

For Project Location Map
Refer to Sheet No. A.2

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I-29 NB			
DESIGN DATA RURAL			
2027	AADT	8,000	V.P.D.
2047	AADT	10,000	V.P.D.
20 --	DHV	--	V.P.H.
TRUCKS		24	%
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.

D5 Plans to Right-Of-Way
Date: March 3, 2025



PLANS OF PROPOSED IMPROVEMENT ON THE
INTERSTATE ROAD SYSTEM
MONONA COUNTY
PCC PAVEMENT - GRADE AND REPLACE

Onawa Rest Area 2.6 mi S of IA 175 (NB)

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

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PROJECT IDENTIFICATION NUMBER

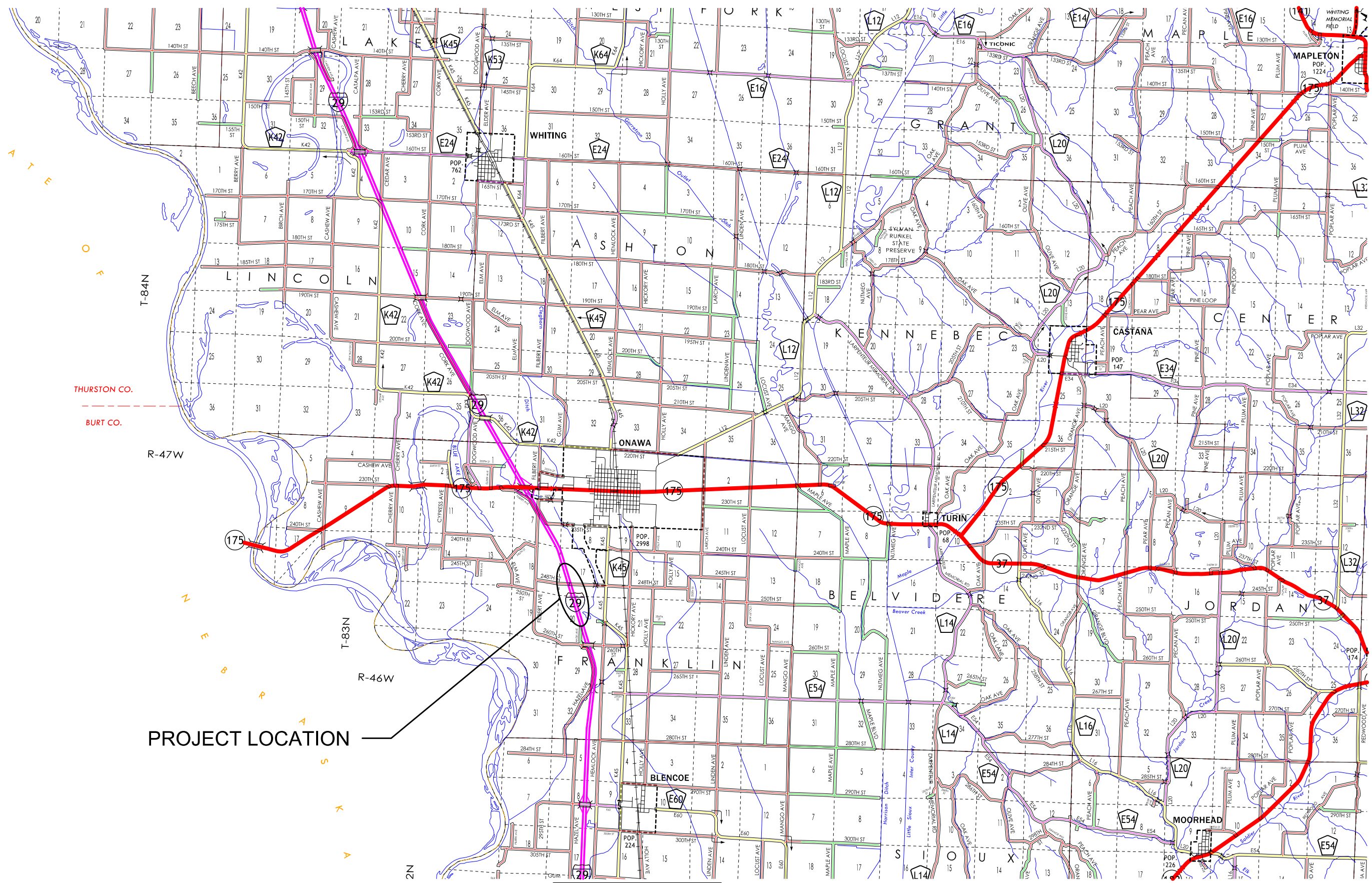
24-67-029-050

PROJECT NUMBER

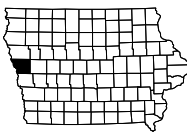
IMX-029-5(282)109--02-67

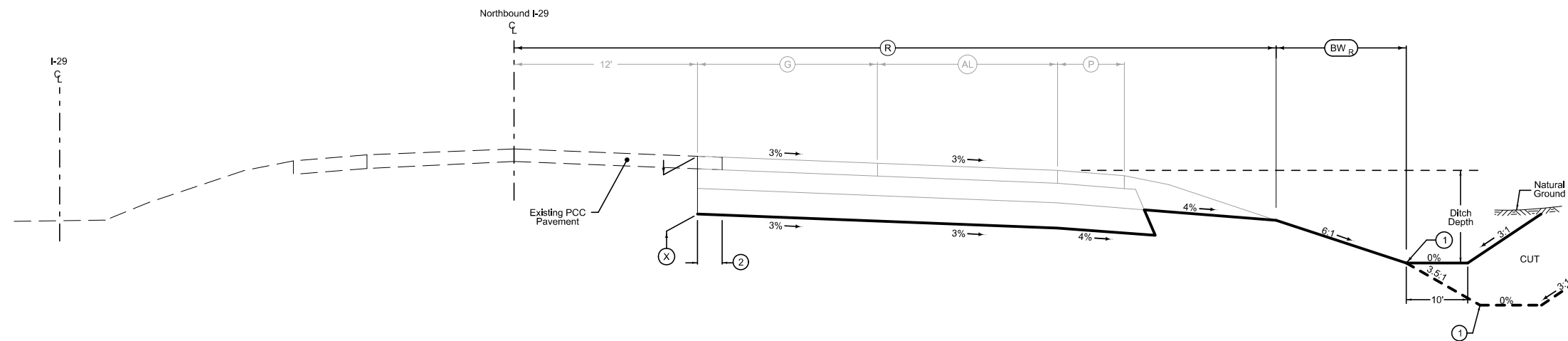
R.O.W. PROJECT NUMBER

IMN-029-5(285)109--0E-67



PROJECT LOCATION





I-29 Northbound

Section view is in the direction of traffic.

Direction of Travel	BEGIN STATION	END STATION	(X) Inches	(R) Feet	(BWR) Feet
NB	2889+00.00	2895+89.54	32	39.2	6.8
NB	2895+89.54	2897+39.85	32	70.4 - 51.0	2.1-3.5
NB	2897+39.85	2899+00.00	32	51.0 - 45.2	3.5-2.8
NB	2899+00.00	2909+00.00	32	45.2	2.8
NB	2909+00.00	2910+00.00	32	45.2 - 43.2	2.8
NB	2910+00.00	2912+00.00	32	43.2 - 39.2	2.8-6.8
NB	2912+00.00	2915+00.00	32	39.2	6.8

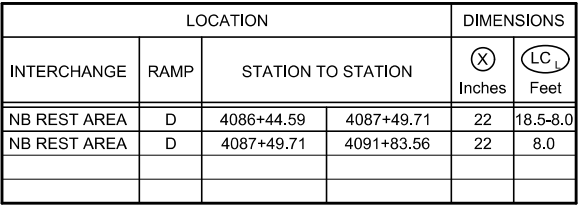
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

- 1

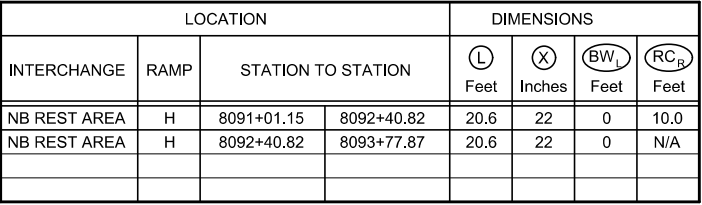
Refer to project plan and cross sections for specific location of foreslope change and ditch details.
- 2

Saw cut and remove the outside 2' of existing 14' lane.

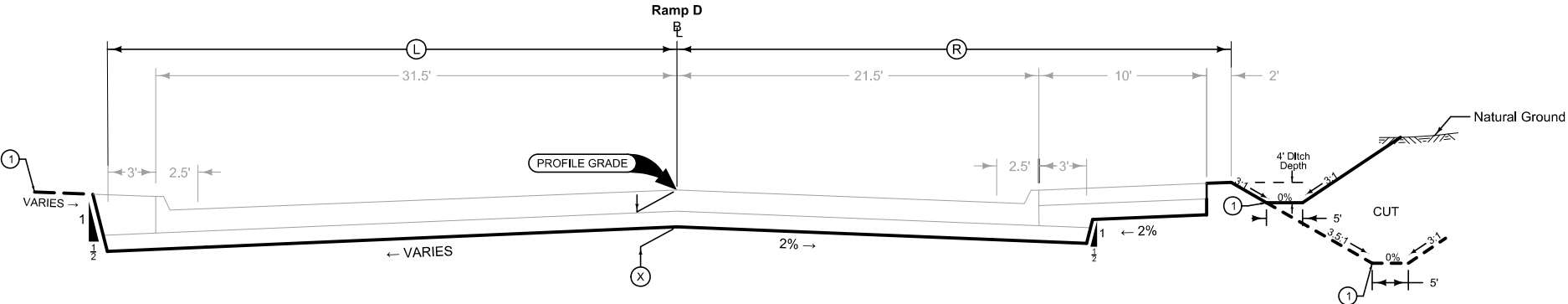
I-29 NORTHBOUND
GRADING



RAMP D GRADING



RAMP H GRADING



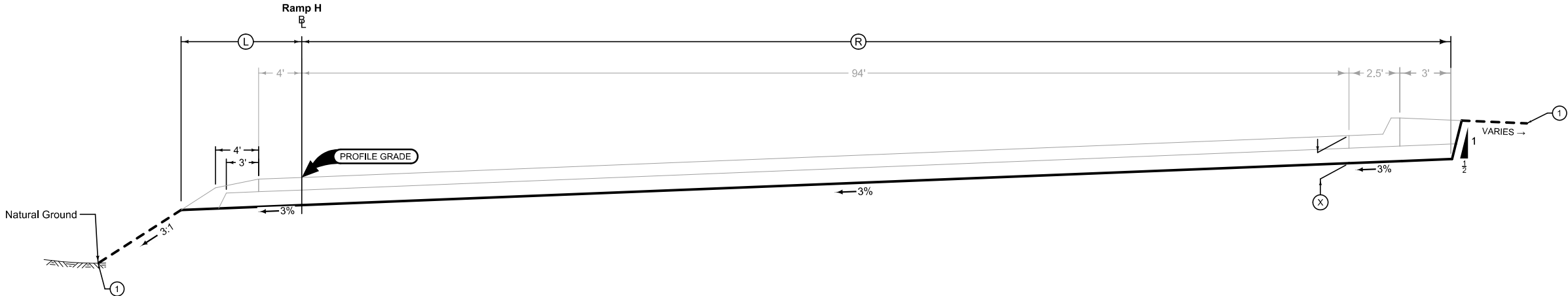
Section view is in the direction of traffic.

LOCATION		DIMENSIONS		
PARK. LOT	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches
RAMP D	4082+10.11 4086+44.59	34.5	33.5	22

1 Refer to project plan and cross sections for specific location of foreslope change and ditch details.

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

**RAMP D VEHICLE
PARKING LOTS GRADING**



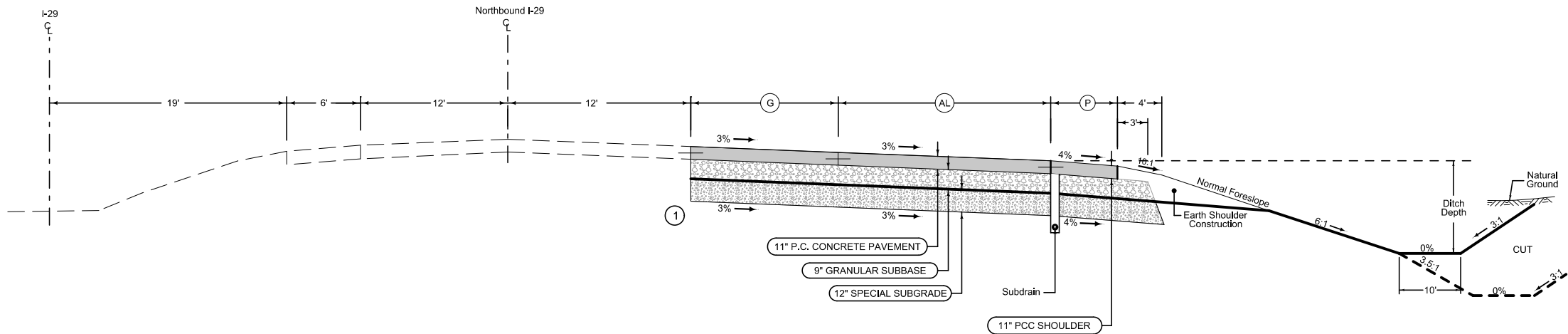
Section view is in the direction of traffic.

LOCATION		DIMENSIONS		
PARK. LOT	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches
RAMP H	8081+95.98 8088+95.36	13.4	99.5	22

1 Refer to project plan and cross sections for specific location of foreslope change and ditch details.

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

**RAMP H TRUCK
PARKING LOTS GRADING**



I-29 Northbound

Longitudinal joint: L-2 or KT-2
Transverse joint: Match Mainline

Direction of Travel	BEGIN STATION	END STATION	G Feet	AL Feet
NB	2889+00.00	2895+89.54	0	0
NB	2895+89.54	2897+39.85	20 - 2	16
NB	2897+39.85	2899+00.00	0	18-12
NB	2899+00.00	2909+00.00	0	12
NB	2909+00.00	2915+00.00	0	12-0

Full Depth PCC Shoulder

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 17' spacing

Direction of Travel	BEGIN STATION	END STATION	P Feet
NB	2889+00.00	2895+89.54	12
NB	2895+89.54	2913+00.00	6
NB	2913+00.00	2915+00.00	6-12

① Saw cut and remove the outside 2' of existing 14' lane.

I-29 NORTHBOUND
PAVING

Full Depth PCC Shoulder

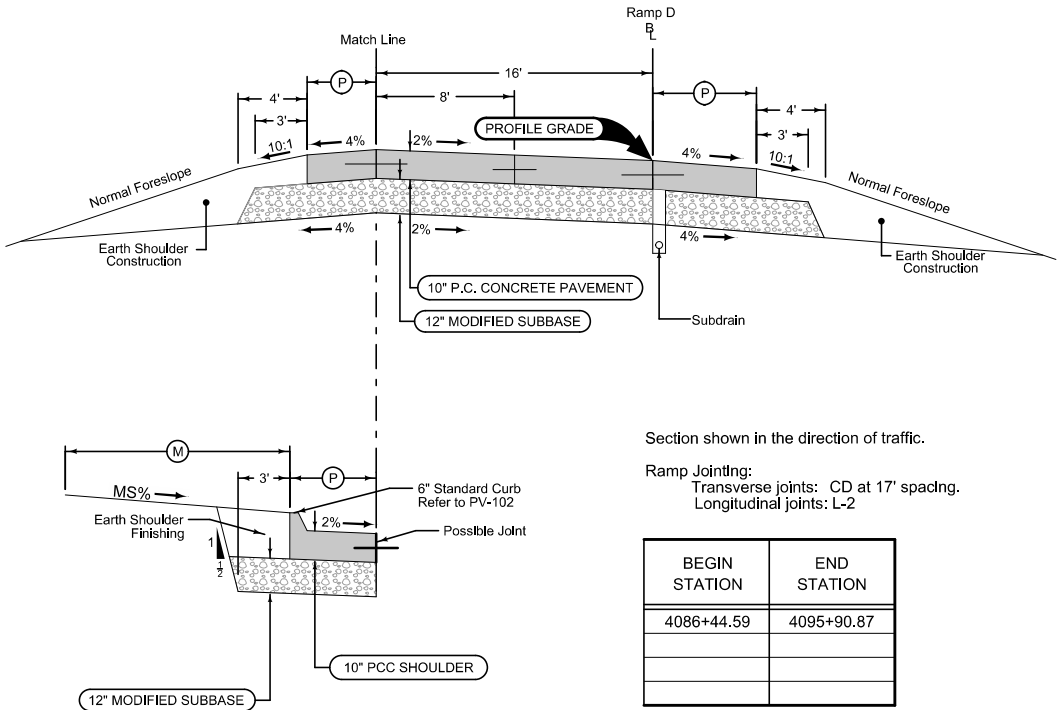
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 17' spacing

BEGIN STATION	END STATION	(P) Feet
4093+77.87	4095+90.87	4

Curbed Shoulder

PCC Shoulder Jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':
Single Pour: L-2
Staged: KT-2

BEGIN STATION	END STATION	(P) Feet	(M) Feet	(MS) Percent
4086+44.84	4087+49.71	15.5-5	VARIES	VARIES
4087+49.71	4089+58.71	5	VARIES	VARIES
4089+58.71	4091+36.08	5	10	10
4091+36.08	4091+83.56	5	VARIES	VARIES

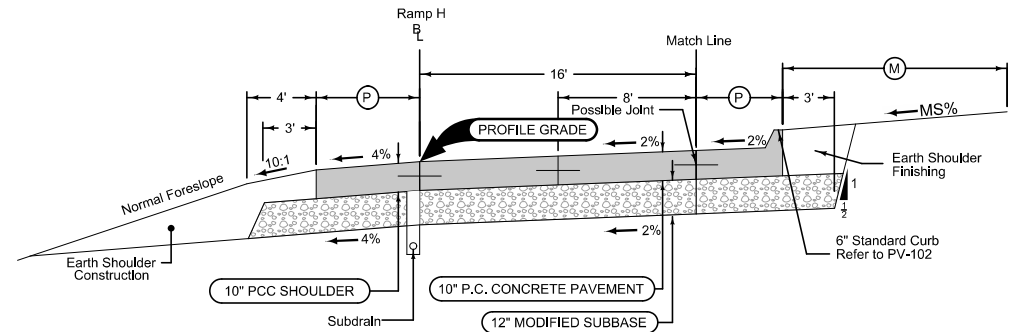


RAMP D PAVING

Full Depth PCC Shoulder

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 17' spacing

BEGIN STATION	END STATION	(P) Feet
8091+01.15	8093+77.87	4



RAMP H PAVING

Full Depth PCC Shoulder

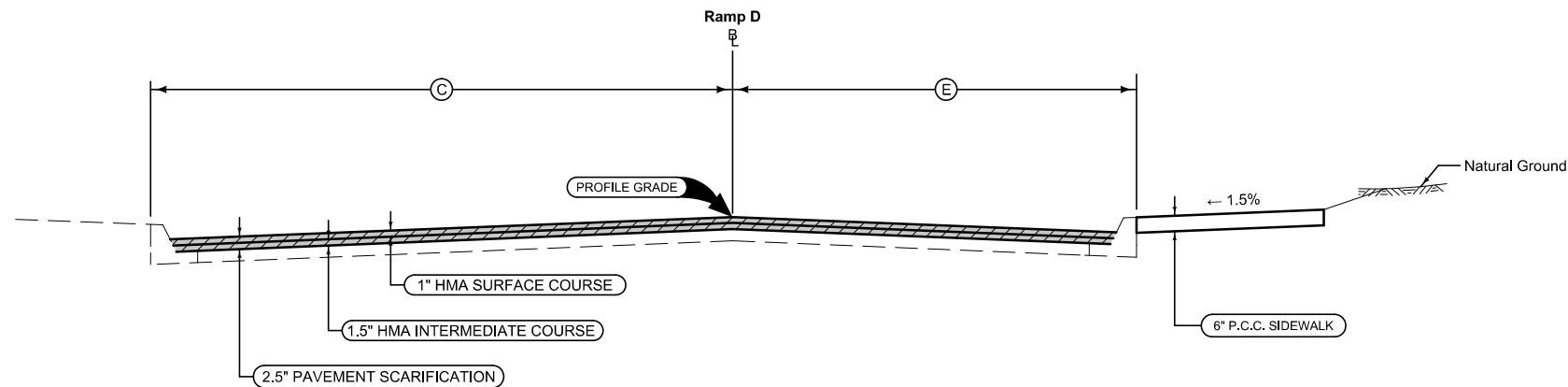
PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 17' spacing

BEGIN STATION	END STATION	(P) Feet
4086+44.59	4095+90.87	6

Curbed Shoulder

PCC Shoulder Jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 16':
Single Pour: L-2
Staged: KT-2

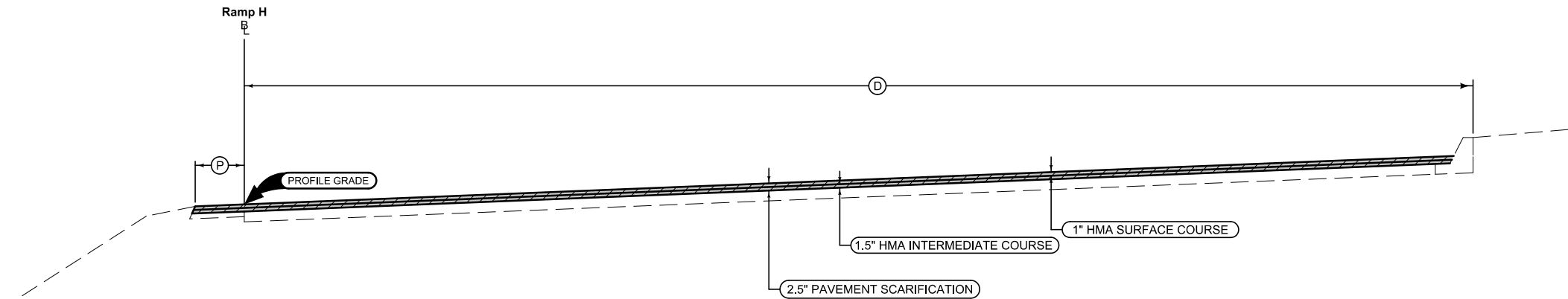
BEGIN STATION	END STATION	(P) Feet	(M) Feet	(MS) Percent
8091+01.15	8091+42.71	7	10	10
8091+42.71	8091+88.03	7	VARIES	VARIES
8091+88.03	8093+77.87	0	0	N/A



BEGIN STATION	END STATION	(C) Feet	(E) Feet
4078+27.18	4082+10.11	31.5	21.5

Section view is in direction of traffic.

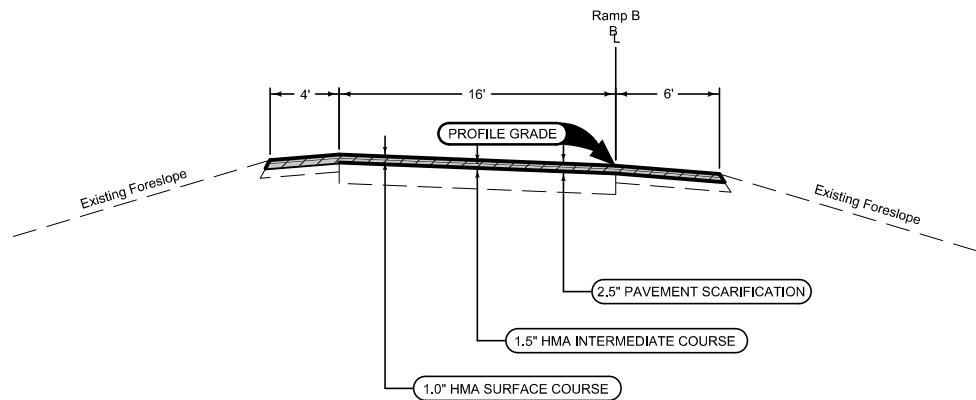
RAMP D VEHICLE
PARKING LOTS
MILLING AND OVERLAY



BEGIN STATION	END STATION	(P) Feet	(D) Feet
8078+41.47	8081+95.98	4	96.5

Section view is in direction of traffic.

RAMP H TRUCK
PARKING LOTS
MILLING AND OVERLAY



Section shown in the direction of traffic.

STATION TO STATION	
2072+21.13	2075+40.80

RAMP B PAVING
MILLING AND OVERLAY

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

104_03
3/18/24

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
* Not a bid item
(1) Diameter or equivalent diameter
(2) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe
(3) Backfill according to DR-101

Drainage Area (ACRE)	Location	Type	Size (1)	Pipe Classification	Kind of Pipe (2)	Length New Const. (LF)	Length of total that is Trenchless	Bedding Class	Design Cover (H) (FT)	Camber* (DR-102) (FT)	Apron No. (IN)	Apron No. (OUT)	Apron Guard* (DR-213) (No.)	Elbow* (DR-141) (No.)	Diaphragm* (DR-501) (No.)	Tee Section* (DR-142) (No.)	"D" Section* (DR-141) (No.)	Reducer* (No.)	Type 'C' Conn.* (DR-122)	Type 'C' Conn.* (No.)	Connected Pipe Joint* (DR-121)	4" Perforated Subdrain* (FT)	Flow Line Elevation LT.	Flow Line Elevation RT.	Flow Line Elevation Other	Flow Line Elevation Other	Dimensions Lineal Feet Total (Left)	Dimensions Lineal Feet Total (Right)	Dimensions Lineal Feet Extensions	Dimensions Lineal Feet Extensions	Skew Ahead Degrees (Left)	Skew Ahead Degrees (Right)	Dike Location	Dike Station	Dike Elevation	Dike Type	Class 20 (CY)	Flowable Mortar	Floodable Backfill* (A)	Porous Backfill* (B)	Flooded Backfill (A+B)	Remarks	
312.2	2899+34.31	DR-621	60.0	2000D	LCP	30.0		B	2.47	0.08		1							C-2	1	Type 3																						
323.5	4087+97.16	DR-601	30.0	2000D	LCP	183.0		B	4.75	0.08	1	1											1041.57	1041.98			153.08	29.92															[1]
1.1	4092+75.00	DR-601	24.0	2000D	RCP	70.0		B	2.85	0.08	1	1											1044.20	1042.30			44.00	26.00															

[1] 80' of 30" LCP placed in Stage 1, 103' of 30" LCP placed in Stage 2.

REMOVAL OF EXISTING STRUCTURES			
Line No.	Location	Description	Remarks
1.0	2899+34.31	One 72 IN CMP Apron	
2.0	2899+34.31	72 IN x 16 FT CMP	
3.0	2899+34.31	6 FT x 5 FT x 8 FT RCB	
4.0	8084+98.00	24 IN RCP Aprons	
5.0	8084+98.00	24 IN x 37 FT RCP	
6.0	8087+82.90	24 IN RCP Aprons	
7.0	8087+82.90	24 IN x 55 FT RCP	

110_02
8/15/22

	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
	WHU Water Hook Up
	RT Radio Tower
	TA Tower Anchor
	Guardrail (Beam or Cable)
	GP Guard Post (one or two)
	Guard Post (over two)
	FP Filler Pipe
	GV Gas Valve
	WV Water Valve
	SL Speed Limit Sign
	MM Mile Marker Post
	SIGN Sign
	TCB Traffic Signal Control Box
	RRB Rail Road Signal Control Box
	TSB Telephone Switch Box
	EB Electric Box

— SAN. — CITY OF ONAWA
Contact Name: Elaine Miller
Contact Phone: (712)433-1181
Contact Email: emiller@onawa.com

— W — Contact Name: John Casady
Contact Phone: (712)433-1511
Contact Email: jcasady@onawa.com

— F0 — IOWA DEPARTMENT OF TRANSPORTATION
Contact Name: Ron Gleiser
Contact Phone: (712)261-0196
Contact Email: Ron.Gleiser@iowadot.us

— F02 — Contact Name: Jason Dale
Contact Phone: (515)239-1995
Contact Email: Jason.Dale@iowadot.us

— E1 —

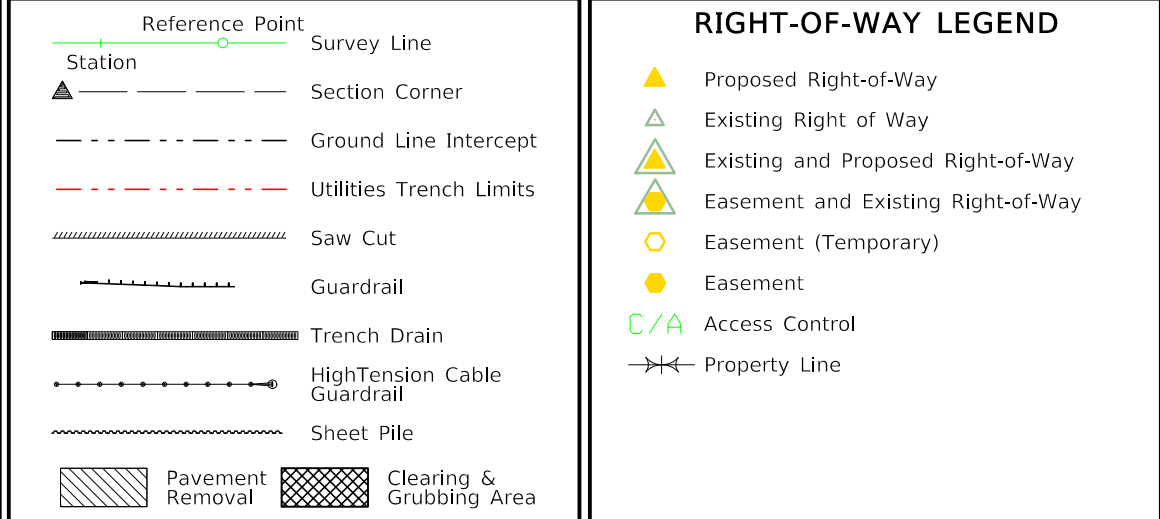
— E2 — WESTERN IOWA POWER COOPERATIVE
Contact Name: Jason Lee
Contact Phone: (712)263-2943
Contact Email: jason.lee@wipco.com

— Contact Name: Jeremy Kreger
Contact Phone: (712)263-2943
Contact Email: jeremy.kreger@wipco.com

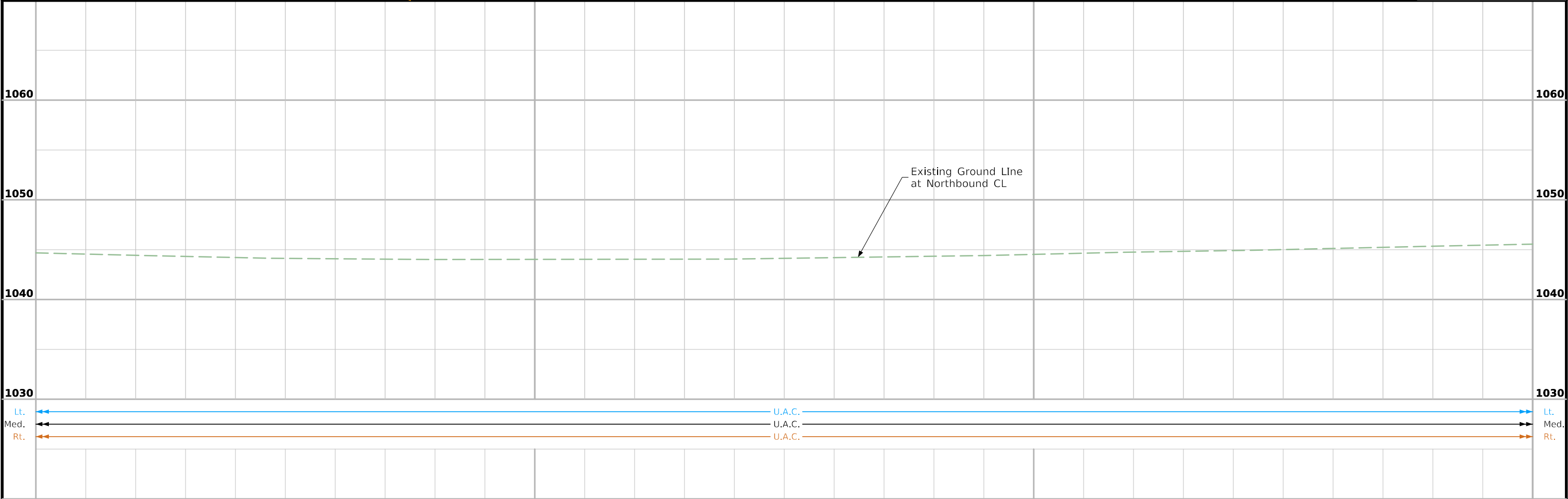
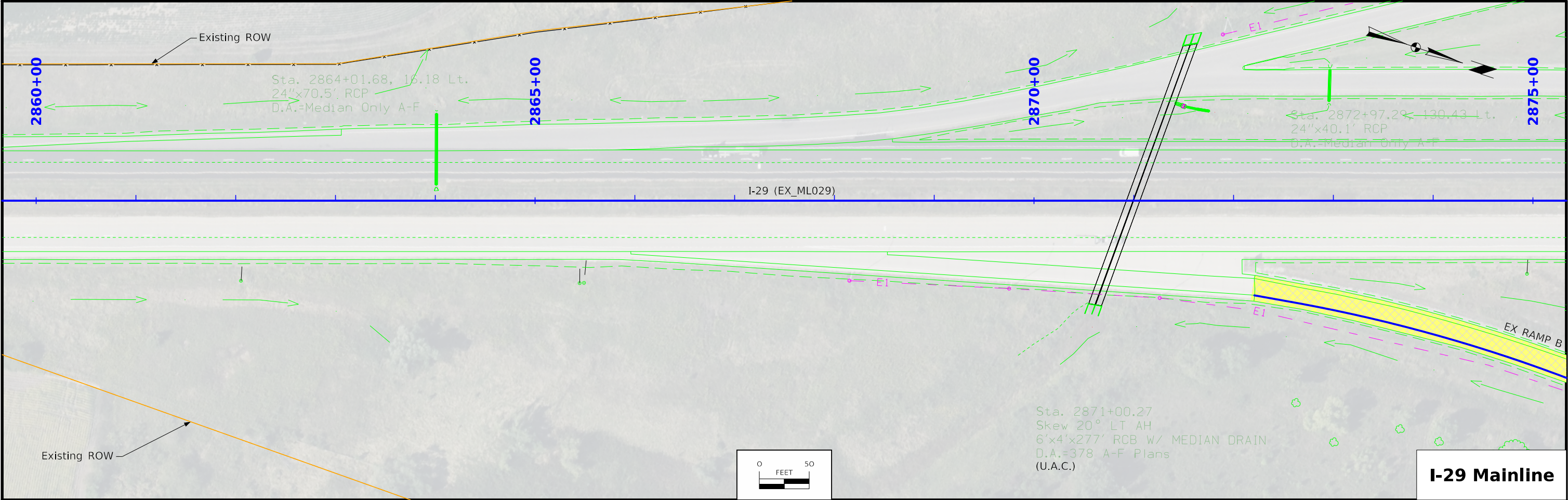
— F03 — CENTURYLINK
Contact Name: Sadie Hull
Contact Phone: (918)547-0147
Contact Email: sadie.hull@umc.com

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.
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Yellow	(132)	Proposed Pavement Scarification and Overlay
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	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
Yellow	(220)	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
Red	(3)	Delineates Restricted Areas

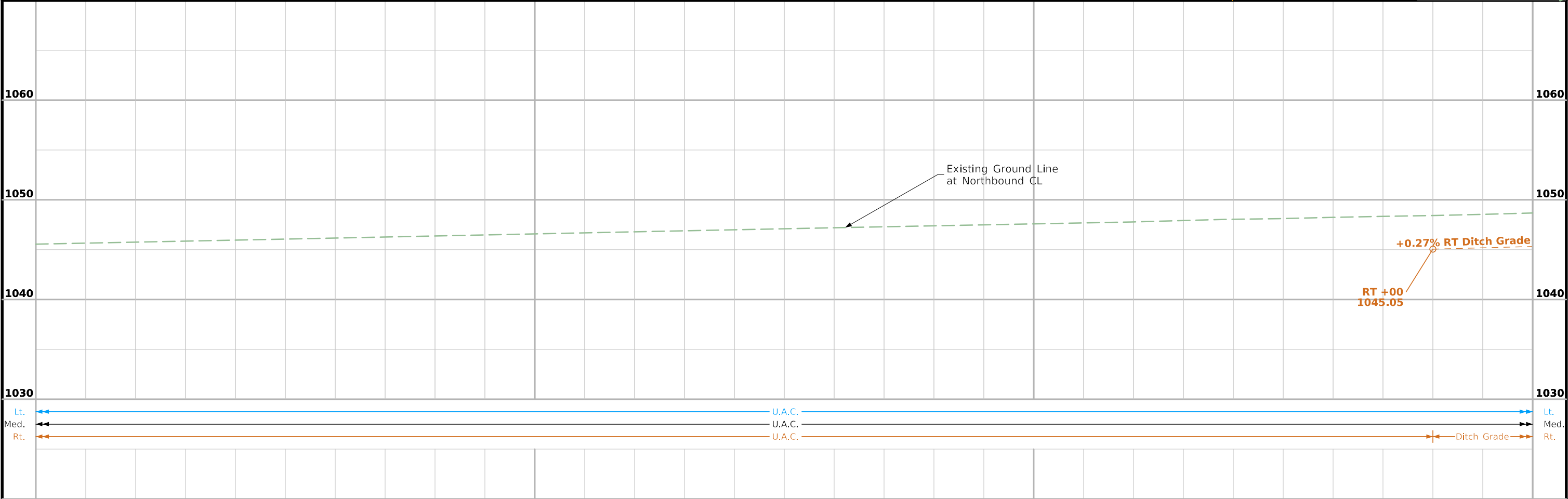
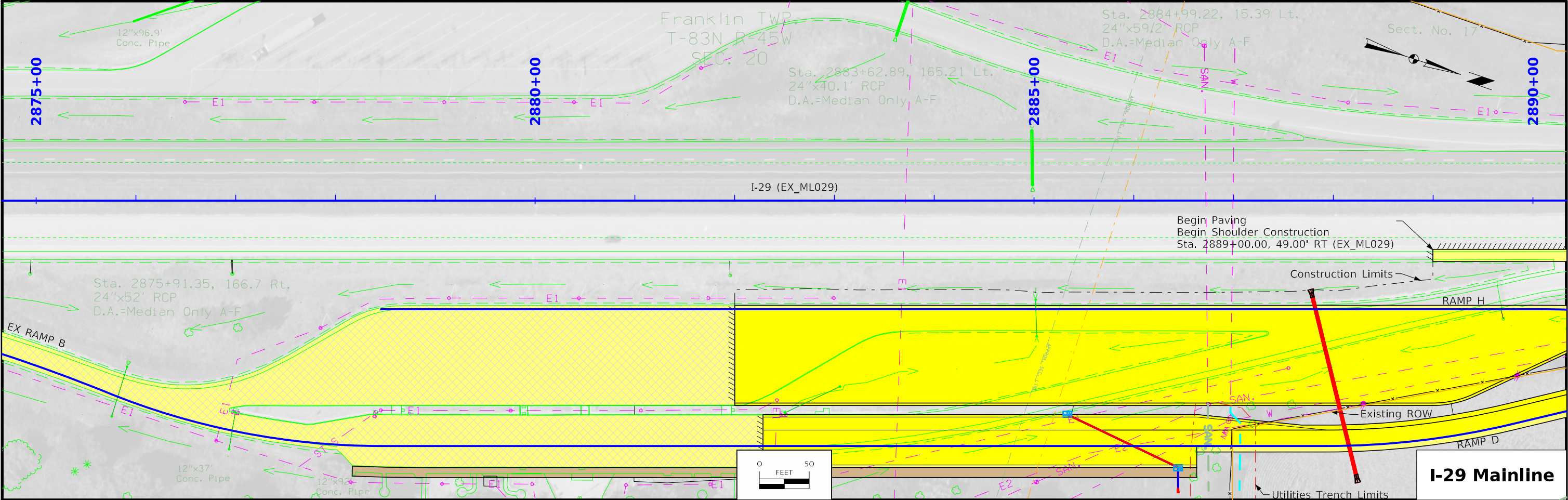
LINEWORK	Design Color	No.
Green	(10)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right



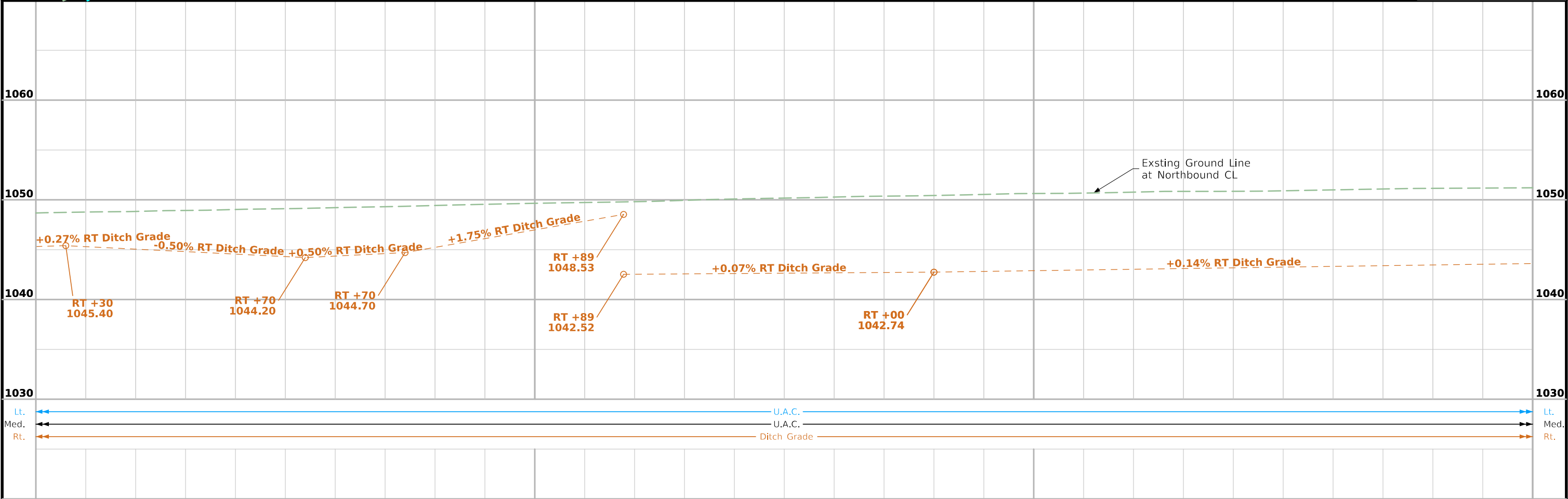
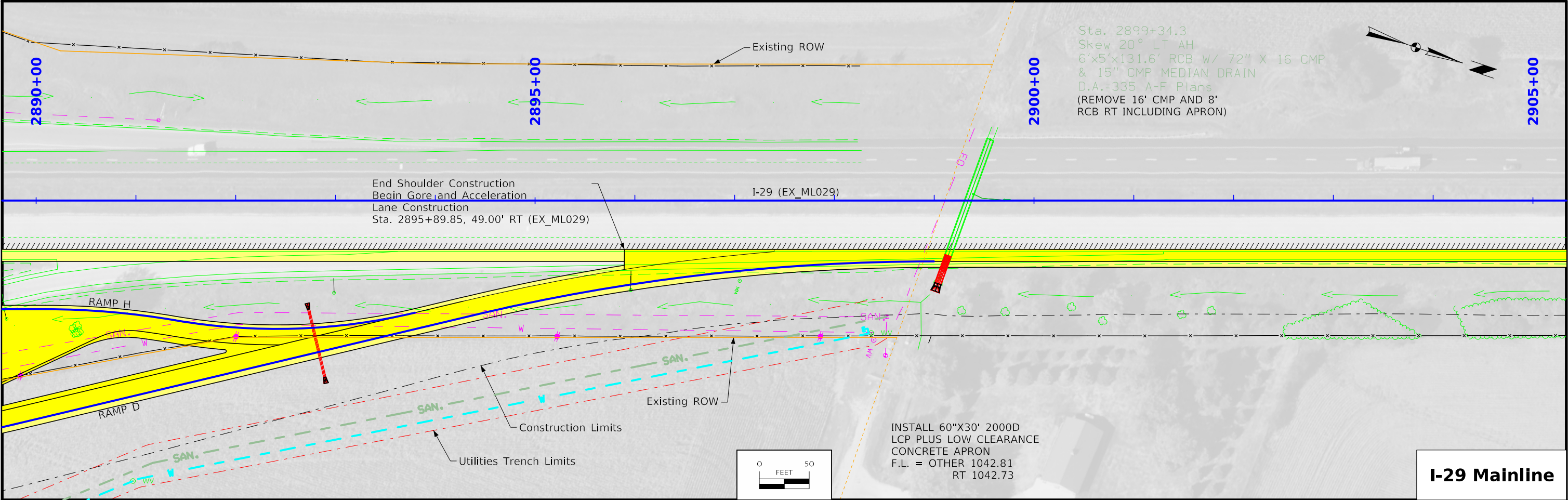
(COVERS SHEET SERIES D & K)



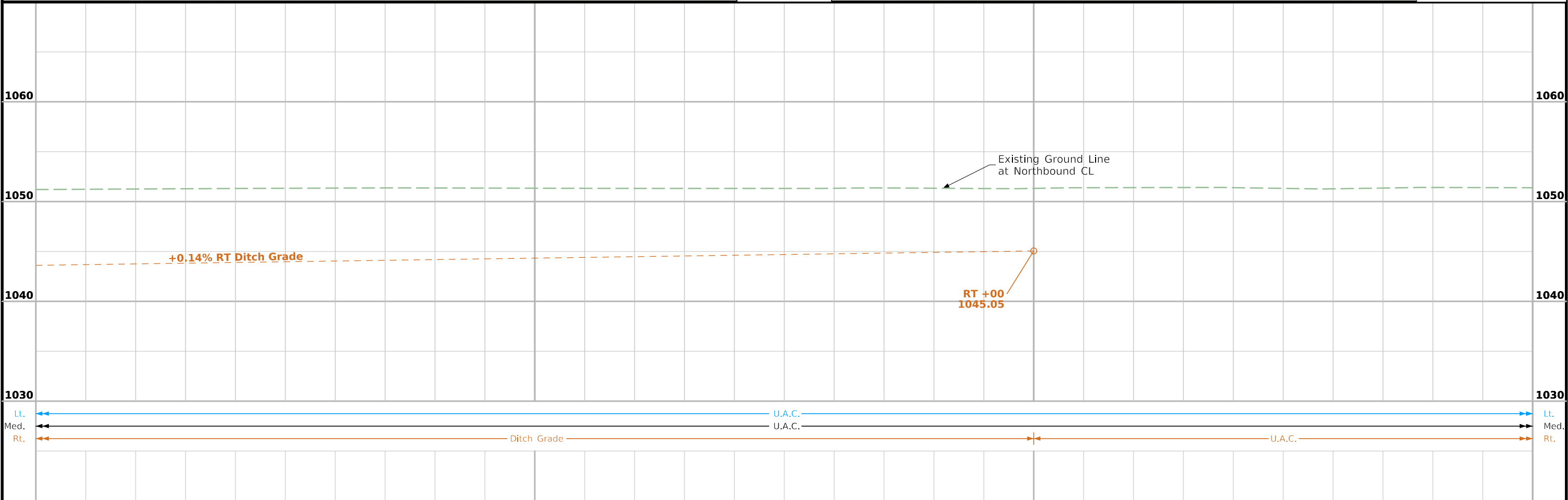
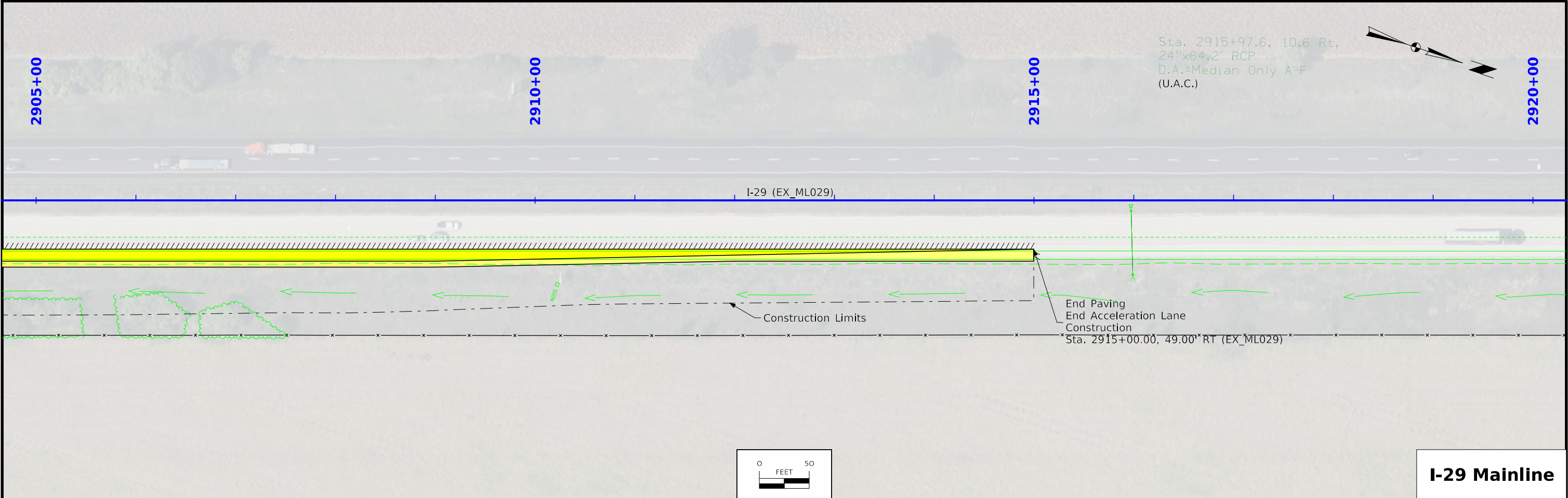
FILE NO.										ENGLISH										DESIGN TEAM Iowa DOT \ HR Green, Inc.										MONONA COUNTY										PROJECT NUMBER IMX-029-5(282)109--02-67										SHEET NUMBER D.2																			
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FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT \ HR Green, Inc.	MONONA COUNTY	PROJECT NUMBER IMX-029-5(282)109--02-67	SHEET NUMBER D.3
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FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT \ HR Green, Inc.	MONONA COUNTY	PROJECT NUMBER IMX-029-5(282)109--02-67	SHEET NUMBER D.4
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FILE NO.	ENGLISH	DESIGN TEAM Iowa DOT \ HR Green, Inc.	MONONA COUNTY	PROJECT NUMBER IMX-029-5(282)109--02-67	SHEET NUMBER D.5
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Survey Information

SURVEY INDEX

County: Monona
PIN: 24-67-029-050
Project Number: IMX-029-5(282)109--02-67
Location: Onawa Rest Area 2.6 mi S of IA 175 (NB)
Work Code: 1014-PCC Pavement - Grade and Replace Project
Directory: 6702905024

Survey Personnel

Clayton Henningsen – Survey Party Chief
Jason Arn – Survey Party Chief
Paul Harry – Survey Party Chief

Date(s) of Survey

Begin Date 02/04/2024
End Date 02/22/2024

General Information

This survey is for I-29 northbound rest area 2.6 miles south of IA 175. This survey request was for the I-29 corridor only. 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 06
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u2

Alignment Information

The horizontal alignment for I-29 this survey is a retrace of As-built Plans No. I-29-5(14)108—01-67. Survey stationing was equated to the plan POT at Sta. 2857+02.1 and carried ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

POT Sta. 2857+02.1 As-built Plans Project No. I-29-5(14)108—01-67
Survey POT Sta. 2857+02.1

PC Sta. 2935+29.0 As-built Plans Project No. I-29-5(14)108—01-67
Survey PC Sta. 2935+26.71

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

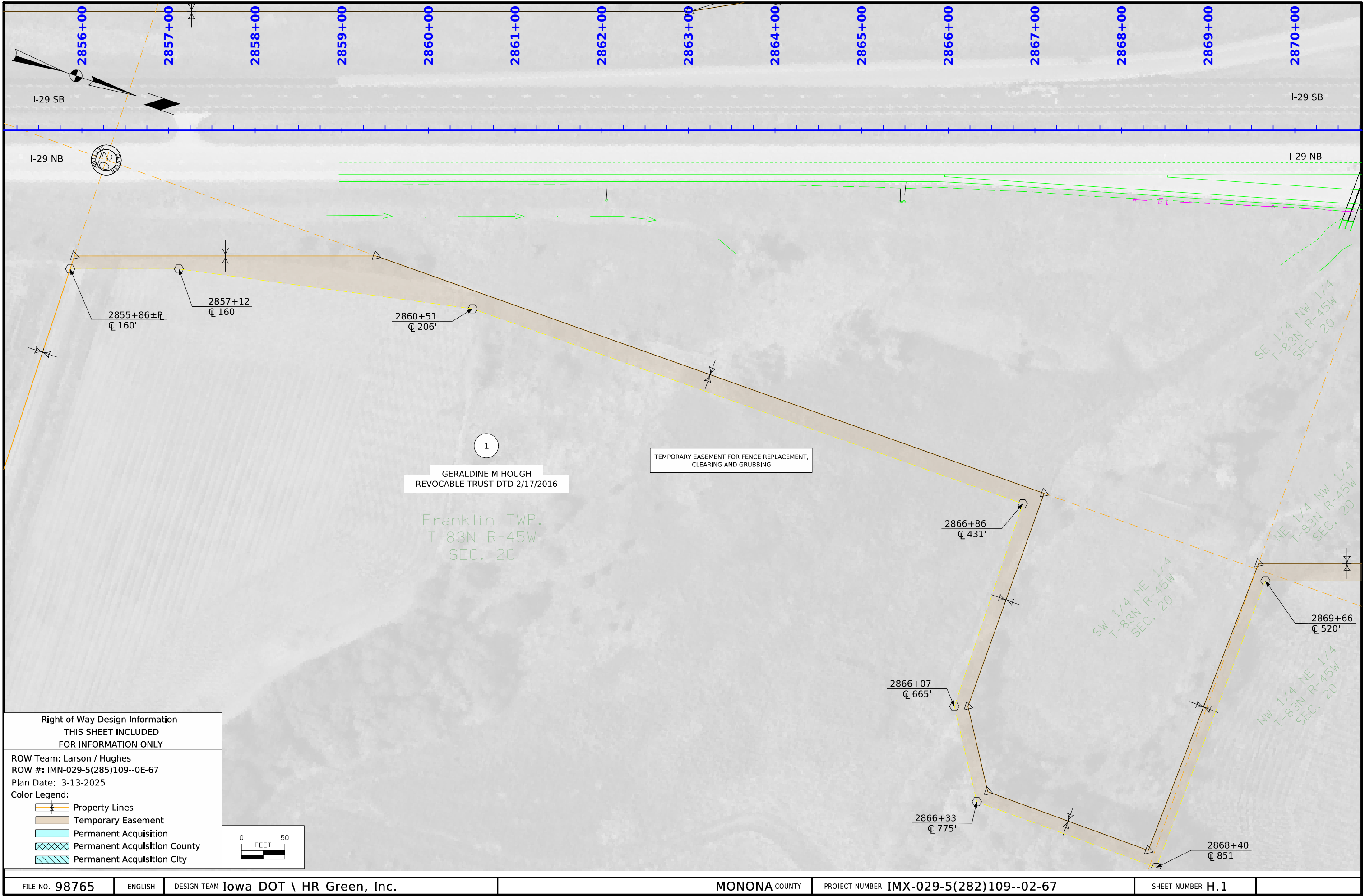
Coordinate listing from next sheet will be used with IaRTN for monument recovery. No other reference ties are given.

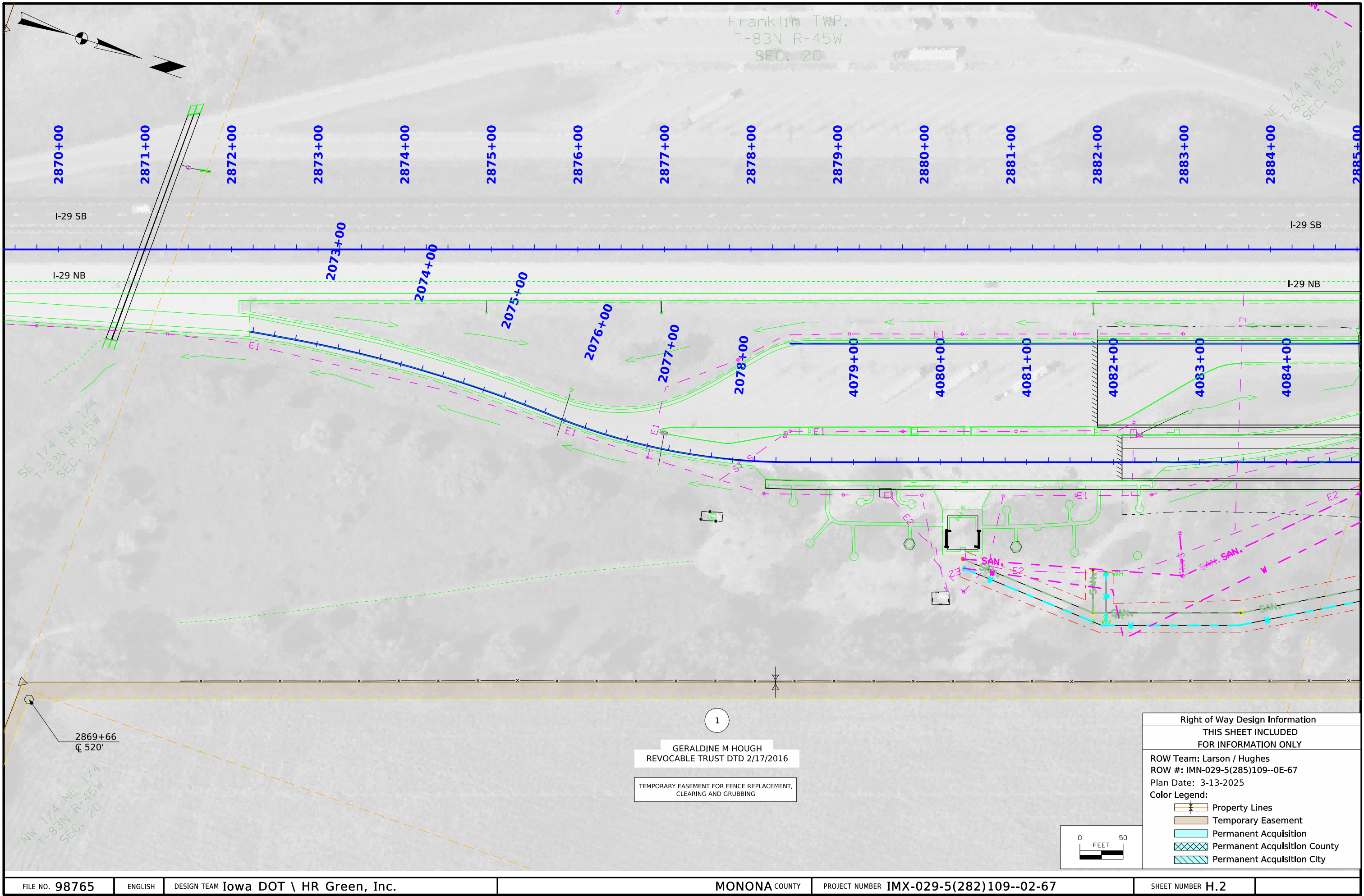
HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
Ia. Regional Coordinate System Zone 06 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u2

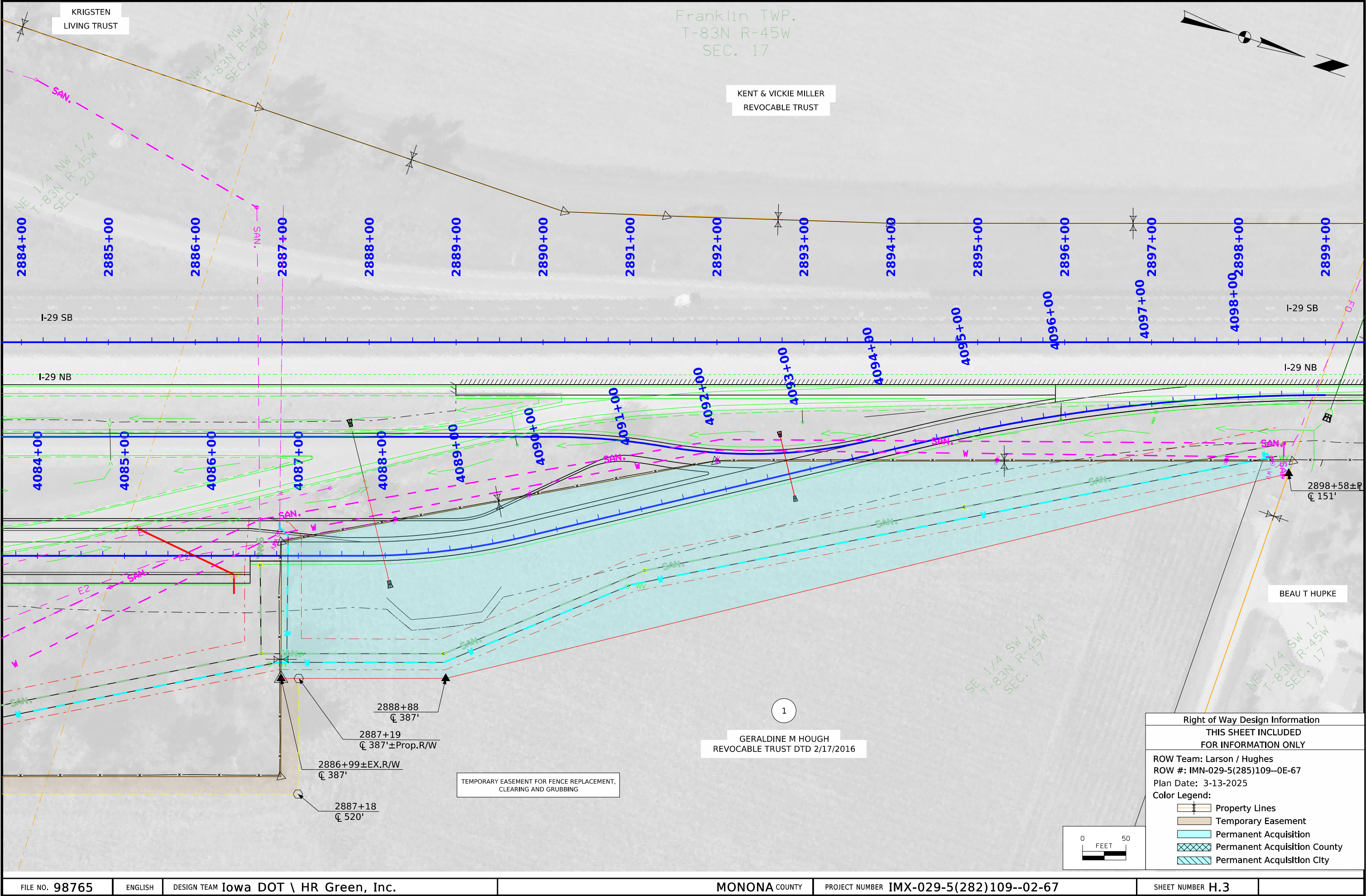
<u>Point Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	<u>Feature Definition-Description</u>
67I29110	7236976.95	16396999.78	1044.05	CP SET FENO MONUMENT IN EAST DITCH OF I-29 NEAR MILE MARKER 110 APPROX 20 FT WEST OF ROW FENCE
67I291092	7233146.74	16398299.11	1043.36	CP FOUND CONC MONUMENT ON EAST TOP OF BACKSLOPE 3 FEET WEST OF ROW FENCE APPROX 65 FT NORTH CL OF 256TH ST
67I291096	7234825.35	16397293.93	1045.76	CP SET REBAR AT SOUTHBOUND REST AREA APPROX 100 FT SOUTH OF END OF SIDEWALK
V145	7230407.47	16398091.50	1048.97	CP NGS MONUMENT AS DESCRIBED IN GOOD CONDITION

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

ACCESS CONTROL PREVIOUSLY ACQUIRED.







Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: IMN-029-5(285)109--0E-67
Plan Date: 3-13-2025

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition
- Permanent Acquisition County
- Permanent Acquisition City

TRAFFIC CONTROL PLAN

1. Traffic control on this project shall be in accordance with the Standard Road Plans listed in tabulation 105-4 and the specific layouts shown in the plans. For additional information, refer to Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD).
2. The rest area will be closed to traffic during Stage 2 of construction. Contractor shall notify the Engineer in writing two weeks prior to the planned closure date of the rest area.
3. Traffic on I-29 shall be maintained in accordance with the J sheets. A northbound right lane closure will be permitted as necessary to complete Ramp D gore and acceleration lane paving. Contractor shall notify the Engineer in writing two weeks prior to the planned closure date of the northbound right lane of I-29.
4. Traffic control devices shown in the J sheets are part of the Traffic Control bid item and will not be paid for individually.
5. The Contractor shall coordinate traffic control with all other projects in the area including, but not limited to, those in Coordinated Operations tabulation 111-01 and the NB rest area building replacement project.

108_26A
8/15/22

STAGING NOTES

STAGE 1
Traffic:
*Close the northbound right travel lane of I-29 north of the rest area exit gore to the north paving limits.
* Maintain all access and keep the rest area open during Stage 1.
Construction:
* Construct proposed Ramp D, Ramp H, and the I-29 acceleration lane and shoulder to the extent practical.

STAGE 2
Traffic:
* Close the northbound right travel lane of I-29 south of the rest area exit to the north paving limits.
* Close the rest area to the public. Maintain access for Iowa DOT maintenance personnel.
Construction:
* Remove existing on-ramp, construct parking areas, and construct new shoulder through the existing on-ramp.

111_01 10/14/22 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
IMX-029-5(283)109--02-67	Tied Project - Traffic Signs
IMX-029-5(284)109--02-67	Tied Project - Lighting
	Rest Area Facilities Improvements
Sergeant Bluff NB Rest Area	Adjacent Project - Remove

254.01 9/28/22 INCIDENT MANAGEMENT An incident management plan, provided by the District Office, will be discussed at the pre-construction conference.	
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254.01 9/28/22 INCIDENT MANAGEMENT An incident management plan, provided by the District Office, will be discussed at the pre-construction conference.	
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254.01 9/28/22 INCIDENT MANAGEMENT An incident management plan, provided by the District Office, will be discussed at the pre-construction conference.	
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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, Unpinned		Permanent Barrier Rail
	Temporary Barrier Rail, Pinned		Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
LINEWORK	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

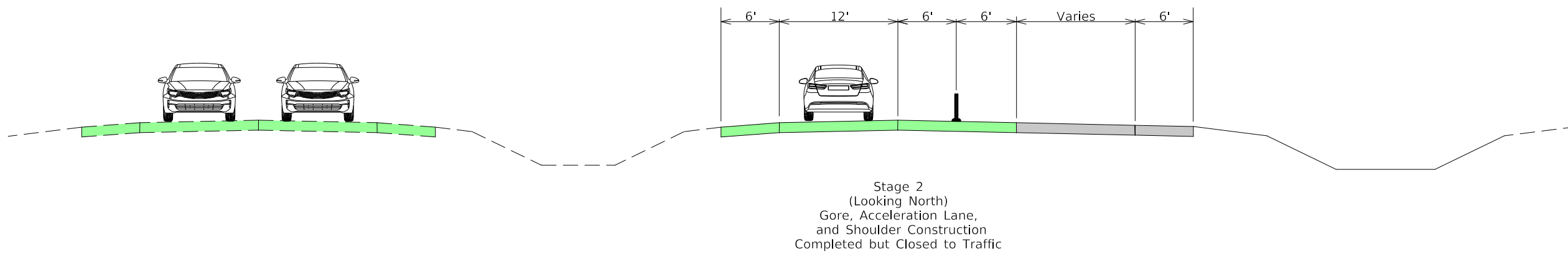
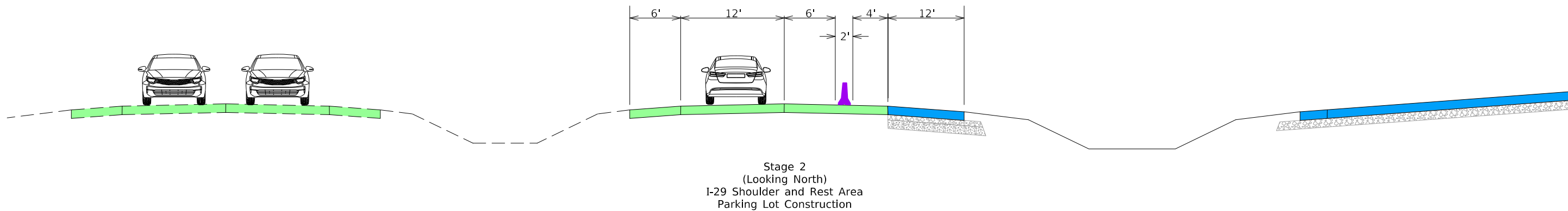
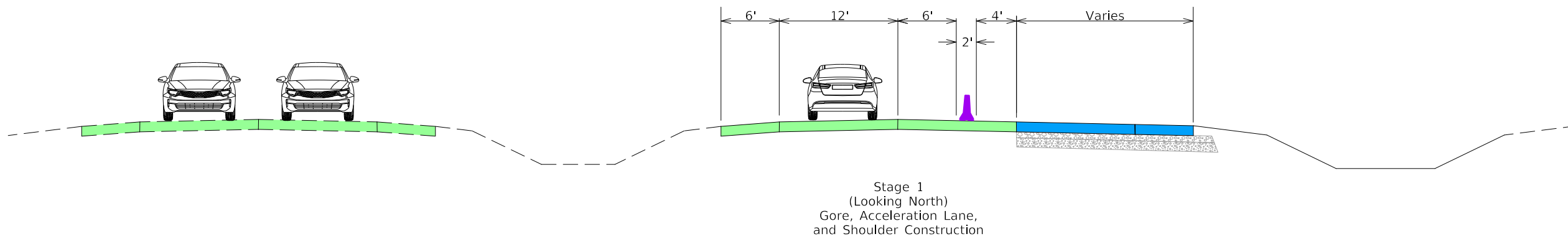
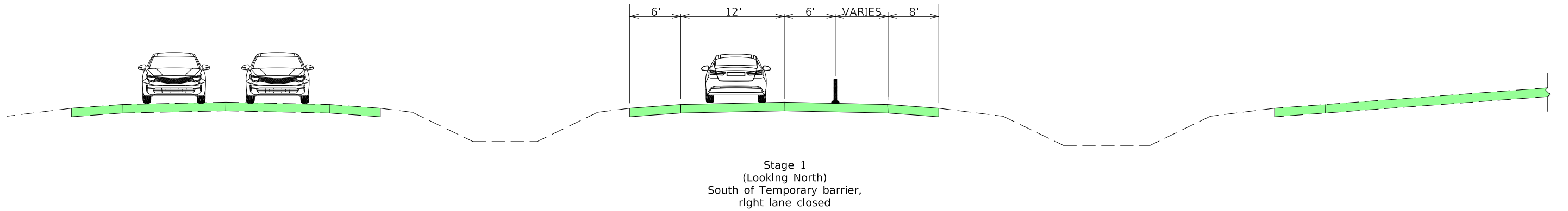
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Gray, Light	(48)		Previously Constructed Pavement Shading
Gray, Med	(80)		Proposed Granular Surface Shading
Gray, Med	(80)		Previously Constructed Granular Surface Shading
Blue, Light	(230)		Proposed Pavement Shading
Blue, Light	(230)		Proposed Pavement Scarification and Overlay
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

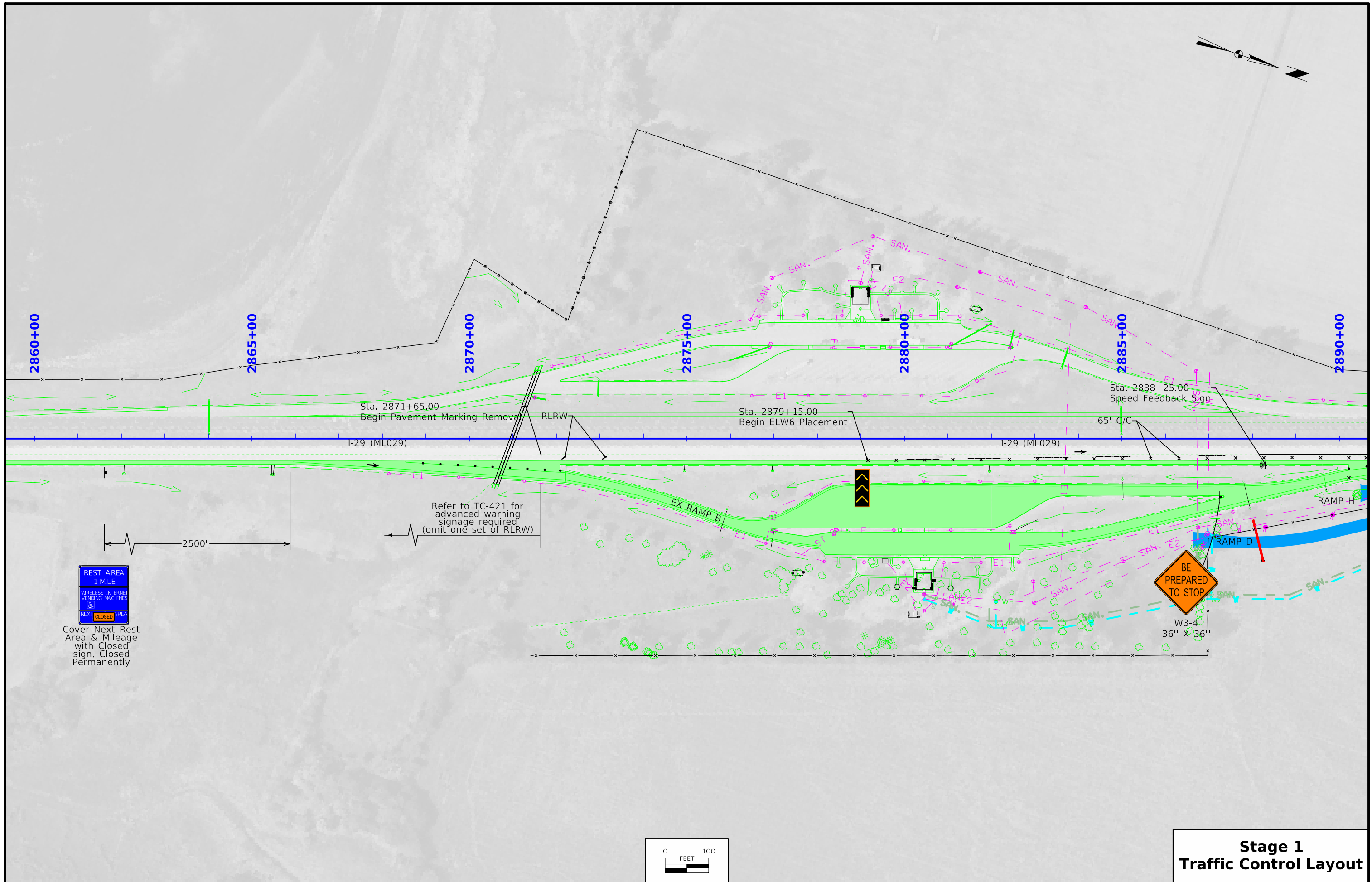
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS			
	Channelizing Device		Crash Cushion (Temp)
	Drum		Traffic Signal
	Temporary Lane Separator		Flagger
	Tubular Marker		Temporary Floodlighting
	Channelizer Marker		Traffic Sign
	Concrete Barrier Marker		Type III Barricade
	Delineator		Type A Warning Light
	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout		Lane Identification
	Shoring		

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

TRAFFIC CONTROL
AND
STAGING
LEGEND AND SYMBOL
INFORMATION SHEET

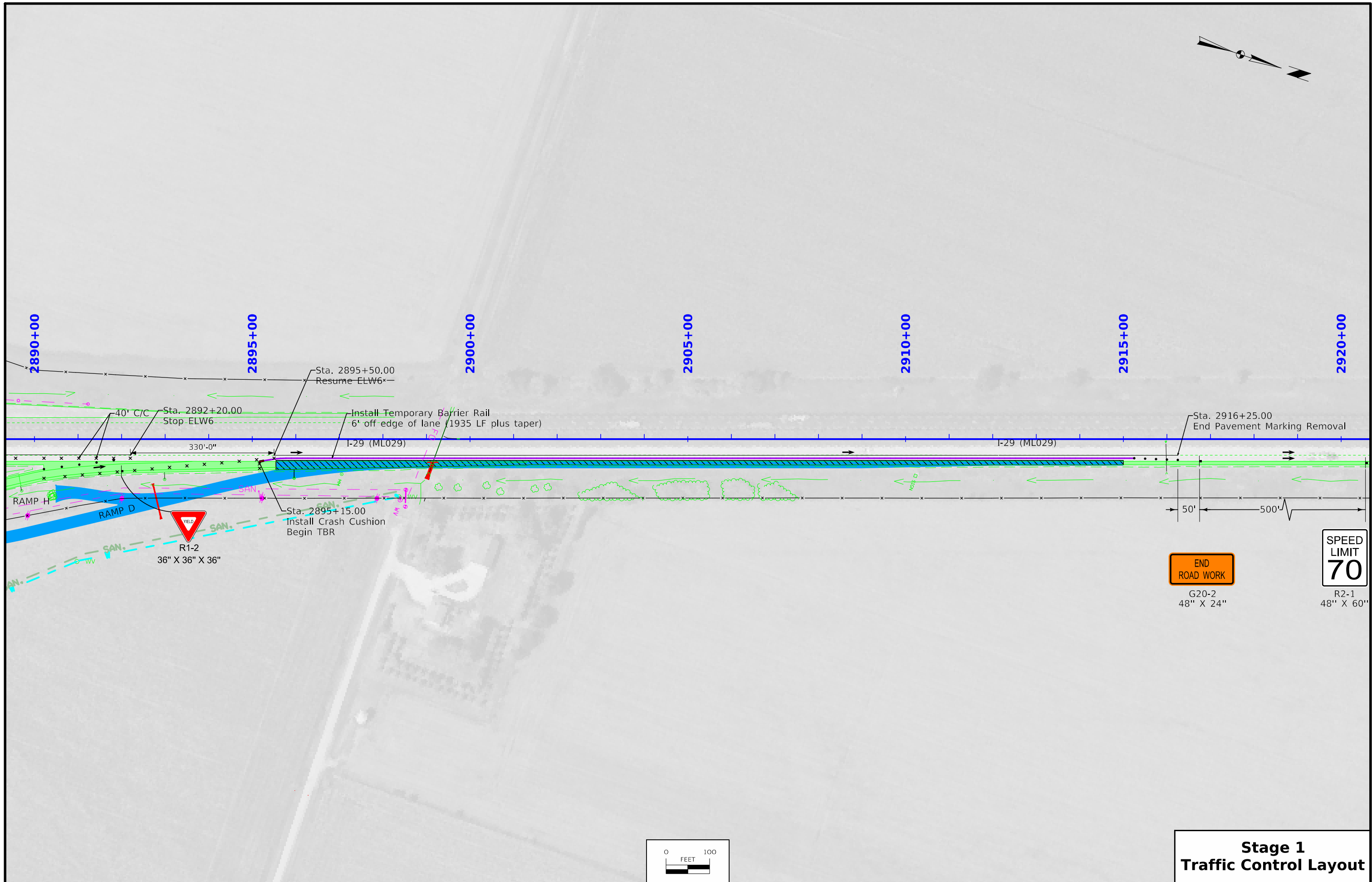
(COVERS SHEET SERIES J)





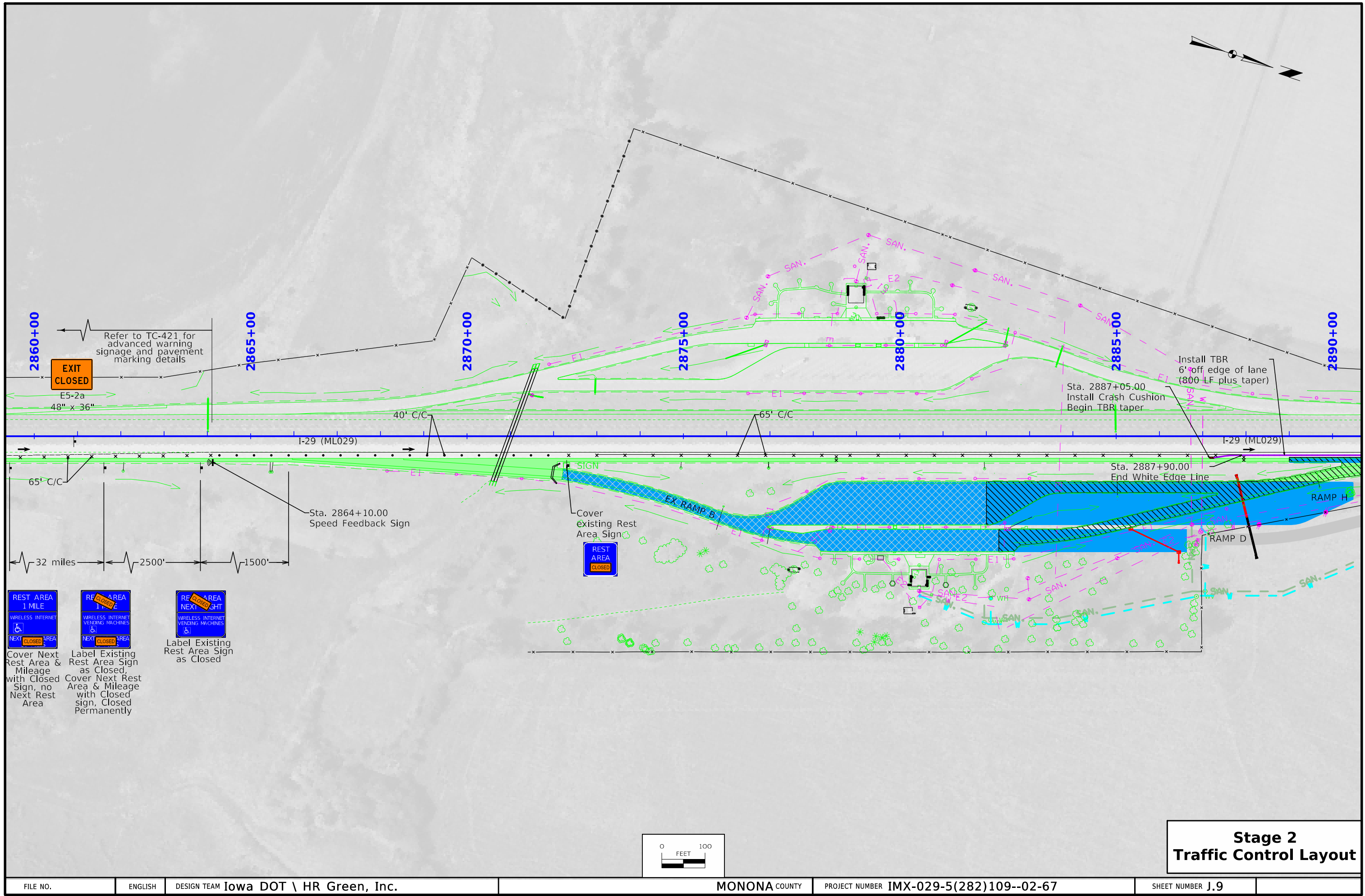
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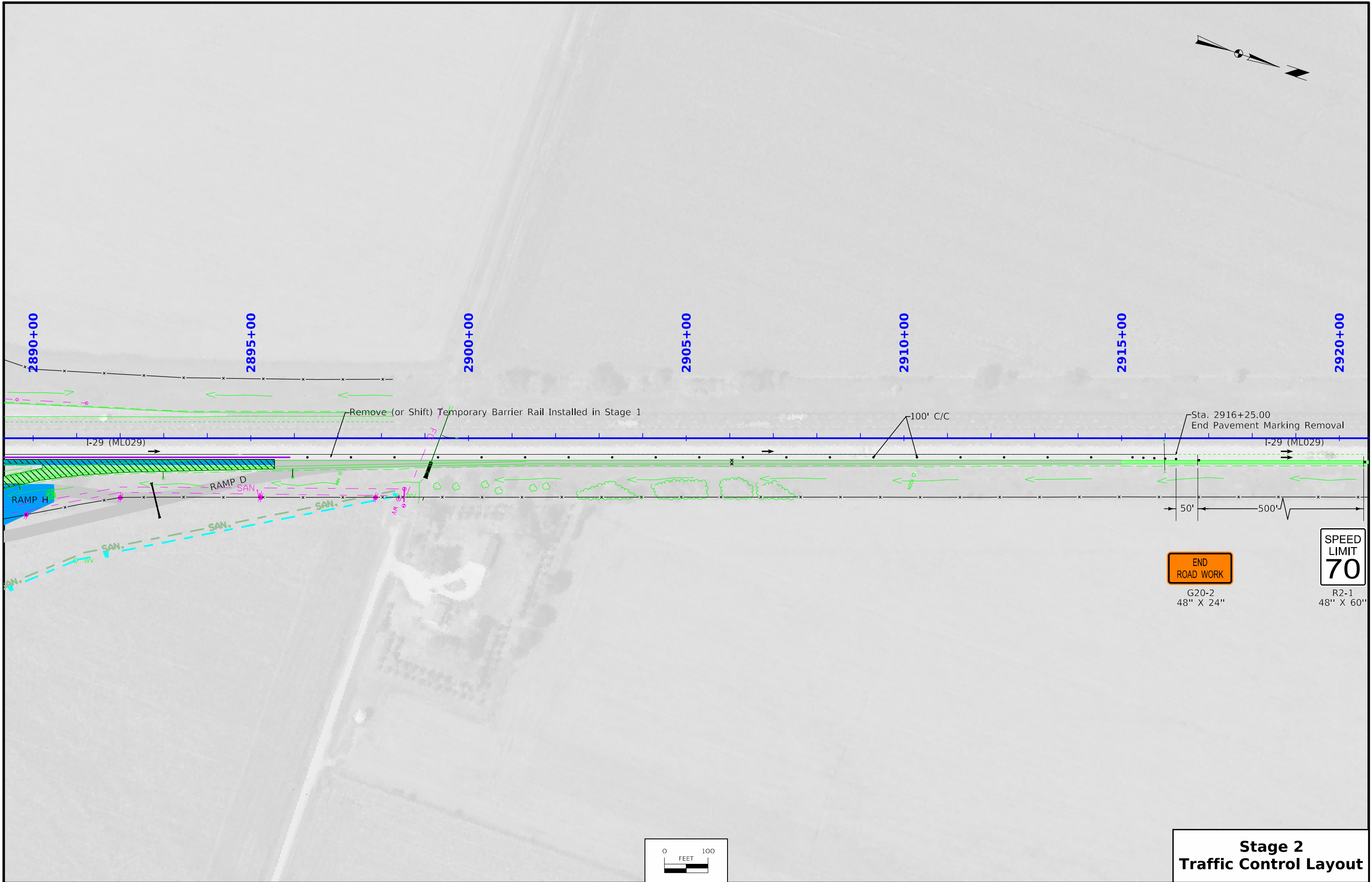
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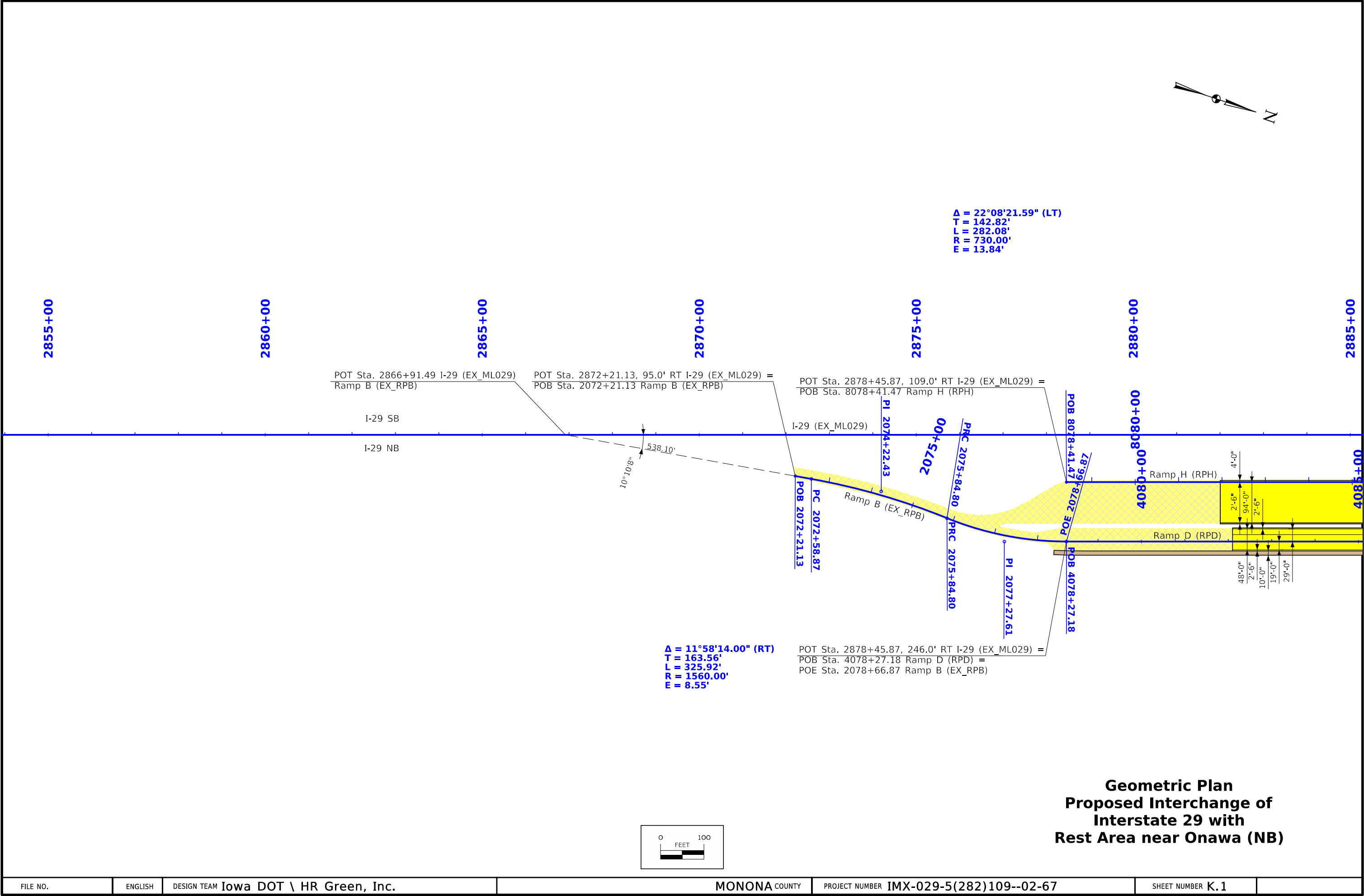
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ROAD WORK

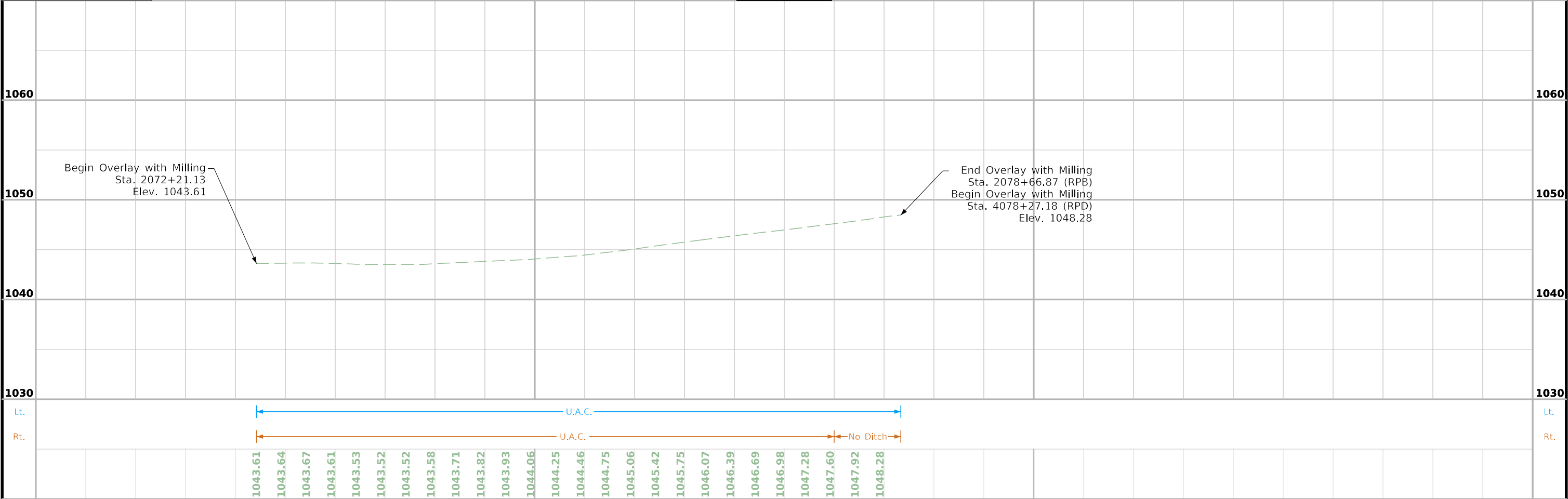
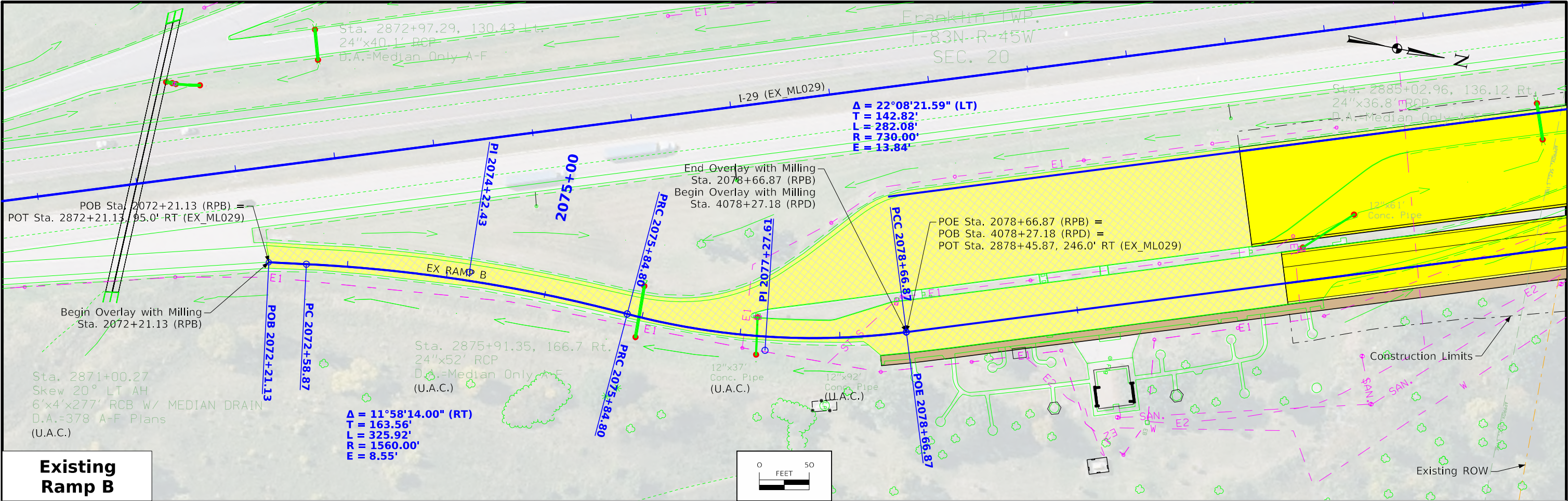
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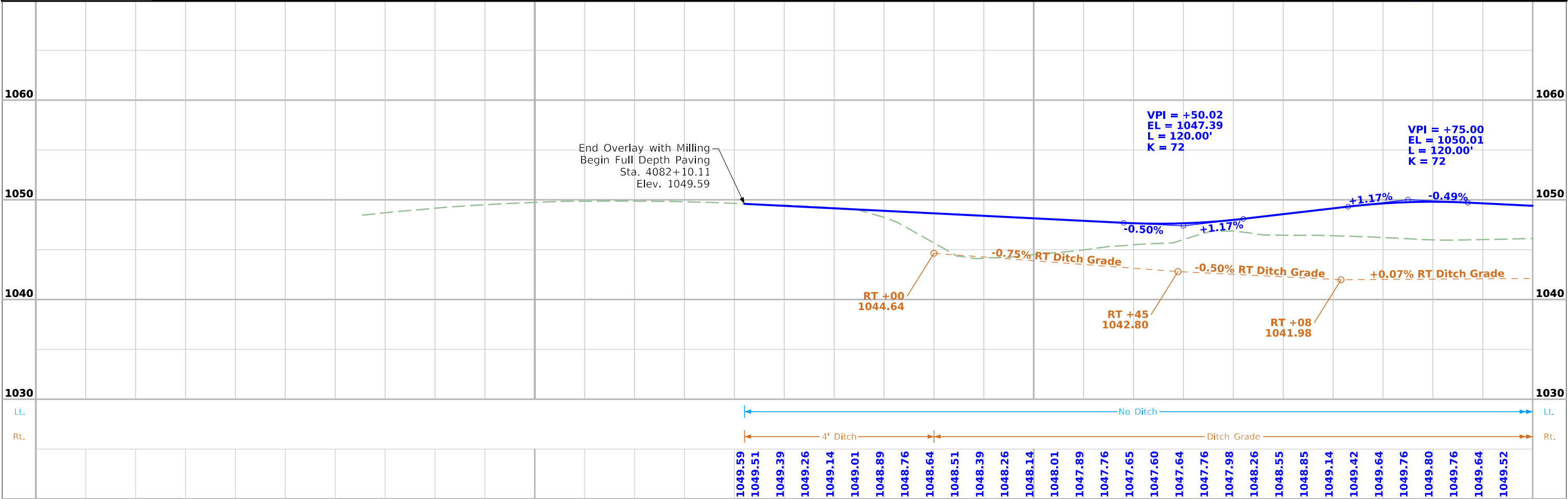
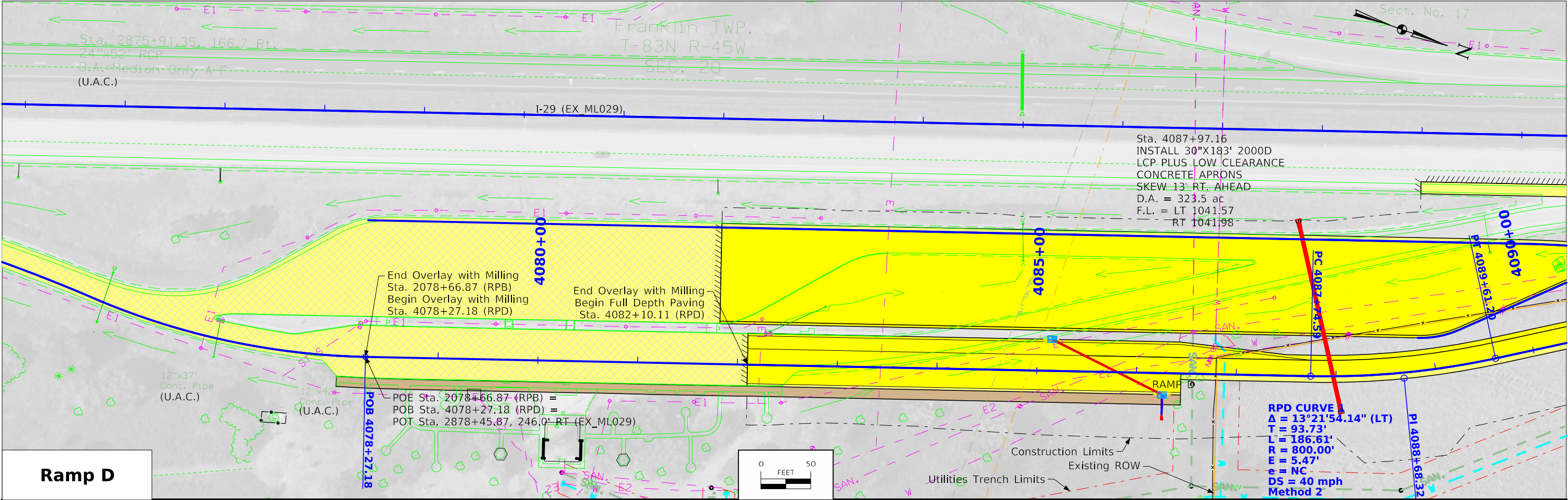
SPEED
LIMIT
70

R2-1
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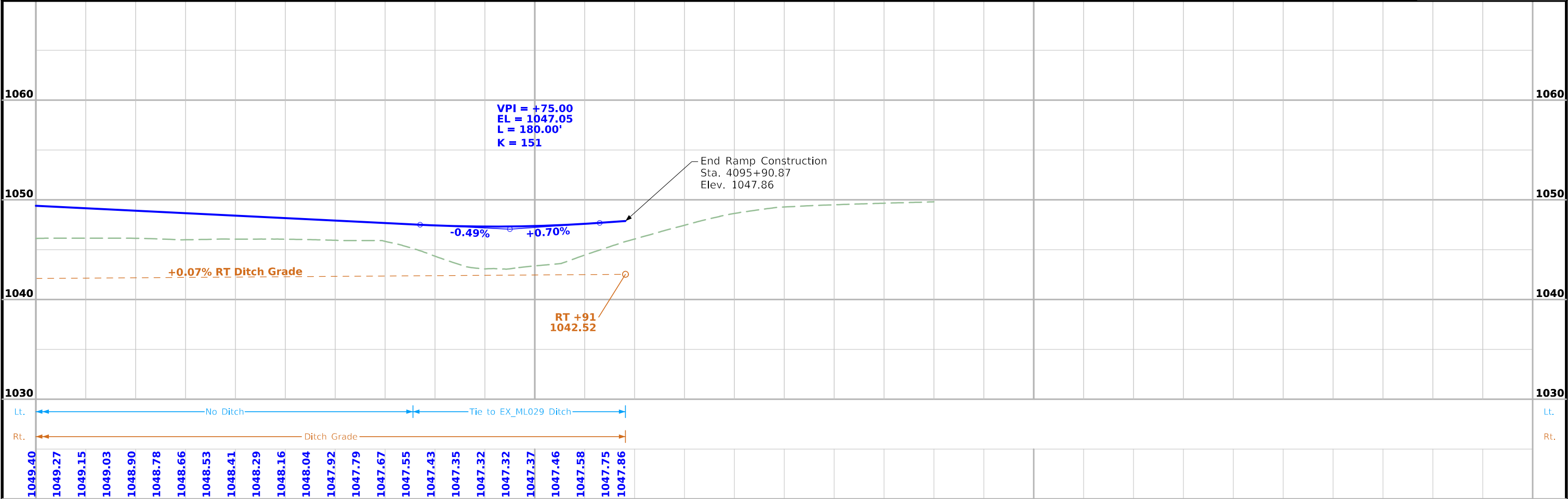
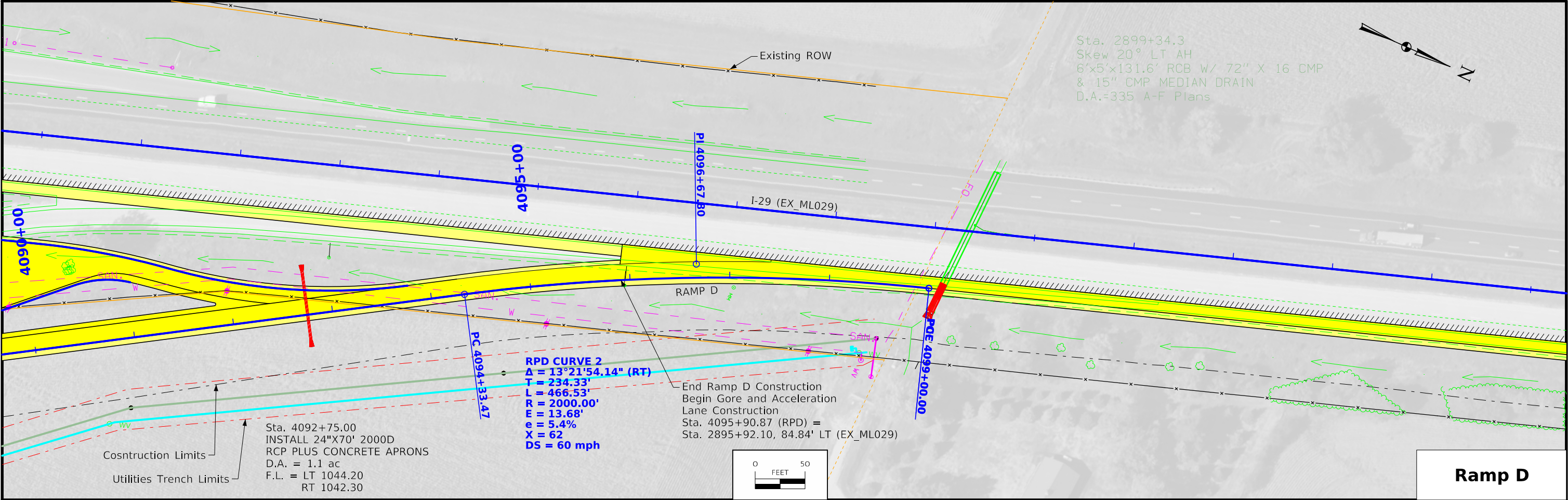
**Stage 2
Traffic Control Layout**

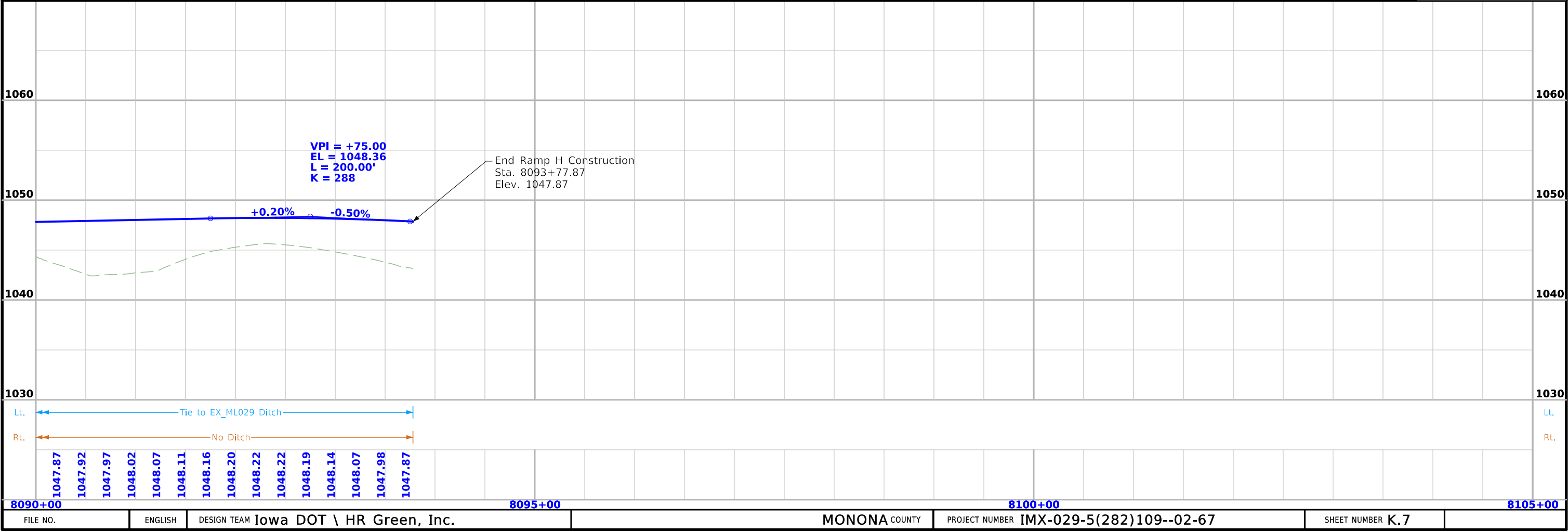
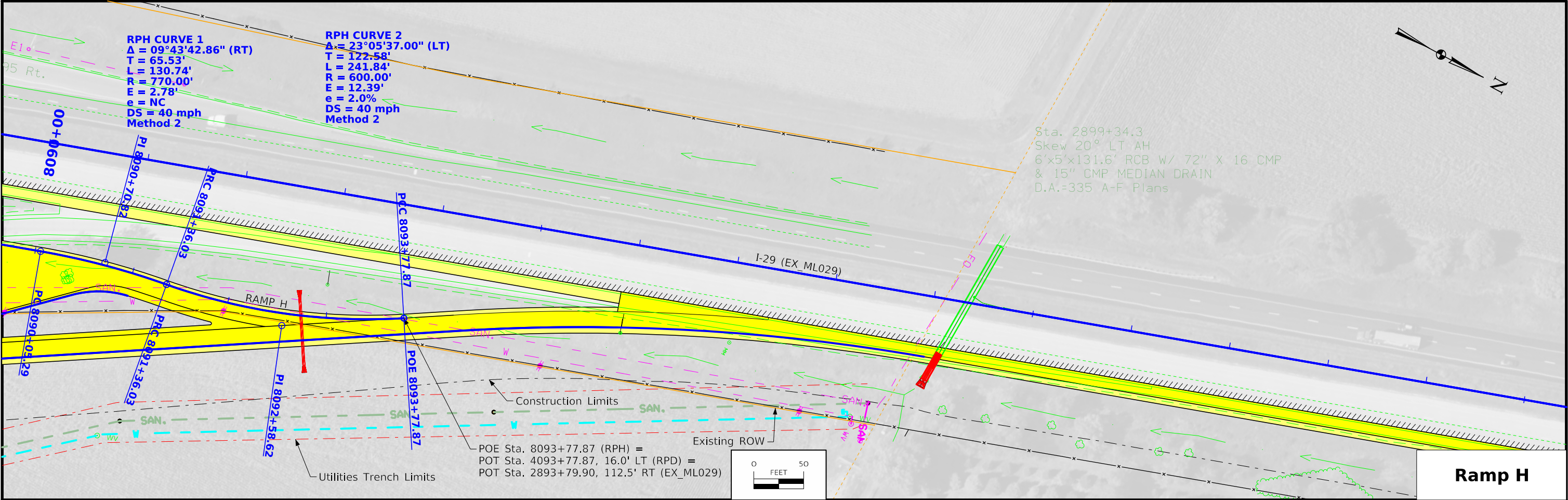






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MONONA COUNTY		
PROJECT NUMBER IMX-029-5(282)109--02-67		
SHEET NUMBER K.4		





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
	WHU Water Hook Up
	RT Radio Tower
	TA Tower Anchor
	Guardrail (Beam or Cable)
	GP Guard Post (one or two)
	Guard Post (over two)
	FP Filler Pipe
	GV Gas Valve
	WV Water Valve
	SL Speed Limit Sign
	MM Mile Marker Post
	SIGN Sign
	TCB Traffic Signal Control Box
	RRB Rail Road Signal Control Box
	TSB Telephone Switch Box
	EB Electric Box

UTILITY LEGEND

— SAN. —	CITY OF ONAWA
— W —	Contact Name: Elaine Miller
	Contact Phone: (712)433-1181
	Contact Email: emiller@onawa.com
	Contact Name: John Casady
	Contact Phone: (712)433-1511
	Contact Email: jcasady@onawa.com
— F0 —	IOWA DEPARTMENT OF TRANSPORTATION
— F02 —	Contact Name: Ron Gleiser
	Contact Phone: (712)261-0196
— E1 —	Contact Email: Ron.Gleiser@iowadot.us
	Contact Name: Jason Dale
	Contact Phone: (515)239-1995
	Contact Email: Jason.Dale@iowadot.us
— E2 —	WESTERN IOWA POWER COOPERATIVE
	Contact Name: Jason Lee
	Contact Phone: (712)263-2943
	Contact Email: jason.lee@wipco.com
	Contact Name: Jeremy Kreger
	Contact Phone: (712)263-2943
	Contact Email: jeremy.kreger@wipco.com
— F03 —	CENTURYLINK
	Contact Name: Sadie Hull
	Contact Phone: (918)547-0147
	Contact Email: sadie.hull@lumen.com

PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Green	(2)	 Existing Topographic Features, Utilities, and Labels
Blue	(1)	 Proposed Storm Sewer Details, Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING	Design Color No.	
Yellow	(4)	 Proposed Pavement Shading
Yellow	(4)	 Proposed Pavement Scarification and Overlay
Yellow	(68)	 Proposed Shoulder Paved Full Depth Shading
Tan	(8)	 Proposed Sidewalk Shading

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

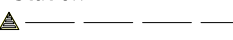
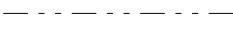
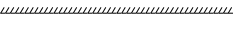
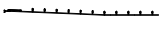
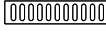
LINEWORK	Design Color No.	
Green	(2)	 Existing Ground Line Profile and Existing Utilities Information
Blue	(1)	 Proposed Pipes and Intakes

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

	Plug and Abandon Existing Pipe or Structure
	Removal of Existing Pipe or Structure
	Previously Constructed Pipe or Structure
	Direction of Pipe Flow

PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

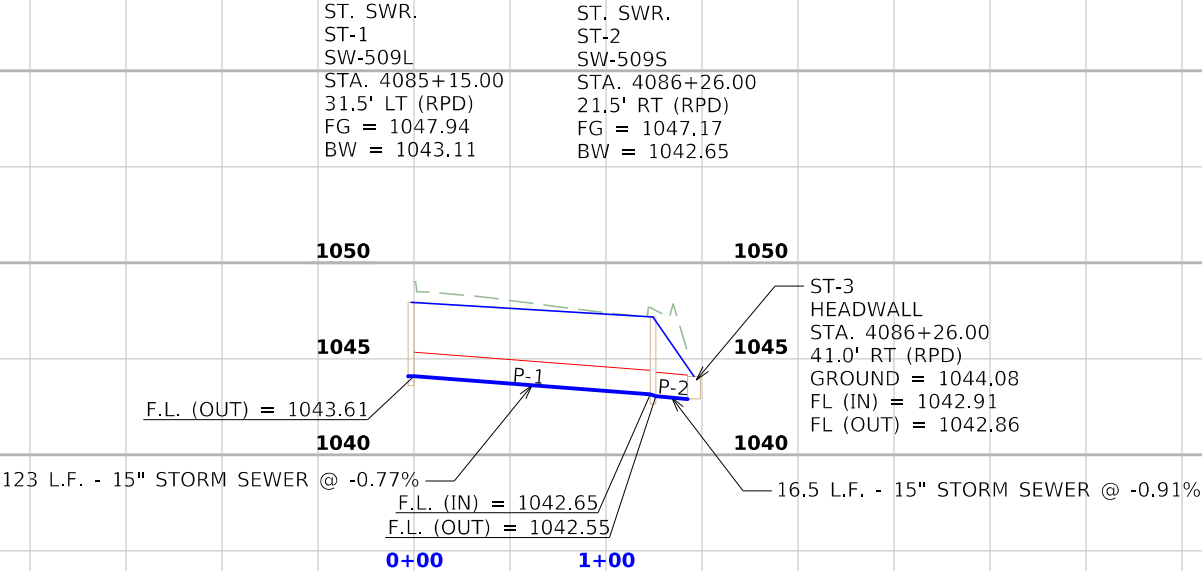
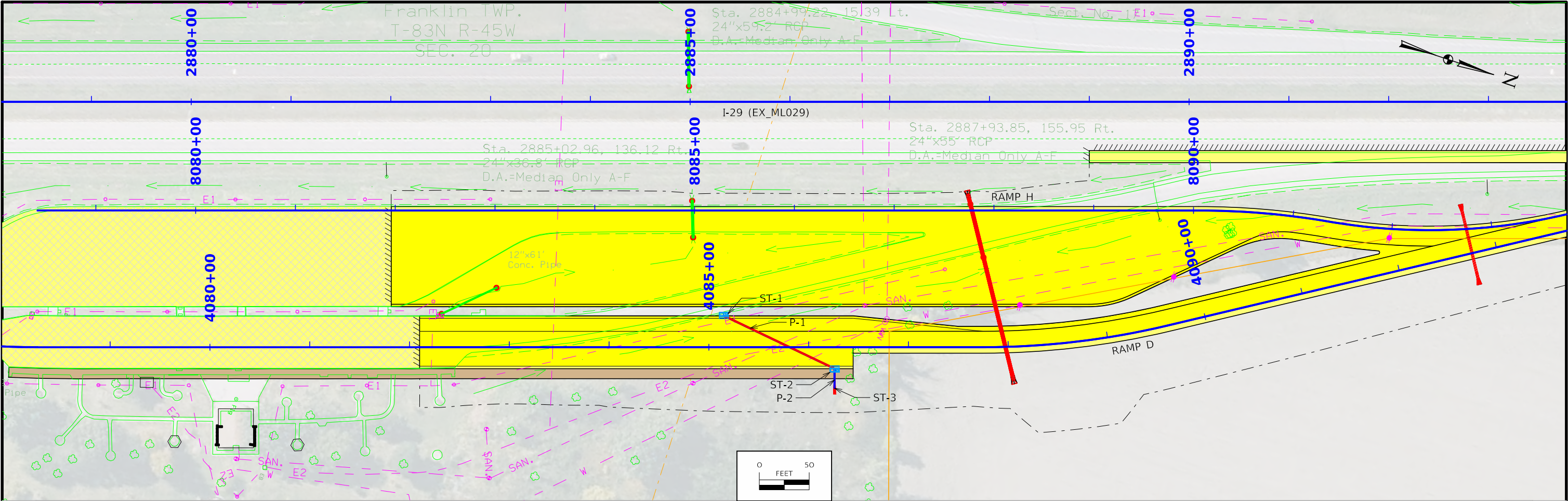
	Existing Ground
	Proposed Ground
	Previously Constructed Pipe or Structure
	Proposed Storm Sewer Structure
	Proposed Storm Sewer Pipe
	Proposed Sanitary Sewer Pipe or Structure
	Proposed Water Main Pipe or Structure

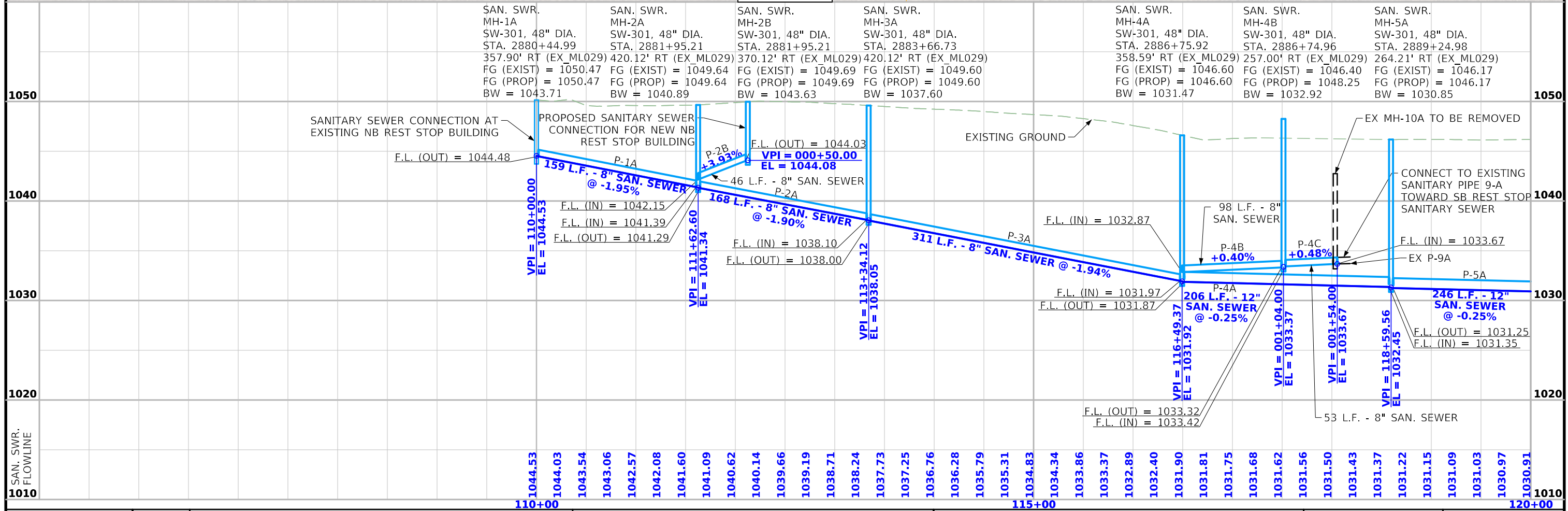
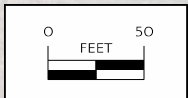
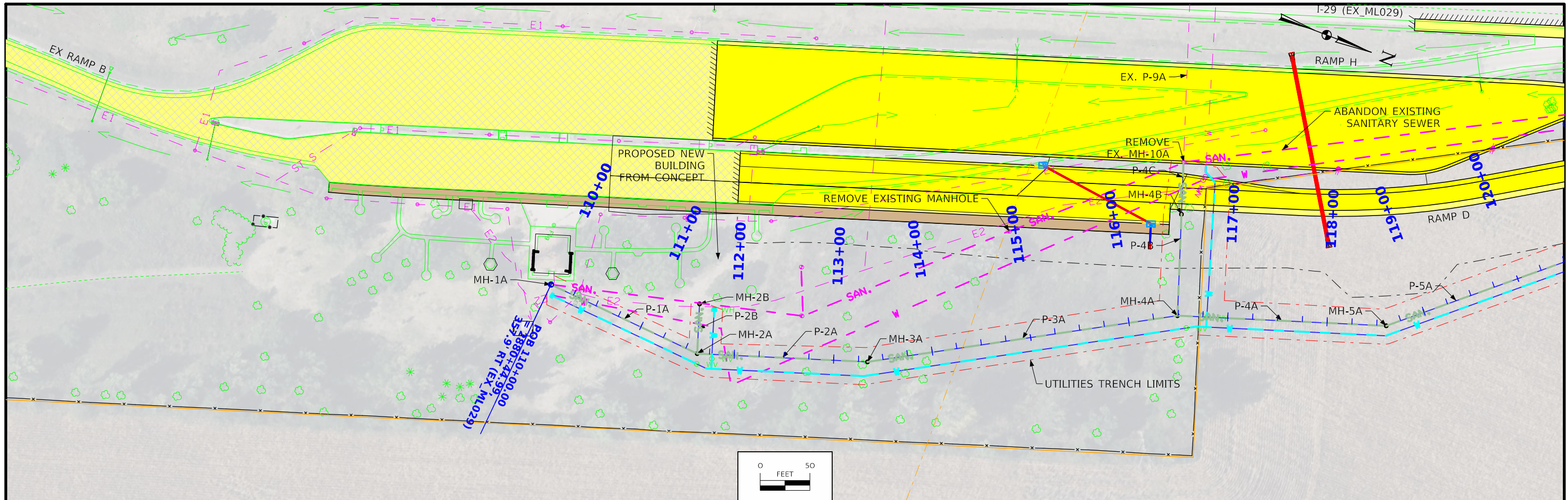
Reference Point	RIGHT-OF-WAY LEGEND
 Survey Line	 Proposed Right-of-Way
 Section Corner	 Existing and Proposed Right-of-Way
 Ground Line Intercept	 Easement and Existing Right-of-Way
 Saw Cut	 Borrow
 Guardrail	 Easement (Temporary)
 Trench Drain	 Easement
 Sheet Pile	 Excess
 Clearing & Grubbing Area	 Access Control
 Pavement Removal	 Property Line

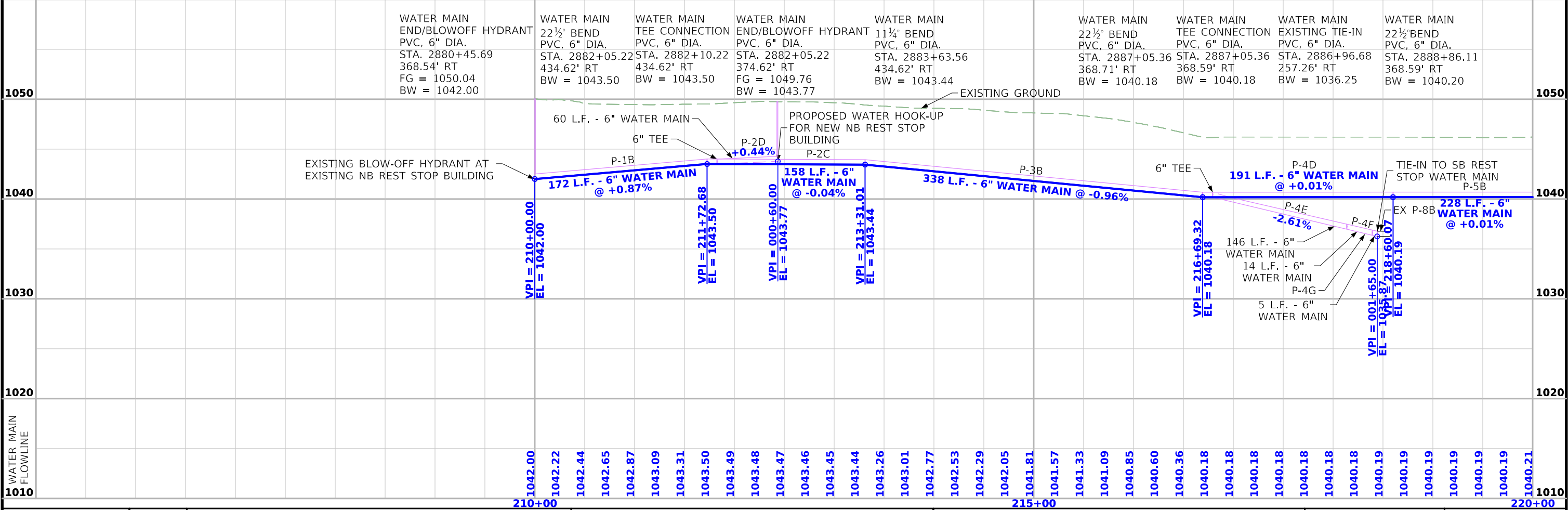
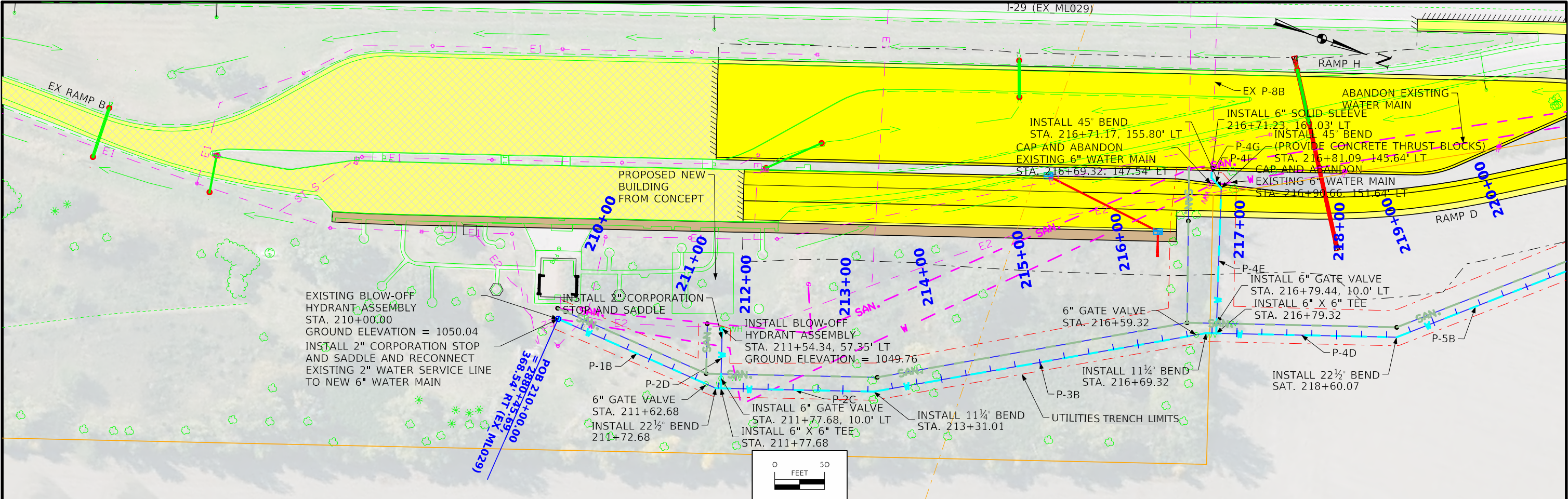
STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

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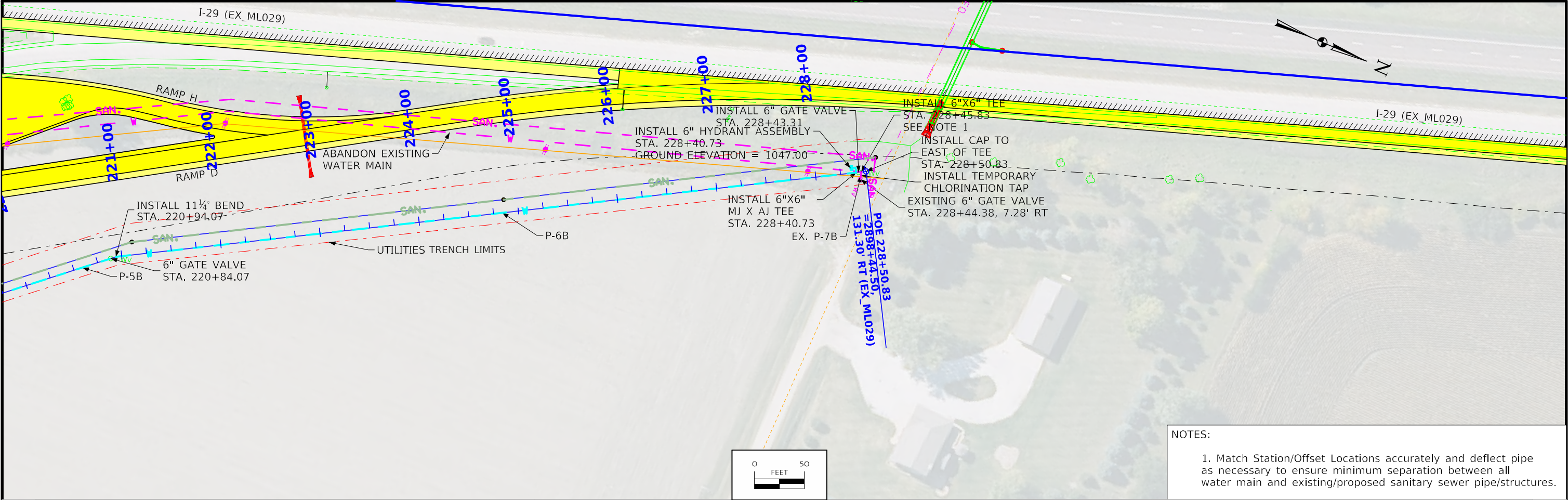
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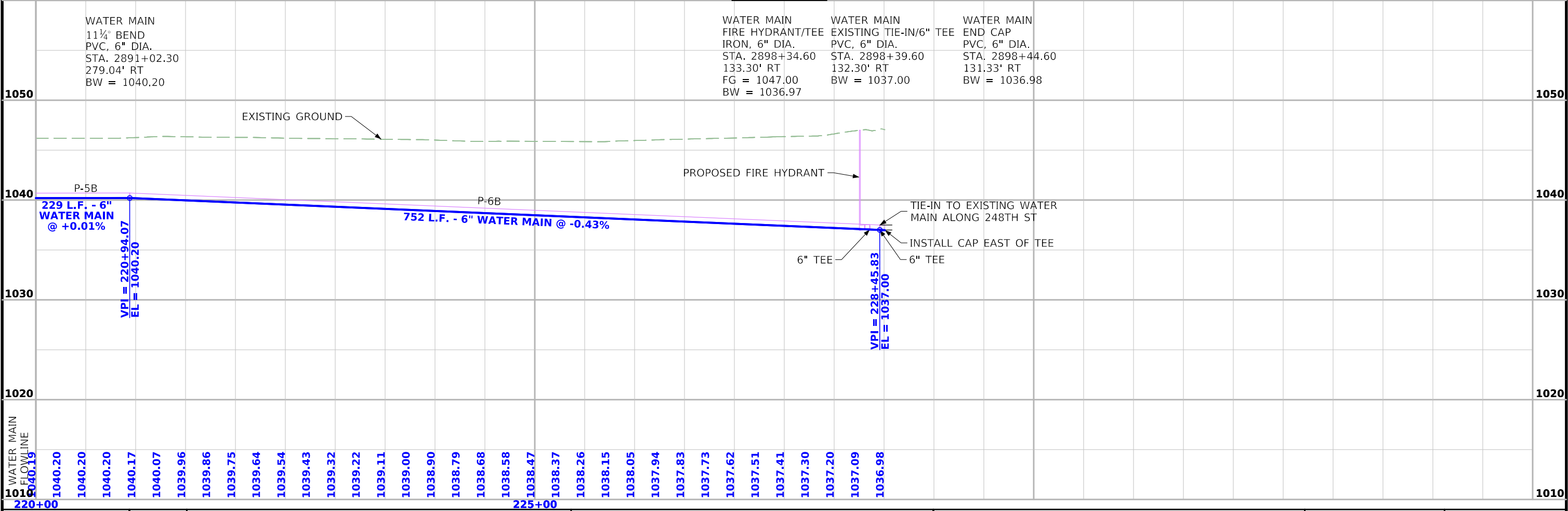


FILE NO.	ENGLISH	DESIGN TEAM	Iowa DOT \ HR Green, Inc.	MONONA COUNTY	PROJECT NUMBER	IMX-029-5(282)109--02-67	SHEET NUMBER	MWM.1
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NOTES:

1. Match Station/Offset Locations accurately and deflect pipe as necessary to ensure minimum separation between all water main and existing/proposed sanitary sewer pipe/structures.





I-29 (EX_ML029)

2890+00

8090+00

4090+00

Ramp H (RPH)

R 770'

R 600'

R 75'

Ramp D (RPD)

R 97.5'

**RAMP H TRUCK
PARKING LOT
TURNING MOVEMENT**



I-29 (EX_ML029)

2890+00

8090+00

4090+00

Ramp H (RPH)

R 770'

R 600'

R 75'

Ramp D (RPD)

R 97.5'

40 MPH DRIVING SPEED
RAMP H TRUCK
PARKING LOT
TURNING MOVEMENT



I-29 (EX_ML029)

2880+00

8080+00

New Parking Lot Striping Layout

Ramp H (RPH)

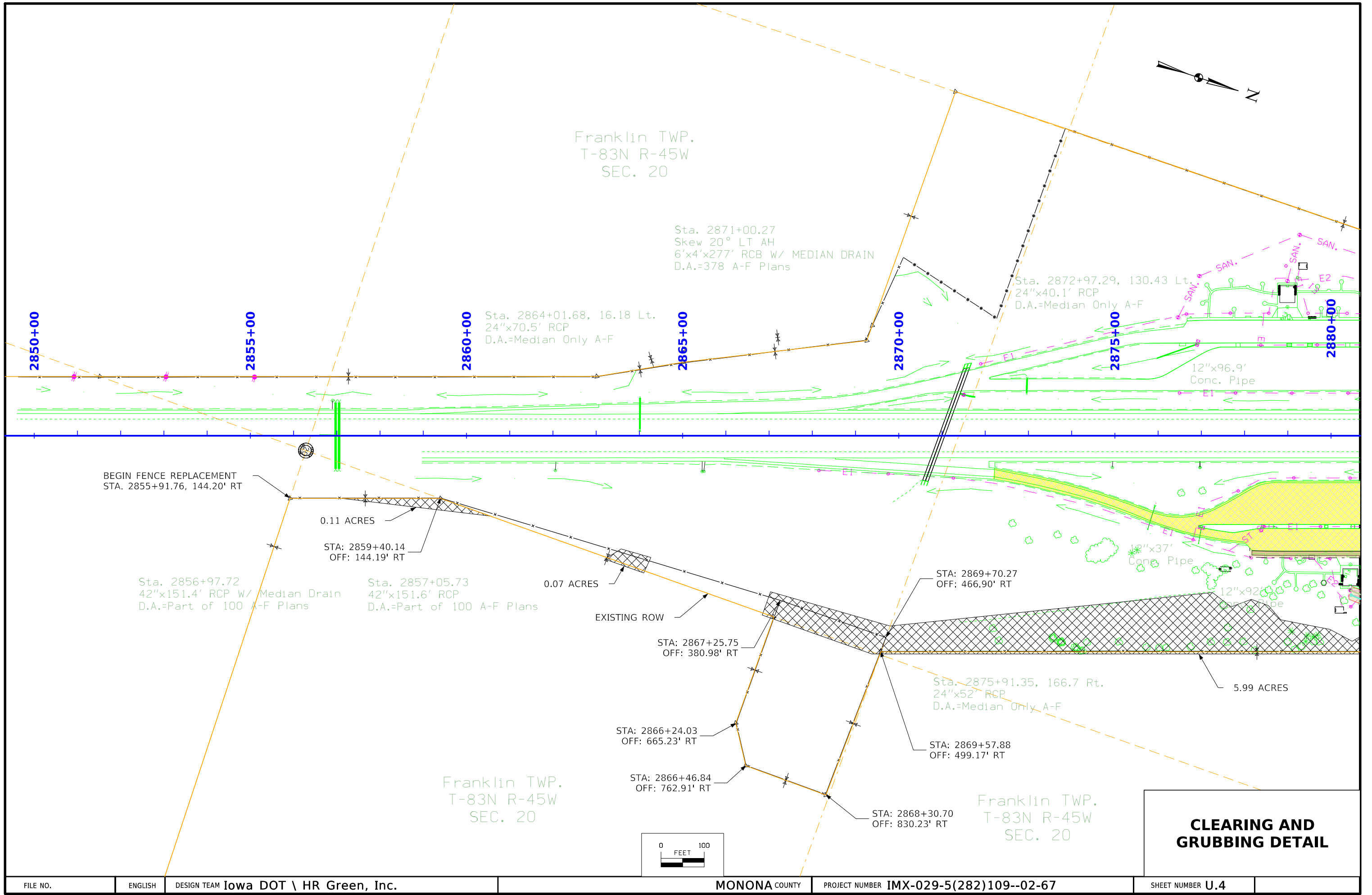
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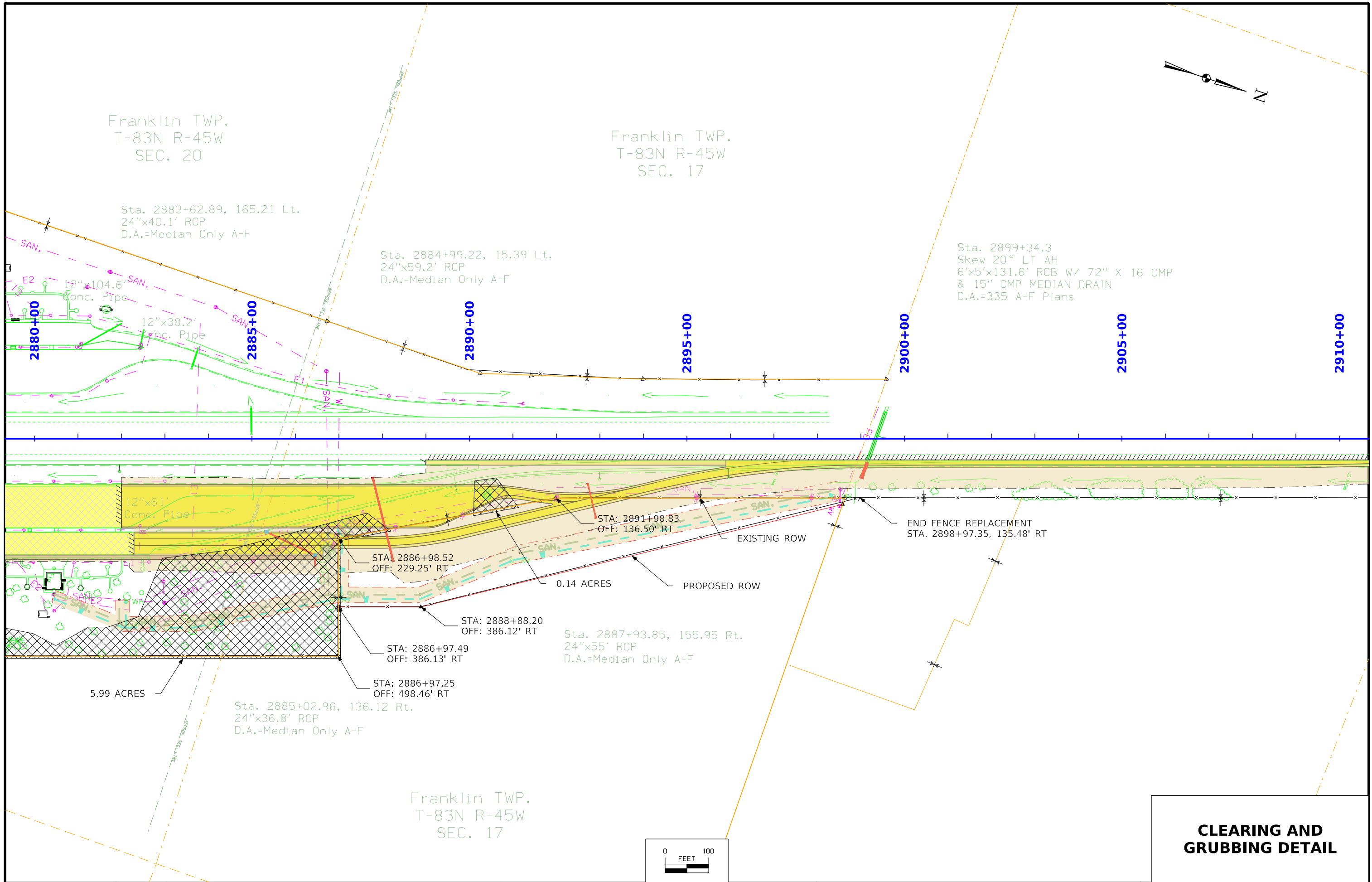
155°

4080+00

Ramp D (RPD)

**RAMP H TRUCK
PARKING LOT
TURNING MOVEMENTS**





**CLEARING AND
GRUBBING DETAIL**

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

NOTES:

Text

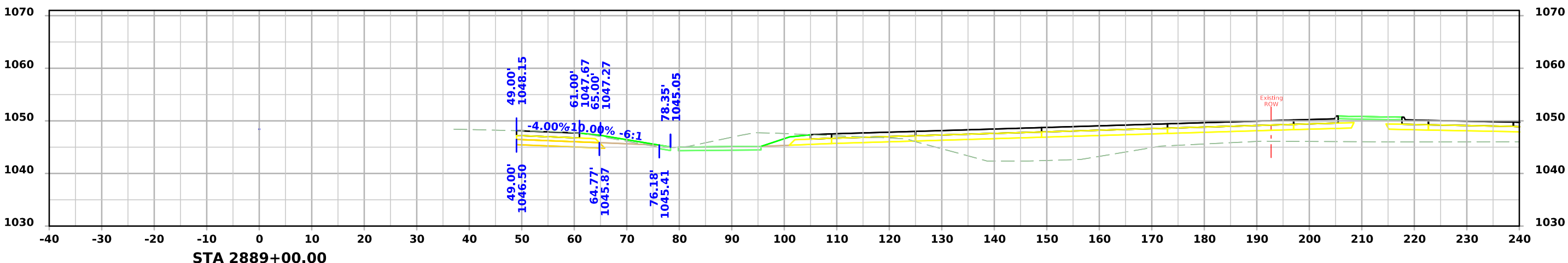
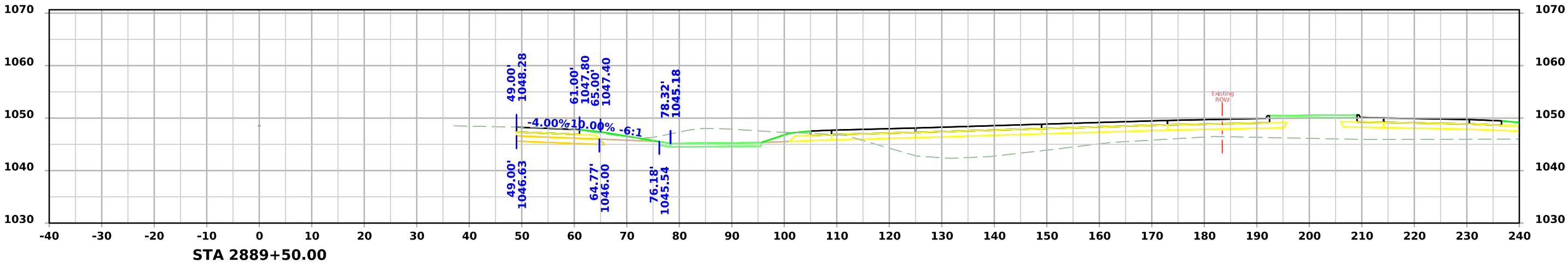
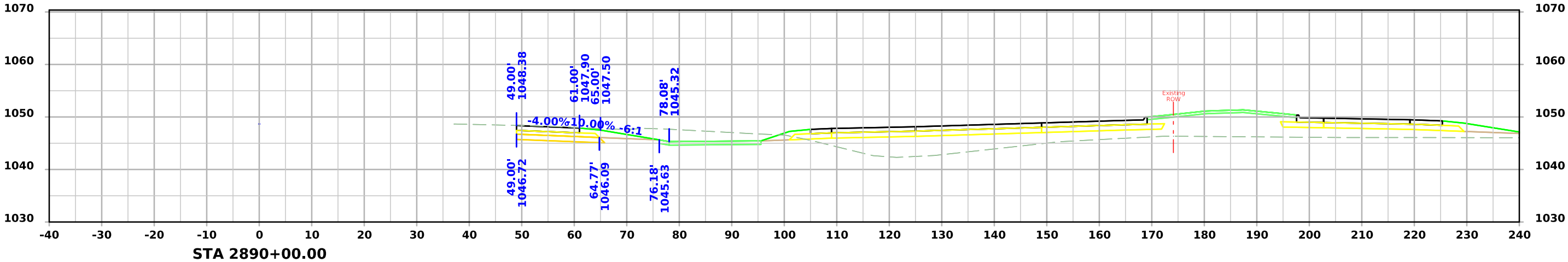
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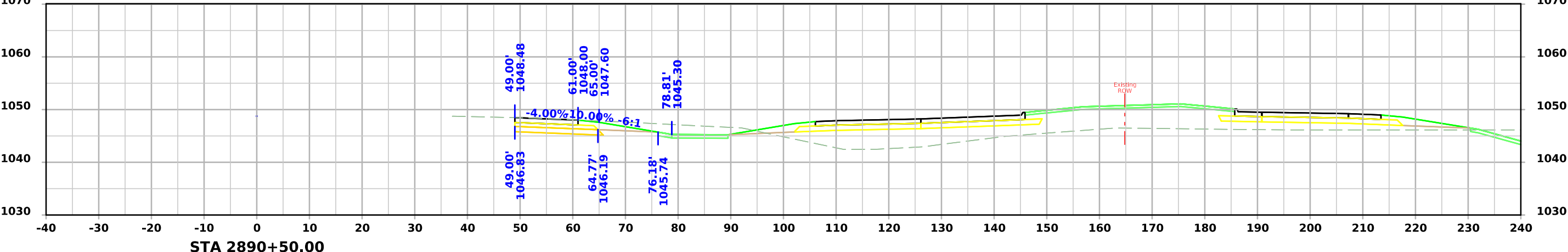
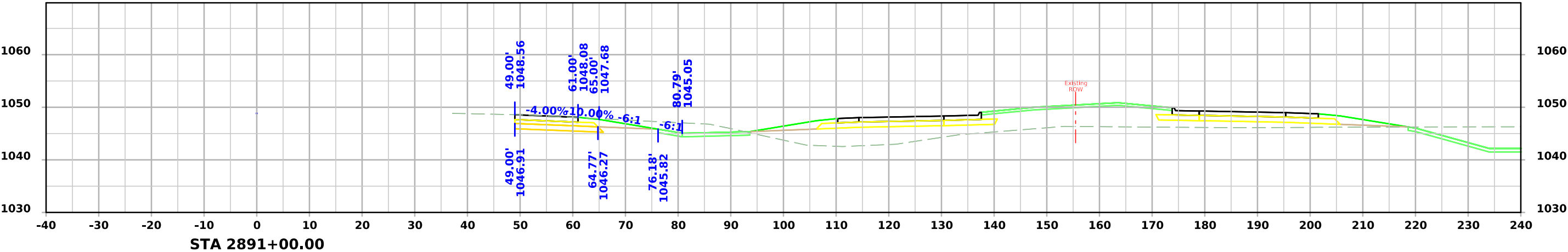
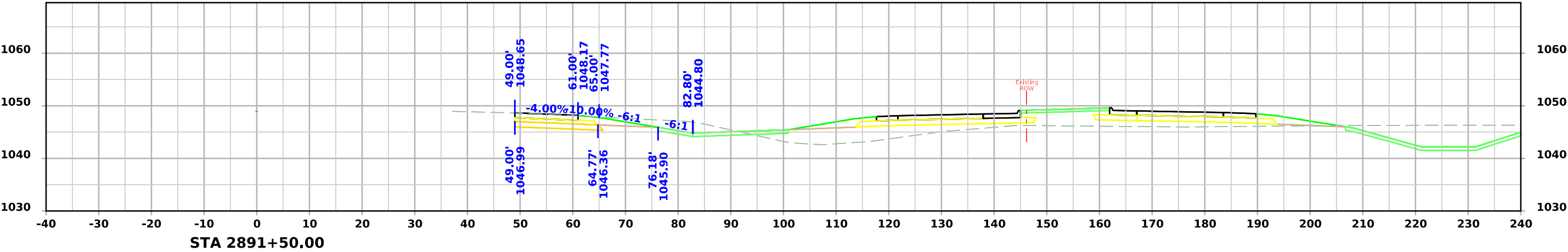
CROSS SECTIONS
LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES W & Y)

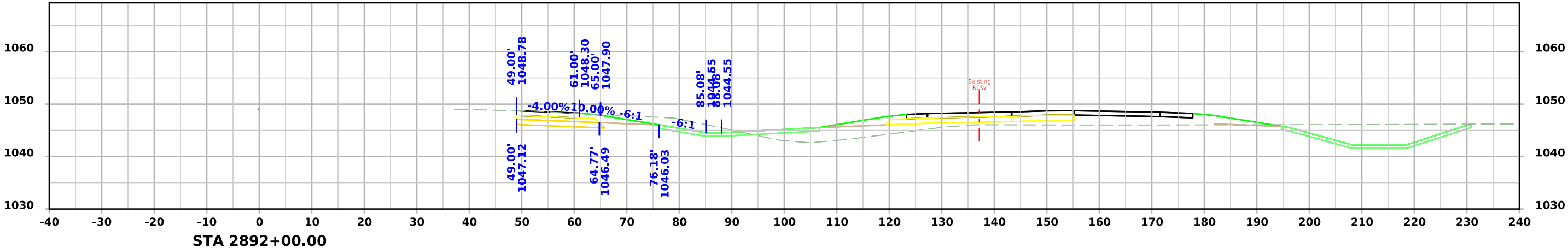
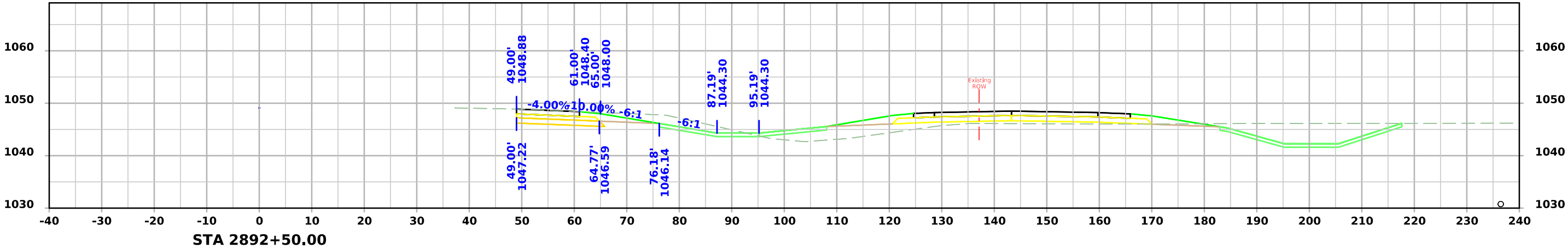
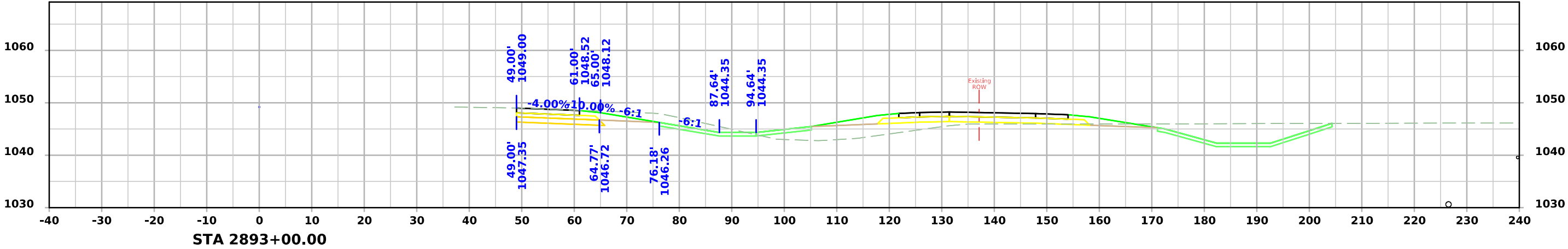
I-29 Northbound



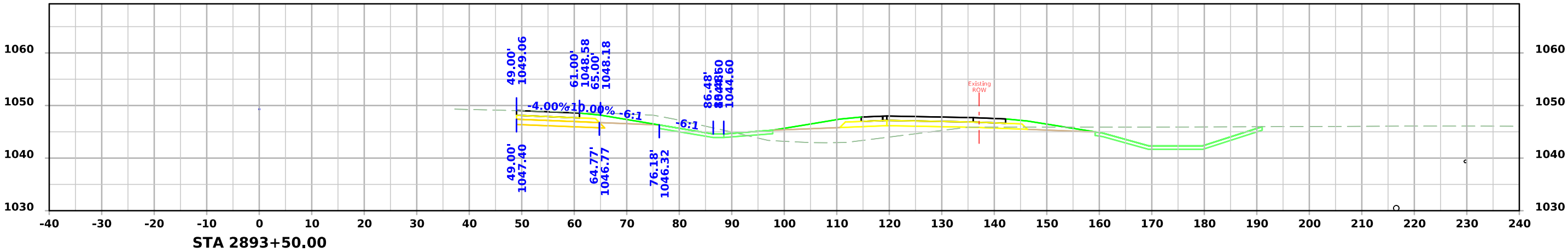
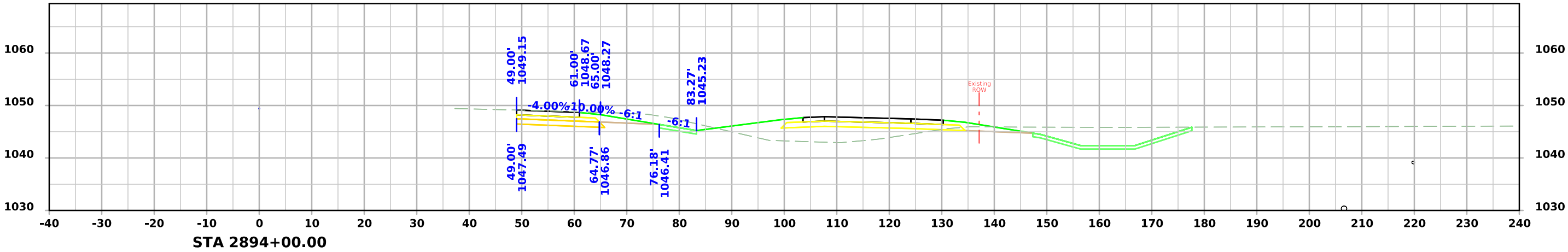
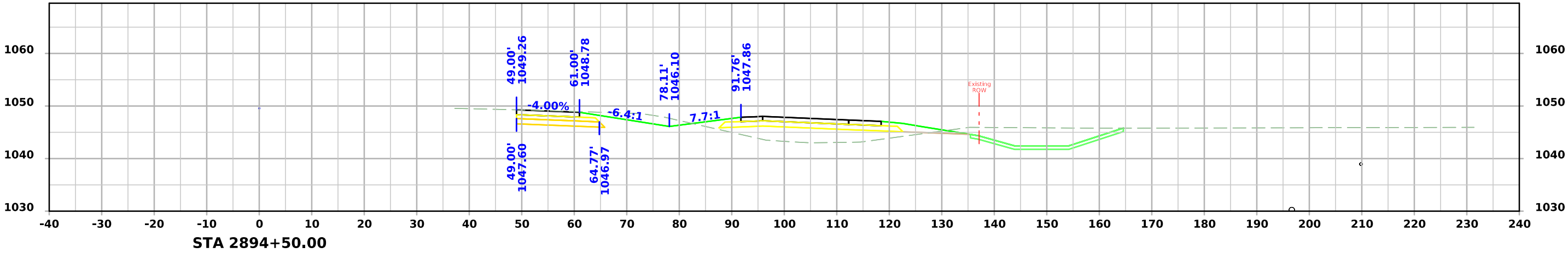
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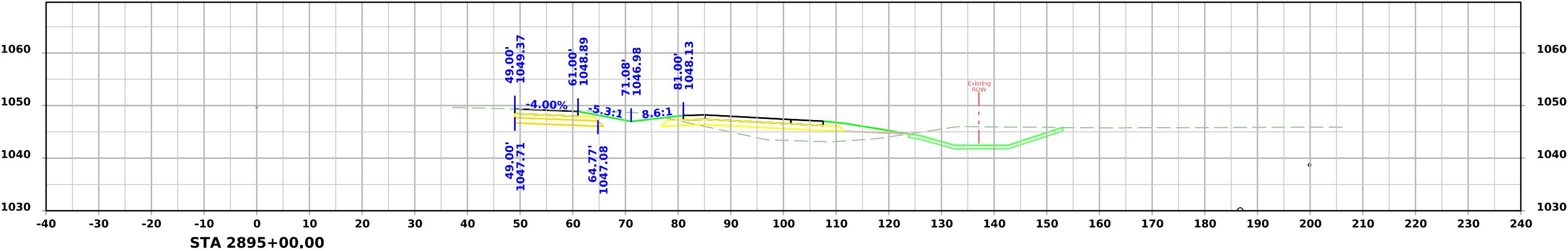
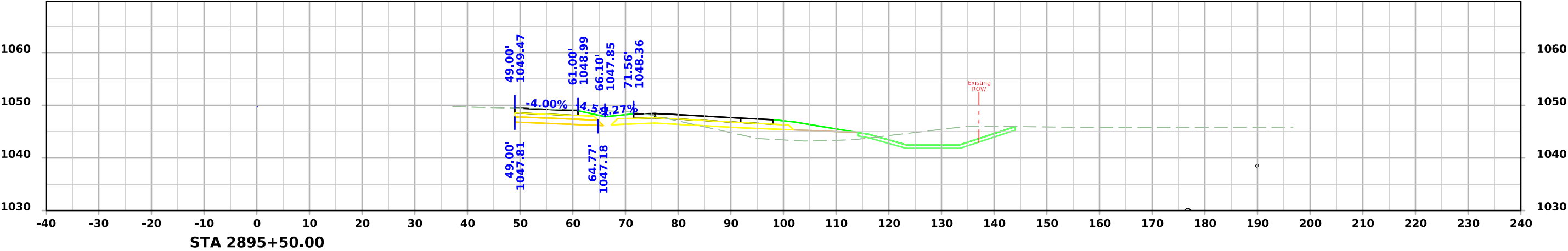
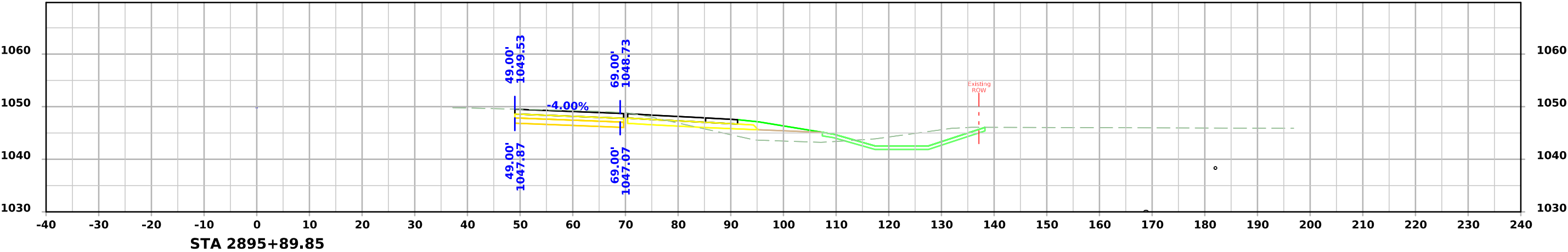
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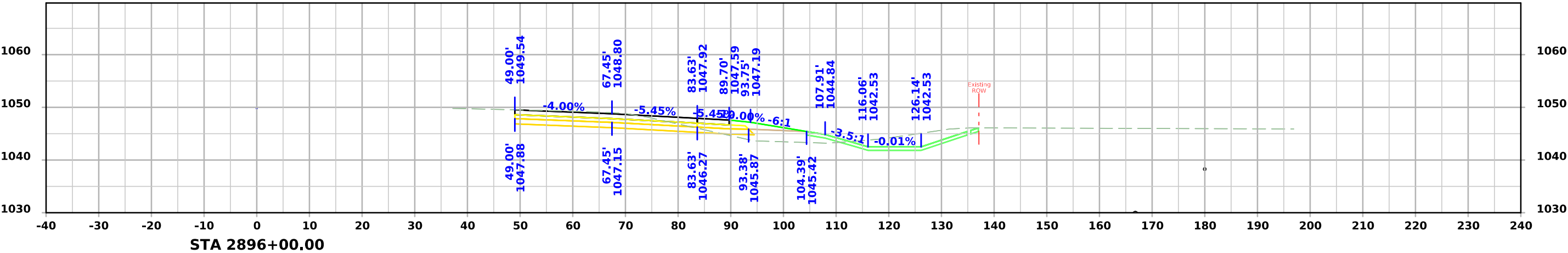
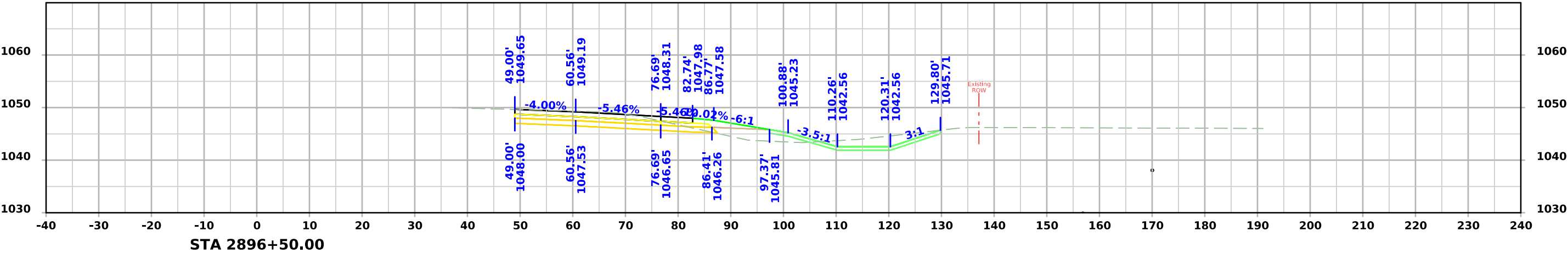
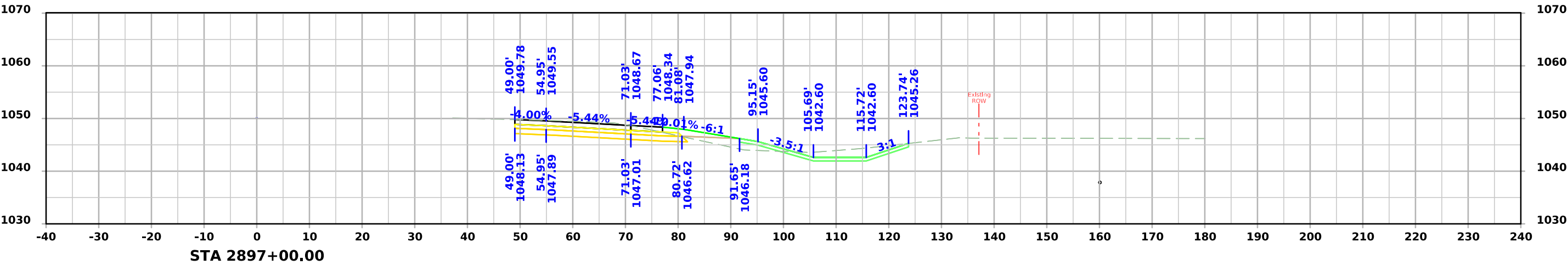
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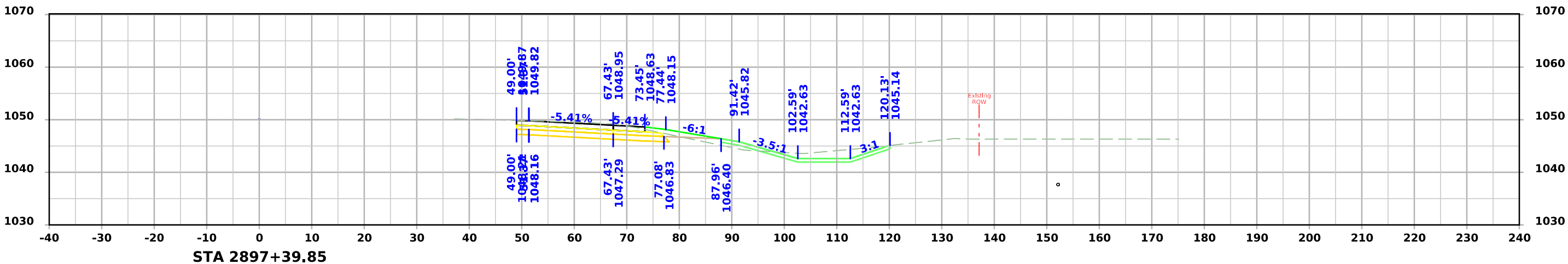
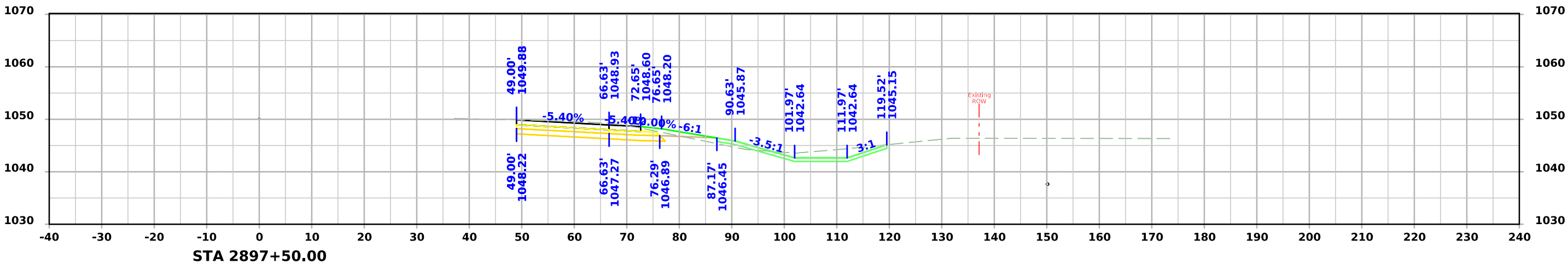
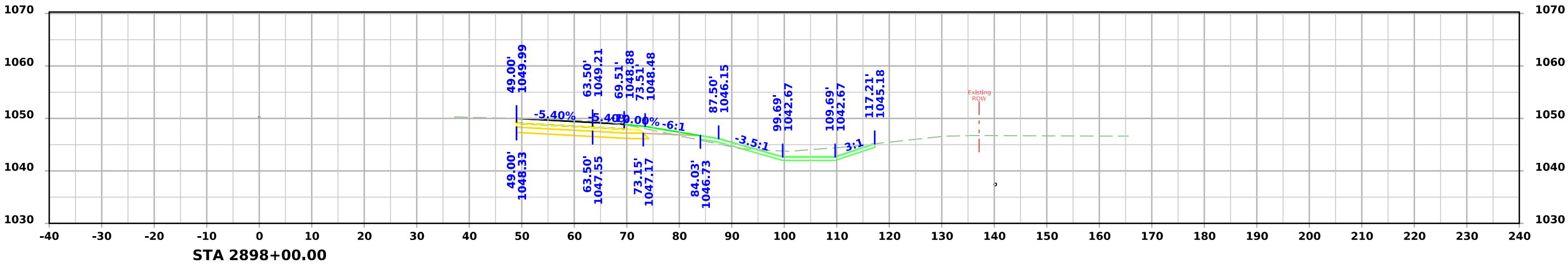
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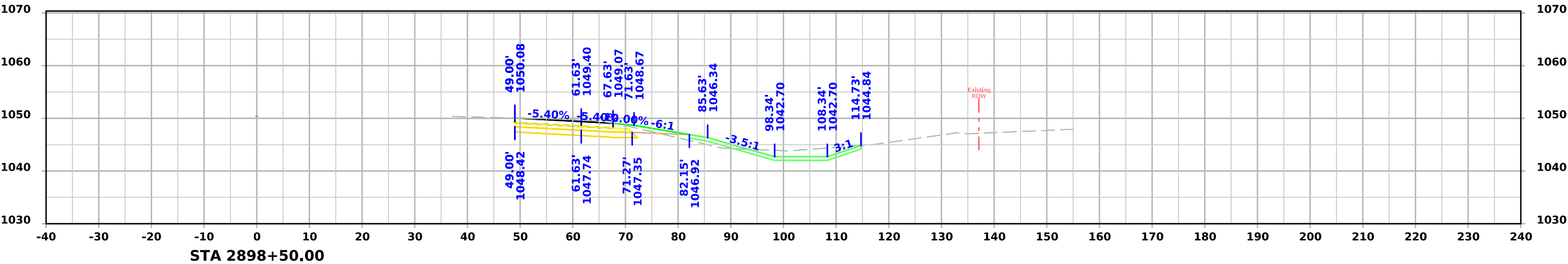
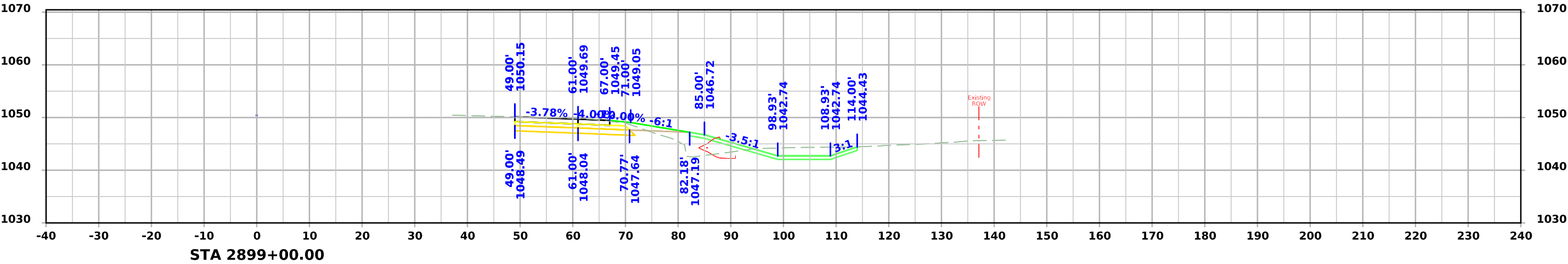
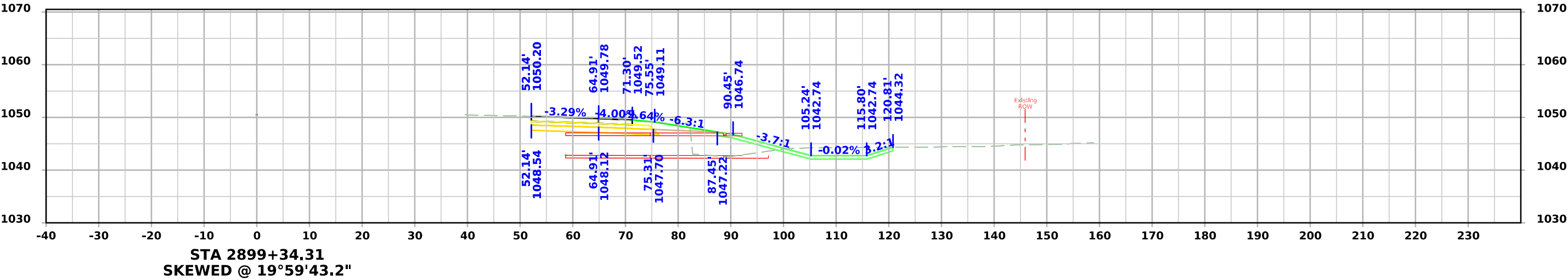
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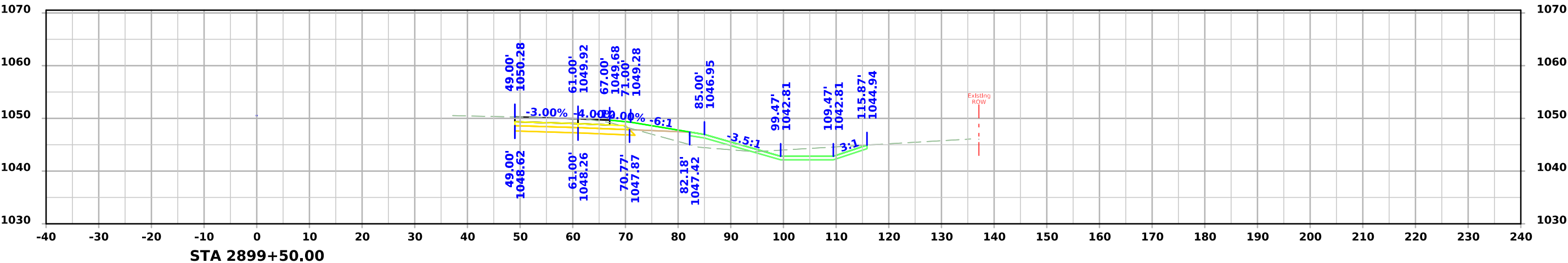
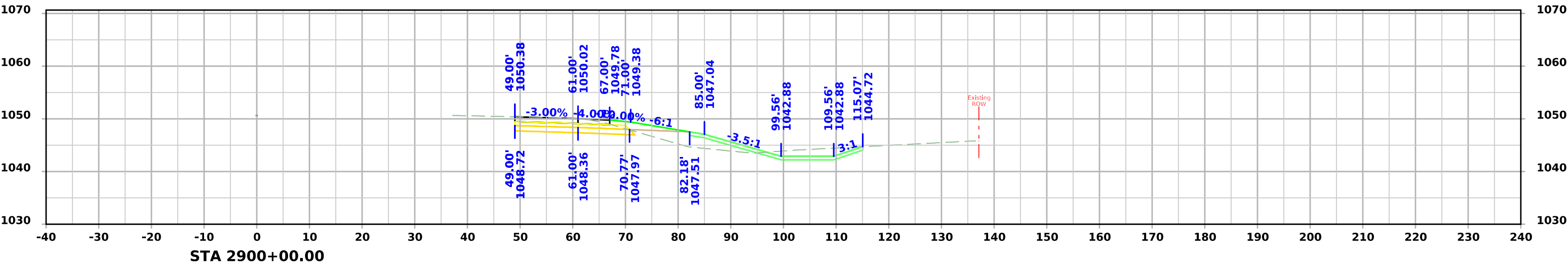
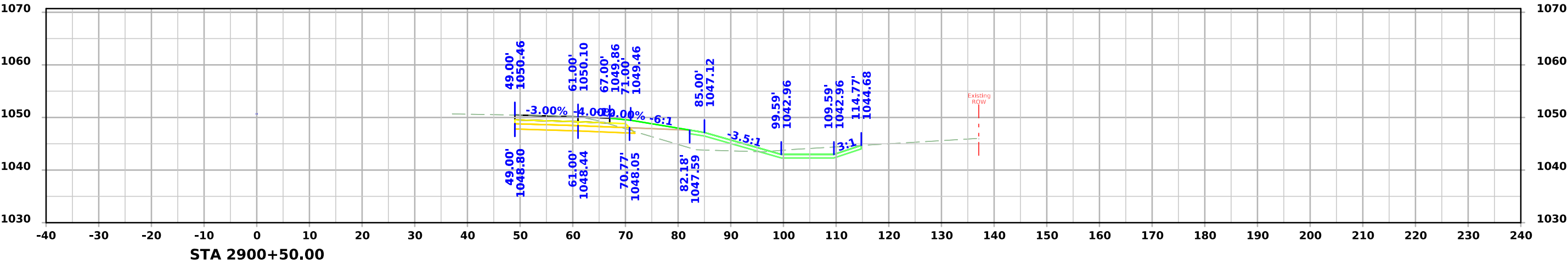
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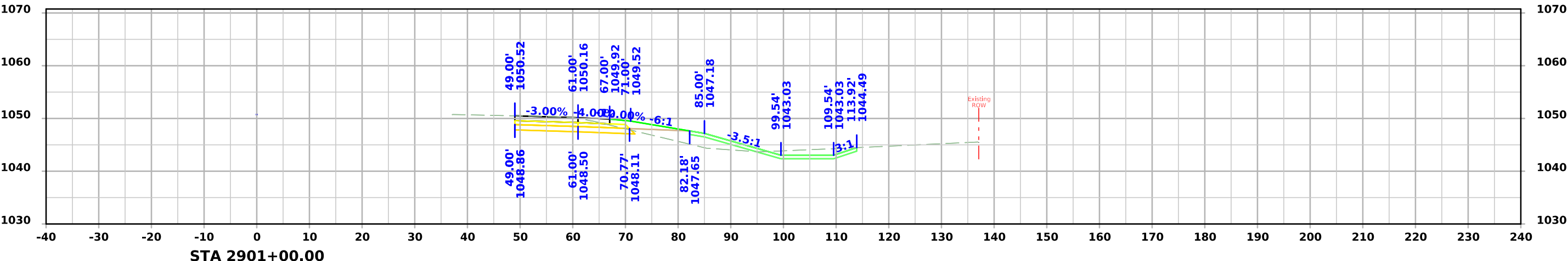
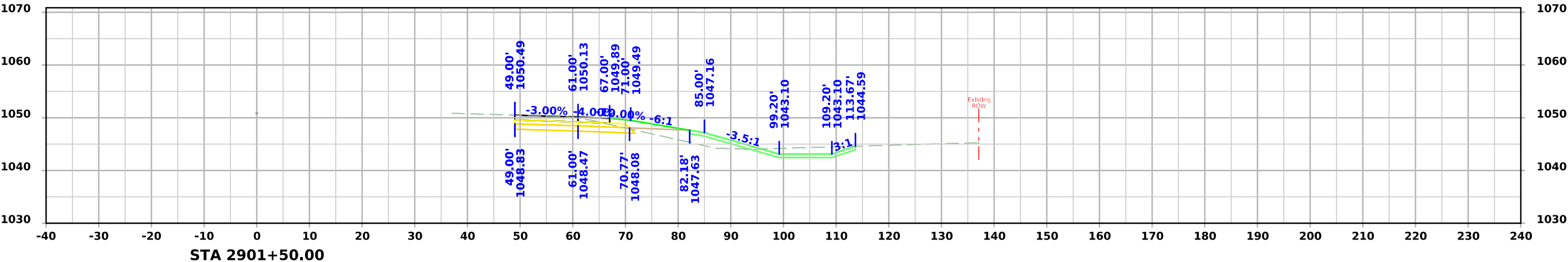
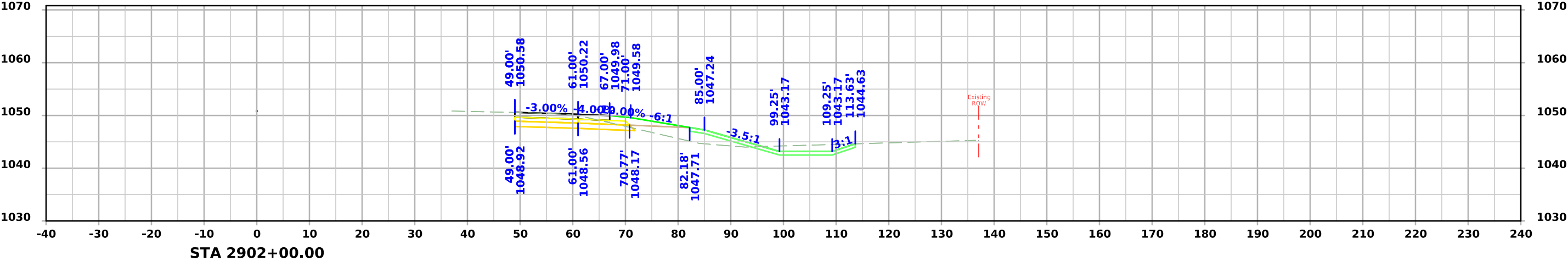
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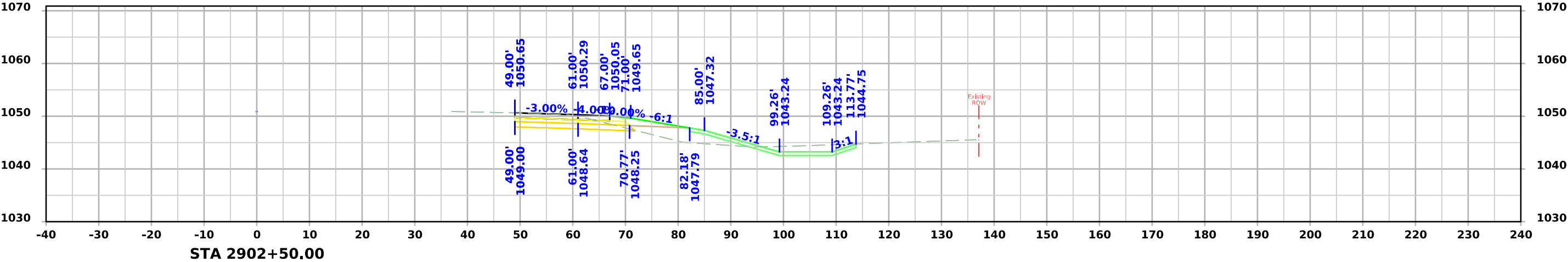
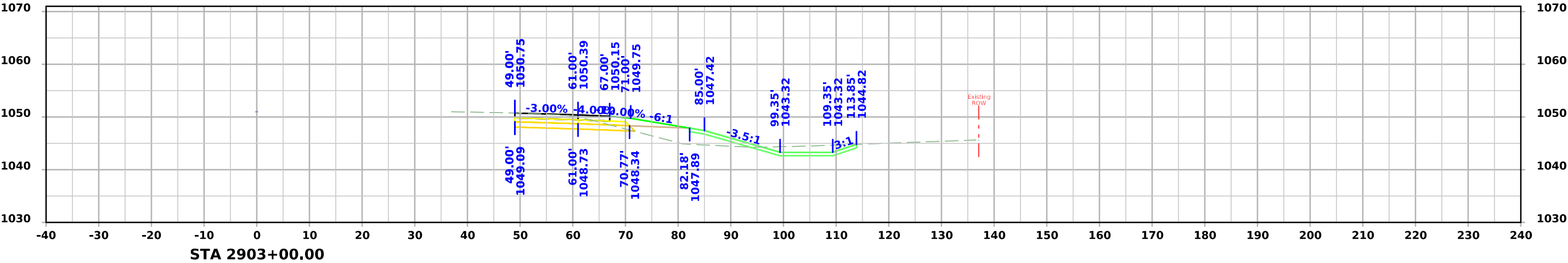
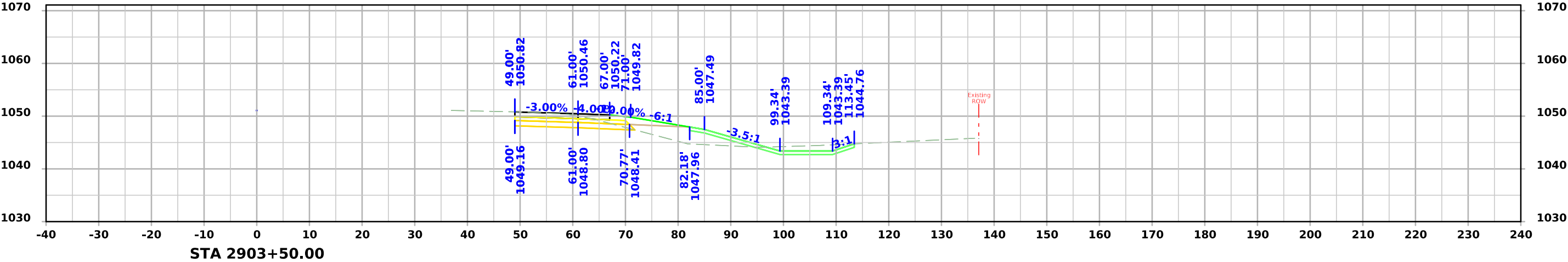
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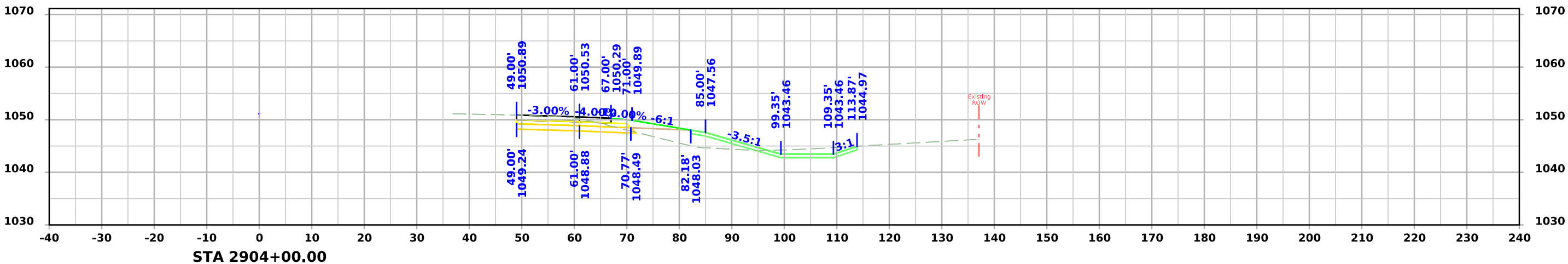
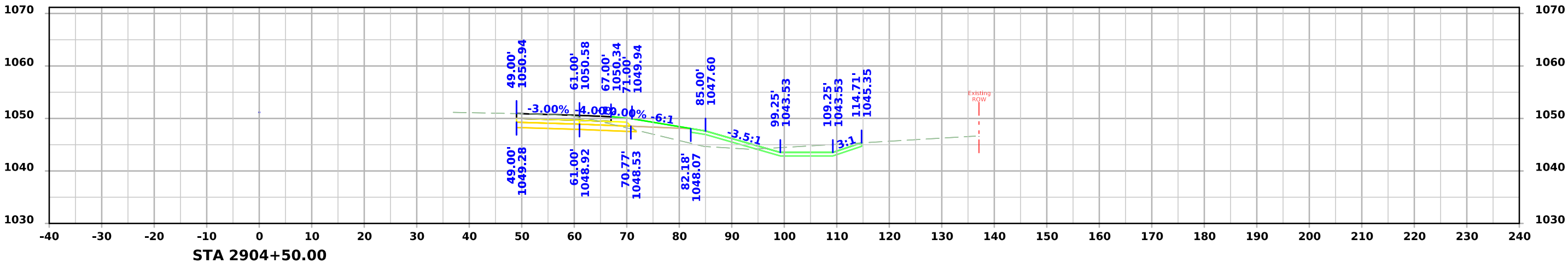
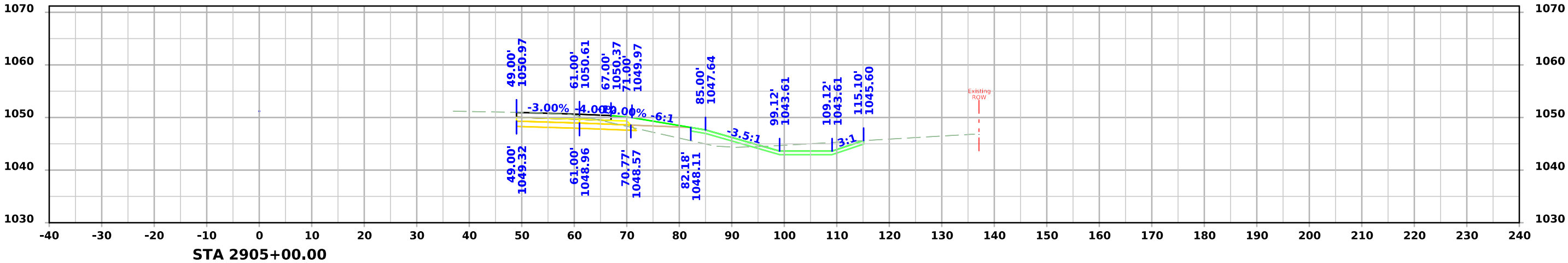
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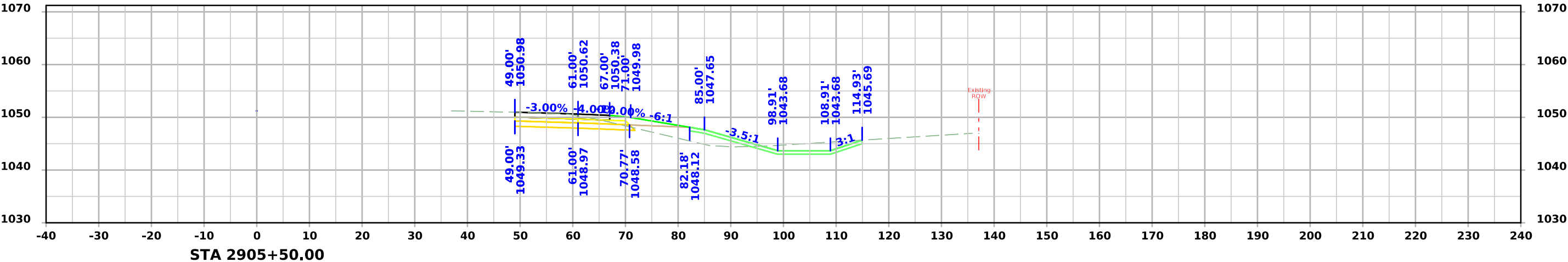
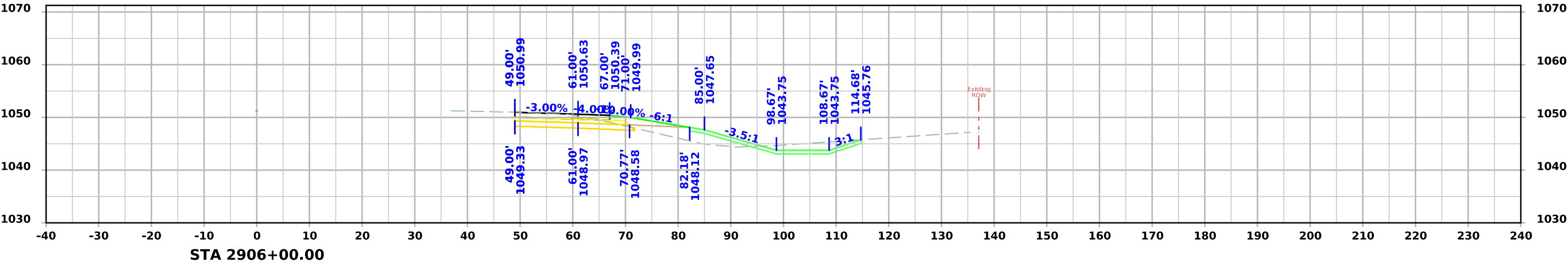
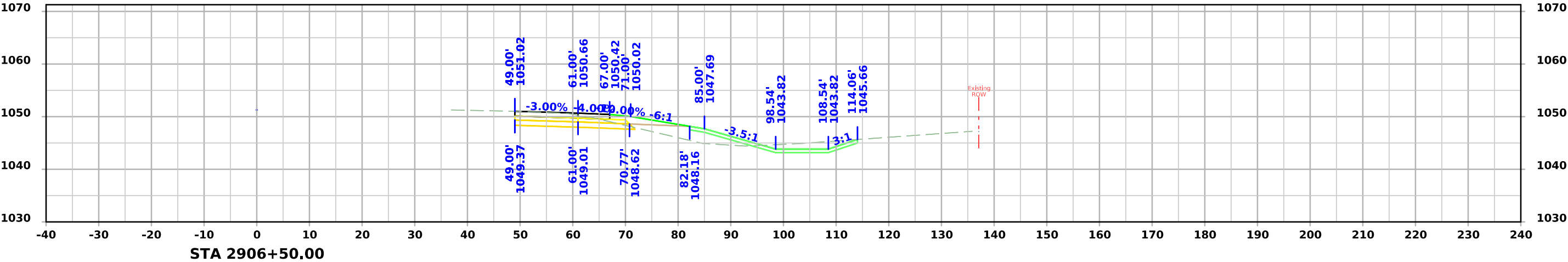
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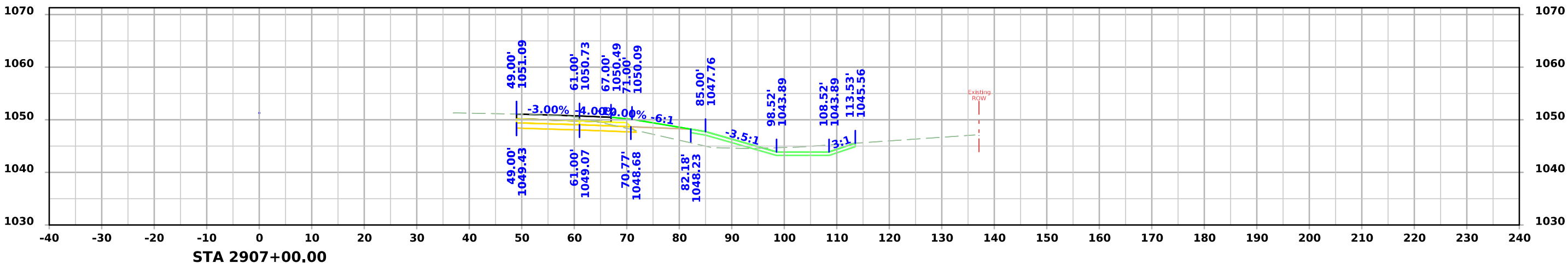
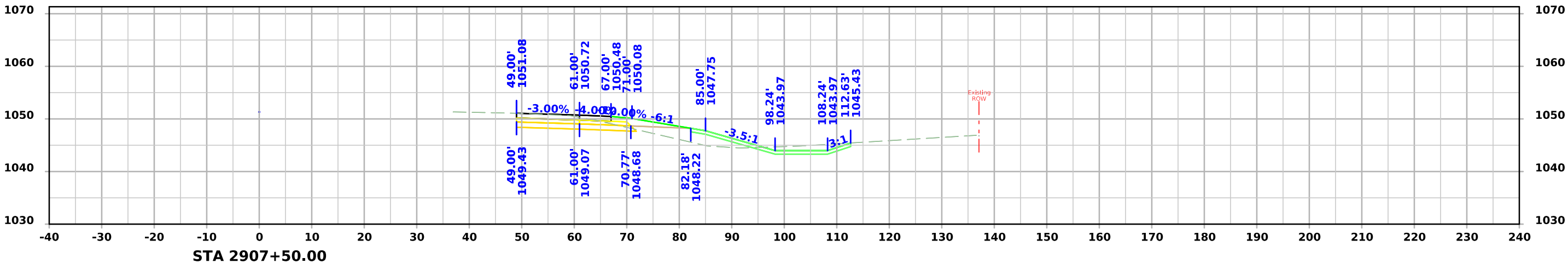
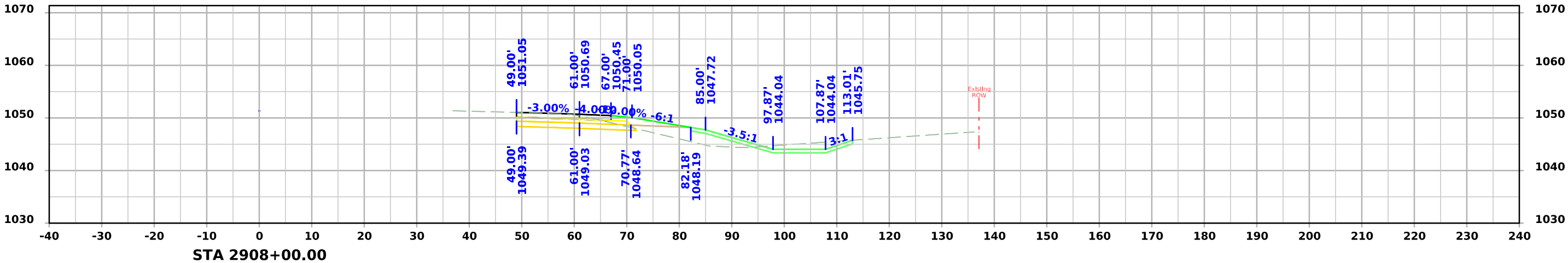
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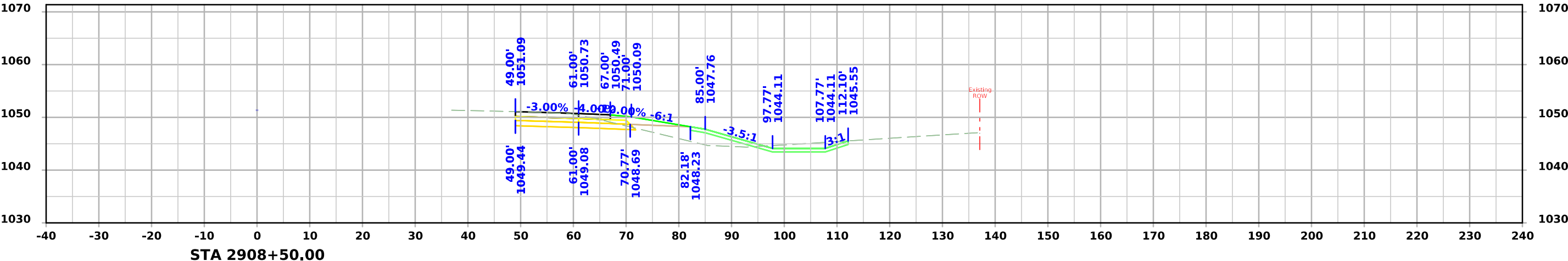
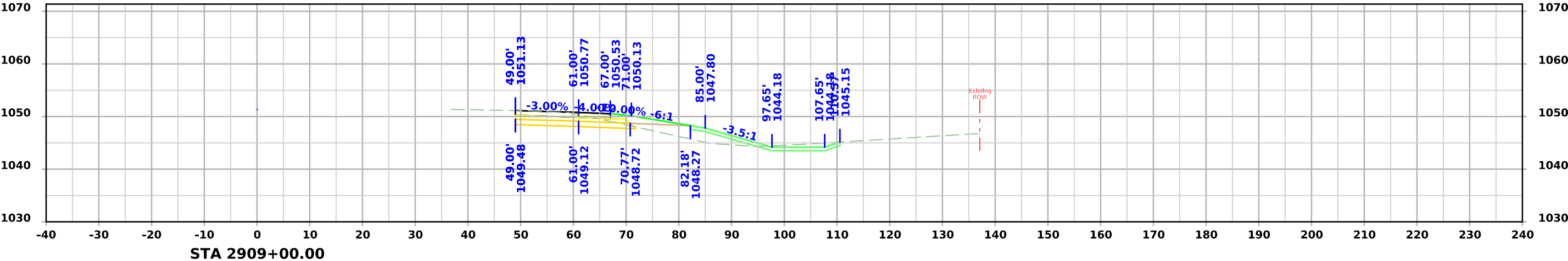
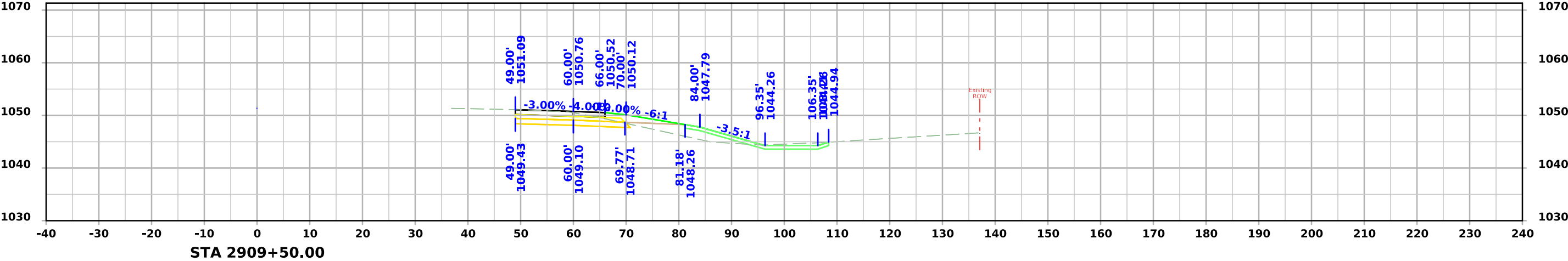
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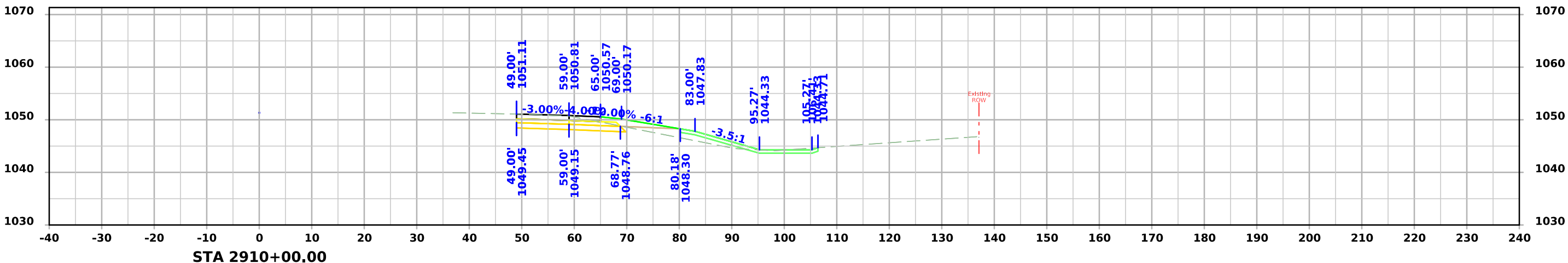
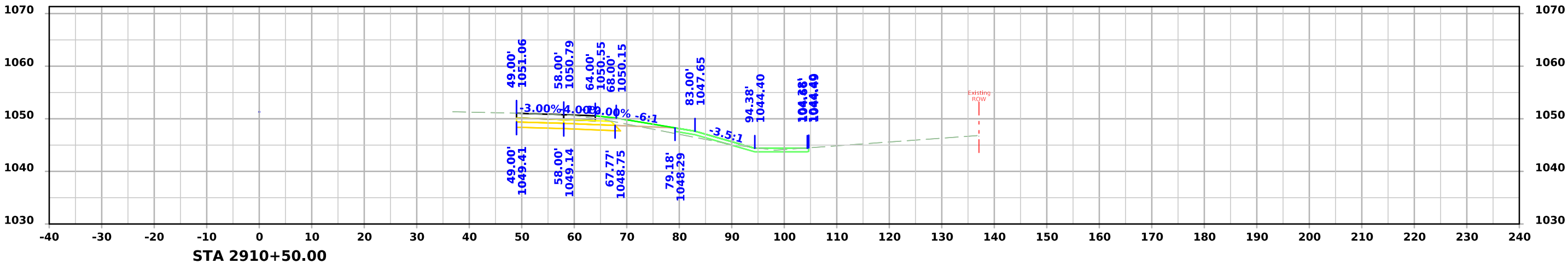
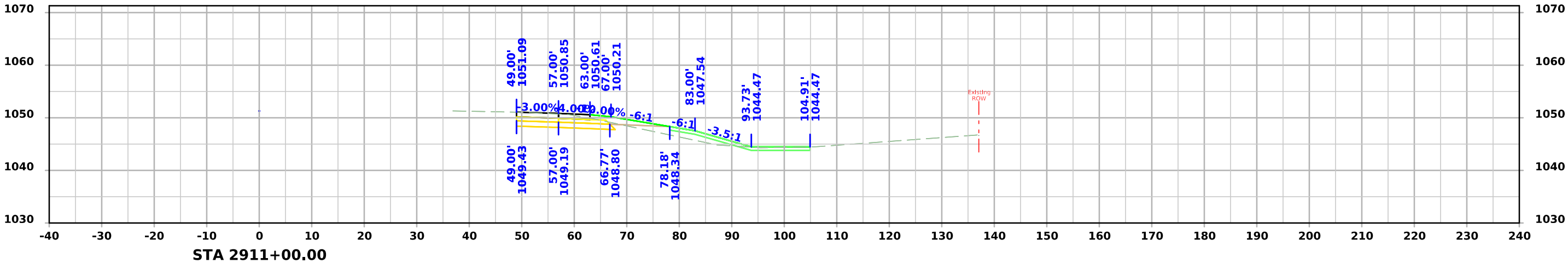
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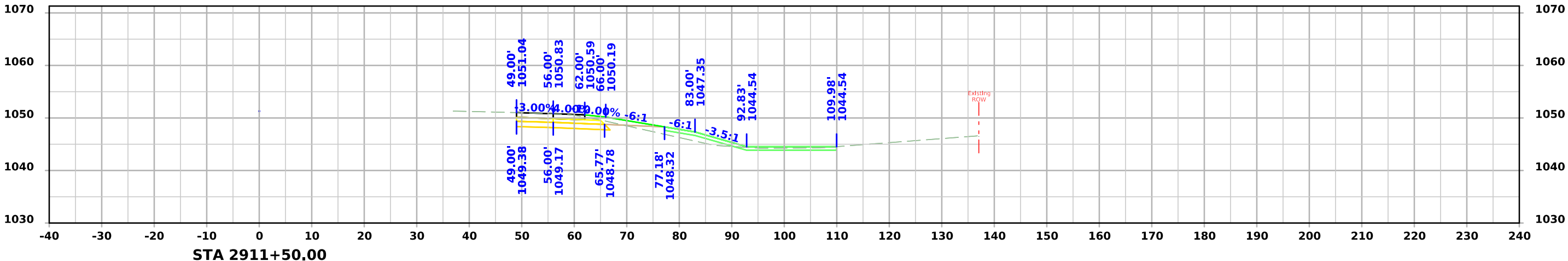
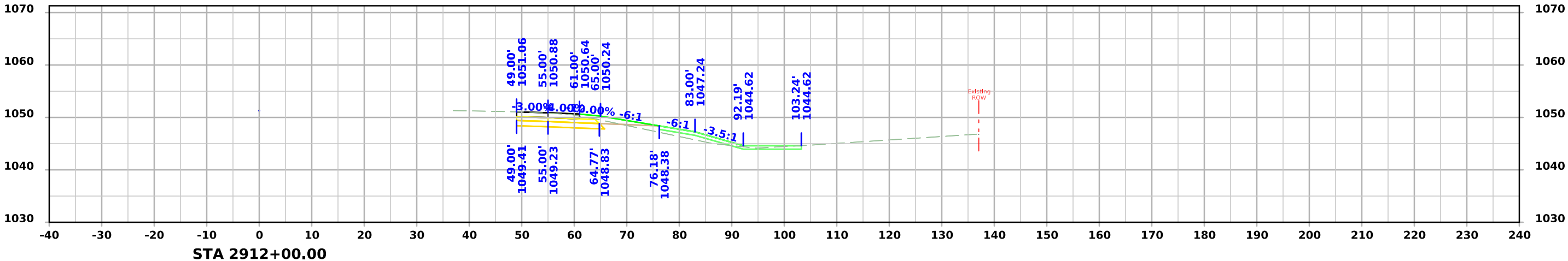
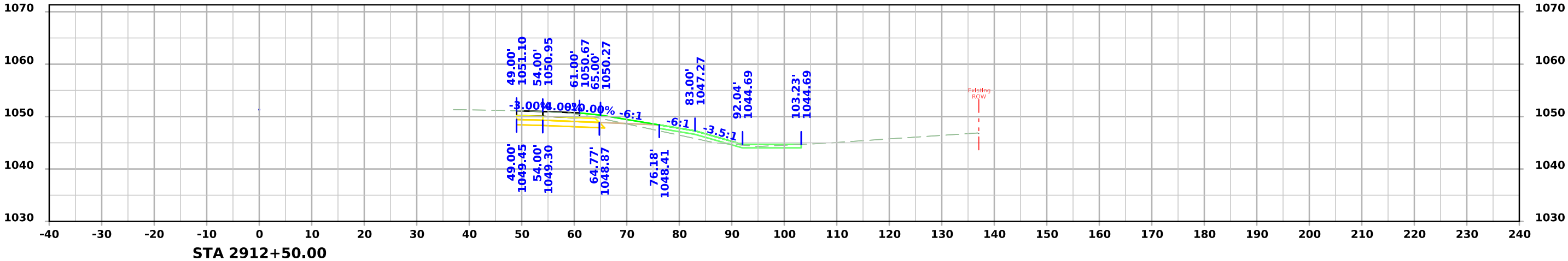
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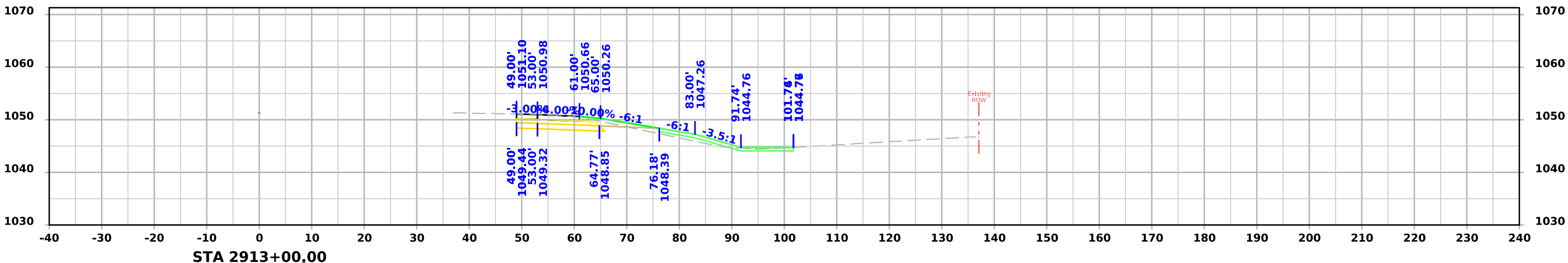
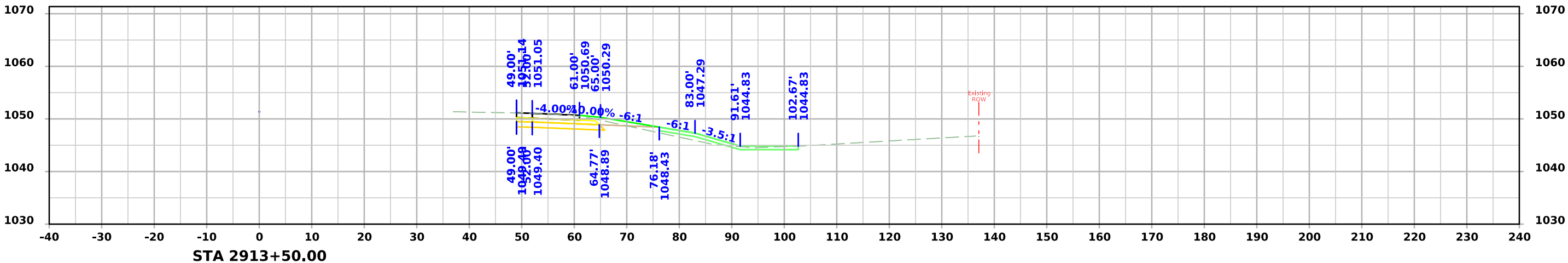
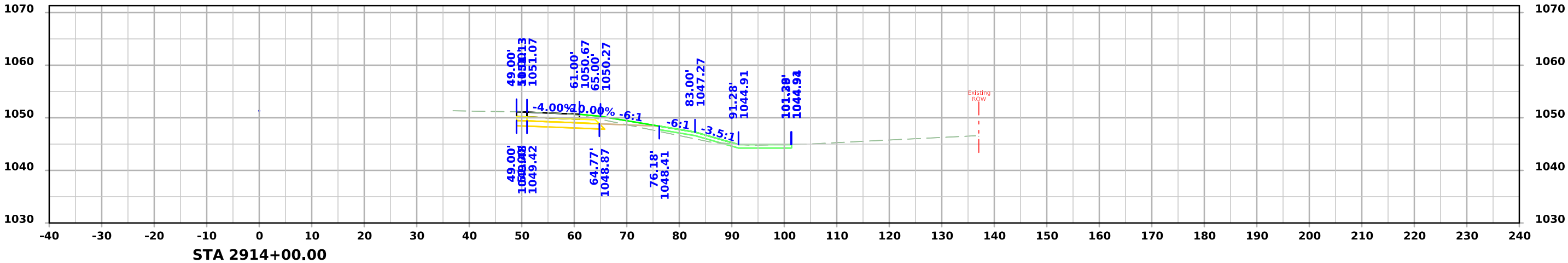
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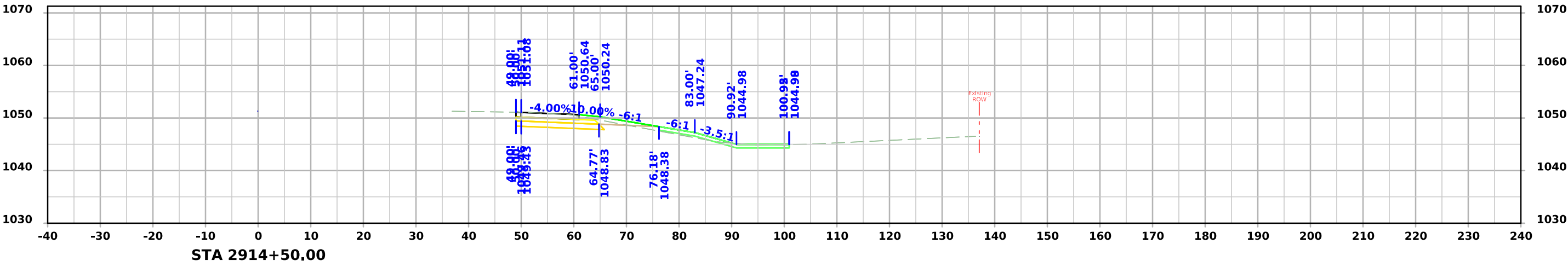
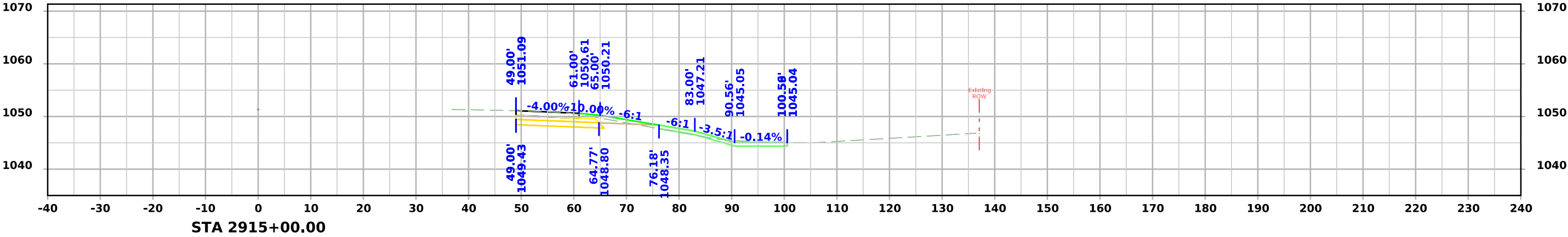
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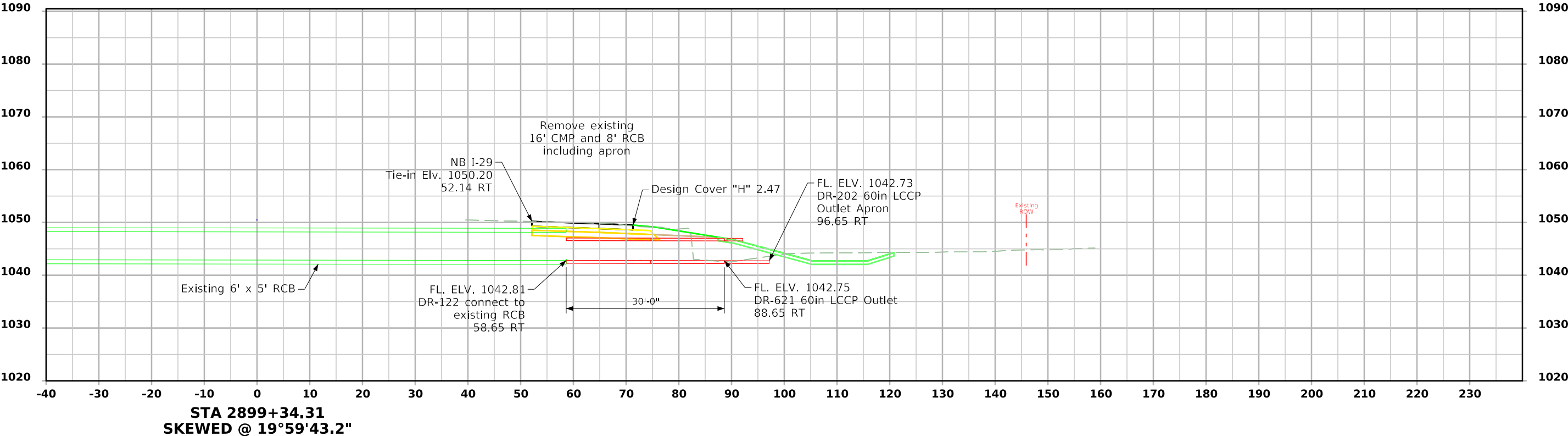
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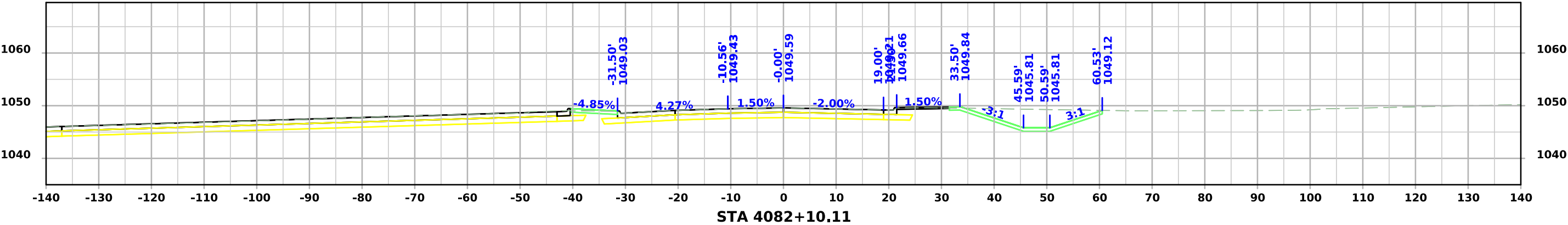
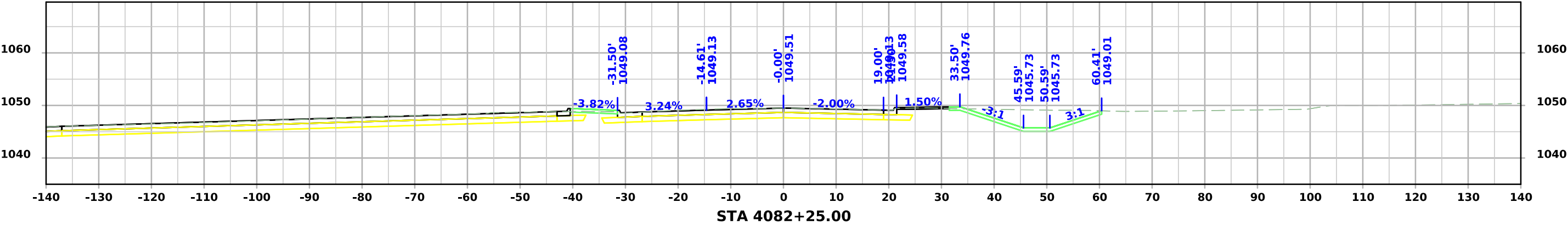
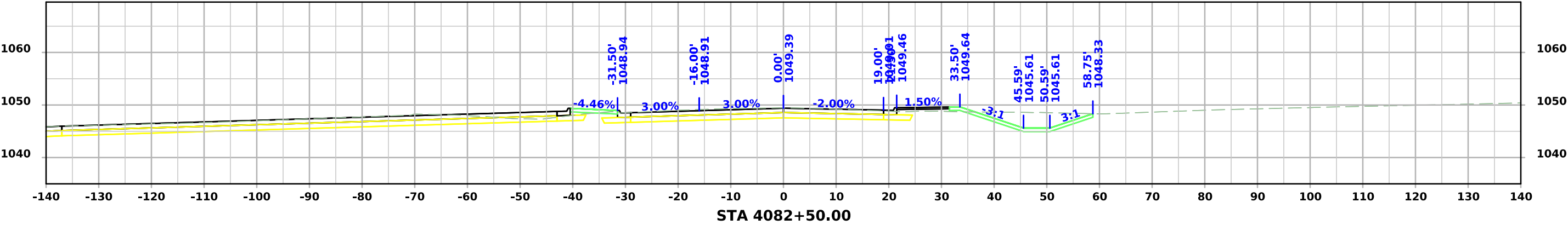
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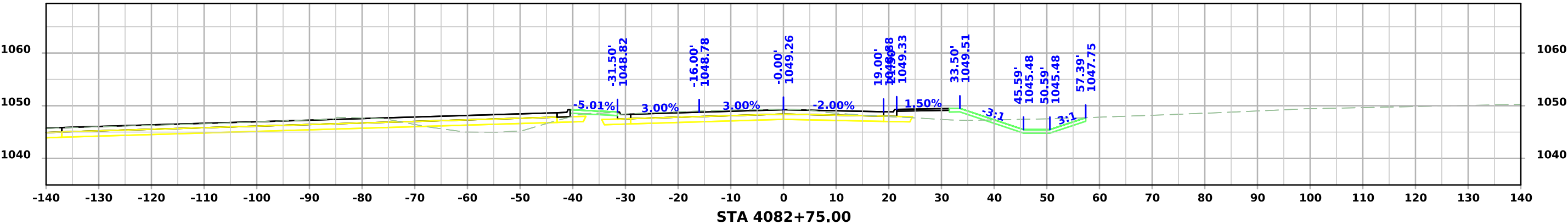
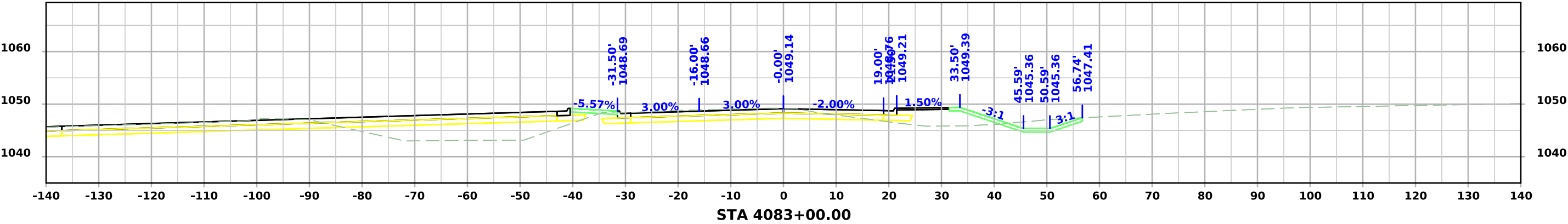
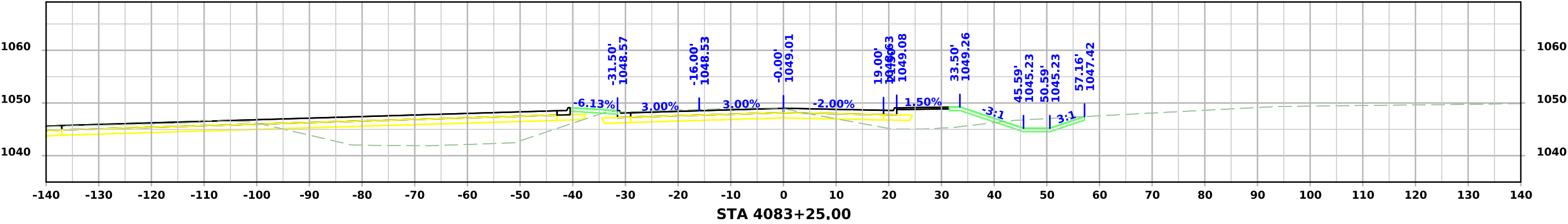
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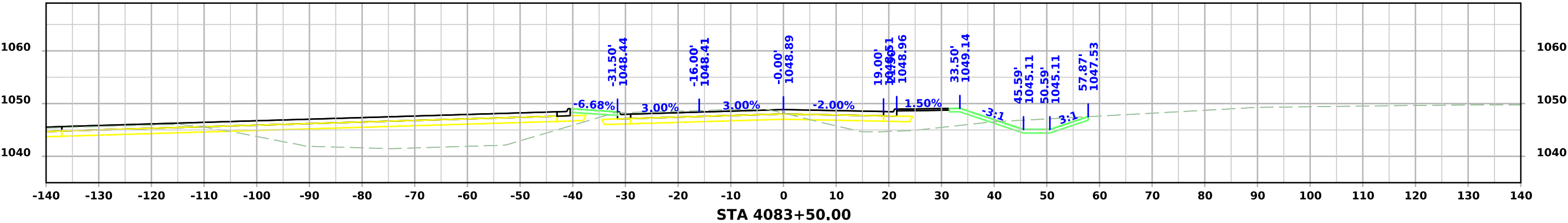
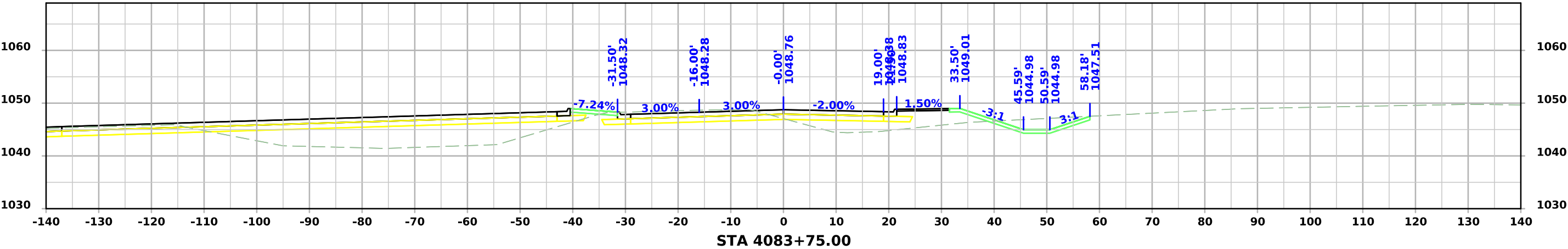
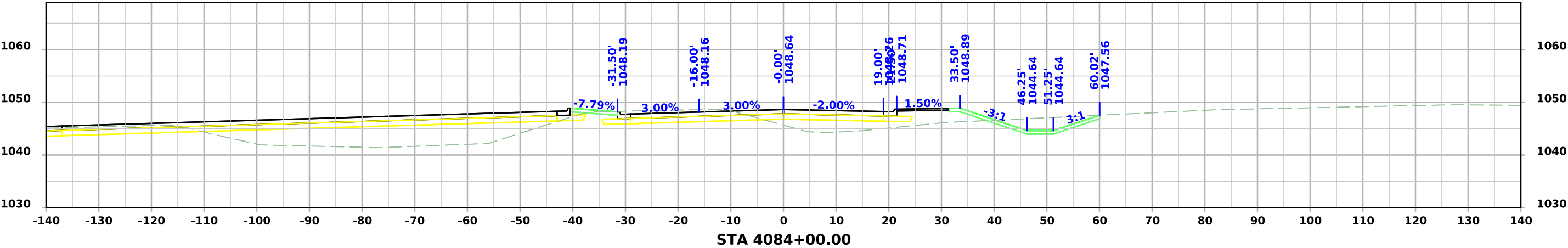
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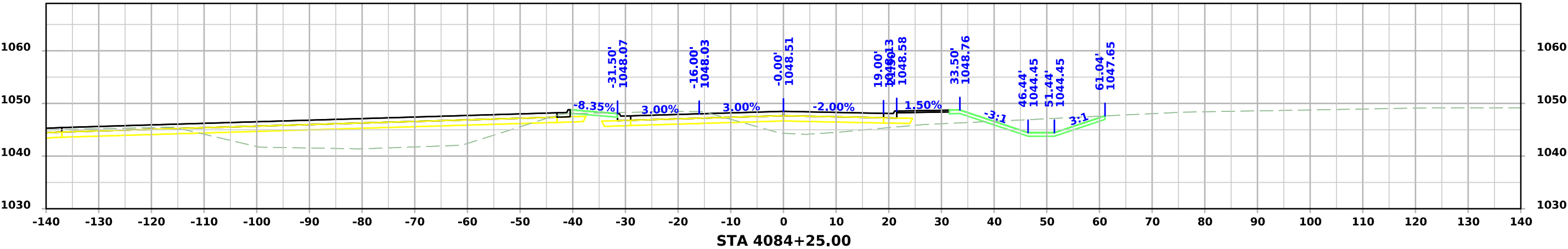
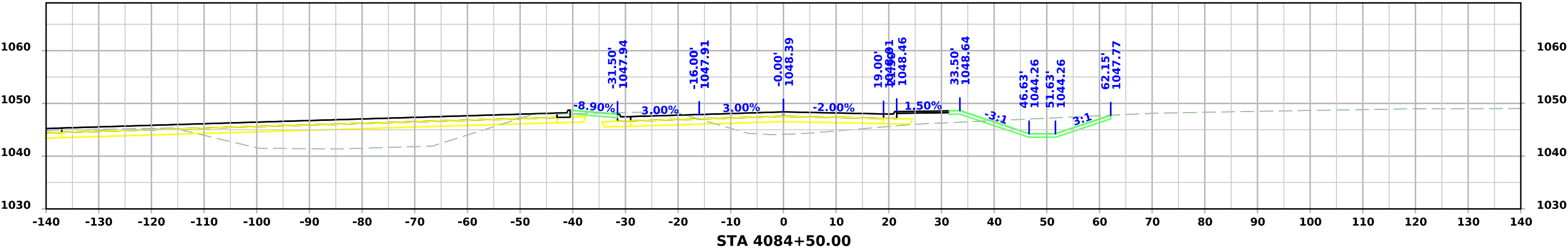
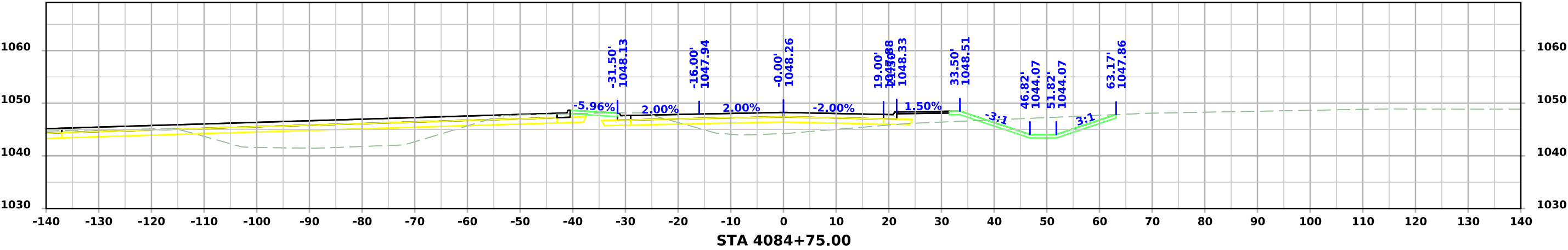
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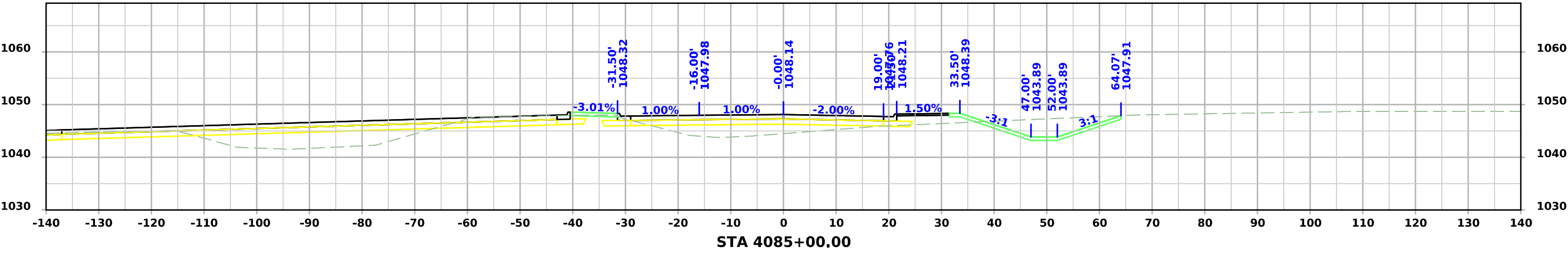
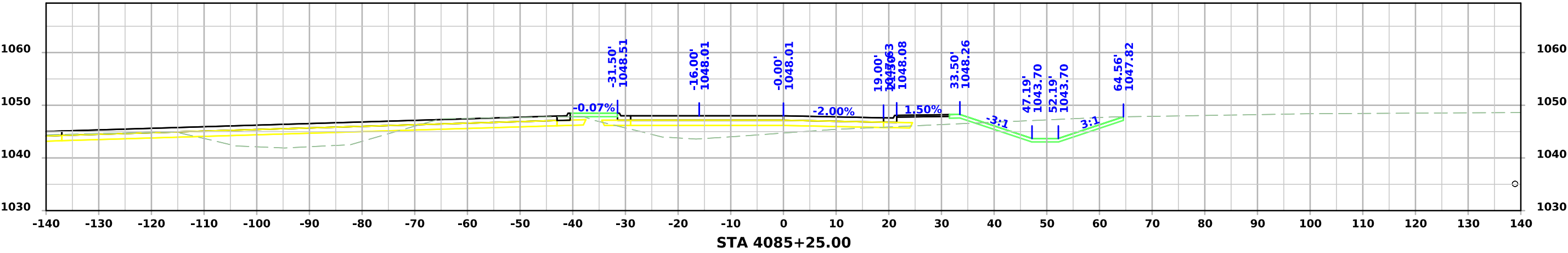
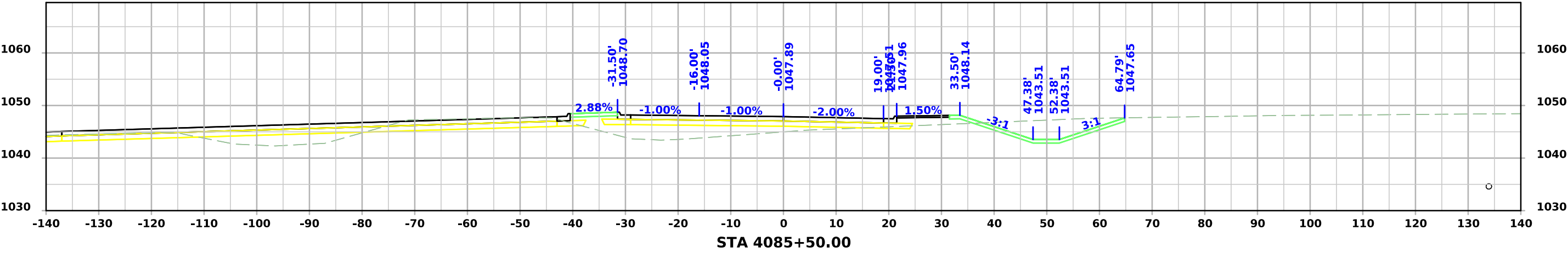
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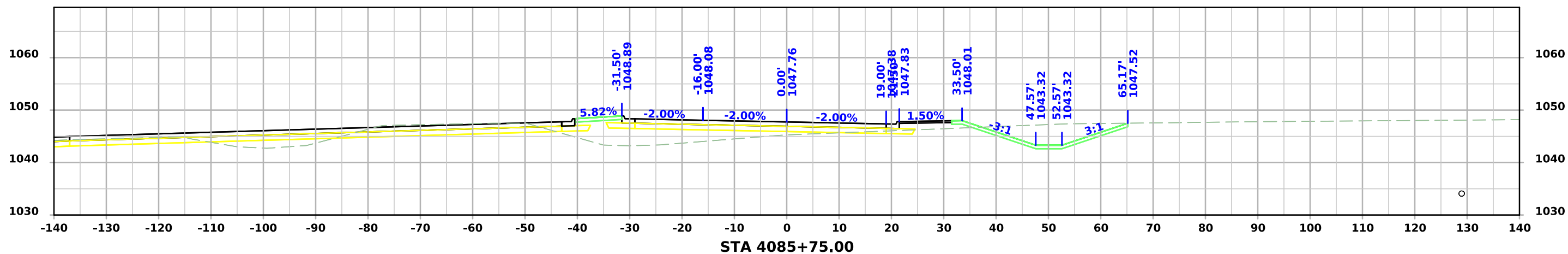
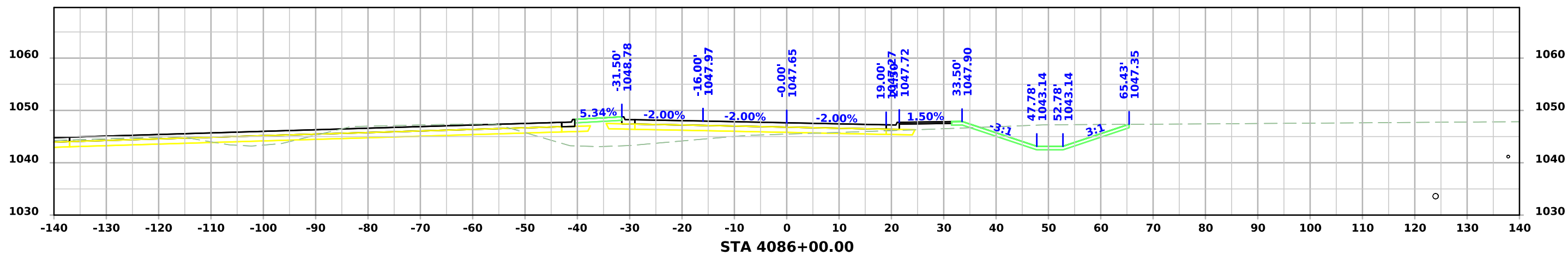
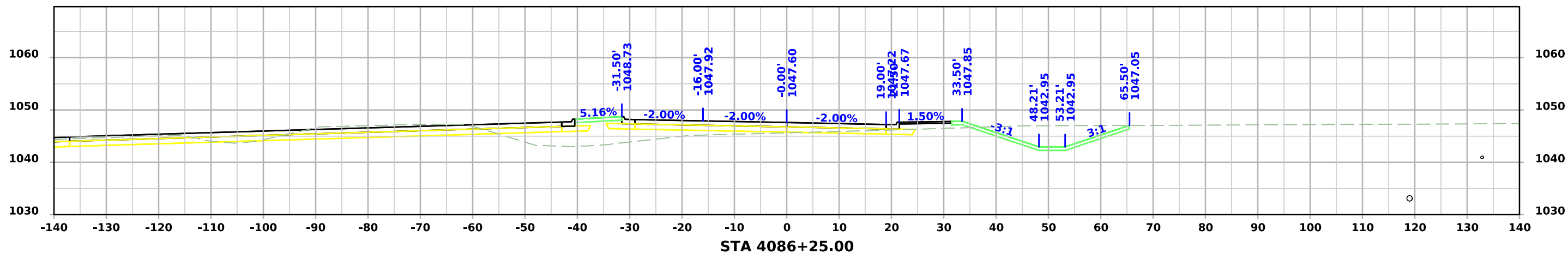
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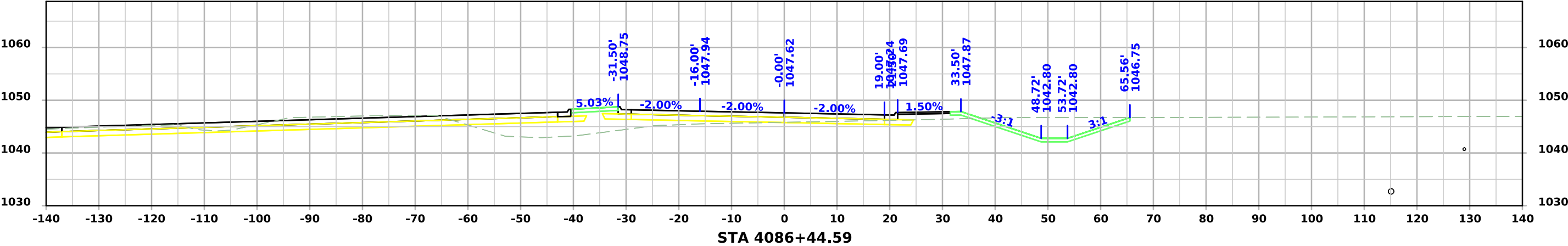
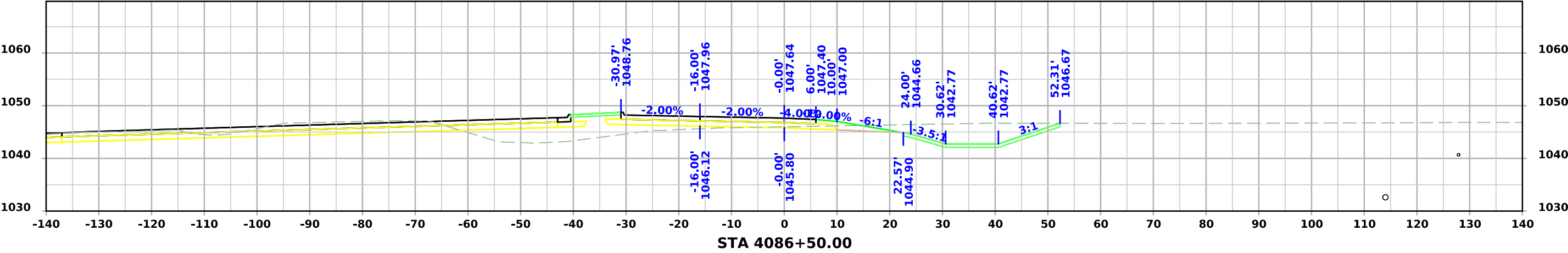
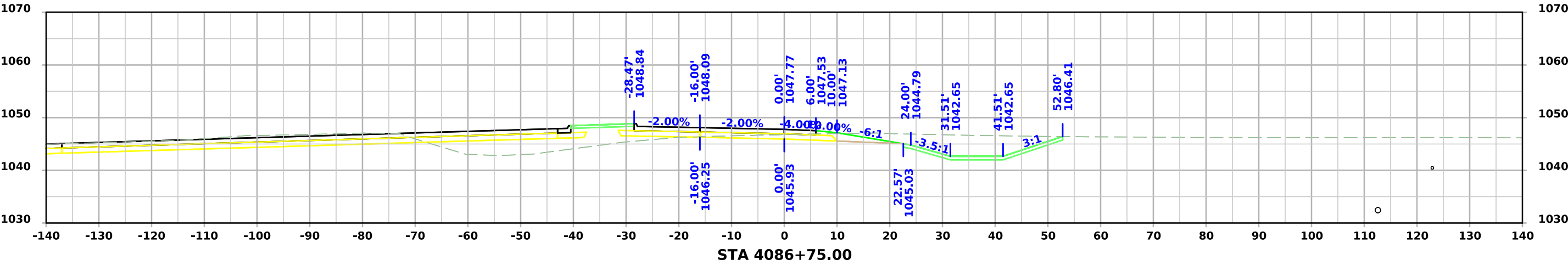
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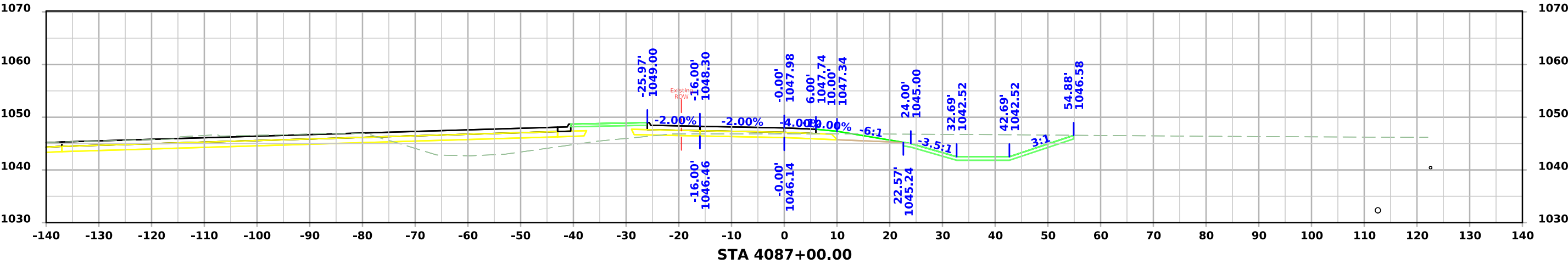
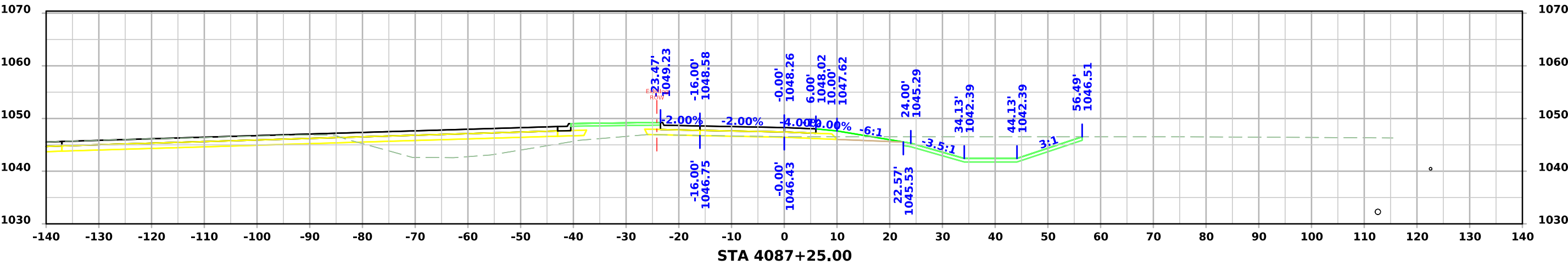
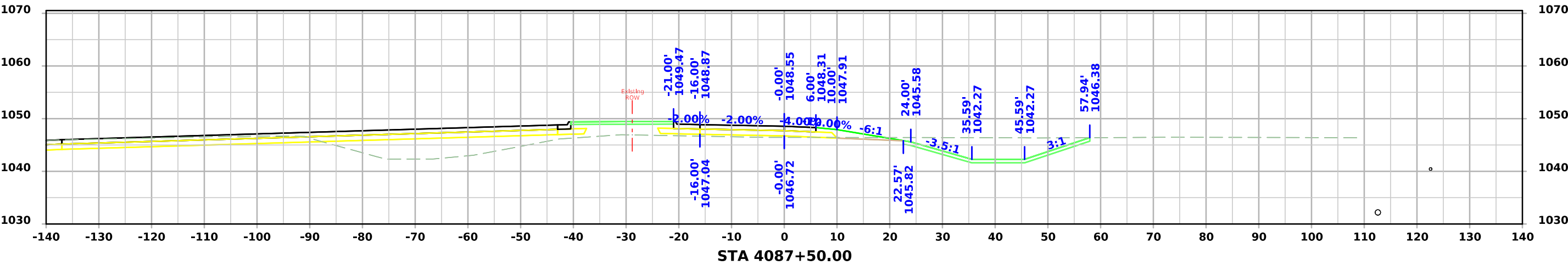
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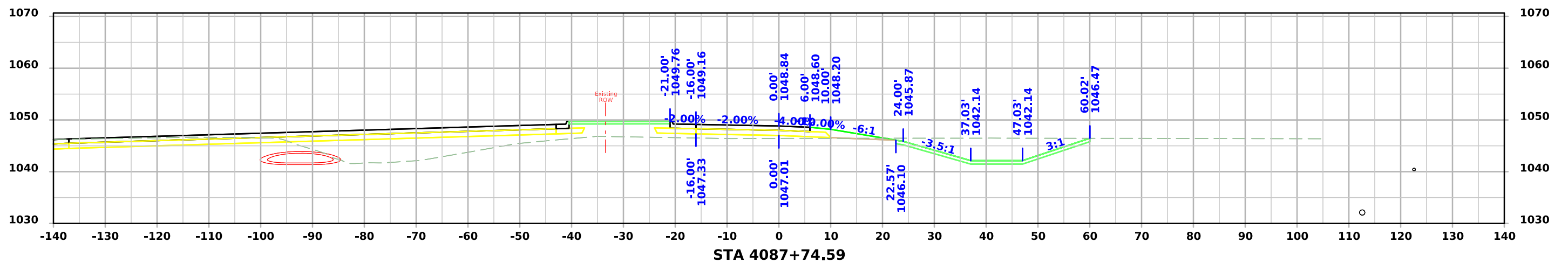
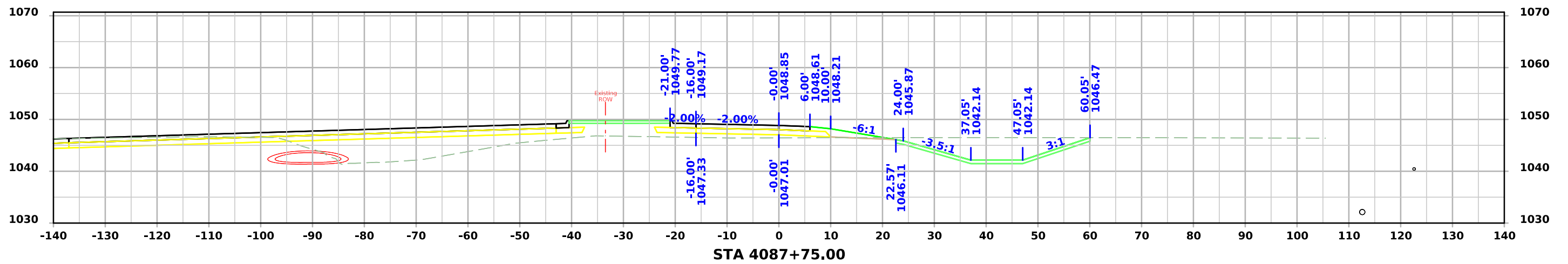
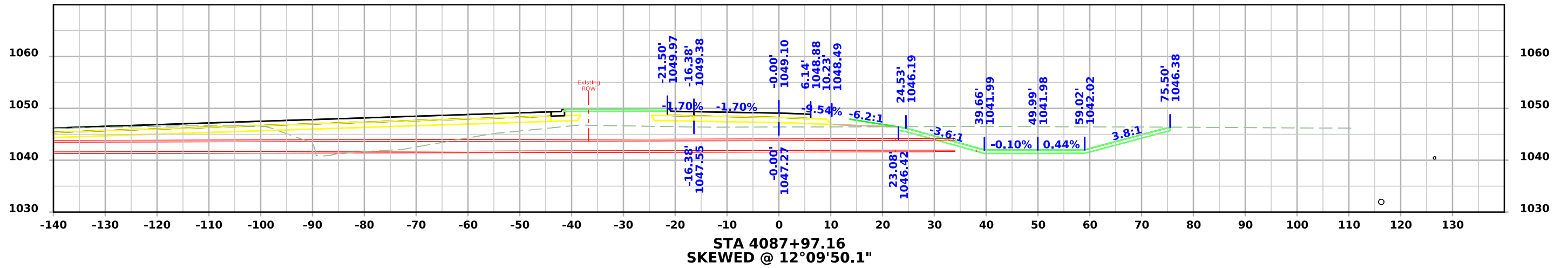
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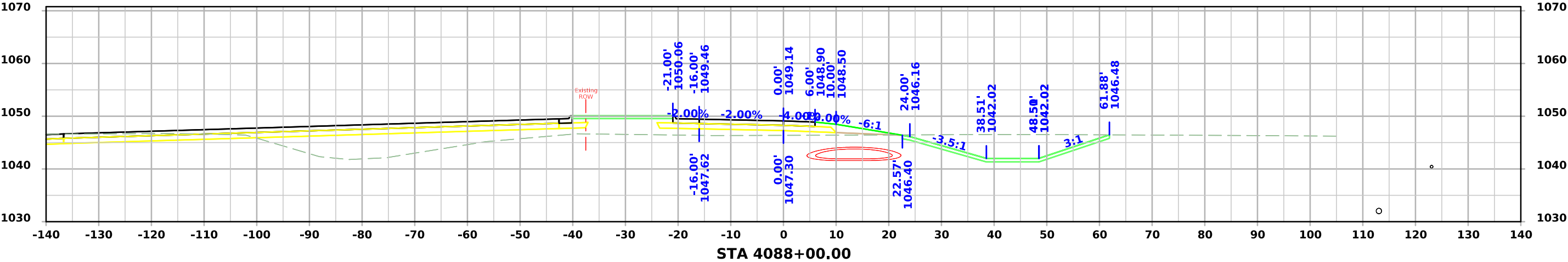
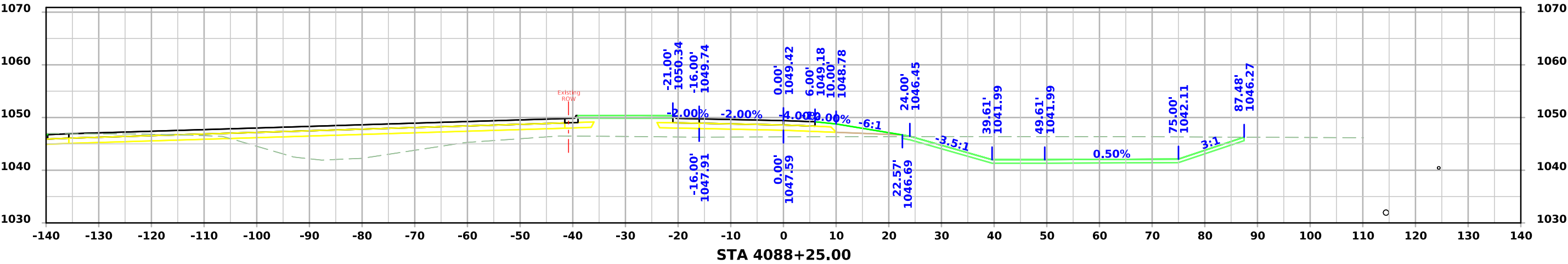
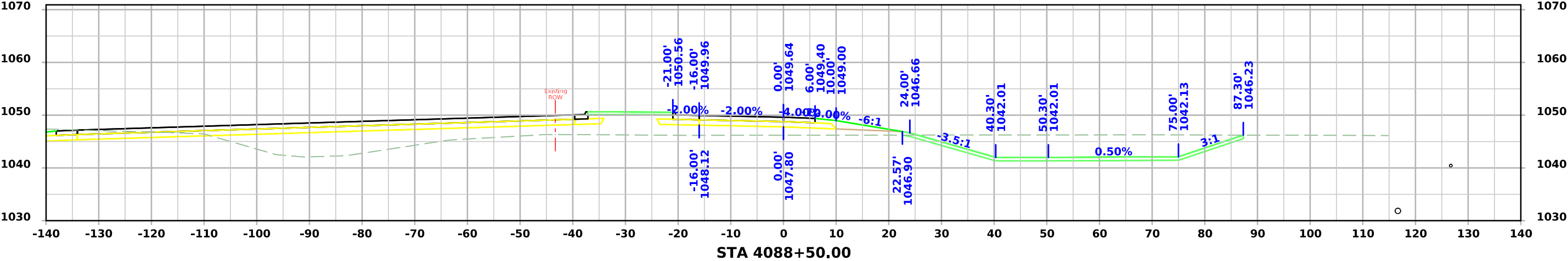
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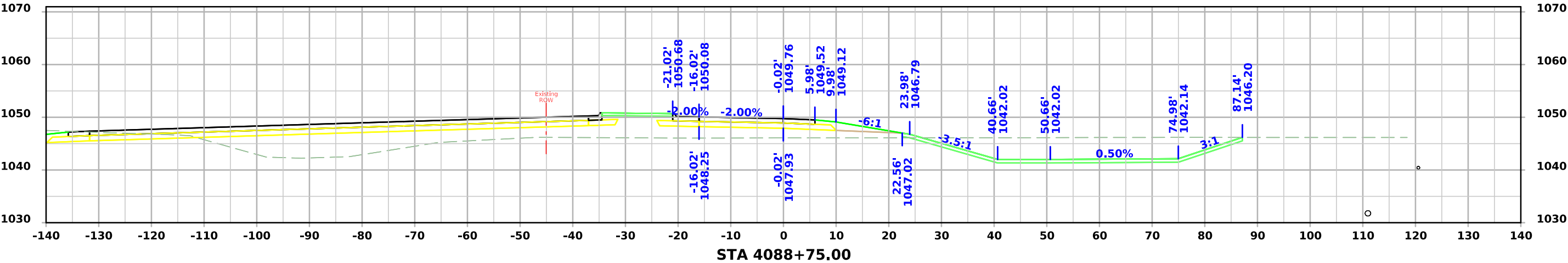
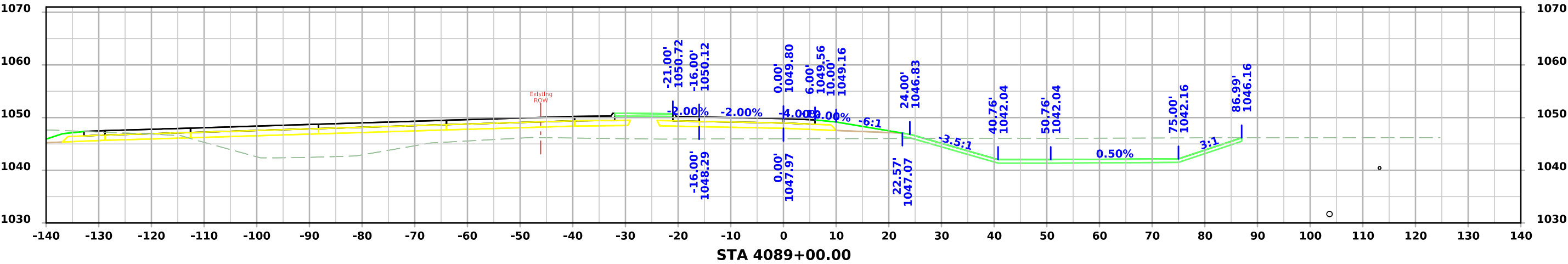
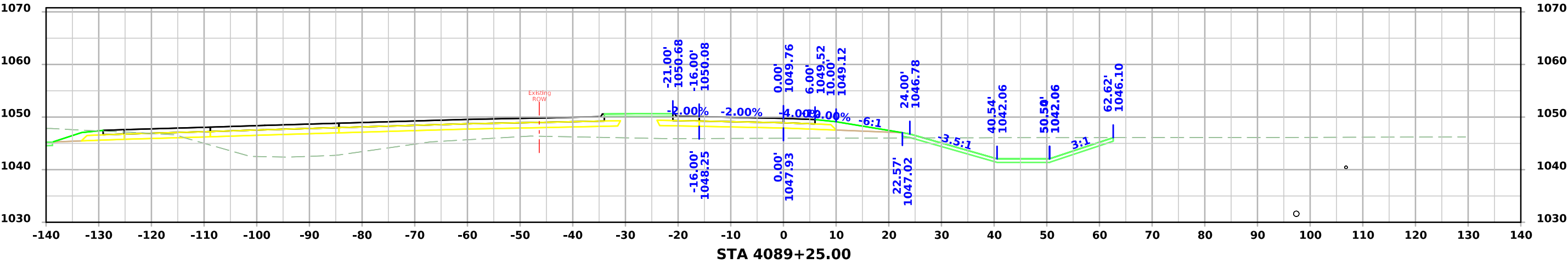
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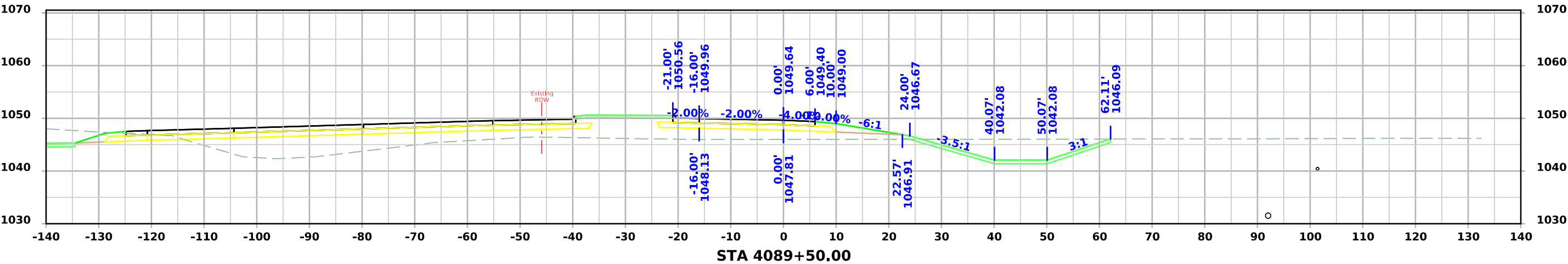
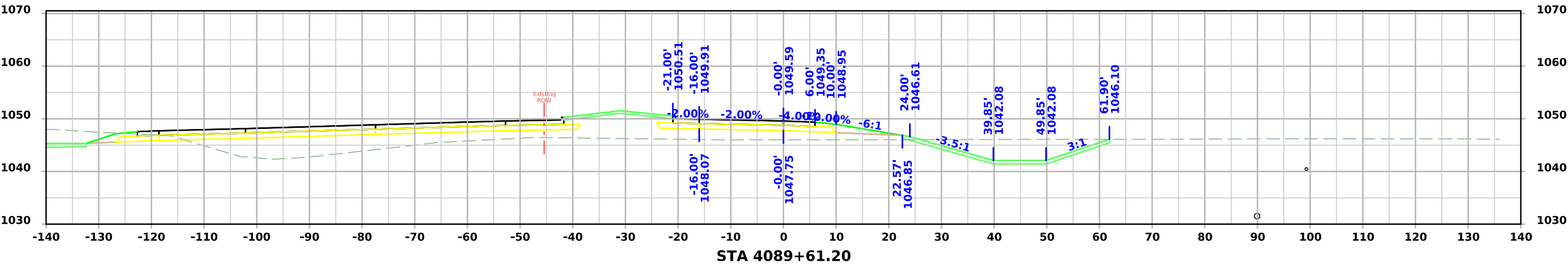
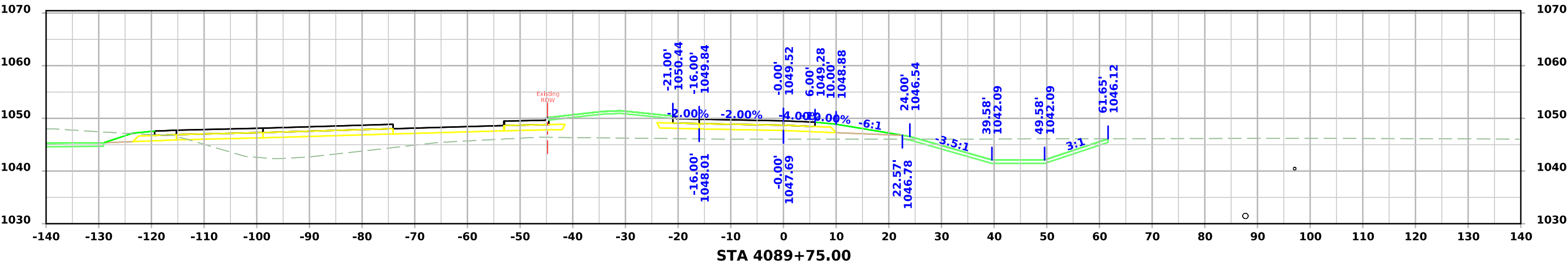
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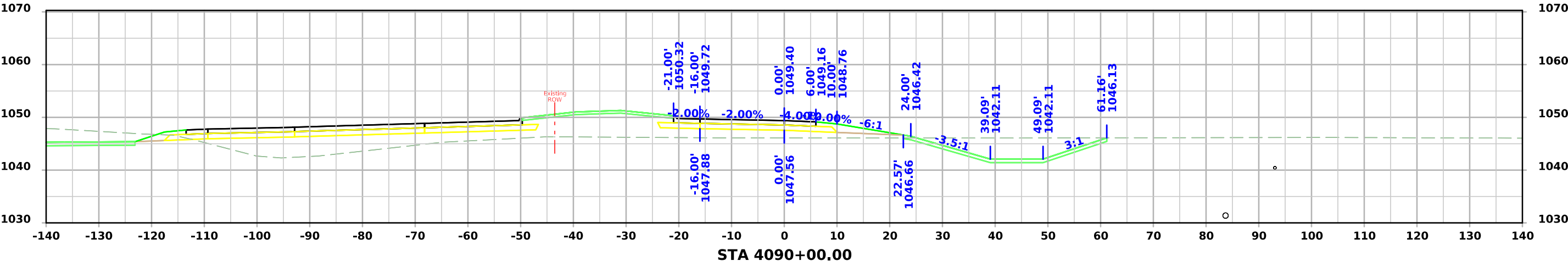
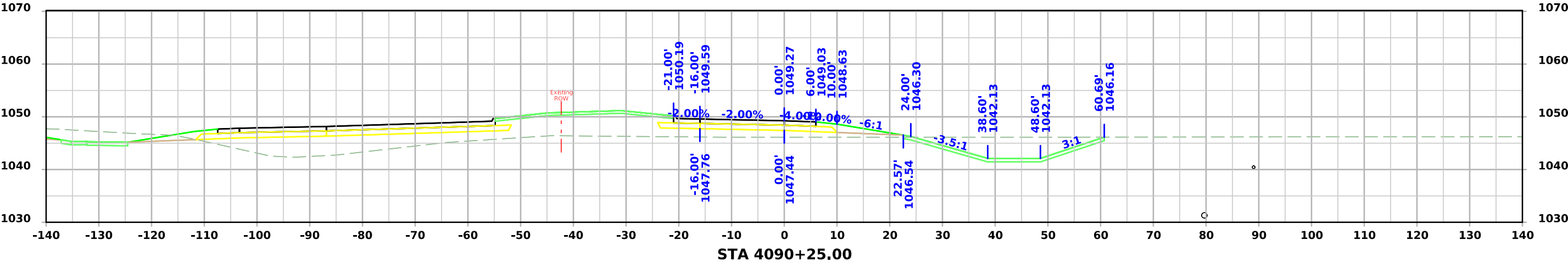
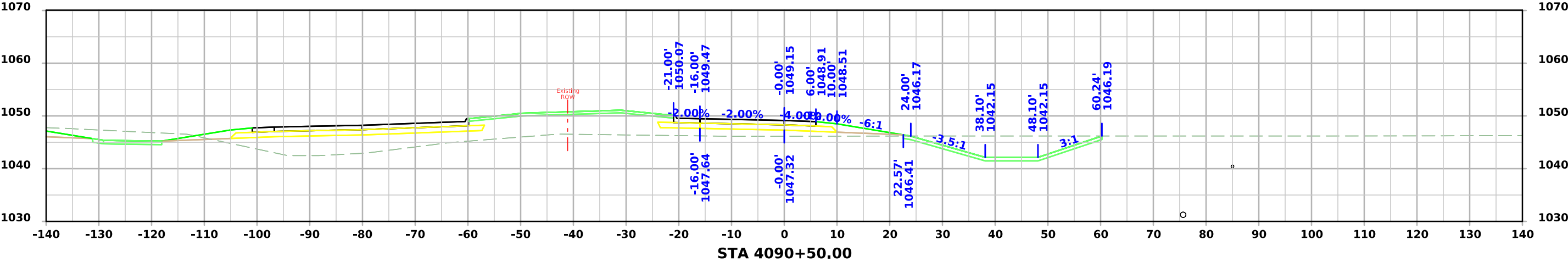
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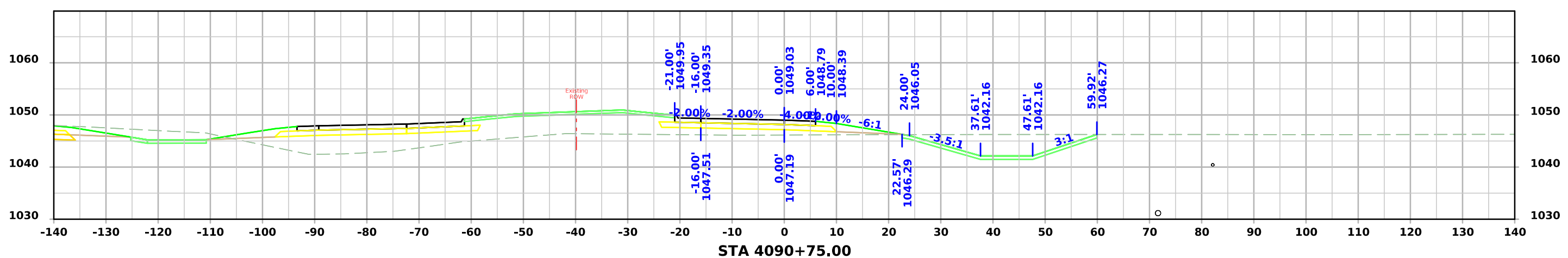
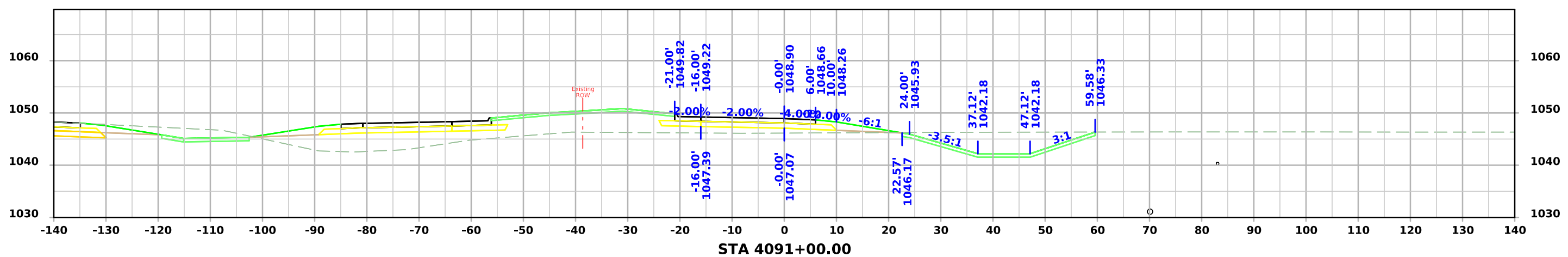
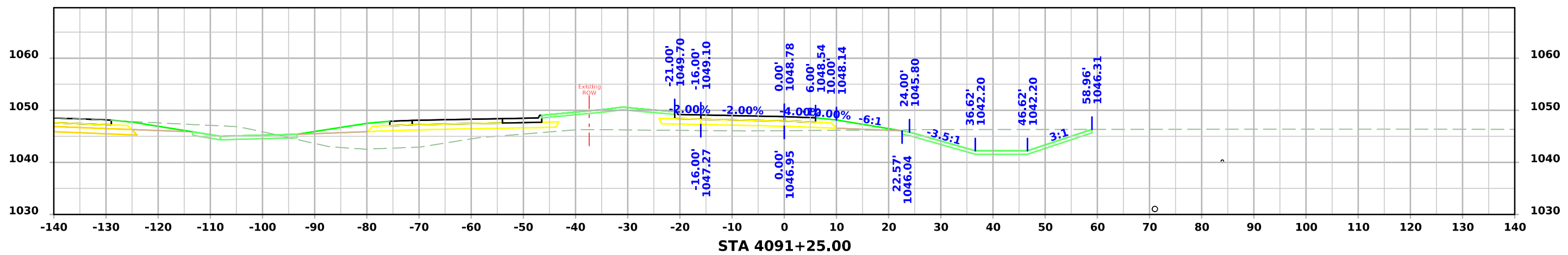
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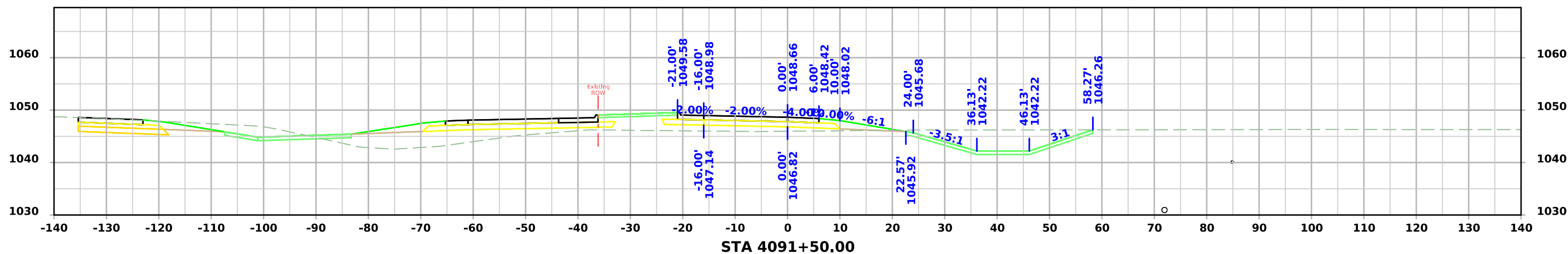
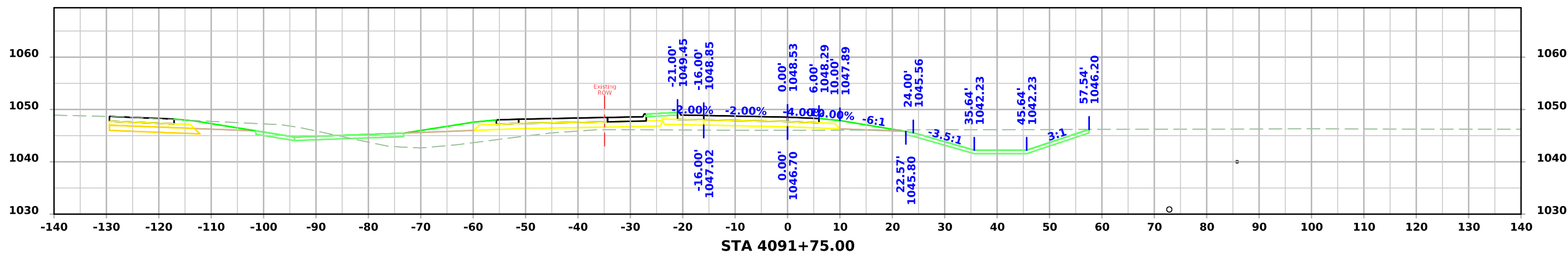
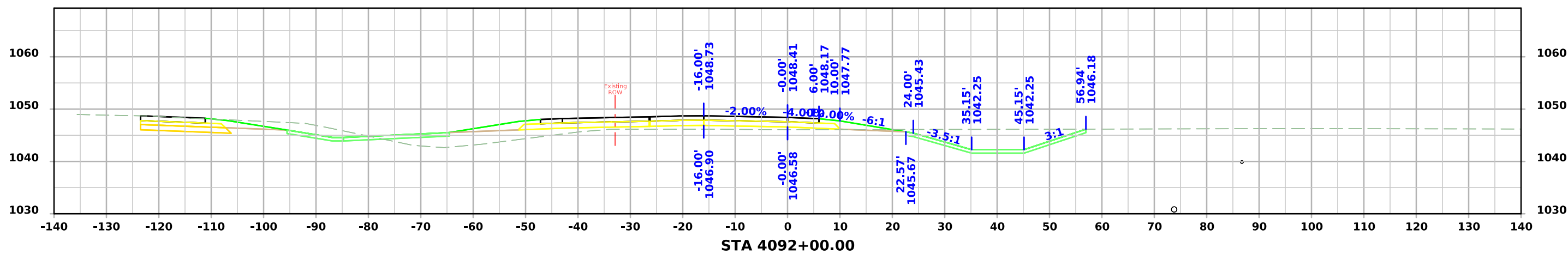
I-29 Ramp D



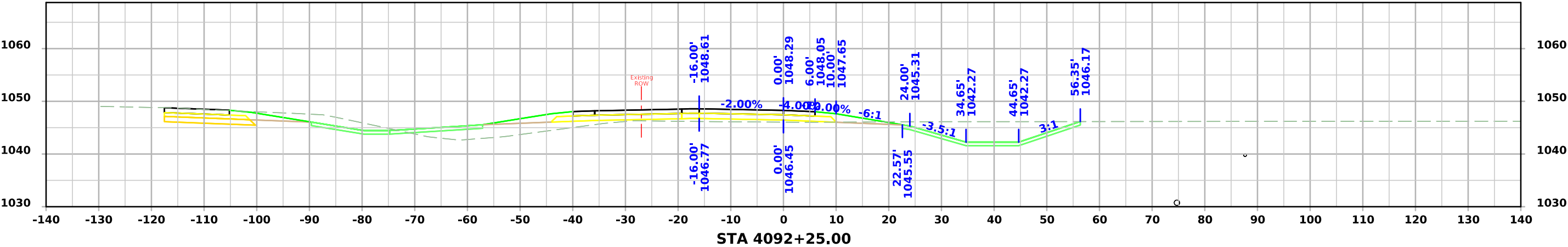
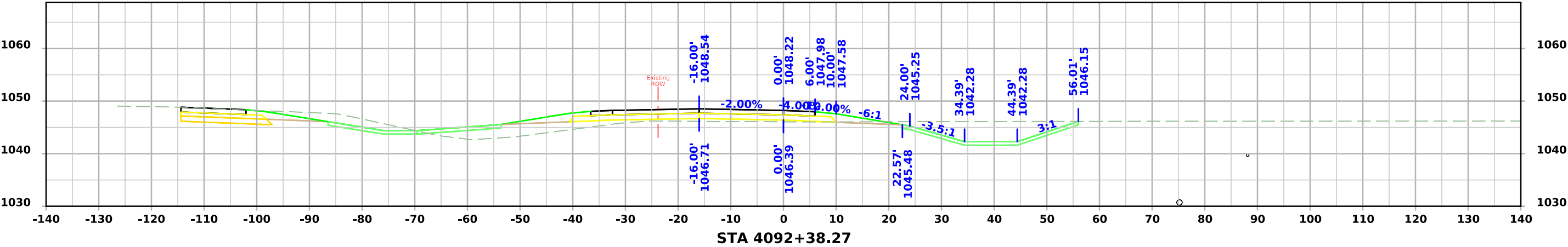
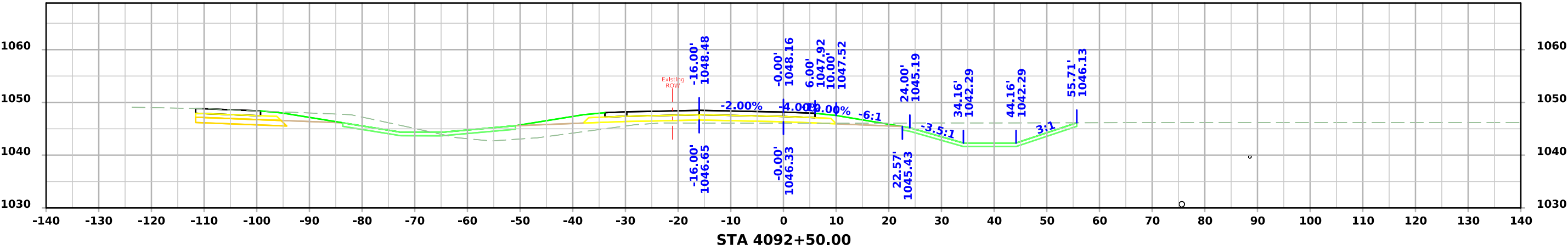
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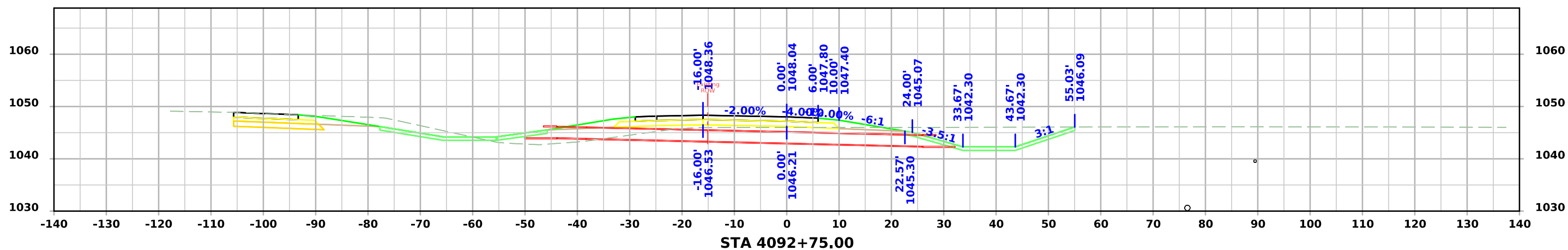
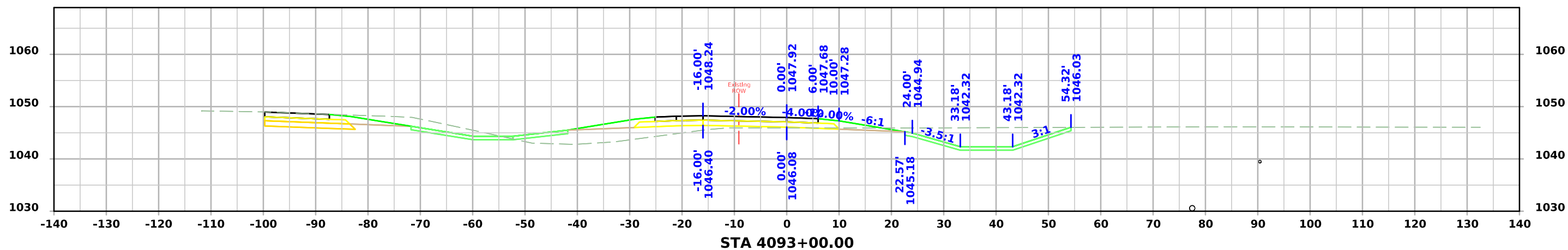
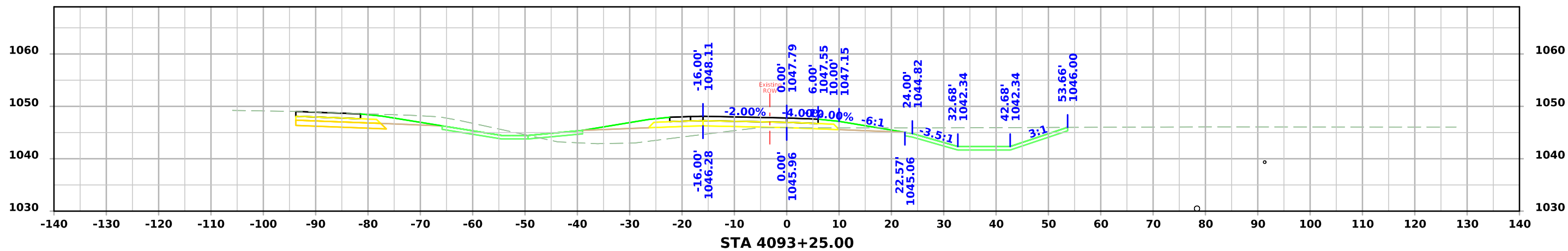
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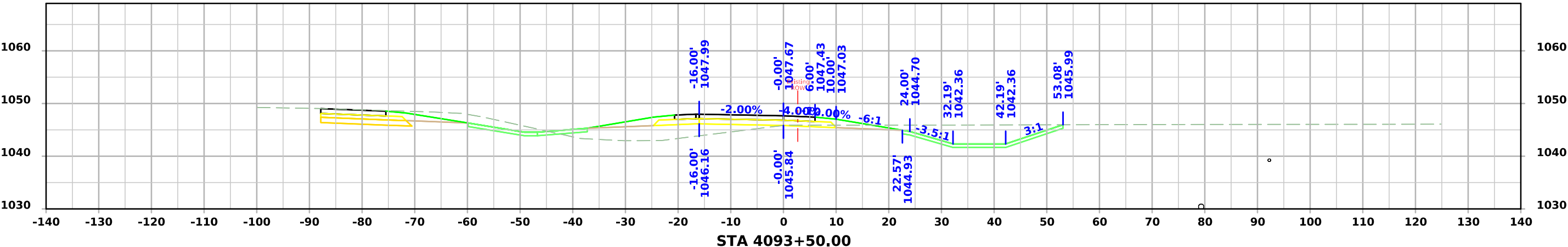
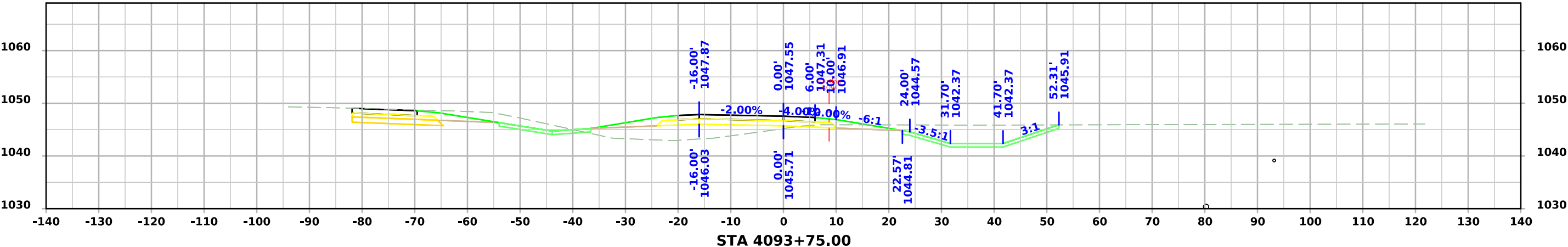
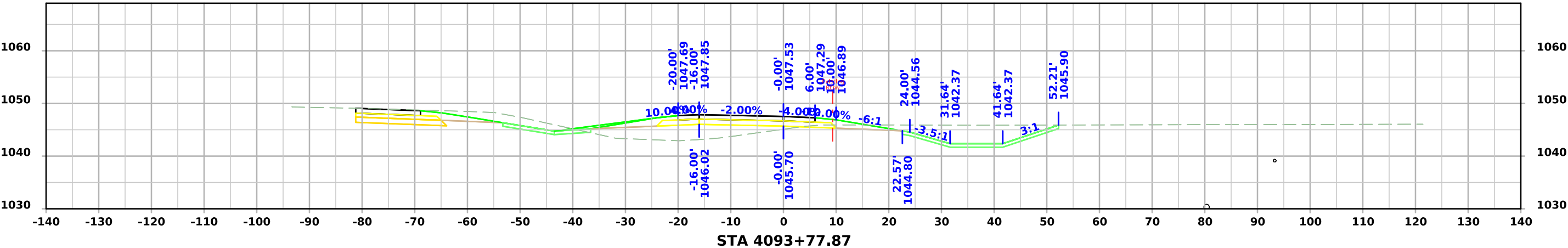
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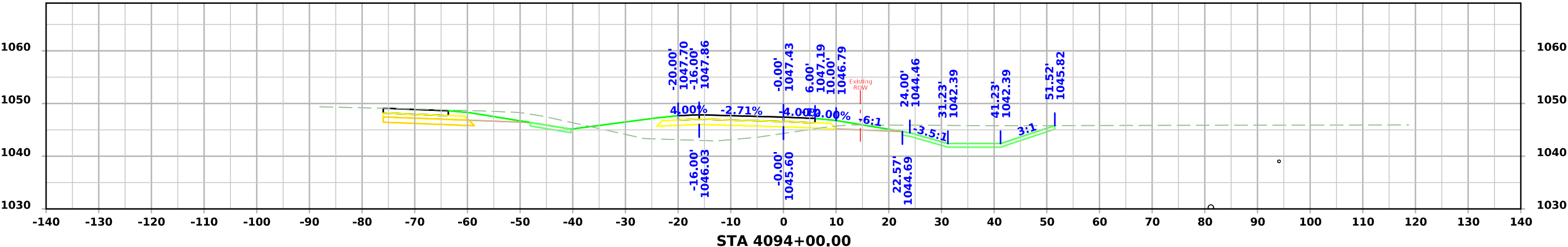
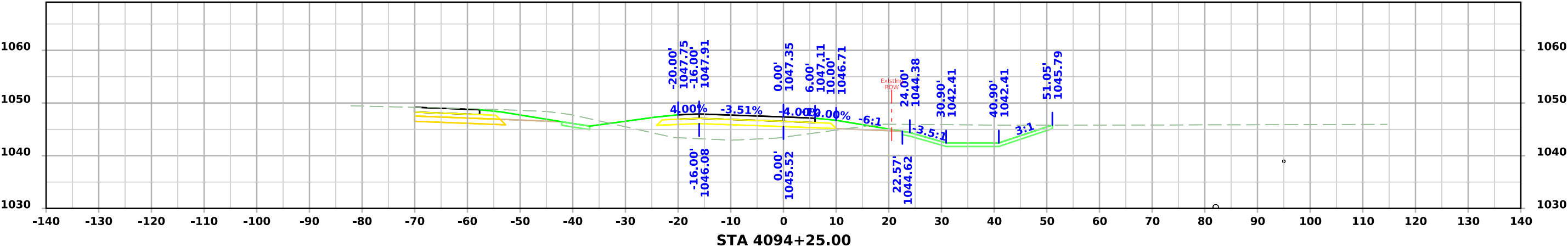
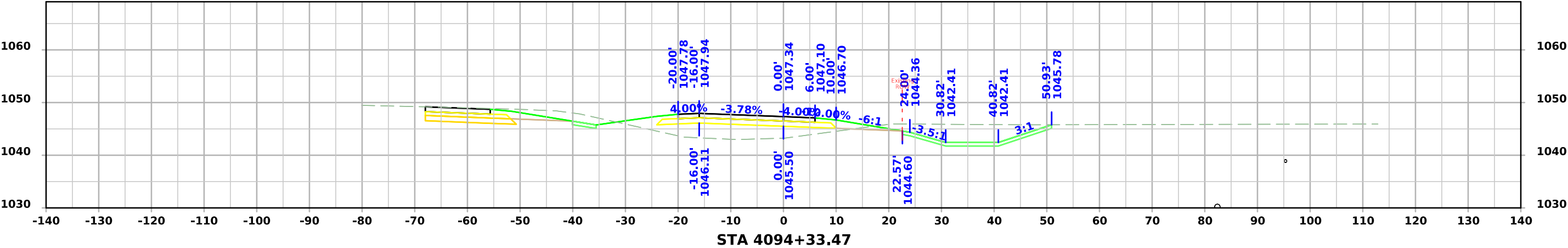
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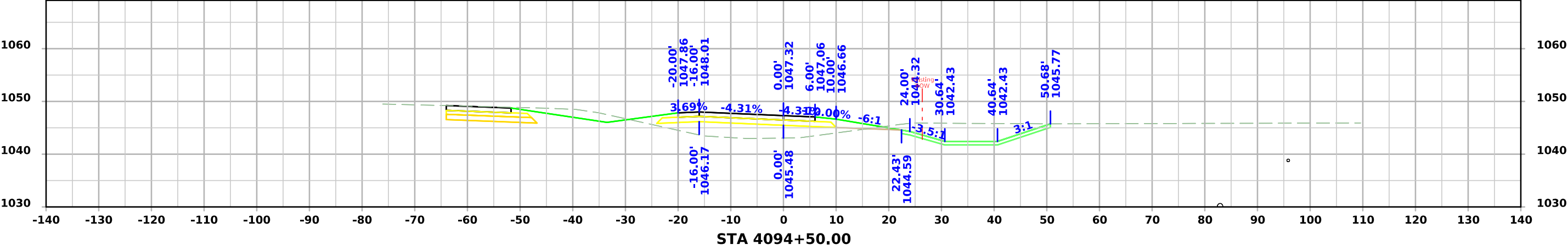
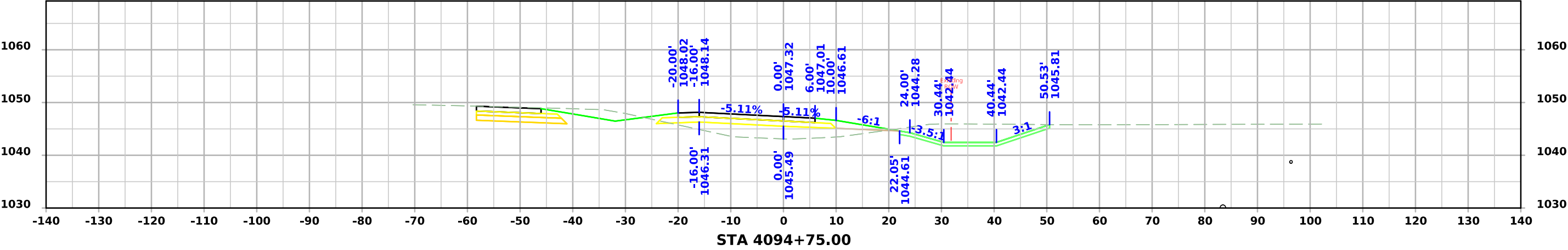
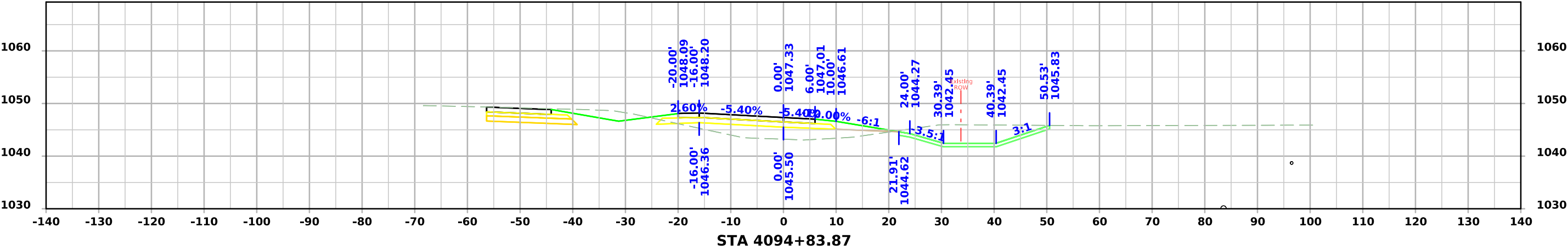
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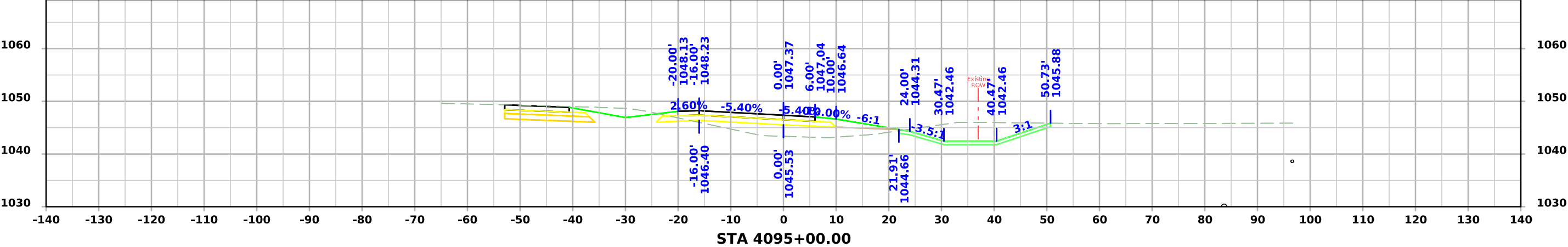
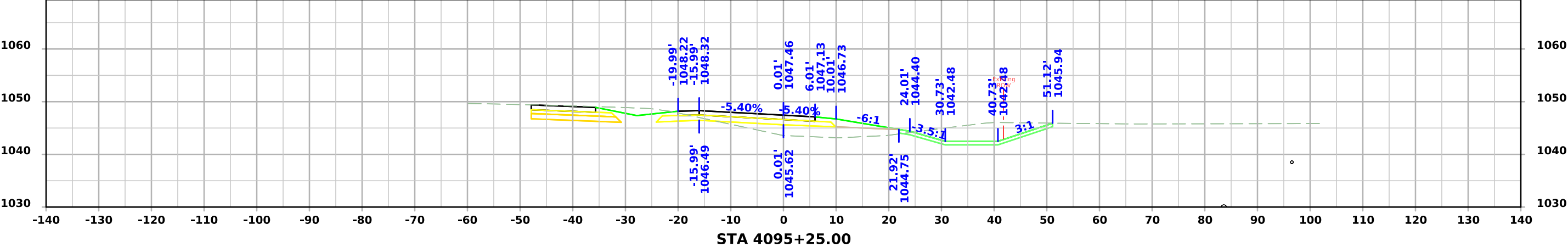
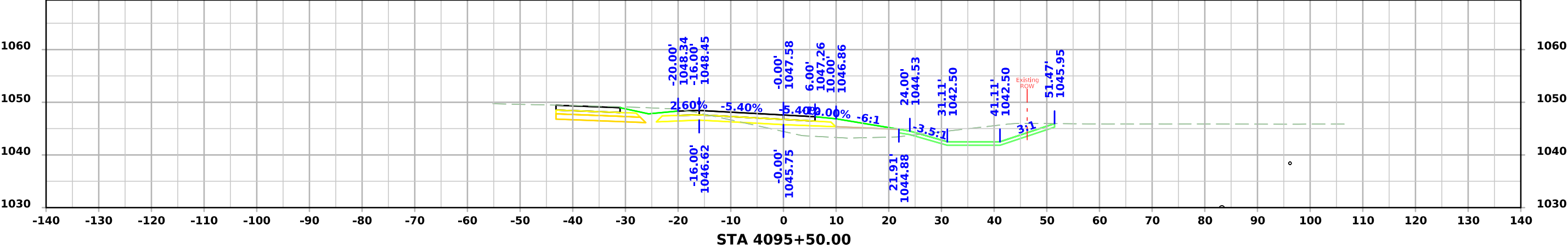
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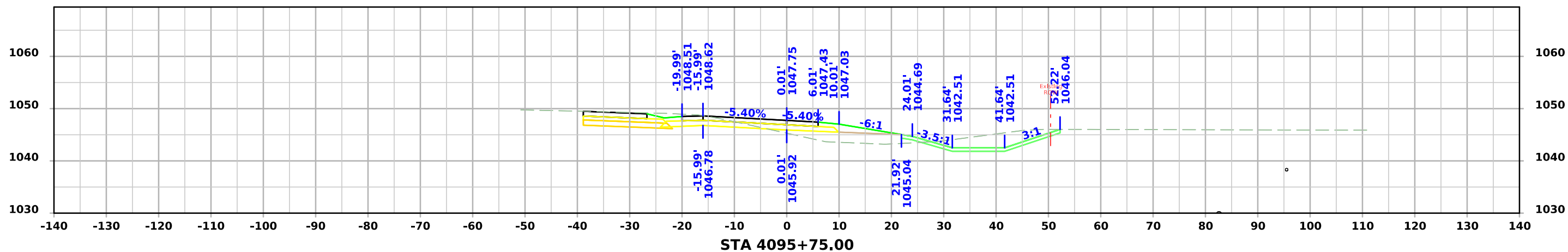
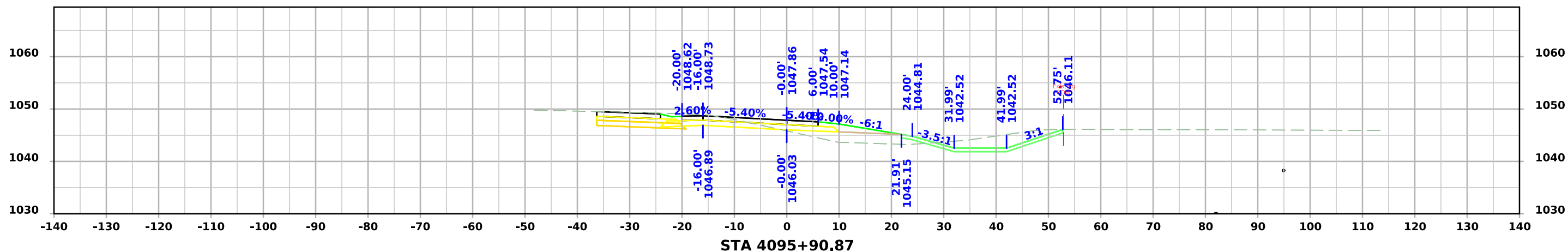
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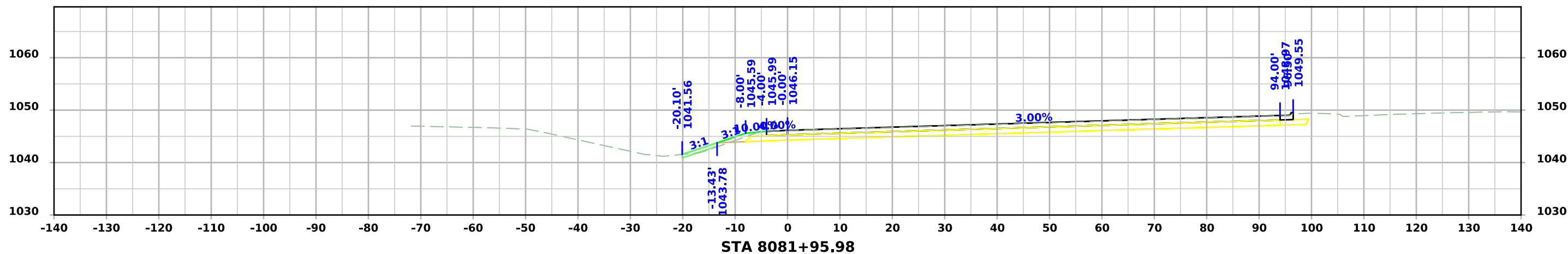
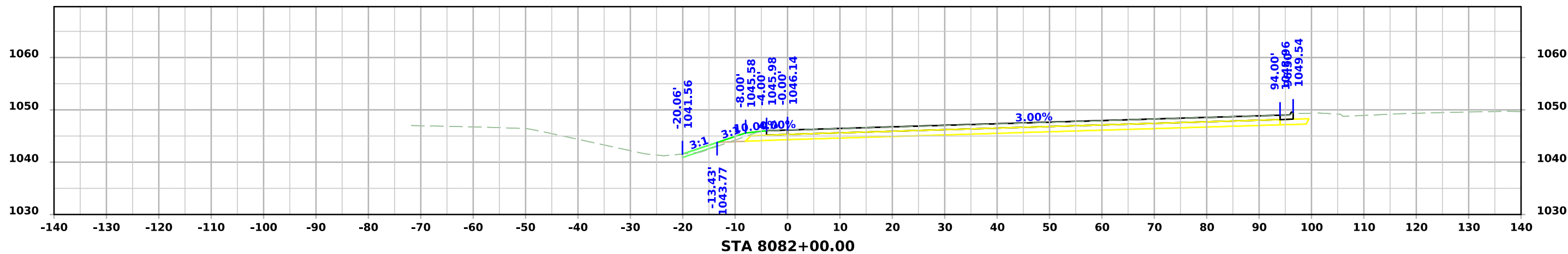
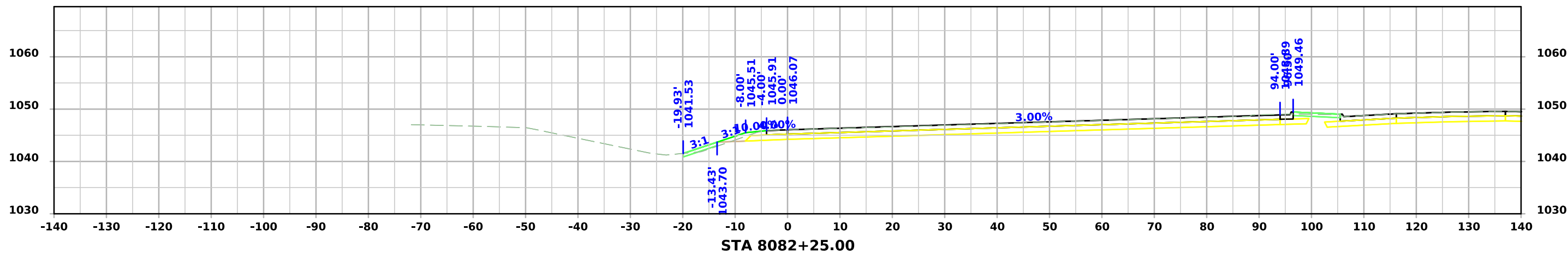
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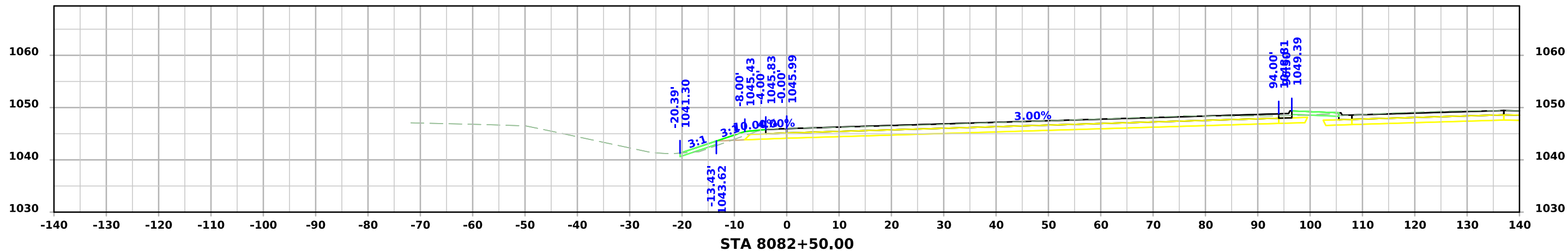
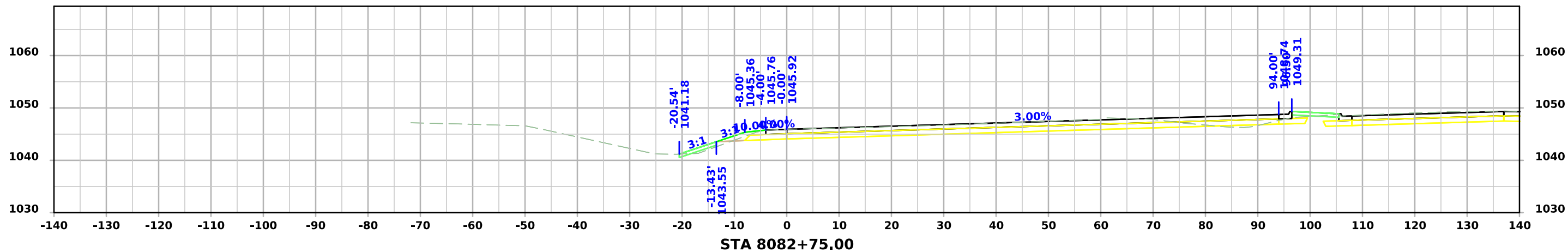
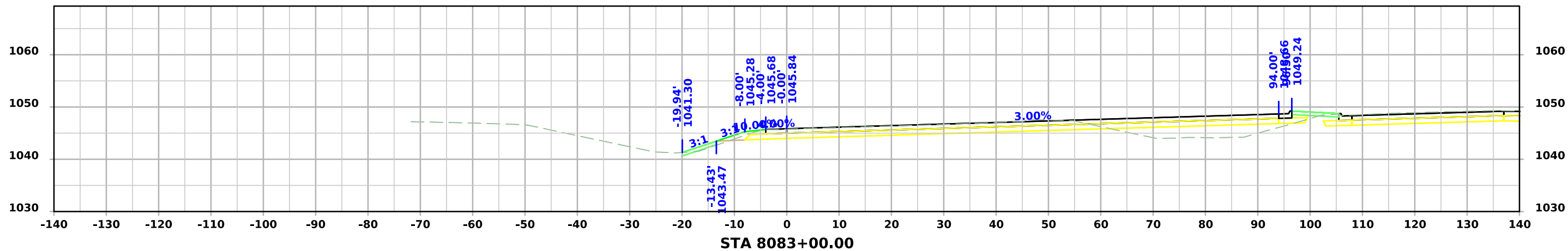
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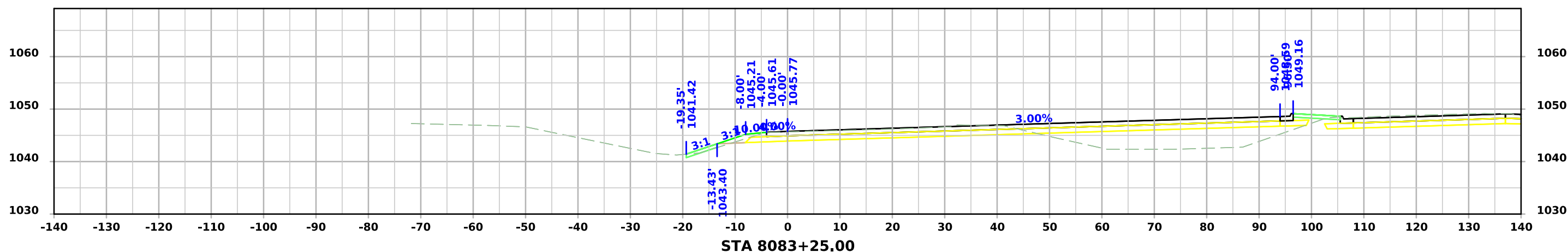
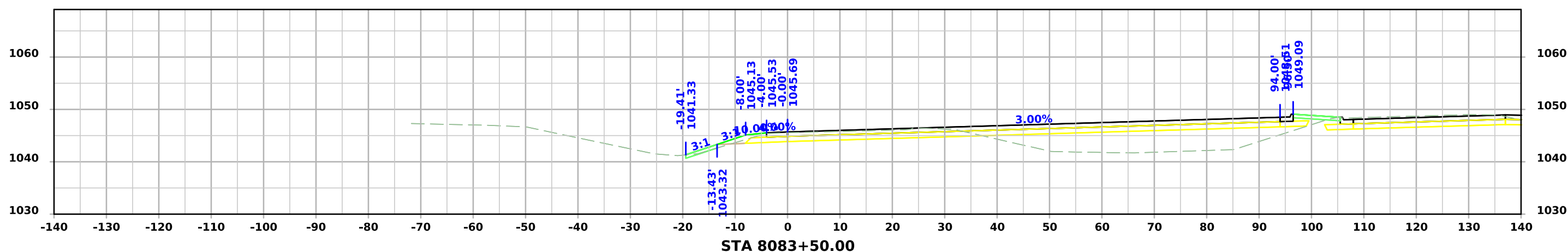
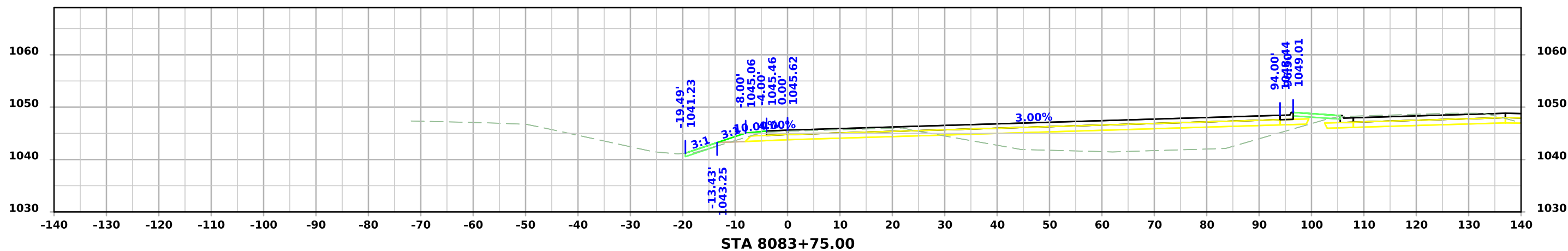
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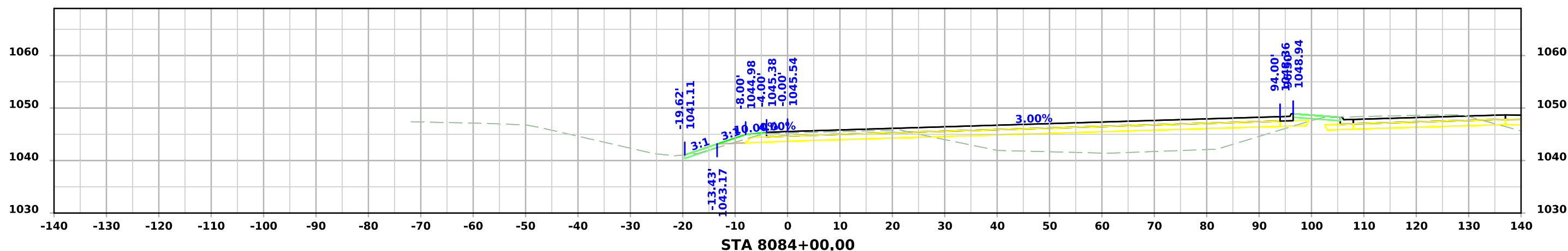
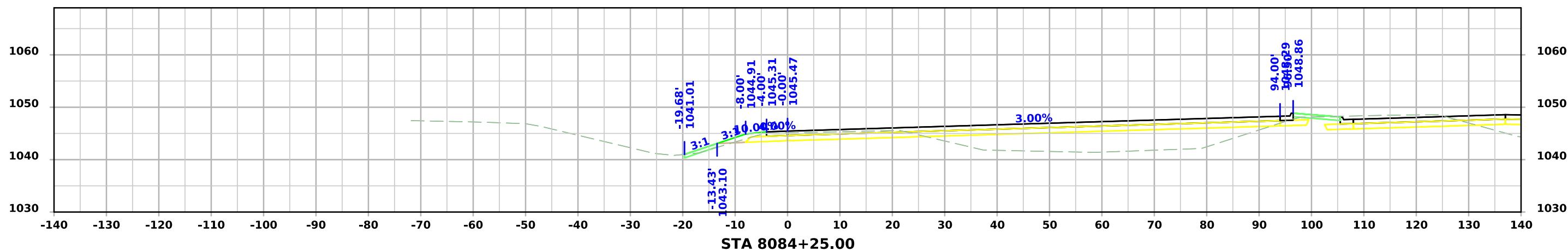
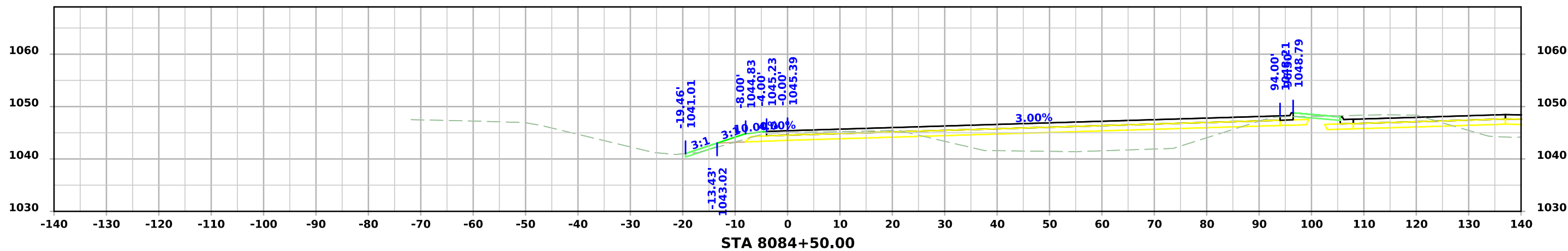
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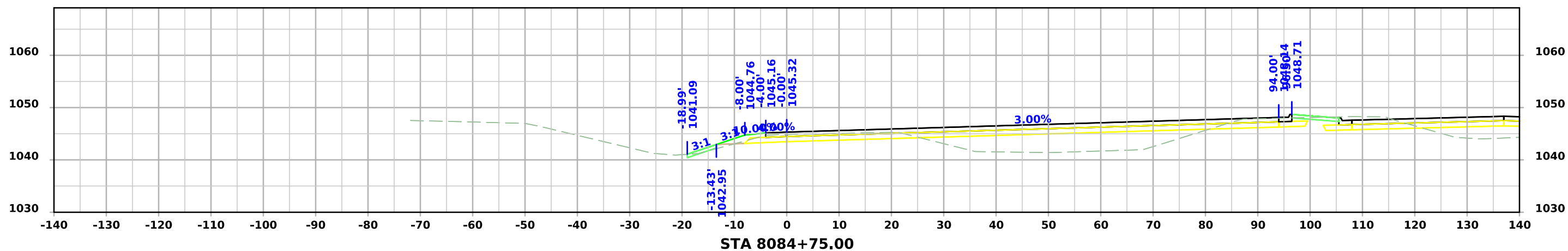
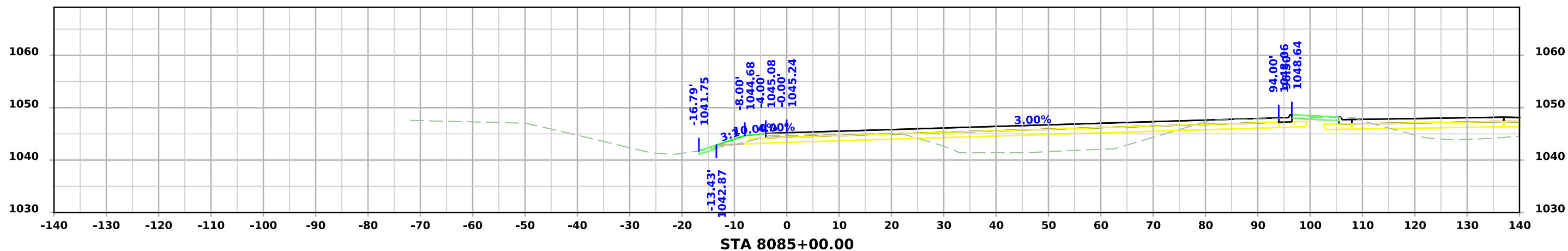
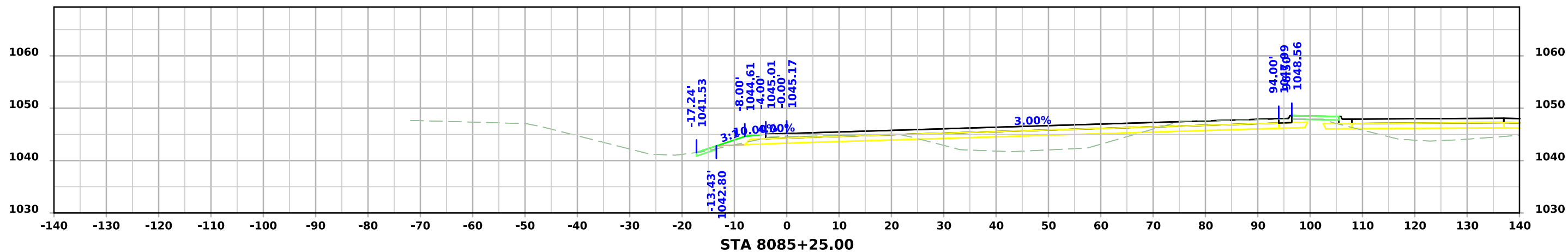
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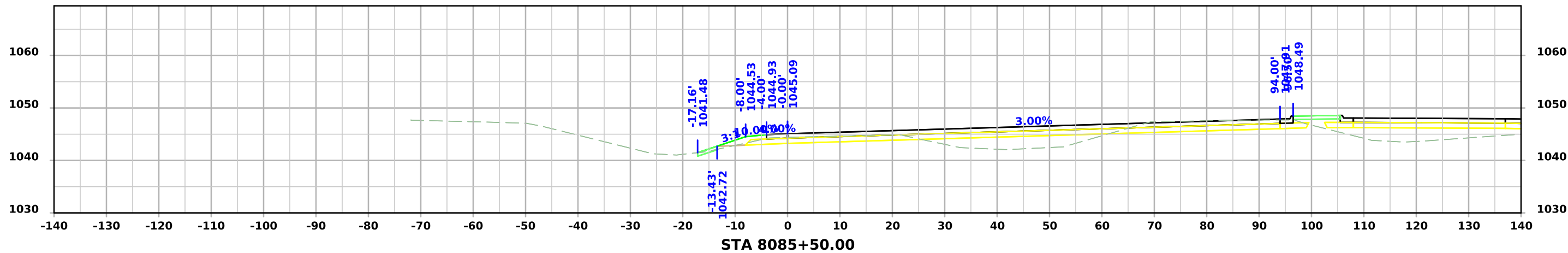
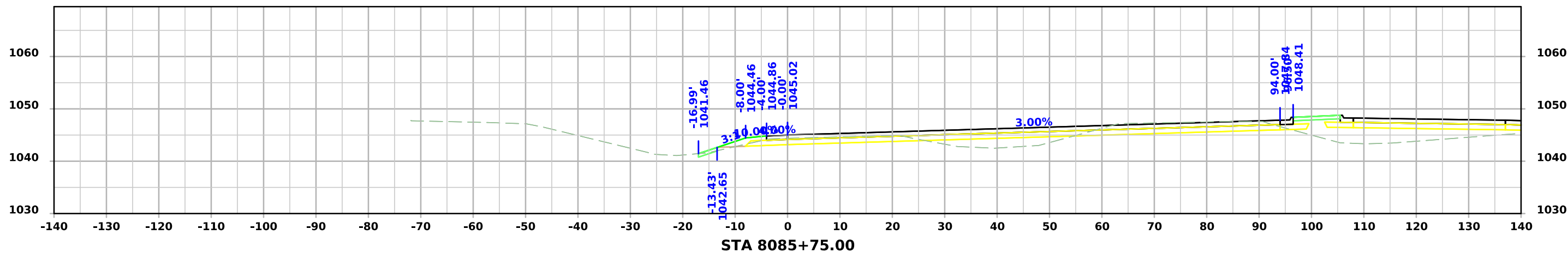
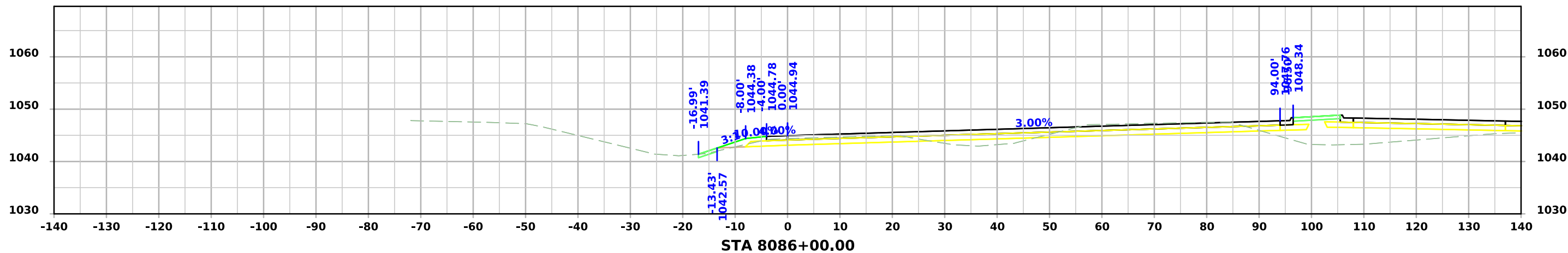
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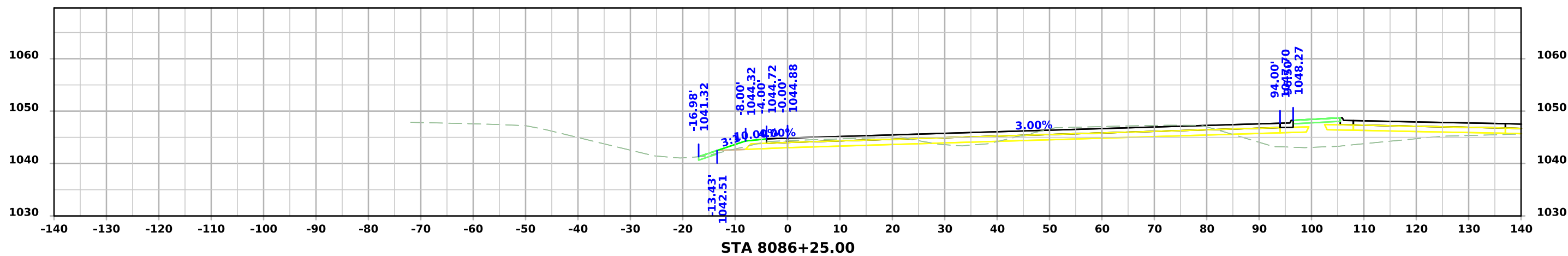
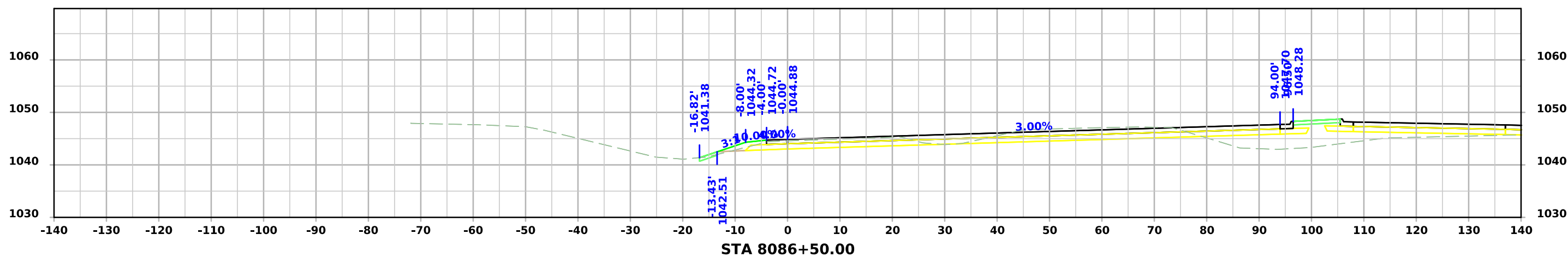
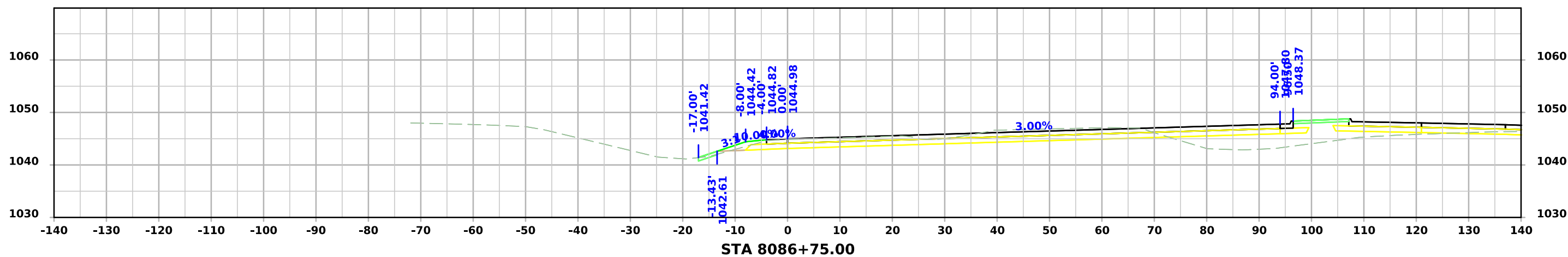
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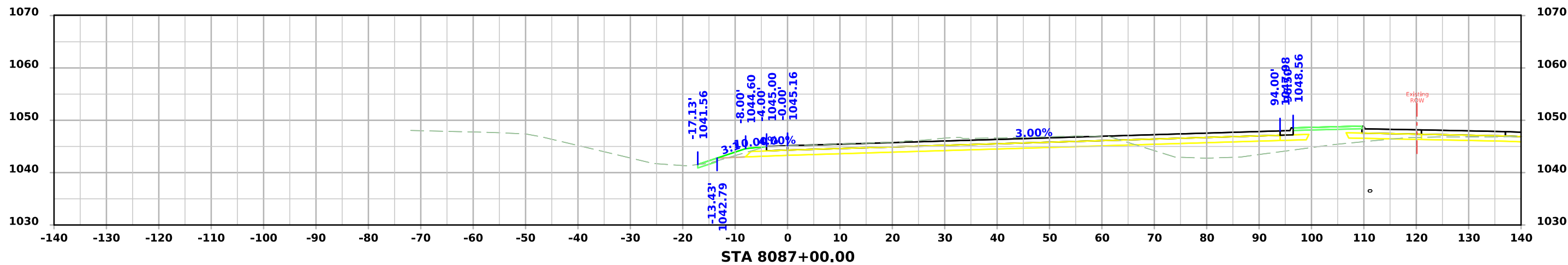
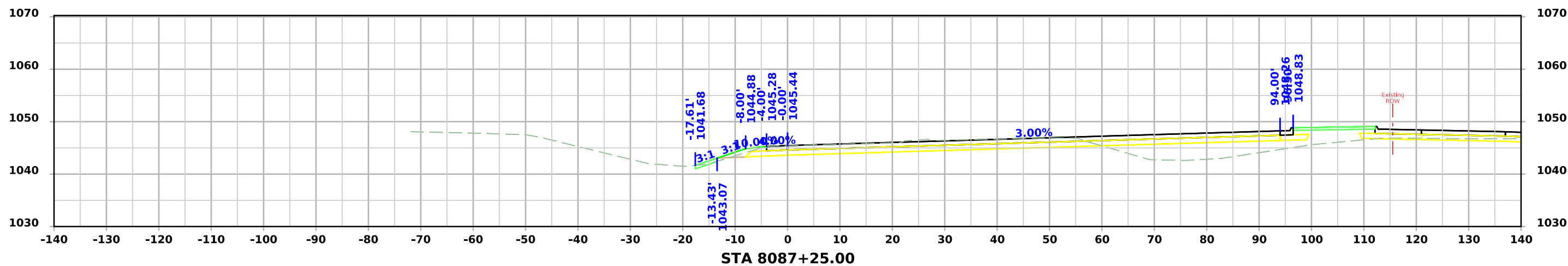
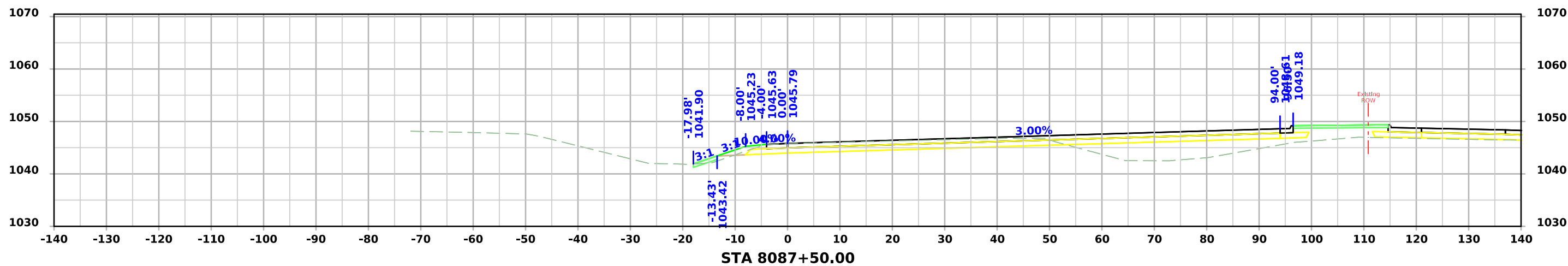
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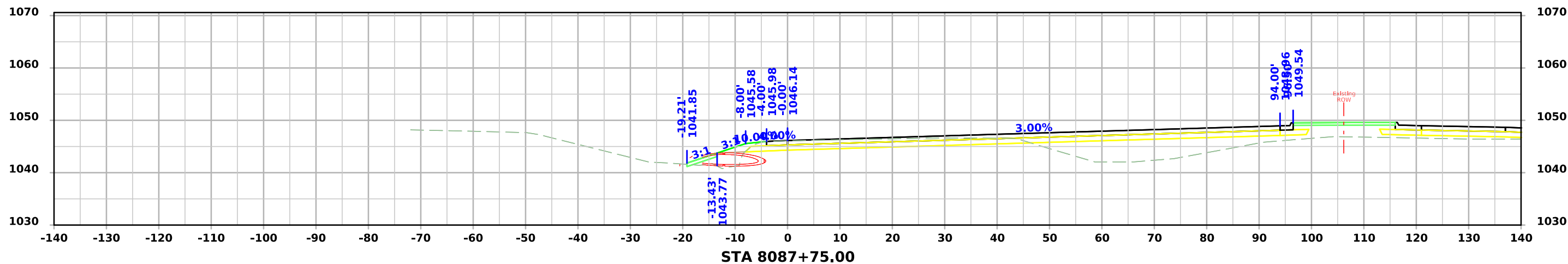
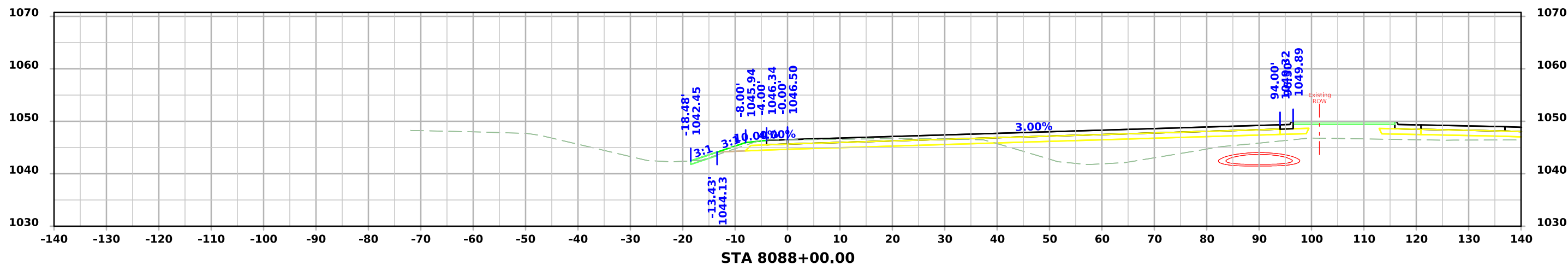
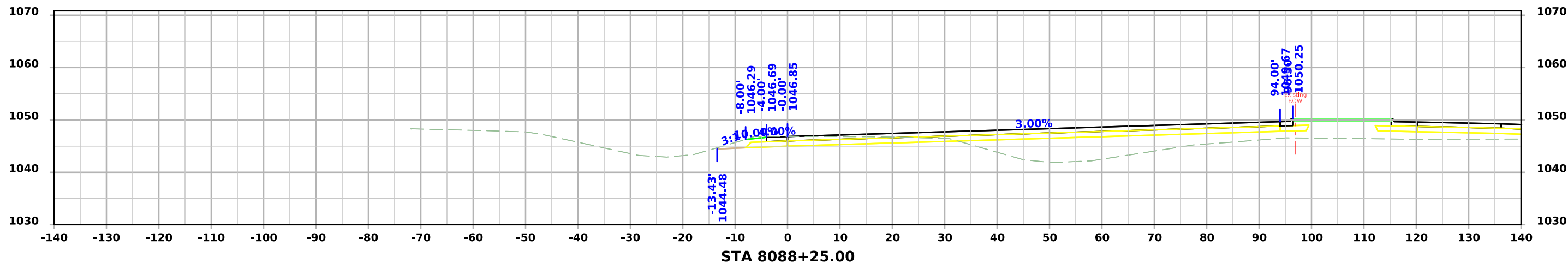
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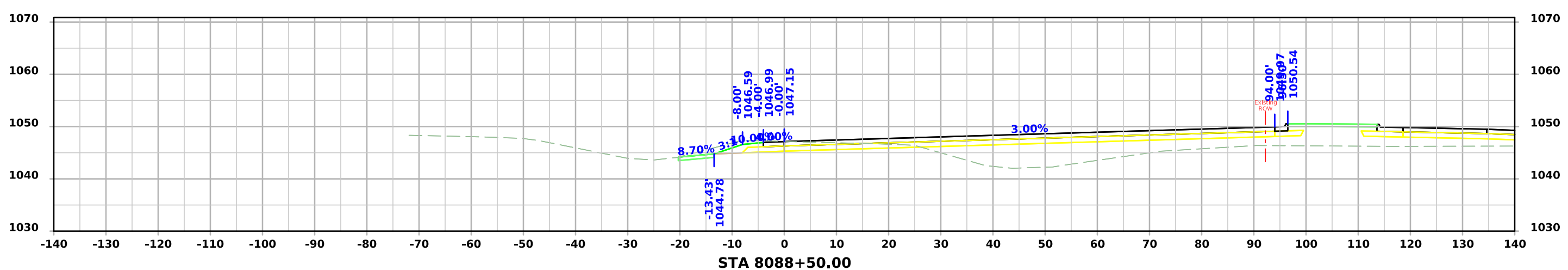
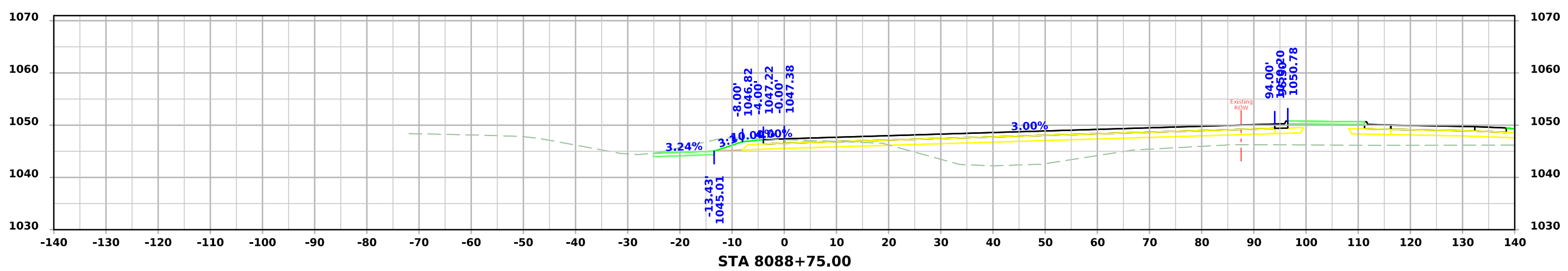
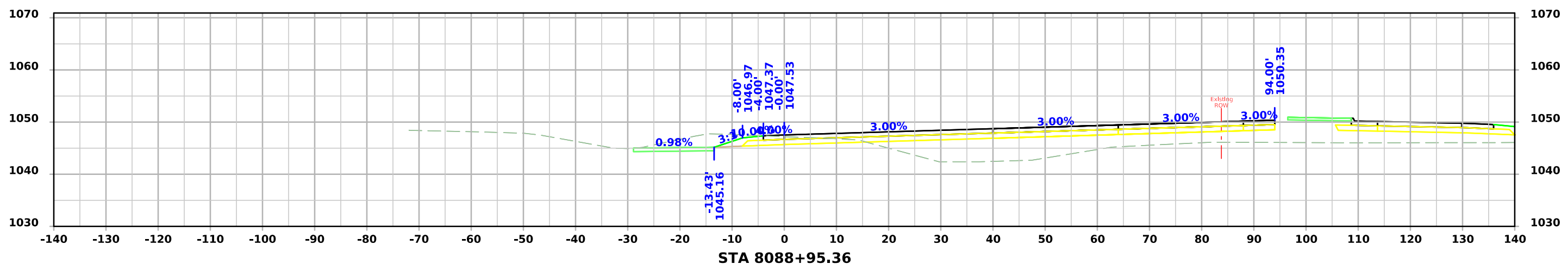
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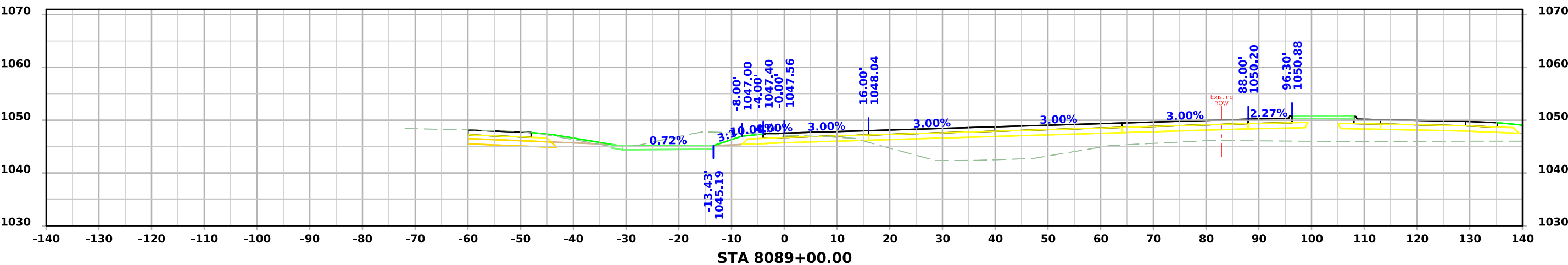
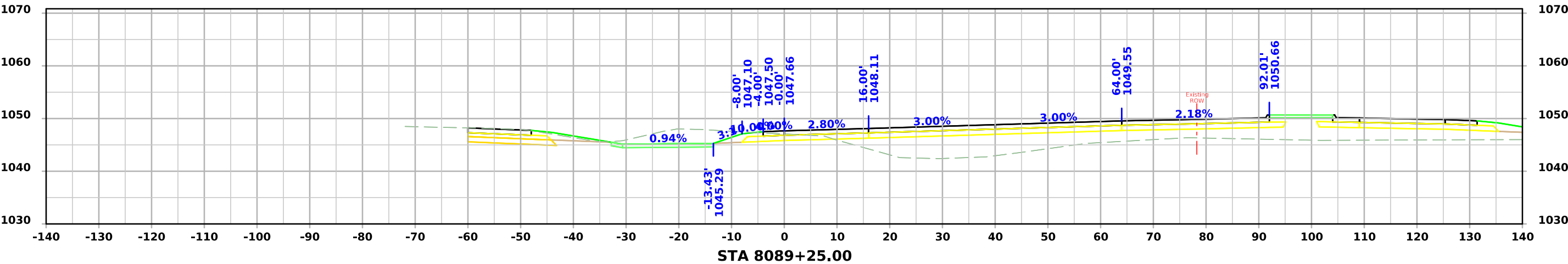
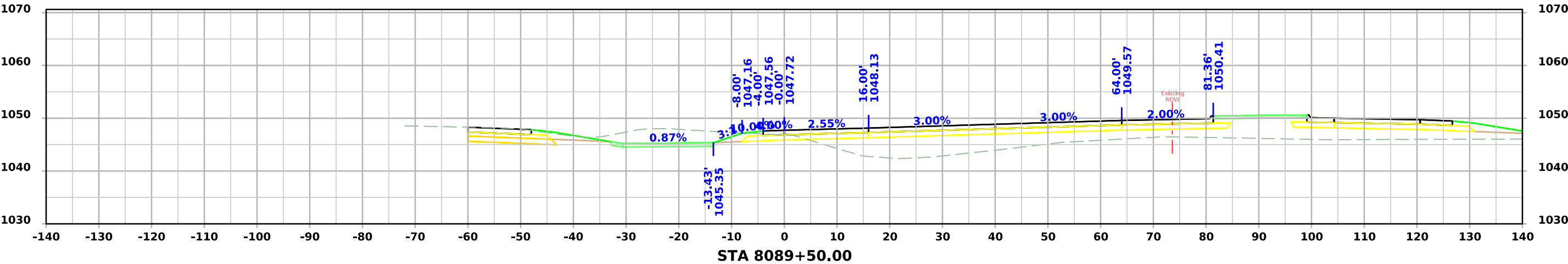
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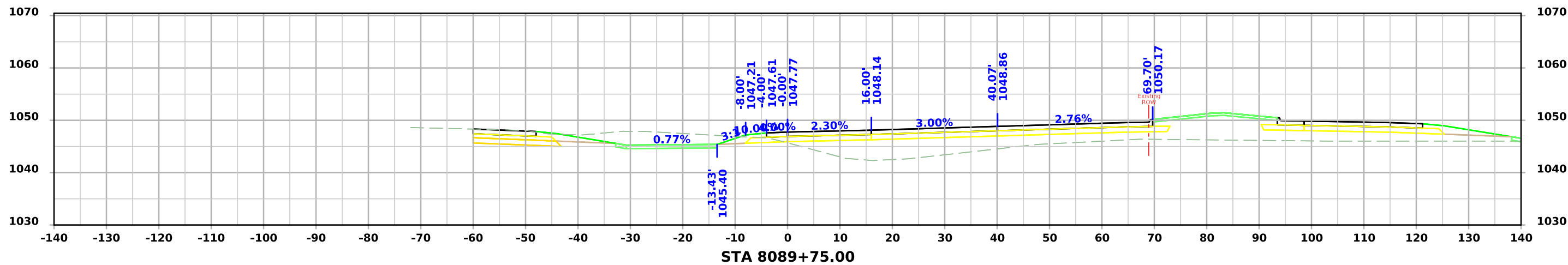
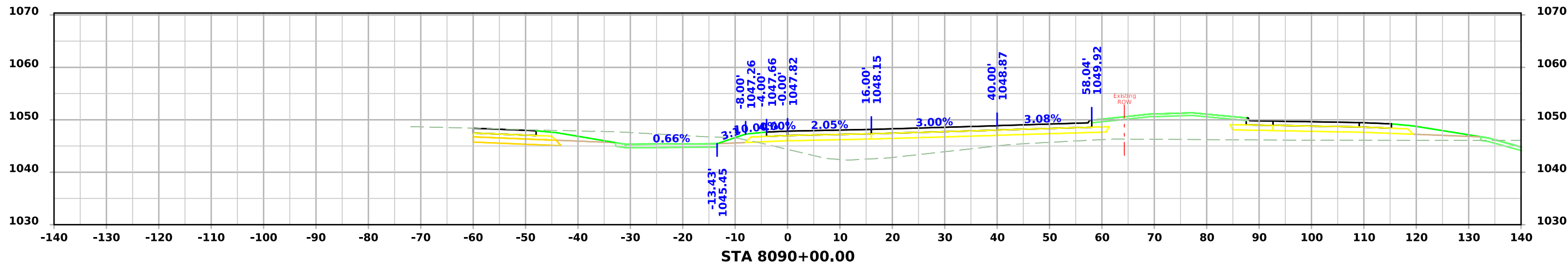
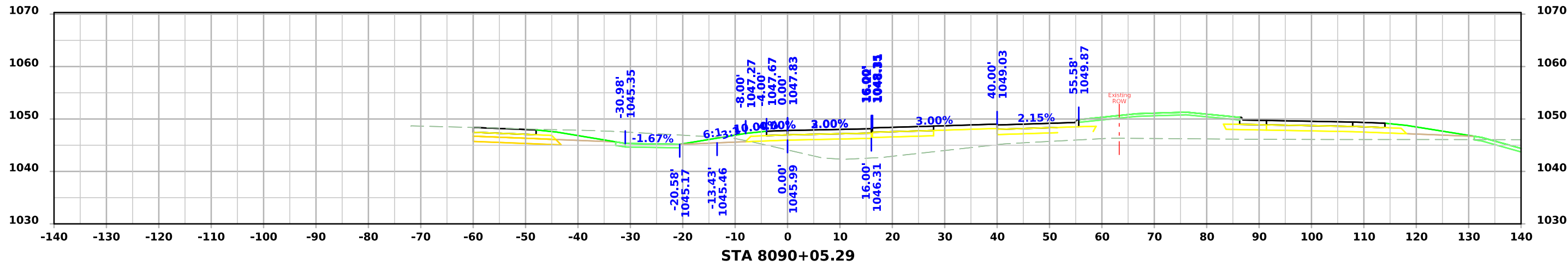
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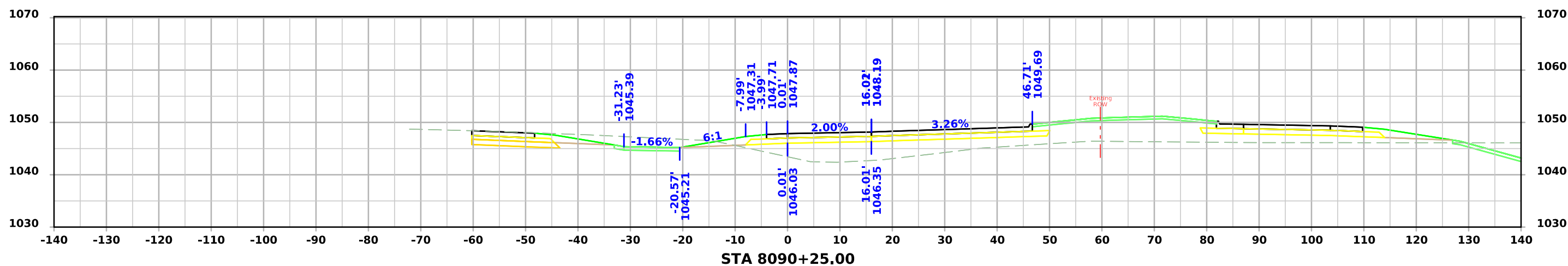
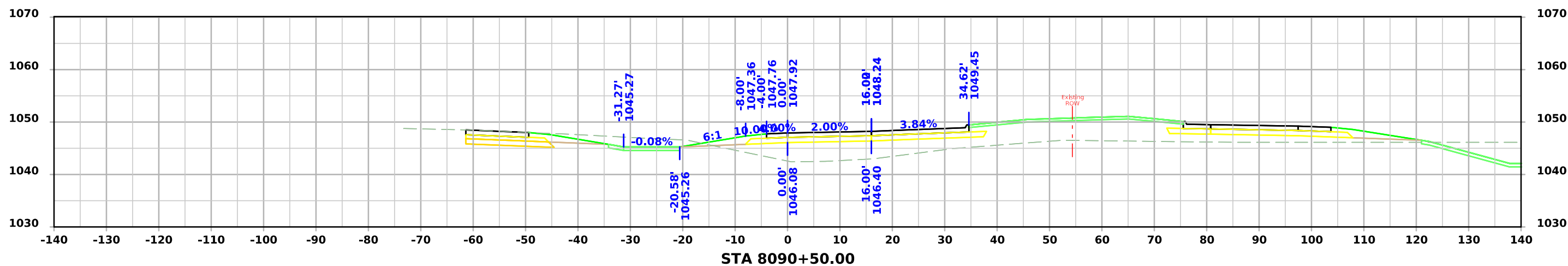
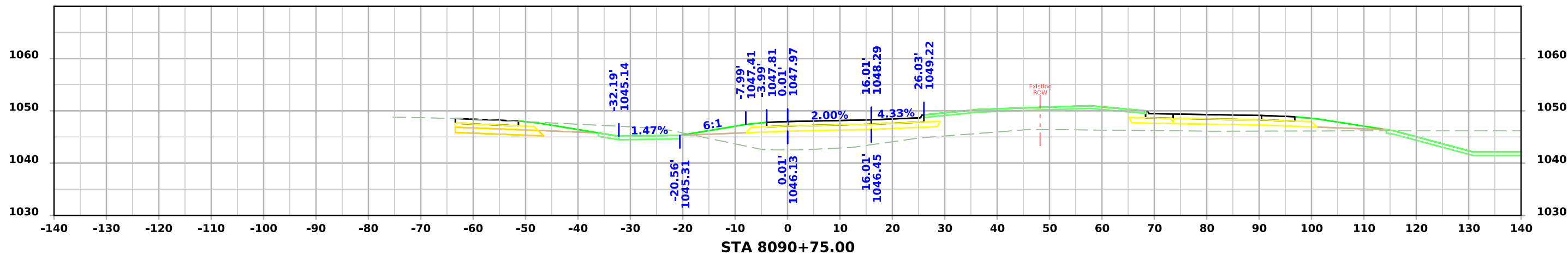
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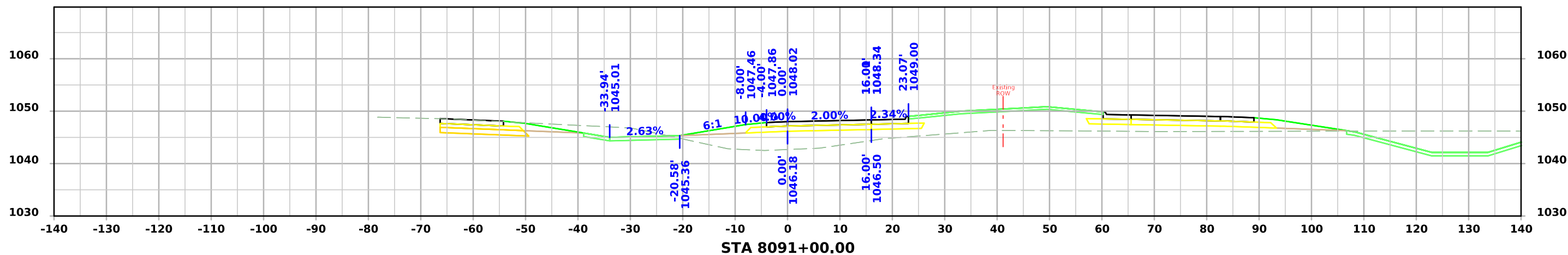
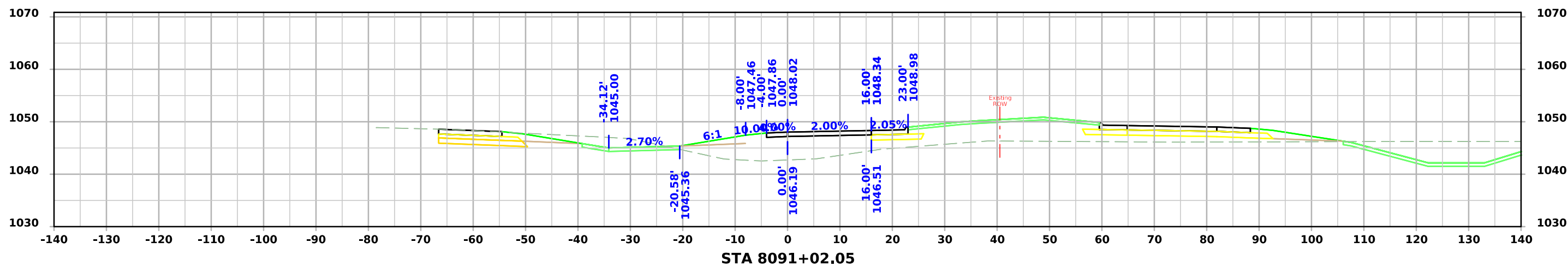
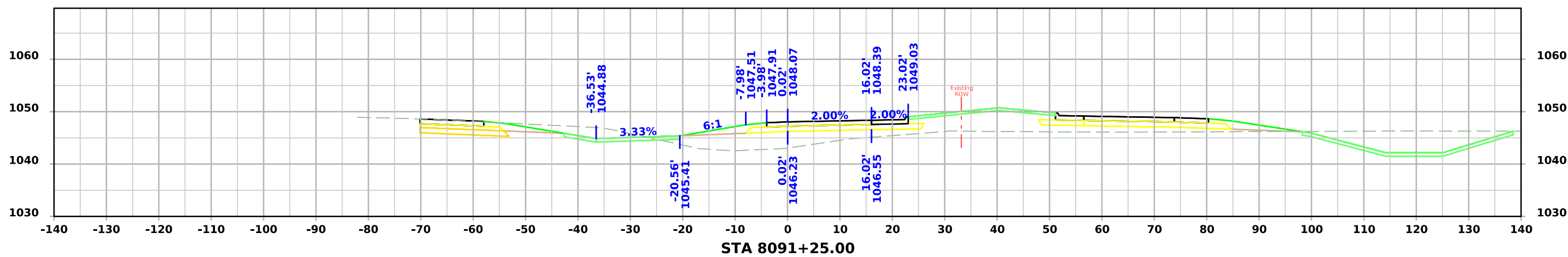
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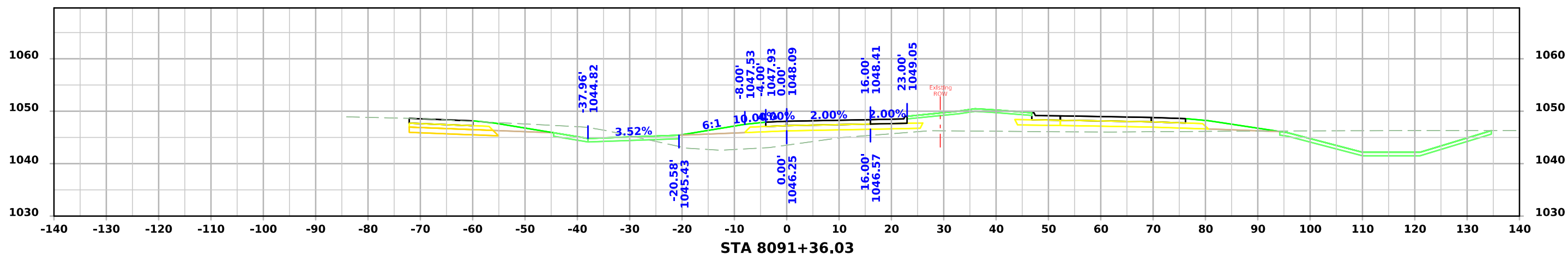
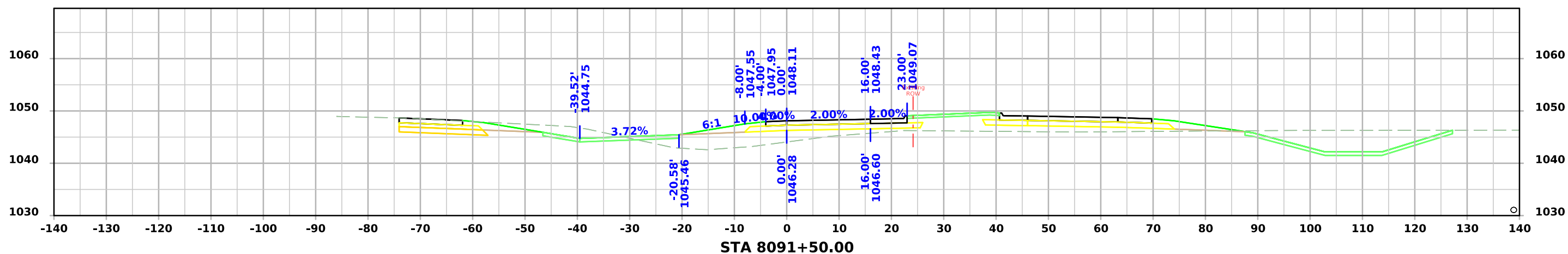
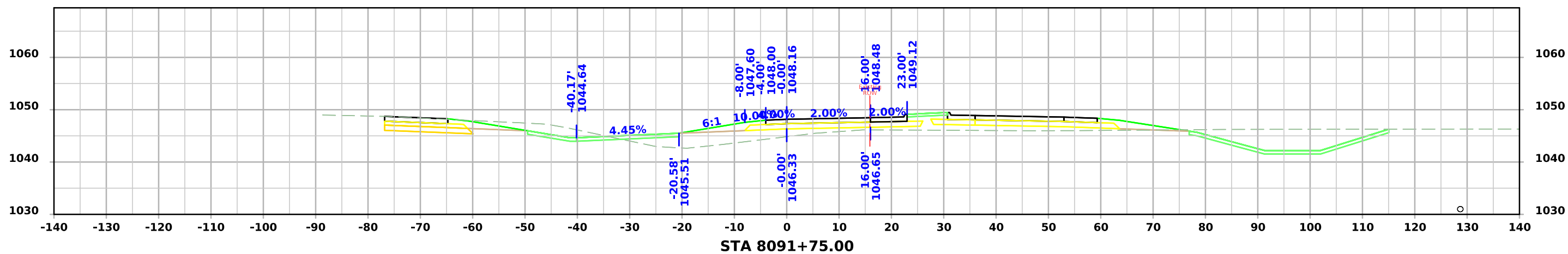
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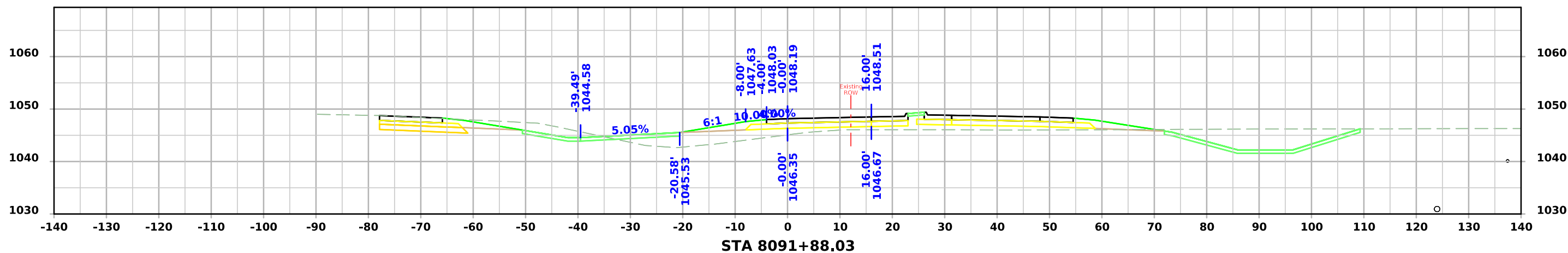
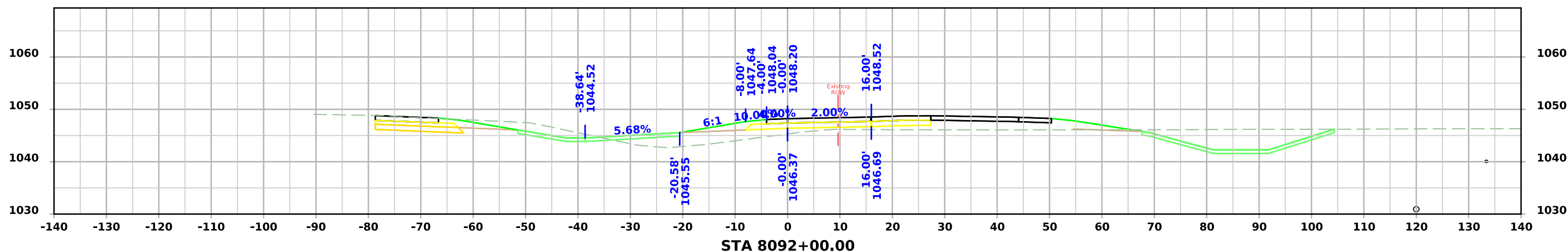
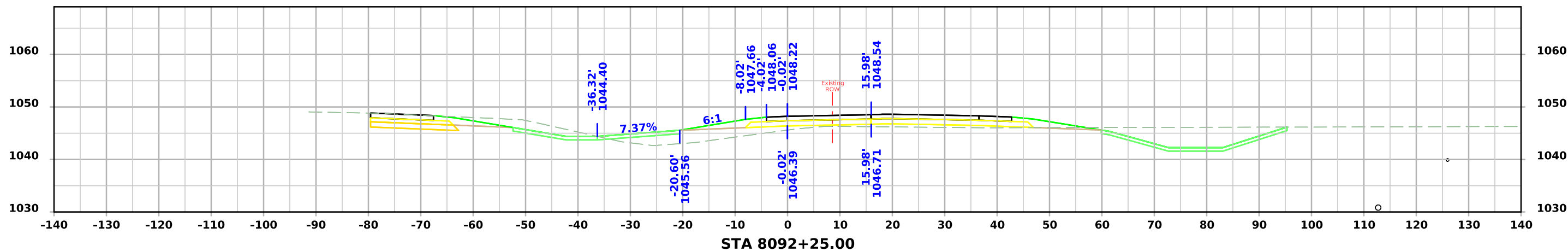
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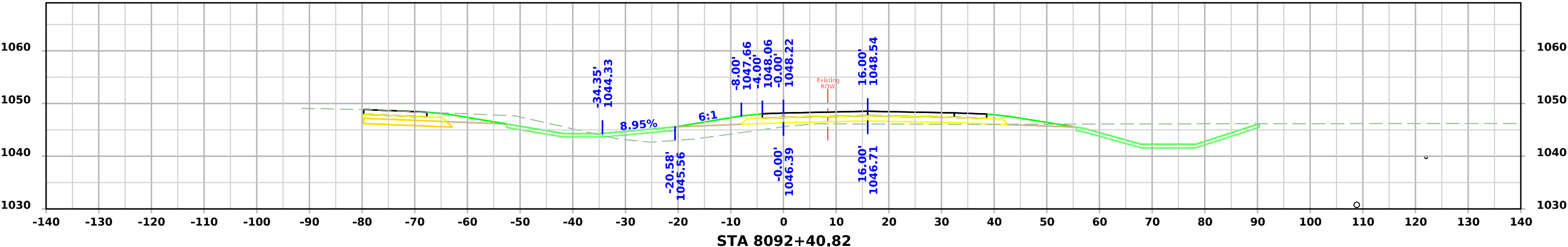
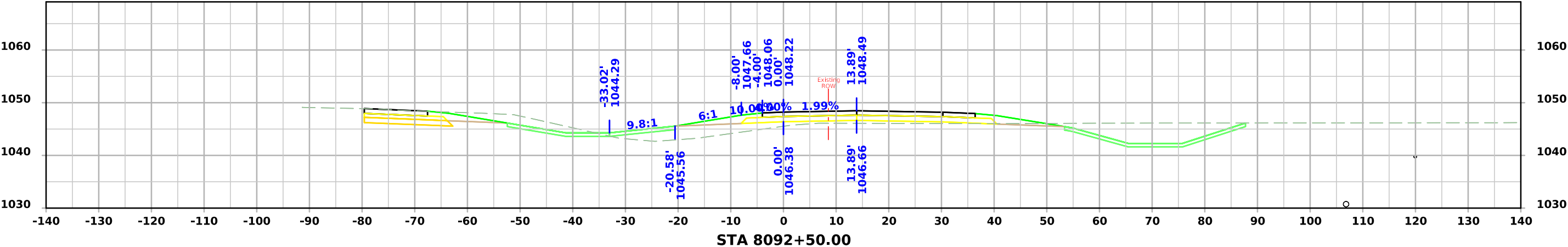
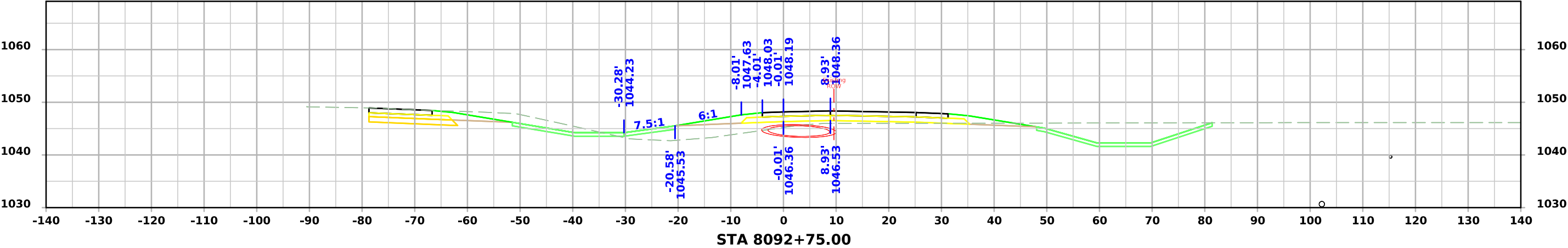
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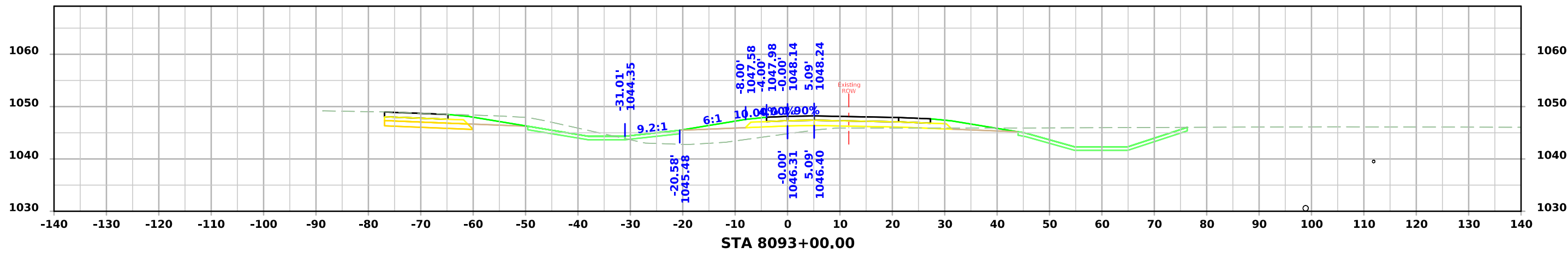
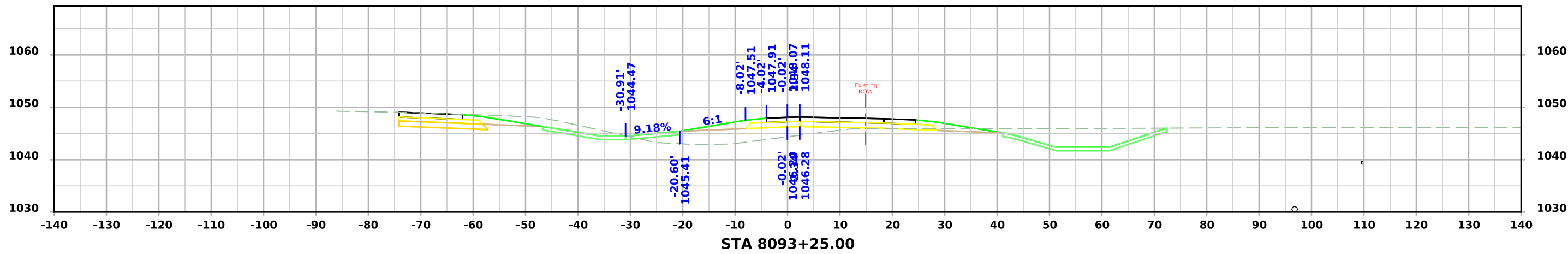
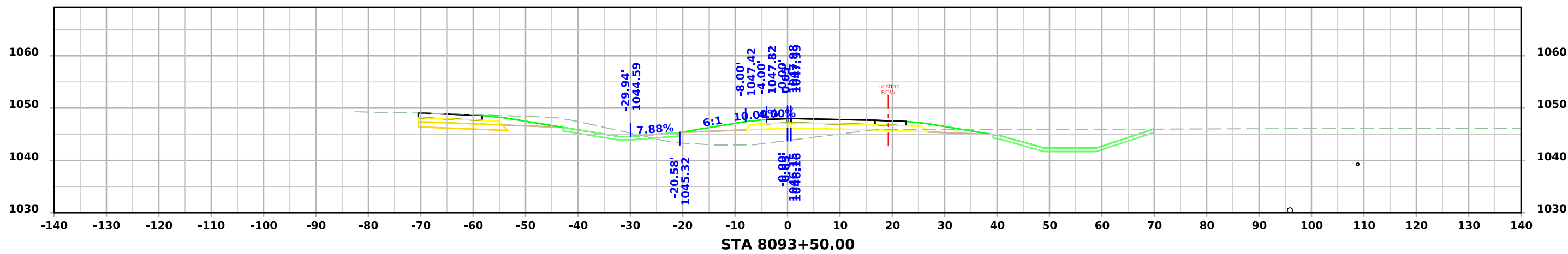
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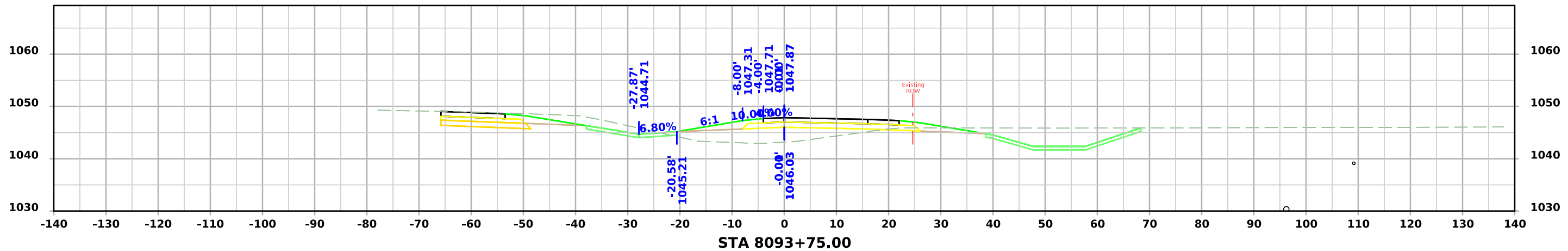
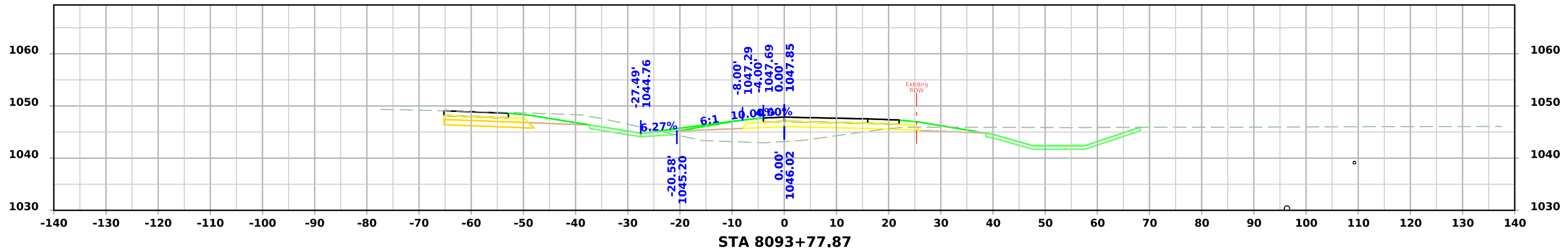
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