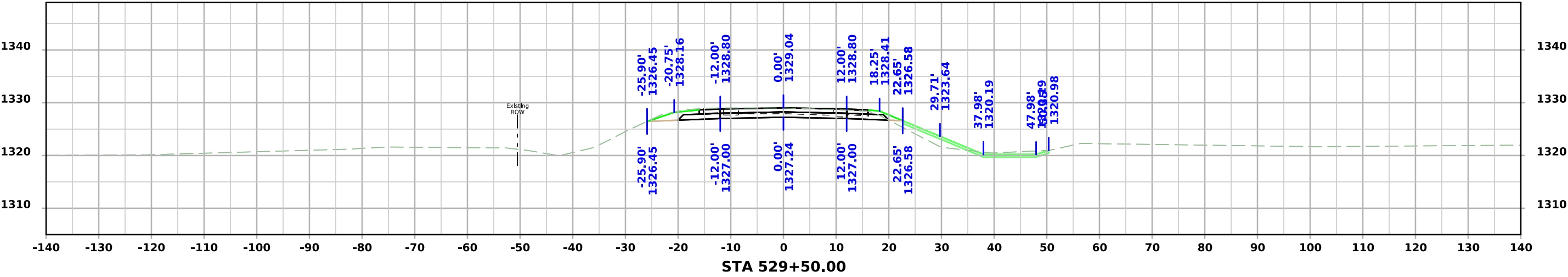


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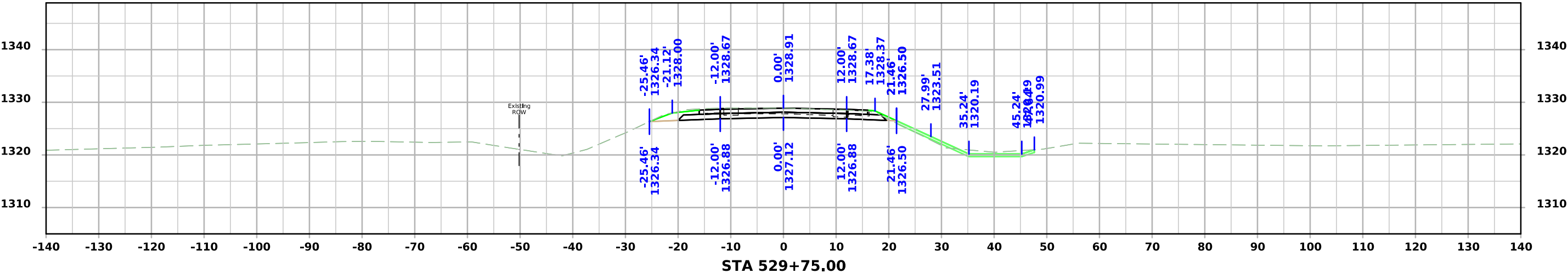
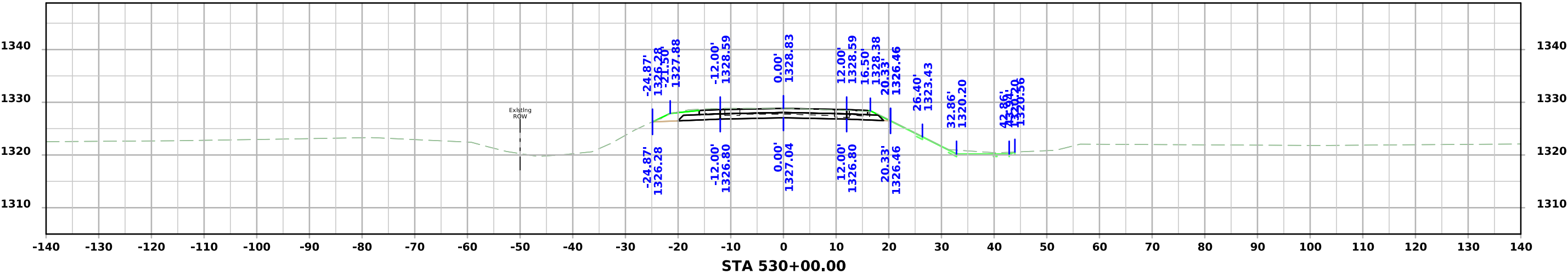
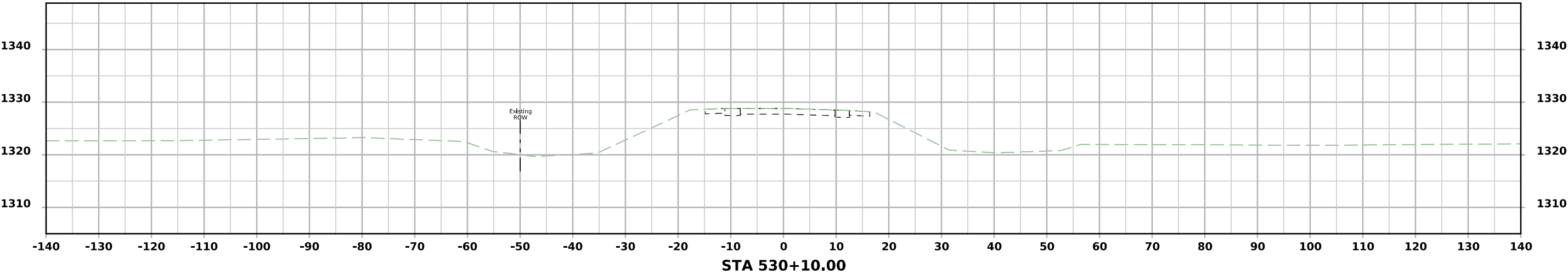




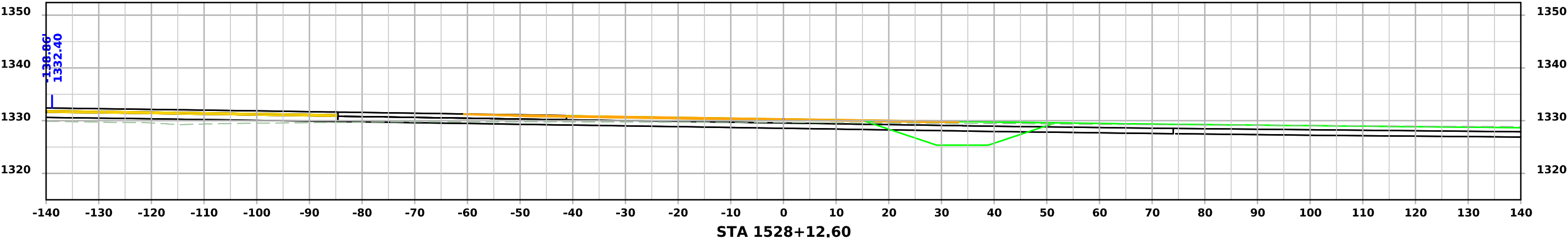
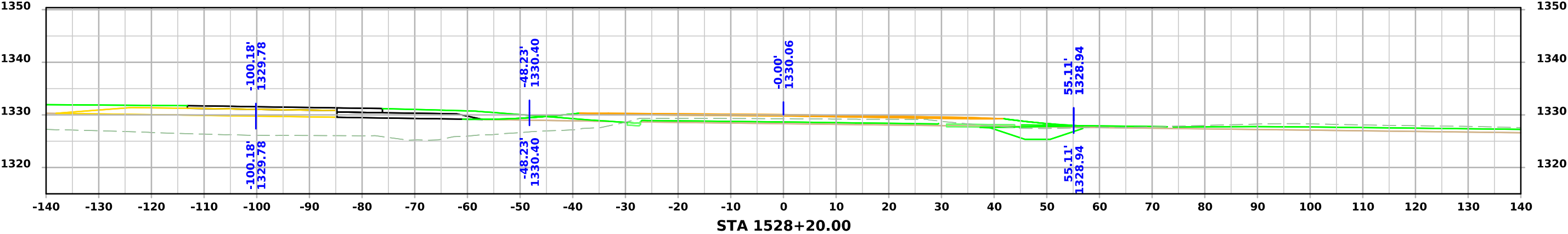
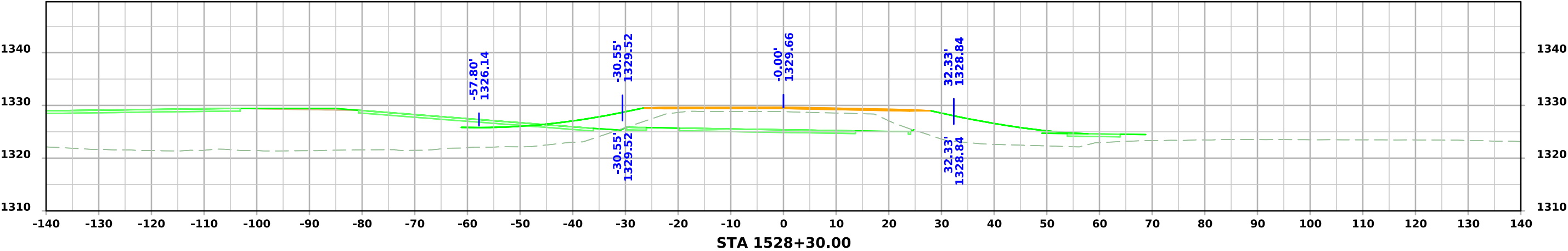
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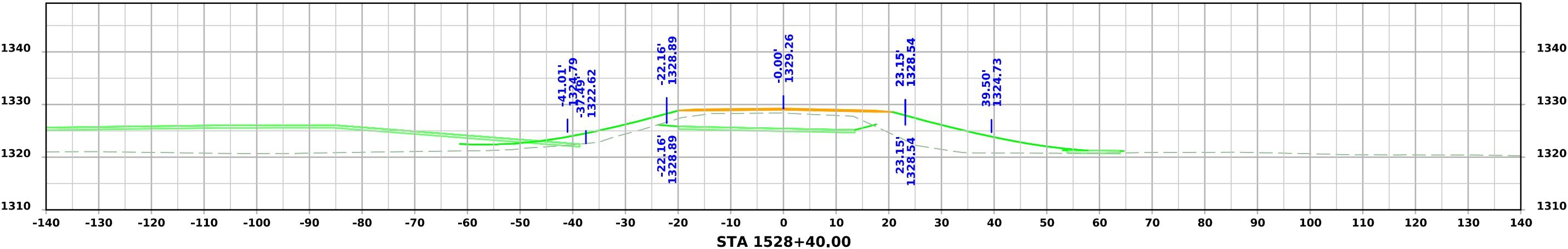
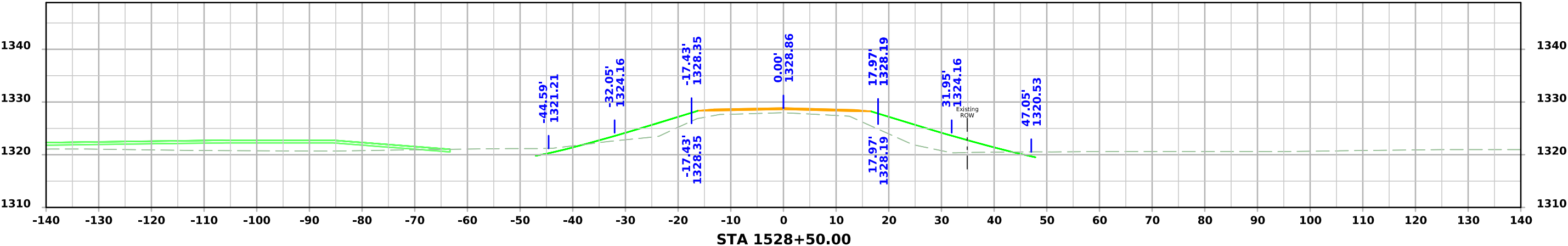
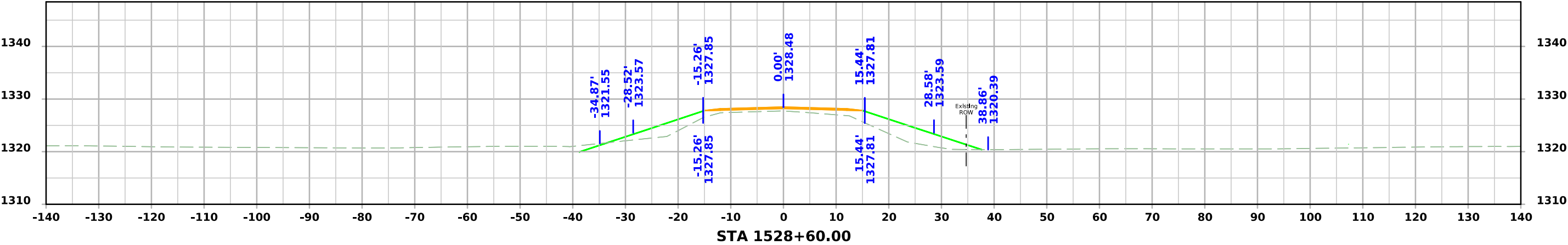
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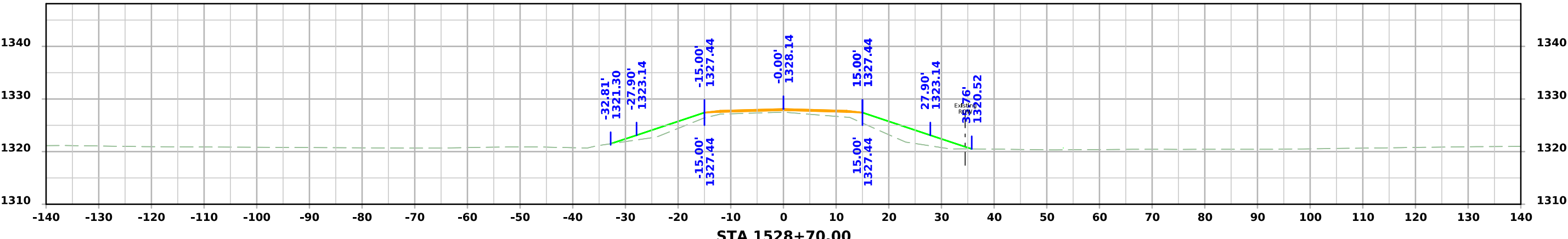
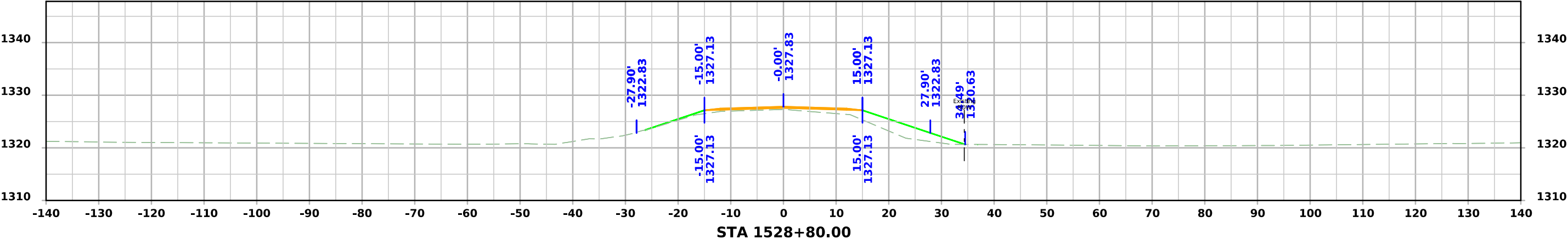
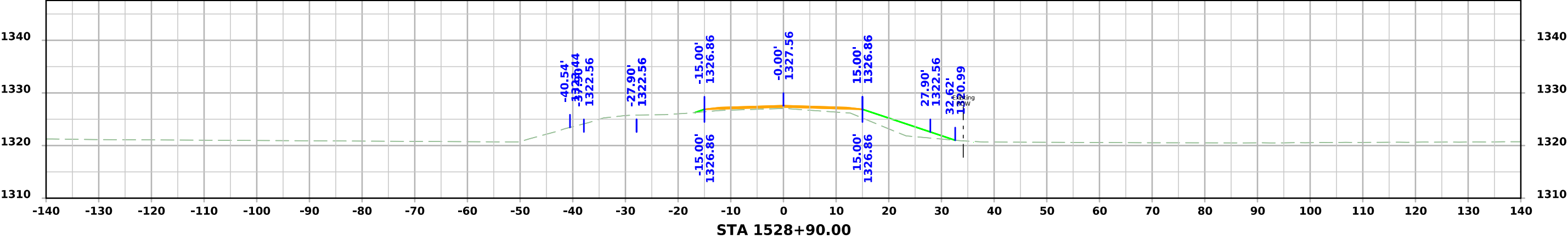
200th Ave



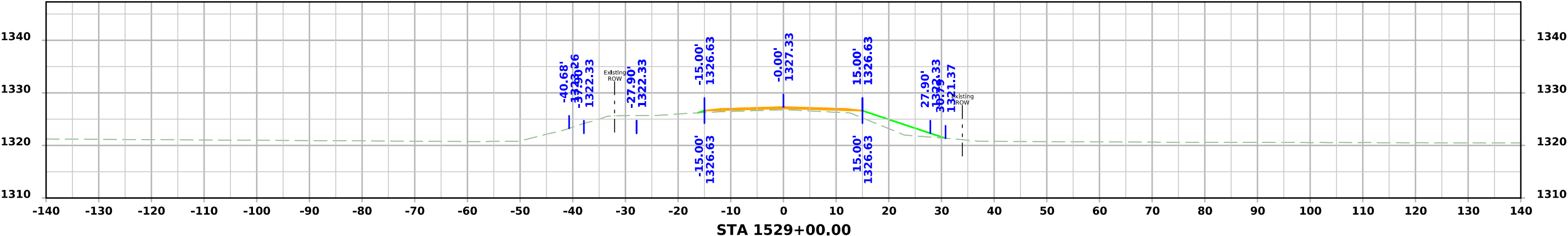
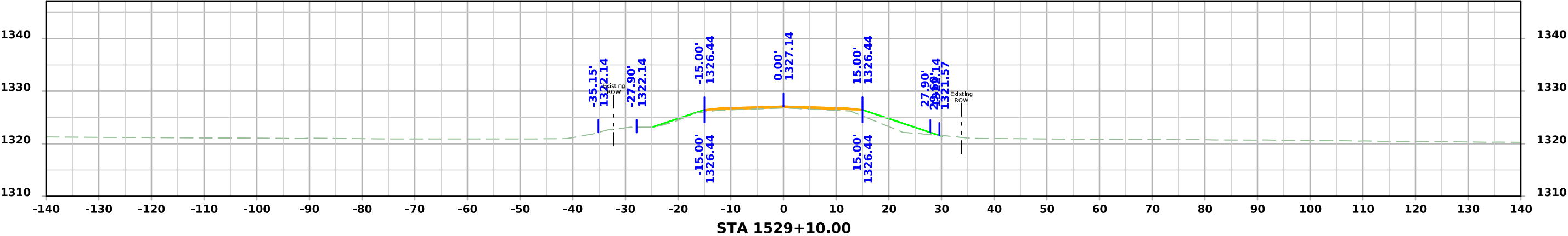
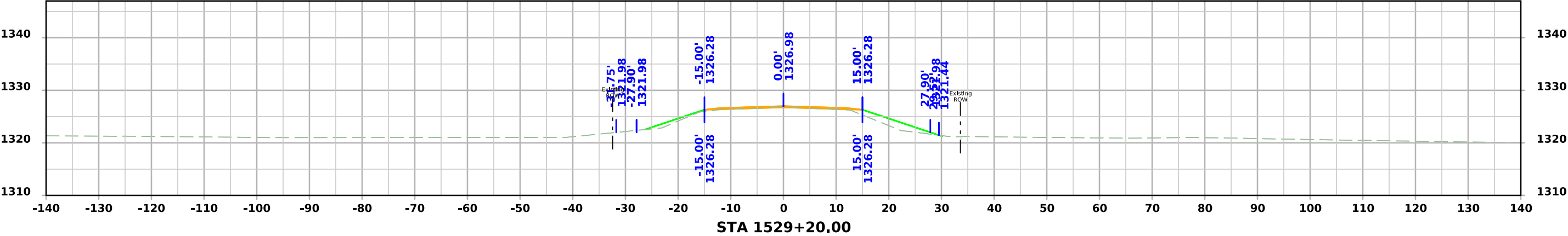
200th Ave



200th Ave



200th Ave



200th Ave

