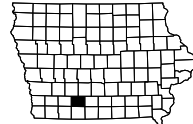


UNION COUNTY

Grading  
BRF-034-4(049)--38-88

LETTING DATE  
11-16-2027



INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 2	Typical Cross Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
D.1	Plan & Profile Legend & Symbol Information Sheet
D.2	US 34
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1	Reference Ties and Bench Marks
G.2	Control Point Vicinity Map
G.3	Horizontal and Vertical Control Tab.
G.4	Alignment Coordinate and Curve Data Tab.
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
J.2	Traffic Control - Legend & Symbol Information Sheet
J.3	Staging Typical
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 16	Mainline Cross Sections



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**UNION COUNTY**  
 Grading  
 Abandoned RR 1.7 mi W of E Jct US 169

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	29
PROJECT IDENTIFICATION NUMBER	23-88-034-040
PROJECT NUMBER	BRF-034-4(049)--38-88
R.O.W. PROJECT NUMBER	-

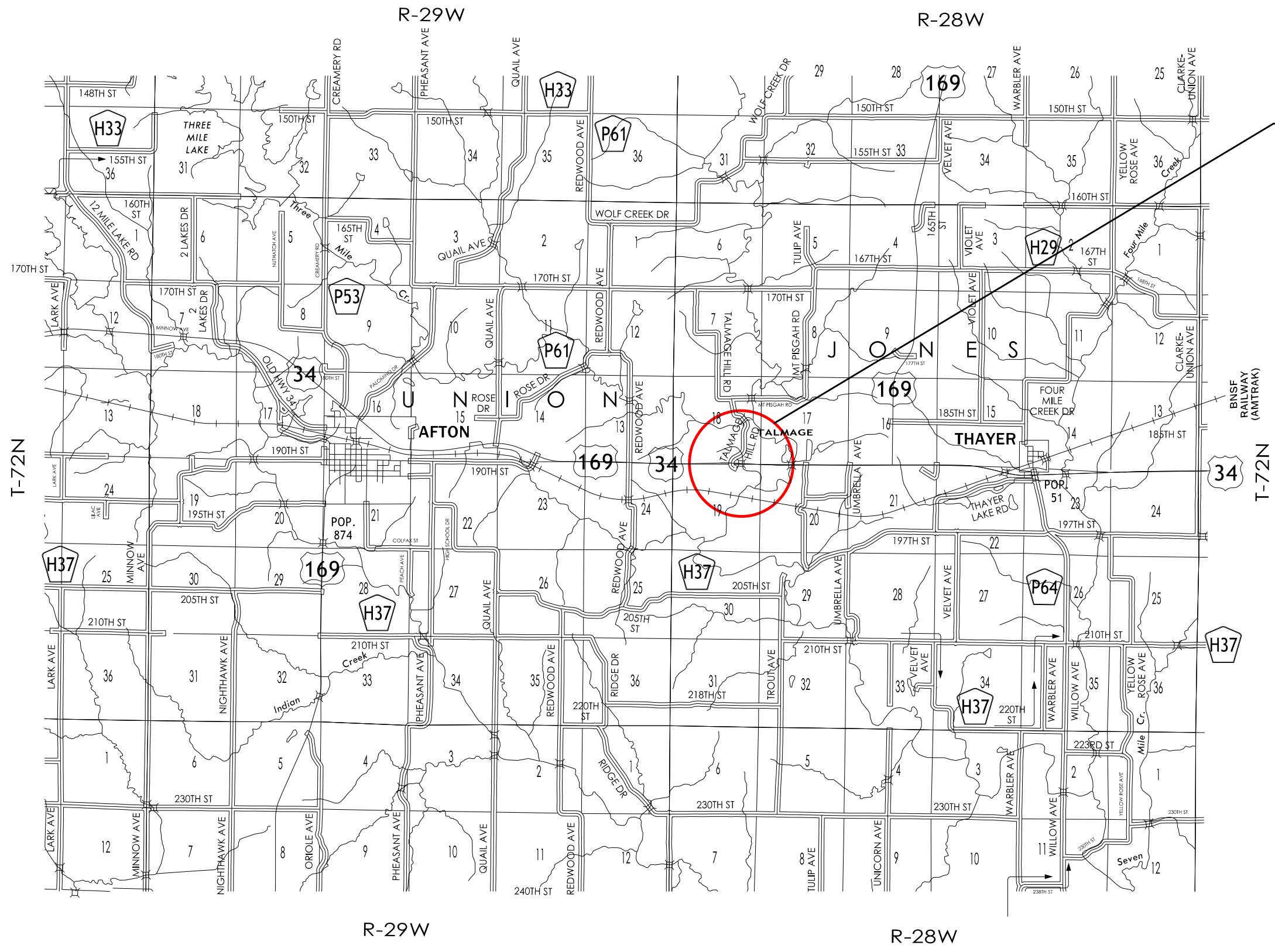
DESIGN DATA RURAL			
2028	AADT	3,500	V.P.D.
2048	AADT	3,800	V.P.D.
20	DHV	--	V.P.H.
	TRUCKS	20	%
	Total Design ESALs	--	

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

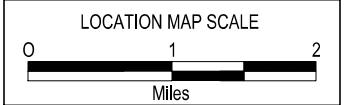
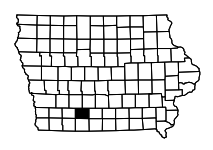
PRELIMINARY PLANS

Subject to change by final design.

D3 PLAN - Date: 05/07/2026



US 34 RR Bridge  
 FHWA #: 50061  
 Maint. #: 8897.6S034

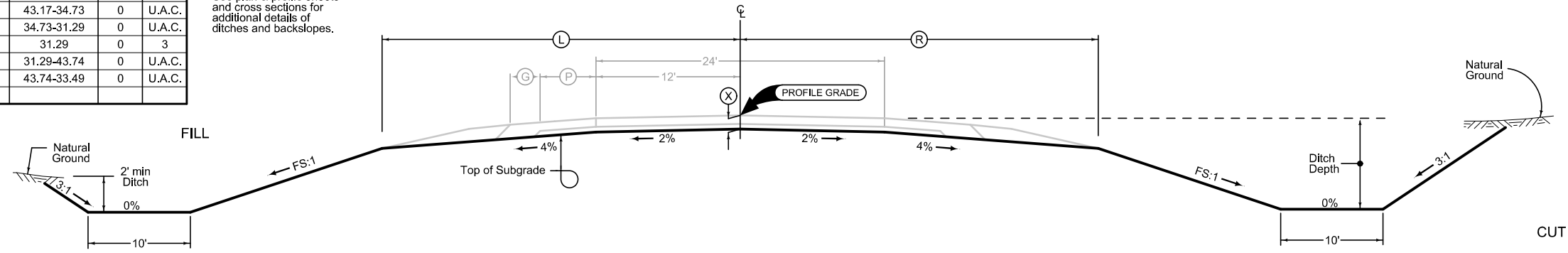


LOCATION		DIMENSIONS		
STATION TO STATION		Ⓛ Feet	Ⓧ Inches	FS
682+00.00	683+25.00	35.69-43.17	0	U.A.C.
683+25.00	684+00.00	43.17-34.73	0	U.A.C.
684+00.00	684+25.00	34.73-31.29	0	U.A.C.
684+25.00	686+25.00	31.29	0	3
686+25.00	687+40.00	31.29-43.74	0	U.A.C.
687+40.00	688+75.00	43.74-33.49	0	U.A.C.

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		
STATION TO STATION		Ⓡ Feet	Ⓧ Inches	FS
682+00.00	683+25.00	32.18-39.39	0	U.A.C.
683+25.00	684+00.00	39.39-31.29	0	U.A.C.
684+00.00	686+00.00	31.29	0	3
686+00.00	687+15.00	31.29-41.36	0	U.A.C.
687+15.00	687+75.00	41.36-32.93	0	U.A.C.



2 LANE GRADING

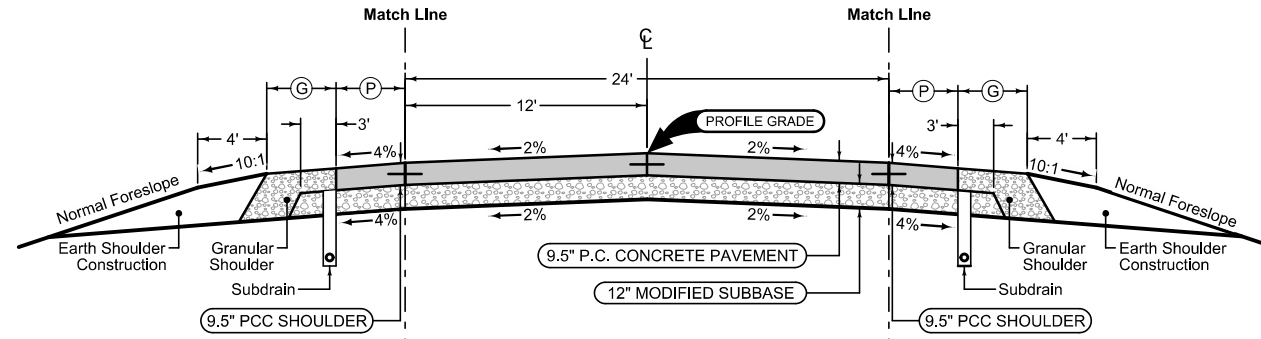
See Tab 112-9 for shoulder quantities.

U.S. Highway 34

**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

		2_C_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
683+25.00	687+00.00	4	6



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

		2P_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
683+25.00	687+00.00		

**Combination Shoulder**

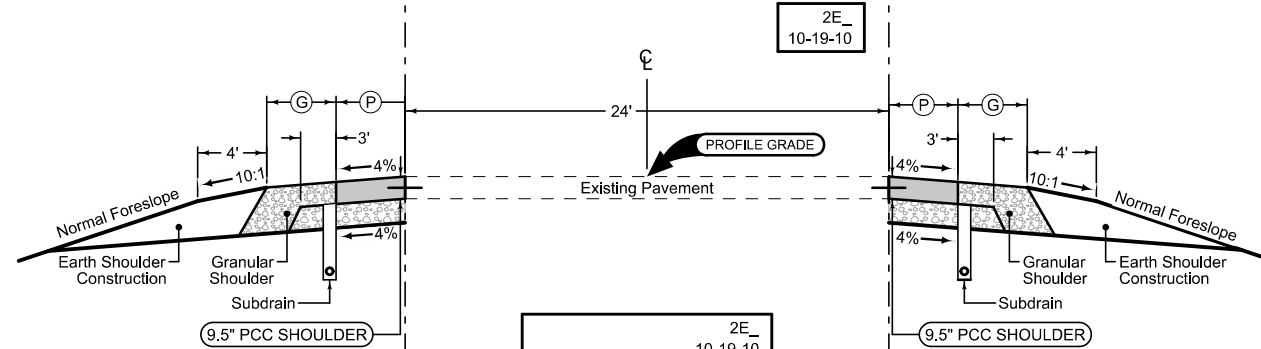
Shoulder Jointing:  
Longitudinal joint: B

		2_C_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
683+25.00	687+00.00	4	6

**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

		2_C_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
682+00.00	683+25.00	4	6



		2E_10-19-10	
STATION TO STATION		(P) Feet	(G) Feet
682+00.00	683+25.00		
687+00.00	688+75.00		

**Combination Shoulder**

Shoulder Jointing:  
Longitudinal joint: B

		2_C_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
687+00.00	688+75.00	4	6

See Tab 112-9 for shoulder quantities.

**U.S. Highway 34**

### 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 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, Electric Line Kraemer Service Line - Quality D*
- FO1** *FO1D, Fiber Optic Areon - Quality D*
- FO2** *FO2D, Fiber Optic ICN - Quality D*
- T1** *TL1D, Telephone Line Windstream - Quality D*
- W** *WL1D, Water Line SIRWA - Quality D*
- PPA** *Power Pole Alliant Energy*

### 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

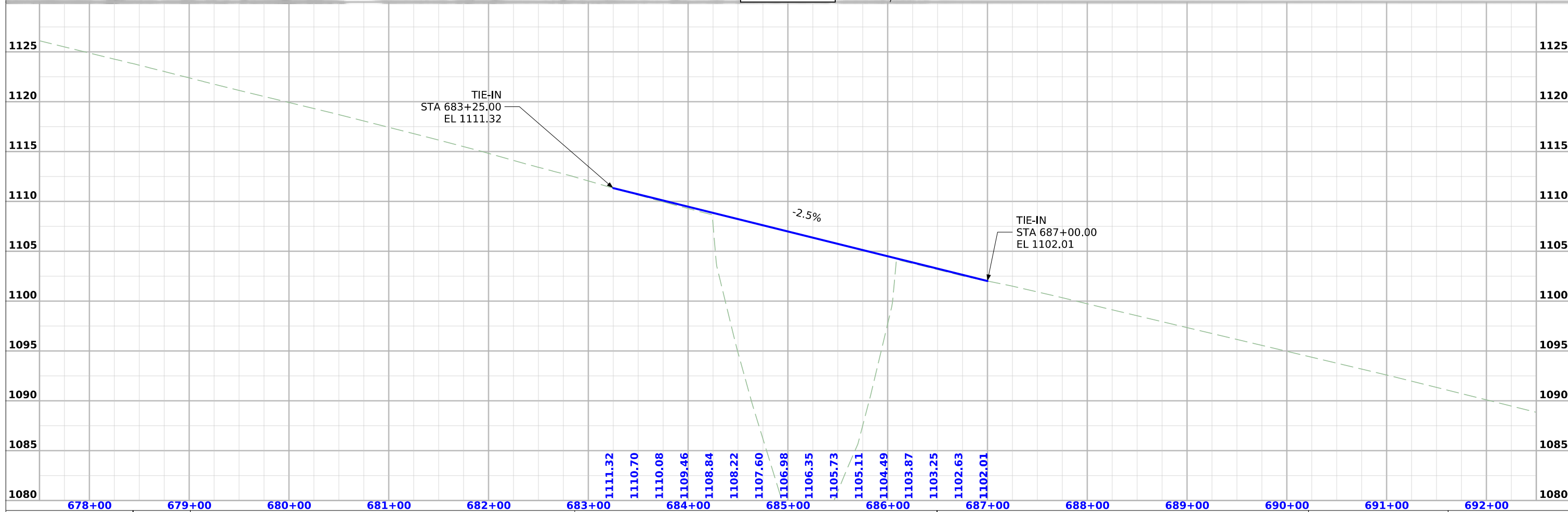
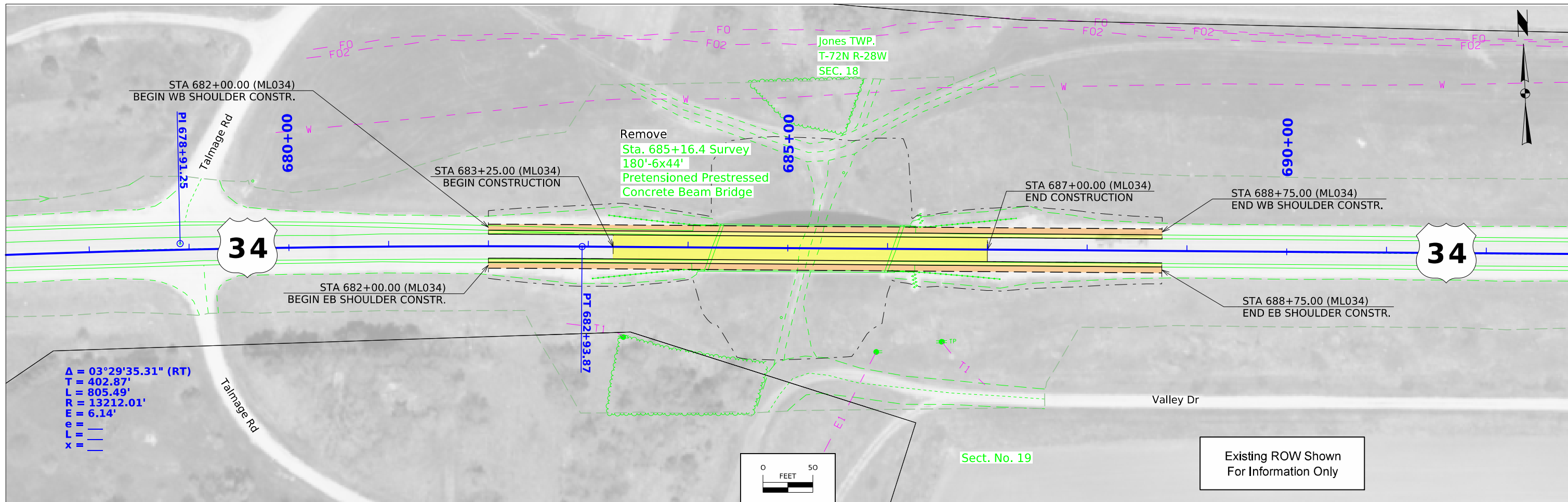
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

### 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)



## Survey Information

### SURVEY INDEX

**County: Union**  
**PIN Number: 23-88-034-040**  
**Project Number: BRF-034-4(049)--38-88**  
**Location: Abandoned RR 1.7 mi W of E Jct US 169**  
**Type of Work: 3511-Grading (Bridge removal)**  
**Project Directory: 8803404023**

### Survey Personnel

Paul Harry – Survey Party Chief  
Bob Fredrickson – Assistant Survey Party Chief

### Date(s) of Survey

Begin Date 12/30/2025  
End Date 01/26/2026

### General Information

This survey is for US Hwy 34 bridge over abandoned Railroad 1.7mi west of the east Junction with US 169. 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

Coordinates were determined for primary project control points by conducting concurrent six-hour static observations. Post processing is constrained to nearby Iowa Real Time Network reference stations. 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 12**  
**(U.S. SURVEY FOOT)**  
**VERTICAL DATUM: NAVD88**  
**GEOID MODEL: 2018u3**

### Alignment Information

The horizontal alignment for U.S. Hwy 34 this survey is a retrace of As-built Plans No. HES-034-4(41)—2H-88. Survey stationing was equated to the plan PC at Sta. 674+88.38 and carried ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PC Sta. 678+88.38 As-built Plans Project No. HES-034-4(41)—2H-88  
Survey PC Sta. 678+88.38

PI Sta. 678+91.16 As-built Plans Project No. HES-034-4(41)—2H-88  
Survey PI Sta. 678+91.13

PT Sta. 682+93.69 As-built Plans Project No. HES-034-4(41)—2H-88  
Survey PT Sta. 682+93.88

PI Sta. 706+32.75 As-built Plans Project No. HES-034-4(41)—2H-88  
Survey PI Sta. 706+32.97

### 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 12 (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 12 (U.S. Survey Foot)  
 VERT. DATUM: NAVD88  
 Geoid Model: 2018u3

Point Name	Northing	Easting	Elevation	Code Description
880340975	6240651.09	22399053.07	1116.00	CP SET FENO MONUMENT
880340984	6240529.68	22403453.77	1055.10	CP SET FENO MONUMENT
CP300	6240673.37	22396872.93	1175.59	CP FD 5/8IN X 40IN REBAR W/ ALUM CAP

**ALIGNMENT COORDINATES**

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	ML034						674+88.380 R1	6240583.42	22398575.24	678+91.252 R1	6240590.92	22398978.05	682+93.875 R1	6240573.87	22399380.56				
2	ML034	706+32.972 R1	6240474.86	22401717.56															



**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
Orange	(6)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Pink, Dark	(13)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Cyan	(7)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

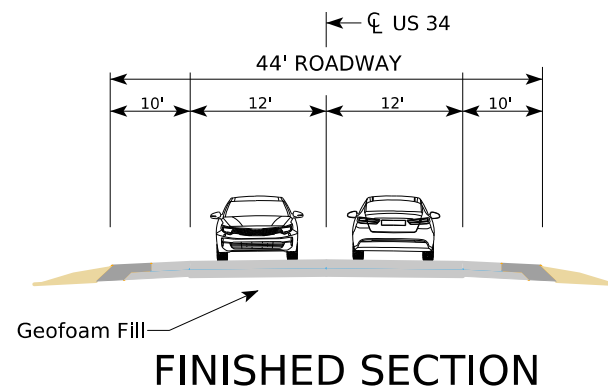
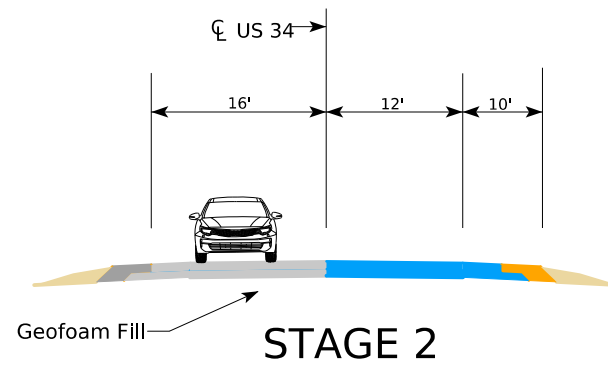
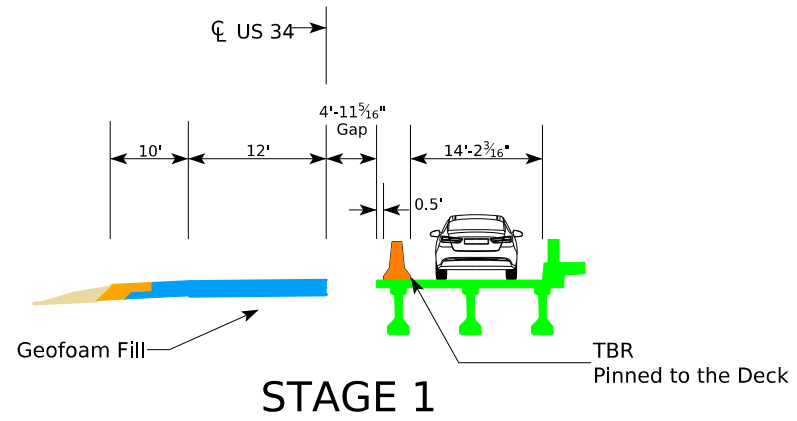
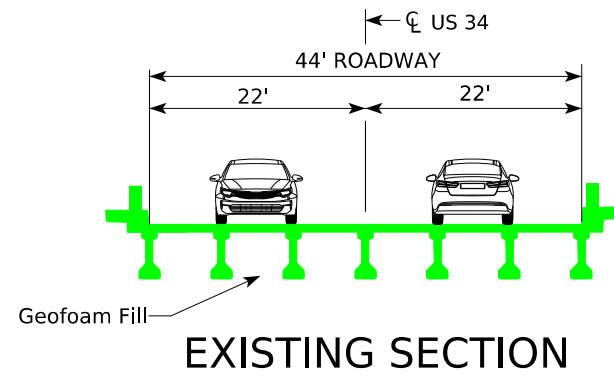
**PLAN VIEW PATTERN AND SYMBOL LEGEND  
OF TRAFFIC CONTROL AND STAGING SHEETS**

	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)



## CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
<b>Aggregate</b>			
(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
<b>Grading</b>			
(8)	Revetment Class A	(128)	Boulder
(6)	Revetment Class B	(209)	Boulder Removed
(62)	Revetment Class C	(48)	Broken Weathered
(188)	Revetment Class D	(210)	Broken Weathered Removed
(28)	Revetment Class E	(3)	Core Out
(12)	Shoulder Special Backfill	(115)	Core Out Remove Only
(12)	Special Backfill	(195)	Core Out Remove and Replace
(20)	Subbase	(203)	Existing Pavement
(20)	Subbase Lower	(184)	Existing Pavement Remove Only
(20)	Subbase Upper	(200)	Existing Pavement Remove and Replace
(118)	Subgrade Treatment	(6)	Loam
<b>Substrata</b>			
(207)	HMA Base Course	(211)	Loam Removed
(207)	HMA Interim Course	(80)	Rock
(207)	HMA Surface Course	(212)	Rock Removed
<b>Asphalt</b>			
(0)	Bridge	(4)	Select Sand
(0)	Barrier Concrete	(214)	Select Sand Removed
(0)	Barrier Concrete Footing	(3)	Shale
(0)	Curb Gutter	(215)	Shale Removed
(48)	Flowable Mortar	(10)	Topsoil
(0)	Median Concrete	(2)	Topsoil Remove Only
(0)	PCC Pavement	(4)	Topsoil Remove and Replace
(0)	Sidewalk	<b>Unsuitable / Waste</b>	
<b>Concrete</b>			
(0)	Existing Pavement	(3)	Unsuitable Type A
(209)	Shoulder HMA	(216)	Unsuitable Type A Removed
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(217)	Unsuitable Type B Removed
<b>Shoulder</b>			
(112)	Noise Wall	(11)	Unsuitable Type C
(112)	Noise Wall Footing	(218)	Unsuitable Type C Removed
(112)	Retaining Wall Back	(3)	Waste
(112)	Retaining Wall Back Excavate	(219)	Waste Removed
(112)	Retaining Wall Face		
(112)	Retaining Wall Front Excavate		
(112)	Retaining Wall Front Footing		
(112)	Retaining Wall MSE Gutter		
(112)	Retaining Wall Reinforced Earth		
<b>Structural</b>			

**NOTES:**

Text

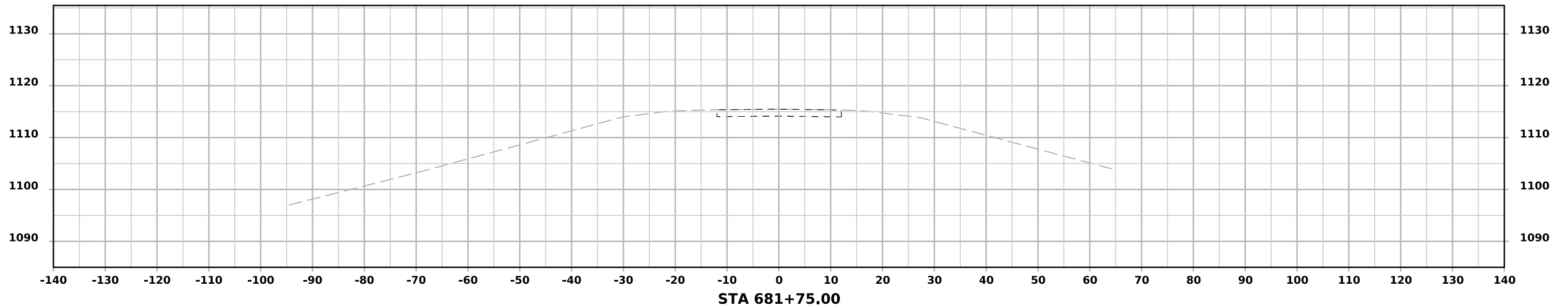
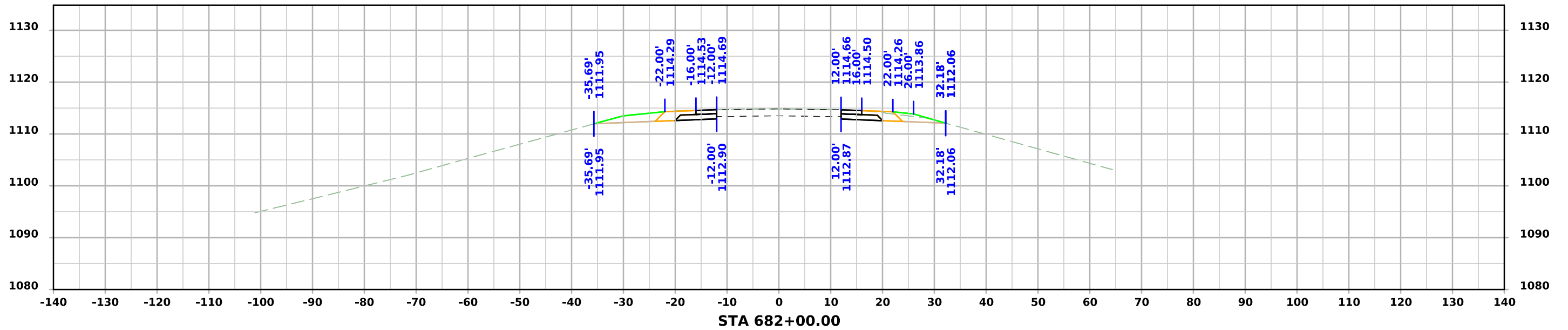
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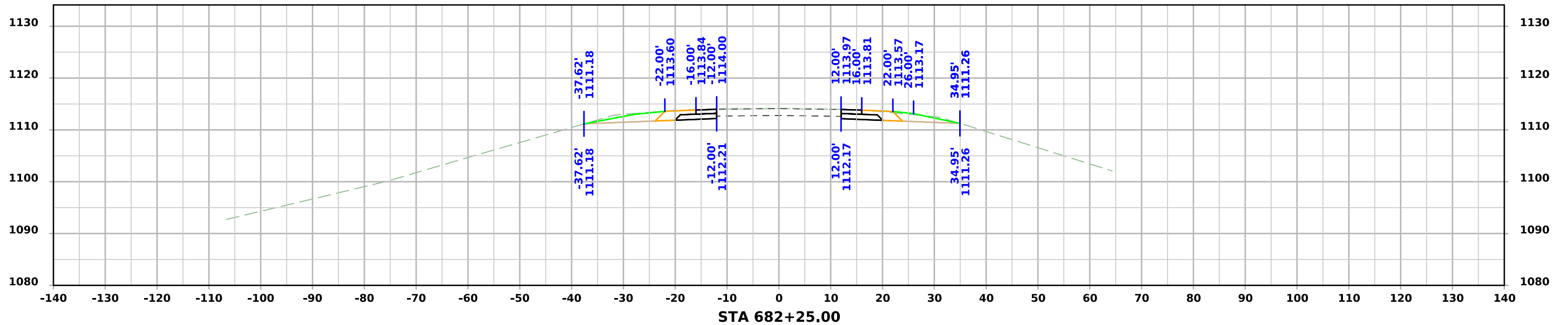
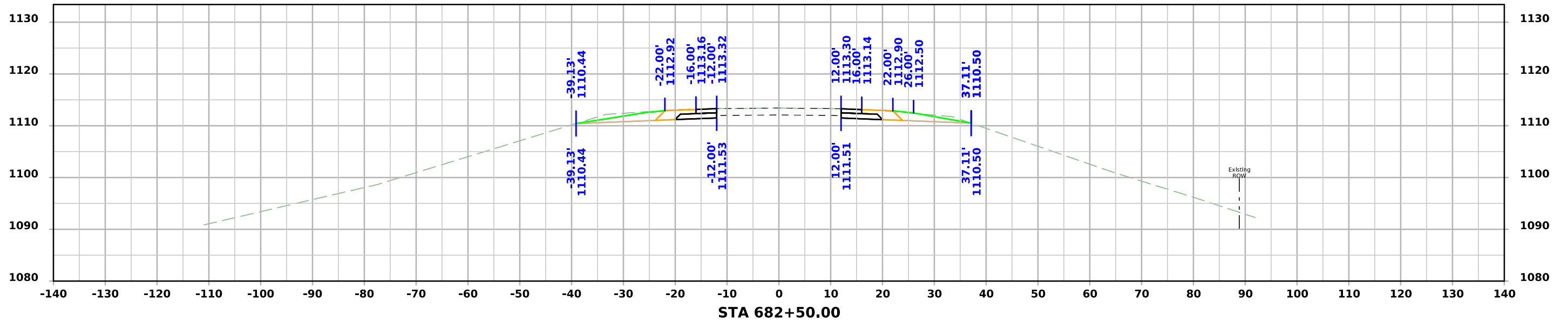
## CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

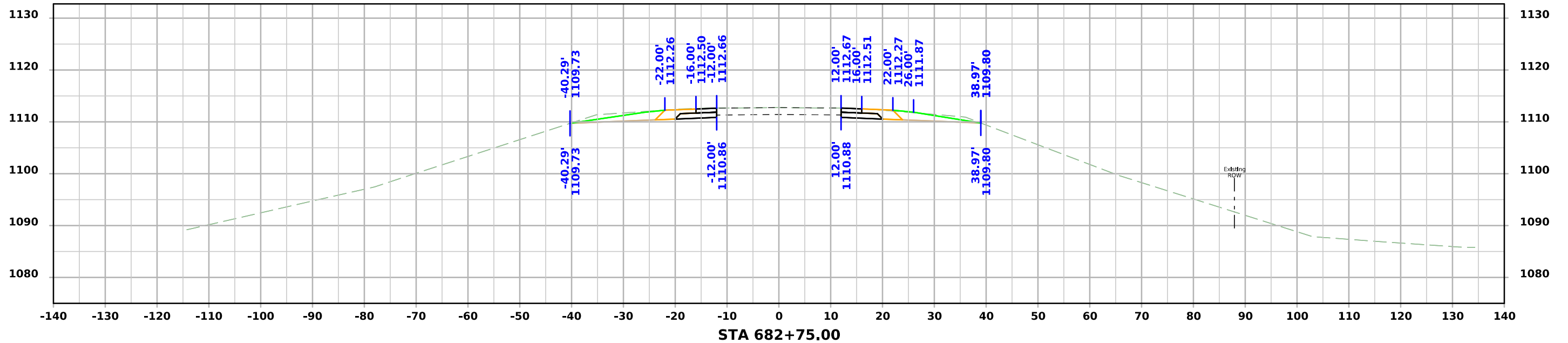
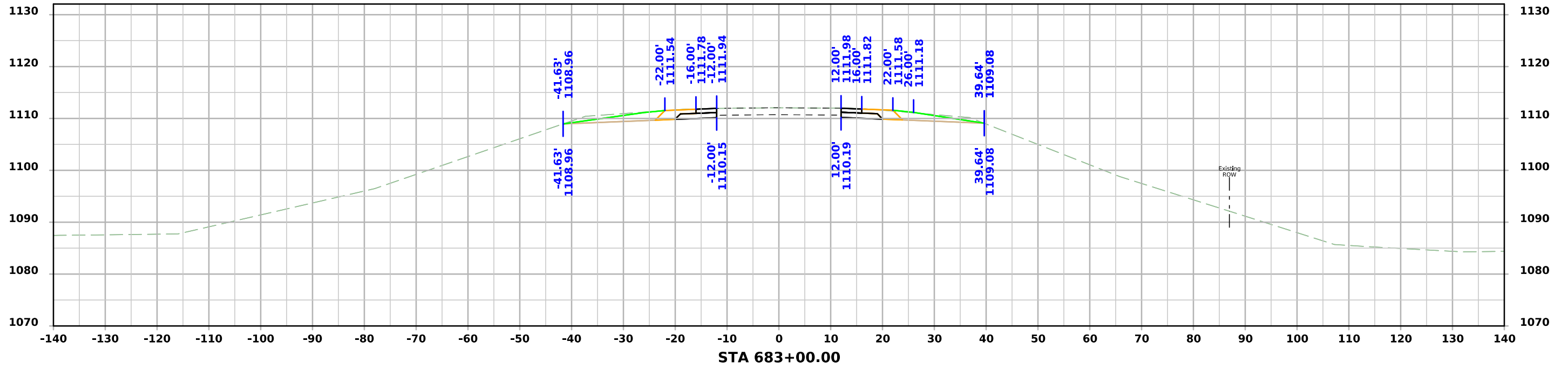
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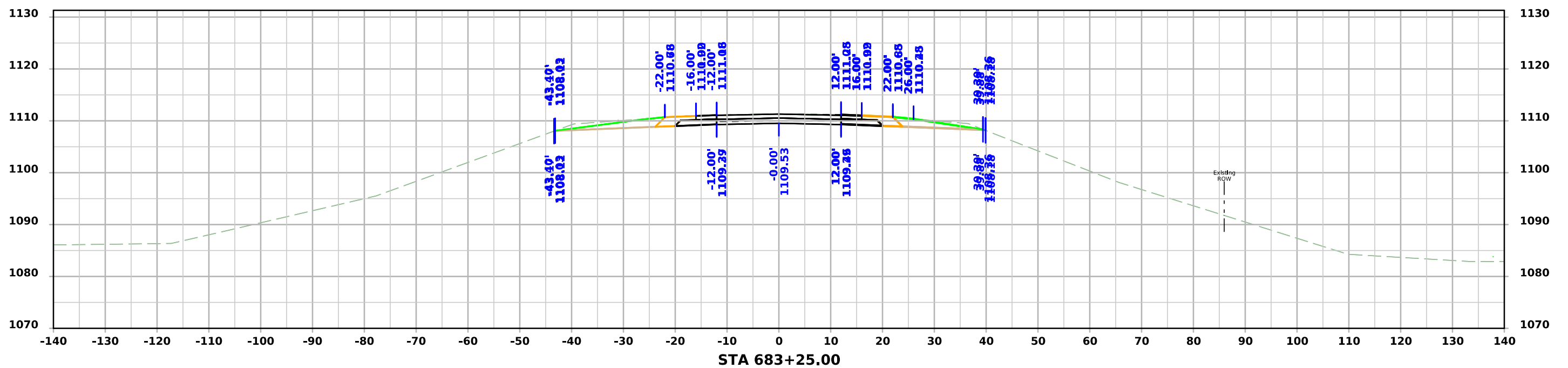
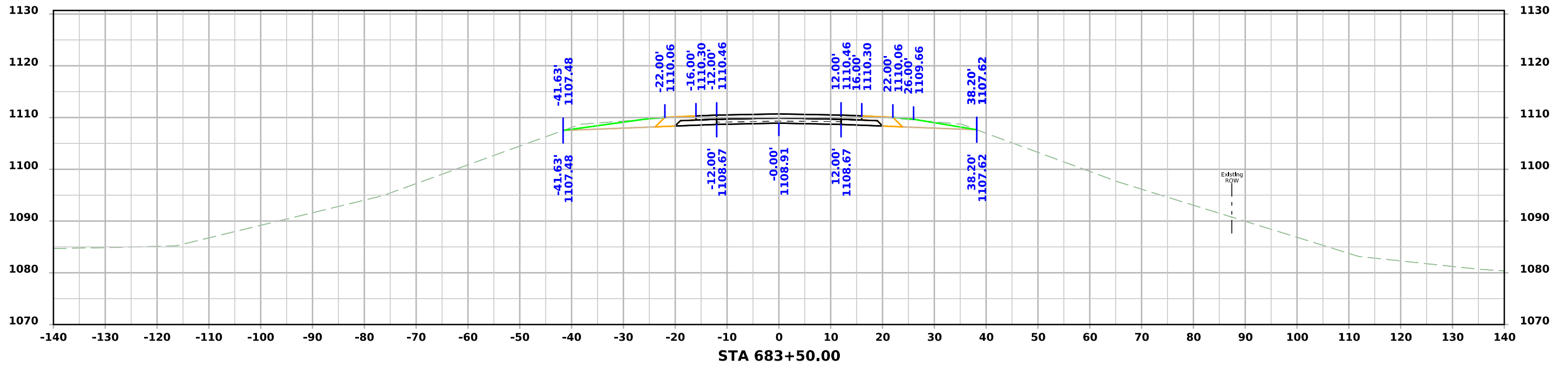
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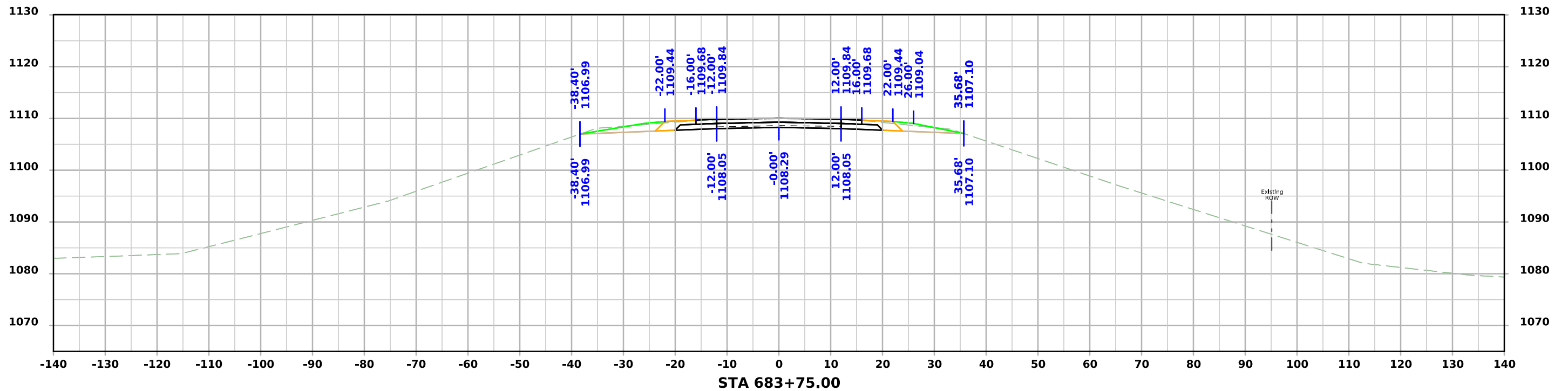
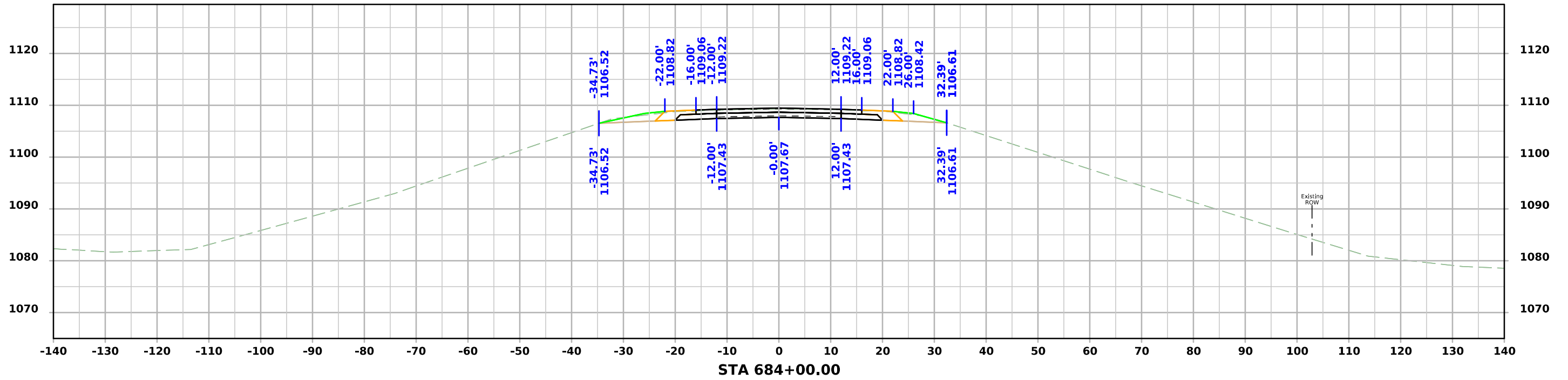
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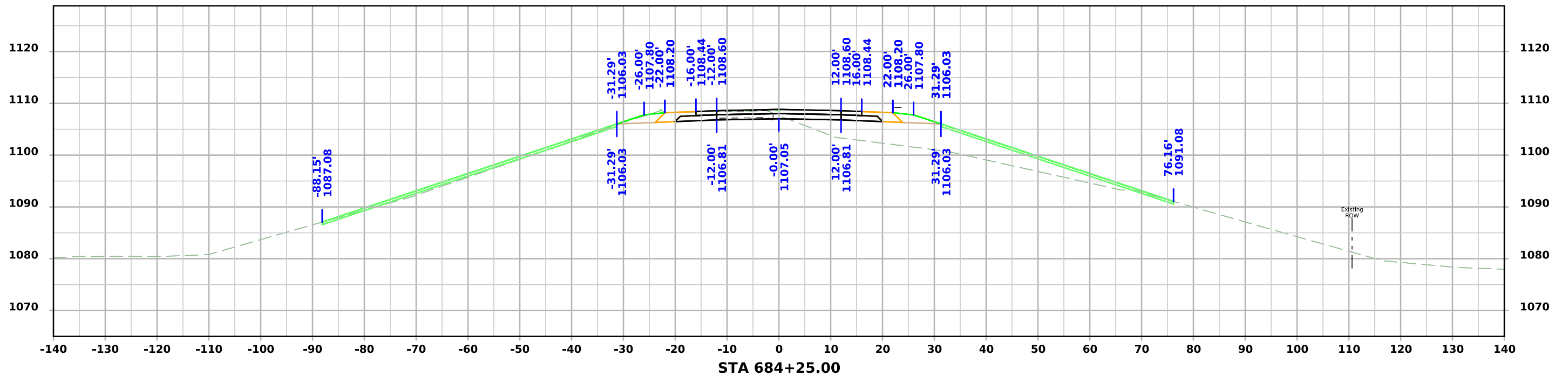
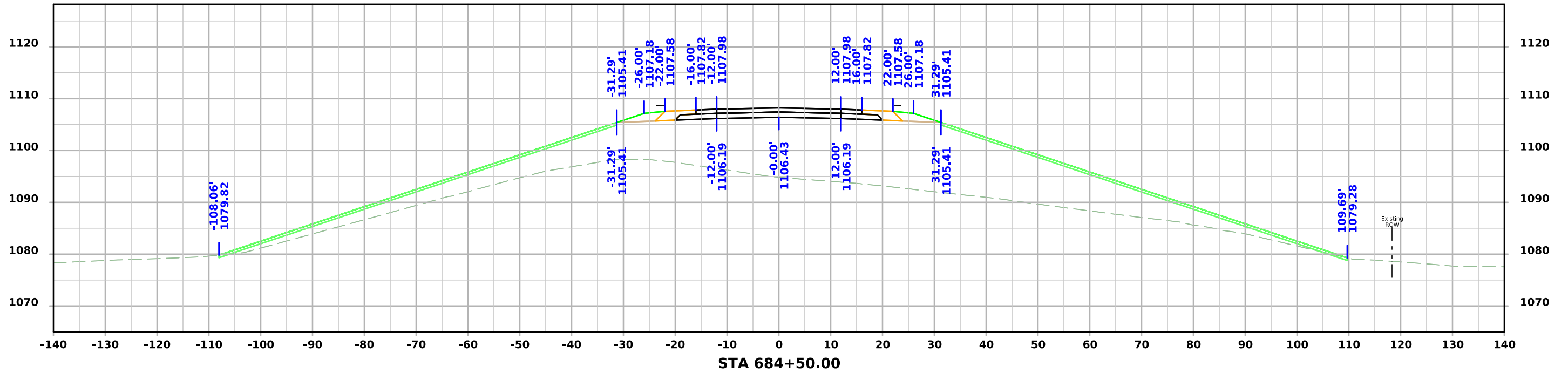
# US 34



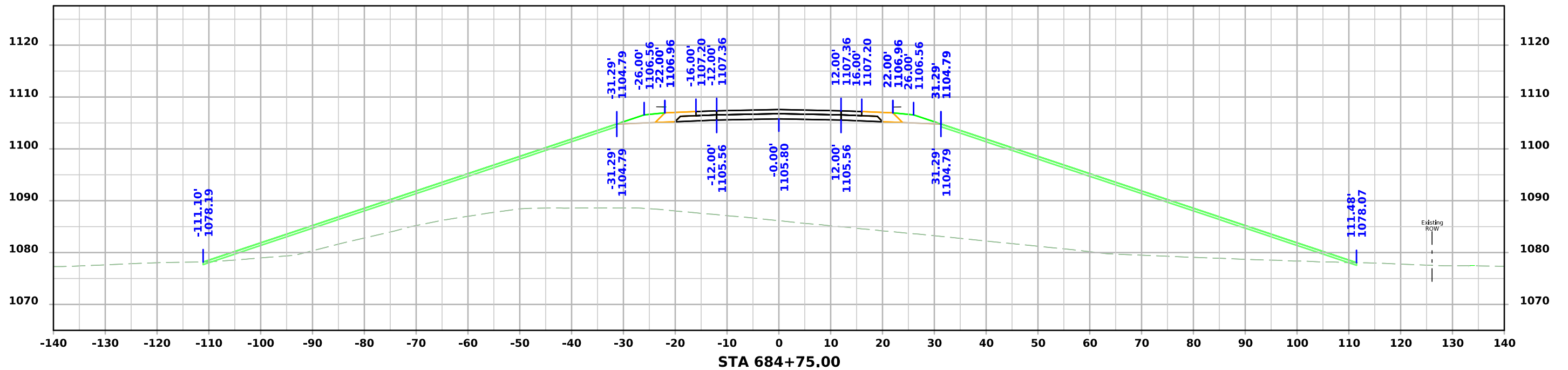
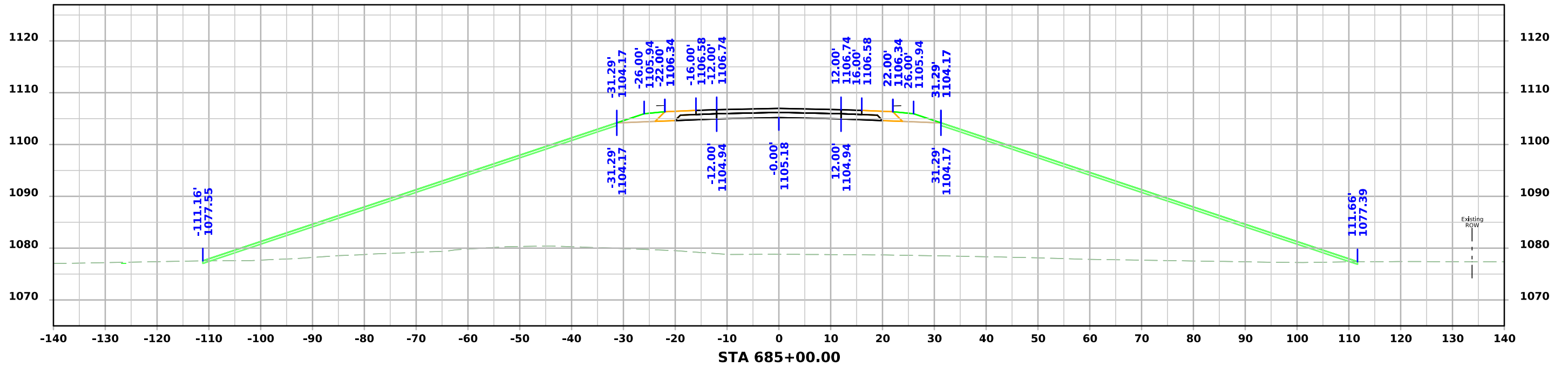
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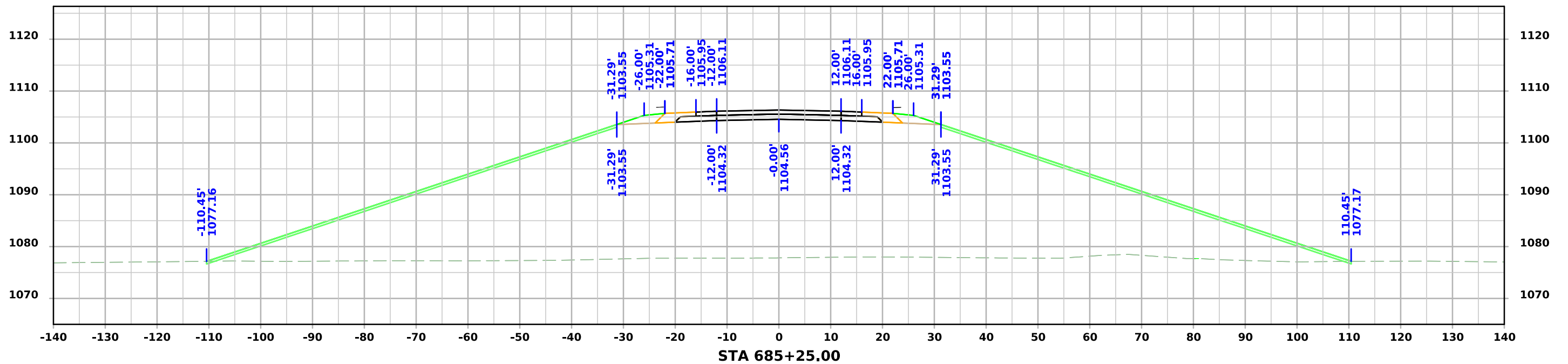
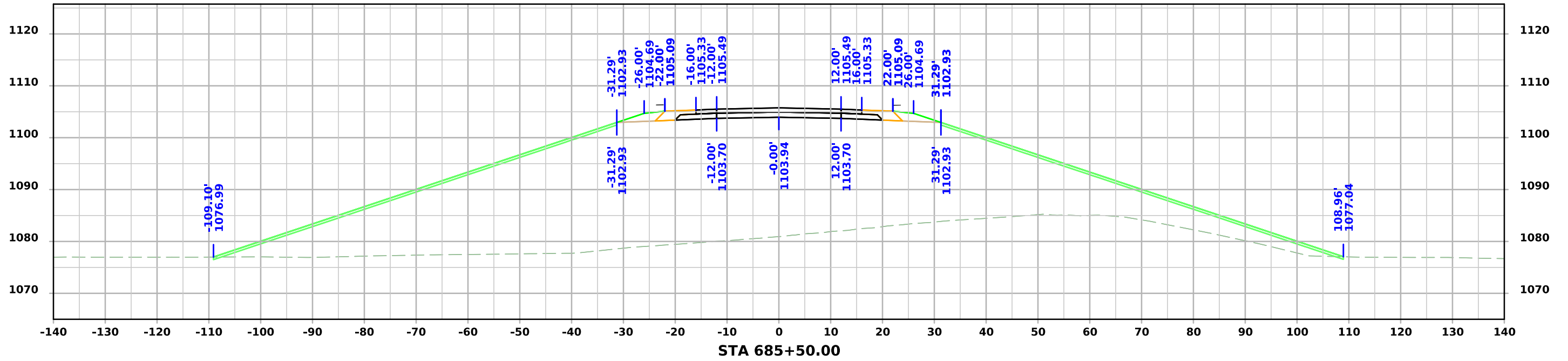
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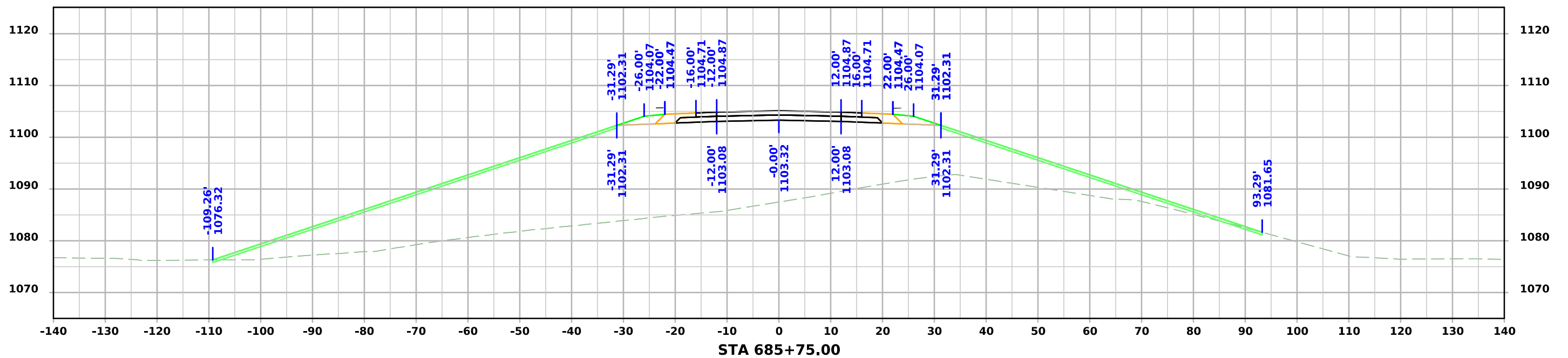
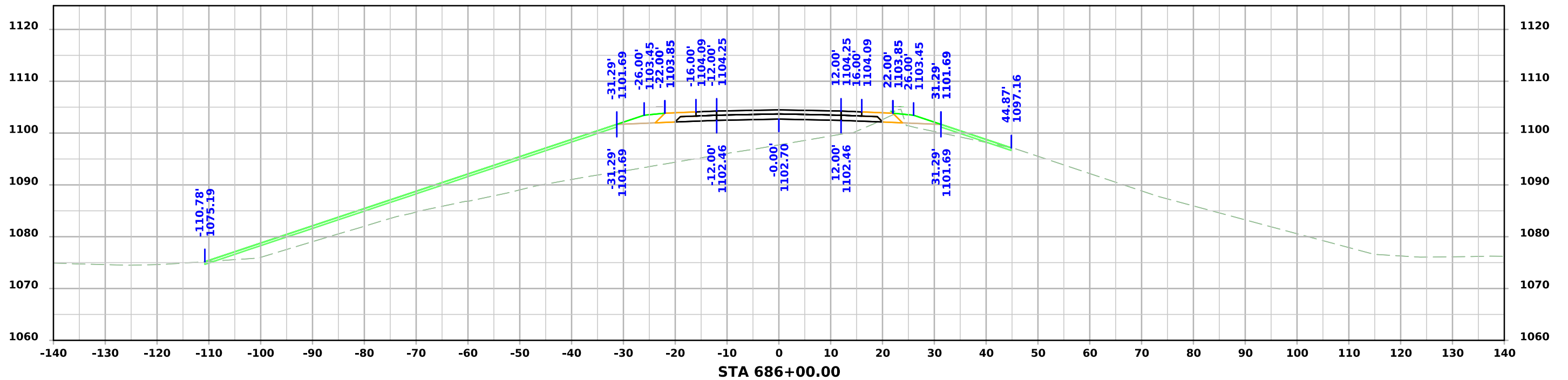
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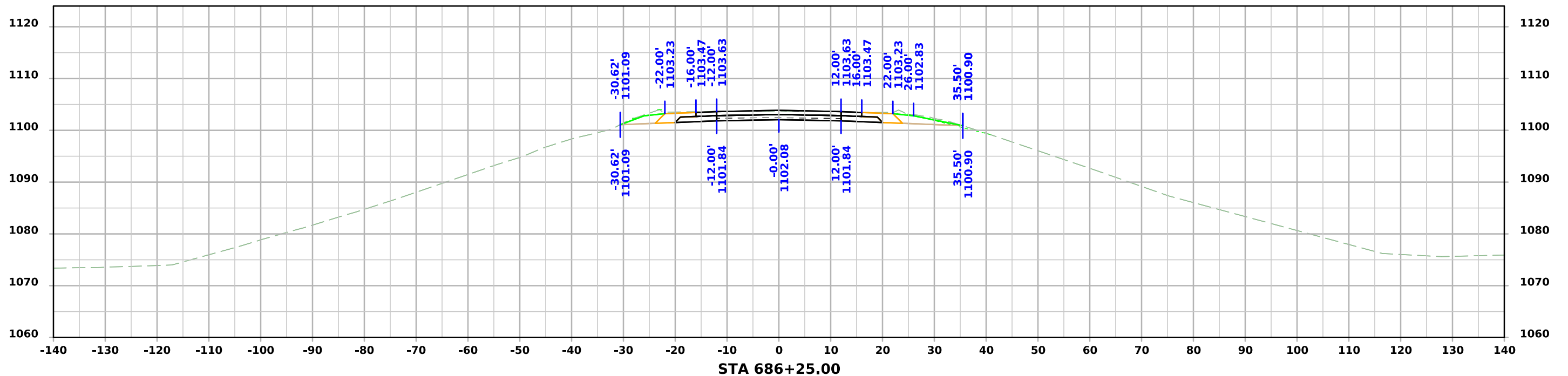
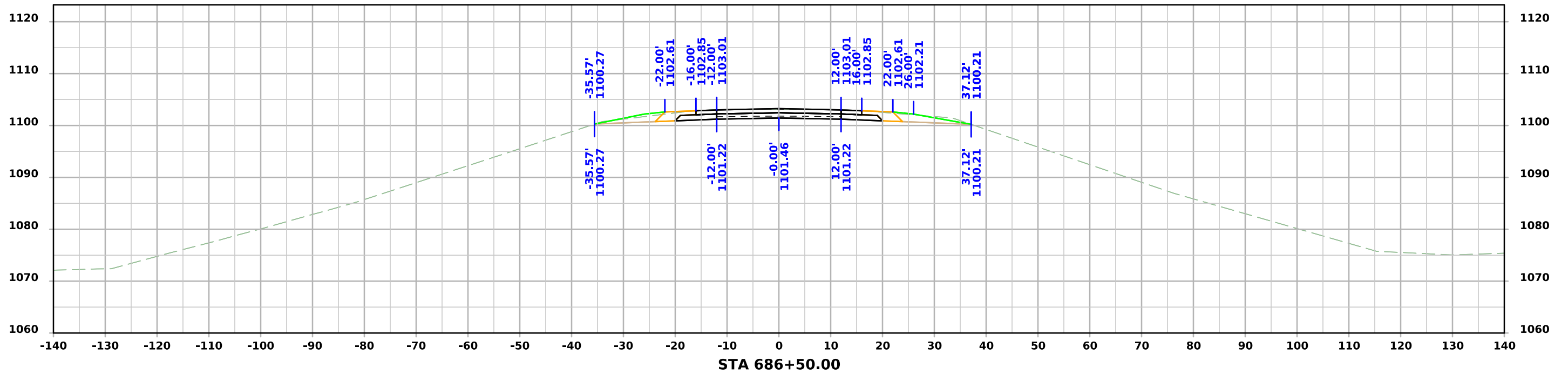
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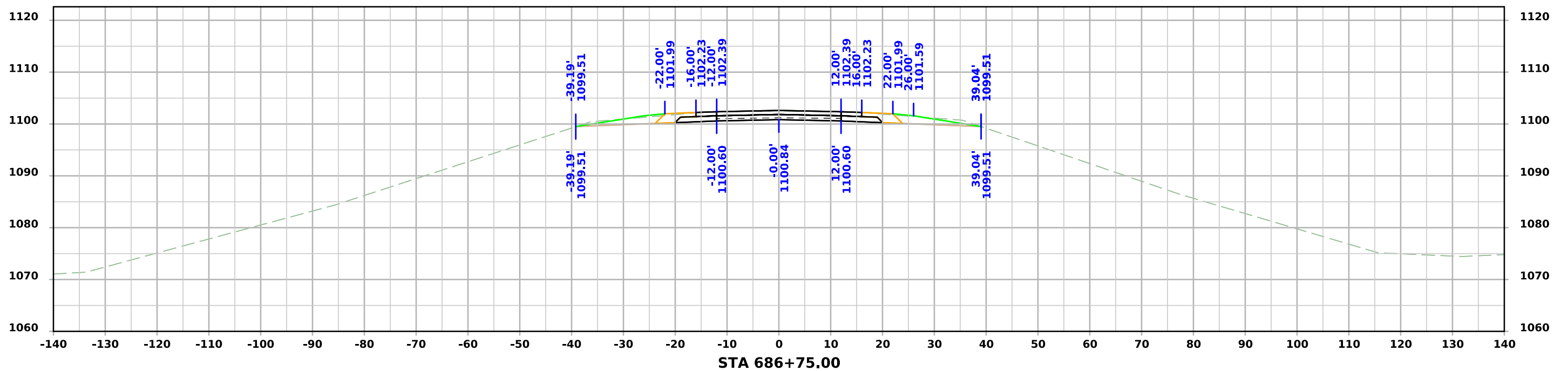
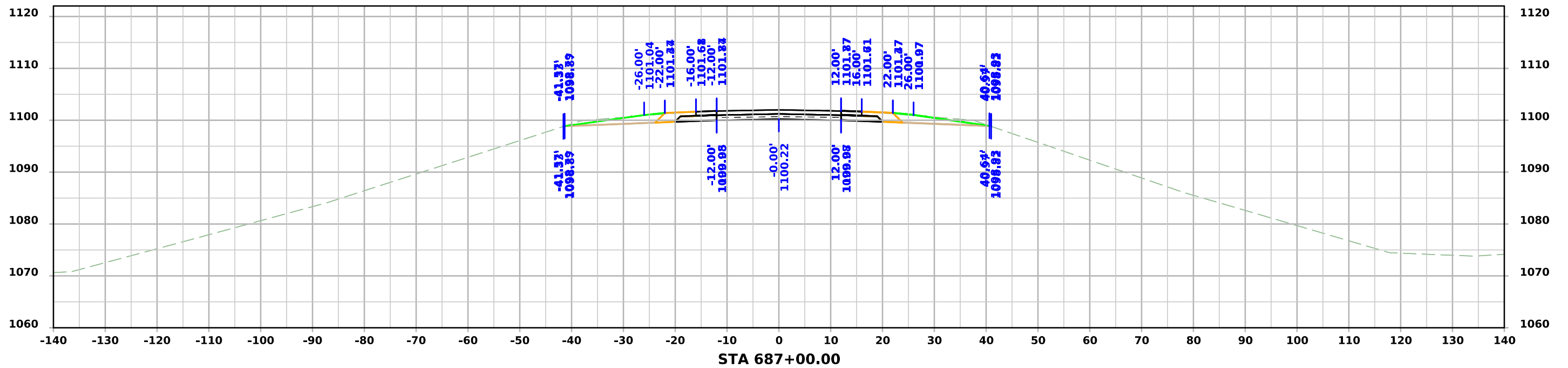
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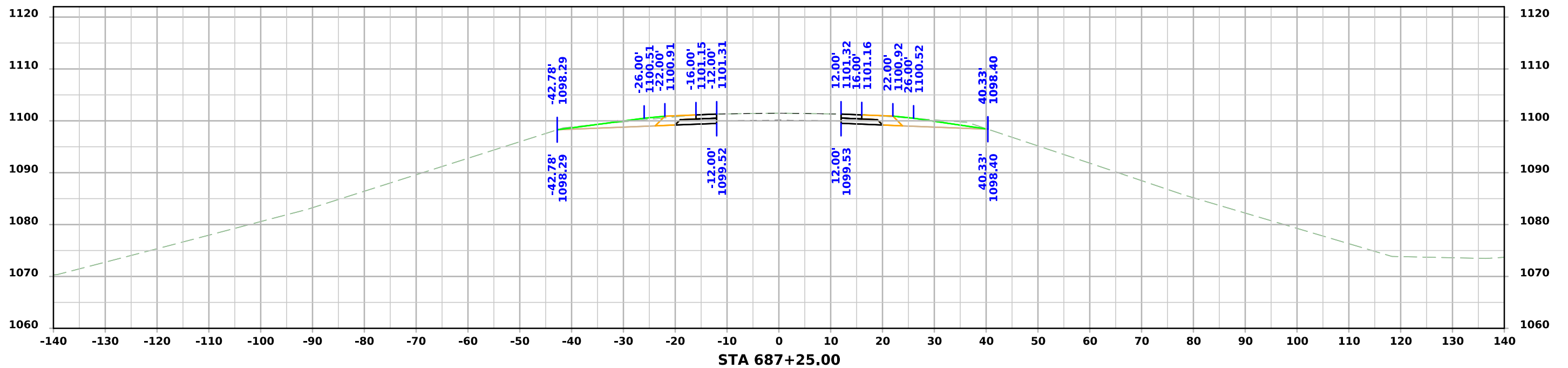
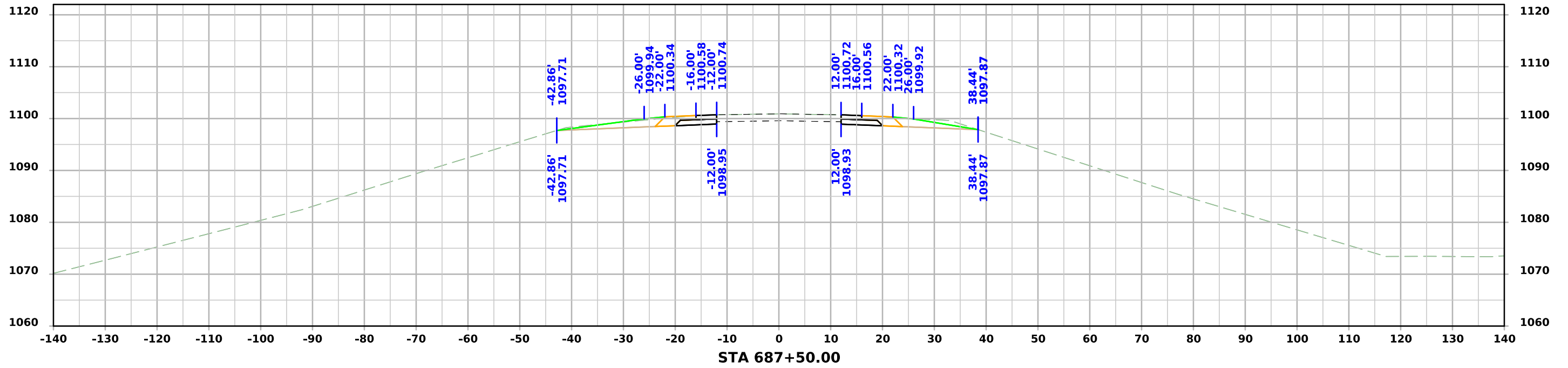
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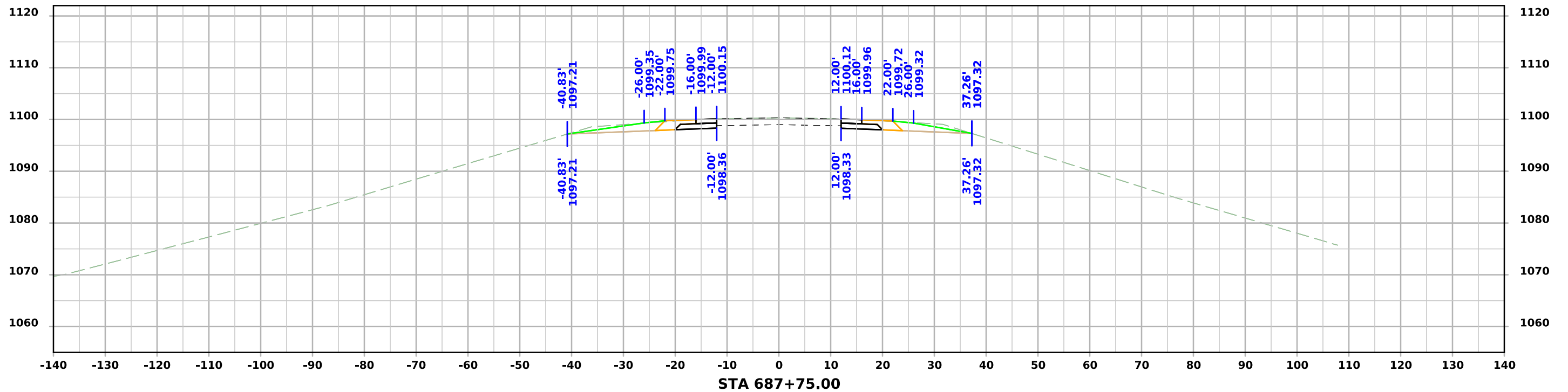
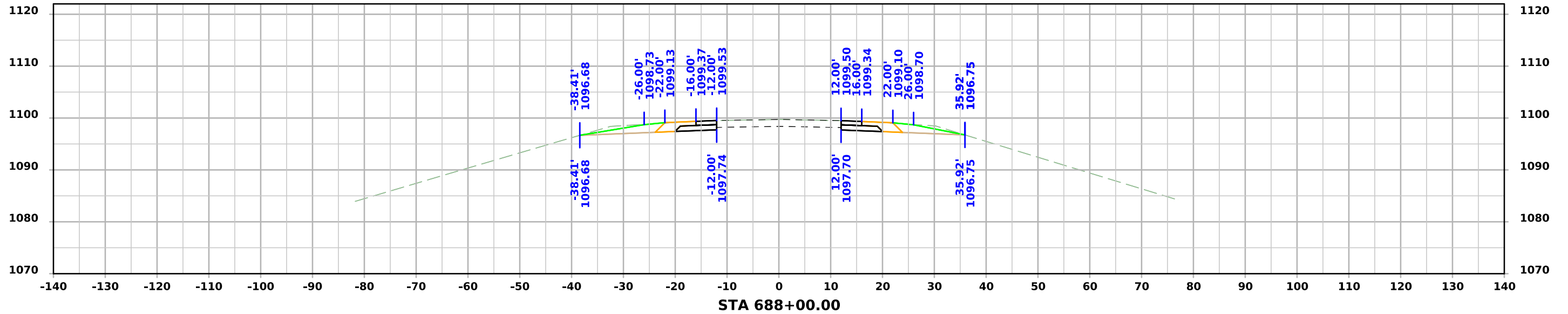
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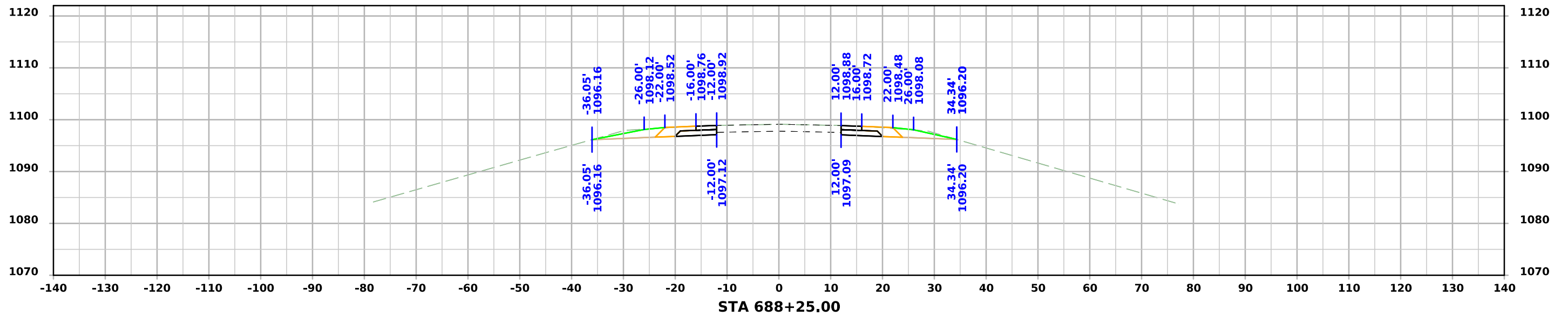
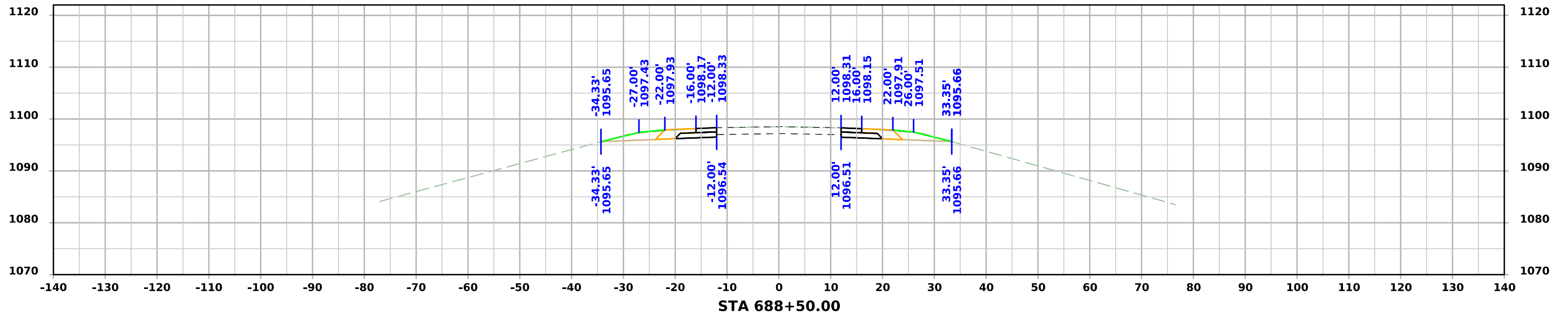
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